ALFAMAK®

GAZLI YAYLAR
GAS SPRINGS
GASDRUCKFEDERN


ALFAMAK®

İÇİNDEKİLER

GÜVENLİK BİLGİLERİ

TR P>max Aşırı basınç koruması ;
Max basınç değeri aşıldığında azot gazı kontrollü olarak boşaltılır.

ENG P>max Overpressure protection ;
When the **maximum pressure** value is exceeded, nitrogen gas is dischargedin a controlled manner.

DE P>max Überdruckschutz
Wenn der **maximale Druckwert** überschritten wird, wird Stickstoffgas kontrolliert abgegeben.

TR S>max Aşırı strok koruması ;
Max strok değeri aşıldığında azot gazı kontrollü olarak boşaltılır.

ENG S>max Overstroke protection ;
When the **max stroke** value is exceeded, nitrogen gas is discharged in a controlled manner.

DE S>max Überhubschutz;
Wenn der **maximale Hubwert** überschritten wird, wird Stickstoffgas kontrolliert abgegeben.

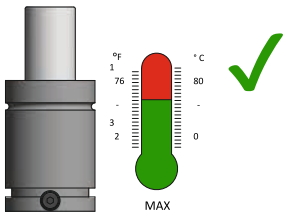
TR V>max Aşırı hız koruması ;
Max hız değeri aşıldığında azot gazı kontrollü olarak boşaltılır.

ENG V>max Overspeed protection ;
When the **maximum speed** value is exceeded, nitrogen gas is discharged in a controlled manner.

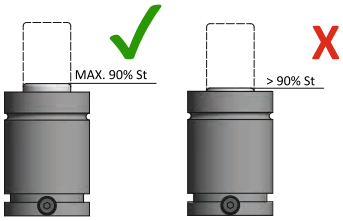
DE V>max Übergeschwindigkeitschutz ;
Wenn der **maximale** Geschwindigkeitswert überschritten wird, wird Stickstoffgas kontrolliert abgegeben.

KULLANMA TALİMATI

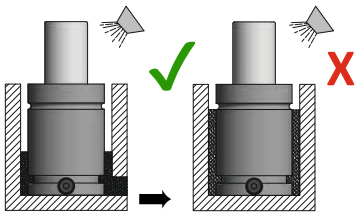
TR
Yalnızca NİTROJEN GAZI (N_2) ile doldurun.
EN
Charge with NITROGEN GAS (N_2) only.
DE
Nur STICKSTOFFGAS (N_2) nachfüllen.



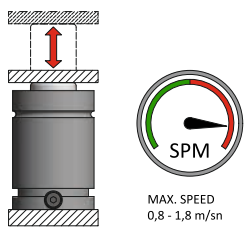
TR
Çalıştırma Sıcaklığı
EN
Operating tempreture.
DE
Betriebstemperatur



TR
Tüm gazlı yaylar 1mm'den 3 mm'e kadar emniyet mesafesi ile tasarlanmıştır. Bu nedenle, nominal değer(St) tamamen kullanılabilir. Ancak malzemelerde değişim ve hataların neden olduğu aşırı strok riskinden kaçınmak için kullanım esnasında strok değerinin %90'nın aşılmaması önerilir.
EN
All gas springs are designed with a safety distance from 1mm to 3mm. Therefore, the nominal value (St) can be used completely. However, it is recommended not to exceed 90% of the stroke value during use to avoid the risk of overstocking caused by material changes and errors.
DE
Alle Gasfedern sind mit einem Sicherheitsabstand von 1 mm bis 3 mm ausgelegt. Daher kann der Nennwert (St) vollständig verwendet werden. Es wird jedoch empfohlen, 90% des Hubwerts während des Gebrauchs nicht zu überschreiten, um das Risiko eines Überbestands durch Materialänderungen und-fehler zu vermeiden.

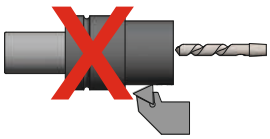


TR
Gazlı yayların agresif sıvılarla temasından kaçınınız (soda ya da klorit).
Eğer bu malzemelerin temizlik için kullanılması gerekiyorsa gazlı yaylardaki tüm kalıntıların dikkatle giderilmesi tavsiye edilmektedir.
EN
Avoid contact of gas springs with aggressive liquids (soda or chlorite).
If these materials must be used for cleaning, it is recommended to carefully remove all residue from the gas springs.
DE
Kontakt von Gasfedern mit aggressiven Flüssigkeiten (Soda oder Chlorit) vermeiden. Wenn diese Materialien zur Reinigung verwendet werden müssen, wird empfohlen, alle Rückstände von den Gasfedern sorgfältig zu entfernen.



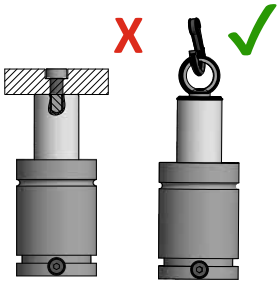
TR
Gazlı yayların kullanımı için belirtilen maksimum hız değerini, dakikadaki basım sayısı ile karıştırmayın.
EN
Do not confuse the speed specified for the use of gas springs with the number of strikes per minute.
DE
Verwechseln Sie die für die Verwendung von Gasfedern angegebene Geschwindigkeit nicht mit der Anzahl der Schläge pro Minute.

KULLANMA TALİMATI

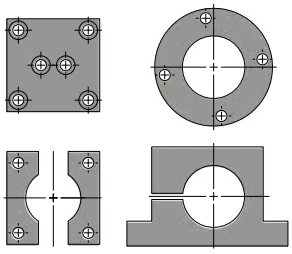


TR
Gövdeye yada mile mekanik darbe gelmesine izin vermeyin.
EN
Protect the body and piston rod from any structral damage.
DE
Lassen Sie keinen mechanischen Schlag auf die Karosserie oder die Welle zu.

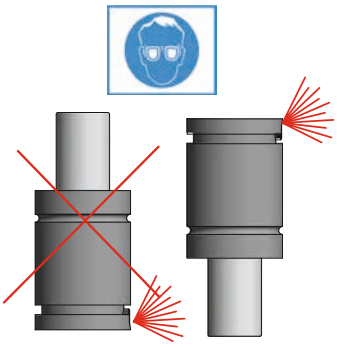
TR
Gazlı yay herhangi bir yapısal zarar aldıysa içindeki tüm gazı(N_2) boşaltın.
EN
If the gas spring has any structural damage, discharge all the gas (N_2) inside.
DE
Wenn die Gasfeder strukturelle Schäden aufweist, lassen Sie das gesamte Gas (N_2) im Inneren ab.



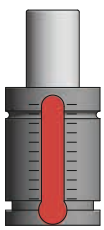
TR
Mil üzerindeki vida deliğini sadece gazlı yayların bakımı için kullanın.
EN
Use the threaded hole on the top of the piston rod only for gas springs maintenance.
DE
Verwenden Sie das Gewindeloch auf der Welle nur zur Wartung von Gasfedern.



TR
Gazlı yayların her zaman uygun bağlantı parçalarıyla birlikte kullanılması tavsiye edilir.
EN
We always recommended to install the gas springs with the completely suitable fixing elements.
DE
Es wird immer empfohlen, Gasfedern mit geeigneten Armaturen zu verwenden.

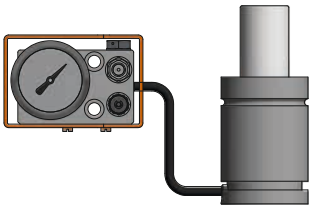


TR
Gazı tahliye ederken çıkan gazı doğrudan operatöre doğru yönlendirmeyin.
EN
Do not direct the gas flow to operator when discharging the nitrogen gas
DE
Richten Sie das ausgestoßene Gas nicht direkt auf den Bediener, wenn Sie das Gas ablassen.



TR
Katalogda belirtilen değerler 20° C sıcaklığa göre verilmiştir. Sıcaklık değerinin değişmesi gaz basıncının da değişmesine neden olacaktır.
EN
Values in the catalog are given for a temperature of 20 °C.
Changing the temperature value will cause the gas pressure to change.
DE
Die Werte im Katalog gelten für eine Temperatur von 20 ° C.
Durch Ändern des Temperaturwerts ändert sich der Gasdruck.

KULLANMA TALİMATI



TR

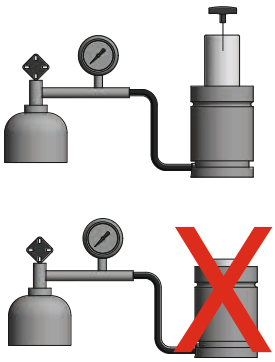
Gazlı yay sistemine, bağlanabilen tüm gazlı yaylar içerisinde gaz olmadan tedarik edilir.(K19,K25,EF170,EF320 hariç) Gazlı yayları, sisteme bağlanabilen gazlı yaylara dönüştürmek istiyorsanız gerekli hortum ve bağlantı parçalarını sipariş etmeli ve www.alfamak.com sitesinden seriler için hazırlanan özel talimatlara uymalısınız.

EN

The gas spring system is supplied without gas inside all connected gas springs. (Except for K19, K25, EF170, EF320) If you want to convert gas springs into gas springs that can be connected to the system, you must order the necessary hoses and fittings and follow the special instructions prepared for the series from www.alfamak.com.

DE

Das Gasfedersystem wird in allen angeschlossenen Gasfedern ohne Gas versorgt. (Mit Ausnahme von K19, K25, EF170, EF320) Wenn Sie Gasfedern in Gasfedern umwandeln möchten, die an das System angeschlossen werden können, sollten Sie die erforderlichen Schläuche und Armaturen bestellen und die speziellen Anweisungen für die Serie unter www.alfamak befolgen .com.



TR

Gazlı yaya dolum yapmaya başlamadan önce milin tamamının çıkarıldığından emin olun.

EN

Make sure the entire piston rod is removed before starting to fill the gas spring.

DE

Stellen Sie sicher, dass die gesamte Welle entfernt ist, bevor Sie mit dem Befüllen der Gasfeder beginnen.

TR

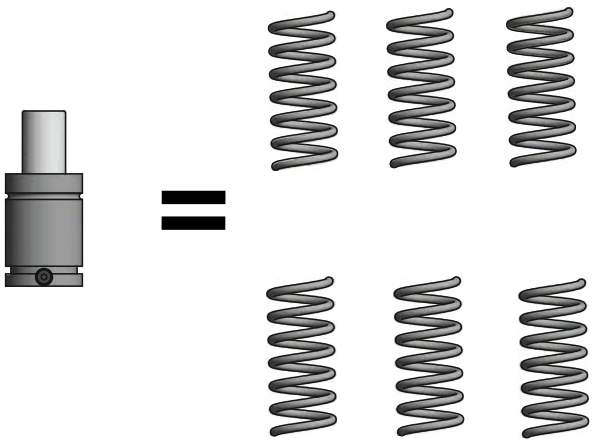
a) Sevk tarihi
b) Parti numarası
c) Ağırlık
d) Sızdırmazlık elemanları değişim sayısı
e) Model kodu
f) Güvenlik piktogramları
g) Genel bilgiler
h) PED Kategorisi
i) Revizyon göstergesi

EN

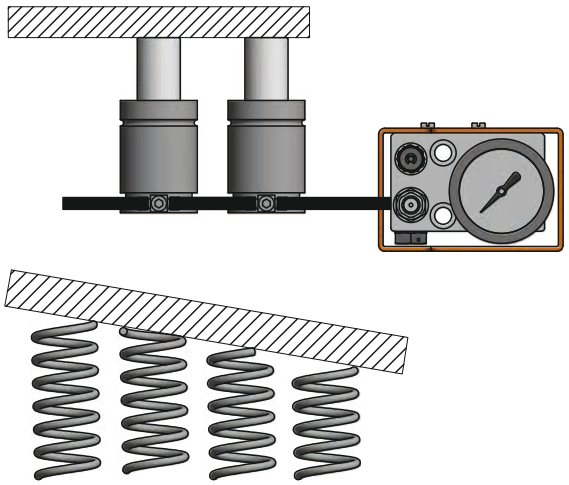
a) shipment date
b) Batch number
c) Weight
d) Number of seal replacements
e) Model code
f) Safety pictograms
g) General info
h) PED Category
i) Revision indicator

DE

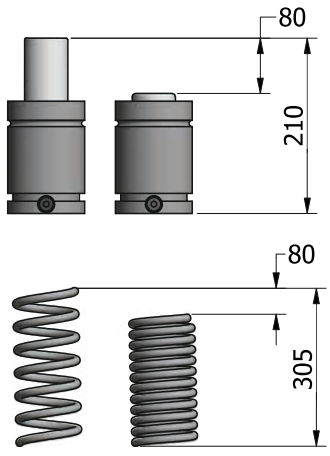
a) Versanddatum
b) Chargennummer
c) Gewicht
d) Anzahl der Dichtungswechsel
e) Modellcode
f) Sicherheitspiktogramme
g) Allgemeine Informationen
h) PED-Kategorie
i) Revisionsindikator



TR
Daha az alanla daha fazla kuvvet elde edilir.
EN
More force is achieved with less area.
DE
Mehr Kraft wird mit weniger Fläche erreicht.

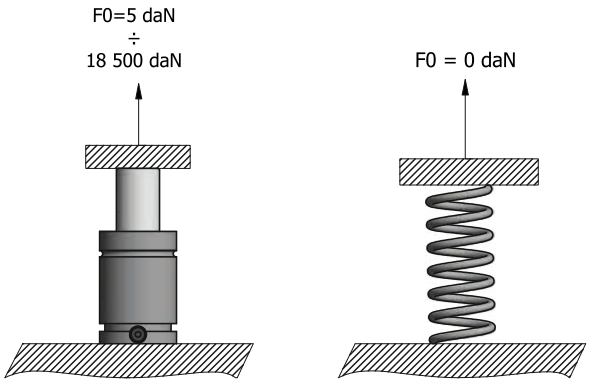


TR
Gazlı yaylar ile oluşturulan seri bağlantı sistemlerinde kuvvet dengelidir. Basınç değeri sistem üzerinde daima görülebilmektedir. Mevcut sistem için daha uzun ömür sağlanır.
EN
Force is balanced in serial connection systems created with gas springs. The pressure value can always be seen on the system. Longer life is provided for the existing system.
DE
In seriellen Verbindungssystemen mit Gasfedern wird die Kraft ausgeglichen. Der Druckwert ist immer am System sichtbar. Für das vorhandene System ist eine längere Lebensdauer vorgesehen.



TR
Gazlı yaylar daha kısa boylarda, yaylar ile aynı strok ve kuvveti sağlayabilir.
EN
Gas springs can provide the same stroke and force as springs in shorter lengths.
DE
Gasfedern können den gleichen Hub und die gleiche Kraft wie Federn in kürzeren Längen liefern.

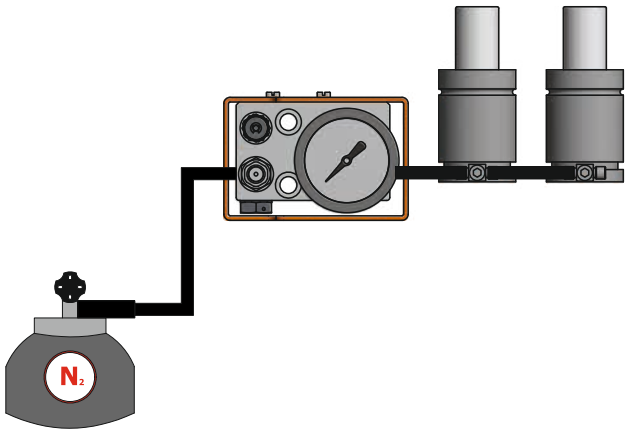
AVANTAJ



TR
Gazlı yaylar için ön yüklemeye ihtiyaç yoktur. Kolay ve hızlı bir şekilde montajı sağlanır.

EN
Preload is not required for gas springs. It can be assembled easily and quickly.

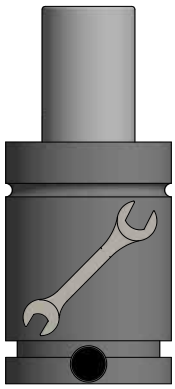
DE
Für Gasfedern ist keine Vorspannung erforderlich. Es kann einfach und schnell zusammengebaut werden.



TR
Gazlı yay sistemi kuvvetin daha iyi kontrol edilmesini sağlayarak, çıkan parçalardaki ıskarta ürün adedini azaltır.

EN
Gas spring system provides better control of the force, Reducing the number of scrap products in the emerged parts.

DE
Das Gasfedersystem bietet eine bessere Kontrolle der Kraft und reduziert die Anzahl der Abfallprodukte in den austretenden Teilen.



TR

Gazlı yaylarda uzun süreli kullanımlar veya ağır uygulamalar sonucunda basınç kayıpları meydana gelmiş ise sızdırmazlık elamanları aşınmış veya hasar görmüştür.
Özel malzemeler ve kitler kullanarak web sitemizdeki videolar yardımıyla sızdırmazlık elemanlarının değişimi mümkündür. Gazlı yayların bakımı sadece yetkili personel tarafından yapılmalıdır. Aksi takdirde yapılan hatalar ciddi yaralanmalara sebep olabilir. Gazlı yay üzerinde herhangi bir işleme başlamadan önce, tüm gazı boşaltın ve milin gövdeye tamamen geri çekildiğinden emin olun.

EN

If pressure losses occur in gas springs as a result of long-term use or heavy applications, the sealing elements are worn or damaged. It is possible to change the seals with the help of videos on our website using special materials and kits. Gas springs should only be serviced by qualified personnel. Otherwise, mistakes made can cause serious injuries. Before starting any operation on the gas spring, discharge all the gas and make sure the shaft is fully retracted into the body.

DE

Wenn in Gasfedern durch Langzeiteinsatz oder schwere Anwendungen Druckverluste auftreten, sind die Dichtungselemente abgenutzt oder beschädigt. Es ist möglich, die Siegel mithilfe von Videos auf unserer Website mit speziellen Materialien und Kits zu ändern. Gasfedern dürfen nur von qualifiziertem Personal gewartet werden. Andernfalls können Fehler zu schweren Verletzungen führen. Lassen Sie das gesamte Gas ab, bevor Sie mit der Gasfeder beginnen, und stellen Sie sicher, dass die Welle vollständig in den Körper eingefahren ist.

TR

Alfamak gazlı yaylar, 2014/68/EU Avrupa Birliği direktifine uygun olarak üretilmektedir. Bu yönerge basınçlı ekipman standartlarını belirler ve bunların 0,5 bar dan daha büyük olan maksimum izin verilebilen P.S (basıncın etkilediği kesit alanı) basıncına maruz kalan kaplar ve borular olarak tanımlar. Özellikle 2014/68/EU yönergesine göre basınçlı ekipmanlar kategorilere göre sınıflandırılırlar ve basınç P(bar) x gaz hacmi $V_0(dm^3)$ = 50 ya da üzeri olan sonuçlarda üreticinin seri numarasını ve CE işareni taşırlar.
CE işareti II ve III Kategorileri için zorunlu fakat I Kategorisi için isteğe bağlıdır. P x V_0 sonucu 50'nin altında olan tüm gazlı yaylar aynı yönergenin 4,3 maddesine tabidir ve CE işaretini taşımazlar.

EN

Alfamak gas springs are produced in accordance with the 2014/68/EU European Union directive. This directive specifies pressure equipment standards and defines them as vessels and pipes subjected to a maximum allowable pressure of P.S (pressure affected cross-sectional area) greater than 0.5 bar. In particular, according to the 2014/68/EU directive, pressure equipment is classified according to categories and in results with pressure P(bar) x gas volume $V_0(dm^3)$ = 50 or more, they carry the manufacturer's serial number and the CE mark. The CE mark is mandatory for Categories II and III but optional for Category I. All gas springs with a result of P x V_0 below 50 are subject to clause 4.3 of the same directive and do not carry the CE mark.

DE

Alfamak-Gasfedern werden gemäß der Richtlinie 2014/68/EU der Europäischen Union hergestellt. Diese Richtlinie legt Normen für Druckgeräte fest und definiert sie als Behälter und Rohre, die einem maximal zulässigen Druck von P.S (druckbeeinflusste Querschnittsfläche) von mehr als 0,5 bar ausgesetzt sind. Insbesondere werden Druckgeräte gemäß der Richtlinie 2014/68/EU nach Kategorien klassifiziert und in Ergebnissen mit einem Druck P(bar) x Gasvolumen $V_0(dm^3)$ = 50 oder mehr tragen sie die Seriennummer des Herstellers und das CE Kennzeichen. Das CE-Zeichen ist für die Kategorien II und III obligatorisch, für die Kategorie I jedoch optional. Alle Gasfedern mit einem Ergebnis von P x V_0 unter 50 unterliegen Abschnitt 4.3 derselben Richtlinie und tragen nicht das CE-Zeichen.

TR

Gazlı Yaylarda Başlangıç Kuvvetinin Hesaplanması

Gazlı yaylarda başlangıç kuvveti, maksimum dolma basıncına (P) ve milin kesit alanına bağlıdır (A) (veya tasarıma bağlı olarak gövdenin iç çapına).

F_0 (daN) = P (bar) x A (cm^2)

Başlangıç Kuvvetinin Ayarlanması

Gazlı yaylar, talep edilen bir başlangıç kuvvetinde çalıştırılmak istenirse gazlı yaya uygulanması gereken doldurma basıncı verilen formül ile hesaplanabilmektedir.

$$P_{\text{Doldurma Basıncı}} = P_{\text{Standart}} \cdot \frac{F_{\text{istenilen}}}{F_{\text{Standart}}}$$

$P_{\text{Doldurma Basıncı}}$ (bar) : Kullanılması gereken doldurma basıncı

P_{Standart} (bar) : Gazlı yayda kullanılan standart doldurma basıncı

F_{Standart} (N) : P_{Standart} değerindeki standart başlangıç kuvveti

İzotermal Kuvvet

Gazlı yaylar sıkıştırıldıkça, yay içindeki gaz basıncı artar bu da gazlı yay kuvvetinin artmasına neden olur. Gaz basıncının artışı (ve kuvvet artışı) ideal gaz kanunu ile belirlenir.

İdeal Gaz Kanunu: P.V = n.R.T

P (bar) : Gaz basıncı

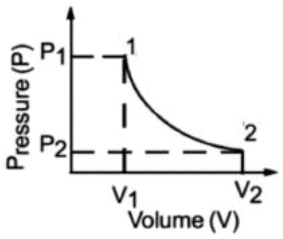
V (m^3) : Hacim

n (mol) : Azotun mol sayısı

R (Nm/°K) : Gaz sabiti (8,314)

T (°K) : Sıcaklık

Sıcaklığın değişmeden sabit kaldığı süreçler izotermal olarak adlandırılır. Sıcaklık sabit olduğunda ideal gaz kanunun sağ tarafındaki terimlerin (yani nRT) tümü sabitlenir ve hacim ile basınç arasındaki ilişki P = Sabit/V (Boyles Kanunu) haline dönüşür. Bu da P-V eğrisinin doğrusal olmamasına neden olur.



TR

Herhangi bir strok ölçüsündeki (St_x) izotermal kuvvet (F_{x_i}) aşağıda verilen formül ile hesaplanabilmektedir.

$$F_{x_i} = F_0 . \left(\frac{1}{1 - \frac{A}{V_0} . \frac{ST_x}{10}} \right)^n$$

n, doldurma basıncına bağlı üs değeridir ve Tablo 1'de verilmiştir.

P	n
≤100 bar	1,09
150 bar	1,19
200 bar	1,31

Politropik Kuvvet

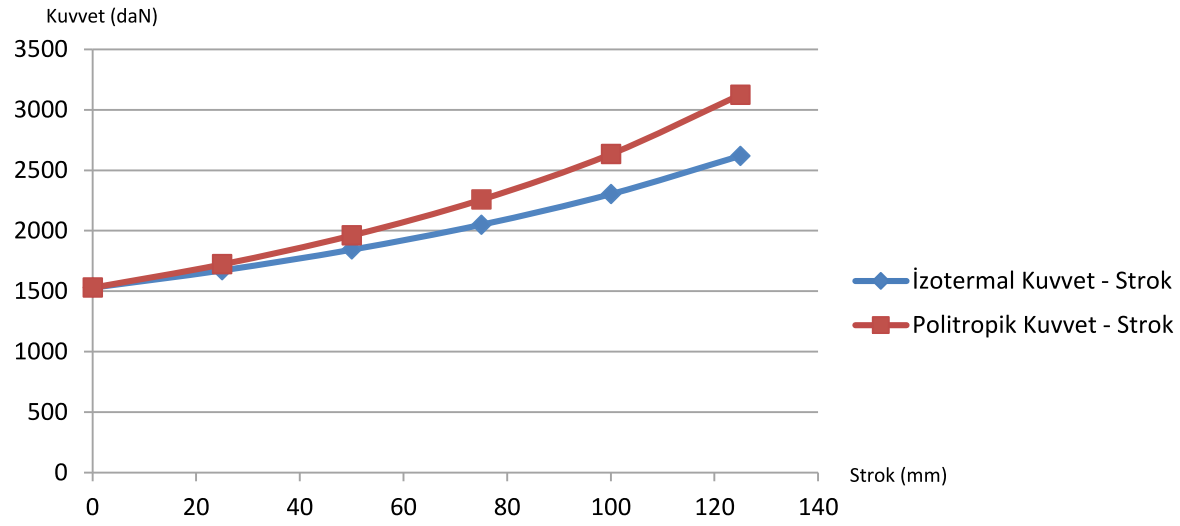
Gazlı yaylar, strok sırasında sürtünme nedeniyle ısı ürettikleri için gazlı yayın içindeki sıcaklık sabit kalmaz. Bu nedenle, gerçek kuvvet uygulamadan uygulamaya farklıdır. Buna politropik etki denir. Strok uzunluğu, kullanılan strok, gaz hacmi, pres hızı, dakikadaki basım sayısı, çalışma sıcaklığı ve ortamı, iç sürtünmeler vb. faktörler politropik kuvvetin belirlenmesinde etkilidir.

$$P_1 V_1^n = P_2 V_2^n \qquad \frac{T_2}{T_1} = \frac{P_2^{(n-1)/n}}{P_1} = \frac{V_1^{(n-1)}}{V_2} \text{ or } \frac{P_2}{P_1} = \frac{V_1^n}{V_2}$$

Herhangi bir strok ölçüsündeki (ST_x) politropik kuvvet (F_{x_p}) aşağıda verilen formül ile hesaplanabilmektedir.

$$F_{x_p} = F_0 . \left(\frac{1}{1 - \frac{A}{V_0} . \frac{ST_x}{10}} \right)^{1,58}$$

EK 01500 125 model gazlı yay için verilen formüller ile yapılan hesaplama sonucunda elde edilen grafik Şekil 1'de verilmiştir.



Şekil 1. EK 01500 125 için Kuvvet-Strok Eğrisi

ENG

Calculating the initial force

The initial forces depends on the maximum filling pressure (P) and the sealed area of the piston rod or the piston (depending on design) (A).

F_0 (daN) = P (bar) x A (cm^2)

Adjusting the initial force

The charging pressure can be changed ıf the initial force is required from any value. The charging pressure to be applied to the gas spring can be calculated with the formula given.

$$P_{charging} = P_{Standard} \cdot \frac{F_{required}}{F_{standard}}$$

$P_{charging}$ (bar) : Charging pressure to be used

$P_{Standard}$ (bar) : Standard charging pressure used in gas spring

$F_{Standard}$(N) : Standard initial force at $P_{Standard}$

$F_{required}$ (N) : The required initial force

Isothermic Force

The pressure inside the gas spring can be increased by compression and ıt causes an increase in gas spring force. The gas pressure and force increase are determined by the ideal gas law.

P.V = n.R.T (Ideal Gas Law)

P (bar) : Gas pressure

V (m^3) : Gas volume

n (mol) : Molecular quantity for nitrogen

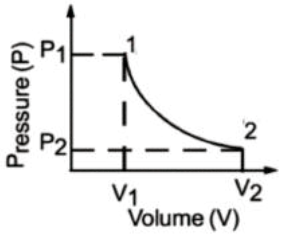
R (Nm/°K) : Gas constant (8,314)

T (°K) : Temperature

An isothermal process is a change of a system, in which the temperature remains constant. When the temperature is constant, all of the terms on the right side of the ide,al gas law (i.e. nRT) are fixed and the relationship between volume and pressure becomes,

$P = \frac{Constant}{V}$ (Boyles Law).

This causes the P-V curve to be nonlinear.



ENG

The isothermal force (F_{x_i}) at any stroke measure (St_x) can be calculated with the formula given below.

P	n
≤100 bar	1,09
150 bar	1,19
200 bar	1,31

$$F_{x_i} = F_0 \cdot \left(\frac{1}{1 - \frac{A}{V_0} \cdot \frac{ST_x}{10}} \right)^n$$

Polytropic Force

The temperature inside the gas spring does not remain constant during the stroke. Therefore, the actual force is different from the theory.

Stroke length, used stroke, gas volume, press speed, number of stroke per minute, operating temperature and environment, internal friction etc. factors are effective in determining the polytropic force.

$$P_1 V_1^n = P_2 V_2^n \qquad \frac{T_2}{T_1} = \frac{P_2^{(n-1)/n}}{P_1} = \frac{V_1^{(n-1)}}{V_2} \text{ or } \frac{P_2}{P_1} = \frac{V_1^n}{V_2}$$

The polytropic force (F_{x_p}) at any stroke measure (ST_x) can be calculated with the formula given below.

$$F_{x_p} = F_0 \cdot \left(\frac{1}{1 - \frac{A}{V_0} \cdot \frac{ST_x}{10}} \right)^{1,58}$$

As seen from figure 1 the polytropic force and ısotermal force can be changed during the stroke for model EK 01500 125

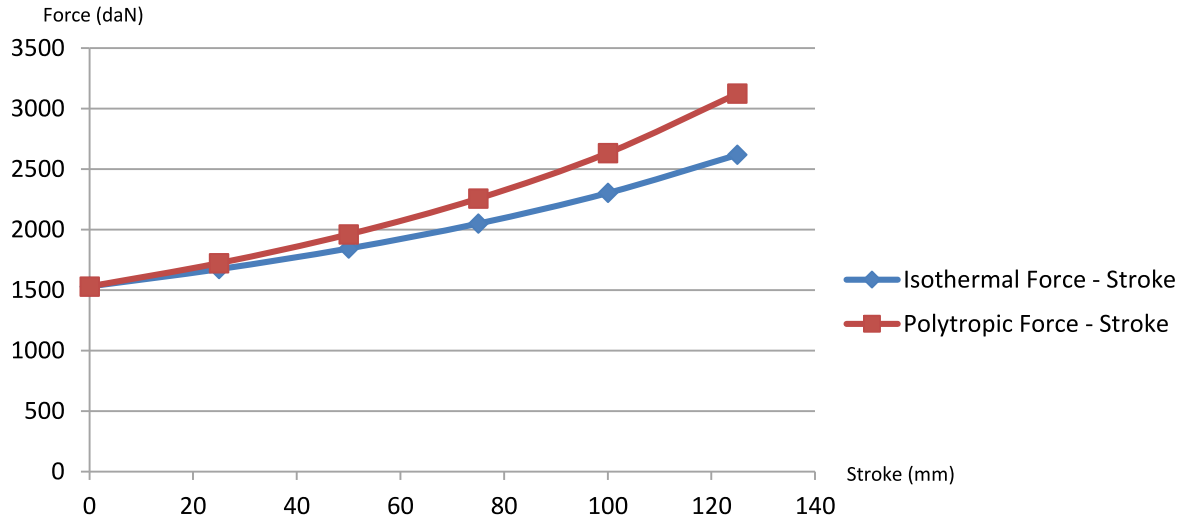


Fig 1: Force-Stroke Curve for EK 01500 125

DE

Berechnung der Anfangskraft

Die Anfangskräfte hängen vom maximalen Fülldruck (P) und dem abgedichteten Bereich der Kolbenstange oder des Kolbens ab (je nach Ausführung) (A).

F_0 (daN) = P (bar) x A (cm^2)

Einstellen der Anfangskraft

Der Ladedruck kann geändert werden, wenn die Anfangskraft von einem beliebigen Wert benötigt wird. Der auf die Gasfeder aufzubringende Ladedruck kann mit der angegebenen Formel berechnet werden.

$$P_{charging} = P_{Standard} \cdot \frac{F_{erforderlcih}}{F_{standard}}$$

$P_{charging}$ (bar) : Zu verwendender Ladedruck

$P_{Standard}$ (bar) : Standardladedruck in der Gasfeder

$F_{Standard}$ (N) : Standardanfangskraft bei $P_{Standard}$

$F_{erforderlcih}$ (N) : The required initial force

Isotherme Kraft

Der Druck in der Gasfeder kann durch Kompression erhöht werden und bewirkt eine Erhöhung der Gasfederkraft. Der Gasdruck und der Kraftanstieg werden durch das ideale Gasgesetz bestimmt.

P.V = n.R.T (Ideales Gasgesetz)

P (bar) : Gasdruck

V (m^3) : Gasvolumen

n (mol) : Molekularmenge für Stickstoff

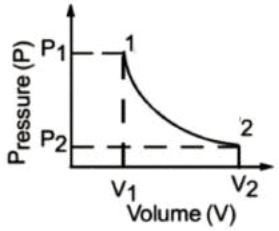
R (Nm/°K) : Gaskonstante (8,314)

T (°K) : Temperatur

Ein isothermer Prozess ist eine Änderung eines Systems, bei dem die Temperatur konstant bleibt. Wenn die Temperatur konstant ist, sind alle Terme auf der rechten Seite des gesamten Gasgesetzes (d. H. NRT) festgelegt und die Beziehung zwischen Volumen und Druck wird,

P = Konstante / V (Boyles-Gesetz).

Dies führt dazu, dass die P-V-Kurve nichtlinear ist.



DE

$$F_{x_i} = F_0 \cdot \left(\frac{1}{1 - \frac{A}{V_0} \cdot \frac{ST_x}{10}} \right)^n$$

P	n
≤100 bar	1,09
150 bar	1,19
200 bar	1,31

Die isotherme Kraft (F_{x_i}) bei jedem Hubmaß (St_x) kann mit der unten angegebenen Formel berechnet werden.

Polytropische Kraft

Die Temperatur in der Gasfeder bleibt während des Hubs nicht konstant. Daher unterscheidet sich die tatsächliche Kraft von der Theorie.

Hublänge, verwendeter Hub, Gasvolumen, Pressgeschwindigkeit, Anzahl der Hübe pro Minute, Betriebstemperatur und -umgebung, innere Reibung usw. Faktoren sind bei der Bestimmung der Polytropenkraft wirksam.

$$P_1 V_1^n = P_2 V_2^n \qquad \frac{T_2}{T_1} = \frac{P_2^{(n-1)/n}}{P_1} = \frac{V_1^{(n-1)}}{V_2} \text{ or } \frac{P_2}{P_1} = \frac{V_1^n}{V_2}$$

Die Polytropenkraft (F_{x_p}) bei jedem Hubmaß (ST_x) kann mit der unten angegebenen Formel berechnet werden.

$$F_{x_p} = F_0 \cdot \left(\frac{1}{1 - \frac{A}{V_0} \cdot \frac{ST_x}{10}} \right)^{1,58}$$

Wie aus Abbildung 1 ersichtlich, können die Polytropenkraft und die Erdkraft während des Hubs für das Modell EK 01500 125 geändert werden

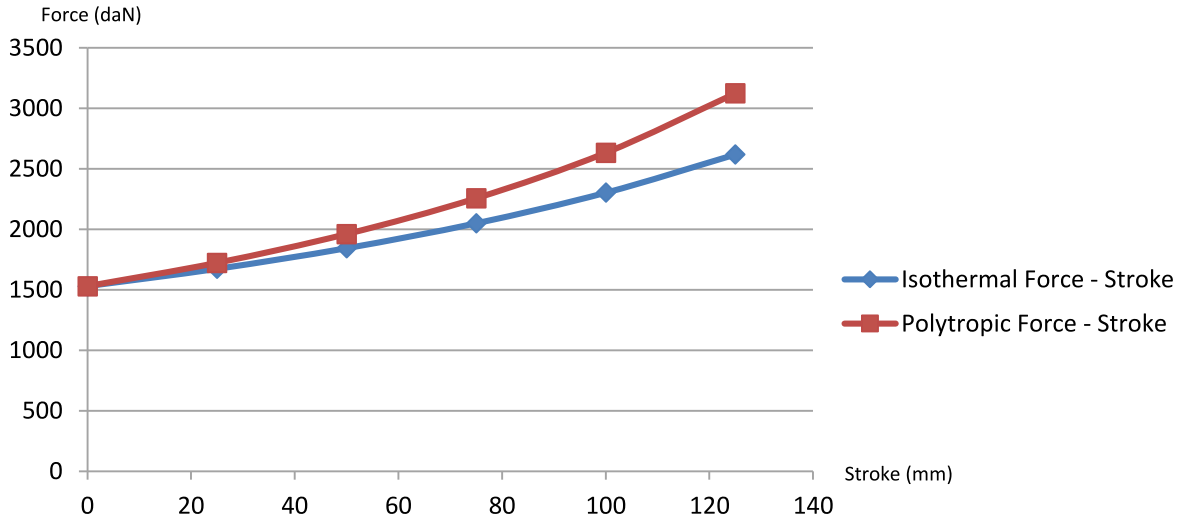


Fig 1: Force-Stroke Curve for EK 01500 125

SAYFA TANITIMI

P 01000 A

1

2

ISO 11901 - 4
VDI 3003 - Blatt 4

B2 4008 (BMW)
075.90.65 (FCA)

39D 838 (VW)

PED 2014/68/EU

3

F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

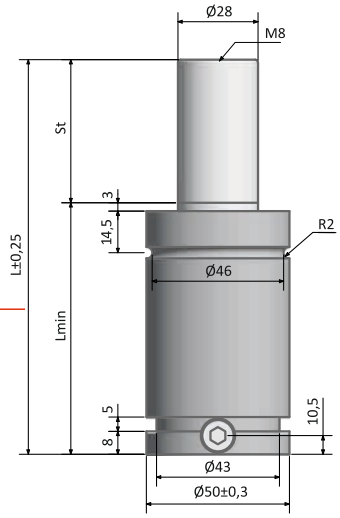
Vo Initial Gas Volume
Başlangıç Hacmi

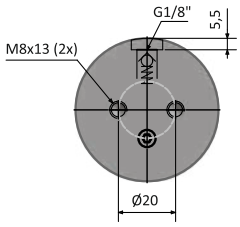
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet

5

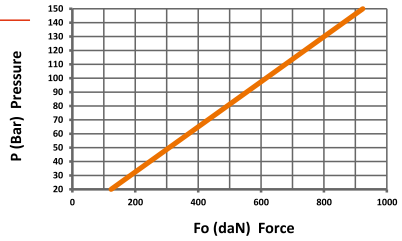
4





CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 01000 013	**P 01000 013 A**	**13**	**120,7**	**107,7**		**1232**	**1355**	**37,0**	**1,39**
P 01000 025	P 01000 025 A	25	145	120		1351	1531	56,0	1,48
P 01000 038	**P 01000 038 A**	**38**	**171**	**133**		**1418**	**1633**	**77,0**	**1,58**
P 01000 050	P 01000 050 A	50	195	145		1469	1711	95,0	1,68
P 01000 063	**P 01000 063 A**	**63**	**221**	**158**		**1496**	**1753**	**116,0**	**1,78**
P 01000 075	P 01000 075 A	75	245	170		1517	1785	135,0	1,88
P 01000 080	**P 01000 080 A**	**80**	**255**	**175**	**+ 20 °C**	**1523**	**1796**	**143,0**	**1,92**
P 01000 100	P 01000 100 A	100	295	195		1550	1837	174,0	2,08
P 01000 125	**P 01000 125 A**	**125**	**345**	**220**	**920**	**1571**	**1871**	**213,0**	**2,28**
P 01000 150	P 01000 150 A	150	395	245		1586	1895	252,0	2,48
P 01000 160	**P 01000 160 A**	**160**	**415**	**255**	**150 bar**	**1590**	**1900**	**268,0**	**2,55**
P 01000 175	P 01000 175 A	175	445	270		1594	1907	292,0	2,67
P 01000 200	**P 01000 200 A**	**200**	**495**	**295**		**1603**	**1922**	**331,0**	**2,87**
P 01000 250	P 01000 250 A	250	595	345		1613	1938	410,0	3,26
P 01000 300	**P 01000 300 A**	**300**	**695**	**395**		**1623**	**1953**	**488,0**	**3,66**

6

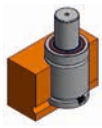


7

Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	6,15 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

8


Bottom Mount


Drop - in


D 050


DK 050


TA 050 - TD 050
TE 050 - TT 050


CB 050
C 050


K 050 - KB 050
KC 050 - KF 050

SAYFA TANITIMI

1 Gazlı yay modeli
Gas spring model
Gasdruckfeder Modell

2 Uluslararası/Otomotiv Standartları
International/Automative Standarts
Internationale/Automobil Standards

3 Tabloda verilen kısaltmaların anlamları
Meanings of abbreviations in the table
Bedeutung der in der Tabelle angegebenen Abkürzungen

4 Gazlı yay boyutları
Gas spring sizes
Gasfedergrößen

5 Modelde bulunan emniyet tedbirleri
Safety measures included in the model
Anwesende Sicherheitseninrichtungen am Modell

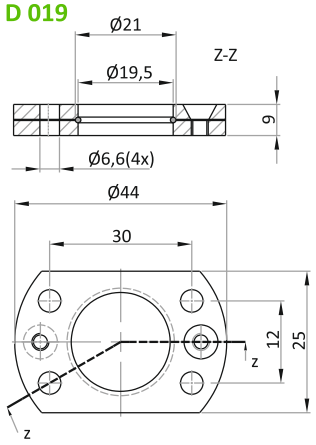
6 Basınç (P) - Kuvvet (F) Eğrisi
Pressure (P) - Force (F) Curve
Druck (P) - Kraft (F) Kurve

7 Model özellikleri
Model properties
Modelleigenschaften

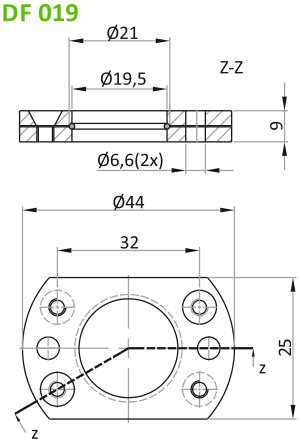
8 Flanş bağlantıları
Flange mounts
Befestigungen

K 19 A

D 019



DF 019



K 19 A

ISO 11901 - 1
VDI 3003 - Blatt 2

B2 4007 (BMW)
075.90.50 (FCA)

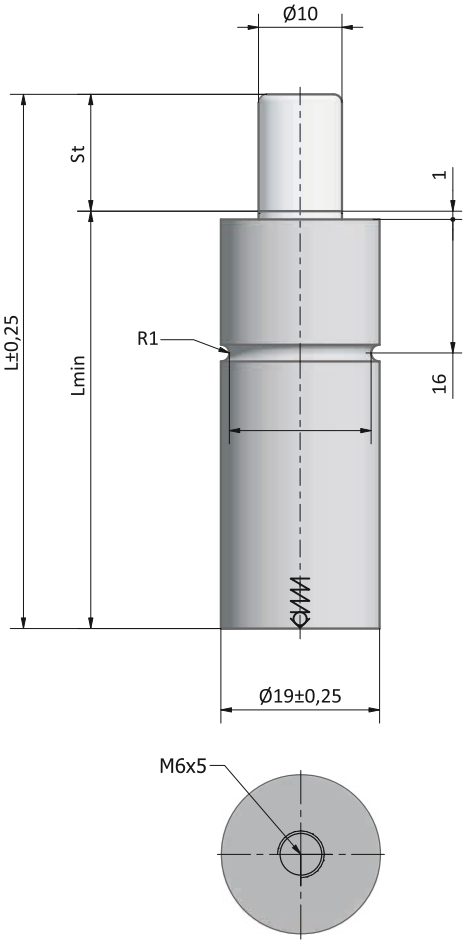
B8 3180 220 000 002 (MB)
39D 878 (VW)

F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

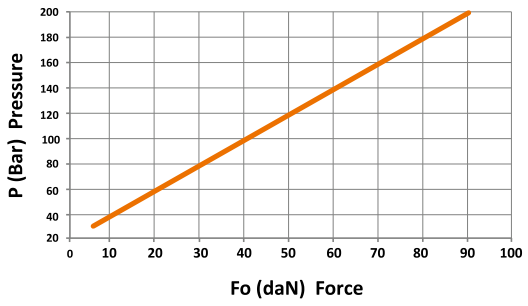
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet

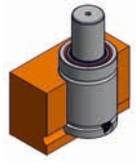


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
K 19 007	**K 19 007 A**	**7**	**56**	**49**		**194**	**228**	**1,6**	**0,10**
K 19 010	K 19 010 A	10	62	52		217	265	2,0	0,10
K 19 013	**K 19 013 A**	**12,7**	**67,4**	**54,7**		**241**	**305**	**2,3**	**0,11**
K 19 015	K 19 015 A	15	72	57	+ 20 °C	251	322	2,5	0,11
K 19 025	**K 19 025 A**	**25**	**92**	**67**		**262**	**341**	**4,0**	**0,13**
K 19 038	K 19 038 A	38,1	118,2	80,1	140	278	368	5,8	0,15
K 19 050	**K 19 050 A**	**50**	**142**	**92**		**284**	**379**	**7,5**	**0,17**
K 19 063	K 19 063 A	63,5	172	108,5	180 bar	304	415	9,0	0,21
K 19 080	**K 19 080 A**	**80**	**205**	**125**		**322**	**448**	**11,0**	**0,24**
K 19 100	K 19 100 A	100	245	145		354	508	13,0	0,28
K 19 125	**K 19 125 A**	**125**	**295**	**170**		**364**	**528**	**16,0**	**0,33**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	0,80 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	10 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 100-150 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	180 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount

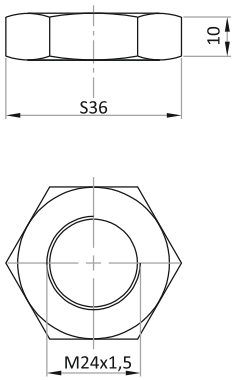


Drop - in

D 019
DF 019

K 19 M24

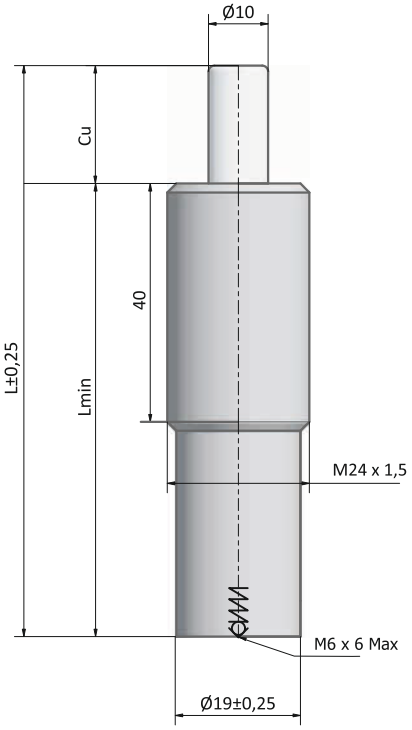
HM 24

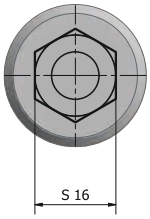


K 19 M24

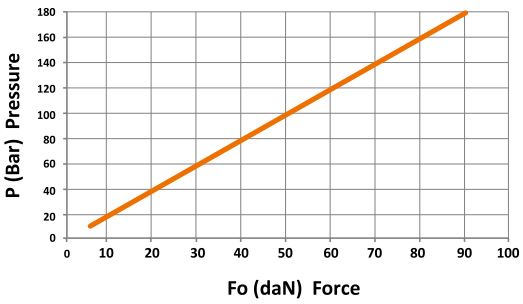
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



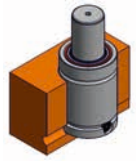


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	K 19 007 M24	**7**	**56**	**49**		**194**	**228**	**1,6**	**0,10**
	K 19 010 M24	10	62	52		217	265	2,0	0,10
	K 19 013 M24	**12,7**	**67,4**	**54,7**		**241**	**305**	**2,3**	**0,11**
	K 19 015 M24	15	72	57	+ 20 °C	251	322	2,5	0,11
	K 19 025 M24	**25**	**92**	**67**		**262**	**341**	**4,0**	**0,13**
	K 19 038 M24	38,1	118,2	80,1	140	278	368	5,8	0,15
	K 19 050 M24	**50**	**142**	**92**		**284**	**379**	**7,5**	**0,17**
	K 19 063 M24	63,5	172	108,5	180 bar	304	415	9,0	0,21
	K 19 080 M24	**80**	**205**	**125**		**322**	**448**	**11,0**	**0,24**
	K 19 100 M24	100	245	145		354	508	13,0	0,28
	K 19 125 M24	**125**	**295**	**170**		**364**	**528**	**16,0**	**0,33**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**0,80 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**10 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 100-150 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**180 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

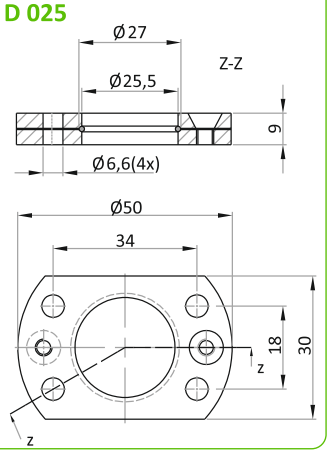

Bottom Mount


Drop - in

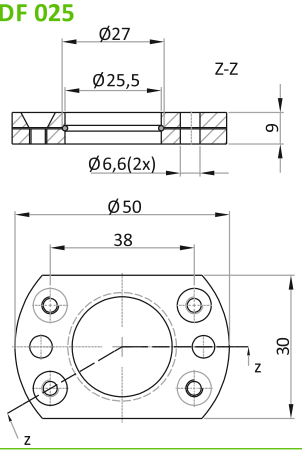

HM 24

K 25 A

D 025



DF 025

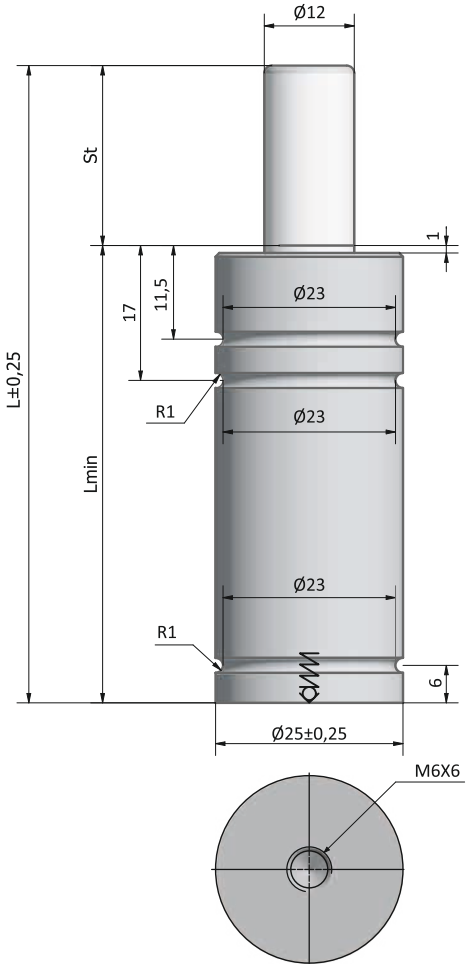


K 25 A

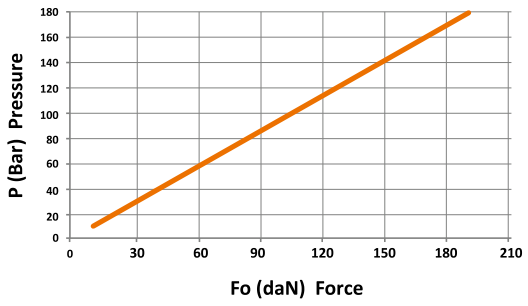
ISO 11901 - 1 VDI 3003 - Blatt 2	B2 4007 (BMW) 075.90.50 (FCA)
B8 3180 220 000 002 (MB) K3202-2400-50 (Nissan)	E24.54.815.G (PSA) 39D 878 (VW)

APPROVED PED 2014/68/EU

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

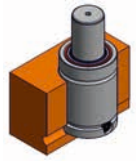


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
K25 007	**K25 007 A**	**7**	**56**	**49**		**213**	**230**	**4,5**	**0,16**
K25 010	K25 010 A	10	62	52		226	249	5,2	0,16
K25 013	**K25 013 A**	**12,7**	**67,4**	**54,7**		**239**	**267**	**5,9**	**0,17**
K25 015	K25 015 A	15	72	57	+ 20 °C	246	278	6,3	0,18
K25 025	**K25 025 A**	**25**	**92**	**67**		**275**	**322**	**8,5**	**0,21**
K25 038	K25 038 A	38,1	118,2	80,1	200	300	362	11,3	0,25
K25 050	**K25 050 A**	**50**	**142**	**92**		**316**	**388**	**13,9**	**0,29**
K25 063	K25 063 A	63,5	172	108,5	180 bar	328	407	16,7	0,34
K25 080	**K25 080 A**	**80**	**205**	**125**		**340**	**427**	**20,4**	**0,39**
K25 100	K25 100 A	100	245	145		350	445	24,7	0,45
K25 125	**K25 125 A**	**125**	**295**	**170**		**358**	**459**	**30,2**	**0,53**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	1,13 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	10 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 50 - 80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	180 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount

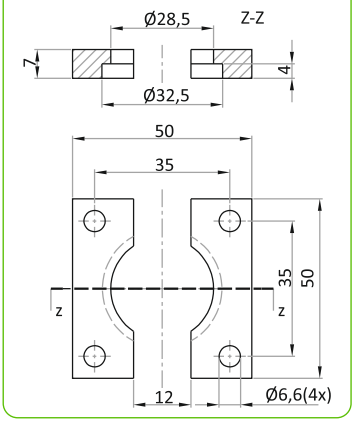


Drop - in

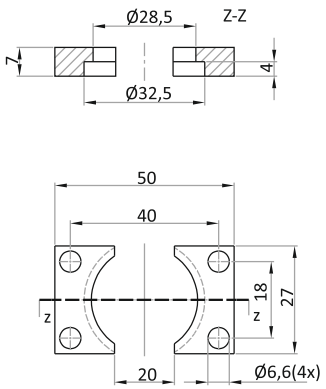
D 025
DF 025

K 32

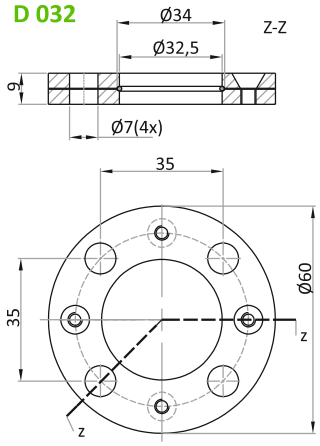
CA 032



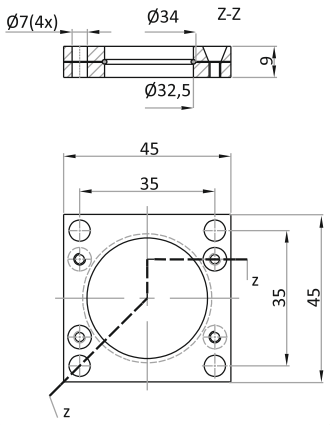
CB 032



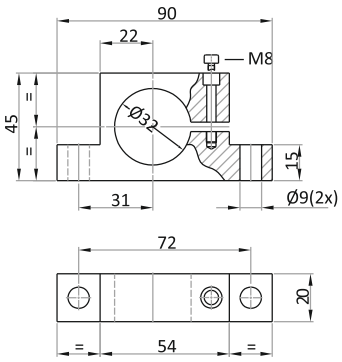
D 032



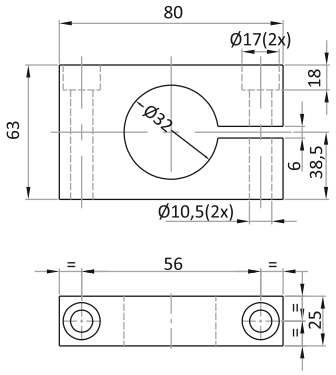
DK 032



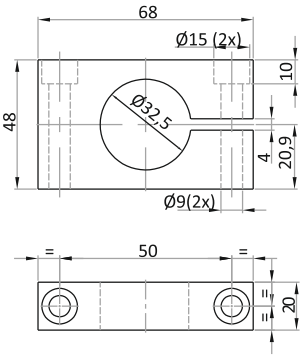
TA 032



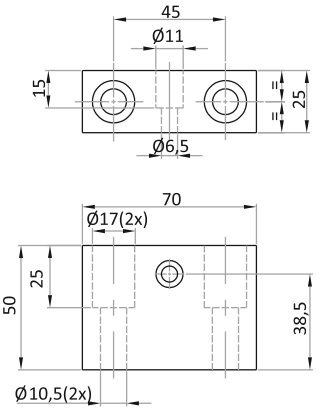
TB 032



TD 032

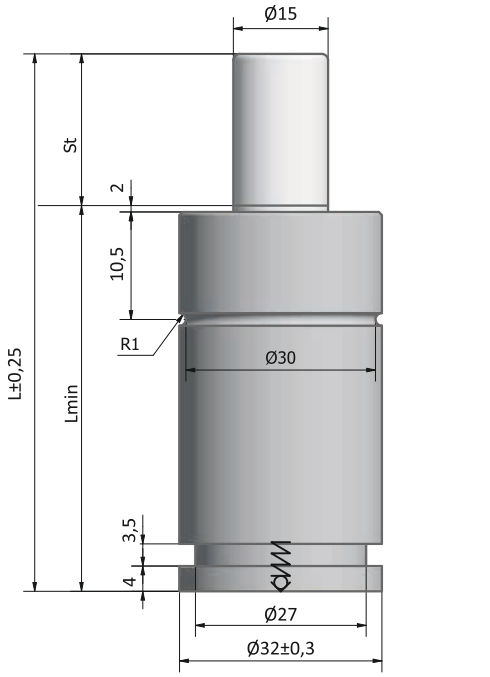


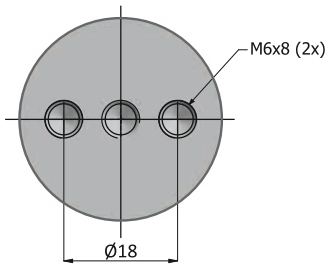
TT 032



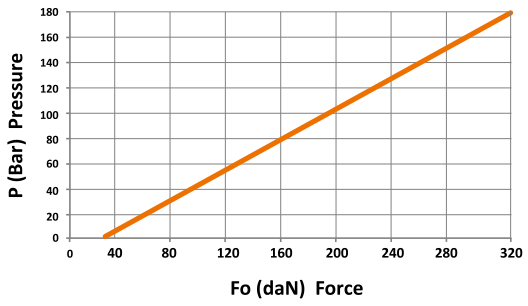
W-DX35-80-40 (Ford)

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



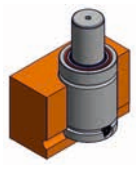


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	K32 007	**7**	**56**	**49**		**389**	**441**	**4,5**	**0,28**
	K32 010	10	62	52		421	490	5,5	0,29
	K32 013	**12,7**	**67,4**	**54,7**		**426**	**498**	**7,0**	**0,30**
	K32 015	15	72	57	+ 20 °C	446	529	7,5	0,32
	K32 025	**25**	**92**	**67**		**593**	**773**	**9,0**	**0,38**
	K32 038	38	118	80	320	603	789	13,5	0,45
	K32 050	**50**	**142**	**92**		**614**	**808**	**17,5**	**0,51**
	K32 063	63,5	172	108,5	180 bar	653	878	21,0	0,60
	K32 080	**80**	**205**	**125**		**677**	**920**	**26,0**	**0,69**
	K32 100	100	245	145		692	947	32,0	0,80
	K32 125	**125**	**295**	**170**		**719**	**997**	**39,0**	**0,93**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	1,77 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	10 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 50 - 80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	180 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 032

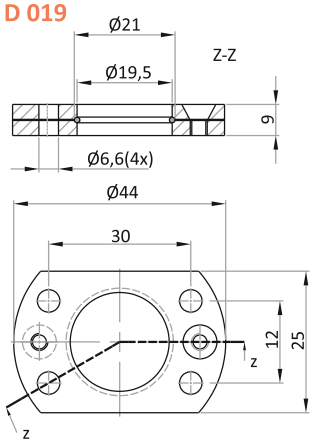

DK 032


TA 032 - TB 032
TD 032 - TT 032

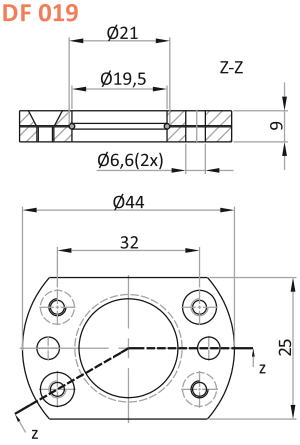

CB 032 - CA 032

EF 00170 A

D 019



DF 019



EF 00170 A

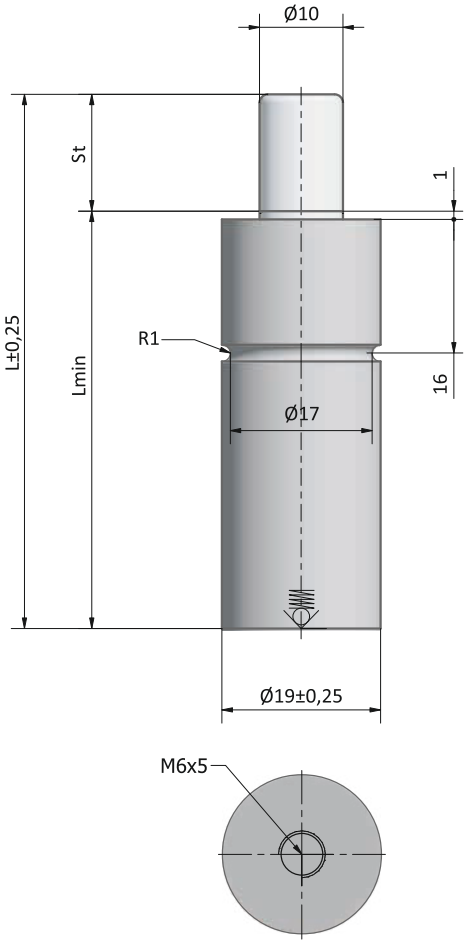
ISO 11901 - 3
VDI 3003 - Blatt 3

B2 4005 (BMW)
075.90.60 (FCA)

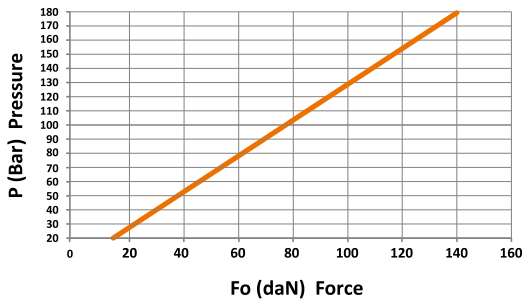
B8 3180 220 000 004 (MB)
39D 997 (VW)

APPROVED PED 2014/68/EU

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

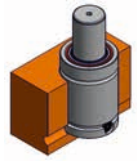


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
EF 00170 007	**EF 00170 007 A**	**7**	**44**	**37**		**211**	**255**	**1,4**	**0,07**
EF 00170 010	EF 00170 010 A	10	50	40		236	297	1,8	0,08
EF 00170 013	**EF 00170 013 A**	**13**	**56**	**43**		**259**	**336**	**2,1**	**0,09**
EF 00170 015	EF 00170 015 A	15	60	45		269	353	2,4	0,09
EF 00170 019	**EF 00170 019 A**	**19**	**68**	**49**		**278**	**368**	**2,9**	**0,10**
EF 00170 025	EF 00170 025 A	25	80	55	+ 20 °C	313	431	3,5	0,11
EF 00170 032	**EF 00170 032 A**	**32**	**94**	**62**		**328**	**459**	**4,4**	**0,12**
EF 00170 038	EF 00170 038 A	38	106	68	140	346	494	5,0	0,13
EF 00170 050	**EF 00170 050 A**	**50**	**130**	**80**		**354**	**508**	**6,5**	**0,16**
EF 00170 063	EF 00170 063 A	63	156	93	180 bar	370	539	8,0	0,18
EF 00170 075	**EF 00170 075 A**	**75**	**185**	**110**		**384**	**565**	**9,4**	**0,22**
EF 00170 080	EF 00170 080 A	80	195	115		398	593	9,8	0,23
EF 00170 100	**EF 00170 100 A**	**100**	**235**	**135**		**408**	**615**	**12,1**	**0,26**
EF 00170 125	EF 00170 125 A	125	285	160		416	630	15,0	0,31



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**0,80 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**180 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount

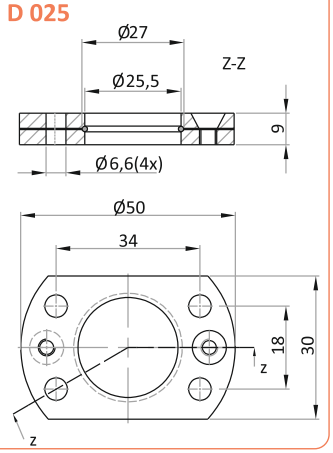


Drop - in

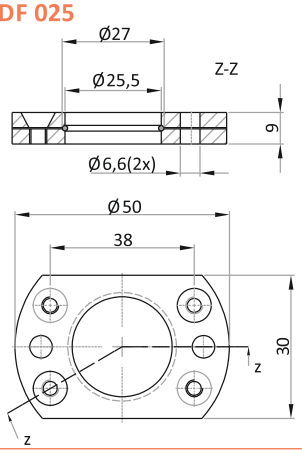
D 019
DF 019

EF 00320 A

D 025

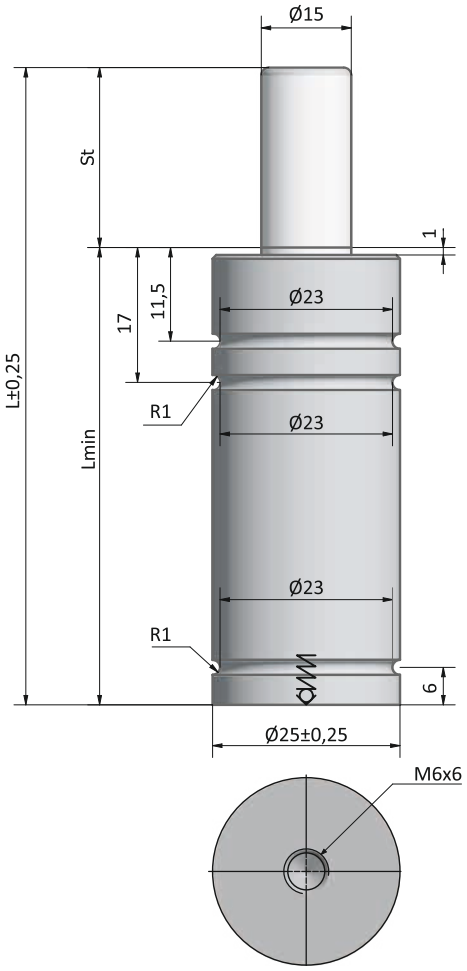


DF 025

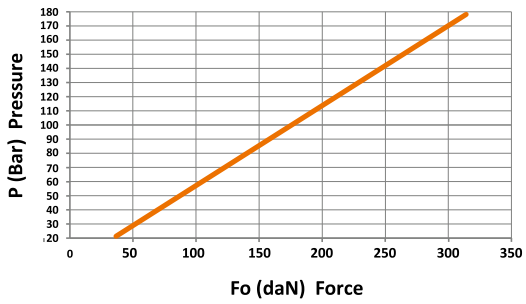


EF 00320 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

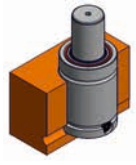


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
EF 00320 007	**EF 00320 007 A**	**7**	**44**	**37**		**389**	**441**	**4,5**	**0,11**
EF 00320 010	EF 00320 010 A	10	50	40		421	490	5,5	0,12
EF 00320 013	**EF 00320 013 A**	**13**	**56**	**43**		**426**	**498**	**7,0**	**0,12**
EF 00320 015	EF 00320 015 A	15	60	45	+ 20 °C	446	529	7,5	0,13
EF 00320 019	**EF 00320 019 A**	**19**	**68**	**49**		**463**	**556**	**9,0**	**0,14**
EF 00320 025	EF 00320 025 A	25	80	55	320	473	572	11,5	0,15
EF 00320 032	**EF 00320 032 A**	**32**	**94**	**62**		**478**	**580**	**14,5**	**0,17**
EF 00320 038	EF 00320 038 A	38	106	68	180 bar	483	588	17,0	0,18
EF 00320 050	**EF 00320 050 A**	**50**	**130**	**80**		**489**	**598**	**22,0**	**0,20**
EF 00320 063	EF 00320 063 A	63	156	93		500	616	27,0	0,23
EF 00320 075	**EF 00320 075 A**	**75**	**185**	**110**		**502**	**619**	**32,0**	**0,27**
EF 00320 080	EF 00320 080 A	80	195	115		504	621	34,0	0,28
EF 00320 100	**EF 00320 100 A**	**100**	**235**	**135**		**520**	**648**	**41,0**	**0,33**
EF 00320 125	EF 00320 125 A	125	285	160		532	668	50,0	0,39



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	1,77 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	180 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount

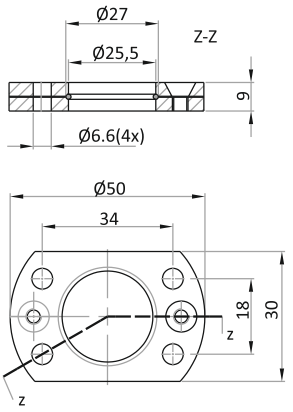


Drop - in

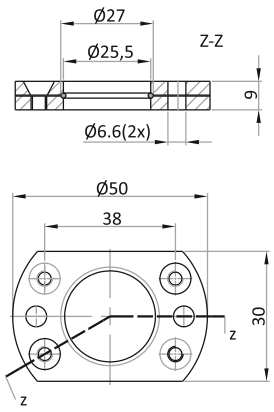
D 025
DF 025

E 00200 A

D 025



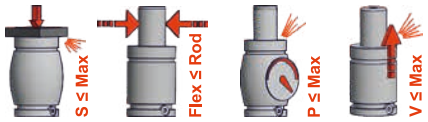
DF 025

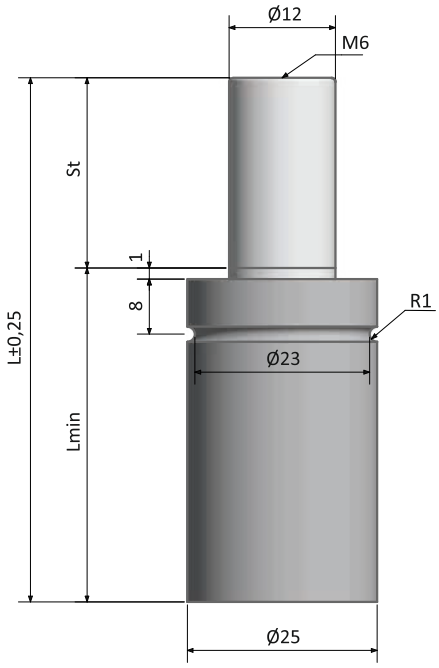


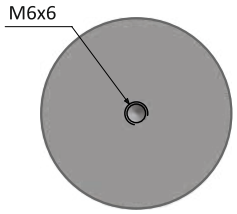
E 00200 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

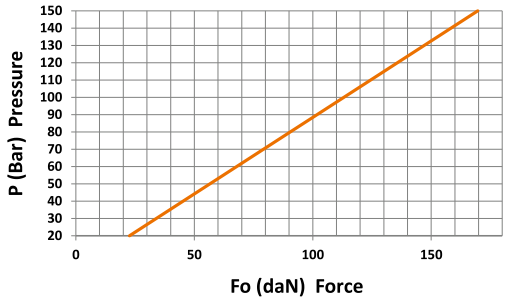
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**





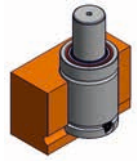


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 00200 010	E 00200 010 A	10	50	40		297	358	3,0	0,1
E 00200 013	**E 00200 013 A**	**13**	**56**	**43**	**+20 °C**	**324**	**400**	**3,5**	**0,1**
E 00200 016	E 00200 016 A	16	62	46		347	438	4,0	0,2
E 00200 019	**E 00200 019 A**	**19**	**68**	**49**	**200**	**367**	**472**	**4,5**	**0,2**
E 00200 025	E 00200 025 A	25	80	55		361	463	6,0	0,2
E 00200 032	**E 00200 032 A**	**32**	**94**	**62**	**180 bar**	**386**	**505**	**7,3**	**0,2**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	1,77 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	10 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	180 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount

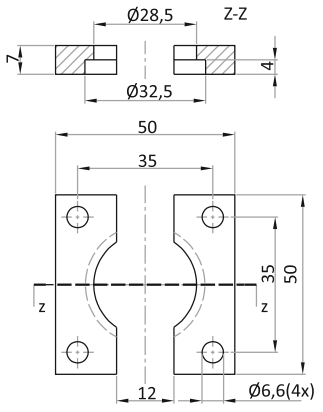


Drop - in

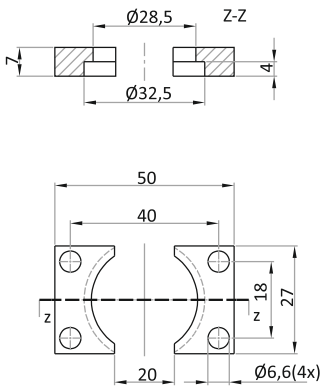
D 025
DF 025

E 00300 A

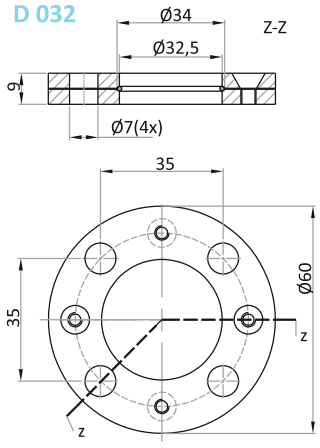
CA 032



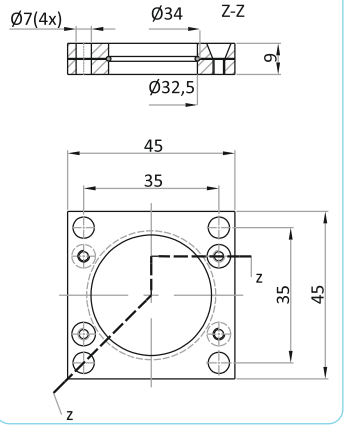
CB 032



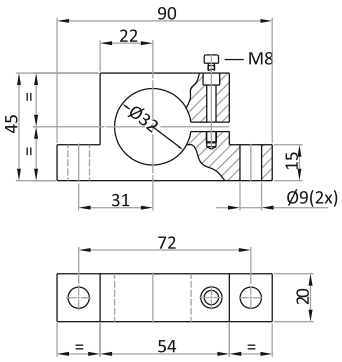
D 032



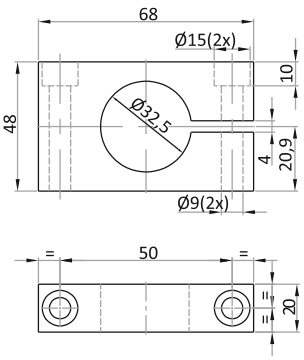
DK 032



TA 032



TD 032



E 00300 A

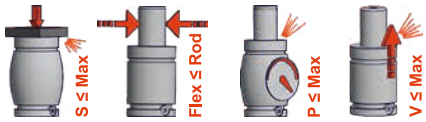
ISO 11901 - 3
VDI 3003 - Blatt 3

B2 4005 (BMW)
075.90.60 (FCA)

B8 3180 220 000 004 (MB)
39D 997 (VW)

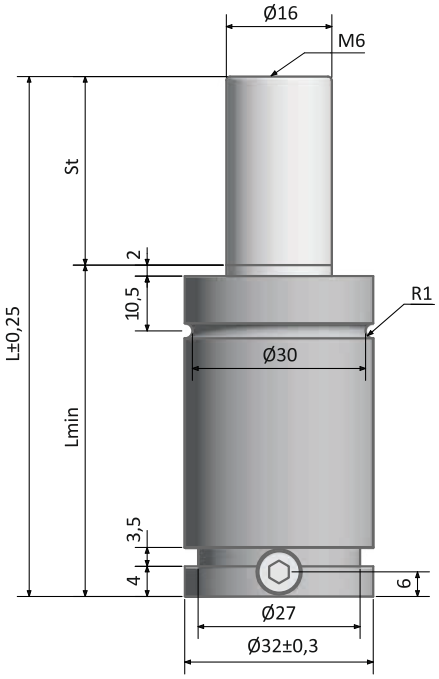
W-DX35-6204 (Ford)

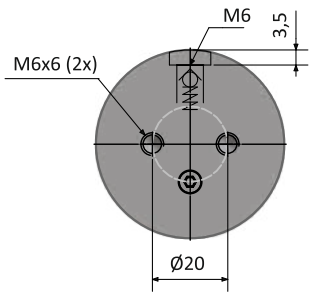
APPROVED PED 2014/68/EU



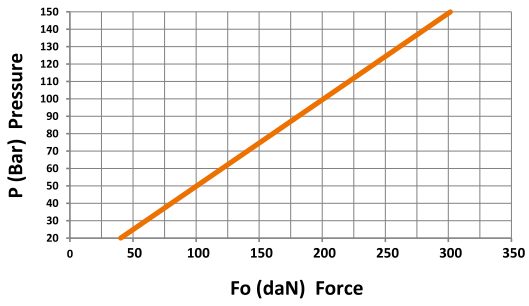
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



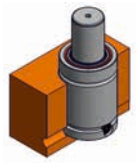


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 00300 010	**E 00300 010 A**	**10**	**50**	**40**		**478**	**557**	**6,3**	**0,21**
E 00300 013	E 00300 013 A	13	56	43		482	563	8,0	0,22
E 00300 016	**E 00300 016 A**	**16**	**62**	**46**		**486**	**568**	**9,8**	**0,23**
E 00300 019	E 00300 019 A	19	68	49		500	591	11,0	0,24
E 00300 025	**E 00300 025 A**	**25**	**80**	**55**		**512**	**609**	**14,0**	**0,26**
E 00300 032	E 00300 032 A	32	94	62	+ 20 °C	530	639	17,0	0,30
E 00300 038	**E 00300 038 A**	**38**	**106**	**68**		**544**	**661**	**19,5**	**0,32**
E 00300 050	E 00300 050 A	50	130	80	300	556	680	25,0	0,38
E 00300 063	**E 00300 063 A**	**63**	**156**	**93**		**579**	**717**	**30,0**	**0,44**
E 00300 075	E 00300 075 A	75	180	105	150 bar	590	735	35,0	0,49
E 00300 080	**E 00300 080 A**	**80**	**190**	**110**		**595**	**742**	**37,0**	**0,52**
E 00300 100	E 00300 100 A	100	230	130		623	791	44,0	0,62
E 00300 125	**E 00300 125 A**	**125**	**280**	**155**		**676**	**881**	**51,0**	**0,76**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	2,01 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 032


DK 032

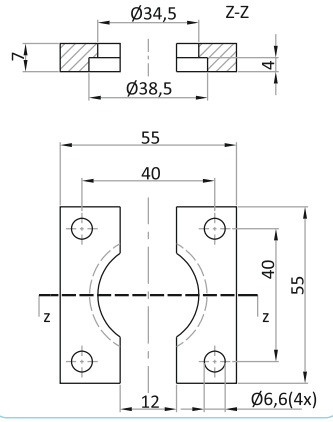

TA 032
TD 032


CB 032
CA 032

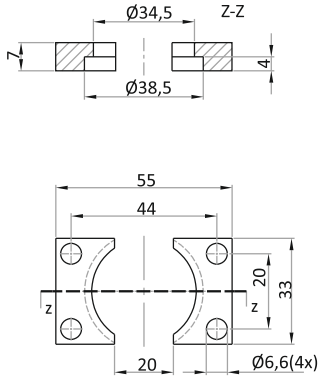
ALFAMAK

E 00500 A

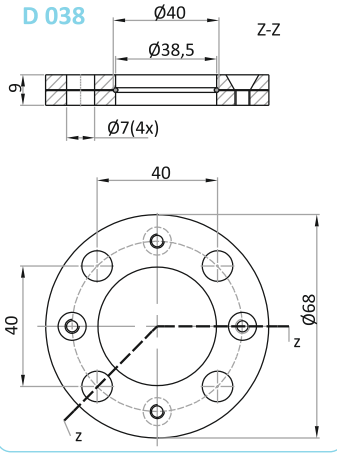
CA 038



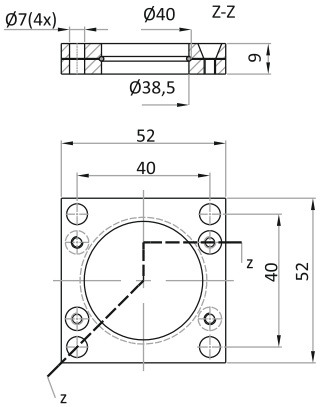
CB 038



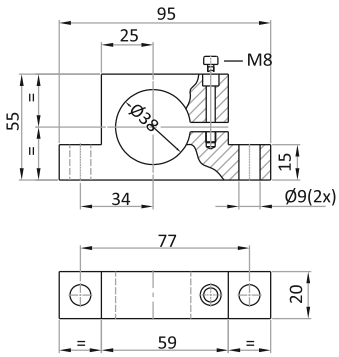
D 038



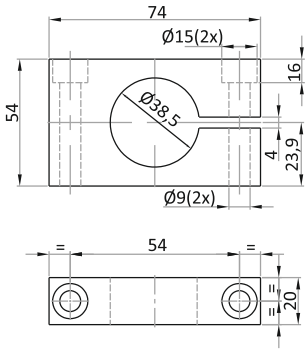
DK 038



TA 038



TD 038



E 00500 A

ISO 11901 - 3
VDI 3003 - Blatt 3

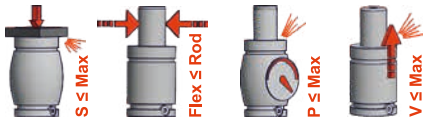
B2 4005 (BMW)
075.90.60 (FCA)

B8 3180 220 000 004 (MB)
39D 997 (VW)

W-DX35-6204 (Ford)
K 32 H (Nissan)

E24.54.815.G (PSA)
EM24.54.700 (Renault)

APPROVED PED 2014/68/EU

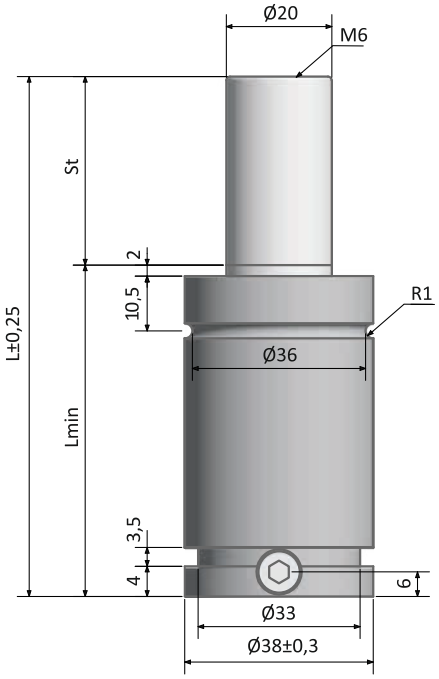


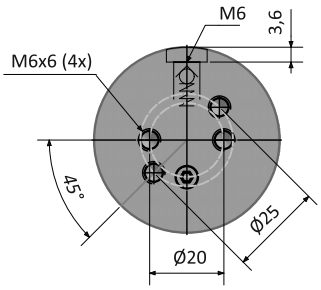
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

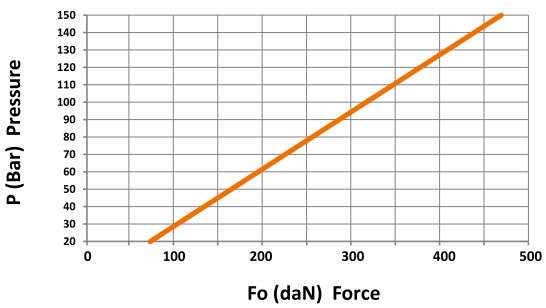
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



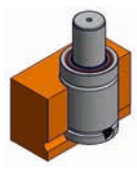


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 00500 010	**E 00500 010 A**	**10**	**50**	**40**		747	870	9,8	0,29
E 00500 013	E 00500 013 A	13	56	43		783	924	11,8	0,30
E 00500 016	**E 00500 016 A**	**16**	**62**	**46**		790	936	14,3	0,32
E 00500 019	E 00500 019 A	19	68	49		803	957	16,5	0,34
E 00500 025	**E 00500 025 A**	**25**	**80**	**55**		852	1035	20,0	0,38
E 00500 032	E 00500 032 A	32	94	62	+ 20 °C	883	1084	24,5	0,42
E 00500 038	**E 00500 038 A**	**38**	**106**	**68**		886	1089	29,0	0,45
E 00500 050	E 00500 050 A	50	130	80	**470**	908	1127	37,0	0,53
E 00500 063	**E 00500 063 A**	**63**	**156**	**93**		919	1144	46,0	0,60
E 00500 075	E 00500 075 A	75	180	105	**150 bar**	931	1164	54,0	0,68
E 00500 080	**E 00500 080 A**	**80**	**190**	**110**		956	1206	56,0	0,72
E 00500 100	E 00500 100 A	100	230	130		970	1229	69,0	0,84
E 00500 125	**E 00500 125 A**	**125**	**280**	**155**		972	1233	86,0	1,00



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	3,14 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 038


DK 038

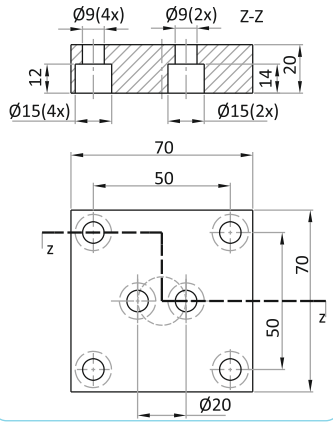

TA 038
TD 038


CB 038
CA 038

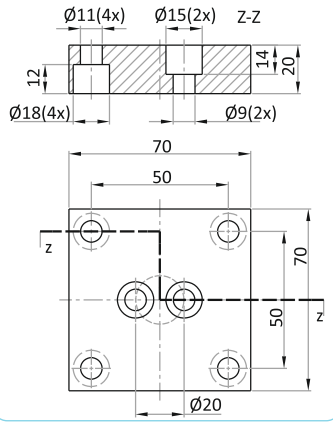
ALFAMAK

E 00750 A

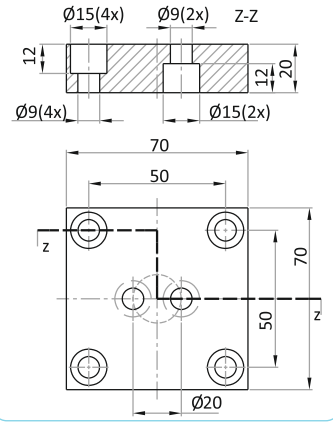
K 045



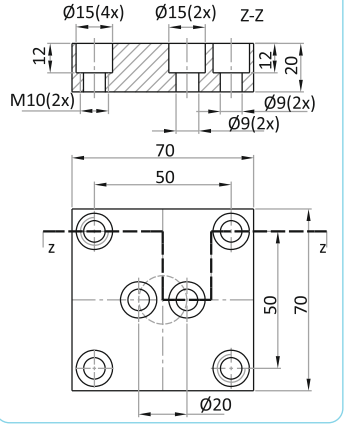
KB 045



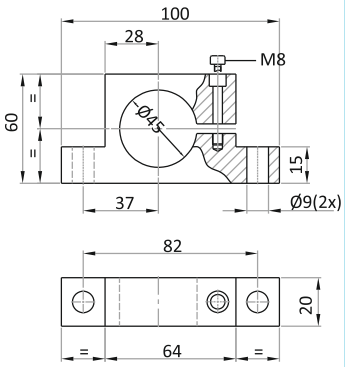
KC 045



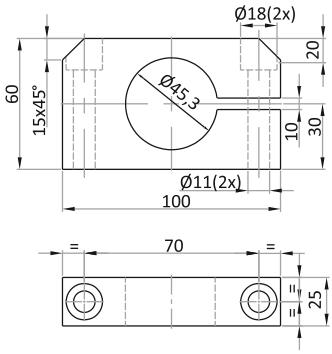
KF 045



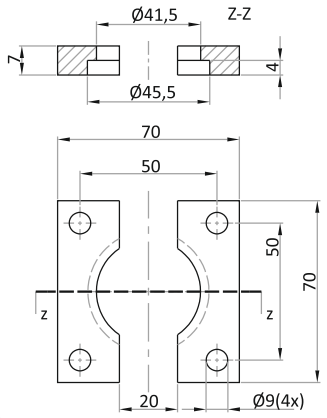
TA 045



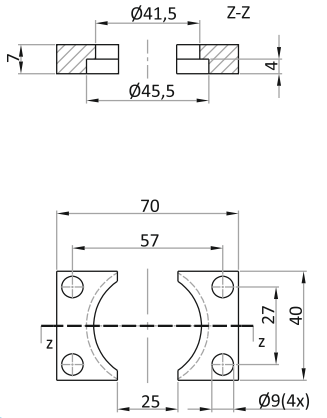
TE 045



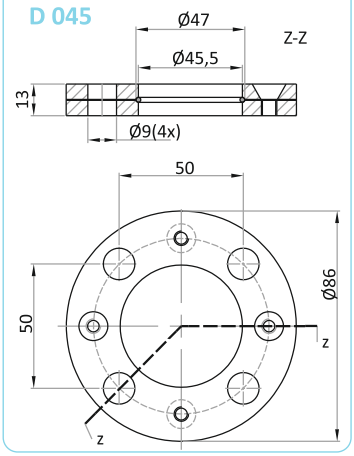
C 045



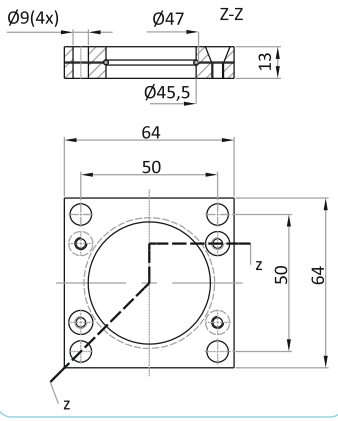
CB 045



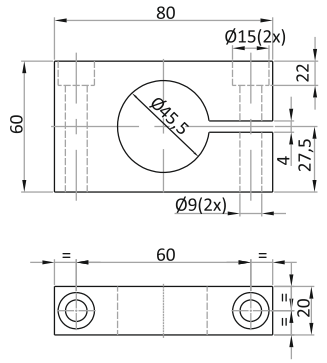
D 045



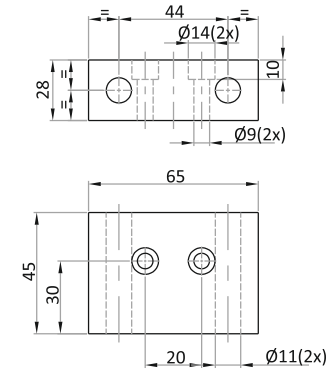
DK 045



TD 045



TT 050



E 00750 A

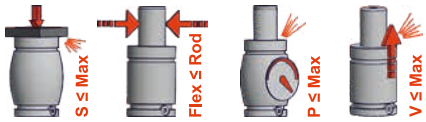
ISO 11901 - 3
VDI 3003 - Blatt 3

B2 4005 (BMW)
W-DX35-6204 (Ford)

E24.54.815.G (PSA)
39D 997 (VW)

B8 3180 220 000 004 (MB)

APPROVED PED 2014/68/EU

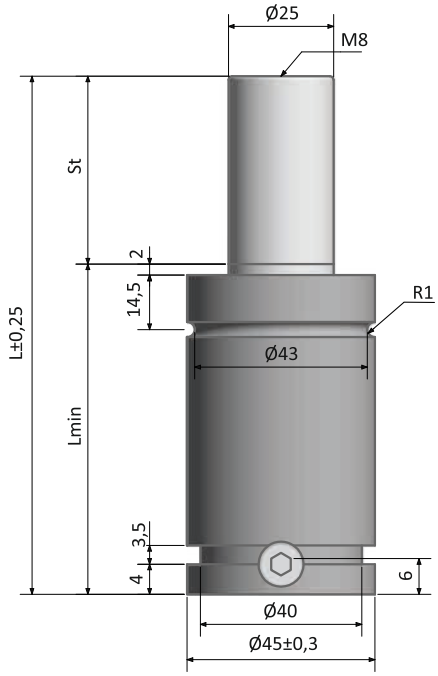


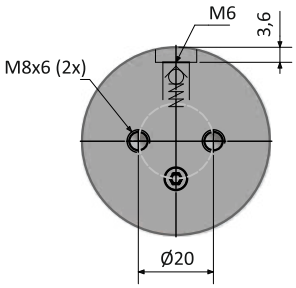
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

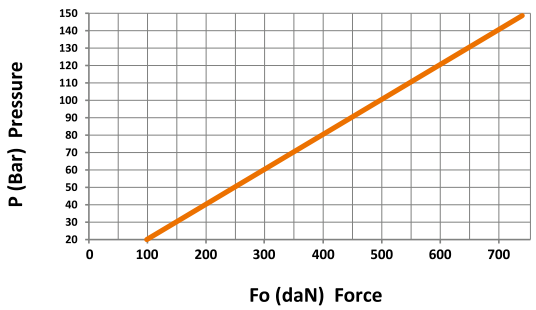
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



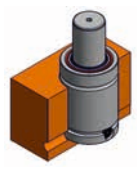


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 00750 010	**E 00750 010 A**	**10**	**52**	**42**		**1180**	**1378**	**15,0**	**0,41**
E 00750 013	E 00750 013 A	13	58	45		1240	1471	18,0	0,43
E 00750 016	**E 00750 016 A**	**16**	**64**	**48**		**1255**	**1495**	**21,8**	**0,44**
E 00750 019	E 00750 019 A	19	70	51		1284	1540	25,0	0,46
E 00750 025	**E 00750 025 A**	**25**	**82**	**57**		**1309**	**1581**	**32,0**	**0,50**
E 00750 032	E 00750 032 A	32	96	64	+20 °C	1360	1663	39,0	0,55
E 00750 038	**E 00750 038 A**	**38**	**108**	**70**		**1367**	**1675**	**46,0**	**0,58**
E 00750 050	E 00750 050 A	50	132	82	740	1417	1757	58,0	0,67
E 00750 063	**E 00750 063 A**	**63**	**158**	**95**		**1436**	**1788**	**72,0**	**0,75**
E 00750 075	E 00750 075 A	75	182	107	150 bar	1455	1819	84,5	0,83
E 00750 080	**E 00750 080 A**	**80**	**192**	**112**		**1458**	**1823**	**90,0**	**0,86**
E 00750 100	E 00750 100 A	100	232	132		1466	1837	111,8	0,99
E 00750 125	**E 00750 125 A**	**125**	**282**	**157**		**1473**	**1848**	**139,0**	**1,15**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	4,91 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 045


DK 045


TA 045 - TD 045
TE 045 - TT 050

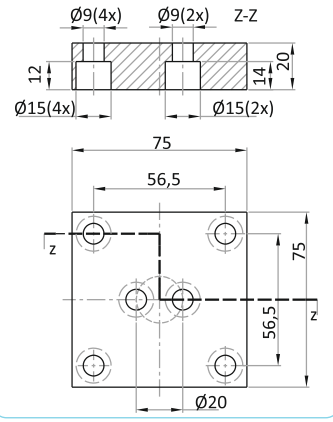

CB 045
C 045


K 045 - KB 045
KC 045 - KF 045

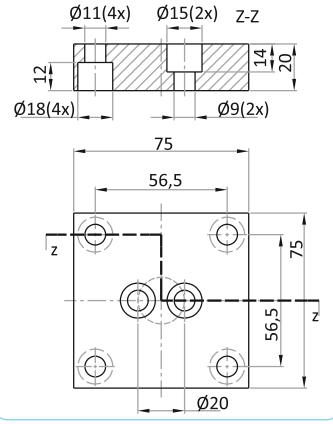
ALFAMAK

E 01000 B

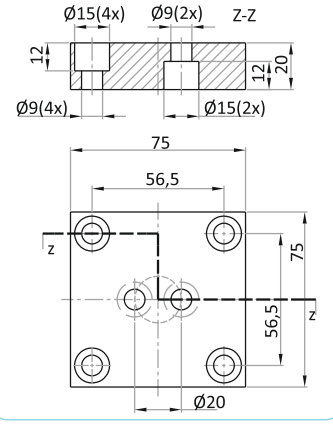
K 050



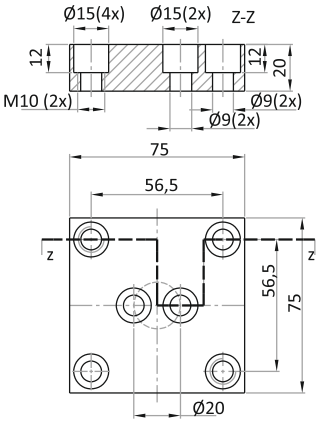
KB 050



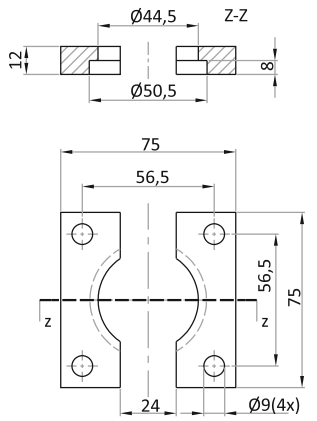
KC 050



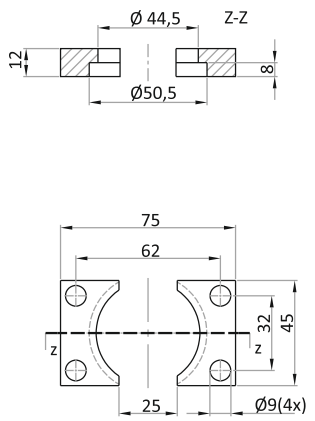
KF 050



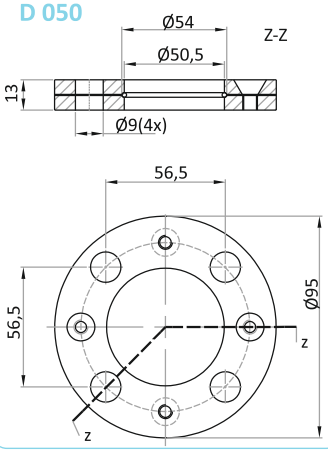
C 050



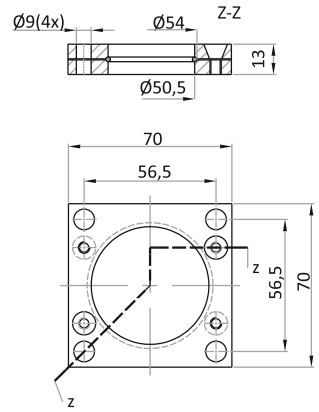
CB 050



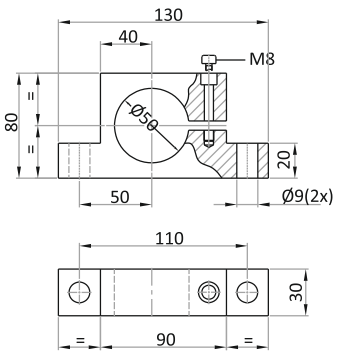
D 050



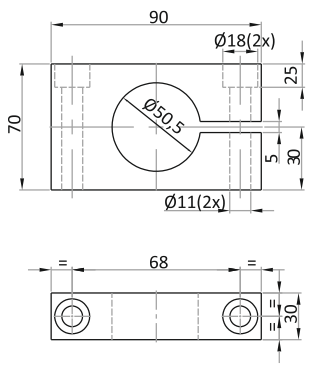
DK 050



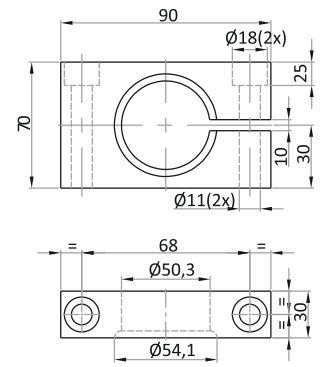
TA 050



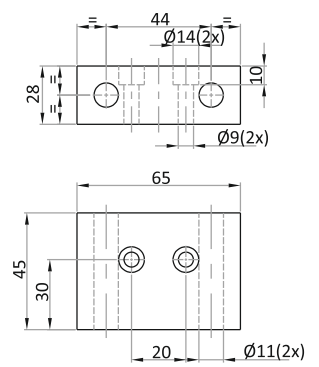
TD 050



TE 050

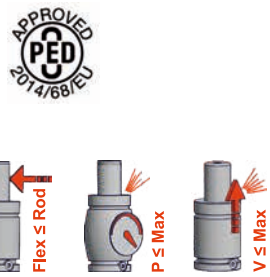


TT 050



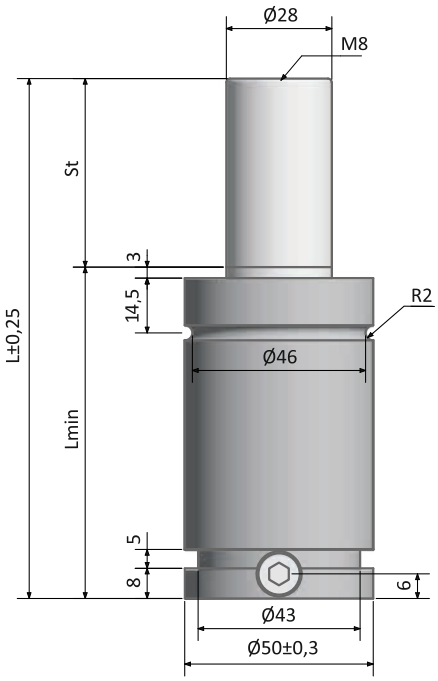
E 01000 B

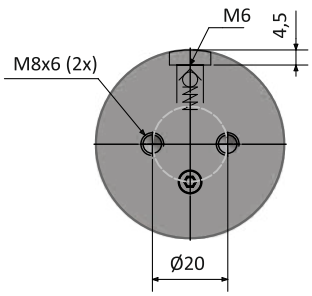
ISO 11901 - 3 VDI 3003 - Blatt 3	B2 4005 (BMW) W-DX35-6204 (Ford)
E24.54.815.G (PSA) 39D 997 (VW)	B8 3180 220 000 004 (MB)



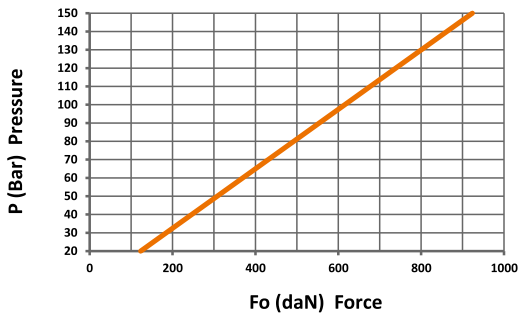
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



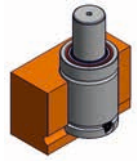


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 01000 010 A	**E 01000 010 B**	**10**	**58**	**48**		**1393**	**1594**	**21,0**	**0,58**
E 01000 013 A	E 01000 013 B	13	64	51		1428	1648	26,0	0,60
E 01000 016 A	**E 01000 016 B**	**16**	**70**	**54**		**1480**	**1728**	**30,0**	**0,63**
E 01000 019 A	E 01000 019 B	19	76	57		1496	1753	35,0	0,65
E 01000 025 A	**E 01000 025 B**	**25**	**88**	**63**		**1539**	**1819**	**44,0**	**0,70**
E 01000 032 A	E 01000 032 B	32	102	70	+ 20 °C	1563	1857	55,0	0,76
E 01000 038 A	**E 01000 038 B**	**38**	**114**	**76**		**1568**	**1865**	**65,0**	**0,80**
E 01000 050 A	E 01000 050 B	50	138	88	920	1586	1895	84,0	0,89
E 01000 063 A	**E 01000 063 B**	**63**	**164**	**101**		**1606**	**1926**	**104,0**	**1,00**
E 01000 075 A	E 01000 075 B	75	188	113	150 bar	1613	1938	123,0	1,09
E 01000 080 A	**E 01000 080 B**	**80**	**198**	**118**		**1643**	**1985**	**128,0**	**1,15**
E 01000 100 A	E 01000 100 B	100	238	138		1658	2010	158,0	1,32
E 01000 125 A	**E 01000 125 B**	**125**	**288**	**163**		**1661**	**2015**	**197,0**	**1,52**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**6,15 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 050


DK 050

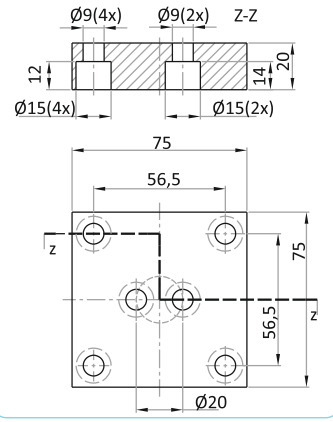

TA 050 - TD 050
TE 050 - TT 050


CB 050
C 050

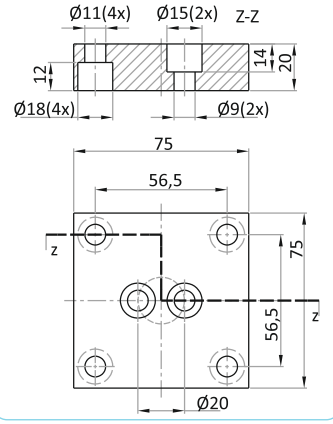

K 050 - KB 050
KC 050 - KF 050

E 01200

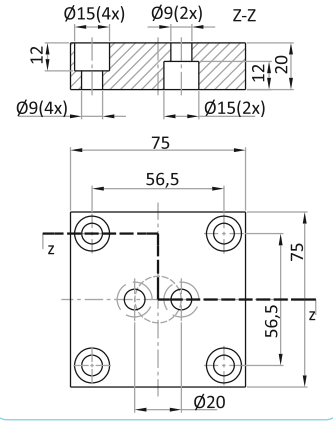
K 050



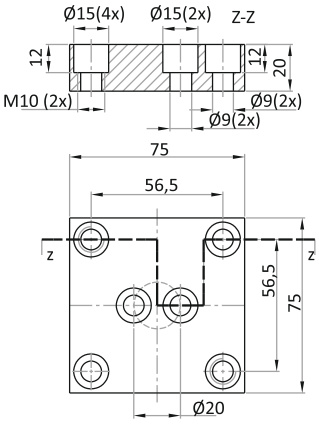
KB 050



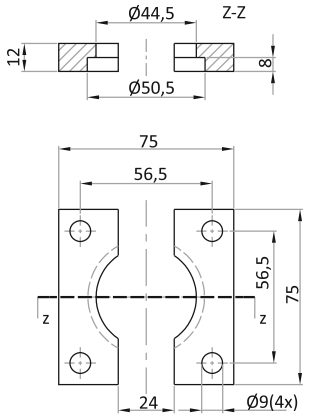
KC 050



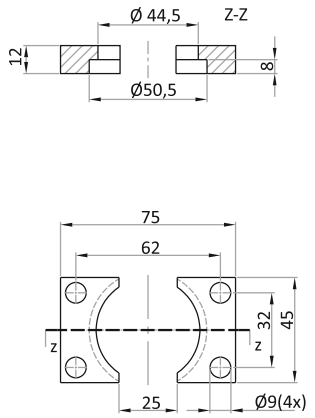
KF 050



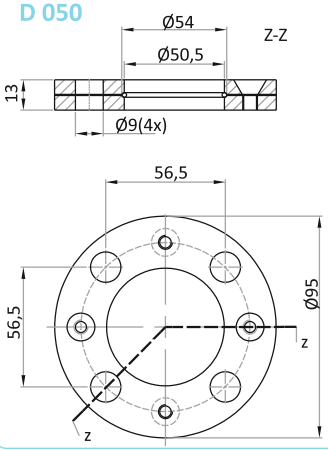
C 050



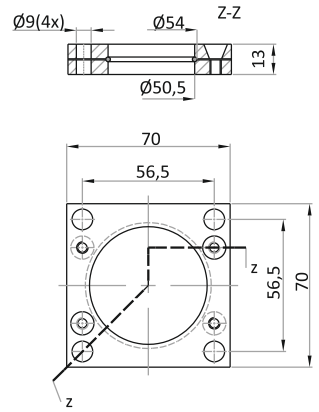
CB 050



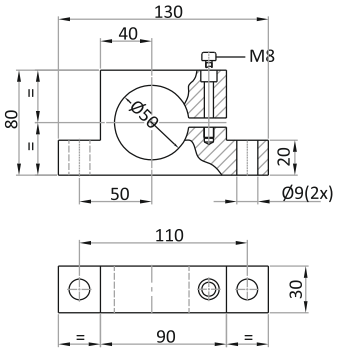
D 050



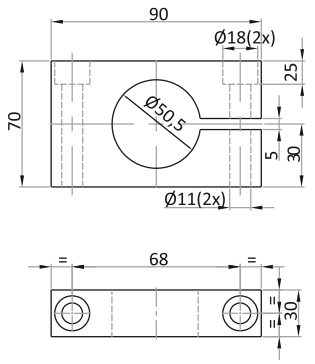
DK 050



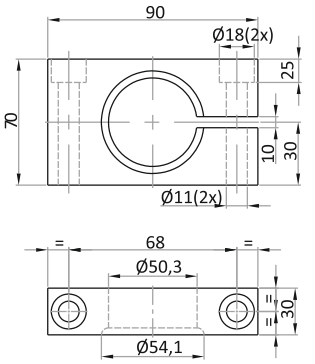
TA 050



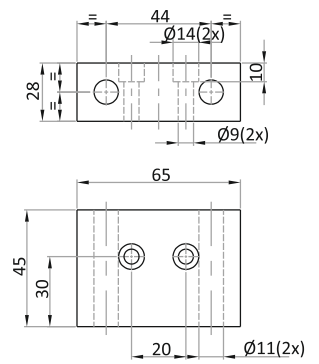
TD 050



TE 050

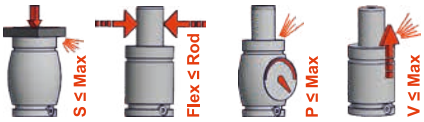


TT 050



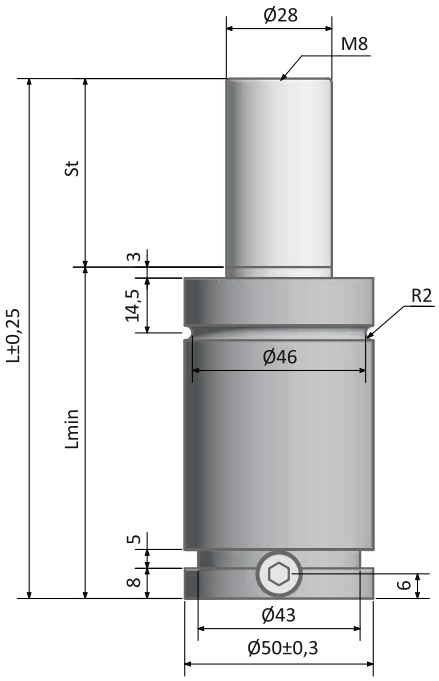
E 01200

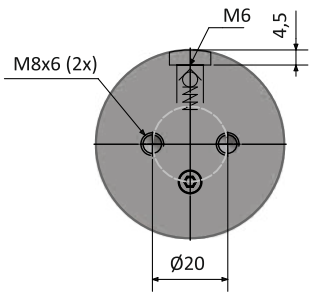
APPROVED PED 2014/68/EU



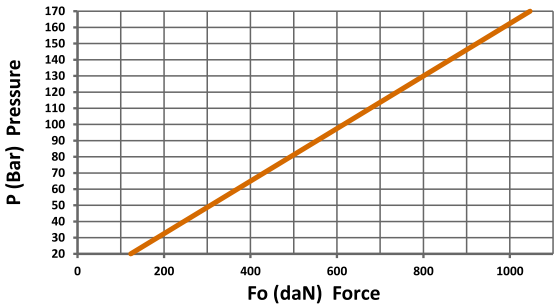
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



