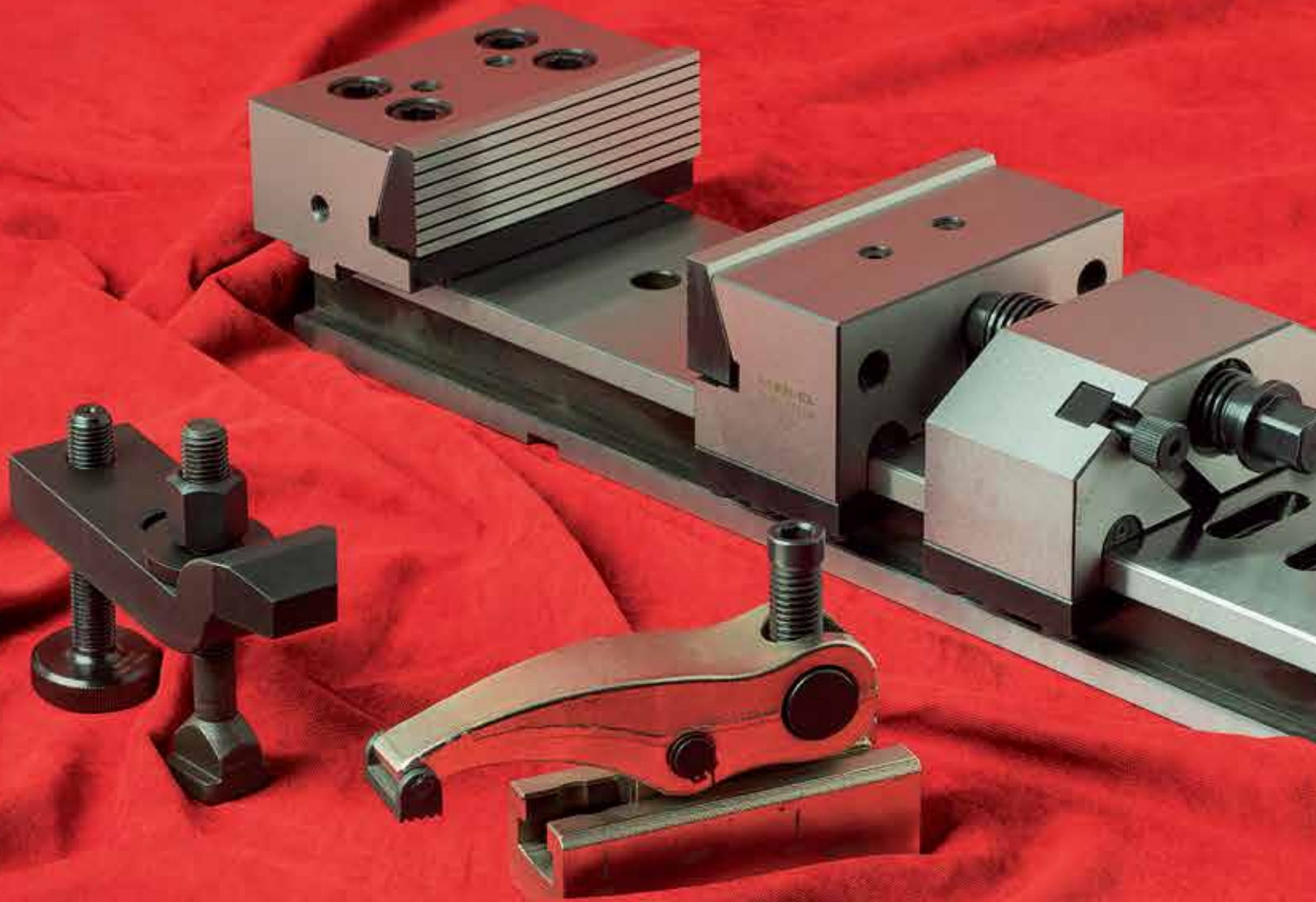




KALIP ve İŞ PARÇASI BAĞLAMA SİSTEMLERİ  
*Mold and Workpiece Clamping Systems*



**2018** Katalog  
Catalogue



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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. Bu anlamda var olandan farklı, kaliteli ve güvenli ürünler adına yatırımlarını arttırarak verimli, sürdürülebilir bir yol izleyen ER-EL 2004 yılında; ISO9001:200 Kalite Yönetim Sistemini kurarak var olan kalitesini belgelendirmiştir. Akabinde ISO 14001:2004 Çevre Yönetim Sistemi OHSAS 18001: 2007 İşçi Sağlığı Yönetimi ve 90413 no'lu CE sertifikasına da uygun üretim yapmaktadır.

Bugün itibari ile iş parçası bağlama ve işleme ekipmanlarında 3500'ü aşan ürün çeşidi ile konusunda lider ve üretici firma olmanın gururunu yaşamaktayız.

