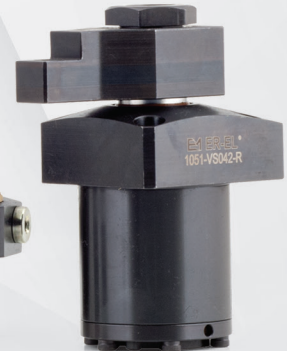




KALIP ve İŞ PARÇASI BAĞLAMA SİSTEMLERİ
Mold and Workpiece Clamping Systems

FİSKTÜRLER VE HİDROLİK EKİPMANLAR
FIXTURES AND HYDRAULIC EQUIPMENT



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20²⁴
25

Fisktürler ve Hidrolik
Ekipmanlar



DEĞERLİ MÜŞTERİMİZ;

ER-EL MAKİNA YEDEK PARÇA İMALATI SAN. VE TİC. LTD ŞTİ. olarak 1989 'dan beri kalıp bağlama ve işleme ekipmanlarında bizi güven ve kalitenin simgesi haline getiren ürünler üretmekteyiz. Geçen yıllar içinde mevcut kapasite ve toplam istihdam alanında sürekli artan bir çizgiyle her geçen gün daha sağlam ve emin adımlarla ilerleyen ER-EL; bugün başta Avrupa ülkeleri olmak üzere 45'i aşkın ülkeye ihracat yapmaktadır.

Her biri ayrı değer ve öneme sahip olan müşterilerimizin ihtiyaç ve taleplerine uygun çözümler sunmak amacıyla faaliyet gösteren ARGE bölümümüz ürün çeşitliliğini arttırmaya yönelik çalışmalarını büyük bir özveriyle sürdürmektedir. Katma değerli, kaliteli ve güvenli ürünler üretmek adına yatırımlarını arttırarak verimli, sürdürülebilir bir yol izleyen firmamız; 2004 yılında ISO 9001:2015 Kalite Yönetim Sistemini kurarak var olan kalitesini belgelendirmiştir. Akabinde ISO14001:2015 Çevre Yönetim Sistemi, ISO 45001:2018 İş Sağlığı ve Güvenliği Yönetim Sistemi ve CE sertifikalarına sahip olarak buna uygun üretim yapmaktadır.

Bugün itibari ile Kalıp & İş parçası Bağlama Ekipmanları, İşleme Sistemlerinde 4500'ü aşan hemen teslim stok ürünü çeşitleriyle konusunda lider ve üretici firma olmanın gururunu yaşamaktayız.

Standart üretimlerimiz dışında proje bazlı fişktür imalatımız da mevcuttur. Başta Savunma & Havaçılık Sanayi olmak üzere, Otomotiv, Beyaz Eşya, Ağır Makine ve Silah Sanayi sektörleri gibi Sanayinin güzide firmalarında; iş parçasına özel tasarım yapıp ürettiğimiz mekanik, pnömomatik ve hidrolik fişktür ürünleri kullanılmaktadır. Sistem verimini optimize eden ürün grubumuzla; dünyaca kabul görmüş, alanında geçerliliğe sahip standartlarda üretmeye devam etmekteyiz.

Firmamız 2017 yılında taşındığı yeni fabrikasında; üretim tesisi ve yönetim binası alanında dinamik ve uzman kadrosu ile gerek standart, gerek proje bazlı fişktür çözümleri ile müşteri memnuniyeti için üstün performans ile çalışmaktadır.

Uzun yıllardır ülkemizde ve Yurtdışında kalıp bağlama elemanları üreticisi olarak sektöre hizmet veren MİKSAN Hızlı Bağlama Sistemleri firması satın alınarak ER-EL Kalıp Bağlama ve İşleme Sistemleri firmamız bünyesine katılmıştır. Bir ER-EL markası olan MİKSAN ürünleri; firmamız kalite ve güvencesiyle hizmet vermeye devam edecektir.

Siz değerli müşterilerimize ER-EL'e olan güveninizden dolayı teşekkür eder, aynı istikrar ve güvenle uzun yıllar çalışmayı temenni ederiz.

Saygılarımızla;
ER-EL Yönetimi

OUR ESTEEMED CUSTOMER;

ER-EL MACHINE SPARE PARTS MANUFACTURING INDUSTRY CO.LTD. Since 1989, we have been producing products that make us a symbol of trust and quality in mold clamping and processing equipment. Over the years, ER-EL has progressed more and more confidently with its increasing capacity and total employment. Today, it export to more than 45 countries, mainly European countries.

Our R & D department, which operates to provide solutions that meet the needs and demands of our customers, each of which has a distinct value and importance, continues its efforts to increase the product variety with great devotion. Our company follows an efficient, sustainable way by increasing its investments in order to produce value added, quality and safe products; In 2004, it established ISO 9001:2015 Quality Management System and documented its existing quality. The company has ISO14001:2015 Environmental Management System, ISO 45001:2018 Occupational Health and Safety Management System.

As of today, we are proud to be the leader and manufacturer company in the field of mold & workpiece clamping equipment and processing systems, over 4500 fast immediate delivery stock products.

In addition to our standard production, we also produce project-based special fixture apparatus. Especially in Defense & Aviation Industry, Automotive, White Goods, Heavy Machinery and Weapon Industry sectors such as industry-renowned companies; mechanical, pneumatic and hydraulic fixture products that we design and produce for the workpiece are used. With our product group optimizing system efficiency; we continue to produce world-accepted standards that are valid in the field.



Our company moved to the new factory in 2017; with its dynamic and expert staff in the field of production facility and management building, it works with superior performance for customer satisfaction with both standard and project based fixture solutions.

MIKSAN Fast Coupling Systems company which has been serving to the sector as a manufacturer of mold fasteners in our country and abroad for many years has been purchased as of and ER-EL Mold Clamping and Processing Systems has joined our company. MIKSAN products which are an ER-EL brand; Our company will continue to serve with quality and assurance.

We would like to thank you, our esteemed customers for your trust in ER-EL and hope to work for many years with the same stability and confidence.

Kind regards;
ER-EL Directors

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Nr. 0950 S. 06	Nr. 0950 S. 07	Nr. 0950 S. 08	Nr. 0950 S. 09	Nr. 0950 S. 10	Nr. 0950 S. 10
					
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Nr. 1051 S. 17	Nr. 1052 S. 18	Nr. 1053 S. 19	Nr. 1055 S. 20	Nr. 1056 S. 21	Nr. 1056 S. 22
					
Nr. 1056 S. 22	Nr. 1057 S. 23	Nr. 1058 S. 25	Nr. 1058 S. 25	Nr. 1058 S. 26	Nr. 1058 S. 26
					
Nr. 1058 S. 27	Nr. 1060 S. 33	Nr. 1065 S. 33	Nr. 1067 S. 33	Nr. 1275 S. 35	Nr. 1280 S. 35
					
Nr. 1282 S. 36	Nr. 1283 S. 37	Nr. 1285 S. 37	Nr. 1287 S. 38	Nr. 1288 S. 39	Nr. 1472 S. 40
					
Nr. 1473 S. 40	Nr. 1473 S. 40	Nr. 1474 S. 41	Nr. 1475 S. 42	Nr. 1476 S. 42	Nr. 1477 S. 43
					
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Nr. 1486 S. 53	Nr. 1486 S. 54 NEW	Nr. 1487 S. 55	Nr. 1487 S. 56	Nr. 1488 S. 57	Nr. 1488 S. 58 NEW
					
Nr. 1489 S. 59	Nr. 1489 S. 59	Nr. 1489 S. 60	Nr. 1489 S. 61	Nr. 1489 S. 61	Nr. 1489 S. 62
					
Nr. 1489 S. 63	Nr. 1489 S. 63	Nr. 1489 S. 64	Nr. 1489 S. 64	Nr. 2072 S. 65	Nr. 2073 S. 65
					
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Nr. 2143 S. 69	Nr. 2144 S. 70	Nr. 1040 S. 71	Nr. 1040 S. 72 NEW	Nr. 1040 S. 73 NEW	Nr. 1040 S. 74
					
Nr. 1040 S. 75	Nr. 1040 S. 75				
					

5-EKSEN BLOK BAĞLAMA

5-AXIS CLAMPING BLOCK

Kombinasyon

- Modüler montaj özelliği ve 5 kenar işlem yapabilme kabiliyetiyle CNC Yatay işleme, CNC Dik işleme, CNC 5 eksen T-Kanallı ve Delikli tezgah tablalarında kullanılır.

Combination

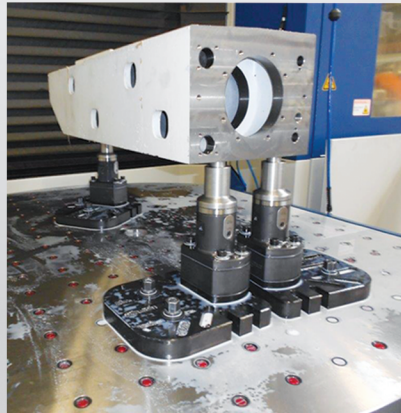
- Its modular assembly and 5 edge ability, it can be used on CNC Horizontal, CNC Vertical CNC 5 Axis machines with T-Slots and rasterized plates.

Özellikler

- 5 kenara operasyon kolaylığı
- Yükseltilebilir özellik
- Değişken sabitleme olanakları
- Adetli işlerde tekrarlanabilir hassasiyet
- Yüksek sıkma kuvveti

Features

- Ease at 5 axis operations
- Height adjusting feature
- Variable fixing possibility
- Repeating precision at mass production
- High clamping force

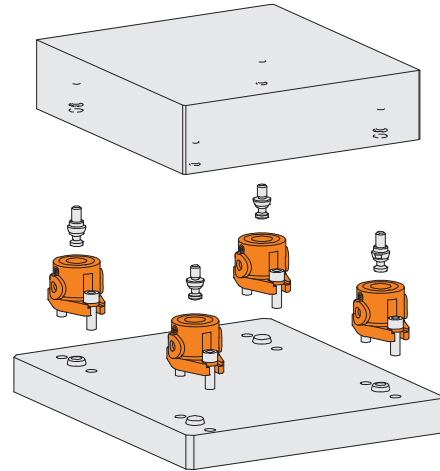
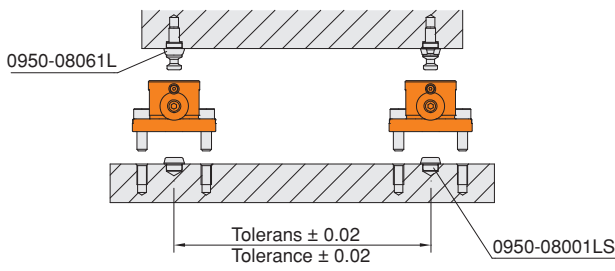
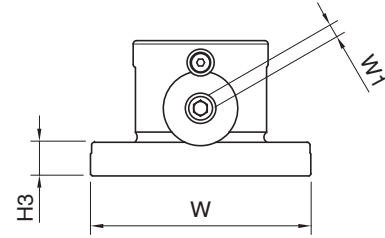
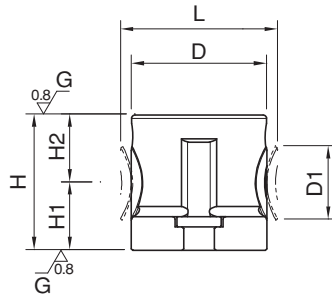
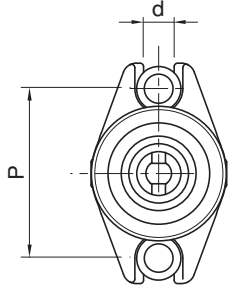


Referans Nr.	D	H (±0.01)	D1	L	H1	H2	W	H3	d	P	W1	Sıkma Kuvveti Clamping Force Kgf	İzin Verilen Tork Allowable Screw Torque (N-m)	(g)
0950-06025	30	25	15	34.5	12.5	12.5	54	7	6.6	42	3	500	4	100
0950-08040	40	40	22	46	20	20	65	10	9	50	4	800	8	300
0950-12063	60	63	32	69	33	30	95	15	13	75	6	1500	22	1400
0950-16080	80	80	44	91	40	40	130	20	17	130	8	2500	50	3300

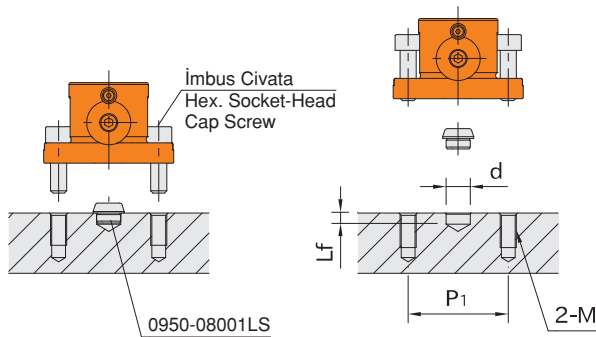


Ürün Nr. 0950 5-Eksen Blok Bağlama

Product Nr. 0950 5-Axis Clamping Block



Uygulama Örneği / Application Example



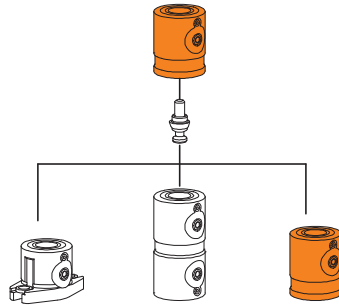
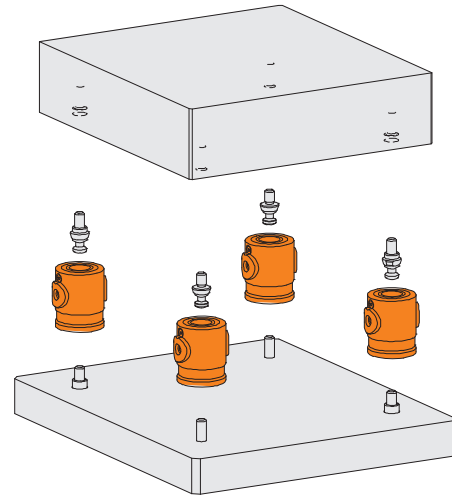
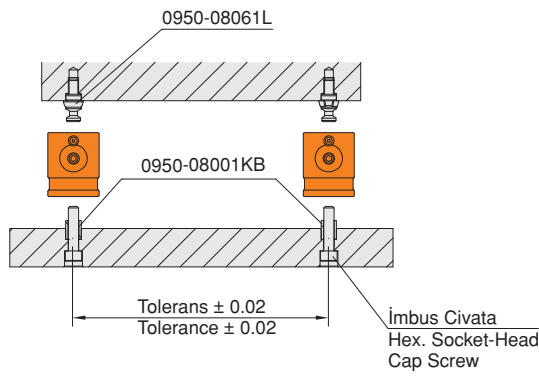
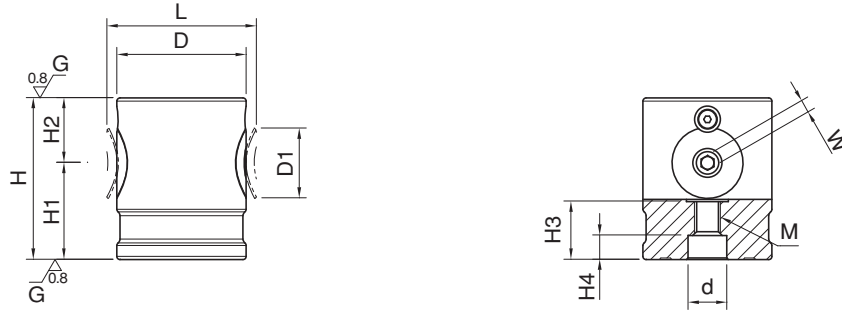
Referans Nr.	d (H7)	Lf	M	P1
0950-06025	8	5.5	M6	42
0950-08040	12	5.5	M8	50
0950-12063	18	6.5	M12	75
0950-16080	22	8	M16	100

Referans Nr.	D	H (± 0.01)	D1	L	H1	H2	H3	d (H7)	H4	M	W	Sıkma Kuvveti Clamping Force Kgf	İzin Verilen Tork Allowable Screw Torque (N-m)	(g)
0950-06032	30	32	15	34.5	19.5	12.5	11.5	8	5	M6	3	500	4	200
0950-08050	40	50	22	46	30	20	18	12	7.5	M8	4	800	8	500
0950-12080	60	80	32	69	50	30	25	18	10.5	M12	6	1500	22	1600
0950-16100	80	100	44	91	60	40	31	22	12.5	M16	8	2500	50	3800

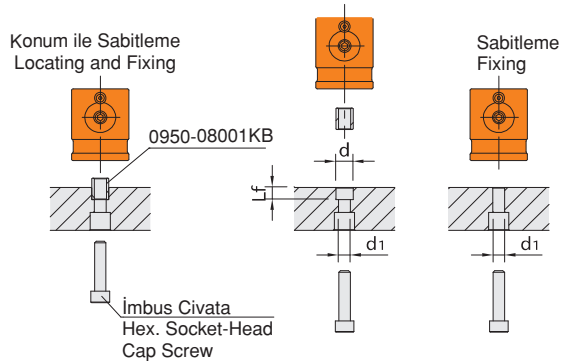


Ürün Nr. 0950 5-Eksen Blok Baęlama Yükseltme

Product Nr. 0950 5-Axis Clamping Block Extension




Uygulama Örneęi / Application Example



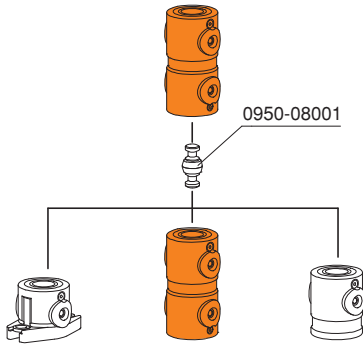
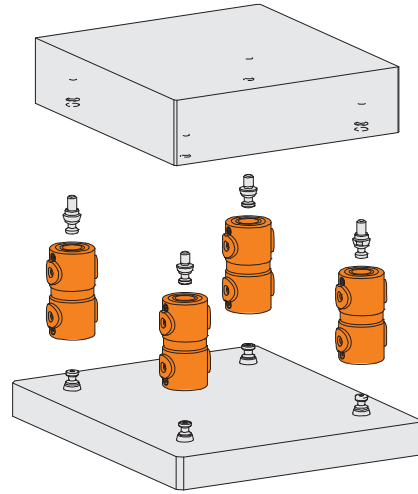
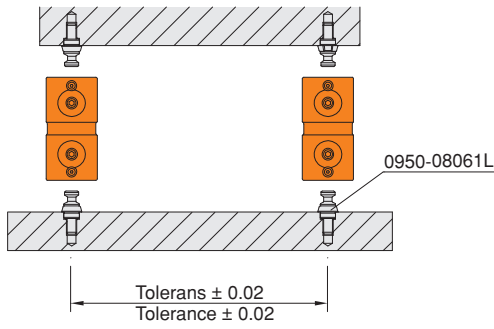
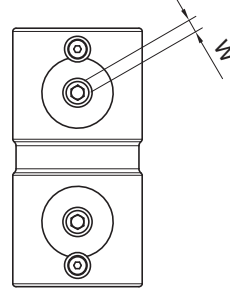
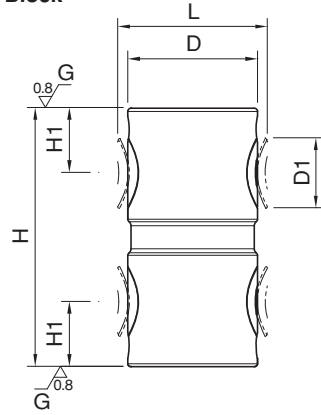
Referans Nr.	d (H7)	Lf	d1 (+0.2/0)
0950-06032	8	6.5	6
0950-08050	12	8.5	8
0950-12080	18	12.5	12
0950-16100	22	16.5	16



Referans Nr.	D	H (±0.01)	D1	L	H1	W	Sıkma Kuvveti Clamping Force Kgf	izin Verilen Torque Allowable Screw Torque (N-m)	 (g)
0950-06050	30	50	15	34.5	12.5	3	500	4	200
0950-08080	40	80	22	46	20	4	800	8	700
0950-12125	60	125	32	69	30	6	1500	22	2600
0950-16160	80	160	44	91	40	8	2500	50	5800

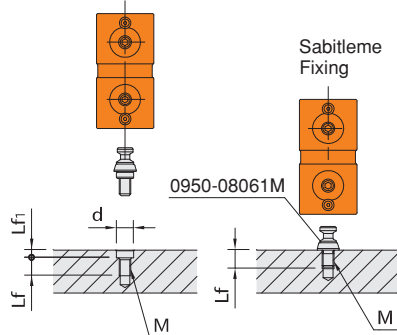
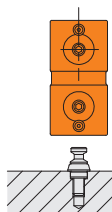
Ürün Nr. 0950 5-Eksen Blok Bağlama

Product Nr. 0950 5-Axis Clamping Block

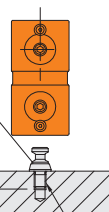


Uygulama Örneği / Application Example

Konum ile Sabitleme
Locating and Fixing



Sabitleme
Fixing



Referans Nr.	d (H7)	Lf	Lf1	M
0950-06050	8	9	5.5	M6
0950-08080	12	13	5.5	M8
0950-12125	18	19	6.5	M12
0950-16160	22	23	8	M16

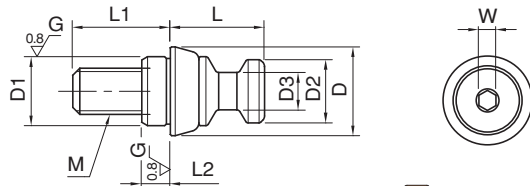
Referans Nr.	M	D1 (g6)	L2	L1	D	L	D2	D3	W	(g)
0950-06001L	M6	8	5	13	11.5	10	8	4.8	2.5	6
0950-08061L	M6	10	5	17	15.5	16.5	11	6.5	3	17
0950-08001L	M8	12	5	17	15.5	16.5	11	6.5	3	20
0950-12081L	M8	12	5	17	24.5	25	16	9.5	5	52
0950-12001L	M12	18	6	24	24.5	25	16	9.5	5	70
0950-16121L	M12	18	6	24	31.5	33	21	13	6	125
0950-16001L	M16	22	7.5	30	31.5	33	21	13	6	150

Ürün Nr. 0950 5-Eksen Blok Bağlama Çektirme Civatası

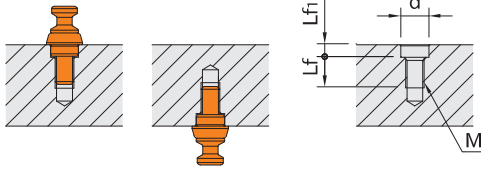
• Tolerans ± 0.02

Product Nr. 0950 5-Axis Clamping Block Puller Bolt

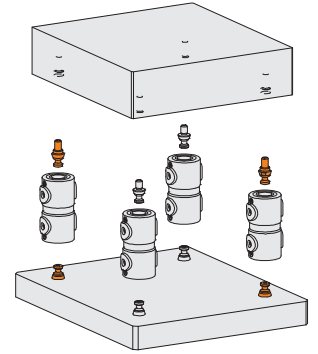
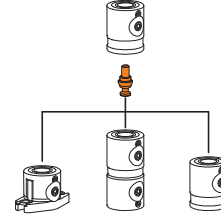
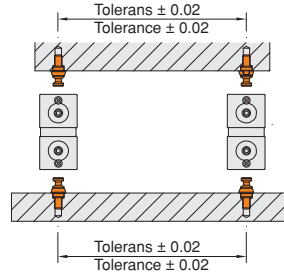
• Tolerance ± 0.02



Uygulama Örneği Application Example



Referans Nr.	d (H7)	Lf	Lf1	M
0950-06001L	8	9	5.5	M6
0950-08061L	10	13	5.5	M6
0950-08001L	12	13	5.5	M8
0950-12081L	12	13	5.5	M8
0950-12001L	18	19	6.5	M12
0950-16121L	18	23	6.5	M12
0950-16001L	22	23	8	M16

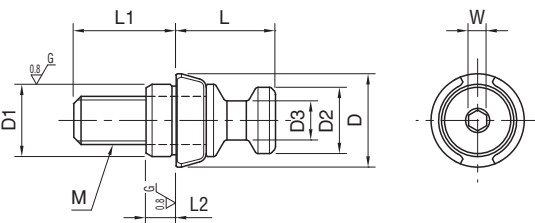
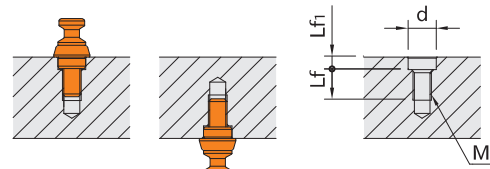


5-Eksen Blok Bağlama Çektirme Civatası

5-Axis Clamping Block Puller Bolt

Referans Nr.	M	D1 (g6)	L2	L1	D	L	D2	D3	W	(g)
0950-08061D	M6	10	5	17	15.5	16.5	11	6.5	3	17
0950-08001D	M8	12	5	17	15.5	16.5	11	6.5	3	20
0950-12081D	M8	12	5	17	24.5	25	16	9.5	5	51
0950-12001D	M12	18	6	24	24.5	25	16	9.5	5	70
0950-16121D	M12	18	6	24	31.5	33	21	13	6	123
0950-16001D	M16	22	7.5	30	31.5	33	21	13	6	150

Uygulama Örneği Application Example



Referans Nr.	d (H7)	Lf	Lf1	M
0950-08061D	10	13	5.5	M6
0950-08001D	12	13	5.5	M8
0950-12081D	12	13	5.5	M8
0950-12001D	18	19	6.5	M12
0950-16121D	18	23	6.5	M12
0950-16001D	22	23	8	M16



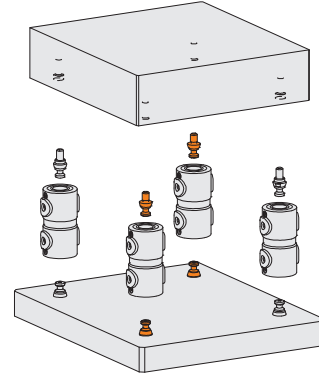
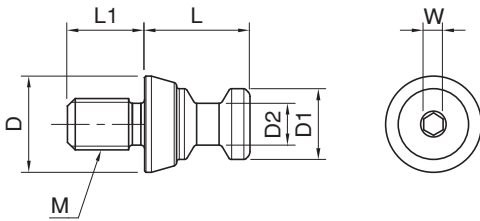
Referans Nr.	M	L1	D	L	D1	D2	W	(g)
0950-06001M	M6	8	11	10	8	4.8	2.5	5
0950-08061M	M6	9	15	16.5	11	6.5	3	13
0950-08001M	M8	12	15	16.5	11	6.5	3	16
0950-12081M	M8	12	24	25	16	9.5	5	46
0950-12001M	M12	18	24	25	16	9.5	5	57
0950-16121M	M12	18	31	33	21	13	6	108
0950-16001M	M16	22	31	33	21	13	6	125

Ürün Nr. 0950 5-Eksen Blok Bağlama Çektirme Civatası

• Tolerans ± 0.2

Product Nr. 0950 5-Axis Clamping Block Puller Bolt

• Tolerance ± 0.2



5-Eksen Blok Bağlama Çektirme Civatası

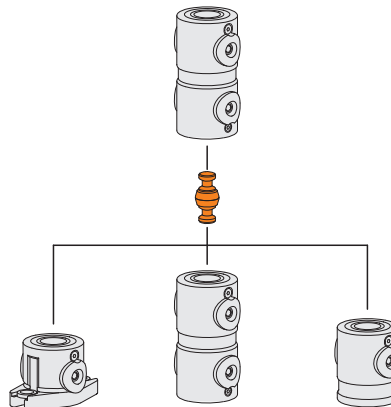
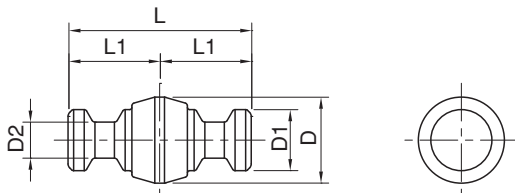
Referans Nr.	D	L	D1	D2	L1	(g)
0950-08001	15.5	33	11	6.5	16.5	24
0950-12001	24.5	50	16	9.5	25	85
0950-16001	31.5	66	21	13	33	190

Ürün Nr. 0950 5-Eksen Blok Bağlama Çektirme Civatası

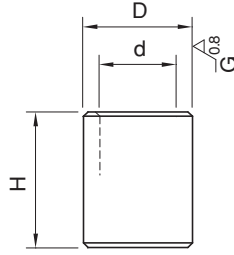
• Tekrarlama Konumlama 0.2

Product Nr. 0950 5-Axis Clamping Block Puller Bolt

• Locating Repeatability is 0.2



Referans Nr.	d	D (h6)	H	(g)
0950-06001KB	6	8	11	2
0950-08001KB	8.5	12	15	7
0950-12001KB	12.5	18	22	22
0950-16001KB	16.5	22	28	35

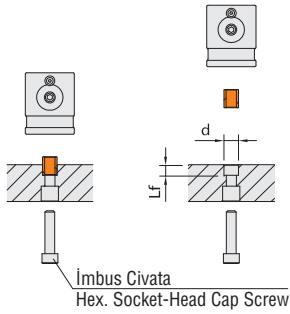


Ürün Nr. 0950 5-Eksen Blok Bağlama Konumlama Burcu

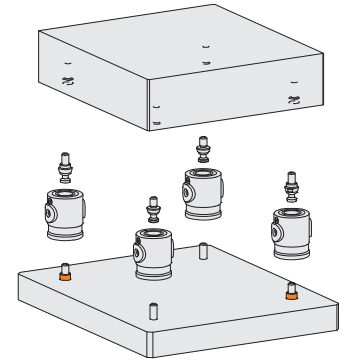
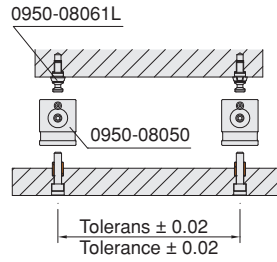
• Tolerans ± 0.02

Product Nr. 0950 5-Axis Clamping Block Locating Bushings

• Tolerance ± 0.02



Referans Nr.	d (H7)	Lf
0950-06001KB	8	6.5
0950-08001KB	12	8.5
0950-12001KB	18	12.5
0950-16001KB	22	16.5



Referans Nr.	D1 $\begin{matrix} -0.02 \\ -0.05 \end{matrix}$	D	H	H1	M	(g)
0950-06001LS	8	11.5	4	5	M6	4
0950-08001LS	12	15.5	5	5	M8	8
0950-12001LS	18	24.5	8	6	M12	27
0950-16001LS	22	31.5	10	7.5	M16	51
0950-06001SM	8	11.5	4	5	M6	4
0950-08001SM	12	15.5	5	5	M8	8
0950-12001SM	18	24.5	8	6	M12	27
0950-16001SM	22	31.5	10	7.5	M16	51

Ürün Nr. 0950 5-Eksen Blok Bağlama Konumlama Burcu

• Taşlanmış Tolerans ± 0.02

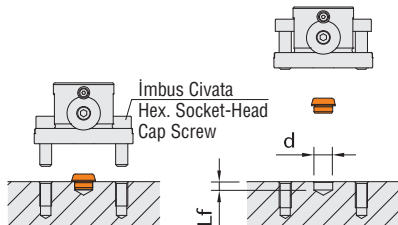
• Standart Tolerans $^{+0.1}_0$

Product Nr. 0950 5-Axis Clamping Block Locating Bushings

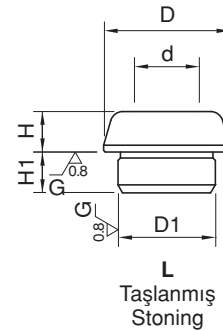
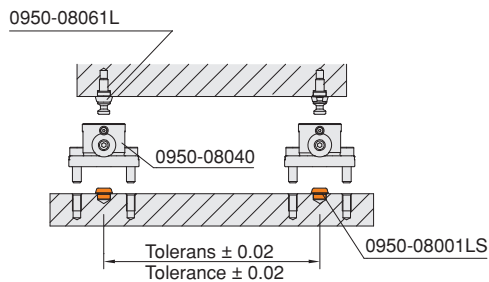
• Stoning Tolerans ± 0.02

• Standard Tolerance $^{+0.1}_0$

Uygulama Örneği / Application Example



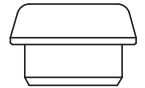
Referans Nr.	d (H7)	Lf
0950-06001LS	8	5.5
0950-08001LS	12	5.5
0950-12001LS	18	6.5
0950-16001LS	22	8



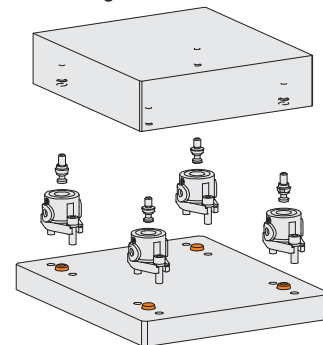
LS
Taşlanmış
Stoning



SM
Standart
Standard

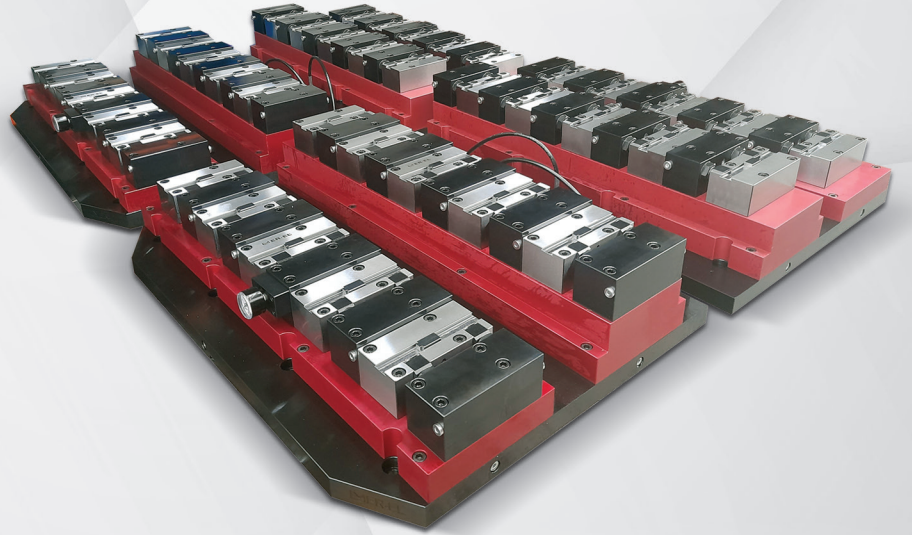
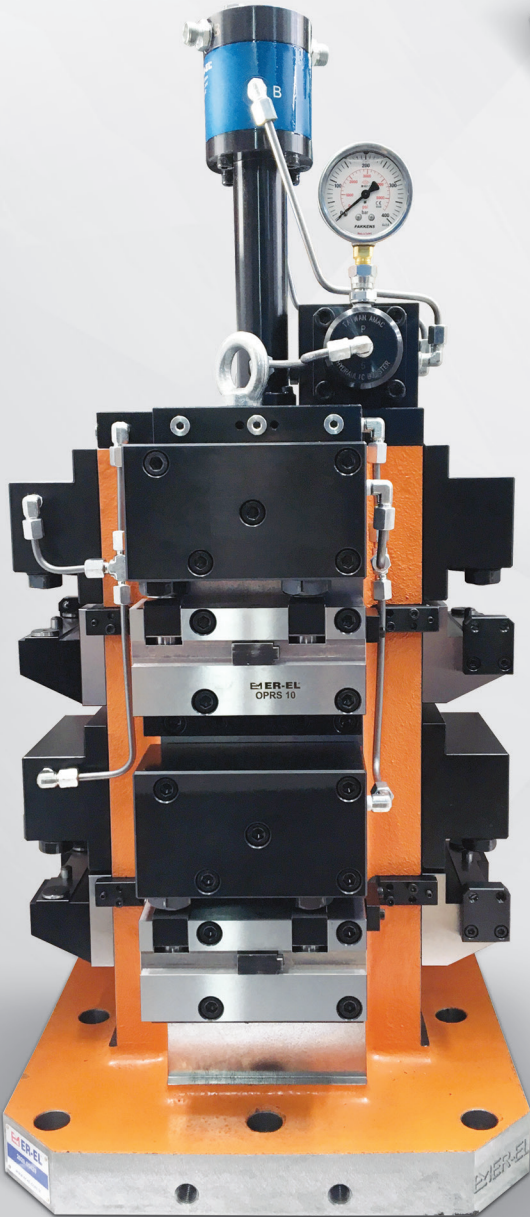


S
Standart
Standard



HİDROLİK FİKSTÜR UYGULAMALARI

HYDRAULIC FIXTURE APPLICATION



HİDROLİK KOMPONENTLER

HYDRAULIC COMPONENTS



Uygulama

Bir işparçası takım ile işlenirken, işparçasının operatör tarafından yerleştirilmesi - alınmasına olanak yoksa ve daha yüksek bağlama kuvvetine ihtiyaç duyuyorsa, hidrolik dönmeli bağlama silindiri en iyi seçim olacaktır.

Fonksiyon

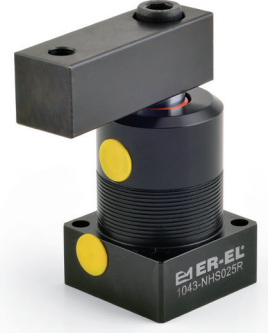
Bu silindir çekme özelliğine sahiptir. Toplam bağlama stroku, dönme ve çekme strokuna eşittir.