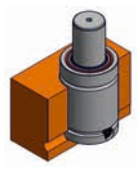


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	E 01200 010	**10**	**58**	**48**		**1393**	**1594**	**21,0**	**0,58**
	E 01200 013	13	64	51		1428	1648	26,0	0,60
	E 01200 016	**16**	**70**	**54**		**1480**	**1728**	**30,0**	**0,63**
	E 01200 019	19	76	57		1496	1753	35,0	0,65
	E 01200 025	**25**	**88**	**63**		**1539**	**1819**	**44,0**	**0,70**
	E 01200 032	32	102	70	+ 20 °C	1563	1857	55,0	0,76
	E 01200 038	**38**	**114**	**76**		**1568**	**1865**	**65,0**	**0,80**
	E 01200 050	50	138	88	1060	1586	1895	84,0	0,89
	E 01200 063	**63**	**164**	**101**		**1606**	**1926**	**104,0**	**1,00**
	E 01200 075	75	188	113	170 bar	1613	1938	123,0	1,09
	E 01200 080	**80**	**198**	**118**		**1643**	**1985**	**128,0**	**1,15**
	E 01200 100	100	238	138		1658	2010	158,0	1,32
	E 01200 125	**125**	**288**	**163**		**1661**	**2015**	**197,0**	**1,52**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**6,15 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**170 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 050

DK 050

TA 050 - TD 050
TE 050 - TT 050

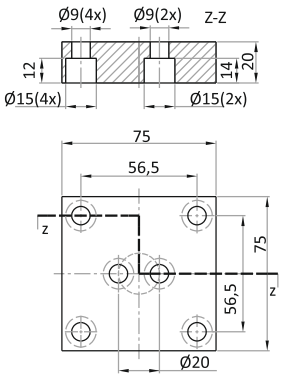
CB 050
C 050

K 050 - KB 050
KC 050 - KF 050

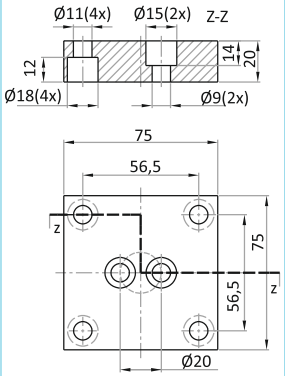
ALFAMAK

E 01500 A

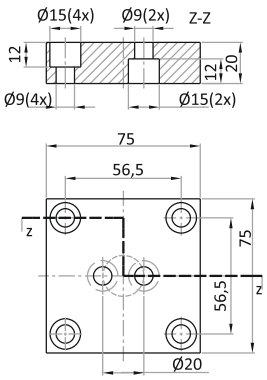
K 050



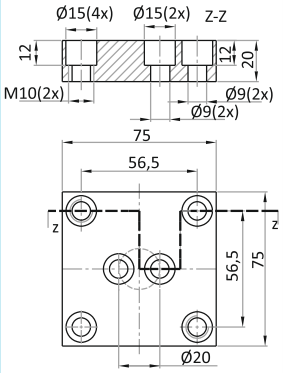
KB 050



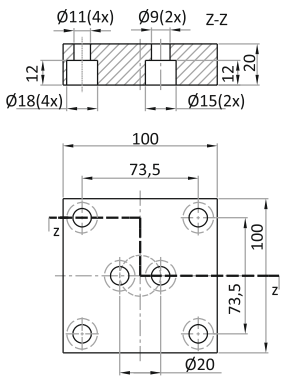
KC 050



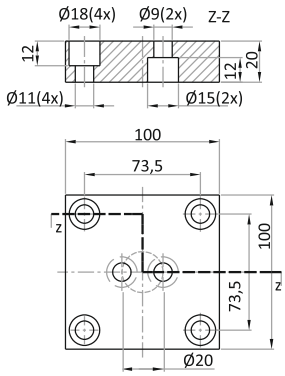
KF 050



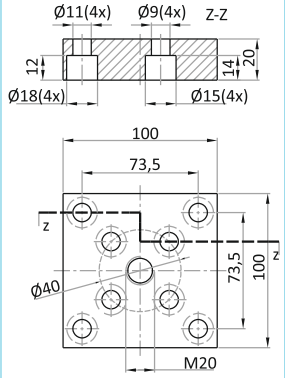
K 063



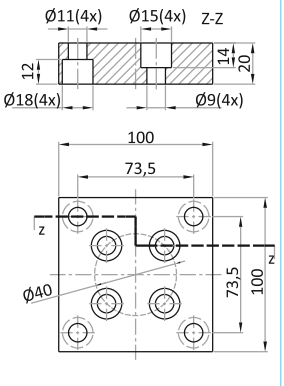
KC 063



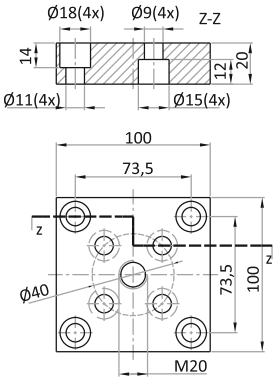
K 075



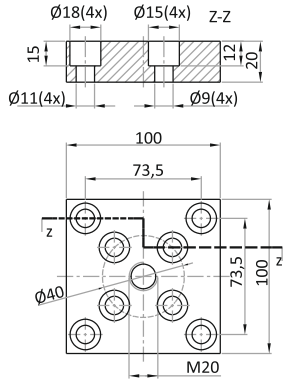
KB 075



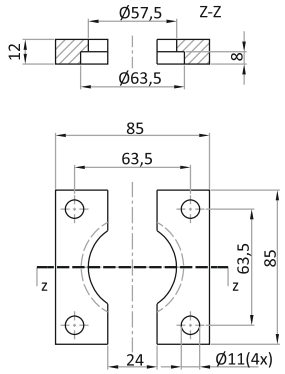
KC 075



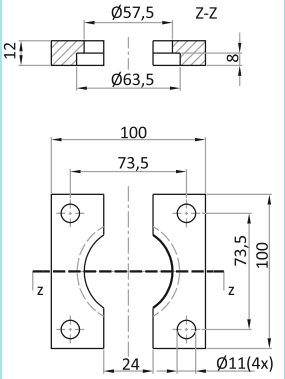
KF 075



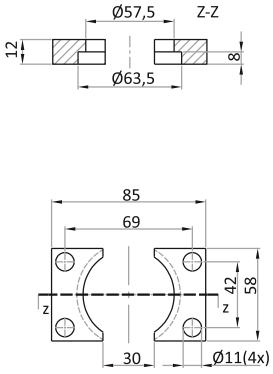
C 063



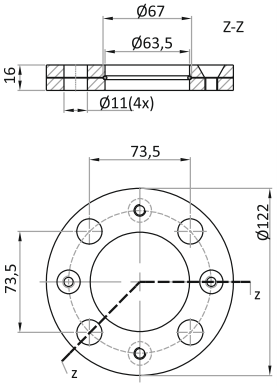
CA 063



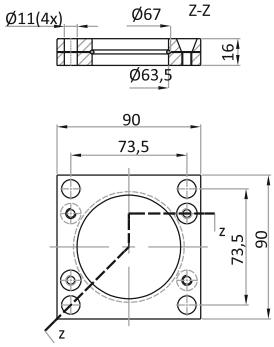
CB 063



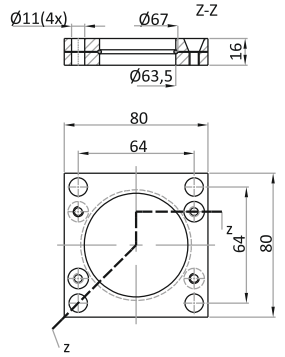
D 063



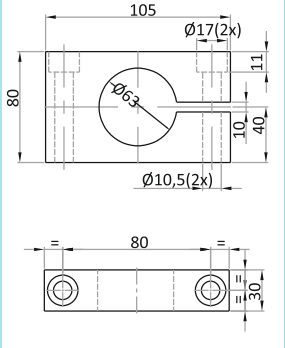
DKA 063



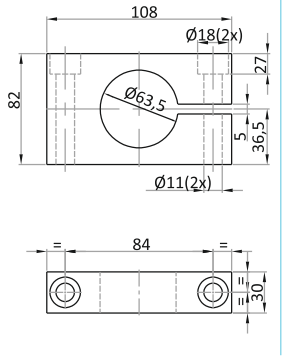
DK 063



TC 063



TD 063

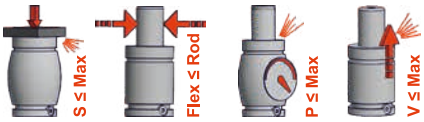


E 01500 A

ISO 11901 - 3
VDI 3003 - Blatt 3

B2 4005 (BMW)
W-DX35-6204 (Ford)

B8 3180 220 000 004 (MB)
39D 997 (VW)

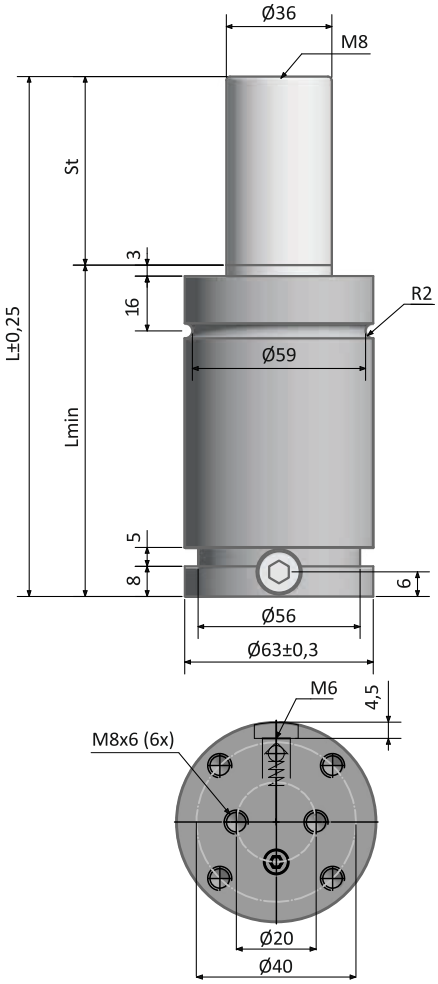


F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

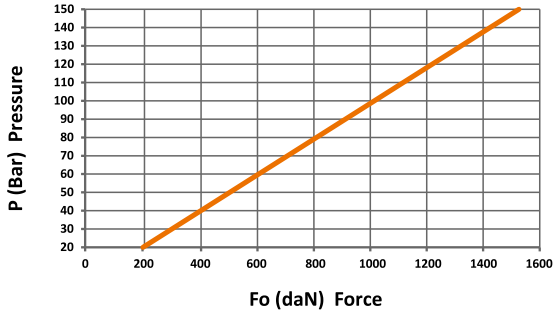
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet

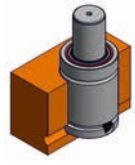


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 01500 010	**E 01500 010 A**	**10**	**64**	**54**		**2165**	**2428**	**40,0**	**1,01**
E 01500 013	E 01500 013 A	13	70	57		2241	2542	48,0	1,05
E 01500 016	**E 01500 016 A**	**16**	**76**	**60**		**2298**	**2628**	**56,0**	**1,08**
E 01500 019	E 01500 019 A	19	82	63		2324	2668	65,0	1,11
E 01500 025	**E 01500 025 A**	**25**	**94**	**69**		**2392**	**2771**	**81,0**	**1,18**
E 01500 032	E 01500 032 A	32	108	76	+ 20 °C	2455	2868	99,0	1,26
E 01500 038	**E 01500 038 A**	**38**	**120**	**82**		**2488**	**2919**	**115,0**	**1,33**
E 01500 050	E 01500 050 A	50	144	94	1530	2543	3006	146,0	1,48
E 01500 063	**E 01500 063 A**	**63**	**170**	**107**		**2570**	**3048**	**181,0**	**1,63**
E 01500 075	E 01500 075 A	75	194	119	150 bar	2598	3092	212,0	1,77
E 01500 080	**E 01500 080 A**	**80**	**204**	**124**		**2606**	**3105**	**225,0**	**1,83**
E 01500 100	E 01500 100 A	100	244	144		2621	3128	279,0	2,06
E 01500 125	**E 01500 125 A**	**125**	**294**	**169**		**2651**	**3176**	**343,0**	**2,37**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	10,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount



Drop - in

D 063

DK 063
DKA 063

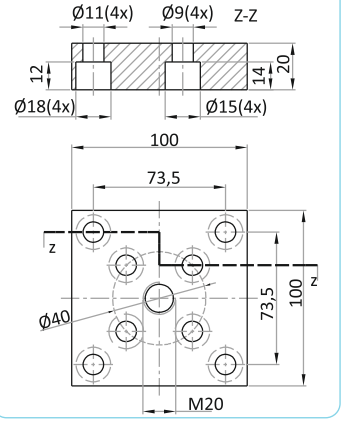
TC 063
TD 063

C 063 - CA 063
CB 063

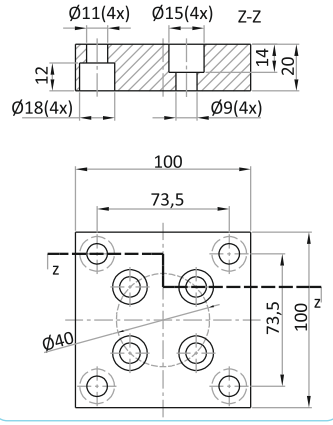
K 050 - KB 050 - KC 050
KF 050 - K 063 - KC 063
K 075 - KB 075 - KC 075
KF 075

E 02400 A

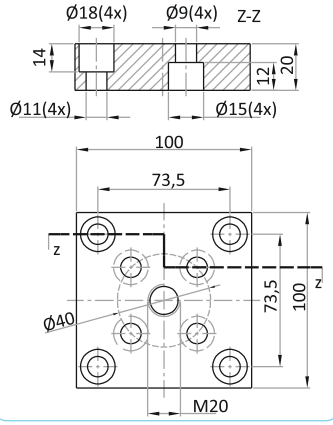
K 075



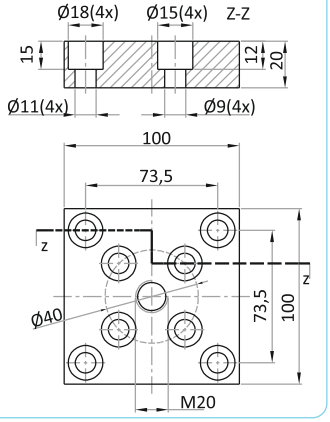
KB 075



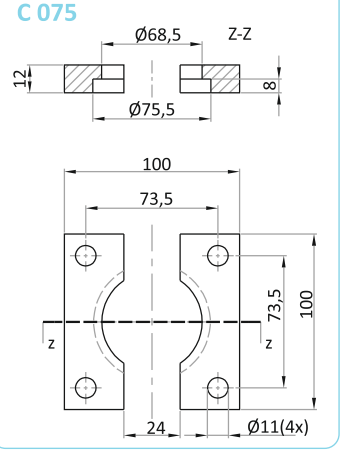
KC 075



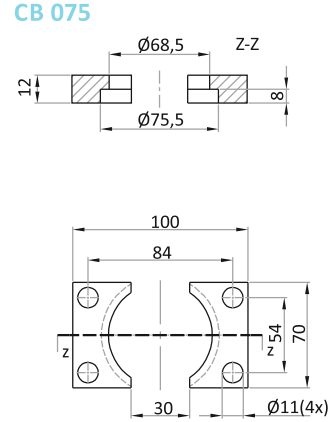
KF 075



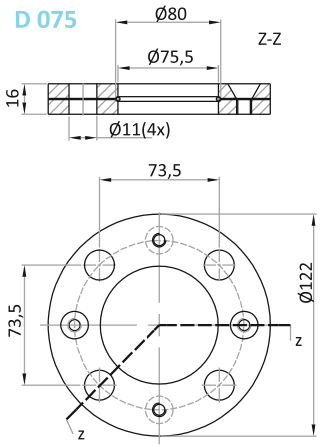
C 075



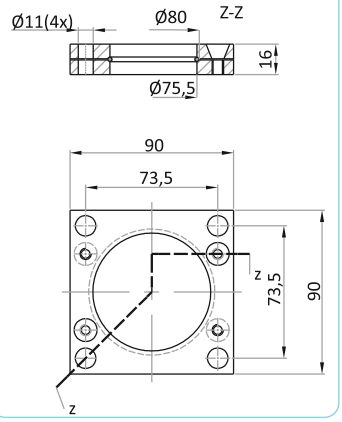
CB 075



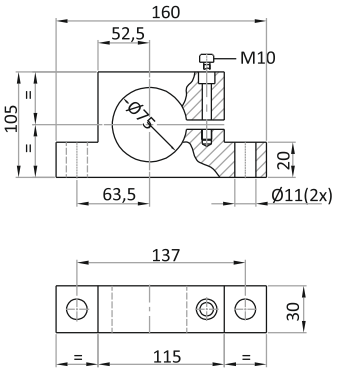
D 075



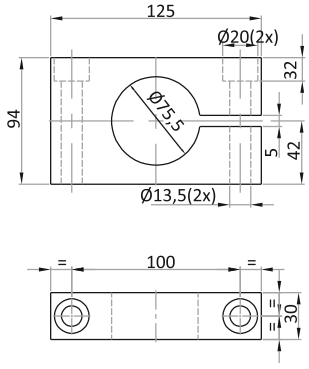
DK 075



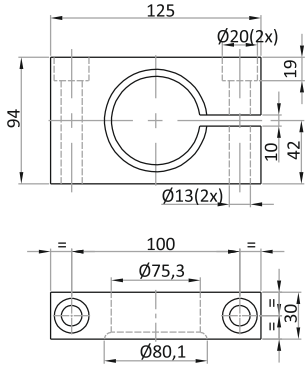
TA 075



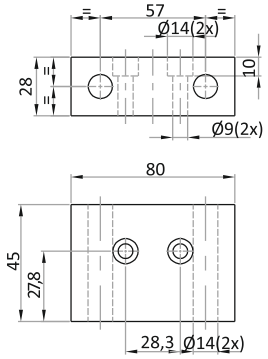
TD 075



TE 075



TT 075



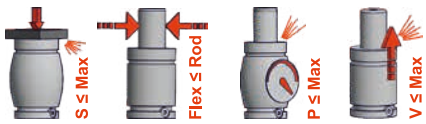
E 02400 A

ISO 11901 - 3
VDI 3003 - Blatt 3

B2 4005 (BMW)
W-DX35-6204 (Ford)

B8 3180 220 000 004 (MB)
39D 997 (VW)

E24.54.815.G (PSA)

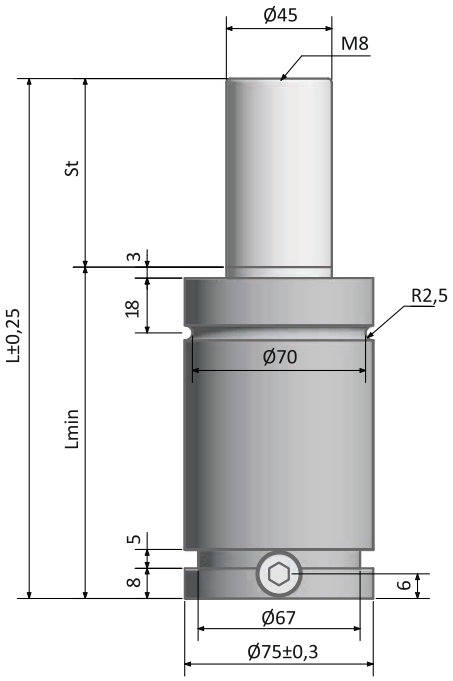


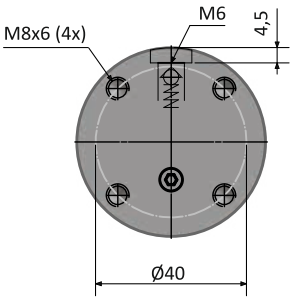
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

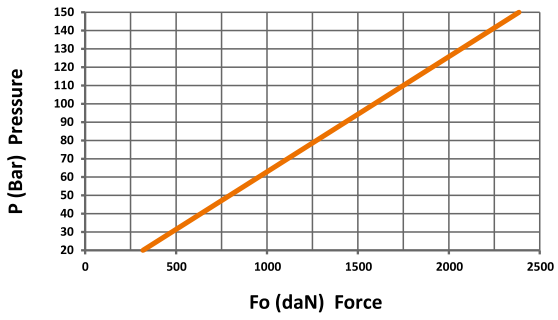
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



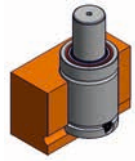


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 02400 010	**E 02400 010 A**	**10**	**65**	**55**		**3371**	**3776**	**63,0**	**1,43**
E 02400 013	E 02400 013 A	13	71	58		3500	3969	75,0	1,48
E 02400 016	**E 02400 016 A**	**16**	**77**	**61**		**3599**	**4119**	**87,0**	**1,53**
E 02400 019	E 02400 019 A	19	83	64		3659	4210	100,0	1,57
E 02400 025	**E 02400 025 A**	**25**	**95**	**70**		**3777**	**4392**	**124,0**	**1,66**
E 02400 032	E 02400 032 A	32	109	77	+ 20 °C	3889	4565	151,0	1,78
E 02400 038	**E 02400 038 A**	**38**	**121**	**83**		**3947**	**4656**	**175,0**	**1,88**
E 02400 050	E 02400 050 A	50	145	95	2385	4018	4767	224,0	2,06
E 02400 063	**E 02400 063 A**	**63**	**171**	**108**		**4088**	**4878**	**275,0**	**2,27**
E 02400 075	E 02400 075 A	75	195	120	150 bar	4117	4925	324,0	2,45
E 02400 080	**E 02400 080 A**	**80**	**205**	**125**		**4131**	**4946**	**344,0**	**2,53**
E 02400 100	E 02400 100 A	100	245	145		4165	5000	425,0	2,84
E 02400 125	**E 02400 125 A**	**125**	**295**	**170**		**4189**	**5039**	**527,0**	**3,22**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	15,90 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 075


DK 075

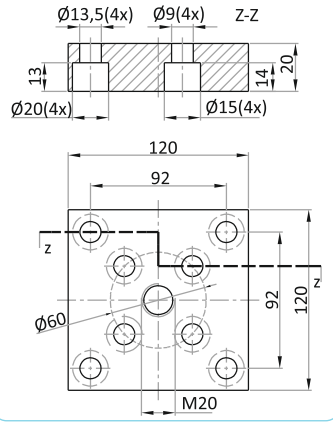

TA 075 - TD 075
TE 075 - TT 075


CB 075
C 075

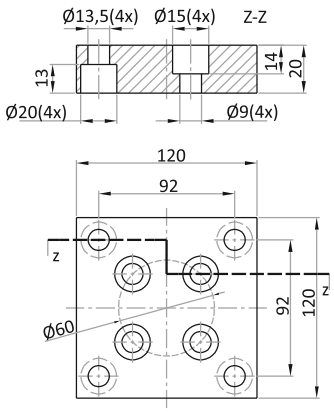

K 075 - KB 075
KC 075 - KF 075

E 04200 A

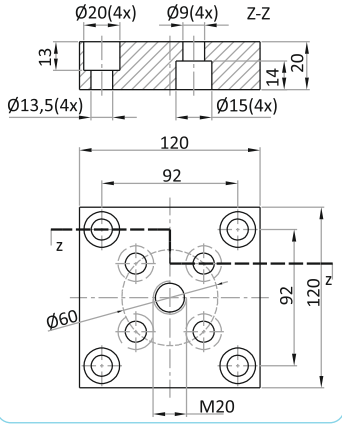
K 095



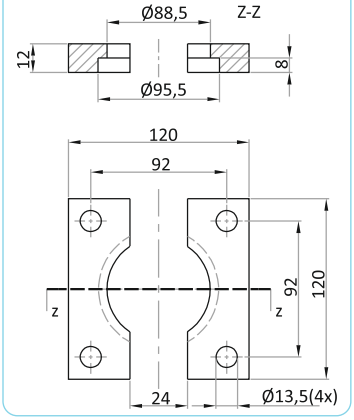
KB 095



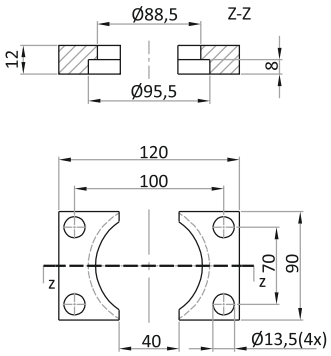
KC 095



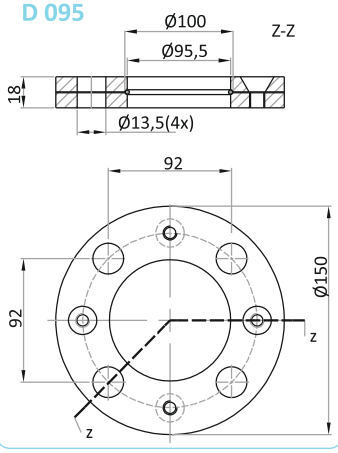
C 095



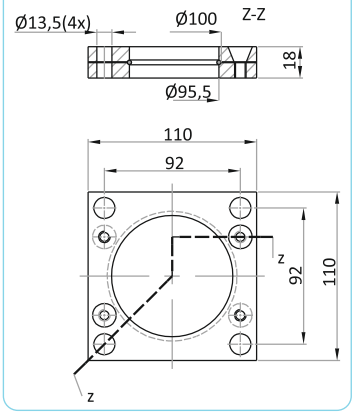
CB 095



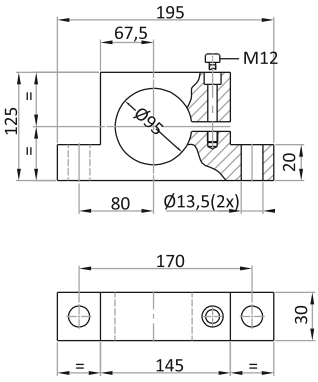
D 095



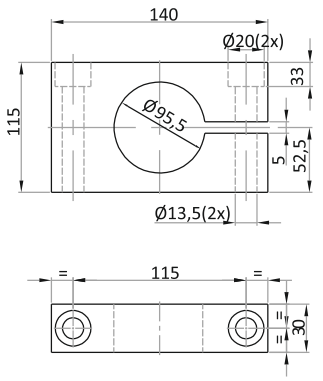
DK 095



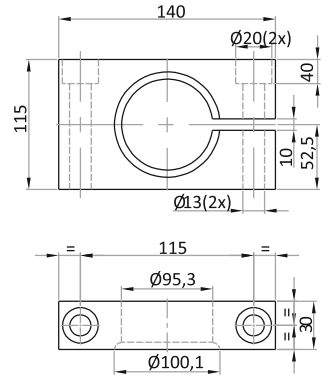
TA 095



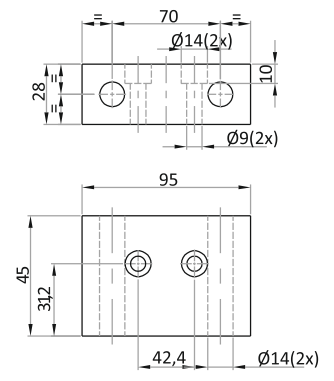
TD 095



TE 095



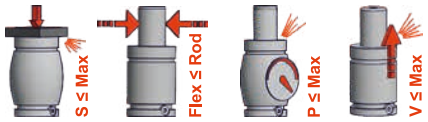
TT 095



E 04200 A

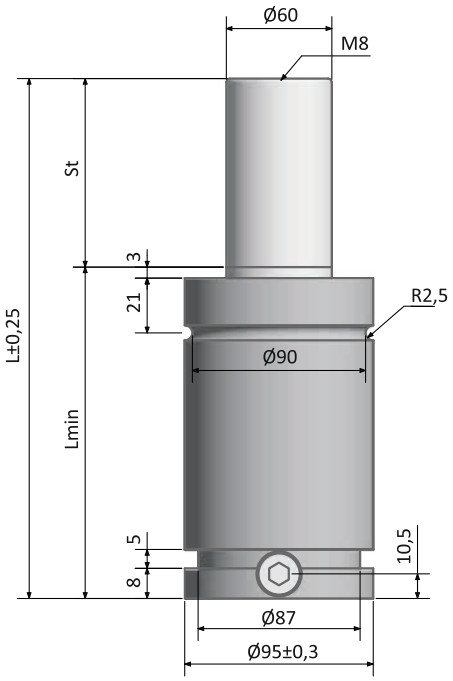
ISO 11901 - 3 VDI 3003 - Blatt 3	B2 4005 (BMW) W-DX35-6204 (Ford)
B8 3180 220 000 004 (MB) 39D 997 (VW)	E24.54.815.G (PSA) PG 24D (Mazda)
075.90.60 (FCA)	

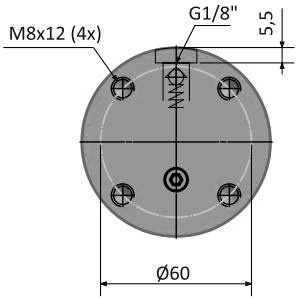
APPROVED PED 2014/68/EU



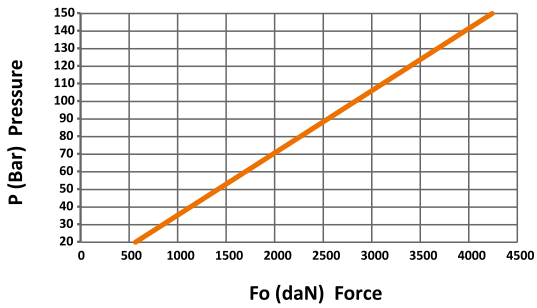
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



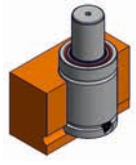


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 04200 016	**E 04200 016 A**	**16**	**90**	**74**		**6296**	**7168**	**160,0**	**3,05**
E 04200 019	E 04200 019 A	19	96	77		6465	7423	180,0	3,13
E 04200 025	**E 04200 025 A**	**25**	**108**	**83**		**6707**	**7795**	**221,0**	**3,27**
E 04200 032	E 04200 032 A	32	122	90		6922	8128	268,0	3,45
E 04200 038	**E 04200 038 A**	**38**	**134**	**96**	**+ 20 °C**	**7050**	**8328**	**309,0**	**3,59**
E 04200 050	E 04200 050 A	50	158	108		7244	8635	390,0	3,89
E 04200 063	**E 04200 063 A**	**63**	**184**	**121**	**4240**	**7384**	**8857**	**478,0**	**4,21**
E 04200 075	E 04200 075 A	75	208	133		7479	9008	559,0	4,51
E 04200 080	**E 04200 080 A**	**80**	**218**	**138**	**150 bar**	**7509**	**9056**	**593,0**	**4,63**
E 04200 100	E 04200 100 A	100	258	158		7611	9219	728,0	5,13
E 04200 125	**E 04200 125 A**	**125**	**308**	**183**		**7695**	**9355**	**897,0**	**5,75**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	28,27 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 095


DK 095


TA 095 - TD 095
TE 095 - TT 095

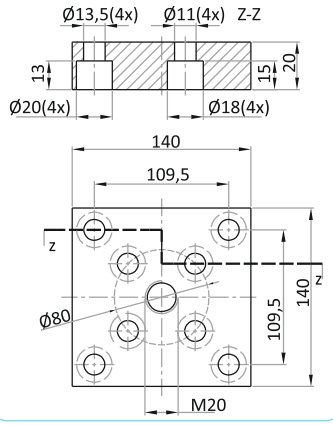

CB 095
C 095


K 095 - KB 095
KC 095

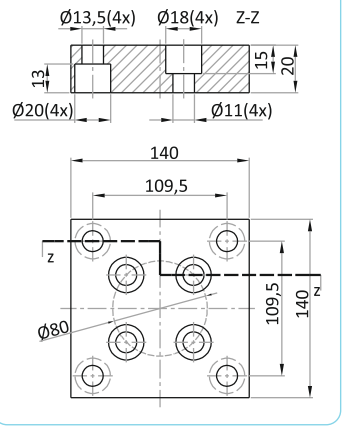
ALFAMAK

E 06600 A

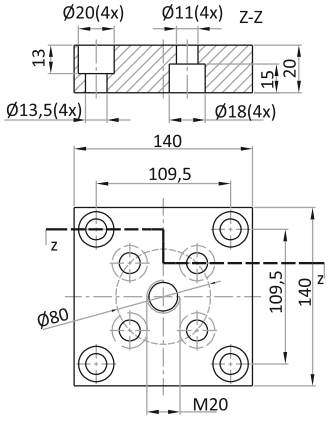
K 120



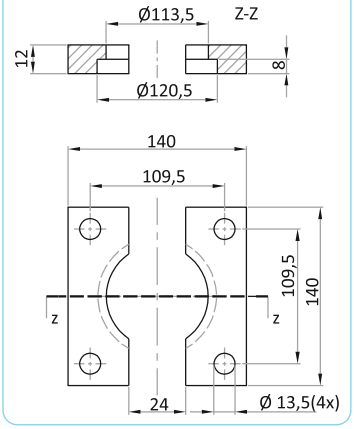
KB 120



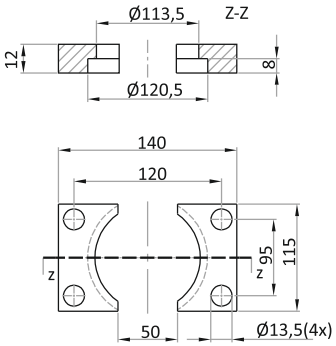
KC 120



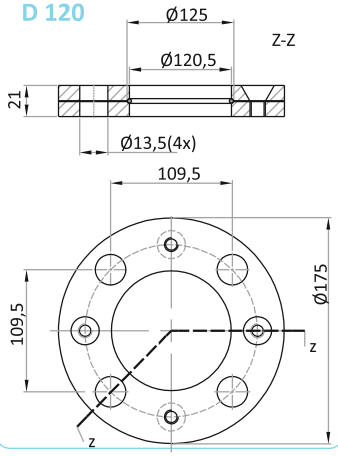
C 120



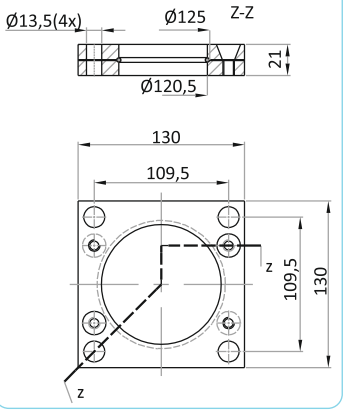
CB 120



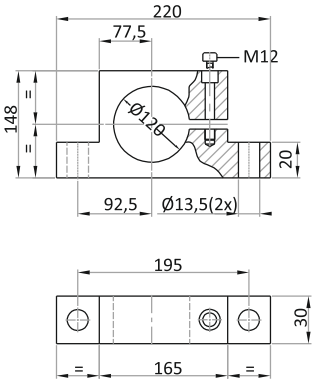
D 120



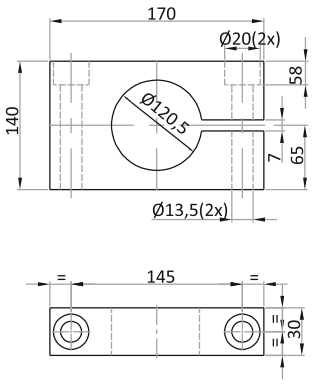
DK 120



TA 120

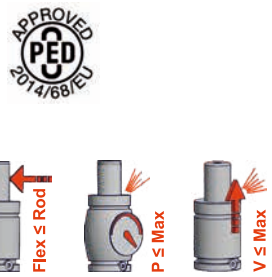


TD 120



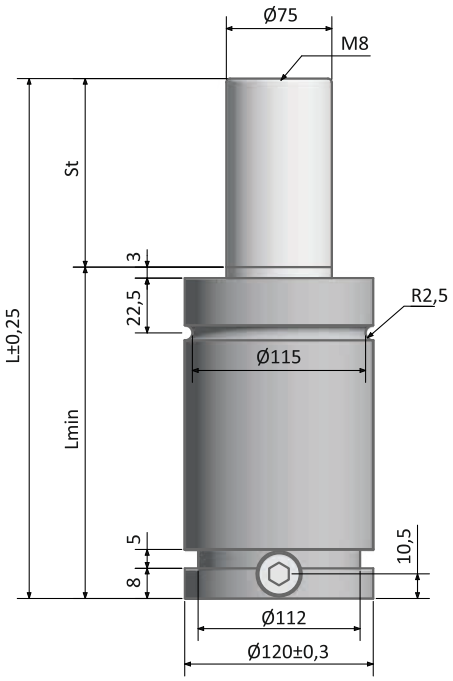
E 06600 A

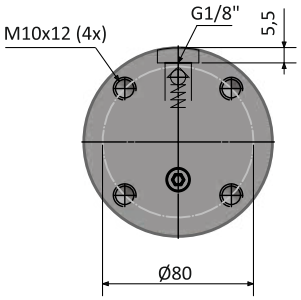
ISO 11901 - 3 VDI 3003 - Blatt 3	B2 4005 (BMW) W-DX35-6204 (Ford)
B8 3180 220 000 004 (MB) 39D 997 (VW)	075.90.60 (FCA)



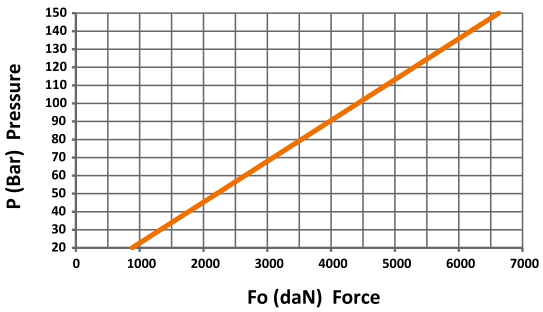
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



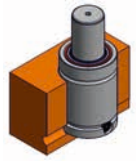


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 06600 016	**E 06600 016 A**	**16**	**100**	**84**		**9466**	**10639**	**273,0**	**5,60**
E 06600 019	E 06600 019 A	19	106	87		9720	11020	305,0	5,72
E 06600 025	**E 06600 025 A**	**25**	**118**	**93**		**10119**	**11625**	**369,0**	**5,96**
E 06600 032	E 06600 032 A	32	132	100		10458	12144	444,0	6,24
E 06600 038	**E 06600 038 A**	**38**	**144**	**106**	**+ 20 °C**	**10682**	**12491**	**508,0**	**6,47**
E 06600 050	E 06600 050 A	50	168	118		11011	13004	636,0	6,95
E 06600 063	**E 06600 063 A**	**63**	**194**	**131**	**6630**	**11262**	**13400**	**774,0**	**7,47**
E 06600 075	E 06600 075 A	75	218	143		11418	13647	903,0	7,94
E 06600 080	**E 06600 080 A**	**80**	**228**	**148**	**150 bar**	**11477**	**13741**	**956,0**	**8,14**
E 06600 100	E 06600 100 A	100	268	168		11651	14018	1170,0	8,93
E 06600 125	**E 06600 125 A**	**125**	**318**	**193**		**11802**	**14260**	**1437,0**	**9,92**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	44,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 120


DK 120


TA 120
TD 120

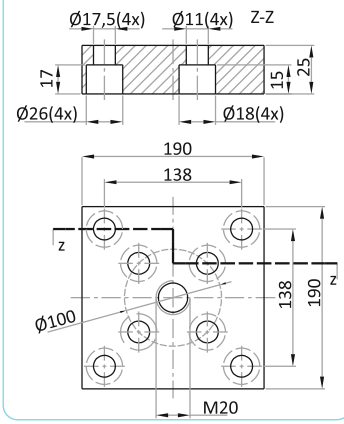

CB 120
C 120


K 120 - KB 120
KC 120

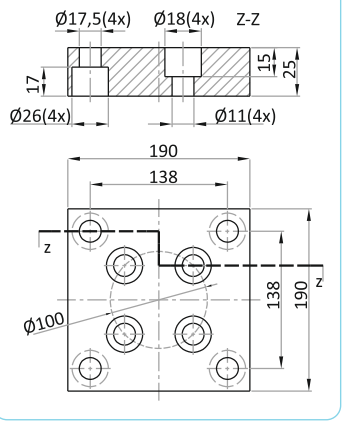
ALFAMAK

E 09500 A

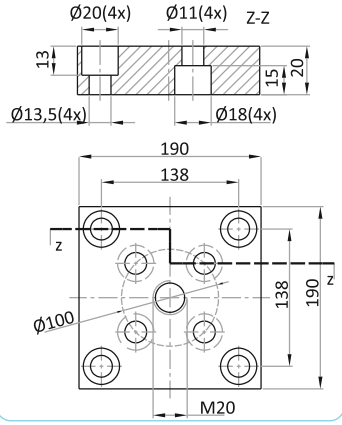
K 150



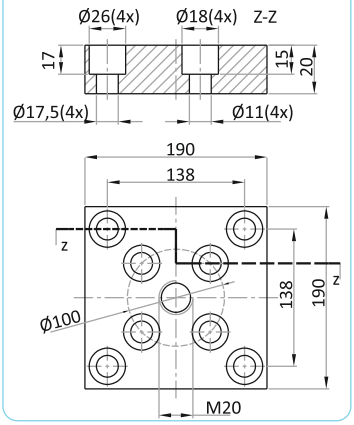
KB 150



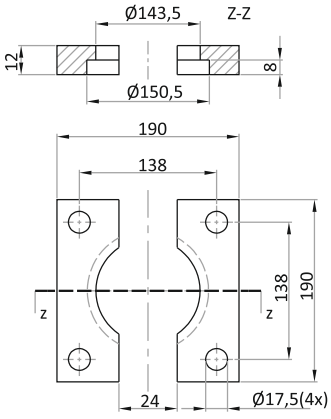
KC 150



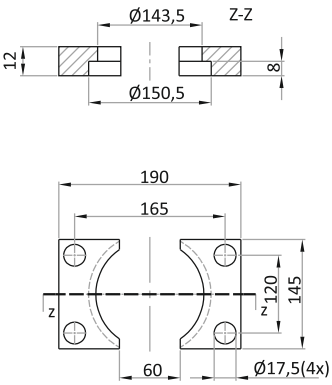
KF 150



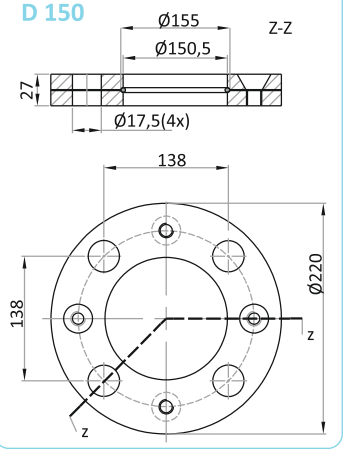
C 150



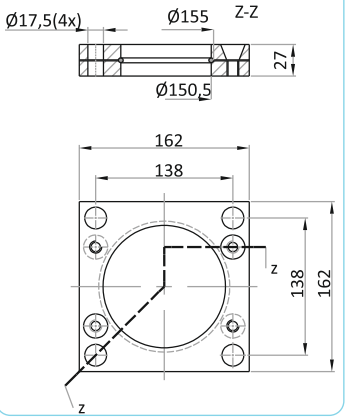
CB 150



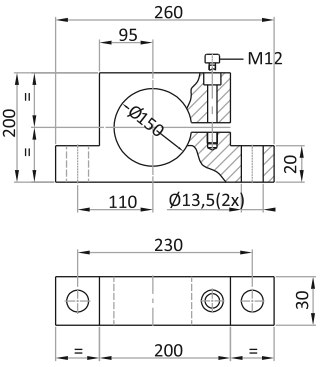
D 150



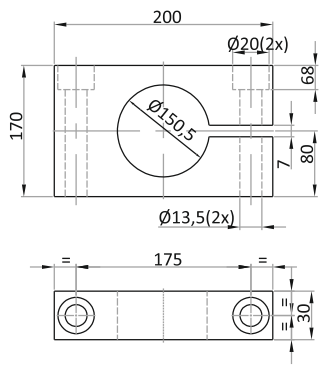
DK 150



TA 150



TD 150



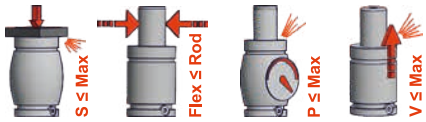
E 09500 A

ISO 11901 - 3
VDI 3003 - Blatt 3

B2 4005 (BMW)
W-DX35-6204 (Ford)

B8 3180 220 000 004 (MB)
39D 997 (VW)

PG 24D (Mazda)
075.90.60 (FCA)

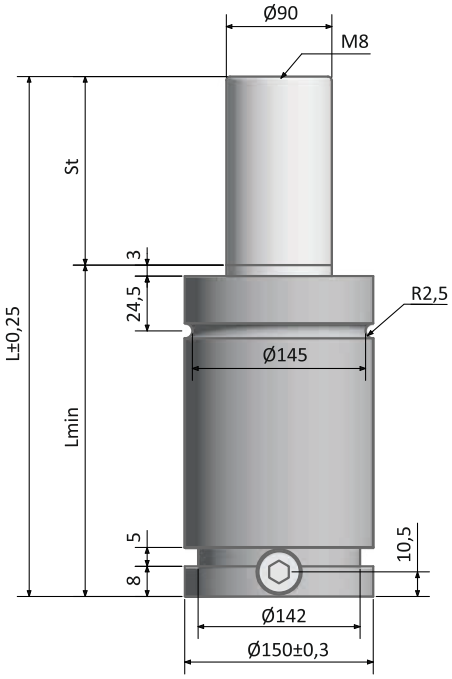


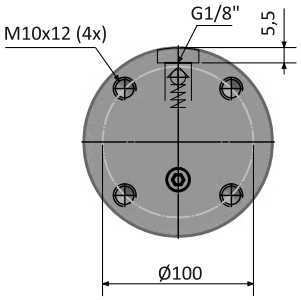
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

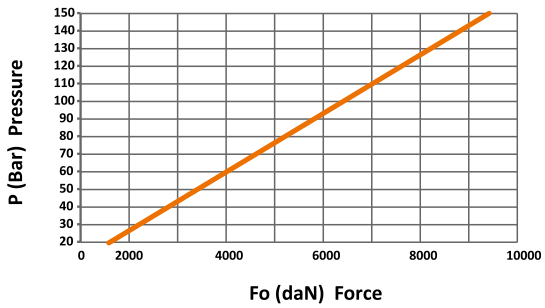
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



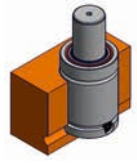


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
E 09500 019	**E 09500 019 A**	**19**	**116**	**97**		**13654**	**15355**	**465,0**	**10,34**
E 09500 025	E 09500 025 A	25	128	103		14108	16036	568,0	10,66
E 09500 032	**E 09500 032 A**	**32**	**142**	**110**		**14628**	**16826**	**675,0**	**11,14**
E 09500 038	E 09500 038 A	38	154	116		14932	17292	771,0	11,52
E 09500 050	**E 09500 050 A**	**50**	**178**	**128**	**+ 20 °C**	**15359**	**17952**	**965,0**	**12,26**
E 09500 063	E 09500 063 A	63	204	141	**9540**	15686	18461	1174,0	13,07
E 09500 075	**E 09500 075 A**	**75**	**228**	**153**		**15898**	**18793**	**1368,0**	**13,81**
E 09500 080	E 09500 080 A	80	238	158	**150 bar**	15977	18917	1448,0	14,13
E 09500 100	**E 09500 100 A**	**100**	**278**	**178**		**16207**	**19279**	**1771,0**	**15,37**
E 09500 125	E 09500 125 A	125	328	203		16407	19596	2174,0	16,92



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**63,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 150


DK 150

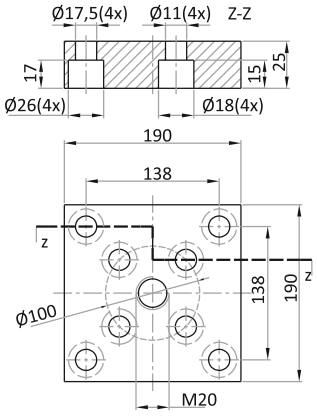

TA 150
TD 150


CB 150
C 150

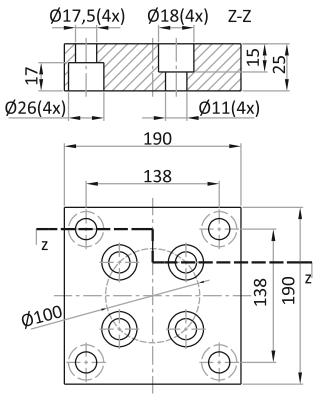

K 150 - KF 150
KB 150 - KC 150

E 12000

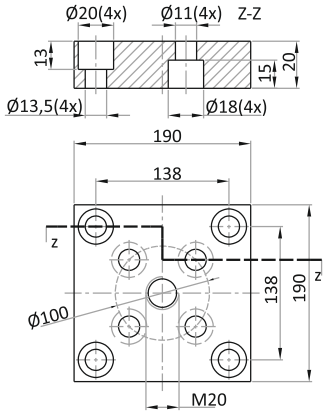
K 150



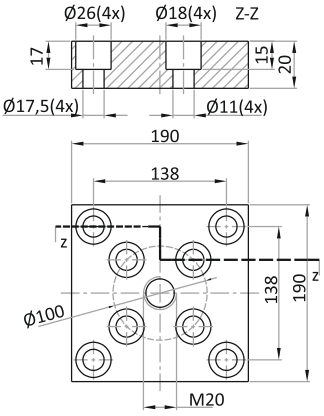
KB 150



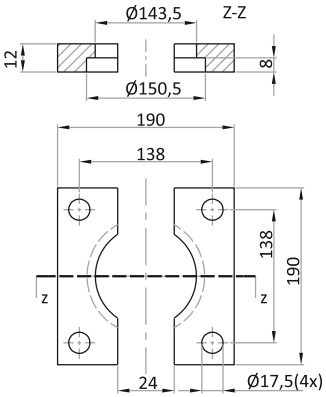
KC 150



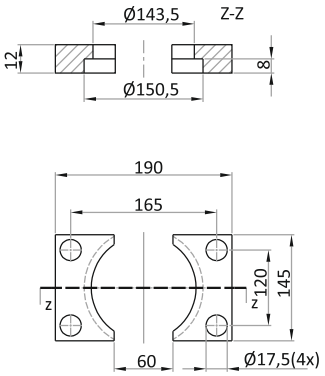
KF 150



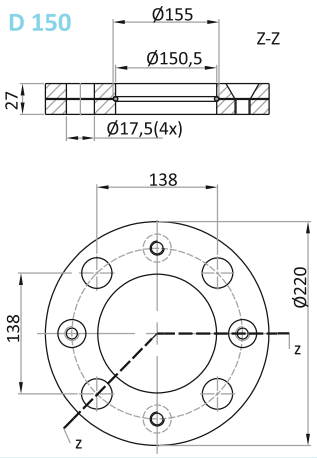
C 150



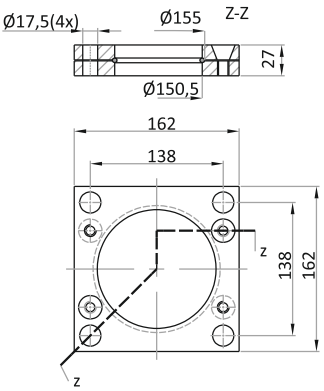
CB 150



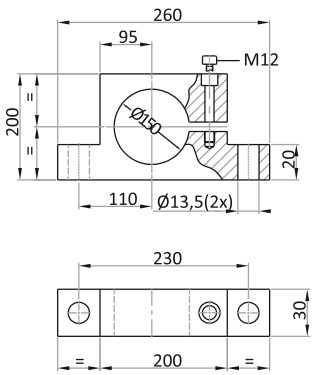
D 150



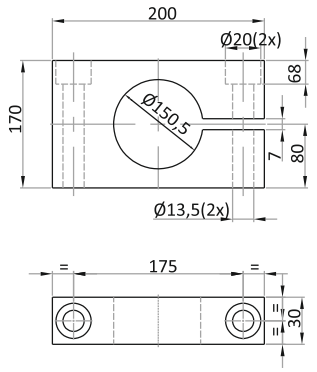
DK 150



TA 150

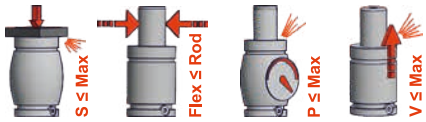


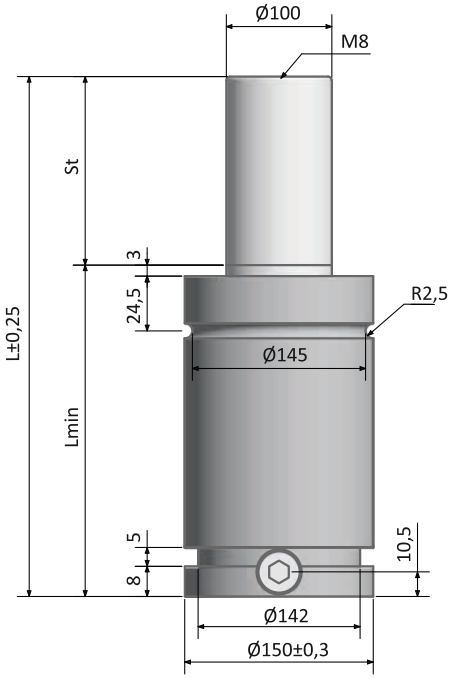
TD 150

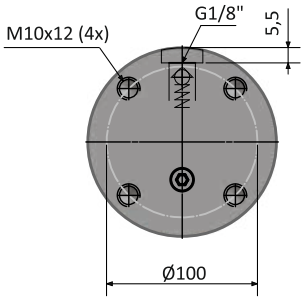


F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet
Vo Initial Gas Volume
Başlangıç Hacmi

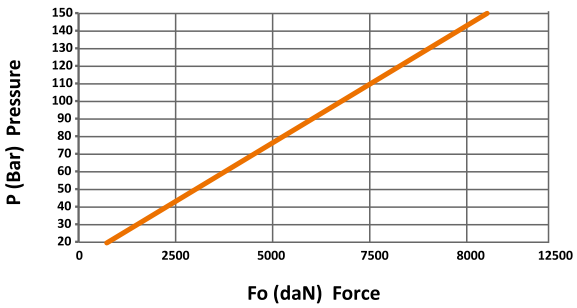
Fo Initial Force
Başlangıç Kuvveti
F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet





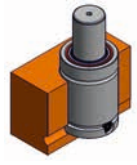


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	E 12000 019	**19**	**116**	**97**		**17461**	**19864**	**530,0**	**10,05**
	E 12000 025	25	128	103		17773	20338	672,0	10,14
	E 12000 032	**32**	**142**	**110**		**18924**	**22104**	**765,0**	**10,81**
	E 12000 038	38	154	116		19436	22902	869,0	11,20
	E 12000 050	**50**	**178**	**128**	**+ 20 °C**	**20210**	**24120**	**1077,0**	**11,97**
	E 12000 063	63	204	141		20821	25093	1301,0	12,81
	E 12000 075	**75**	**228**	**153**	**11780**	**21229**	**25749**	**1509,0**	**13,59**
	E 12000 080	80	238	158	**150 bar**	21378	25989	1595,0	13,91
	E 12000 100	**100**	**278**	**178**		**21836**	**26731**	**1941,0**	**15,20**
	E 12000 125	125	328	203		22232	27375	2374,0	16,82



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**78,54 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 150


DK 150

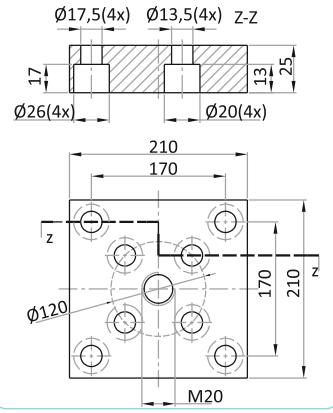

TA 150
TD 150


CB 150
C 150

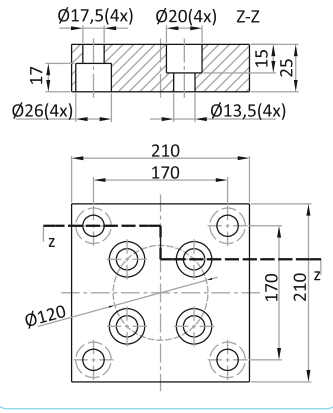

K 150 - KF 150
KB 150 - KC 150

E 20000

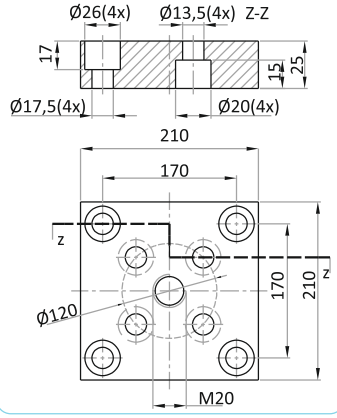
K 195



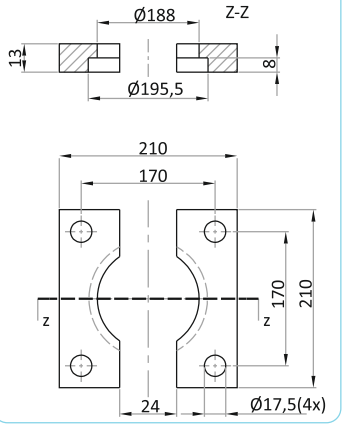
KB 195



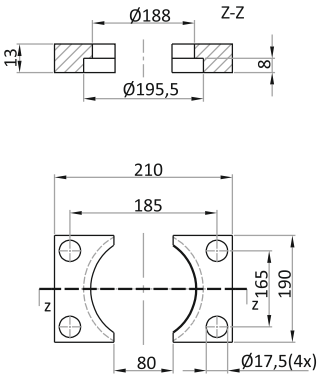
KC 195



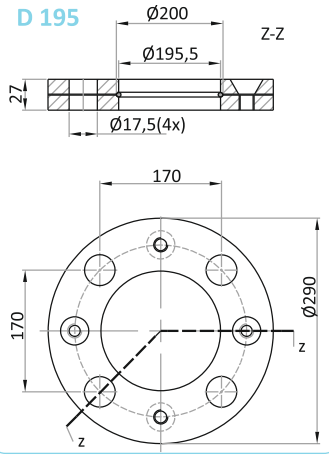
C 195



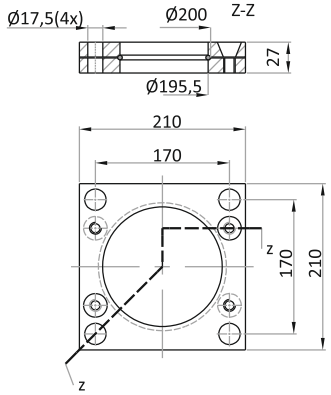
CB 195



D 195

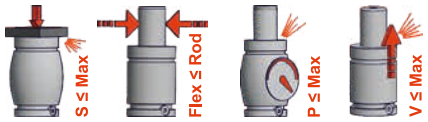


DK 195



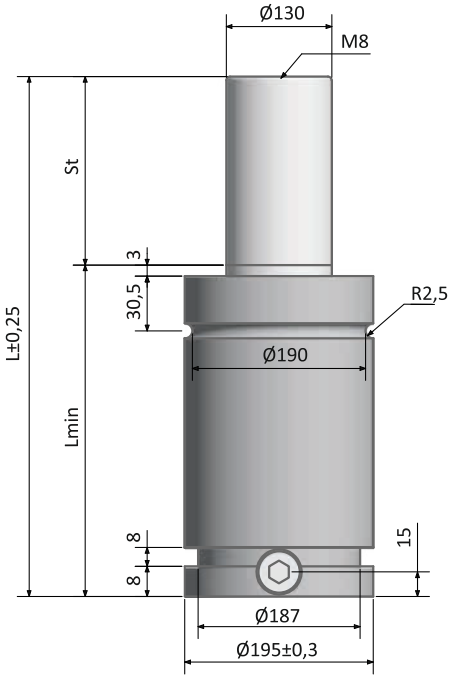
E 20000

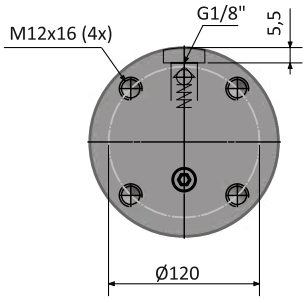
075.90.60 (FCA)



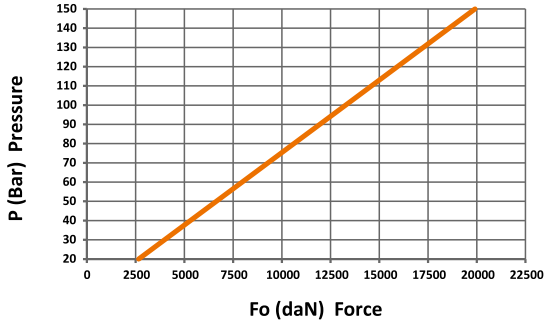
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti
F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



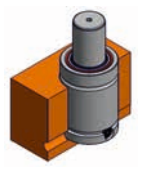


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	E 20000 019	**19**	**148**	**129**		**27862**	**31106**	**1025,0**	**23,47**
	E 20000 025	25	160	135		29320	33286	1195,0	24,17
	E 20000 032	**32**	**174**	**142**		**30692**	**35369**	**1393,0**	**24,99**
	E 20000 038	38	186	148		31653	36848	1563,0	25,68
	E 20000 050	**50**	**210**	**160**	+ 20 °C	**33177**	**39221**	**1902,0**	**27,09**
	E 20000 063	63	236	173		34406	41162	2268,0	28,62
	E 20000 075	**75**	**260**	**185**	19910	**35270**	**42540**	**2609,0**	**30,00**
	E 20000 080	80	270	190	150 bar	35583	43042	2750,0	30,59
	E 20000 100	**100**	**310**	**210**		**36584**	**44657**	**3316,0**	**32,92**
	E 20000 125	125	360	235		37485	46123	4023,0	35,83



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	132,73 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 195

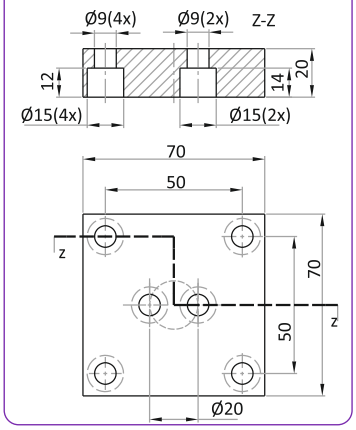

DK 195


CB 195
C 195

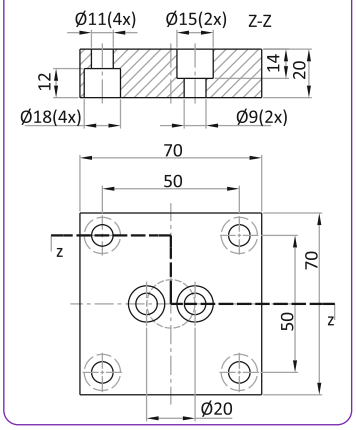

K 195 - KB 195
KC 195

EG 00750

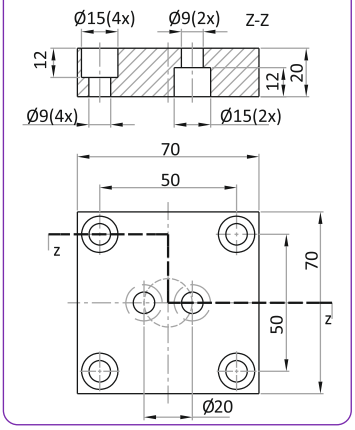
K 045



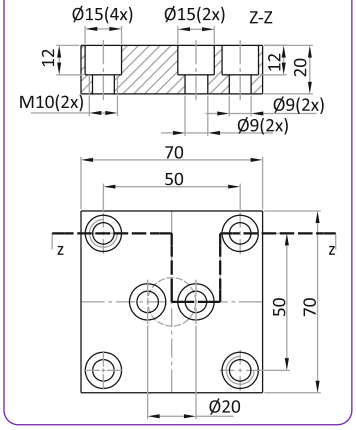
KB 045



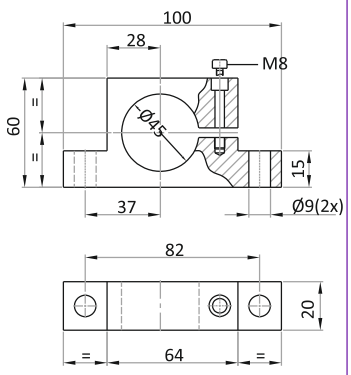
KC 045



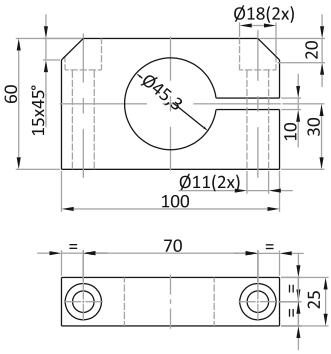
KF 045



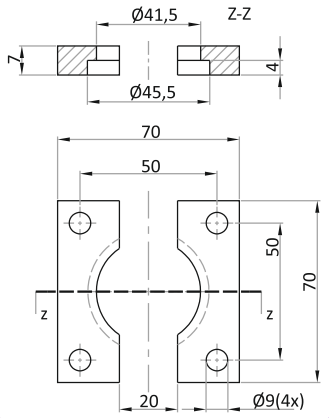
TA 045



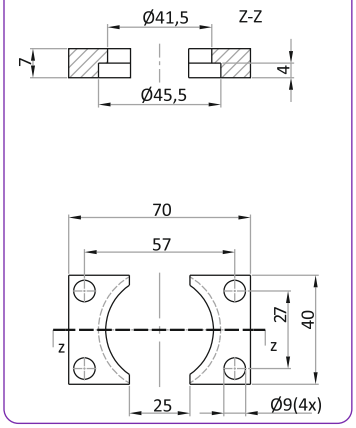
TE 045



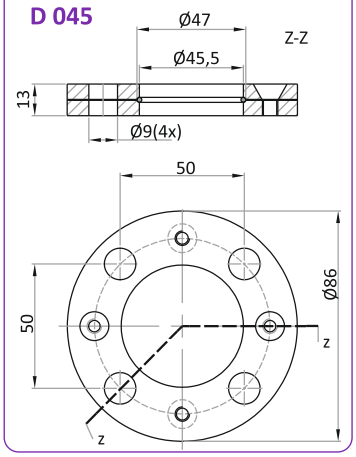
C 045



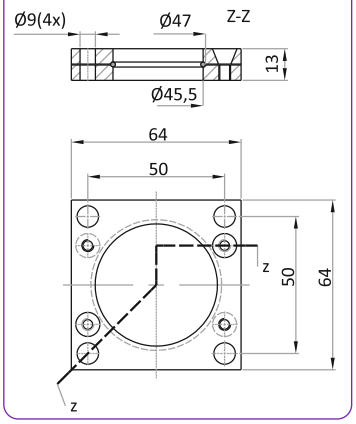
CB 045



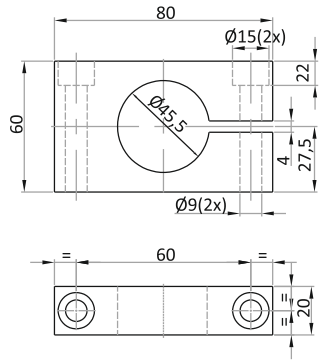
D 045



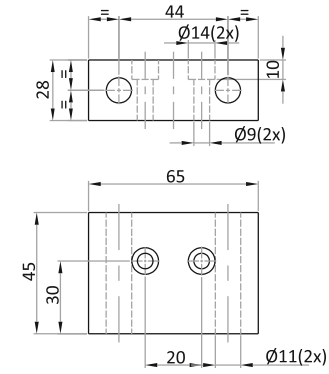
DK 045



TD 045



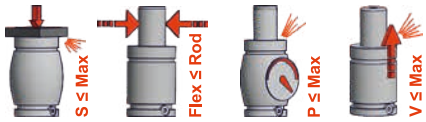
TT 050

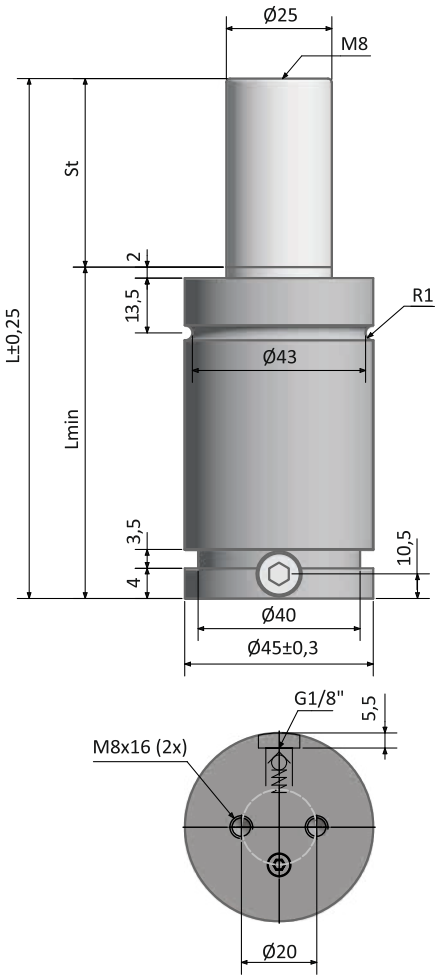


EG 00750

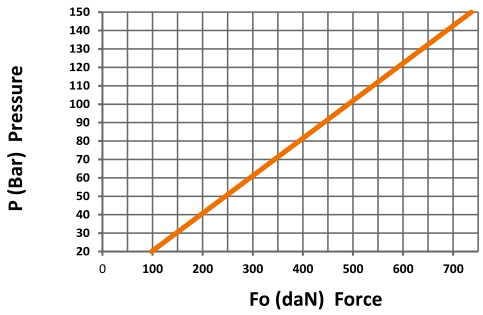
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



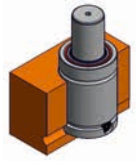


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EG 00750 010	**10**	**67**	**57**		**1075**	**1218**	**18,0**	**0,58**
	EG 00750 013	13	73	60		1133	1305	21,0	0,61
	EG 00750 016	**16**	**79**	**63**		**1153**	**1336**	**25,0**	**0,63**
	EG 00750 019	19	85	66		1168	1359	29,0	0,64
	EG 00750 025	**25**	**97**	**72**		**1189**	**1392**	**37,0**	**0,68**
	EG 00750 032	32	111	79	+ 20 °C	1211	1425	46,0	0,72
	EG 00750 038	**38**	**123**	**85**		**1234**	**1461**	**53,0**	**0,77**
	EG 00750 050	50	147	97	740	1242	1475	69,0	0,84
	EG 00750 063	**63**	**173**	**110**		**1261**	**1505**	**85,0**	**0,92**
	EG 00750 075	75	197	122	150 bar	1272	1521	100,0	1,00
	EG 00750 080	**80**	**207**	**127**		**1277**	**1530**	**106,0**	**1,04**
	EG 00750 100	100	247	147		1288	1546	131,0	1,17
	EG 00750 125	**125**	**297**	**172**		**1292**	**1553**	**163,0**	**1,32**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	4,91 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 045


DK 045

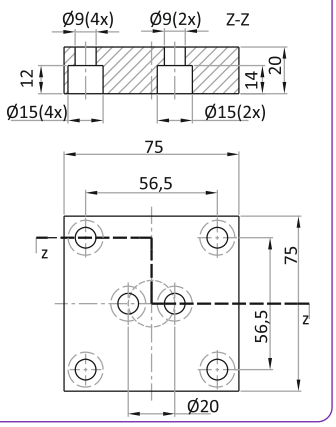

TA 045 - TD 045
TE 045 - TT 050


CB 045 - C 045

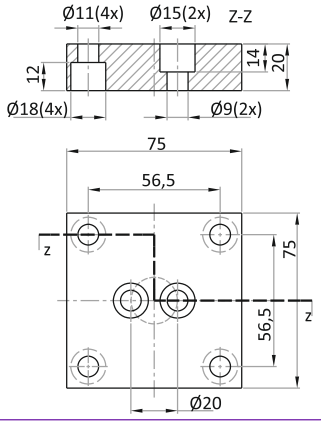

K 045 - KB 045
KC 045 - KF 045

EG 01000

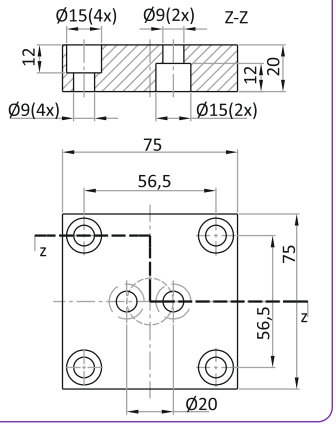
K 050



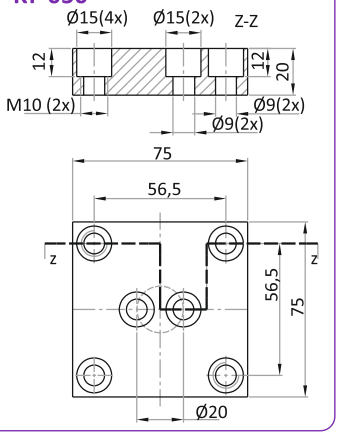
KB 050



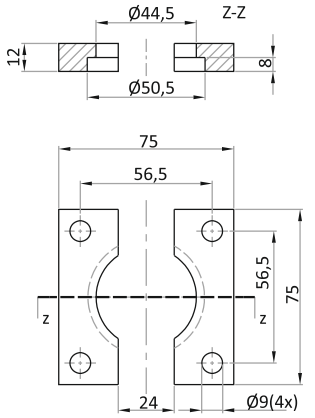
KC 050



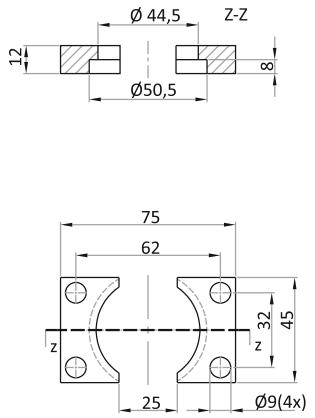
KF 050



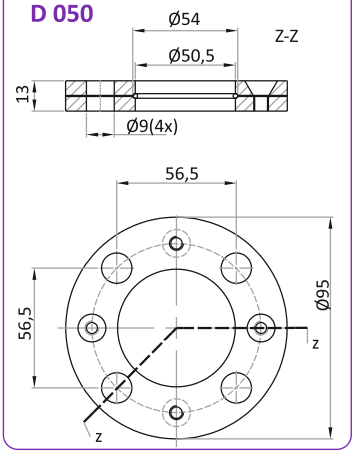
C 050



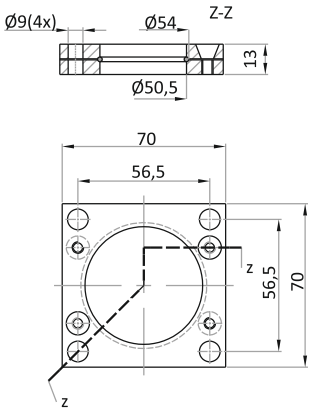
CB 050



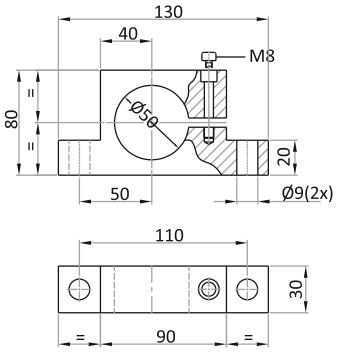
D 050



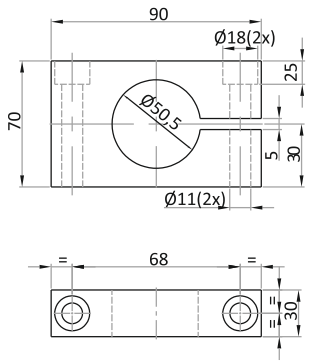
DK 050



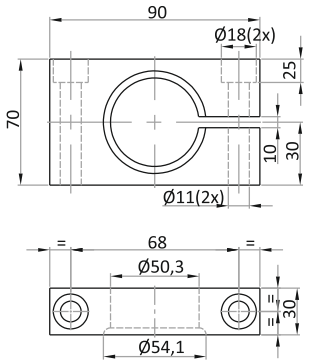
TA 050



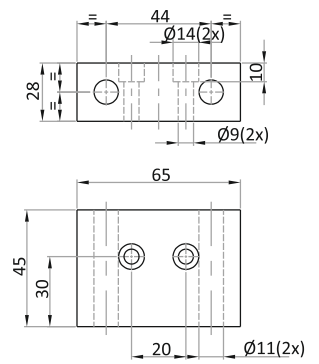
TD 050



TE 050

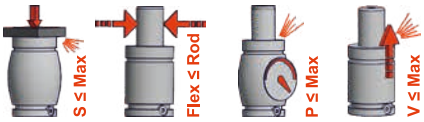


TT 050



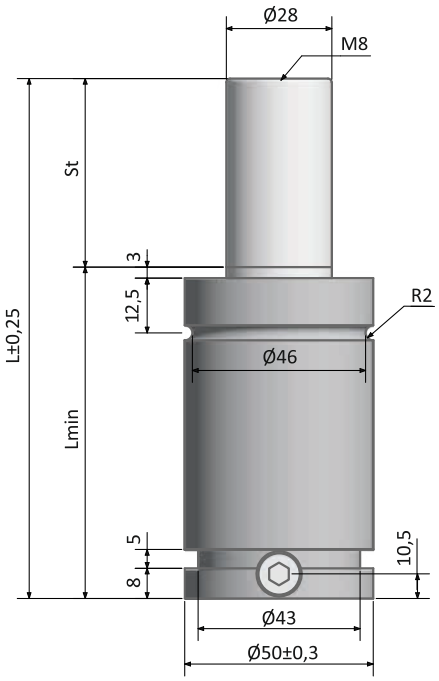
EG 01000

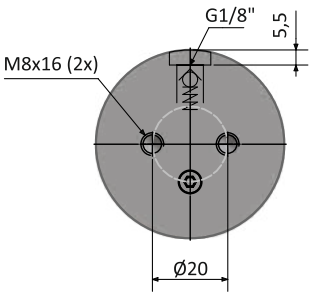
K32D2-2400-50 (Nissan)
EM24.54.700 (Renault)



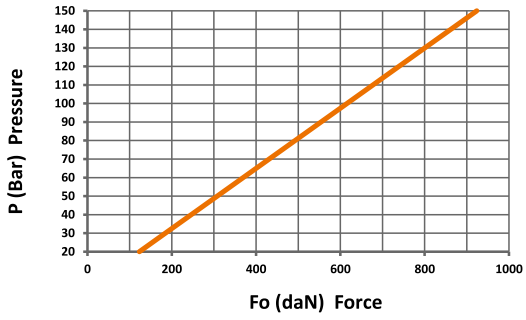
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



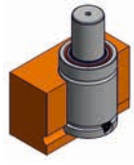


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EG 01000 010	**10**	**72**	**62**		**1362**	**1548**	**22,0**	**0,79**
	EG 01000 013	13	78	65		1401	1607	27,0	0,81
	EG 01000 016	**16**	**84**	**68**		**1453**	**1686**	**31,0**	**0,84**
	EG 01000 019	19	90	71		1471	1714	36,0	0,86
	EG 01000 025	**25**	**102**	**77**		**1497**	**1754**	**46,0**	**0,90**
	EG 01000 032	32	116	84	+ 20 °C	1527	1801	57,0	0,96
	EG 01000 038	**38**	**128**	**90**		**1552**	**1840**	**66,0**	**1,01**
	EG 01000 050	50	152	102	920	1574	1875	85,0	1,10
	EG 01000 063	**63**	**178**	**115**		**1595**	**1909**	**105,0**	**1,21**
	EG 01000 075	75	202	127	150 bar	1604	1923	124,0	1,30
	EG 01000 080	**80**	**212**	**132**		**1607**	**1927**	**132,0**	**1,34**
	EG 01000 100	100	252	152		1620	1949	163,0	1,50
	EG 01000 125	**125**	**302**	**177**		**1631**	**1966**	**202,0**	**1,70**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	6,15 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 050


DK 050


TA 050 - TD 050
TE 050 - TT 050

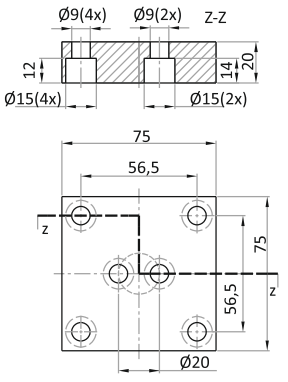

CB 050 - C 050


K 050 - KB 050
KC 050 - KF 050

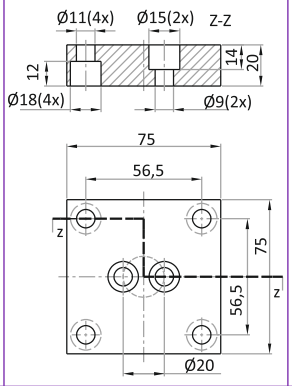
ALFAMAK

EG 01500

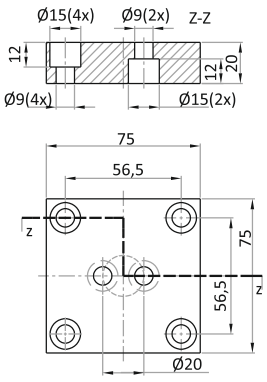
K 050



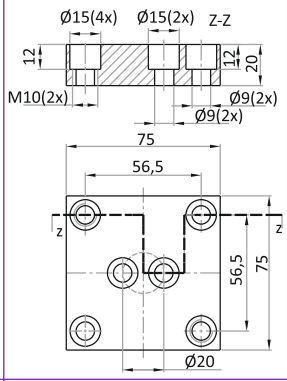
KB 050



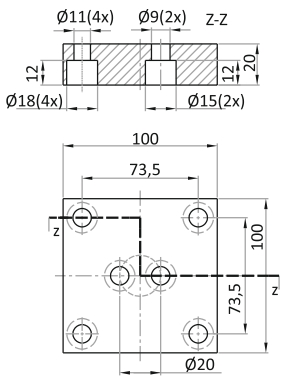
KC 050



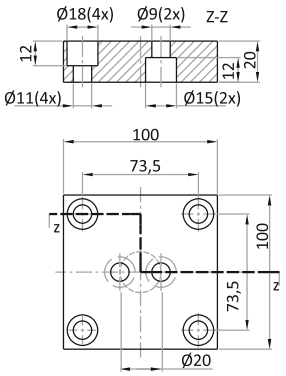
KF 050



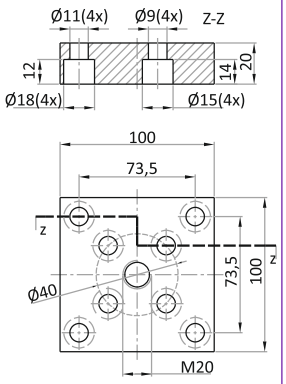
K 063



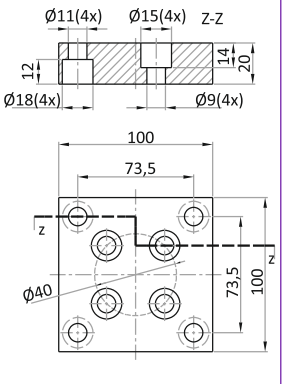
KC 063



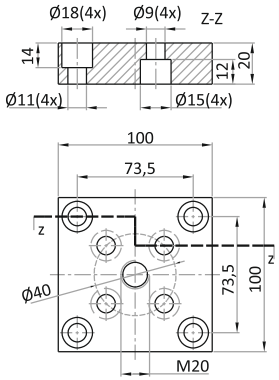
K 075



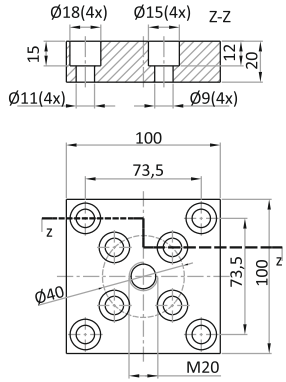
KB 075



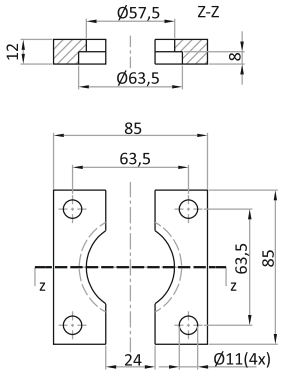
KC 075



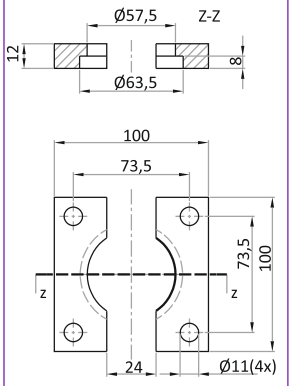
KF 075



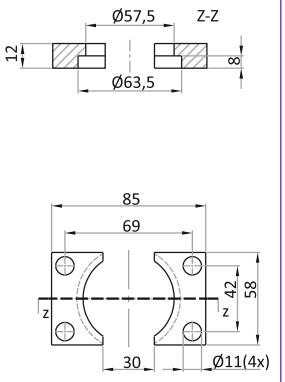
C 063



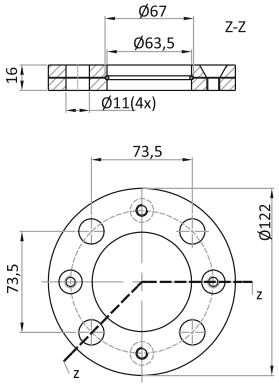
CA 063



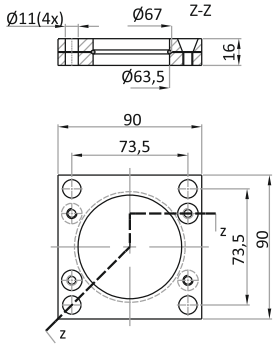
CB 063



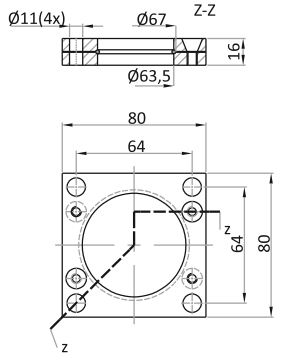
D 063



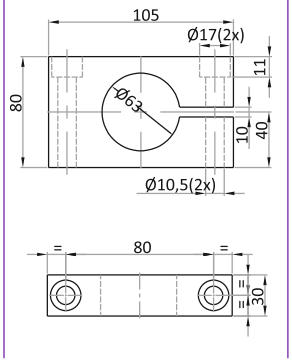
DKA 063



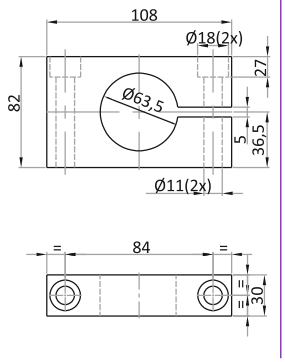
DK 063



TC 063



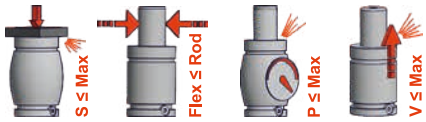
TD 063

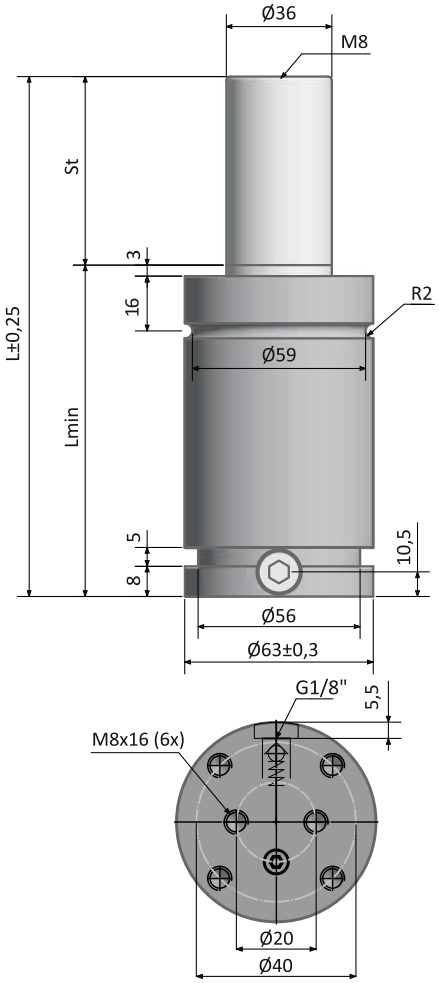


EG 01500

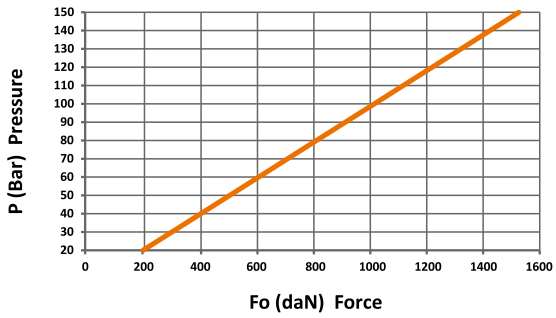
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



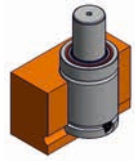


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EG 01500 010	**10**	**72**	**62**		**2165**	**2428**	**40,0**	**1,21**
	EG 01500 013	13	78	65		2241	2542	48,0	1,24
	EG 01500 016	**16**	**84**	**68**		**2298**	**2628**	**56,0**	**1,28**
	EG 01500 019	19	90	71		2343	2696	64,0	1,31
	EG 01500 025	**25**	**102**	**77**		**2408**	**2796**	**80,0**	**1,38**
	EG 01500 032	32	116	84	**+ 20 °C**	2455	2868	99,0	1,46
	EG 01500 038	**38**	**128**	**90**		**2500**	**2939**	**114,0**	**1,54**
	EG 01500 050	50	152	102	**1530**	2543	3006	146,0	1,68
	EG 01500 063	**63**	**178**	**115**		**2570**	**3048**	**181,0**	**1,82**
	EG 01500 075	75	202	127	**150 bar**	2589	3079	213,0	1,96
	EG 01500 080	**80**	**212**	**132**		**2606**	**3105**	**225,0**	**2,03**
	EG 01500 100	100	252	152		2620	3128	279,0	2,25
	EG 01500 125	**125**	**302**	**177**		**2640**	**3159**	**345,0**	**2,55**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**10,18 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 063

DK 063
DKA 063

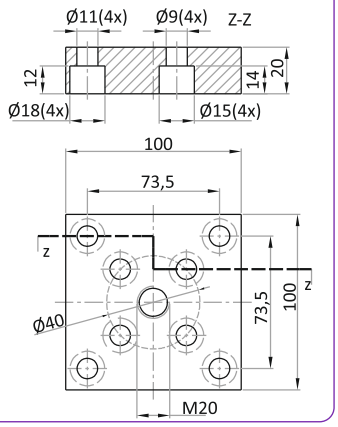
TC 063
TD 063

C 063 - CA 063
CB 063

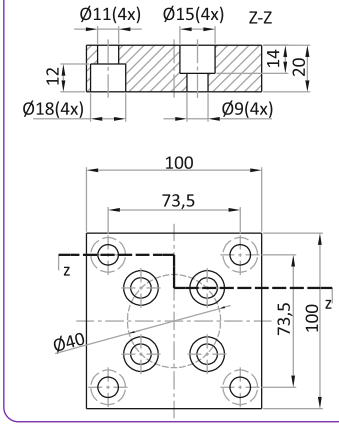
K 050 - KB 050 - KC 050
KF 050 - K 063 - KC 063
K 075 - KB 075 - KC 075
KF 075

EG 02400

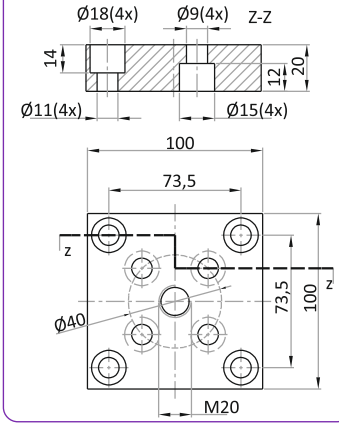
K 075



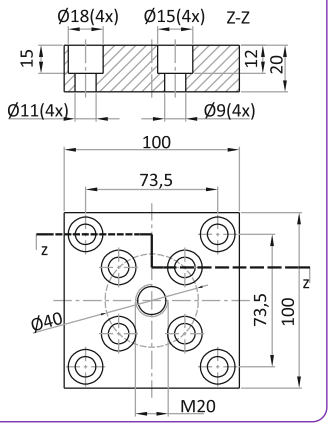
KB 075



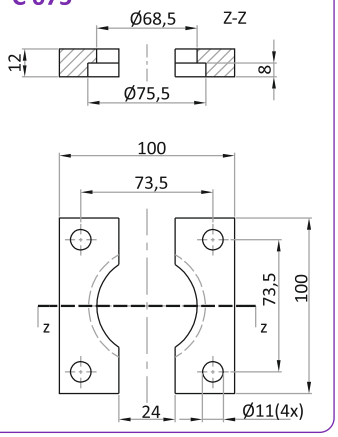
KC 075



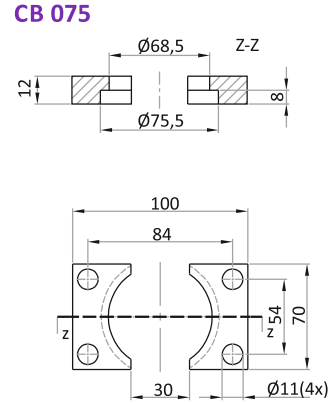
KF 075



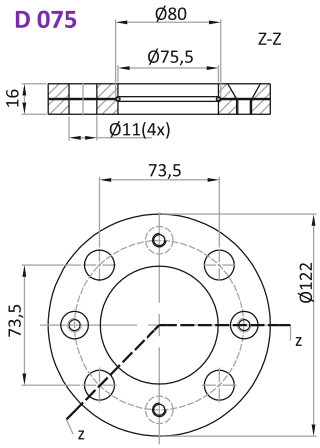
C 075



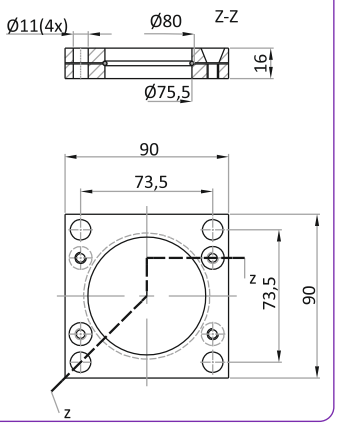
CB 075



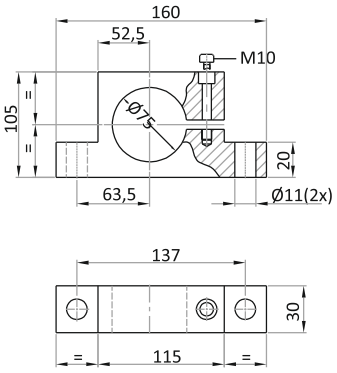
D 075



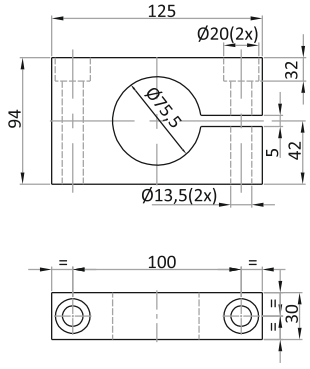
DK 075



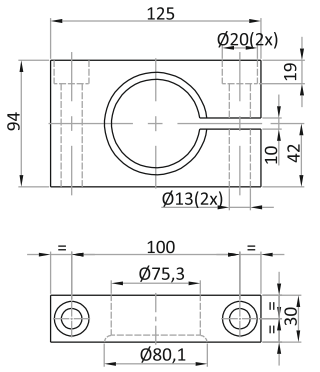
TA 075



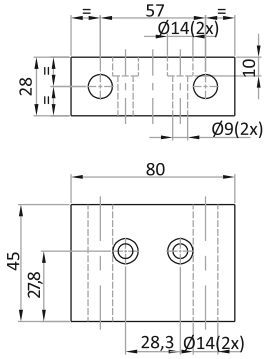
TD 075



TE 075



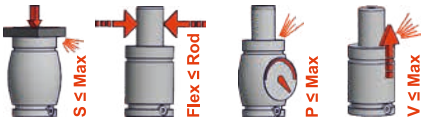
TT 075



EG 02400

K32D2-2400-50 (Nissan)
EM24.54.700 (Renault)

APPROVED PED 2014/68/EU

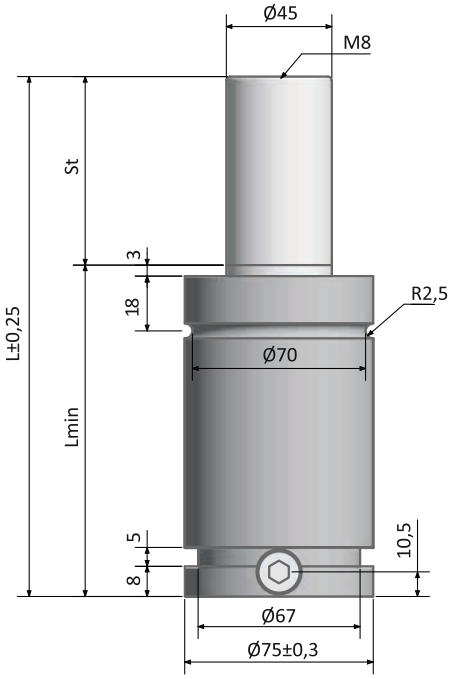


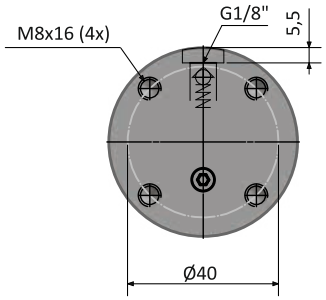
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

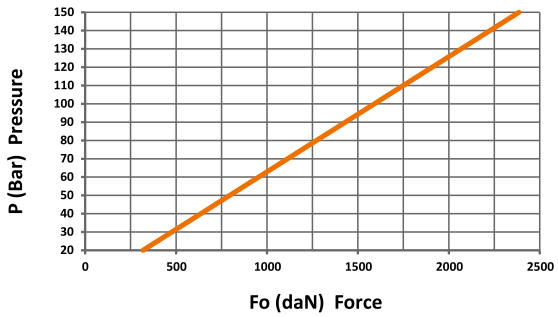
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



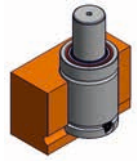


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EG 02400 010	**10**	**79**	**69**		**3274**	**3632**	**68,0**	**1,88**
	EG 02400 013	13	85	72		3403	3824	80,0	1,93
	EG 02400 016	**16**	**91**	**75**		**3488**	**3951**	**93,0**	**1,97**
	EG 02400 019	19	97	78		3571	4076	105,0	2,01
	EG 02400 025	**25**	**109**	**84**		**3697**	**4268**	**129,0**	**2,11**
	EG 02400 032	32	123	91	**+ 20 °C**	3801	4428	157,0	2,22
	EG 02400 038	**38**	**135**	**97**		**3867**	**4531**	**181,0**	**2,31**
	EG 02400 050	50	159	109	**2385**	3961	4678	229,0	2,50
	EG 02400 063	**63**	**185**	**122**		**4020**	**4771**	**282,0**	**2,70**
	EG 02400 075	75	209	134	**150 bar**	4067	4844	330,0	2,89
	EG 02400 080	**80**	**219**	**139**		**4082**	**4869**	**350,0**	**2,97**
	EG 02400 100	100	259	159		4131	4946	430,0	3,28
	EG 02400 125	**125**	**309**	**184**		**4172**	**5012**	**530,0**	**3,68**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	15,90 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 075


DK 075


TA 075 - TD 075
TE 075 - TT 075

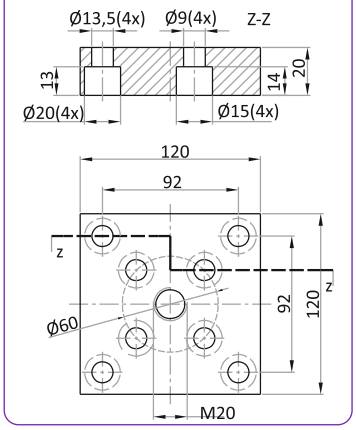

CB 075 - C 075


K 075 - KB 075
KC 075 - KF 075

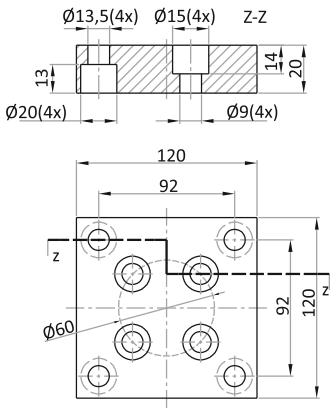
ALFAMAK

EG 04200

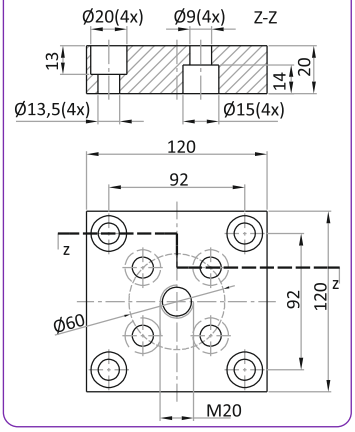
K 095



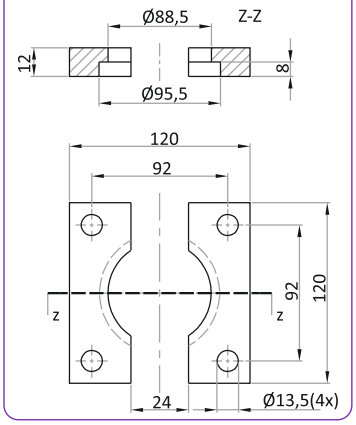
KB 095



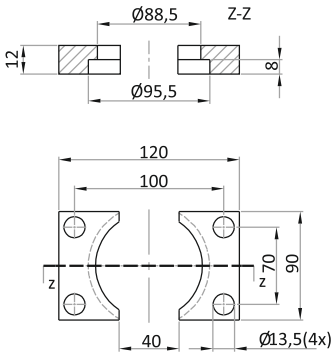
KC 095



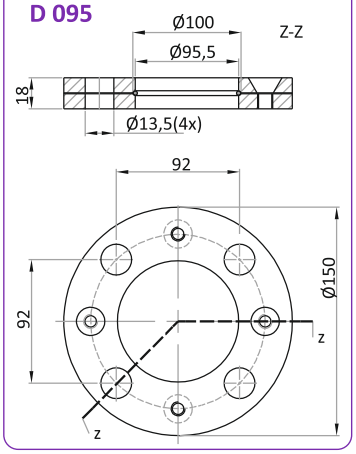
C 095



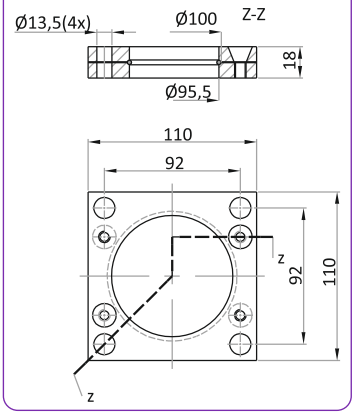
CB 095



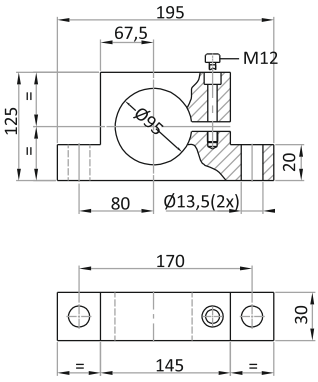
D 095



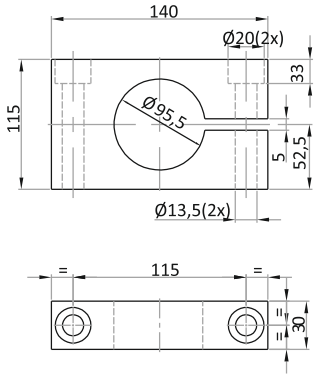
DK 095



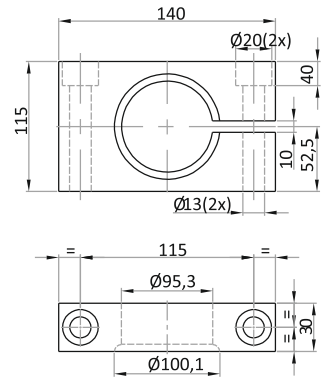
TA 095



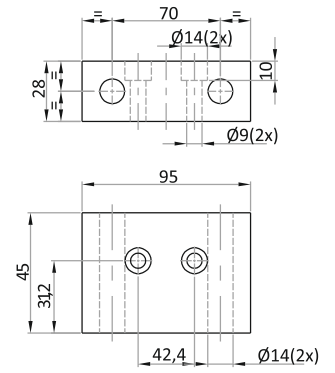
TD 095



TE 095

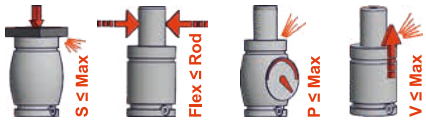


TT 095



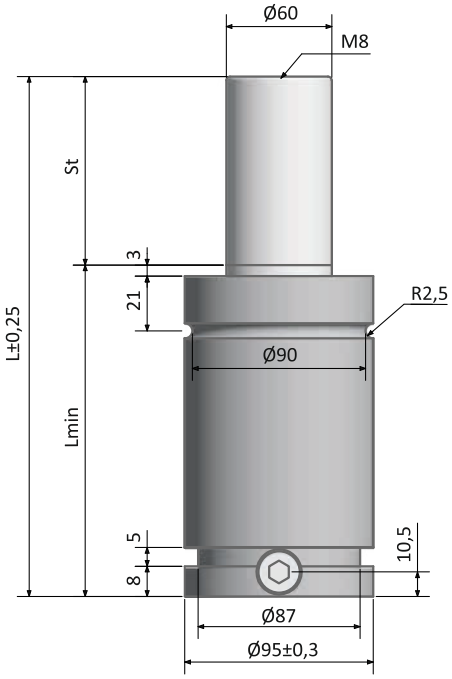
EG 04200

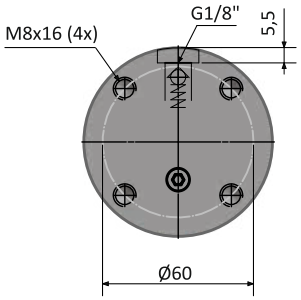
K32D2-2400-50 (Nissan)
EM24.54.700 (Renault)



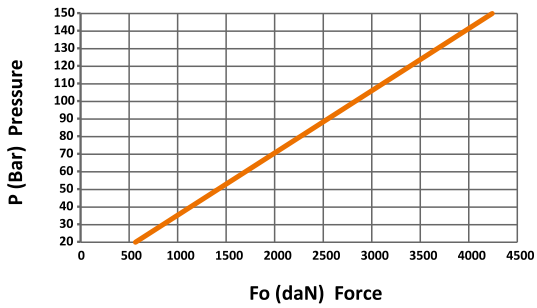
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti
F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



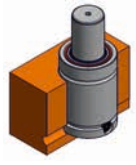


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EG 04200 016	**16**	**94**	**78**		**6373**	**7284**	**156,0**	**3,30**
	EG 04200 019	19	100	81		6540	7538	176,0	3,38
	EG 04200 025	**25**	**112**	**87**		**6777**	**7903**	**217,0**	**3,53**
	EG 04200 032	32	126	94		6986	8228	264,0	3,70
	EG 04200 038	**38**	**138**	**100**	**+ 20 °C**	**7109**	**8420**	**305,0**	**3,85**
	EG 04200 050	50	162	112		7296	8716	386,0	4,14
	EG 04200 063	**63**	**188**	**125**	**4240**	**7429**	**8927**	**474,0**	**4,47**
	EG 04200 075	75	212	137		7519	9071	555,0	4,76
	EG 04200 080	**80**	**222**	**142**	**150 bar**	**7556**	**9132**	**588,0**	**4,89**
	EG 04200 100	100	262	162		7643	9270	724,0	5,38
	EG 04200 125	**125**	**312**	**187**		**7722**	**9398**	**893,0**	**6,00**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	28,27 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 095


DK 095

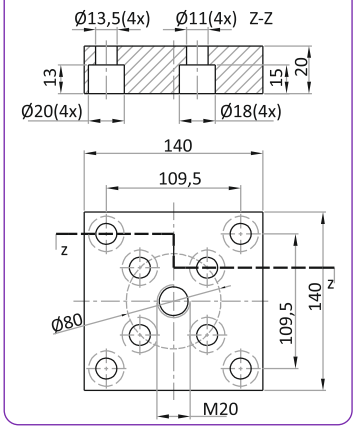

TA 095 - TD 095
TE 095 - TT 095


CB 095 - C 095

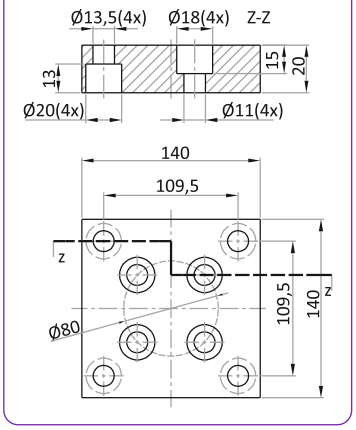

K 095 - KB 095
KC 095

EG 06600

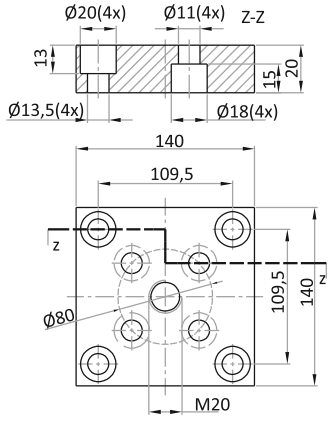
K 120



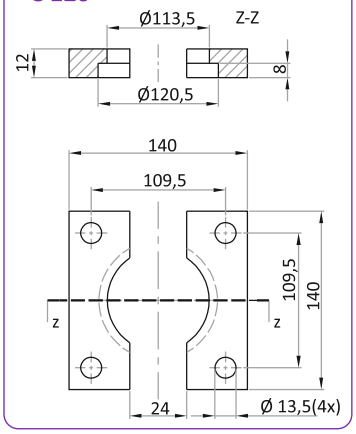
KB 120



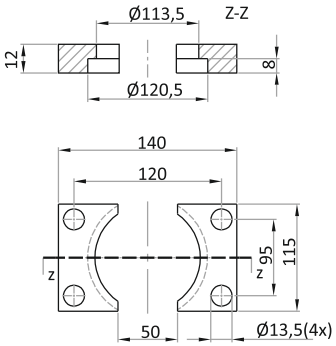
KC 120



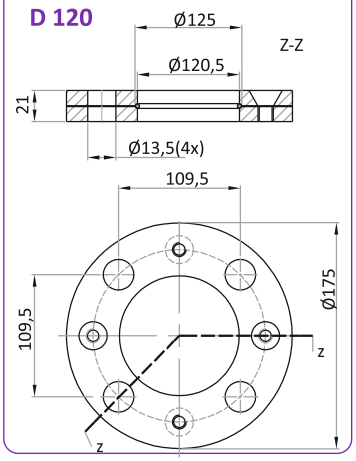
C 120



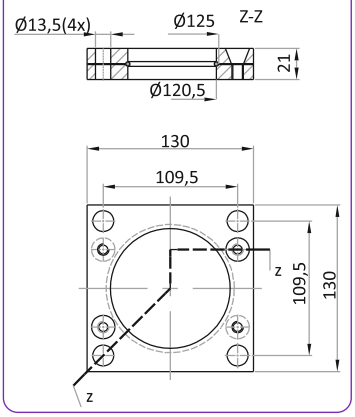
CB 120



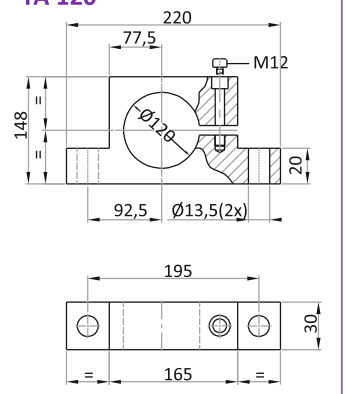
D 120



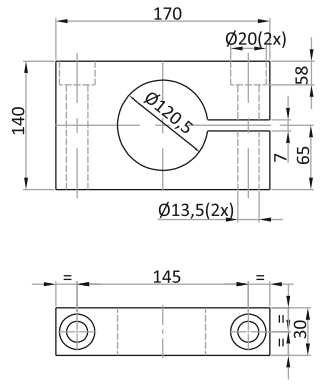
DK 120



TA 120

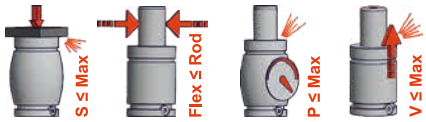


TD 120



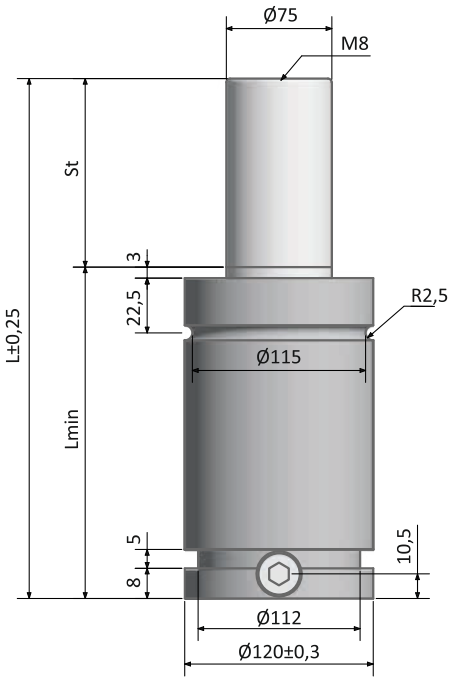
EG 06600

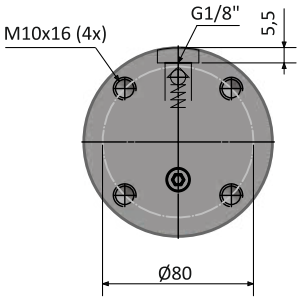
K32D2-2400-50 (Nissan)
EM24.54.700 (Renault)