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

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

*Our Company was established in 1989 and ever since the establishment, ER-EL name has become the symbol of confidence and quality in Mould Clamping and Processing Systems. Together with developing the existing capacity, company's total employment has shown an increasing value. The Company has increased it's product variety in the area of Clamping Equipment. ER-EL gives great importance to Research And Development (R&D) activities and it increases product range in every year also; offers services to our valuable customers. On the other hand, our Company has certified it's already existing quality by establishing ISO-9001:2008 Quality Management System in 2004. Then the ISO 14001: 2004 Environmental Management System and OHSAS 18001: 2007 Occupational Health Management and Number of the 90413 are produced according to CE certification.*

*As of today, our Company has the honour of having the product variety (workpieces) above 3500 pcs types in Clamping and Processing equipment and also the reason of being the leader and producer company in own sector. Needless to say ,product variety is just only one side of our business. More importantly, it is to be able to achieve the consistency of DEPENDABILITY and QUALITY.*

*ER-EL has it's ready stock for finished products consisting of above 3500 types. By giving importance to the value of time, our considers customer satisfaction important with it's powerful stock.*

*Our project-based fixtures manufacturing outside of our standard production are also available. Especially in eminent companies in our industry; Defense & Aerospace, Automotive, Appliances, Heavy Machinery and Weapons industry to have our fixture manufacturing industry.*

*ER-EL; as of today, exports to more than 24 countries, mainly Europe.*

*ER-EL that has moved to own new factory in 2017, continues it's business activities with outstanding performance with dynamic and expert staff and have standard and project based solutions by being in compliance with the demands and continues to achieve customer satisfaction as it's philosophy.*

*By taking this chance, we would like to thank you, our valuable customers, for your Trust in ER-EL and we reiterate our wishes for the continuation of our Cooperation in working together for many years to come...*

Kind regards;  
ER-EL Directors




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## 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

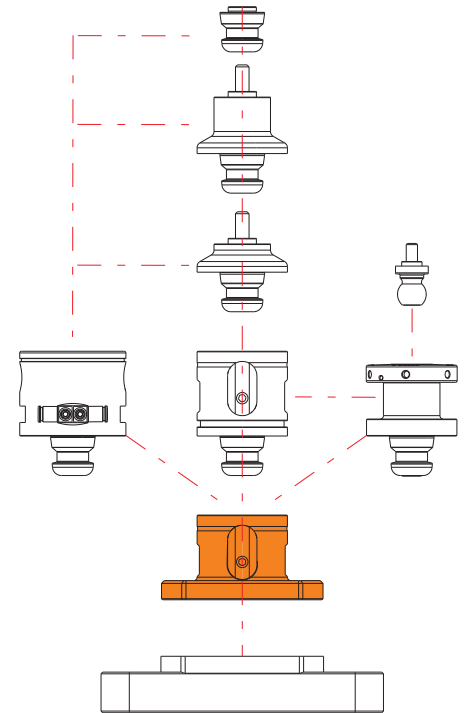
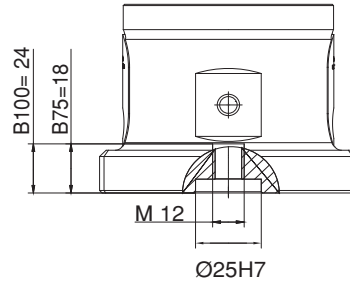
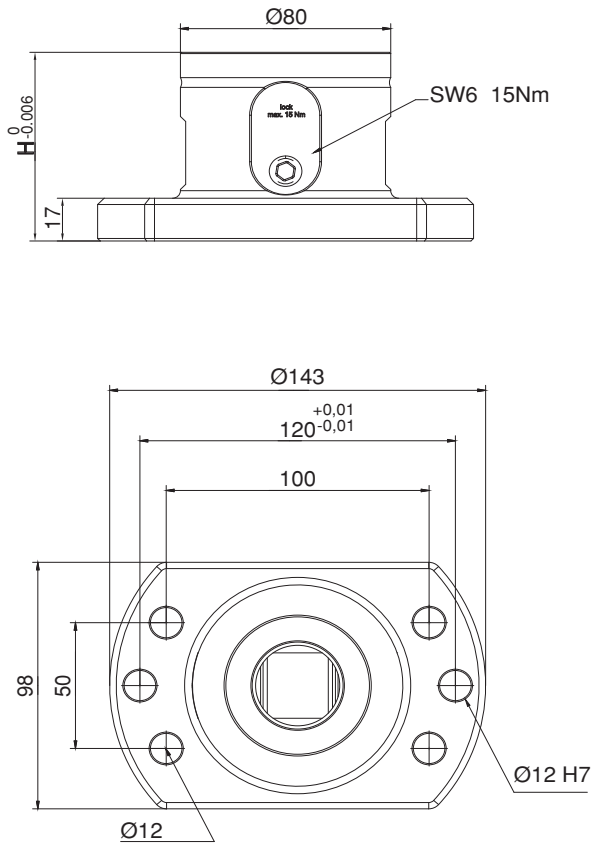
- Ease at 5 axis operations
- Height adjusting feature
- Variable fixing possibility
- Repeating precision at mass production
- High clamping force