Tip

Bu silindir aşağı doğru baskı yapar. Saat yönüne ve ters istikametine çift hareketli çeşidi vardır. Standart 90° olup, fonksiyonel 0°-45° ve 60° açılara sahiptir. Bağlama şekline tek kol veya çift kol dahildir. Bağlama türüne dişi tip ve o-ring keçeli manifoldlu tipi için alttan flanşlı dahildir.

Malzeme

Ana gövdenin malzemesi alüminyum alaşımlıdır.



Application

When machining a workpiece by means of a machine tool, a hydraulic swing clamping cylinder will be your best choice if the placing and taking of the workpiece are not allowed to be interfered by the clammer and need a larger clamping force.

Function

This cylinder belongs to a pull cylinder of which the total stroke is equal to the sum of a swing stroke and a clamping stroke, and is usually used within the clamping stroke.

Type

This swing cylinder belongs to a double-acting type which is operated mainly in a downward pressing manner, including clockwise swing and counterclockwise swing; standard angle is 90°, and optional angles include 0°, 45°, 60°; clamping means includes single arm or double arms; the mounting manner includes threaded type and lower flange type for manifold mounting with O-ring seal.

Material

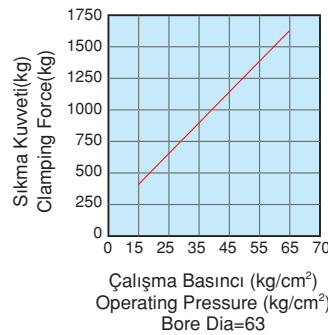
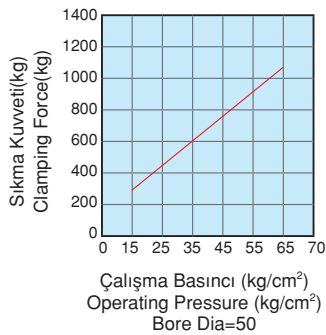
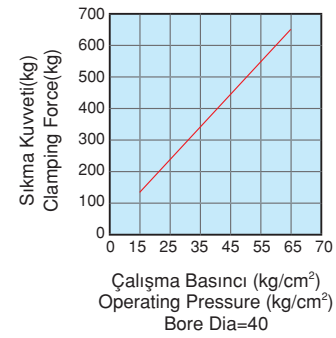
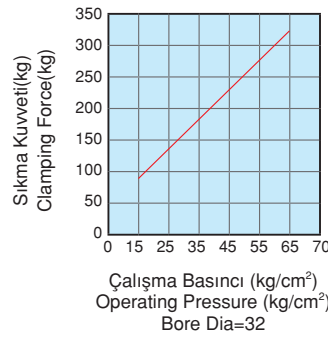
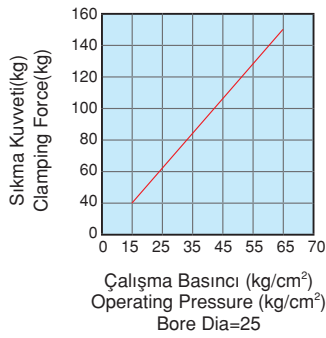
This material of the main body is aluminum alloy.

Sipariş örneği / Ordering example

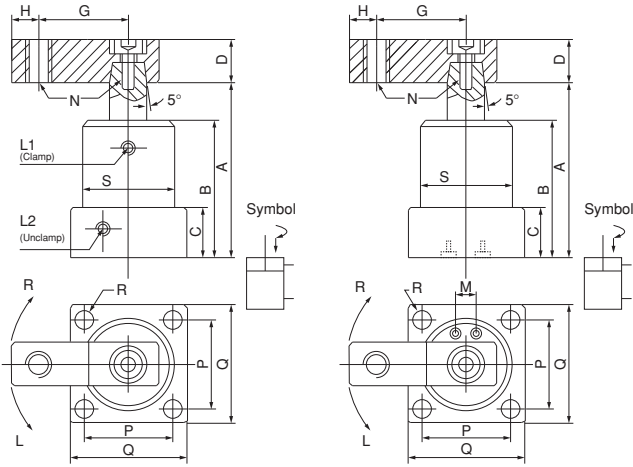
Referans Nr.	NHS Temel No. Base No.	T Tip / Type Flanş Flange T: Dişli T: Threaded	D Kol Tipi / Arm Type D: Çift Hareket D: Double Arm Boş: Tek Hareket Blank: Single Arm	L – Dönüş İstikameti Swivel Direction L: Sol L: Left R: Sağ R: Right	40 Piston Ø 25 32 40 50 63	x 90° – Açı / Angle 0° 45° 60° 90° 180°
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Değişik hidrolik basınçlar altında teorik bağlama gücünü gösteren şematik tablolar

Schematic view showing a theoretical clamping force under different hydraulic pressure:



Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max.Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp. Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (25kg/cm2)	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Uncclamp	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	Çeşitli O-Ring Manifold O-Ring	M (mm)	F (mm)	Ağırlık Weight (kg)
1043-NHS025	Flanş / Bottom Flange	Tek Kol / Single Arm	70 kg/cm ²	20-45 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	25	18	59	100	70	23	□ 25.4	50	10	1/8 PF	M10 x1.5	40	50	6.5	Ø 45	S4	18	15	0.8
1043-NHS032							14	15	32	20	125	111	76	25	□ 25.4	55	10	1/8 PF	M10 x1.5	44	55	6.5	Ø 50	S4	24	17	1.0
1043-NHS040							14	15	40	20	200	113.6	80	27	□ 25.4	55	10	1/8 PF	M10 x1.5	48	62	8.5	Ø 54	S4	26	20	1.1
1043-NHS050							14	15	50	20	400	114.5	80	27	□ 25.4	55	10	1/8 PF	M10 x1.5	57	74	8.5	Ø 65	S4	30	25	1.4
1043-NHS063							14	15	63	25	600	118	85	32	□ 32	75	11	1/8 PF	M12 x1.75	70	88	10.5	Ø 80	S4	40	30	2.3

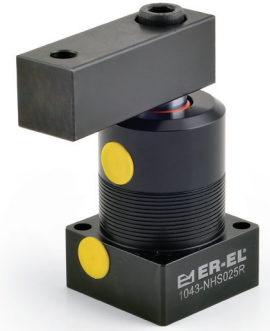


Ürün Nr. 1043 Hidrolik Dönmeli Bağlama Product Nr. 1043 Hydraulic Swing Clamp

NHS – Flanşlı Uyarılma, Tek Kol Borulu veya Manifoldlu

NHS – Flange Version, Single Arm With Pipe or the Manifold

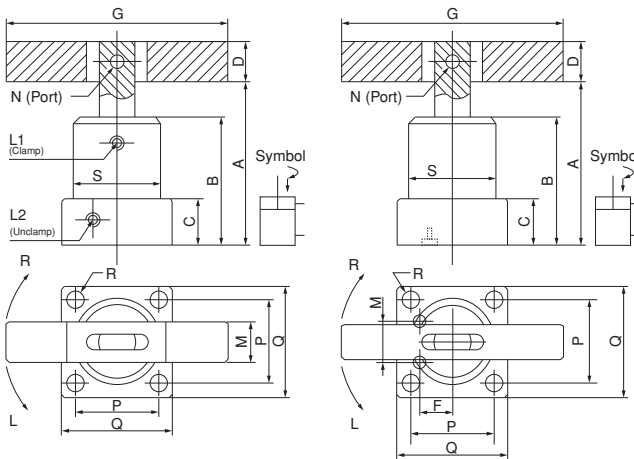
- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



Hidrolik Dönmeli Bağlama

Hydraulic Swing Clamp

Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max.Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp. Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (25kg/cm2)	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	L1 Bağlama / Clamp L2 Sökme / Uncclamp	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	Çeşitli O-Ring Manifold O-Ring	M (mm)	F (mm)	Ağırlık Weight (kg)
1045-NHSD025	Flanş / Bottom Flange	Çift Kol / Double Arm	70 kg/cm ²	20-45 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	25	18	59	100	70	23	□ 19	100	1/8 PF	Ø 8	40	50	6.5	Ø 45	S4	18	15	0.9
1045-NHSD032							14	15	32	20	125	111	76	25	□ 22	120	1/8 PF	Ø 8	44	55	6.5	Ø 50	S4	24	17	1.1
1045-NHSD040							14	15	40	20	200	113.6	80	27	□ 22	120	1/8 PF	Ø 8	48	62	8.5	Ø 54	S4	26	20	1.2
1045-NHSD050							14	15	50	20	400	114.5	80	27	□ 22	120	1/8 PF	Ø 8	57	74	8.5	Ø 65	S4	30	25	1.5
1045-NHSD063							14	15	63	25	600	118	85	32	□ 25.4	140	1/8 PF	Ø 10	70	88	10.5	Ø 80	S4	40	30	2.5



Ürün Nr. 1045 Hidrolik Dönmeli Bağlama Product Nr. 1045 Hydraulic Swing Clamp

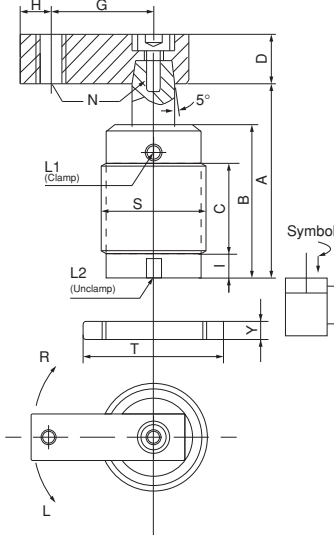
NHSD – Flanşlı Uyarılma, Çift Kol Borulu veya Manifoldlu

NHSD – Flange Version, Double Arms With Pipe or the Manifold

- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp. Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (25kg/cm ²)	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	I (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	N (mm)	S (mm)	T (mm) Kontrol Sım. 2 ad. T (mm) 2 pcs/set	Y (mm)	Ağırlık Weight (kg)	
1047-NHTS025	Dişli Gövde / Threaded Body	Tek Kol / Single Arm	70 kg/cm ²	20-45 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	25	18	59	100	70	35	□	25.4	50	10	9	1/8 PF	M10 x1.5	M45 x1.5	Ø 65	10	0.8
1047-NHTS032							14	15	32	20	125	111	76	45	□	25.4	55	10	9	1/8 PF	M10 x1.5	M50 x1.5	Ø 70	11	1.1
1047-NHTS040							14	15	40	20	200	113.6	80	45	□	25.4	55	10	9	1/8 PF	M10 x1.5	M55 x1.5	Ø 75	11	1.25
1047-NHTS050							14	14	50	20	400	120	87	50	□	25.4	55	10	9	1/8 PF	M10 x1.5	M65 x1.5	Ø 85	12	1.7



Ürün Nr. 1047 Hidrolik Dönmeli Bağlama Product Nr. 1047 Hydraulic Swing Clamp

NHTS – Dişli Uyarlama, Tek Kol
Borulu

NHTS – Threaded Version, Single Arm
With Pipe

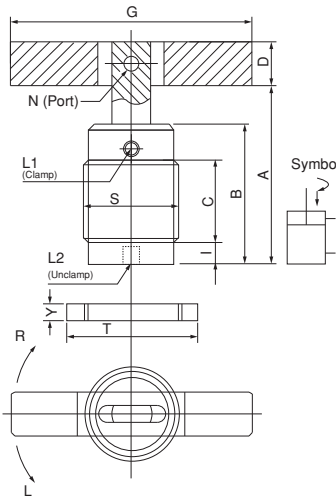
- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



Hidrolik Dönmeli Bağlama

Hydraulic Swing Clamp

Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp. Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (25kg/cm ²)	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	I (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	N (mm)	S (mm)	T (mm) Kontrol Sım. 2 ad. T (mm) 2 pcs/set	Y (mm)	Ağırlık Weight (kg)	
1050-NHTSD025	Dişli Gövde / Threaded Body	Çift Kol / Double Arm	70 kg/cm ²	20-45 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	25	18	59	100	70	35	□	19	100	9	1/8 PT	Ø 8	M45 x1.5	Ø 65	10	0.9
1050-NHTSD032							14	15	32	20	125	111	76	45	□	22	120	10	1/8 PT	Ø 8	M50 x1.5	Ø 70	11	1.2
1050-NHTSD040							14	15	40	20	200	113.6	80	45	□	22	120	10	1/8 PT	Ø 8	M55 x1.5	Ø 75	11	1.4
1050-NHTSD050							14	14	50	20	400	120	87	50	□	22	120	10	1/8 PT	Ø 8	M65 x1.5	Ø 85	12	1.85



Ürün Nr. 1050 Hidrolik Dönmeli Bağlama Product Nr. 1050 Hydraulic Swing Clamp

NHTSD – Dişli Uyarlama, Çift Kol
Borulu

NHTSD – Threaded Version, Double Arms
With Pipe

- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



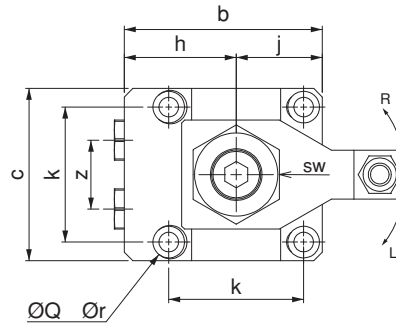
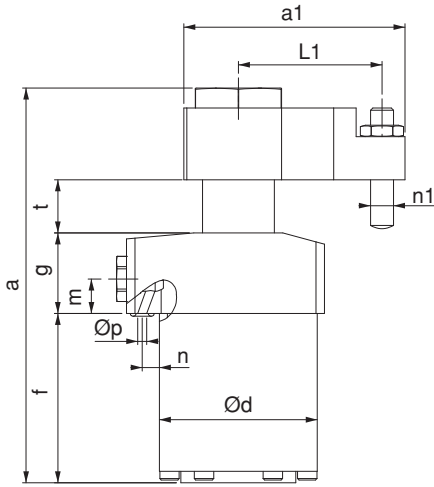
Referans Nr.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	M (mm)	N (mm)	P (mm)	Q (mm)	R (mm)	T (mm)	Z (mm)	A1 (mm)	L1 (mm)	N1 (mm)	(kg)
1051-VS035	129	61	51	48	80	52	28	35.5	25.5	40	12	30	3	9.5	5.5	16	22	65.5	42	M6	0.84
1051-VS042	146	69	60	55	87	59	28	39	30	47	12	33.5	3	11	6.5	18.5	24	77	50	M8	1.25
1051-VS050	153	81	70	65	93	63	30	46	35	55	13	39.5	5	11	6.5	20	30	91.5	56.5	M10	1.86
1051-VS060	179	92	80	75	108	71	37	52	40	63	16	45	5	14	8.5	23.5	32	105	65	M12	2.86
1051-VS074	192	107	95	90	114	74	40	59.5	47.5	75	16	52.5	5	17.5	10.5	25	37	127	75	M16	4.75

Referans Nr.	Silindir Alan cm ² Cylinder Area cm ²	Toplam Strok Total Stroke	Sıkma Strok Clamp Stroke	Dönme Strok Swivel Stroke	Silindir Hacmi cm ³ /Sıkma Cylinder Volume cm ³ /Clamp	Silindir Hacmi cm ³ /Boşta Cylinder Volume cm ³ /Release	Maximum Çalışma Basıncı 70 kg/cm ² Clamping Force at 70 kg/cm ²	Min./Max. Çalışma Basıncı kg/cm ² Min./Max. Operating Pressure kg/cm ²	Çalışma Sıcaklığı Operating Temperature	90° Dönme Açısı Toleransı 90° Swing Angle Tolerance	Sıkma Salıncak Pozisyon Tekrarı Clamp-Swing Position Repeat Tolerance
1051-VS035	5.8	22	8	14	12.8	21.2	405	5 - 70	0-70°	90±2°	0.5°
1051-VS042	8.9	25	10	15	22.4	34.6	625	5 - 70	0-70°	90±2°	0.5°
1051-VS050	12.6	26	10	16	32.7	51.0	880	5 - 70	0-70°	90±2°	0.5°
1051-VS060	18.4	29	12	17	53.3	82.0	1285	5 - 70	0-70°	90±2°	0.5°
1051-VS074	27.1	30	12	18	81.3	129.0	1896	5 - 70	0-70°	90±2°	0.5°

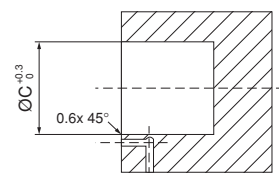
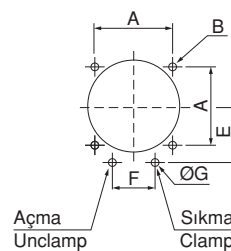
Ürün Nr. 1051 Hidrolik Dönmeli Bağlama

Product Nr. 1051 Hydraulic Swing Clamp

Borulu ve Manifodlu With Pipe and the Manifold



Referans Nr.	A	B	C	E	F	G
1051-VS035	40	M5	48	30	22	3
1051-VS042	47	M6	55	33.5	24	3
1051-VS050	55	M6	65	39.5	30	5
1051-VS060	63	M8	75	45	32	5
1051-VS074	75	M10	90	52.5	37	5



Referans Nr.	Toplam Tork Total Stroke (mm)	Sıkma Torku Lock Stroke (mm)	Ekstra Tork Extra Stroke (mm)	Max. Basınç Max. operating pressure kg/cm	Min. Basınç Min. operating pressure kg/cm	Sıkma Kuvveti Clamping Force (at 70 kg/cm ²)	Çalışma Isısı Operating Temperature	(kg)
1052-VT25S	23.5	20.5	3	70	20	280kg	0 - 70°C	0.60
1052-VT32S	26	23	3	70	20	448kg	0 - 70°C	0.92
1052-VT40S	29.5	26.5	3	70	20	700kg	0 - 70°C	1.86
1052-VT50S	35	32	3	70	20	1092kg	0 - 70°C	2.34
1052-VT63S*	41	38	3	70	20	1736kg	0 - 70°C	3.90



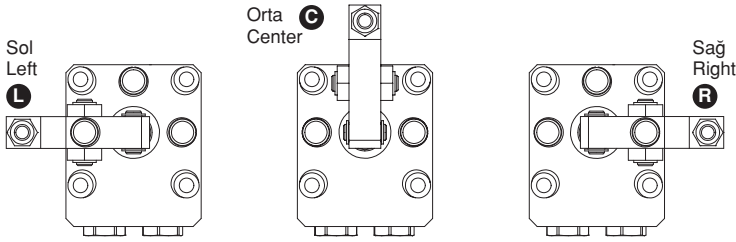
Ürün Nr. 1052 Hidrolik Üstten Bağlama

- 1052-VT63S kodlu ürün manifoldlu ve yağ giriş, yağ dönüşlüdür.

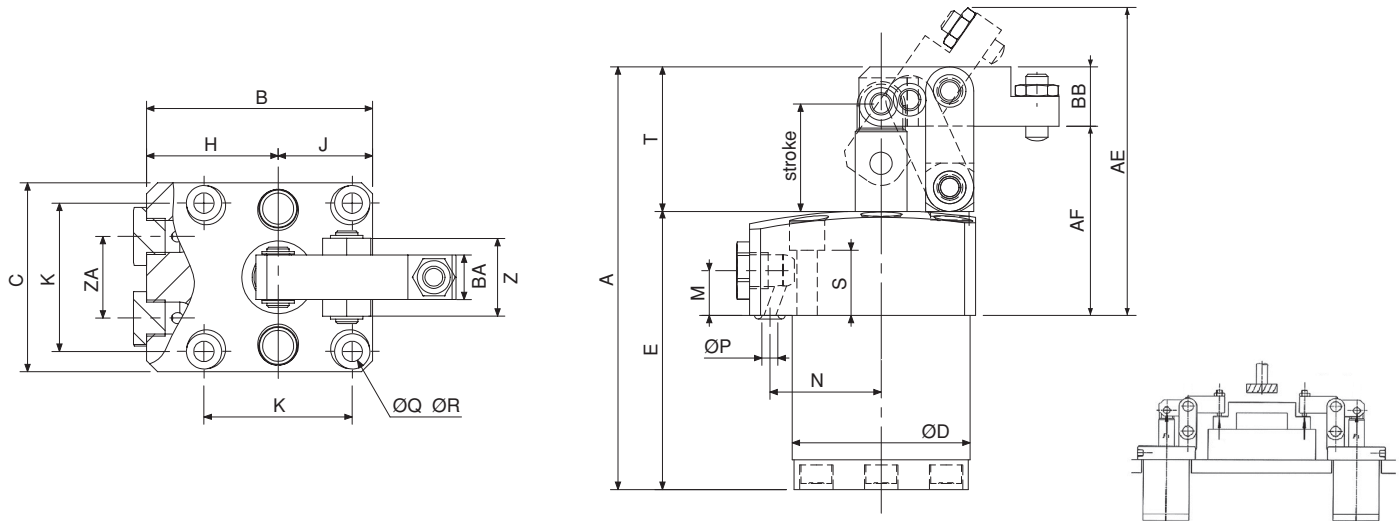
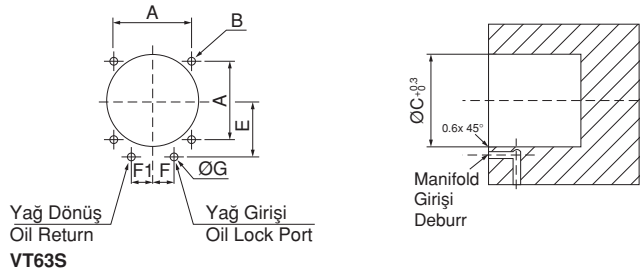
Product Nr. 1052 Hydraulic Above Clamp

- 1052-VT63S coded products manifold and oil flow, oil is reflexive.

Borulu ve Manifoldlu
With Pipe and the Manifold



Referans Nr.	A	B	C	E	F	G
1052-VT25S	40	M5x0.8	48	30	11	3
1052-VT32S	47	M6	55	33.5	12	3
1052-VT40S	55	M6	65	39.5	15	5
1052-VT50S	63	M8	75	45	16	5
1052-VT63S	75	M10	90	52.5	18.5	5



Referans Nr.	A	B	C	D	E	H	J	K	M	N	S	T	Z	part	ZA	Bağlama Pabucu Clamping Arm				ØQ	ØR
																AE	AF	BA	BB		
1052-VT25S	114	61	51	48	75	35.5	25.5	40	12	30	17.5	35	21	G1/8	22	92.4	51	12	16	9.5	5.5
1052-VT32S	132.5	69	60	55	87	39	30	47	12	33.5	15	37.5	28	G1/8	24	101.9	53.5	16	20	11	6.8
1052-VT40S	147	81	70	65	93	46	35	55	13	39.5	15.5	45	37	G1/4	30	111.4	59	19	25	11	6.8
1052-VT50S	175	94.5	85	75	108	52	42.5	63	16	45	19.5	55	40	G1/4	32	130.8	72	22	32	14	9
1052-VT63S	207	109.5	100	90	128	59.5	50	75	16	52.5	19	64.5	49	G3/8	37	146.5	81	25	38	17.5	11

Açıklama

Bu dişli-gövde bağlama silindiri itme koşullu ve iş parçasını güvenle bağlamak için belirli bir strok aralığında çalışır. Dişli gövde bağlama silindirinin montaj şekli, önerilen ölçülerde aşağıdaki çizimde belirtilmiştir. Bu montaj da yağ sızıntısını önlemek için teflon pul kullanılır.

Description

This threaded-body clamping cylinder is applied to a condition of knocking-out, and applies a clamping force on a workpiece within a stroke in order to secure the workpiece. The mounting manner for this threaded-body clamping cylinder is shown as the following drawing illustrating suggested dimensions of devices, and this mounting needs a Teflon packing in order to avoid oil leakage.

Sipariş Örneği / Ordering example

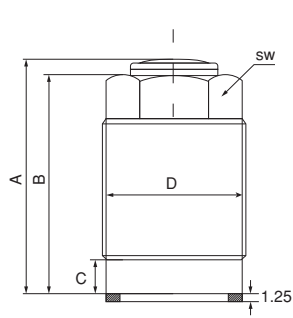
Nr. 1053 TC 12 A
 Temel No. Piston Ø Seri / Series
 Base No.



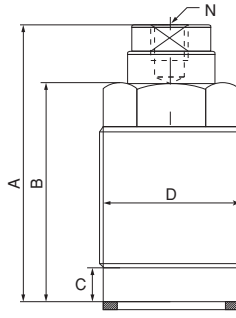
A Tipi / A Type



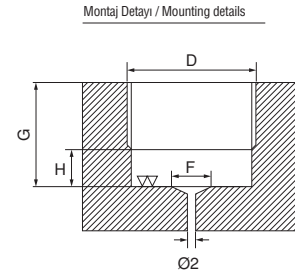
B Tipi / B Type



A Tipi / A Type



B Tipi / B Type



Bağlama Diyagramı
 Mounting Diagram

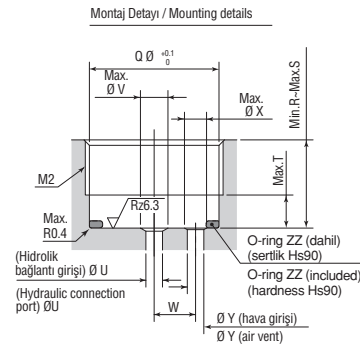
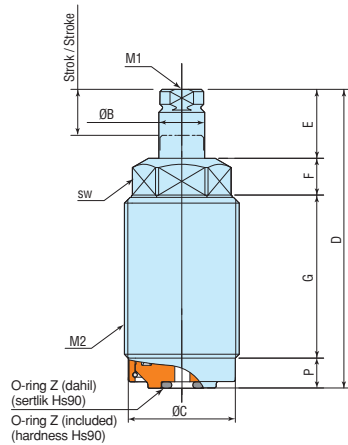
Referans Nr.	Çalışma Yağ Basıncı Operating Oil Pressure	Hareket Tipi Acting Type	Strok Stroke S (mm)	Piston Çubuğu Piston Rod Ø (mm)	Bağl. Gücü/Clamp Force (200kg/cm ²)	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	G (mm)	H (mm)	N (mm)	sw	Ağırlık Weight (kg)
1053-TC12A	20-350 kg/cm ²	Tek Hareketli / Single Acting	10	12	200 (kg)	38	36	7	M22 x1.5	12	16	6	-	17	0.07
1053-TC16A			12	16	400 (kg)	46.5	44.5	8	M26 x1.5	16	20	7	-	22	0.14
1053-TC-20A			15	20	620 (kg)	56	54	8	M30 x1.5	20	24	7	-	24	0.22
1053-TC25A			16	25	980 (kg)	57	55	11	M38 x1.5	25	28	10	-	32	0.37
1053-TC12B			10	12	200 (kg)	45	36	7	M22 x1.5	12	16	6	M6x1	17	0.08
1053-TC16B			12	16	400 (kg)	52	44.5	8	M26 x1.5	16	20	7	M6x1	22	0.15
1053-TC20B			15	20	620 (kg)	64.5	54	8	M30 x1.5	20	24	7	M8x1.25	24	0.24
1053-TC25B			16	25	980 (kg)	67	55	11	M38 x1.5	25	28	10	M8x1.25	32	0.4

Referans Nr.	Strok Stroke (mm)	Silindir Forsu(kN) / Cylinder Force(kN)				Silindir iç çap (mm) Cyl. inner dia. (mm)	Çubuç Çapı (mm) Rod dia. (mm)	Etkili Alan (cm ²) Effec. area (cm ²)	Max. Yağ akış alanı (l/min) Max. oil flow rate(l/min)	Silindir kapa. (cm ³) Cylinder cap. (cm ³)		*Yağ geri çekiş gücü (N) *Return spring force (N)	Sıkma Kuvveti Clamp Force (200kg/cm ²)
		Hidrolik Basınç Hydraulic Press. 3.5 MPa	Hidrolik Basınç Hydraulic Press. 7 MPa	Hidrolik Basınç Hydraulic Press. 25 MPa	Hidrolik Basınç Hydraulic Press. 35 MPa					0.5	0.9		
1055-CMD02	5	0.3	0.5	2.1	2.9	16	10	0.84	0.25	0.5	0.9	30~56	245
1055-CMD03	10	0.3	0.5	2.1	2.9	16	10	0.84	0.25	0.5	0.9	30~56	245
1055-CMD04	5	0.4	0.9	3.4	4.8	18	10	1.37	0.41	0.7	1.4	43~77	351
1055-CMD05	10	0.4	0.9	3.4	4.8	18	10	1.37	0.41	0.7	1.4	43~77	351
1055-CMD06	10	0.7	1.5	5.6	7.9	22	12	2.29	0.69	2.3	4.6	65~120	533
1055-CMD07	20	0.7	1.5	5.6	7.9	22	12	2.29	0.69	2.3	4.6	65~120	533
1055-CMD10	10	1.2	2.5	9.3	13	28	16	3.76	1.13	3.8	7.5	100~193	828
1055-CMD11	20	1.2	2.5	9.3	13	28	16	3.76	1.13	3.8	7.5	100~193	828
1055-CMD20	10	2	4.3	15.8	22.2	36	20	6.40	1.92	6.4	12.8	170~267	1400
1055-CMD21	20	2	4.3	15.8	22.2	36	20	6.40	1.92	6.4	12.8	170~267	1400

Referans Nr.	Strok (mm) Stroke (mm)	B	C	D	E	F	G	(Yassılar arasında sv genişliği) (hex width across flats) sw	(Üç kısımlı dişli) (tip section thread) M1	(Dişli gövde) (threaded body) M2	P	Q	R	S	T	(Hidrolik bağlantı girişi) (hydraulic connection port) U	V	W	X	Y	O-ring Z	O-ring ZZ
CMD02	5	10	20.3	51	10	7.5	27	17	M6×1 depth 11	M22 ×1.5	6.5	20.5	13	32.5	5.5	3	5	7	4	3	P6	AS568-017
CMD03	10	10	20.3	65	15	7.5	36	17	M6×1 depth 11	M22 ×1.5	6.5	20.5	13	41.5	5.5	3	5	7	4	3	P6	AS568-017
CMD04	5	10	23.3	51	10	8	26.5	19	M6×1 depth 11	M25 ×1.5	6.5	23.5	14	32	5.5	3	5	7.5	4	3	P6	AS568-019
CMD05	10	10	23.3	65	15	8	35.5	19	M6×1 depth 11	M25 ×1.5	6.5	23.5	14	41	5.5	3	5	7.5	4	3	P6	AS568-019
CMD06	10	12	28.3	69	16	9.5	35.5	24	M8×1.25 depth 18	M30 ×1.5	8	28.5	15	42.5	7	3	5	9.5	4	3	P6	AS568-022
CMD07	20	12	28.3	96	26	9.5	52.5	24	M8×1.25 depth 18	M30 ×1.5	8	28.5	15	59.5	7	3	5	9.5	4	3	P6	AS568-022
CMD10	10	16	34.3	73	17	11.5	35.5	30	M10×1.5 depth 20	M36 ×1.5	9	34.5	17	43.5	8	4	5	12	4	3	P6	AS568-026
CMD11	20	16	34.3	101	27	11.5	53.5	30	M10×1.5 depth 20	M36 ×1.5	9	34.5	17	61.5	8	4	5	12	4	3	P6	AS568-026
CMD20	10	20	46.3	80	19	13.5	35.5	41	M12×1.75 depth 22	M48 ×1.5	12	46.5	20	46.5	11	6	7	15	4	3	P8	AS568-031
CMD21	20	20	46.3	109	29	13.5	54.5	41	M12×1.75 depth 22	M48 ×1.5	12	46.5	20	65.5	11	6	7	15	4	3	P8	AS568-031

Ürün Nr. 1055 Hidrolik Çekme Dişli Silindir

Product Nr. 1055 Hydraulic Pull Cylinder



Referans Nr.	Kuvvet Desteği 70kg/ cm ² Supporting Force	Strok Stroke	Max. Basınç Max. Pressure	Normal Basınç Normal Pressure	Temas Kuvveti Contact Force	A	B	C	D	E	F	G	H	I	J	K	M	N	O	P	Q	R	S	CA	CB	CC	Ağırlık Weight (kg)	
1056-WST26BL	200 kg	6	105 kg / cm ²	25 - 70 kg / cm ²	0.67	66	48	6.5	9	5	4	24	9	10	-	-	-	M6 x9D	-	24	26	10	M26 x1	M26 x1	20-30	2	0.20	
1056-WST30BL	300 kg	8			0.96	73	53	9.5	9	7	4	4	27	8	10	-	-	-	M6 x9D	-	28	30	10	M30 x1.5	M26 x1.5	20-50	9	0.25
1056-WST36BL	360 kg	8			2.12	69	50	9.5	8	7	4	4	32	11	10	-	-	-	M8 x11D	-	34.2	36	13	M36 x1.5	M26 x1.5	20-48	8	0.35
1056-WSU40BL	360 kg	8			1.82	67	31	25	14.5	7	4	-	-	11	12	22.5	31.5	5.5	M10 x8	26	34	45	13	Ø40	Ø40	-	-	0.60
1056-WSU48BL	720 kg	10			2.16	75	39	23	13.5	9	4	-	-	12	11	25.5	35.5	5.5	M10 x8	30	40	51	14	Ø48	Ø48	-	-	0.80
1056-WSU55BL	840 kg	12			1.33	85	45	23	11.5	11	6	-	-	15	14	30.5	39	6.8	M10 x10	33.5	47	60	18	Ø55	Ø55	-	-	1.40
1056-WSU65BL	1200 kg	14			1.05	101	56	27	14.5	12	6	-	-	17	14	35	46	6.8	M10 x10	40.5	55	70	20	Ø55	Ø55	-	-	2.20

Ürün Nr. 1056 Hidrolik İş Parçası Desteği

Product Nr. 1056 Hydraulic Work Support

İş Parçası Desteği

- Hidrolik basınç aralığı 25-70 kg/cm², borulu ve manifoldlu montaj seçeneği vardır.
- Giriş ağızı küçük olduğundan dolayı pistonun yükselme hızını azaltır, iş parçasına olan temasının şok ve toleransını azaltır.

Önemli Notlar

- Hidrolik yağın saflığı: İş parçası desteğinin iç parçaları hassas olduğundan ve ürünün ömrünü etkileyeceğinden hidrolik yağın saflığı çok önemlidir, kötü yağ kullanımı destek kuvvetini etkiler.
- Silindir gövdenin temizlenmesi: Her işlemten sonra hava tabancasıyla temizleyiniz.
- Lütfen iş parçası desteğinin deformasyona uğramaması için aşağıdaki konulara dikkat ediniz.
 - A: Piston mili üzerine, merkezi kaçık kuvvet uygulamayınız.
 - B: Belirtilen kuvvet desteği üzerinde güç uygulamayınız.
 - C: Piston kilitlendikten sonra çevirme işlemi yapmayınız.



Work Support Low Pressure

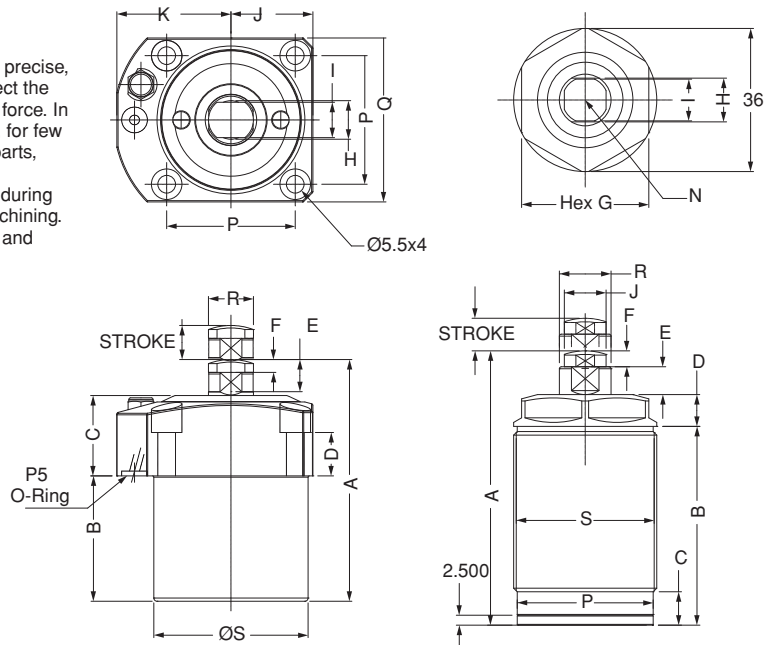
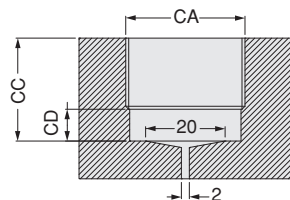
- The operating range is 25-70 kg/cm², the mounting type includes thread body and upper flange, and we have piping mounting and manifold mounting in upper flange type.
- Inlet orifice is smaller, so it can reduce the speed of plunger when it is rising, it can reduce the impact onto workpiece, and reduce the tolerance which is caused by instant shock.

The important issue when you use work support

- The purity of hydraulic oil: the inner parts installed in work support are very precise, so the purity of hydraulic oil becomes a very important issue which can affect the life cycle of work support, bad quality of oil will cause to lose its supporting force. In usual, the work support will work well again after we clean the hydraulic oil, for few conditions, we need to disassemble the work support and clean the inner parts, even we need to replace oil seal.
- Clean the cylinder body: the metal impurity is possible going into the collet during the action, please make sure to clean by using an air gun after each machining.
- Please avoid the following condition, otherwise the collet will be deformed, and plunger will not work, or will lose supporting force.