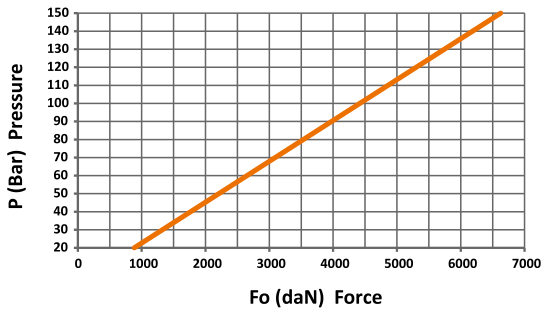
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti
F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



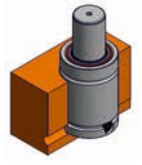


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EG 06600 016	**16**	**104**	**88**		**9452**	**10618**	**274,0**	**5,95**
	EG 06600 019	19	110	91		9692	10977	307,0	6,06
	EG 06600 025	**25**	**122**	**97**		**10092**	**11583**	**371,0**	**6,30**
	EG 06600 032	32	136	104	**+ 20°C**	10444	12124	445,0	6,58
	EG 06600 038	**38**	**148**	**110**		**10658**	**12453**	**510,0**	**6,81**
	EG 06600 050	50	172	122	**6630**	10989	12970	638,0	7,29
	EG 06600 063	**63**	**198**	**135**		**11234**	**13355**	**777,0**	**7,80**
	EG 06600 075	75	222	147	**150 bar**	11401	13619	905,0	8,28
	EG 06600 080	**80**	**232**	**152**		**11461**	**13715**	**958,0**	**8,48**
	EG 06600 100	100	272	172		11637	13995	1172,0	9,27
	EG 06600 125	**125**	**322**	**197**		**11790**	**14240**	**1439,0**	**10,26**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	44,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 120


DK 120

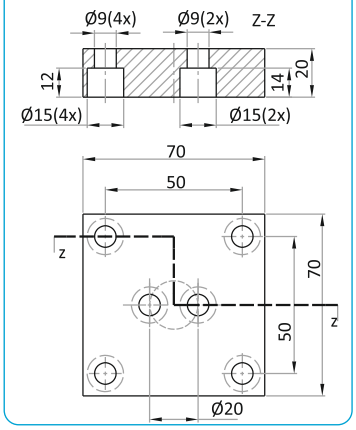

TA 120
TD 120


CB 120
C 120

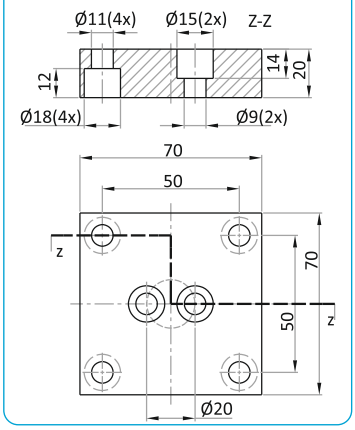

K 120 - KB 120
KC 120

EK 00750

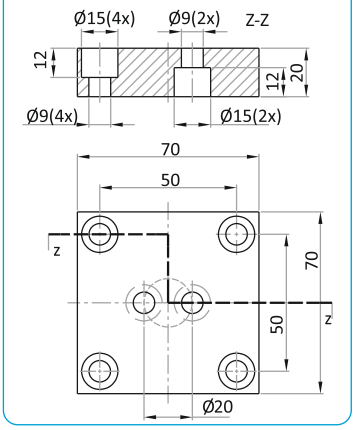
K 045



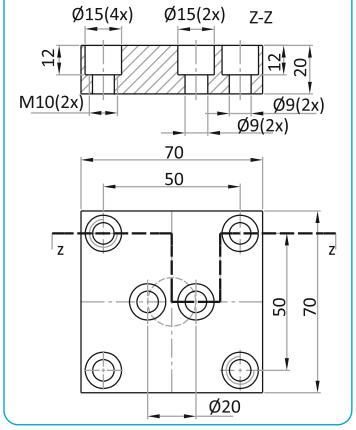
KB 045



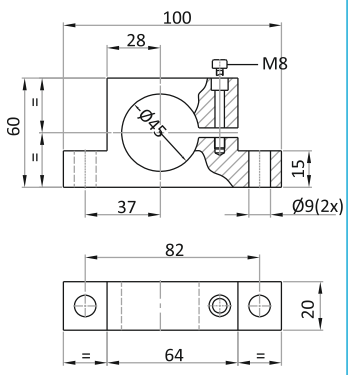
KC 045



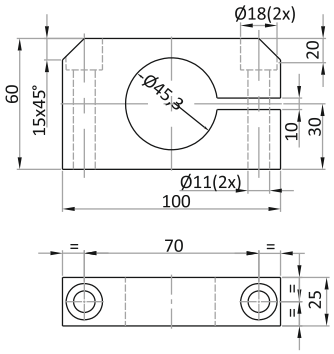
KF 045



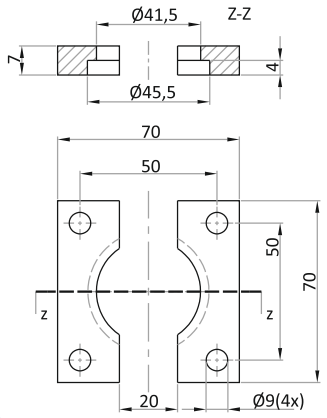
TA 045



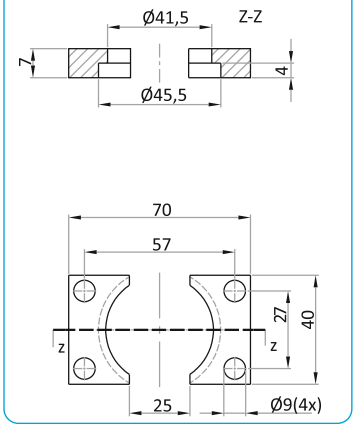
TE 045



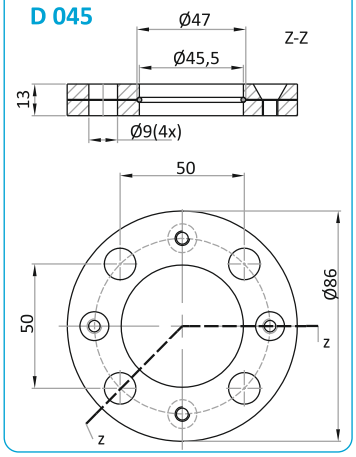
C 045



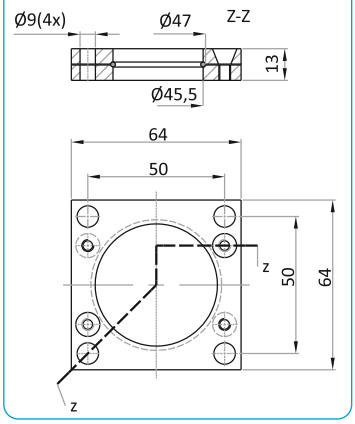
CB 045



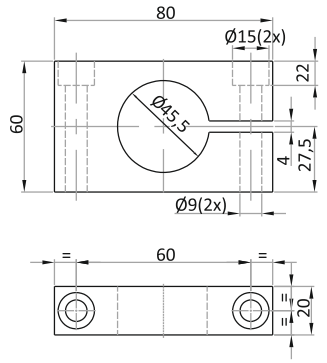
D 045



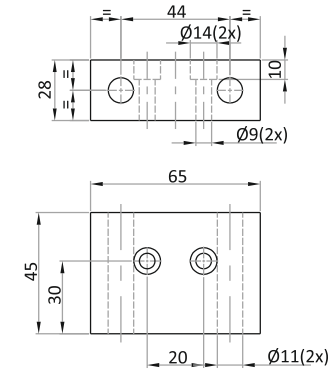
DK 045



TD 045

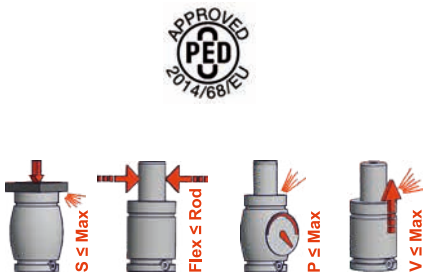


TT 050

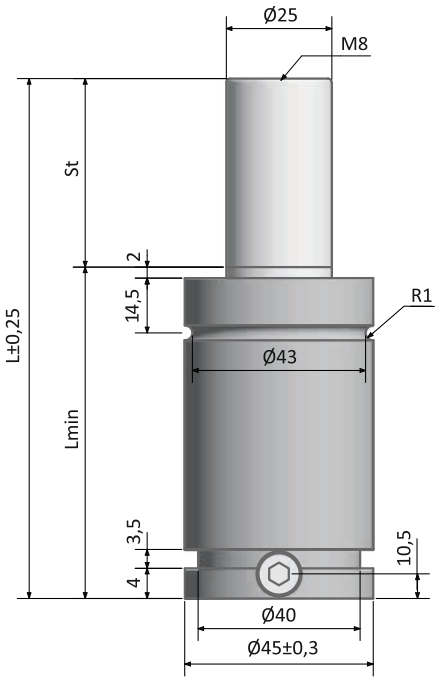


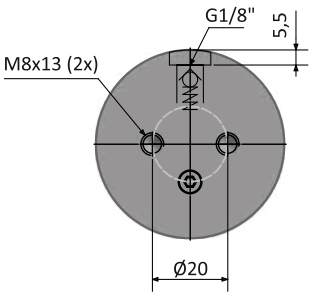
EK 00750

075.90.60 (FCA)

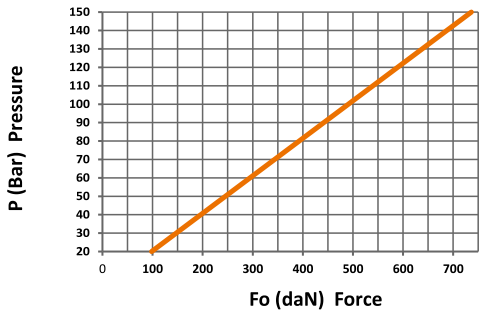


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



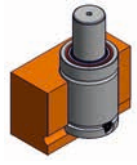


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EK 00750 010	**10**	**62**	**52**		**1180**	**1378**	**15,0**	**0,55**
	EK 00750 013	13	68	55		1240	1471	18,0	0,57
	EK 00750 016	**16**	**74**	**58**		**1245**	**1480**	**22,0**	**0,59**
	EK 00750 019	19	80	61		1249	1486	26,0	0,61
	EK 00750 025	**25**	**92**	**67**		**1255**	**1494**	**34,0**	**0,64**
	EK 00750 032	32	106	74	+ 20 °C	1265	1510	43,0	0,68
	EK 00750 038	**38**	**118**	**80**		**1284**	**1540**	**50,0**	**0,73**
	EK 00750 050	50	142	92	740	1295	1558	65,0	0,81
	EK 00750 063	**63**	**168**	**105**		**1318**	**1594**	**82,0**	**0,89**
	EK 00750 075	75	192	117	150 bar	1330	1615	94,0	0,99
	EK 00750 080	**80**	**202**	**122**		**1344**	**1637**	**99,0**	**1,03**
	EK 00750 100	100	242	142		1350	1647	123,0	1,17
	EK 00750 125	**125**	**292**	**167**		**1363**	**1667**	**152,0**	**1,35**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	4,91 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 045


DK 045

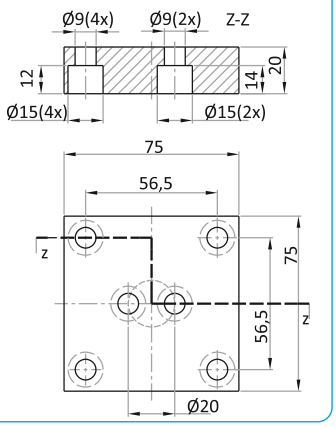

TA 045 - TD 045
TE 045 - TT 050


CB 045 - C 045

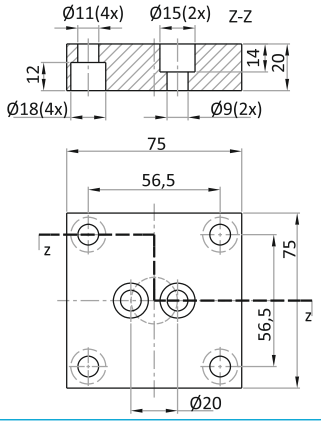

K 045 - KB 045
KC 045 - KF 045

EK 01000

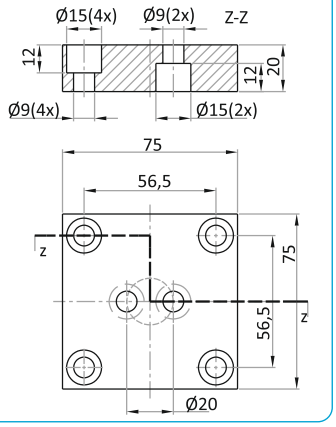
K 050



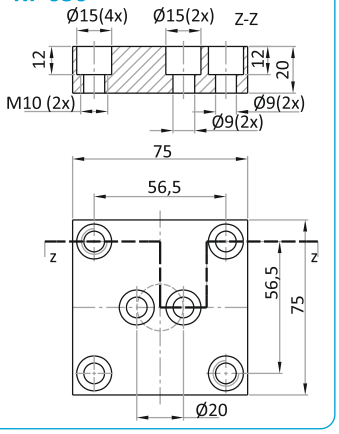
KB 050



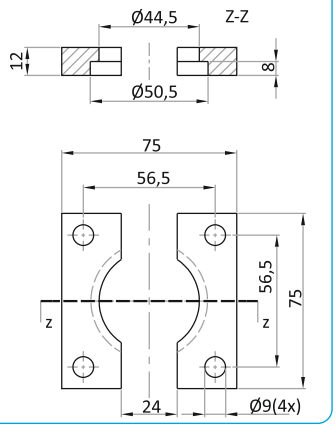
KC 050



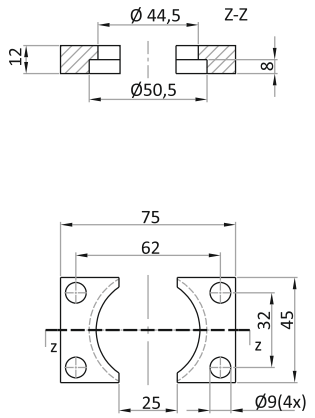
KF 050



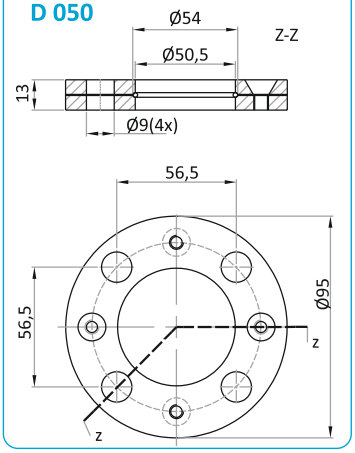
C 050



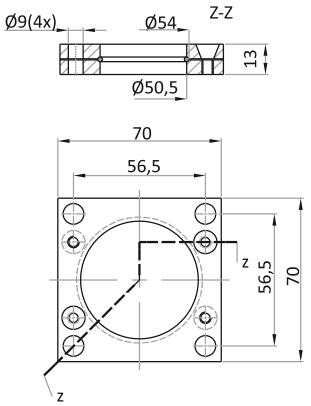
CB 050



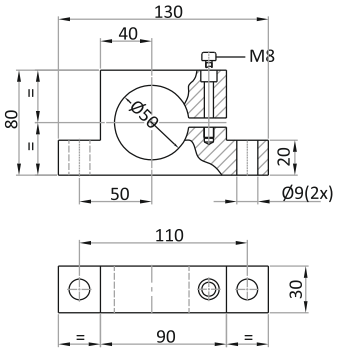
D 050



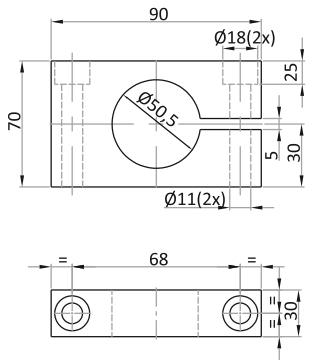
DK 050



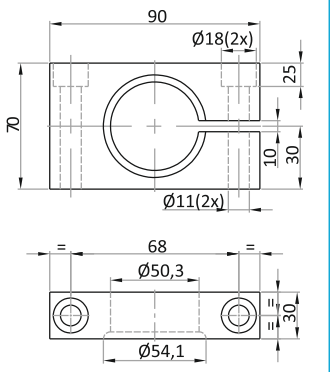
TA 050



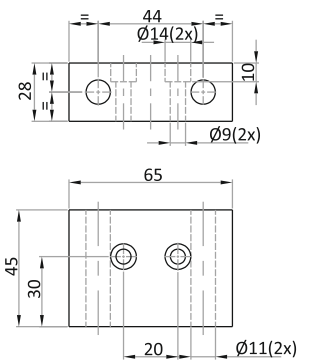
TD 050



TE 050

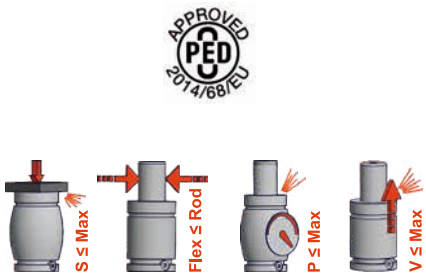


TT 50

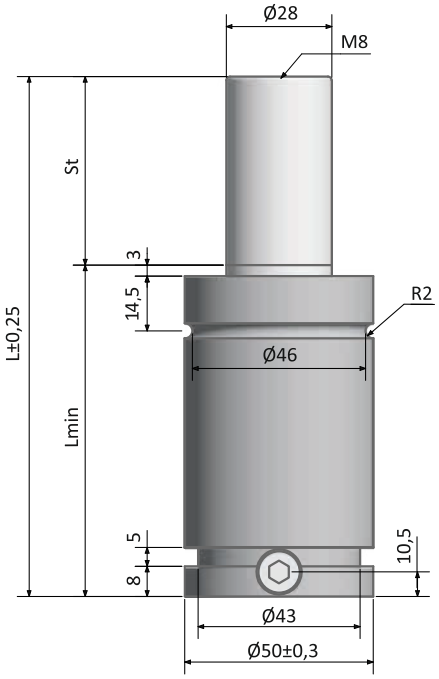


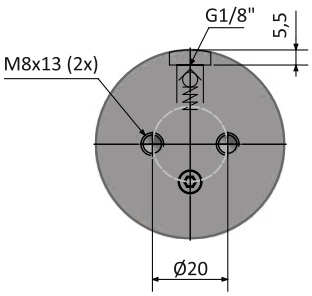
EK 01000

075.90.60 (FCA)

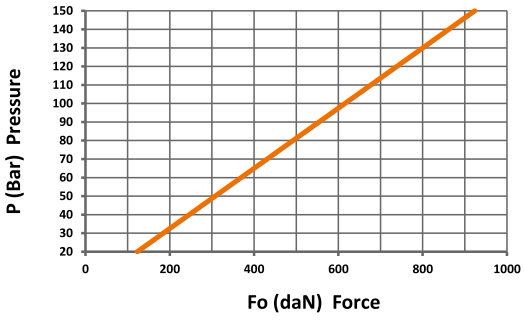


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



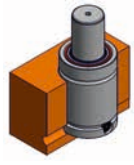


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EK 01000 013	**13**	**74**	**61**		**1459**	**1695**	**25,0**	**0,76**
	EK 01000 016	16	80	64		1480	1728	30,0	0,78
	EK 01000 019	**19**	**86**	**67**		**1496**	**1753**	**35,0**	**0,80**
	EK 01000 025	25	98	73		1538	1819	44,0	0,85
	EK 01000 032	**32**	**112**	**80**	**+ 20 °C**	**1563**	**1857**	**55,0**	**0,91**
	EK 01000 038	38	124	86		1584	1891	64,0	0,96
	EK 01000 050	**50**	**148**	**98**	**920**	**1600**	**1917**	**83,0**	**1,05**
	EK 01000 063	63	174	111		1617	1944	103,0	1,16
	EK 01000 075	**75**	**198**	**123**	**150 bar**	**1623**	**1953**	**122,0**	**1,25**
	EK 01000 080	80	208	128		1634	1970	129,0	1,30
	EK 01000 100	**100**	**248**	**148**		**1643**	**1985**	**160,0**	**1,46**
	EK 01000 125	125	298	173		1656	2005	198,0	1,67



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**6,15 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 050


DK 050

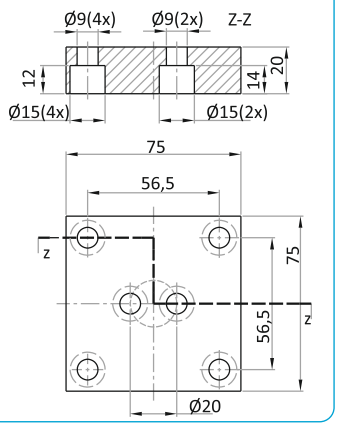

TA 050 - TD 050
TE 050 - TT 050


CB 050 - C 050

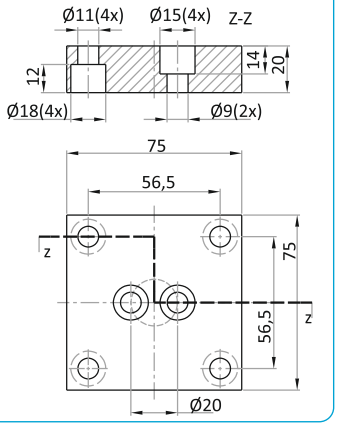

K 050 - KB 050
KC 050 - KF 050

EK 01200

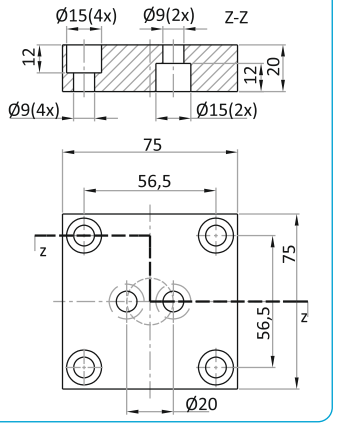
K 050



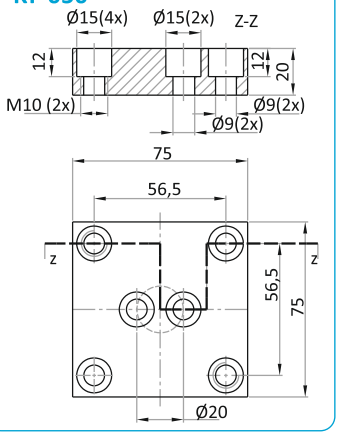
KB 050



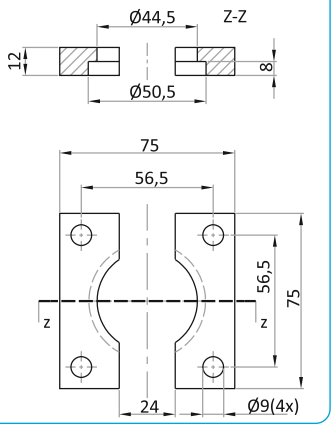
KC 050



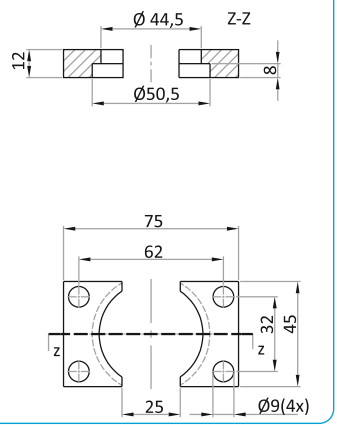
KF 050



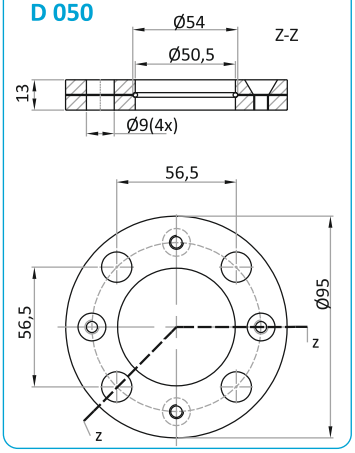
C 050



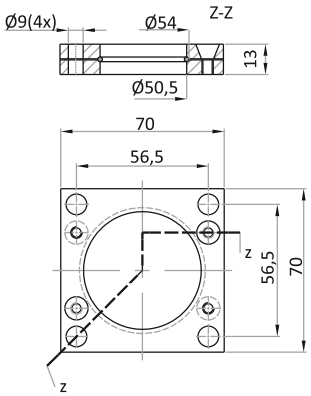
CB 050



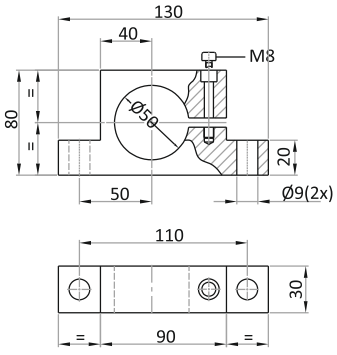
D 050



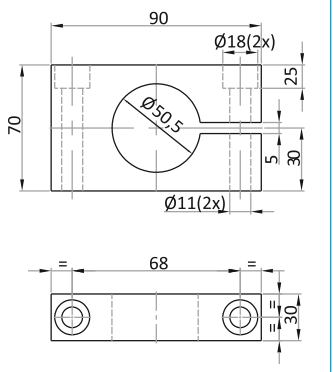
DK 050



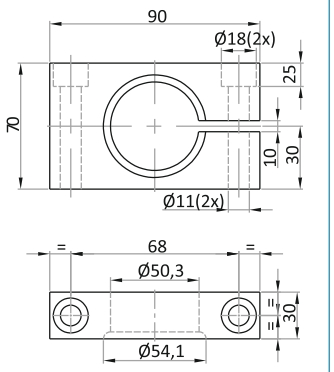
TA 050



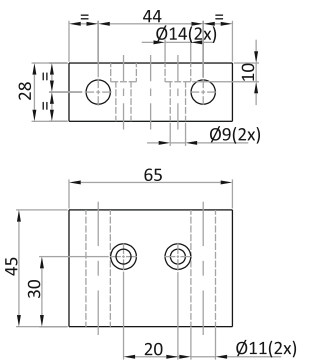
TD 050



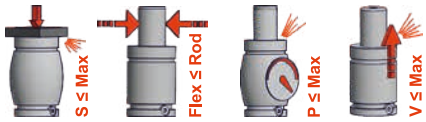
TE 050



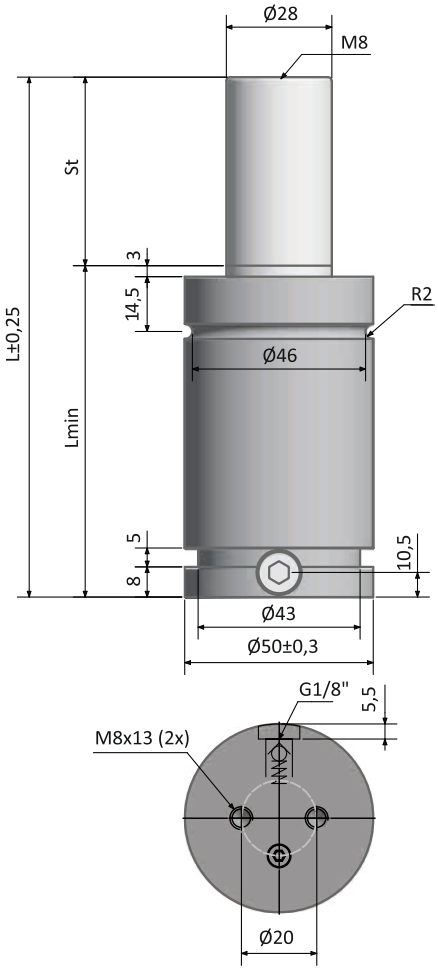
TT 050



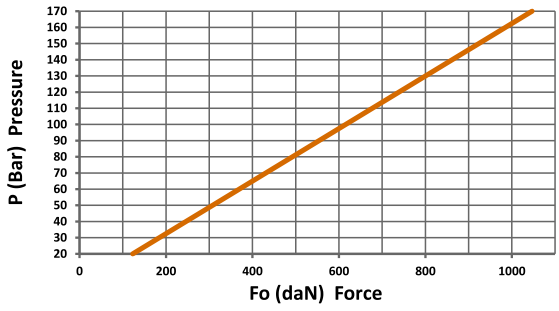
EK 01200



F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

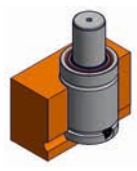


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EK 01200 013	**13**	**74**	**61**		**1653**	**1922**	**25,0**	**0,76**
	EK 01200 016	16	80	64		1677	1959	30,0	0,78
	EK 01200 019	**19**	**86**	**67**		**1695**	**1987**	**35,0**	**0,80**
	EK 01200 025	25	98	73		1743	2062	44,0	0,85
	EK 01200 032	**32**	**112**	**80**	**+ 20 °C**	**1771**	**2105**	**55,0**	**0,91**
	EK 01200 038	38	124	86		1795	2143	64,0	0,96
	EK 01200 050	**50**	**148**	**98**	**1060**	**1813**	**2172**	**83,0**	**1,05**
	EK 01200 063	63	174	111		1833	2203	103,0	1,16
	EK 01200 075	**75**	**198**	**123**	**170 bar**	**1839**	**2214**	**122,0**	**1,25**
	EK 01200 080	80	208	128		1851	2233	129,0	1,30
	EK 01200 100	**100**	**248**	**148**		**1862**	**2250**	**160,0**	**1,46**
	EK 01200 125	125	298	173		1876	2272	198,0	1,67



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**6,15 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**170 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 050

DK 050

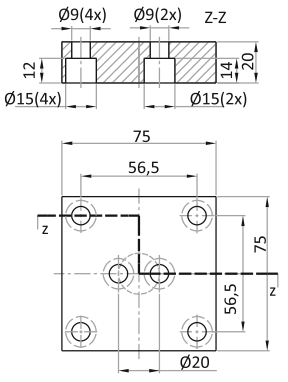
TA 050 - TD 050
TE 050 - TT 050

CB 050
C 050

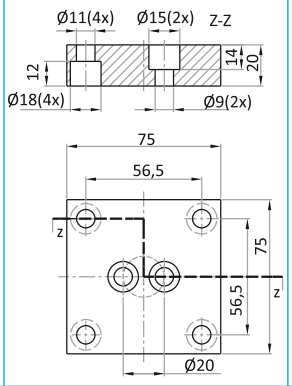
K 050 - KB 050
KC 050 - KF 050

EK 01500

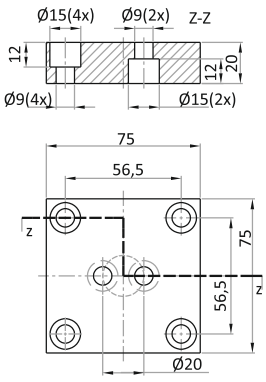
K 050



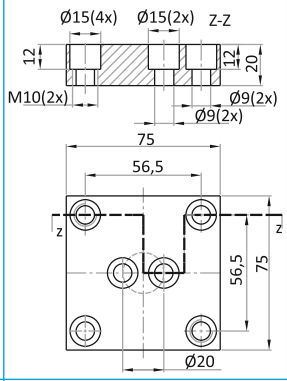
KB 050



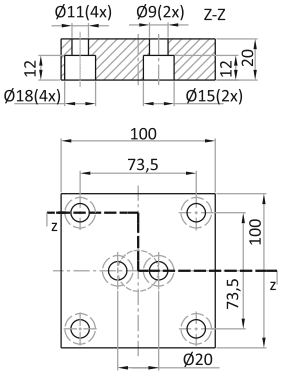
KC 050



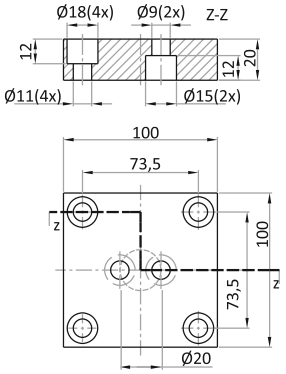
KF 050



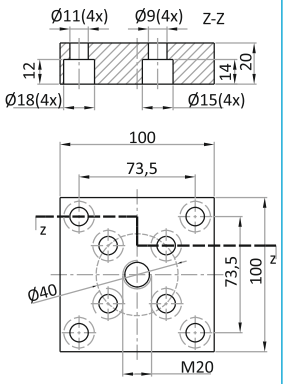
K 063



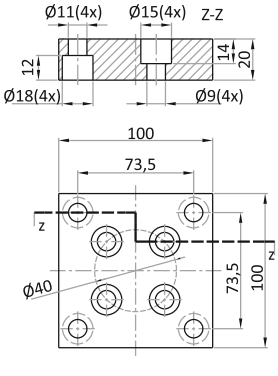
KC 063



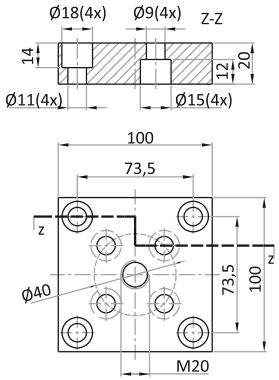
K 075



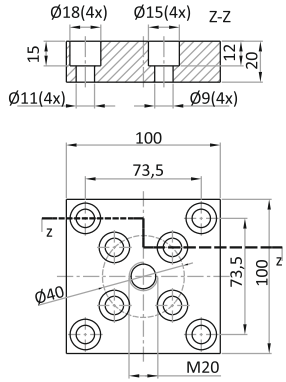
KB 075



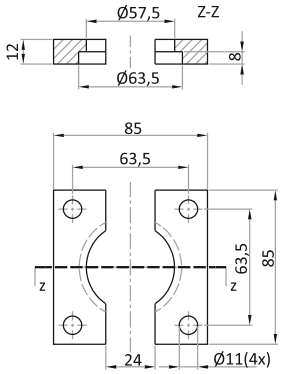
KC 075



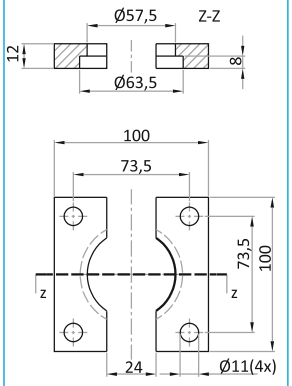
KF 075



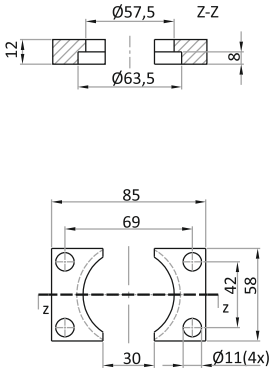
C 063



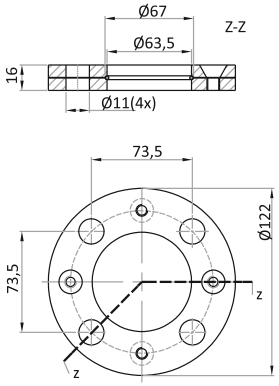
CA 063



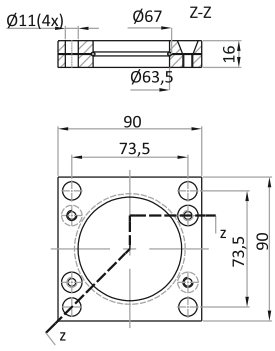
CB 063



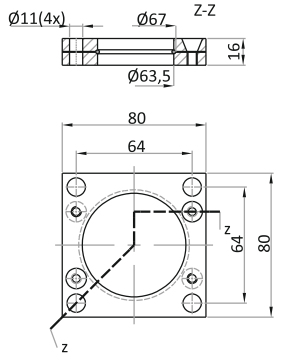
D 063



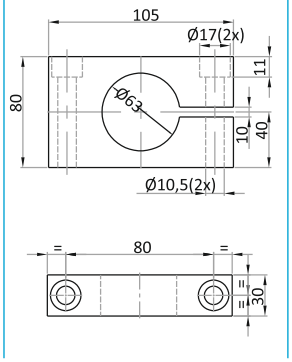
DKA 063



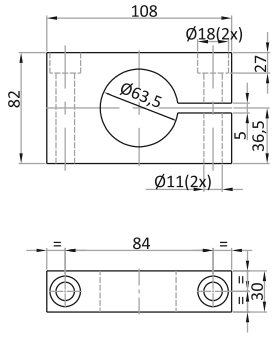
DK 063



TC 063

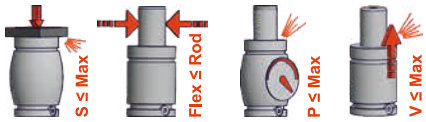


TD 063



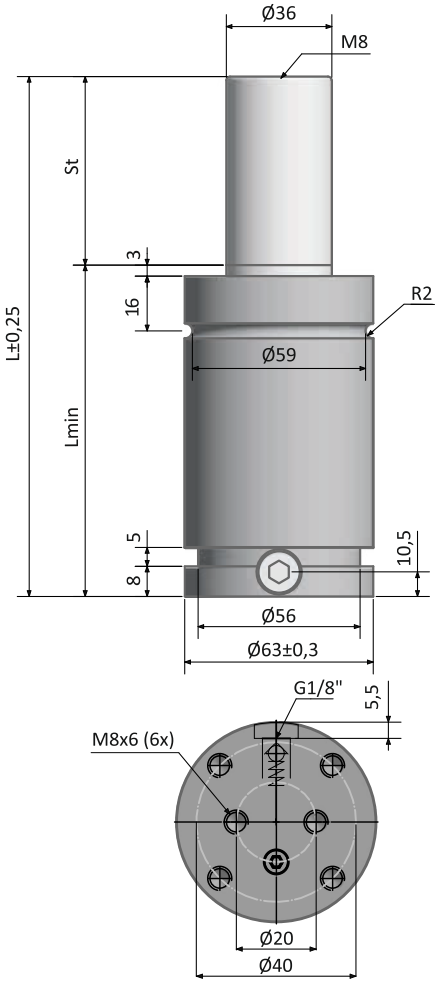
EK 01500

075.90.60 (FCA)

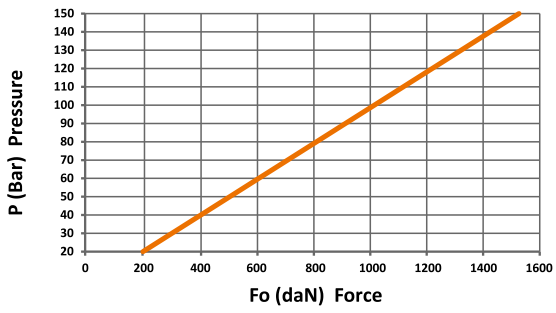


F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti
F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet

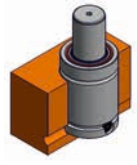


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
ESKİ OLD	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EK 01500 013	**13**	**80**	**67**		**2263**	**2574**	**47,0**	**1,30**
	EK 01500 016	16	86	70		2319	2659	55,0	1,34
	EK 01500 019	**19**	**92**	**73**		**2362**	**2725**	**63,0**	**1,37**
	EK 01500 025	25	104	79		2425	2822	79,0	1,44
	EK 01500 032	**32**	**118**	**86**	**+ 20 °C**	**2485**	**2915**	**97,0**	**1,53**
	EK 01500 038	38	130	92		2514	2960	113,0	1,59
	EK 01500 050	**50**	**154**	**104**	**1530**	**2554**	**3023**	**145,0**	**1,73**
	EK 01500 063	63	180	117		2579	3062	180,0	1,88
	EK 01500 075	**75**	**204**	**129**	**150 bar**	**2606**	**3105**	**211,0**	**2,03**
	EK 01500 080	80	214	134		2622	3131	223,0	2,09
	EK 01500 100	**100**	**254**	**154**		**2647**	**3170**	**275,0**	**2,34**
	EK 01500 125	125	304	179		2667	3203	340,0	2,64



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	10,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount



Drop - in

D 063

DK 063
DKA 063

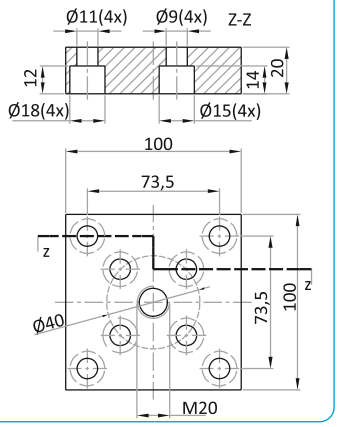
TC 063
TD 063

C 063 - CA 063
CB 063

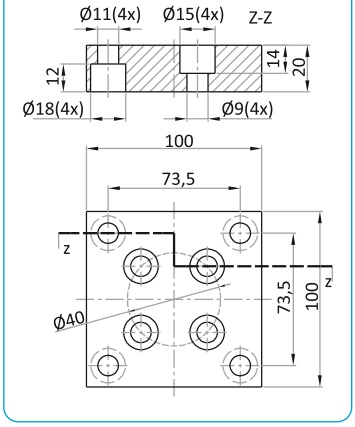
K 050 - KB 050 - KC 050
KF 050 - K 063 - KC 063
K 075 - KB 075 - KC 075
KF 075

EK 02400

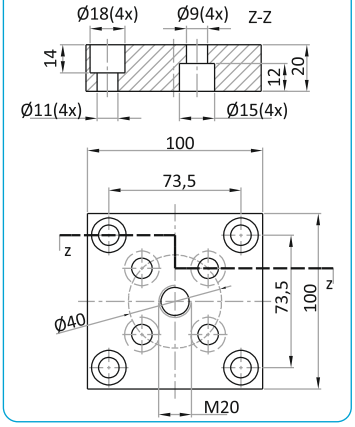
K 075



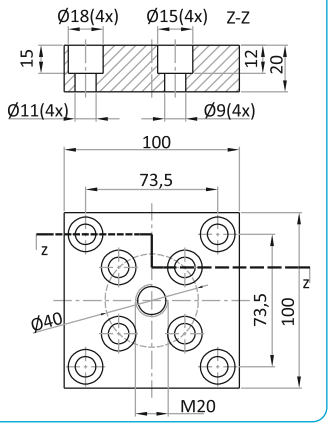
KB 075



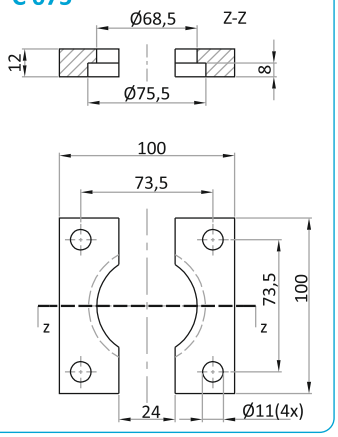
KC 075



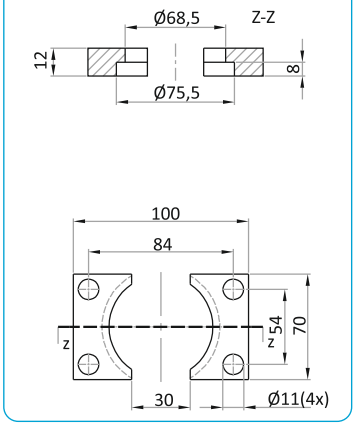
KF 075



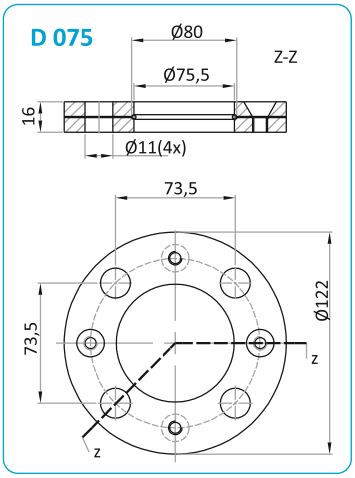
C 075



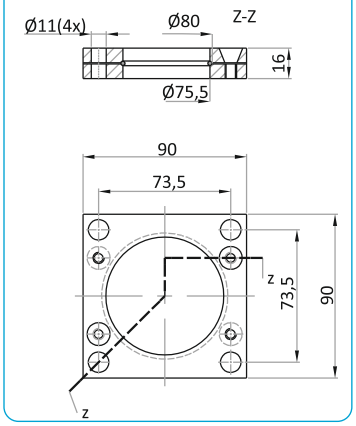
CB 075



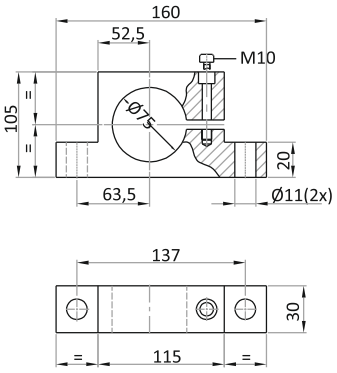
D 075



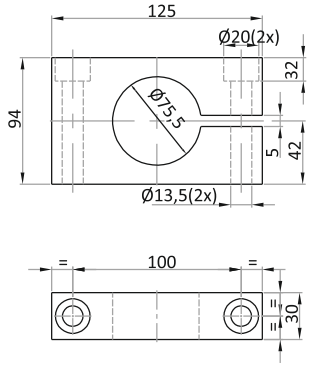
DK 075



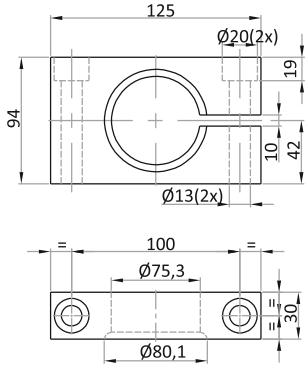
TA 075



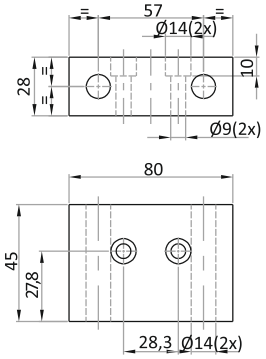
TD 075



TE 075

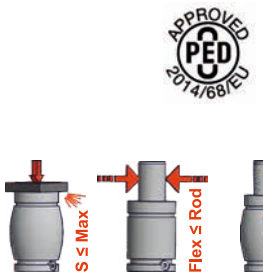


TT 075

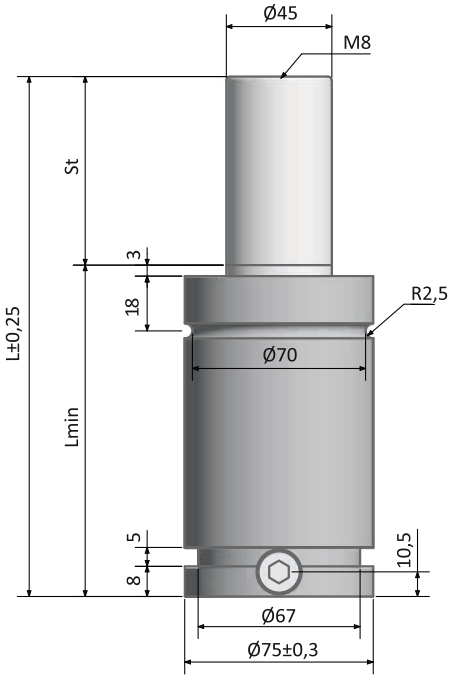


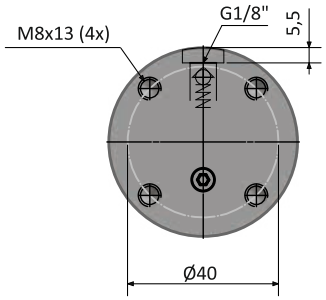
EK 02400

075.90.60 (FCA)

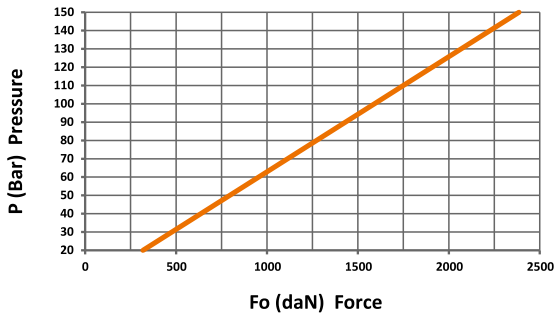


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



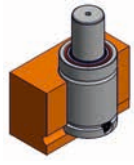


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
ESKİ OLD	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	EK 02400 016	**16**	**87**	**71**		**3664**	**4217**	**84,0**	**1,90**
	EK 02400 019	19	93	74		3739	4333	96,0	1,95
	EK 02400 025	**25**	**105**	**80**		**3850**	**4504**	**120,0**	**2,04**
	EK 02400 032	32	119	87		3937	4640	148,0	2,15
	EK 02400 038	**38**	**131**	**93**	**+ 20 °C**	**3991**	**4725**	**172,0**	**2,25**
	EK 02400 050	50	155	105		4054	4824	221,0	2,43
	EK 02400 063	**63**	**181**	**118**	**2385**	**4109**	**4911**	**273,0**	**2,63**
	EK 02400 075	75	205	130		4144	4968	321,0	2,82
	EK 02400 080	**80**	**215**	**135**	**150 bar**	**4156**	**4987**	**341,0**	**2,90**
	EK 02400 100	100	255	155		4186	5035	422,0	3,21
	EK 02400 125	**125**	**305**	**180**		**4212**	**5076**	**523,0**	**3,59**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**15,90 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 075


DK 075

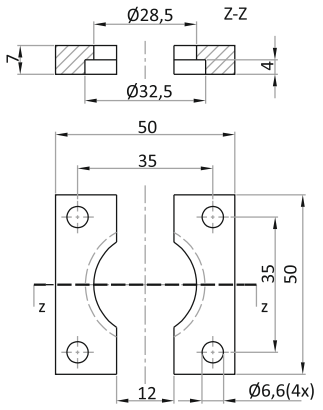

TA 075 - TD 075
TE 075 - TT 075


CB 075 - C 075

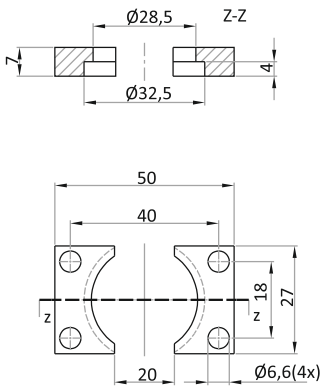

K 075 - KB 075
KC 075 - KF 075

ET 00300

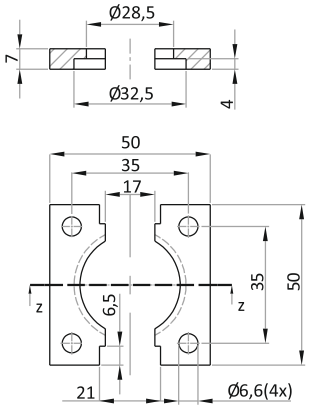
CA 032



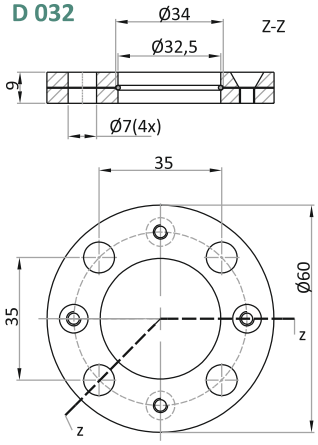
CB 032



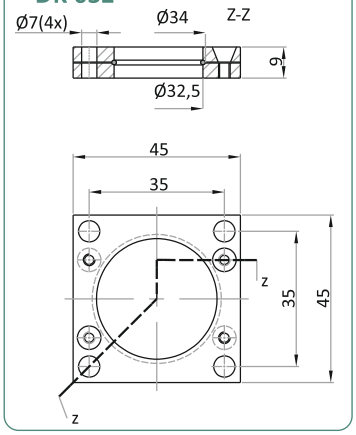
CC 032



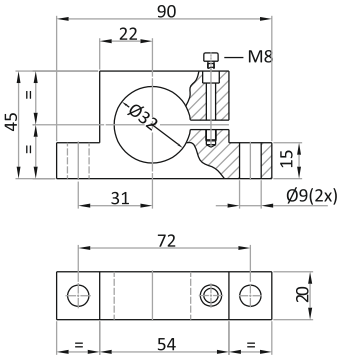
D 032



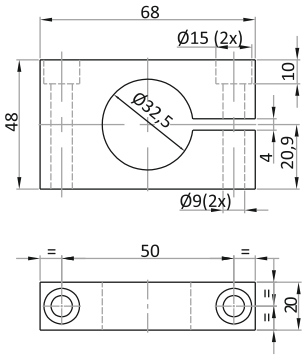
DK 032



TA 032



TD 032

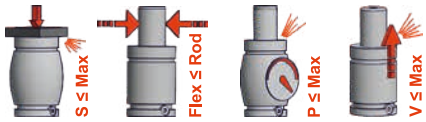


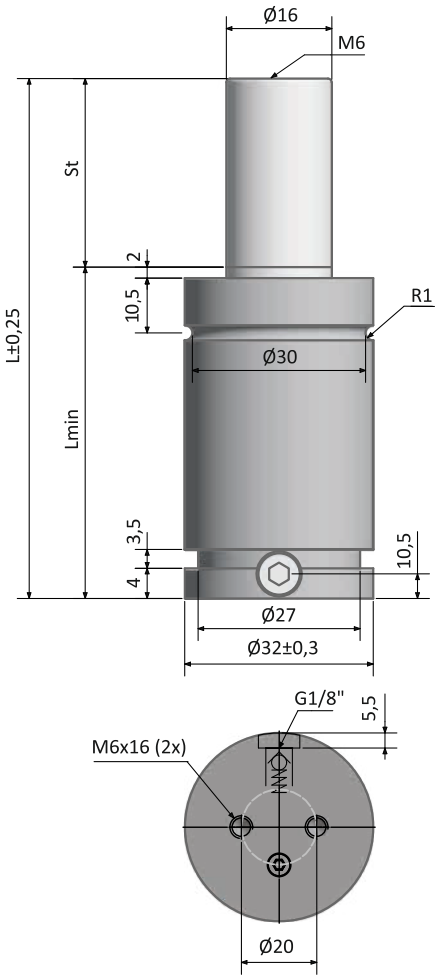
ET 00300

PG 24D (Mazda)

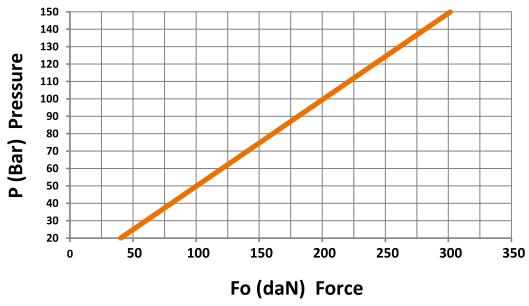
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



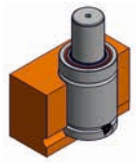


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 00300 010	**10**	**60**	**50**		**541**	**618**	**7,0**	**0,26**
	ET 00300 013	13	66	53		544	622	9,0	0,27
	ET 00300 016	**16**	**72**	**56**		**546**	**625**	**11,0**	**0,28**
	ET 00300 019	19	78	59		570	663	12,0	0,30
	ET 00300 025	**25**	**90**	**65**		**588**	**689**	**15,0**	**0,32**
	ET 00300 032	32	104	72	+ 20 °C	592	695	19,0	0,34
	ET 00300 038	**38**	**116**	**78**		**601**	**710**	**22,0**	**0,37**
	ET 00300 050	50	140	90	360	614	730	28,0	0,41
	ET 00300 063	**63**	**166**	**103**		**617**	**736**	**35,0**	**0,46**
	ET 00300 075	75	190	115	180 bar	624	746	41,0	0,51
	ET 00300 080	**80**	**200**	**120**		**632**	**758**	**43,0**	**0,53**
	ET 00300 100	100	240	140		638	769	53,0	0,61
	ET 00300 125	**125**	**290**	**165**		**640**	**772**	**66,0**	**0,71**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	2,01 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	180 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 032

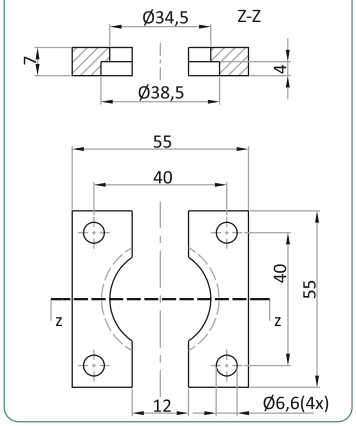

DK 032


TA 032
TD 032

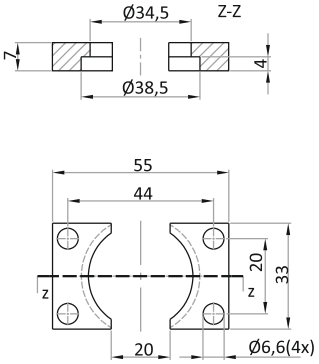

CB 032 - CC 032
CA 032

ET 00500

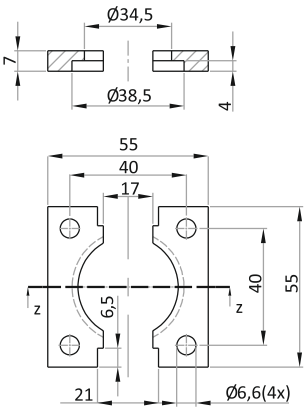
CA 038



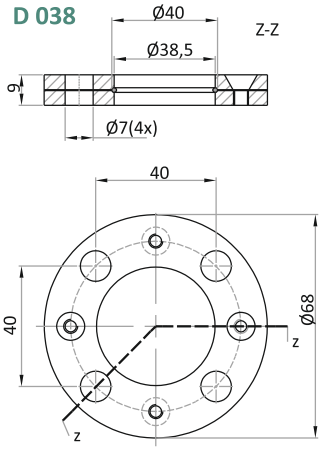
CB 038



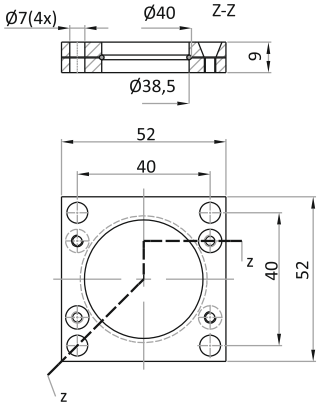
CC 038



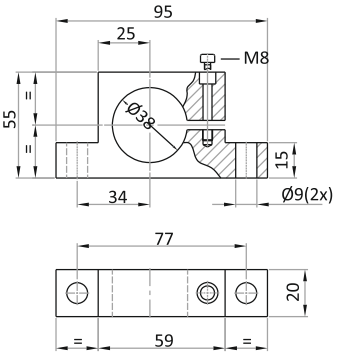
D 038



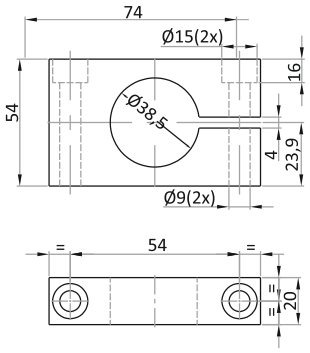
DK 038



TA 038

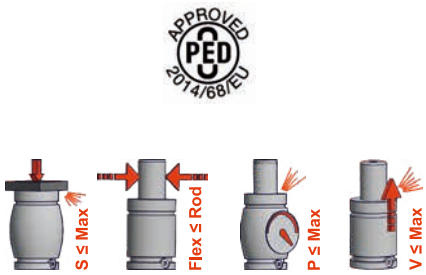


TD 038

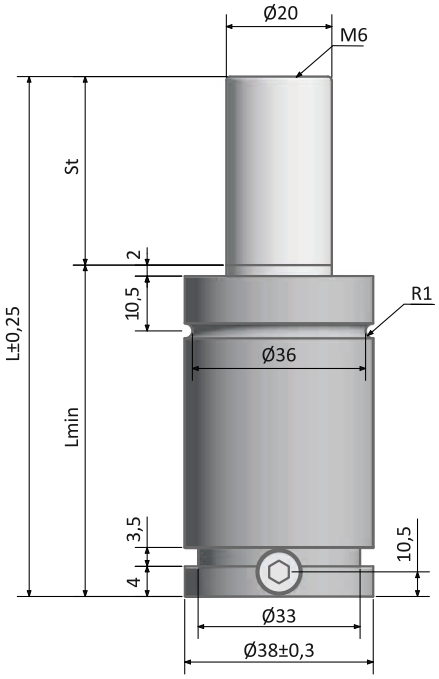


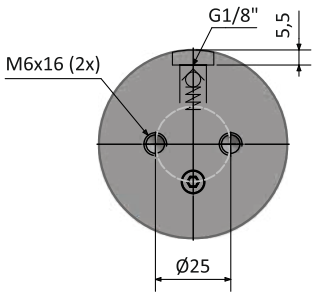
ET 00500

PG 24D (Mazda)

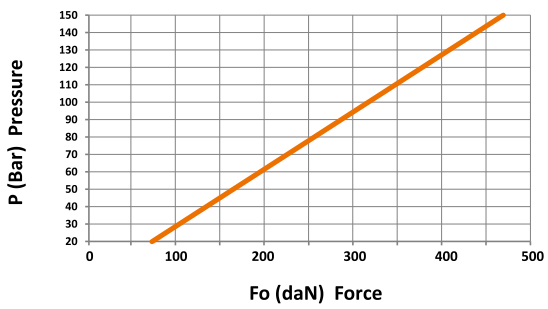


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



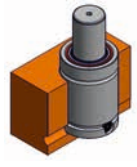


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 00500 010	**10**	**60**	**50**		**784**	**927**	**9,0**	**0,38**
	ET 00500 013	13	66	53		793	941	11,5	0,40
	ET 00500 016	**16**	**72**	**56**		**799**	**950**	**14,0**	**0,41**
	ET 00500 019	19	78	59		820	984	16,0	0,43
	ET 00500 025	**25**	**90**	**65**		**822**	**986**	**21,0**	**0,46**
	ET 00500 032	32	104	72	**+ 20 °C**	830	1000	26,5	0,49
	ET 00500 038	**38**	**116**	**78**		**839**	**1015**	**31,0**	**0,53**
	ET 00500 050	50	140	90	**470**	844	1022	40,5	0,59
	ET 00500 063	**63**	**166**	**103**		**851**	**1033**	**50,5**	**0,66**
	ET 00500 075	75	190	115	**150 bar**	853	1036	60,0	0,72
	ET 00500 080	**80**	**200**	**120**		**855**	**1038**	**64,0**	**0,75**
	ET 00500 100	100	240	140		860	1048	79,0	0,86
	ET 00500 125	**125**	**290**	**165**		**865**	**1057**	**98,0**	**0,99**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**3,14 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 038

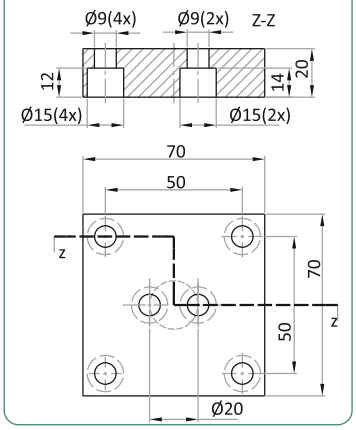

DK 038


TA 038
TD 038

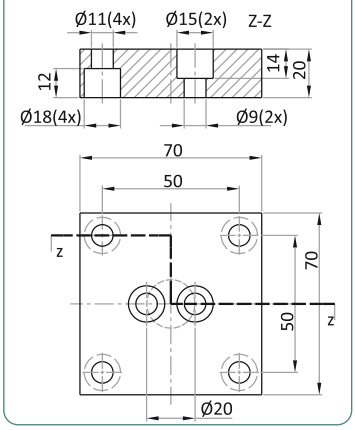

CB 038 - CC 038
CA 038

ET 00750

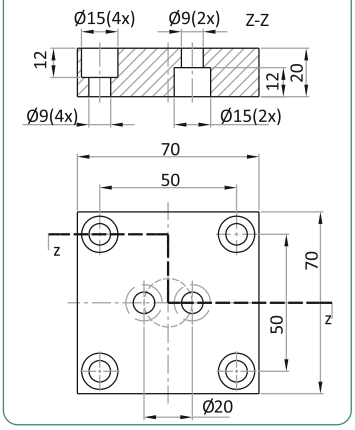
K 045



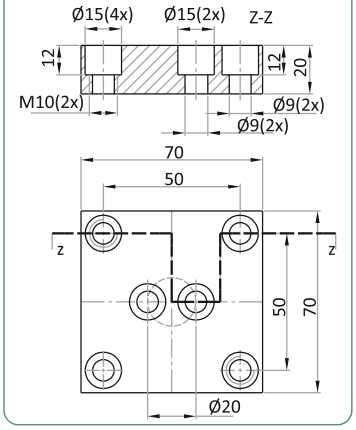
KB 045



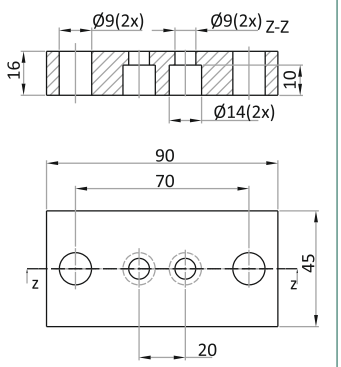
KC 045



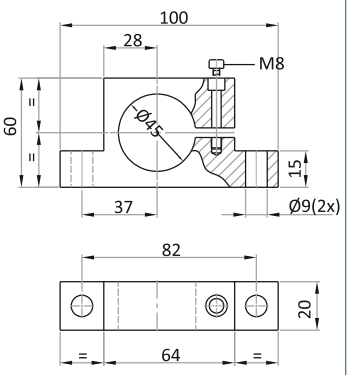
KF 045



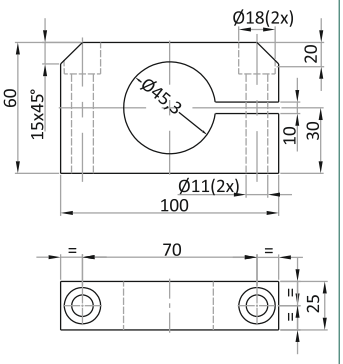
KH 045



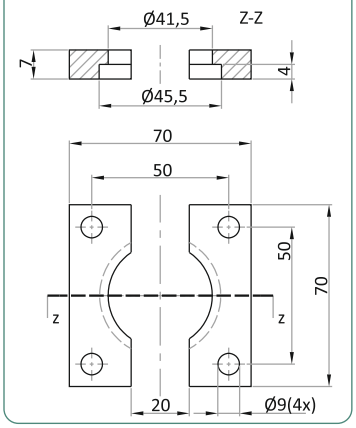
TA 045



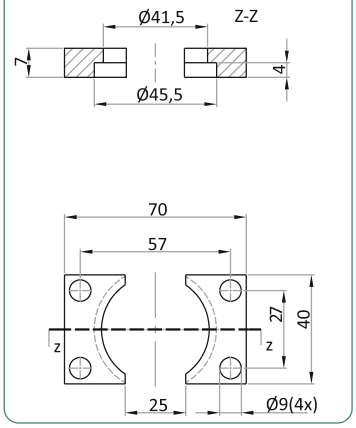
TE 045



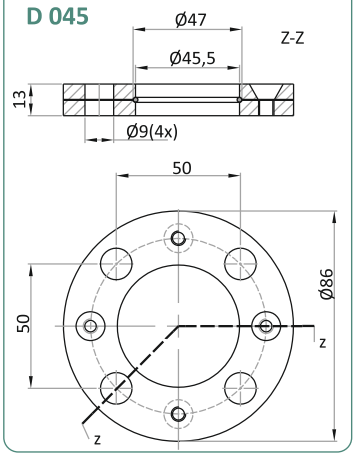
C 045



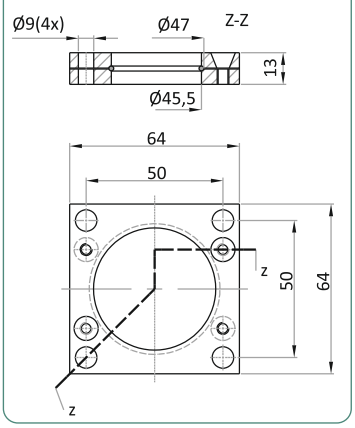
CB 045



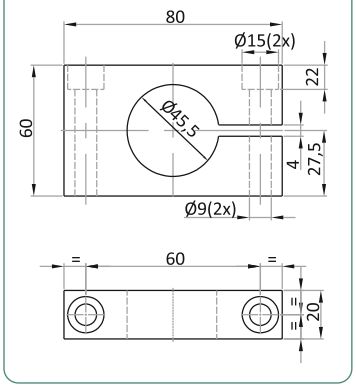
D 045



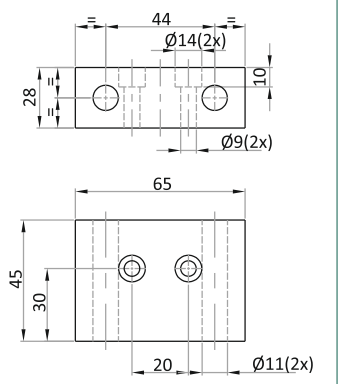
DK 045



TD 045

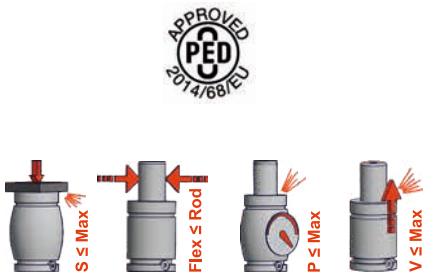


TT 050



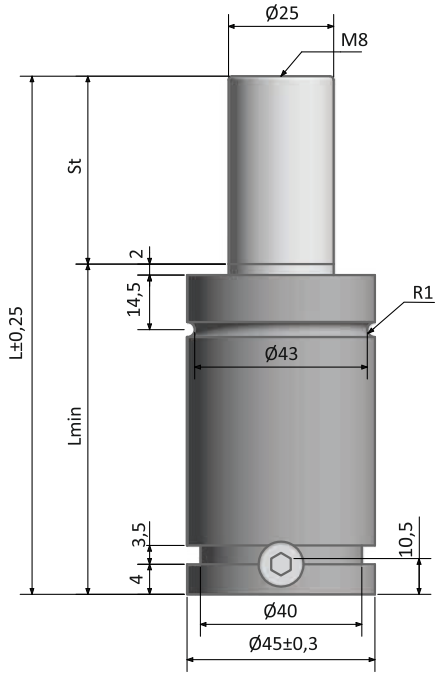
ET 00750

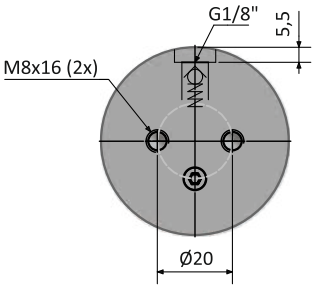
PG 24D (Mazda)	EM24.54.700 (Renault)
K 32 R (Nissan)	



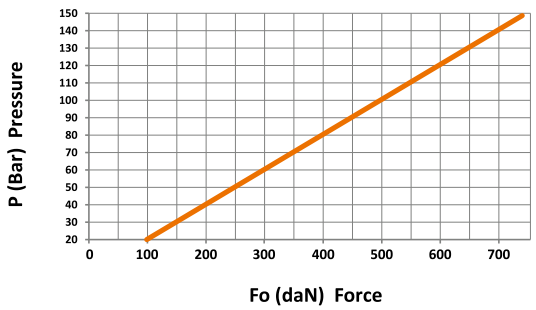
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



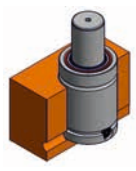


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 00750 010	**10**	**67**	**57**		**1180**	**1378**	**15,0**	**0,61**
	ET 00750 013	13	73	60		1240	1471	18,0	0,63
	ET 00750 016	**16**	**79**	**63**		**1246**	**1480**	**22,0**	**0,65**
	ET 00750 019	19	85	66		1250	1486	26,0	0,67
	ET 00750 025	**25**	**97**	**72**		**1255**	**1495**	**34,0**	**0,70**
	ET 00750 032	32	111	79	+ 20 °C	1265	1510	43,0	0,75
	ET 00750 038	**38**	**123**	**85**		**1284**	**1540**	**50,0**	**0,79**
	ET 00750 050	50	147	97	740	1295	1558	65,0	0,87
	ET 00750 063	**63**	**173**	**110**		**1305**	**1575**	**81,0**	**0,96**
	ET 00750 075	75	197	122	150 bar	1320	1598	95,0	1,04
	ET 00750 080	**80**	**207**	**127**		**1323**	**1603**	**101,0**	**1,08**
	ET 00750 100	100	247	147		1333	1620	125,0	1,21
	ET 00750 125	**125**	**297**	**172**		**1341**	**1633**	**155,0**	**1,39**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	4,91 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 045


DK 045

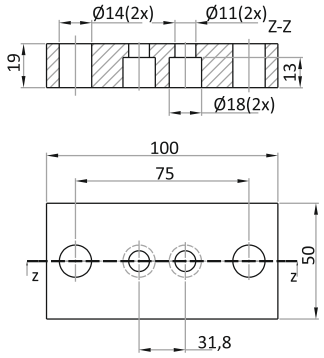

TA 045 - TD 045
TE 045 - TT 050


CB 045
C 045

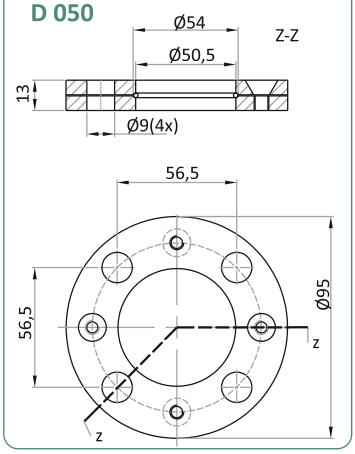

K 045 - KB 045
KC 045 - KF 045 - KH 045

ET 01000

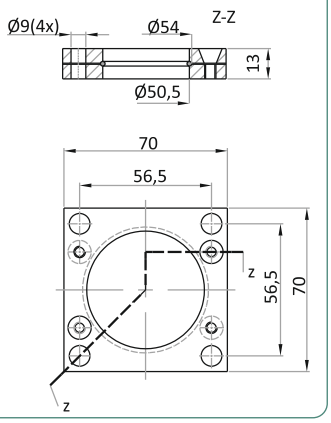
KH 050



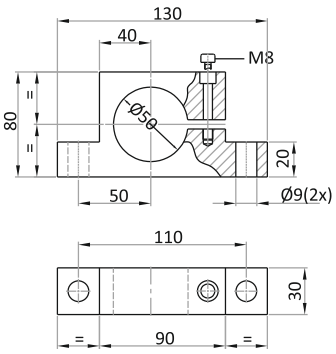
D 050



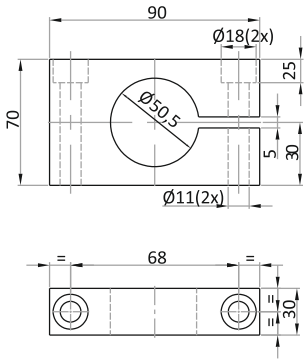
DK 050



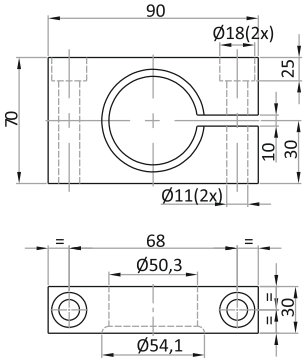
TA 050



TD 050

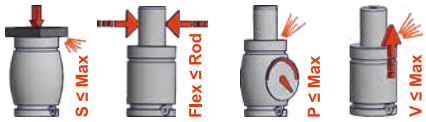


TE 050



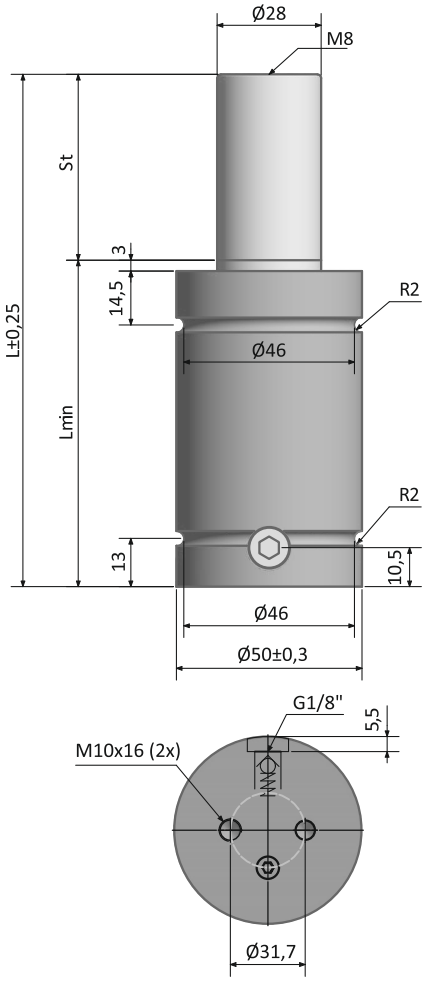
ET 01000

E24.54.815.G (PSA)	EM24.54.700 (Renault)
K 32 R (Nissan)	SMS DNH 3203n Rev.3 (TOYOTA)

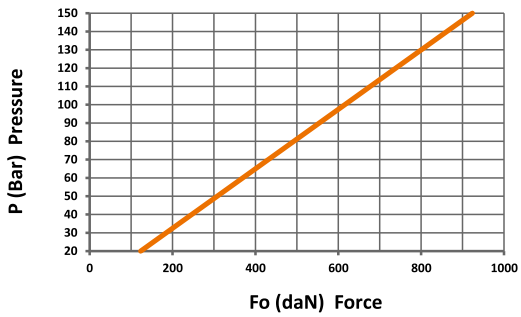


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

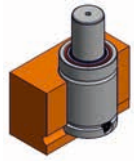


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 01000 010	**10**	**72**	**62**		**1362**	**1548**	**22,0**	**0,79**
	ET 01000 013	13	78	65		1401	1606	27,0	0,81
	ET 01000 016	**16**	**84**	**68**		**1453**	**1686**	**31,0**	**0,84**
	ET 01000 019	19	90	71		1471	1715	36,0	0,86
	ET 01000 025	**25**	**102**	**77**		**1497**	**1754**	**46,0**	**0,90**
	ET 01000 032	32	116	84	+ 20 °C	1527	1801	57,0	0,96
	ET 01000 038	**38**	**128**	**90**		**1551**	**1840**	**66,0**	**1,01**
	ET 01000 050	50	152	102	920	1574	1875	85,0	1,10
	ET 01000 063	**63**	**178**	**115**		**1595**	**1909**	**105,0**	**1,21**
	ET 01000 075	75	202	127	150 bar	1604	1924	124,0	1,30
	ET 01000 080	**80**	**212**	**132**		**1607**	**1927**	**132,0**	**1,34**
	ET 01000 100	100	252	152		1620	1949	163,0	1,50
	ET 01000 125	**125**	**302**	**177**		**1625**	**1957**	**203,0**	**1,69**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**6,15 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 050

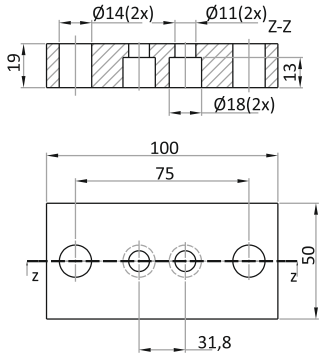

DK 050


TA 050 - TD 050 TE 050

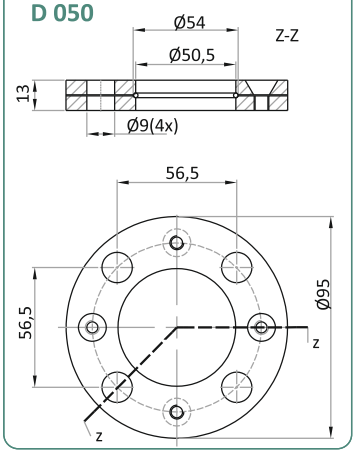

KH 050

ET 01200

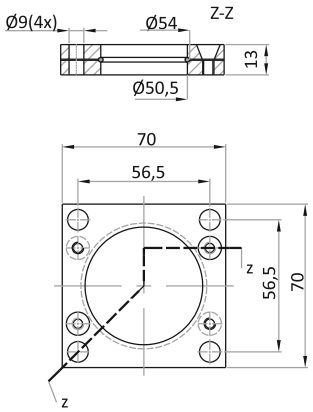
KH 050



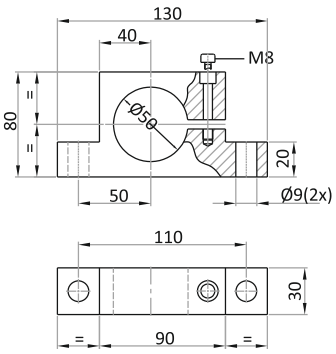
D 050



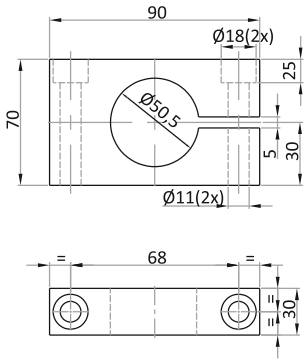
DK 050



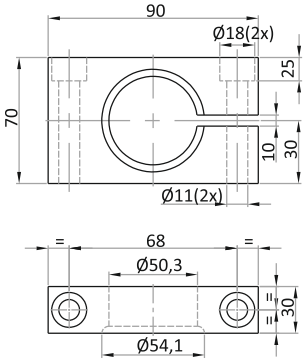
TA 050



TD 050



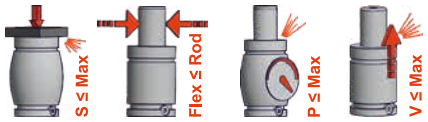
TE 050

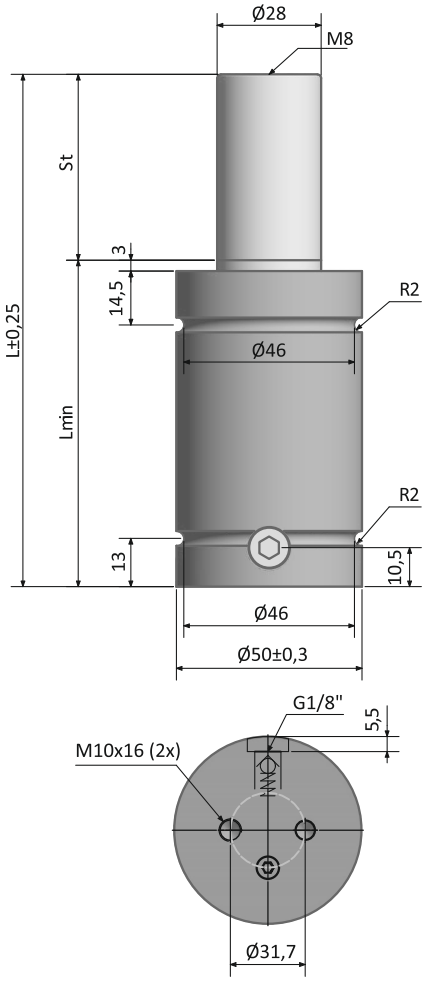


ET 01200

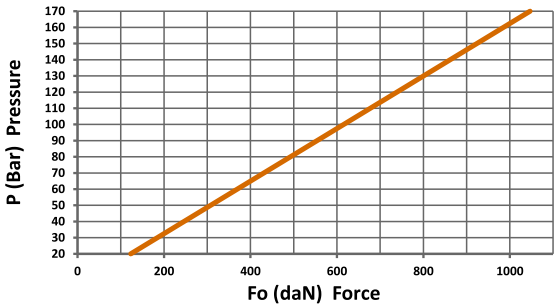
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



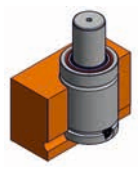


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 01200 010	**10**	**72**	**62**		**1544**	**1755**	**22,0**	**0,79**
	ET 01200 013	13	78	65		1587	1820	27,0	0,81
	ET 01200 016	**16**	**84**	**68**		**1646**	**1911**	**31,0**	**0,84**
	ET 01200 019	19	90	71		1667	1943	36,0	0,86
	ET 01200 025	**25**	**102**	**77**		**1696**	**1988**	**46,0**	**0,90**
	ET 01200 032	32	116	84	**+ 20 °C**	1730	2041	57,0	0,96
	ET 01200 038	**38**	**128**	**90**		**1758**	**2085**	**66,0**	**1,01**
	ET 01200 050	50	152	102	**1060**	1784	2125	85,0	1,10
	ET 01200 063	**63**	**178**	**115**		**1808**	**2164**	**105,0**	**1,21**
	ET 01200 075	75	202	127	**170 bar**	1818	2180	124,0	1,30
	ET 01200 080	**80**	**212**	**132**		**1821**	**2184**	**132,0**	**1,34**
	ET 01200 100	100	252	152		1837	2210	163,0	1,50
	ET 01200 125	**125**	**302**	**177**		**1842**	**2217**	**203,0**	**1,69**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**6,15 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**170 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 050

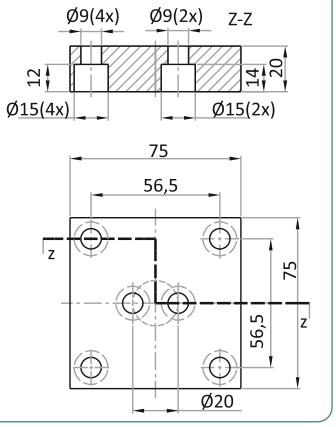

DK 050


TA 050 - TD 050 TE 050

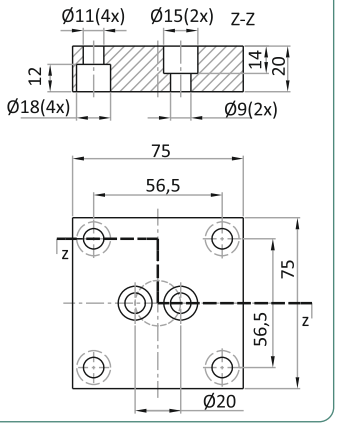

KH 050

ET 01500

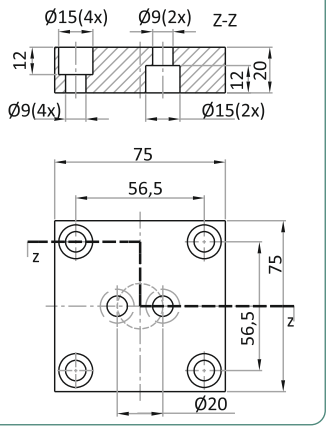
K 050



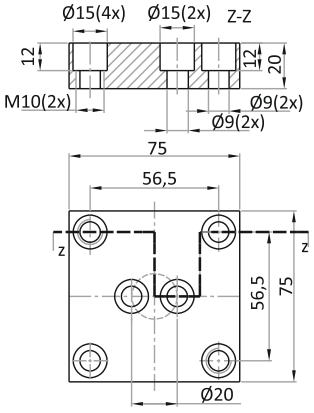
KB 050



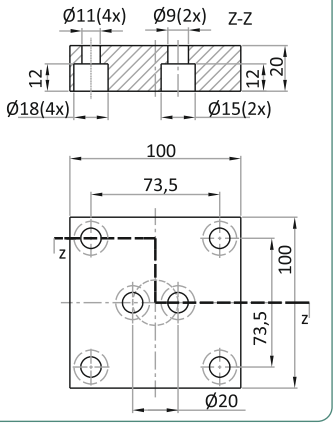
KC 050



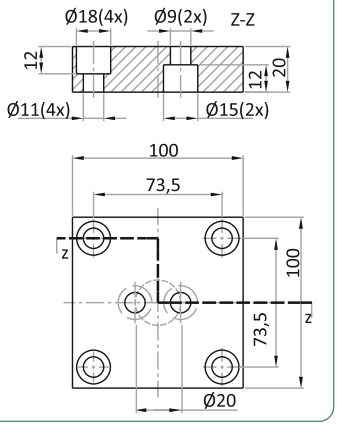
KF 50



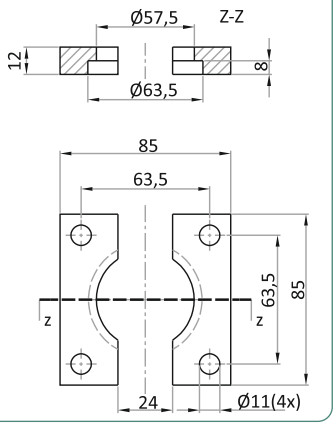
K 063



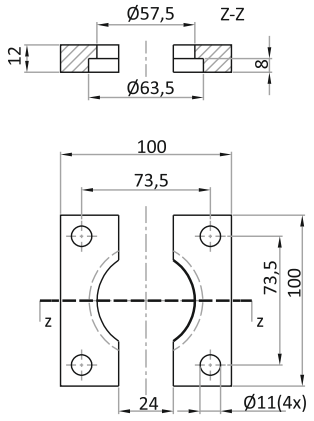
KC 063



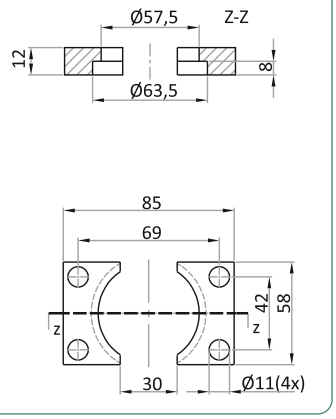
C 063



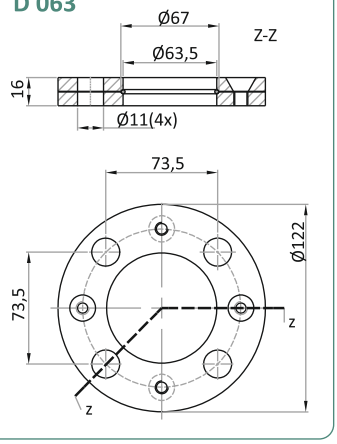
CA 063



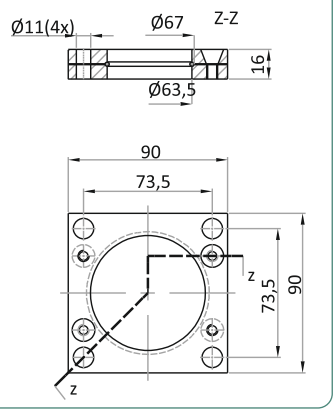
CB 063



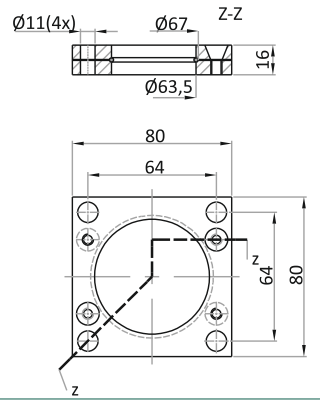
D 063



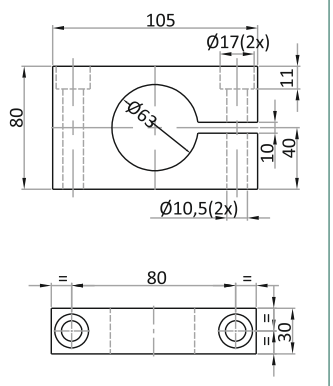
DKA 063



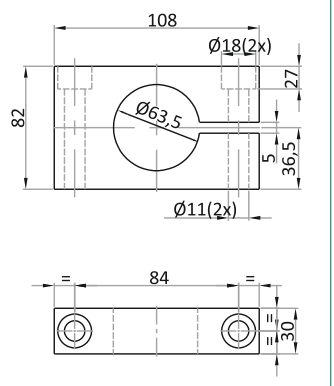
DK 063



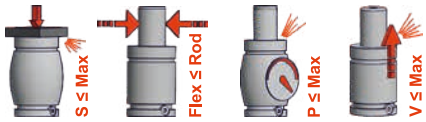
TC 063



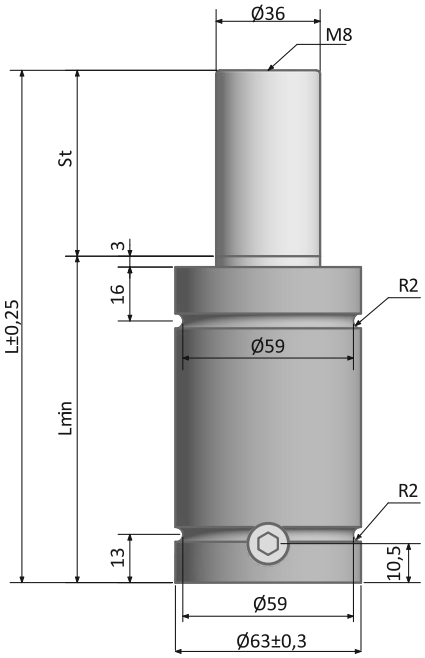
TD 063

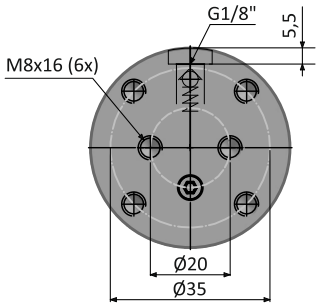


ET 01500

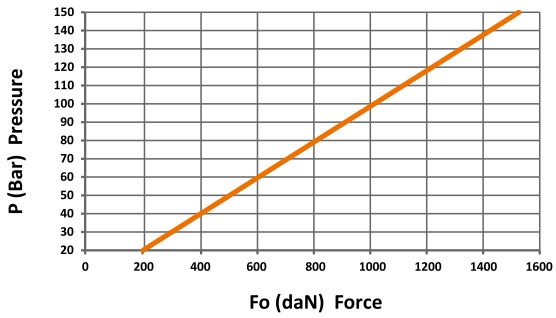


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



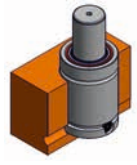


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 01500 010	**10**	**72**	**62**		**2188**	**2462**	**39,0**	**1,22**
	ET 01500 013	13	78	65		2263	2574	47,0	1,25
	ET 01500 016	**16**	**84**	**68**		**2319**	**2659**	**55,0**	**1,29**
	ET 01500 019	19	90	71		2362	2725	63,0	1,32
	ET 01500 025	**25**	**102**	**77**		**2425**	**2822**	**79,0**	**1,39**
	ET 01500 032	32	116	84	**+ 20 °C**	2470	2891	98,0	1,47
	ET 01500 038	**38**	**128**	**90**		**2514**	**2960**	**113,0**	**1,55**
	ET 01500 050	50	152	102	**1530**	2554	3023	145,0	1,68
	ET 01500 063	**63**	**178**	**115**		**2579**	**3063**	**180,0**	**1,83**
	ET 01500 075	75	202	127	**150 bar**	2597	3091	212,0	1,97
	ET 01500 080	**80**	**212**	**132**		**2606**	**3105**	**225,0**	**2,03**
	ET 01500 100	100	252	152		2627	3138	278,0	2,26
	ET 01500 125	**125**	**302**	**177**		**2645**	**3168**	**344,0**	**2,56**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**10,18 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 063

DK 063
DKA 063

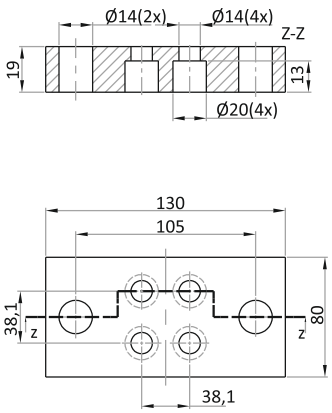
TC 063
TD 063

C 063 - CA 050
CB 063

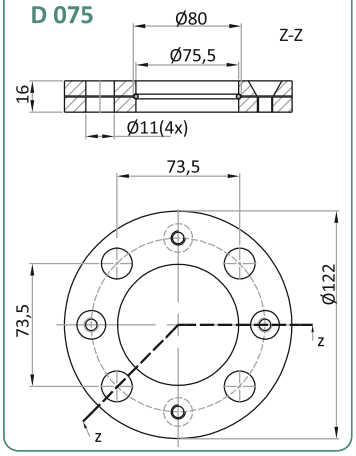
K 050 - KB 050 - KC 050
KF 050 - K 063 - KC 063

ET 02400

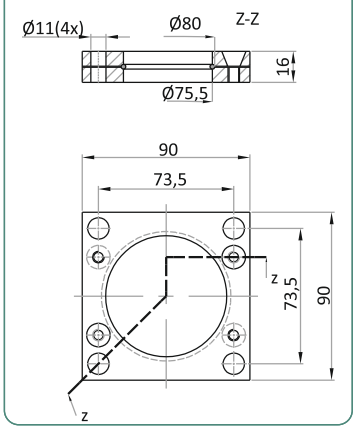
KH 075



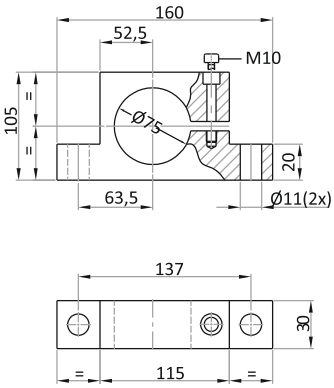
D 075



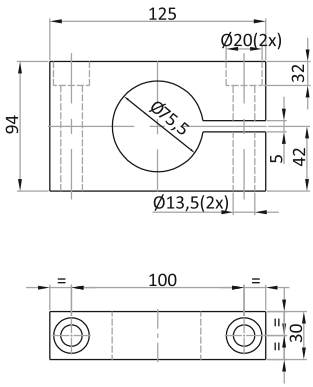
DK 075



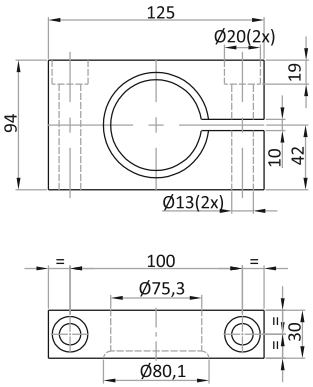
TA 075



TD 075



TE 075

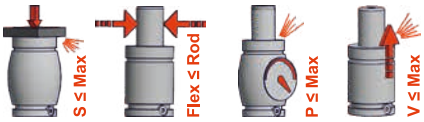


ET 02400

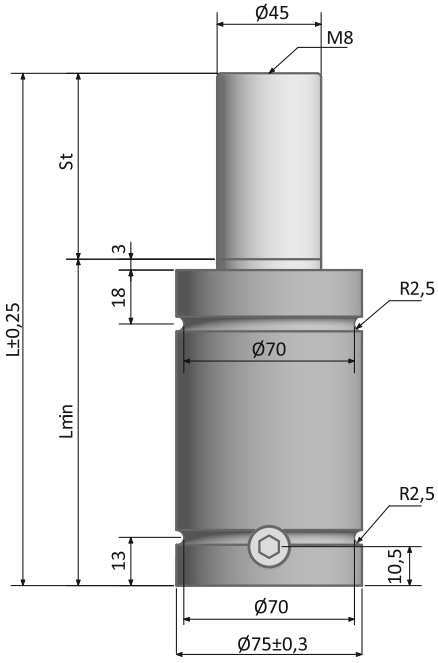
E24.54.815.G (PSA)
K 32 R (Nissan)

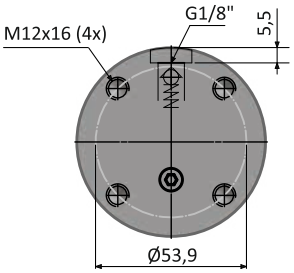
EM24.54.700 (Renault)
SMS DNH 3203n Rev.3
(TOYOTA)

APPROVED PED 2014/68/EU

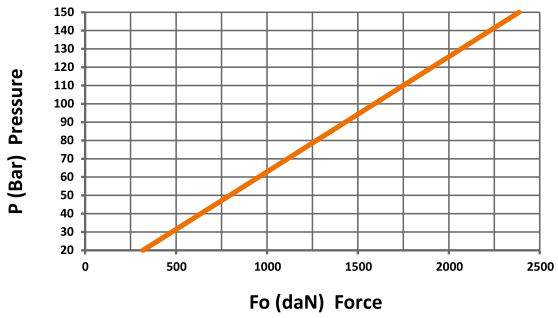


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



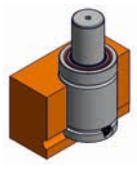


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 02400 010	**10**	**79**	**69**		**3240**	**3583**	**70,0**	**1,86**
	ET 02400 013	13	85	72		3369	3774	82,0	1,91
	ET 02400 016	**16**	**91**	**75**		**3456**	**3903**	**95,0**	**1,95**
	ET 02400 019	19	97	78		3540	4028	107,0	2,00
	ET 02400 025	**25**	**109**	**84**		**3667**	**4222**	**131,0**	**2,09**
	ET 02400 032	32	123	91	**+ 20 °C**	3735	4327	162,0	2,18
	ET 02400 038	**38**	**135**	**97**		**3842**	**4492**	**183,0**	**2,30**
	ET 02400 050	50	159	109	**2385**	3940	4644	231,0	2,49
	ET 02400 063	**63**	**185**	**122**		**4002**	**4742**	**284,0**	**2,68**
	ET 02400 075	75	209	134	**150 bar**	4050	4817	332,0	2,87
	ET 02400 080	**80**	**219**	**139**		**4066**	**4843**	**352,0**	**2,95**
	ET 02400 100	100	259	159		4111	4914	433,0	3,26
	ET 02400 125	**125**	**309**	**184**		**4155**	**4985**	**533,0**	**3,65**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	15,90 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 075


DK 075

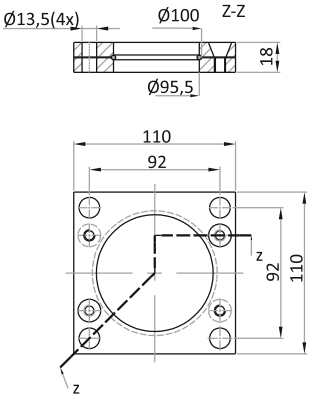

TA 075 - TD 075 TE 075


KH 075

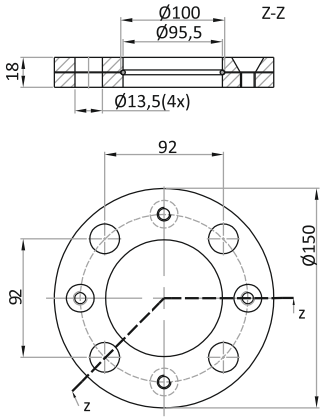
ALFAMAK

ET 04200

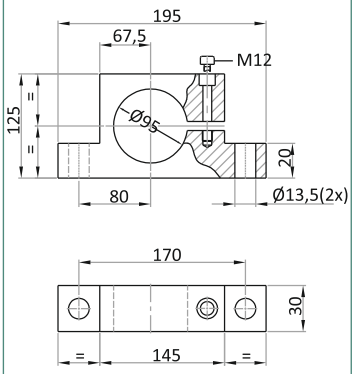
DK 095



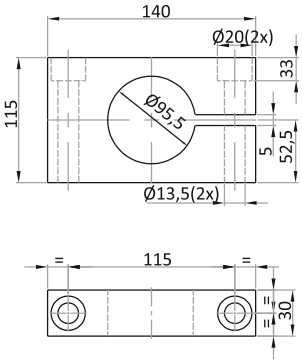
D 095



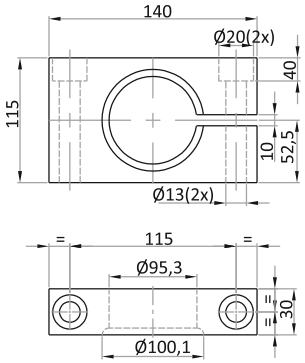
TA 095



TD 095



TE 095

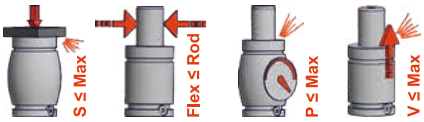


ET 04200

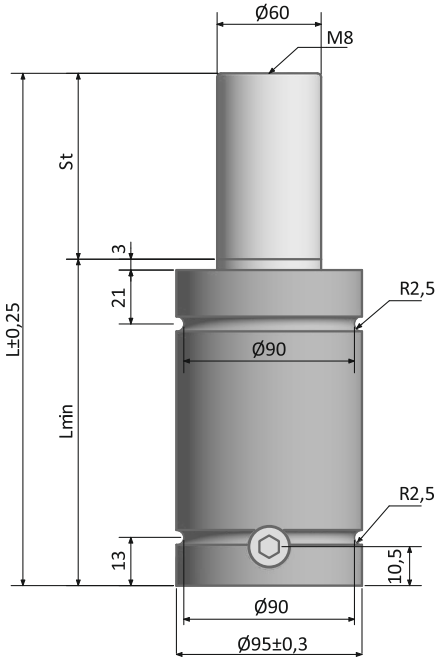
E24.54.815.G (PSA)
K 32 R (Nissan)

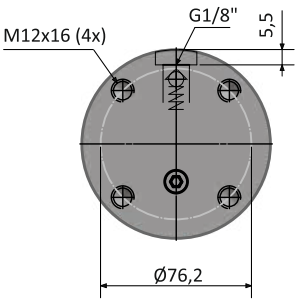
EM24.54.700 (Renault)
SMS DNH 3203n Rev.3
(TOYOTA)

APPROVED PED 2014/68/EU

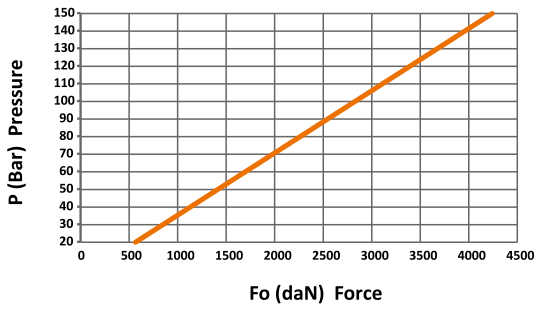


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



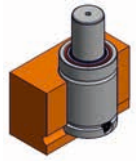


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 04200 016	**16**	**94**	**78**		**6297**	**7168**	**160,0**	**3,27**
	ET 04200 019	19	100	81		6465	7423	180,0	3,35
	ET 04200 025	**25**	**112**	**87**		**6707**	**7795**	**221,0**	**3,49**
	ET 04200 032	32	126	94		6922	8128	268,0	3,67
	ET 04200 038	**38**	**138**	**100**	**+ 20 °C**	**7050**	**8328**	**309,0**	**3,82**
	ET 04200 050	50	162	112		7244	8635	390,0	4,11
	ET 04200 063	**63**	**188**	**125**	**4240**	**7384**	**8857**	**478,0**	**4,43**
	ET 04200 075	75	212	137		7479	9008	559,0	4,73
	ET 04200 080	**80**	**222**	**142**	**150 bar**	**7519**	**9071**	**592,0**	**4,86**
	ET 04200 100	100	262	162		7611	9219	728,0	5,35
	ET 04200 125	**125**	**312**	**187**		**7695**	**9355**	**897,0**	**5,97**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	28,27 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount



Drop - in

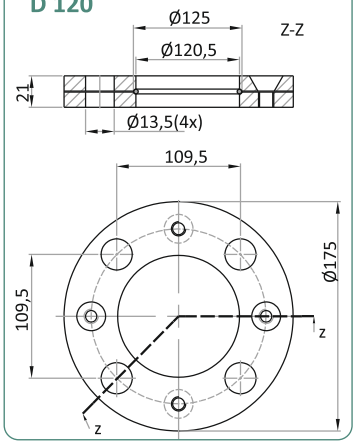
D 095

DK 095

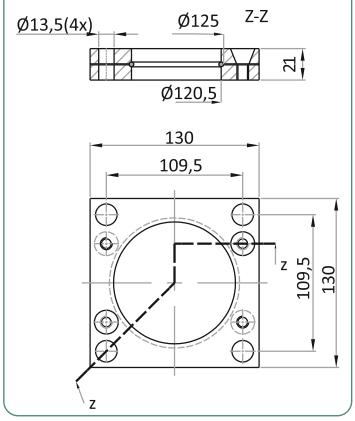
TA 095 - TD 095
TE 095

ET 06600

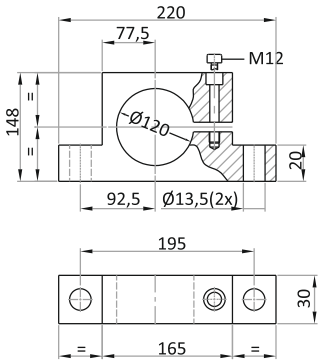
D 120



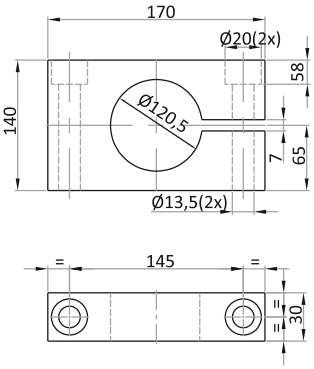
DK 120



TA 120

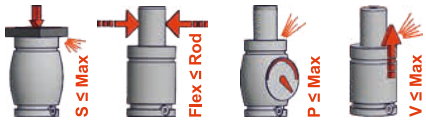


TD 120

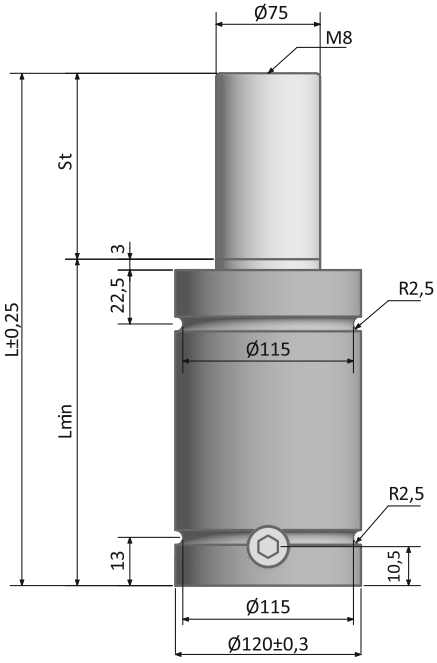


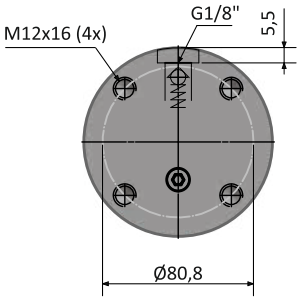
ET 06600

SMS DNH 3203n Rev.3
(TOYOTA)

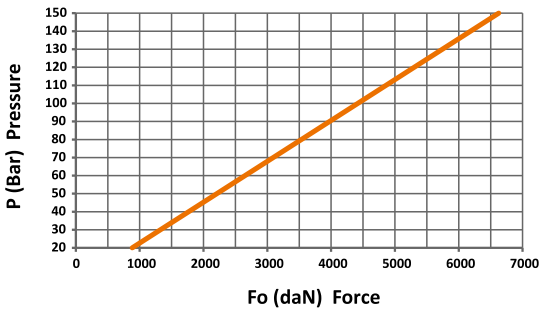


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



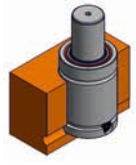


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 06600 016	**16**	**104**	**88**		**9240**	**10340**	**290,0**	**5,82**
	ET 06600 019	19	110	91		9493	10679	322,0	5,94
	ET 06600 025	**25**	**122**	**97**		**9897**	**11287**	**386,0**	**6,18**
	ET 06600 032	32	136	104		10258	11838	460,0	6,47
	ET 06600 038	**38**	**148**	**110**	**+ 20 °C**	**10291**	**11888**	**543,0**	**6,55**
	ET 06600 050	50	172	122		10832	12724	653,0	7,17
	ET 06600 063	**63**	**198**	**135**	**6630**	**11094**	**13134**	**792,0**	**7,69**
	ET 06600 075	75	222	147		11274	13419	920,0	8,16
	ET 06600 075	**80**	**232**	**152**	**150 bar**	**11339**	**13522**	**973,0**	**8,36**
	ET 06600 100	100	272	172		11532	13827	1187,0	9,15
	ET 06600 125	**125**	**322**	**197**		**11700**	**14097**	**1454,0**	**10,14**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	44,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in