Referans Nr.	Özellikler / Specifications	
0900-UL800.010	<p>Çap: 80mm Yükseklik (H): 75mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0,005 mm Ağırlık: 3.65 kg</p>	<p>Diameter: 80mm Height: 75mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0,005 mm Weight: 3.65 kg</p>
0900-UL800.012	<p>Çap: 80mm Yükseklik (H): 100mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0,005 mm Ağırlık: 4.45 kg</p>	<p>Diameter: 80mm Height: 100mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0,005 mm Weight: 4.45 kg</p>



Ürün Nr. 0900 5-Eksen Blok Bağlama      Product Nr. 0900 5-Axis Clamping Block

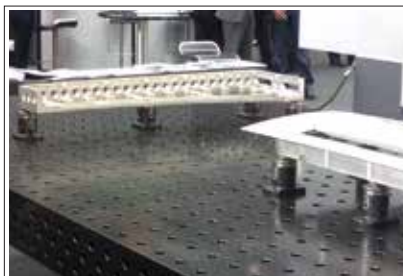
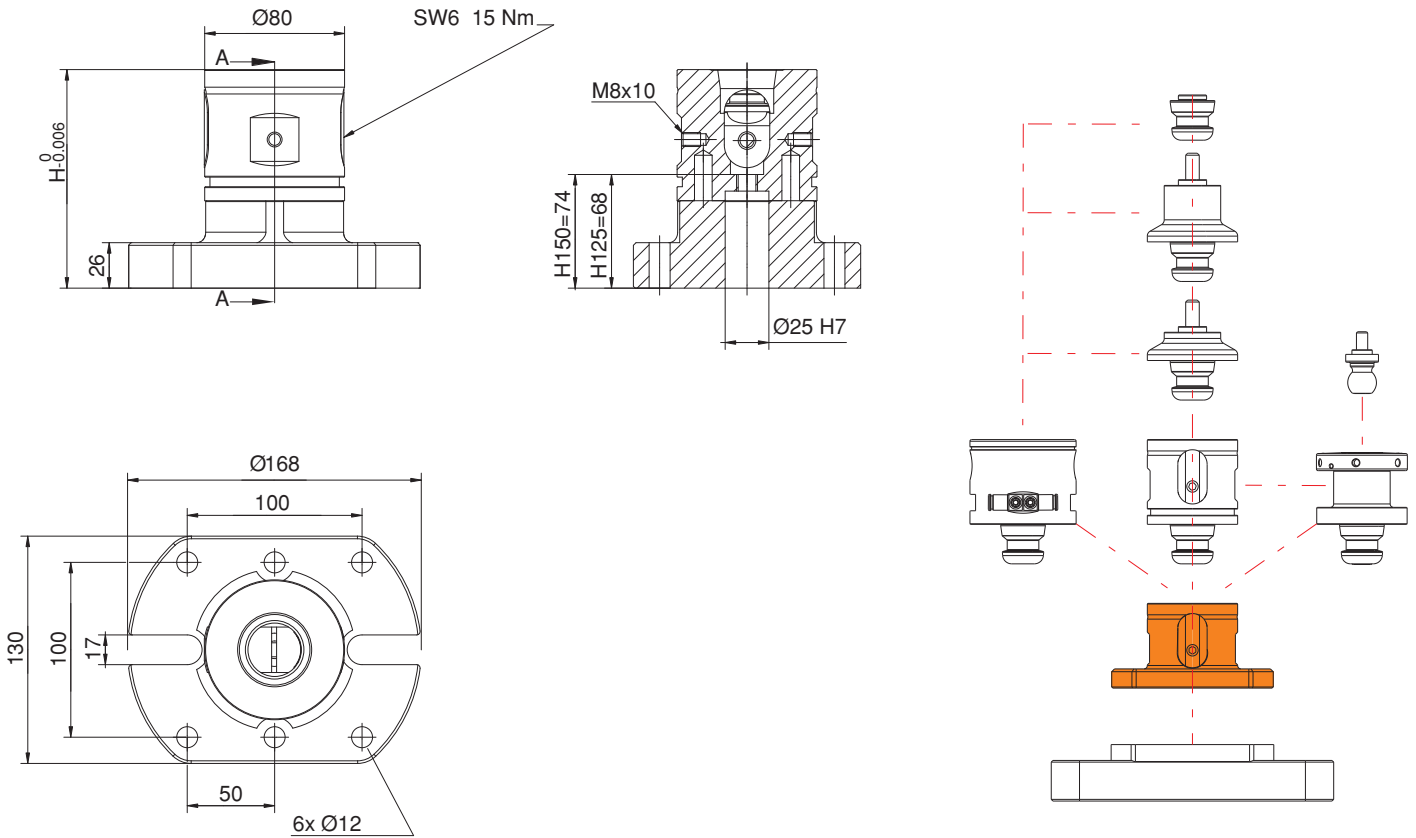