- A: Apply eccentric force onto plunger.
- B: Apply an load which exceeds the estimated supporting force.
- C: To turn the plunger when it is locked at supporting position

Montaj Detayı / Mounting Details



Referans Nr.	Çalışma Özelliği Advane Method	Kuvvet Desteği 20 Mpa Supporting Force	Strok Stroke	Max. Basınç Max. Pressure	Min. Basınç Min. Pressure	Normal Basınç Normal Pressure	Çalışma Isısı Operating Temperature	Temas Kuvveti / kg Contact force	A	B	C	C1	D	D1	D2	E	F	H1	H2	K	L	Q	U1	U2	O (O-ring)	Port	Ağırlık Weight (kg)			
1056-WS16A	Yay Spring	600 kgf	8	35 Mpa	5 Mpa	21 Mpa	0° ~ +70°	-	85.1	75.4	64.5	23.9	M35 x1.5	38.1	60.5	16	12.4	11.2	7.6	M10 x1.5	4.5	-	41.1	23.9	-	-	0.60			
1056-WS16B	Hidrolik Hydraulic	600 kgf	8					2.35	99.3	89.7	78.7	27.4	M35 x1.5	38.1	60.5	16	12.4	14.2	17.8	M10 x1.5	4.5	-	41.1	23.9	-	-	-	-	-	0.60
1056-WS30A	Yay Spring	800 kgf	13					-	105	92	83	25	M60 x1.5	64	64	25	19	12.5	-	M10 x1.5	-	-	52	52	P7	G1/8	-	-	1.80	
1056-WS25B	Hidrolik Hydraulic	800 kgf	10.4					6.25	102.1	91.7	77.5	26.5	M50 x1.5	64	64	25	19	14	17.5	M16 x2	6	24.5	50	50	P7	G1/8	-	-	1.80	
1056-WS38A	Yay Spring	1200 kgf	10.4					-	96.5	86.1	74.9	24.9	M68 x1.5	69.9	82.6	39	25.4	12.2	10.2	M20 x2.5	6.1	27.4	55.4	55.4	P10	G1/8	-	-	2.20	
1056-WS38B	Hidrolik Hydraulic	1200 kgf	10.4					8.86	102.1	91.7	78	26.4	M68 x1.5	69.9	82.6	38	25.4	13.7	13.2	M20 x2.5	6.1	27.4	55.4	55.4	P10	G1/8	-	-	2.20	

Ürün Nr. 1056 Hidrolik İş Parçası Desteği

Açıklama

İş parçası desteği işlem esnasında vibrasyonu düşürmek ve deformasyonu engellemek için kullanılır.

Türleri

A tipi : Yayla itme; Piston milini en yüksek pozisyondan en iş parçası pozisyonu ayarlanır.

B tipi : Yağ basıncıyla itme; Piston milini en alçak pozisyonda iken iş parçası pozisyonu ayarlanır.

Product Nr. 1056 Hydraulic Work Support

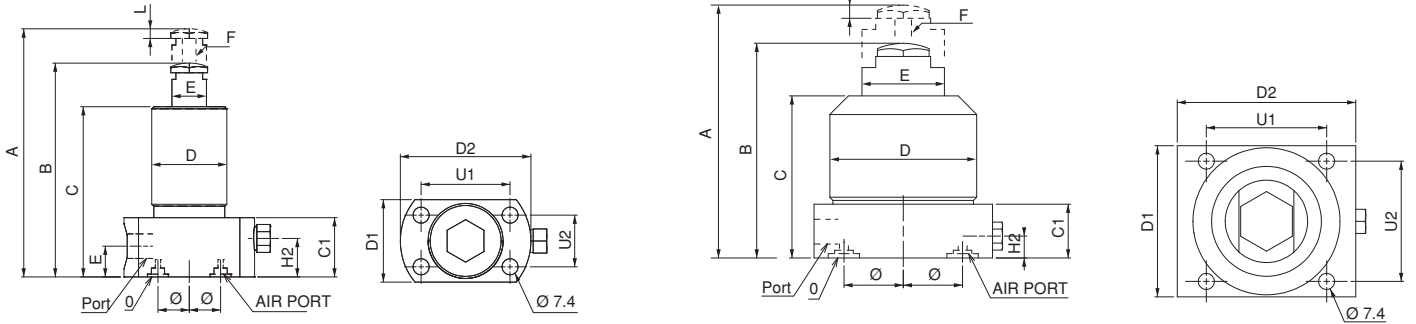
Description

Hydraulic work support is used for avoiding deformation and decreasing vibration during machining.

Types

A type : knocking-out with a spring; the spring is used to control a contact force when the knocking out rod (piston rod) extends to a highest knocking-out position and contacts the workpiece.

B type : Knocking-out with oil pressure; when the knocking-out rod is at lowest position, it is operated by means of oil pressure and is knocked out when being filled with oil and uses a spring to control the contact force with the workpiece.



Referans Nr.	Çalışma Yağ Basıncı Operating Oil Pressure	Hareket Tipi Acting Type	Strok Stroke	Piston Çubuğu Piston Rod Ø (mm)	Kuvvet Desteği 200kg/cm ² Supporting Force	Temas Kuvveti / kg Contact force	A	B	C	D	E	F	Ağırlık Weight (kg)
1056-SP16A	100-350 kg/cm ²	Yaylı Spring	8	16	210 kg	-	79	54	8	M30 x1.5	11	8	0.30
1056-SP16B	100-350 kg/cm ²	Hidrolik Hydraulic	8	16	210 kg	2.35	72	54	8	M30 x1.5	11	8	0.30

Hidrolik İş Parçası Desteği

Hydraulic Work Support

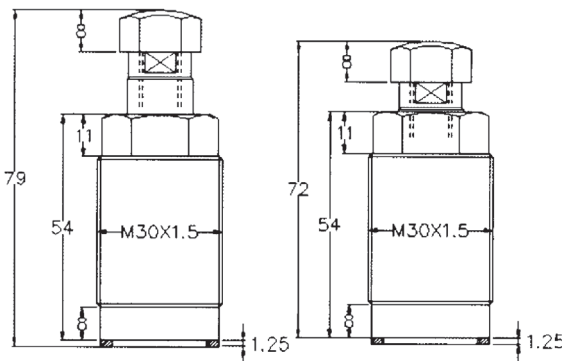
Ürün Nr. 1056 Hidrolik İş Parçası Desteği

Product Nr. 1056 Hydraulic Work Support

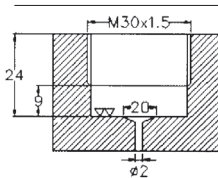


SP16A

SP16B



Montaj Detayı / Mounting details



Referans Nr.	Piston Ø D (mm)	Rod Ø d (mm)	Force to pull at 100 bar (kgf)	Force to pull at 400 bar (kgf)	Spring return force, min. (N)	Oil volume per 10 mm stroke (cm ³)	a (mm)	b (mm)	c (mm)	f (mm)	g (mm)	h (mm)	k (mm)	m (mm)	n (mm)	o	p	r (mm)	s (mm)	t (mm)	SW (mm)	Strok ± 1 (mm)	L ± 1 (mm)	Ağırlık Weight (kg)
1057-010016	16	10	110	500	40	1.22	60	35	22	30	6.5	30	17.5	16.5	11	M6x12	G1/4	-	40	22	8	8	78	0.8
1057-010025	25	16	270	1100	140	2.90	65	45	27	50	8.5	33	22.5	18	11	M10x15	G1/4	-	50	30	13	8	91	1.2
1057-010032	32	20	460	2000	195	4.90	75	55	35	55	10.5	38	27.5	22	11	M12x15	G1/4	-	55	35	17	10	110	1.8
1057-010040	40	25	730	3500	270	7.65	85	63	35	63	10.5	40	31.5	24	11	M16x25	G1/4	4	63	40	-	10	114	2.6
1057-010050	50	32	1100	4700	440	11.60	100	75	35	76	13	44	37.5	27	13	M20x25	G1/4	4	76	45	-	12	125	3.8
1057-010063	63	40	1790	7500	430	18.60	125	95	44	95	17	50	47.5	26	17	M27x40	G1/2	4	95	65	-	12	146	6.7
1057-010080	80	50	2920	12400	760	30.63	160	120	46	120	21	60	60	34	21	M30x40	G1/2	5	120	80	-	12	193	12.8

Ürün Nr. 1057 Çekme Tipi Silindir Product Nr. 1057 Pull-Type Cylinder

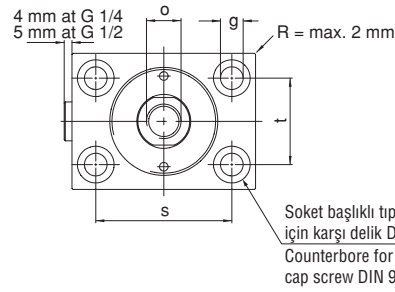
- Uzunluk ve açı ölçüleri DIN 7168-m'ye göre dir.
- Tolerances for length and angle dimensions as per DIN 7168-m

Önemli Notlar

Eğer sinterli metalin hava filtresinden silindirin içine, agresif talaş kaldırmadan dolayı, yağ veya soğutma suyu girme olasılığı var ise, bir hava deliği hortumu bağlanıp korunaklı bir pozisyona yerleştirilmeli.

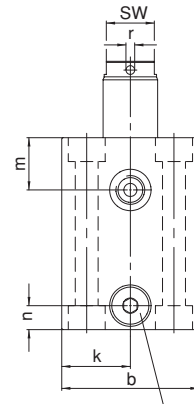
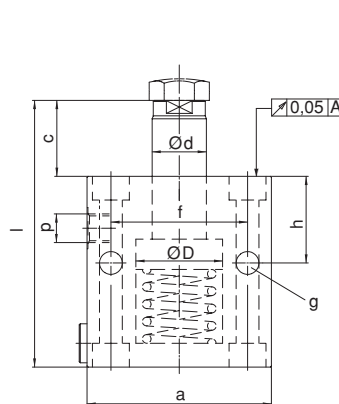
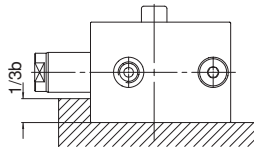
Important notes

If there is a possibility that aggressive cutting lubricants and coolants penetrate through the sintered metal air filter into the cylinder's interior, a vent hose has to be connected and be placed in a protected position.



250 bar'ı aşan çalışma basınçlarında silindirelir önden destekli olmalıdır.

Cylinders must be supported at the front for operating pressures exceeding 250 bar



Sinter metalden hava filtreli soket yeri
Bleeding by plug with sintered metal air filter

Uygulama

Bir işparçası takım ile işlenirken, işparçasının operatör tarafından yerleştirilmesi - alınmasına olanak yoksa ve daha yüksek bağlama kuvvetine ihtiyaç duyuyorsa, pnömatik dönmeli bağlama silindiri en iyi seçim olacaktır.

Fonksiyon

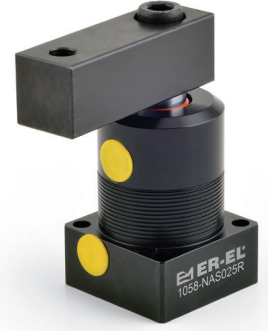
Bu silindir çekme özelliğine sahiptir. Toplam bağlama stroku, dönme ve çekme strokuna eşittir.

Tip

Bu silindir aşağı doğru baskı yapar. Saat yönüne ve ters istikametine çift hareketli çeşidi vardır. Standart 90° olup, fonksiyonel 0°-45° ve 60° açılara sahiptir. Bağlama şekline tek kol veya çift kol dahildir. Bağlama türüne dişli tip ve o-ring keçeli manifoldlu tipi için alttan flanşlı dahildir.

Malzeme

Ana gövdenin malzemesi alüminyum alaşımlıdır.



Application

When machining a workpiece by means of a machine tool, a pneumatic swing clamping cylinder will be your best choice if the placing and taking of the workpiece are not allowed to be interfered by the clammer and need a larger clamping force.

Function

This cylinder belongs to a pull cylinder of which the total stroke is equal to the sum of a swing stroke and a clamping stroke, and is usually used within the clamping stroke.

Type

This swing cylinder belongs to a double-acting type which is operated mainly in a downward pressing manner, including clockwise swing and counterclockwise swing; standard angle is 90°, and optional angles include 0°, 45°, 60°; clamping means includes single arm or double arms; the mounting manner includes threaded type and lower flange type for manifold mounting with O-ring seal.

Material

This material of the main body is aluminum alloy.

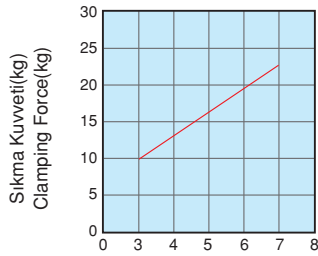


Sipariş örneği / Ordering example

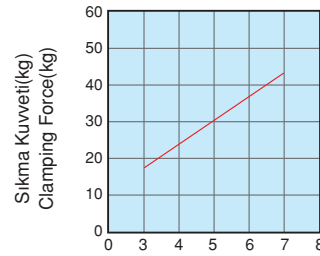
Referans Nr.	NAS Temel No. Base No.	T Tip / Type Flanş Flange T: Dişli T: Threaded	D Kol Tipi / Arm Type D: Çift Hareket D: Double Arm Boş: Tek Hareket Blank: Single Arm	L – Dönüş İstikameti Swivel Direction L: Sol L: Left R: Sağ R: Right	40 Piston Ø 25 32 40 50 63	x 90° – Açı / Angle 0° 45° 60° 90° 180°
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Değişik hidrolik basınçlar altında teorik bağlama gücünü gösteren şematik tablolar

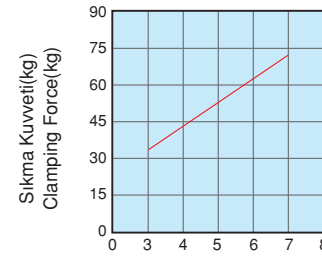
Schematic view showing a theoretical clamping force under different hydraulic pressure:



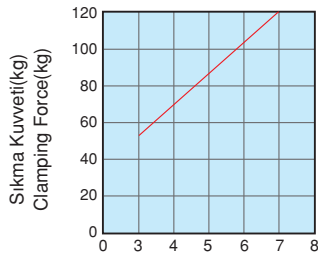
Çalışma Basıncı (kg/cm²)
Operating Pressure (kg/cm²)
Bore Dia=25



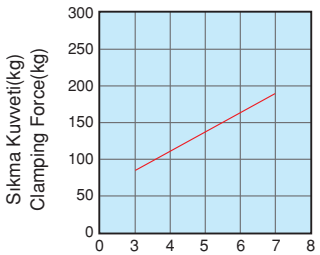
Çalışma Basıncı (kg/cm²)
Operating Pressure (kg/cm²)
Bore Dia=32



Çalışma Basıncı (kg/cm²)
Operating Pressure (kg/cm²)
Bore Dia=40

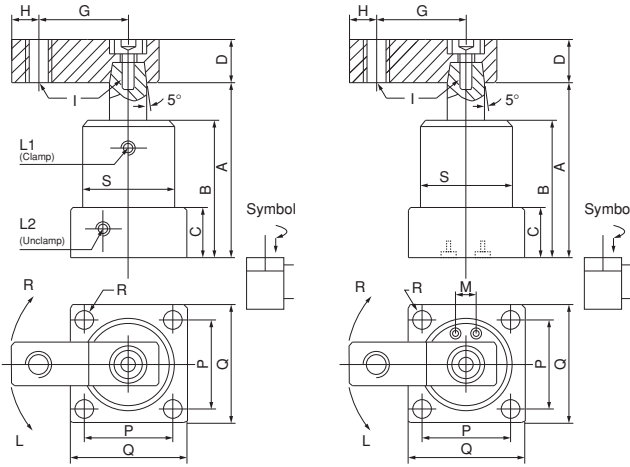


Çalışma Basıncı (kg/cm²)
Operating Pressure (kg/cm²)
Bore Dia=50



Çalışma Basıncı (kg/cm²)
Operating Pressure (kg/cm²)
Bore Dia=63

Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (5 kg/cm ²)	A (mm) Sökme Uncclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Uncclamp	I (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	M (mm)	F (mm)	Ağırlık Weight (kg)
1058-NAS025	Flanş / Bottom Flange	Tek Kol / Single Arm	7 kg/cm ²	4-6 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	25	14	16	95.5	65.5	23	□ 16	30	8	M5	M6	30	40	Ø 4.5	Ø 35	18	12.5	0.40
1058-NAS032							12	14	32	16	30	102.5	71	23	□ 19	50	9	1/8 PF	M8	44	54	Ø 6.5	Ø 50	22	17	0.70
1058-NAS040							12	15	40	16	50	106	75	26	□ 19	50	9	1/8 PF	M8	48	58	Ø 6.5	Ø 55	26	19.5	0.85
1058-NAS050							14	15	50	20	85	113	80	26	□ 25.4	70	10	1/8 PF	M10	55	68	Ø 8.5	Ø 65	30	24	1.30
1058-NAS063							14	15	63	20	140	119	86	30	□ 25.4	70	10	1/8 PF	M10	64	80	Ø 8.5	Ø 70	40	20	1.80

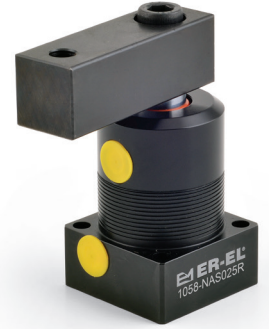


Ürün Nr. 1058 Pnömatik Dönmeli Bağlama
Product Nr. 1058 Pneumatic Swing Clamp

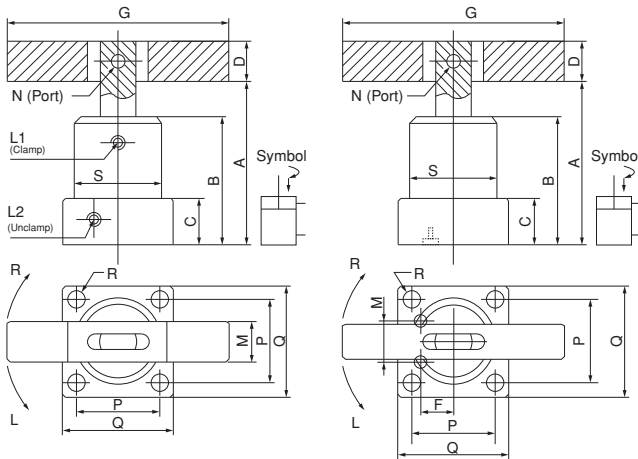
NAS – Flanşlı Uyarılama, Tek Kol Borulu veya Manifoldlu

NAS – Flange Version, Single Arm With Pipe or the Manifold

- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (5 kg/cm ²)	A (mm) Sökme Uncclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Uncclamp	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	M (mm)	F (mm)	Ağırlık Weight (kg)
1058-NASD032	Flanş / Bottom Flange	Çift Kol / Double Arm	7 kg/cm ²	4-6 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	32	16	30	102.5	71	23	□ 19	100	1/8 PF	Ø 8	44	54	Ø 6.5	Ø 50	22	17	0.80	
1058-NASD040							12	15	40	16	50	106	75	26	□ 19	100	1/8 PF	Ø 8	48	58	Ø 6.5	Ø 55	26	19.5	0.95	
1058-NASD050							14	15	50	20	85	113	80	26	□ 22	120	1/8 PF	Ø 8	55	68	Ø 8.5	Ø 65	30	24	1.40	
1058-NASD063							14	15	63	25	140	119	86	30	□ 22	120	1/8 PF	Ø 8	64	80	Ø 8.5	Ø 75	40	29	1.90	



Ürün Nr. 1058 Pnömatik Dönmeli Bağlama
Product Nr. 1058 Pneumatic Swing Clamp

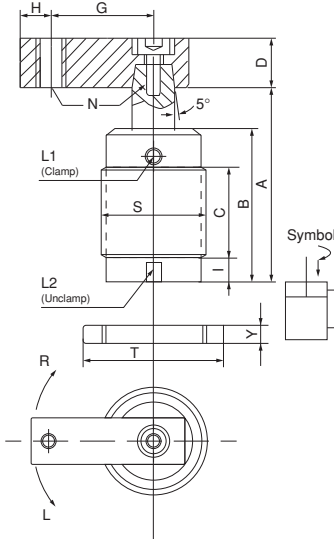
NASD – Flanşlı Uyarılama, Çift Kol Borulu veya Manifoldlu

NASD – Flange Version, Double Arms With Pipe or the Manifold

- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp. Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (kg/cm ²)	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	I (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	N (mm)	S (mm)	T (mm) Kontrol Söm. 2 ad. T (mm) 2 pcs/set	Y (mm)	Ağırlık Weight (kg)
1058-NATS025	Dişli Gövde / Threaded Body	Tel Kol / Single Arm	7 kg/cm ²	4-6 kg/cm ²	Çift Hareketli / Double Acting	90° ± 2°	14	14	25	14	16	104	70	35	□ 16	50	6	10	M5	M6 x1	M40 x1.5	Ø 58	9	0.80
1058-NATS032							14	16	32	16	30	113	79	40	□ 19	60	9	13	1/8 PF	M8 x1.25	M50 x1.5	Ø 70	11	1.10
1058-NATS040							14	15	40	16	50	116	83	45	□ 19	70	9	13	1/8 PF	M8 x1.25	M55 x1.5	Ø 75	11	1.25
1058-NATS050							14	14	50	20	80	120	87	50	□ 25	80	10	13	1/8 PF	M12 x1.5	M65 x1.5	Ø 85	12	1.70
1058-NATS063							15	15	63	20	140	127	92	56	□ 25	90	10	13	1/8 PF	M12 x1.5	M80 x1.5	Ø 105	15	2.20


Ürün Nr. 1058 Pnömatik Dönmeli Bağlama
Product Nr. 1058 Pneumatic Swing Clamp

NATS – Dişli Uyarlama, Tek Kol Borulu

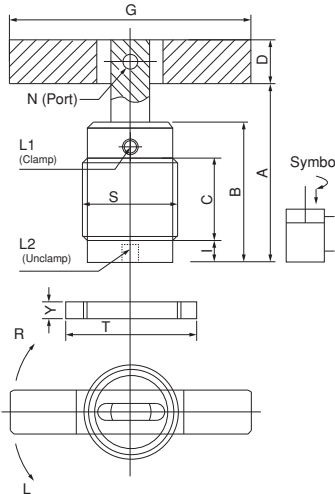
NATS – Threaded Version, Single Arm With Pipe

- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.


Pnömatik Dönmeli Bağlama

Pneumatic Swing Clamp

Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basınç Max. Pressure	Normal Basınç Normal Pres.	Hareket Tipi Acting Type	Dönme Açısı Swivel Angle	Dönme Strok Swivel Stroke (mm)	Bağlama Strok Clamp. Str. (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø	Bağl. Gücü/Clamp Force (kg/cm ²)	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	I (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	N (mm)	S (mm)	T (mm) Kontrol Söm. 2 ad. T (mm) 2 pcs/set	Y (mm)	Ağırlık Weight (kg)
1058-NATSD032	Dişli Gövde / Threaded Body	Çift Kol / Double Arm	7 kg/cm ²	4-6 kg/cm ²	Çift Hareketli / Double Acting	90° (0° 45° 60° 180°) ± 2°	14	16	32	16	30	113	79	40	□ 19	100	13	1/8 PT	Ø 8	M50 x1.5	Ø 70	11	1.10
1058-NATSD040							14	15	40	16	50	116	83	45	□ 19	100	13	1/8 PT	Ø 8	M55 x1.5	Ø 75	11	1.30
1058-NATSD050							14	14	50	20	85	120	77	50	□ 22	120	13	1/8 PT	Ø 8	M65 x1.5	Ø 85	12	1.80


Ürün Nr. 1058 Pnömatik Dönmeli Bağlama
Product Nr. 1058 Pneumatic Swing Clamp

NATSD – Dişli Uyarlama, Çift Kol Borulu

NATSD – Threaded Version, Double Arms With Pipe

- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



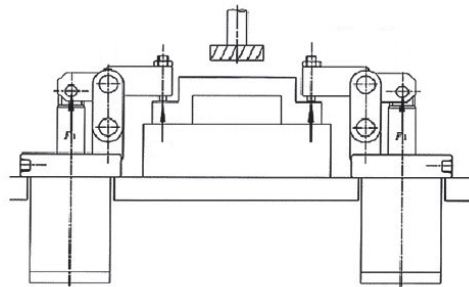
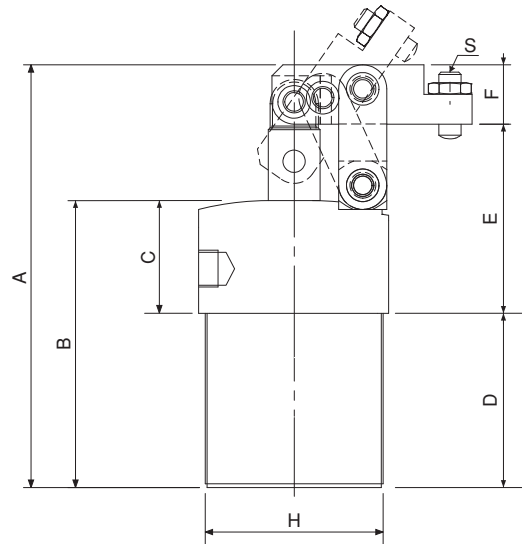
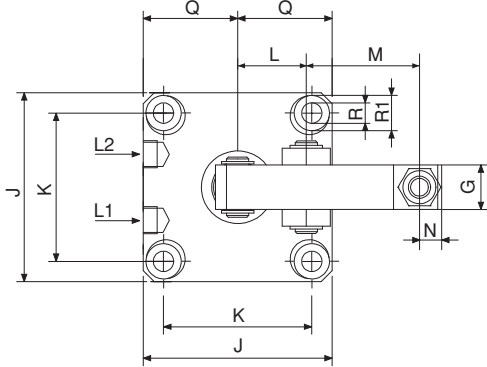
Referans Nr.	Çalışma Basıncı Operating Pressure	Çalışma Isısı Temperature Range	Bağlama Tipi Mounting Type	Strok Stroke (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuğu Piston Rod Ø (mm)	Sıkma Kuvveti Clamping Force (kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	O	N	P	Q	R	R1	S	L1 Bağlama / Clamp L2 Sokme / Uncclamp	Ağırlık Weight (kg)
1058-PLCU25	4-10 kgf/cm ²	-10° ~ +80°	Üst Flanş ve Dişli Gövde Upper Flange & Threaded Body	22	Ø 25	Ø 14	27	128.5	86.5	25	61.5	50	17	16	M40 x1.5	60	50	37	18	23	23	7	35	25	5.5	9	M6 x1	M5 x0.8	0.60
1058-PLCU32				28	Ø 32	Ø 16	40	149.5	97.5	25	72.5	57	20	18	M50 x1.5	70	60	45	22	30	23	8	40	30	6.5	11	M8 x1.25	G 1/8	1.00
1058-PLCU40				30	Ø 40	Ø 16	66	157.5	97.5	25	72.5	60	25	20	M55 x1.5	75	65	50	24	32	26	10	42.5	32.5	6.5	11	M8 x1.25	G 1/8	1.20
1058-PLCU50				30	Ø 50	Ø 20	105	174	104	25	79	65	30	22	M65 x1.5	88	75	58	27.5	36	32	14	50.5	37.5	8.5	14	M12 x1.75	G 1/8	2.00
1058-PLCU63				30	Ø 63	Ø 20	166	179	105	25	80	69	30	22	M80 x1.5	108	90	70	32	42	35	14	63	45	8.5	14	M12 x1.75	G 1/8	2.70

Ürün Nr. 1058 Pnömatik Üstten Bağlama

Product Nr. 1058 Pneumatic Above Clamp

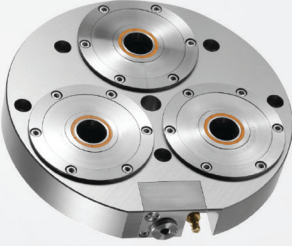


Borulu / With Pipe

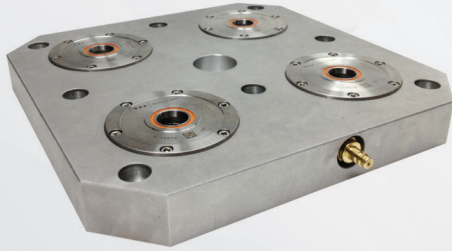
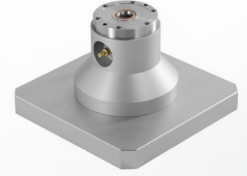


ER-EL ZERO CLAMP UYGULAMALARI

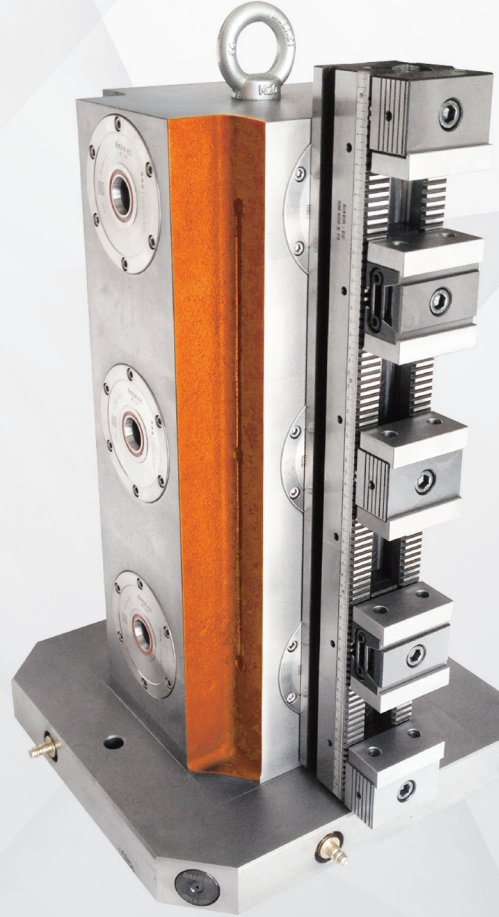
ER-EL ZERO CLAMP APPLICATION



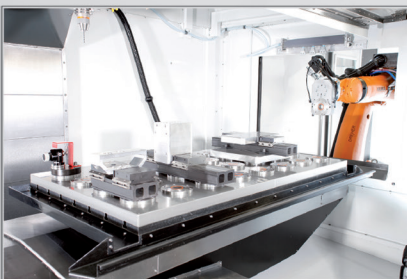
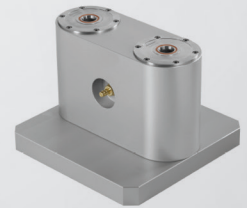
Tekrarlanabilen Hassasiyetin
Doruk Noktası
0,005 Tekrarlanabilen Hassasiyet
0,005 Repeat Accoracy



Nr. 2475



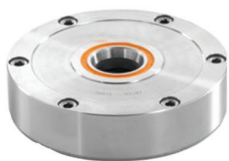
Nr. 2480



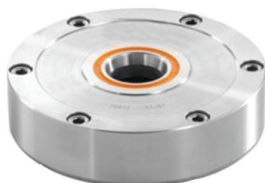


ER-EL[®] ZERO CLAMP

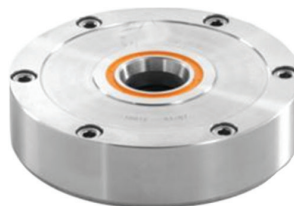
Zero Point Clamping Systems



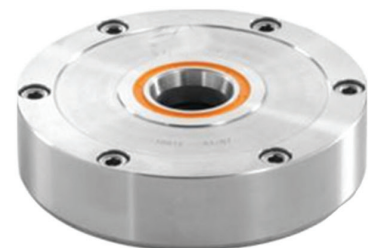
Ø90
1250 kgf



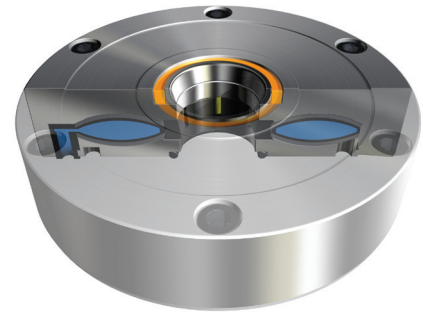
Ø120
2500 kgf



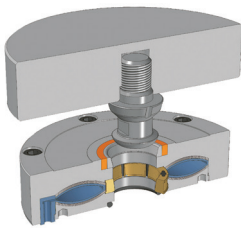
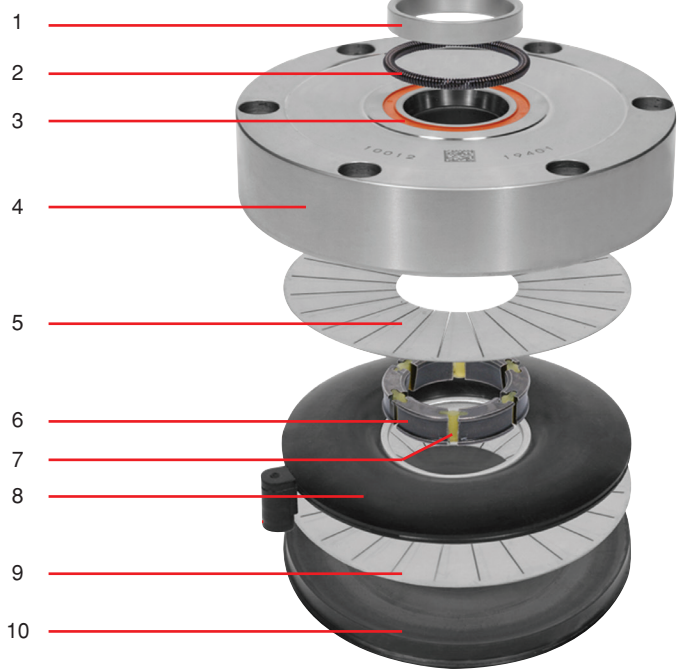
Ø138
4000 kgf



Ø190
6000 kgf

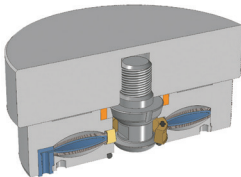
**Açıklama / Description**

- 1- Sertleştirilmiş çelik konik / Hardened steel cone
- 2- Radyal Yay / Radial spring
- 3- NBR kauçuk / NBR rubber
- 4- Ayna gövdesi / Chuck housing
- 5- Bağlama plakası /Clamping sheets
- 6- Kilitleme ünitesi / Locking unit
- 7- Ayraç (Elastomer) / Spacer (Elastomer)
- 8- Hava hortumu /Air hose
- 9- Bağlama plakaları / Clamping sheets
- 10- Gövde kapağı / Housing cover



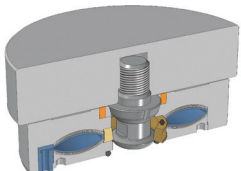
Plaka açık vaziyetteki ZeroClamp aynasına yerleştirilir.

The pallet is placed on the opened ZeroClamp chuck.



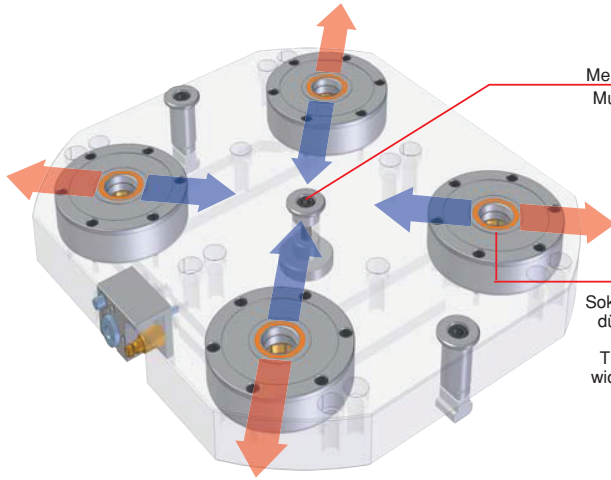
Hava hortumu içindeki hava basıncı sayesinde, yaylı elemanlar kilitleme ünitesini (bağlama plakalarını) açık tutar.

The spring elements keep the locking unit (clamping wedges) open with the help of the air pressure inside the air hose.



Hava hortumunun serbest bırakılması gövde içerisindeki kilitleme ünitesinin yerleşmesini ve sıkılmasını sağlar.

Venting the air hose results in the positioning and clamping of the clamp bolt in the chuck.



Merkez Sıfır Noktası / Absolute ZeroPoint
Mutlak ZeroPoint Termal bozulma daima merkez noktasına doğru yönlendirilir.

Thermal distortion is always directed towards the central point.

Hassas Konik / Precision cone

Soketin yaylı koniği HSK ilkesi kullanılarak düz yüzlere doğru hafifçe genişletilmiştir.

The sprung taper of the socket is slightly widened to flat faces using HSK principle.

- ZeroPoint : Termal değişim her zaman merkez eksene doğru dengelenir.
- Çekterme civatalarının konumu $\pm 0.1\text{mm}$ 'lik hatalara kadar dengelenebilir.
- Hassas bağlama konileri düşük titreşimli çalışmalara karşı sabittir.
- Özel kılıç şeklinde saplamalar veya çözüme/kızaklı saplamalar gerekli değildir.

- Absolute ZeroPoint: Compensation for thermal change is always towards centre axis
- Clamping stud location errors of up to $\pm 0.1\text{mm}$ can be compensated for
- Precision clamping cones are free from play for low-vibration operation
- Special sword studs or loose/sliding studs are not required

HSK Prensibi

Geleneksel sistemler merkezleme için silindirik bir oturma yüzeyi ya da sert bir konik kullanır. Silindirik oturma yüzeylerin her zaman bir oynama alanına ihtiyacı vardır (örneğin: 25 H5 tutucu / 25 h5 civata). Böyle bir alan 0.018 kadar çıkabilir. Konik oturmada koniğin şeklinin kusursuz olması gerekir. Aksi takdirde civatalar çok büyük olması durumunda, palet çıkar, veya oynama silindirik bir sistemdeki gibi olacaktır.