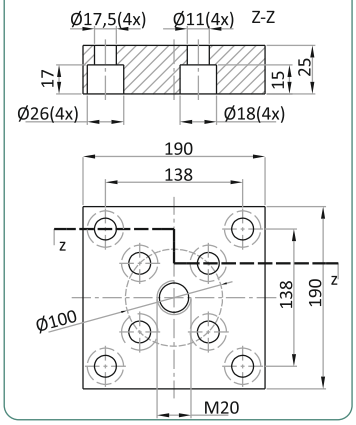

D 120


DK 120

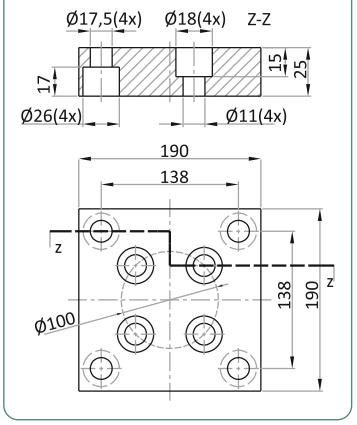

TA 120
TD 120

ET 09500

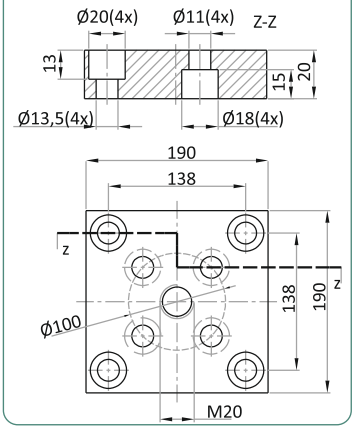
K 150



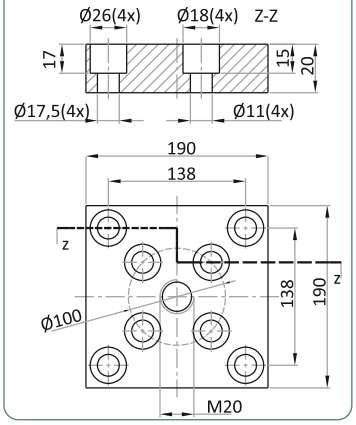
KB 150



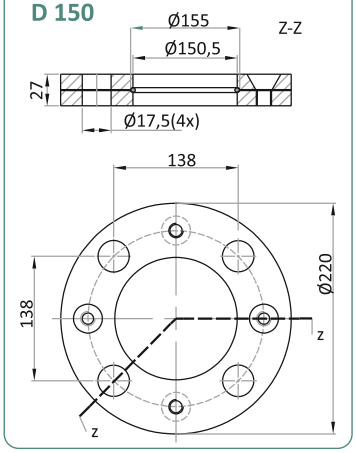
KC 150



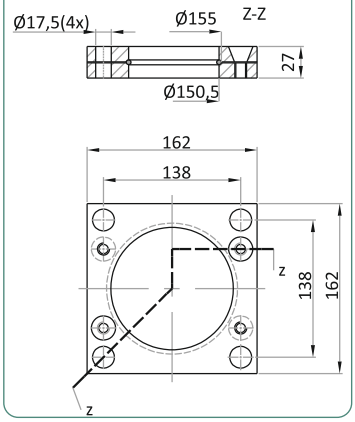
KF 150



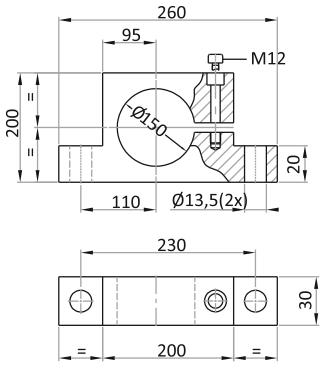
D 150



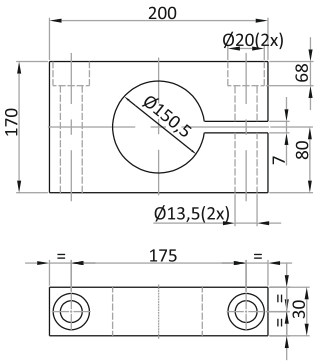
DK 150



TA 150

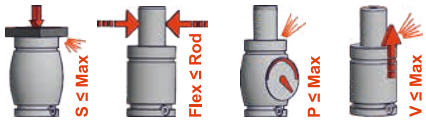


TD 150



ET 09500

SMS DNH 3203n Rev.3
(TOYOTA)

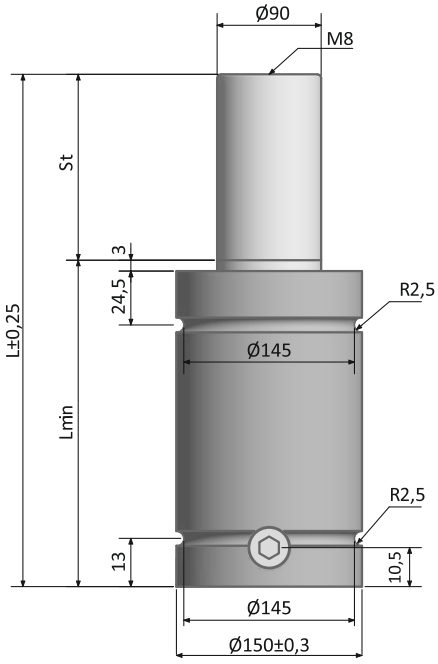


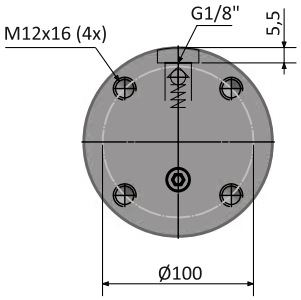
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

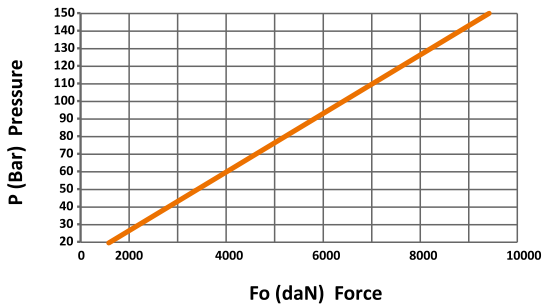
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



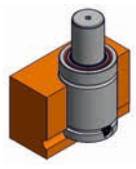


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	ET 09500 019	**19**	**116**	**97**		**13477**	**15092**	**480,0**	**10,22**
	ET 09500 025	25	128	103		14007	15884	577,0	10,59
	ET 09500 032	**32**	**142**	**110**		**14467**	**16580**	**690,0**	**11,02**
	ET 09500 038	38	154	116	+ 20 °C	14779	17056	786,0	11,40
	ET 09500 050	**50**	**178**	**128**		**15223**	**17740**	**980,0**	**12,14**
	ET 09500 063	63	204	141	9540	15565	18272	1189,0	12,96
	ET 09500 075	**75**	**228**	**153**		**15789**	**18622**	**1383,0**	**13,70**
	ET 09500 080	80	238	158	150 bar	15872	18752	1463,0	14,01
	ET 09500 100	**100**	**278**	**178**		**16117**	**19137**	**1786,0**	**15,25**
	ET 09500 125	125	328	203		16330	19474	2189,0	16,80



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	63,62 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 150

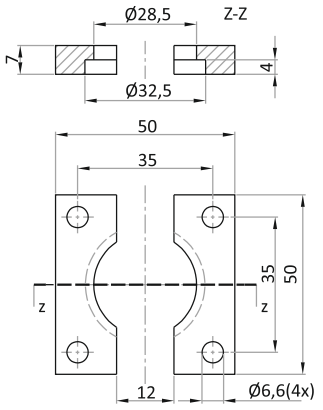

DK 150


TA 150
TD 150

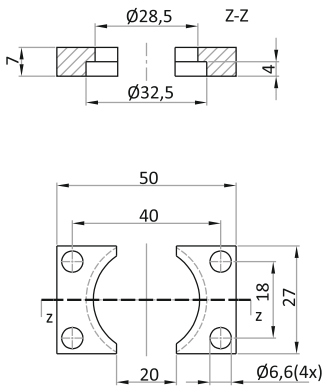

K 150 - KF 150
KB 150 - KC 150

Y 00150 A

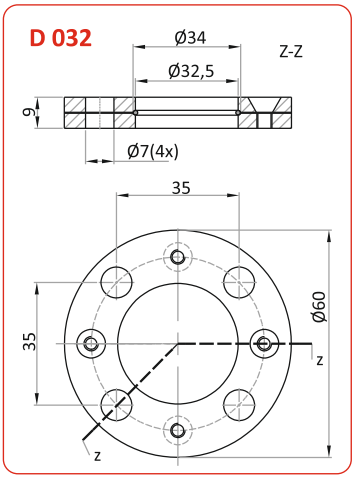
CA 032



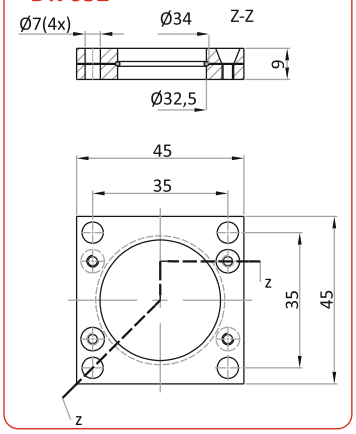
CB 032



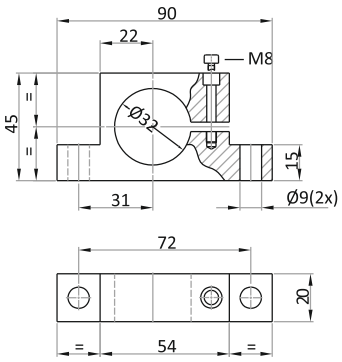
D 032



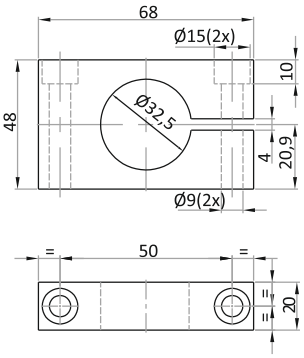
DK 032



TA 032



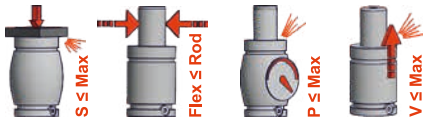
TD 032



Y 00150 A

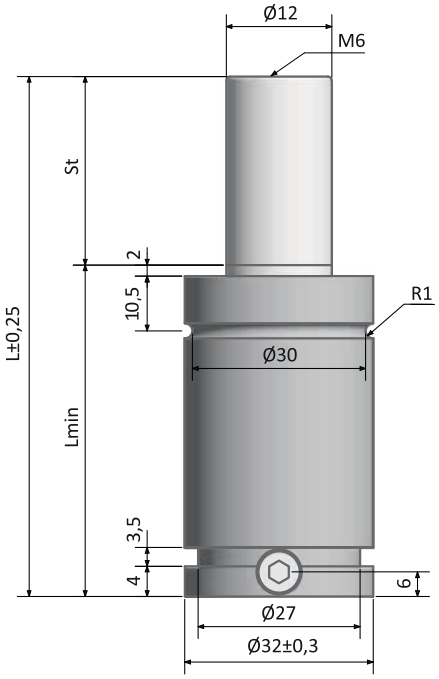
ISO 11901 - 1 VDI 3003	B2 4006 (BMW) E24.54.815.G (PSA)
B8 3180 220 000 001 (MB) 39D 878 (VW)	075.90.55 (FCA) EM24.54.700 (Renault)

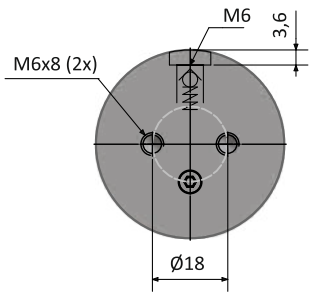
APPROVED PED 2014/68/EU



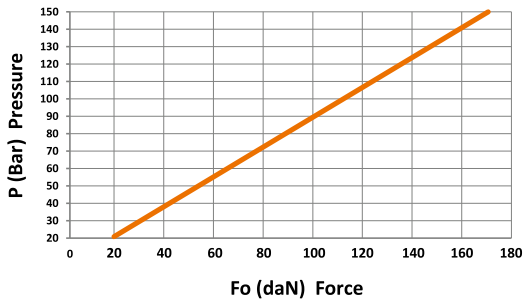
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



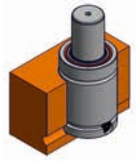


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
Y 00150 010	**Y 00150 010 A**	**10**	**70**	**60**		**316**	**334**	**13,0**	**0,43**
Y 00150 013	Y 00150 013 A	12,7	75,4	62,7		319	339	16,0	0,43
Y 00150 016	**Y 00150 016 A**	**16**	**82**	**66**		**325**	**348**	**18,0**	**0,45**
Y 00150 025	Y 00150 025 A	25	100	75	+ 20 °C	330	355	20,0	0,47
Y 00150 038	**Y 00150 038 A**	**38**	**126**	88		**334**	**361**	**25,0**	**0,49**
Y 00150 050	Y 00150 050 A	50	150	**100**	170	342	372	35,0	0,54
Y 00150 063	**Y 00150 063 A**	**63,5**	**177**	113,5		**346**	**378**	**44,0**	**0,60**
Y 00150 080	Y 00150 080 A	80	210	**130**	150 bar	347	380	55,0	0,65
Y 00150 100	**Y 00150 100 A**	**100**	**250**	150		**352**	**386**	**67,0**	**0,72**
Y 00150 125	Y 00150 125 A	125	300	175		354	390	82,0	0,81



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	1,13 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 80-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 032


DK 032

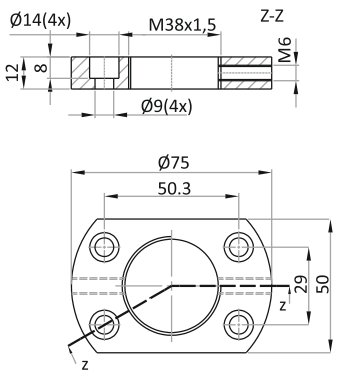

TA 032
TD 032


CB 032
CA 032

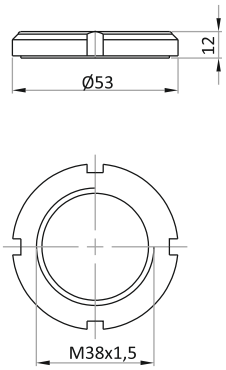
ALFAMAK

Y 00250 M38

DA 038



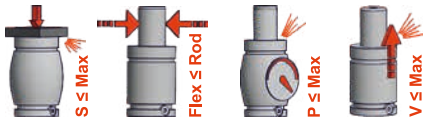
M38x1,5

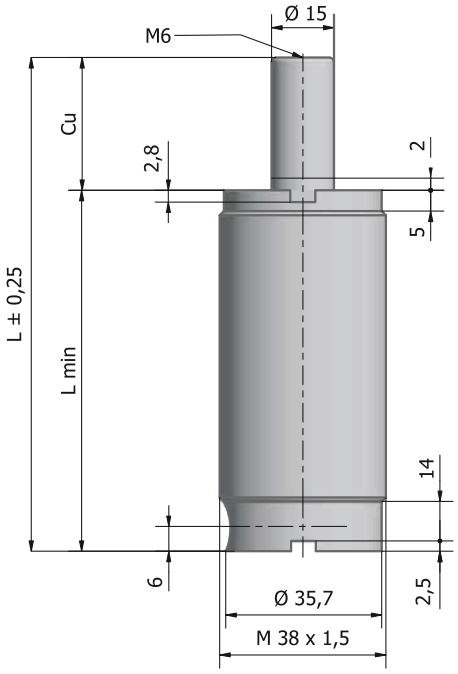


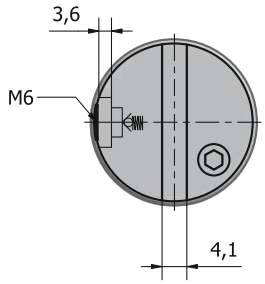
Y 00250 M38

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

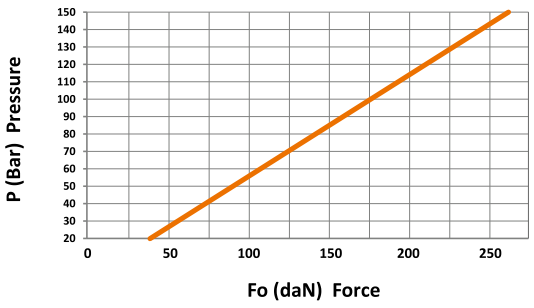
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**







CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	Y 00250 010 M38	**10**	**70**	**60**		**316**	**334**	**13,0**	**0,43**
	Y 00250 013 **M38**	12,7	75,4	62,7		319	339	16,0	0,43
	Y 00250 016 M38	**16**	**82**	**66**		**325**	**348**	**18,0**	**0,45**
	Y 00250 019 **M38**	19	88	69		330	355	20,0	0,47
	Y 00250 025 M38	**25**	**100**	**75**	**+ 20 °C**	**334**	**361**	**25,0**	**0,49**
	Y 00250 038 **M38**	38	126	88		342	372	35,0	0,54
	Y 00250 050 M38	**50**	**150**	**100**	**260**	**346**	**378**	**44,0**	**0,60**
	Y 00250 063 **M38**	64	177	113,5		347	380	55,0	0,65
	Y 00250 080 M38	**80**	**210**	**130**	**150 bar**	**352**	**386**	**67,0**	**0,72**
	Y 00250 100 **M38**	100	250	150		354	390	82,0	0,81
	Y 00250 125 M38	**125**	**300**	**175**		**355**	**390**	**102,0**	**0,91**



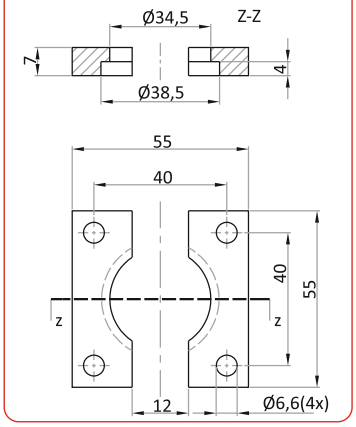
Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**1,77 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 80-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

DA 038

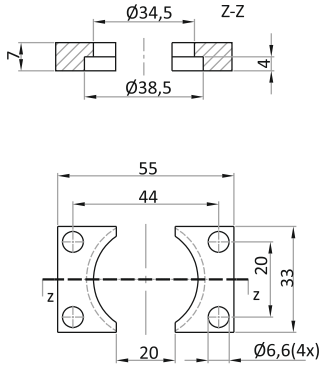
M38x1,5

Y 00250 A

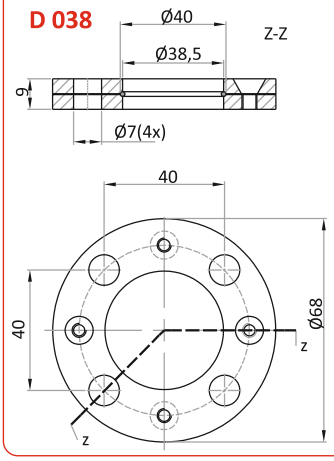
CA 038



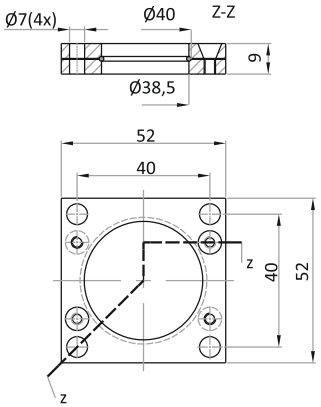
CB 038



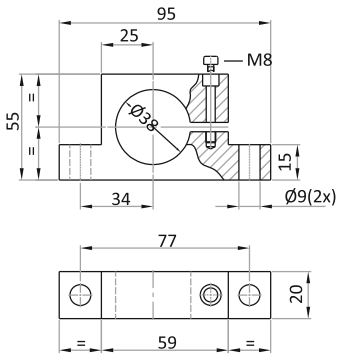
D 038



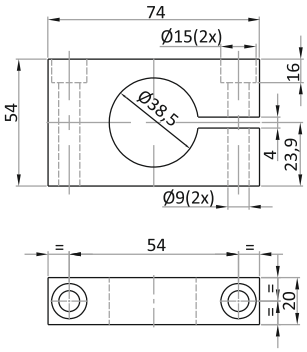
DK 038



TA 038



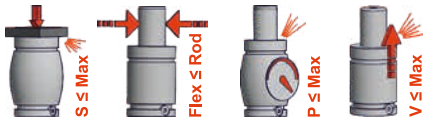
TD 038



Y 00250 A

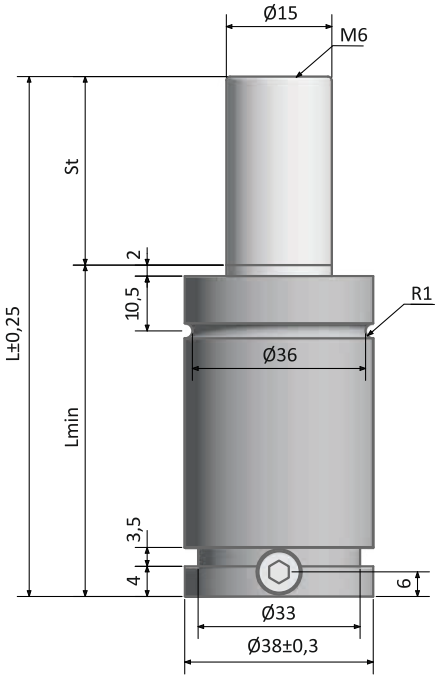
ISO 11901 - 1 VDI 3003	B2 4006 (BMW) E24.54.815.G (PSA)
B8 3180 220 000 001 (MB) 39D 878 (VW)	075.90.55 (FCA) EM24.54.700 (Renault)
K 32 S (Nissan) SES-K 5404e (Suzuki)	

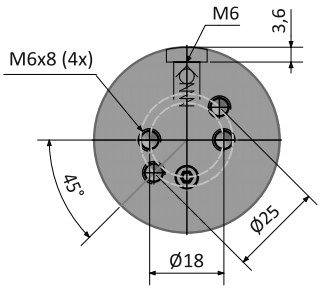
APPROVED PED 2014/68/EU



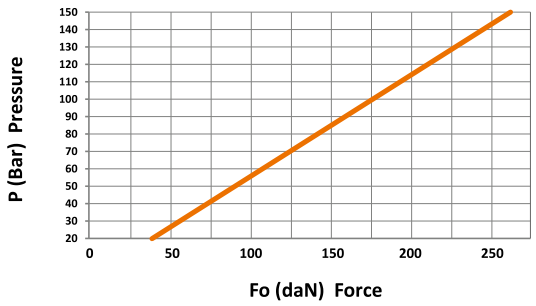
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



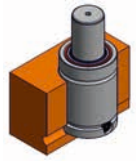


CODE KOD		St	L	L min	F_0	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	± %5 daN	daN	daN	cm^3	(Kg)
Y 00250 010	**Y 00250 010 A**	**10**	**70**	**60**		**316**	**334**	**13,0**	**0,43**
Y 00250 013	Y 00250 013 A	12,7	75,4	62,7		319	339	16,0	0,43
Y 00250 016	**Y 00250 016 A**	**16**	**82**	**66**		**325**	**348**	**18,0**	**0,45**
-	Y 00250 019 A	19	88	69		330	355	20,0	0,47
Y 00250 025	**Y 00250 025 A**	**25**	**100**	**75**	**+ 20 °C**	**334**	**361**	**25,0**	**0,49**
Y 00250 038	Y 00250 038 A	38	126	88		342	372	35,0	0,54
Y 00250 050	**Y 00250 050 A**	**50**	**150**	**100**	**260**	**346**	**378**	**44,0**	**0,60**
Y 00250 063	Y 00250 063 A	63,5	177	113,5		347	380	55,0	0,65
Y 00250 080	**Y 00250 080 A**	**80**	**210**	**130**	**150 bar**	**352**	**386**	**67,0**	**0,72**
Y 00250 100	Y 00250 100 A	100	250	150		354	390	82,0	0,81
Y 00250 125	**Y 00250 125 A**	**125**	**300**	**175**		**355**	**390**	**102,0**	**0,91**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**1,77 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 80-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 038


DK 038

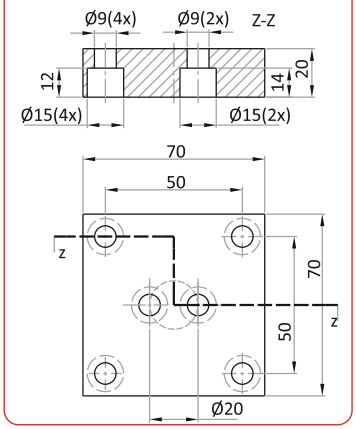

TA 038
TD 038


CB 038
CA 038

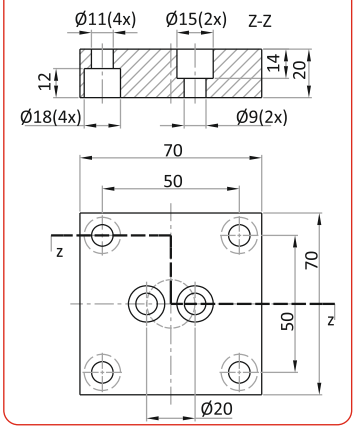
ALFAMAK

Y 00500 A

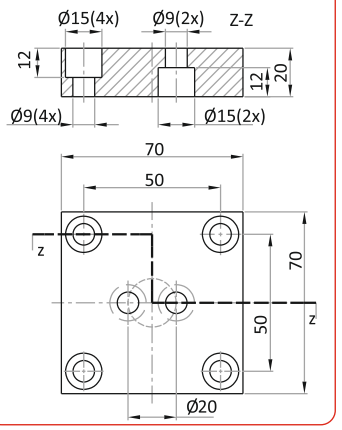
K 045



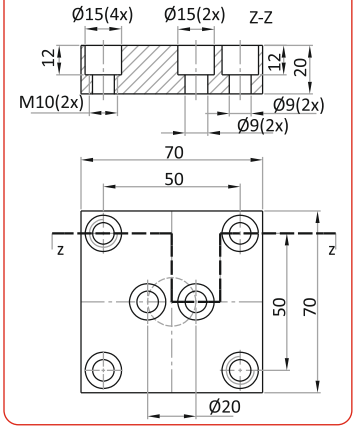
KB 045



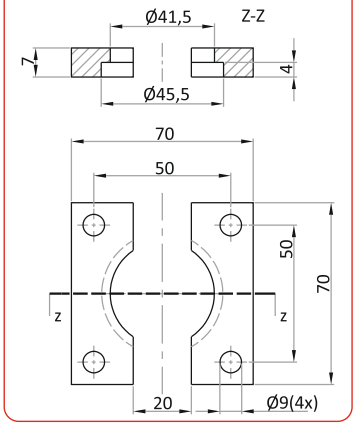
KC 045



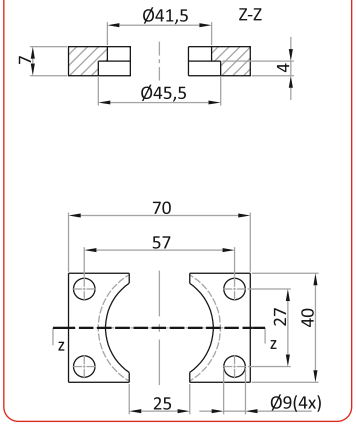
KF 045



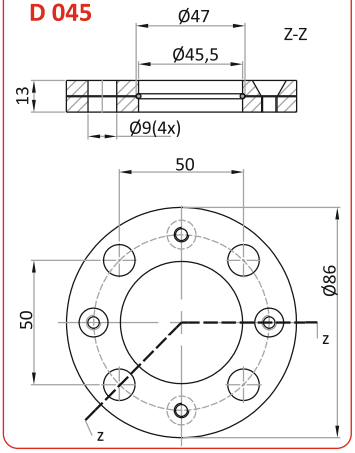
C 045



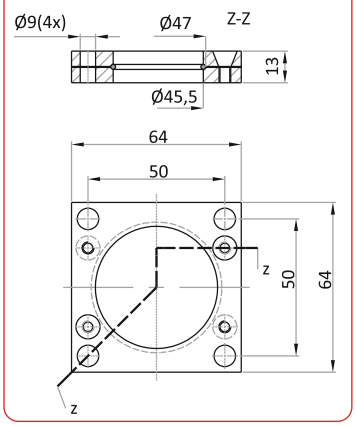
CB 045



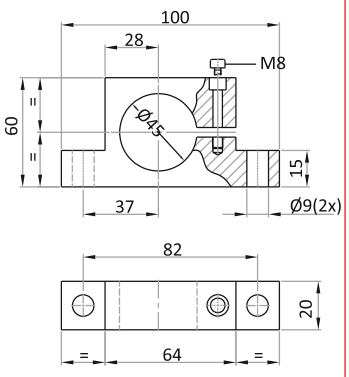
D 045



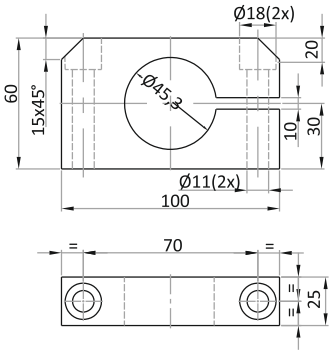
DK 045



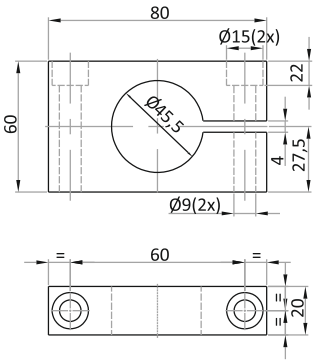
TA 045



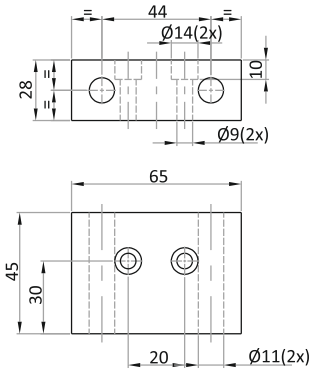
TE 045



TD 045



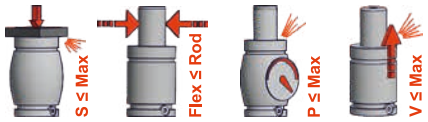
TT 50



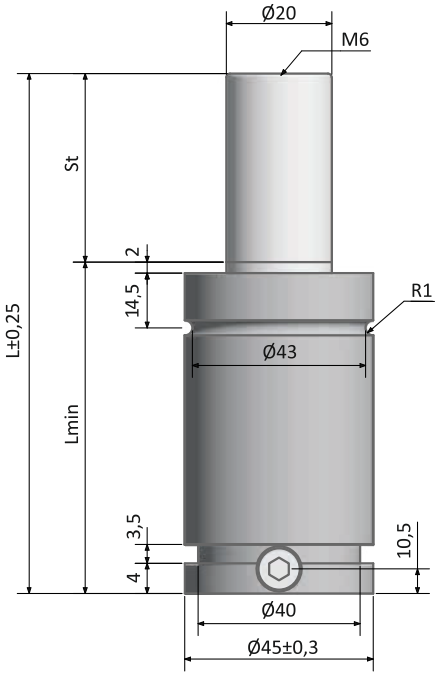
Y 00500 A

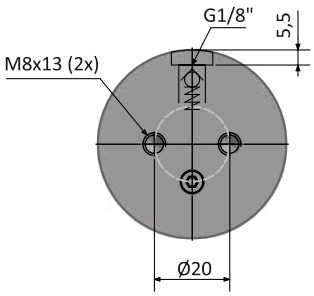
ISO 11901 - 1 VDI 3003	B2 4006 (BMW) E24.54.815.G (PSA)
B8 3180 220 000 001 (MB) 39D 878 (VW)	075.90.55 (FCA) EM24.54.700 (Renault)
K 32 S (Nissan) SES-K 5404e (Suzuki)	PG23D (Mazda)

APPROVED PED 2014/68/EU

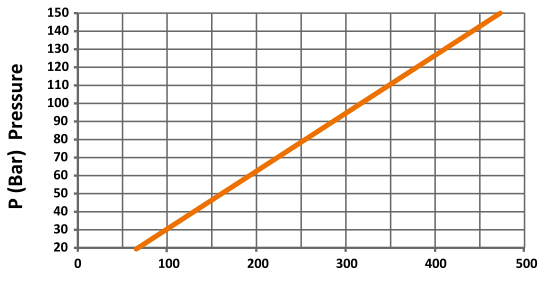


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



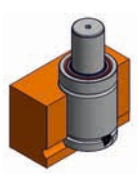


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
-	**Y 00500 010 A**	**10**	**105**	**95**		**623**	**683**	**15,0**	**1,07**
Y 00500 013	Y 00500 013 A	12,7	110,4	97,7		653	726	17,0	1,09
Y 00500 025	**Y 00500 025 A**	**25**	**135**	**110**		**675**	**760**	**30,0**	**1,17**
Y 00500 038	Y 00500 038 A	38	161	123		693	787	43,0	1,27
Y 00500 050	**Y 00500 050 A**	**50**	**185**	**135**	**+ 20 °C**	**702**	**801**	**55,0**	**1,35**
Y 00500 063	Y 00500 063 A	63,5	212	148,5		704	803	69,0	1,44
Y 00500 080	**Y 00500 080 A**	**80**	**245**	**165**	**470**	**710**	**813**	**86,0**	**1,56**
Y 00500 100	Y 00500 100 A	100	285	185		715	820	106,0	1,70
Y 00500 125	**Y 00500 125 A**	**125**	**335**	**210**	**150 bar**	**716**	**822**	**132,0**	**1,87**
Y 00500 160	Y 00500 160 A	160	405	245		721	829	167,0	2,12
-	**Y 00500 200 A**	**200**	**485**	**285**		**733**	**848**	**202,0**	**2,44**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	3,14 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 045


DK 045


TA 045 - TD 045
TE 045 - TT 050

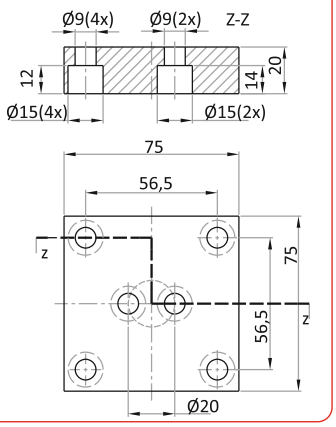

CB 045
C 045


K 045 - KB 045
KC 045 - KF 045

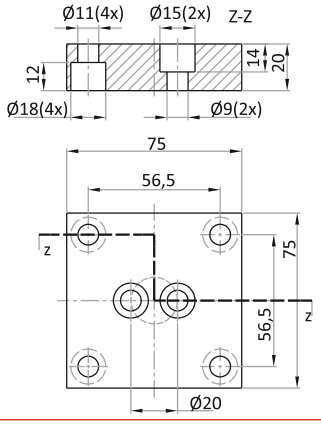
ALFAMAK

Y 00750 A

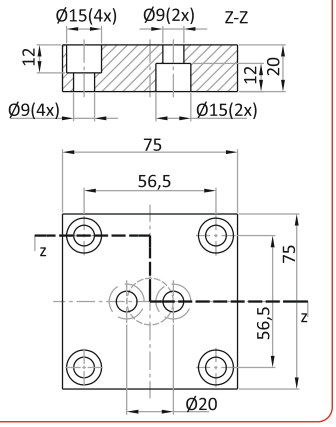
K 050



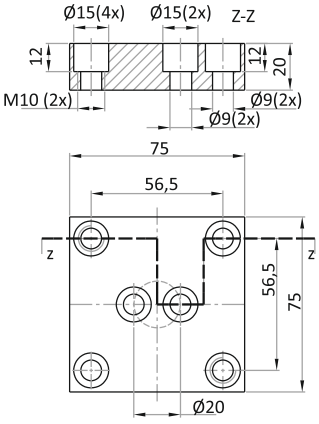
KB 050



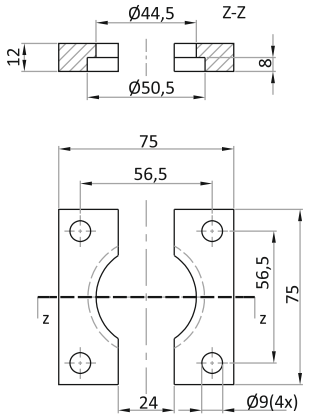
KC 050



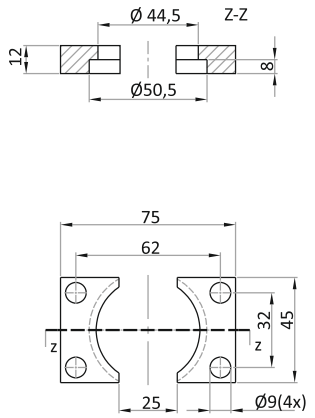
KF 050



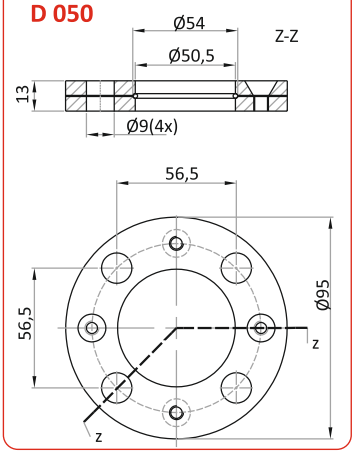
C 050



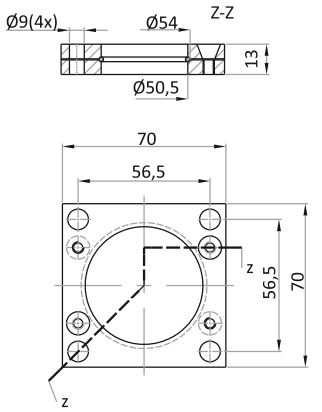
CB 050



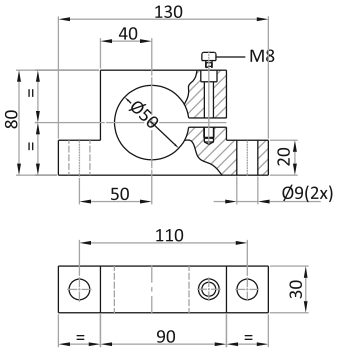
D 050



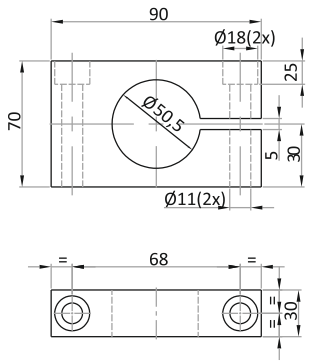
DK 050



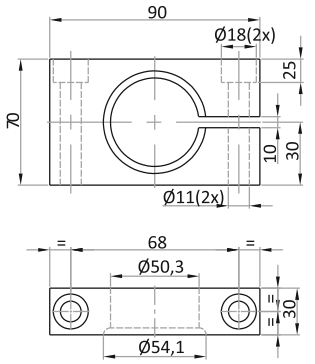
TA 050



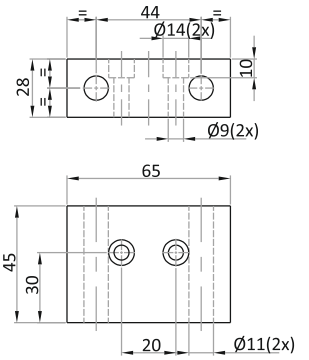
TD 050



TE 050



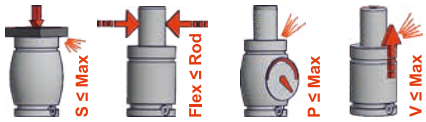
TT 50



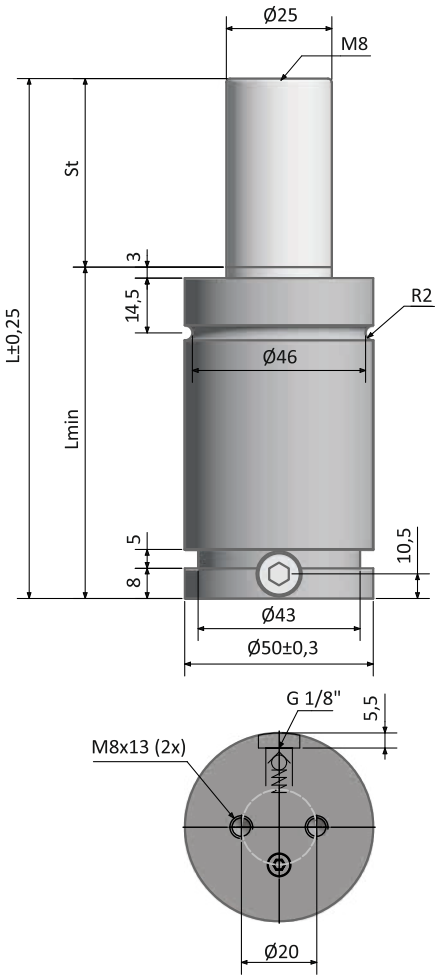
Y 00750 A

ISO 11901 - 1 VDI 3003	B2 4006 (BMW) E24.54.815.G (PSA)
B8 3180 220 000 001 (MB) 39D 878 (VW)	075.90.55 (FCA) EM24.54.700 (Renault)
K 32 S (Nissan) SES-K 5404e (Suzuki)	PG23D (Mazda) W-DX35-6203 (Ford)

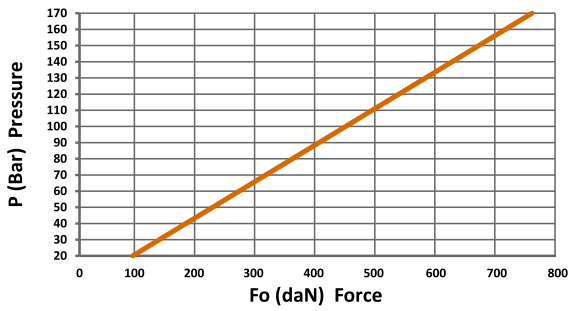
APPROVED PED 2014/68/EU



F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

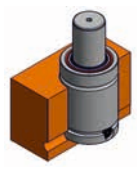


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
Y 00750 013	**Y 00750 013 A**	**12,7**	**120,4**	**107,7**		**943**	**1023**	**34,0**	**1,40**
Y 00750 025	Y 00750 025 A	25	145	120		1014	1127	52,0	1,49
Y 00750 038	**Y 00750 038 A**	**38**	**171**	**133**		**1058**	**1192**	**71,0**	**1,59**
Y 00750 050	Y 00750 050 A	50	195	145		1081	1226	89,0	1,68
Y 00750 063	**Y 00750 063 A**	**63,5**	**222**	**158,5**		**1095**	**1248**	**109,0**	**1,79**
-	Y 00750 075 A	75	245	170		1111	1271	126,0	1,87
Y 00750 080	**Y 00750 080 A**	**80**	**255**	**175**		**1113**	**1274**	**134,0**	**1,91**
-	Y 00750 088 A	88	270	182		1115	1276	147,0	1,94
Y 00750 100	**Y 00750 100 A**	**100**	**295**	**195**	**+ 20 °C**	**1128**	**1298**	**163,0**	**2,07**
-	Y 00750 113 A	113	320	207		1135	1308	182,0	2,15
Y 00750 125	**Y 00750 125 A**	**125**	**345**	**220**	**740**	**1139**	**1314**	**200,0**	**2,26**
-	Y 00750 138 A	138	370	232		1147	1326	218,0	2,35
-	**Y 00750 150 A**	**150**	**395**	**245**	**150 bar**	**1158**	**1342**	**233,0**	**2,48**
Y 00750 160	Y 00750 160 A	160	415	255		1164	1352	246,0	2,57
-	**Y 00750 175 A**	**175**	**445**	**270**		**1174**	**1368**	**265,0**	**2,71**
Y 00750 200	Y 00750 200 A	200	495	295		1190	1392	296,0	2,95
-	**Y 00750 225 A**	**225**	**545**	**320**		**1201**	**1409**	**328,0**	**3,18**
Y 00750 250	Y 00750 250 A	250	595	345		1212	1427	359,0	3,42
-	**Y 00750 275 A**	**275**	**645**	**370**		**1221**	**1441**	**390,0**	**3,65**
Y 00750 300	Y 00750 300 A	300	695	395		1228	1451	422,0	3,89



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**4,91 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 15-50 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 050

DK 050

TA 050 - TD 050
TE 050 - TT 050

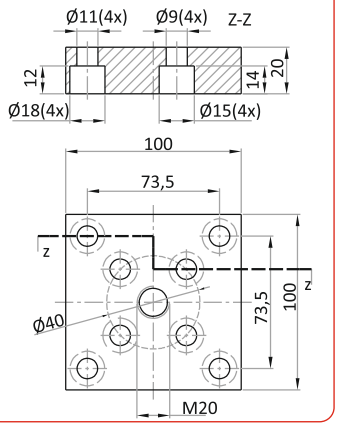
CB 050
C 050

K 050 - KB 050
KC 050 - KF 050

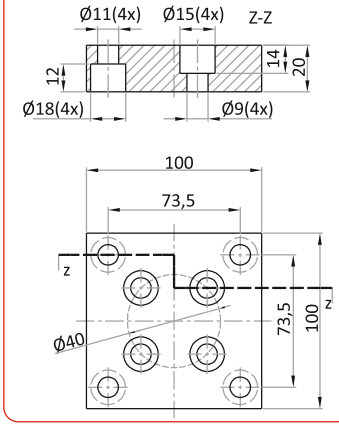
ALFAMAK

Y 01500 A

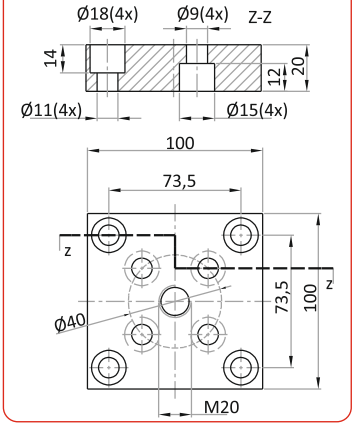
K 075



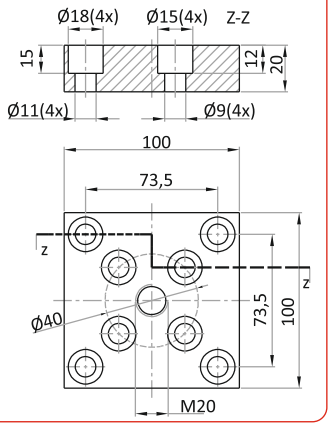
KB 075



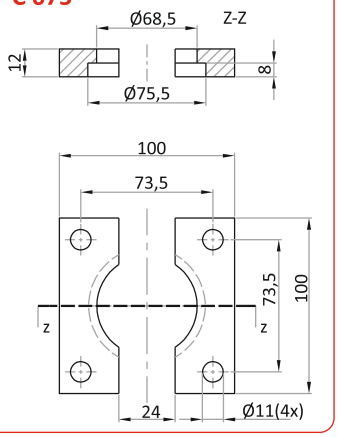
KC 075



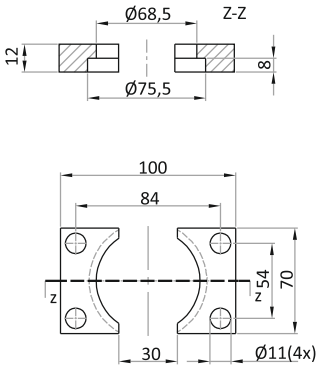
KF 075



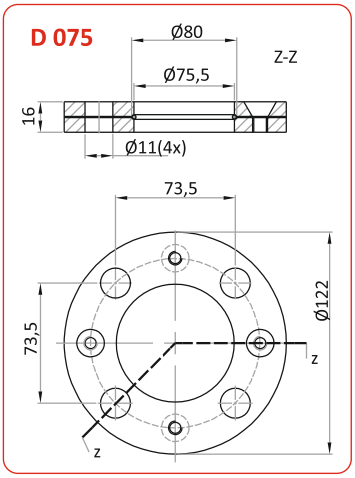
C 075



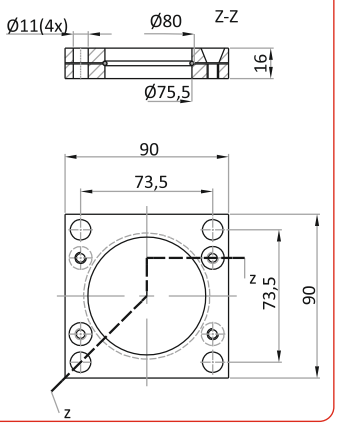
CB 075



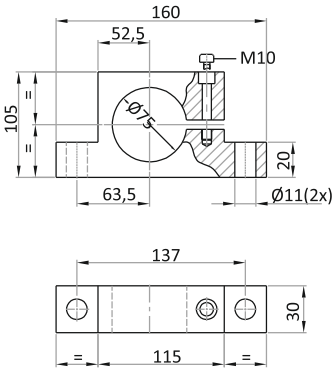
D 075



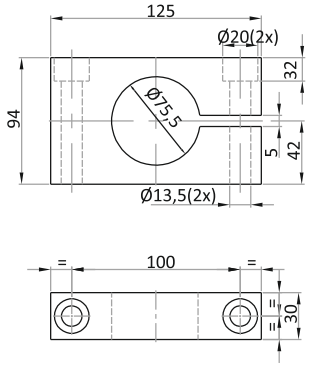
DK 075



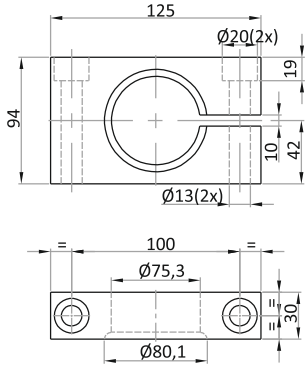
TA 075



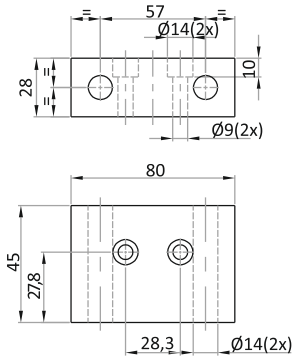
TD 075



TE 075



TT 075



Y 01500 A

ISO 11901 - 1
VDI 3003

B2 4006 (BMW)
E24.54.815.G (PSA)

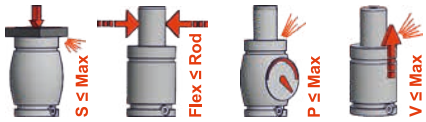
B8 3180 220 000 001 (MB)
39D 878 (VW)

075.90.55 (FCA)
EM24.54.700 (Renault)

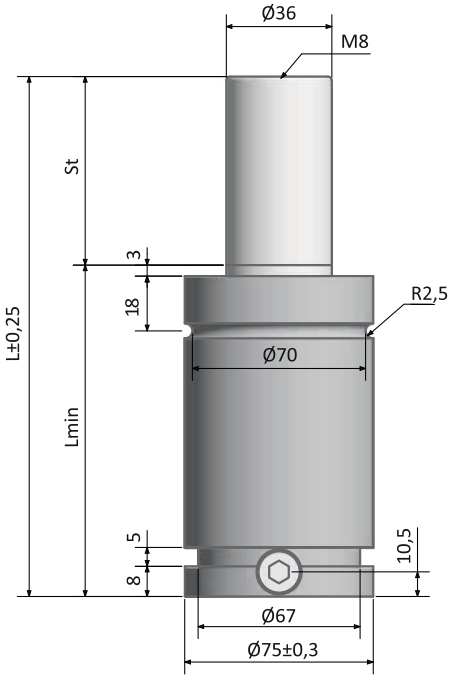
K 32 S (Nissan)
SES-K 5404e (Suzuki)

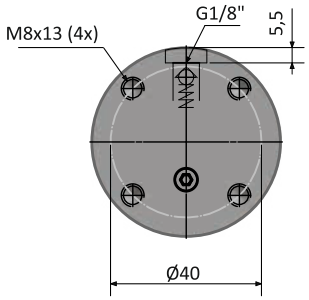
PG23D (Mazda)
W-DX35-6203 (Ford)

APPROVED PED 2014/68/EU

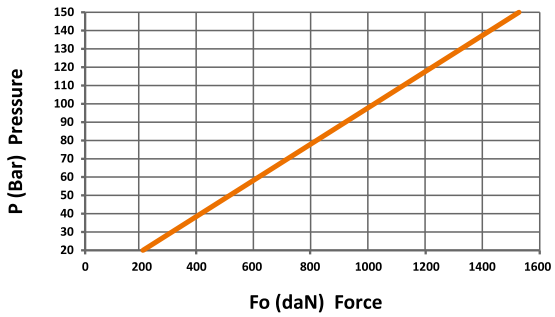


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



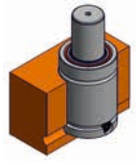


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
-	**Y 01500 013 A**	**13**	**135**	**122**		**1893**	**2032**	**80,0**	**3,60**
Y 01500 025	Y 01500 025 A	25	160	135		1992	2174	127,0	3,78
Y 01500 038	**Y 01500 038 A**	**38**	**186**	**148**		**2059**	**2271**	**174,0**	**3,97**
Y 01500 050	Y 01500 050 A	50	210	160		2098	2329	217,0	4,14
Y 01500 063	**Y 01500 063 A**	**63,5**	**237**	**173,5**		**2120**	**2361**	**266,0**	**4,33**
-	Y 01500 075 A	75	260	185		2145	2399	307,0	4,50
Y 01500 080	**Y 01500 080 A**	**80**	**270**	**190**		**2152**	**2408**	**325,0**	**4,57**
-	Y 01500 088 A	88	285	197		2170	2436	350,0	4,68
Y 01500 100	**Y 01500 100 A**	**100**	**310**	**210**	**+ 20 °C**	**2173**	**2438**	**397,0**	**4,86**
-	Y 01500 113 A	113	335	222		2186	2458	442,0	5,03
Y 01500 125	**Y 01500 125 A**	**125**	**360**	**235**	**1530**	**2187**	**2461**	**488,0**	**5,21**
-	Y 01500 138 A	138	385	247		2197	2476	533,0	5,38
-	**Y 01500 150 A**	**150**	**410**	**260**	**150 bar**	**2200**	**2479**	**578,0**	**5,57**
Y 01500 160	Y 01500 160 A	160	430	270		2204	2485	614,0	5,72
-	**Y 01500 175 A**	**175**	**460**	**285**		**2209**	**2493**	**668,0**	**5,93**
Y 01500 200	Y 01500 200 A	200	510	310		2219	2509	755,0	6,32
-	**Y 01500 225 A**	**225**	**560**	**335**		**2239**	**2538**	**833,0**	**6,77**
Y 01500 250	Y 01500 250 A	250	610	360		2255	2562	911,0	7,23
-	**Y 01500 275 A**	**275**	**660**	**385**		**2269**	**2583**	**989,0**	**7,68**
Y 01500 300	Y 01500 300 A	300	710	410		2280	2601	1067,0	8,14



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	10,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-50 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 075


DK 075


TA 075 - TD 075
TE 075 - TT 075

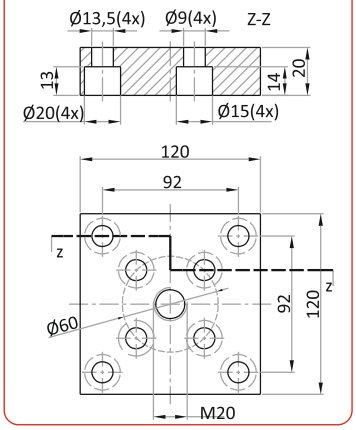

CB 075
C 075


K 075 - KB 075
KC 075 - KF 075

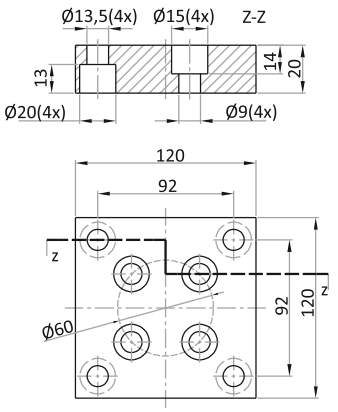
ALFAMAK

Y 03000 A

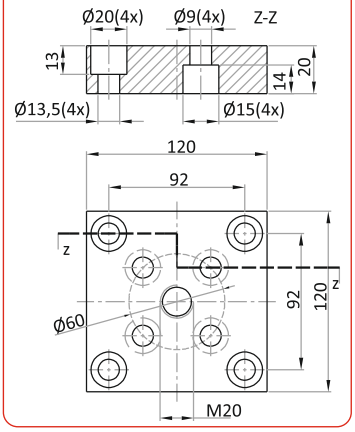
K 095



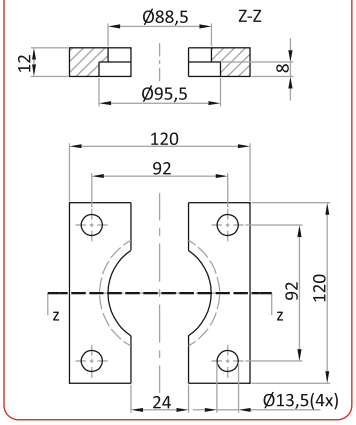
KB 095



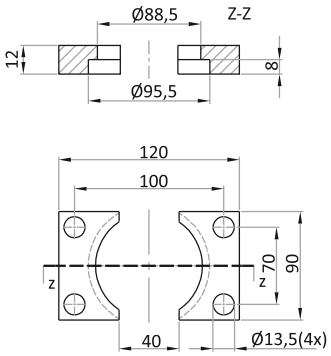
KC 095



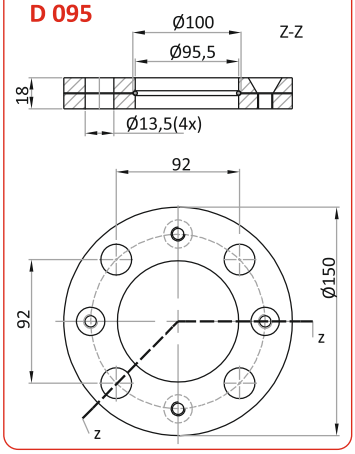
C 095



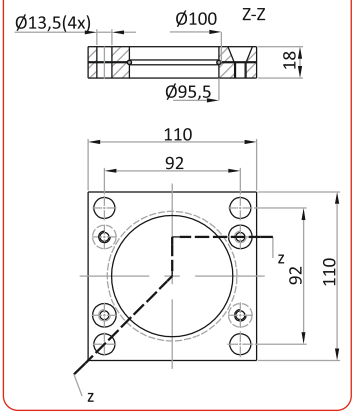
CB 095



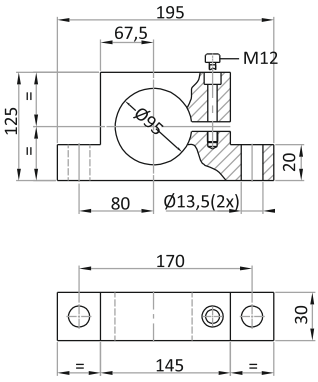
D 095



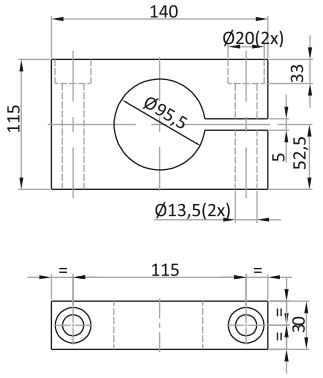
DK 095



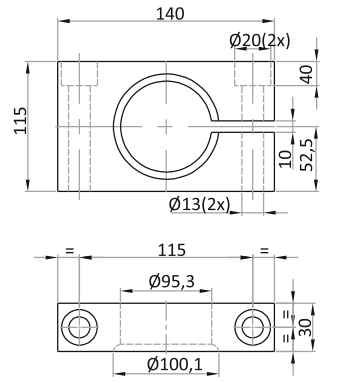
TA 095



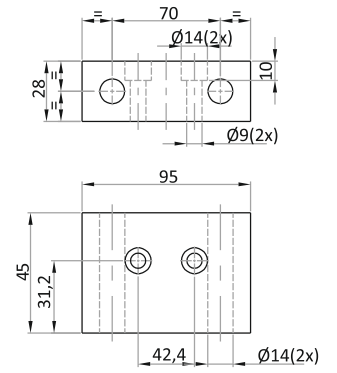
TD 095



TE 095



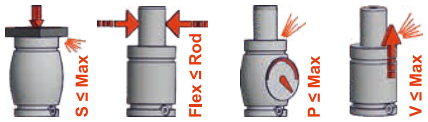
TT 095



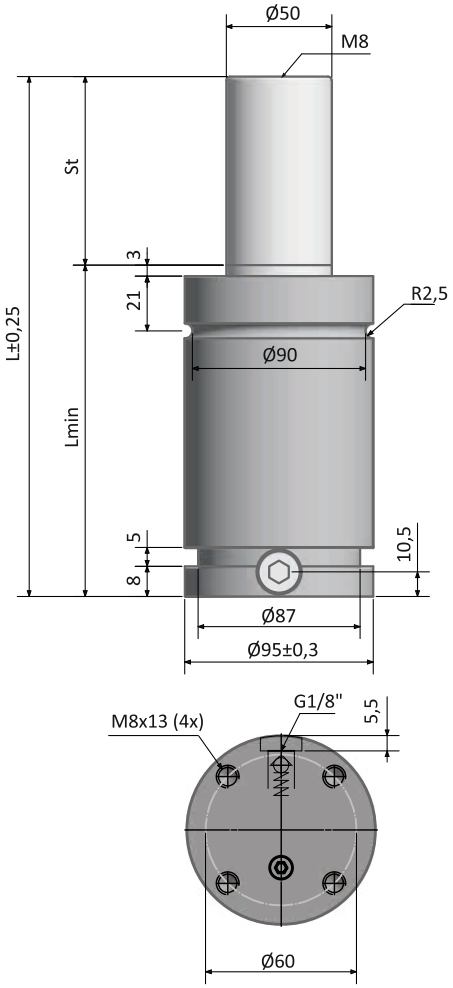
Y 03000 A

ISO 11901 - 1 VDI 3003	B2 4006 (BMW) E24.54.815.G (PSA)
B8 3180 220 000 001 (MB) 39D 878 (VW)	075.90.55 (FCA) EM24.54.700 (Renault)
K 32 S (Nissan) SES-K 5404e (Suzuki)	PG23D (Mazda) W-DX35-6203 (Ford)

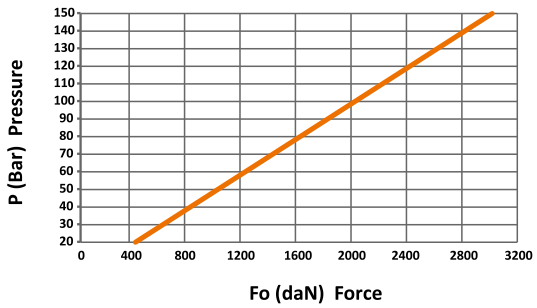
APPROVED PED 2014/68/EU



F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

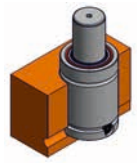


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
-	**Y 03000 013 A**	**13**	**145**	**132**		**3676**	**3953**	**150,0**	**6,20**
Y 03000 025	Y 03000 025 A	25	170	145		3917	4302	230,0	6,48
Y 03000 038	**Y 03000 038 A**	**38**	**196**	**158**		**4090**	**4556**	**309,0**	**6,78**
Y 03000 050	Y 03000 050 A	50	220	170		4192	4707	382,0	7,06
Y 03000 063	**Y 03000 063 A**	**63,5**	**247**	**183,5**		**4254**	**4799**	**465,0**	**7,37**
-	Y 03000 075 A	75	270	195		4318	4896	535,0	7,64
Y 03000 080	**Y 03000 080 A**	**80**	**280**	**200**		**4338**	**4925**	**565,0**	**7,76**
-	Y 03000 088 A	88	295	207		4372	4977	611,0	7,91
Y 03000 100	**Y 03000 100 A**	**100**	**320**	**220**	**+ 20 °C**	**4394**	**5011**	**687,0**	**8,22**
-	Y 03000 113 A	113	345	232		4428	5062	764,0	8,49
Y 03000 125	**Y 03000 125 A**	**125**	**370**	**245**	**2945**	**4441**	**5082**	**840,0**	**8,80**
-	Y 03000 138 A	138	395	257		4469	5124	916,0	9,07
-	**Y 03000 150 A**	**150**	**420**	**270**		**4477**	**5136**	**992,0**	**9,38**
Y 03000 160	Y 03000 160 A	160	440	280	**150 bar**	4486	5150	1054,0	9,61
-	**Y 03000 175 A**	**175**	**470**	**295**		**4501**	**5173**	**1145,0**	**9,96**
Y 03000 200	Y 03000 200 A	200	520	320		4520	5202	1298,0	10,53
-	**Y 03000 225 A**	**225**	**570**	**345**		**4536**	**5227**	**1450,0**	**11,12**
Y 03000 250	Y 03000 250 A	250	620	370		4548	5245	1603,0	11,69
-	**Y 03000 275 A**	**275**	**670**	**395**		**4560**	**5263**	**1755,0**	**12,27**
Y 03000 300	Y 03000 300 A	300	720	420		4568	5275	1908,0	12,85



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	19,63 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-50 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 095


DK 095


TA 095 - TD 095
TE 095 - TT 095

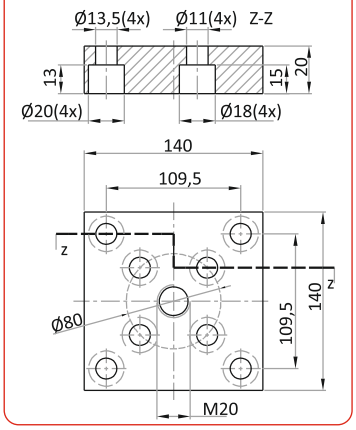

CB 095
C 095


K 095 - KB 095
KC 095

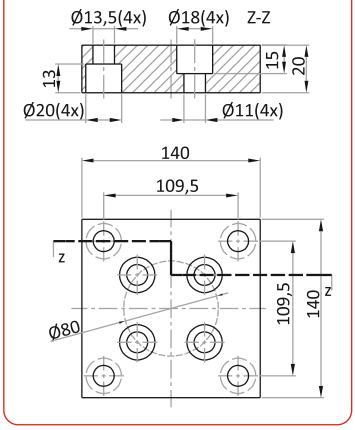
ALFAMAK

Y 05000 A

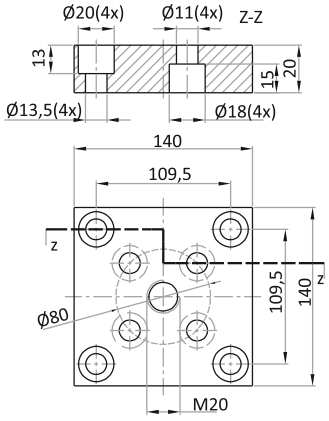
K 120



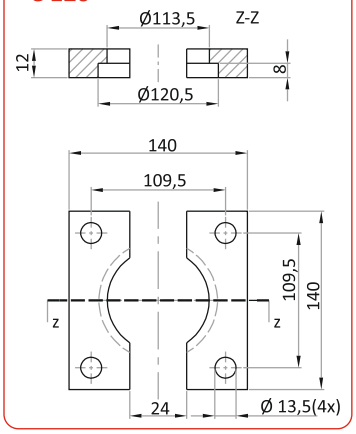
KB 120



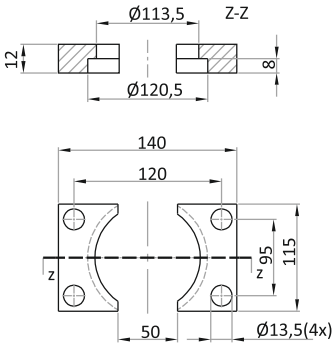
KC 120



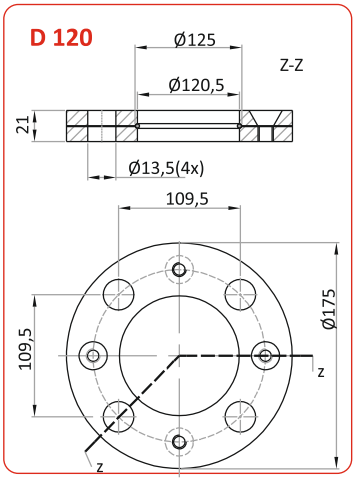
C 120



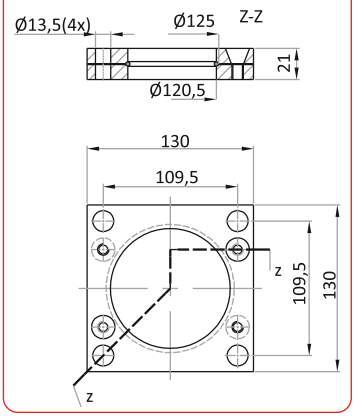
CB 120



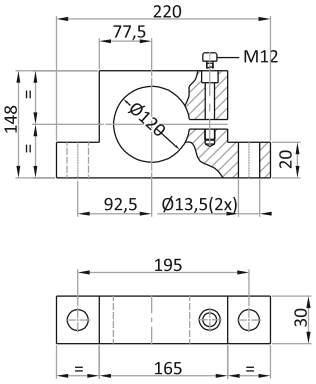
D 120



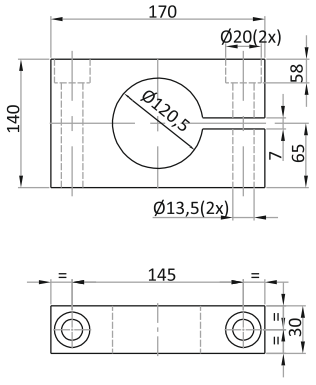
DK 120



TA 120



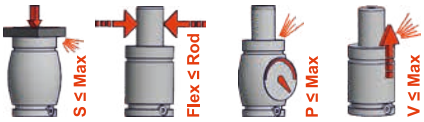
TD 120



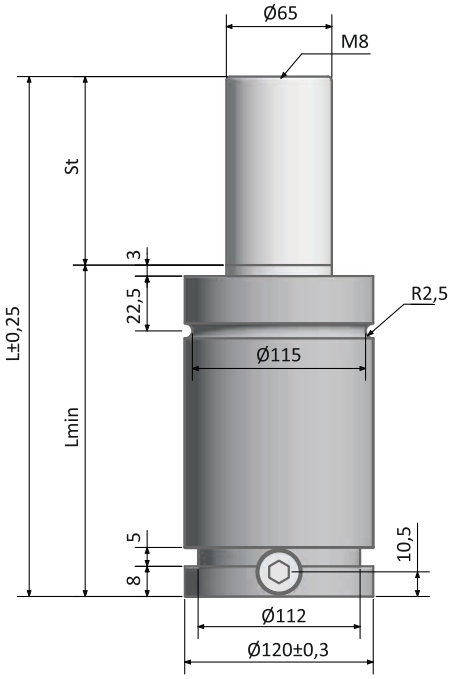
Y 05000 A

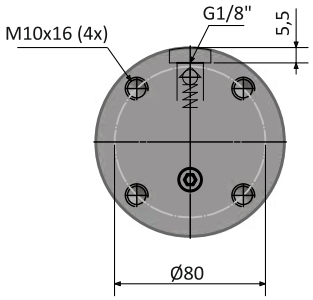
ISO 11901 - 1 VDI 3003	B2 4006 (BMW) E24.54.815.G (PSA)
B8 3180 220 000 001 (MB) 39D 878 (VW)	075.90.55 (FCA) EM24.54.700 (Renault)
K 32 S (Nissan) SES-K 5404e (Suzuki)	PG23D (Mazda) W-DX35-6203 (Ford)

APPROVED PED 2014/68/EU

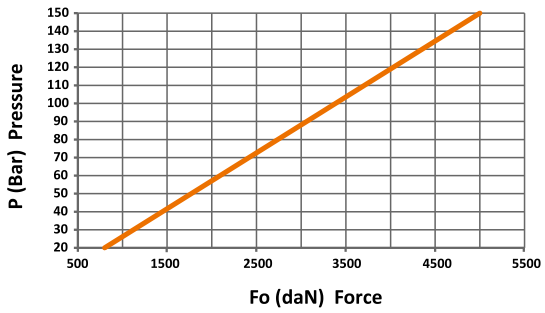


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



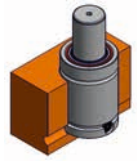


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
Y 05000 025	**Y 05000 025 A**	**25**	**190**	**165**		**6513**	**7113**	**410,0**	**11,82**
Y 05000 038	Y 05000 038 A	38	216	178		6848	7603	536,0	12,32
Y 05000 050	**Y 05000 050 A**	**50**	**240**	**190**		**7058**	**7915**	**652,0**	**12,79**
Y 05000 063	Y 05000 063 A	63,5	267	203,5		7230	8172	776,0	13,36
-	**Y 05000 075 A**	**75**	**290**	**215**		**7338**	**8333**	**894,0**	**13,76**
Y 05000 080	Y 05000 080 A	80	300	220		7379	8396	942,0	13,95
-	**Y 05000 088 A**	**88**	**315**	**227**		**7455**	**8511**	**1014,0**	**14,22**
Y 05000 100	Y 05000 100 A	100	340	240		7510	8595	1135,0	14,74
-	**Y 05000 113 A**	**113**	**365**	**252**	+ 20 °C	**7589**	**8714**	**1256,0**	**15,19**
Y 05000 125	Y 05000 125 A	125	390	265		7624	8768	1377,0	15,71
-	**Y 05000 138 A**	**138**	**415**	**277**	4980	**7682**	**8857**	**1498,0**	**16,16**
-	Y 05000 150 A	150	440	290		7708	8896	1618,0	16,69
Y 05000 160	**Y 05000 160 A**	**160**	**460**	**300**	150 bar	**7733**	**8936**	**1715,0**	**17,07**
-	Y 05000 175 A	175	490	315		7769	8990	1860,0	17,66
Y 05000 200	**Y 05000 200 A**	**200**	**540**	**340**		**7819**	**9066**	**2101,0**	**18,64**
-	Y 05000 225 A	225	590	365		7856	9125	2343,0	19,61
Y 05000 250	**Y 05000 250 A**	**250**	**640**	**390**		**7887**	**9172**	**2585,0**	**20,58**
-	Y 05000 275 A	275	690	415		7915	9215	2826,0	21,56
Y 05000 300	**Y 05000 300 A**	**300**	**740**	**440**		**7911**	**9208**	**3068,0**	**22,53**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**33,18 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 15-50 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 120


DK 120


TA 120
TD 120

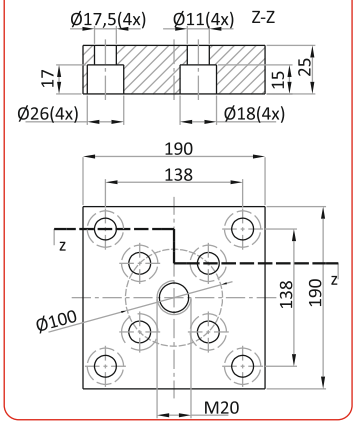

CB 120
C 120


K 120 - KB 120
KC 120

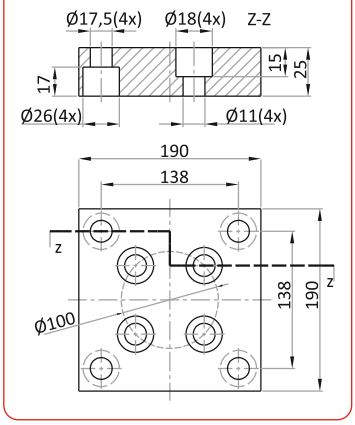
ALFAMAK

Y 07500 A

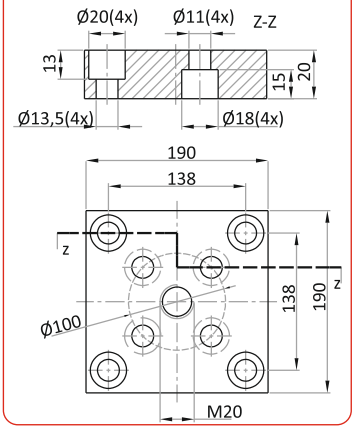
K 150



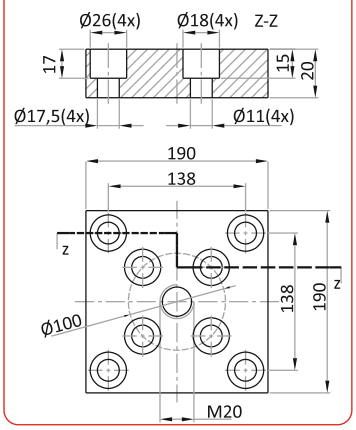
KB 150



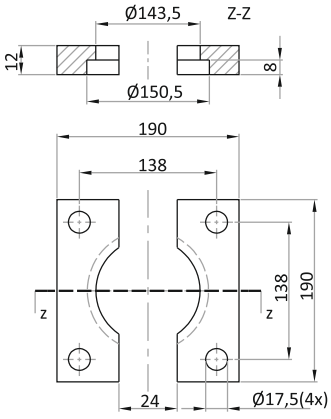
KC 150



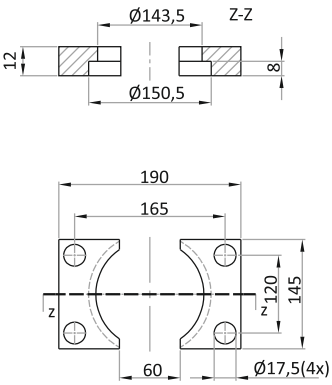
KF 150



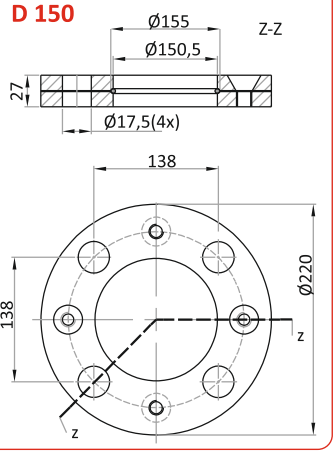
C 150



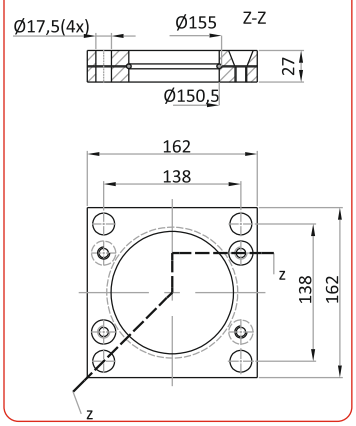
CB 150



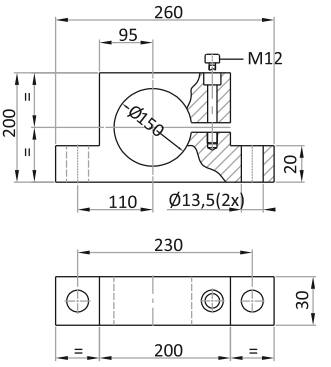
D 150



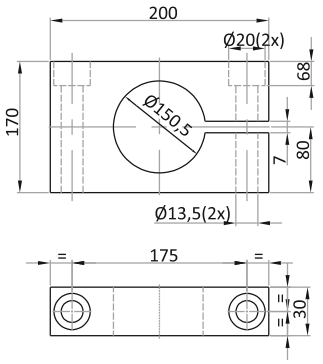
DK 150



TA 150



TD 150



Y 07500 A

ISO 11901 - 1
VDI 3003

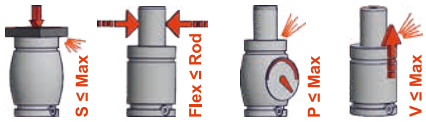
B2 4006 (BMW)
E24.54.815.G (PSA)

B8 3180 220 000 001 (MB)
39D 878 (VW)

075.90.55 (FCA)
EM24.54.700 (Renault)

PG23D (Mazda)
W-DX35-6203 (Ford)

APPROVED PED 2014/68/EU

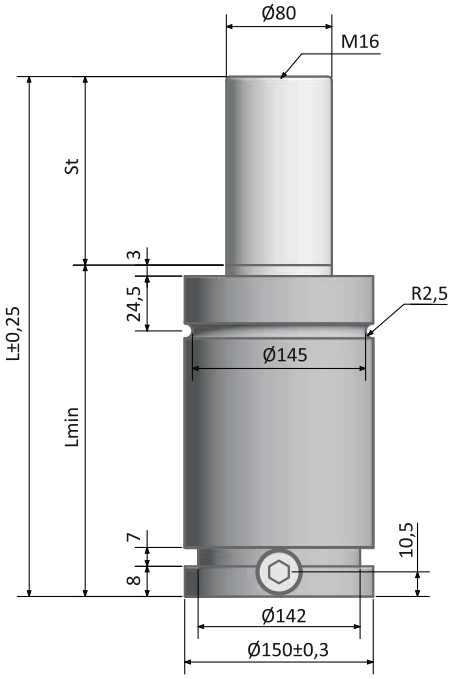


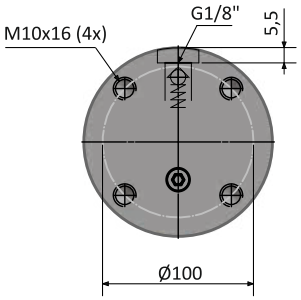
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

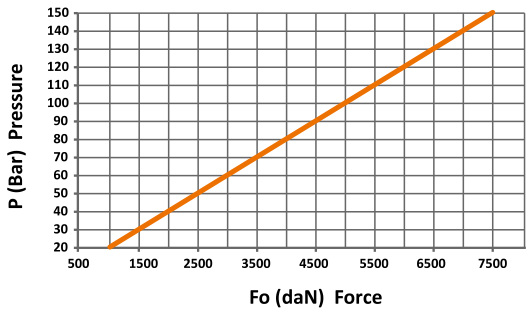
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



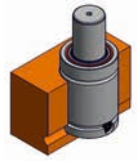


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
Y 07500 025	**Y 07500 025 A**	**25**	**205**	**180**		**9542**	**10308**	**700,0**	**20,05**
Y 07500 038	Y 07500 038 A	38	231	193		10030	11013	896,0	20,82
Y 07500 050	**Y 07500 050 A**	**50**	**255**	**205**		**10345**	**11475**	**1077,0**	**21,54**
Y 07500 063	Y 07500 063 A	63,5	282	218,5		10572	11810	1281,0	22,34
-	**Y 07500 075 A**	**75**	**305**	**230**		**10774**	**12111**	**1455,0**	**23,03**
Y 07500 080	Y 07500 080 A	80	315	235		10839	12208	1530,0	23,33
-	**Y 07500 088 A**	**88**	**330**	**242**		**10964**	**12395**	**1639,0**	**23,76**
Y 07500 100	Y 07500 100 A	100	355	255		11045	12516	1832,0	24,52
-	**Y 07500 113 A**	**113**	**380**	**267**	**+ 20 °C**	**11180**	**12720**	**2016,0**	**25,26**
Y 07500 125	Y 07500 125 A	125	405	280		11230	12796	2209,0	26,02
-	**Y 07500 138 A**	**138**	**430**	**292**	**7540**	**11332**	**12951**	**2393,0**	**26,75**
-	Y 07500 150 A	150	455	305		11362	12996	2587,0	27,50
Y 07500 160	**Y 07500 160 A**	**160**	**475**	**315**	**150 bar**	**11406**	**13063**	**2738,0**	**28,10**
-	Y 07500 175 A	175	505	330		11465	13152	2964,0	29,00
Y 07500 200	**Y 07500 200 A**	**200**	**555**	**355**		**11543**	**13273**	**3342,0**	**30,49**
-	Y 07500 225 A	225	605	380		11609	13372	3719,0	31,98
Y 07500 250	**Y 07500 250 A**	**250**	**655**	**405**		**11661**	**13452**	**4097,0**	**33,47**
-	Y 07500 275 A	275	705	430		11706	13521	4474,0	34,96
Y 07500 300	**Y 07500 300 A**	**300**	**755**	**455**		**11743**	**13577**	**4852,0**	**36,45**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	50,27 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-50 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 150


DK 150

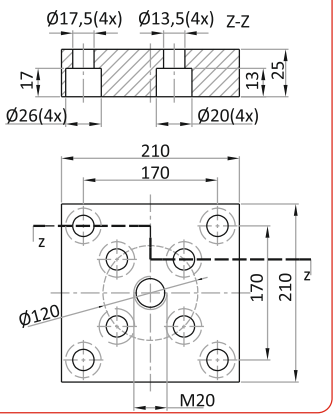

TA 150
TD 150


CB 150
C 150

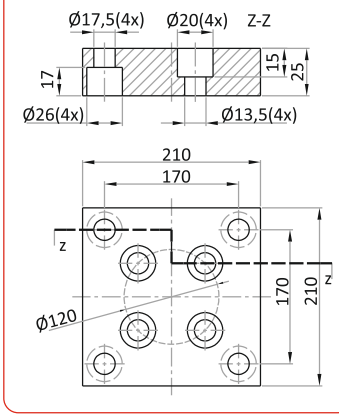

K 150 - KF 150
KB 150 - KC 150

Y 10000 A

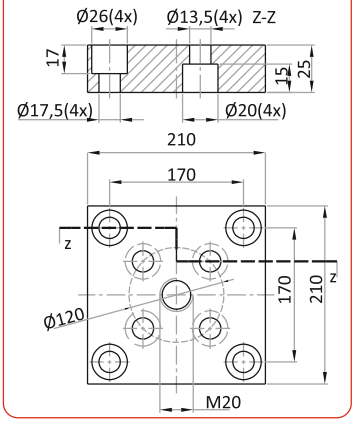
K 195



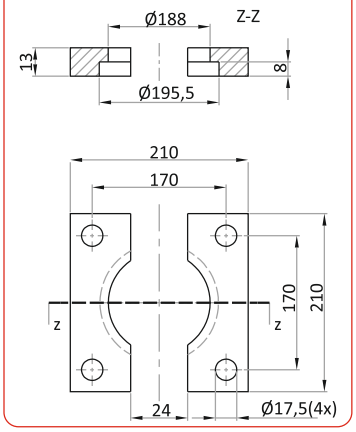
KB 195



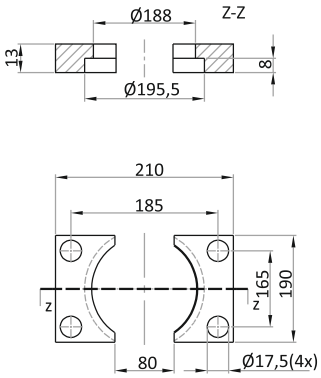
KC 195



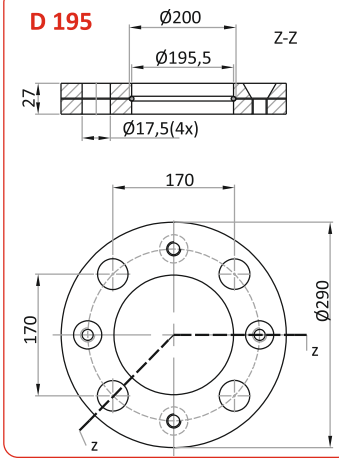
C 195



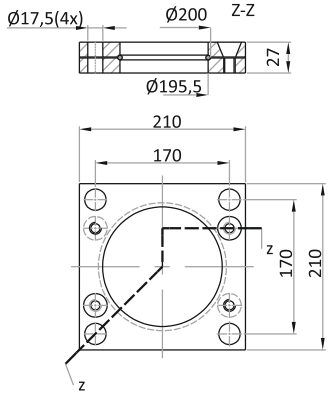
CB 195



D 195

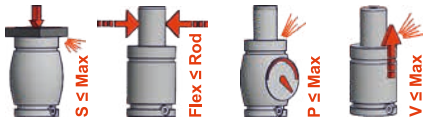


DK 195



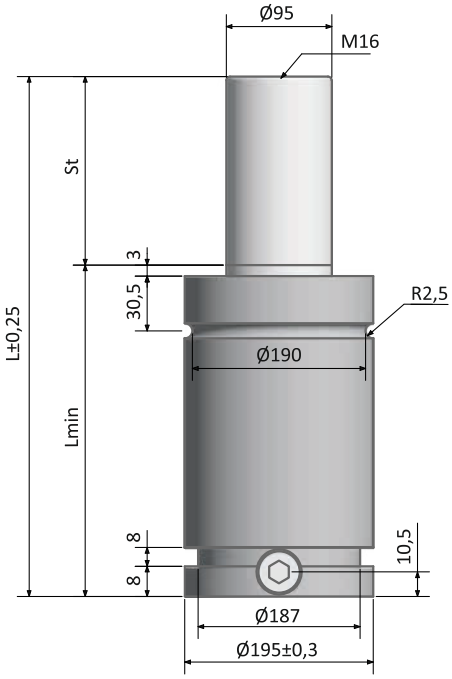
Y 10000 A

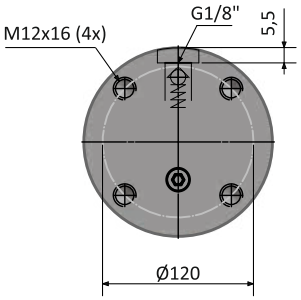
ISO 11901 - 1 VDI 3003	075.90.55 (FCA) EM 24.54.700 (Renault)
B8 3180 220 000 001 (MB) 39D 878 (VW)	



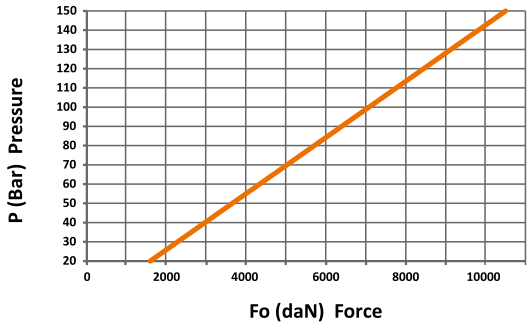
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



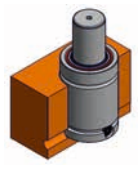


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
Y 10000 025	**Y 10000 025 A**	**25**	**210**	**185**		**13247**	**14237**	**1050,0**	**35,82**
Y 10000 038	Y 10000 038 A	38	236	198		13822	15063	1361,0	37,15
Y 10000 050	**Y 10000 050 A**	**50**	**260**	**210**		**14182**	**15587**	**1648,0**	**38,37**
Y 10000 063	Y 10000 063 A	63,5	287	223,5		14431	15951	1972,0	39,75
Y 10000 080	**Y 10000 080 A**	**80**	**320**	**240**	**+ 20 °C**	**14728**	**16388**	**2367,0**	**41,43**
Y 10000 100	Y 10000 100 A	100	360	260		14949	16716	2846,0	43,47
Y 10000 125	**Y 10000 125 A**	**125**	**410**	**285**	**10600**	**15145**	**17007**	**3445,0**	**46,02**
Y 10000 160	Y 10000 160 A	160	480	320		15331	17285	4283,0	49,60
Y 10000 200	**Y 10000 200 A**	**200**	**560**	**360**	**150 bar**	**15518**	**17566**	**5207,0**	**53,95**
Y 10000 250	Y 10000 250 A	250	660	410		15855	18074	6212,0	60,56
Y 10000 300	**Y 10000 300 A**	**300**	**760**	**460**		**16105**	**18453**	**7218,0**	**67,17**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**70,88 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 15-50 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 195

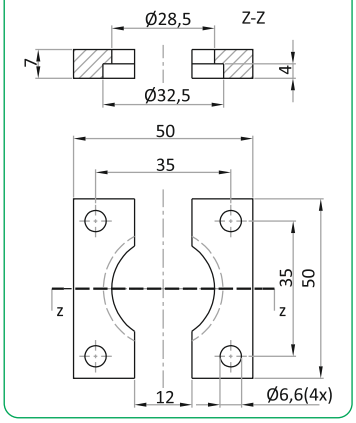

DK 195


CB 195
C 195

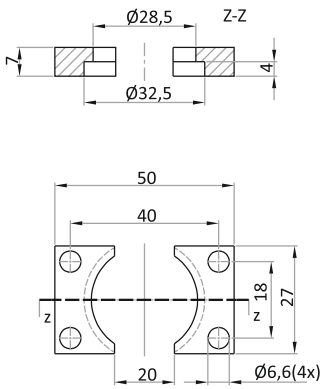

K 195 - KB 195
KC 195

P 00300 A

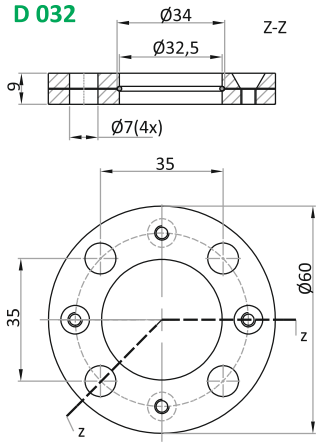
CA 032



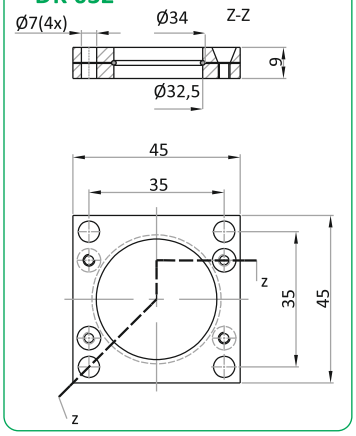
CB 032



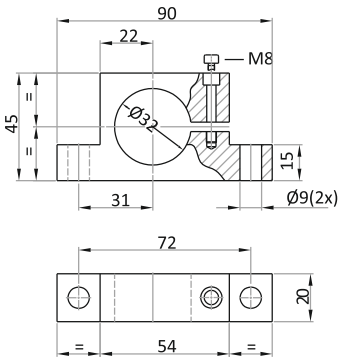
D 032



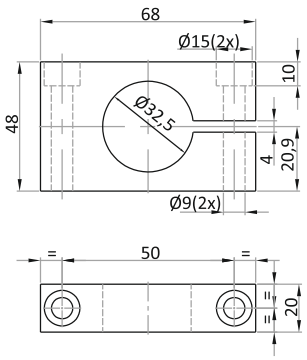
DK 032



TA 032



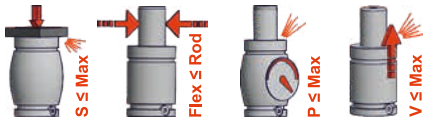
TD 032

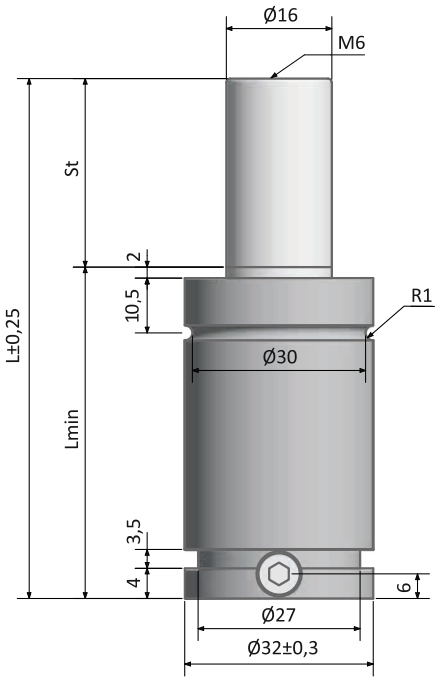


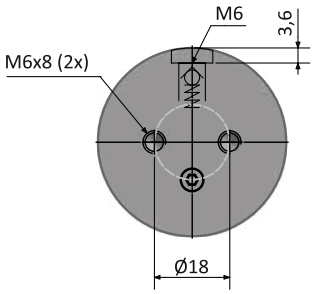
P 00300 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

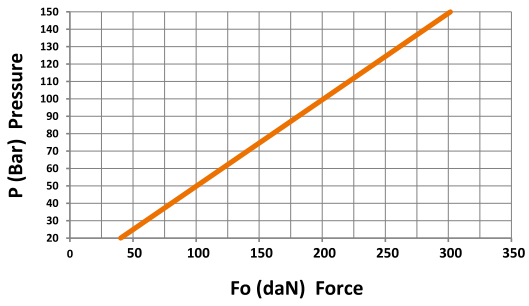
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**





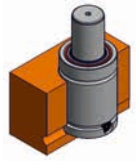


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 00300 010	**P 00300 010 A**	**10**	**70**	**60**		**369**	**385**	**14,0**	**0,27**
P 00300 013	P 00300 013 A	13	75,7	62,7		380	399	16,0	0,28
P 00300 016	**P 00300 016 A**	**16**	**82**	**66**		**390**	**411**	**18,0**	**0,29**
P 00300 025	P 00300 025 A	25	100	75		416	445	23,0	0,32
P 00300 038	**P 00300 038 A**	**38**	**126**	**88**	**+ 20 °C**	**436**	**471**	**31,0**	**0,36**
P 00300 050	P 00300 050 A	50	150	100	**300**	450	489	38,0	0,40
P 00300 063	**P 00300 063 A**	**63**	**176,5**	**113,5**		**459**	**501**	**46,0**	**0,44**
P 00300 080	P 00300 080 A	80	210	130		469	514	56,0	0,49
P 00300 100	**P 00300 100 A**	**100**	**250**	**150**	**150 bar**	**477**	**524**	**68,0**	**0,56**
P 00300 125	P 00300 125 A	125	300	175		483	532	83,0	0,64



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**2,01 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 30-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 032

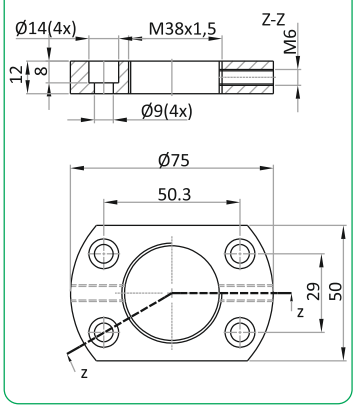

DK 032


TA 032
TD 032

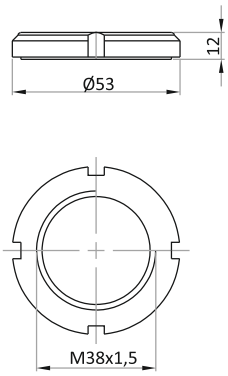

CB 032 - CA 032

P 00500 M38

DA 038



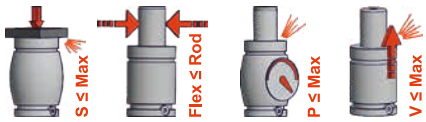
M38X1,5

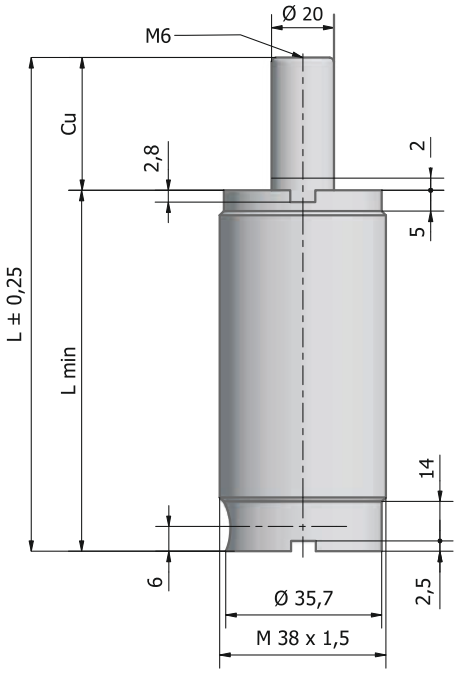


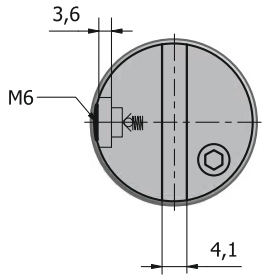
P 00500 M38

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

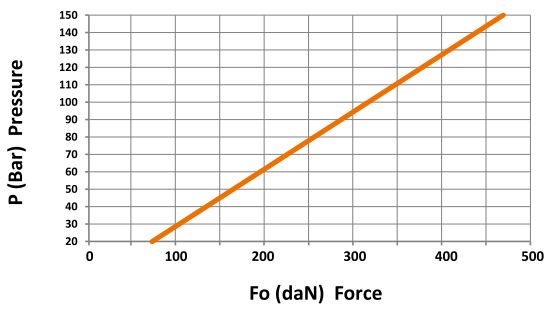
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**







CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	P 00500 010 M38	**10**	**70**	**60**		**584**	**626**	**19,0**	**0,39**
	P 00500 013 M38	13	75,7	62,7		609	662	21,0	0,41
	P 00500 016 M38	**16**	**82**	**66**		**622**	**682**	**24,0**	**0,42**
	P 00500 019 M38	19	88	69		642	711	26,0	0,44
	P 00500 025 M38	**25**	**100**	**75**	**+ 20 °C**	**666**	**747**	**31,0**	**0,47**
	P 00500 038 M38	38	126	88		693	787	43,0	0,52
	P 00500 050 M38	**50**	**150**	**100**	**470**	**715**	**821**	**53,0**	**0,58**
	P 00500 063 M38	63	176,5	113,5		725	835	65,0	0,64
	P 00500 080 M38	**80**	**210**	**130**	**150 bar**	**742**	**862**	**79,0**	**0,72**
	P 00500 100 M38	100	250	150		754	880	96,0	0,81
	P 00500 125 M38	**125**	**300**	**175**		**762**	**892**	**118,0**	**0,92**



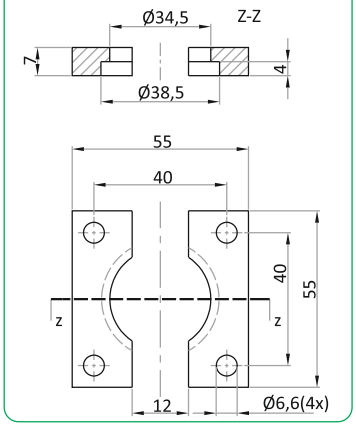
Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**3,14 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 30-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

DA 038

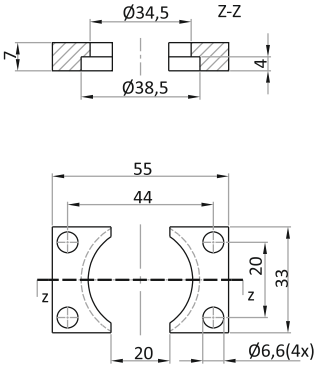
M38x1,5

P 00500 A

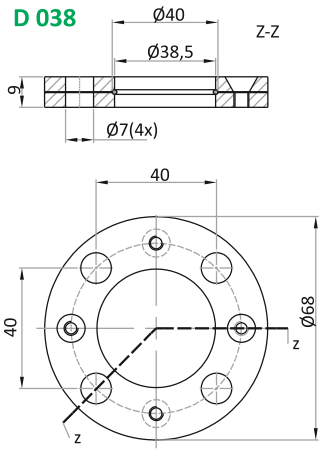
CA 038



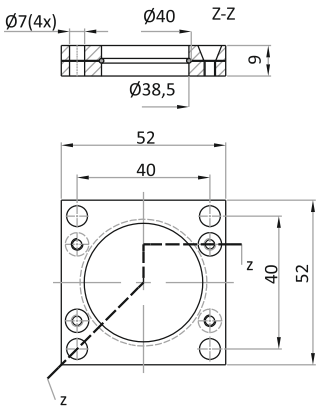
CB 038



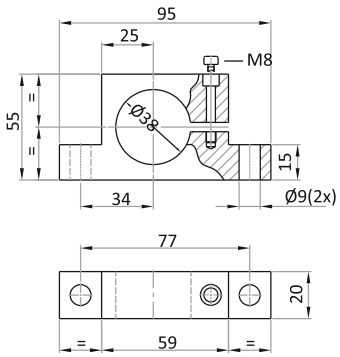
D 038



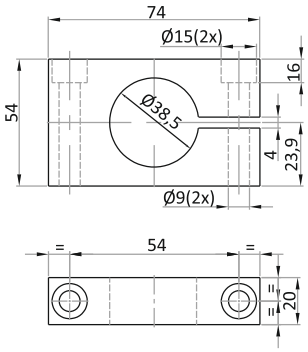
DK 038



TA 038



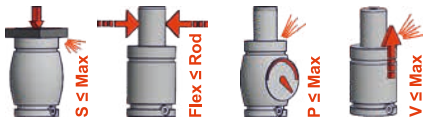
TD 038

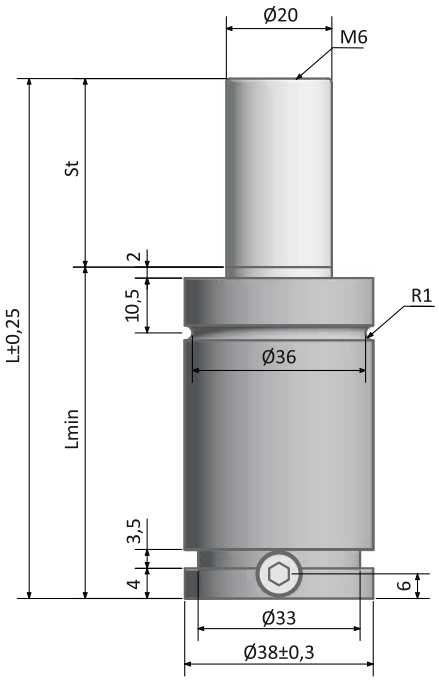


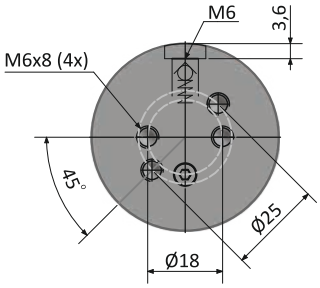
P 00500 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

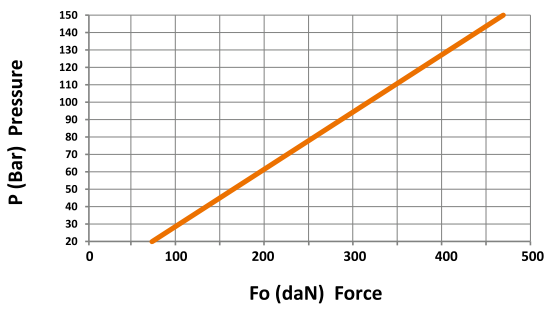
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**





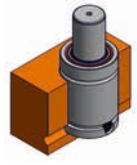


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 00500 010	**P 00500 010 A**	**10**	**70**	**60**		**584**	**626**	**19,0**	**0,39**
P 00500 013	P 00500 013 A	13	75,7	62,7		609	662	21,0	0,41
P 00500 016	**P 00500 016 A**	**16**	**82**	**66**		**622**	**682**	**24,0**	**0,42**
-	P 00500 019 A	19	88	69		642	711	26,0	0,44
P 00500 025	**P 00500 025 A**	**25**	**100**	**75**	**+ 20 °C**	**666**	**747**	**31,0**	**0,47**
P 00500 038	P 00500 038 A	38	126	88		693	787	43,0	0,52
P 00500 050	**P 00500 050 A**	**50**	**150**	**100**	**470**	**715**	**821**	**53,0**	**0,58**
P 00500 063	P 00500 063 A	63	176,5	113,5		725	835	65,0	0,64
P 00500 080	**P 00500 080 A**	**80**	**210**	**130**	**150 bar**	**742**	**862**	**79,0**	**0,72**
P 00500 100	P 00500 100 A	100	250	150		754	880	96,0	0,81
P 00500 125	**P 00500 125 A**	**125**	**300**	**175**		**762**	**892**	**118,0**	**0,92**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**3,14 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 30-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 038

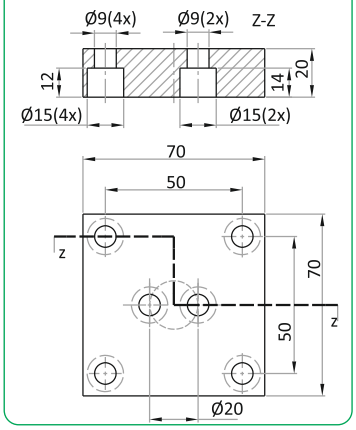

DK 038


TA 038
TD 038

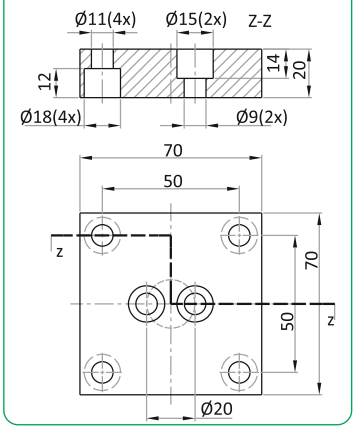

CB 038 - CA 038

P 00750 A

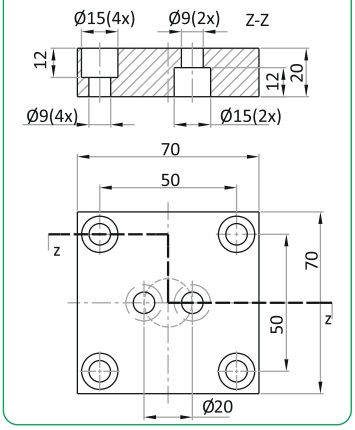
K 045



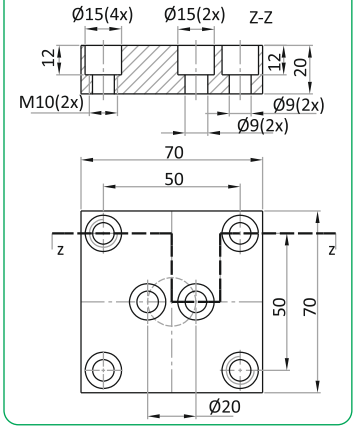
KB 045



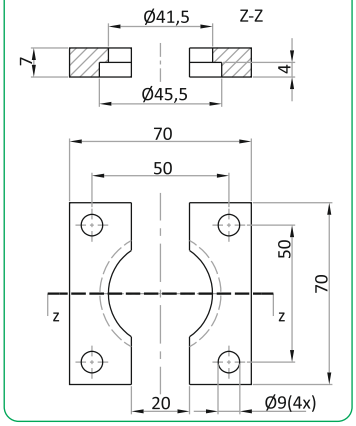
KC 045



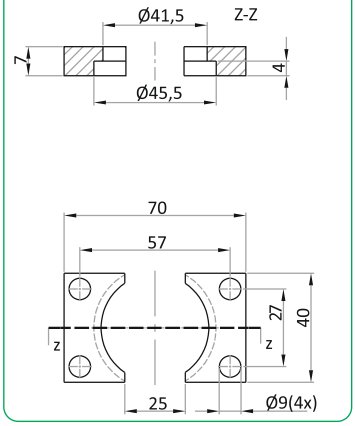
KF 045



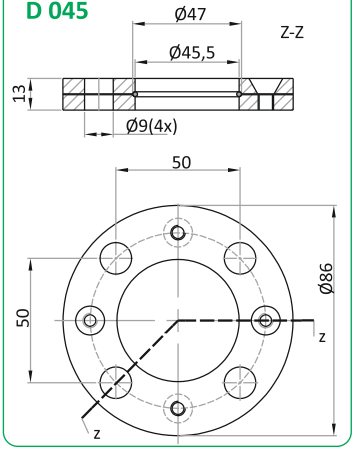
C 045



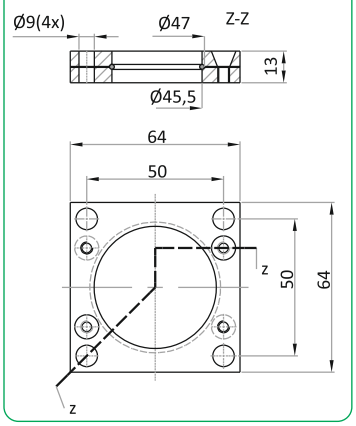
CB 045



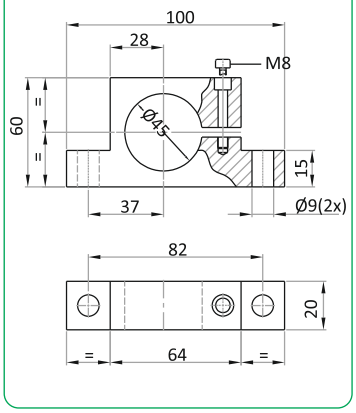
D 045



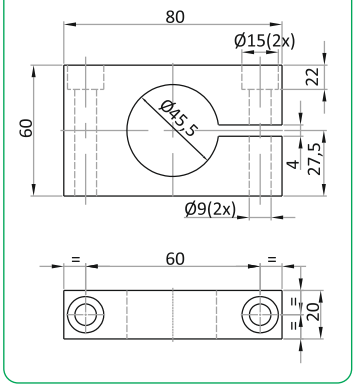
DK 045



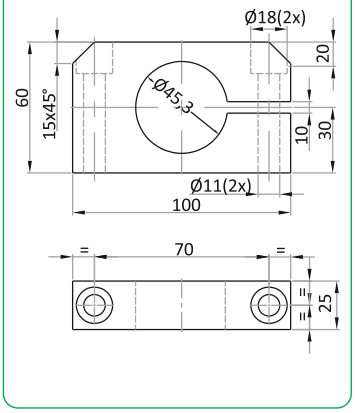
TA 045



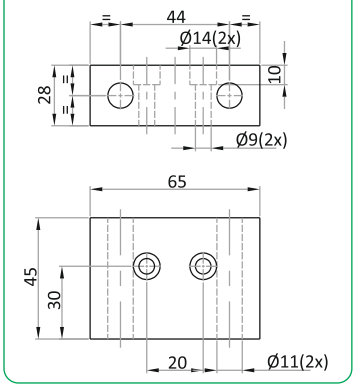
TD 045



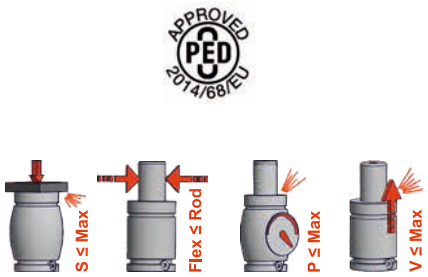
TE 045



TT 50

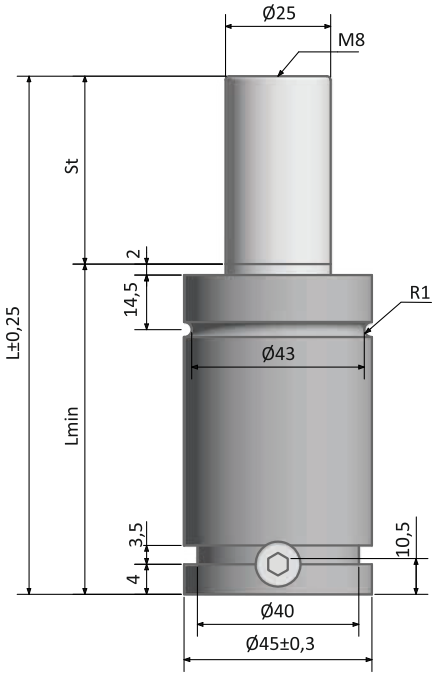


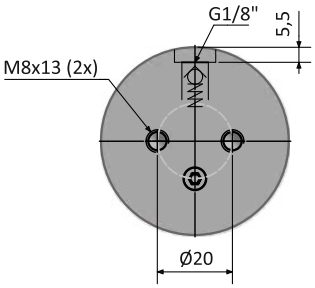
P 00750 A



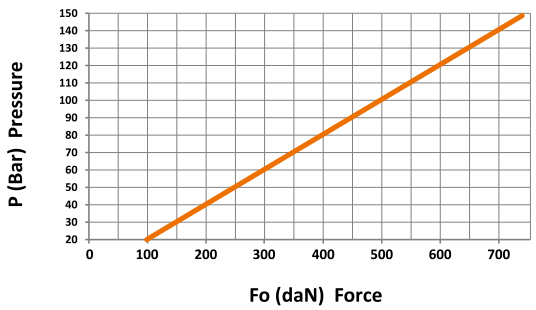
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