Referans Nr.	Özellikler / Specifications	
0900-UL800.018	<p>Çap: 80mm Yükseklik (H): 125mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 6.65 kg</p>	<p>Diameter: 80mm Height (H): 125mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0.005 mm Weight: 6.65 kg</p>
0900-UL800.019	<p>Çap: 80mm Yükseklik (H): 150mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 7.60 kg</p>	<p>Diameter: 80mm Height (H): 150mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0.005 mm Weight: 7.60 kg</p>
0900-UL800.020	<p>Çap: 80mm Yükseklik (H): 175 mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 8.45 kg</p>	<p>Diameter: 80mm Height (H): 175mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0.005 mm Weight: 8.45 kg</p>



Ürün Nr. 0900 5-Eksen Blok Bağlama

Product Nr. 0900 5-Axis Clamping Block



Referans Nr.	Özellikler / Specifications	
0900-UL800.030	<p>Çap: 80mm Yükseklik (H): 75 mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 2.85 kg</p>	<p>Diameter: 80mm Height (H): 75mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0.005 mm Weight: 2.85 kg</p>
0900-UL800.031	<p>Çap: 80mm Yükseklik (H): 100 mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 3.65 kg</p>	<p>Diameter: 80mm Height (H): 100mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0.005 mm Weight: 3.65 kg</p>
0900-UL800.032	<p>Çap: 80mm Yükseklik (H): 125mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 4.70 kg</p>	<p>Diameter: 80mm Height (H): 125mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0.005 mm Weight: 4.70 kg</p>

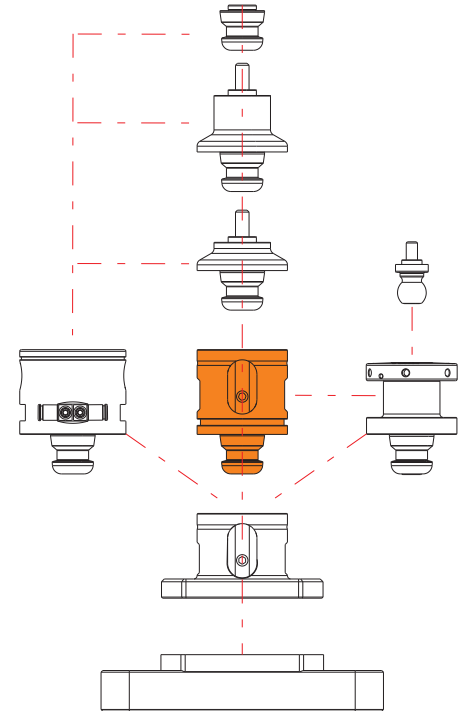
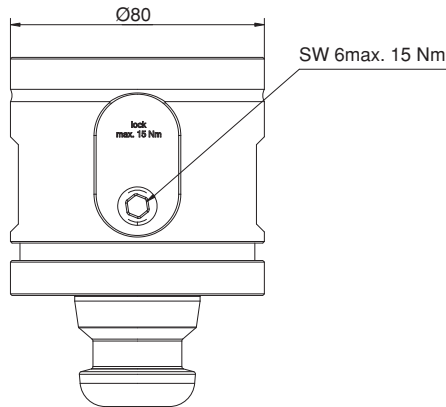
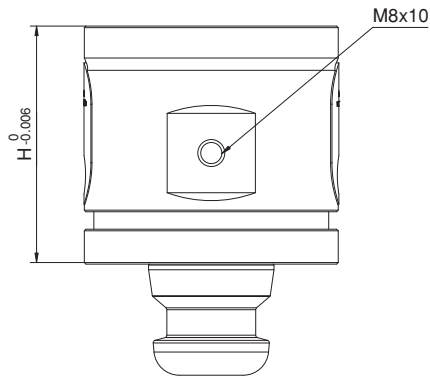
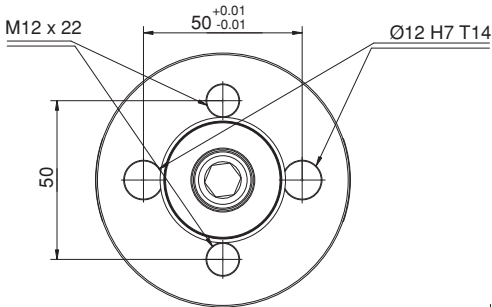


#### Ürün Nr. 0900 5-Eksen Blok Bağlama Yükseltme

- 75mm, 100mm ve 125 mm yüksekliğe kullanılabilir.
- Yükseltme işlemini 1 metre'ye kadar kullanma olanağı sağlar.