Zero Clamp sıfır noktası bağlama sisteminin işlevi, içi boş bir konik HSK sapına benzemektedir. Bu sistemde ince duvarlı konik, yüzeyi tam olarak oturma noktasının hatlarıyla eşleşene kadar deforme edilir.

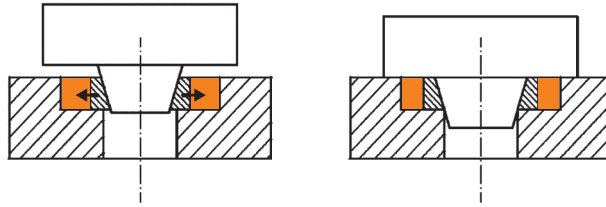
Zero Clamp sıfır noktası sıkma sistemi, yüzey ve konik temas kullanımıyla aynı şekilde çalışır. Konik çekilirken, oturma halkası minimal genişlemiş olacaktır. Böylece düzlem oturma noktası ile temas halinde paletin içinde veya iş parçasında herhangi bir oynama ortadan kalkar.

HSK Principle

Traditional systems use either a cylindrical seat or a rigid cone for centring. A cylindrical seat always requires some amount of play (i.e. 25 H5 holder / 25 h5 bolt). Play in such a combination may be as much as 0.018. With a conical fit the cone must be shaped precisely. Otherwise the pallet will protrude if the bolts are too large, or else the play will be the same as in a cylindrical system.

The function of the Zero Clamp zero point clamping system resembles that of a hollow cone HSK shank. In this system the thin-walled cone is deformed as it is drawn in until its surface exactly matches the contours of the seat.

Zero Clamp zero point clamping system works the same way, using face and taper contact. While the cone is being drawn in, the seat ring will be widened minimally. Within the pallet or the workpiece in contact with the plane seat and so any play is eliminated.



Karşılaştırma İşlemleri / Comparison Processes

Geleneksel kurulum süreci

Setup Process

Gerekli zaman / Required Time

%100

1. Tablanın temas yüzeylerini temizleyin / Clean the table's contact surfaces
2. Sıkma civatalarını ayarlayın / Adjust the clamping bolts
3. Hizala / Alignment
4. Sıkma vidaları ile sabitleyin / Secure with clamping screws
5. Sıfır noktalarını kontrol edin / Check the zero points
6. Programını başlatın. Programı Sonlandır / Start the program, End the program

ER-EL Zero Clamp kurulum süreci



ER-EL Zero Clamp installation process

Gerekli zaman / Required Time

%10

1. Zero Clamp Temas yüzeylerini temizleyin / Clean the Zero Clamp contact surfaces
- 2.
3. Aradaki büyük zaman faktörü tamamen atlandı!
4. Biggest time factor completely omitted!
- 5.
6. Programını başlatın, Programı sonlandır / Start the program, End the program

ZeroClamp Benzersiz Özellikleri ZeroClamp Unique Features	Benzer Ürünlerdeki Sistemler Competitor Systems
<p>Basit düzeni ile tasarım tescilli patent Sadece birkaç basit bileşenle son derece güvenilir bir tasarım sağlar. Hatta talaş bile ünitenin fonksiyonunu etkilemez.</p> <p>Patent-registered design with a simple layout. Just a few simple components provide an extremely reliable design. Even swarf will not affect the function of the clamping unit.</p>	<p>Bilyeli burç, piston, valf vs. gibi karışık mekanizmalar. Talaş ile tıkanıldığında bloke olma veya arızalanma riski vardır.</p> <p>Complex mechanics using ball cages, pistons, valves, etc. When contaminated with swarf there is a risk of blockage and/or malfunction.</p>
<p>HSK prensibi nedeniyle yüksek hassasiyet Sıkma civatası, geri çekildiğinde, aynanın konik halka elastik kısmı genişletilip, 0.005 mm'den biraz daha az bir tekrarlama ile mükemmel ve son derece hassas bir uyum sağlayacaktır.</p> <p>High precision due to the HSK principle When retracting the clamping bolt, the elastic part of the taper ring of the chuck will be slightly expanded providing a perfect and extremely accurate fit with a repeatability of less than 0.005</p>	<p>Normalde hafif bir kaydırma işlemi gerekir (örn.Civata ve desteklerde 32 mm h5/H5). Bu örnekte minimum boşluk 0 µm oysa maksimum 0.022'dir. Böylece iddia edilen tekrarlanabilirliğin elde edilmesi (0.005) zor olması gerekir.</p> <p>Normally a light sliding fit is required (e.g. 32 mm h5/H5 for bolts and mountings). In this particular case the minimum backlash is 0 µm whereas the maximum is 0.022 So the claimed repeatability (0.005) must be difficult to achieve.</p>
<p>Termal sabitlik Termal etkiler ve/veya mikro sapmalar, konik gövde tarafından (HSK prensibi) eşitlenir. Gövde halkaları her zaman bağlama merkezindeki hataları eşitler. (Döner tablada, plaka merkezi her zaman makinenin merkez çizgisinde kalır).</p> <p>Thermal stability Thermal effects and/or micro deviations are compensated for by the hollow shank taper (HSK) principle. The taper rings always compensate for the errors to the centre of the clamping position. (On a rotary table the centre of a pallet always remains on the centre line of the machine).</p>	<p>Üç farklı civata tasarımı olan sabit sistem. Termal etkiler ve/veya mikro sapmalar sıfır civatasından kaynaklı asimetrik dengelere sebep verir. (Döner tablada, plaka merkezi makinenin merkez çizgisinden itilerek uzaklaşır).</p> <p>Fixed system with three different bolt designs. Thermal effects and/or micro deviations will cause asymmetrical off sets originating from the zero bolt. (On a rotary table, the centre of a pallet will be pushed away from the centre line of the machine).</p>
<p>Sadece bir tip bağlama civatası gerektirir. Pim deliğine takılması gereken sadece tek tip civata bağlanması gerektiğinden çok daha basit kullanımdır.</p> <p>Only one type of clamping bolt required. Far simpler to manage as only one type of bolt needs to be screwed into the pin bore.</p>	<p>Genelde üç farklı tip civata gerektirir. (sıfırlama civatası, yüzer veya kılıç civata, serbest civata). Çok komplike, her fikstürün kurulumda, nereye ve hangi açıda pozisyonlanması gerektiği talimatlarla belirlenmek zorunda. Yani hata riski yüksektir.</p> <p>Generally three different types of bolts required (zero bolt, floating or sword bolt, free bolt). Very complicated, each fixture needs to be documented with set up instructions, showing which bolt has to be mounted where and in which angular position. So there is a high risk of errors.</p>
<p>Kendinden kilitli değildir Tezgaah bindirme söz konusu olursa, bağlama ekipmanı fikstürleri yol verip, makine aynasını koruma ihtimalini yaratır. Enerji kaynağı hava yollarının tıkanması söz konusu olursa, sıkıştırma vidaları fikstürün sökülmesine izin verir.</p> <p>No self-locking. In case of a crash, the fixture or the clamping device can give way, possibly saving the machine spindle. In the case of damage to the airways for energy supply, forcing screws will allow the removal of the fixture.</p>	<p>Tezgaah bindirme sözkonusu olursa, kendinden kilitlemeli sistemler mümkün olan en büyük hasara sebep olur. Güç kaynağının kesilmesi sözkonusu olduğunda ise, çoğunlukla plakanın sökülmesi için fikstürün tamamen bozulması gerekir.</p> <p>In case of a crash self-locking systems will cause the worst possible damage. In the case of a power loss, in most cases the fixture will have to be completely destroyed in order to be able to remove the pallet.</p>
<p>Eğilme yok Düzen ve tasarım bağlama civatalarının eğilmesini engeller. Eğimli pozisyonlar veya dengesiz yüklerde bile, merkez oyuktaki yüksek dengeden dolayı kolay sökülme işlemleri.</p> <p>No tilting Layout and design will prevent any tilting of the clamping bolts. Easy joining and removal even in inclined positions or with an unbalanced load with a large off set of the centre of gravity.</p>	<p>Silindirik veya konik bağlama civatalarının minimalde konik olmalarından dolayı, sökülme işlemleri, paralel konumda çok hassas olarak yapılmalı. Ağır asimetrik elemanların sökülmesi daima sorunlu olacaktır.</p> <p>Joining and removal must be carried out in precisely defined and parallel positions as the cylindrical or tapered clamping bolts used have a minimal taper. The removal of heavy asymmetric components will always cause problems.</p>
<p>Düşük montaj yüksekliği olan pnömatik sistem Bağlaması yay vasıtasıyla, serbest bırakılması hava basıncıyla. Standart hava basıncıyla bile yüksek bağlama gücü olan patentli tasarımıdır.</p> <p>Pneumatic system with low installation height Clamping via spring assembly, unclamping by means of compressed air. Patented design for very high clamping force even with standard air-pressures.</p>	<p>Hidrolik sistemlerin sistemden dolayı dezavantajları vardır: pompa, boru, çarpışma, sızıntı, akma, vs. Ayrıca, hidrolik sistemlerin kurulumu pnömatik sistemlerinkinden daha maliyetli olduğu tespit edilmiştir.</p> <p>Hydraulic systems have disadvantages determined by the system: pump, duct, collision, leakage, bleeding, etc. Also, installation costs tend to be more expensive compared to pneumatic systems.</p>

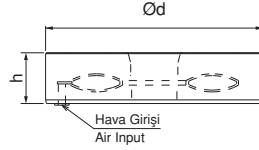
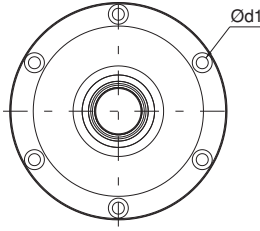
Referans Nr.	d	h	d1		sıkma kuvveti clamping force Kgf	 (g)
				Nm		
1060-090	90	22	M4	5	1250	730
1060-120	120	28	M6	14	2500	1840
1060-138	138	33	M8	35	4000	2860
1060-190	190	38	M8	35	6000	5460

Ürün Nr. 1060 ER-EL Zero Clamp Gövde

- Min. Bar 5.5
- Max. Bar 8


Product Nr. 1060 ER-EL Zero Clamp Body

- Min. Bar 5.5
- Max. Bar 8



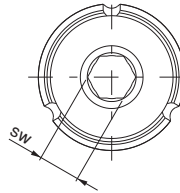
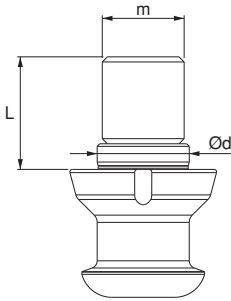
Çektirme Civatası

Pull Stud

Referans Nr.	m	L	d	sw	Nm	 (g)
1065-12016	M16	22	18 k6	8	170	97
1065-13816	M16	30	25 k6	8	170	235
1065-19024	M24	36	30 k6	10	400	460


Ürün Nr. 1065 Çektirme Civatası

Product Nr. 1065 Pull Stud



Gövde Talaş Koruyucu

Body Chip Protector

Referans Nr.	Zero	 (g)
1067-090	90	29
1067-120	120	85
1067-138	138	202
1067-190	190	398

Ürün Nr. 1067 Gövde Talaş Koruyucu

Product Nr. 1067 Body Chip Protector



HİDROLİK FİKSTÜR UYGULAMALARI

HYDRAULIC FIXTURE APPLICATIONS



Referans Nr.	a	b	c	d	e	m	sw	m1	İmbus	sıkma kuvveti clamping force Kgf	Tork Değeri Allowable Screw Torque (N-m)	(g)
1275-3012	30	28	16	40	23	M12	30	M8	M10	750	20	300
1275-5012	50	32	20	45	40	M12	36	M12	M12	1000	30	500
1275-5016	50	32	20	45	40	M16	36	M12	M12	1000	30	510
1275-6016	60	40	25	45	45	M16	41	M16	M16	1250	45	750

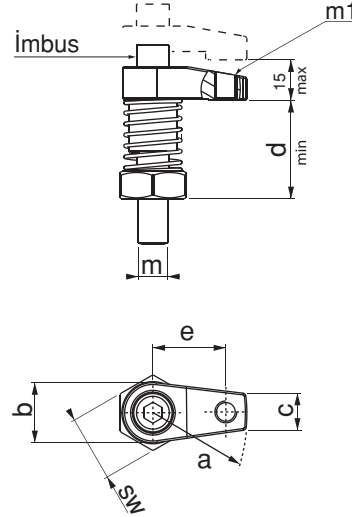
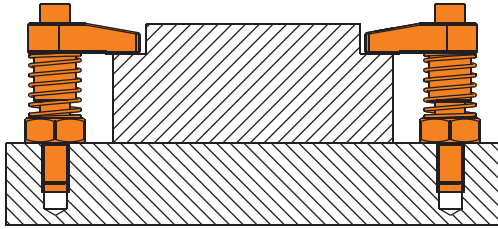


Ürün Nr. 1275 Kombine Burçlu Pabuç

- Kısıtlı alanlarda çalışma özelliği
- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1275 Combined Clamp With Bush

- Function working in restricted areas
- Hardened
- Black coating



Kombine Burçlu Pabuç

Combined Clamp With Bush

Referans Nr.	a	$\varnothing b$ h7	c	d	e	f	g	m	m1	j	sıkma kuvveti clamping force Kgf	(g)
1280-3010	30	22	58	80	28	16	30	M10	M8	23	750	220
1280-5012	50	26	70	90	32	20	40	M12	M12	40	1100	400
1280-6016	60	32	74	95	40	25	40	M16	M16	45	1250	610

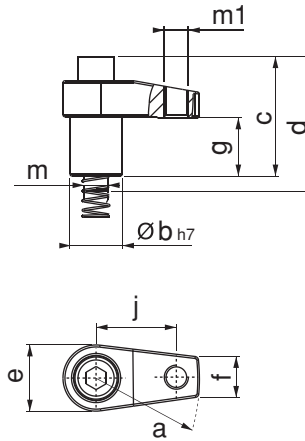


Ürün Nr. 1280 Kombine Burçlu Pabuç

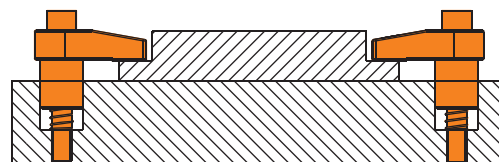
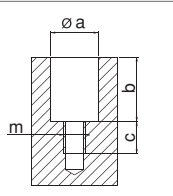
- Kısıtlı alanlarda çalışma özelliği
plaka üstüne uygulama seçeneği
- Sertleştirilmiş
- Siyah kaplama


Product Nr. 1280 Combined Clamp With Bush

- Function working in restricted areas and
variety application at plate
- Hardened
- Black coating



Referans Nr.	a (F7)	b	c	m
1280-3010	22	30	20	M10
1280-5012	26	40	25	M12
1280-6016	32	40	25	M16



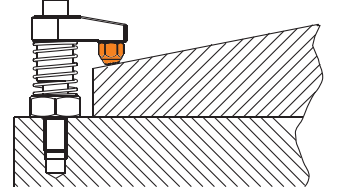
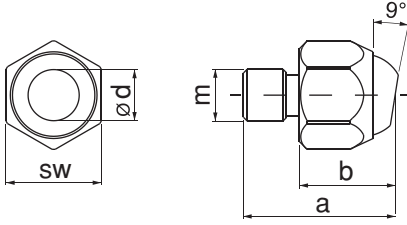
Referans Nr.	a	b	m	d	sw	 (g)
1282-0825	25	12	M8	8	14	10
1282-1030	30	17	M10	10	17	30
1282-1235	35	22	M12	12	22	60
1282-1642	42	26	M16	14	27	125

Ürün Nr. 1282 Oynar Başlı Baskı Pabucu


- Dereceli temiz yüzeyler için
- Nr.1275 ve 1280 ürünlerle uyumludur.
- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1282 Moving Head Press Clamp

- Graded clean surfaces.
- It is applicable with Nr. 1275 and 1280
- Hardened
- Black coating



Oynar Başlı Baskı Pabucu (Uzun)

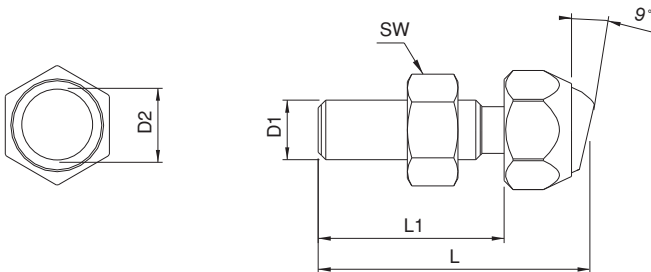
Referans Nr.	D1	D2	L	L1	SW	 (g)
1282-25D	M8	8	36.6	25	13	26
1282-30D	M10	10	45.7	30	17	42
1282-35D	M12	12	50.7	35	17	53
1282-40D	M16	14	60.7	40	24	117
1282-50D	M20	14	77.3	50	30	240

Ürün Nr. 1282 Oynar Başlı Baskı Pabucu (Uzun)

- Dereceli temiz yüzeyler için
- Nr.1275 ve 1280 ürünlerle uyumludur.
- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1282 Moving Head Press Clamp (Long)

- Graded clean surfaces.
- It is applicable with Nr. 1275 and 1280
- Hardened
- Black coating



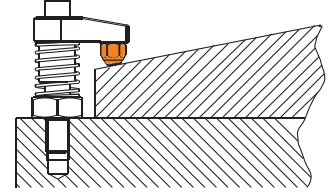
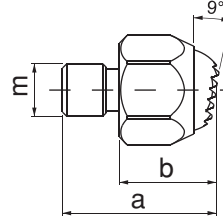
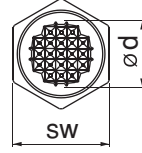
Referans Nr.	a	b	m	d	sw	(g)
1283-0825	25	12	M8	8	14	10
1283-1030	30	17	M10	10	17	30
1283-1235	35	22	M12	12	22	60
1283-1642	42	26	M16	14	27	120

Ürün Nr. 1283 Oynar Başlı Baskı Pabucu

- Dereceli ve bozuk yüzeyler için baskı yüzeyi tırtıllı olarak tasarlanmıştır.
- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1283 Moving Head Press Clamp

- Its clamping surface is designed with bead graded bad surfaces.
- Hardened
- Black coating



Oynar Başlı Baskı Pabucu (Uzun)

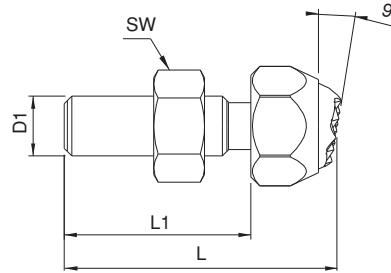
Referans Nr.	D1	D2	L	L1	SW	(g)
1283-25T	M8	8	36.6	25	13	26
1283-30T	M10	10	45.7	30	17	42
1283-35T	M12	12	50.7	35	17	53
1283-40T	M16	14	60.7	40	24	117
1283-50T	M20	14	77.3	50	30	240

Ürün Nr. 1283 Oynar Başlı Baskı Pabucu (Uzun)

- Dereceli ve bozuk yüzeyler için baskı yüzeyi tırtıllı olarak tasarlanmıştır.
- Nr.1275 ve 1280 ürünlerle uyumludur.
- Sertleştirilmiş
- Siyah kaplama

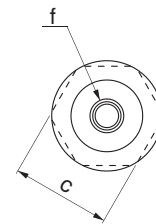
Product Nr. 1283 Moving Head Press Clamp (Long)

- Its clamping surface is designed with bead graded bad surfaces.
- It is applicable with Nr. 1275 and 1280
- Hardened
- Black coating



Yükseltme Kovanı

Referans Nr.	a	b F7	c	d	e	f	m	h	(g)
1285-12080	80	26	36	40	110	M12	M12	40	600
1285-12100	100	26	36	40	130	M12	M12	40	795
1285-16080	80	32	46	50	110	M16	M16	40	945
1285-16100	100	32	46	50	130	M16	M16	40	1230

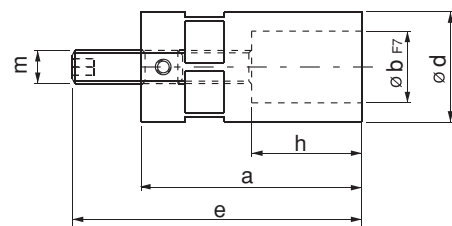
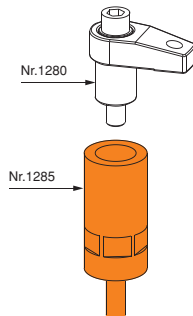



Ürün Nr. 1285 Yükseltme Kovanı

- Nr.1280 ürün ile yüksek parça bağlamalarda kullanılır
- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1285 Support to The Hive

- It is used together with Nr. 1280 for clamping high pieces.
- Hardened
- Black coating



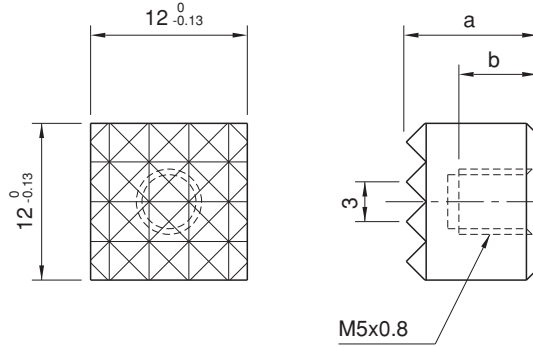
Referans Nr.	a ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	b	 (g)
1287-CT9120	12	7.8	13


Ürün Nr. 1287 Baskı Pabucu

- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1287 Pressure Pad

- Hardened
- Black coating



Referans Nr.	a ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	b ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	d	p	 (g)
1287-HS9102	10	12	M5x0.8	2.3	7.5
1287-HS9122	12	12	M5x0.8	3	11
1287-HS9160	16	12	M6x1	3	17
1287-HS9202	20	12	M5x0.8	3	33.5
1287-HS9252	25	12	M6x1	3	53

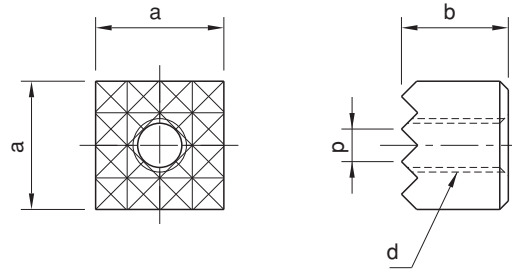
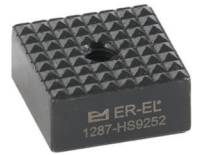
Baskı Pabucu


Ürün Nr. 1287 Baskı Pabucu

- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1287 Pressure Pad

- Hardened
- Black coating



Referans Nr.	a ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	b ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	c	d	 (g)
1287-HS9122C	12	12	6.5	M4	10
1287-HS9160C	16	12	4.5	M4	16
1287-HS9202C	20	12	5.5	M5	31
1287-HS9252C	25	12	4.5	M6	49

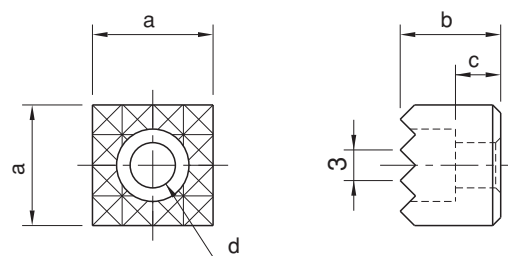
Baskı Pabucu

Ürün Nr. 1287 Baskı Pabucu

- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1287 Pressure Pad

- Hardened
- Black coating



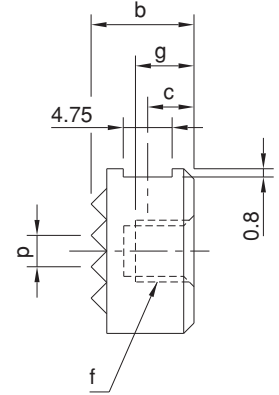
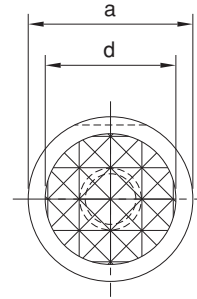
Referans Nr.	a ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	b ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	c	d	f	g	p	(g)
1288-CT102	10	12	6	7.9	M5x0.8	8	2.3	6
1288-CT122	12	12	6	9.5	M5x0.8	8	3	9
1288-CT162	16	12	6	12.7	M6x1	7.8	3	17
1288-CT202	20	12	6	15.9	M6x1	7.8	3	28
1288-CT252	25	12	6	19.1	M6x1	7.8	3	43

Ürün Nr. 1288 Baskı Pabucu

- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1288 Pressure Pad

- Hardened
- Black coating



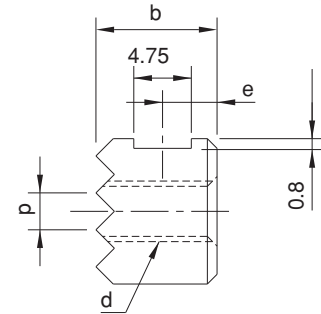
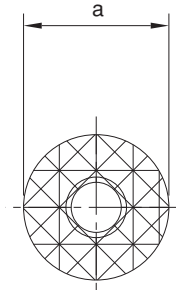
Referans Nr.	a ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	b ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	d	e	p	(g)
1288-HS102	10	12	M5x0.8	6	2.3	6
1288-HS122	12	12	M5x0.8	6	3	9
1288-HS162	16	12	M6x1	6	3	15
1288-HS202	20	12	M6x1	6	3	25
1288-HS252	25	12	M6x1	6	3	40

Ürün Nr. 1288 Baskı Pabucu

- Sertleştirilmiş
- Siyah kaplama

Product Nr. 1288 Pressure Pad

- Hardened
- Black coating



Baskı Pabucu

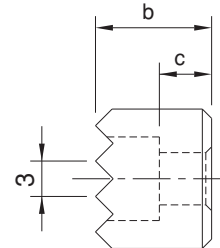
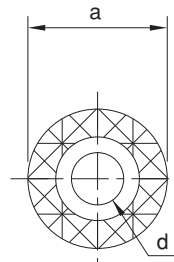
Referans Nr.	a ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	b ($\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$)	c	d	(g)
1288-HS122C	12	12	6.5	M4	8
1288-HS162C	16	12	6.5	M4	15
1288-HS202C	20	12	6.5	M5	23
1288-HS252C	25	12	6.5	M6	38

Ürün Nr. 1288 Baskı Pabucu



- Sertleştirilmiş
- Siyah kaplama

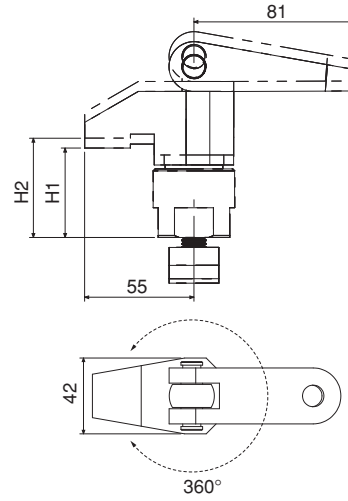
Product Nr. 1288 Pressure Pad

- Hardened
- Black coating



Baskı Pabucu

Referans Nr.		H1 - H2 (mm)	Sıkma Kuvveti Clamping Force Kgf	
1472-02530	14-16-18-20-22	25 - 30	1000	1000
1472-03035		30 - 35	1000	1150
1472-03540		35 - 40	1000	1225
1472-04045		40 - 45	1000	1245
1472-04550		45 - 50	1000	1275

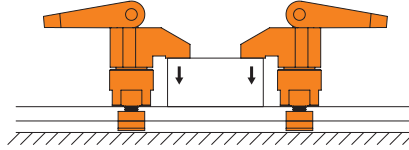



Ürün Nr. 1472 Üstten Bağlama

- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 1472 Above Clamping

- Hardened
- Black Coating




Referans Nr.	P(N)	D	H (0 -1)	D1	H1	A Haraket Travel	d (+0.1 0)	
1473-06002	76	10	11	6	10.7	1	10	4
1473-08002	102	12	13	8	13.9	1.3	12	8
1473-10002	204	16	17	10	16.7	1.6	16	16


Sıkıştırma Pimi
Spring Locating Pins

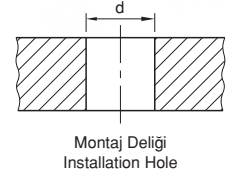
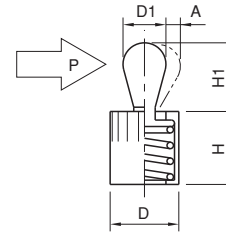


Ürün Nr. 1473 Sıkıştırma Pimi

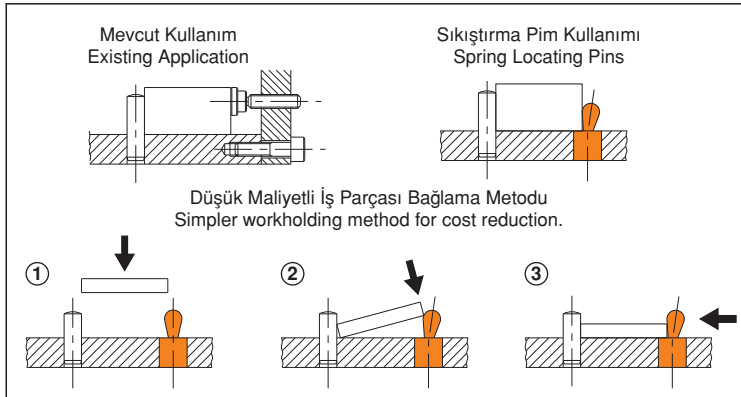
- Özellikler**
- Geçici bir iş bağlama profili için idealdir.
- Not** 
- Pimin hareket etmesi için gerekli olan minimum "P" değeri
 - Parça : 90 °C'ye kadar

Product Nr. 1473 Spring Locating Pins

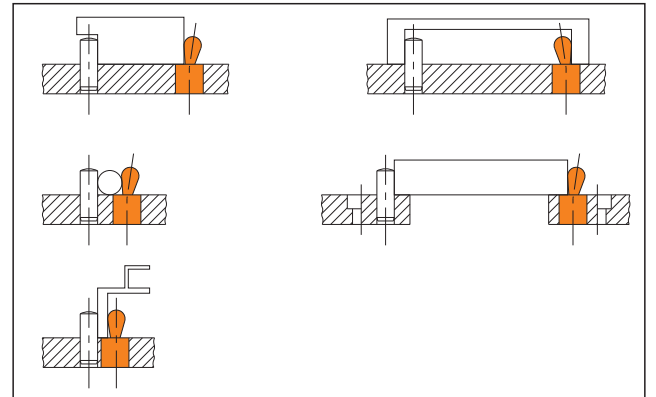
- Features**
- Ideal for temporary clamping of low-profile workpieces.
- Note** 
- The stated value "P" denotes the minimum force needed to move the pin.
 - Heat resistance : 90 °C




Kullanım Şekli / How To Use



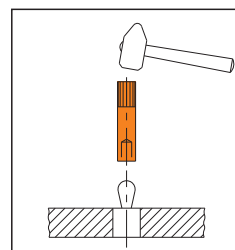
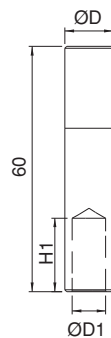
Çeşitli Uygulamalar / Application Examples



Referans Nr.	ØD	ØD1	H1	
1473-06	10	6,2	15	30
1473-08	12	8,2	18	45
1473-10	16	10,2	21	80

Ürün Nr. 1473 Sıkıştırma Pimi Montaj Aparatı

Product Nr. 1473 Spring Locating Pins Installation Tool




Kullanım Şekli
How To Use

Sıkıştırma Pimi Montaj Aparatı
Spring Locating Pins Installation Tool



Referans Nr.	S	d (F7)	H2	D1	H (±0.01)	D	M	Dp	R
1474-06000	2	12	10	28	50	65	M8	40	160
1474-08000	2.5	16	12	34	63	80	M10	50	180

Referans Nr.	D2	H1	İzin Verilen Yük (N) Allowable Operating Load (N)	Sıkma Kuvveti Clamping Force Kgf	Önerilen Kalınlık Toleransı Recommended Workpiece Thickness Tolerance	 (kg)
1474-06000	26	36	600	600	±0.5	1.2
1474-08000	28	45	600	800	±0.8	2.2

Ürün Nr. 1474 Tek Dokunuş Pimli Bağlama

- Siyah Kaplama

Product Nr. 1474 Pull Clamps

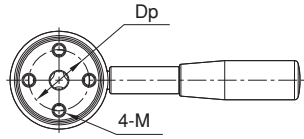
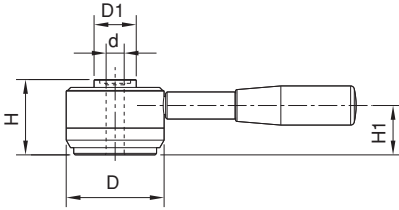
- Black coating

Not

- Pimler ve çektirme civataları ayrıca sipariş edilir.

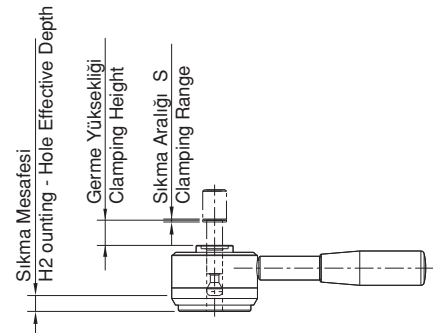
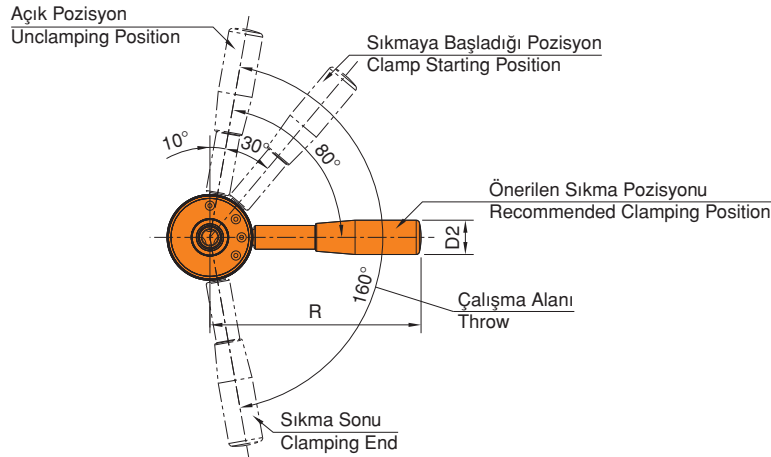
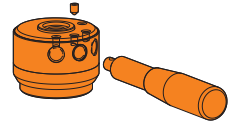
Note

- Clamping Pins or Screws must be ordered separately.



Kol, üç ayrı noktadan bağlanabilir. Bağlama pozisyonu 3 opsiyonlu.

The handle can be removed by loosening the locking screw. To keep the handle mounted permanently, make sure that the locking screw is fully tightened. 3 options of handle mounting position.



Referans Nr.	D2 (f7)	D1 (f7)	L (By 0.1mm)	D	L2	L1	L3	D3	M	M1	(g)
1475-00012	12	12	0<L<100	18	23	38	21.5	6.5	M8	M8	70 ~ 160
1475-00016	16	16	0<L<100	24	23	38	21.5	6.5	M8	M8	175 ~ 265

Ürün Nr. 1475 Tek Dokunuş Bağlama Pimi

Pim

- Sertlik: İndüksiyon
- Taşlama

Kafa

- Siyah Kaplama

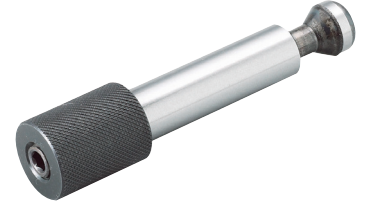
Product Nr. 1475 Clamping Pins

Shank

- Hardness: Induction
- Precision ground

Head

- Black coating

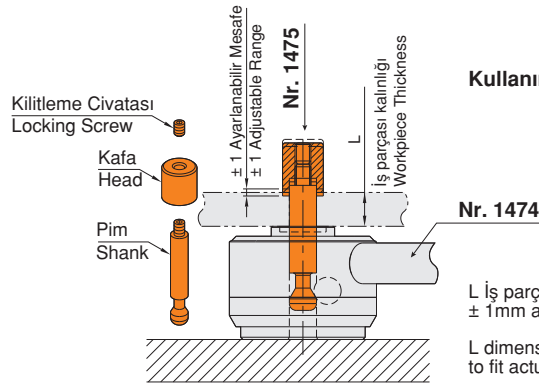
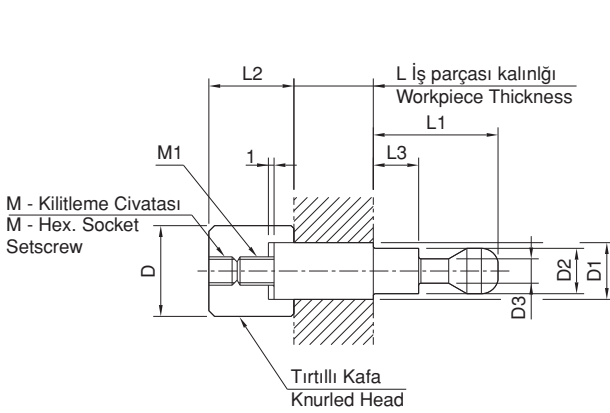


Not

- Talebe göre üretim.