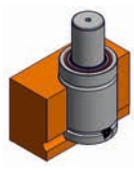


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 00750 010	**P 00750 010 A**	**10**	**105**	**95**		**823**	**853**	**55,0**	**0,77**
P 00750 013	P 00750 013 A	13	110,7	97,7		844	882	59,0	0,78
P 00750 025	**P 00750 025 A**	**25**	**135**	**110**		**914**	**981**	**74,0**	**0,86**
P 00750 038	P 00750 038 A	38	161	123	**+ 20 °C**	967	1058	91,0	0,94
P 00750 050	**P 00750 050 A**	**50**	**185**	**135**		**1007**	**1116**	**106,0**	**1,02**
P 00750 063	P 00750 063 A	63	211,5	148,5	**740**	1039	1164	123,0	1,11
P 00750 080	**P 00750 080 A**	**80**	**245**	**165**		**1075**	**1218**	**144,0**	**1,21**
P 00750 100	P 00750 100 A	100	285	185	**150 bar**	1281	1535	132,0	1,63
P 00750 125	**P 00750 125 A**	**125**	**335**	**210**		**1309**	**1582**	**160,0**	**1,82**
P 00750 160	P 00750 160 A	160	405	245		1333	1619	200,0	2,08



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**4,91 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 045

DK 045

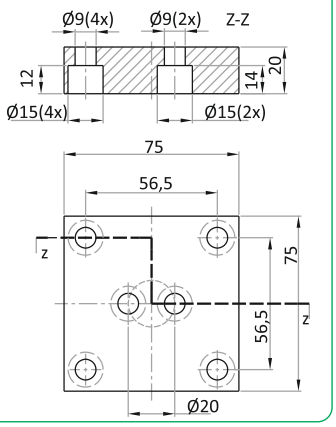
TA 045 - TD 045
TE 045 - TT 050

CB 045
C 045

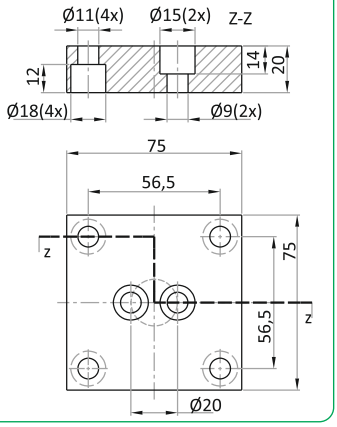
K 045 - KB 045
KC 045 - KF 045

P 01000 A

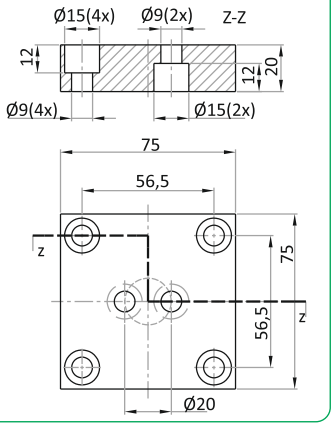
K 050



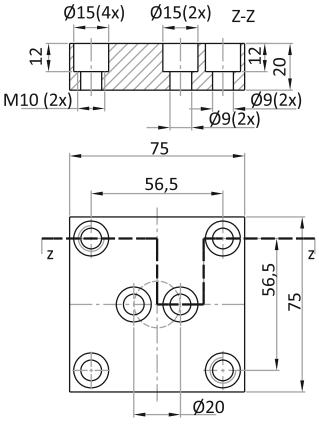
KB 050



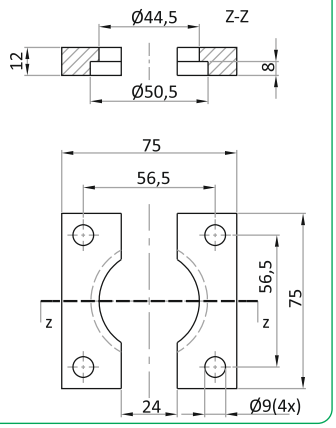
KC 050



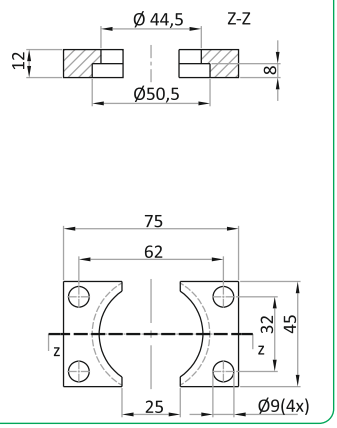
KF 050



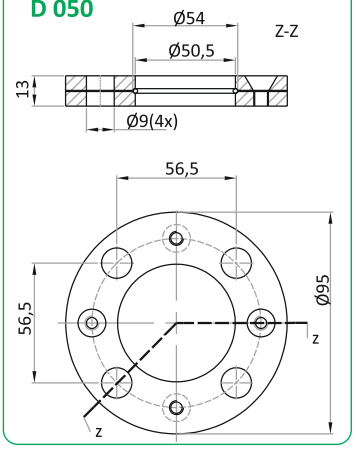
C 050



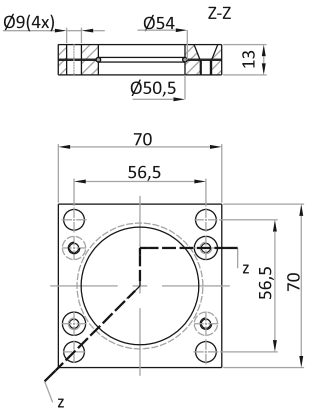
CB 050



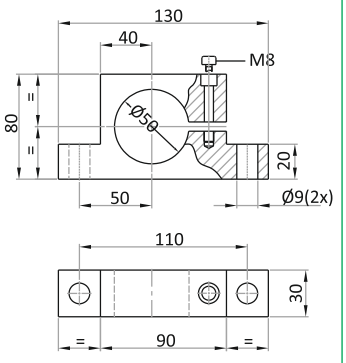
D 050



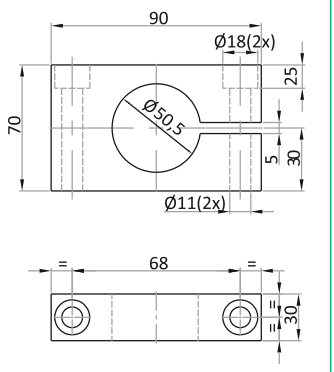
DK 050



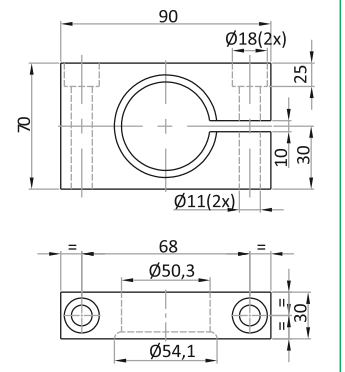
TA 050



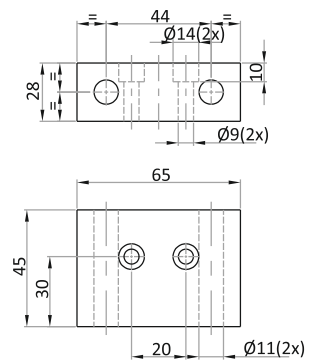
TD 050



TE 050



TT 50



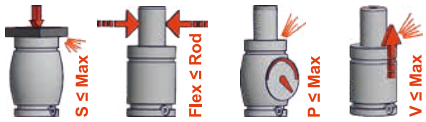
P 01000 A

ISO 11901 - 4
VDI 3003 - Blatt 4

B2 4008 (BMW)
075.90.65 (FCA)

39D 838 (VW)

APPROVED PED 2014/68/EU

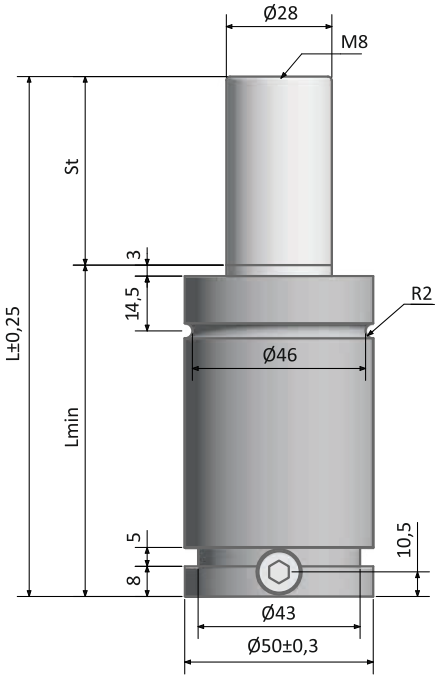


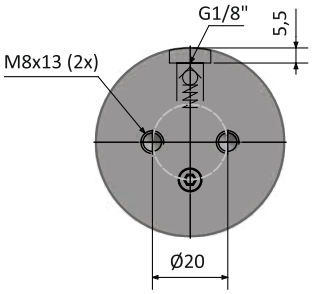
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

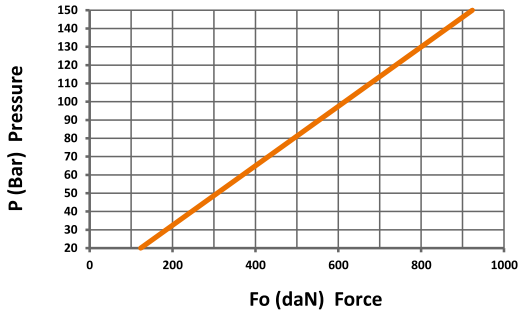
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



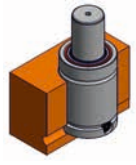


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 01000 013	**P 01000 013 A**	**13**	**120,7**	**107,7**		**1232**	**1355**	**37,0**	**1,39**
P 01000 025	P 01000 025 A	25	145	120		1351	1531	56,0	1,48
P 01000 038	**P 01000 038 A**	**38**	**171**	**133**		**1418**	**1633**	**77,0**	**1,58**
P 01000 050	P 01000 050 A	50	195	145		1469	1711	95,0	1,68
P 01000 063	**P 01000 063 A**	**63**	**221**	**158**		**1496**	**1753**	**116,0**	**1,78**
P 01000 075	P 01000 075 A	75	245	170		1517	1785	135,0	1,88
P 01000 080	**P 01000 080 A**	**80**	**255**	**175**	**+ 20 °C**	**1523**	**1796**	**143,0**	**1,92**
P 01000 100	P 01000 100 A	100	295	195		1550	1837	174,0	2,08
P 01000 125	**P 01000 125 A**	**125**	**345**	**220**	**920**	**1571**	**1871**	**213,0**	**2,28**
P 01000 150	P 01000 150 A	150	395	245		1586	1895	252,0	2,48
P 01000 160	**P 01000 160 A**	**160**	**415**	**255**	**150 bar**	**1590**	**1900**	**268,0**	**2,55**
P 01000 175	P 01000 175 A	175	445	270		1594	1907	292,0	2,67
P 01000 200	**P 01000 200 A**	**200**	**495**	**295**		**1603**	**1922**	**331,0**	**2,87**
P 01000 250	P 01000 250 A	250	595	345		1613	1938	410,0	3,26
P 01000 300	**P 01000 300 A**	**300**	**695**	**395**		**1623**	**1953**	**488,0**	**3,66**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	6,15 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 050


DK 050


TA 050 - TD 050
TE 050 - TT 050

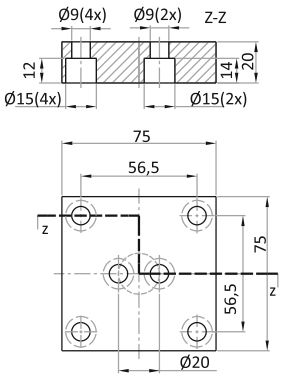

CB 050
C 050


K 050 - KB 050
KC 050 - KF 050

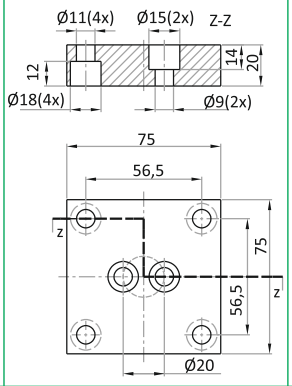
ALFAMAK

P 01500 A

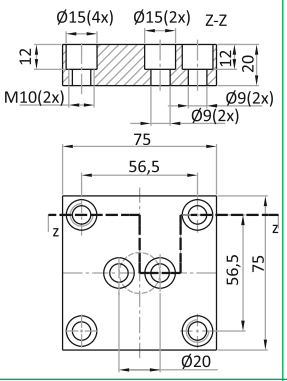
K 050



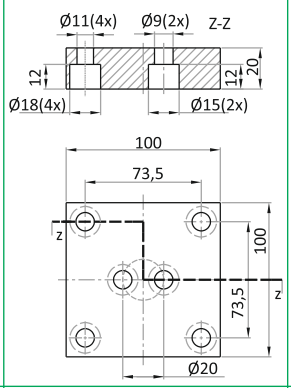
KB 050



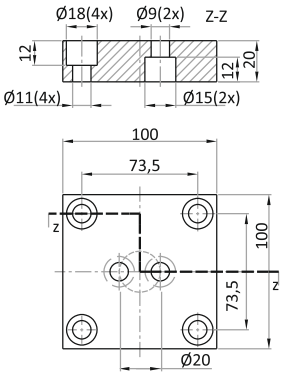
KF 050



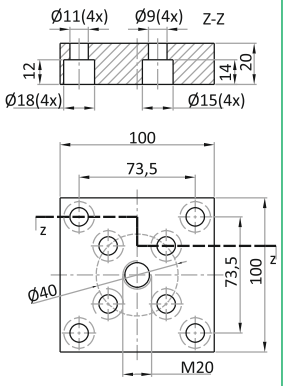
K 063



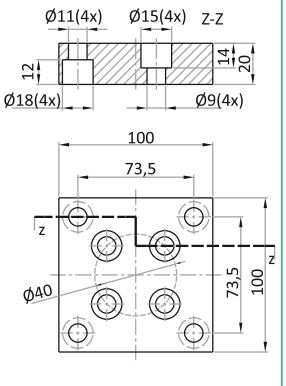
KC 063



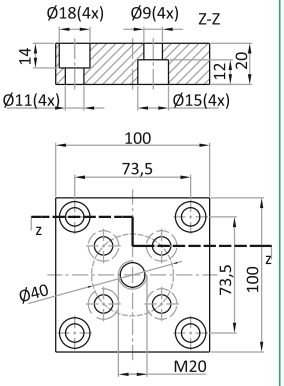
K 075



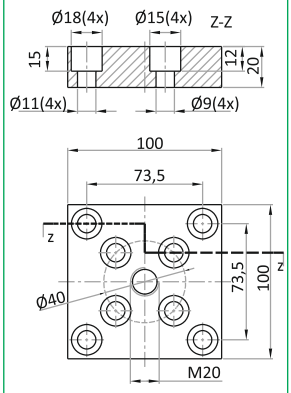
KB 075



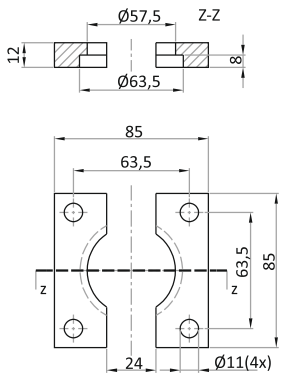
KC 075



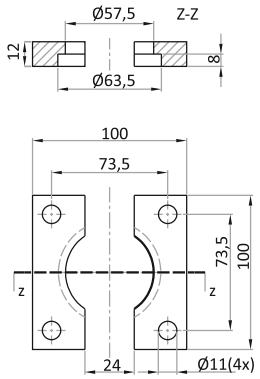
KF 075



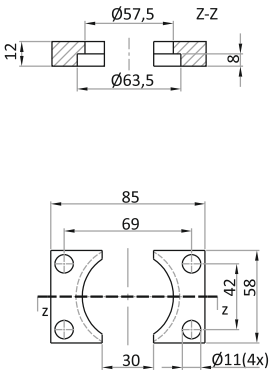
C 063



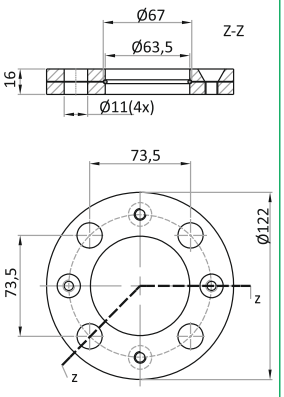
CA 063



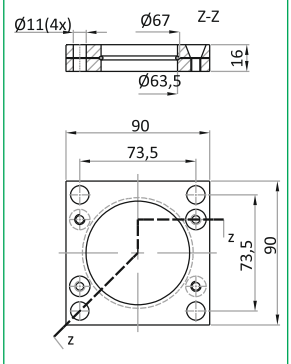
CB 063



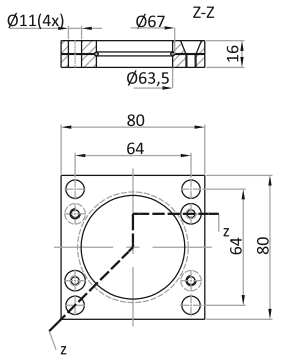
D 063



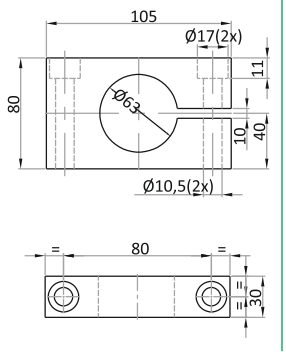
DKA 063



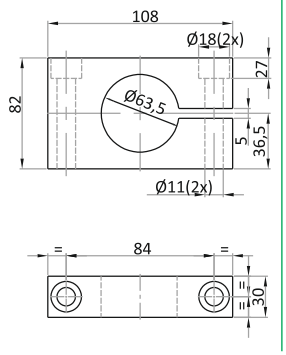
DK 063



TC 063



TD 063



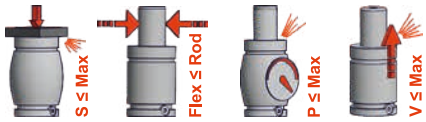
P 01500 A

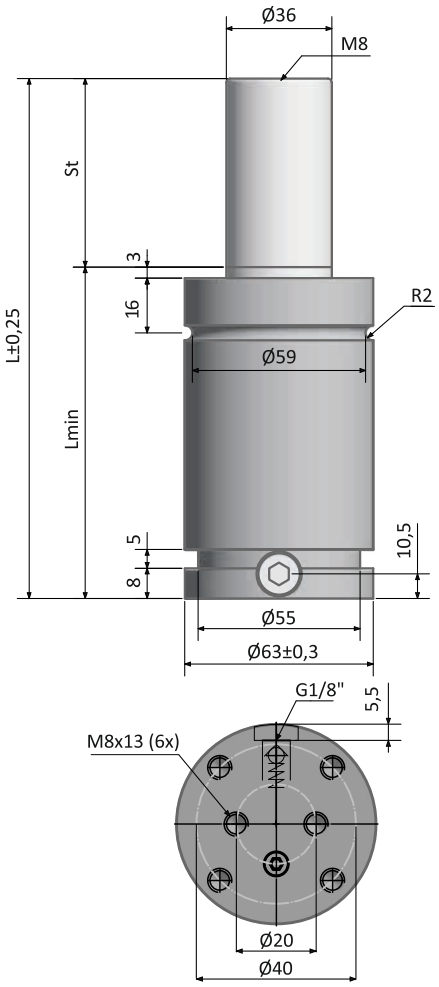
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

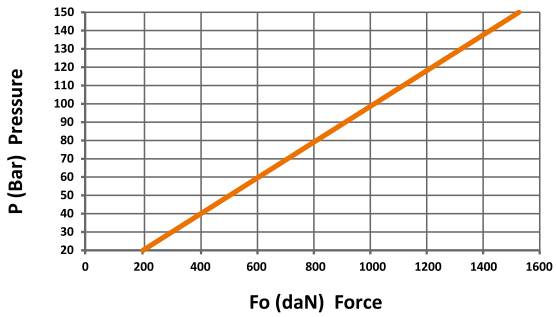
F_o Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



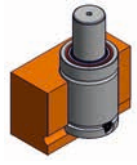


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 01500 013	**P 01500 013 A**	**13**	**120,7**	**107,7**		**2051**	**2260**	**60,0**	**2,19**
P 01500 025	P 01500 025 A	25	145	120		2241	2543	92,0	2,34
P 01500 038	**P 01500 038 A**	**38**	**171**	**133**		**2349**	**2706**	**127,0**	**2,49**
P 01500 050	P 01500 050 A	50	195	145		2413	2804	159,0	2,63
P 01500 063	**P 01500 063 A**	**63**	**221**	**158**		**2465**	**2885**	**193,0**	**2,78**
P 01500 075	P 01500 075 A	75	245	170		2496	2934	225,0	2,92
P 01500 080	**P 01500 080 A**	**80**	**255**	**175**	**+ 20 °C**	**2509**	**2954**	**238,0**	**2,98**
P 01500 100	P 01500 100 A	100	295	195		2544	3009	291,0	3,21
P 01500 125	**P 01500 125 A**	**125**	**345**	**220**	**1530**	**2571**	**3051**	**358,0**	**3,50**
P 01500 150	P 01500 150 A	150	395	245		2593	3086	424,0	3,79
P 01500 160	**P 01500 160 A**	**160**	**415**	**255**	**150 bar**	**2598**	**3093**	**451,0**	**3,90**
P 01500 175	P 01500 175 A	175	445	270		2610	3112	490,0	4,09
P 01500 200	**P 01500 200 A**	**200**	**495**	**295**		**2619**	**3127**	**557,0**	**4,37**
P 01500 250	P 01500 250 A	250	595	345		2636	3153	690,0	4,95
P 01500 300	**P 01500 300 A**	**300**	**695**	**395**		**2649**	**3175**	**822,0**	**5,54**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	10,17 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 063


DK 063
DKA 063

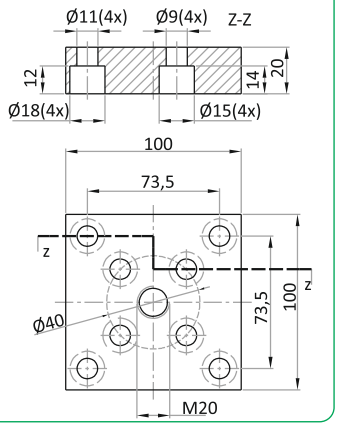

TC 063
TD 063


C 063 - CA 063
CB 063

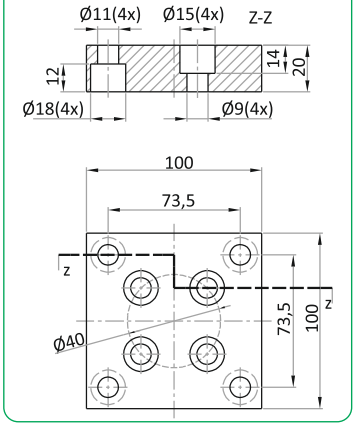

K 050 - KB 050 - KF 050
K 063 - KC 063 - K 075
KB 075 - KC 075 -KF 075

P 02400 A

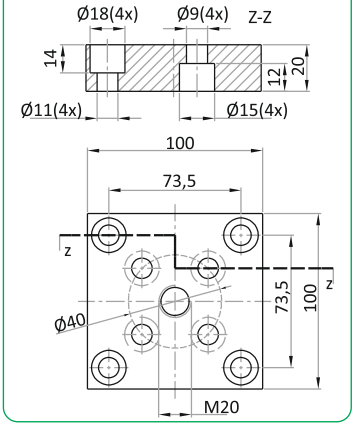
K 075



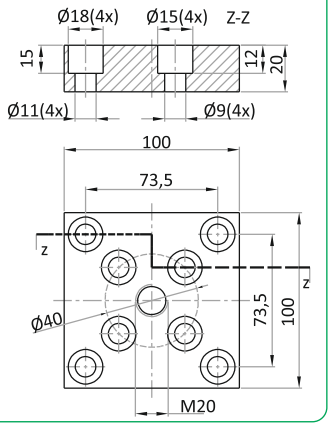
KB 075



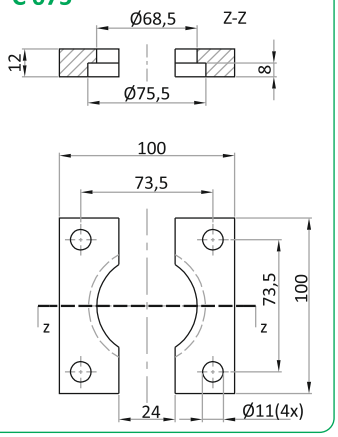
KC 075



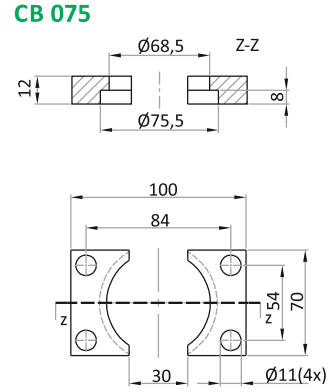
KF 075



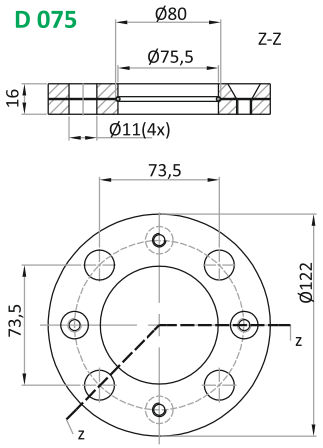
C 075



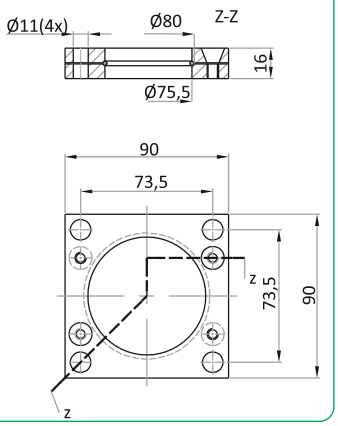
CB 075



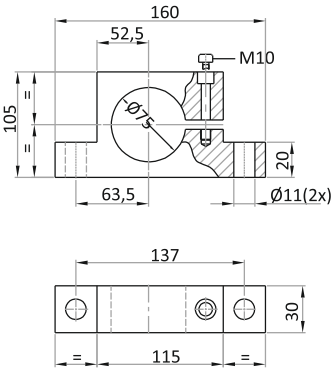
D 075



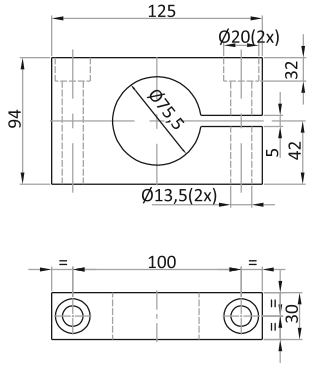
DK 075



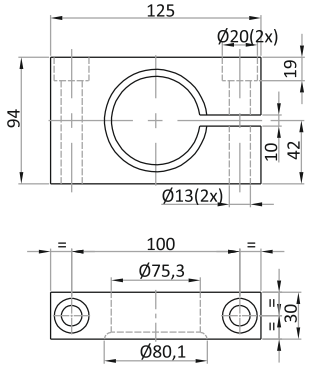
TA 075



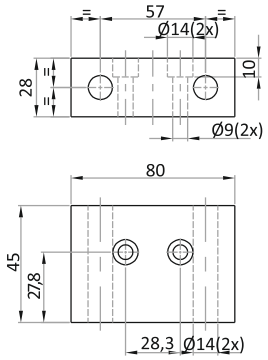
TD 075



TE 075



TT 75



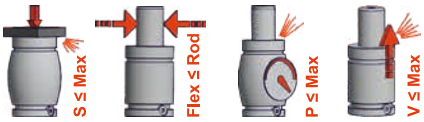
P 02400 A

ISO 11901 - 4
VDI 3003 - Blatt 4

B2 4008 (BMW)
075.90.65 (FCA)

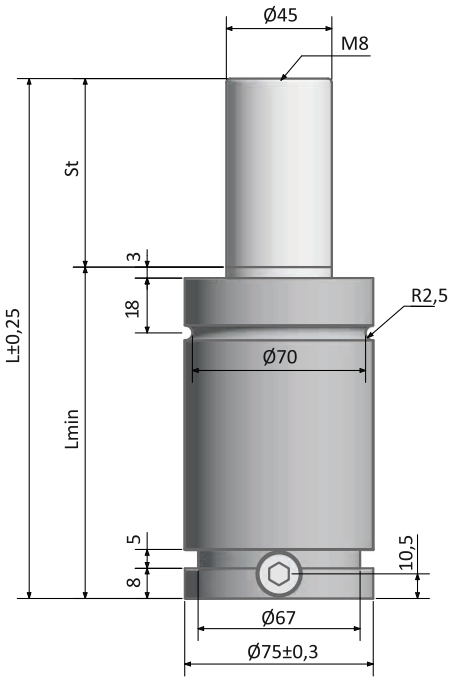
39D 838 (VW)

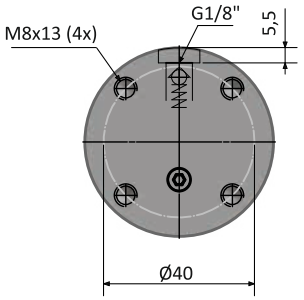
APPROVED PED 2014/68/EU



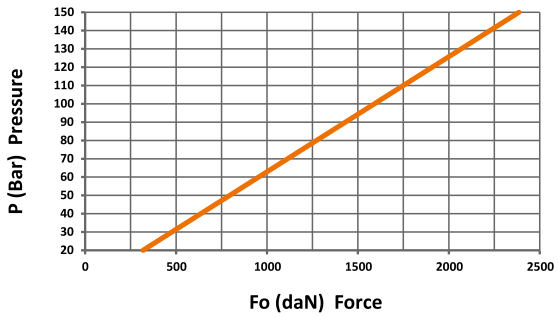
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



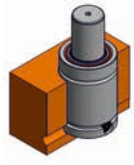


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 02400 025	**P 02400 025 A**	**25**	**160**	**135**		**3393**	**3809**	**155,0**	**3,67**
P 02400 038	P 02400 038 A	38	186	148		3596	4114	207,0	3,88
P 02400 050	**P 02400 050 A**	**50**	**210**	**160**		**3720**	**4304**	**255,0**	**4,07**
P 02400 063	P 02400 063 A	63	236	173		3809	4440	308,0	4,26
P 02400 075	**P 02400 075 A**	**75**	**260**	**185**		**3875**	**4543**	**356,0**	**4,45**
P 02400 080	P 02400 080 A	80	270	190		3898	4579	376,0	4,53
P 02400 100	**P 02400 100 A**	**100**	**310**	**210**	**+ 20 °C**	**3967**	**4687**	**457,0**	**4,84**
P 02400 125	P 02400 125 A	125	360	235		4032	4790	557,0	5,23
P 02400 150	**P 02400 150 A**	**150**	**410**	**260**	**2385**	**4075**	**4857**	**658,0**	**5,62**
P 02400 160	P 02400 160 A	160	430	270		4090	4881	698,0	5,78
P 02400 175	**P 02400 175 A**	**175**	**460**	**285**	**150 bar**	**4110**	**4913**	**758,0**	**6,01**
P 02400 200	P 02400 200 A	200	510	310		4134	4951	859,0	6,40
P 02400 250	**P 02400 250 A**	**250**	**610**	**360**		**4172**	**5011**	**1060,0**	**7,18**
P 02400 275	P 02400 275 A	275	660	385		4185	5032	1161,0	7,57
P 02400 300	**P 02400 300 A**	**300**	**710**	**410**		**4196**	**5049**	**1262,0**	**7,95**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	15,90 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 075


DK 075


TA 075 - TD 075
TE 075 - TT 075

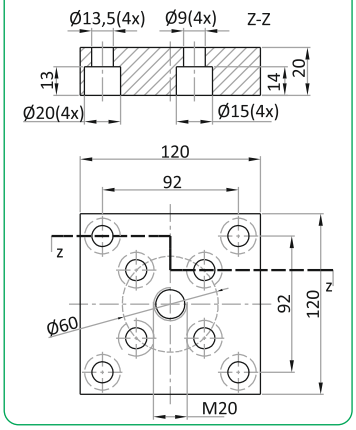

CB 075
C 075


K 075 - KB 075
KC 075 - KF 075

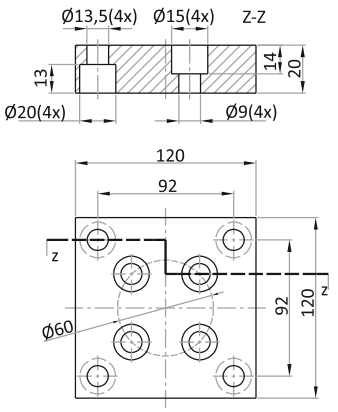
ALFAMAK

P 04200 A

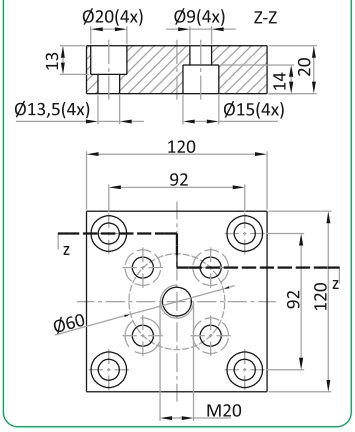
K 095



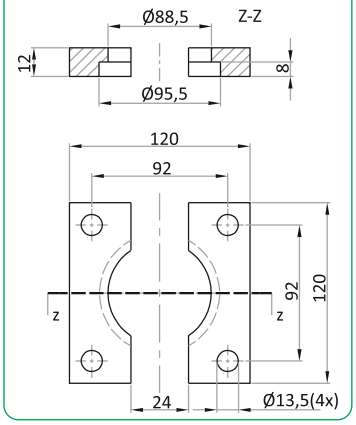
KB 095



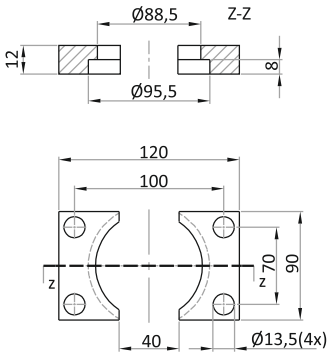
KC 095



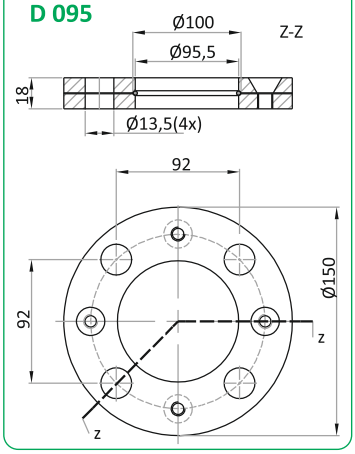
C 095



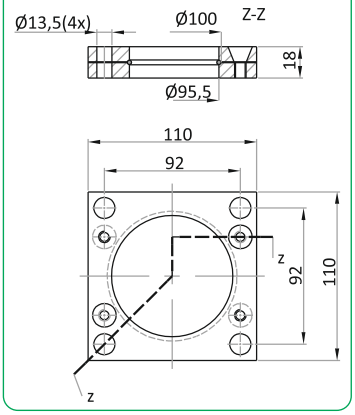
CB 095



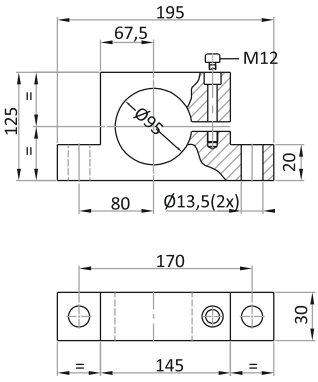
D 095



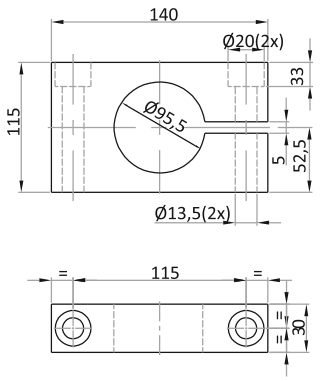
DK 095



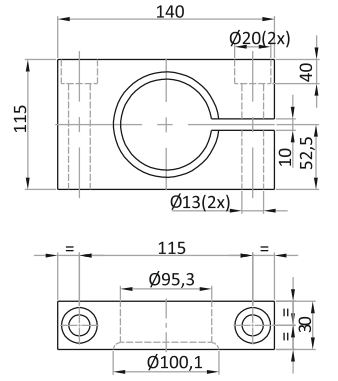
TA 095



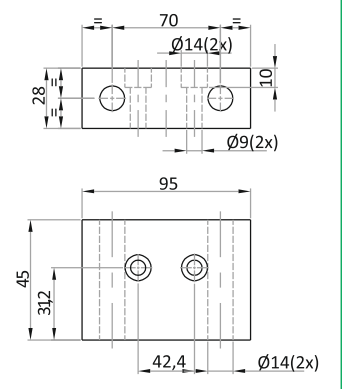
TD 095



TE 095



TT 095



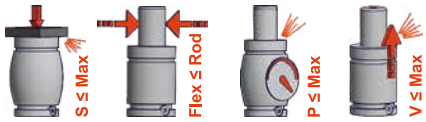
P 04200 A

ISO 11901 - 4
VDI 3003 - Blatt 4

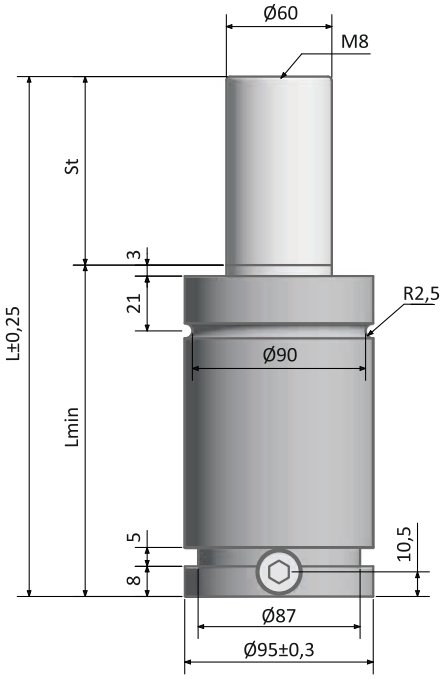
B2 4008 (BMW)
075.90.65 (FCA)

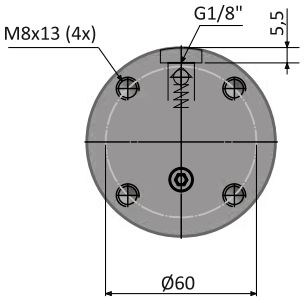
39D 838 (VW)

APPROVED PED 2014/68/EU

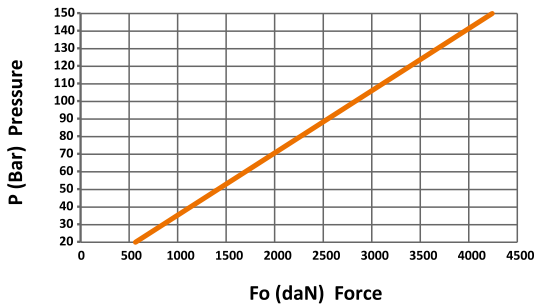


F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



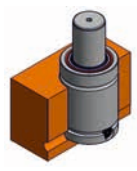


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 04200 025	**P 04200 025 A**	**25**	**170**	**145**		**6011**	**6740**	**278,0**	**6,27**
P 04200 038	P 04200 038 A	38	196	158		6483	7451	358,0	6,66
P 04200 050	**P 04200 050 A**	**50**	**220**	**170**		**6708**	**7795**	**442,0**	**6,93**
P 04200 063	P 04200 063 A	63	246	183		6927	8136	527,0	7,28
P 04200 075	**P 04200 075 A**	**75**	**270**	**195**		**7078**	**8373**	**606,0**	**7,59**
P 04200 080	P 04200 080 A	80	280	200	**+ 20 °C**	7139	8468	638,0	7,73
P 04200 100	**P 04200 100 A**	**100**	**320**	**220**		**7315**	**8747**	**769,0**	**8,26**
P 04200 125	P 04200 125 A	125	370	245	**4240**	7472	8996	933,0	8,92
P 04200 150	**P 04200 150 A**	**150**	**420**	**270**		**7585**	**9177**	**1097,0**	**9,57**
P 04200 160	P 04200 160 A	160	440	280	**150 bar**	7625	9241	1162,0	9,84
P 04200 175	**P 04200 175 A**	**175**	**470**	**295**		**7675**	**9323**	**1260,0**	**10,24**
P 04200 200	P 04200 200 A	200	520	320		7742	9431	1424,0	10,90
P 04200 250	**P 04200 250 A**	**250**	**620**	**370**		**7844**	**9596**	**1751,0**	**12,22**
P 04200 300	P 04200 300 A	300	720	420		7912	9706	2079,0	13,54



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**28,27 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 15-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 095


DK 095


TA 095 - TD 095
TE 095 - TT 095

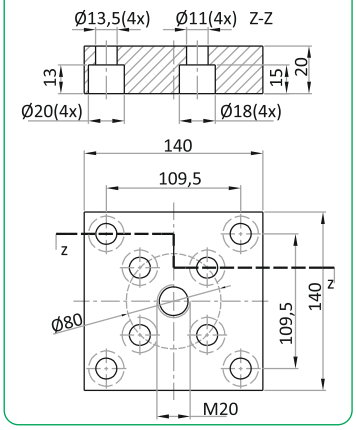

CB 095
C 095


K 095 - KB 095
KC 095

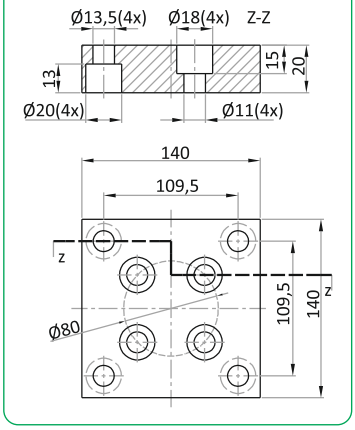
ALFAMAK

P 06600 A

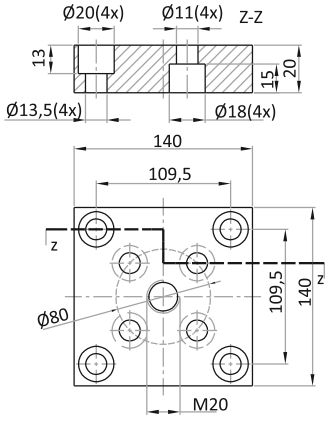
K 120



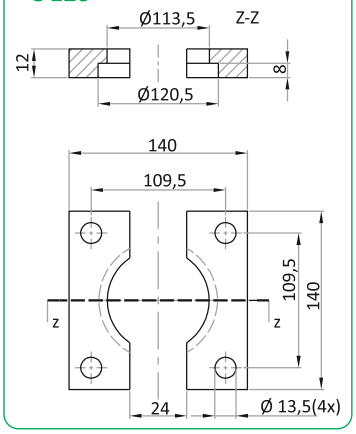
KB 120



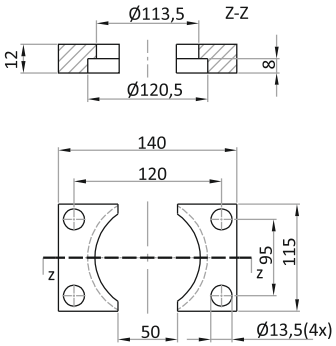
KC 120



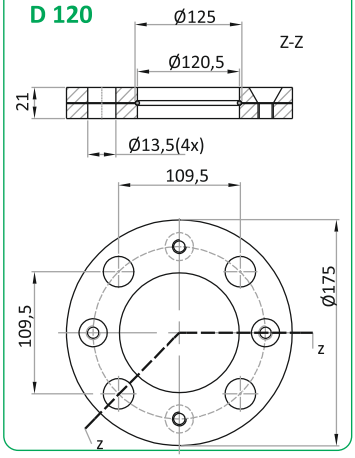
C 120



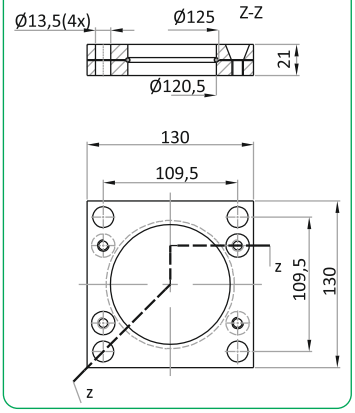
CB 120



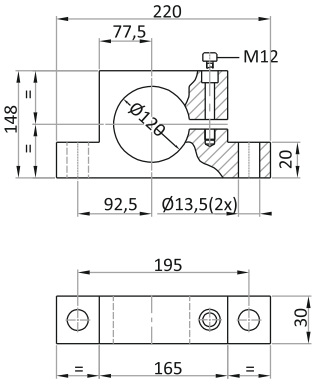
D 120



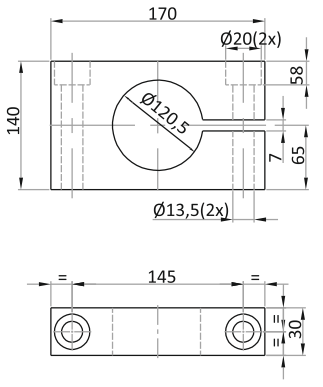
DK 120



TA 120



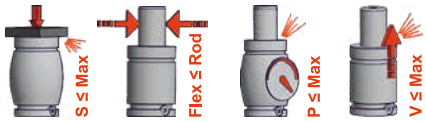
TD 120



P 06600 A

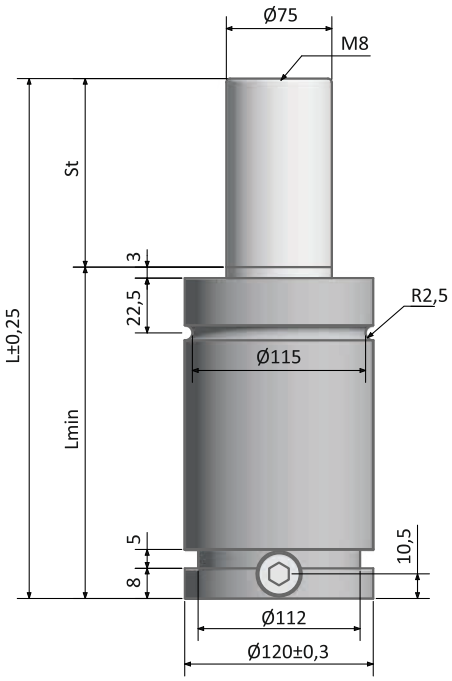
ISO 11901 - 4 VDI 3003 - Blatt 4	B2 4008 (BMW) 075.90.65 (FCA)
39D 838 (VW)	

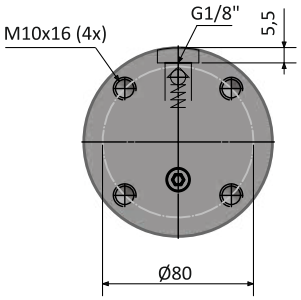
APPROVED PED 2014/68/EU



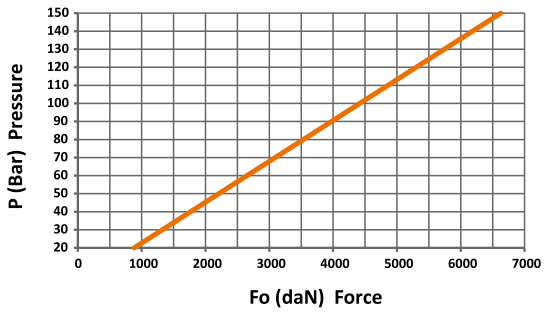
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



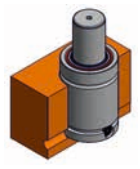


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 06600 025	**P 06600 025 A**	**25**	**190**	**165**		**8751**	**9586**	**530,0**	**11,09**
P 06600 038	P 06600 038 A	38	216	178		9346	10461	669,0	11,60
P 06600 050	**P 06600 050 A**	**50**	**240**	**190**		**9751**	**11067**	**797,0**	**12,08**
P 06600 063	P 06600 063 A	63	266	203		10085	11574	936,0	12,59
P 06600 075	**P 06600 075 A**	**75**	**290**	**215**		**10331**	**11949**	**1064,0**	**13,07**
P 06600 080	P 06600 080 A	80	300	220	**+ 20 °C**	10416	12079	1118,0	13,26
P 06600 100	**P 06600 100 A**	**100**	**340**	**240**		**10709**	**12534**	**1331,0**	**14,06**
P 06600 125	P 06600 125 A	125	390	265	**6630**	10976	12950	1598,0	15,05
P 06600 150	**P 06600 150 A**	**150**	**440**	**290**		**11303**	**13464**	**1833,0**	**16,29**
P 06600 160	P 06600 160 A	160	460	300	**150 bar**	11363	13560	1940,0	16,69
P 06600 175	**P 06600 175 A**	**175**	**490**	**315**		**11370**	**13570**	**2120,0**	**17,13**
P 06600 200	P 06600 200 A	200	540	340		11444	13689	2400,0	18,02
P 06600 250	**P 06600 250 A**	**250**	**640**	**390**		**11625**	**13977**	**2934,0**	**20,00**
P 06600 300	P 06600 300 A	300	740	440		11789	14239	3454,0	22,09



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	44,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 15-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s

Bottom Mount



Drop - in

D 120

DK 120

TA 120
TD 120

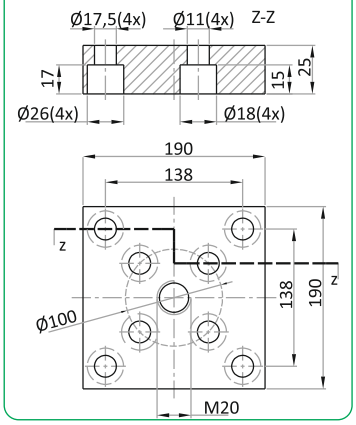
CB 120
C 120

K 120 - KB 120
KC 120

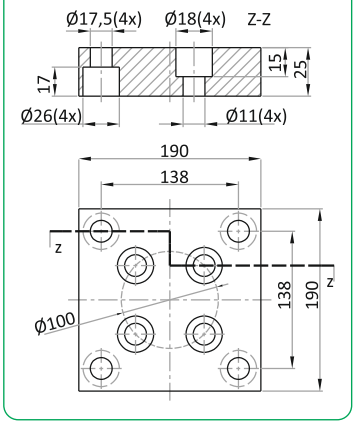
ALFAMAK

P 09500 A

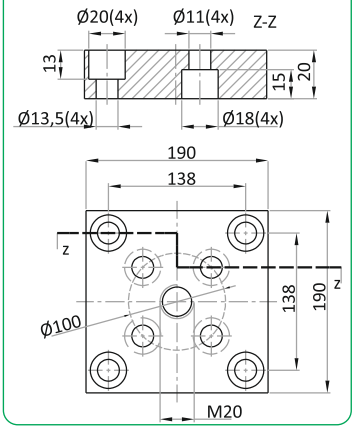
K 150



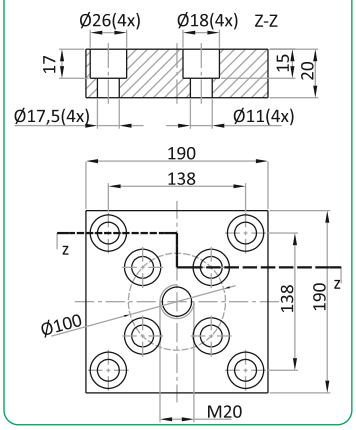
KB 150



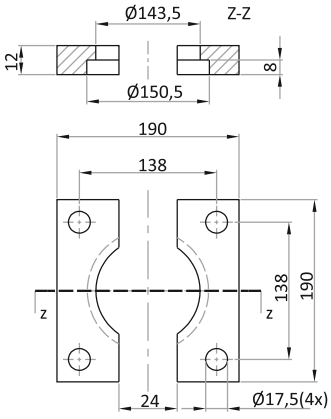
KC 150



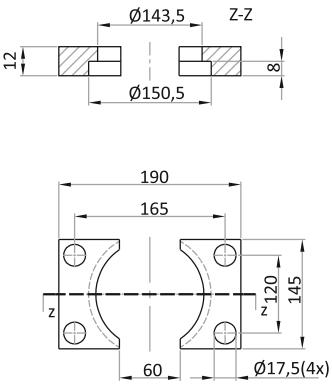
KF 150



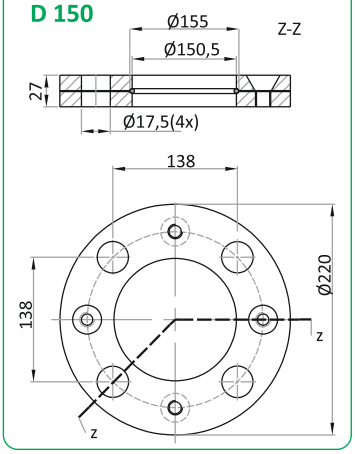
C 150



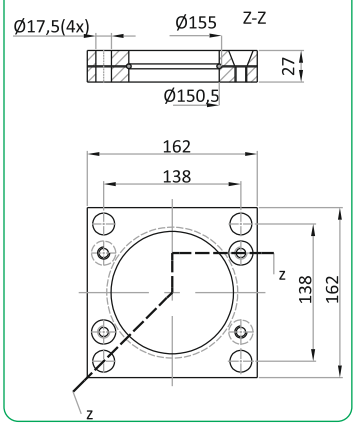
CB 150



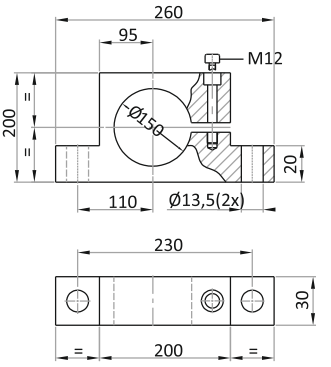
D 150



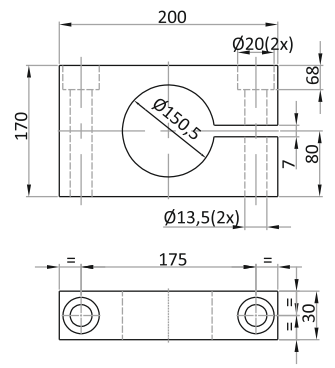
DK 150



TA 150



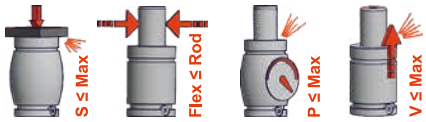
TD 150



P 09500 A

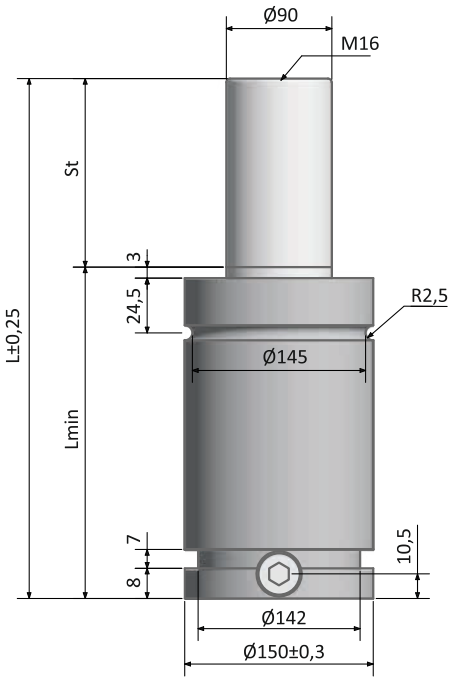
ISO 11901 - 4 VDI 3003 - Blatt 4	B2 4008 (BMW) 075.90.65 (FCA)
39D 838 (VW)	

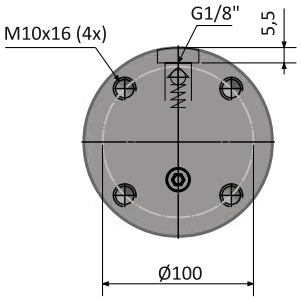
APPROVED PED 2014/68/EU



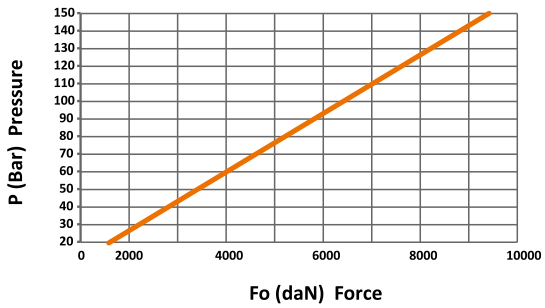
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



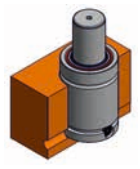


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 09500 025	**P 09500 025 A**	**25**	**205**	**180**		**12423**	**13545**	**800,0**	**19,52**
P 09500 038	P 09500 038 A	38	231	193		13215	14703	1010,0	20,33
P 09500 050	**P 09500 050 A**	**50**	**255**	**205**		**13752**	**15502**	**1203,0**	**21,08**
P 09500 063	P 09500 063 A	63	281	218		14193	16165	1413,0	21,88
P 09500 075	**P 09500 075 A**	**75**	**305**	**230**		**14517**	**16657**	**1606,0**	**22,63**
P 09500 080	P 09500 080 A	80	315	235	+ 20 °C	14631	16830	1687,0	22,94
P 09500 100	**P 09500 100 A**	**100**	**355**	**255**		**15013**	**17417**	**2009,0**	**24,18**
P 09500 125	P 09500 125 A	125	405	280		15361	17955	2412,0	25,73
P 09500 150	**P 09500 150 A**	**150**	**455**	**305**	**9540**	**15618**	**18355**	**2815,0**	**27,29**
P 09500 160	P 09500 160 A	160	475	315		15704	18489	2976,0	27,91
P 09500 175	**P 09500 175 A**	**175**	**505**	**330**	**150 bar**	**15879**	**18763**	**3198,0**	**29,00**
P 09500 200	P 09500 200 A	200	555	355		16032	19003	3601,0	30,55
P 09500 250	**P 09500 250 A**	**250**	**655**	**405**		**16208**	**19281**	**4427,0**	**33,50**
P 09500 300	P 09500 300 A	300	755	455		16374	19543	5233,0	36,60



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**63,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 15-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**


Bottom Mount


Drop - in


D 150


DK 150


TA 150
TD 150

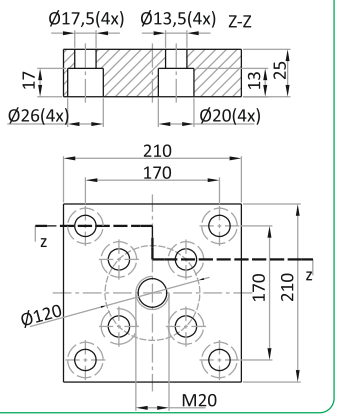

CB 150
C 150


K 150 - KF 150
KB 150 - KC 150

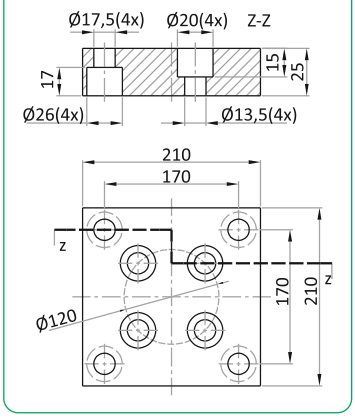
ALFAMAK

P 18500 A

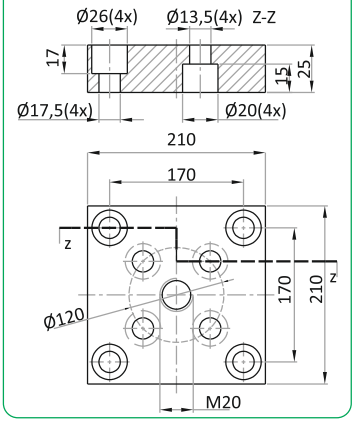
K 195



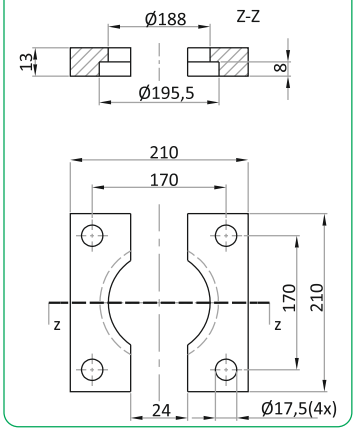
KB 195



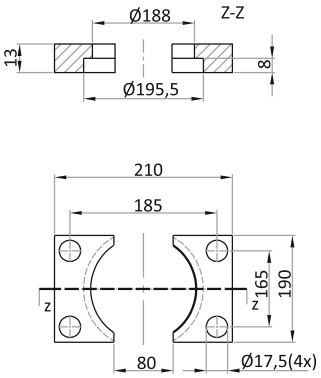
KC 195



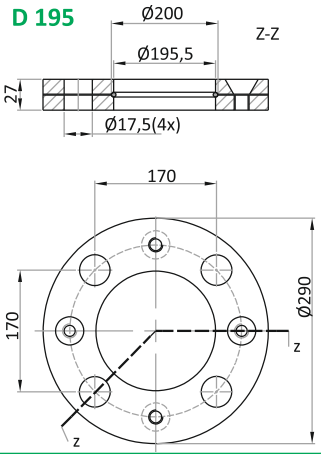
C 195



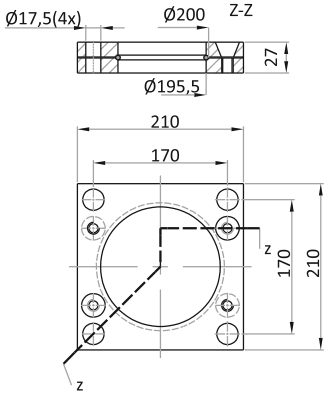
CB 195



D 195



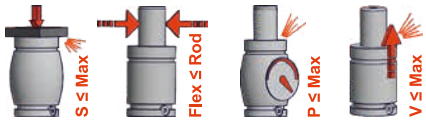
DK 195

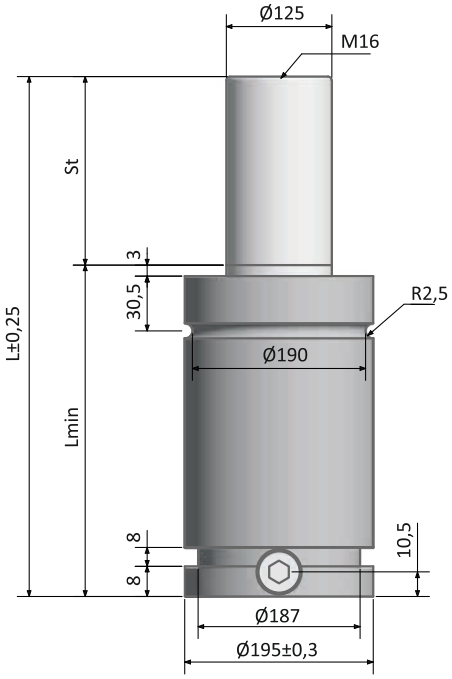


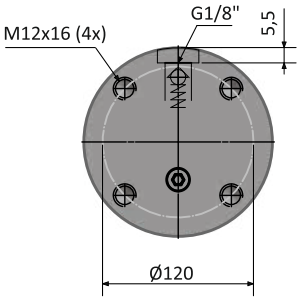
P 18500 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

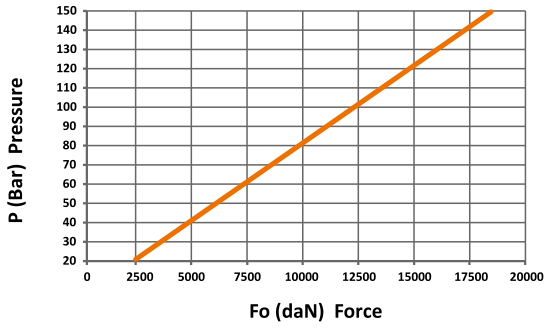
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**





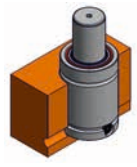


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
P 18500 025	**P 18500 025 A**	**25**	**210**	**185**		**24703**	**27204**	**1400,0**	**34,09**
P 18500 038	P 18500 038 A	38	236	198		25924	29004	1864,0	34,74
P 18500 050	**P 18500 050 A**	**50**	**260**	**210**		**27771**	**31780**	**2099,0**	**36,87**
P 18500 063	P 18500 063 A	63	286	223		28725	33236	2477,0	38,20
P 18500 080	**P 18500 080 A**	**80**	**320**	**240**	**+ 20 °C**	**29859**	**34990**	**2938,0**	**40,21**
P 18500 100	P 18500 100 A	100	360	260		30779	36429	3497,0	42,43
P 18500 125	**P 18500 125 A**	**125**	**410**	**285**	**18400**	**31627**	**37767**	**4196,0**	**45,21**
P 18500 160	P 18500 160 A	160	480	320		32468	39106	5175,0	49,11
P 18500 200	**P 18500 200 A**	**200**	**560**	**360**	**150 bar**	**33140**	**40185**	**6293,0**	**53,56**
P 18500 250	P 18500 250 A	250	660	410		33724	41127	7691,0	59,13
P 18500 300	**P 18500 300 A**	**300**	**760**	**460**		**33926**	**41455**	**9160,0**	**64,13**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	122,70 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 10-70 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 195

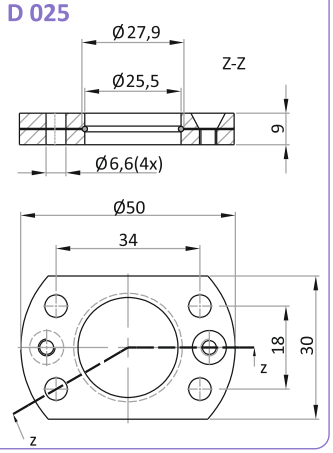

DK 195


CB 195
C 195

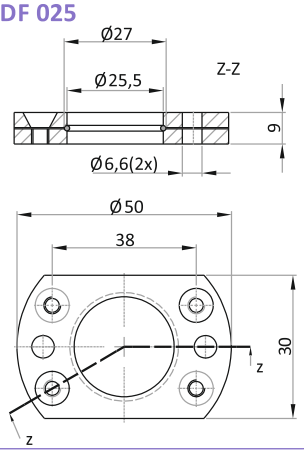

K 195 - KB 195
KC 195

O 00420 A

D 025



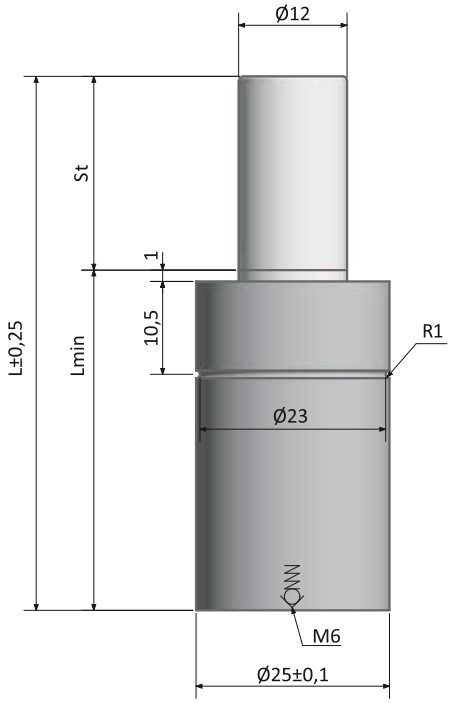
DF 025



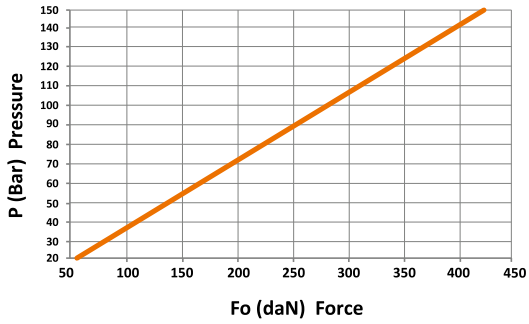
O 00420 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

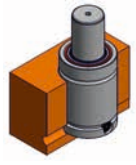


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 00420 006	**O 00420 006 A**	**6**	**56**	**50**		**824**	**1024**	**4,0**	**0,16**
O 00420 010	O 00420 010 A	10	70	60	+ 20 °C	913	1173	6,0	0,19
O 00420 016	**O 00420 016 A**	**16**	**91**	**75**		**983**	**1293**	**9,0**	**0,23**
O 00420 025	O 00420 025 A	25	120	95	425	988	1302	14,0	0,28
O 00420 032	**O 00420 032 A**	**32**	**140**	**108**		**1058**	**1426**	**17,0**	**0,32**
O 00420 040	O 00420 040 A	40	165	125	150 bar	1075	1457	21,0	0,36
O 00420 050	**O 00420 050 A**	**50**	**195**	**145**		**1090**	**1484**	**26,0**	**0,41**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	2,84 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 50-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s

Bottom Mount

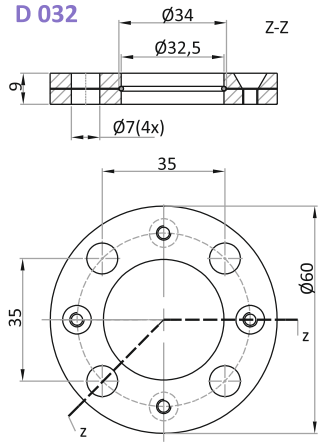


Drop - in

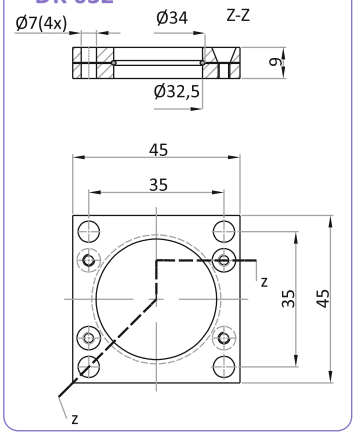
D 025
DF 025

O 00750 A

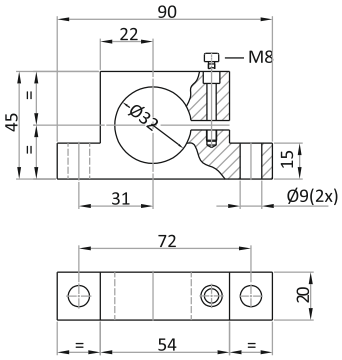
D 032



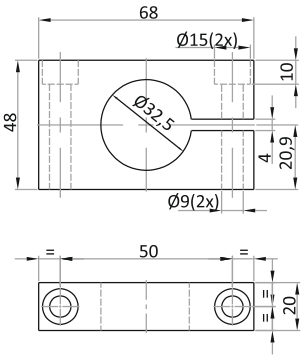
DK 032



TA 032



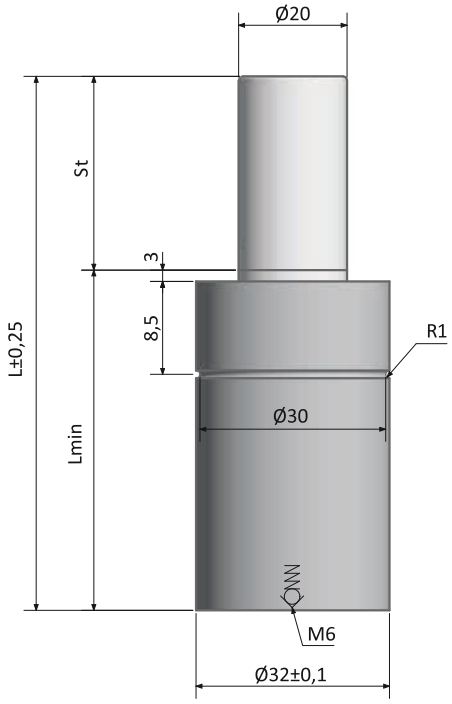
TD 032

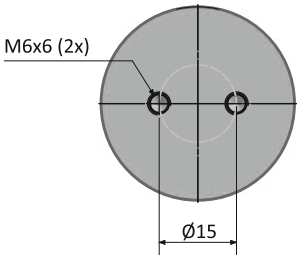


O 00750 A

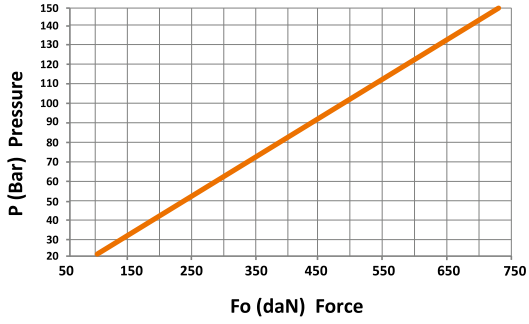
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

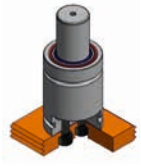


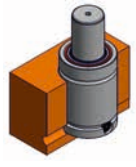


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 00750 006	**O 00750 006 A**	**6**	**63**	**57**		**1272**	**1521**	**8,0**	**0,31**
O 00750 010	O 00750 010 A	10	75	65	**+ 20 °C**	1377	1691	12,0	0,33
O 00750 016	**O 00750 016 A**	**16**	**93**	**77**		**1540**	**1961**	**17,0**	**0,39**
O 00750 025	O 00750 025 A	25	120	95	**740**	1575	2020	26,0	0,45
O 00750 032	**O 00750 032 A**	**32**	**140**	**108**		**1589**	**2045**	**33,0**	**0,50**
O 00750 040	O 00750 040 A	40	165	125	**150 bar**	1600	2063	41,0	0,56
O 00750 050	**O 00750 050 A**	**50**	**195**	**145**		**1608**	**2078**	**51,0**	**0,63**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**4,91 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in

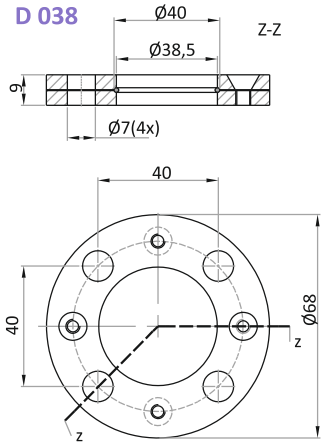

D 032


DK 032

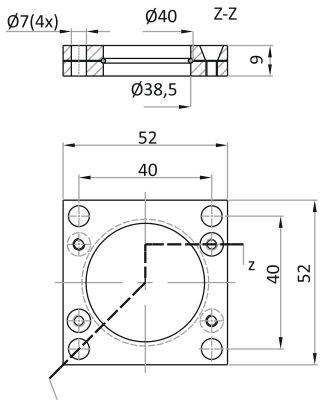

TA 032
TD 032

O 01000 A

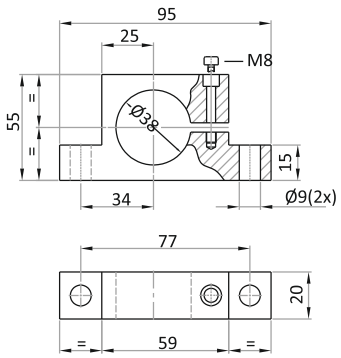
D 038



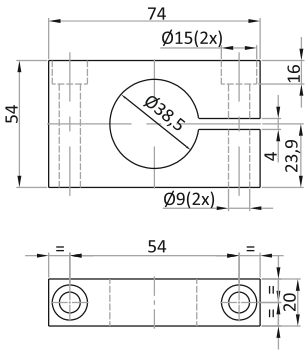
DK 038



TA 038



TD 038



O 01000 A

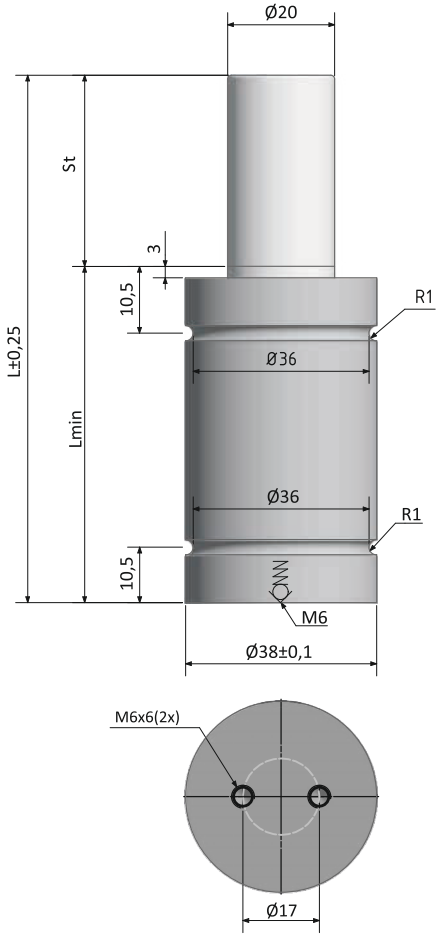
B2 4006 (BMW)
E24.54.815.G (PSA)

F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

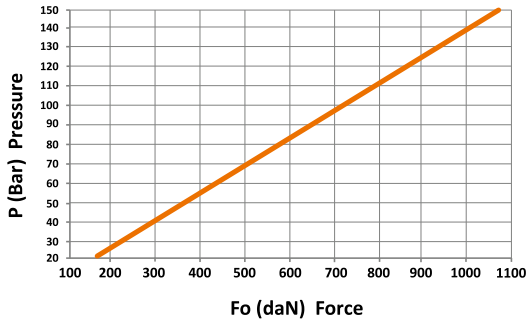
Vo Initial Gas Volume
Başlangıç Hacmi

Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet

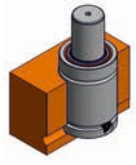


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 01000 006	**O 01000 006 A**	**6**	**61**	**55**		**2045**	**2536**	**10,0**	**0,42**
O 01000 010	O 01000 010 A	10	78	68	**+ 20 °C**	2010	2479	17,0	0,49
O 01000 016	**O 01000 016 A**	**16**	**100**	**84**		**1910**	**2316**	**29,0**	**0,55**
O 01000 025	O 01000 025 A	25	135	110	**1060**	1859	2234	47,0	0,66
O 01000 032	**O 01000 032 A**	**32**	**167**	**135**		**1731**	**2033**	**67,0**	**0,75**
O 01000 040	O 01000 040 A	40	195	155	**150 bar**	1754	2068	82,0	0,83
O 01000 050	**O 01000 050 A**	**50**	**230**	**180**		**1782**	**2112**	**100,0**	**0,93**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**7,07 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50-100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in

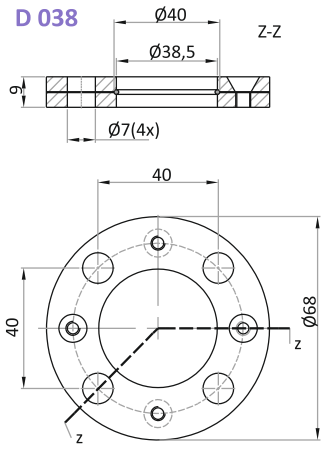

D 038


DK 038

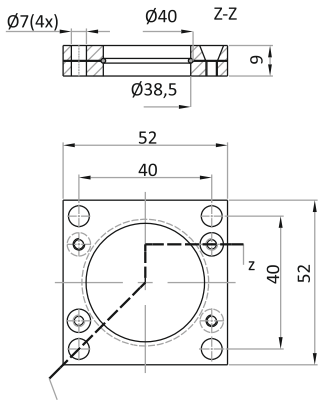

TA 038
TD 038

O 01000 AK

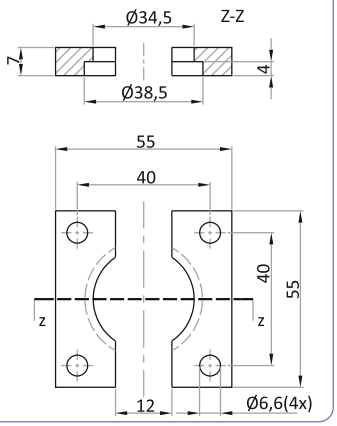
D 038



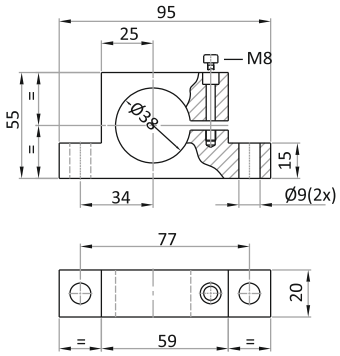
DK 038



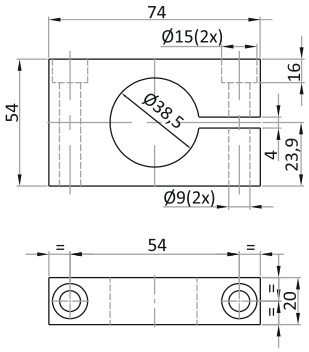
CA 038



TA 038



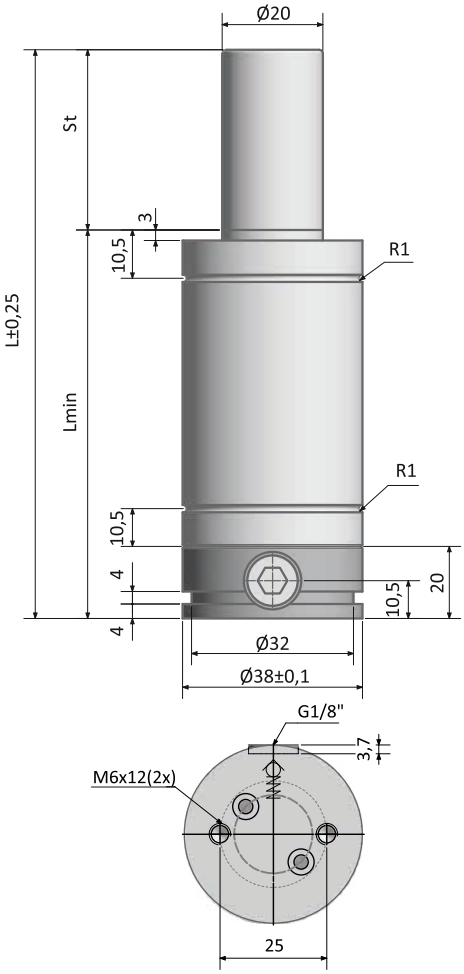
TD 038



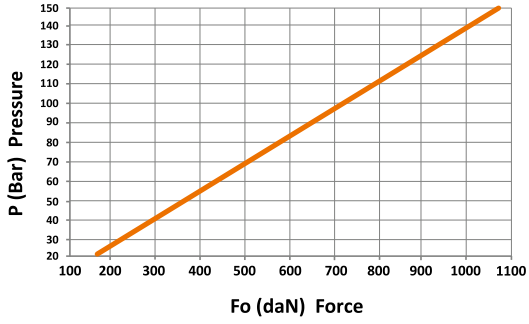
O 01000 AK

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

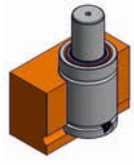


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 01000 006 K	**O 01000 006 AK**	**6**	**81**	**75**		**2045**	**2536**	**10,0**	**0,57**
O 01000 010 K	O 01000 010 AK	10	98	88	**+ 20 °C**	2010	2479	17,0	0,64
O 01000 016 K	**O 01000 016 AK**	**16**	**120**	**104**		**1910**	**2316**	**29,0**	**0,70**
O 01000 025 K	O 01000 025 AK	25	155	130	**1060**	1859	2234	47,0	0,81
O 01000 032 K	**O 01000 032 AK**	**32**	**187**	**155**		**1731**	**2033**	**67,0**	**0,90**
O 01000 040 K	O 01000 040 AK	40	215	175	**150 bar**	1754	2068	82,0	0,98
O 01000 050 K	**O 01000 050 AK**	**50**	**250**	**200**		**1782**	**2112**	**100,0**	**1,08**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**7,07 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in


D 038

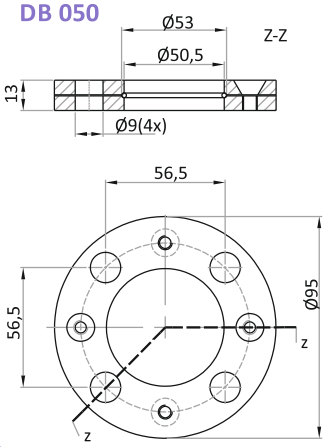

DK 038


TA 038
TD 038

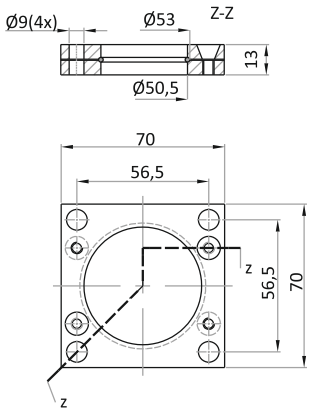

CA 038

O 01800 A

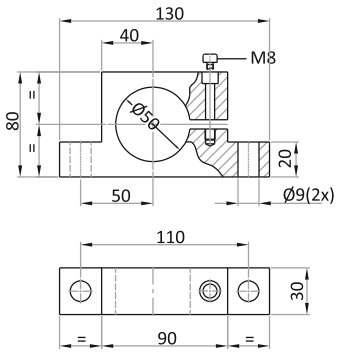
DB 050



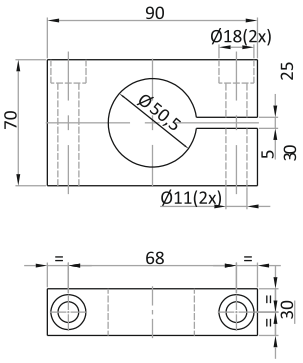
DKB 050



TA 050



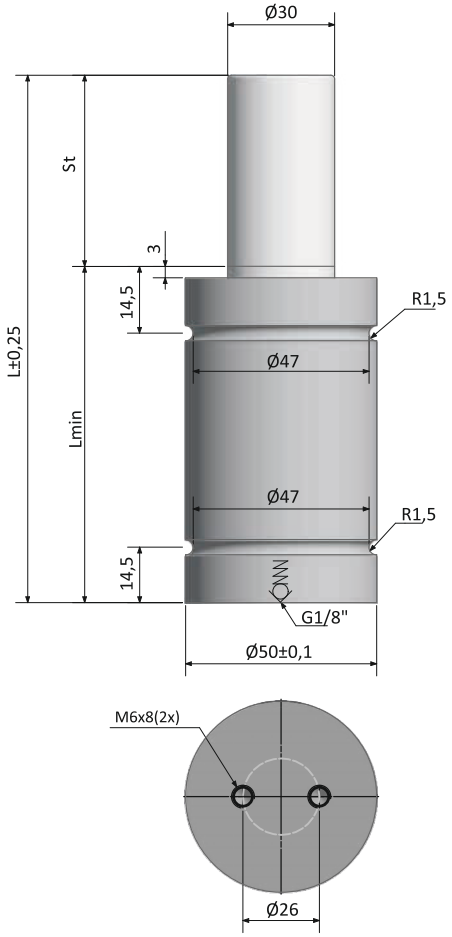
TD 050



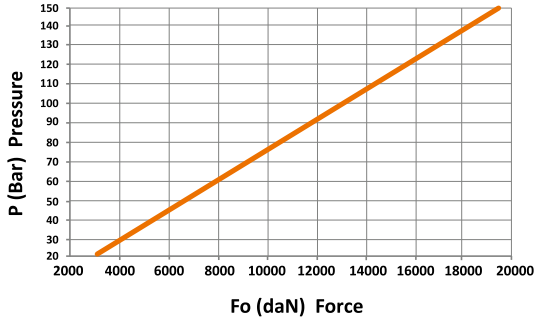
O 01800 A

B2 4006 (BMW)
E24.54.815.G (PSA)

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

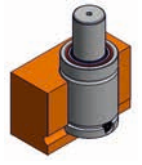


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 01800 006	**O 01800 006 A**	**6**	**66**	**60**		**3201**	**3808**	**21,0**	**0,78**
O 01800 010	O 01800 010 A	10	80	70		3336	4022	33,0	0,86
O 01800 016	**O 01800 016 A**	**16**	**106**	**90**	**+ 20 °C**	**3064**	**3594**	**60,0**	**0,99**
O 01800 025	O 01800 025 A	25	135	110		3265	3909	85,0	1,15
O 01800 032	**O 01800 032 A**	**32**	**162**	**130**	**1885**	**3304**	**3971**	**107,0**	**1,33**
O 01800 040	O 01800 040 A	40	190	150		3336	4022	132,0	1,48
O 01800 050	**O 01800 050 A**	**50**	**220**	**170**	**150 bar**	**3351**	**4046**	**164,0**	**1,59**
-	O 01800 065 A	65	271	206		3365	4068	212,0	1,86



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**12,57 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in

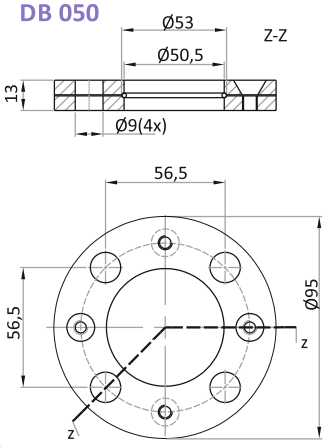

DB 050


DKB 050

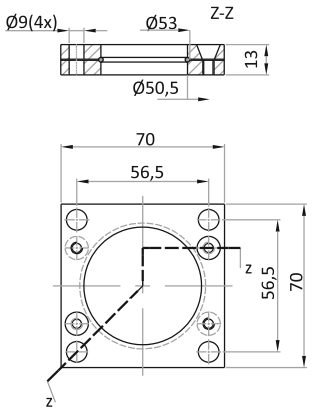

TA 050
TD 050

O 01800 AK

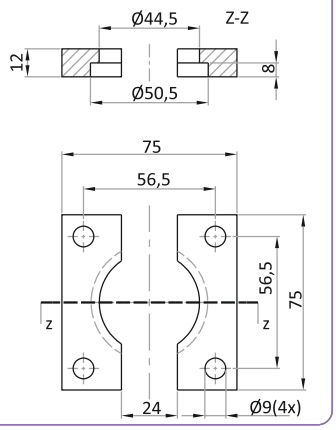
DB 050



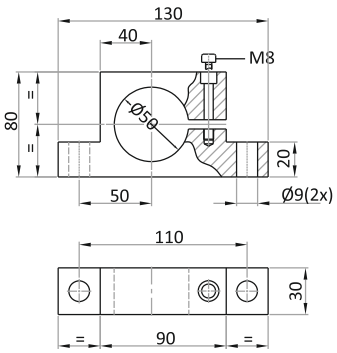
DKB 050



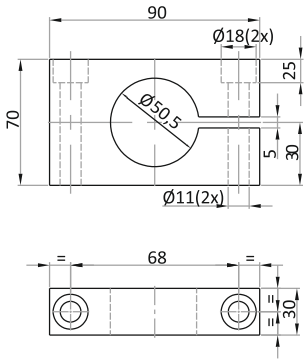
C 050



TA 050



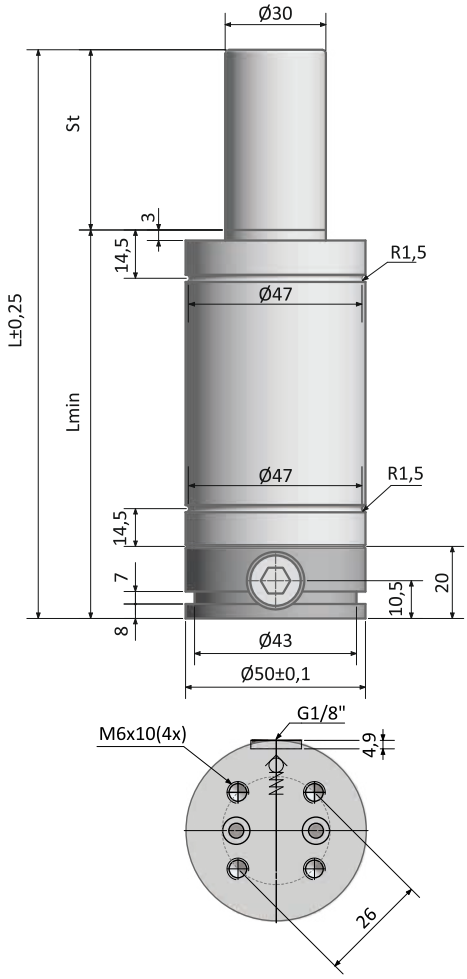
TD 050



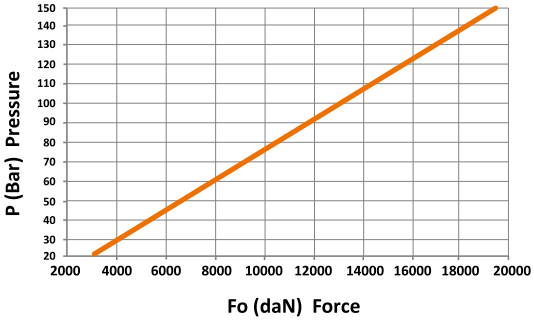
O 01800 AK

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

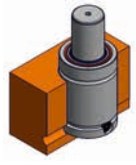


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 01800 006 K	**O 01800 006 AK**	**6**	**86**	**80**		**3201**	**3808**	**21,0**	**1,03**
O 01800 010 K	O 01800 010 AK	10	100	90		3336	4022	33,0	1,11
O 01800 016 K	**O 01800 016 AK**	**16**	**126**	**110**	**+ 20 °C**	**3064**	**3594**	**60,0**	**1,24**
O 01800 025 K	O 01800 025 AK	25	155	130		3265	3909	85,0	1,40
O 01800 032 K	**O 01800 032 AK**	**32**	**182**	**150**	**1885**	**3304**	**3971**	**107,0**	**1,58**
O 01800 040 K	O 01800 040 AK	40	210	170		3336	4022	132,0	1,73
O 01800 050 K	**O 01800 050 AK**	**50**	**240**	**190**	**150 bar**	**3351**	**4046**	**164,0**	**1,84**
-	O 01800 065 AK	65	291	226		3365	4068	212,0	2,11



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**12,57 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in


DB 050

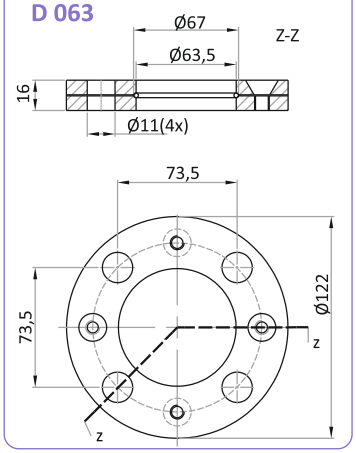

DKB 050


TA 050
TD 050

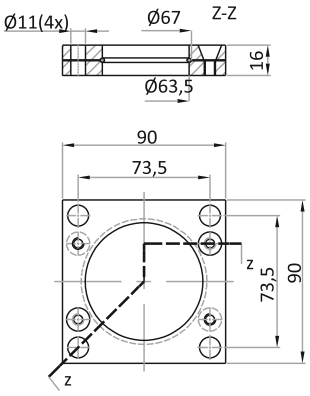

C 050

O 03000 A

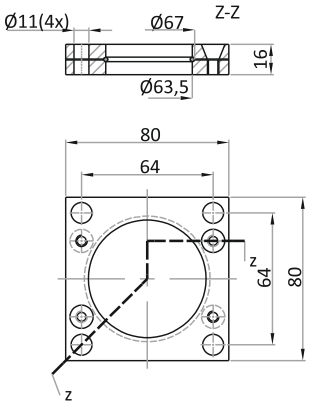
D 063



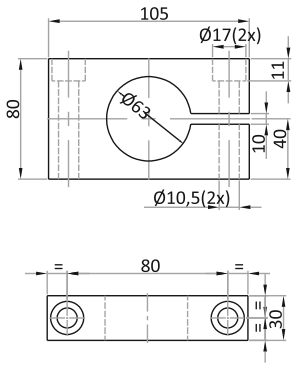
DKA 063



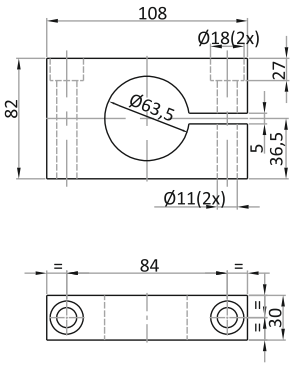
DK 063



TC 063



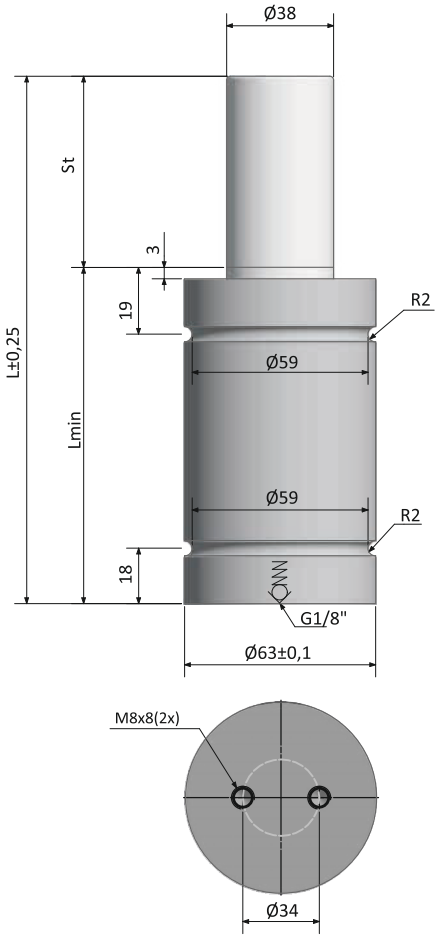
TD 063



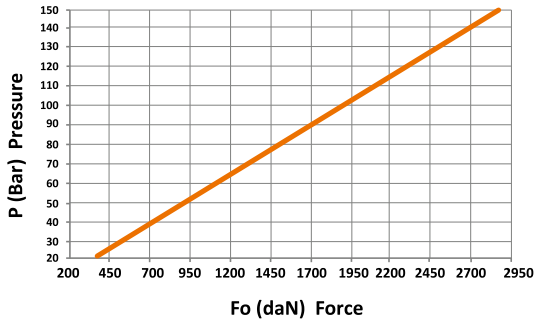
O 03000 A

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

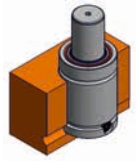


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 03000 010	**O 03000 010 A**	**10**	**85**	**75**		**5329**	**6473**	**50,0**	**1,54**
O 03000 016	O 03000 016 A	16	103	87	**+ 20 °C**	5553	6837	76,0	1,71
O 03000 025	**O 03000 025 A**	**25**	**130**	**105**		**5665**	**7021**	**116,0**	**1,95**
O 03000 032	O 03000 032 A	32	150	118	**2945**	5861	7344	143,0	2,14
O 03000 040	**O 03000 040 A**	**40**	**175**	**135**		**5884**	**7383**	**178,0**	**2,38**
O 03000 050	O 03000 050 A	50	205	155	**150 bar**	5896	7404	224,0	2,63
-	**O 03000 065 A**	**65**	**256**	**191**		**5778**	**7207**	**295,0**	**3,15**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**19,63 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 80 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**

Bottom Mount



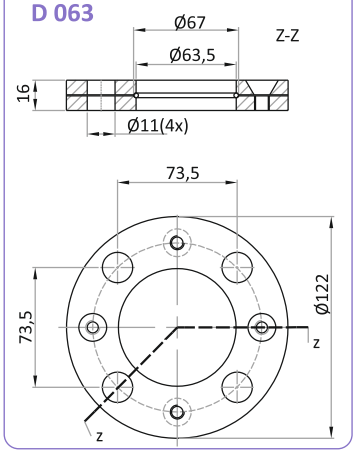
Drop - in

D 063

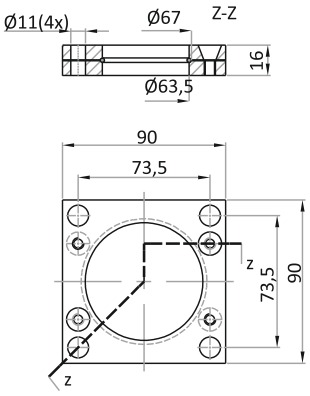
DKA 063
DK 063

TD 063
TC 063

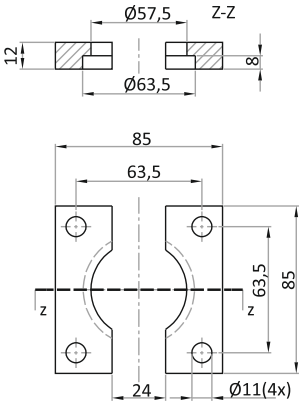
D 063



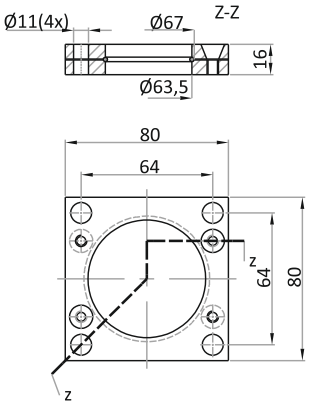
DKA 063



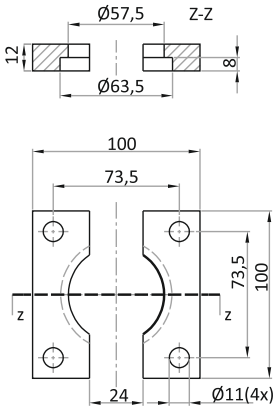
C 063



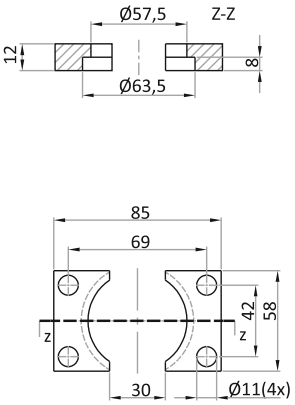
DK 063



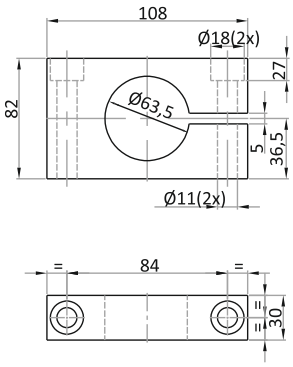
CA 063



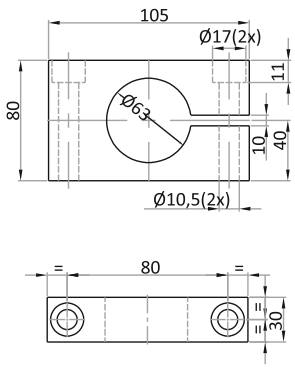
CB 063



TD 063



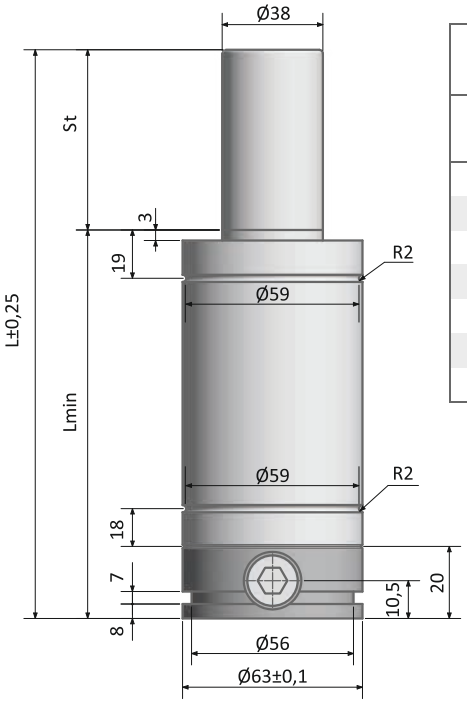
TC 063

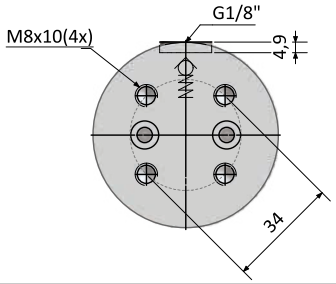


O 03000 AK

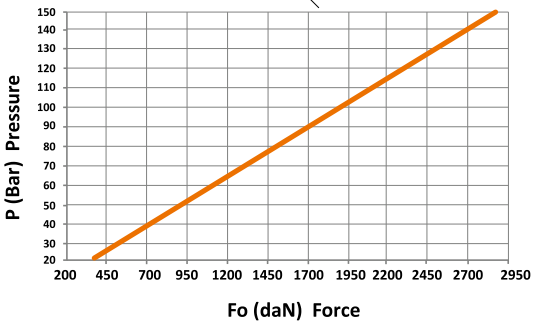
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



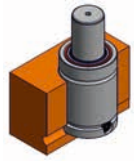


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 03000 010 K	**O 03000 010 AK**	**10**	**105**	**95**		**5329**	**6473**	**50,0**	**1,89**
O 03000 016 K	O 03000 016 AK	16	123	107	**+ 20 °C**	5553	6837	76,0	2,06
O 03000 025 K	**O 03000 025 AK**	**25**	**150**	**125**		**5665**	**7021**	**116,0**	**2,3**
O 03000 032 K	O 03000 032 AK	32	170	138	**2945**	5861	7344	143,0	2,49
O 03000 040 K	**O 03000 040 AK**	**40**	**195**	**155**		**5884**	**7383**	**178,0**	**2,73**
O 03000 050 K	O 03000 050 AK	50	225	175	**150 bar**	5896	7404	224,0	2,98
-	**O 03000 065 AK**	**65**	**276**	**211**		**5778**	**7207**	**295,0**	**3,5**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	19,63 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 80 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s


Bottom Mount


Drop - in


D 063

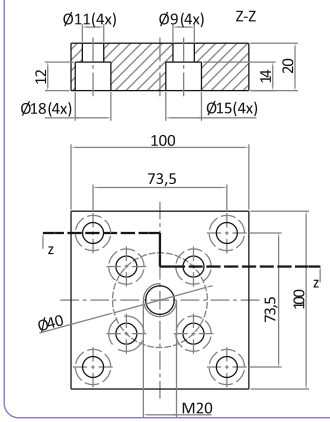

DKA 063
DK 063


TD 063
TC 063

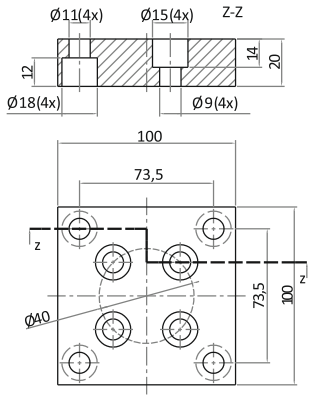

C 063 - CA 063
CB 063

O 04700 A

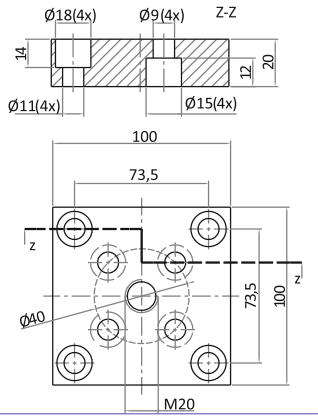
K 075



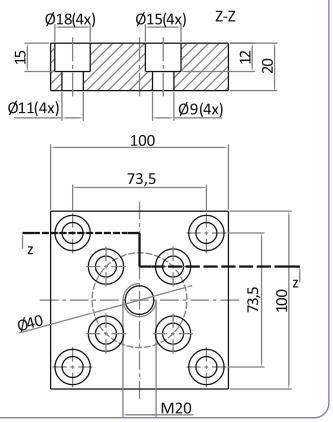
KB 075



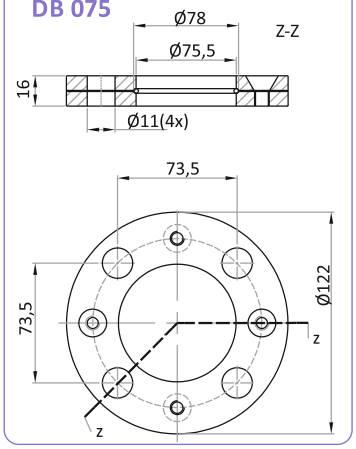
KC 075



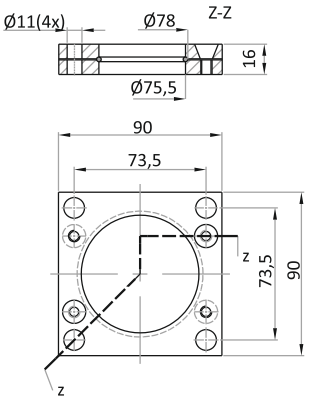
KF 075



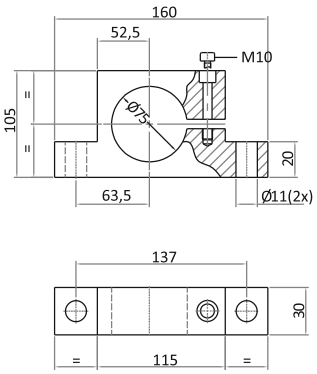
DB 075



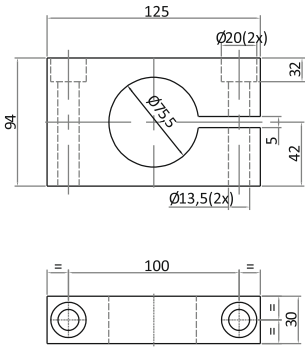
DKB 075



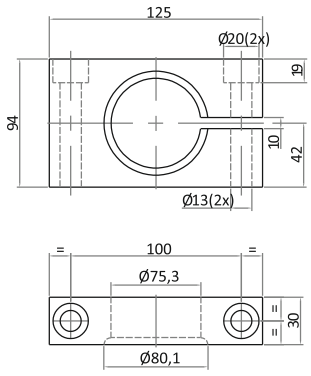
TA 075



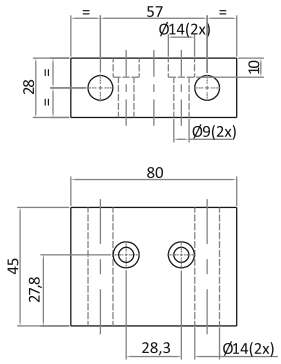
TD 075



TE 075



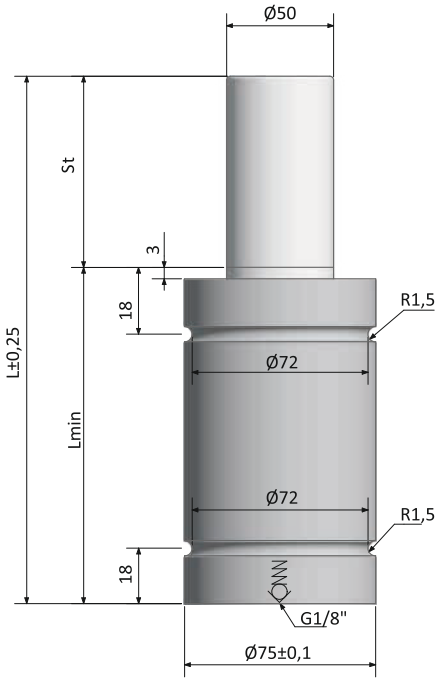
TT 075

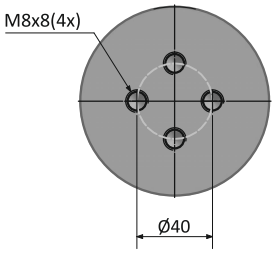


O 04700 A

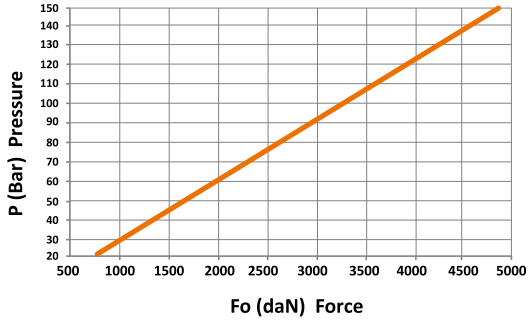
B2 4006 (BMW)
E24.54.815.G (PSA)