#### Product Nr. 0900 5-Axis Clamping Block Extension

- 75mm, 100mm and 125 mm in height can be used.
- Allows the use of up to 1m upgrade.



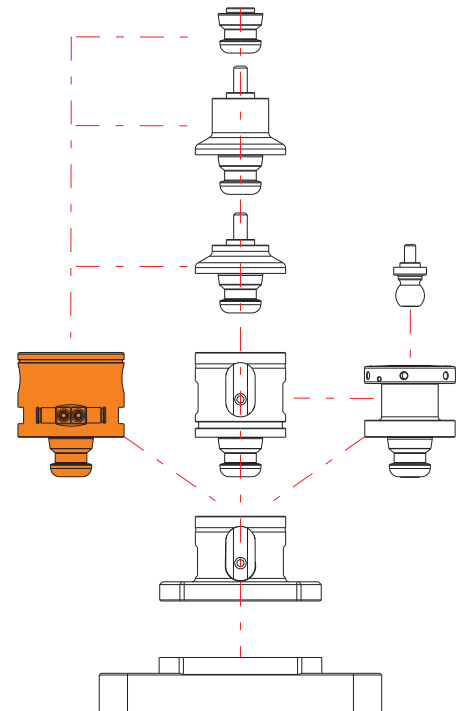
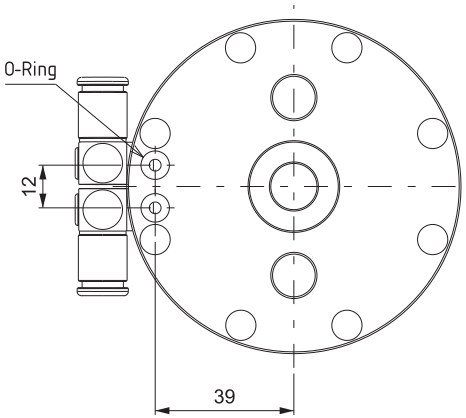
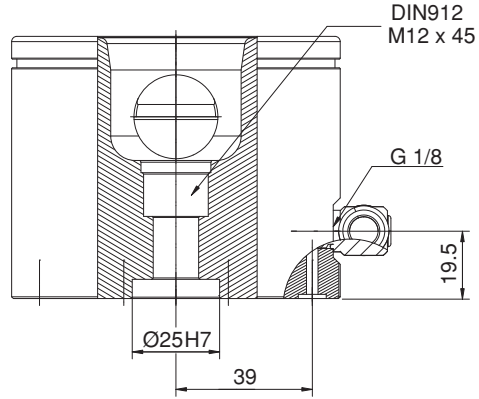
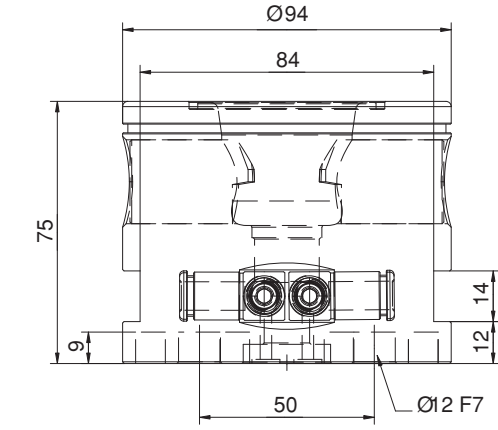
Referans Nr.	Özellikler / Specifications	
0900-UL800.033	Çap: 80mm Yükseklik: 75mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: <0.005 mm Ağırlık: 3.3 kg	Diameter: 80mm Height: 75mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: <0.005 mm Weight: 3.3 kg

**Ürün Nr. 0900 5-Eksen Blok Baęlama Pnömatik**

- Adetli iş parçalarında pnömatik açma - kapama

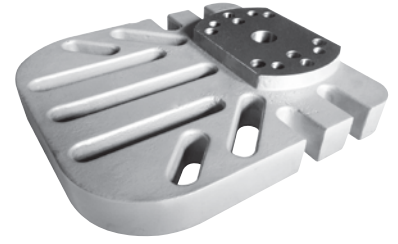
**Product Nr. 0900 5-Axis Clamping Block (Pneumatic)**