Note

- Custom Clamping Pins are available on request.



Kullanım Şekli / How To Use

L İş parçası kalınlığında ± 1 mm ayarlanabilir.
L dimension is adjustable by ± 1 mm to fit actual workpiece thickness.

Tek Dokunuş Bağlama Civatası

Clamping Screws

Referans Nr.	D1	M	L1	L	D	L2	L3	D2	W	L4	(g)
1476-00012	12	M12	13	38	20	21.5	2	6.5	10	4	40
1476-00016	12	M16	17	38	20	21.5	2	6.5	10	4	55

Ürün Nr. 1476 Tek Dokunuş Bağlama Civatası

- Siyah Kaplama

Product Nr. 1476 Clamping Screws

- Black coating

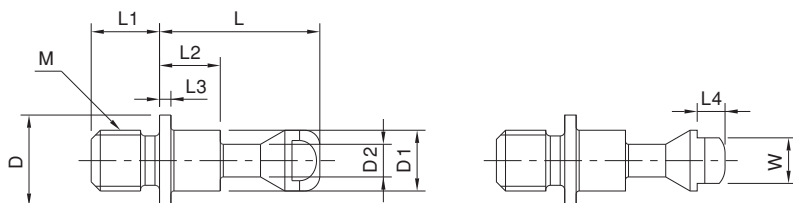


Not

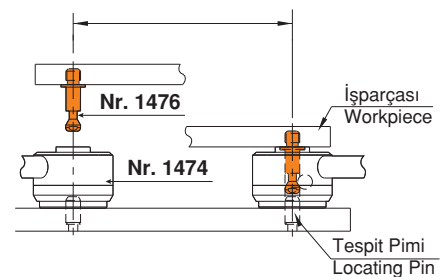
- Özel bağlama vidaları (farklı vida boyları) istek üzerine üretim yapılır.

Note

- Special Clamping Screws (different screw thread sizes) are available on request.



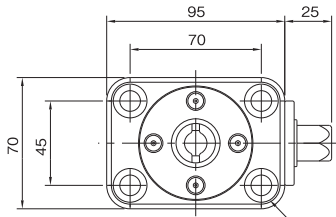
Çektirme civataları önerilen aralık toleransında olmalı
Recommended Spacing Tolerancein Use of Clamping Screws



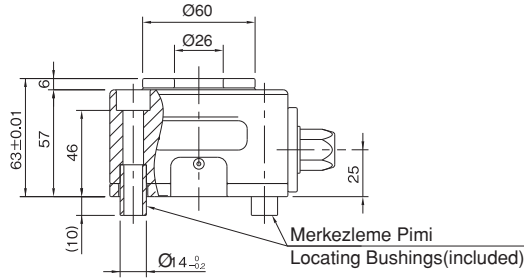
Referans Nr.	Sıkma Kuvveti Clamping Force Kgf	Tork N-m	(kg)
1477-00012	1200	40	2.3

Ürün Nr. 1477 Pimli Bağlama

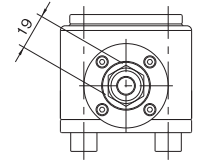
Product Nr. 1477 Power-tool Actuated Block Pull Clamps



Sabitlenme Civata Yeri For M10 Cap Screws

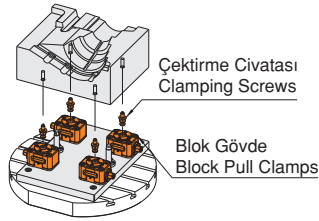


Merkezlleme Pimi Locating Bushings(included)



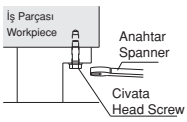
1. 5 Eksen İşleme için İdeal Kullanım
İş parçasının bütün açık yüzeylerini işleme olanağı sağlar.

1. Ideal for 5-Axis Machining
Block Pull Clamps mount under a workpiece making its surfaces to be machined fully open for the cutting tool. This allows completing multiple machining processes at a time.

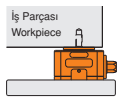


2. Daha iyi İşlenebilirlik
Blok çekme ile daha kolay iş bağlama ve klasik yöntemden daha kullanışlıdır.

2. Better Workability
Block Pull Clamps allow fastening a workpiece easily, unlike the conventional method of fastening with hexagon head screws from below.



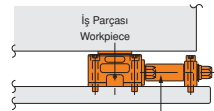
Mevcut Uygulama Conventional Method



Çektirme Civatası ile Uygulama Application with pull stud

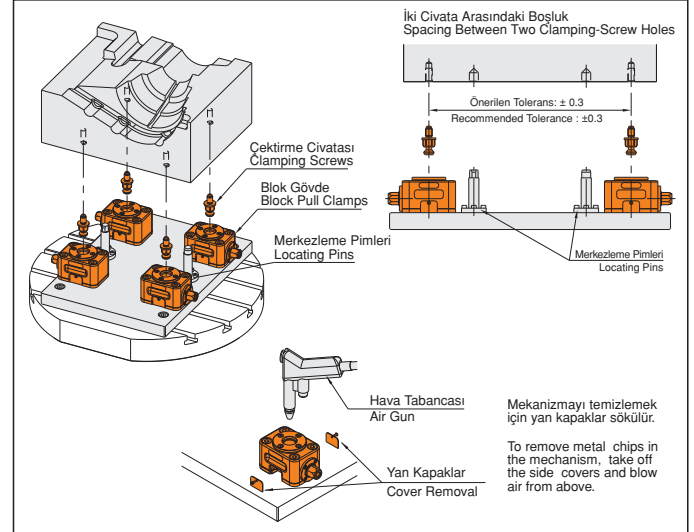
3. Uzun Anahtar Ünite Kullanımı
Birden fazla farklı parçaları işleme olanağı sağlar.

3. Actuated Remote-Control Units
If used in conjunction with Power-Tool Actuated Remote-Control Units, Block Pull Clamps can be installed at the best possible position under the workpiece.



Uzun Anahtar Aktuatörü Ünitesi Power-Tool Actuated Remote-Control Unit

Kullanım Şekli / How To Use



Bağlama Civatası
Clamping Screws

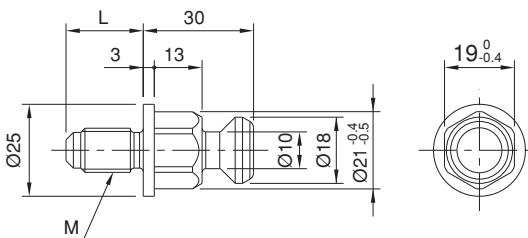
Referans Nr.	M	L	(g)
1478-00012	M12	21	75
1478-00016	M16	28	98

Ürün Nr. 1478 Bağlama Civatası

- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 1478 Clamping Screws

- Hardened
- Black coating



Referans Nr.	M	S	Bağlama Kuvveti Clamping Force (kN)*	Kabul Edilebilir Sıkma Torku Allowable Tightening Torque (N.m)	(kg)
1477-PTPD112	M12x1.75	18	10	27	7.6
1477-PTPD116	M16x2.00	21	15	45	7.6

* Darbeli Anahtarla kullanmak için bağlama kuvvetinin ve kabul edilebilen sıkma torkunun %50'sinden azını kullanın.

*To operate with an impact wrench, use less than 50% of the clamping force and allowable tightening torque.

Ürün Nr. 1477 Somunlu 5 Eksen Blok Bağlama

Gövde

- S45C çelik
- Siyah Oksit Kaplama

Altıgen Başlık

- SCM440 çelik
- Sertleştirilmiş
- Siyah Oksit Kaplama

Yükseltici

- S45C Çelik
- Sertleştirilmiş
- HRC 39-45
- Siyah Oksit Kaplama

Pabuç Civatası

- SCM415 çelik
- Sertleştirilmiş
- Siyah Oksit Kaplama

Product Nr. 1477 Nutrunner Pull Clamps

Body

- S45C steel
- Black oxide finished

Hex. Head

- SCM440 steel
- Induction hardened
- Black oxide finished

Riser

- S45C steel
- Quenched and tempered
- HRC 39-45
- Black oxide finished

Clamping Screw

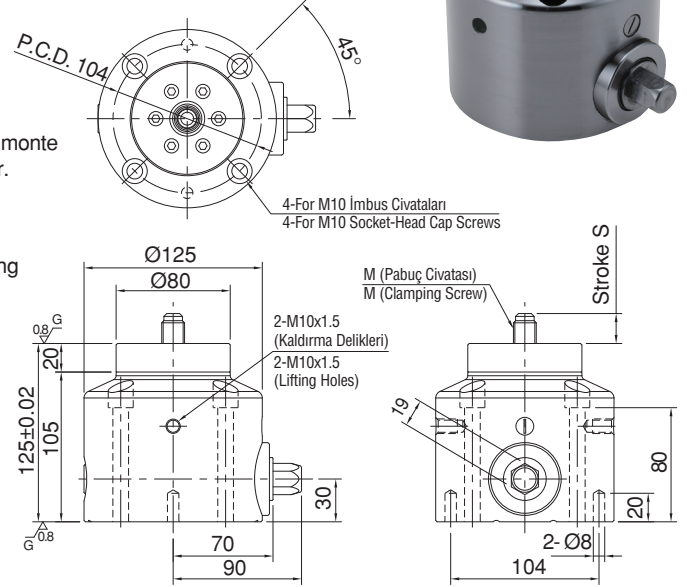
- SCM415 steel
- Carburized-hardened
- Black oxide finished

★ Kilit Nokta

Pabuç civatalarının monte edilmesi gerekmiyor.

★ Key Point

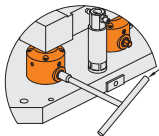
No need for mounting clamping screws.



Kullanım Şekli / How To Use

- Otomatik bir üretim ağında bir somun sıkma aletiyle kullanıma idealdir.
- Bu pabuç manuel olarak da kullanılabilir.
- Bağlanıp bırakma işlemini pabucun altıgen başına bir işparçası monte edip çevirmek kadar kolaydır.

- Ideal for use with a nut runner for automated production line.
- This clamp can be also operated manually.
- Clamping/unclamping can be done simply by mounting a workpiece and turning the hex. head.



T-Kol Soket Anahtarı

T-Handle Socket Wrench

Bu pabuç T-Kol Soket Anahtarı kullanılarak manuel bir şekilde bağlanıp bırakabilir. Manuel bırakma için anahtarı pabuç tik edene kadar çevirin ve pabuç civatası işparçasını bırakır

This clamp can also be clamped/unclamped manually using a T-handle socket wrench. For manual unclamping, turn the wrench until the clamp clicks, and the clamping screw releases a workpiece.

Note

- Bu iş desteği bir darbeli ahantar ile kullanılabilir. Darbeli anahtar torku ayarlayabilmelidir.
- Pabuç Civataları servis parçaları olarak bulunmaktadır.

Note

- This work support can be operated with an impact wrench. Use an impact wrench that can set the torque.
- Clamping screws are available as maintenance parts.

Özellikler

- Gövdeye entegre edilmiş olan pabuç civatası iş parçasındaki civata deliğini çekerek işparçasını bağlar.

Features

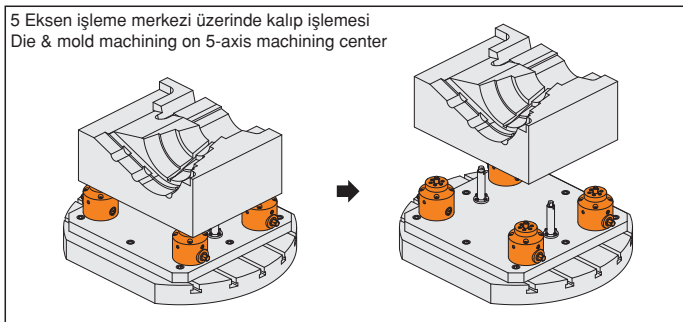
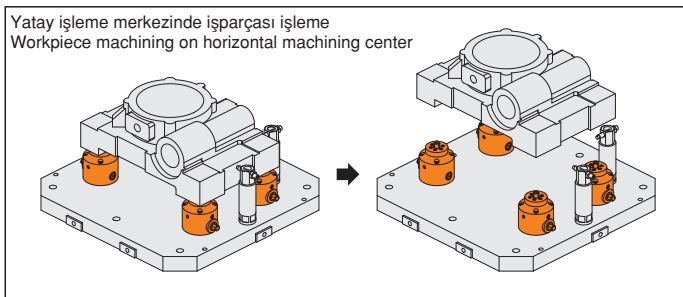
- The clamping screw integrated with the body clamps the workpiece by pulling in the tapped hole on the workpiece.

Monte Deliği Boyutları


- Birden çok çekme pabucu kullanırken merkez ekseninin aralık toleransı ±0.05 olmalıdır.
- Bir işparçasının üzerindeki civata deliklerinin aralık toleransı ±0.2 olmalıdır.

Mounting Hole Dimension

- For using multiple pull clamps, the spacing tolerance of the central axes should be ±0.05
- The spacing tolerance for tapped holes on a workpiece should be ±0.2.



Referans Nr.	Sıkma Yüksekliği Clamping Height				Sıkma Torku Clamping Stroke	L2	L3	L1	L4	W	L	H4	B	Dp
	Finiş Yüzey Temas Finished Surface Contact		Kaba Yüzey Temas Rough Surface Contact											
	Min.	Max.	Min.	Max.										
1479-0618	21.8 (21.8-24.8)	23.8 (23.8-26.8)	21.4 (21.4-24.4)	23.4 (23.4-26.4)	3	22	6	26	11.5	36	18	6	4.3	27
1479-0823	30.3 (30.3-34.3)	32.3 (32.3-36.3)	31.2 (31.2-35.2)	33.2 (33.2-37.2)	4	30	8	35	15.3	45	23	8	5.3	34
1479-1030	30.5 (30.5-34.5)	37 (37-41)	31.5 (31.5-35.5)	38 (38-42)	4	37	8	45	20.7	65	30	12	8.4	48
1479-1240	34.5 (34.5-39.5)	44 (44-49)	37 (37-42)	46.5 (46.5-51.5)	5	45	8	55	25.4	85	40	15	10.5	64

Referans Nr.	H	D	W1	W2	H2	H1	M1	H3	W3	M	Sıkma Kuvveti Clamping Force Kgf	İzin Verilen Tork Allowable Screw Torque (N-m)	 (g)
1479-0618	56.5	18	8	4.3	10	29	M4	22.8	10	M6	230	6	94
1479-0823	73.5	23	10	5.3	14	39	M5	28.5	13	M8	360	10.5	210
1479-1030	91	30	16	8.4	18	48	M8	45.5	17	M10	600	30	515
1479-1240	114	40	20	10.4	22	58	M10	57	19	M12	750	45	1100

Ürün Nr. 1479 Dönmeli Üstten Bağlama

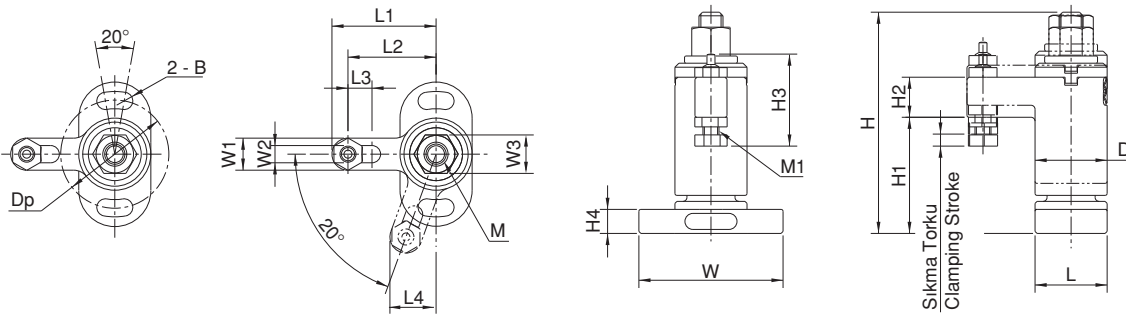
- Gövde**
- Sertleştirilmiş
 - Siyah Kaplama

- Sıkma Mili**
- Siyah Kaplama

Product Nr. 1479 Swing Clamps For Torque Control

- Body**
- Hardened
 - Black coating

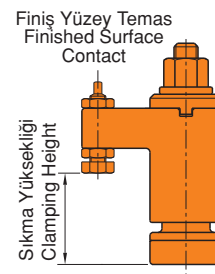
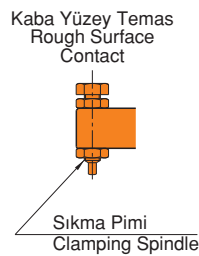
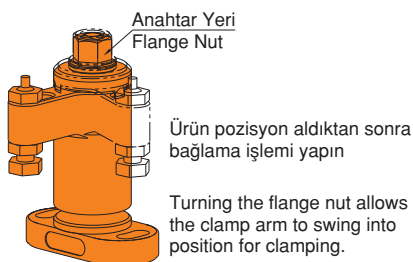
- Clamping Spindle**
- Black coating




- Not**
- Bağlama işlemini tork anahtarı ile yapın.

- Note**
- Make the fastening with a torque wrench.

Kullanım Şekli / How To Use



Referans Nr.	H1	S	S1	M	L2	L1	W	L	H4	d	P	H	D	W1	H2	W2	H3
1480-00012	80	10	11	M12	55	66	90	50	15	11	70	139	50	22	30	19	29
1480-00016	95	10	15	M16	65	79	100	60	20	13	80	165	60	28	35	24	35

Referans Nr.	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N - m)	Sıkıştırma Yönü Clamping Direction	 (kg)
1480-00012	600	28	Saat Yönünde Clockwise	1.6
1480-00016	1000	55	Saat Yönünde Clockwise	2.9



Ürün Nr. 1480 Dönmeli Üstten Bağlama Gövde

- Sertleştirilmiş
- Siyah Kaplama

Sıkma Pabucu

- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 1480 Swing Clamps Body

- Hardened
- Black coating

Clamping Arm

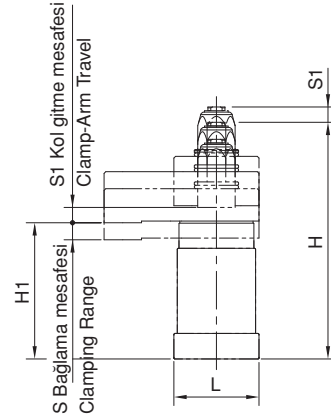
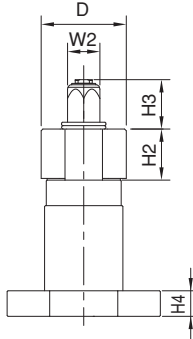
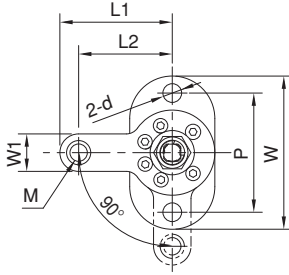
- Hardened
- Black coating

Özellikler

- Hızlı bağlama için üründe sıkma anahtarına tepkili mekanizma vardır.
- Kısa bir harekette bağlama işlemi yapar.

Features

- The clamp arm swings in swift response to the turning speed of an impact wrench, for quick clamping.
- A short clamp-arm travel allows quick clamping.



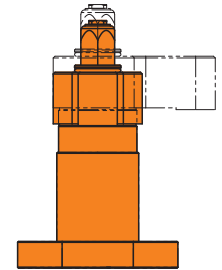
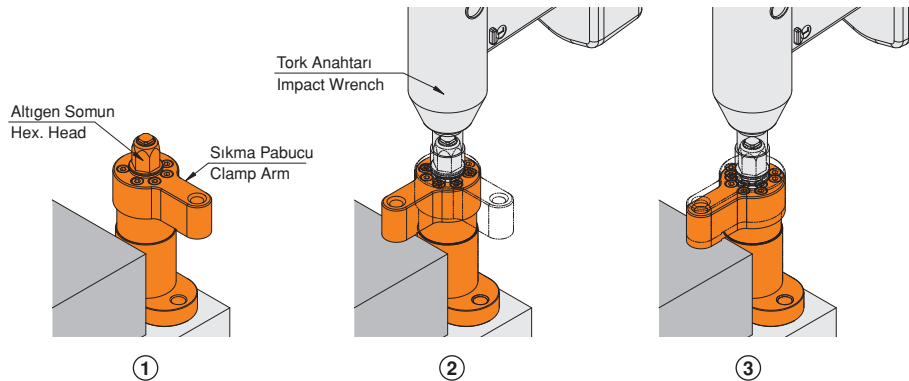
Not

- Bağlama işlemi kesinlikle tork anahtarı ile teknik tabloda verilen tork değerine uygun sıkma işlemi yapınız.

Note

- Do not use applying higher torque than allowable for a long period of time, to avoid damage. Using a torque-settable impact wrench is recommended.

Kullanım Şekli / How To Use



Robot hareketleri için
sıralı dönme bağlama

For robotized production lines,
use Spiral-Acting Swing Clamps.

Referans Nr.	Sıkma Yüksekliği Clamping Height				Sıkma Torku Clamping Stroke	İnme Torku Advance Stroke	L2	L3	L1	L4	W	L	H5	B
	Finiş Yüzey Temas Finished Surface Contact		Kaba Yüzey Temas Rough Surface Contact											
	Min.	Max.	Min.	Max.										
1481-0100R	22.8	24.8	22.4	24.4	1.0	0.8	22	6	26	11.5	36	18	6	4.3
1481-0100L	(22.3 - 23.3)	(24.3 - 25.3)	(21.9 - 22.9)	(23.9 - 24.9)										
1481-0150R	31.3	33.3	32.2	34.2	1.4	1.1	30	8	35	15.3	45	23	8	5.3
1481-0150L	(30.6-32)	(32.6-34)	(31.5-32.9)	(33.5-34.9)										
1481-0200R	32.5	39	33.5	40	1.5	1.4	37	8	45	20.7	65	30	12	8.4
1481-0200L	(31.7-33.2)	(38.2-39.7)	(32.7-34.2)	(39.2-40.7)										
1481-0300R	36.5	46	39	48.5	1.9	1.7	45	8	55	25.4	85	40	15	10.5
1481-0300L	(33.5-37.4)	(45-46.9)	(38-39.9)	(47.5-49.4)										

Referans Nr.	Dp	H	D	W1	W2	H3	H2	M	H4	R	A	H1	İzin Verilen Çalışma Yüğü Allowable Operating Load (N)	Sıkma Kuvveti Clamping Force Kgf	(g)
1481-0100R	27	49	18	8	4.3	10	30	M4	22.8	50	15	45.8	100	110	112
1481-0100L															
1481-0150R	34	66	23	10	5.3	14	40	M5	28.5	63	20	61.3	150	180	250
1481-0150L															
1481-0200R	48	82	30	16	8.4	18	50	M8	45.5	80	26	76.5	200	220	570
1481-0200L															
1481-0300R	64	100	40	20	10.4	22	60	M10	57	100	33	93	300	350	1200
1481-0300L															

Ürün Nr. 1481 Tek Dokunuş Dönmeli Üstten Bağlama

Gövde

- Sertleştirilmiş
- Siyah Kaplama

Sıkma Mili

- Siyah Kaplama

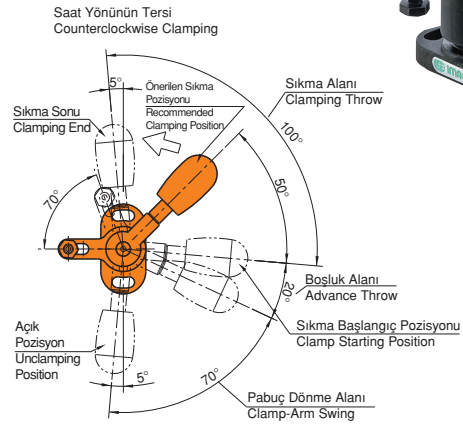
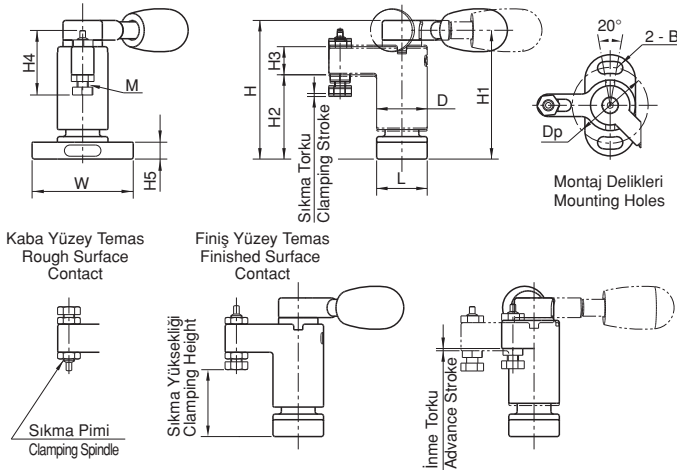
Product Nr. 1481 Swing Clamps

Body

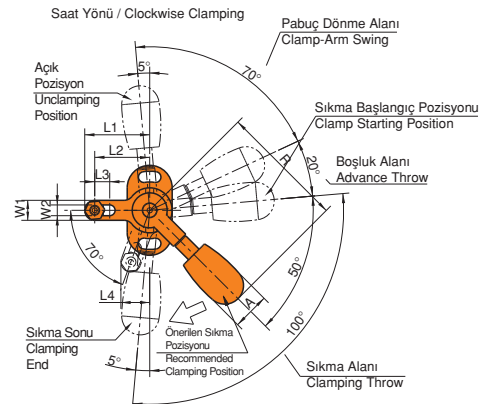
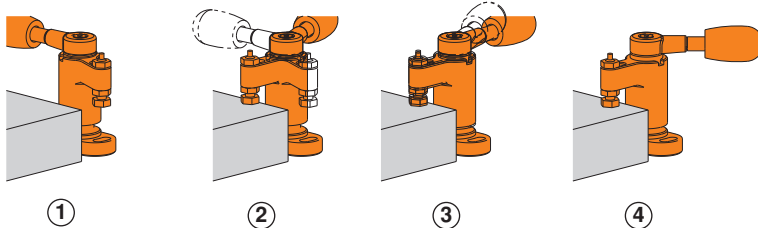
- Hardened
- Black coating

Clamping Spindle


- Black coating



Kullanım Şekli / How To Use



Referans Nr.	Sıkma Yüksekliği Clamping Height				Sıkma Torku Clamping Stroke	İnme Torku Advance Stroke	L2	L3	L1	L4	W	L	H5	B
	Finiş Yüzey Temas Finished Surface Contact		Kaba Yüzey Temas Rough Surface Contact											
	Min.	Max.	Min.	Max.										
1482-0150R	31.3 (30.8-31.8)	33.3 (32.8-33.8)	32.2 (31.7-32.7)	34.2 (33.7-34.7)	1	1.5	30	8	35	15.3	45	23	8	5.3
1482-0150L														
1482-0200R	32.5 (31.9-33.1)	39 (38.4-39.6)	33.5 (32.9-34.1)	40 (39.4-40.6)	1.2	1.8	37	8	45	20.7	65	30	12	8.4
1482-0200L														
1482-0300R	36.5 (35.7-37.2)	46 (45.2-46.7)	39 (38.2-39.7)	48.5 (47.7-39.2)	1.5	2.3	45	8	55	25.4	85	40	15	10.5
1482-0300L														

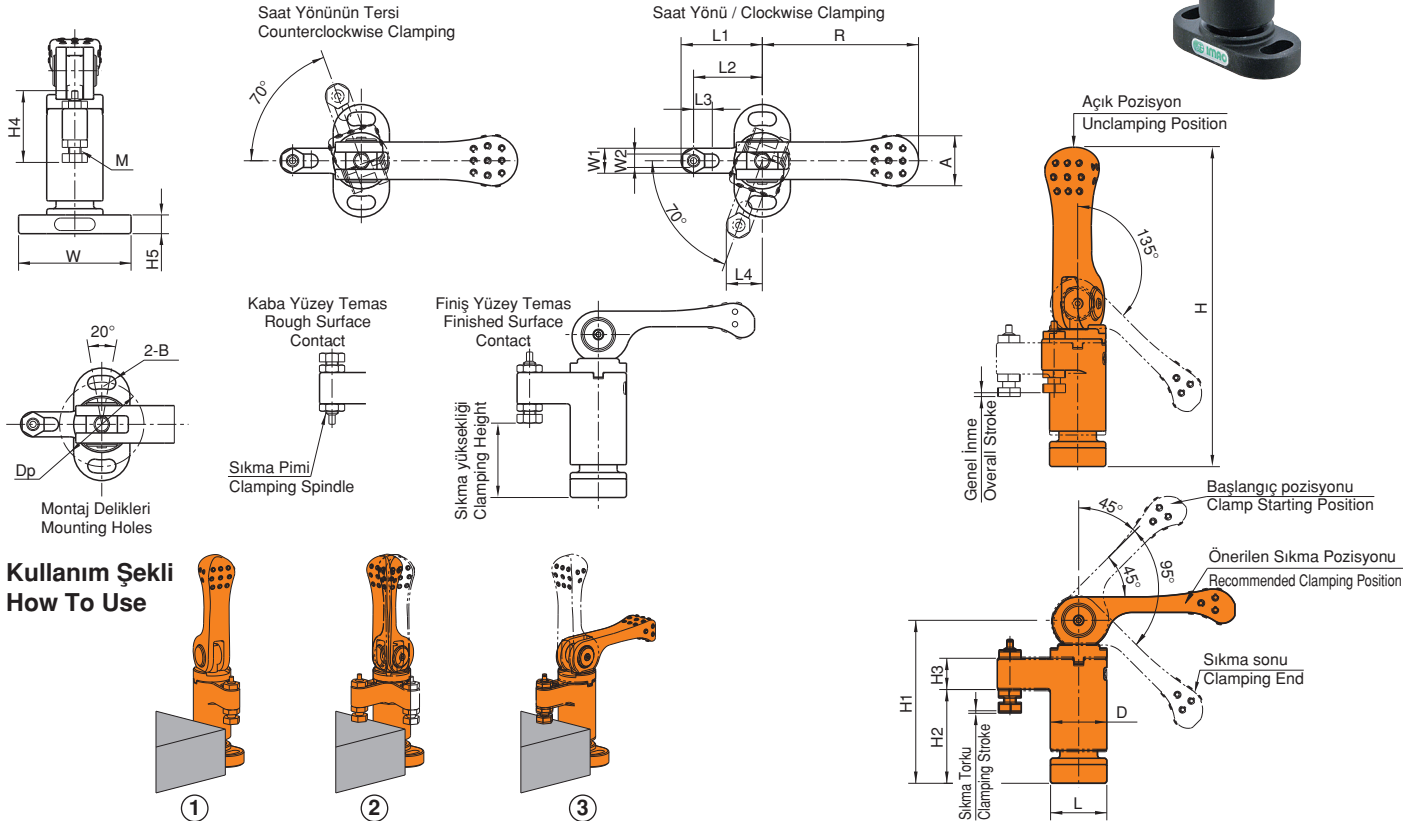
Referans Nr.	Dp	H	D	W1	W2	H3	H2	M	H4	R	A	H1	İzin Verilen Çalışma Yüğü Allowable Operating Load (N)	Sıkma Kuvveti Clamping Force Kgf	
1482-0150R	34	131	23	10	5.3	14	40	M5	28.5	63	19	68	150	150	272
1482-0150L															
1482-0200R	48	167	30	16	8.4	18	50	M8	45.5	80	24	87	200	210	625
1482-0200L															
1482-0300R	64	207	40	20	10.4	22	60	M10	57	100	30	107	300	280	1340
1482-0300L															

Ürün Nr. 1482 Tek Dokunuş Dönmeli Üstten Bağlama

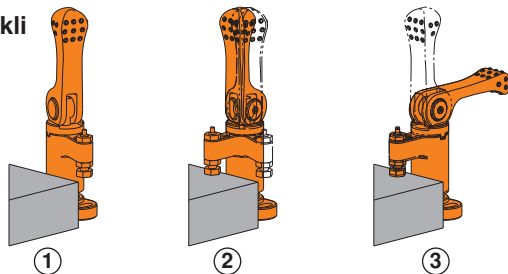
- Gövde**
- Sertleştirilmiş
 - Siyah Kaplama
- Sıkma Mili**
- Siyah Kaplama

Product Nr. 1482 Swing Clamps With Cam Handle

- Body**
- Hardened
 - Black coating
- Clamping Spindle**
- Black coating



Kullanım Şekli How To Use



Referans Nr.	Sıkma Yüksekliği Clamping Height				Sıkma Torku Clamping Stroke	L2	L5	W	L	H4	d	P	H	L1	L3	W1
	Finiş Yüzey Temas Finished Surface Contact		Kaba Yüzey Temas Rough Surface Contact													
	Min.	Max.	Min.	Max.												
1483-03240	32 (32-29.5)	40 (40-37.5)	35 (35-32.5)	43 (43-40.5)	2.5	20	11	42	18	8	5.5	32	81	25.5	25	26
1483-03748	37 (37-33.5)	48 (48-44.5)	42 (42-38.5)	53 (53-49.5)	3.5	25	14	52	22	10	6.6	40	100	32	31	32

Referans Nr.	W2	H2	H1	M	H3	R	H5	L4	Ayarlanabilir Kol Adjustable Handles	İzin Verilen Yük (N) Allowable Operating Load (N)	Sıkma Kuvveti Clamping Force Kgf	Sıkma Mekanizması Clamping Mechanism	(g)
1483-03240	22	10	45	M6	24	40	47	16	FKF8-BR	170	240	Vida Screw	242
1483-03748	28	12	55	M8	30.5	65	63	20	FKF8-BR	210	420	Vida Screw	490

Ürün Nr. 1483 Tek Dokunuş Üstten Bağlama

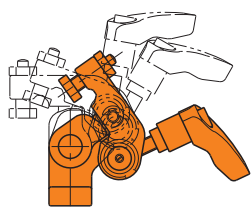
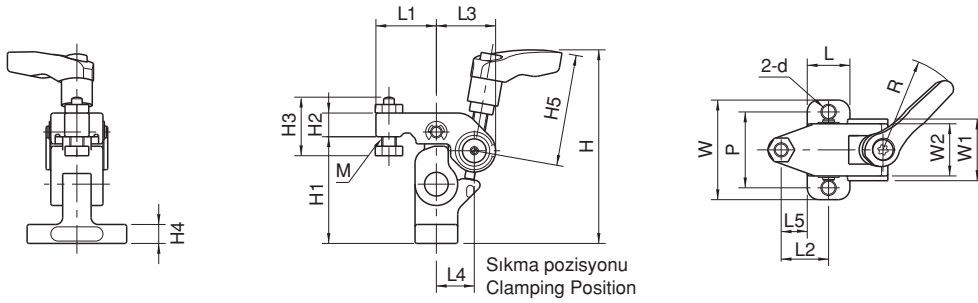
- Gövde**
- Sertleştirilmiş
 - Siyah Kaplama

- Sıkma Mili**
- Siyah Kaplama

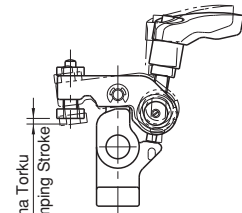
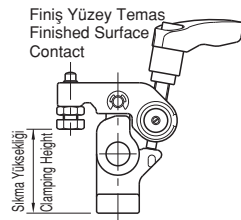
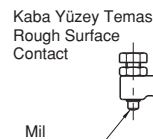
Product Nr. 1483 One-Touch Above Clamping

- Body**
- Hardened
 - Black coating

- Clamping Spindle**
- Black coating

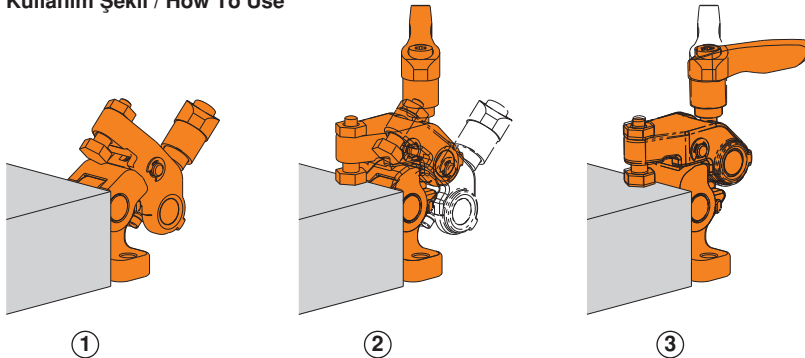


Açık Pozisyon
Unclamped




Ayarlanabilir Mesafe
Clamping Throw

Kullanım Şekli / How To Use



Referans Nr.	A	B	C	D	E	F	G (g6)	H	J (h6)	K	L	M	N	P (±0.02)	Q	R
1484-06501	65	57	10	47	39	70	28	12	6	5	19	M6	42	26	32	25
1484-09001	90	72	15	57	46	95	42	14	8	7	23	M8	60	36	38	28

Referans Nr.	T	U	V	W	Z	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N - m)	 (kg)
1484-06501	15	18	4	M4	M8	400	60	1.1
1484-09001	17	22	6	M5	M10	600	100	2.6

Ürün Nr. 1484 Dış Çap Bağlama

Teknik Özellikler

- Parça tekrarlama hassasiyeti: ±0.03
- Yumuşak ayak tekrarlama hassasiyeti : ±0.02

Not

- İş parçası olmadan kilit civatasını sıkmayın.
- Çeneye izin verildiğinden daha derin işlemeyin.