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



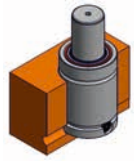


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 04700 010	O 04700 010 A	10	80	70		8413	10199	80,0	1,92
O 04700 016	O 04700 016 A	16	106	90	+ 20 °C	7655	8998	147,0	2,18
O 04700 025	O 04700 025 A	25	135	110		7914	9404	218,0	2,45
O 04700 032	O 04700 032 A	32	167	135	4675	7563	8854	300,0	2,79
O 04700 040	O 04700 040 A	40	200	160		7426	8642	387,0	3,09
O 04700 050	O 04700 050 A	50	240	190	150 bar	7373	8560	490,0	3,48
-	O 04700 065 A	65	273	208		7988	9521	559,0	3,79



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	31,17 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 80 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s


Bottom Mount


Drop - in


DB 075

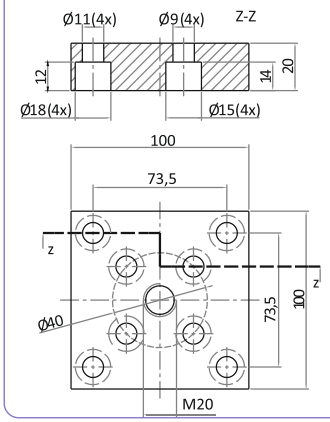

DKB 075


TA 075 - TD 075
TE 075 - TT 075

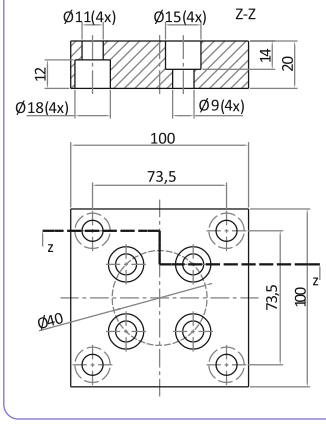

K 075 - KB 075
KC 075 - KF 075

O 04700 AK

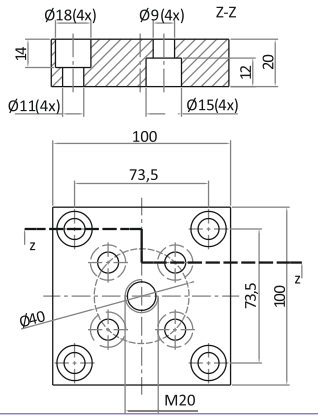
K 075



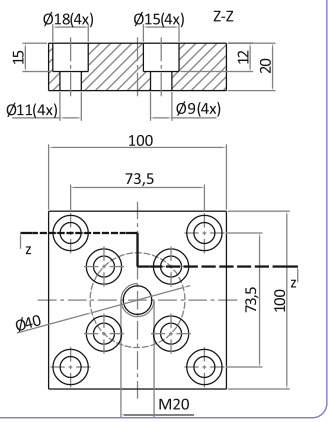
KB 075



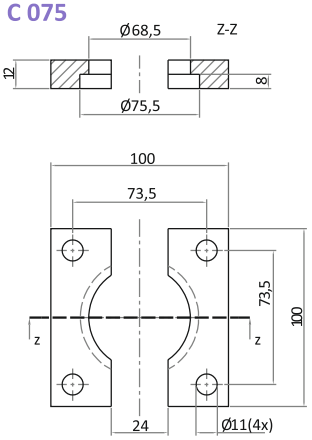
KC 075



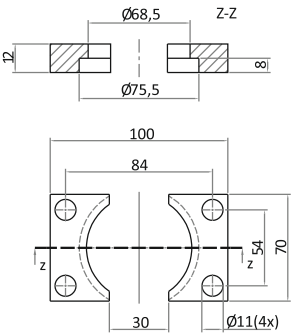
KF 075



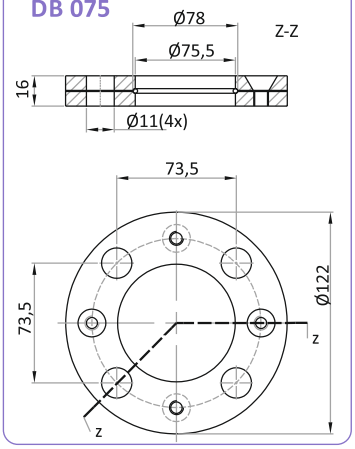
C 075



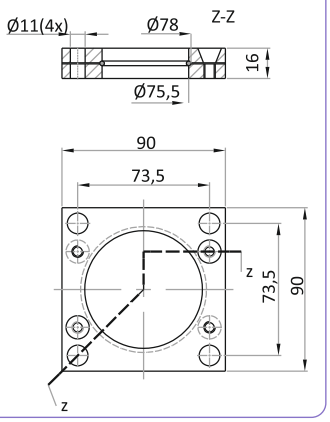
CB 075



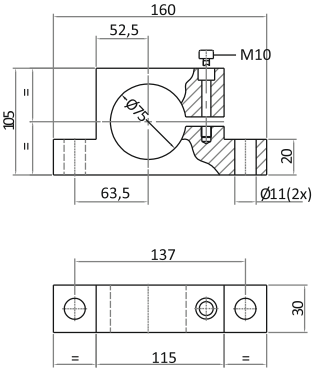
DB 075



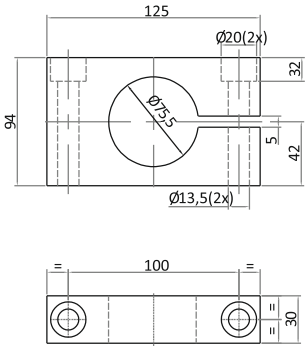
DKB 075



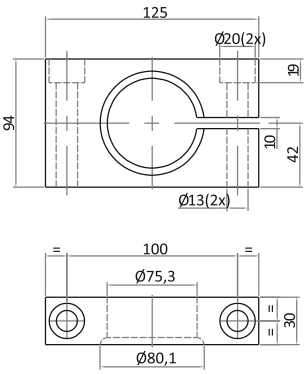
TA 075



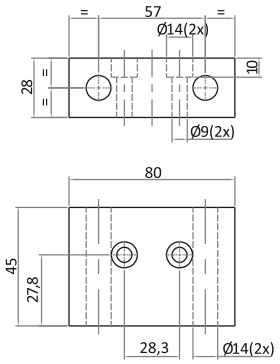
TD 075



TE 075



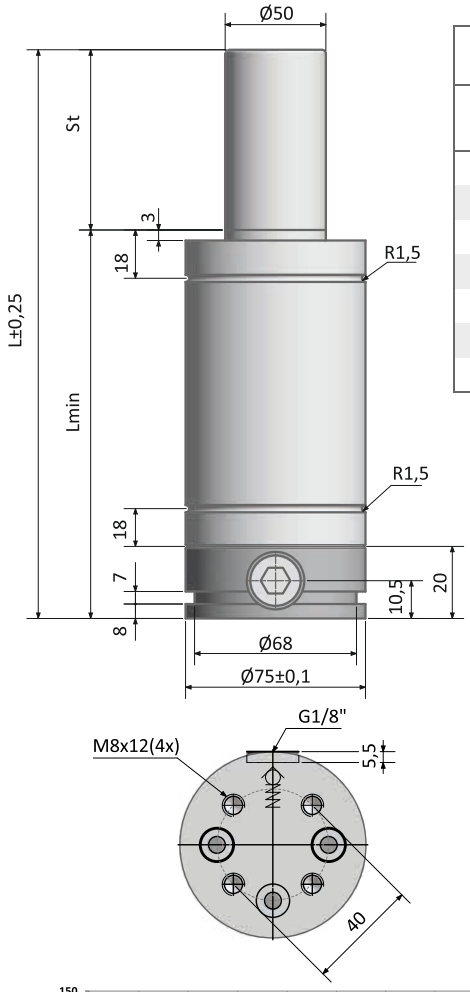
TT 075



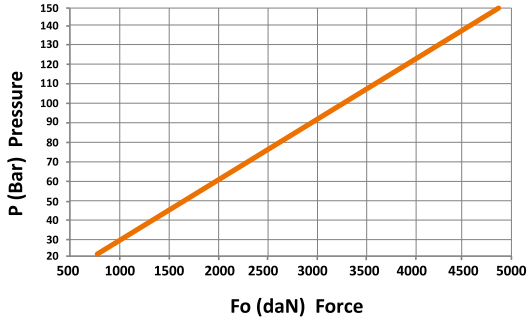
O 04700 AK

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

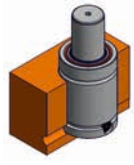


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 04700 010 K	**O 04700 010 AK**	**10**	**100**	**90**		**8413**	**10199**	**80,0**	**2,47**
O 04700 016 K	O 04700 016 AK	16	126	110	**+ 20 °C**	7655	8998	147,0	2,73
O 04700 025 K	**O 04700 025 AK**	**25**	**155**	**130**		**7914**	**9404**	**218,0**	**3,00**
O 04700 032 K	O 04700 032 AK	32	187	155	**4675**	7563	8854	300,0	3,34
O 04700 040 K	**O 04700 040 AK**	**40**	**220**	**180**		**7426**	**8642**	**387,0**	**3,64**
O 04700 050 K	O 04700 050 AK	50	260	210	**150 bar**	7373	8560	490,0	4,03
-	**O 04700 065 AK**	**65**	**293**	**228**		**7988**	**9521**	**559,0**	**4,34**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	31,17 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 80 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s


Bottom Mount


Drop - in


DB 075


DKB 075

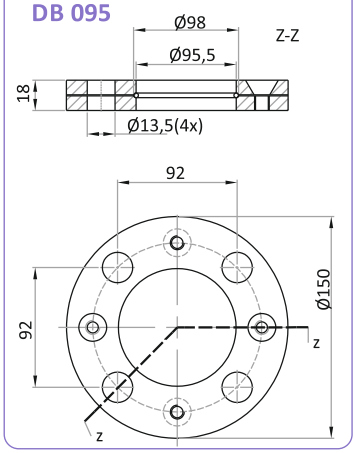

TA 075 - TD 075
TE 075 - TT 075


C 075
CB 075

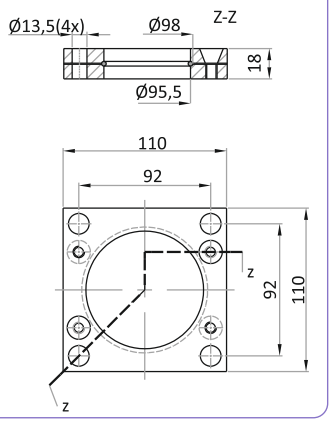

K 075 - KB 075
KC 075 - KF 075

O 07500 A

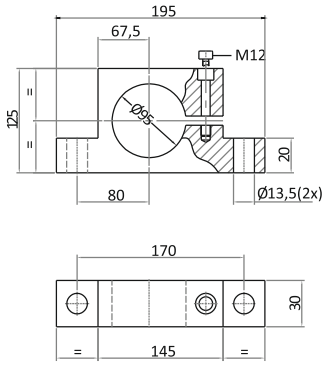
DB 095



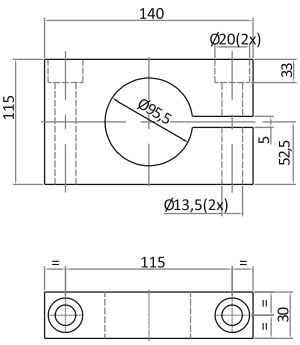
DKB 095



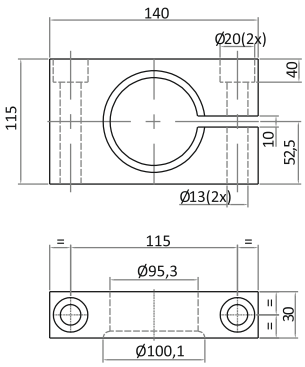
TA 095



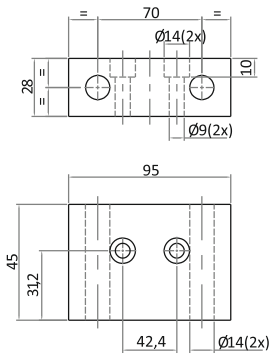
TD 095



TE 095



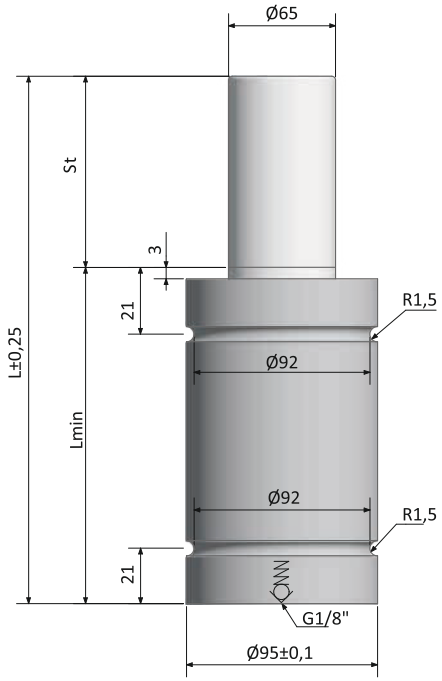
TT 095

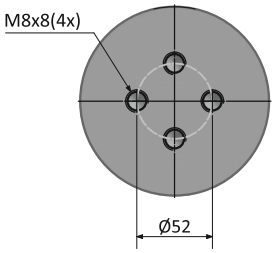


O 07500 A

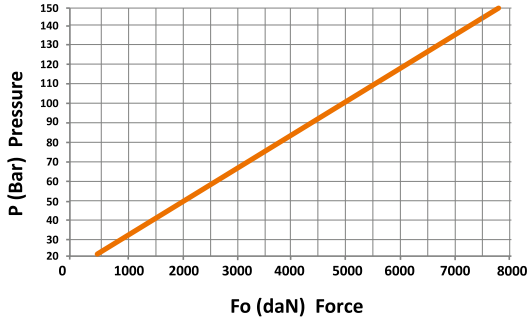
B2 4006 (BMW)
E24.54.815.G (PSA)

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



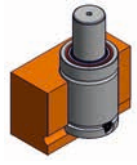


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 07500 010	**O 07500 010 A**	**10**	**90**	**80**		**12255**	**14370**	**150,0**	**3,40**
O 07500 016	O 07500 016 A	16	116	100	**+ 20 °C**	11762	13607	258,0	3,78
O 07500 025	**O 07500 025 A**	**25**	**145**	**120**		**12335**	**14495**	**371,0**	**4,18**
O 07500 032	O 07500 032 A	32	182	150	**7540**	11574	13319	532,0	4,71
O 07500 040	**O 07500 040 A**	**40**	**210**	**170**		**11772**	**13622**	**644,0**	**5,09**
O 07500 050	O 07500 050 A	50	255	205	**150 bar**	11561	13300	833,0	5,74
-	**O 07500 065 A**	**65**	**279**	**214**		**12907**	**15394**	**899,0**	**6,01**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**50,27 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in

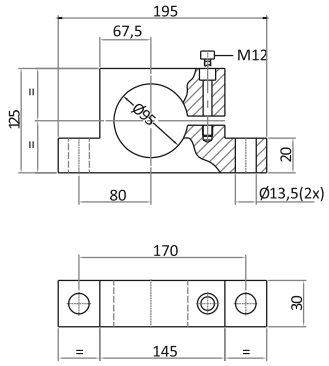

D 120


DK 120

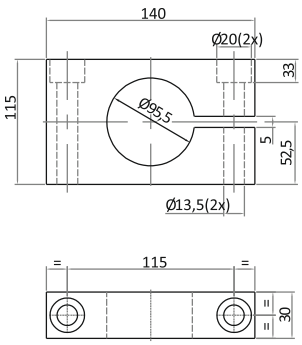

TA 095 - TD 095
TE 095 - TT 095

O 07500 AK

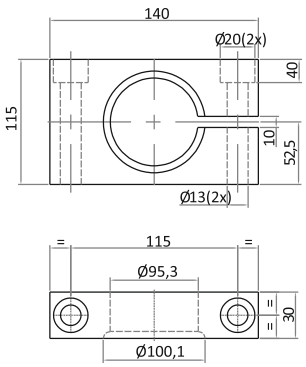
TA 095



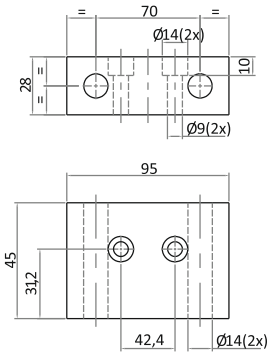
TD 095



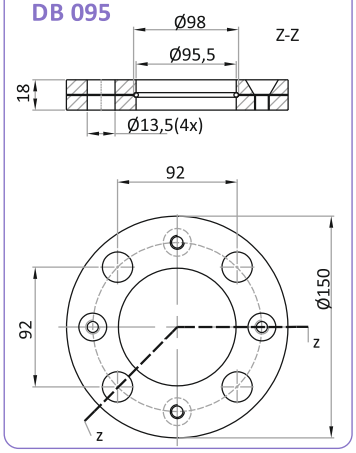
TE 095



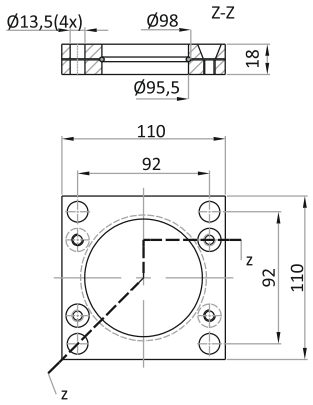
TT 095



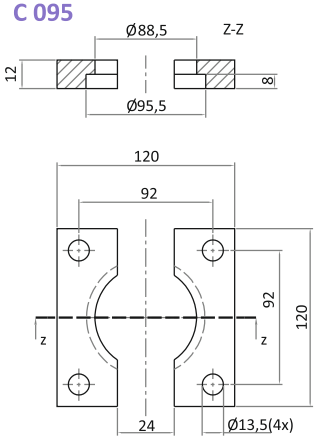
DB 095



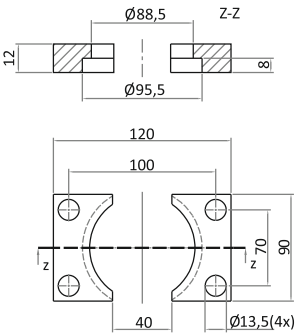
DKB 095



C 095



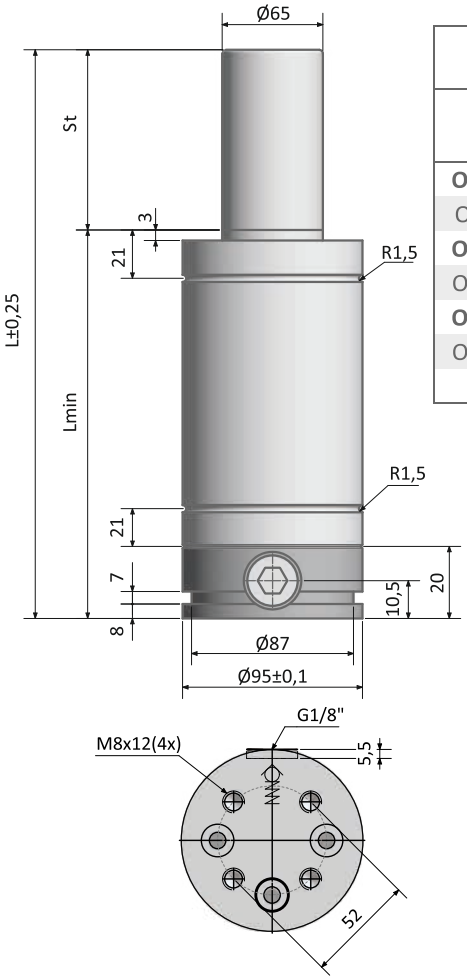
CB 095



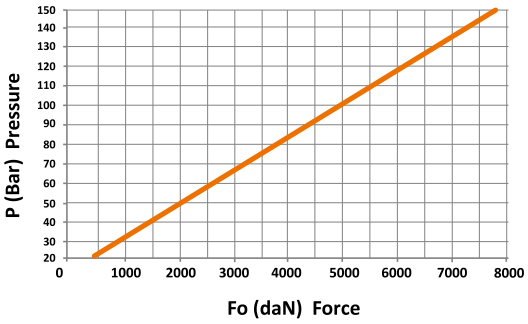
O 07500 AK

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

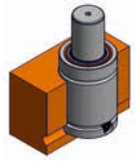


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 07500 010 K	**O 07500 010 AK**	**10**	**110**	**100**		**12255**	**14370**	**150,0**	**4,28**
O 07500 016 K	O 07500 016 AK	16	136	120	**+ 20 °C**	11762	13607	258,0	4,66
O 07500 025 K	**O 07500 025 AK**	**25**	**165**	**140**		**12335**	**14495**	**371,0**	**5,06**
O 07500 032 K	O 07500 032 AK	32	202	170	**7540**	11574	13319	532,0	5,59
O 07500 040 K	**O 07500 040 AK**	**40**	**230**	**190**		**11772**	**13622**	**644,0**	**5,97**
O 07500 050 K	O 07500 050 AK	50	275	225	**150 bar**	11561	13300	833,0	6,62
-	**O 07500 065 AK**	**65**	**299**	**234**		**12907**	**15394**	**899,0**	**6,89**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**50,27 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 80 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in


DB 095

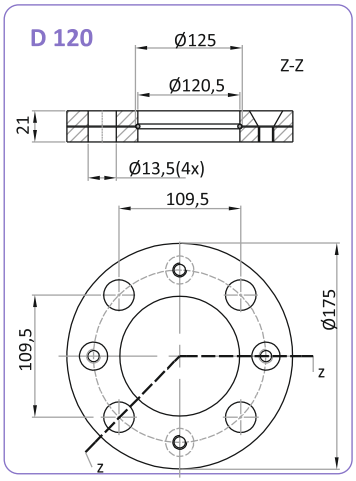

DKB 095


TA 095 - TD 095
TE 095 - TT 095

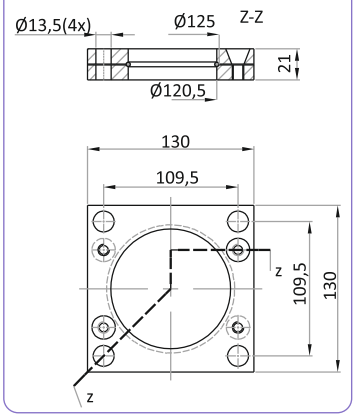

C 095
CB 095

O 12000 A

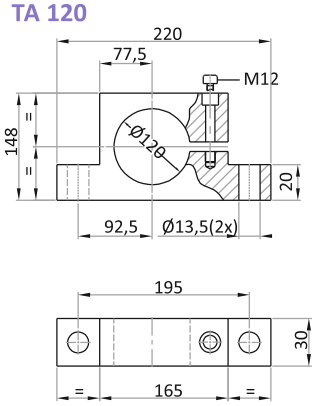
D 120



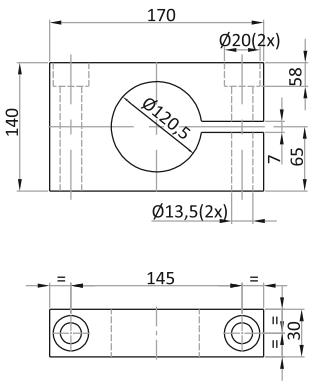
DK 120



TA 120



TD 120



O 12000 A

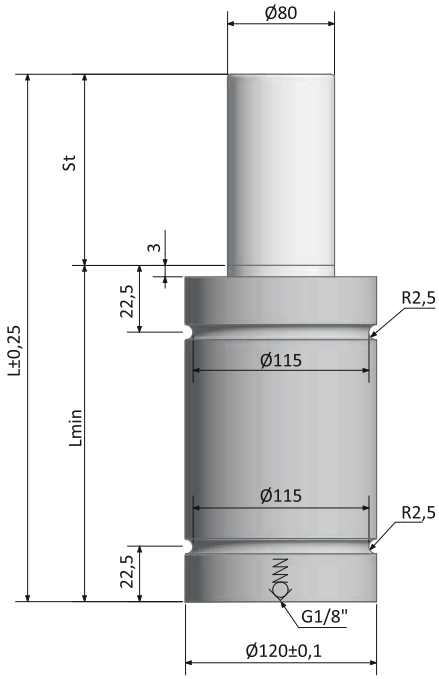
B2 4006 (BMW)

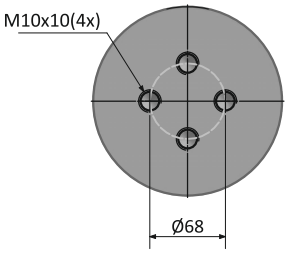
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

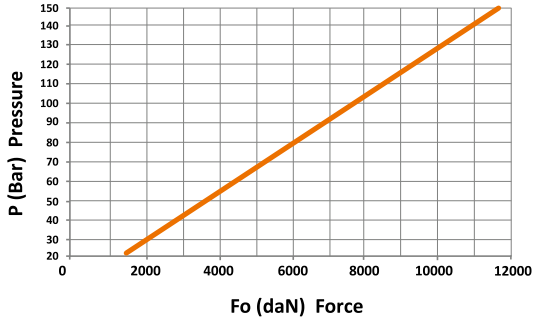
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



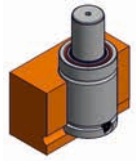


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 12000 010	**O 12000 010 A**	**10**	**100**	**90**		**18258**	**21077**	**255,0**	**6,20**
O 12000 016	O 12000 016 A	16	126	110	+ 20 °C	17899	20529	424,0	6,83
O 12000 025	**O 12000 025 A**	**25**	**155**	**130**		**18863**	**22009**	**601,0**	**7,49**
O 12000 032	O 12000 032 A	32	187	155	**11780**	18305	21150	812,0	8,26
O 12000 040	**O 12000 040 A**	**40**	**220**	**180**		**18211**	**21005**	**1025,0**	**9,05**
O 12000 050	O 12000 050 A	50	260	210	**150 bar**	18205	20996	1282,0	10,00
-	**O 12000 065 A**	**65**	**320**	**255**		**18203**	**20993**	**1667,0**	**11,43**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	78,54 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 50 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s


Bottom Mount


Drop - in

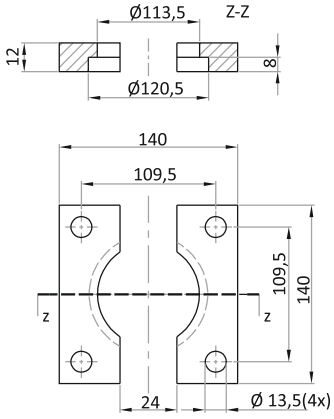

D 120


DK 120

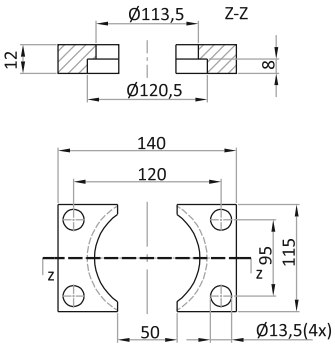

TA 120
TD 120

O 12000 AK

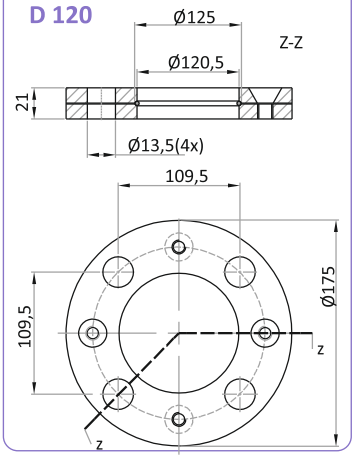
C 120



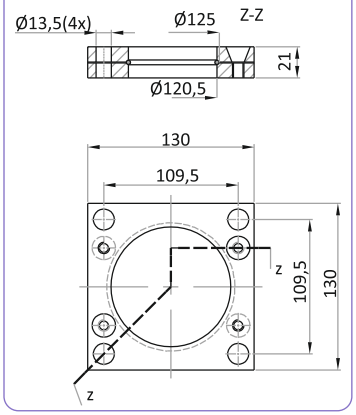
CB 120



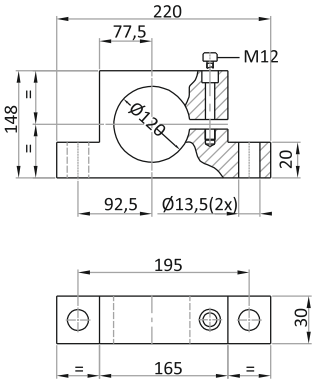
D 120



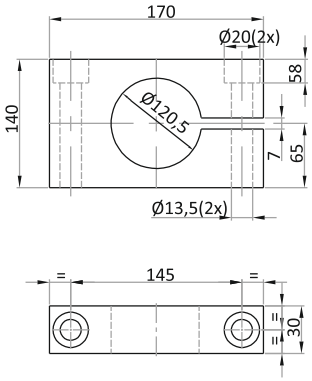
DK 120



TA 120



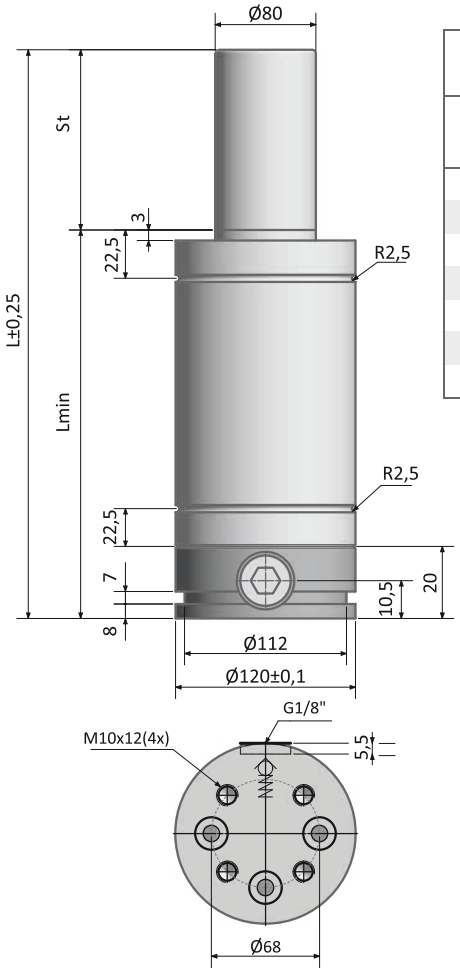
TD 120



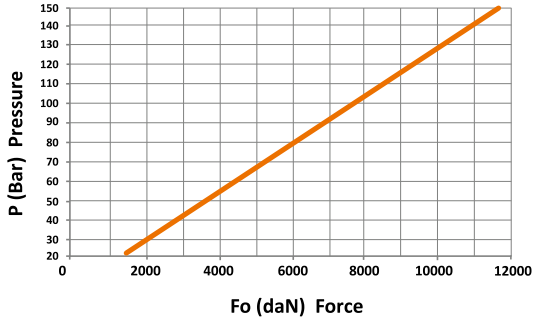
O 12000 AK

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

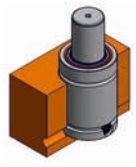


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 12000 010 K	**O 12000 010 AK**	**10**	**120**	**110**		**18258**	**21077**	**255,0**	**7,59**
O 12000 016 K	O 12000 016 AK	16	146	130	**+ 20 °C**	17899	20529	424,0	8,22
O 12000 025 K	**O 12000 025 AK**	**25**	**175**	**150**		**18863**	**22009**	**601,0**	**8,88**
O 12000 032 K	O 12000 032 AK	32	207	175	**11780**	18305	21150	812,0	9,65
O 12000 040 K	**O 12000 040 AK**	**40**	**240**	**200**		**18211**	**21005**	**1025,0**	**10,44**
O 12000 050 K	O 12000 050 AK	50	280	230	**150 bar**	18205	20996	1282,0	11,39
-	**O 12000 065 AK**	**65**	**340**	**275**		**18203**	**20993**	**1667,0**	**12,82**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**78,54 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 50 - 100 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**0,8 m/s**


Bottom Mount


Drop - in


D 120

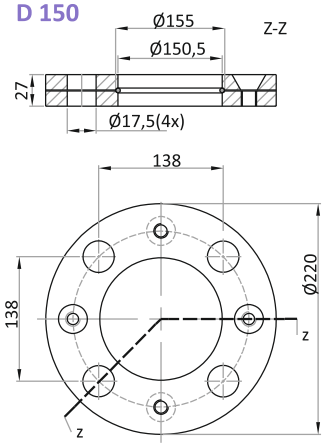

DK 120


TA 120
TD 120

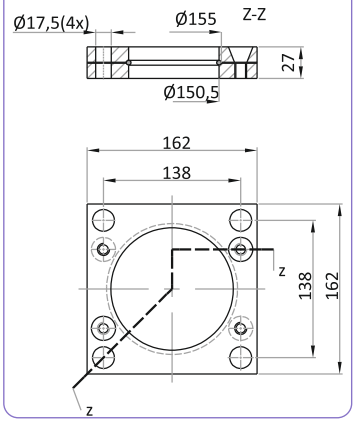

C 120
CB 120

O 18500 A

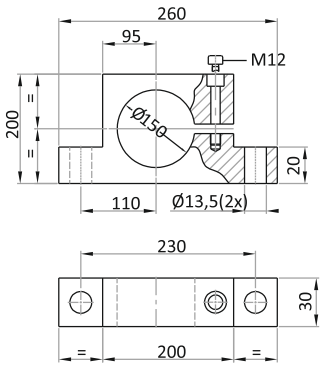
D 150



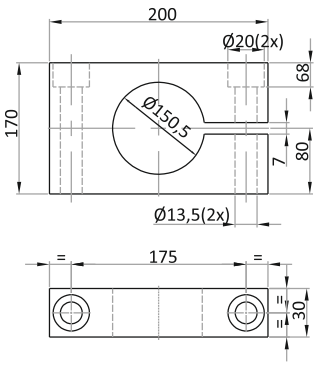
DK 150



TA 150



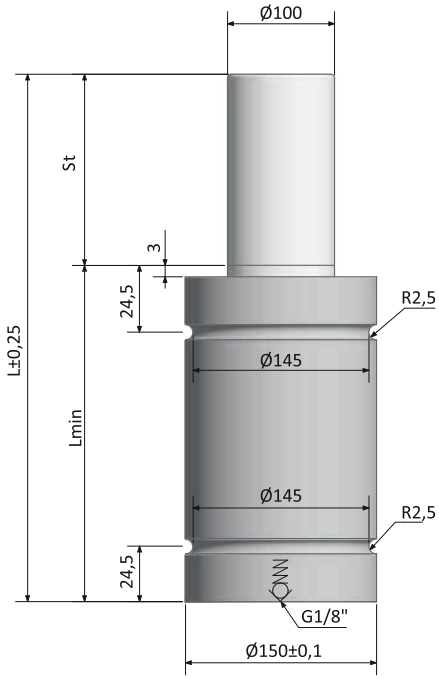
TD 150

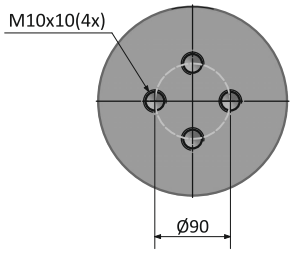


O 18500 A

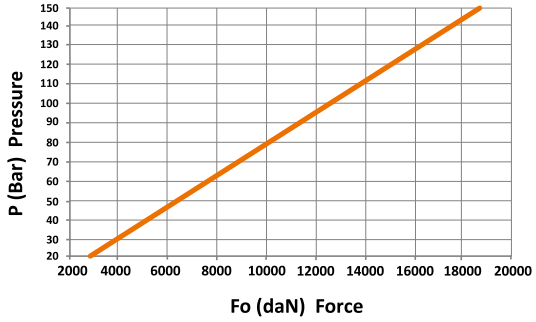
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



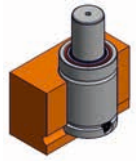


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 18500 010	**O 18500 010 A**	**10**	**110**	**100**		**26889**	**30444**	**450,0**	**10,82**
O 18500 016	O 18500 016 A	16	136	120	**+ 20 °C**	26886	30394	722,0	11,83
O 18500 025	**O 18500 025 A**	**25**	**165**	**140**		**28366**	**32684**	**1007,0**	**12,92**
O 18500 032	O 18500 032 A	32	197	165	**18410**	27762	31763	1345,0	14,16
O 18500 040	**O 18500 040 A**	**40**	**235**	**195**		**27250**	**30989**	**1748,0**	**15,66**
O 18500 050	O 18500 050 A	50	270	220	**150 bar**	27778	31789	2099,0	16,99
-	**O 18500 065 A**	**65**	**323**	**258**		**28294**	**32574**	**2631,0**	**19,01**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	122,72 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 50 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s


Bottom Mount


Drop - in

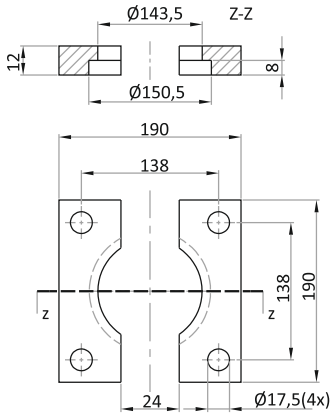

D 150


DK 150

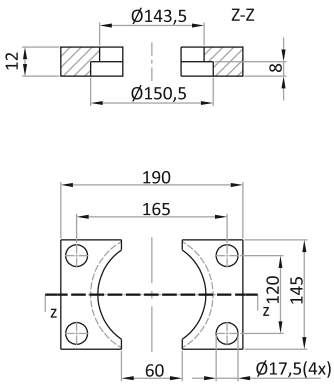

TA 150
TD 150

O 18500 AK

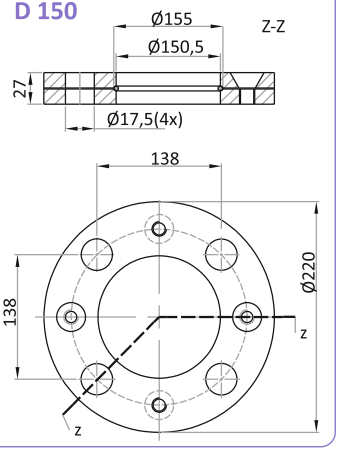
C 150



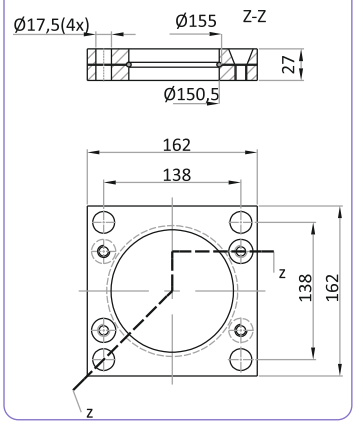
CB 150



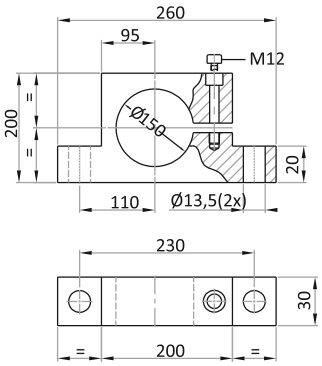
D 150



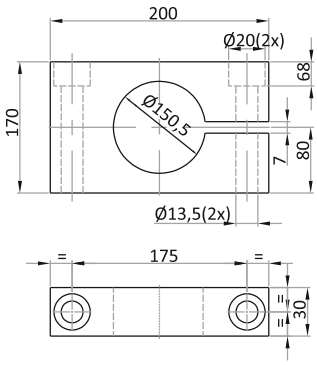
DK 150



TA 150

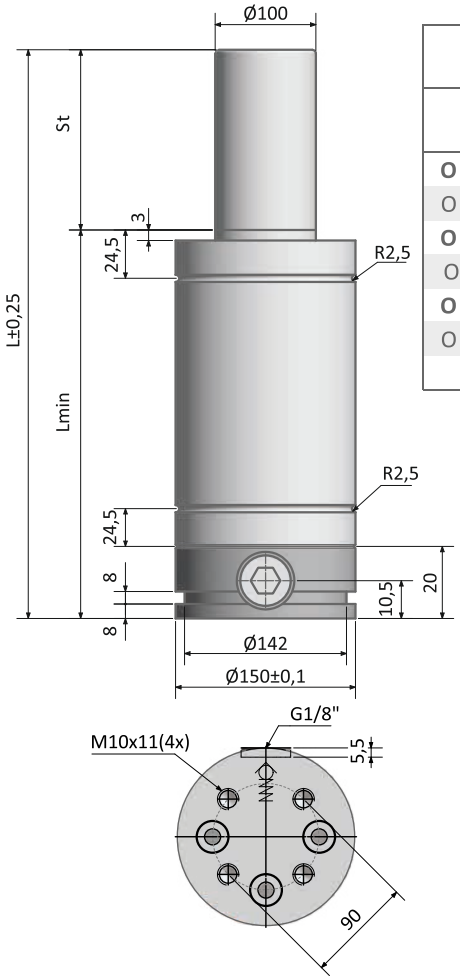


TD 150

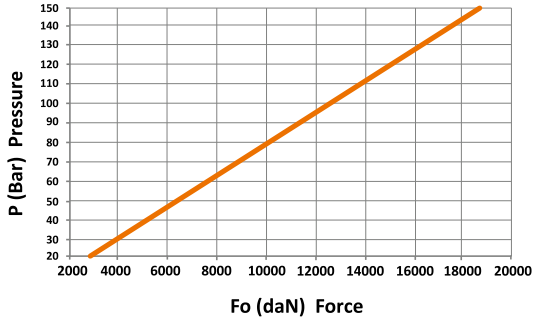


O 18500 AK

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

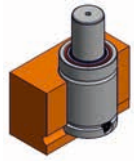


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
O 18500 010 K	**O 18500 010 AK**	**10**	**130**	**120**		**26889**	**30444**	**450,0**	**12,60**
O 18500 016 K	O 18500 016 AK	16	156	140	**+ 20 °C**	26886	30394	722,0	13,61
O 18500 025 K	**O 18500 025 AK**	**25**	**185**	**160**		**28366**	**32684**	**1007,0**	**14,70**
O 18500 032 K	O 18500 032 AK	32	217	185	**18410**	27762	31763	1345,0	15,94
O 18500 040 K	**O 18500 040 AK**	**40**	**255**	**215**		**27250**	**30989**	**1748,0**	**17,44**
O 18500 050 K	O 18500 050 AK	50	290	240	**150 bar**	27778	31789	2099,0	18,77
-	**O 18500 065 AK**	**65**	**353**	**278**		**28294**	**32574**	**2631,0**	**20,79**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	122,72 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 50 - 100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	0,8 m/s


Bottom Mount


Drop - in


D 150


DK 150


TA 150
TD 150


C 150
CB 150

OL 00300

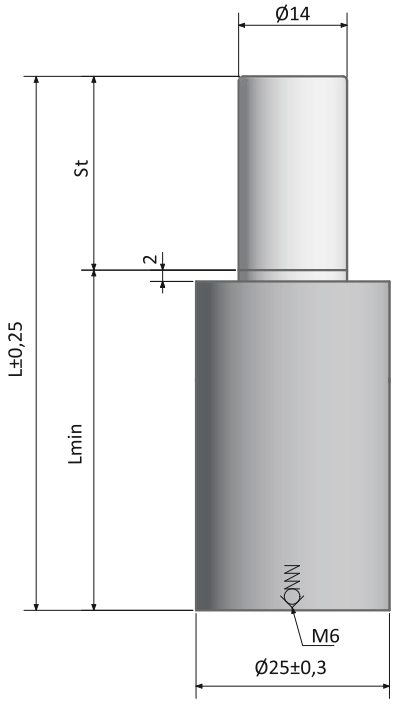
OL 00300

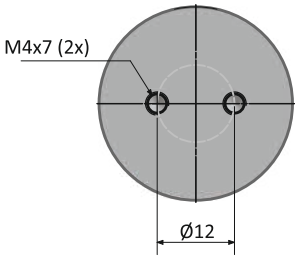
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

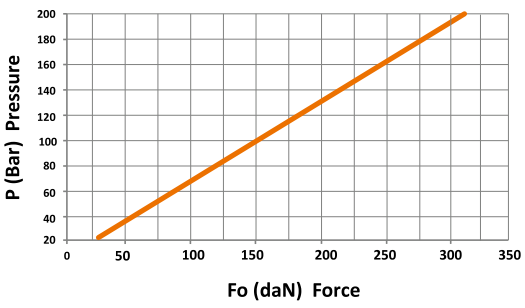
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



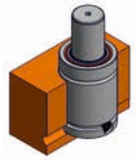


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 00300 010	**10**	**75**	**65**		**454**	**492**	**6,0**	**0,21**
	OL 00300 015	15	85	70	**+ 20 °C**	481	527	8,0	0,22
	OL 00300 025	**25**	**105**	**80**		**541**	**608**	**11,0**	**0,24**
	OL 00300 038	38	130	92	**310**	588	672	15,0	0,27
	OL 00300 050	**50**	**155**	**105**		**608**	**700**	**19,0**	**0,31**
	OL 00300 063	63	185	122	**200 bar**	586	669	25,0	0,34
	OL 00300 080	**80**	**220**	**140**		**598**	**685**	**31,0**	**0,39**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**1,54 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

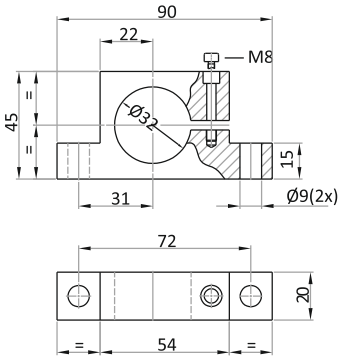
Bottom Mount



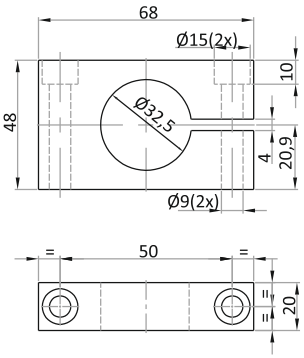
Drop - in

OL 00500

TA 032



TD 032



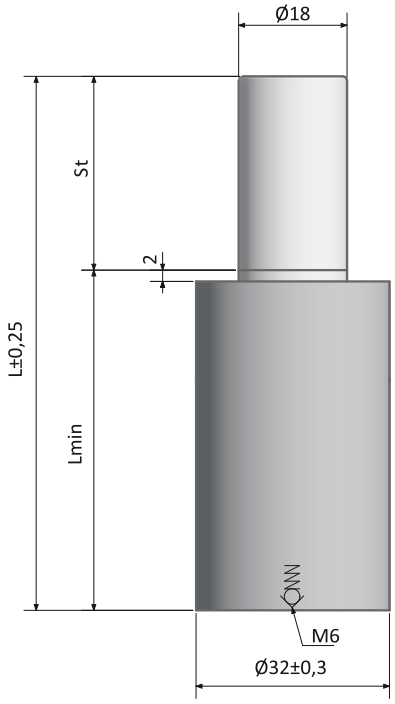
OL 00500

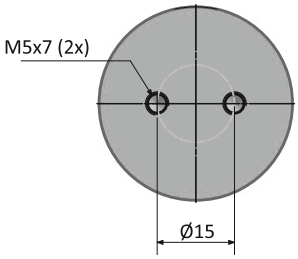
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

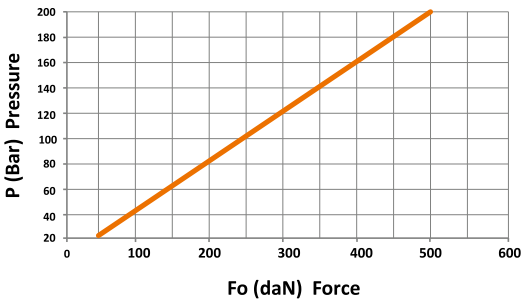
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet



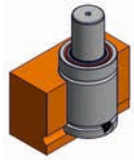


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 00500 010	**10**	**75**	**65**		**784**	**857**	**9,0**	**0,35**
	OL 00500 015	15	85	70	+ 20 °C	837	928	12,0	0,37
	OL 00500 025	**25**	**105**	**80**		**898**	**1010**	**18,0**	**0,40**
	OL 00500 038	38	130	92	510	962	1098	25,0	0,45
	OL 00500 050	**50**	**155**	**105**		**985**	**1129**	**32,0**	**0,50**
	OL 00500 063	63	190	127	200 bar	992	1138	40,0	0,60
	OL 00500 080	**80**	**225**	**145**		**1006**	**1158**	**50,0**	**0,67**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	2,54 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	200 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,6 m/s

Bottom Mount

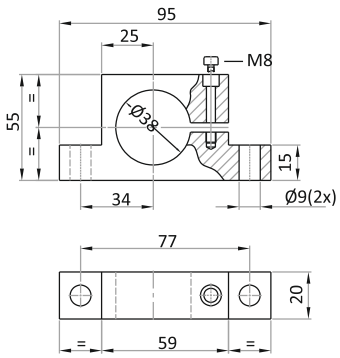


Drop - in

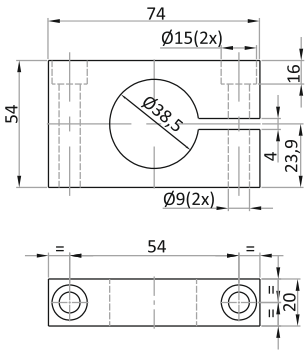
TA 032
TD 032

OL 01000

TA 038



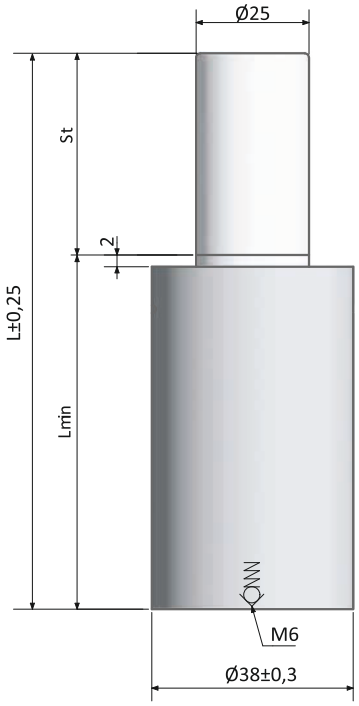
TD 038

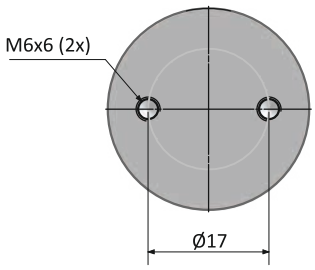


OL 01000

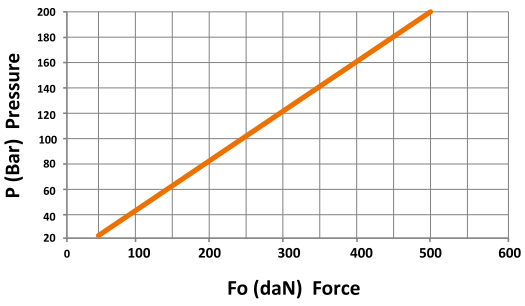
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



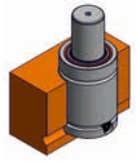


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 01000 010	**10**	**75**	**65**		**1490**	**1624**	**18,0**	**0,46**
	OL 01000 015	15	85	70	+ 20 °C	1628	1807	23,0	0,48
	OL 01000 025	**25**	**105**	**80**		**1850**	**2109**	**32,0**	**0,54**
	OL 01000 038	38	135	97	980	1871	2137	48,0	0,62
	OL 01000 050	**50**	**160**	**110**		**1956**	**2255**	**60,0**	**0,68**
	OL 01000 063	63	205	142	200 bar	1761	1986	86,0	0,81
	OL 01000 080	**80**	**240**	**160**		**1842**	**2097**	**103,0**	**0,91**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**4,91 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount

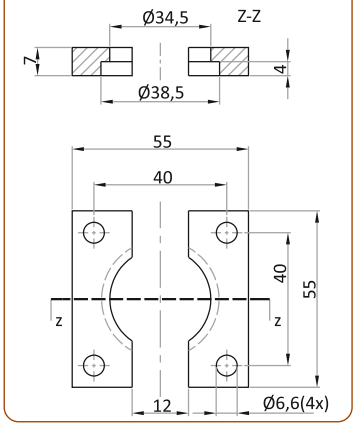


Drop - in

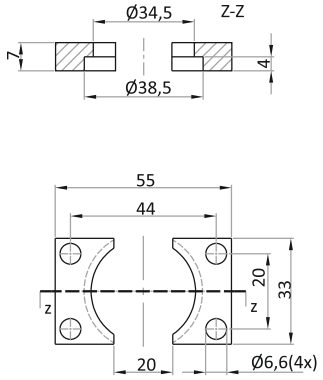
TA 038
TD 038

OL 01000 K

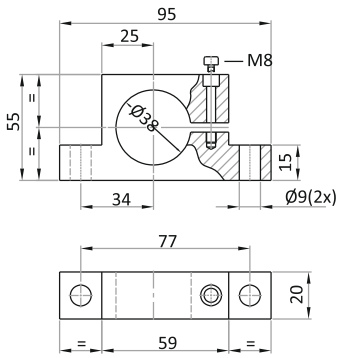
CA 038



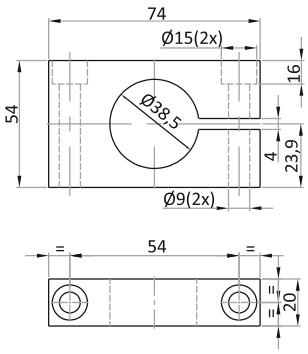
CB 038



TA 038



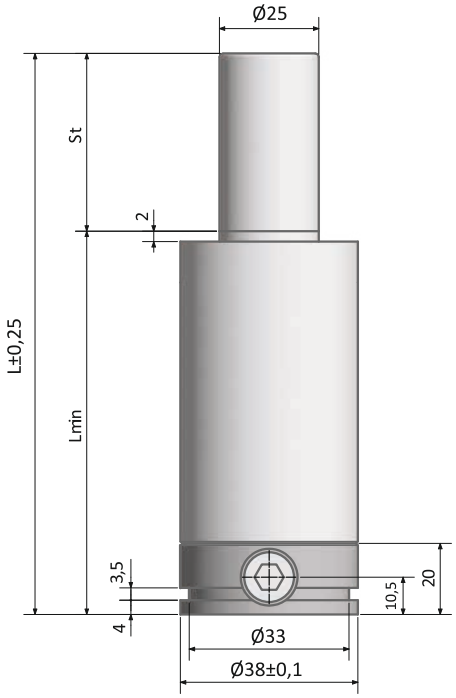
TD 038

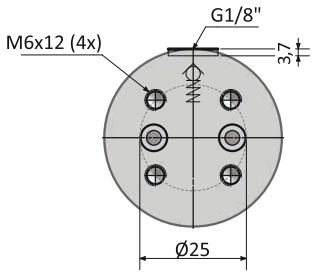


OL 01000 K

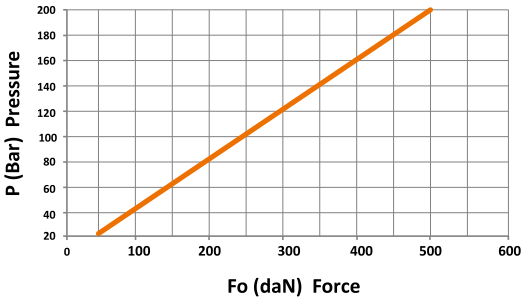
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



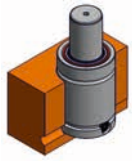


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 01000 010 K	**10**	**95**	**85**		**1490**	**1624**	**18,0**	**0,64**
	OL 01000 015 K	15	105	90	**+ 20 °C**	1628	1807	23,0	0,66
	OL 01000 025 K	**25**	**125**	**100**		**1850**	**2109**	**32,0**	**0,72**
	OL 01000 038 K	38	155	117	**980**	1871	2137	48,0	0,79
	OL 01000 050 K	**50**	**180**	**130**		**1956**	**2255**	**60,0**	**0,86**
	OL 01000 063 K	63	225	162	**200 bar**	1761	1986	86,0	0,99
	OL 01000 080 K	**80**	**260**	**180**		**1842**	**2097**	**103,0**	**1,08**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**4,91 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**


Bottom Mount

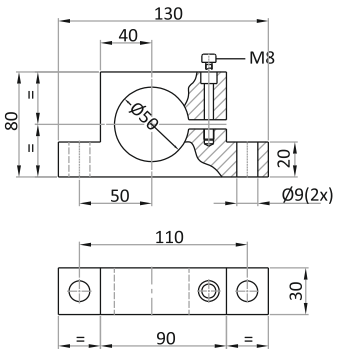

Drop - in


TA 038
TD 038

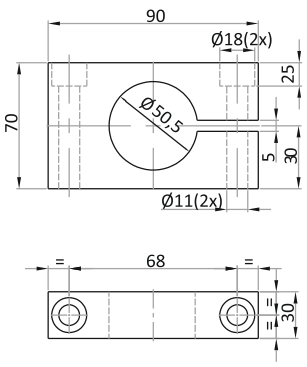

CB 038 - CA 038

OL 01800

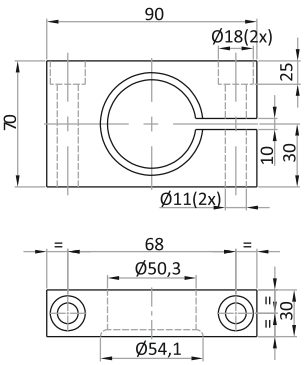
TA 050



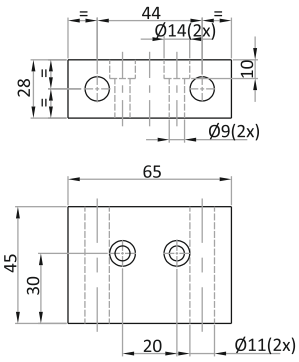
TD 050



TE 050



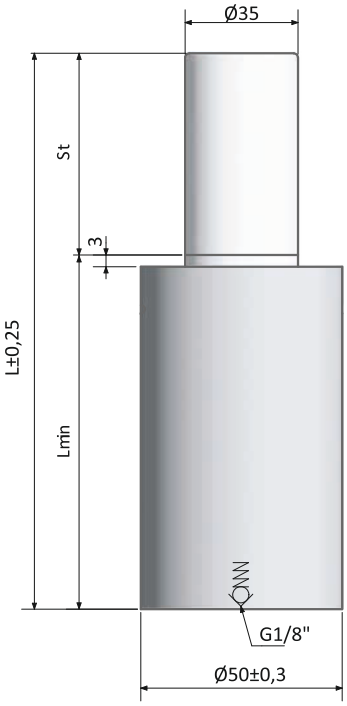
TT 50

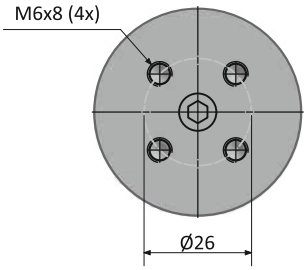


OL 01800

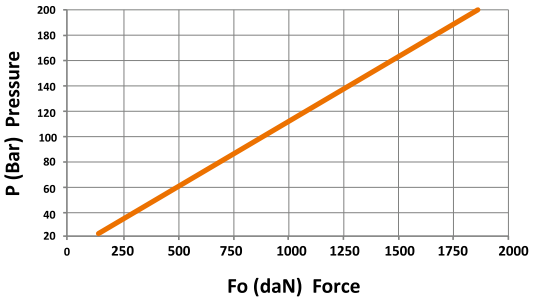
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



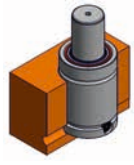


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 01800 015	**15**	**95**	**80**	**+ 20 °C**	**3005**	**3295**	**50,0**	**0,91**
	OL 01800 025	25	115	90		3408	3834	68,0	1,00
	OL 01800 038	**38**	**150**	**112**	**1925**	**3441**	**3878**	**102,0**	**1,17**
	OL 01800 050	50	175	125		3589	4081	127,0	1,26
	OL 01800 063	**63**	**205**	**142**	**200 bar**	**3665**	**4185**	**156,0**	**1,39**
	OL 01800 080	80	245	165		3730	4257	194,0	1,58



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**9,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount

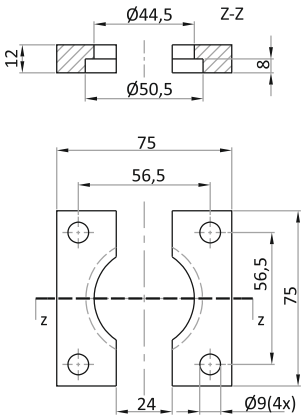


Drop - in

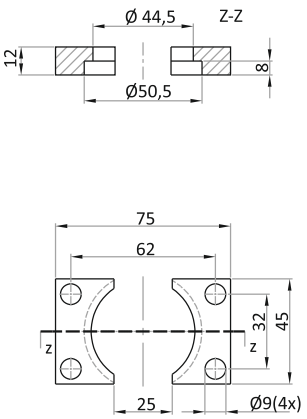
TA 050 - TD 050
TE 050 - TT 050

OL 01800 K

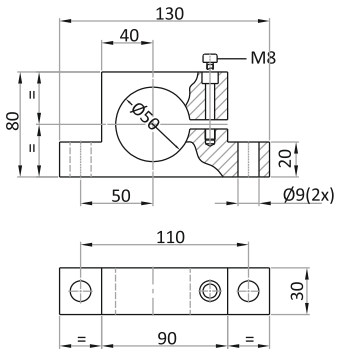
C 050



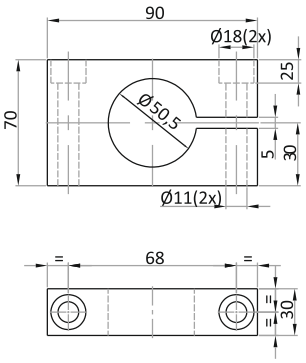
CB 050



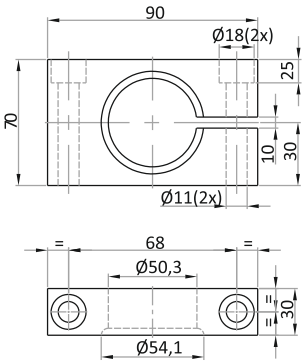
TA 050



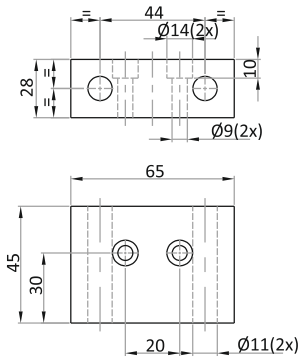
TD 050



TE 050



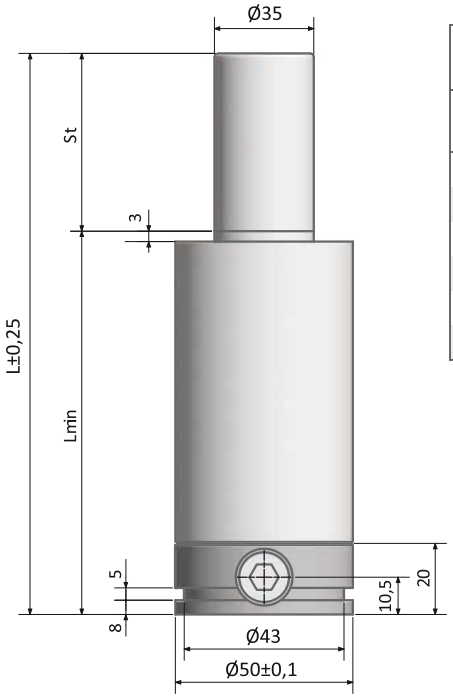
TT 50

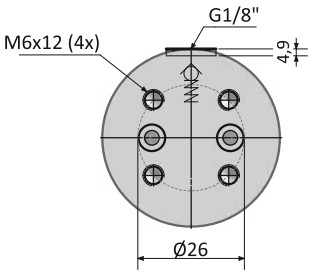


OL 01800 K

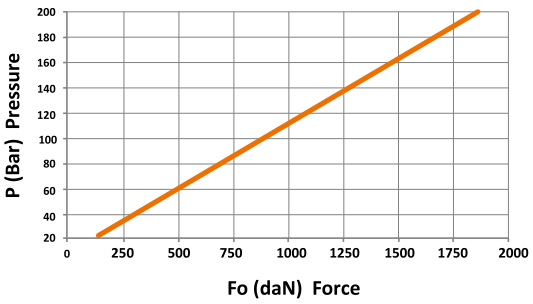
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



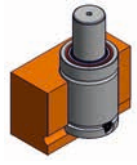


CODE **KOD**		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD **ESKİ**	NEW **YENİ**	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 01800 015 K	**15**	**115**	**100**	+ 20 °C	**3005**	**3295**	**50,0**	**1,22**
	OL 01800 025 K	25	135	110		3408	3834	68,0	1,30
	OL 01800 038 K	**38**	**170**	**132**	**1925**	**3441**	**3878**	**102,0**	**1,47**
	OL 01800 050 K	50	195	145		3589	4081	127,0	1,57
	OL 01800 063 K	**63**	**225**	**162**	**200 bar**	**3665**	**4185**	**156,0**	**1,70**
	OL 01800 080 K	80	265	185		3730	4257	194,0	1,89



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**9,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



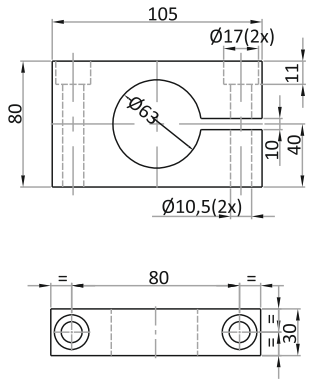
Drop - in

TA 050 - TD 050
TE 050 - TT 050

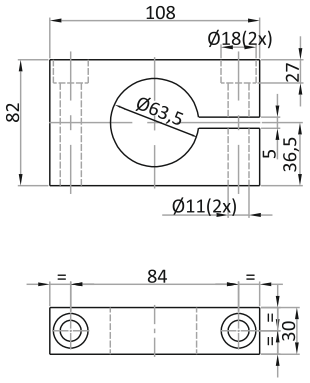
C 050
CB 050

OL 03000

TC 063



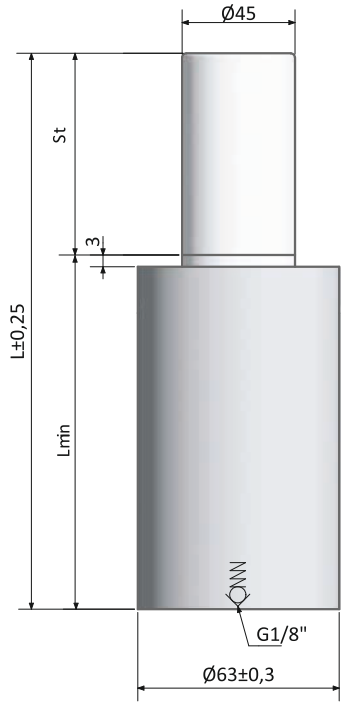
TD 063

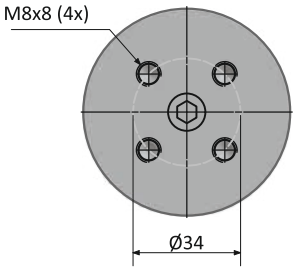


OL 03000

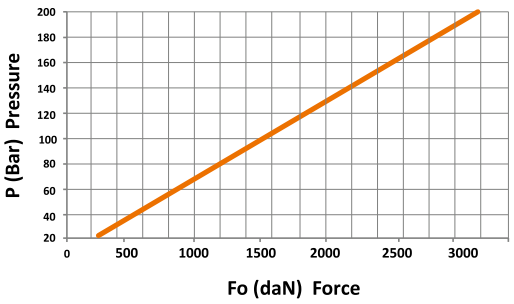
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



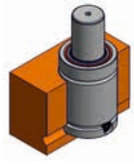


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 03000 015	**15**	**100**	**85**	**+ 20 °C**	**4644**	**5021**	**95,0**	**1,45**
	OL 03000 025	25	120	95		5250	5821	125,0	1,58
	OL 03000 038	**38**	**150**	**112**	**3180**	**5560**	**6239**	**174,0**	**1,78**
	OL 03000 050	50	180	130		5647	6356	224,0	1,97
	OL 03000 063	**63**	**210**	**147**	**200 bar**	**5804**	**6570**	**272,0**	**2,18**
	OL 03000 080	80	250	170		5902	6705	338,0	2,43



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**15,90 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount

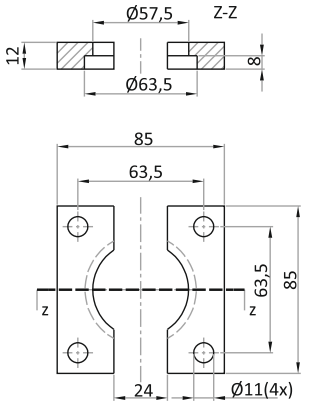


Drop - in

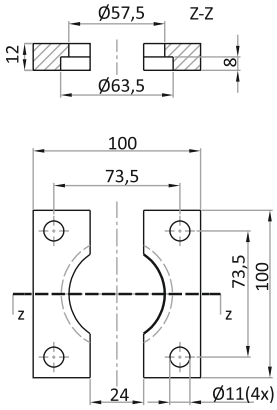
TC 063 - TD 063

OL 03000 K

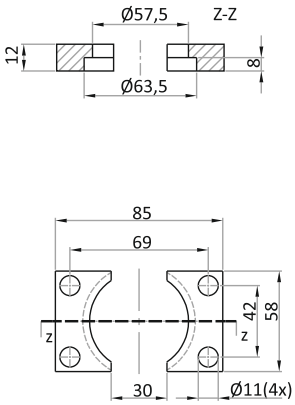
C 063



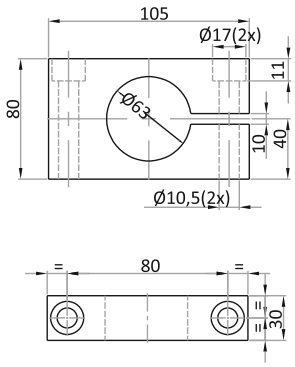
CA 063



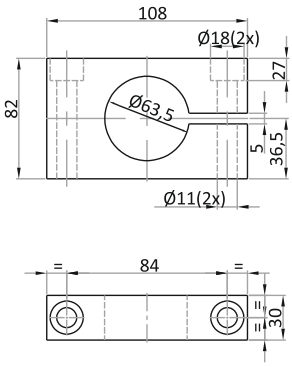
CB 063



TC 063



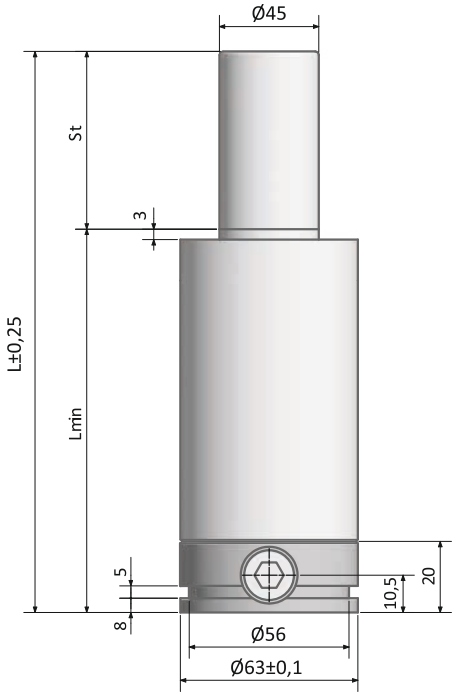
TD 063

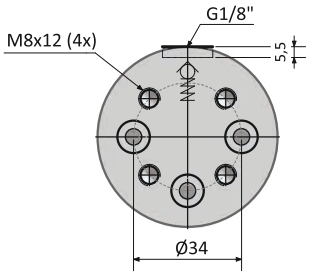


OL 03000 K

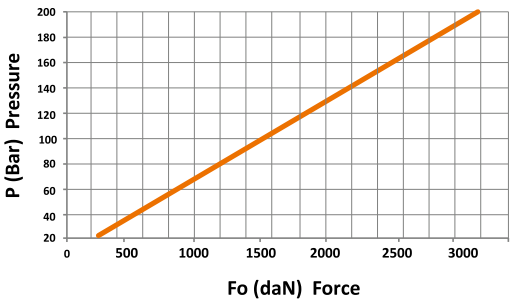
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



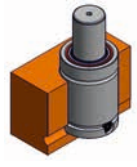


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 03000 015 K	**15**	**120**	**105**	**+ 20 °C**	**4644**	**5021**	**95,0**	**1,94**
	OL 03000 025 K	25	140	115		5250	5821	125,0	2,07
	OL 03000 038 K	**38**	**170**	**132**	**3180**	**5560**	**6239**	**174,0**	**2,27**
	OL 03000 050 K	50	200	150		5647	6356	224,0	2,46
	OL 03000 063 K	**63**	**230**	**167**	**200 bar**	**5804**	**6570**	**272,0**	**2,66**
	OL 03000 080 K	80	270	190		5902	6705	338,0	2,92



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**15,90 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



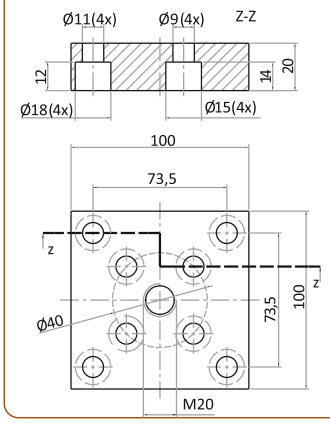
Drop - in

TC 063 - TD 063

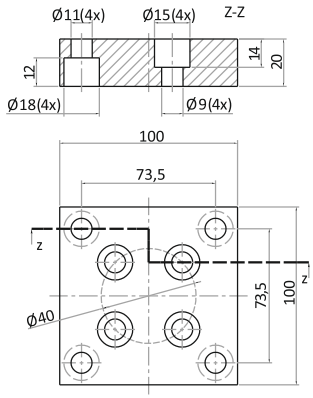
C 063 - CA 063
CB 063

OL 04700

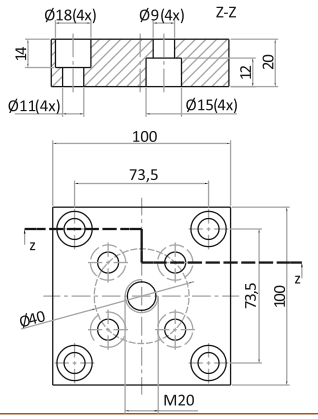
K 075



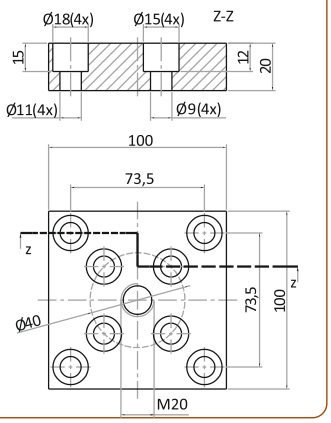
KB 075



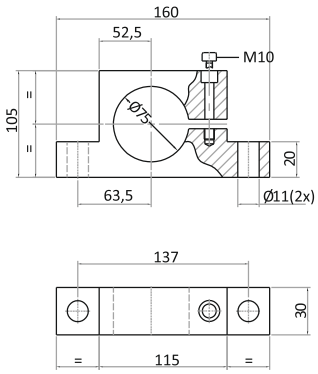
KC 075



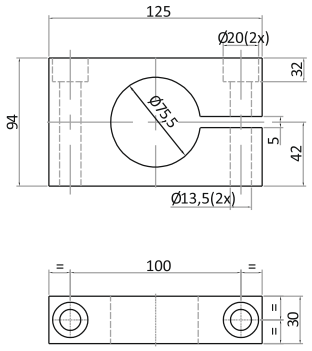
KF 075



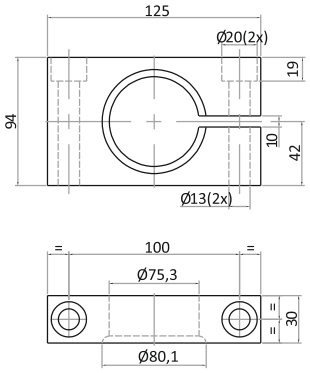
TA 075



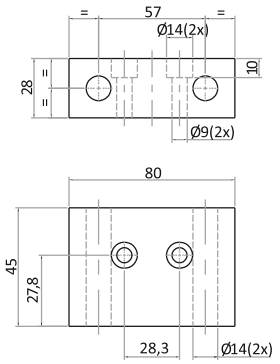
TD 075



TE 075



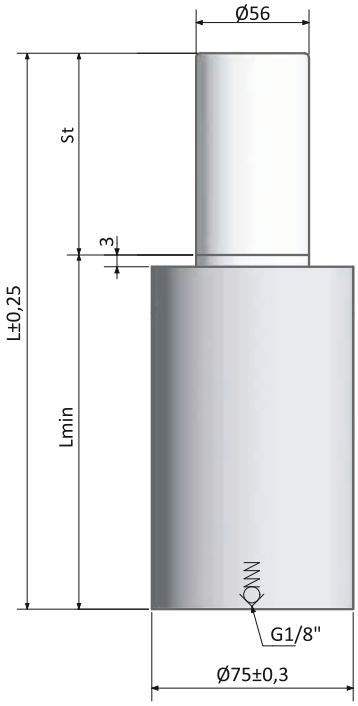
TT 075

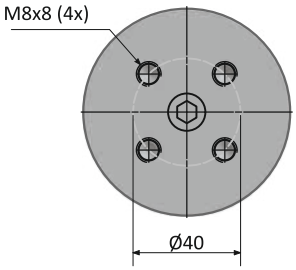


OL 04700

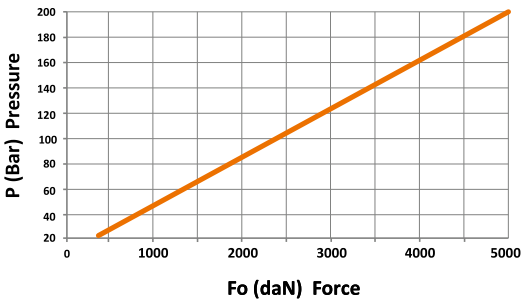
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



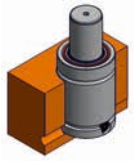


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 04700 015	**15**	**100**	**85**	**+ 20 °C**	**7241**	**7839**	**145,0**	**2,00**
	OL 04700 025	25	120	95		8201	9110	191,0	2,17
	OL 04700 038	**38**	**150**	**112**	**4925**	**8740**	**9837**	**264,0**	**2,44**
	OL 04700 050	50	180	130		8898	10052	339,0	2,71
	OL 04700 063	**63**	**210**	**147**	**200 bar**	**9166**	**10418**	**411,0**	**2,99**
	OL 04700 080	80	250	170		9355	10676	509,0	3,34



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**24,63 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 30-70 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



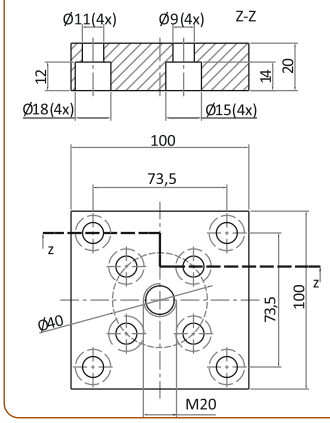
Drop - in

TA 075 - TD 075
TE 075 - TT 075

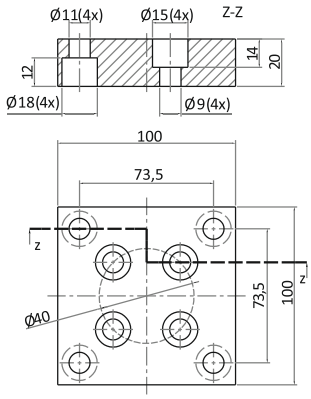
K 075 - KB 075
KC 075 - KF 075

OL 04700 K

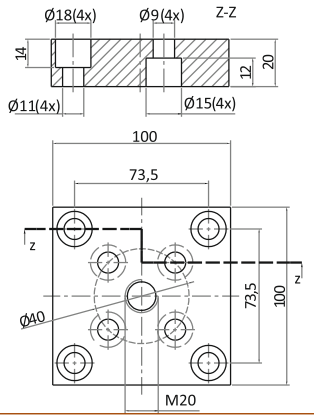
K 075



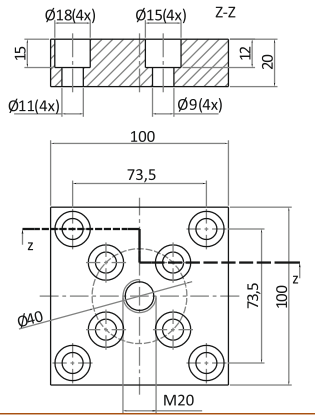
KB 075



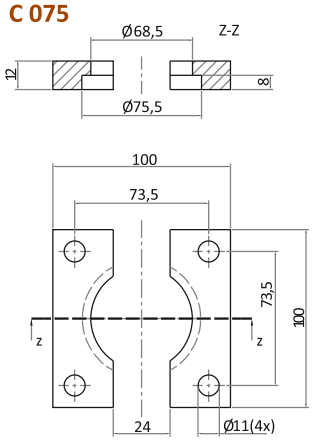
KC 075



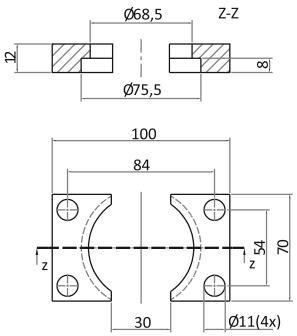
KF 075



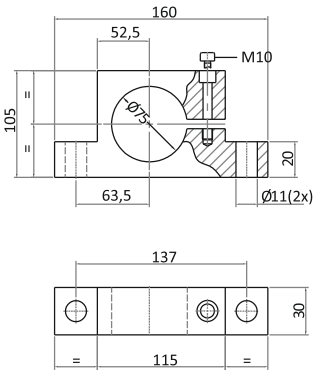
C 075



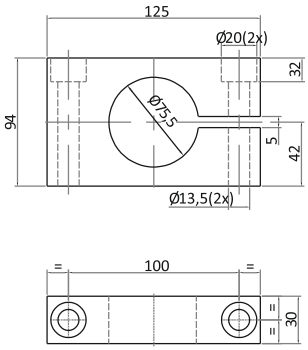
CB 075



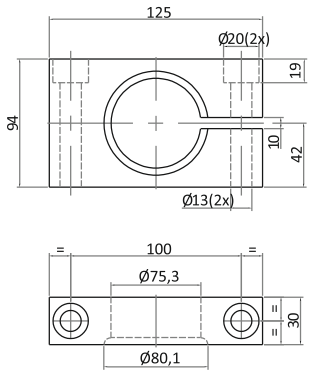
TA 075



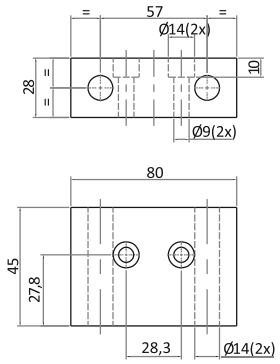
TD 075



TE 075



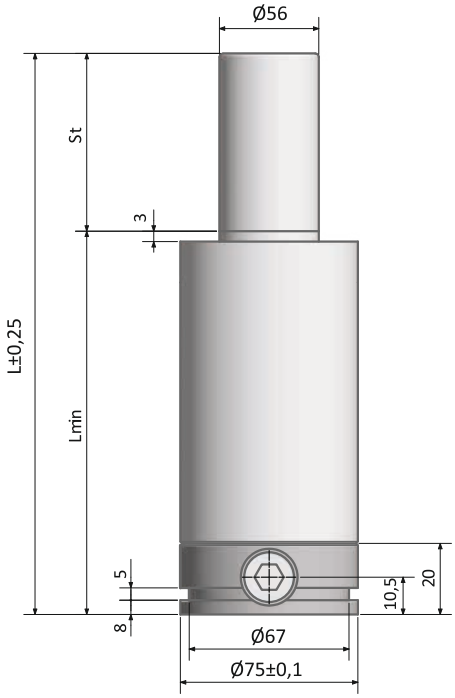
TT 075

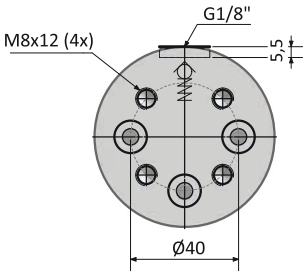


OL 04700 K

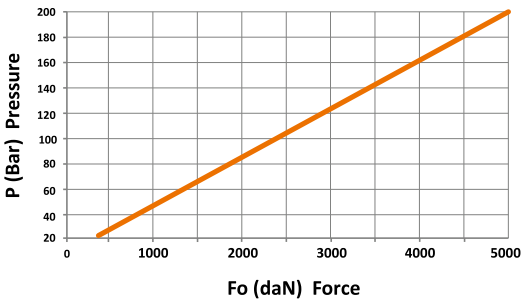
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



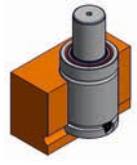


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 04700 015 K	**15**	**120**	**105**	**+ 20 °C**	**7241**	**7839**	**145,0**	**2,69**
	OL 04700 025 K	25	140	115		8201	9110	191,0	2,87
	OL 04700 038 K	**38**	**170**	**132**	**4925**	**8740**	**9837**	**264,0**	**3,14**
	OL 04700 050 K	50	200	150		8898	10052	339,0	3,40
	OL 04700 063 K	**63**	**230**	**167**	**200 bar**	**9166**	**10418**	**411,0**	**3,68**
	OL 04700 080 K	80	270	190		9355	10676	509,0	4,04



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**24,63 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 30-70 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



Drop - in

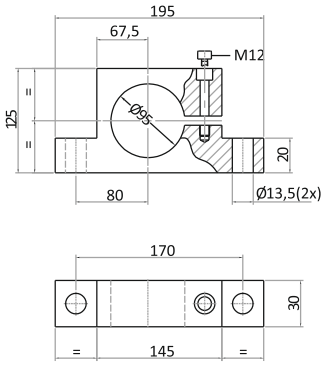
TA 075 - TD 075
TE 075 - TT 075

C 075
CB 075

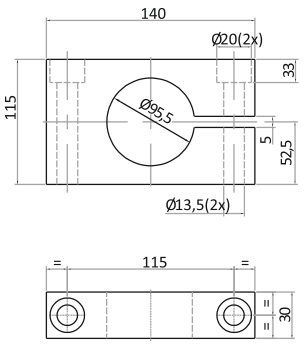
K 075 - KB 075
KC 075 - KF 075

OL 07500

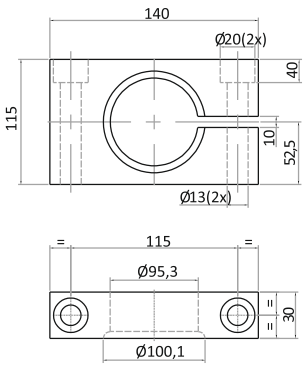
TA 095



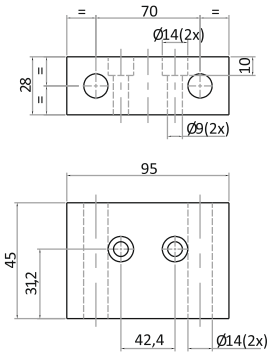
TD 095



TE 095



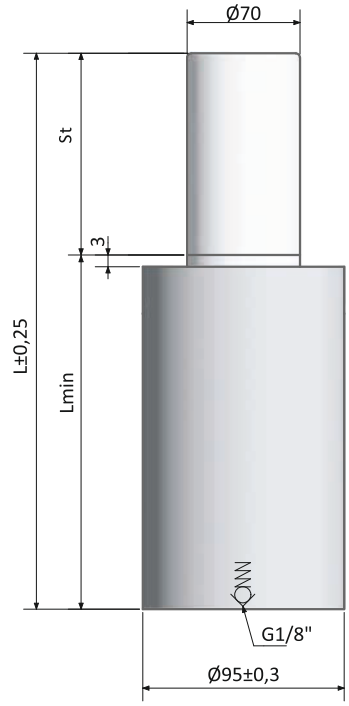
TT 095

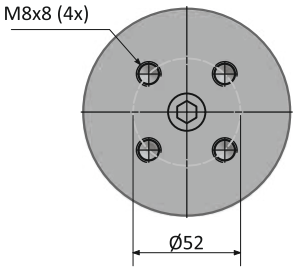


OL 07500

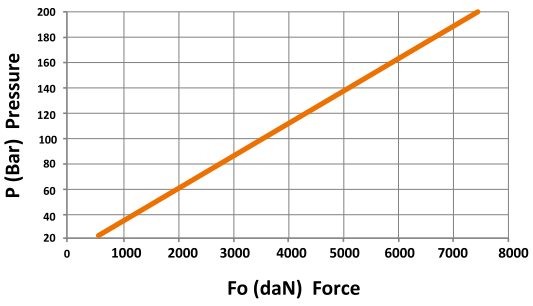
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



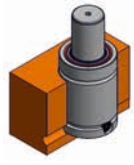


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 07500 015	**15**	**115**	**100**	**+ 20 °C**	**10413**	**11083**	**280,0**	**3,65**
	OL 07500 025	25	135	110		11659	12701	354,0	3,93
	OL 07500 038	**38**	**165**	**127**	**7700**	**12539**	**13867**	**470,0**	**4,36**
	OL 07500 050	50	190	140		13293	14878	564,0	4,71
	OL 07500 063	**63**	**220**	**157**	**200 bar**	**13711**	**15444**	**680,0**	**5,13**
	OL 07500 080	80	260	180		13716	15451	863,0	5,49



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**38,48 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-60 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount

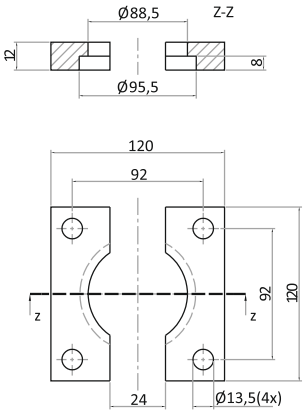


Drop - in

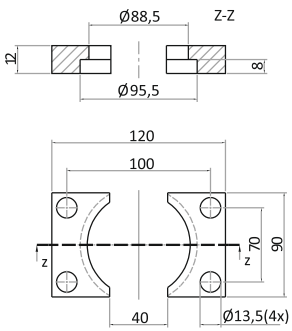
TA 095 - TD 095
TE 095 - TT 095

OL 07500 K

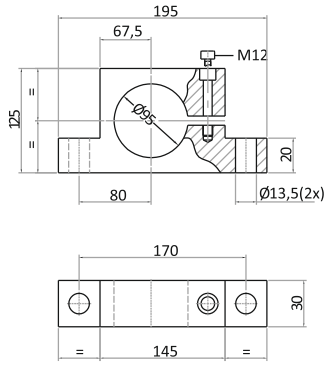
C 095



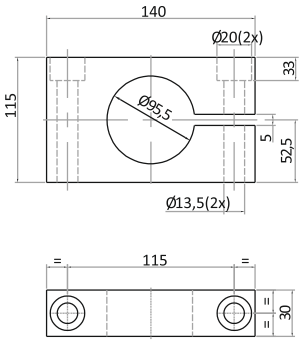
CB 095



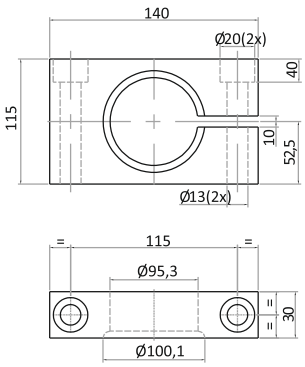
TA 095



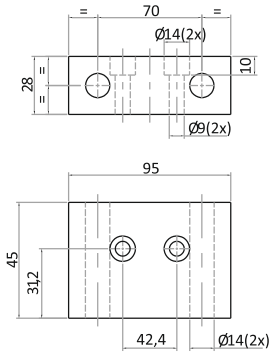
TD 095



TE 095



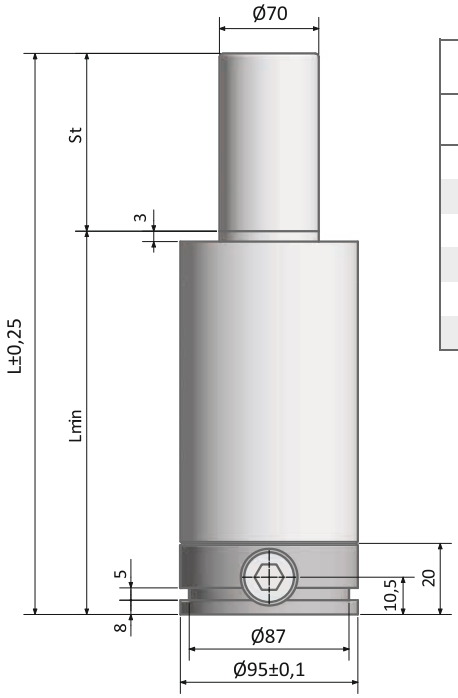
TT 095

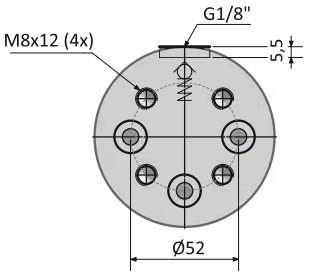


OL 07500 K

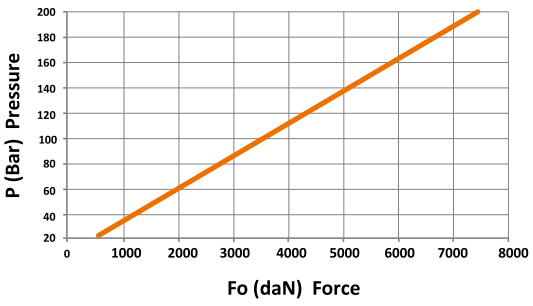
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



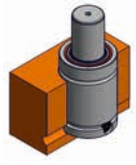


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 07500 015 K	**15**	**135**	**120**	**+ 20 °C**	**10413**	**11083**	**280,0**	**4,77**
	OL 07500 025 K	25	155	130		11659	12701	354,0	5,04
	OL 07500 038 K	**38**	**185**	**147**	**7700**	**12539**	**13867**	**470,0**	**5,47**
	OL 07500 050 K	50	210	160		13293	14878	564,0	5,82
	OL 07500 063 K	**63**	**240**	**177**	**200 bar**	**13711**	**15444**	**680,0**	**6,25**
	OL 07500 080 K	80	280	200		13716	15451	863,0	6,60



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**38,48 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-60 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



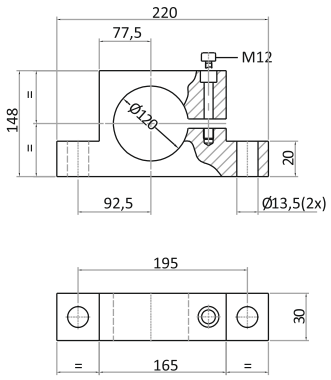
Drop - in

TA 095 - TD 095
TE 095 - TT 095

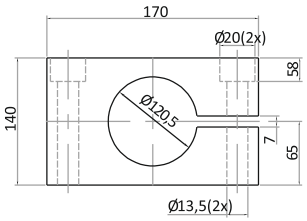
C 095
CB 095

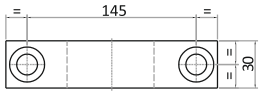
OL 12000

TA 120



TD 120

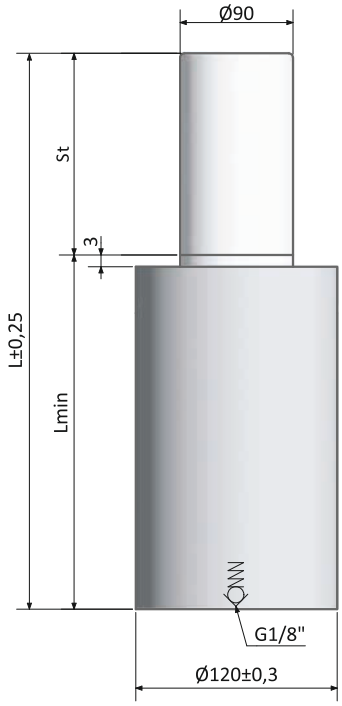


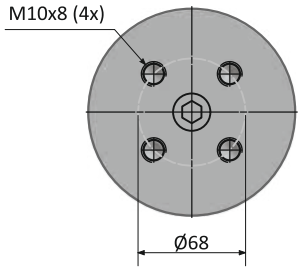


OL 12000

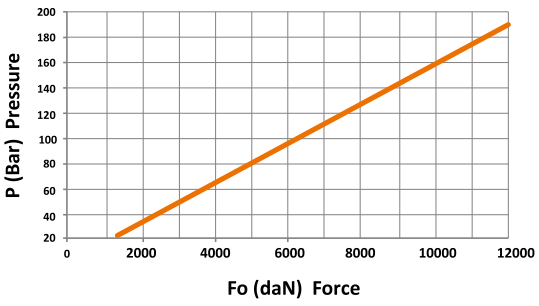
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



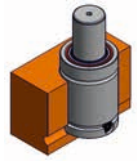


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 12000 015	**15**	**115**	**100**	**+ 20 °C**	**18184**	**19572**	**400,0**	**6,22**
	OL 12000 025	25	135	110		20596	22745	517,0	6,69
	OL 12000 038	**38**	**165**	**127**	**12720**	**22143**	**24821**	**701,0**	**7,40**
	OL 12000 050	50	195	145		22729	25616	889,0	8,13
	OL 12000 063	**63**	**225**	**162**	**200 bar**	**23850**	**27148**	**1052,0**	**9,00**
	OL 12000 080	80	265	185		24114	27510	1318,0	9,81



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**63,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-50 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount

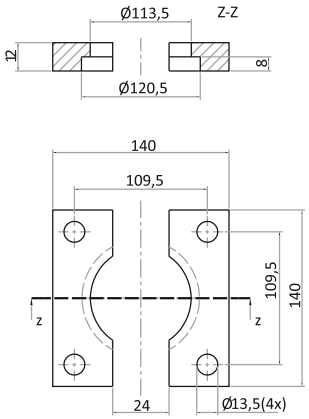


Drop - in

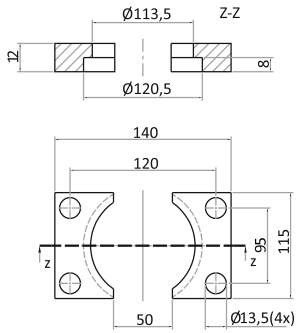
TA 120 - TD 120

OL 12000 K

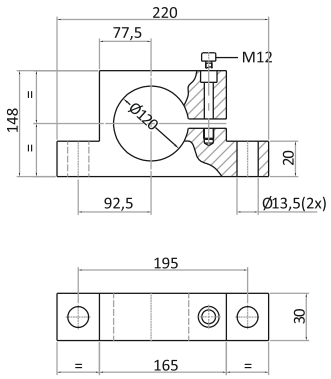
C 120



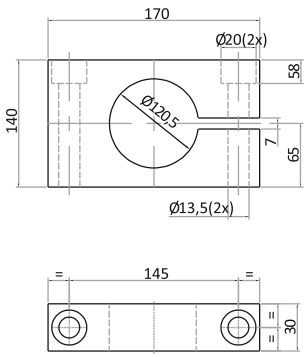
CB 120



TA 120



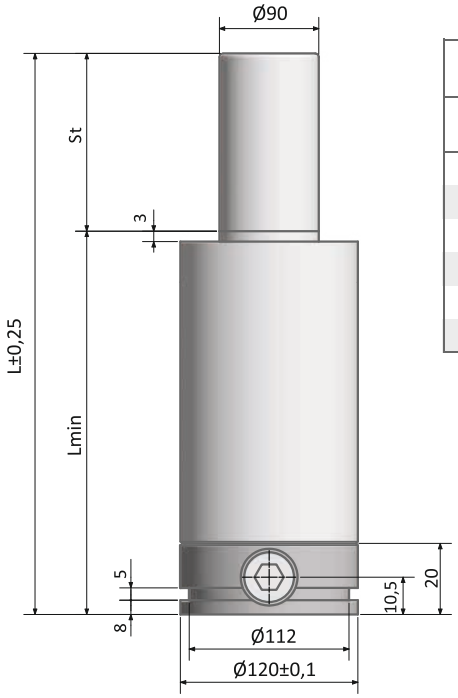
TD 120

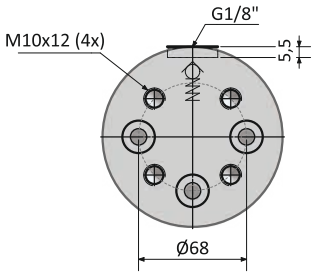


OL 12000 K

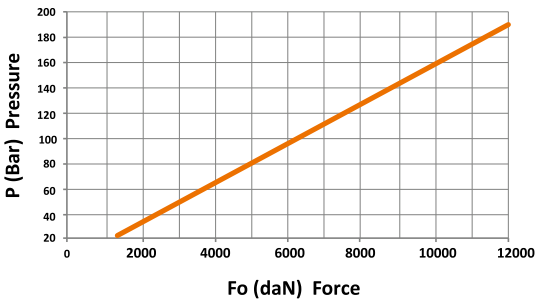
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



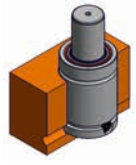


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OL 12000 015 K	**15**	**135**	**120**	**+ 20 °C**	**18184**	**19572**	**400,0**	**8,00**
	OL 12000 025 K	25	155	130		20596	22745	517,0	8,47
	OL 12000 038 K	**38**	**185**	**147**	**12720**	**22143**	**24821**	**701,0**	**9,18**
	OL 12000 050 K	50	215	165		22729	25616	889,0	9,90
	OL 12000 063 K	**63**	**245**	**182**	**200 bar**	**23850**	**27148**	**1052,0**	**10,78**
	OL 12000 080 K	80	285	205		24114	27510	1318,0	11,58



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**63,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 20-50 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**200 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



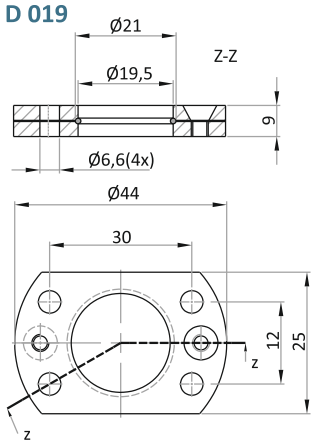
Drop - in

TA 120
TD 120

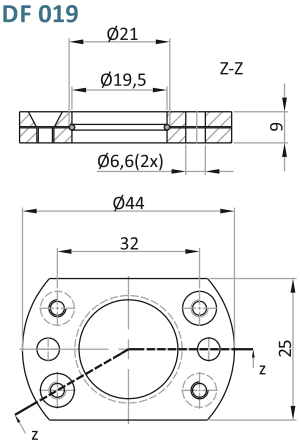
C 120
CB 120

OP 00150

D 019



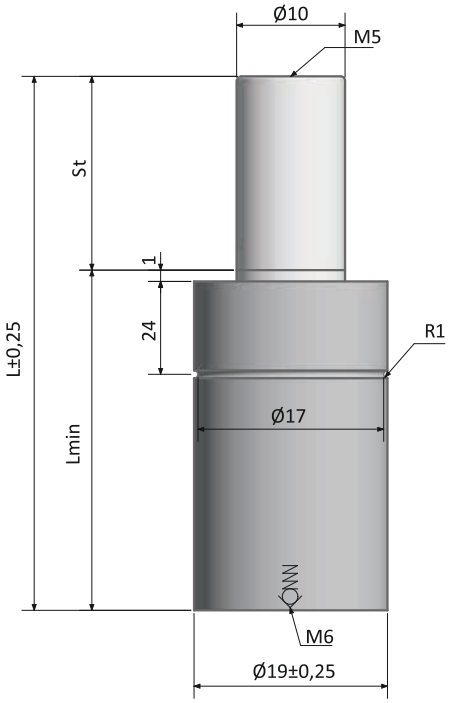
DF 019



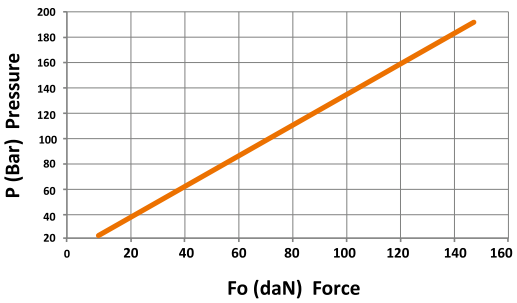
OP 00150

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

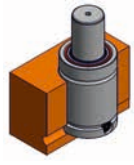


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OP 00150 010	**10**	**75**	**65**		**193**	**205**	**4,6**	**0,11**
	OP 00150 015	**15**	**85**	**70**		**204**	**218**	**5,7**	**0,12**
	OP 00150 020	20	95	75		213	229	6,8	0,12
	OP 00150 025	**25**	**105**	**80**		**219**	**237**	**7,9**	**0,13**
	OP 00150 032	32	120	88	**+ 20 °C**	224	243	9,7	0,14
	OP 00150 038	**38**	**135**	**97**		**225**	**244**	**11,4**	**0,15**
	OP 00150 045	45	150	105	**150**	228	248	13,2	0,16
	OP 00150 050	**50**	**160**	**110**		**230**	**250**	**14,4**	**0,16**
	OP 00150 056	56	175	119	**191 bar**	231	253	15,9	0,17
	OP 00150 063	**63**	**190**	**127**		**233**	**255**	**17,6**	**0,18**
	OP 00150 080	80	220	140		241	265	21,0	0,19



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**0,79 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**191 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount

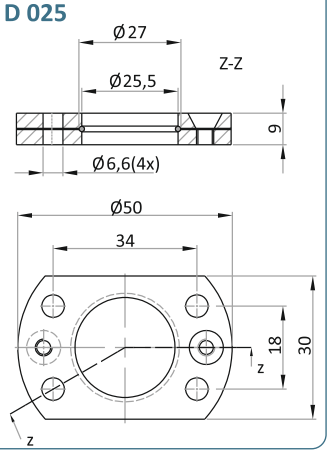


Drop - in

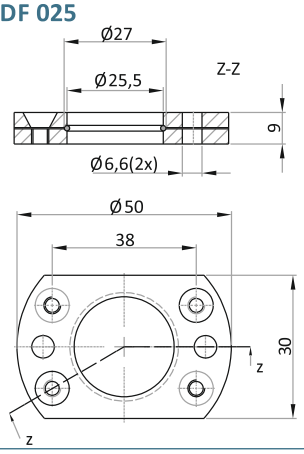
D 019
DF 019

OP 00300

D 025



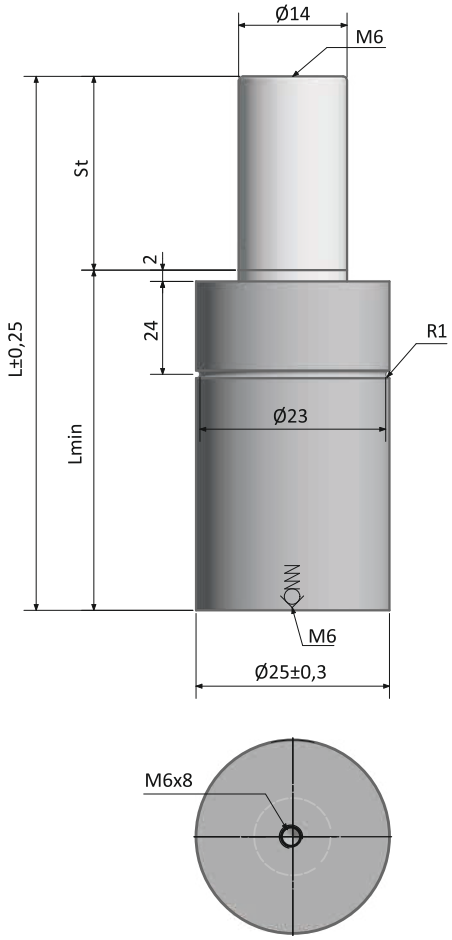
DF 025



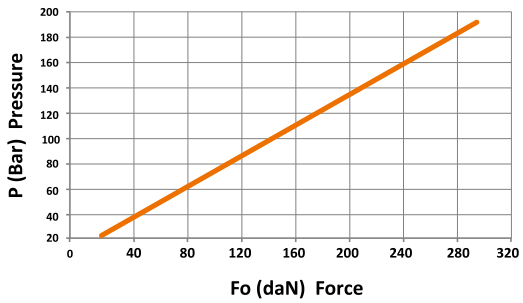
OP 00300

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

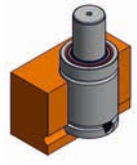


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OP 00300 010	**15**	**75**	**65**		**451**	**505**	**6,9**	**0,21**
	OP 00300 015	**15**	**85**	**70**		**486**	**537**	**7,5**	**0,22**
	OP 00300 020	20	95	75		508	566	9,3	0,23
	OP 00300 025	**25**	**105**	**80**		**528**	**593**	**11,0**	**0,24**
	OP 00300 032	32	120	88	+ 20 °C	541	611	13,6	0,26
	OP 00300 038	**38**	**135**	**97**		**543**	**613**	**16,1**	**0,29**
	OP 00300 045	45	150	105	300	544	615	19,0	0,30
	OP 00300 050	**50**	**160**	**110**		**550**	**623**	**20,8**	**0,31**
	OP 00300 056	56	175	119	195 bar	552	625	23,2	0,34
	OP 00300 063	**63**	**190**	**127**		**554**	**628**	**26,0**	**0,35**
	OP 00300 080	80	225	145		564	643	32,2	0,39



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	1,54 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	195 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,6 m/s