- Pneumatic opening and closing at mass production



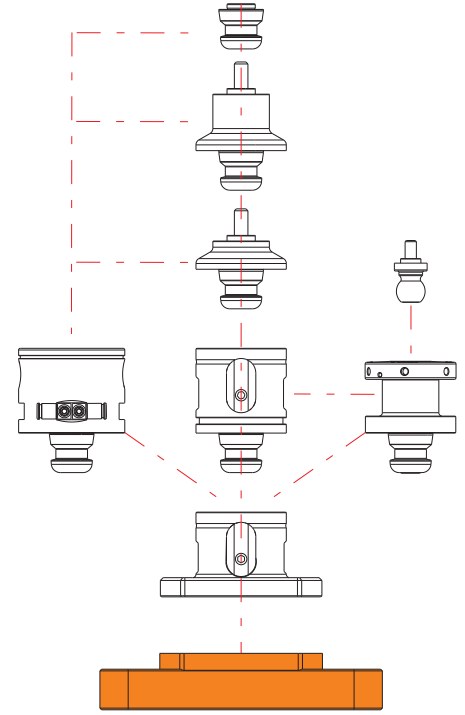
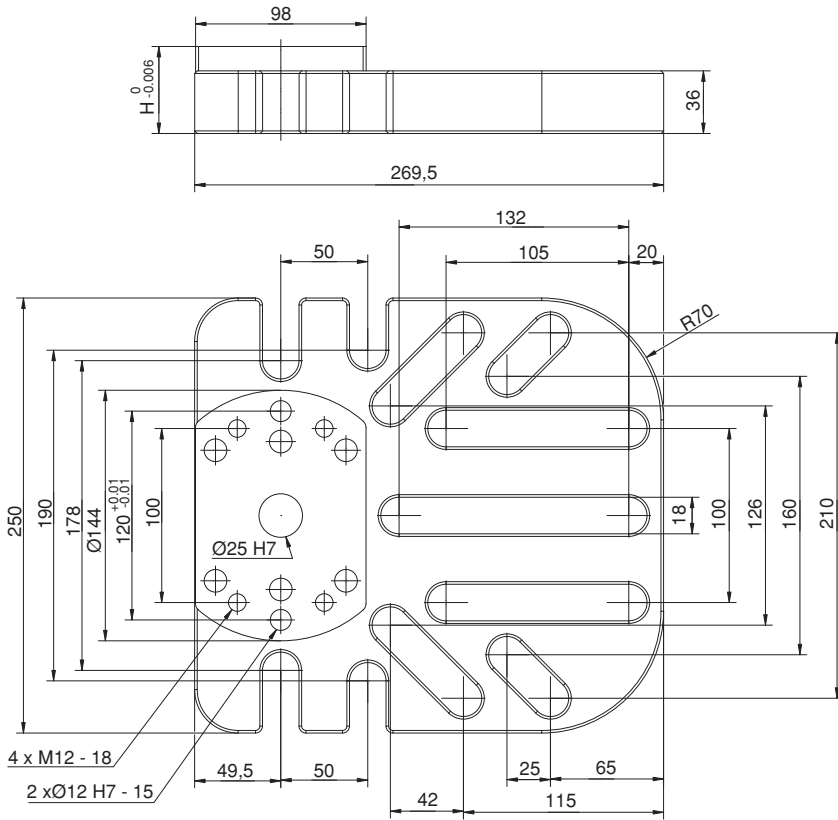


Referans Nr.	Özellikler / Specifications	
0900-UL800.055	Yükseklik (H): 50 mm Uzunluk: 250mm Genişlik: 270mm Ağırlık: 14.20 kg	Height (H): 50mm Length: 250mm Width: 270mm Weight: 14.20 kg
0900-UL800.056	Yükseklik (H): 100 mm Uzunluk: 250mm Genişlik: 270mm Ağırlık: 18.70 kg	Height (H): 100mm Length: 250mm Width: 270mm Weight: 18.70 kg
0900-UL800.057	Yükseklik (H): 150 mm Uzunluk: 250mm Genişlik: 270mm Ağırlık: 21.20 kg	Height (H): 150mm Length: 250mm Width: 270mm Weight: 21.20 kg