İçindekiler

- 1 adet kilitleme pulu
- 1 adet elmas pim
- 1 imbus civata

Product Nr. 1484 Outer Diameter Clamp

Technical Data

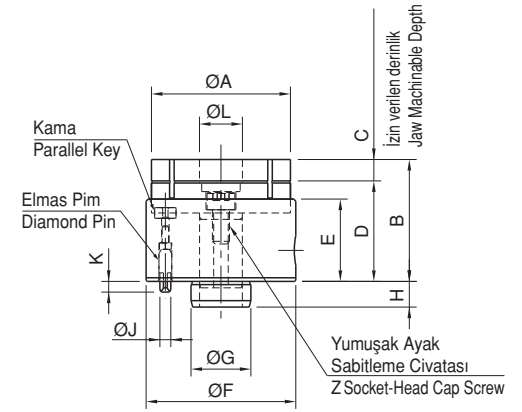
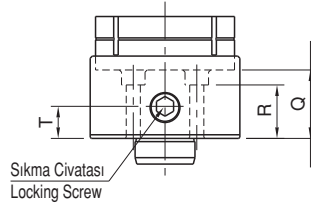
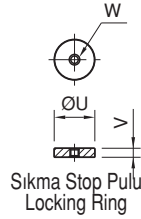
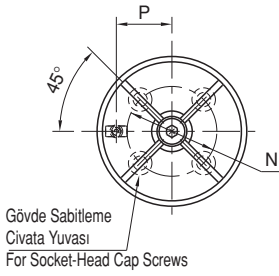
- Part locating repeatability: ±0.03
- Jaw locating repeatability: ±0.02

Notes

- Never tighten the locking screw without a part mounted, to avoid damage and deformation
- Do not machine the jaw deeper than allowed.


Included

- 1 of locking ring
- 1 of diamond pin
- 1 of socket-head cap screw



Yumuşak Ayak

Jaws

Referans Nr.	A	B	C	D	E	F	G	H	J	K	 (g)
1485-06501	65	25	10	15	19	28	18	4	M4	M10	170
1485-09001	90	34	15	19	23	39	22	6	M5	M12	470

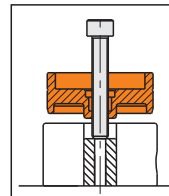
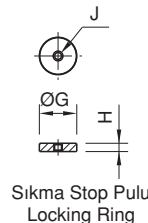
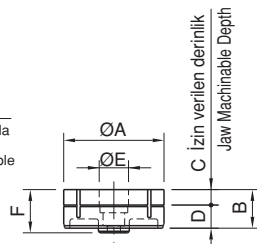
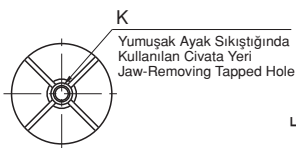
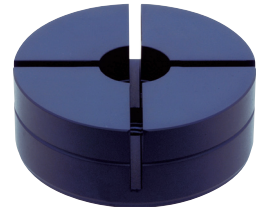
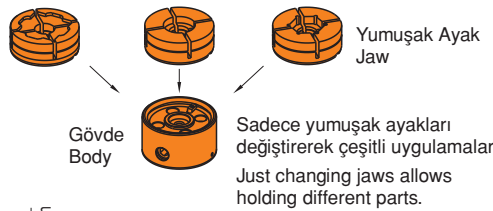
Ürün Nr. 1485 Yumuşak Ayak

- Malzeme: A7075

Product Nr. 1485 Jaws

- Material: A7075

Özellik / Feature



Çene Çıkarma Şekli / How To Remove Jaw

Eğer yumuşak ayak el ile çıkartılamıyorsa civata kullanınız.
When it is hard to remove the jaw by hand, screw a bolt into the jaw-removing tapped hole to push it against the body, for easier removal.

Referans Nr.	d	h (±0.01)	d1 (g6)	h1	M	h2	dp	p (±0.02)	w	h3	M1	İzin Verilen Vida Torku Allowable Screw Torque (N·m)	(kg)
1486-CP125.06501	65	25	28	12	M6	27	42	22	8	12	M8x1.25	15	0.8
1486-CP125.09001	90	30	42	14	M8	30	60	30	8	14	M10x1.5	25	1.7
1486-CP125.12001	120	35	55	18	M10	33	80	43	10	16	M10x1.5	40	3.5
1486-CP125.16001	160	40	63	24	M12	36	110	60	10	18	M12x1.75	40	7.1

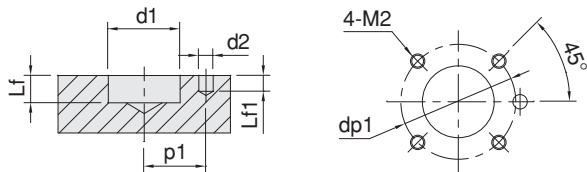
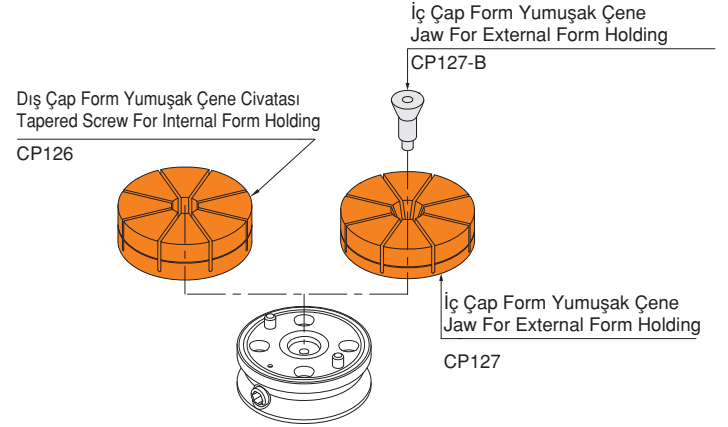
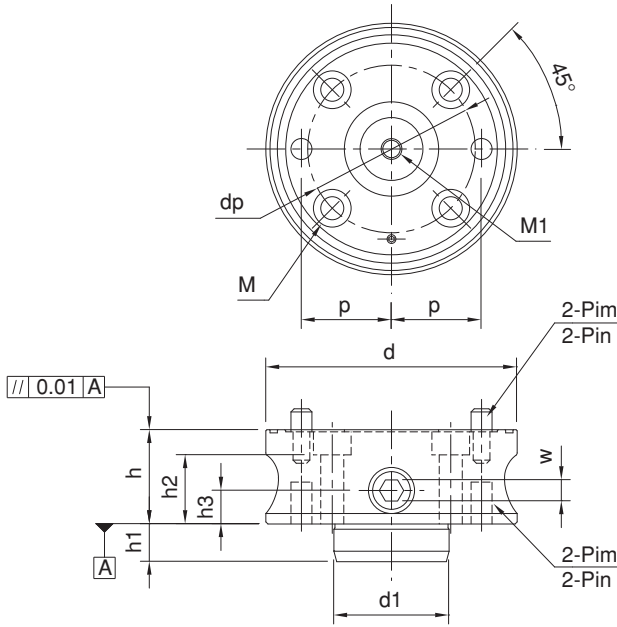
Uygun Çene / Proper Jaws					
Dış Form Tutamağı İçin / For External Form Holding			İç Form Tutamağı İçin / For Internal Form Holding		
Referans Nr.	Sıkma Kuvveti Clamping Force (kN)	Sıkma Torku Clamping Torque	Referans Nr.	Sıkma Kuvveti Clamping Force (kN)	Sıkma Torku Clamping Torque
1486-CP126.06501	4.5	Ø 0.3	1486-CP127.06501	4.5	Ø 0.3
1486-CP126.09001	7		1486-CP127.09001	7	
1486-CP126.12001	10		1486-CP127.12001	10	
1486-CP126.16001	12		1486-CP127.16001	10	



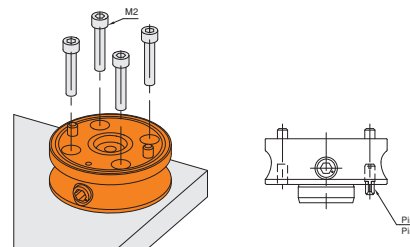
- Ürün Nr. 1486 İç ve Dış Çap Bağlama**
- Nikel Kaplama
 - Parça Tekrarlanabilirlik ±0.03
 - Yumuşak Ayak Tekrarlanabilirlik ±0.03

- Product Nr. 1486 Inner and Outer Diameter Clamp**
- Nickel Coating
 - Part locating repeatability: ±0.03
 - Jaw locating repeatability: ±0.03

Not: Yumuşak Ayak Ayrı Sipariş Verilir.
Note: Jaws must be ordered separately.



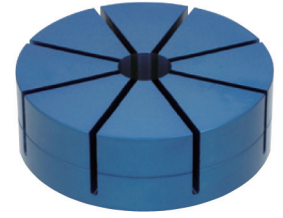
Referans Nr.	d1 (H7)	Lf	d2 (G7)	Lf1	p1 (±0.02)	M2	dp1
1486-CP125.06501	28	13	6	6	22	M 6x1	42
1486-CP125.09001	42	15	8	8	30	M 8x1.25	60
1486-CP125.12001	55	19	10	11	43	M10x1.5	80
1486-CP125.16001	63	25	12	13	60	M12x1.75	110



Pim Ölçüleri / Pin Dimensions

Referans Nr.	Çap Diameter
1486-CP125.06501	Ø 6h6
1486-CP125.09001	Ø 8h6
1486-CP125.12001	Ø 10h6
1486-CP125.16001	Ø 12h6

Referans Nr.	D	d	h1	h2	M	h	M	d1	t	(g)
1486-CP126.06501	65	21	25	10	M8x20	29	M5	20	4	200
1486-CP126.09001	90	25	35	15	M10x20	40	M6	24	5	500
1486-CP126.12001	120	25	40	20	M10x25	46	M6	24	5	1100
1486-CP126.16001	160	29	45	25	M12x25	52	M8	28	6	2200

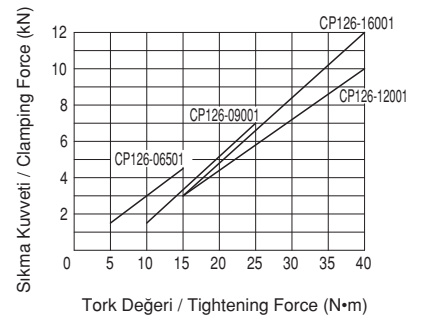
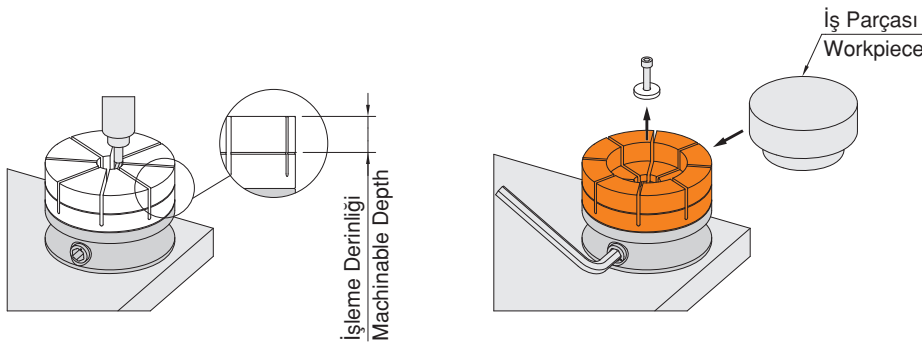
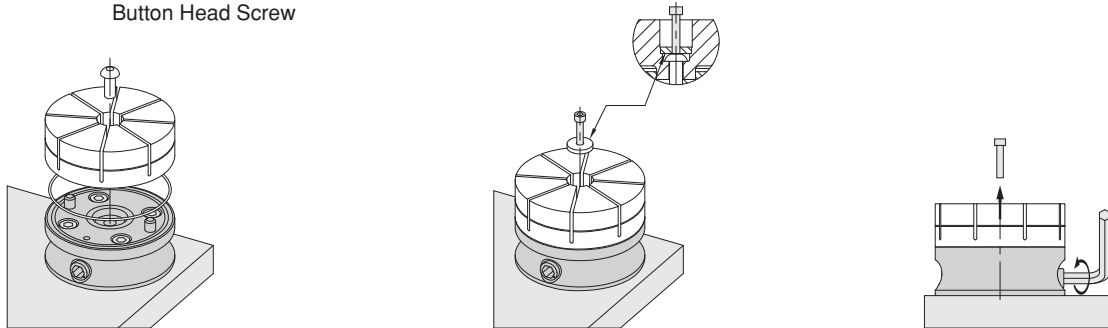
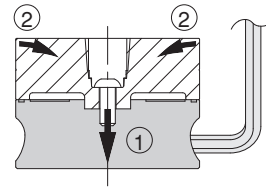
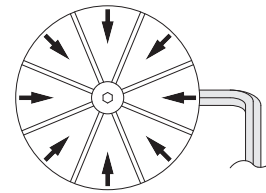
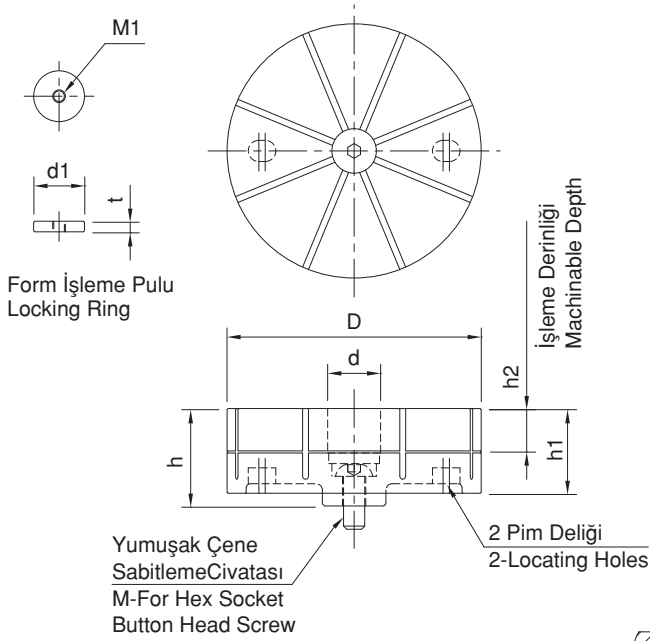


Ürün Nr. 1486 Dış Çap Form Yumuşak Çene

- Malzeme: Alüminyum A7075
- Mavi kaplama
- Sıkma Torku 0.15mm

Product Nr. 1486 Outer Diameter Soft Jaw

- Material: Aluminum A7075
- Blue coating
- Clamping Torque 0.15mm



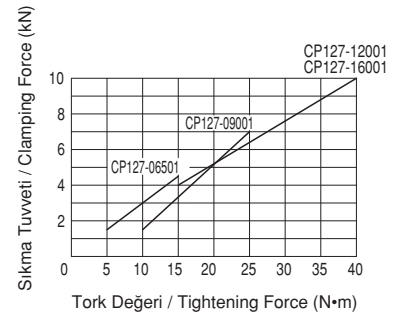
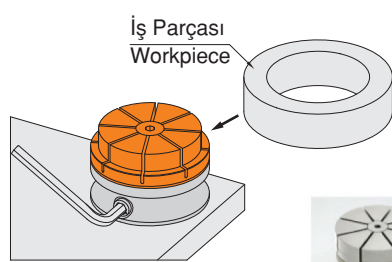
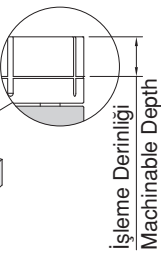
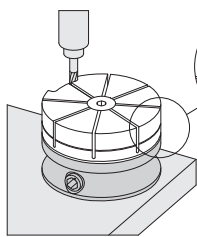
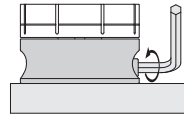
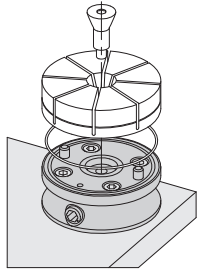
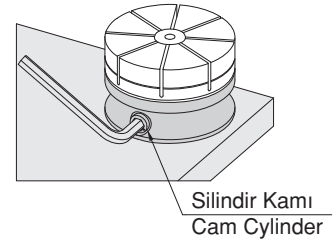
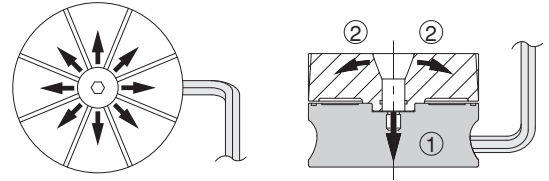
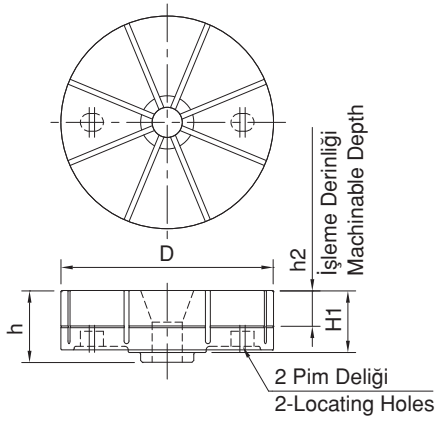
Referans Nr.	D	h1	h2	h	(g)
1486-CP127.06501	65	25	10	28.5	200
1486-CP127.09001	90	30	15	34.5	400
1486-CP127.12001	120	35	20	40.5	900
1486-CP127.16001	160	40	25	46.5	1900

Ürün Nr. 1486 İç Çap Form Yumuşak Çene

- Malzeme: Alüminyum A7075
- Gümüş kaplama
- Sıkma Torku 0.15mm

Product Nr. 1486 Inner Diameter Soft Jaw

- Material: Aluminum A7075
- Silver coating
- Clamping Torque 0.15mm



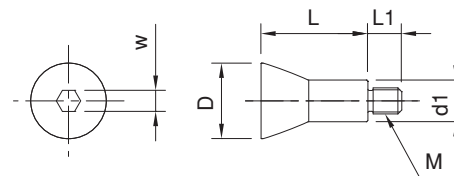
Referans Nr.	D	L	M	L1	d1	w	(g)
1486-CP127.06501B	22.5	29	M8	10	13.2	6	50
1486-CP127.09001B	27	35	M10	11	16	8	80
1486-CP127.12001B	29	41	M10	13	16	8	100
1486-CP127.16001B	33	47	M12	14	18	10	150

Ürün Nr. 1486 İç Çap Form Yumuşak Çene Civatası

- Gümüş kaplama

Product Nr. 1486 Inner Diameter Soft Jaw Bolt

- Silver coating



Referans Nr.	Uyumlu İşparçası Çapı Adaptable Workpiece Dia*	D1	H1	H	H2	D ₀ (-0.05)	D2	M	L	Dp	D3	H3	d
1486-MBOD1	Ø2.5 - Ø15.9	19.1	22.9	35.6	4.6	23.9	38.1	M3x0.5-16L	6.8	29	50.8	25.4	20.1
1486-MBOD2	Ø5.1 - Ø45.7	49.5	32.4	48.3	5.1	55.9	76.2	M5x0.8-22L	11.1	63.8	88.9	36.2	50.5

* Önerilen Çene Sıkıştırmasına dikkat ederek çeneyi işparçasının çapına göre işleyin.

* Machine the jaw to the workpiece diameter with attention to the Recommended Jaw Compression.

Referans Nr.	Sıkma Kuvveti Clamping Force (kN)	Kabul Edilebilir Sıkma Torku Allowable Tightening Torque (N.m)	Önerilen Çene Sıkıştırması Recommended Jaw Compression	Kabul Edilebilir Çene Sıkıştırması Allowable Jaw Compression	(g)
1486-MBOD1	17.3	81.5	0.07	0.38	200
1486-MBOD2	17.8	135.5	0.1	0.64	960

Referans Nr.	(g)	Proper MBOD Clamps
1486-MBOD1-01	130	MBOD-1
1486-MBOD2-01	740	MBOD-2

Ürün Nr. 1486 Merkezi Pabucu

Çene
• S17C Çelik
• Florlu Plastik Kaplama

Başlık
• A6061 alüminyum
• Sert anodize edilmiş

Product Nr. 1486 Concentric OD Clamps

Jaw
• S17C Steel
• Fluoroplastic coated

Cap
• A6061 aluminum
• Hard anodized

Özellikler

- Yüksek şeklindeki çeneler yüksek bir bağlama kuvveti açığa çıkarır.
- İşlenebilir çene işparçalarına geniş bir bağlanma alanıyla işlenerek her tür şekildedeki işparçasına bağlanabilir ve uzun işparçalarını tutabilir.

Features

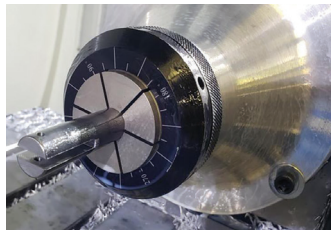
- Collet-shaped jaws generate high clamping force.
- The machinable jaw can clamp any shape of workpieces and hold long workpieces with a wide clamping area by machining completely through.

Not

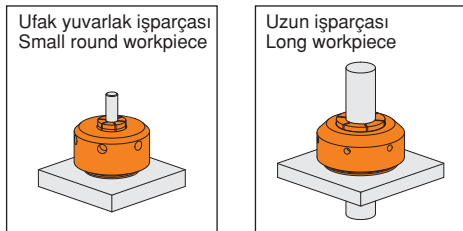
- Deformasyon ve hasarı önlemek için iş parçasını takmadan önce başlığı sıkmayın.

Note

- Do not tighten the cap without the workpiece to prevent damage and deformation.



Kullanım Örneği / Application Example

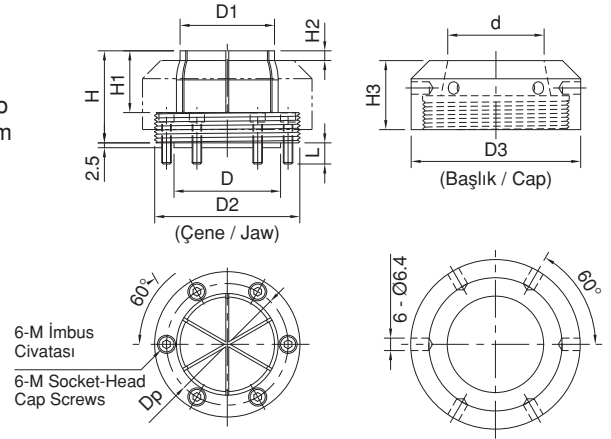
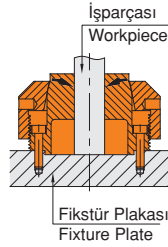


Kilit Nokta

Kompakt tasarım ve yüksek bağlama kuvveti 0.25mm küçüklüğünde ve uzun işparçalarına uyumludur

Key Point

Compact design with high clamping force Applicable to small workpieces of 0.25mm and long workpieces



Teknik Bilgi / Technical Information

Başlığın üzerindeki göstergeler tork anahtar kullanmadan tork kontrolü yapabilmemiz için rotasyon açısını gösterir.

Indicators on the cap are guides to read the rotation degree for torque control without a torque wrench.

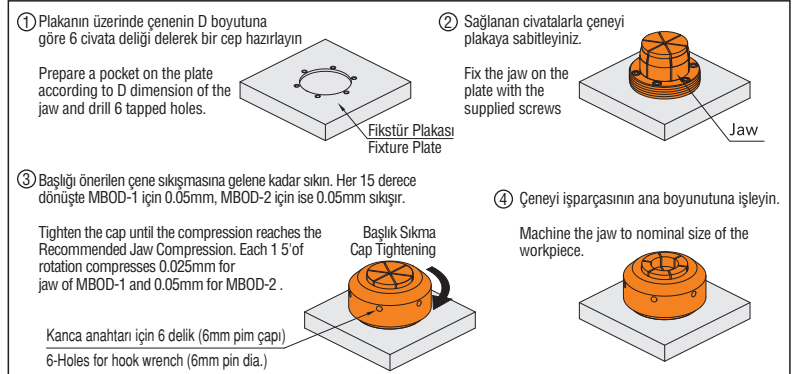
Sıkma Torku Tightening Torque (N.m)	MBOD-1		MBOD-2	
	Dönüş Derecesi ** Rotation Degree	Bağlanma Kuvveti Clamping Force(kN)	Dönüş Derecesi ** Rotation Degree	Bağlanma Kuvveti Clamping Force(kN)
13.5	43°	2.9	20°	1.8
27	66°	5.8	31°	3.6
40.5	88°	8.7	37°	5.3
54	111°	11.6	44°	7.1
68	133°	14.5	49°	8.9
81.5	165°	17.3	53°	10.7
95	-	-	56°	12.5
108.5	-	-	60°	14.2
122	-	-	65°	16
135.5	-	-	67°	17.8

** 0 derece pabucun işparçasıyla ilk temas ettiği yerdir.

** 0° is when the clamp first contacts the workpiece.

Fix the jaw on the plate with the supplied screws.

Kullanım Şekli / How To Use



Referans Nr.	D		H	H1	R	H2		L1	Uygun Civatalar Proper Cap Screws	Sıkma Kuvveti Clamping Force Kgf	
	min.	max.				min.	max.				
1487-04001	19.5	24	9	2.5	R9.5	8	2.6	9.4	M4	200	20
1487-06001	23.5	29	13	4	R11.5	11.5	5	13	M6	500	45
1487-08001	28.5	36	17	5.5	R14	15	6	19	M8	900	90

Ürün Nr. 1487 Delik İçi Bağlama

- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 1487 I.D. Holding Clamps

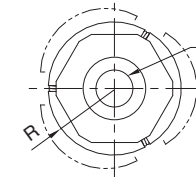
- Hardened
- Black coating

Özellik

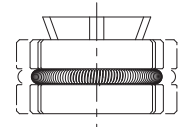
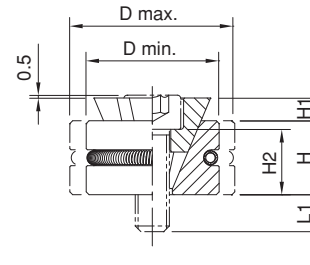
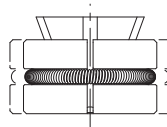
- Bu pabuçlar iş parçasını iç çaptan sıkma işlemi yapar.
- Kamanın konik yapısından dolayı güçlü bir bağlama yapar.
- Uzun strok özelliği ile dökülmüş deliklerde ve kaba deliklerde kullanım olanağı sağlar.

Feature

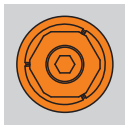
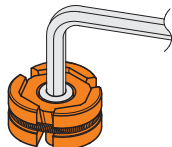
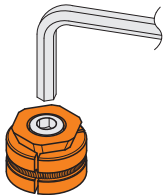
- These clamps hold the inside diameter of the workpiece.
- The wedge construction allows powerfully clamping the workpiece.
- Long clamping stroke is ideal for holding as-cast or roughly-finished holes.



Sabitleme Civata Yeri
For Hex Socke-Head Cap Screws



Kullanım Şekli / How To Use



Açık Konum
Unclamping Mode

Kapalı Konum
Clamping Mode

İş parçasını sıkma anında çizgi halinde temas eder. Finit delikler için tavsiye edilmez. Delik içinde deforme olabilir.

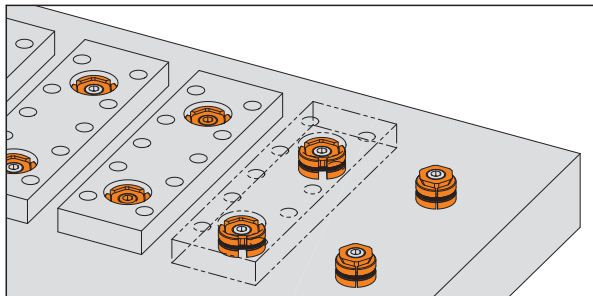
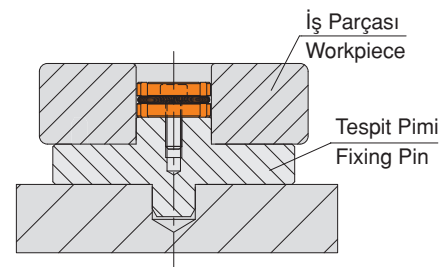
The clamp makes a line contact with the workpiece at the clamping mode. This contact can mar the surface of the workpiece depending on its materials, and using these clamps for accurately finished holes is not recommended.

Not


- Doğru bir merkezleme işlemi aşağıdaki görsel gibidir.

Notes

- For accurate locating, use these clamps with a locator as shown below.



2'li bağlama uygulama örneğidir.
Example of application where two I.D. Holding Clamps are used.

Referans Nr.	d		h		h1	M	L1	W	Sıkma Kuvveti Clamping Force kgf	Tork Değeri Allowable Screw Torque (N - m)	 (g)
	min.	max.	d min.	d max.							
1487-04001A	8	10.3	5.5	4.6	0.9	M4x12	7.3	2.5	900	2.1	3
1487-05001A	10	12.3	6.4	5.6	1.1	M5x15	9.1	3.	1500	4.3	5
1487-06001A	12	16.3	8.6	7	1.3	M6x18	11.2	4.	2100	7.3	9
1487-08001A	16	22	11.5	9.4	1.6	M8x25	16.2	5	4000	18	22
1487-04001B	8	10.3	5.5	4.6	5.1	M4x12	7.1	3	1500	2.7	4
1487-05001B	10	12.3	6.4	5.6	6.2	M5x15	9	4	2500	5.4	7
1487-06001B	12	16.3	8.6	7	7.9	M6x18	10.6	5	5000	9.1	11
1487-08001B	16	22	11.5	9.4	10.4	M8x25	15.4	6	9000	25	28



Ürün Nr. 1487 Delik İçi Bağlama

- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 1487 I.D. Holding Clamps

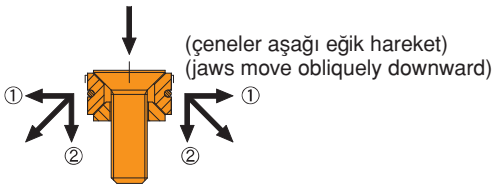
- Hardened
- Black coating

Özellik

- Bu bağlamalar / clampers iş parçasının iç çapından tutar.
- İş parçasını Kama Konstrüksiyon güçlü sıkmasını sağlar.
- Uzun sıkma stroku döküm veya kabaca bitmiş delikleri tutmak için idealdir.

Features

- These clamps hold the inside diameter of the workpiece.
- The wedge construction allows powerfully clamping in the workpiece.
- Long clamping stroke is ideal for holding as-cast or roughly-finished holes.



- ① İş parçasına karşı yatay basınç
Horizontal pressure against workpiece
- ② İş parçasının yükselmesini engelleyen dikey basınç.
Vertical pressure preventing workpiece lift

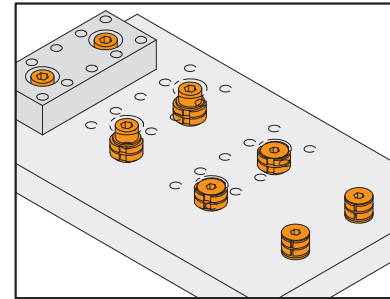
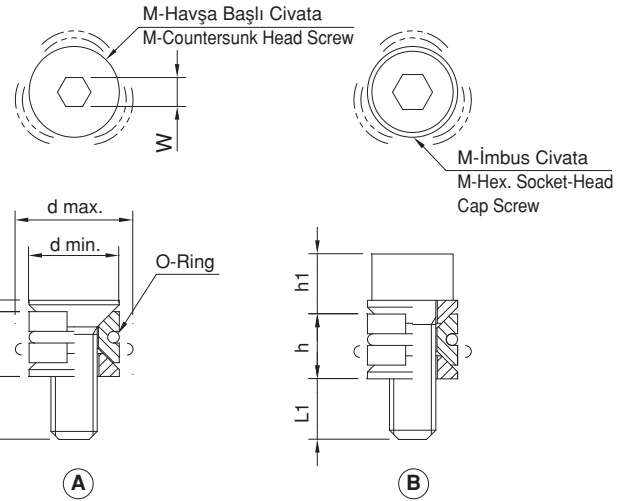
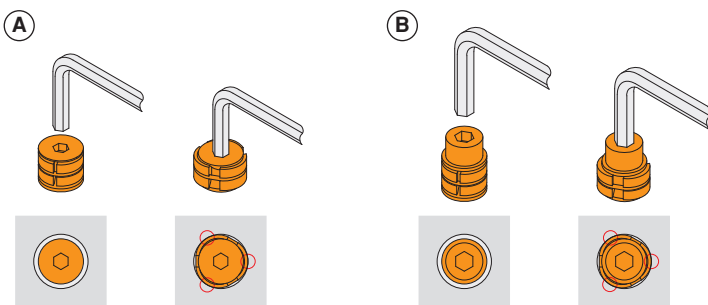
Kullanım Şekli / How To Use

Not

- Pabuç iş parçasını sıkma modundayken bağlantı hattına temas eder. Kendi meteryallerine bağlı iş parçası yüzeyini işaretleyebilirsiniz ama bitmiş / finish delikler için bu pabuçların kullanılması tavsiye edilmez.

Notes

- The clamp makes a line contact with the workpiece at the clamping mode. This contact can mark the surface of the workpiece depending on its materials and using these clamps for accurately finished holes is not recommended.



Delik içi bağlamaların kullanıldığı iki kompakt uygulamalardan örnek.

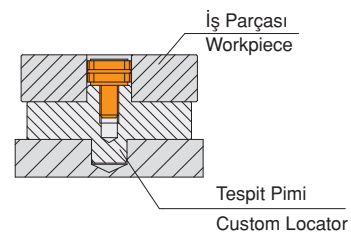
Example of applications where two compact ID holding clamps are used.

Not

- Aşağıda gösterildiği gibi doğru yer tespiti için, bir konum belirleyici ile bu pabuçları kullanın.

Notes

- For accurate locating, use these clamps with a locator as shown below.



Referans Nr.	Ayarlanabilir İş parçası çapları Adaptable Workpiece Dia.	d1	d2	h2	h1	d (⁰ / _{0.05})	h	M	L	w	M1	L1	dp	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N - m)	İzin Verilen Boşluk Recommended Range of Expansion of Dia	İzin Verilen Açılma Çapı Allowable Expansion of Dia	(g)
1488-00004	Ø7.1-Ø12.4	12.4	7.1	15	16	29.72	21.8	M4	7.2	3	M3	6	21	420	5	0.07	0.13	45
1488-00006	Ø12.2-Ø14.2	14.2	12.2	15	19	31.5	24.9	M6	11.2	5	M3	6	23.1	440	17	0.08	0.23	60
1488-00008	Ø13.5-Ø20	20	13.5	15	19	37.5	24.9	M8	13.2	6	M3	6	29	1100	34	0.08	0.30	95
1488-00010	Ø18-Ø27	27	18	17.5	22.2	50	28.6	M10	16.3	8	M4	7	39.4	2000	60	0.08	0.35	190
1488-00012	Ø23-Ø35.3	35.3	23	20.6	25.4	56	31.8	M12	20.3	10	M4	7	45.5	2600	150	0.08	0.35	300
1488-0016A	Ø29.3-Ø42	42	29.3	27	31.8	69.5	39.6	M16	21.4	14	M5	13	55.9	4400	280	0.08	0.35	570
1488-0016B	Ø29.3-Ø51.5	51.5	29.3	27	31.8	75.5	39.6	M16	21.4	14	M5	13	63.9	4400	280	0.08	0.35	750
1488-0016C	Ø29.3-Ø77.7	77.7	29.3	32.3	37.6	107.5	45.5	M16	19.3	14	M6	14	92.6	4400	280	0.15-0.4	0.60	1800
1488-0016D	Ø29.3-Ø103	103	29.3	32.3	37.6	132.9	45.5	M16	19.3	14	M6	14	118.1	4400	280	0.15-0.4	0.60	2900
1488-0016E	Ø29.3-Ø175	175	29.3	32.3	37.6	132.9	45.5	M16	19.3	14	M6	14	118.1	4400	280	0.15-0.4	0.80	6500
1488-0016F	Ø29.3-Ø250.2	250.2	29.3	32.3	37.6	152.4	45.5	M16	19.3	14	M6	14	133.4	2600	170	0.15-0.4	0.80	4800

Ürün Nr. 1488 Delik İçi Bağlama
Gövde

- Siyah Kaplama

Civata

- Sertleştirilmiş

Özellik

- Delik çapından tutma işlemi yapar
- Mükemmel kullanımıyla birden fazla sıkma seçeneği sağlar
- Sağ tarafta görüldüğü gibi hidrolik çekme ile de kullanım olanağı sağlar.
- İş parçasına göre ayarlama olanağı sağlar

Not

- İşlenmiş olan parçaların köşeleri minimum 0.5 köşe olmalı. Radüs olabildiğince büyük olmalı
- İş parçasının deliği radüse denk gelirse burç kullanın
- İsteğe bağlı dış çap ölçü değişikliği yapabiliriz.