Bottom Mount

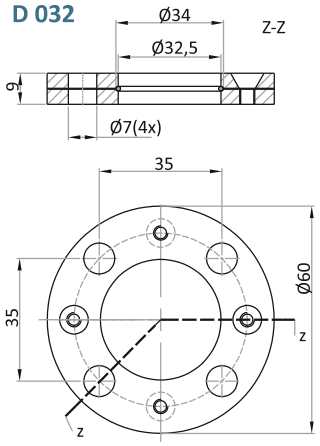


Drop - in

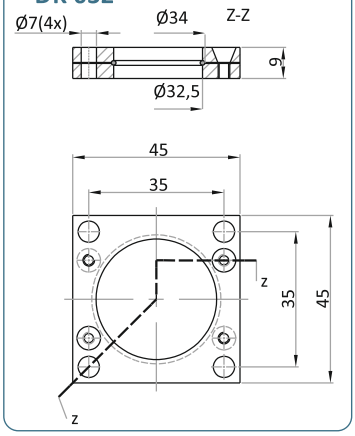
D 025
DF 025

OP 00500

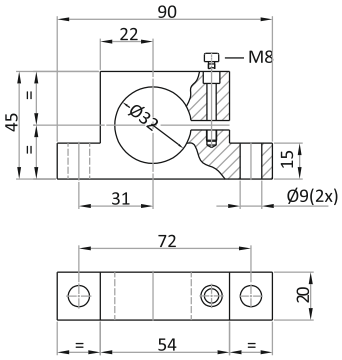
D 032



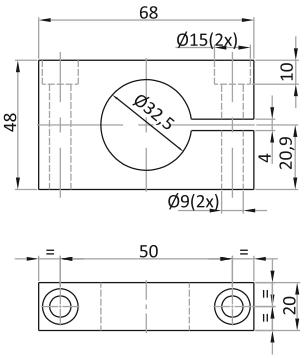
DK 032



TA 032



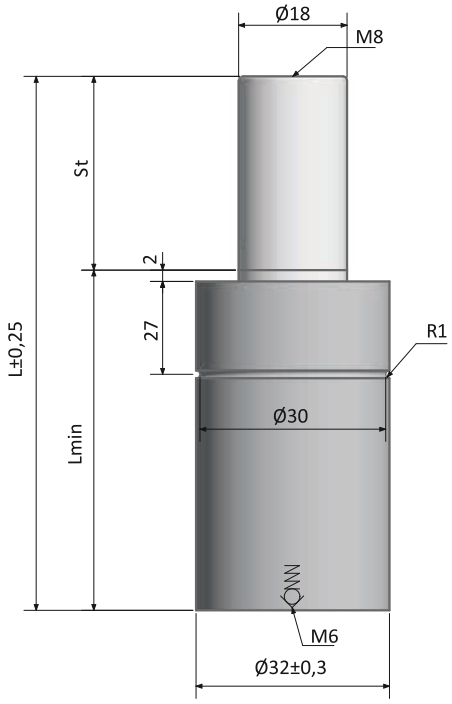
TD 032

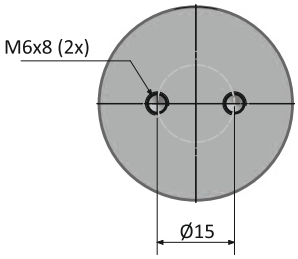


OP 00500

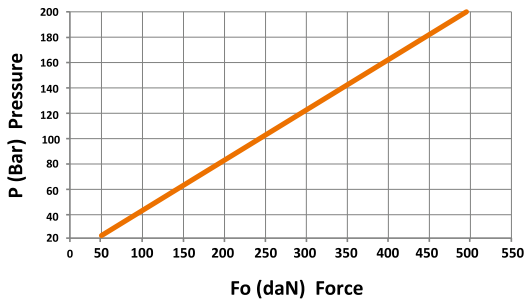
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



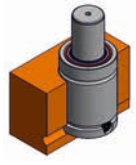


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OP 00500 010	**10**	**75**	**65**		**704**	**783**	**10,6**	**0,33**
	OP 00500 015	15	85	70		751	854	13,6	0,35
	OP 00500 020	**20**	**95**	**75**		**787**	**908**	**16,5**	**0,37**
	OP 00500 025	25	105	80	+ 20 °C	814	950	19,4	0,39
	OP 00500 032	**32**	**120**	**88**		**830**	**976**	**24,0**	**0,42**
	OP 00500 038	38	135	97	500	833	979	29,0	0,45
	OP 00500 045	**45**	**150**	**105**		**836**	**984**	**33,4**	**0,48**
	OP 00500 050	50	160	110	197 bar	845	998	36,5	0,50
	OP 00500 056	**56**	**175**	**119**		**837**	**985**	**41,5**	**0,52**
	OP 00500 063	63	195	132		817	954	48,6	0,57
	OP 00500 080	**80**	**230**	**150**		**848**	**1004**	**58,0**	**0,64**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	2,54 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	197 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,6 m/s


Bottom Mount


Drop - in

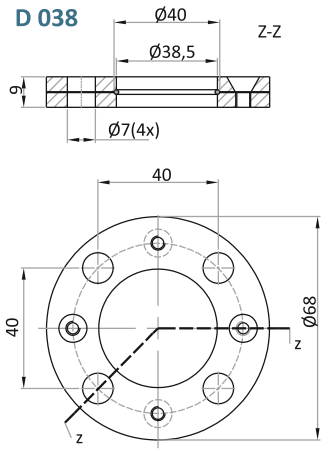

D 032


DK 032

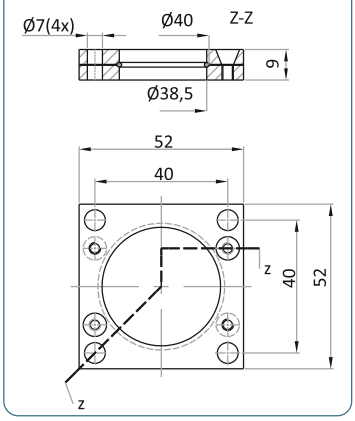

TA 032
TD 032

OP 01000

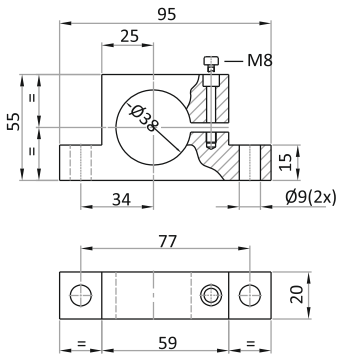
D 038



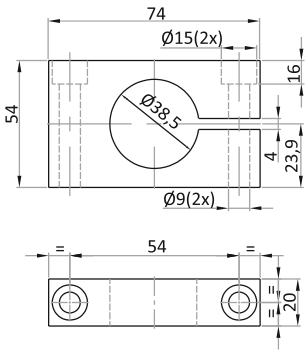
DK 038



TA 038



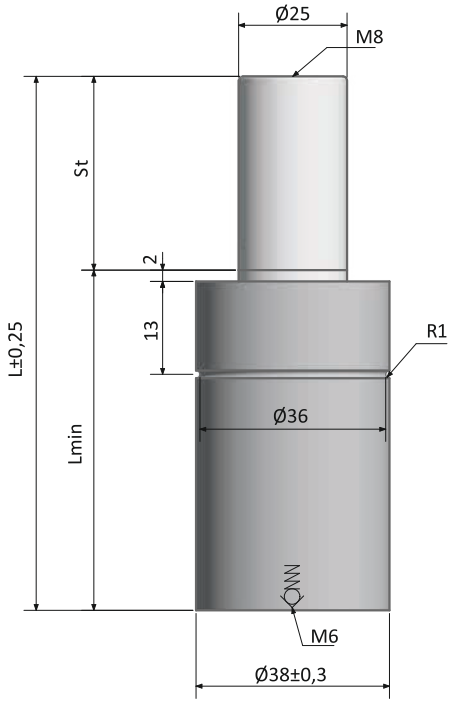
TD 038

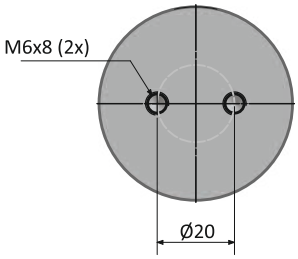


OP 01000

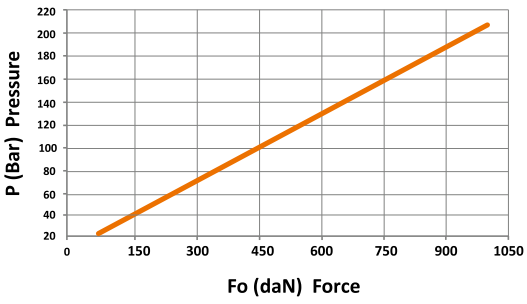
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



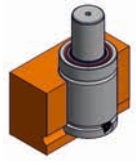


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OP 01000 010	**10**	**75**	**65**		**1489**	**1693**	**17,5**	**0,46**
	OP 01000 015	15	85	70		1609	1877	22,6	0,49
	OP 01000 020	**20**	**95**	**75**		**1698**	**2016**	**27,6**	**0,51**
	OP 01000 025	25	105	80	+ 20 °C	1762	2117	32,7	0,53
	OP 01000 032	**32**	**120**	**88**		**1805**	**2186**	**40,5**	**0,57**
	OP 01000 038	38	135	97	1000	1813	2200	47,8	0,62
	OP 01000 045	**45**	**150**	**105**		**1828**	**2224**	**56,0**	**0,65**
	OP 01000 050	50	160	110	205 bar	1840	2243	61,7	0,67
	OP 01000 056	**56**	**175**	**119**		**1843**	**2247**	**69,0**	**0,72**
	OP 01000 063	63	205	142		1738	2079	84,0	0,83
	OP 01000 080	**80**	**240**	**160**		**1822**	**2213**	**100,0**	**0,93**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**4,91 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**205 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**


Bottom Mount


Drop - in

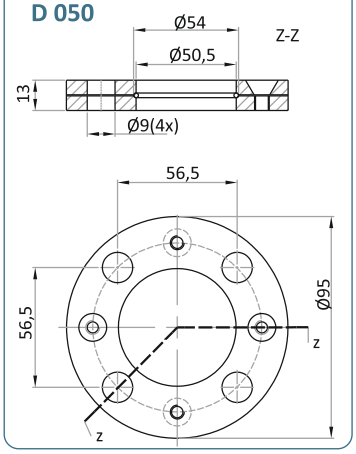

D 038


DK 038

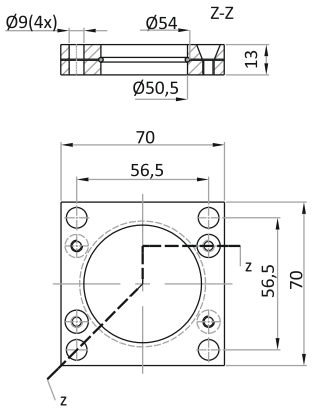

TA 038
TD 038

OP 02000

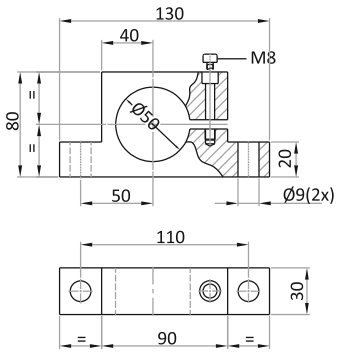
D 050



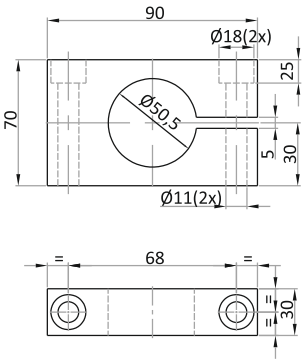
DK 050



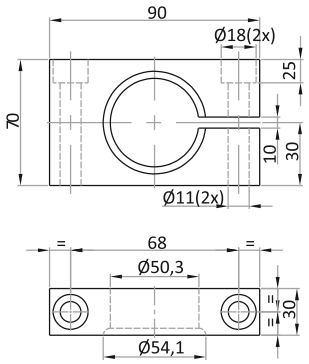
TA 050



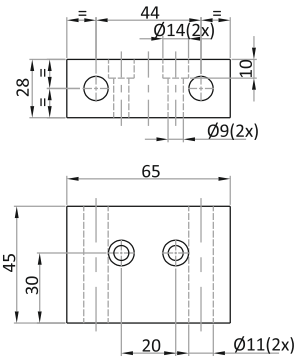
TD 050



TE 050



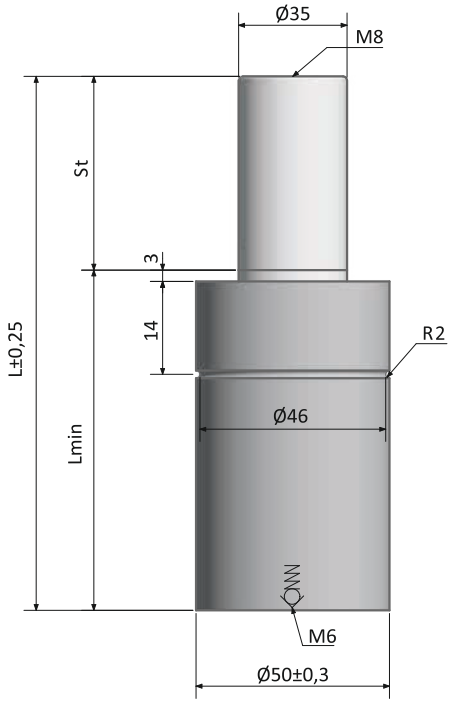
TT 50

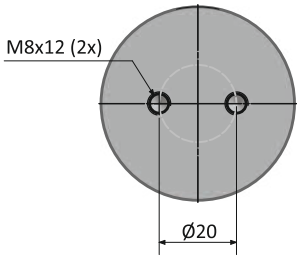


OP 02000

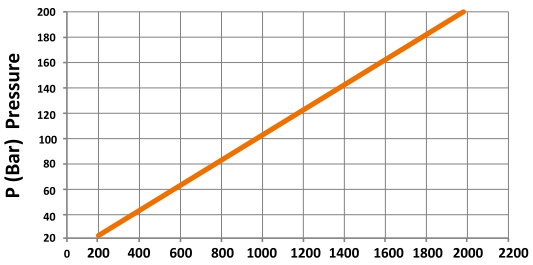
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



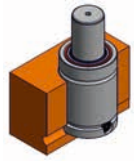


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OP 02000 010	**10**	**90**	**80**		**2755**	**2940**	**45,0**	**0,91**
	OP 02000 015	15	115	100		2707	2879	71,0	1,05
	OP 02000 020	**20**	**125**	**105**		**2826**	**3032**	**84,0**	**1,06**
	OP 02000 025	25	135	110	**+ 20 °C**	3000	3259	91,3	1,12
	OP 02000 032	**32**	**150**	**118**		**3162**	**3472**	**105,3**	**1,19**
	OP 02000 038	38	165	127	**2000**	3236	3569	120,0	1,26
	OP 02000 045	**45**	**180**	**135**		**3351**	**3724**	**134,0**	**1,32**
	OP 02000 050	50	190	140	**209 bar**	3440	3843	143,0	1,37
	OP 02000 056	**56**	**205**	**149**		**3471**	**3885**	**158,0**	**1,43**
	OP 02000 063	63	220	157		3552	3994	172,0	1,50
	OP 02000 080	**80**	**255**	**175**		**3739**	**4249**	**204,0**	**1,65**



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**9,62 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 40-80 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**209 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,6 m/s**

Bottom Mount



Drop - in

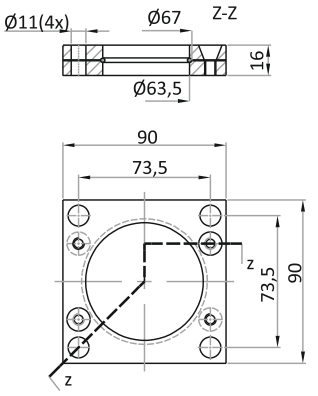
D 050

DK 050

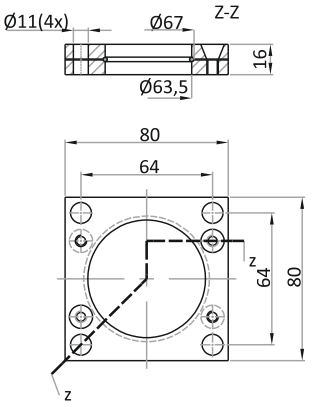
TA 050 - TD 050
TE 050 - TT 050

OP 03000

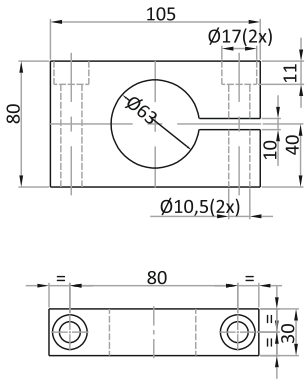
DKA 063



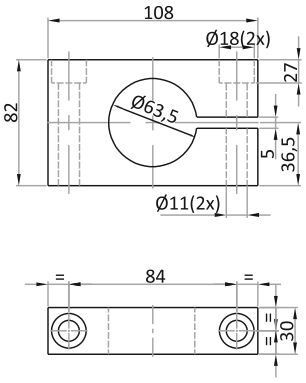
DK 063



TC 063



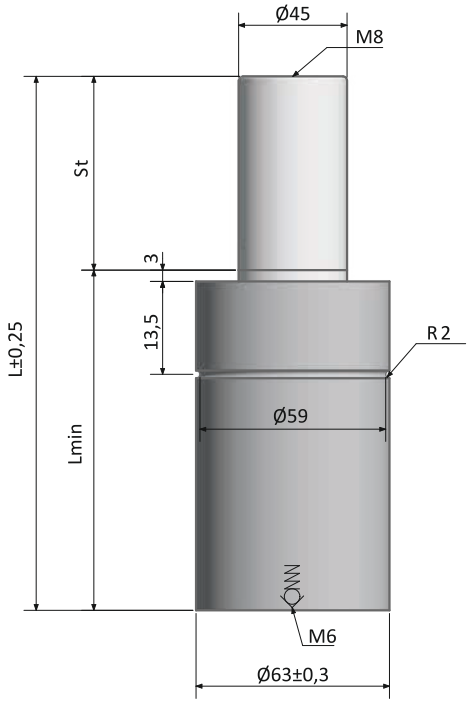
TD 063

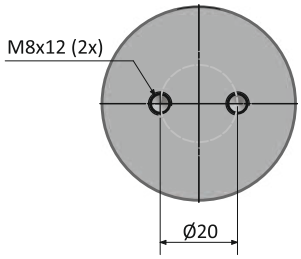


OP 03000

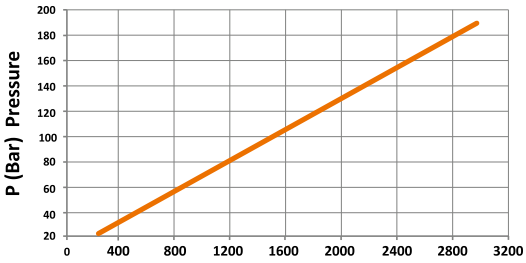
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**

Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**



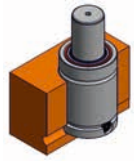


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
	OP 03000 010	**10**	**95**	**85**		**4017**	**4264**	**80,0**	**1,50**
	OP 03000 015	15	115	100		4054	4312	116,7	1,64
	OP 03000 020	**20**	**125**	**105**		**4312**	**4645**	**132,0**	**1,71**
	OP 03000 025	25	135	110	+ 20 °C	4534	4935	147,5	1,77
	OP 03000 032	**32**	**150**	**118**		**4770**	**5246**	**171,2**	**1,87**
	OP 03000 038	38	165	127	3000	4868	5377	196,1	1,97
	OP 03000 045	**45**	**180**	**135**		**5031**	**5594**	**220,0**	**2,06**
	OP 03000 050	50	190	140	189 bar	5157	5764	235,3	2,13
	OP 03000 063	**63**	**220**	**157**		**5314**	**5976**	**283,9**	**2,33**
	OP 03000 080	80	255	175		5571	6327	338,5	2,55



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	15,90 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	189 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,6 m/s

Bottom Mount



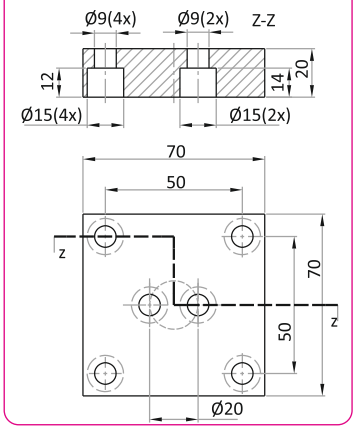
Drop - in

DK 063
DKA 063

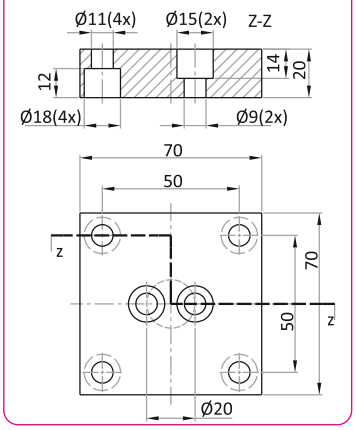
TC 063
TD 063

H 00500 A

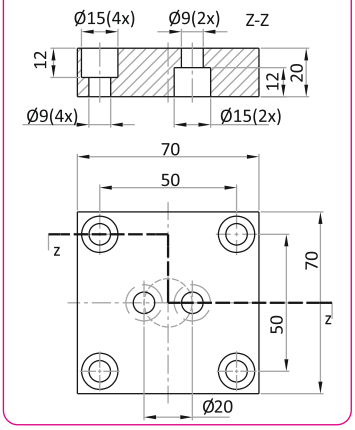
K 045



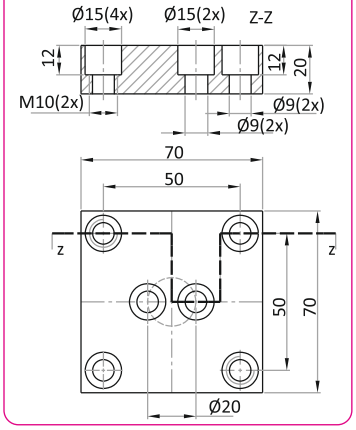
KB 045



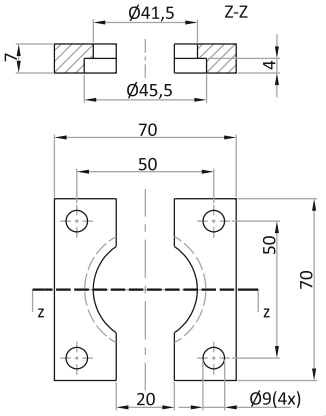
KC 045



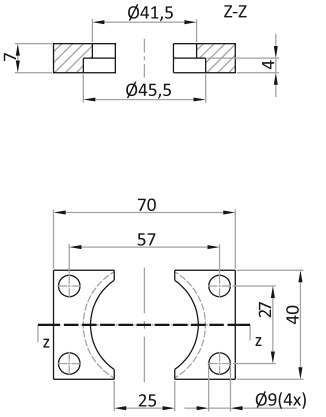
KF 045



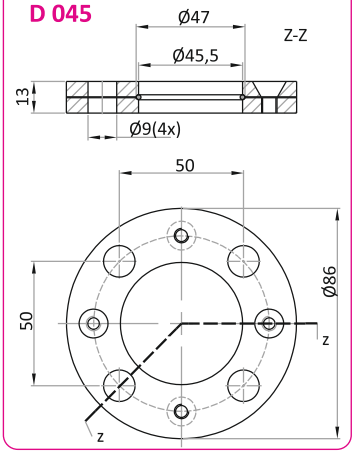
C 045



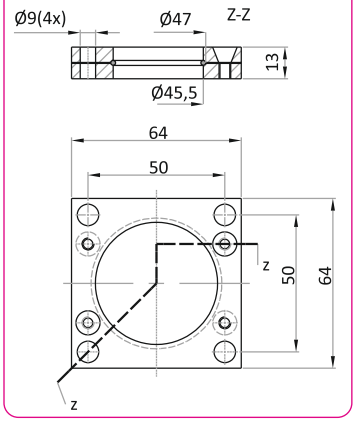
CB 045



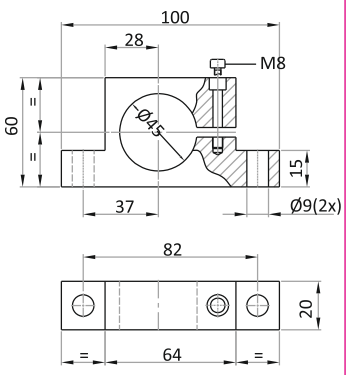
D 045



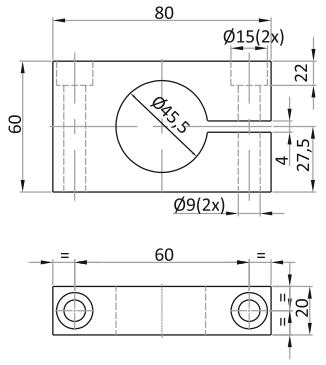
DK 045



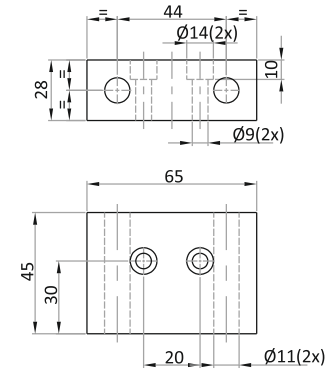
TA 045



TD 045



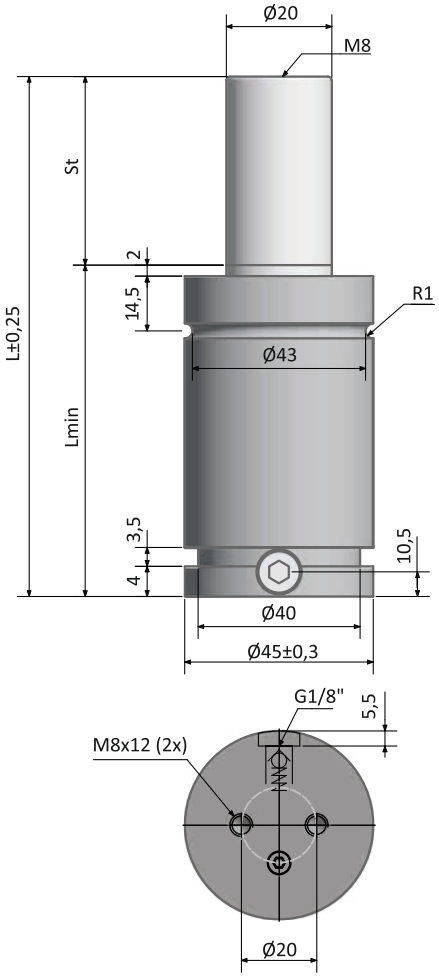
TT 050



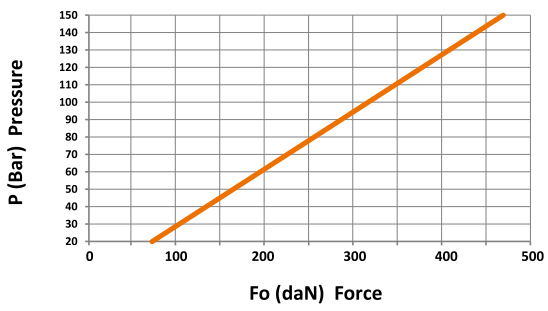
H 00500 A

EM24.54.700 (Renault)
SES-K 5404e (Suzuki)

F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

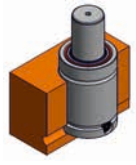


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
H 00500 006	**H 00500 006 A**	**6**	**62**	**56**		**622**	**682**	**9,0**	**0,62**
H 00500 013	H 00500 013 A	13	76	63		653	726	17,0	0,66
H 00500 019	**H 00500 019 A**	**19**	**88**	**69**		**673**	**756**	**23,0**	**0,70**
H 00500 025	H 00500 025 A	25	100	75	+ 20 °C	685	775	29,0	0,75
H 00500 038	**H 00500 038 A**	**38**	**126**	**88**		**701**	**798**	**42,0**	**0,84**
H 00500 050	H 00500 050 A	50	150	100	470	708	810	54,0	0,92
H 00500 063	**H 00500 063 A**	**63**	**176**	**113**		**714**	**818**	**67,0**	**1,02**
H 00500 080	H 00500 080 A	80	210	130	150 bar	718	825	84,0	1,14
H 00500 100	**H 00500 100 A**	**100**	**250**	**150**		**726**	**836**	**103,0**	**1,29**
H 00500 125	H 00500 125 A	125	300	175		731	844	127,0	1,47



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	3,14 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 40-100 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 045


DK 045

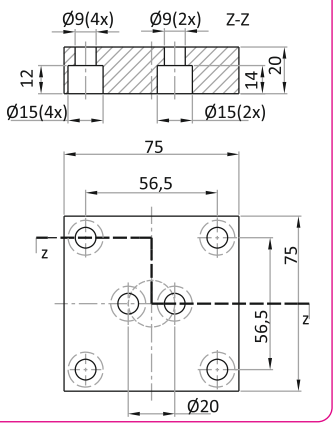

TA 045 - TD 045
TT 050


CB 045 - C 045

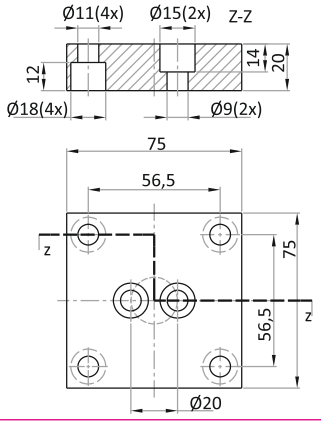

K 045 - KB 045
KC 045 - KF 045

H 00750 A

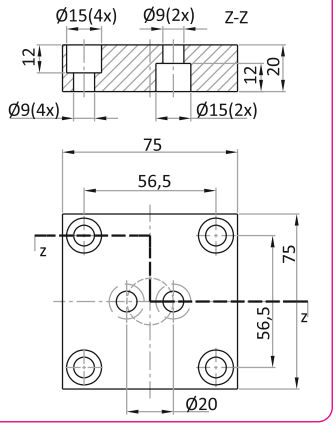
K 050



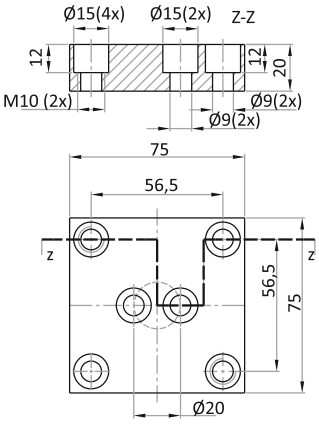
KB 050



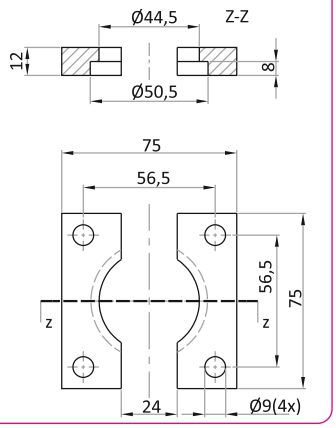
KC 050



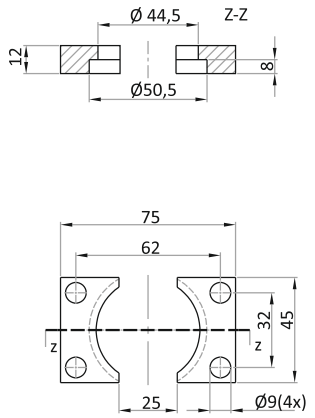
KF 050



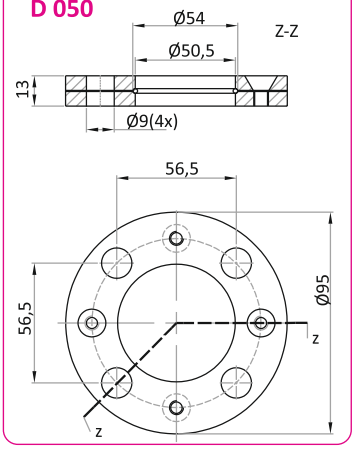
C 050



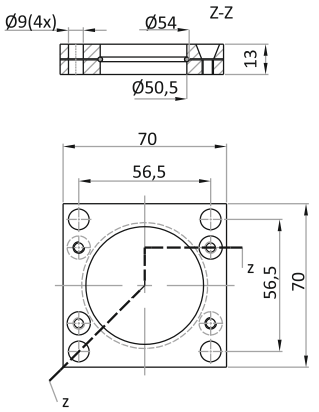
CB 050



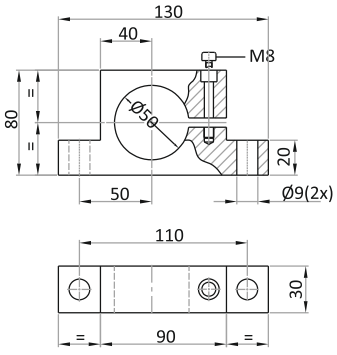
D 050



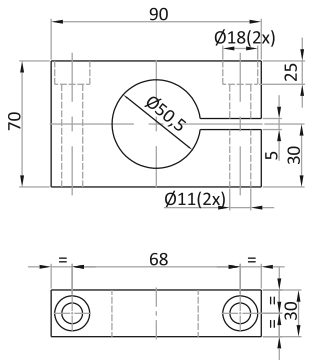
DK 050



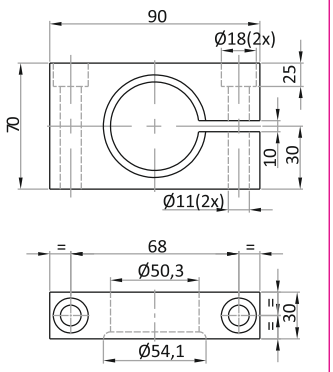
TA 050



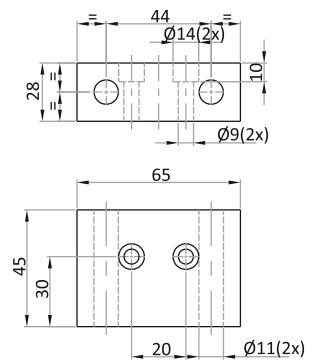
TD 050



TE 050

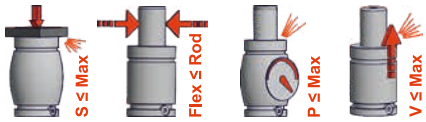


TT 50

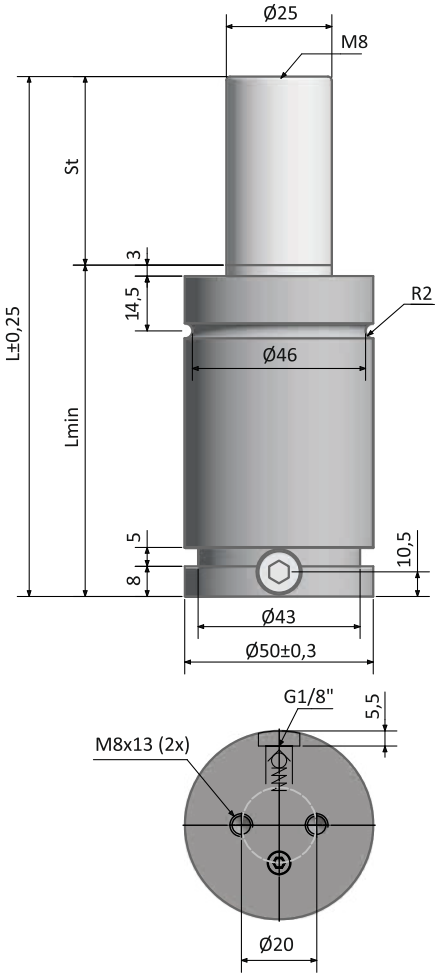


H 00750 A

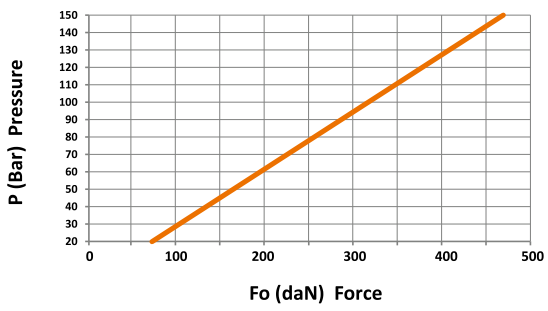
EM24.54.700 (Renault) SES-K 5404e (Suzuki)	B8 3180 220 000 003 (MB)



F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

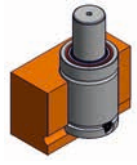


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
H 00750 006	**H 00750 006 A**	**6**	**62**	**56**		**955**	**1040**	**15,0**	**0,72**
H 00750 013	**H 00750 013 A**	**13**	**76**	**63**		**1029**	**1149**	**26,0**	**0,77**
H 00750 019	H 00750 019 A	19	88	69		1065	1201	35,0	0,82
H 00750 025	**H 00750 025 A**	**25**	**100**	**75**		**1098**	**1252**	**43,0**	**0,87**
H 00750 038	H 00750 038 A	38	126	88	**+ 20 °C**	1118	1282	63,0	0,96
H 00750 050	**H 00750 050 A**	**50**	**150**	**100**		**1131**	**1303**	**81,0**	**1,05**
H 00750 063	H 00750 063 A	63	176	113	**740**	1144	1321	100,0	1,15
H 00750 080	**H 00750 080 A**	**80**	**210**	**130**		**1153**	**1336**	**125,0**	**1,28**
H 00750 100	H 00750 100 A	100	250	150	**150 bar**	1158	1344	155,0	1,43
H 00750 125	**H 00750 125 A**	**125**	**300**	**175**		**1164**	**1353**	**192,0**	**1,63**



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	4,91 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 30-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 050


DK 050

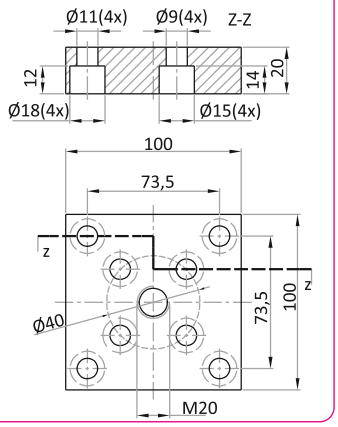

TA 050 - TD 050
TE 050 - TT 050


CB 050
C 050

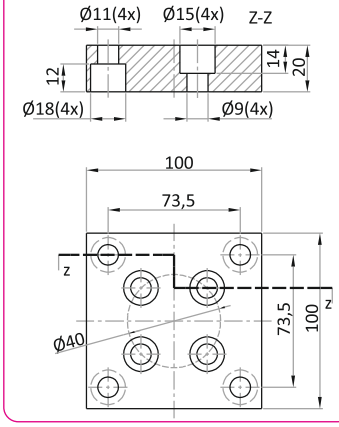

K 050 - KB 050
KC 050 - KF 050

H 01500 A

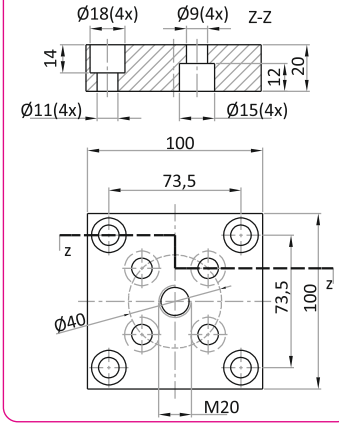
K 075



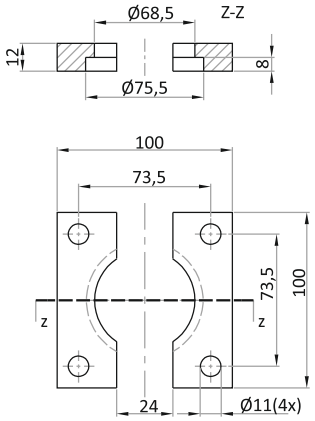
KB 075



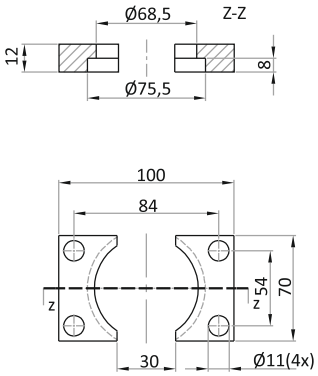
KC 075



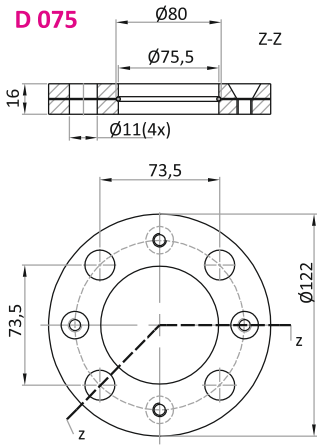
C 075



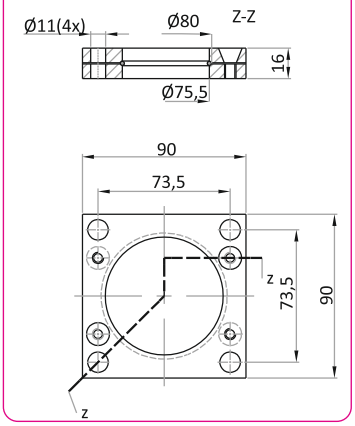
CB 075



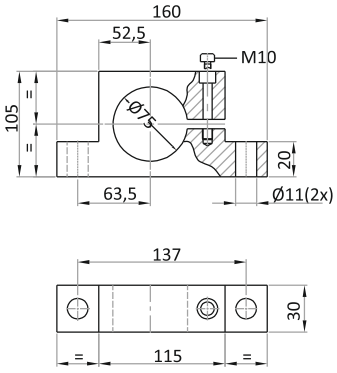
D 075



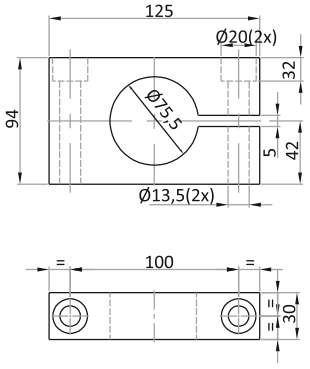
DK 075



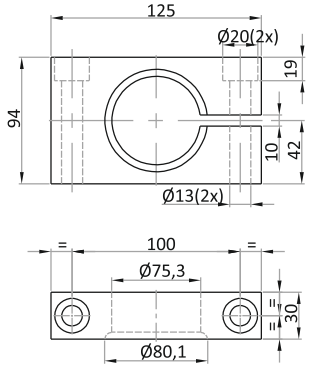
TA 075



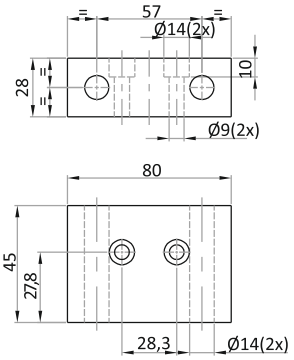
TD 075



TE 075



TT 075



H 01500 A

EM24.54.700 (Renault)

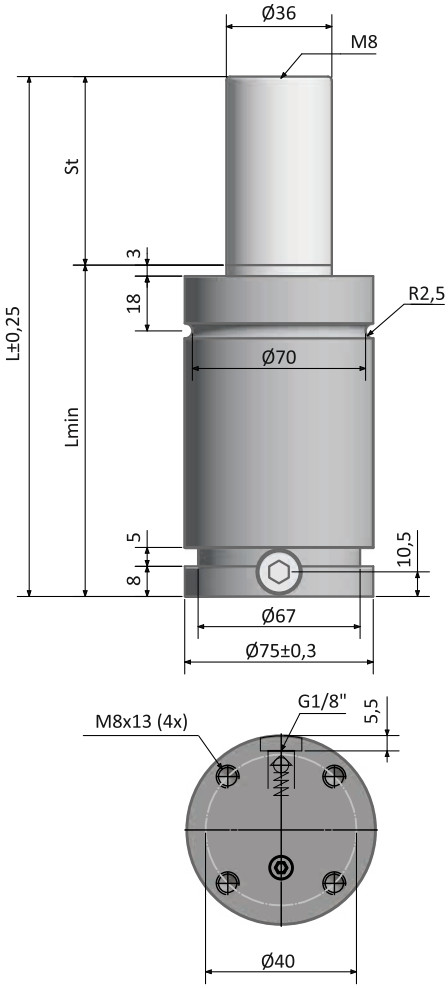
F_{1p} Polytropic End Force
Değişken Sıcaklıktaki Kuvvet

Vo Initial Gas Volume
Başlangıç Hacmi

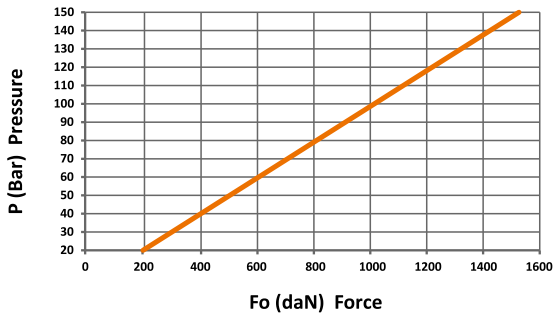
Fo Initial Force
Başlangıç Kuvveti

F_{1i} Isothermal End Force
Sabit Sıcaklıktaki Kuvvet

P ≤ Max

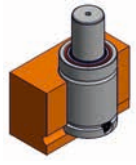


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
H 01500 025	**H 01500 025 A**	**25**	**110**	**85**		**2360**	**2723**	**83,0**	**2,39**
H 01500 038	H 01500 038 A	38	136	98	**+ 20 °C**	2426	2824	120,0	2,66
H 01500 050	**H 01500 050 A**	**50**	**160**	**110**		**2461**	**2878**	**154,0**	**2,90**
H 01500 063	H 01500 063 A	63	186	123	**1530**	2492	2926	190,0	3,17
H 01500 080	**H 01500 080 A**	**80**	**220**	**140**		**2513**	**2959**	**238,0**	**3,52**
H 01500 100	H 01500 100 A	100	260	160	**150 bar**	2526	2980	295,0	3,93



Pressure Medium **Basınç Ortamı**	N_2	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	10,18 cm^2
Working Temp. **Çalışma Sıcaklığı**	0-80 °C	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	± 0,33 %/ °C
Min. Filling Pressure **Minimum Dolum Basıncı**	20 bar	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	~ 20-80 (20°C)
Max Filling Pressure **Maximum Dolum Basıncı**	150 bar	Max. Working Speed **Maximum Çalışma Hızı**	1,8 m/s


Bottom Mount


Drop - in


D 075


DK 075

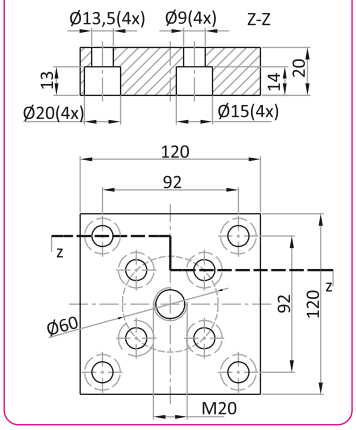

TA 075 - TD 075
TE 075 - TT 075


CB 075
C 075

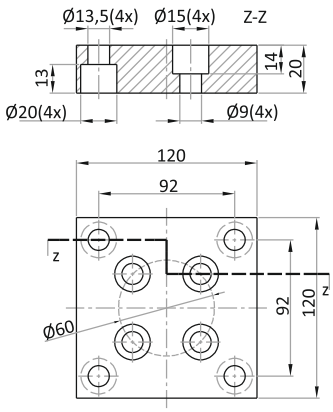

K 075 - KB 075
KC 075

H 03000 A

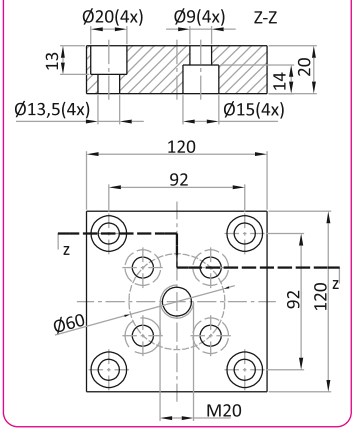
K 095



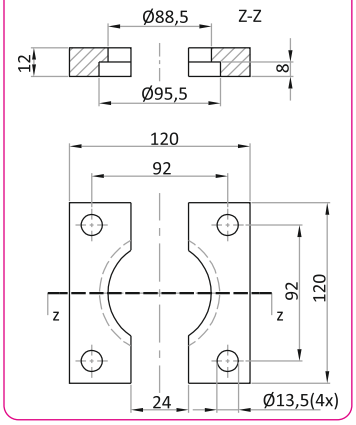
KB 095



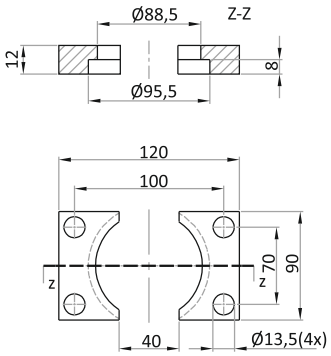
KC 095



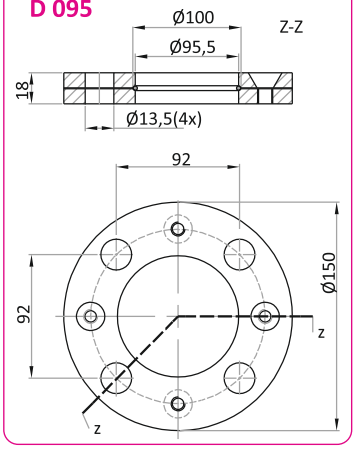
C 095



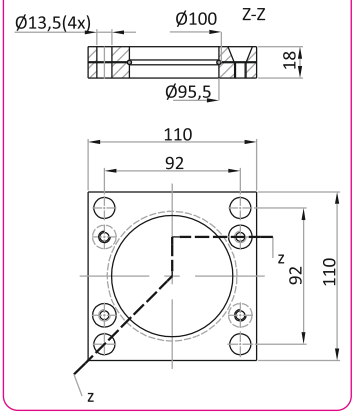
CB 095



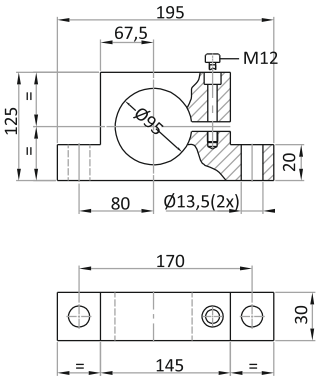
D 095



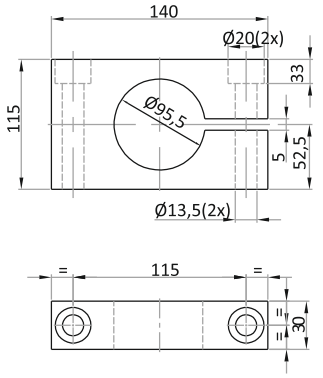
DK 095



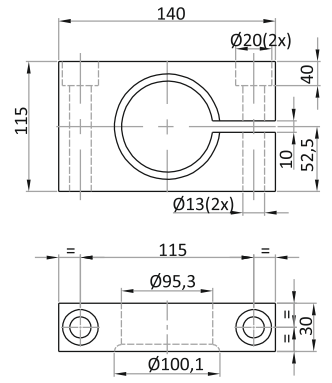
TA 095



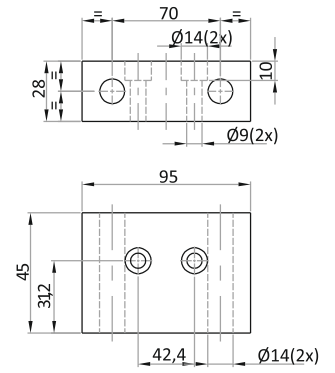
TD 095



TE 095



TT 095



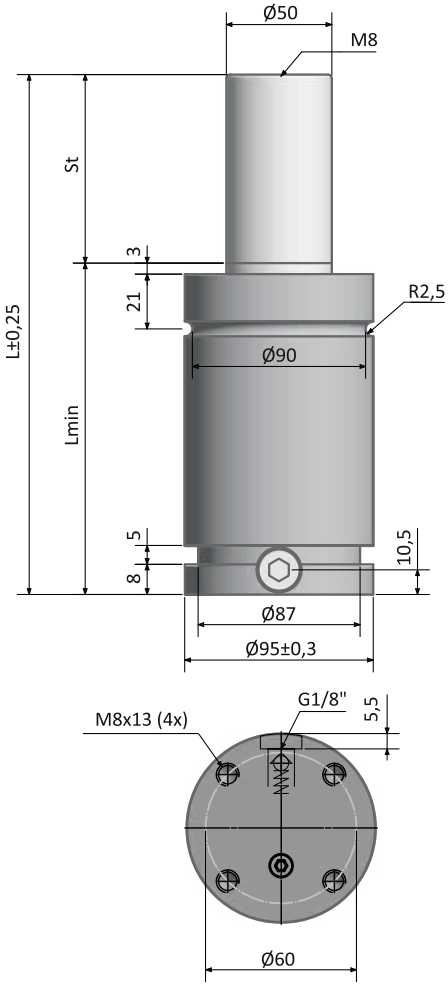
H 03000 A

EM24.54.700 (Renault)

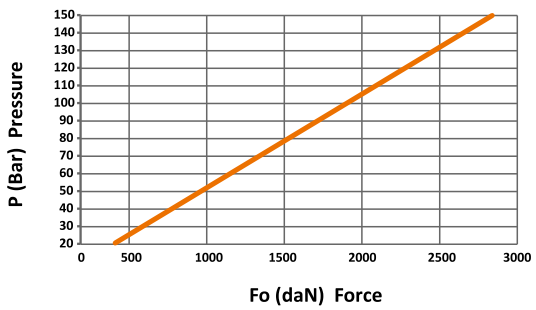
F_{1p}	Polytropic End Force **Değişken Sıcaklıktaki Kuvvet**
Vo	Initial Gas Volume **Başlangıç Hacmi**
Fo	Initial Force **Başlangıç Kuvveti**
F_{1i}	Isothermal End Force **Sabit Sıcaklıktaki Kuvvet**

APPROVED PED 2014/68/EU

P ≤ Max

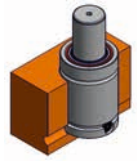


CODE KOD		St	L	L min	F_0 ± %5	F_{1i}	F_{1p}	Vo	
OLD ESKİ	NEW YENİ	mm	mm	mm	daN	daN	daN	cm^3	(Kg)
H 03000 025	**H 03000 025 A**	**25**	**120**	**95**		**5119**	**6137**	**132,0**	**4,47**
H 03000 038	H 03000 038 A	38	146	108	**+ 20 °C**	5308	6438	191,0	4,93
H 03000 050	**H 03000 050 A**	**50**	**170**	**120**		**5414**	**6610**	**245,0**	**5,36**
H 03000 063	H 03000 063 A	63	196	133	**2945**	5481	6719	304,0	5,82
H 03000 080	**H 03000 080 A**	**80**	**230**	**150**		**5541**	**6817**	**381,0**	**6,42**
H 03000 100	H 03000 100 A	100	270	170	**150 bar**	5583	6885	472,0	7,13



Pressure Medium **Basınç Ortamı**	**N_2**	Area of Sealing, Rod or Piston **Piston veya Mildeki Sızdırmazlık Alanı**	**19,63 cm^2**
Working Temp. **Çalışma Sıcaklığı**	**0-80 °C**	Force Increase By Temperature **Sıcaklık Etkisiyle Kuvvet Artışı**	**± 0,33 %/ °C**
Min. Filling Pressure **Minimum Dolum Basıncı**	**20 bar**	Recommended Max Stroke/Min **Tavsiye Edilen Maximum Strok/Dk**	**~ 15-60 (20°C)**
Max Filling Pressure **Maximum Dolum Basıncı**	**150 bar**	Max. Working Speed **Maximum Çalışma Hızı**	**1,8 m/s**

Bottom Mount



Drop - in

D 095

DK 095

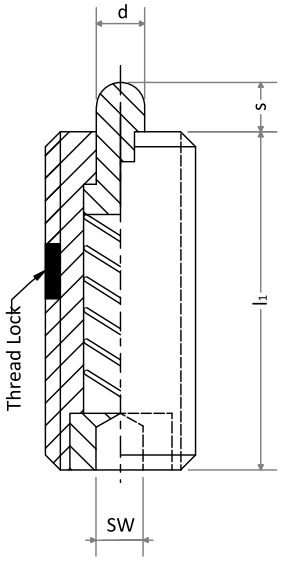
TA 095 - TD 095
TE 095 - TT 095

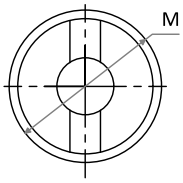
CB 095
C 095

K 095 - KB 095
KC 095

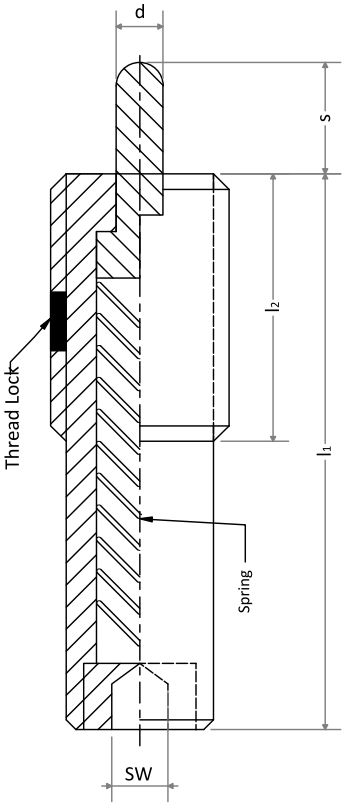
ALFAMAK

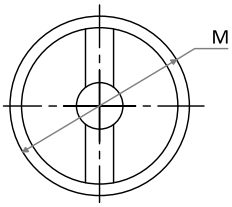
ALFAMAK®





CODE KOD		d	l1	s	sw	M	F_0	F_1
OLD ESKİ	NEW YENİ	mm	mm	mm	mm		N	N
	AL 0006 H	**2,5**	**25**	**3**	**2**	**M6x1**	**7,8**	**29,4**
	AL 0008 L	3,1	25	3	2,5	M8x1,25	2,9	9,8
	AL 0008 H	**3,1**	**25**	**3**	**2,5**	**M8x1,25**	**7,8**	**29,4**
	AL 0010 L	3,8	30	5	3	M10x1,5	2,9	14,7
	AL 0010 H	**3,8**	**30**	**5**	**3**	**M10x1,5**	**9,8**	**49**
	AL 0012 L	5,5	30	5	4	M12x1,75	1,9	9,8
	AL 0012 H	**5,5**	**30**	**5**	**4**	**M12x1,75**	**9,8**	**49**

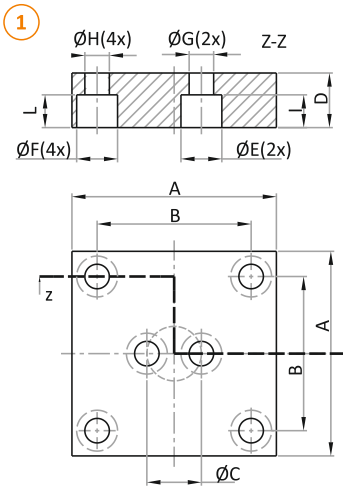




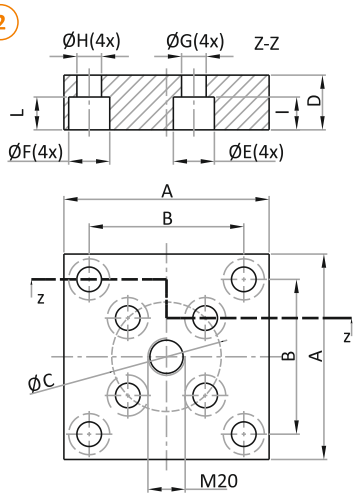
CODE KOD		d	l1	l2	s	sw	M	F_0	F_1
OLD ESKİ	NEW YENİ	mm	mm	mm	mm	mm		N	N
	AL 1210 L	**5,5**	**43**	**35**	**10**	**4**	**M12x1,75**	**3,9**	**19,6**
	AL 1210 H	5,5	43	35	10	4	M12x1,75	6,8	39,2
	AL 0016 L	**8**	**32**	**32**	**5,5**	**5**	**M16x2**	**45**	**100**
	AL 1610 LS	8	50	35	10	5	M16x2	9,8	49
	AL 1610 HS	**8**	**50**	**35**	**10**	**5**	**M16x2**	**19,6**	**98**
	AL 1610 L	8	60	35	10	5	M16x2	12,7	39,2
	AL 1610 H	**8**	**60**	**35**	**10**	**5**	**M16x2**	**26,4**	**78,4**
	AL 1615 L	8	60	35	15	5	M16x2	9,8	39,2
	AL 1615 H	**8**	**60**	**35**	**15**	**5**	**M16x2**	**14,7**	**78,4**
	AL 1620 L	8	85	35	20	5	M16x2	12,7	39,2
	AL 1620 H	**8**	**85**	**35**	**20**	**5**	**M16x2**	**16,6**	**78,4**
	AL 1630 L	8	125	35	30	5	M16x2	17,6	39,2
	AL 1630 H	**7**	**125**	**35**	**30**	**5**	**M16x2**	**19,6**	**78,4**

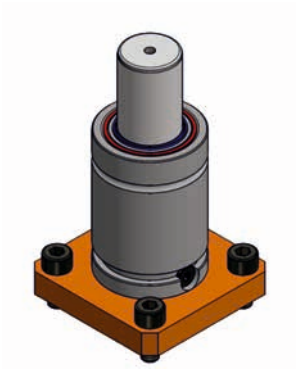
Reference to standards	Standard	
a	ISO 11901-2	
b	VDI 3003	
c	B2 4009	BMW
d	W-DX35-62M	Ford
e	W-DX35-80M	Ford
f	W-DX40-80M	Ford
g	90.25.01	General Motors
h	90.25.02	General Motors
i	90.25.03	General Motors
j	90.25.04	General Motors
k	90.25.06	General Motors
l	90.25.07	General Motors
m	90.25.455	General Motors
n	B8 0132 110 008 801	Mercedes Benz
o	B8 0138 100 000 001	Mercedes Benz
p	B8 0134 300 000 001	Mercedes Benz
r	B8 0134 400 008 801	Mercedes Benz
s	B8	Mercedes Benz
t	E24.54.815.G	Peugeot-Citroen
u	EM24.54.700	Renault
v	39D 848	Volkswagen
y	075.90.70	FCA
z	075.90.75	FCA
x	075.90.80	FCA
w	075.90.85	FCA
β	075.90.90	FCA
γ	075.90.95	FCA
q	075.90.40	FCA
ϕ	K32D2-2400-50	Nissan

1



2

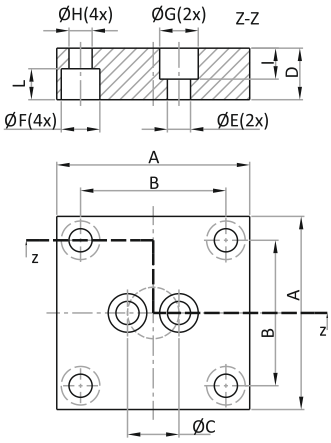




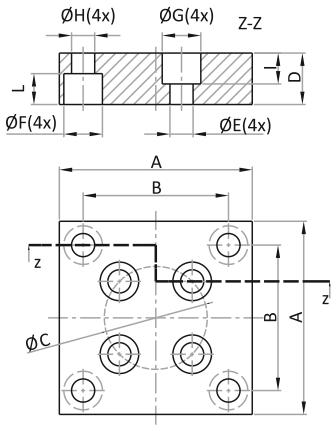
K(1)	Reference to Standarts	A	B	ØC	D	ØE	ØF	ØG	ØH	l	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
K 045	a-b-j-t-u	70	50	20	20	15	15	9	9	14	12
K 050	a-b-j-t-u	75	56,5	20	20	15	15	9	9	14	12
K 063		100	73,5	20	20	15	18	9	11	12	12

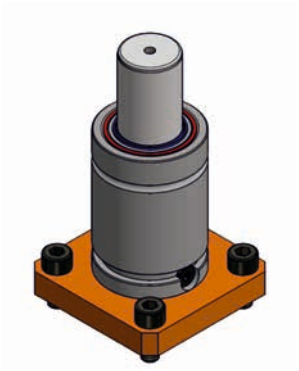
K(2)	Reference to Standarts	A	B	ØC	D	ØE	ØF	ØG	ØH	l	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
K 075	a-b-j-t-u	100	73,5	40	20	15	18	9	11	14	12
K 095	a-b-j-t-u	120	92	60	20	15	20	9	13,5	14	13
K 120	a-b-j-t-u	140	109,5	80	20	18	20	11	13,5	15	13
K 150	a-b-j-u	190	138	100	25	18	26	11	17,5	15	17
K 195	a-b-j-u	210	170	120	25	20	26	13,5	17,5	13	17

1



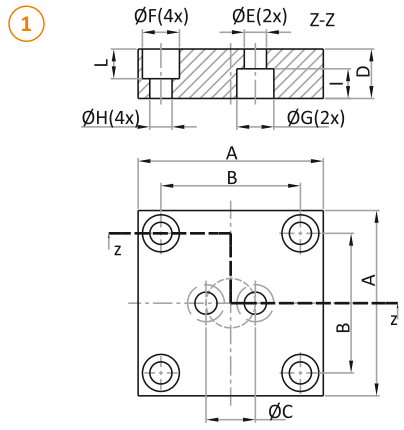
2

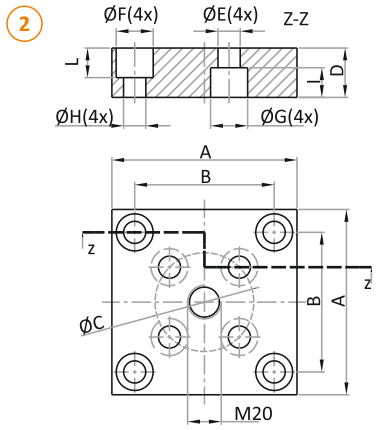


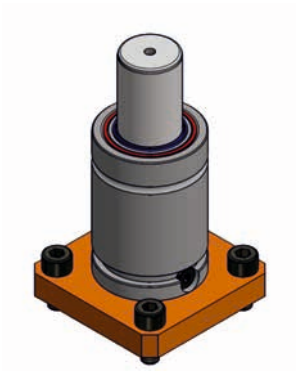


KB(1)	Reference to Standarts	A	B	ØC	D	ØE	ØF	ØG	ØH	l	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
KB 045	u	70	50	20	20	9	18	15	11	14	12
KB 050	u	75	56,5	20	20	9	18	15	11	14	12

KB(2)	Reference to Standarts	A	B	ØC	D	ØE	ØF	ØG	ØH	l	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
KB 075	u	100	73,5	40	20	9	18	15	11	14	12
KB 095	u	120	92	60	20	9	20	15	13,5	14	13
KB 120	u	140	109,5	80	20	11	20	18	13,5	15	13
KB 150	u	190	138	100	25	11	26	18	17,5	15	17
KB 195	u	210	170	120	25	13,5	26	20	17,5	15	17

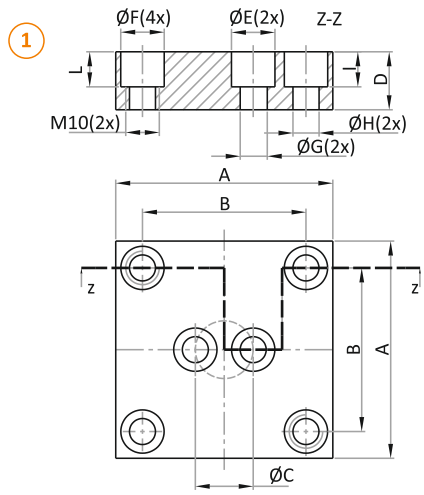


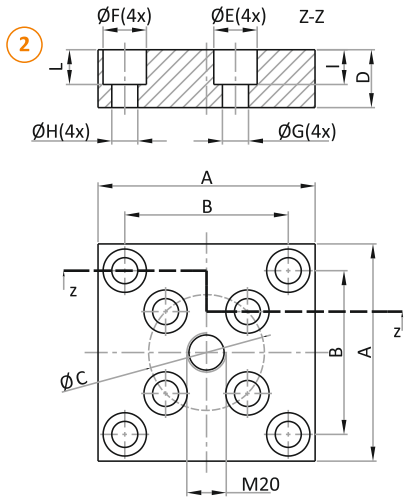


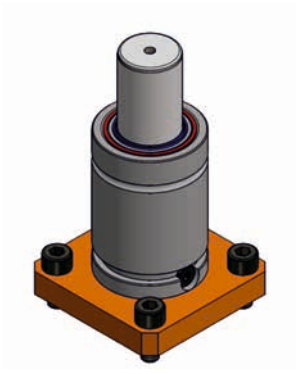


KC(1)	Reference to Standarts	A	B	C	D	ØE	ØF	ØG	ØH	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
KC 045	c-n	70	50	20	20	9	15	15	9	12	12
KC 050	c-n	75	56,5	20	20	9	15	15	9	12	12
KC 063	c-n	100	73,5	20	20	9	18	15	11	12	12

KC(2)	Reference to Standarts	A	B	ØC	D	ØE	ØF	ØG	ØH	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
KC 075	c-n	100	73,5	40	20	9	18	15	11	12	14
KC 095	c-n	120	92	60	20	9	20	15	13,5	14	13
KC120	c-n	140	109,5	80	20	11	20	18	13,5	15	13
KC 150	c-n	190	138	100	20	11	20	18	13,5	15	13
KC 195	n	210	170	120	25	13,5	26	20	17,5	15	17



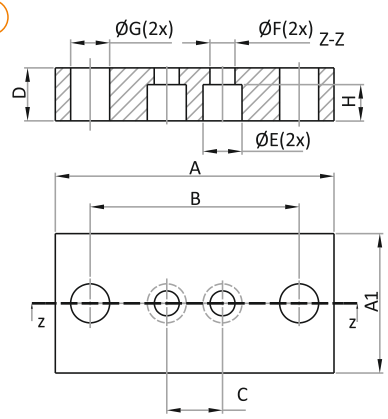




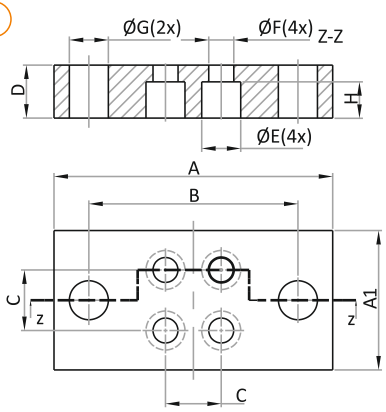
KF(1)	Reference to Standarts	A	B	C	D	ØE	ØF	ØG	ØH	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
KF 045	c	70	50	20	20	15	15	9	9	12	12
KF 050	c	75	56,5	20	20	15	15	9	9	12	12

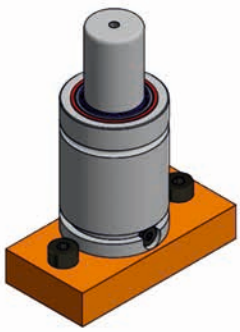
KF(2)	Reference to Standarts	A	B	ØC	D	ØE	ØF	ØG	ØH	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
KF 075	c	100	73,5	40	20	15	18	9	11	12	15
KF 150	c-h	190	138	100	20	18	26	11	17,5	15	17

1



2



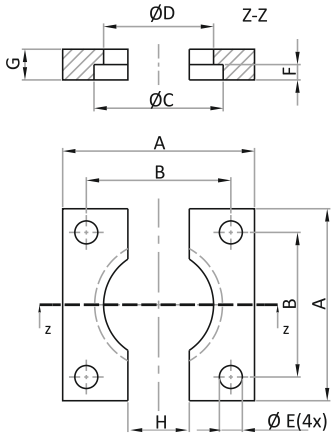


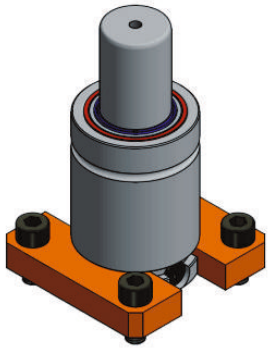
KH(1)	Reference to Standarts	A	A1	B	C	D	ØE	ØF	ØG	H
		mm	mm	mm	mm	mm	mm	mm	mm	mm
KH 045	u-ϕ	90	45	70	20	16	14	9	9	10
KH 050	u-ϕ	100	50	75	31,8	19	18	11	14	13
KHA 050	u-ϕ	100	50	75	20	19	14	9	14	13

KH(2)	Reference to Standarts	A	A1	B	C	D	ØE	ØF	ØG	H
		mm	mm	mm	mm	mm	mm	mm	mm	mm
KH 075	u-ϕ	130	80	105	38,1	19	20	14	14	13
KHA 075	u-ϕ	130	80	105	28,3	19	14	9	14	13
KH 095	u-ϕ	150	100	125	53,9	19	20	14	14	13
KHA 095	u-ϕ	150	100	125	42,4	19	14	9	14	13
KH 120	u-ϕ	170	120	145	57,1	19	20	14	14	13

C

ISO
General Motors | VDI | BMW | Ford | Mercedes Benz | Volkswagen

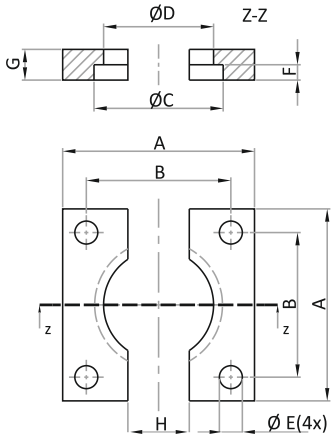


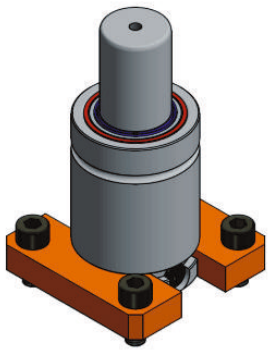


C	Reference to Standarts	A	B	ØC	ØD	ØE	F	G	H
		mm	mm	mm	mm	mm	mm	mm	mm
C 032	a-c-d-g-o	50	35	32,5	28,5	6,6	4	7	5
C 038	a-c-d-g-o	55	40	38,5	34,5	7	4	7	5
C 045	a-c-d-g-o-v-β	70	50	45,5	41,5	9	4	7	20
C 050	a-c-d-g-o-v-β	75	56,5	50,5	44,5	9	8	12	24
C 063	-	85	63,5	63,5	57,5	11	8	12	24
C 075	a-c-d-g-o-v-β	100	73,5	75,5	68,5	11	8	12	24
C 095	a-c-d-g-o-v-β	120	92	95,5	88,5	13,5	8	12	24
C 120	a-c-d-g-o-v-β	140	109,5	120,5	113,5	13,5	8	12	24
C 150	a-c-d-g-o-v-β	190	138	150,5	143,5	17,5	8	12	24
C 195	a-c-d-g-o-v-β	210	170	195,5	188	17,5	8	13	24

CA

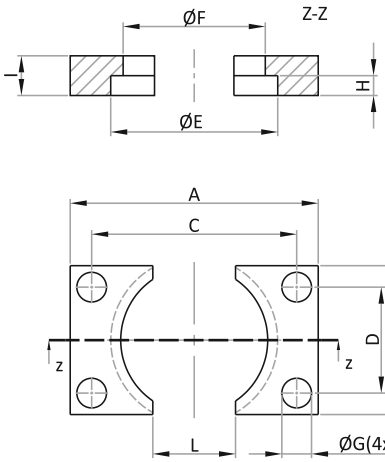
VDI | BMW | Ford | Mercedes Benz | Volkswagen

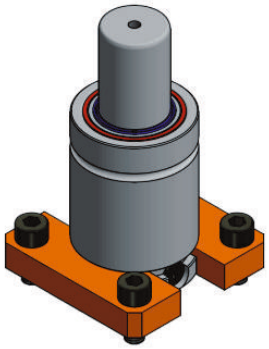




CA	Reference to Standarts	A	B	ØC	ØD	ØE	F	G	H
		mm	mm	mm	mm	mm	mm	mm	mm
CA 032	b-v-β	50	35	32,5	28,5	6,6	4	7	12
CA 038	b-v-β	55	40	38,5	34,5	6,6	4	7	12
CA 063	b-c-d-o-v	100	73,5	64	57,5	11	8	12	24

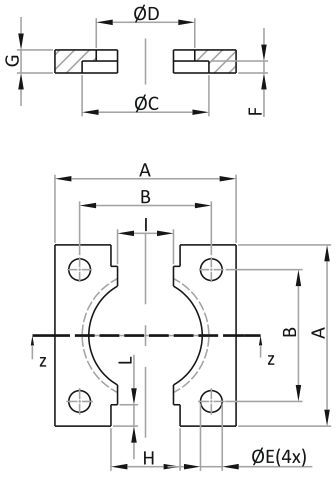
CB

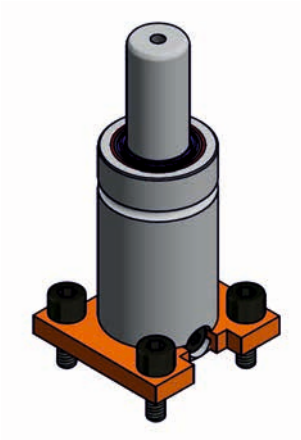




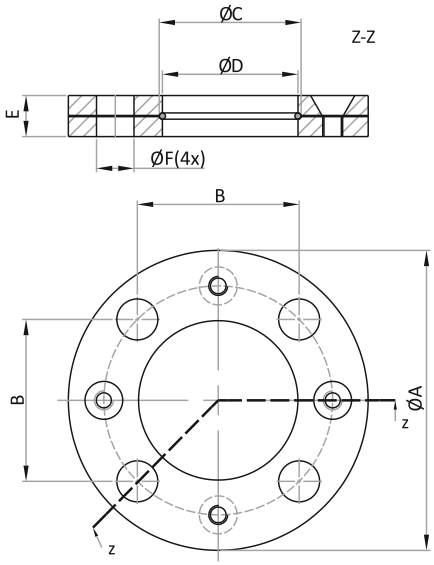
CB	Reference to Standarts	A	B	C	D	ØE	ØF	ØG	H	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
CB 032	-	50	27	40	18	32,5	28,5	6,6	4	7	20
CB 038	-	55	33	44	20	38,5	34,5	6,6	4	7	20
CB 045	-	70	40	57	27	45,5	41,5	9	4	7	25
CB 050	-	75	45	62	32	50,5	44,5	9	8	12	25
CB 063	-	85	58	69	42	63,5	57,5	11	8	12	30
CB 075	-	100	70	84	54	75,5	68,5	11	8	12	30
CB 095	-	120	90	100	70	95,5	88,5	13,5	8	12	40
CB 120	-	140	115	120	95	120,5	113,5	13,5	8	12	50
CB 150	-	190	145	165	120	150,5	143,5	17,5	8	12	60
CB 195	-	210	190	185	165	195,5	188	17,5	8	13	80

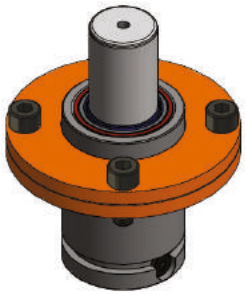
CC





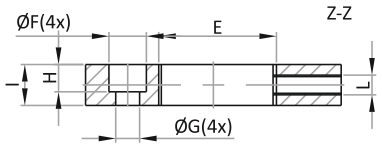
CC	Reference to Standarts	A	B	C	D	ØE	F	G	H	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
CC 032	-	50	35	32,5	28,5	6,6	4	7	21	17	6,5
CC 038	-	55	40	38,5	34,5	6,6	4	7	21	17	6,5

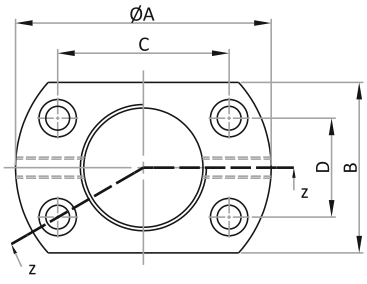


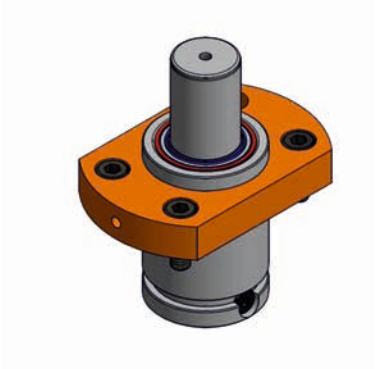


D	Reference to Standarts	ØA	B	ØC	ØD	E	ØF
		mm	mm	mm	mm	mm	mm
D 032	a-b-c-i-p-x	60	35	34	32,5	9	7
D 038	a-b-c-i-p-x	68	40	40	38,5	9	7
D 045	a-b-c-i-p-x	86	50	47	45,5	13	9
D 050	a-b-c-i-p-x	95	56,5	54	50,5	13	9
D 063	-	122	73,5	67	63,5	16	11
D 075	a-b-c-i-p-x	122	73,5	80	75,5	16	11
D 095	a-b-c-i-p-x	150	92	100	95,5	18	13,5
D 120	a-b-c-i-p-x	175	109,5	125	120,5	21	13,5
D 150	a-b-c-i-p-x	220	138	155	150,5	27	17,5
D 195	a-b-i-p-x	290	170	200	195,5	27	17,5

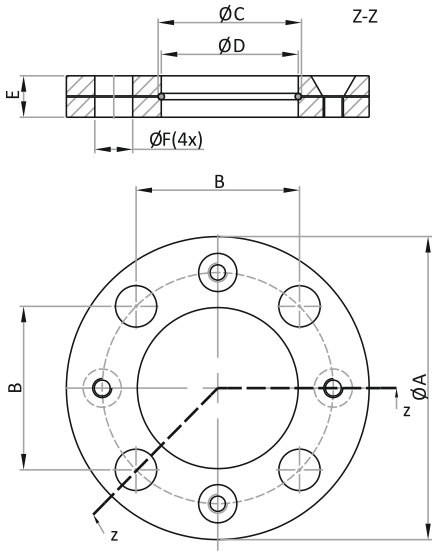
DA

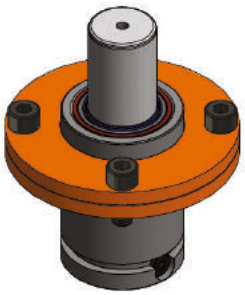






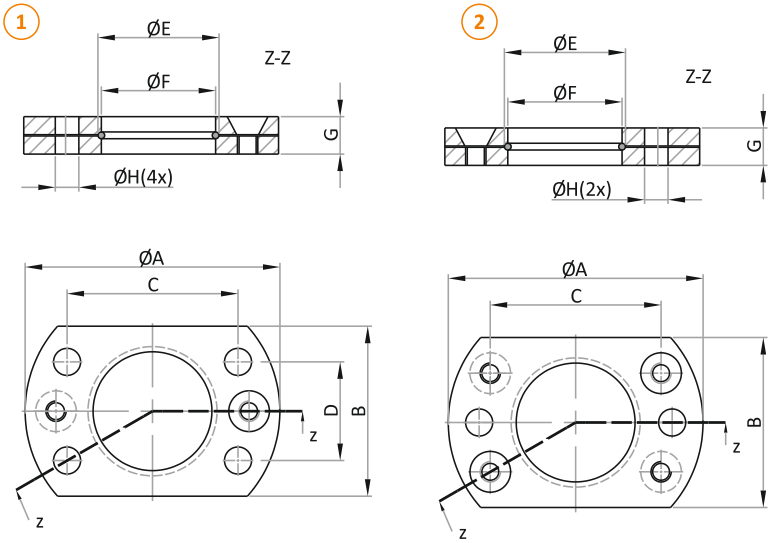
DA	Reference to Standarts	ØA	B	C	D	E	ØF	ØG	H	I	L
		mm	mm	mm	mm		mm	mm	mm	mm	mm
DA 038	-	75	50	50,3	29	M38x1,5	14	9	8	12	M6
DA 045	-	90	60	60	34	M45x1,5	14	9	8	16	M6
DA 050	y	100	66	66	38	M50x1,5	14	9	8	16	M6

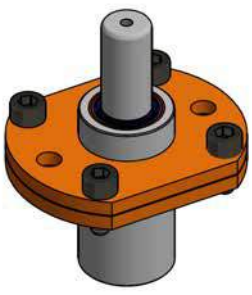




DB	Reference to Standarts	ØA	B	ØC	ØD	E	ØF
		mm	mm	mm	mm	mm	mm
DB 050	-	95	56,5	53	50,5	13	9
DB 063	-	122	73,5	66	63,5	16	11
DB 075	-	122	73,5	78	75,5	16	11
DB 095	-	150	92	98	95,5	18	13,5

D - DF (19-25)

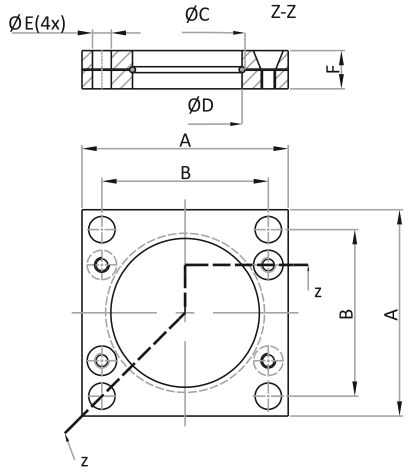


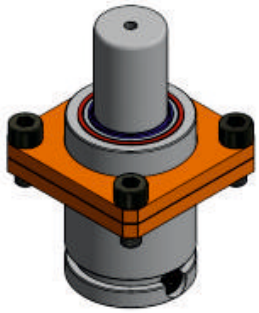


D - DF	Reference to Standarts	ØA	B	C	D	ØE	ØF	G	ØH
		mm	mm	mm	mm	mm	mm	mm	mm
D 019(1)	a-e	44	25	30	12	21	19,5	9	6,6
D 025(1)	a-e	50	30	34	18	27	25,5	9	6,6
DF 019(2)	b-c-r-v-z	44	25	32	-	21	19,5	9	6,6
DF 025(2)	b-c-r-t-v-z	50	30	38	-	27	25,5	9	6,6

DK - DKA

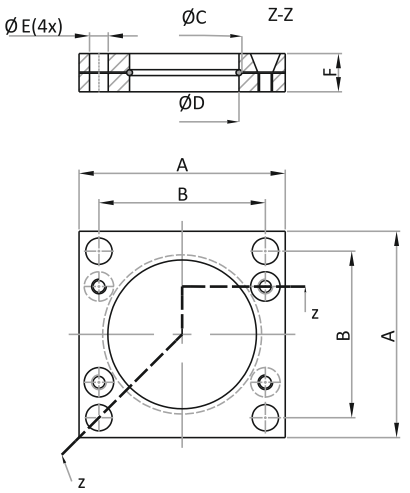
ISO Volkswagen | Ford | VDI | General Motors | BMW

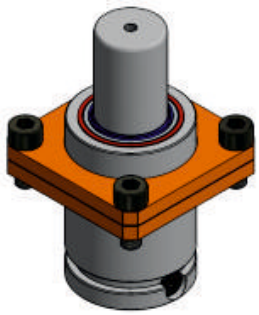




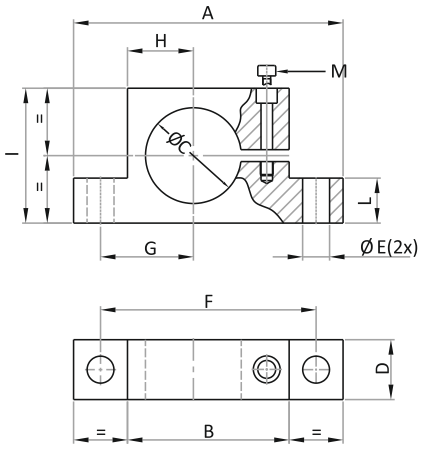
DK - DKA	Reference to Standarts	A	B	ØC	ØD	ØE	F
		mm	mm	mm	mm	mm	mm
DK 032	b-d-h-w	45	35	34	32,5	7	9
DK 038	a-b-c-d-h-w	52	40	40	38,5	7	9
DK 045	a-b-c-d-h-w	64	50	47	45,5	9	13
DK 050	a-b-c-d-h-w	70	56,5	54	50,5	9	13
DKA 063	w	90	73,5	67	63,45	11	16
DK 063	b-d-v	80	64	67	63,45	11	16
DK 075	a-b-c-d-h-w	90	73,5	80	75,5	11	16
DK 095	a-b-c-d-h-w	110	92	100	95,5	13,5	18
DK 120	a-b-c-d-h-w	130	109,5	125	120,5	13,5	21
DK 150	a-b-c-d-h-w	162	138	155	150,5	17,5	27
DK 195	a-b-d-h-w	210	170	200	195,5	17,5	27

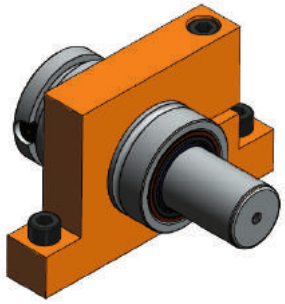
DKB



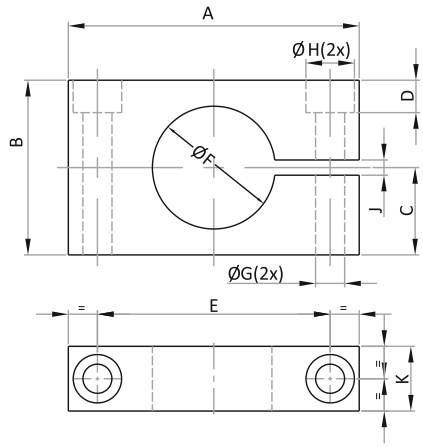


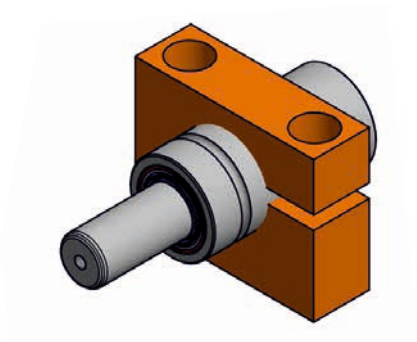
DKB	Reference to Standarts	A	B	ØC	ØD	ØE	F
		mm	mm	mm	mm	mm	mm
DKB 050	-	70	56,5	53	50,5	9	13
DKC 063	-	90	73,5	66	63,5	11	16
DKB 063	-	80	64	66	63,5	11	16
DKB 075	-	90	73,5	78	75,5	11	16
DKB 095	-	110	92	98	95,5	13,5	18





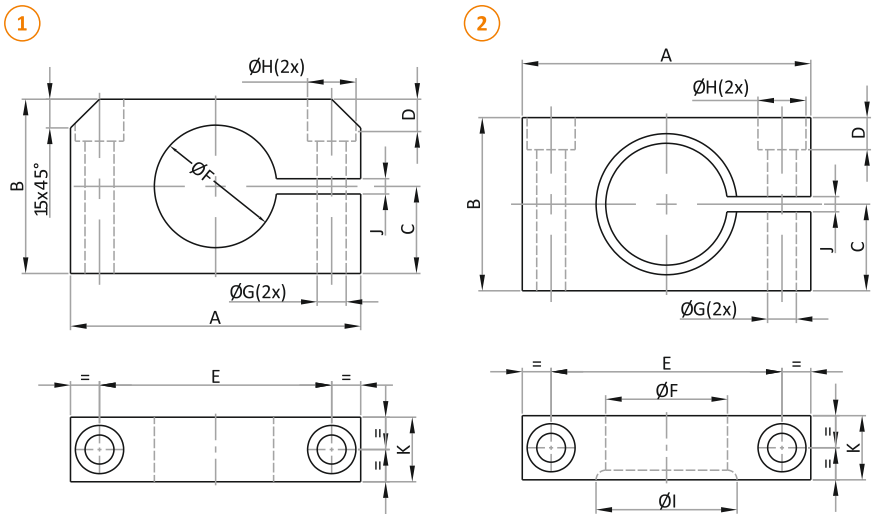
TA	Reference to Standarts	A	B	ØC	D	ØE	M	F	G	H	I	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TA 032	a-b-c-m-t	90	54	32	20	9	M8	72	31	22	45	15
TA 038	a-b-c-m-t	95	59	38	20	9	M8	77	34	25	55	15
TA 045	a-b-c-m-t	100	64	45	20	9	M8	82	37	28	60	15
TA 050	a-b-c-m-t	130	90	50	30	9	M8	110	50	40	80	20
TA 075	a-b-c-m-t	160	115	75	30	11	M10	137	63,5	52,5	105	20
TA 095	a-b-c-m-t	195	145	95	30	13,5	M12	170	80	67,5	125	20
TA 120	a-b-c-m-t	220	165	120	30	13,5	M12	195	92,5	77,5	148	20
TA 150	a-b-c-m-t	260	200	150	30	13,5	M12	230	110	95	200	20

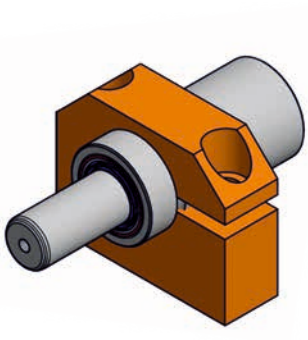




TB-TC-TD	Reference to Standarts	A	B	C	D	E	ØF	ØG	ØH	J	K
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TB 032	f	80	63	38,5	18	56	32	10,5	17	6	25
TD 032	b-c-l-s-v-γ	68	48	20,9	10	50	32,5	9	15	4	20
TD 038	b-c-l-s-v-γ	74	54	23,9	16	54	38,5	9	15	4	20
TD 045	b-c-l-s-v-γ	80	60	27,5	22	60	45,5	9	15	4	20
TD 050	b-c-d-l-s-v-γ	90	70	30	25	68	50,5	11	18	5	30
TC 063	-	105	80	40	11	80	63	10,5	17	10	30
TD 063	b-s-v-γ	108	82	36,5	27	84	63,5	11	18	5	30
TD 075	b-c-d-l-s-v-γ	125	94	42	32	100	75,5	13,5	20	5	30
TD 095	b-c-d-l-s-v-γ	140	115	52,5	33	115	95,5	13,5	20	5	30
TD 120	b-c-l-s-v-γ	170	140	65	58	145	120,5	13,5	20	7	30
TD 150	b-c-l-s-v-γ	200	170	80	68	175	150,5	13,5	20	7	30

TE



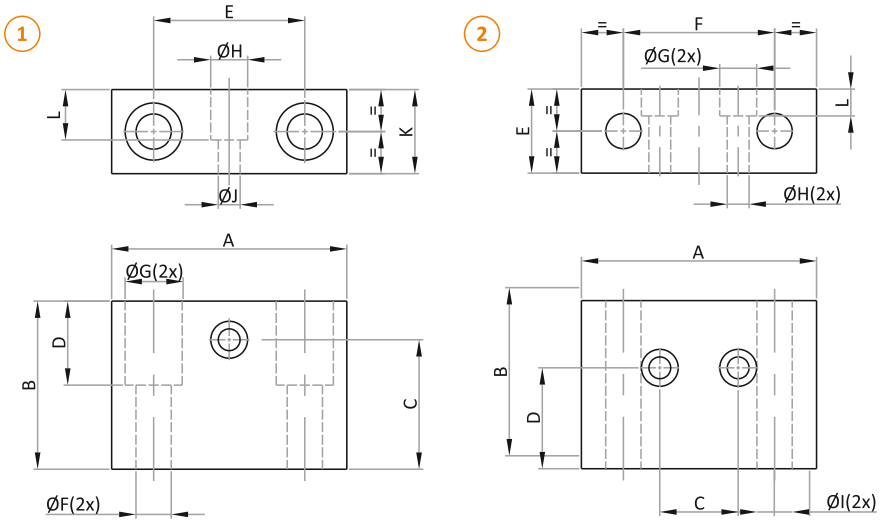


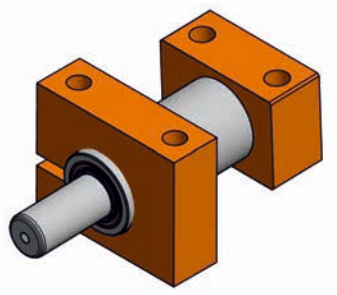
TE (1)	Reference to Standarts	A	B	C	D	E	ØF	ØG	ØH	J	K
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TE 045	-	100	60	30	20	70	45,3	11	18	10	25

TE(2)	Reference to Standarts	A	B	C	D	E	ØF	ØG	ØH	ØI	J	K
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TE 050	k	90	70	30	25	68	50,3	11	18	54,1	10	30
TE 075	k	125	94	42	19	100	75,3	13	20	80,1	10	30
TE 095	k	140	115	52,5	40	115	95,3	13	20	100,1	10	30

TT

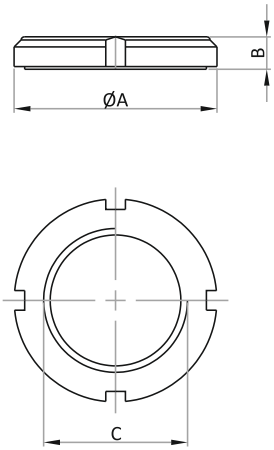
Ford | General Motors

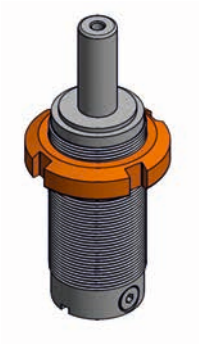




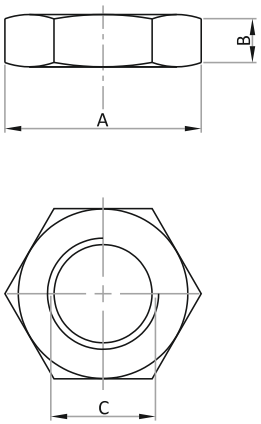
TT(1)	Reference to Standarts	A	B	C	D	E	ØF	ØG	ØH	ØJ	L	K
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TT 032	e	70	50	38,5	25	45	10,5	17	11	6,5	15	25

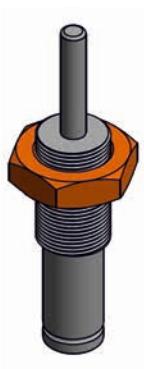
TT(2)	Reference to Standarts	A	B	C	D	E	F	ØG	ØH	L	ØI
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TT 038	d	60	38	18	23,9	28	40	14	9	10	9
TT 050	k	65	45	20	30	28	44	14	9	10	11
TT 075	k	80	45	28,3	27,8	28	57	14	9	10	14
TT 095	k	95	45	42,4	31,2	28	70	14	9	10	14





GM	Reference to Standarts	ØA	B	C
		mm	mm	
M38x1,5	-	53	12	M38x1,5
M45x1,5	-	62	12,3	M45x1,5
M50x1,5	-	68	12,9	M50x1,5

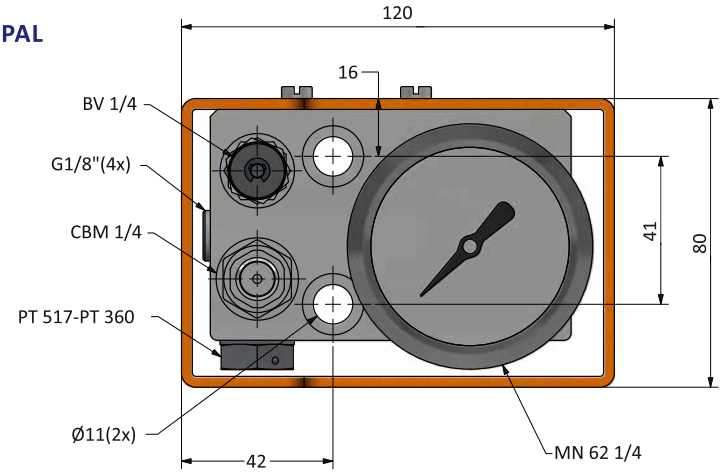


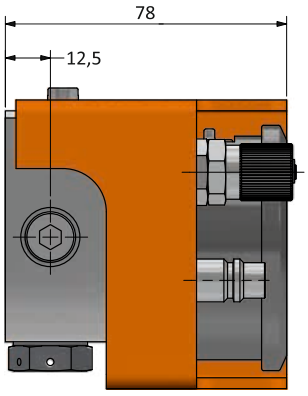


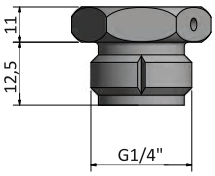
HM	Reference to Standarts	A	B	C
			mm	
HM 24	-	S36	10	M24 x1,5

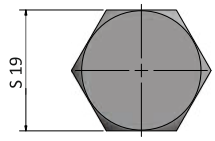
KONTROL PANELİ

KPAL

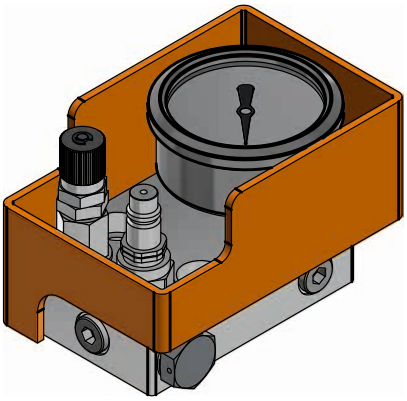




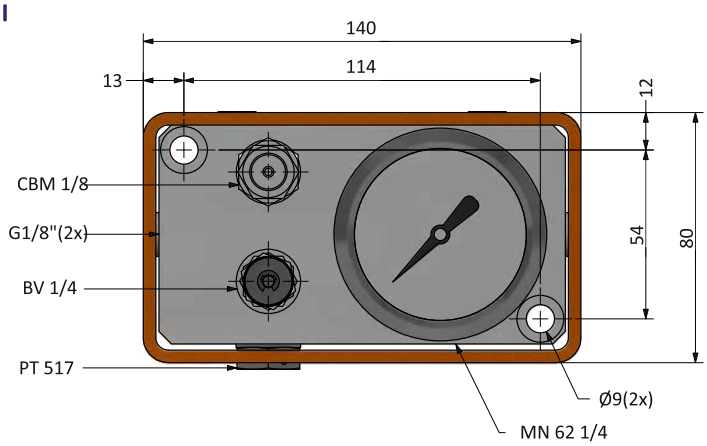


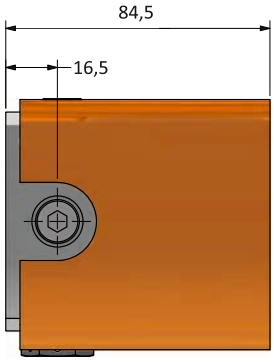


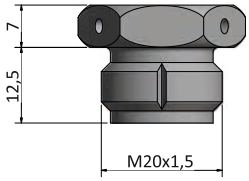
(360 Bar)

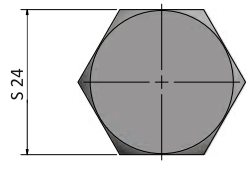


KPFI

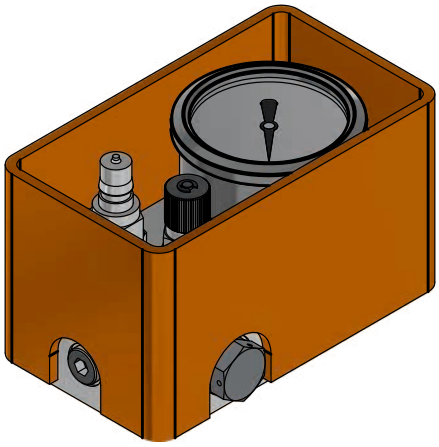




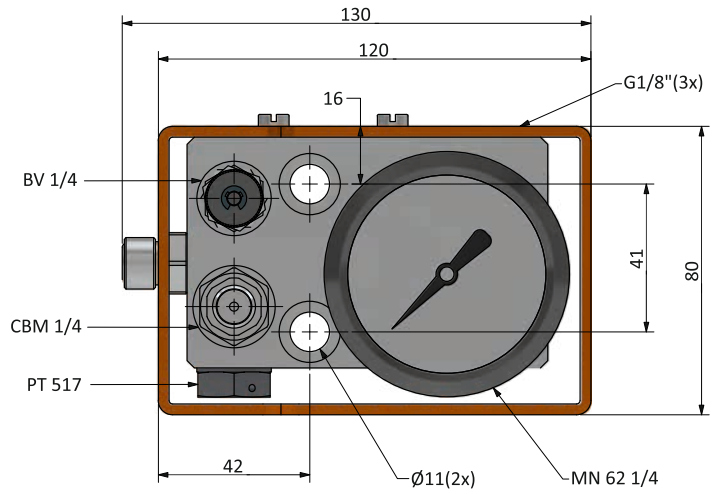


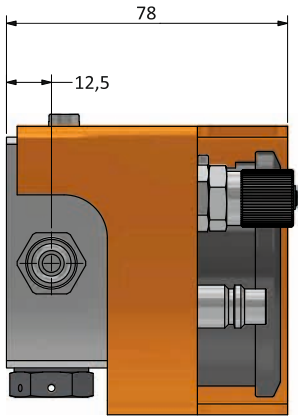


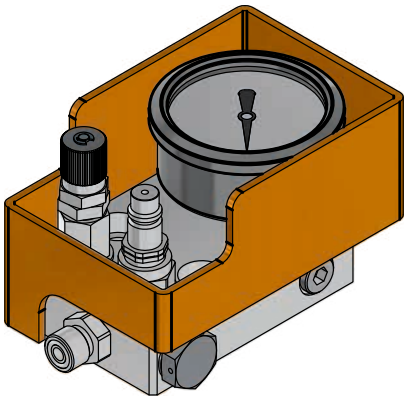
(517 Bar)



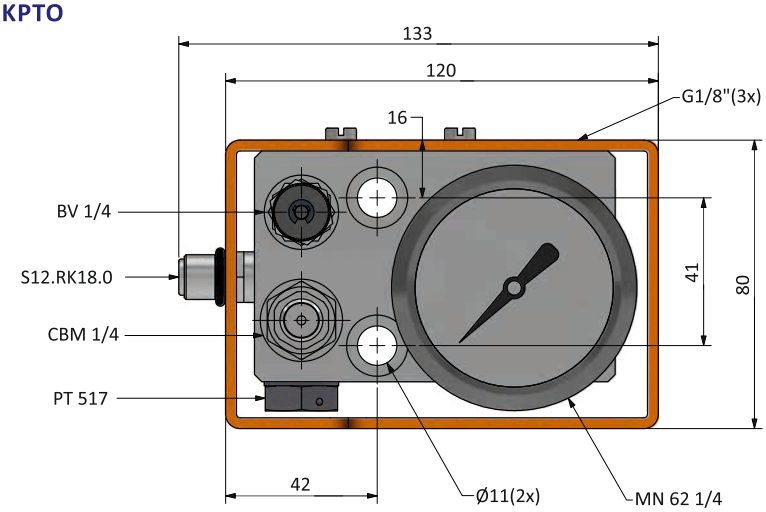
KPFO

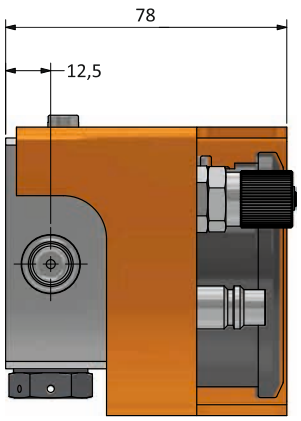

130
120
16
G1/8"(3x)
BV 1/4
CBM 1/4
PT 517
41
80
42
Ø11(2x)
MN 62 1/4

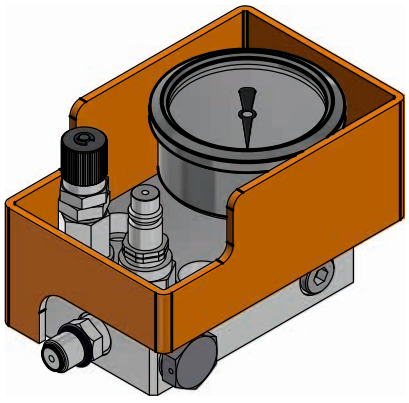

78
12,5



KPTO

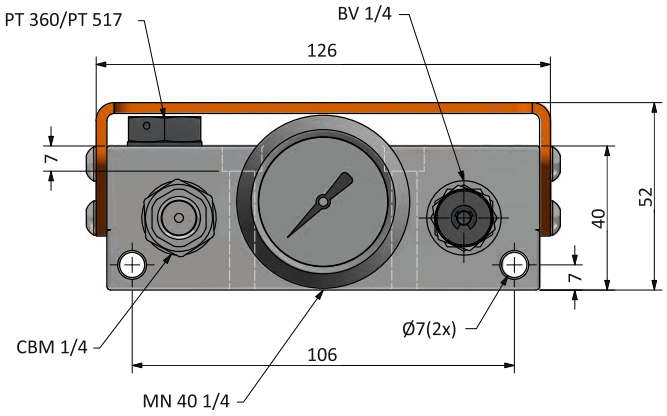

133
120
16
G1/8"(3x)
BV 1/4
S12.RK18.0
CBM 1/4
PT 517
41
80
42
Ø11(2x)
MN 62 1/4

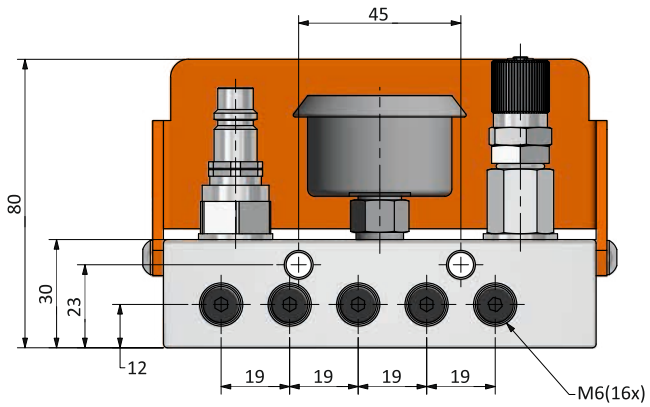

78
12,5

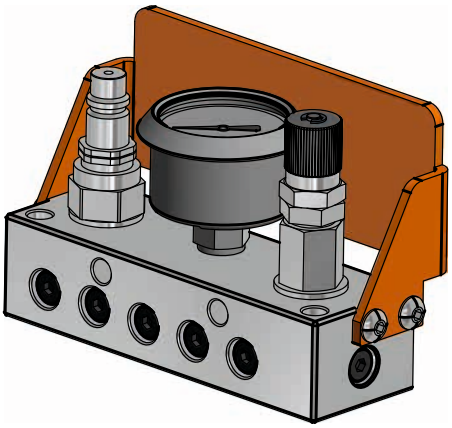


KONTROL PANELİ

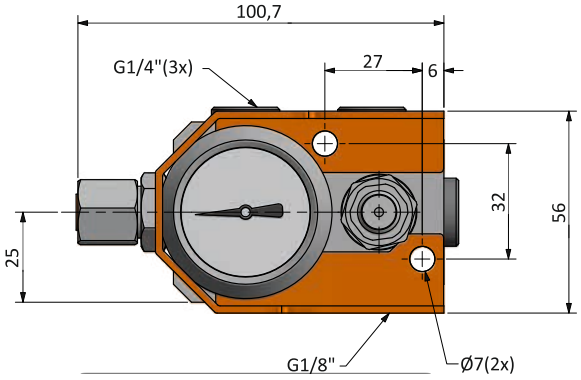
KPM6

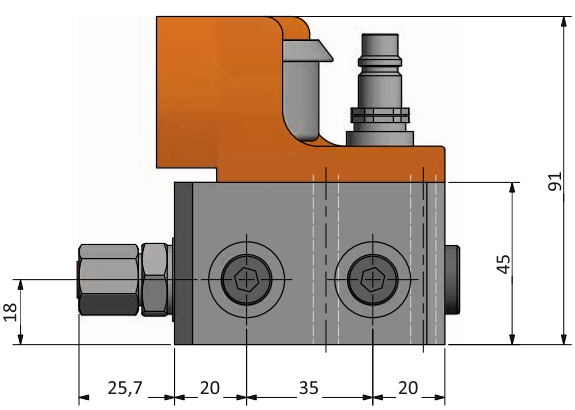


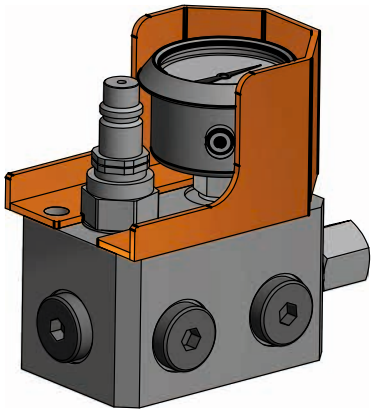




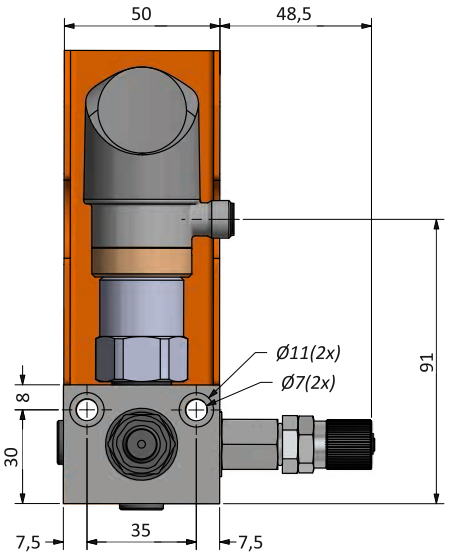
KPGM

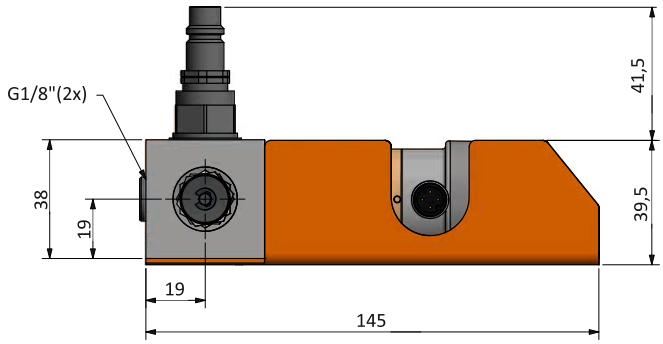




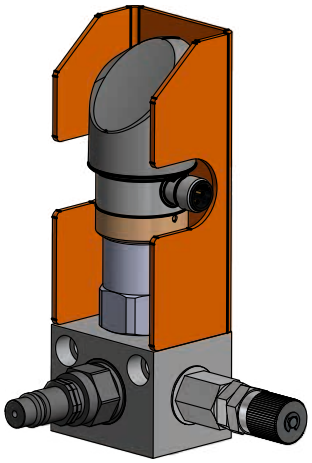


KPEL

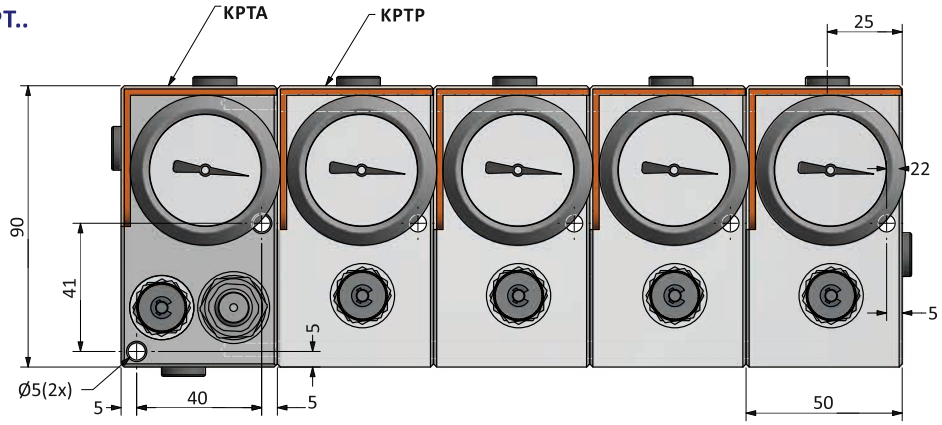


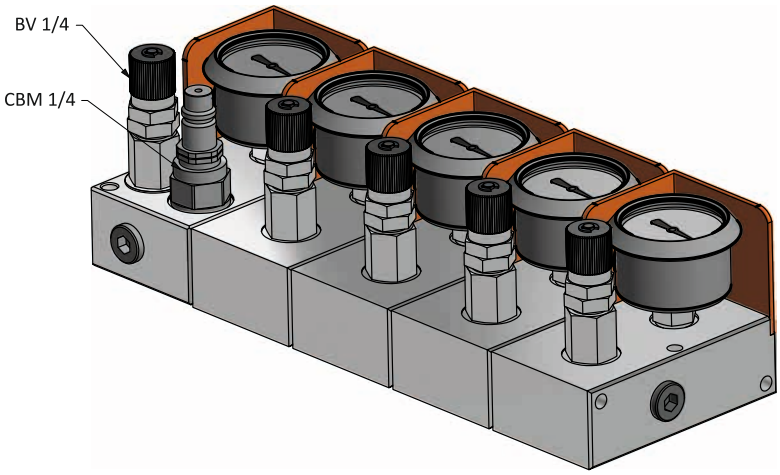


Techinal Data	
Elektrik Konnektör Tipi Electrical Connector	M12x1(5-pin)
Gaz Bağlantısı Pressure Connection	G1/4" DIN 3852
Nominal Basınç Nominal Pressure	0-600 bar
Patlama Basıncı Burst Pressure	1500 bar
Besleme Gerilimi Operating Voltage Uo	15...30V DC
Çıkış Sinyali Output Signal	4...20 mA
Yüksüz Besleme Akımı No-load Supply Current	≤30 mA
Çalışma Sıcaklığı Temperature Range	-25°C ... +85°C
IEC 60529 Göre Giriş Koruması Degree Of Protection As Per Iec 60529	IP 67
Gösterilen Basınç Birimi Displayable Pressure Unit	bar,psi,MPa,kPa,mWC,mmWC



KPT..