Ürün Nr. 0900 5-Eksen Blok Bağlama Plakası

Product Nr. 0900 5-Axis Clamping Block Plate



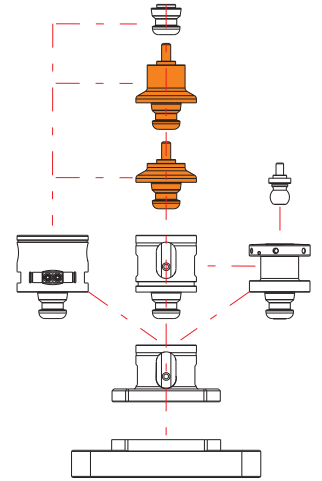
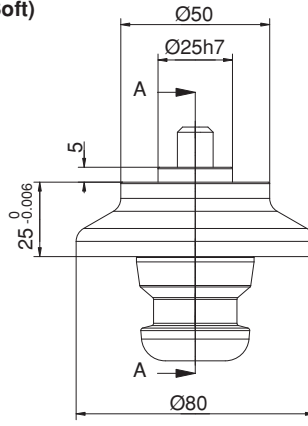
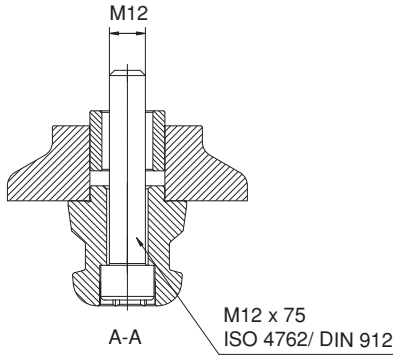
Referans Nr.	Özellikler / Specifications	
0900-UL800.126	1x SBC 40-25-5-16, 1x montaj vidası M12x100mm Aęırlık: 0.875 kg	1x SBC 40-25-5-16, 1x mounting screw M12x100mm Weight: 0.875 kg
0900-UL800.123	1x SBC 40-25-5-16, 1x montaj vidası M12x75mm Aęırlık: 0.875 kg	1x SBC 40-25-5-16, 1x mounting screw M12x75mm Weight: 0.875 kg
0900-UL800.120	1x SBC 40-25-5-12, 1x montaj vidası M10x100mm Aęırlık: 0.875 kg	1x SBC 40-25-5-12, 1x mounting screw M10x100mm Weight: 0.875 kg
0900-UL800.117	1x SBC 40-25-5-12, 1x montaj vidası M10x75mm Aęırlık: 0.875 kg	1x SBC 40-25-5-12, 1x mounting screw M10x75mm Weight: 0.875 kg

### Ürün Nr. 0900 5-Eksen Blok Baęlama Ara Vasat (Yumuřak)

- İş parçalarında deformasyon olmaması için.

### Product Nr. 0900 5-Axis Clamping Block Intermediary Part (Soft)

- To prevent deformations of the workpiece.



## 5-Eksen Blok Baęlama Ara Vasat (Sert)

5-Axis Clamping Block Intermediary Part (Hard)

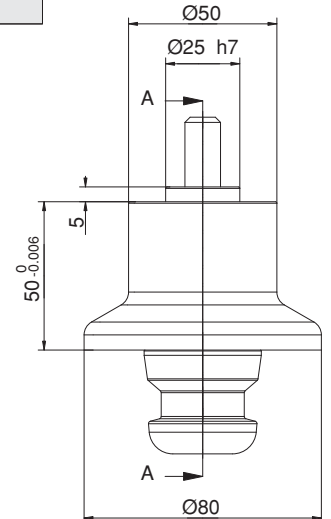
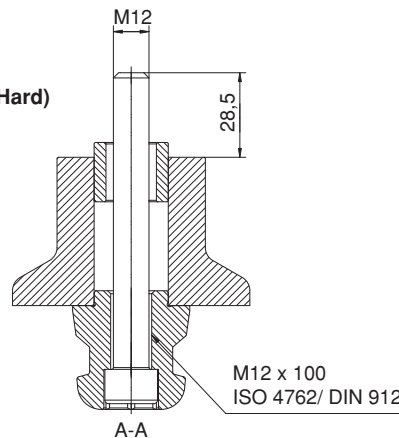
Referans Nr.	Özellikler / Specifications	
0900-UL800.111	1x SBC 40-25-5-16, 1x montaj vidası M12x100mm Aęırlık: 1.180 kg	1x SBC 40-25-5-16, 1x mounting screw M12x100mm Weight: 1.180 kg
0900-UL800.108	1x SBC 40-25-5-16, 1x montaj vidası M12x75mm Aęırlık: 1.180 kg	1x SBC 40-25-5-16, 1x mounting screw M12x75mm Weight: 1.180 kg
0900-UL800.105	1x SBC 40-25-5-16, 1x montaj vidası M10x100mm Aęırlık: 1.180 kg	1x SBC 40-25-5-12, 1x mounting screw M10x100mm Weight: 1.180 kg
0900-UL800.102	1x SBC 40-25-5-16, 1x montaj vidası M10x75mm Aęırlık: 1.180 kg	1x SBC 40-25-5-12, 1x mounting screw M10x75mm Weight: 1.180 kg

### Ürün Nr. 0900 5-Eksen Blok Baęlama Ara Vasat (Sert)

- Sürekli tekrarlamalarda ölçü deęişmemesi için.