Product Nr. 1488 I.D. Holding Clamps
Body

- Black coating

Tapered Screw

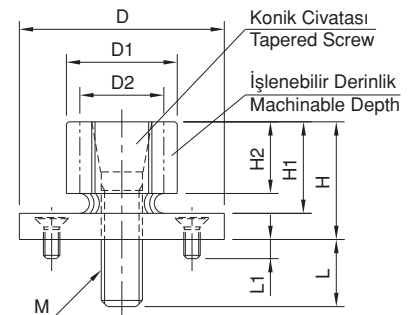
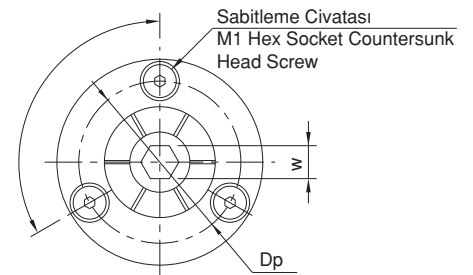
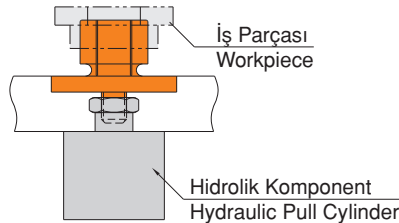
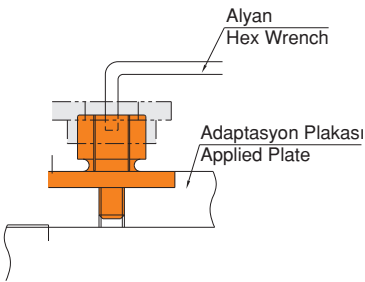
- Hardened

Features

- Can hold workpieces on an inside diameter.
- Perfect for multiple-parts holding arrangement.
- Using hydraulic pull cylinders to clamp instead of using hex wrenches allows automation.
- Can be machinable to suit your workpieces.

Notes

- The minimum radius of corners at the machined part should be 0.5mm for clamping small workpieces. To prevent stress concentration on these corners, make the radius as large as possible.
- If the radius will interfere with the bottom of the workpiece bore, we suggest a ring or rest-pads be fixed to the flange.



Referans Nr.	Uyumlu İşparçası Çapı Adaptable Workpiece Dia*	Bağlama Kuvveti Clamping Force (N)	Kabul Edilebilir Civata Torku Allowable Screw Torque(N•m)	Önerilen Çap Geniştirme Aralığı Recommended Expansion Range of Dia**	Kabul Edilebilir Çap Genişlemesi Allowable Expansion of Dia.	(g)
1488-MBSIDM	φ17.8 ~ φ28.7	15,000	47	0.02 ~ 0.18	0.30	358
1488-MBSIDL	φ17.8 ~ φ53.3	15,000	47	0.02 ~ 0.18	0.30	720

* Pabucunuzu işparçanıza uyması için işlemez gerekir.

** Özel boyutlu işparçalarının çapını işlemek için önerilen sıkma torku 13.5 N.m dir.

* You need to machine the clamp to suit the diameter of your workpieces.

** The recommended tightening torque to machine the diameter for custom fit is 13.5N•m.

Ürün Nr. 1488 Delik İçi Bağlama

- Gövde**
- SUM24L Çelik
 - Siyah Oksit Kaplama

- Silindirik Kam**
- SCM440 Çelik
 - Siyah Oksit Kaplama
 - HRC 39~45

- Konik Kilit Pimi**
- SCM440 Çelik
 - Florlu Plastik Kaplama
 - HRC 52

- Yay**
- SWP

Product Nr. 1488 Side Lock ID Holding Clamps

- Body**
- SUM24L Steel
 - Black oxide finished

- Cam cylinder**
- SCM440 steel
 - Black oxide finished
 - HRC 39~45

- Tapered Plunger**
- SCM440 steel
 - Fluoroplastic coated
 - HRC 52

- Spring**
- SWP

Not

- Hasar ve deformasyonu önlemek için iş parçası olmadan pabuç civatasını sıkmayın
- Küçük işparçalarını bağlamak için işlenmiş kısımdaki köşelerin minimum yarıçapı 0.5mm olmalıdır. Bu köşelerdeki stres konsantrasyonunu önlemek için köşelerin yarıçapını olabildiğince büyük yapın.
- Eğer yarıçap işparçasının alt çapıyla çakışıyorsa başlığı bir pabuç halkası vb. bir parçayla sabitlemenizi öneririz.

Note

- Do not tighten the clamp screw without the workpiece set to prevent damage and deformation.
- The minimum radius of corners at the machined part should be 0.5mm for clamping small workpieces. To prevent stress concentration on these corners, make the radius as large as possible.
- If the radius will interfere with the bottom of the workpiece bore, we suggest a ring or rest-pads be fixed to the flange.

Özellikler

- Yandaki soket başlı kam silindiri çevirerek işparçalarını bir iç çapla tutabilirsiniz.
- Çok parçalı bir tutma düzeni için bire birdir.
- İşparçalarınıza uygun olması için işlenebilirler.

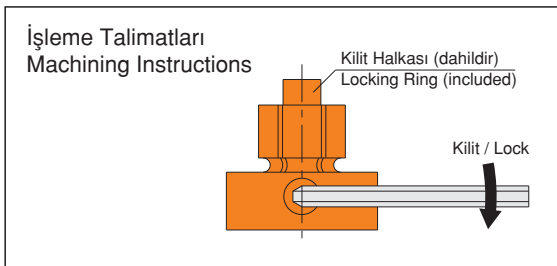
Features

- Can hold workpieces on an inside diameter by turning a socket head cam cylinder on the side.
- Perfect for multiple-parts holding arrangement.
- Can be machinable to suit your workpieces.

Çıkarılmış Parçalar / Furnished Parts

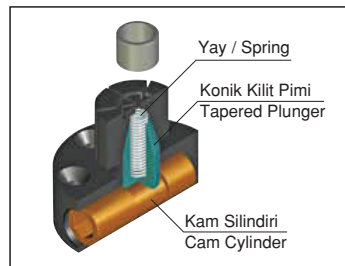
- 1 Kilit Halkası / 1 of locking ring

Kullanım Şekli / How To Use



Kilit halkasını üst taraftaki kanala yerleştirip pabucu çap boyutuna göre işleyin.

Insert the locking ring to the groove of the upper surface and clamp it, and then machine the clamp to your bore size.



Kam Silindiri her iki tarafa döndürmek de pabucu genişletir. (Saat yönü ve Saat yönünün tersi)

Rotating the cam cylinder both clockwise and counterclockwise expands the clamp.

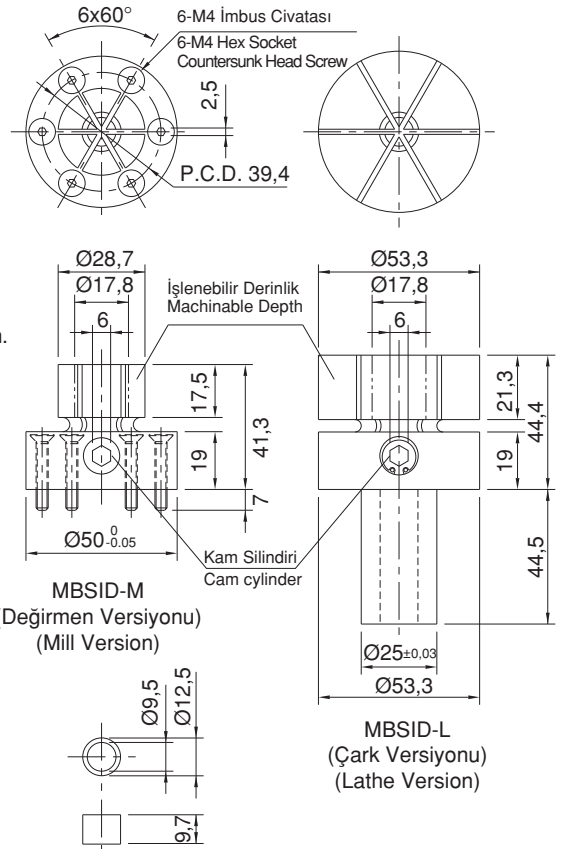
NEW



**MBSID-M
(Değirmen Versiyonu)
(Mill Version)**



**MBSID-L
(Çark Versiyonu)
(Lathe Version)**



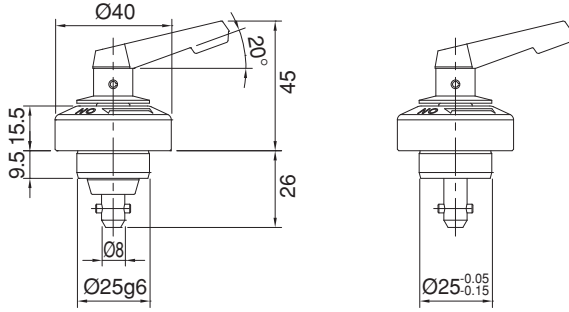
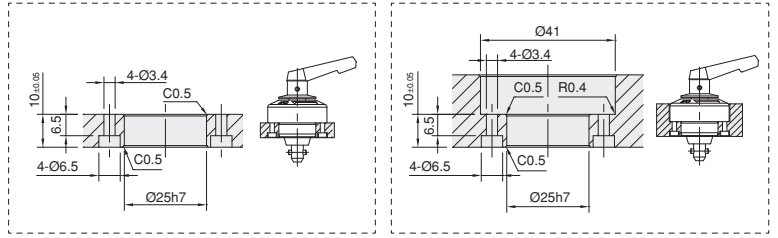
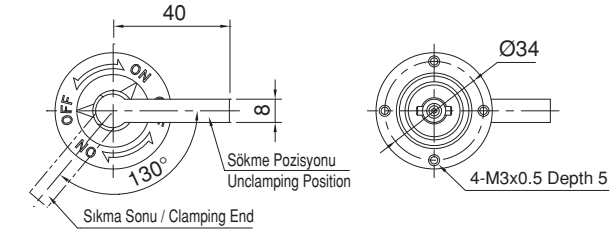
Kilit Halkası / Locking Ring

Referans Nr.	Sıkma Kuvveti Clamping Force (N)	Kaldırma Kuvveti Lifting Force (N)	(g)
1489-0840R.06	600	100	220
1489-0840R.06N	700	-	215



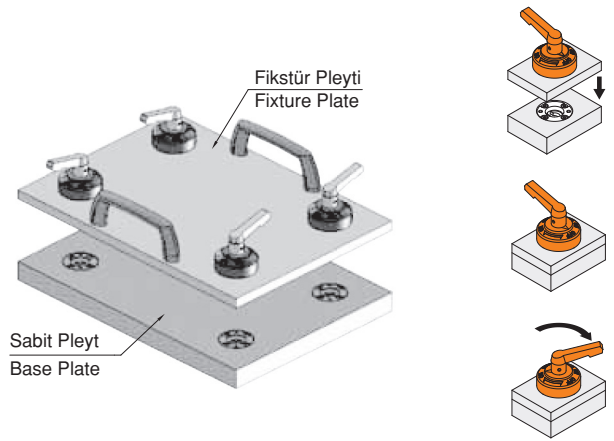
Ürün Nr. 1489 Tek Dokunuş Bağlama
• Siyah Kaplama

Product Nr. 1489 Single Touch Clamp
• Black coating



0840R.06

0840R.06N



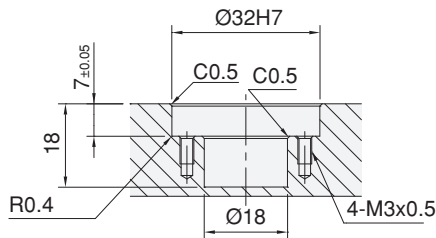
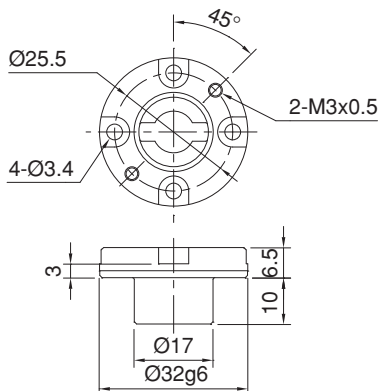
Referans Nr.	(g)
1489-0840R	32

Ürün Nr. 1489 Tek Dokunuş Bağlama Burcu
• Siyah Kaplama

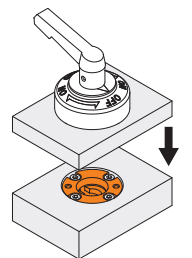
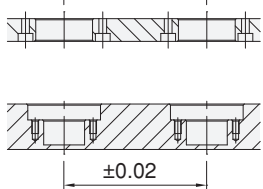
Product Nr. 1489 Single Touch Clamping Bush
• Black coating

Tek Dokunuş Bağlama Burcu

Single Touch Clamping Bush



Tolerans / Tolerance ± 0.02



Referans Nr.	D (g6)	H	D1	H1	M	H2	M1	Dp	Kaldırma Kuvveti Lifting Force (N)	(g)
1489-16032K	32	6.5	20	7	M3	3	M3x0.5	25.5	110	60
1489-25050K	50	10	32	9	M4	5	M4x0.7	42	180	160
1489-38070K	70	15	48	14	M5	9	M5x0.8	60	400	508
1489-56095K	95	22	70	21	M6	15	M6x1.0	84	690	1451

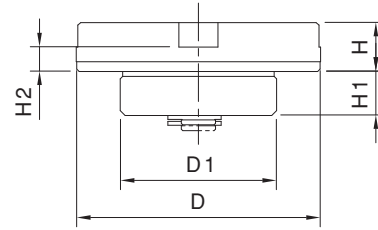
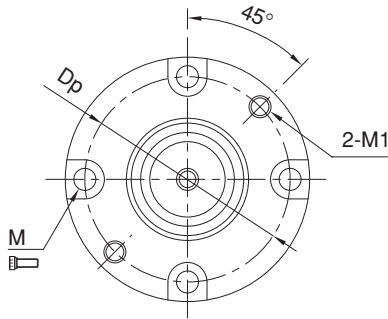


Ürün Nr. 1489 Konumlama Burcu (Kapalı)

- Kaldırma kuvveti hareketli konik burcu yukarı itmek için yay kuvvetini kullanır.(N)
- Vidalar doğru sırayla sıkılmadığında tekrarlanabilirlik 0.01 aşabilir.
- Toplam yük, maksimum yük kapasitesini aşıyorsa, tekrarlanabilirlik 0.01 aşabilir.

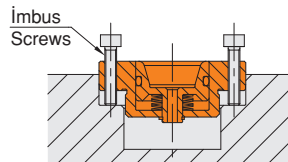
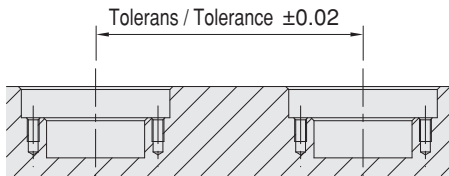
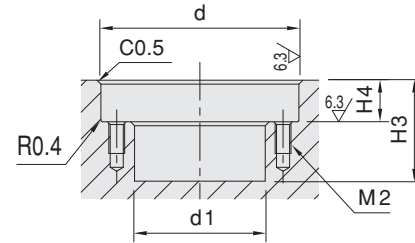
Product Nr. 1489 Positioning Bush (Blind)

- The lifting force is the power of the inner spring of the body to push up the movable tapered bushing.(N)
- If the screws are not tightened in the correct order, the locating repeatability may exceed 0.01
- If the total load exceeds the maximum loading capacity, the locating repeatability may exceed 0.01

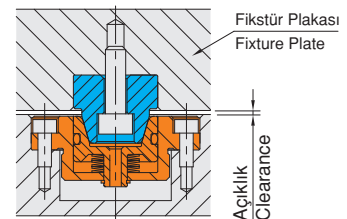
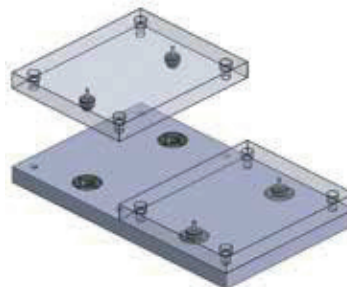
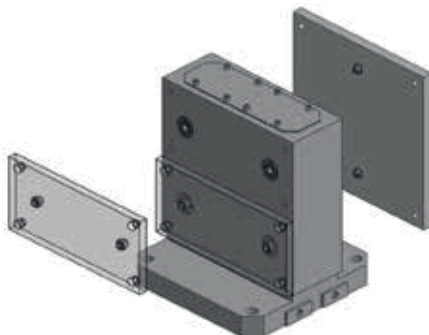



Montaj Detayı / Mounting Details

Referans Nr.	d (H7)	H4 (±0.05)	d1	H3	M
1489-16032	32	7	21	18	M3x0.5
1489-25050	50	10.5	33	24	M4x0.7
1489-38070	70	15.5	49	35	M5x0.8
1489-56095	95	22.5	71	51	M6x1.0



Uygulama Örneği / Application Example

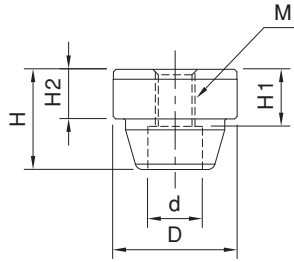


Referans Nr.	D (g6)	H2	H	M	H1	d	
1489-16032	16	5.5	11.5	M5x0.80	6	8	18
1489-25050	25	10	20	M8x1.25	11.5	11	49
1489-38070	38	15	29.5	M10x1.50	18	14	176
1489-56095	56	22	43.5	M16x2.00	28.5	20	569



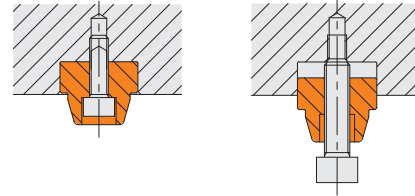
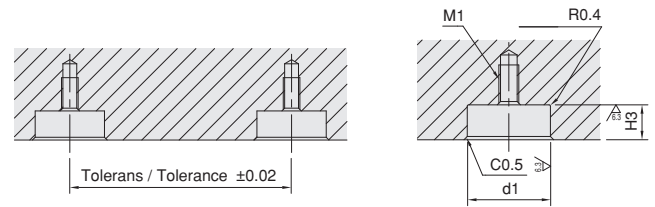
Ürün Nr. 1489 Konumlama Pimi


Product Nr. 1489 Positioning Pin



Montaj Detayı / Mounting Details

Referans Nr.	d1 (H7)	H3 (±0.05)	M1
1489-16032	16	6	M4x0.7
1489-25050	25	10.5	M6x1.00
1489-38070	38	15.5	M8x1.25
1489-56095	56	22.5	M12x1.75



Referans Nr.	D	H	M	W	
1489-16032P	12	4	M3x0.5	2	3
1489-25050P	19	6	M4x0.7	2.5	5
1489-38070P	29	7	M5x0.8	3	14
1489-56095P	44	8	M6x1.0	4	35

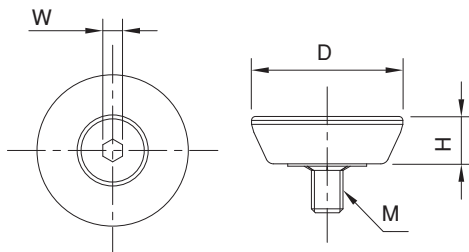
Konumlama Pimi Kapağı

Positioning Pin Cover

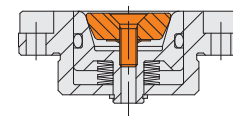


Ürün Nr. 1489 Konumlama Pimi Kapağı

Product Nr. 1489 Positioning Pin Cover



Montaj Detayı / Mounting Details





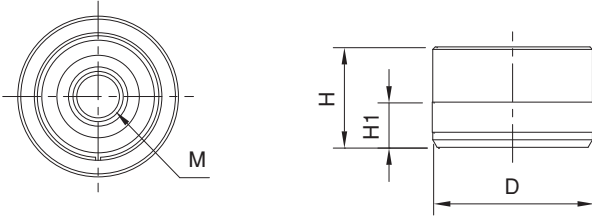
Referans Nr.	D	H	H1	M	Kaldırma Kuvveti Lifting Force (N)	(g)
1489-12025A	25 ^{+0.028} _{+0.018}	16	8	M8x1.25	540	46
1489-15032A	32 ^{+0.031} _{+0.021}	20	9	M10x1.50	600	92
1489-20045A	45 ^{+0.031} _{+0.021}	26	11	M14x1.50	780	230

Ürün Nr. 1489 Konumlama Burcu (Açık)

- Kaldırma kuvveti hareketli konik burcu yukarı itmek için yay kuvvetini kullanır.(N)
- Vidalar doğru sırayla sıkılmadığında tekrarlanabilirlik 0.01 aşabilir.
- Toplam yük, maksimum yük kapasitesini aşıyorsa, tekrarlanabilirlik 0.01 aşabilir.

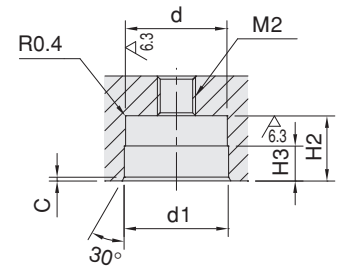
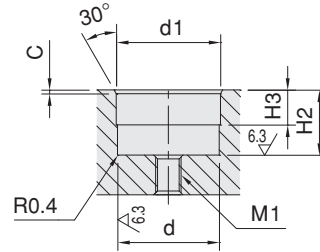
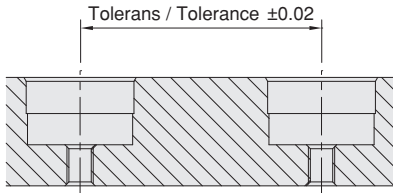
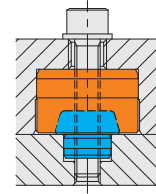
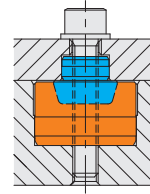
Product Nr. 1489 Flex Locator Bushings (Through)

- The lifting force is the power of the inner spring of the body to push up the movable tapered bushing.(N)
- If the screws are not tightened in the correct order, the locating repeatability may exceed 0.01
- If the total load exceeds the maximum loading capacity, the locating repeatability may exceed 0.01

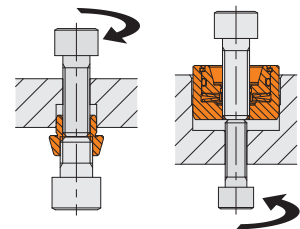
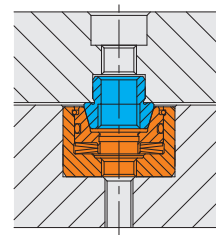
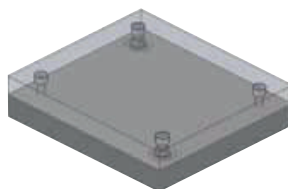
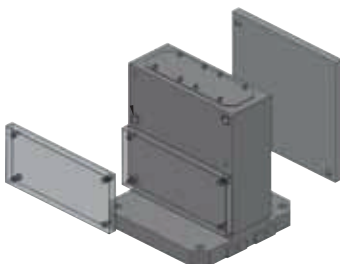



Montaj Detayı / Mounting Details

Referans Nr.	d (H6)	H2 (±0.05)	d1	H3	M1	M2
1489-12025	25	16.5	25.2	8	M6x1.00	M10x1.50
1489-15032	32	20.5	32.2	11	M8x1.25	M12x1.75
1489-20045	45	26.5	45.2	15	M12x1.75	M16x2.00



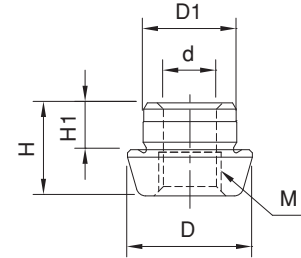
Uygulama Örneği / Application Example



Referans Nr.	D1 (p6)	H1	D	H	M	d	
1489-12025	12	4.5	15	10	M10x1.50	8.5	6
1489-15032	15	7.5	20	15	M12x1.75	10.2	16
1489-20045	20	10	30	20	M16x2.00	14	47

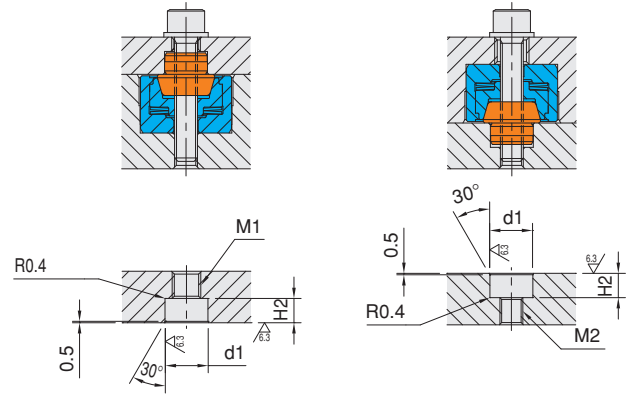
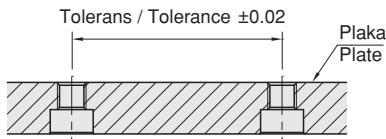
Ürün Nr. 1489 Konumlama Pimi


Product Nr. 1489 Positioning Pin



Montaj Detayı / Mounting Details

Referans Nr.	d (H6)	H2	M1	M2
1489-12025	12	5.5	M8x1.25	M6x1.00
1489-15032	15	8.5	M10x1.50	M8x1.25
1489-20045	20	11	M14x1.50	M12x1.75



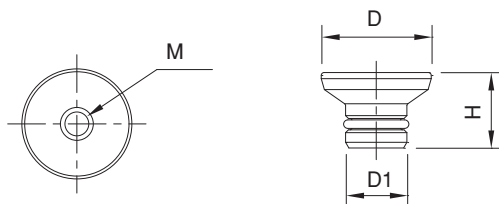
Referans Nr.	D	H	D1	M	
1489-12025P	15	10	9	M4x0.7	2
1489-15032P	19	13	11	M5x0.8	5
1489-20045P	29	18	16	M6x1.0	17

Ürün Nr. 1489 Konumlama Pimi Kapağı

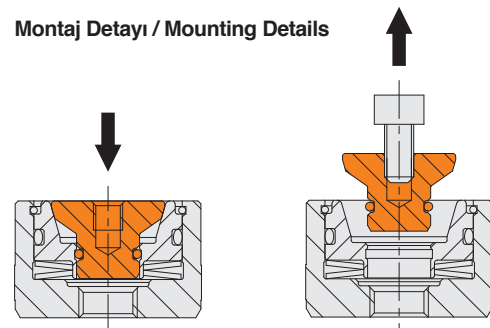
Product Nr. 1489 Positioning Pin Cover

Konumlama Pimi Kapağı

Positioning Pin Cover



Montaj Detayı / Mounting Details



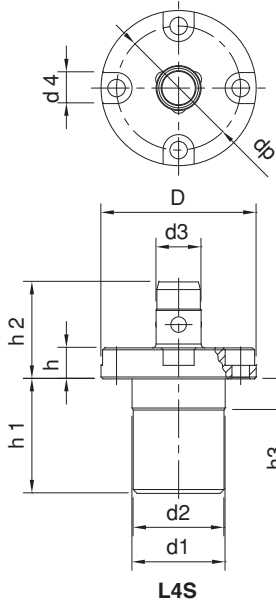
Referans Nr.	d1 g6	h3	d2	h1	D	h	d3 (h8)	h2	d	Lf	d4	dp	M	Hava Basıncı Air Pressure (MPa)	Sıkma Kuvveti Clamping Force (N)	(g)
1489-18L4S	24	8	23.4	29.5	40	8	12	11	4.5	3.5	8	32	-	0.5	250	154
1489-26L4S	32	8.5	31.4	31.7	51	9.5	16	16	5.5	4	9.5	41	-	0.5	350	289
1489-18L4SG	24	8	23.4	29.5	40	8	12	11	4.5	3.5	8	32	M4x0.7	0.5	250	136
1489-26L4SG	32	8.5	31.4	31.7	51	9.5	16	16	5.5	4	9.5	41	M5x0.8	0.5	350	252

Ürün Nr. 1489 Pnömatik Bağlama

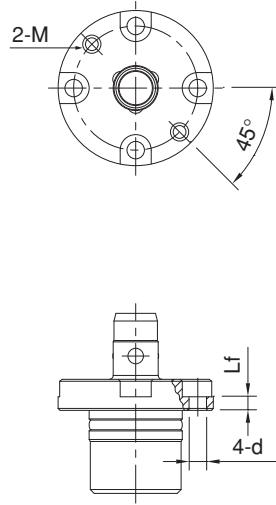
- Nikel Kaplama
- Tekrarlama Hassasiyeti $\pm 10\mu\text{m}$

Product Nr. 1489 Pneumatic Clamp

- Nickel Coating
- Repeat Accuracy $\pm 10\mu\text{m}$



L4S



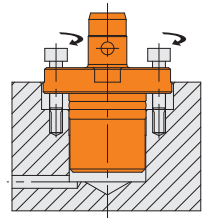
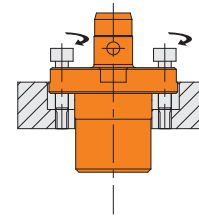
L4SG



L4S



L4SG



Pnömatik Bağlama Burç

Pneumatic Clamping Bush

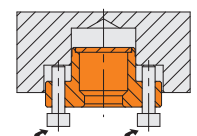
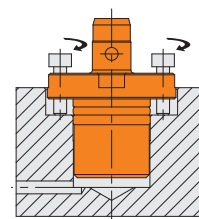
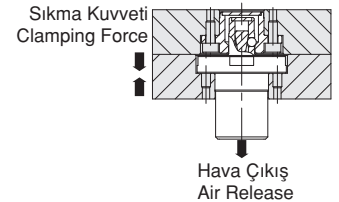
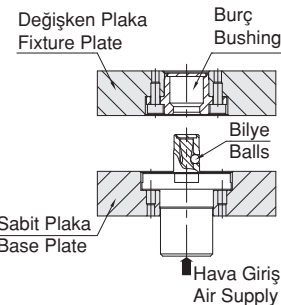
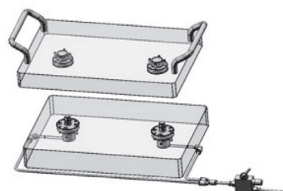
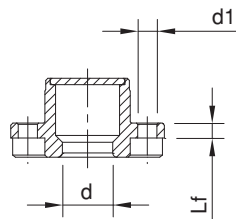
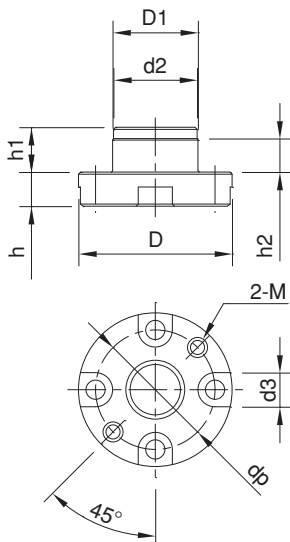
Referans Nr.	D1 g6	h2	d2	h1	D	h	d e7	d1	Lf	d3	M	dp	(g)
1489-18BU	20	7.5	19.6	10.5	36	8	12.1	4.5	3.5	8	M4x0.7	28	57
1489-26BU	25	7	24.6	11	44	9.5	16.1	5.5	4	9.5	M5x0.8	34	97


Ürün Nr. 1489 Pnömatik Bağlama Burç

- Nikel Kaplama
- Tekrarlama Hassasiyeti $\pm 10\mu\text{m}$

Product Nr. 1489 Pneumatic Clamping Bush

- Nickel Coating
- Repeat Accuracy $\pm 10\mu\text{m}$



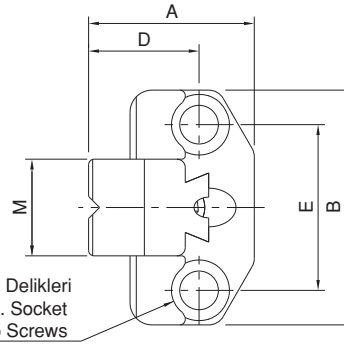
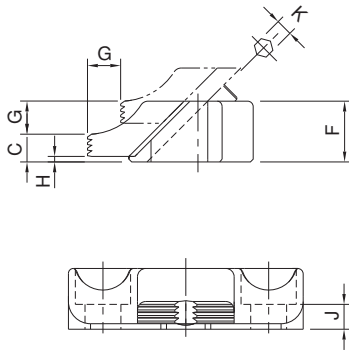
Referans Nr.	A	B	C	D	E	F	G	H	J	K	L	M	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	
2072-08016	39.5	65	7.5	25	45	16	7	1.5	7	4	M8	25	400	8	160
2072-12022	60	85	10	40	60	22	12	2	9	6	M12	35	900	26	450
2072-16030	77	100	14	50	70	30	14	2	13	8	M16	40	1700	60	900

Ürün Nr. 2072 Yandan Bağlama

- Siyah Kaplama


Product Nr. 2072 Side Clamps

- Black Coating



Yandan Bağlama

Side Clamps

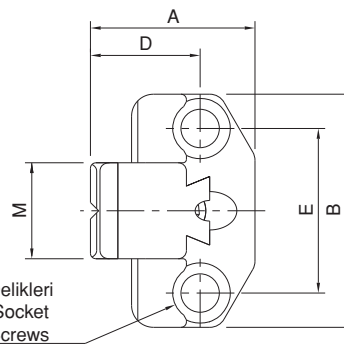
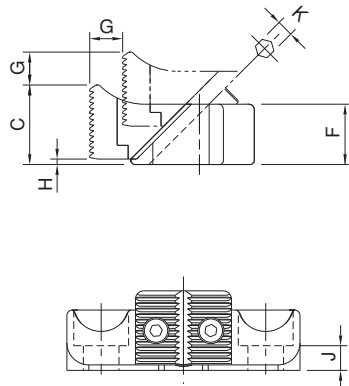
Referans Nr.	A	B	C	D	E	F	G	H	J	K	L	M	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	
2073-08016	39.5	65	19.5	25	45	16	7	1.5	7	4	M8	25	400	8	180
2073-12022	60	85	29	40	60	22	12	2	9	6	M12	35	900	26	500
2073-16030	77	100	38	50	70	30	14	2	13	8	M16	40	1700	60	1010

Ürün Nr. 2073 Yandan Bağlama

- Çene Sertlik: Sertleştirilmiş
- Siyah Kaplama

Product Nr. 2073 Side Clamps

- Hardness of jaw: Hardened
- Black Coating



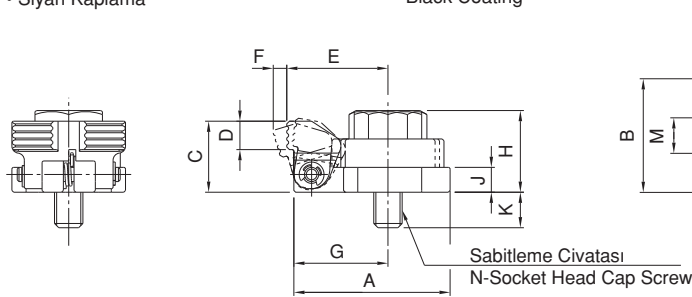
Referans Nr.	A	B	C	D	E	F	G	H	J	K	L	M	N
2077-08001	44	32	20	8	28.5	4	26.5	23	7	15	19	10	M8x1.25
2077-10001	54	40	25	10	35	5	33	29	9	16	24	12	M10x1.5
2077-12001	62	46	30	12	39.5	5.5	37.5	35	11	17	27	14	M12x1.75

Referans Nr.	P	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	(g)
2077-08001	6	350	45	160
2077-10001	8	550	55	310
2077-12001	10	700	70	490



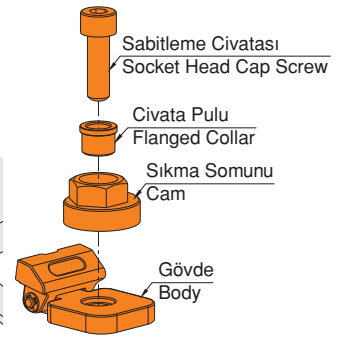
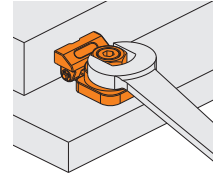
Ürün Nr. 2077 Yandan Bağlama
• Siyah Kaplama

Product Nr. 2077 Side Clamps
• Black Coating



Kullanım Şekli / How To Use

- Önce parçayı sabitleyip sonra anahtar ile sıkma işlemi yapılır.
- Secure the body and the flanged collar with a socket head cap screw, and then turn the the cam with a wrench to clamp a workpiece.



Referans Nr.		a h6	b -0.6	c DIN 650	d ±0.01	h1 ±0.01	h1 ±0.02	h2	h3	ISO 4762	(g)
2120-1425	14	0-0.011	14	24	32	25	-	9	8	M8x35	200
2120-1450	14	0-0.011	14	24	32	-	50	9	8	M8x60	355
2120-1825	18	0-0.011	18	30	40	25	-	15	10	M10x40	360
2120-1850	18	0-0.011	18	30	40	-	50	15	10	M10x65	600
2120-2225	22	0-0.013	22	38	40	25	-	15	14	M10x50	410
2120-2250	22	0-0.013	22	38	40	-	50	15	14	M10x75	650

Silindir Dayama
Cylinder Pluggable

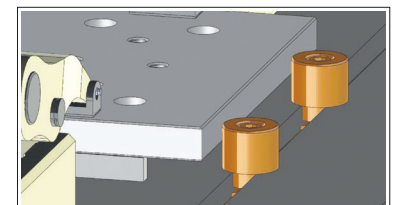
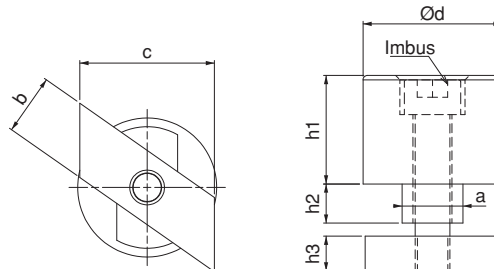



Ürün Nr. 2120 Silindir Dayama

- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 2120 Cylinder Pluggable

- Hardened
- Black coating



Referans Nr.	Stopersiz Kullanım In Use Without Slip Stopper		Stoperli Kullanım In Use With Slip Stopper		 (kg)
	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	
2135-1260	2900	38	6900	90	2.4

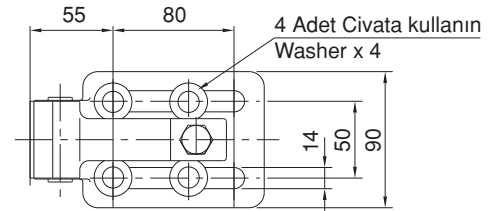
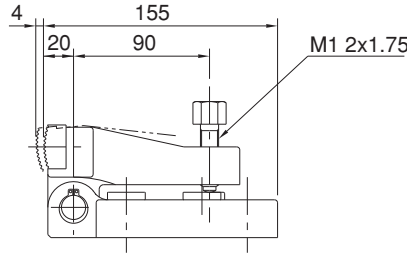
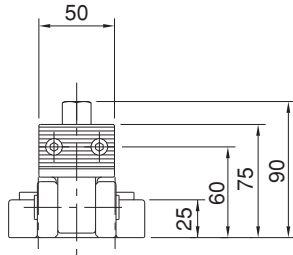
M12 civata için 4 adet pul dahildir.
4 washers for M12 bolts are included.