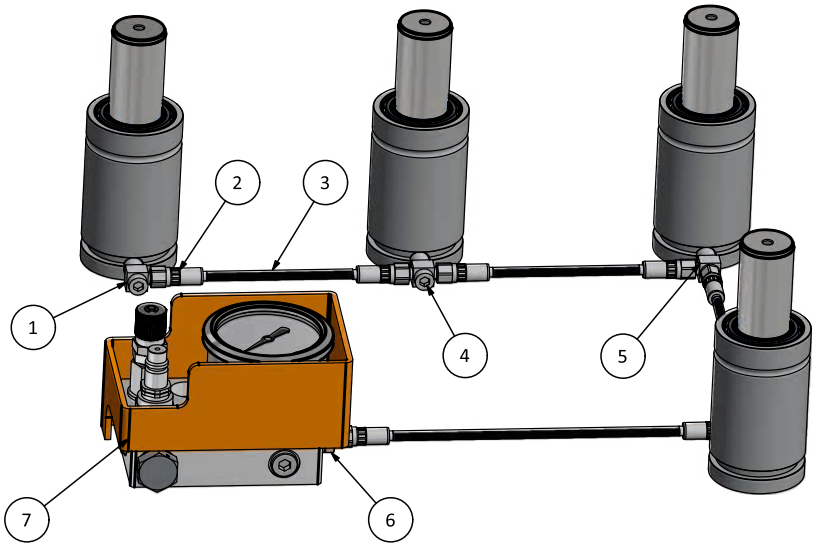


KPTA(1x) + KPTP(1x) → **KPT1**
KPTA(1x) + KPTP(2x) → **KPT2**
KPTA(1x) + KPTP(3x) → **KPT3**
KPTA(1x) + KPTP(4x) → **KPT4**

ÖRNEKLER

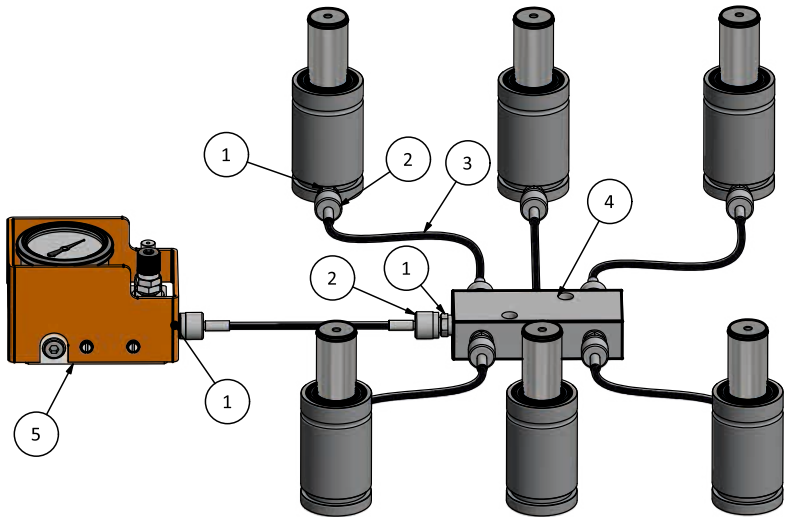
ÖRNEK 1

Örnek 1	
No	**Ürün**
1	M8.DR6
2	M8.5D
3	HR 5
4	M8.TE6
5	M8.YT6
6	M8.RK18
7	KPAL



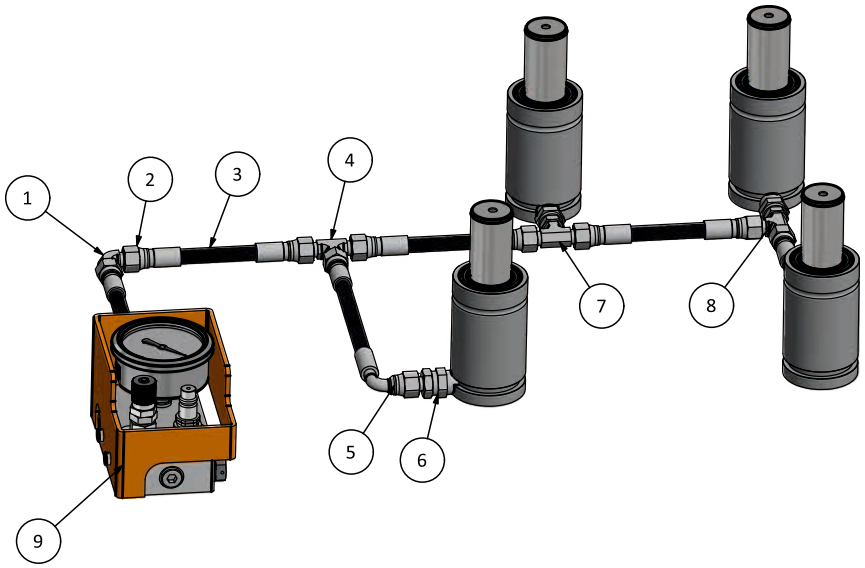
ÖRNEK 2

Örnek 2	
No	**Ürün**
1	S12.RK18
2	G18.5D
3	HR 5
4	DBD 07 G18
5	KPAL

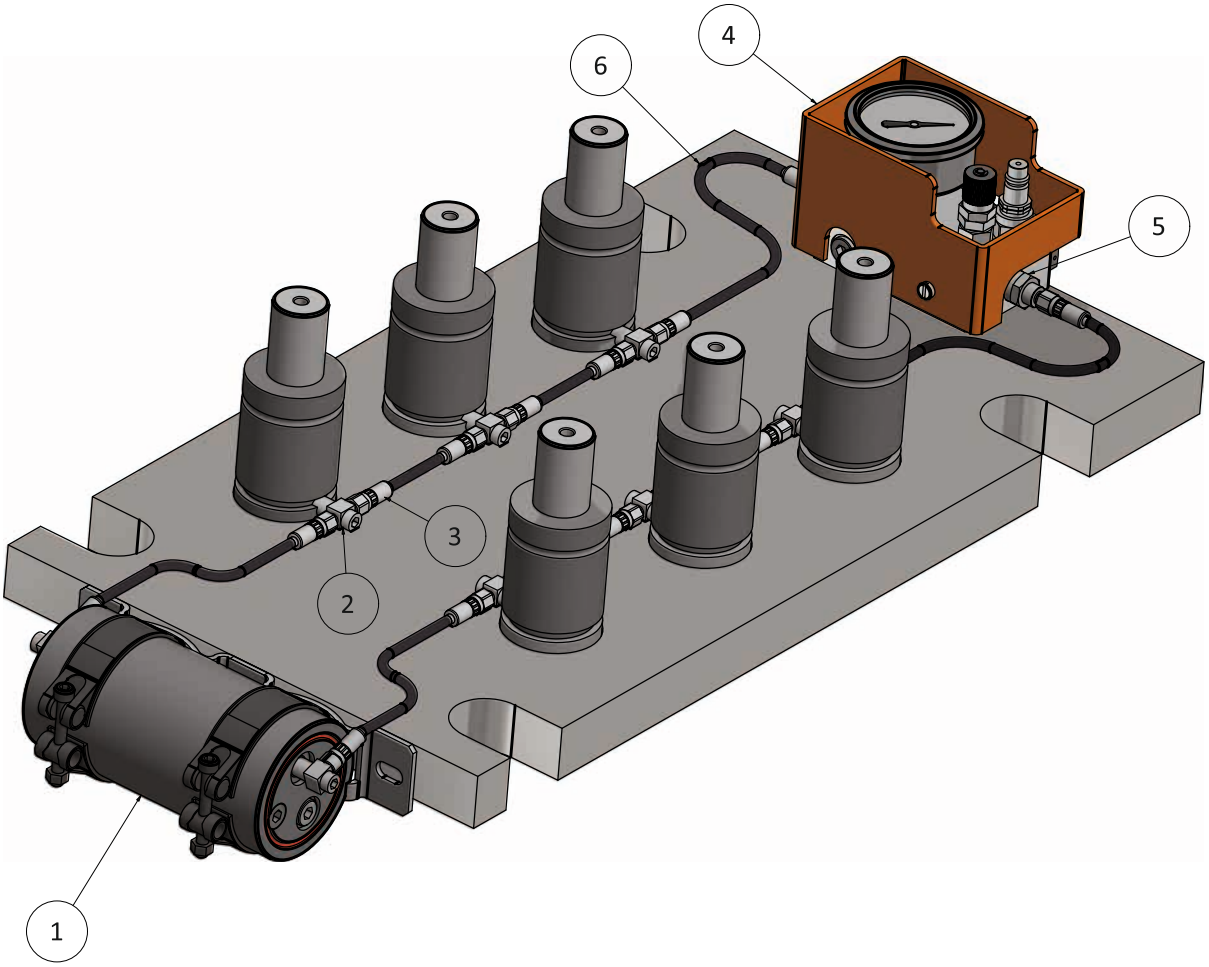


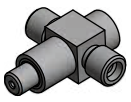
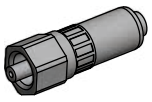
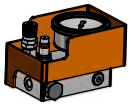
ÖRNEK 3

Örnek 3	
No	**Ürün**
1	UN7.EKL
2	UN7.10D
3	HR 10
4	UN7.EKT
5	UN7.10L
6	UN7.RK18
7	UN7.TE18
8	UN7.YT18
9	KPAL



KPAL



1) GT 075	2) M8.TE6	3) M8.5D	4) KPAL	5) M8.RK18	6) HR 5
					

DENGELEME TANKI

TR

Birbirinden bağımsız çalışan gazlı yaylar bir genleşme tankına bağlanabilirler. Bu sayede sistemde oluşan basınç değeri normalde elde edilen basınç değerine göre azalma gösterecektir. Gerekli olan genleşme tankının hacmi aşağıdaki formülle kolayca bulunabilir.
Vp = n {[S x R / (R-1)] – V0}
Vp= Genleşme hacmi [cm³]
n= Kullanılacak gazlı yay sayısı
S= Mil kesit alanı [cm²]
x= Çalışma stroğu
R= Sistemde istenen son basınç değeri ile başlangıç basıncı arasındaki orandır. (en fazla 1,4 olmalıdır.)
V_0= Gazlı yayın başlangıç hacmi(cm³)
Örneğin:
Gereken kuvvet 11500 daN ise R=1,25 için 5 adet E.02400-063 gerekli olacaktır. (E.02400-063 için başlangıç kuvveti F_0=2385 daN. Böylece 11500/2385 ile 5 adet gerekli olduğu görülmektedir.)
Değerler formülde yerine yazıldığında ise genleşme hacminin yaklaşık olarak 1100 cm³ olduğu bulunmaktadır.
Hacmi 1100 cm³'den büyük olan en küçük genleşme tankı seçilerek sistem içerisinde oluşan sıkıştırma oranı düşürülebilir. Kullanılan enerji sarfiyatı azaltılmış olur.

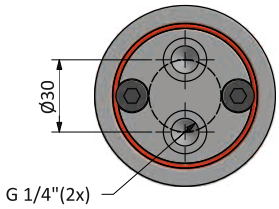
EN

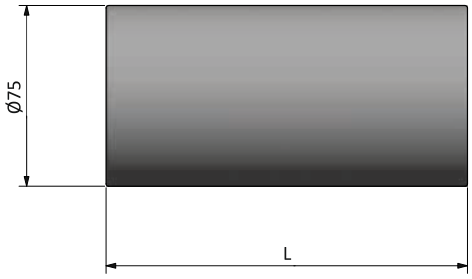
Gas springs that working non self-contained mode can connect to the compensation tanks. The main target is to determine the pressure in the system with lower figure than would normally be provided with standart compression rates. The volume of compensation tank can be calculated easliy with this formula:
Vp = n {[S x R / (R-1)] - V0}
Vp =compensation volume [cm³]
n =no. of gas cylinders required.
S =Area of rod in [cm²]
x=working stroke (cm)
R=Rate between final required pressure value and initial pressure (max 1,4)
V_0=İnitial volume value for each gas spring (cm³)
Example:
Force required is 11500 daN and R=1,25. So number of gas springs=5 for type E2400-63.(F_0=2385 daN for E2400-63 so 11500/2385= 5pcs)
If this parameters placed in this formula, The compensation volume required is approximately 1100 cm³.
If we select the compensation tank volume is minimum volume value is bigger than 1100 cm³, we can decrase the compression rate for the system. So the energy consumption decrease.

DE

Gasfedern, die im eigenständigen Modus arbeiten, können an die Ausgleichsbehälter angeschlossen werden. Das Hauptziel besteht darin, den Druck im System mit einem niedrigeren Wert zu bestimmen, als dies normalerweise bei Standardkompressionsraten der Fall wäre.
Das Volumen des Ausgleichsbehälters kann einfach mit dieser Formel berechnet werden:
Vp = n {[S x R / (R-1)] - V0}
Vp = Kompensationsvolumen [cm³]
n = nein. von Gasflaschen erforderlich.
S = Stabfläche in [cm²] x = Arbeitshub (cm)
R = Rate zwischen dem endgültigen erforderlichen Druckwert und dem Anfangsdruck (max. 1,4)
V_0 = Anfangsvolumenwert für jede Gasfeder (cm3)
Beispiel:
Die erforderliche Kraft beträgt 11500 daN und R = 1,25. Anzahl der Gasfedern = 5 für Typ E2400-63. (F_0 = 2385 daN für E2400-63, also 11500/2385 = 5 Stück) Wenn diese Parameter in diese Formel aufgenommen werden, beträgt das erforderliche Kompensationsvolumen ungefähr 1100 cm².
Wenn wir das Ausgleichsbehältervolumen so auswählen, dass der Mindestvolumenwert größer als 1100 cm3 ist, können wir die Kompressionsrate für das System verringern. So sinkt der Energieverbrauch.

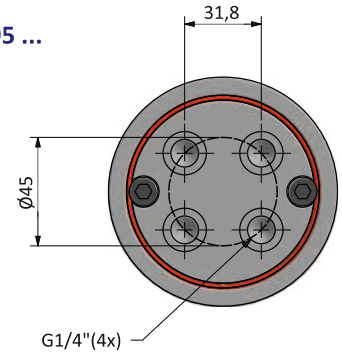
GT 075 ...

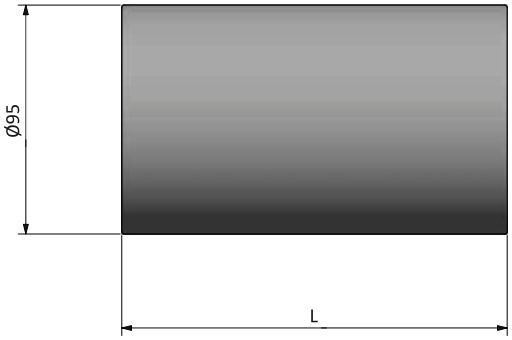




GT 075		
ÜRÜN	Hacim (Lt)	L (mm)
GT 075 025	0.25	170
GT 075 050	0.50	250
GT 075 100	1	410

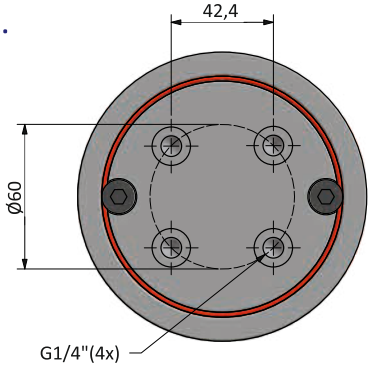
GT 095 ...

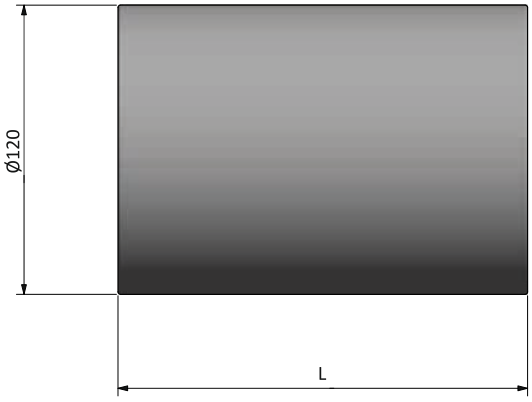




GT 095		
ÜRÜN	Hacim (Lt)	L (mm)
GT 095 100	1	300
GT 095 200	2	500
GT 095 300	3	700
GT 095 400	4	900

GT 120 ...

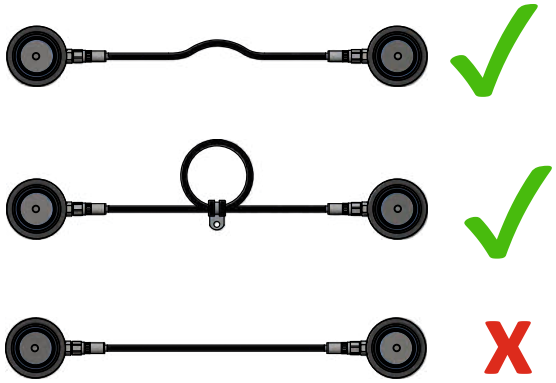


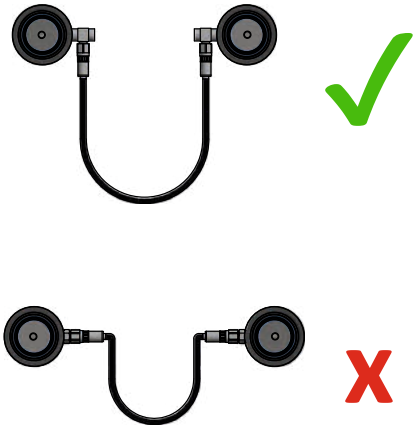


GT 120		
ÜRÜN	Hacim (Lt)	L (mm)
GT 120 200	2	360
GT 120 400	4	615
GT 120 800	8	1125

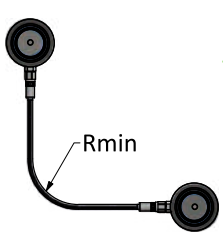
ALFAMAK®

ÖRNEK 1

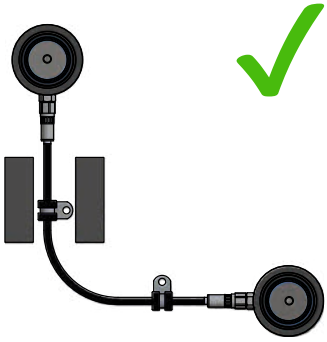


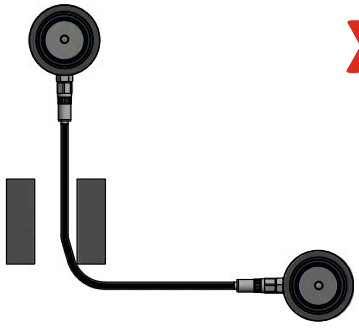


ÖRNEK 2



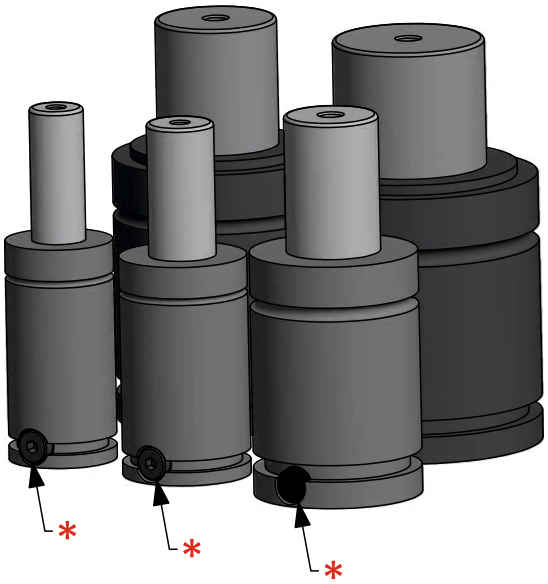
ÖRNEK 2





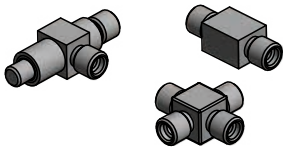
M6

ÖRNEK 1

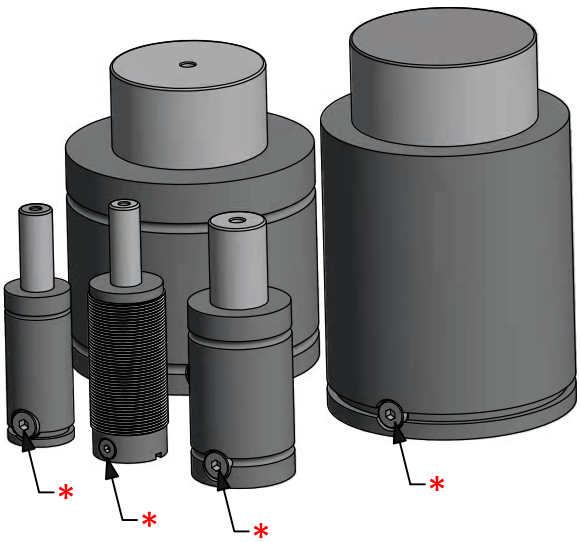


* M6
E 00300 - E 00500 - E 00750 - E 01000
E 01200 - E 01500 - E02400
P 00300 - P 00500 - P 00500 TBM
Y 00150 - Y 00250 - Y 00250 TBM

M8x1

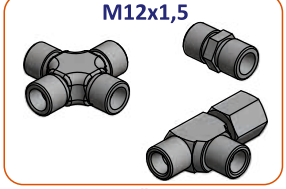


DN 2

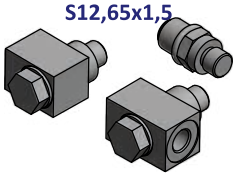


* G 1/8"
E 04200 - E 06600 - E 09500 - E 12000 - E 20000
EG 00750 - EG 01000 -EG 01500 - EG 02400 - EG 04200 - EG 06600
EK 00750 - EK 01000 - EK 01200 - EK 01500 - EK 02400
ET 00300 - ET 00500 - ET 00750 - ET 01000 - ET 01200 ET 01500 - ET 02400 - ET 04200 - ET 06600 - ET 09500
H 00500 - H 00750 - H 01500 - H 03000
Y 00500 - Y 00750 - Y 01500 - Y 03000 - Y 05000 - Y 07500 - Y 10000
P 00750 - P 01000 - P 01500 - P 02400 - P 04200 -P 06600 - P 09500 - P 18500
OL 01000 K - OL 01800 K -OL 03000 K - OL 04700 K - OL 07500 K - OL 12000 K
O 01000 K - O 01800 K -O 03000 K - O 04700 K - O 07500 K - O 12000 K - O 18000 K

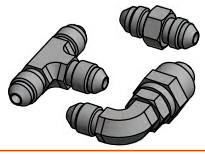
M12x1,5



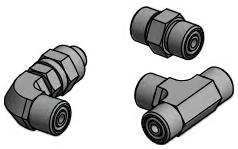
S12,65x1,5



7/16 UNF



9/16 UNF

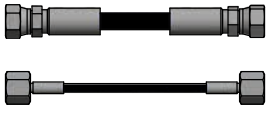


M12x1,5 DN2 - DN4

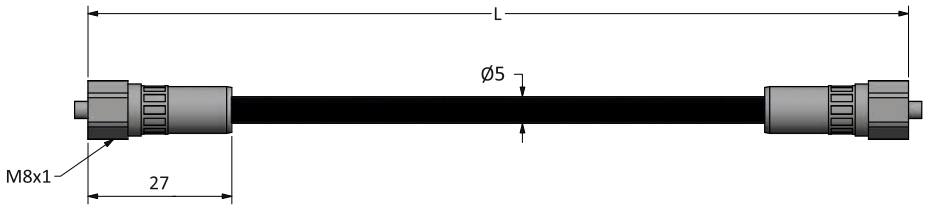
7/16" UNF DN2 - DN4

S12,65x1,5 DN2

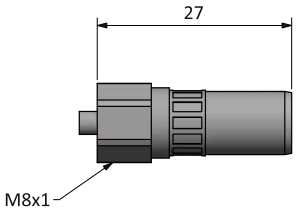
9/16" UNF DN2 - DN4



M8.5DD

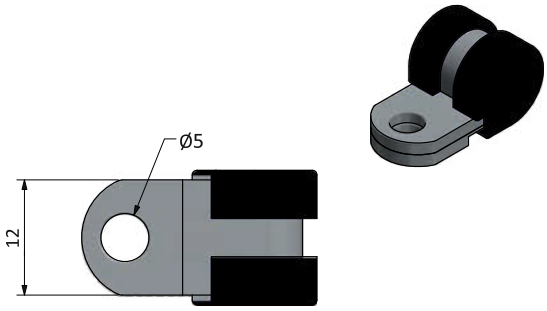


M8.5D

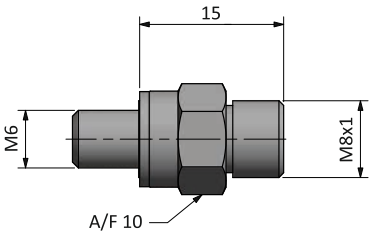


HR 5

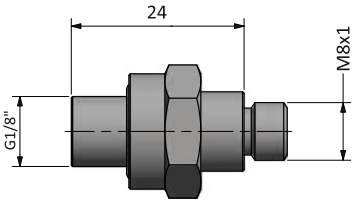
KL5



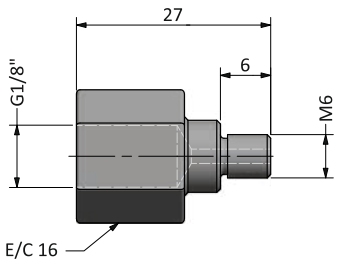
M8.RK6



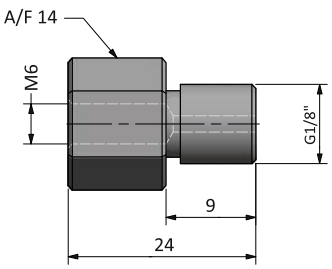
M8.RK18



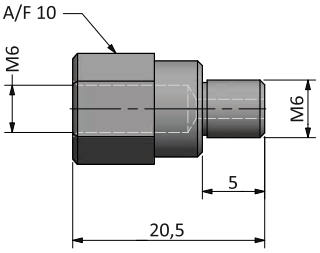
G18.RD6



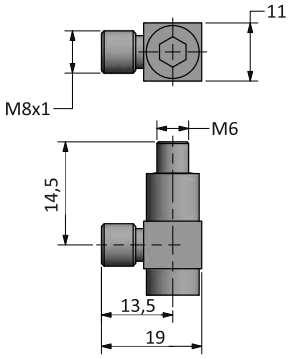
G18.RK6



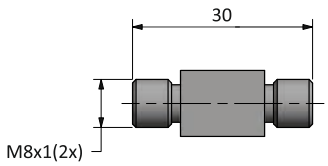
M6.UZ6



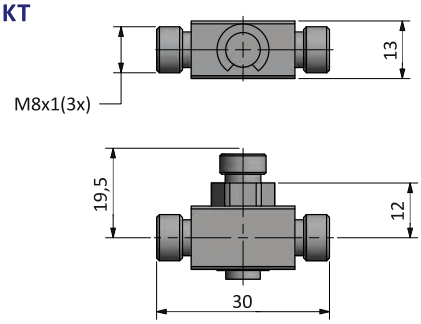
M8.DR6



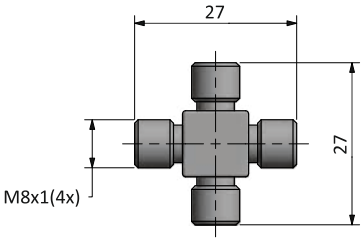
M8.EKI



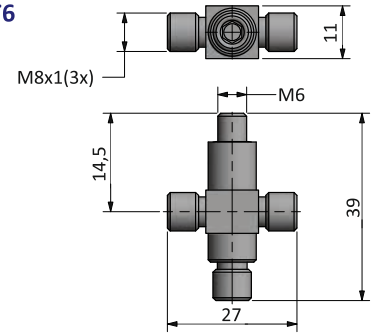
M8.EKT



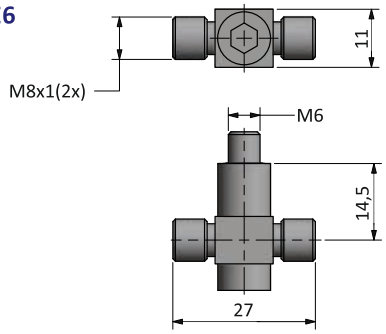
M8.EKX



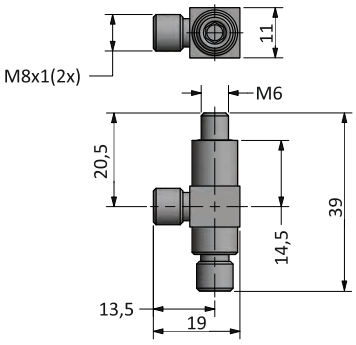
M8.KT6



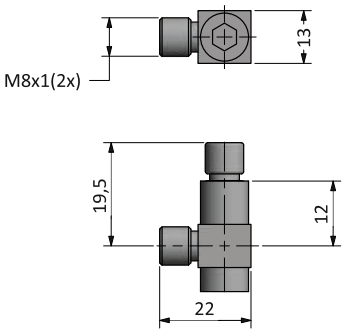
M8.TE6



M8.YT6

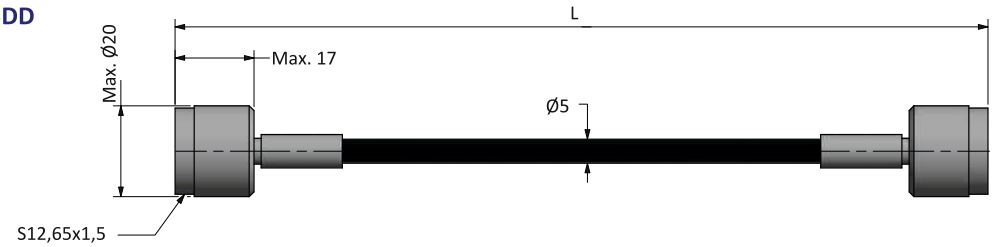


M8.EKL

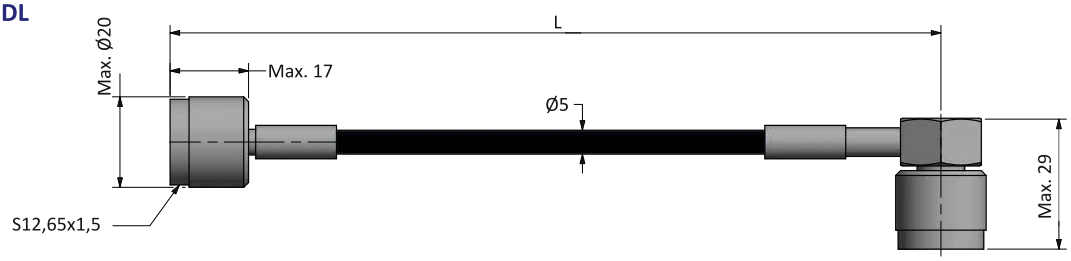


G18-5

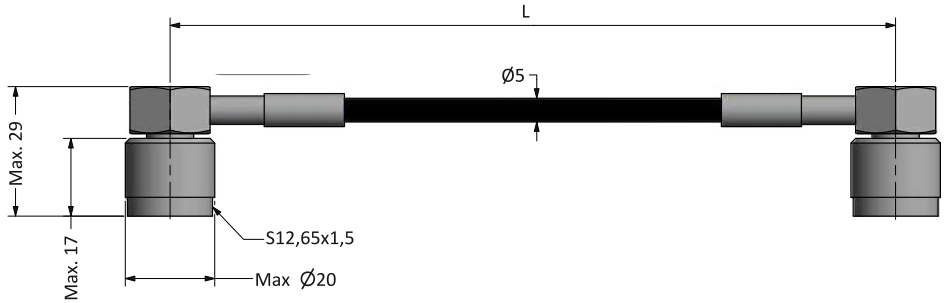
G18.5DD



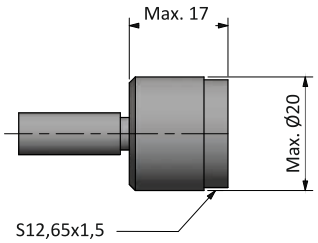
G18.5DL



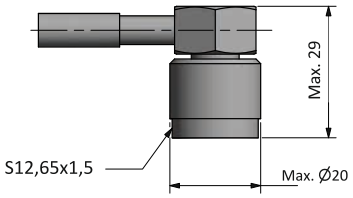
G18.5LL



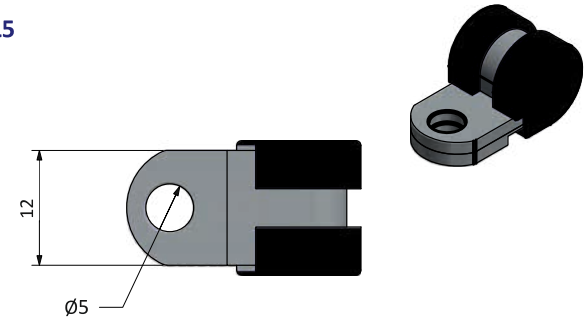
G18.5D



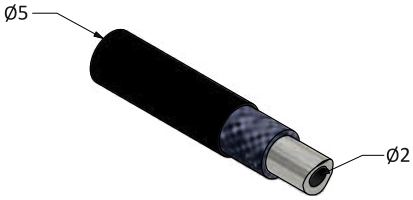
G18.5L



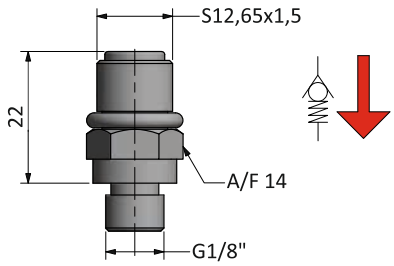
KL5



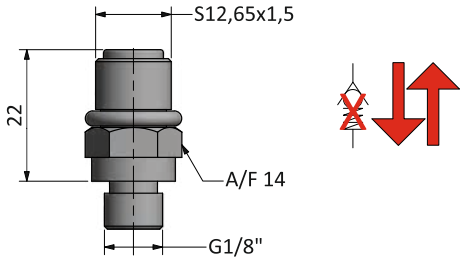
HR 5



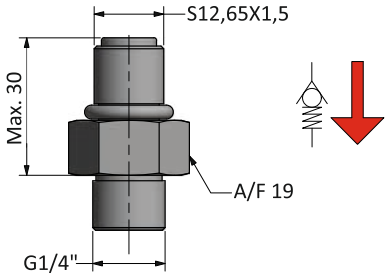
S12.RK18



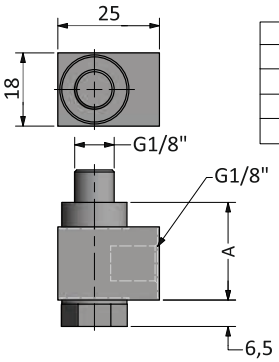
S12.RK18.0



S12.RK14

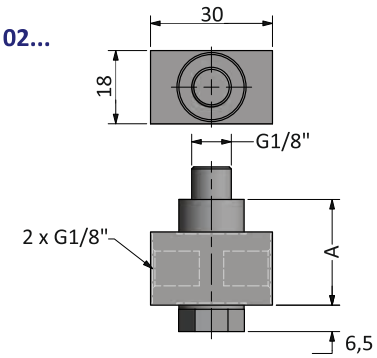


G18 01...



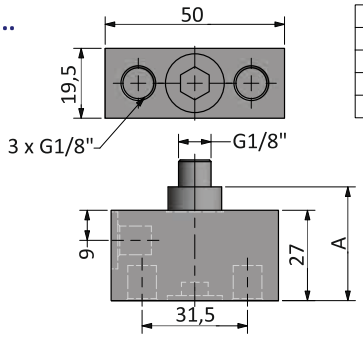
G 18 01 A	
ÜRÜN	A
G18 01 24	24
G18 01 38	38
G18 01 48	48

G18 02...



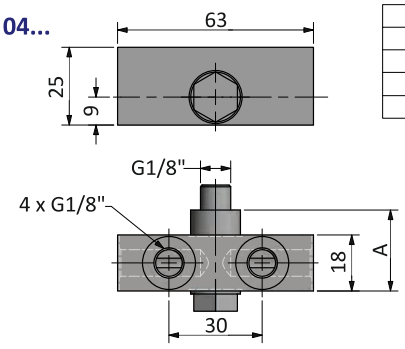
G18 02 A	
ÜRÜN	A
G18 02 26	26
G18 02 40	40
G18 02 50	50

G18 03...



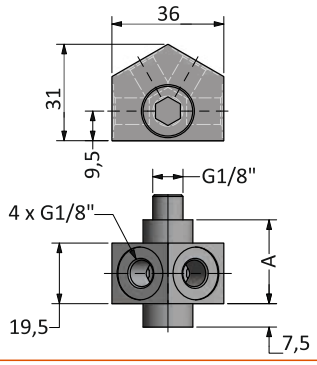
G18 03 A	
ÜRÜN	A
G18 03 34	34
G18 03 48	48
G18 03 55	55

G18 04...



G18 04 A	
ÜRÜN	A
G18 04 26	26
G18 04 40	40
G18 04 50	50

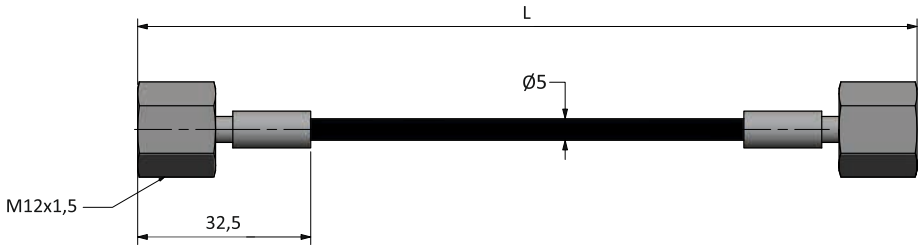
G18 05...



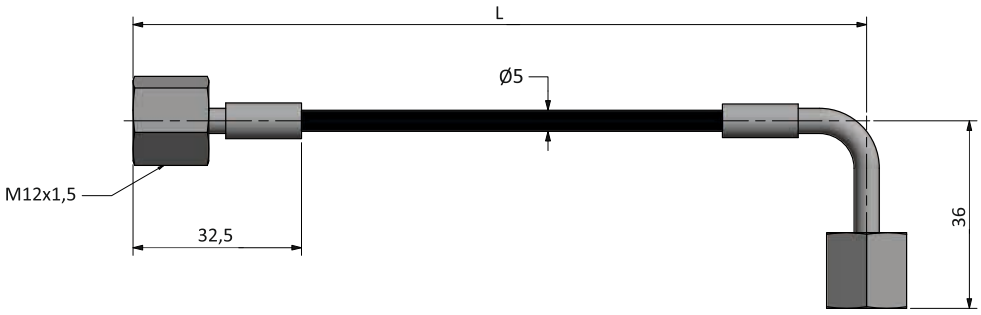
G18 05 A	
ÜRÜN	A
G18 05 27	27
G18 05 41	41
G18 05 48	48

M12-5

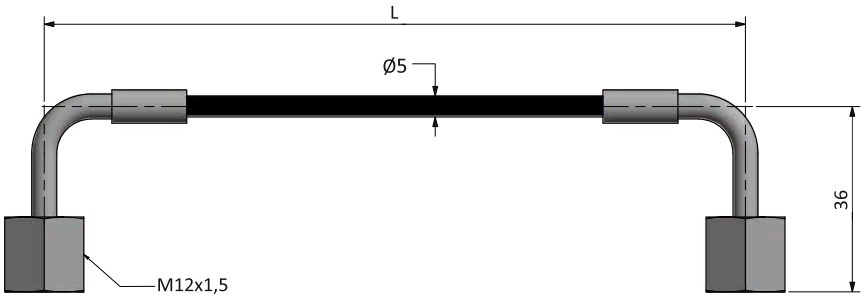
M12.5DD



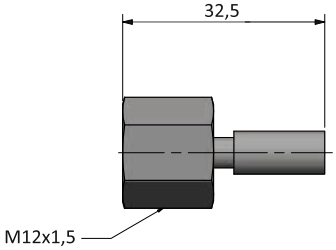
M12.5DL



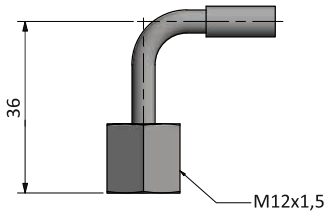
M12.5LL



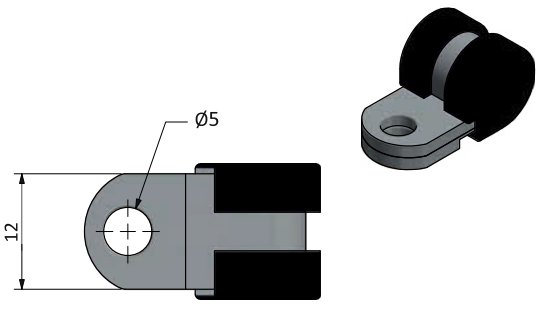
M12.5D



M12.5L

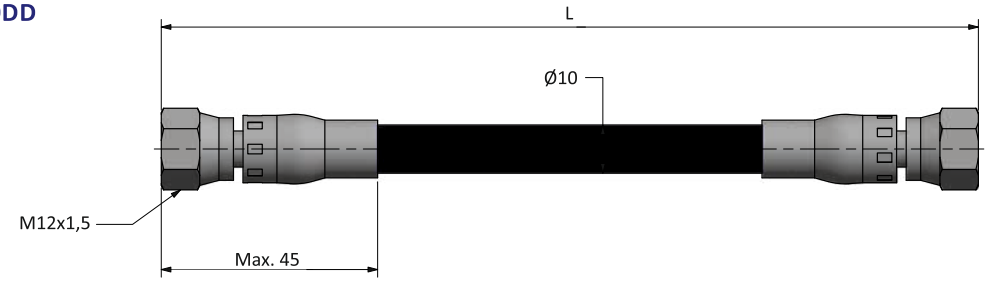


KL 5

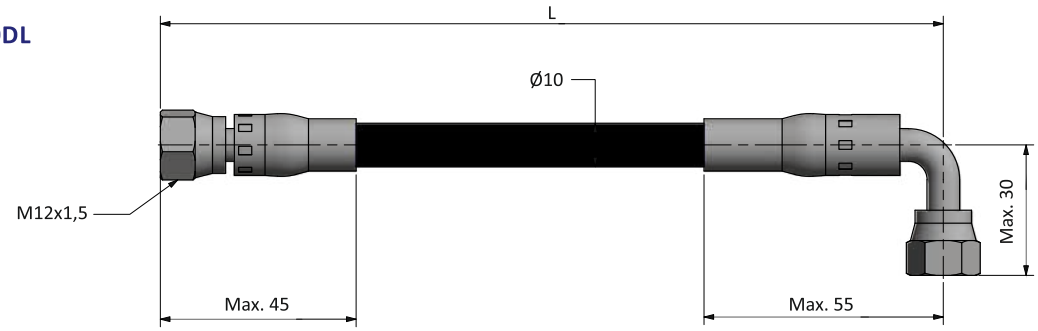


HR 5

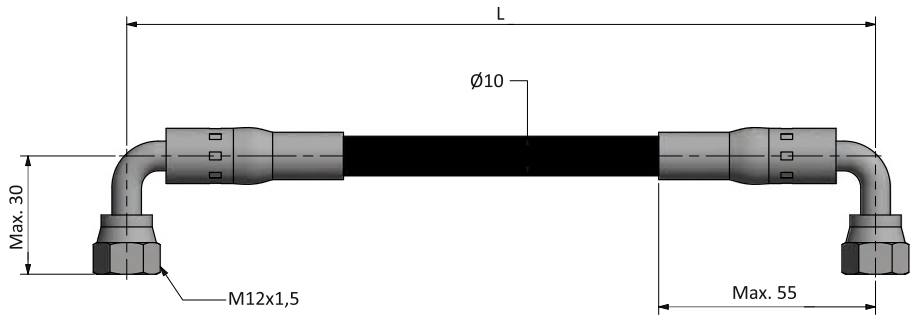
M12.10DD



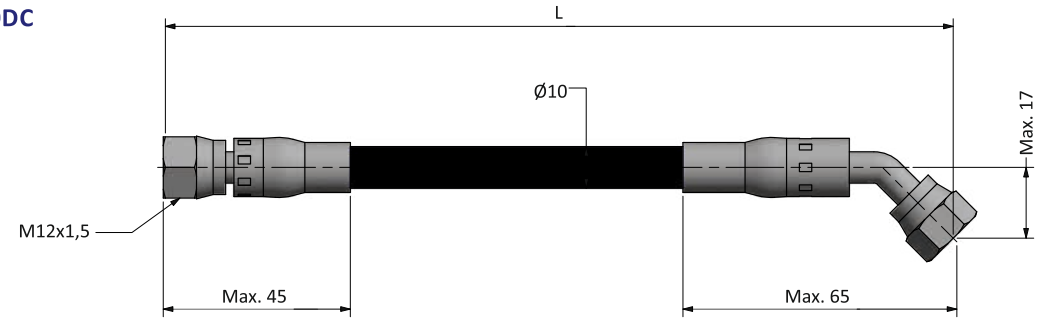
M12.10DL



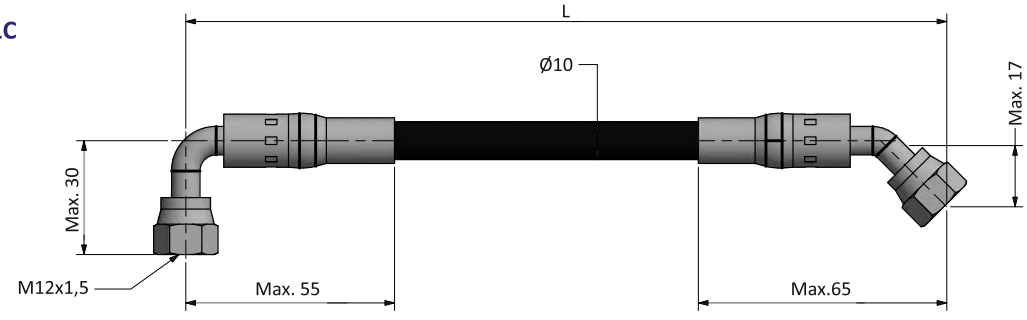
M12.10LL



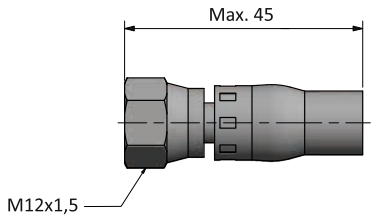
M12.10DC



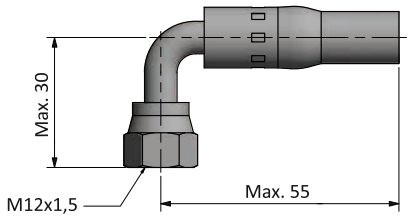
M12.10LC



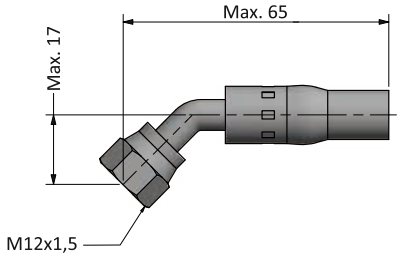
M12.10D



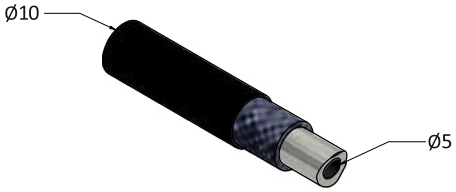
M12.10L



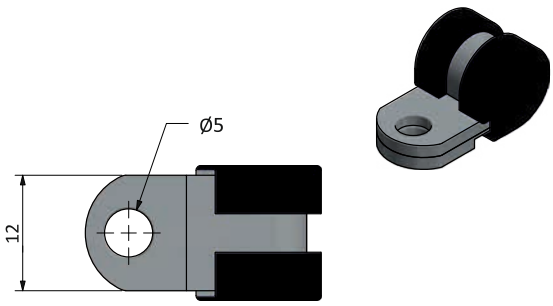
M12.10C



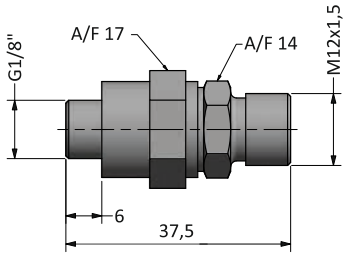
HR 10



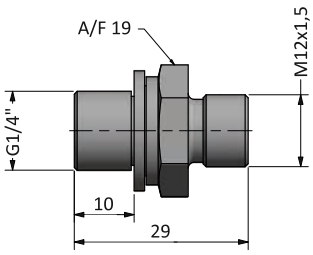
KL 10



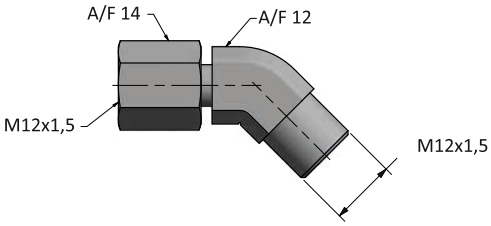
M12.RK18



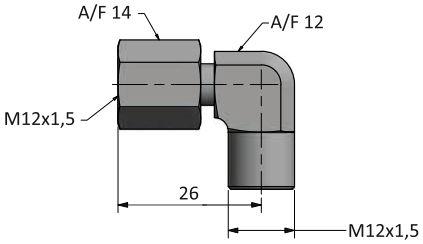
M12.RK14



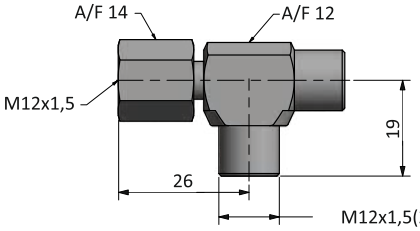
M12.AD12



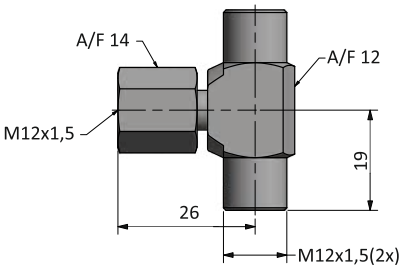
M12.DR12



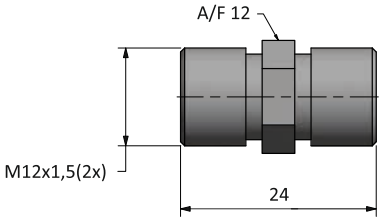
M12.YT12



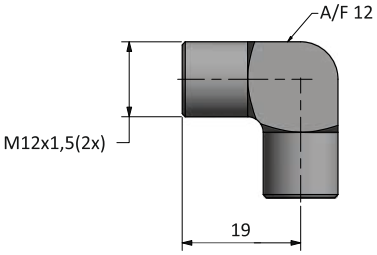
M12.TE12



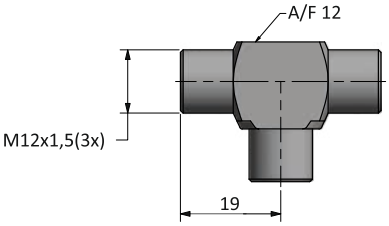
M12.EKI



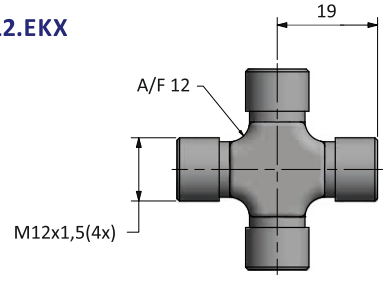
M12.EKL



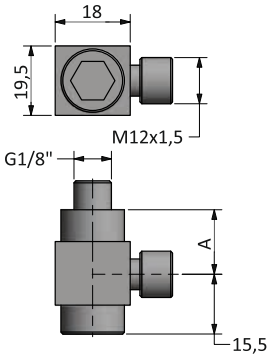
M12.EKT



M12.EKX

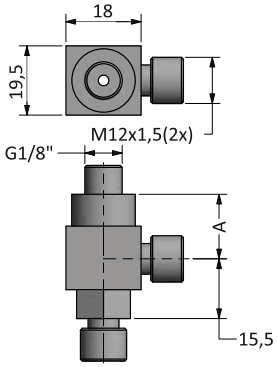


M12 01 A



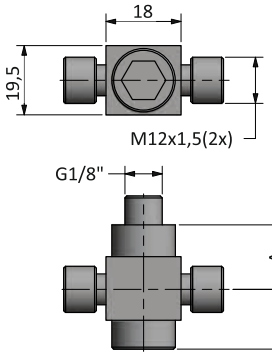
M12 01 A	
ÜRÜN	A
M12 01 17	17
M12 01 31	31
M12 01 38	38

M12 02 A



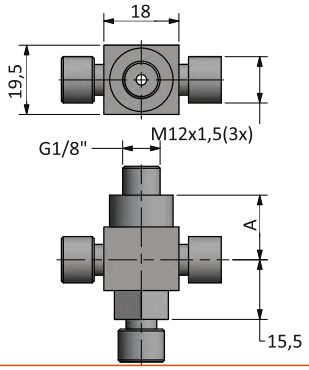
M12 02 A	
ÜRÜN	A
M12 02 43	43
M12 02 57	57
M12 02 64	64

M12 03 A



M12 03 A	
ÜRÜN	A
M12 03 17	17
M12 03 31	31
M12 03 38	38

M12 04 A

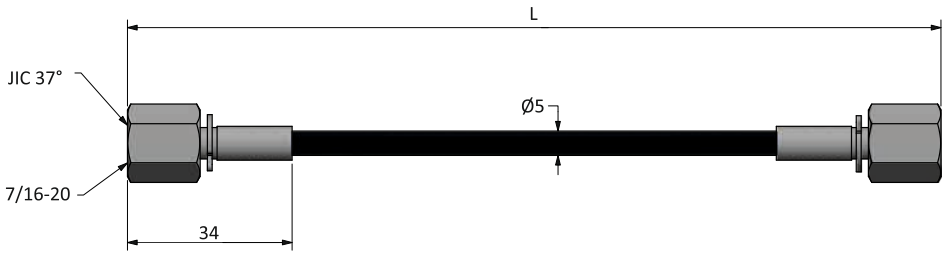


M12 04 A	
ÜRÜN	A
M12 04 43	43
M12 04 57	57
M12 04 64	64

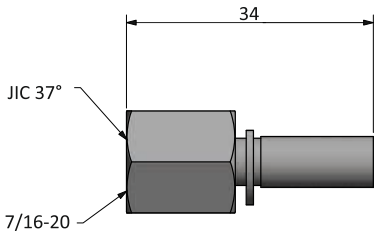
ALFAMAK®

UN7-5

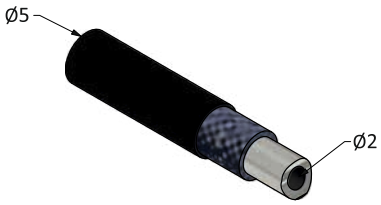
UN7.5DD



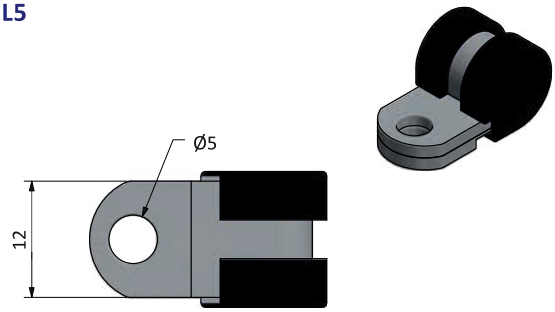
UN7.5D



HR 5

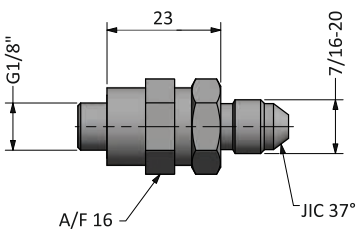


KL5

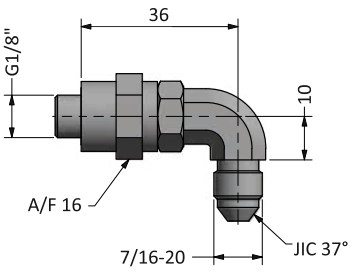


UN7

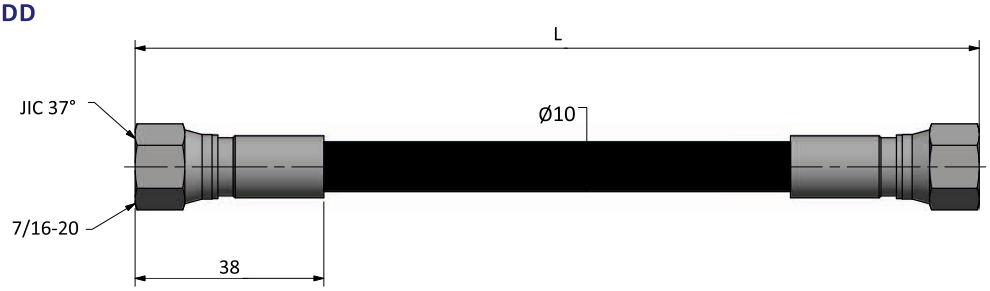
UN7.RK18



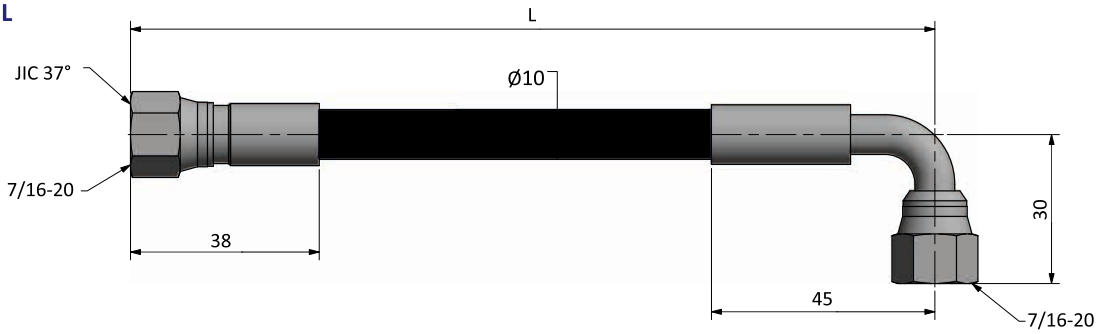
UN7.DR18



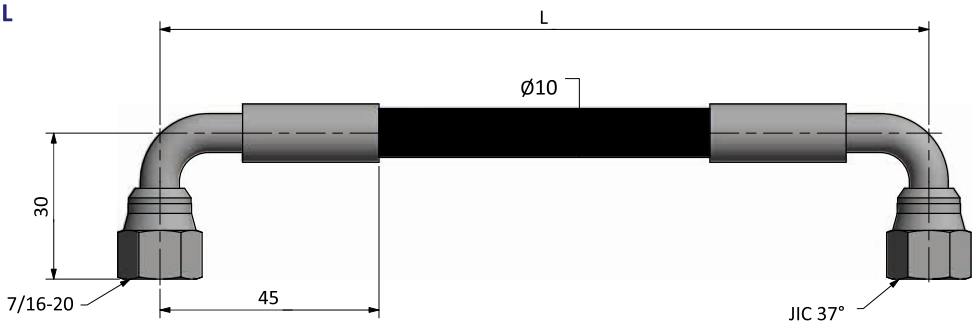
UN7.10DD



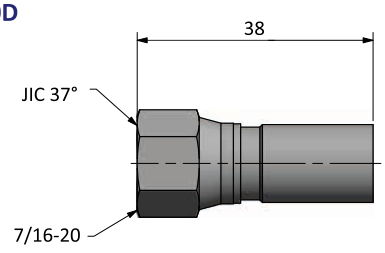
UN7.10DL



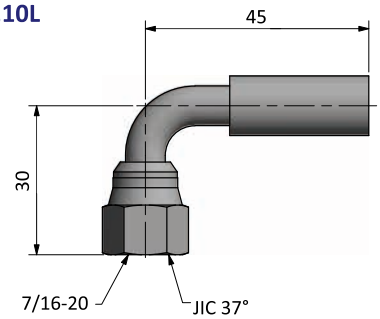
UN7.10LL



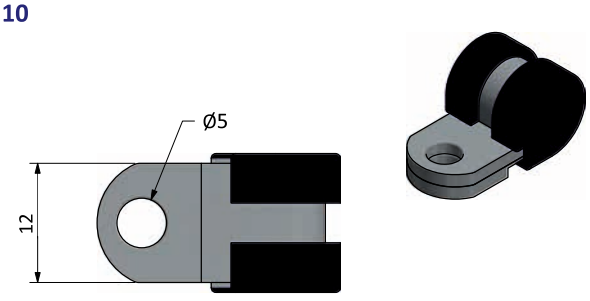
UN7.10D



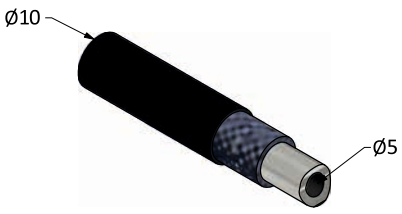
UN7.10L



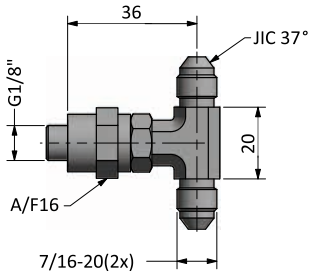
KL 10



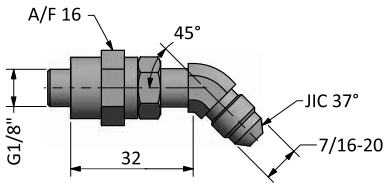
HR 10



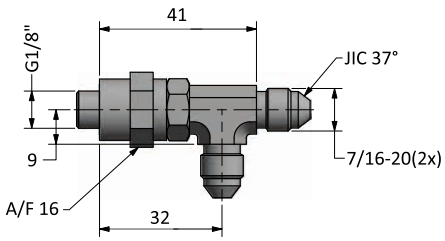
UN7.TE18



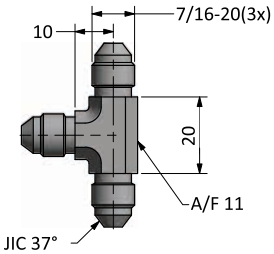
UN7.AD18



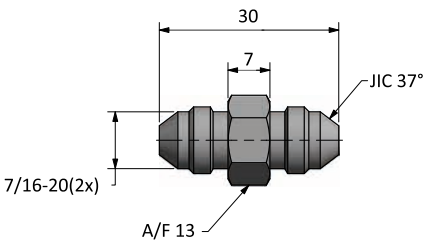
UN7.YT18



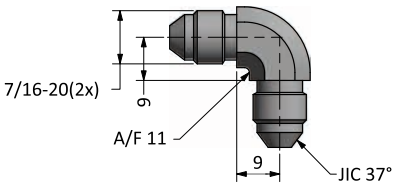
UN7.EKT



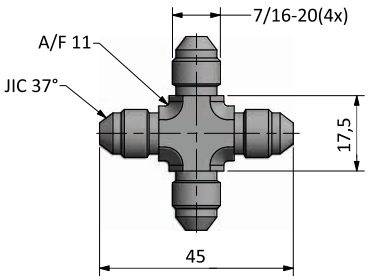
UN7.EKI



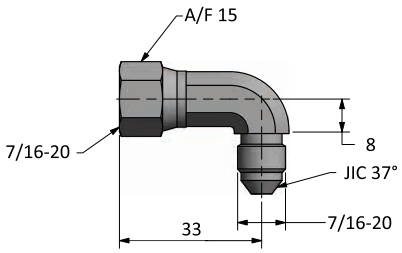
UN7.EKL



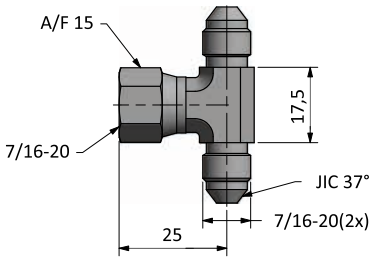
UN7.EKX



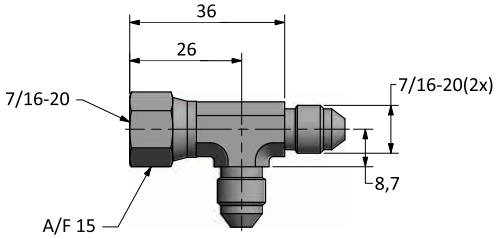
UN7.DR7



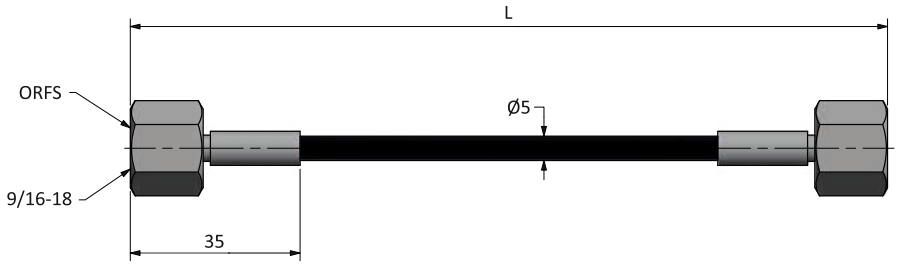
UN7.TE7



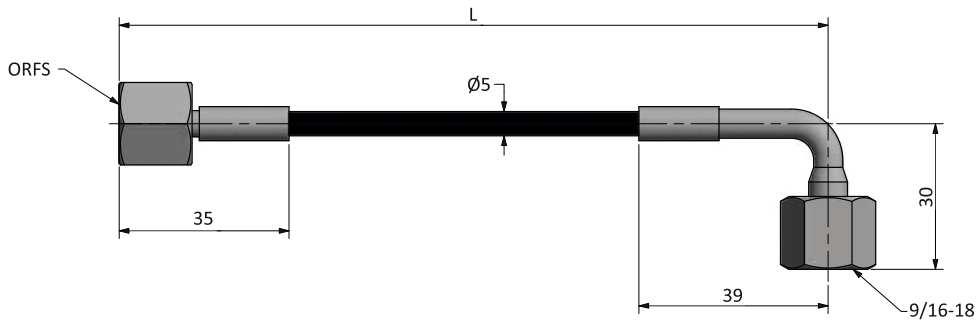
UN7.YT7



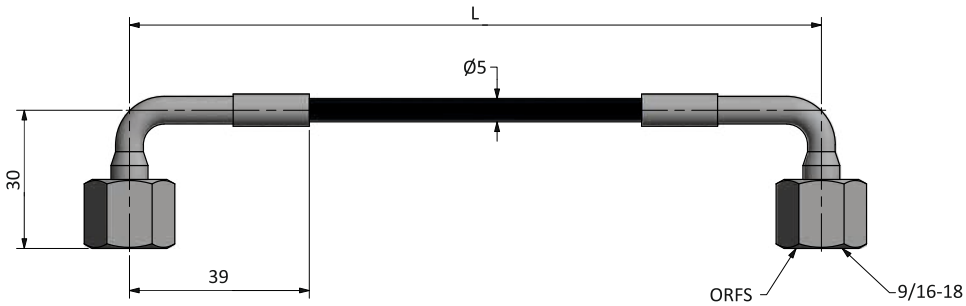
UN9.5DD



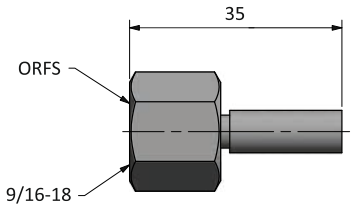
UN9.5DL



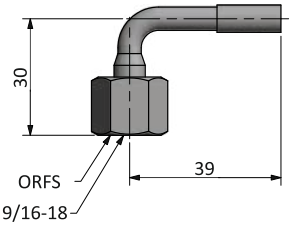
UN9.5LL



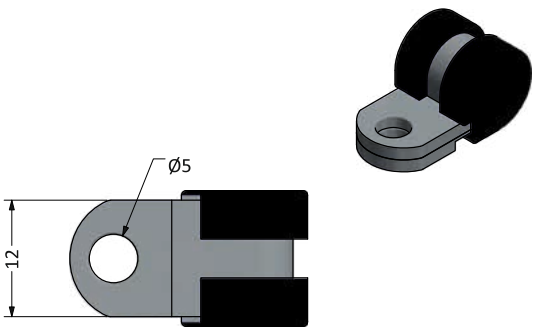
UN9.5D



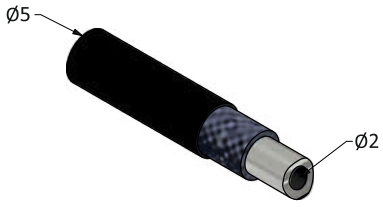
UN9.5L



KL 5

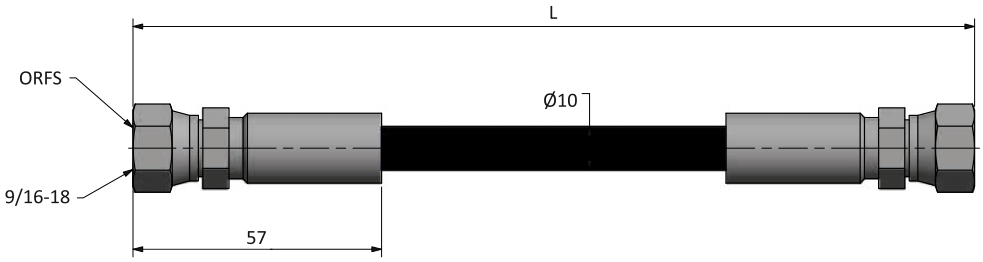


HR 5

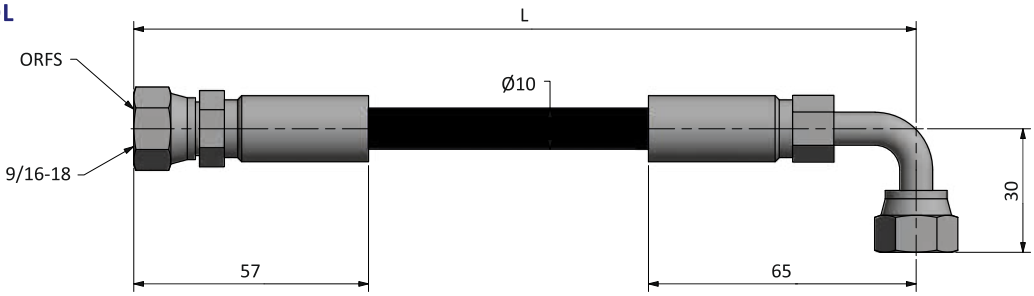


UN9-10

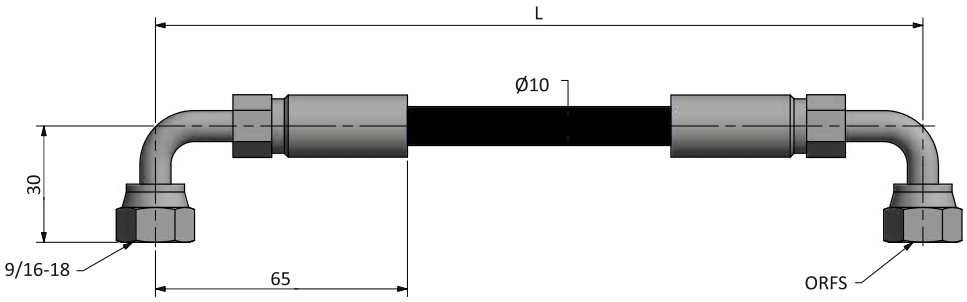
UN9.10DD



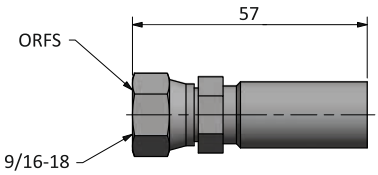
UN9.10DL



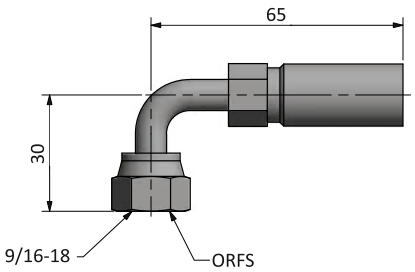
UN9.10LL



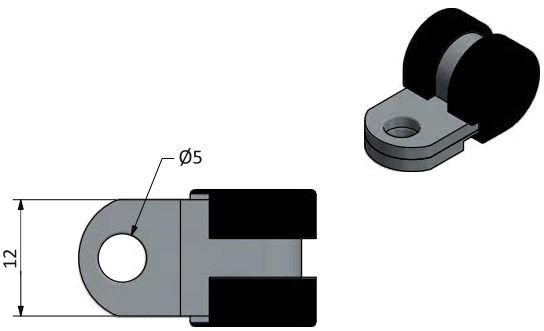
UN9.10D



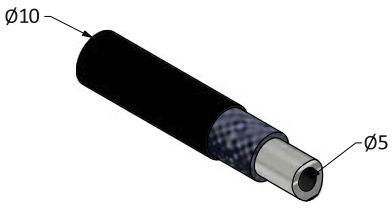
UN9.10L



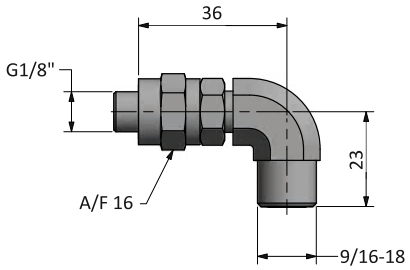
KL 10



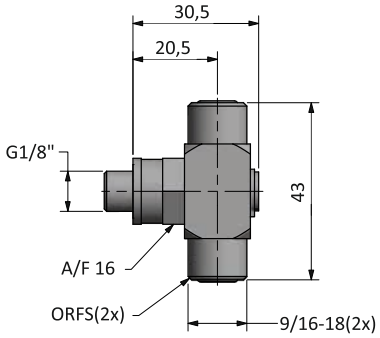
HR 10



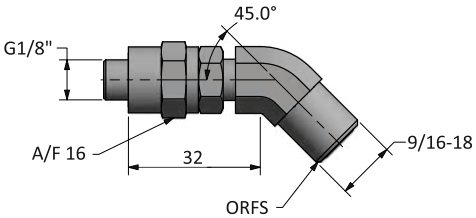
UN9.DR18



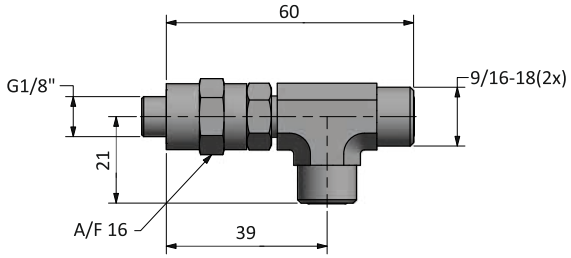
UN9.TE18



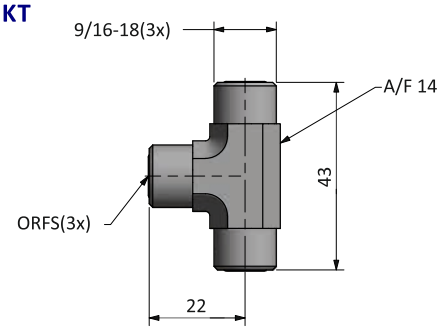
UN9.AD18



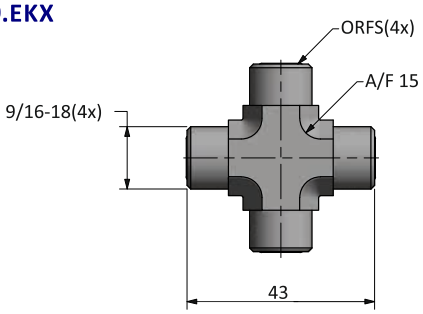
UN9.YT18



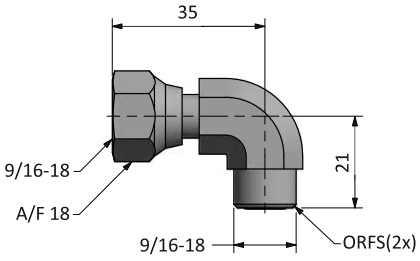
UN9.EKT



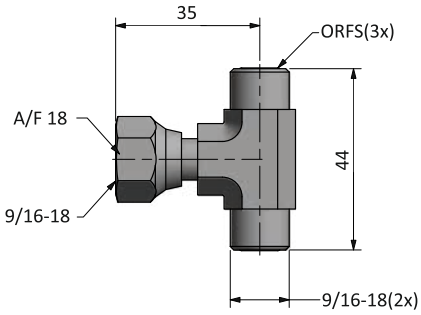
UN9.EKX



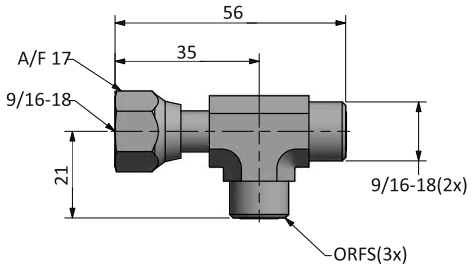
UN9.DR7



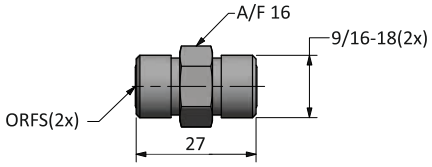
UN9.TE7



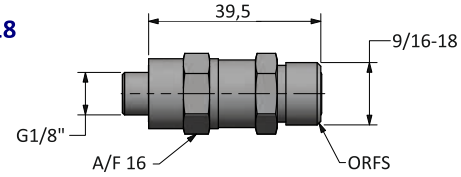
UN9.YT7



UN9.EKI

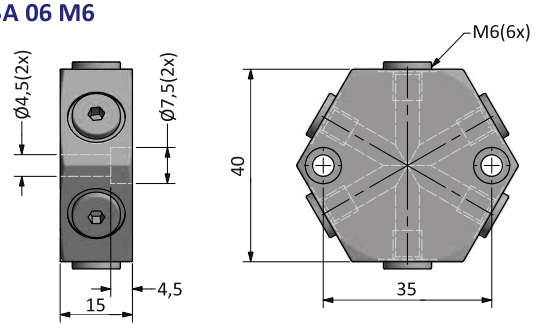


UN9.RK18

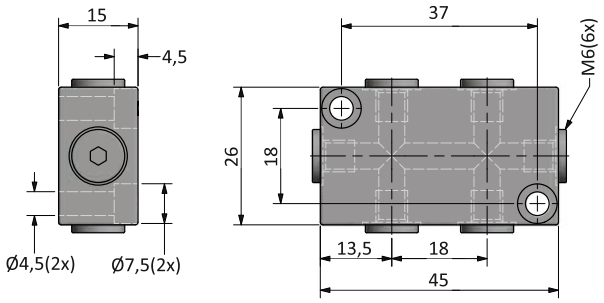


DAĞITIM BLOKLARI

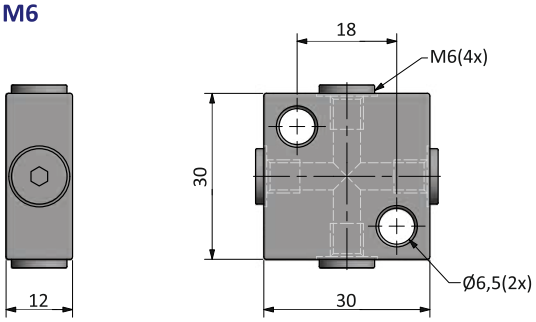
DBA 06 M6



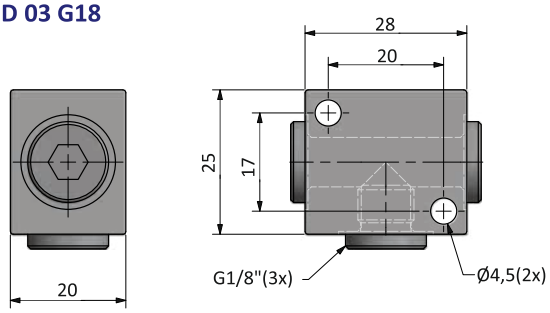
DBD 06 M6



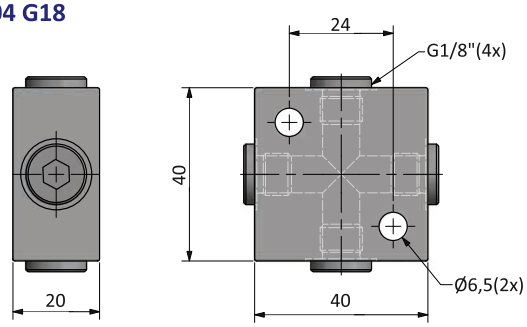
DBK 04 M6



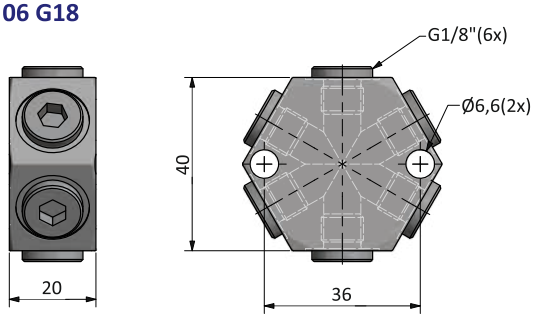
DBD 03 G18



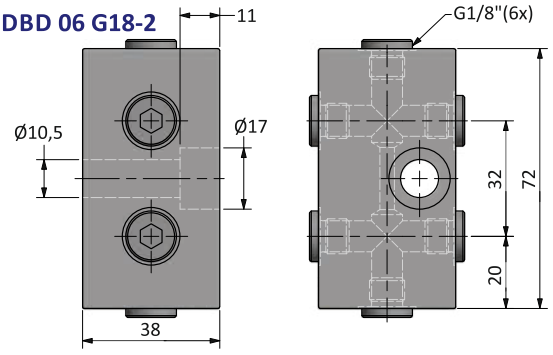
DBK 04 G18



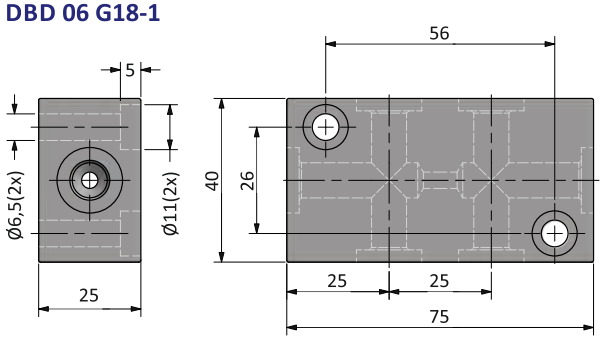
DBA 06 G18



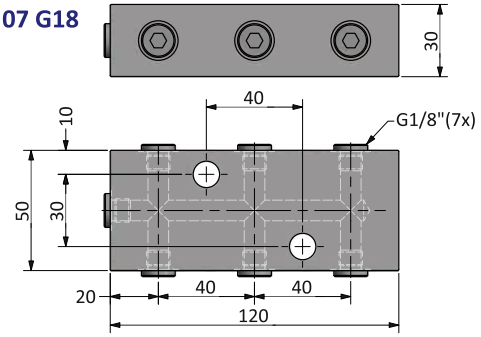
DBD 06 G18-2



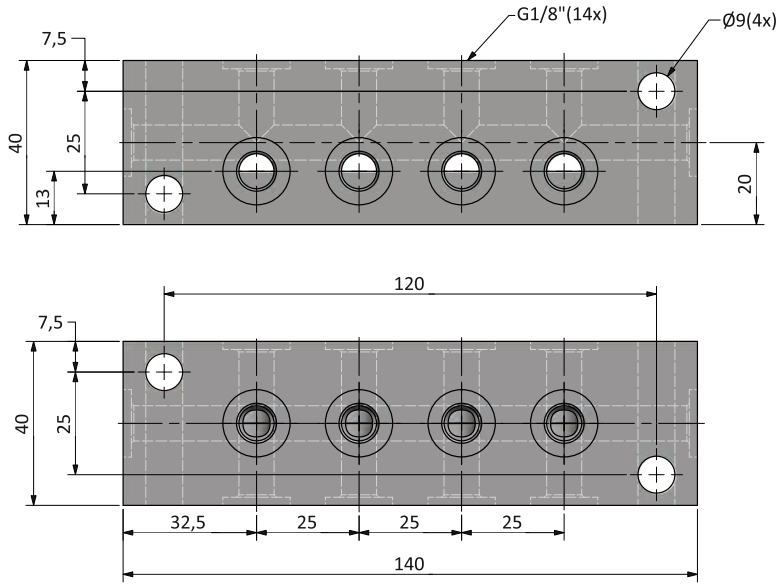
DBD 06 G18-1



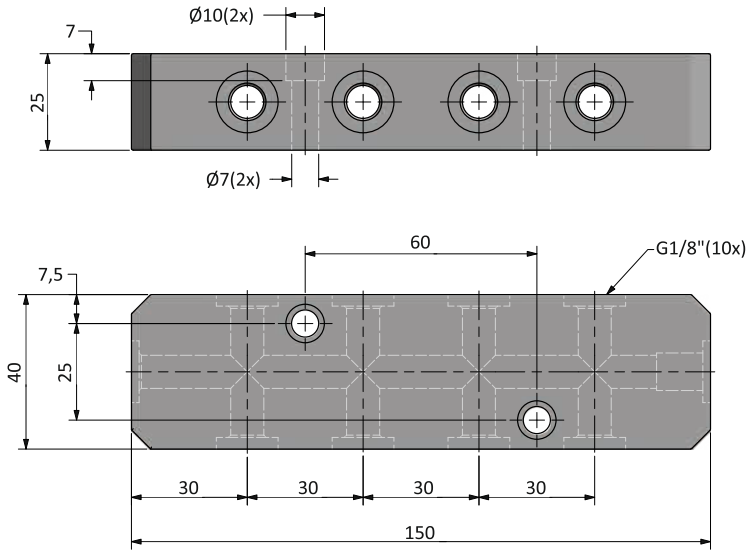
DBD 07 G18



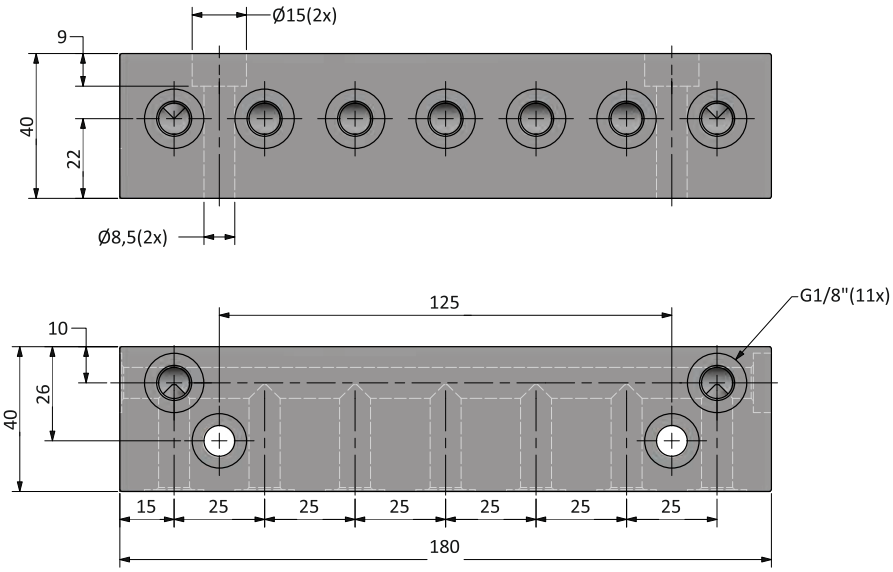
DBD 14 G18-1



DBD 10 G18

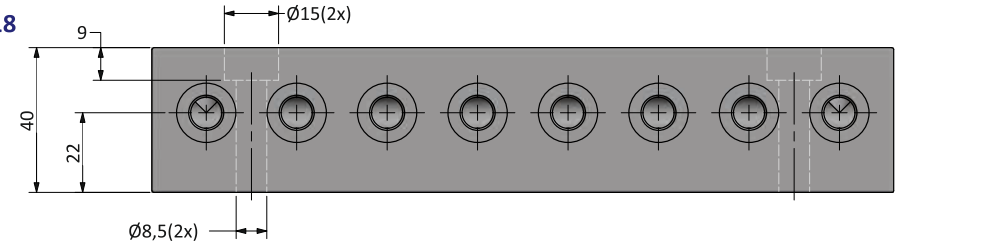


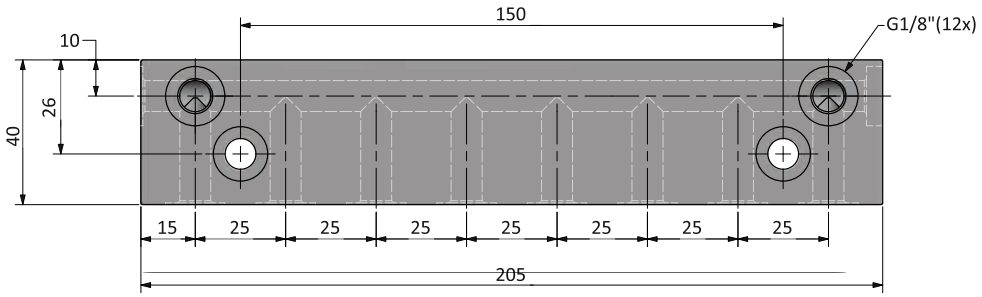
DBD 11 G18



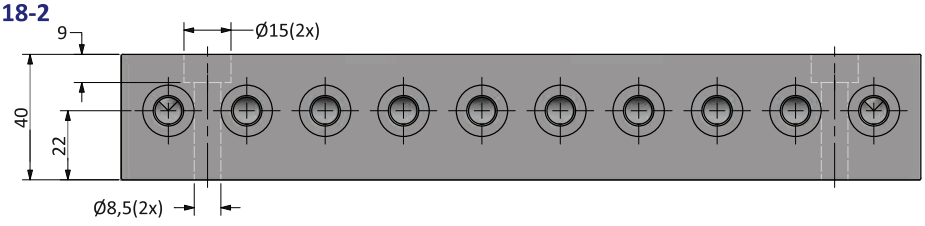
DAĞITIM BLOKLARI

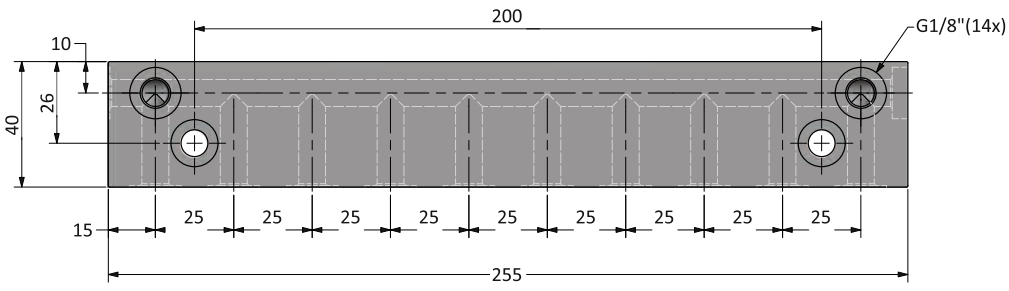
DBD 12 G18



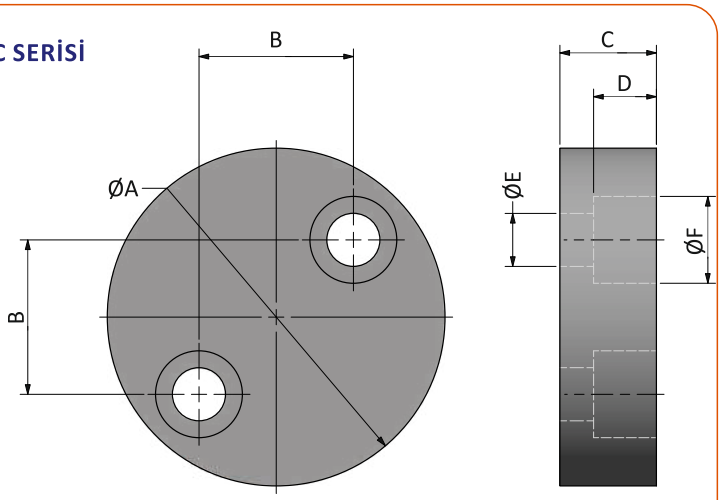


DBD 14 G18-2



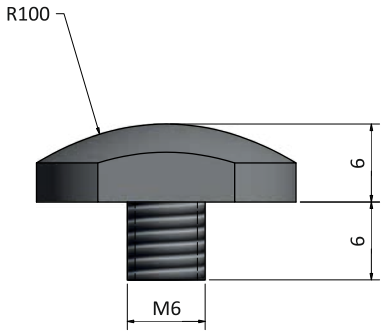


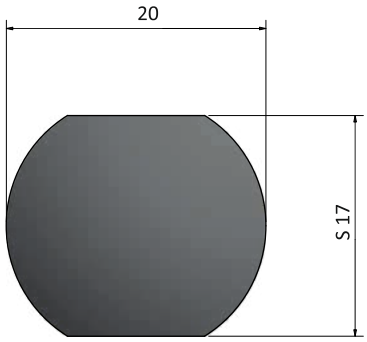
DPC SERİSİ



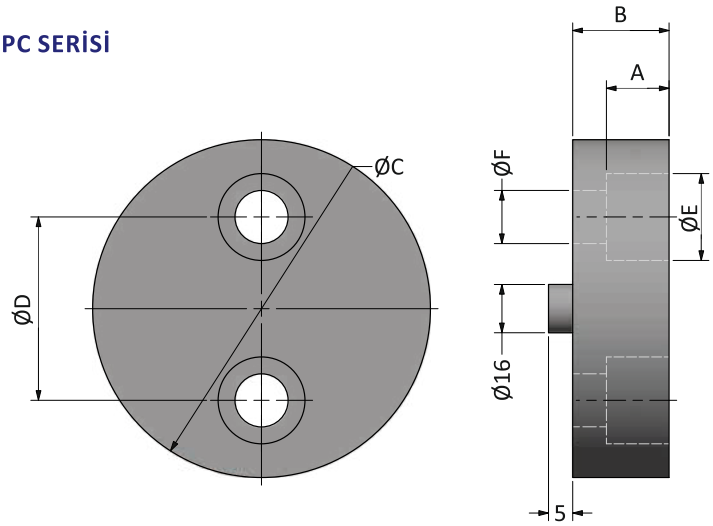
DPC SERİSİ							
KOD	ØA mm	B mm	C mm	D mm	ØE mm	ØF mm	Ød
DPC 050	50	21	15	10	9	15	d≤15
DPC 070	70	32	20	13	11	18	d≤25
DPC 094	94	48	20	13	11	18	d≤50

DPR 01



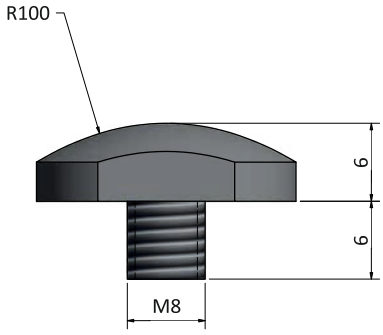


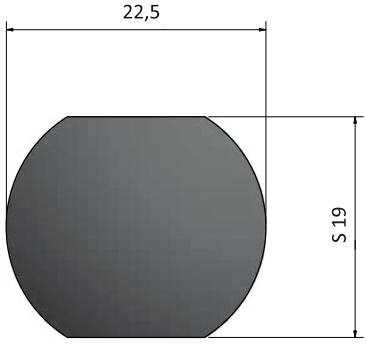
DPC SERİSİ



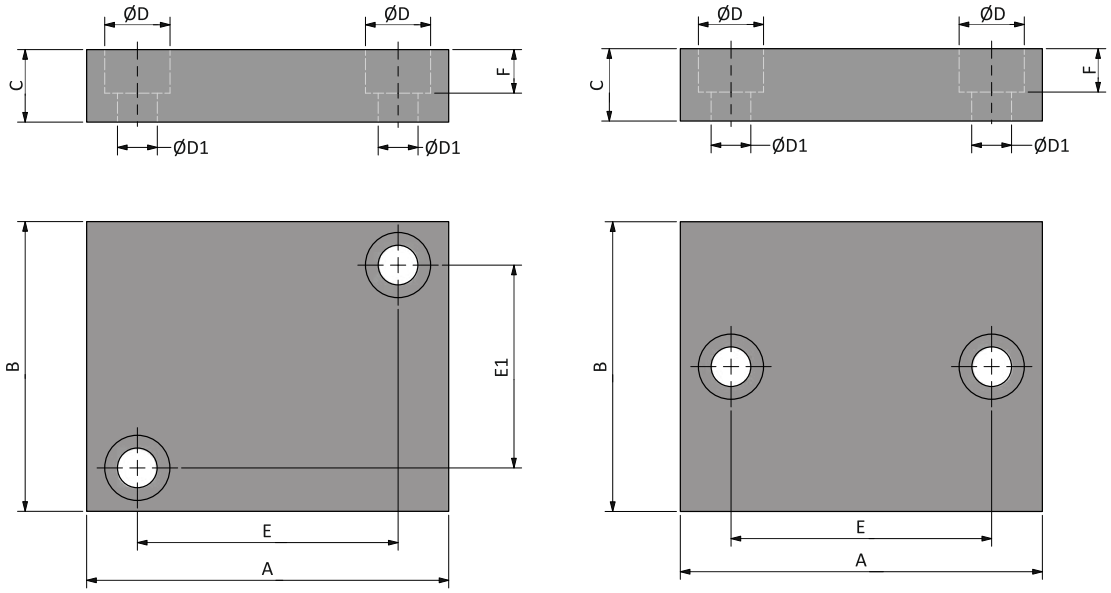
DPC SERİSİ							
KOD	A mm	B mm	ØC mm	ØD mm	ØE mm	ØF mm	Ød
DPC 098	12	20	98	73	20	13,5	d≤50
DPC 113	12	20	113	88	20	13,5	d≤65
DPC 128	12	20	128	103	20	13,5	d≤80
DPC 143	12	20	143	118	20	13,5	d≤95

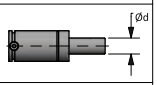
DPR 02

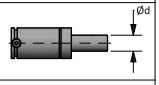




DPK - DPD SERİSİ



DPK SERİSİ									
KOD	A mm	B mm	C mm	ØD mm	ØD1 mm	E mm	E1 mm	F mm	
DPK 0411	40	40	15	15	9	21	21	10	d≤20
DPK 04012 A	40	40	12	11	7	24	24	7	d≤20
DPK 04012 B	40	40	15	11	7	24	24	7	d≤20
DPK 05613	56	56	20	18	11	32	32	13	d≤36
DPK 06014	60	60	15	15	9	40	40	9	d≤36
DPK 06015	60	60	12	14	9	38	38	9	d≤36
DPK 07016	70	70	15	15	9	50	50	9	d≤60
DPK 07117	71	71	20	18	11	48	48	13	d≤60
DPK 08018	80	80	16	15	9	62	-	*10*	d≤65
DPK 09019 A	90	90	12	15	9	64	64	9	d≤80
DPK 09019 B	90	90	15	15	9	70	70	9	d≤80
DPK 09020	90	90	20	18	11	67	67	13	d≤80
DPK 09021	90	90	12	14	9	70	70	9	d≤80
DPK 10022	100	100	16	15	9	82	-	*10*	d≤90
DPK 10023	100	100	20	18	11	74	74	11	d≤90
DPK 10024	100	100	12	14	9	81	81	9	d≤90
DPK 14025	140	140	20	18	11	110	110	11	d≤130
DPK 14026	140	140	20	18	11	110	110	13	d≤130

DPD SERİSİ									
KOD	A mm	B mm	C mm	ØD mm	ØD1 mm	E mm	E1 mm	F mm	
DPD 05012	50	25	12	11	7	32	8	8	d≤15
DPD 05013	50	30	12	11	7	40	14	8	d≤20
DPD 05514	55	30	12	11	7	40	14	8	d≤20
DPD 05515	55	32	16	15	9	37	-	*10*	d≤20
DPD 06516	65	50	16	15	9	47	-	*10*	d≤36
DPD 07017	70	35	15	15	9	48	14	10	d≤30
DPD 07518	75	50	15	15	9	56	30	10	d≤36
DPD 08019	80	60	16	15	9	62	-	*10*	d≤55
DPD 08520 A	85	60	15	15	9	56	40	10	d≤55
DPD 08520 B	85	60	15	15	9	66	40	10	d≤55
DPD 10021	100	80	20	18	11	72	56	12	d≤70
DPD 11022	110	100	20	18	11	85	75	12	d≤100

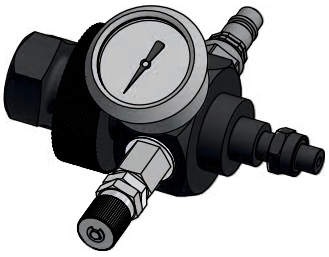
GBH 01

TR
-3 mt yüksek basınç hortumu,kısma valfi,hortum tahliye valfi,ek hızlı bağlantı.

EN
-3 mt high pressure hose,shut-off valve,hose release valve,extra quick coupling.

DE
-3 mt Hochdruckschlauch,drosselklappe,schlauch zum Ablassventil,zusätzliche Schnellverbindung

GB 01

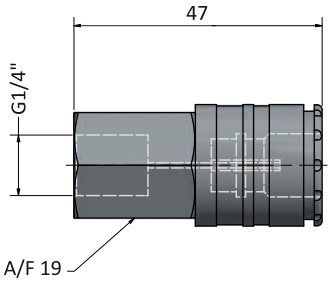


TR
-0 ÷ 315 bar göstergesi
-Basınç sınırlama / boşaltma valfi
-G1/8"dahili adaptör -hızlı oturma
-CBM 1/4

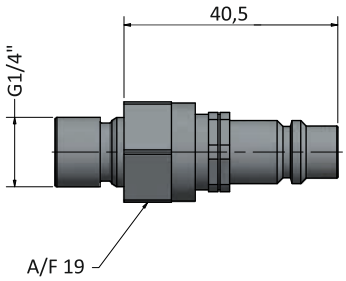
DE
-0 ÷ 315 bar Anzeige
-Druckbegrenzungs / Überdruckventil
-Interner Adapter G1 / 8
-Schnelles Sitzen
-CBM 1/4

EN
-0 ÷ 315 bar gauge
-Pressure limitation /discharging valve
-G1/8" built in adapter
-Quickfit
-CBM 1/4

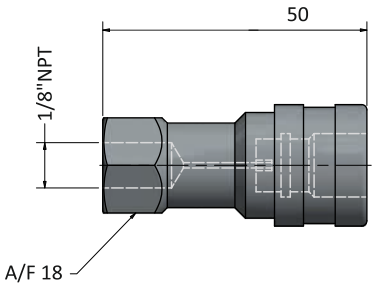
CBF 1/4



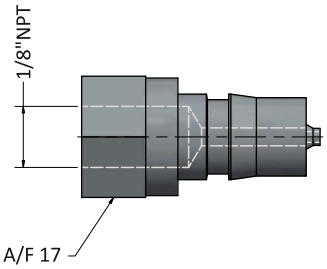
CBM 1/4



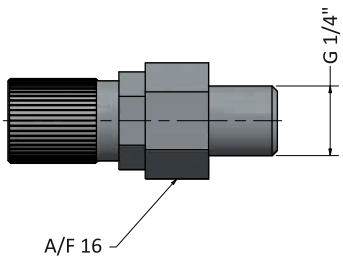
CBF 1/8



CBM 1/8



BV 1/4



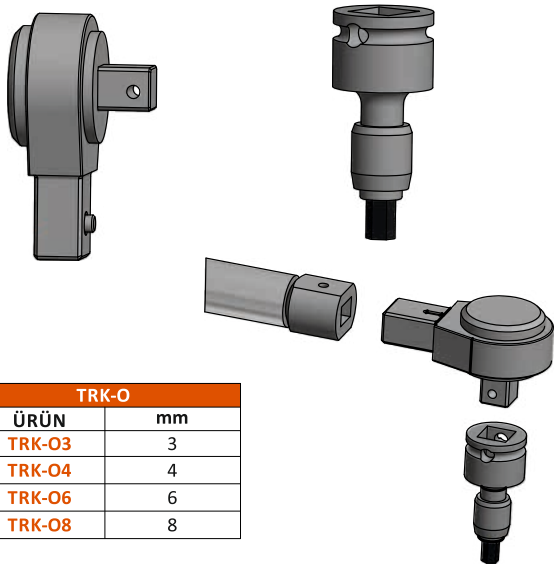
BKM 08

TORK ANAHTARI

TRK

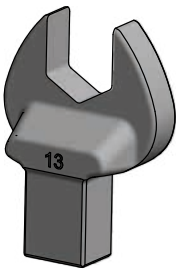
TORK ANAHTARI	
ÜRÜN	Nm
TRK 5-25	5-25
TRK 10-50	10-50

TRK-O

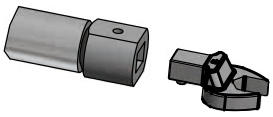


TRK-O	
ÜRÜN	mm
TRK-O3	3
TRK-O4	4
TRK-O6	6
TRK-O8	8

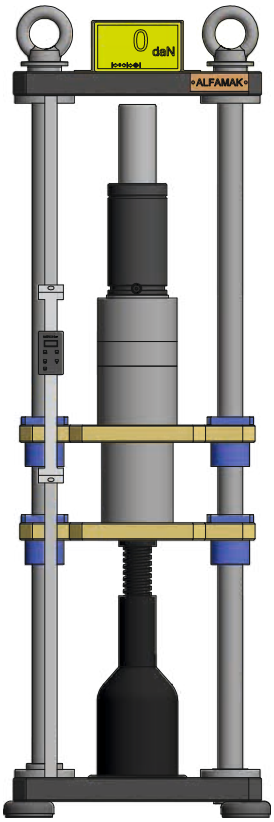
TRK-C



TRK-C	
ÜRÜN	mm
TRK-C10	10
TRK-C12	12
TRK-C14	14
TRK-C15	15
TRK-C17	17
TRK-C18	18
TRK-C19	19

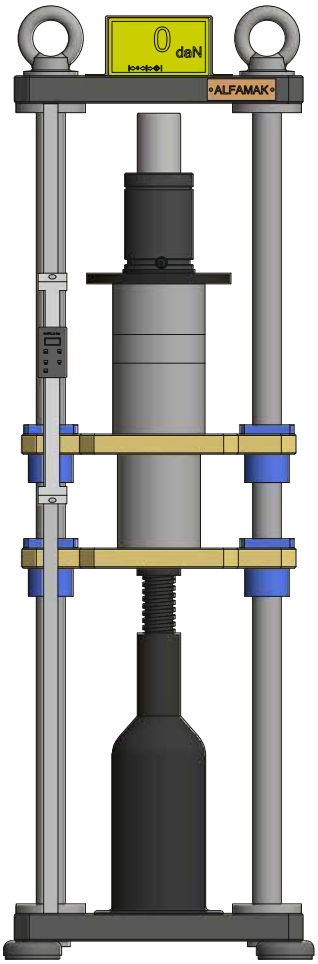


ALF 01



Ölçüm Aralığı	Measuring range	0 - 10000 daN
Önerilen Fo değerleri	Recommended for Fo	0 - 10000 daN
Maksimum uzunluk	Max. length	308 mm
Maksimum çap	Max. diameter	95 mm
EN ISO 7500-1'e göre uygunluk	Accuracy according EN ISO 7500-1	CLASS 1 (± 1%)
Güç desteği	Power supply	100 - 240 VAC 50-60 Hz
L x P x H	L x P x H	400 x 250 x 1288
Ağırlık	Weight	50 Kg

ALF 02



Ölçüm Aralığı	Measuring range	0 - 20000 daN
Önerilen Fo değerleri	Recommended for Fo	0 - 20000 daN
Maksimum uzunluk	Max. length	328 mm
Maksimum çap	Max. diameter	150 mm
EN ISO 7500-1'e göre uygunluk	Accuracy according EN ISO 7500-1	CLASS 1 (± 1%)
Güç desteği	Power supply	100 - 240 VAC 50-60 Hz
L x P x H	L x P x H	400 x 250 x 1309
Ağırlık	Weight	103 Kg

Not

Not


ALFAMAK®

ALFAMAK®

Adres : Üçevler Mah. Nilüfer Ticaret Merkezi
68. Sok. No:17 Nilüfer / Bursa / Türkiye
Tel : (+90) 224 443 06 12
Fax : (+90) 224 443 06 13
E mail : alfamak@alfamak.com