Ürün Nr. 2135 Yandan Bağlama

- Gövde**
- Malzeme: Dökme Demir
 - Siyah kaplama
- Çene**
- Sertleştirilmiş
 - Siyah Kaplama
- Civata**
- Sertlik: İndüksiyon
 - Siyah Kaplama

Product Nr. 2135 Side Clamps

- Body**
- Material: Cast Iron
 - Black coating
- Jaw**
- Hardened
 - Black coating
- Bolt**
- Hardness: Induction
 - Black coating



Yandan Bağlama

Side Clamps

Referans Nr.	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	 (kg)
2137-16060	5800	150	2.9

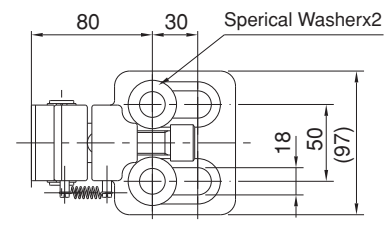
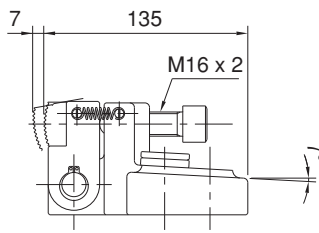
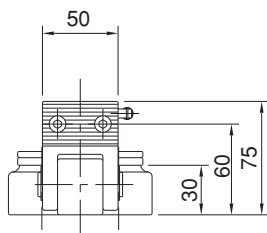
M12 ve M16 vidalar için 2 adet dereceli pul dahildir.
2 spherical washers for both M12 and M16 screws are included.

Ürün Nr. 2137 Yandan Bağlama

- Gövde**
- Malzeme: Dökme Demir
 - Siyah kaplama
- Çene**
- Sertleştirilmiş
 - Siyah Kaplama
- Civata**
- Sertlik: İndüksiyon
 - Siyah Kaplama

Product Nr. 2137 Side Clamps

- Body**
- Material: Cast Iron
 - Black coating
- Jaw**
- Hardened
 - Black coating
- Bolt**
- Hardness: Induction
 - Black coating



Referans Nr.	W1	W2	H1	H2	M	P1	H4	L4	W	L3	H5	d	L5	P
2139-32150	45	15	27	18	M4x0.7	30	18	13	75	20	8	6.6	3	60
2139-40200	60	20	33	22	M5x0.8	40	22	17	100	26	10	8.6	4	80

Referans Nr.	H	L	L2	R	L1	H3	M1
2139-32150	32	51	48	63	51.5	18	M4x0.7
2139-40200	40	67	63	80	67	22	M5x0.8

Referans Nr.	A	Sıkma Torku Clamping Stroke	Çalışma Yüğü Operating Load (N)	Sıkma Kuvveti Clamping Force Kgf	(g)
2139-32150	19	1.6	150	200	620
2139-40200	24	2.2	200	300	1360

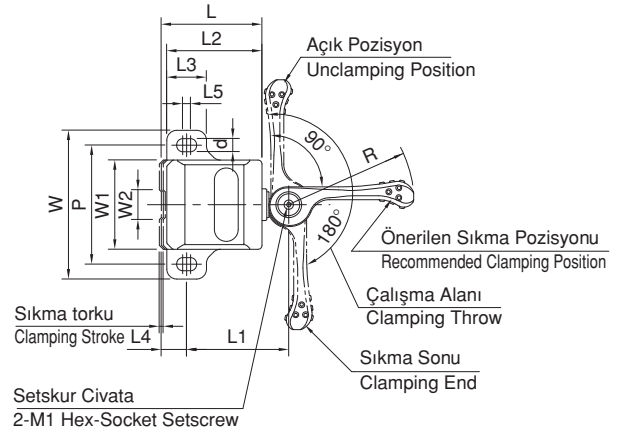
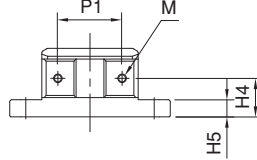
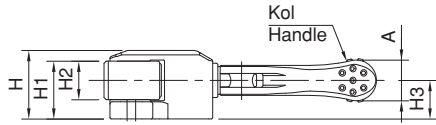


Ürün Nr. 2139 Tek Dokunuş Yandan Bağlama

- Siyah kaplama

Product Nr. 2139 Cam Edge Clamps

- Black coating

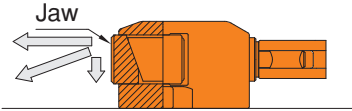


Özellikler

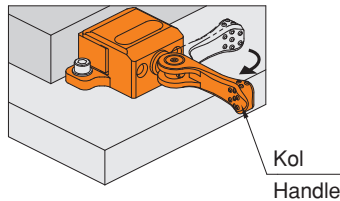
- Kol ile tek dokunuşta sıkma.
- Finiş işlerde mükemmel bağlama.
- Parçanın kalkmaması için çeneyi aşağı ve ileri iter.

Features

- The cam handle allows fast clamping in single operation.
- Precision-ground jaw is perfect for clamping the workpiece on its finished surface.
- In clamping, the jaw provides downward force to prevent part lift.



Kullanım Şekli How To Use

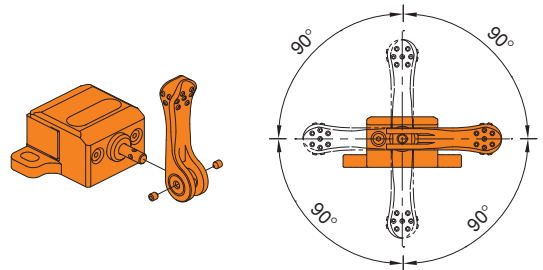


Kol Konumunu Değiştirme

90 derece 4 opsiyonlu kullanım

Changing Handle Position

The handle shaft has 4 countersinks which are provided every 90° for 4 options of handle position



Referans Nr.	Sıkma Torku Clamping Stroke	W1	W2	H3	H4	L2	W	L	H2	d	P	H5	L1
2141-00010	1	38	8	6	3	15	45	33.5	10	5.2	36	5	30.5
2141-00015	2	60	12	9	5	22	70	50	15	8.2	55	7	46

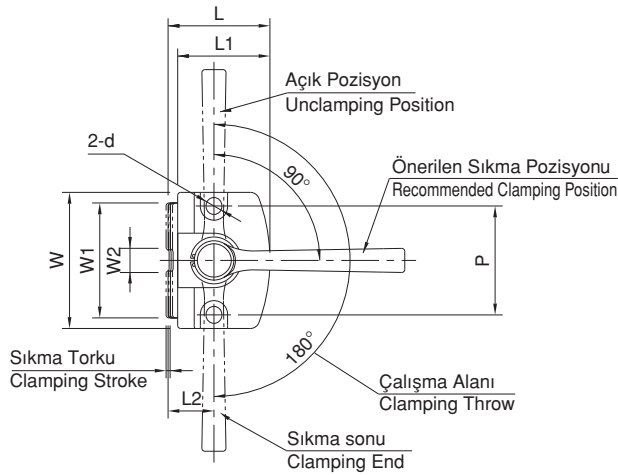
Referans Nr.	H	D	H1	R	A	W3	M1	İzin Verilen Tork Allowable Screw Torque (N m)	Sıkma Kuvveti Clamping Force Kgf	
2141-00010	30	13	20	63	12	6	M4x0.7	10	400	85
2141-00015	46	19	30	100	18	10	M5x0.8	27	600	290

Ürün Nr. 2141 Yandan Bağlama

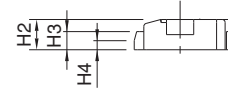
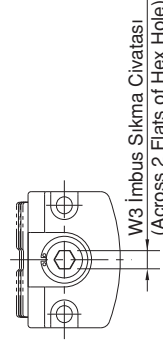
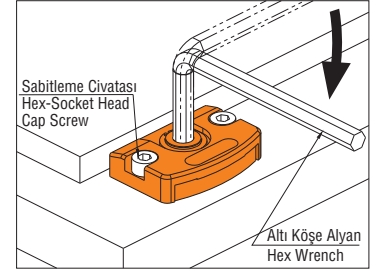
- Gövde**
- Siyah kaplama
 - Çene
 - Sertleştirilmiş
 - Siyah Kaplama

Product Nr. 2141 Side Clamps

- Body**
- Black coating
- Jaw**
- Hardened
 - Black coating



Kullanım Şekli / How To Use



Referans Nr.	S	W	W1	H1	L1	P	D (h7)	H2	M	L	H	T	Sıkma Kuvveti Clamping Force Kgf	Tork Değeri Allowable Screw Torque (N-m)	
2143-08015	3	25	10	25	21.5	10	6	7	M8	32	15	1.6	700	25	115
2143-10019	4	30	11	32	26	12	6	7	M10	40	19	2	850	50	225
2143-12023	5	35	12	38	33	16	8	10	M12	50	23	2.3	2000	90	390
2143-16025	6	40	14	45	40	20	10	10	M16	60	25	3.2	3000	150	640

Yandan Bağlama

Side Clamp

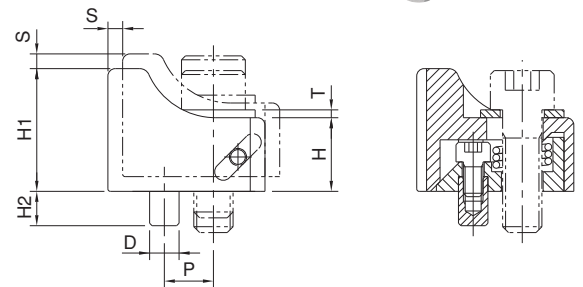


Ürün Nr. 2143 Yandan Bağlama

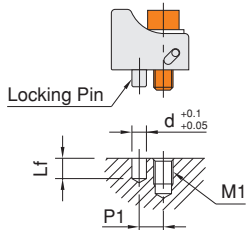
- Sertleştirilmiş
- Siyah Kaplama

Product Nr. 2143 Side Clamps

- Hardened
- Black coating



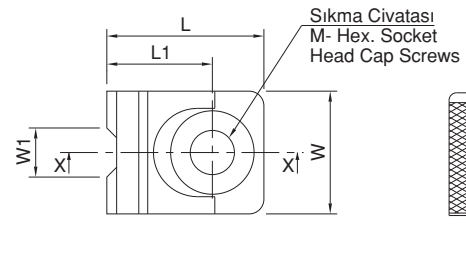
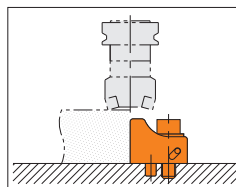
Kurulum ve Kullanım Şekli / How To Use and Install



Nr.	M1	d	Lf	P1
CP107-08015	M 8	6	8	10
CP107-10019	M10	8	11	12
CP107-12023	M12	10	14	16
CP107-16025	M16	12	18	20

Üst tarafta görüldüğü gibi sabitlemek için bir pim, bir cıvata deliği gerekli.

Drill a cap-screw hole and a locking-pin hole as specified on the up.



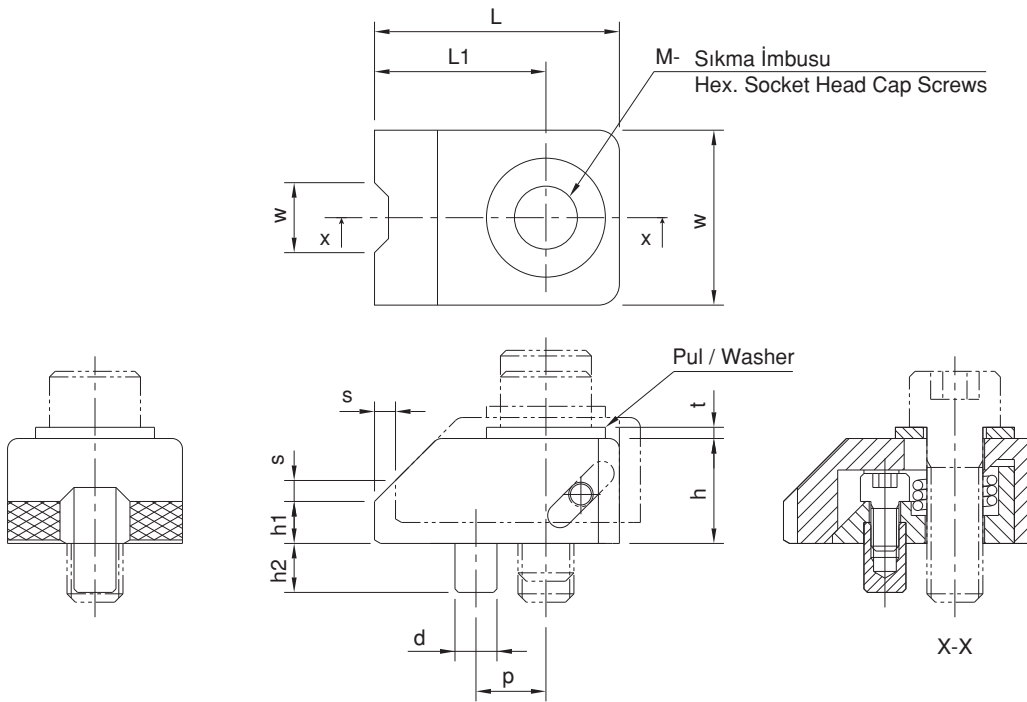
Referans Nr.	s	w	w1	h1	L1	P	d (h7)	h2	M	L	h	t	Sıkma Kuvveti Clamping Force (N)	İzin Verilen Vida Torku Allowable Screw Torque (N·m)	(g)
2144-08015	3	25	10	6	24.5	10	6	7	M8	35	15	1.6	7.000	25	100
2144-10019	4	30	11	8	29	12	6	7	M10	43	19	2	8.500	50	185
2144-12023	5	35	12	9	37	16	8	10	M12	54	23	2.3	20.000	90	320
2144-16025	6	40	14	10	45	20	10	10	M16	65	25	3.2	30.000	150	520

Ürün Nr. 2144 Yandan Bağlama

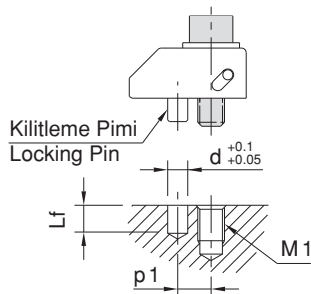
- Sertleştirilmiş
- Siyah kaplama

Product Nr. 2144 Side Clamp

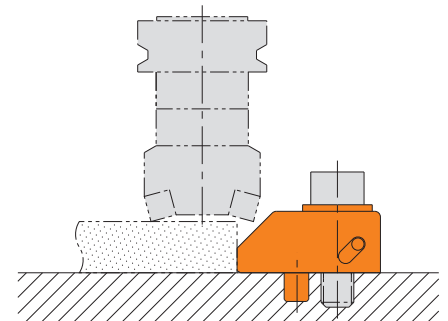
- Hardened
- Black coating



Uygulama Örneği / Application Example

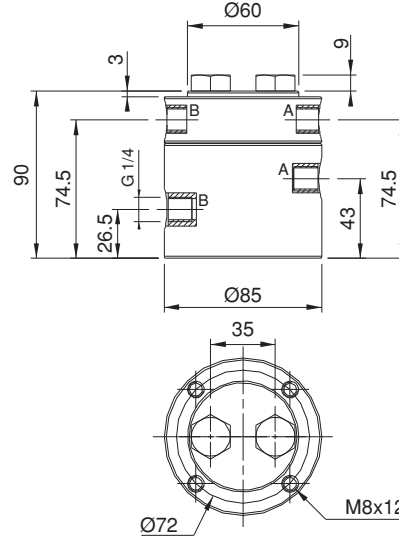
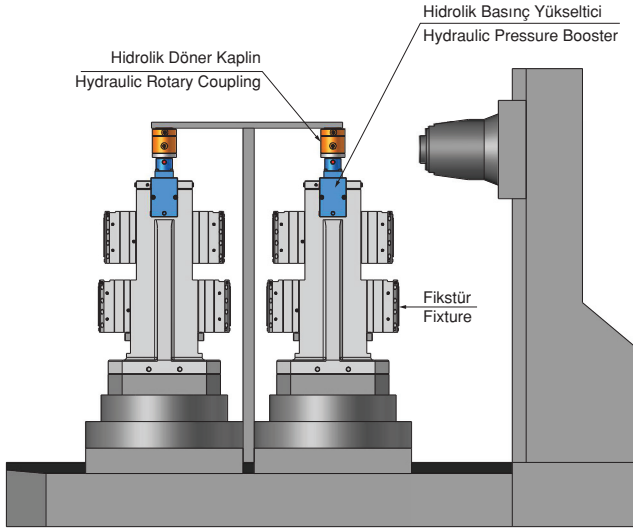


Referans Nr.	M1	d	Lf	p1
2144-08015	M 8	6	8	10
2144-10019	M10	6	8	12
2144-12023	M12	8	11	16
2144-16025	M16	10	11	20



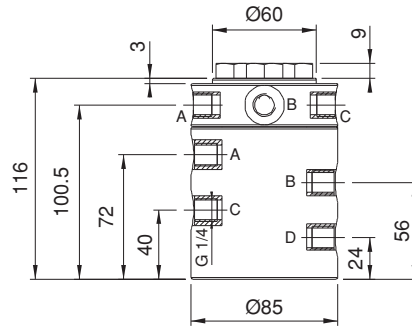
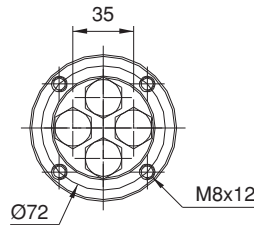
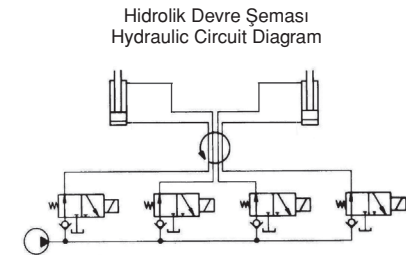
Referans Nr.	Çıkış Sayısı Number of Outlets	Hız Speed	Max. bar	(kg)
1040-02	2	5.0 m/sn	300	2.3

Ürün Nr. 1040 Hidrolik Döner Kaplin
Product Nr. 1040 Hydraulic Rotary Coupling



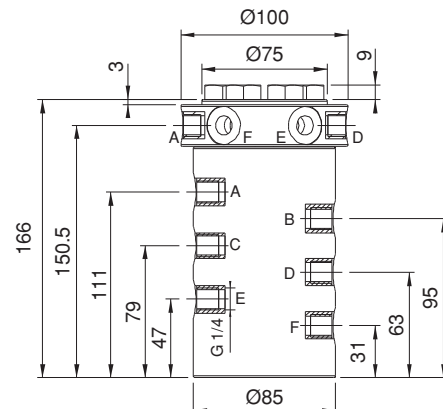
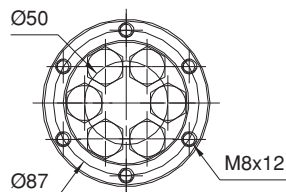
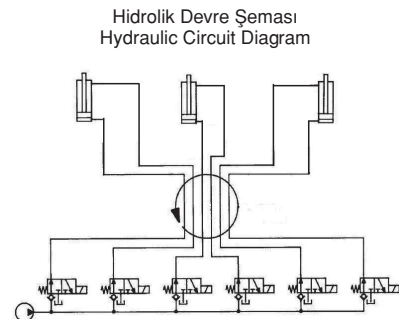
Referans Nr.	Çıkış Sayısı Number of Outlets	Hız Speed	Max. bar	(kg)
1040-04	4	5.0 m/sn	300	2.8

Ürün Nr. 1040 Hidrolik Döner Kaplin
Product Nr. 1040 Hydraulic Rotary Coupling



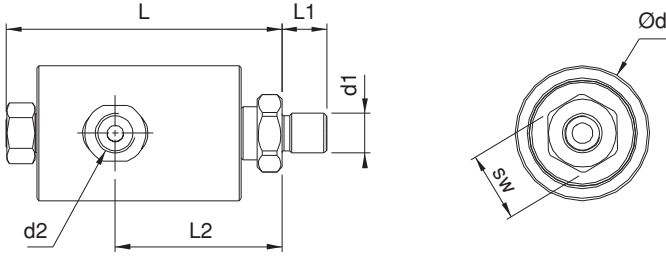
Referans Nr.	Çıkış Sayısı Number of Outlets	Hız Speed	Max. bar	(kg)
1040-06	6	5.0 m/sn	300	4.2

Ürün Nr. 1040 Hidrolik Döner Kaplin
Product Nr. 1040 Hydraulic Rotary Coupling



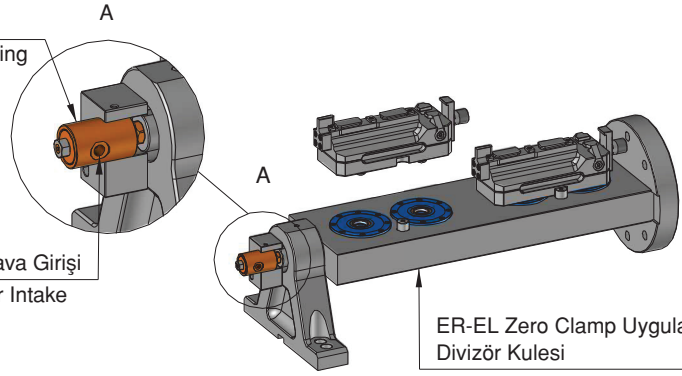
Referans Nr.	d	d1	d2	L	L1	L2	Bar	sw	(g)
1040-001P	77	40	6-40	114	27	17	7	17	200

Ürün Nr. 1040 Pnömatik Döner Caplin
Product Nr. 1040 Pneumatic Rotary Coupling

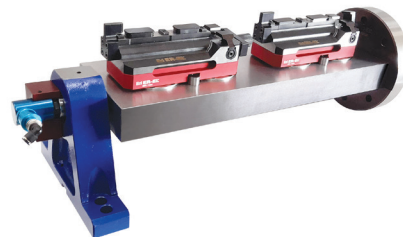
NEW


Pnömatik Döner Caplin
Pneumatic Rotary Coupling

Hava Girişi
Air Intake



ER-EL Zero Clamp Uygulamalı
Divizör Kulesi
ER-EL Zero Clamp Index Table
Turret Application



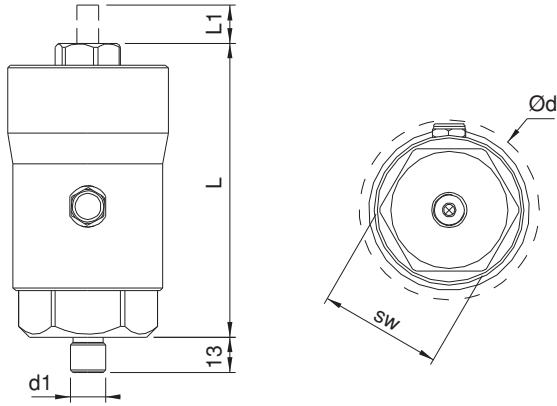
Referans Nr.	d	d1	L	L1	sw	Bar Kapasitesi Bar Capacity (MPa)	Yağ Kapasitesi Oil Capacity (cm ³)	 (kg)
1040-070	58	1/4	108	16	40	7	12,8	1,3
1040-100	66	1/4	108	14	45	10	17,6	1,6
1040-200	100	1/4	141	16	45	20	16,3	4,5
1040-250	100	1/4	141	16	45	25	13,6	4,5

**Ürün Nr. 1040 Hidrolik Yaylı Akümülatör**

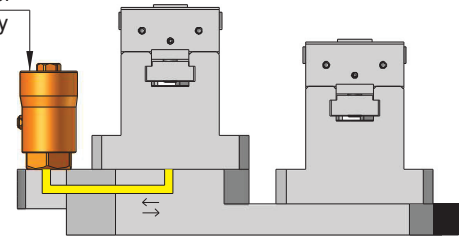
- Hidrolik fişstür ve aparatlarda kullanılan hidrolik ekipmanların veya komponentlerin yağ kaçaklarında basınç desteği sağlayarak ani düşüşlerini önleyen ve hidrolik yağın basınçla depolanmasını sağlayan, Yaylı Akümülatör seviye göstergesi ile aktif olarak çalışmayı veya sızıntılardaki eksilmeyi seviye çubuğu ile tespit edebilirsiniz.

Product Nr. 1040 Hydraulic Spring Battery

- It helps to prevent oil leaks, sudden drops of the hydraulic oils by providing pressure support for hydraulic equipments and components that are used with hydraulic fixtures and apparatus / devices by storing hydraulic oil. The spring battery gives you the opportunity to be able to monitorize the active working and the drop of leak / flow



Hidrolik Yaylı Akümülatör
Hydraulic Spring Battery



Referans Nr.	Arttırılmış Destek Multiple Boost	Yüksek Basınç Çıkışı High Pressure Output	A	B	C	ØD	E1	E2	F1	F2	F3	H	ØK	ØM	N	PT
1040-HB0906	9	6cc	157	107	50	46	58	72	43	56	55	7	7	11	71	PT1/4
1040-HB0510	5	10cc	157	107	50	46	58	72	43	56	55	7	7	11	71	PT1/4
1040-HB3515	3.5	15cc	157	107	50	46	58	72	43	56	55	7	7	11	71	PT1/4
1040-HB0822	8	22cc	210	139	71	58	82	95	62	80	70	9	9	14	96	PT1/4
1040-HB0535	5	35cc	210	139	71	58	82	95	62	80	70	9	9	14	96	PT1/4
1040-HB3845	3.8	45cc	210	139	71	58	82	95	62	80	70	9	9	14	96	PT1/4



M6 Yükseklik L mm M6 Length L mm	7	6	5	4	3	2	1
Başlangıç Basıncı Start Pressure kg/cm	20	25	30	35	40	45	50

Max Operasyon Basıncı
Max. Operation pressure 50kg/cm

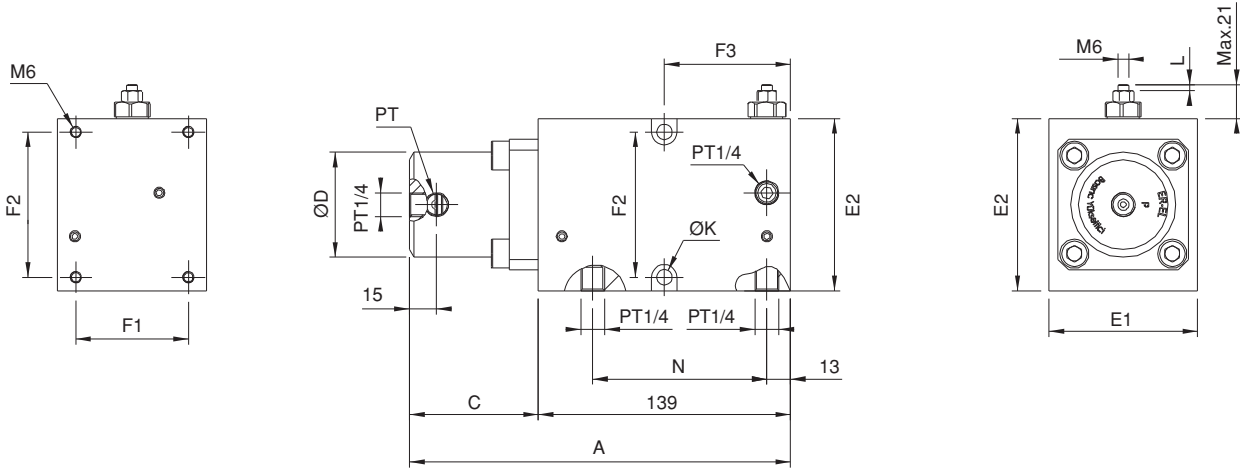
Ayarlanan basınç 30kg/cm
Pressure set at 30kg/cm

Ürün Nr. 1040 Hidrolik Basınç Yükseltici

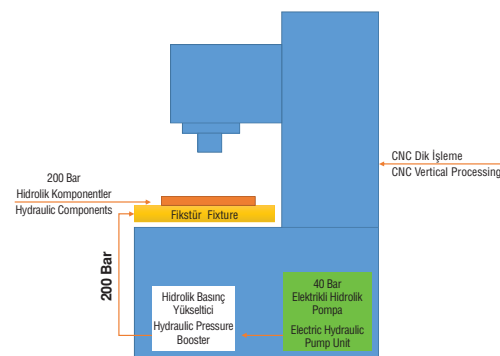
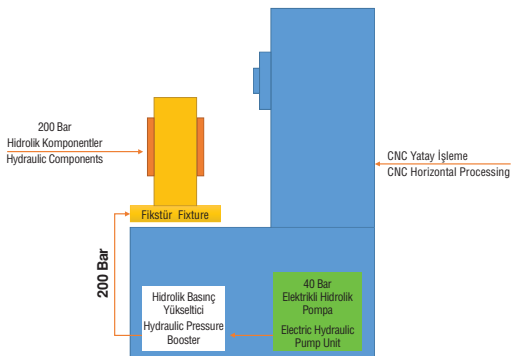
- Bu ünitenin yapısına hidrolik sıralı bir valf bağlanmıştır. Çalışırken, silindire yağ yapabilir ve çift basınçta olmasını sağlar ve sıralı vananın hareket etmesine izin verir ve çok sayıda yükseltme basıncı sağlar.
- Hidrolik özel amaçlı makine ve düşük basınç devresinde MC kelepçe için uygundur. Devreye monte edilmiş bir solenoid valfe ihtiyacı vardır ve sonra HB süper şarj cihazını kullanabilir. Süper şarj cihazı otomatik olarak düşük yağ basıncından yüksek yağ basıncına dönüştürülebilir ve yüksek basınçta sıkma elde edilebilir.

Product Nr. 1040 Hydraulic Pressure Booster

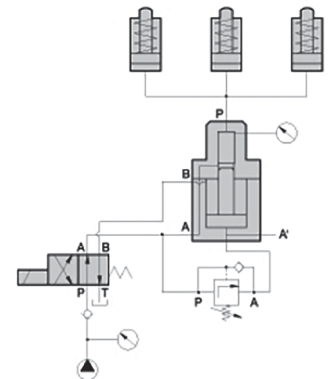
- A hydraulic sequential valve is attached to the structure of this unit. When operating, it may oil to cylinder and makes it be at the dual pressure and let the sequential valve act and then it will provide multiple boosting pressure.
- It's fit for hydraulic special purpose machine and MC clamp in low pressure circuit, It needs a solenoid valve installed in the circuit and then it will be able to operate HB super-charger. The super-charger may be converted automatically from low oil-pressure to high oil-pressure and obtain a high pressure clamping.



Uygulama Örneği / Application Example



Devre Şeması Circuit Diagram



Referans Nr.	Maksimum Basınç Maximum Pressure	Maks. Operasyon Basıncı Max Operation Pressure	Hidrolik Sıvı Akışı Hydraulic fluid expelled l/min	Yağ Tankı Kapasitesi Oli Tank Capacity	Yağ Oil
1040-06ABP	36	6 Kg/cm ²	16	5 lt	ISO-VG68
1040-10ABP	60	6 Kg/cm ²	10	5 lt	ISO-VG68
1040-25ABP	150	6 Kg/cm ²	5	5 lt	ISO-VG68
1040-44ABP	250	6 Kg/cm ²	3	5 lt	ISO-VG68

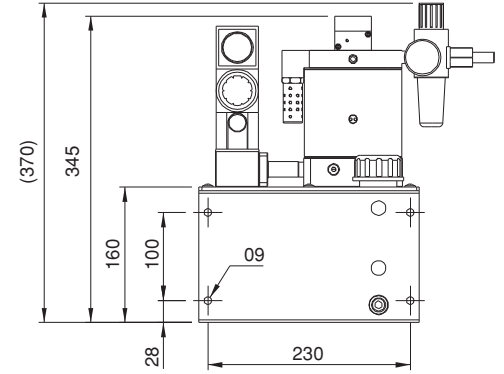
Not
Hidrolik komponentler için kullanıma uygundur.
Volt Tipi : AC110V, AC220V, DC12V, DC24V

Note
Suitable for use with hydraulic components
Coil Type : AC110V, AC220V, DC12V, DC24V



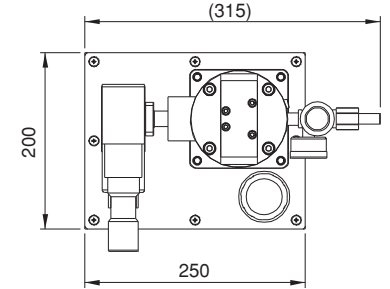
Ürün Nr. 1040 Hava Tahrikli Hidrolik Pompa Ünitesi

- Hidrolik güçlendirici pompası, basınç çıkışına güç olarak silindirlere hidrolik basınç kaynağını üretmek üzere hava ile tahrik edilir. Pompanın akış hızı oranı geleneksel bir güçlendiriciden daha büyüktür. Silindirlerin strok aksiyonlarında sürekli basınç yükseltmesinde sınırlama yoktur.
- Basınç ayarı; hava basınç ayar valfi tarafından yapılmıştır. Basınç istenen değere ulaştığında sürücü derhal durur. Bu durumda basınç düşerse pompa otomatik olarak basıncı engelleyecektir. Özellikle uzun süre hidrolik sıkma uygulaması için ideal serilerdir. Ayrıca enerji tasarrufu sağlayan uygun ve ekonomik olup yağ sıcaklığı artmaz.
- Çift pompa uygulandığında, yükseltme basıncı oranını seçebilirsiniz. Özellikle yüksek ve alçak basınç gerektiren aparat ve fiştür birlikte operasyonlarında kullanımı için uygundur.
A Tipi: ISO onaylı manifold ve solenoid valf ile donatılmıştır. Tek etkili veya çift etkili hidrolik silindir için geçerlidir. Dahili kaçak problemini iyileştirmek ve hava pompasının ömrünü uzatmak için HDV yön kontrol değeri ile donatılmıştır.
B Tipi: Çalışma kontrolü için manuel bir sürgülü valfe bağlanmasına izin veren PT bağlantı noktalarına sahip boru bloğu ile donatılmıştır.
- Yerden tasarruf ve rahat kurulum için azaltılmış yağ tankı hacmi.

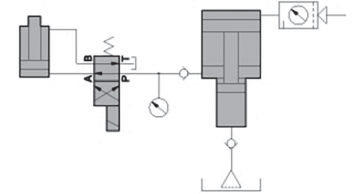


Product Nr. 1040 Air Driven Hydraulic Pump Unit

- The booster pump is driven by air to output hydraulic pressure for a power source for hydraulic cylinder. Its flow rate is bigger than than of a conventional booter. Continuous pressure boosting and no limitation of booster stroke for the acting cylinder.
- Pressure adjustment is made by an air pressure regulation valve. Once pressure reaches the desired value drive stops immediately. In case pressure drops the pump will compensate pressure automatically. The series is especially ideal for long time hydraulic clamping application. Also features energy saving no oil temperature growth economical and convenient.
- When double-pump is applied you can select the boost pressure ratio. It is especially suitable for jig and fixture which requires high and low pressure operation together.
A Type: Equipped with ISO approved manifold and solenoid valve. Applicable for single-acting or double-acting hydraulic cylinder. Equipped with HDV direction control valve to improve internal leakage problem and ensure the service life of air pump.
B Type: Equipped with pipe block with PT ports permitting for connecting to a manual contort valve for operation control.
- Reduced oil tank volume for space saving and convenient installation



Devre Şeması
Circuit Diagram



Referans Nr.	Valf Valve	Akış - Flow		bar
		(l/min)	(l/min)	
1040-1P1VD	1	6	14	100
1040-1P2VD	2	6	14	100
1040-1P3VD	3	6	14	100
1040-1P4VD	4	6	14	100

Ürün Nr. 1040 Elektrikli Hidrolik Pompa Ünitesi

- Doğrudan bağlantı sisteme uygundur.
- Satın almadan önce (l/dk.) akış hızını belirtiniz.

Product Nr. 1040 Electric Hydraulic Pump Unit

- It is suitable for direct connection system.
- Please, you specify about flow speed (l/minute) before make purchase.

Elektrikli Hidrolik Pompa Ünitesi

Electric Hydraulic Pump Unit



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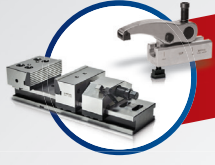


CNC İşleme Kuleleri Broşürü
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