### Product Nr. 0900 5-Axis Clamping Block Intermediary Part (Hard)

- To prevent change of repeating precision.

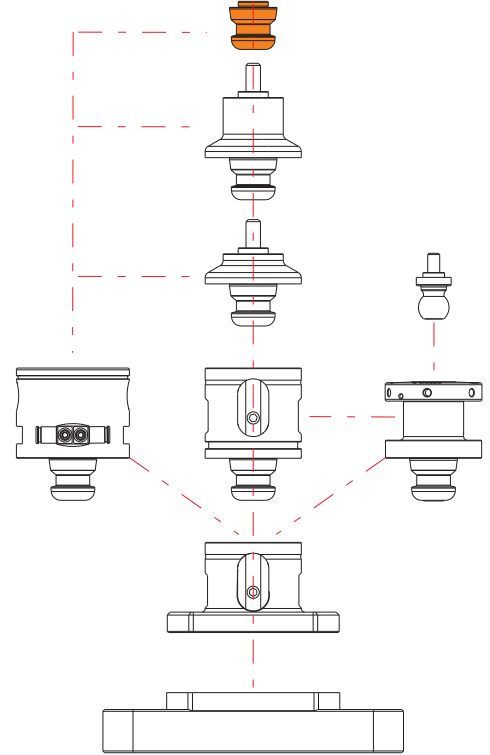
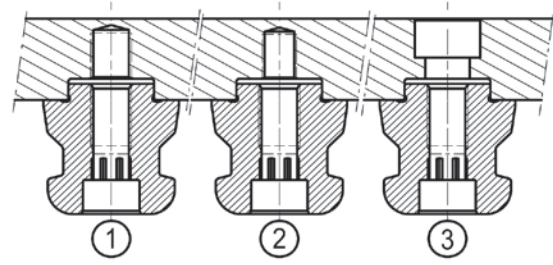
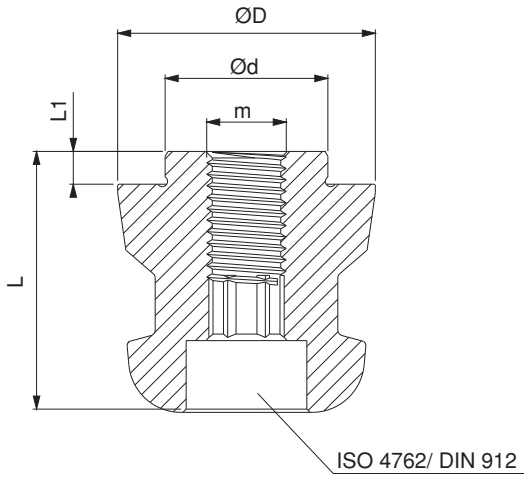


Referans Nr.	Seçenek Description	L x ØD	Ød	L1	m	(kg)
0900-UL500.115	SBC	40	25h6	5	12	0.200
0900-UL500.118	SBC	40	25h6	5	16	0.200
0900-UL500.121	SBC	40	25h6	5	20	0.200



Ürün Nr. 0900 5-Eksen Blok Bağlama Çektirme Civatası

Product Nr. 0900 5-Axis Clamping Block Puller Bolt



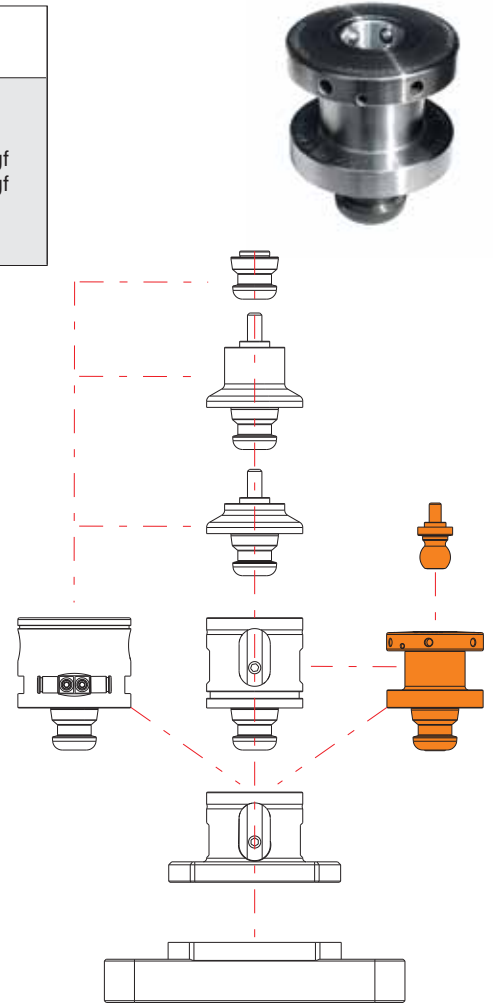
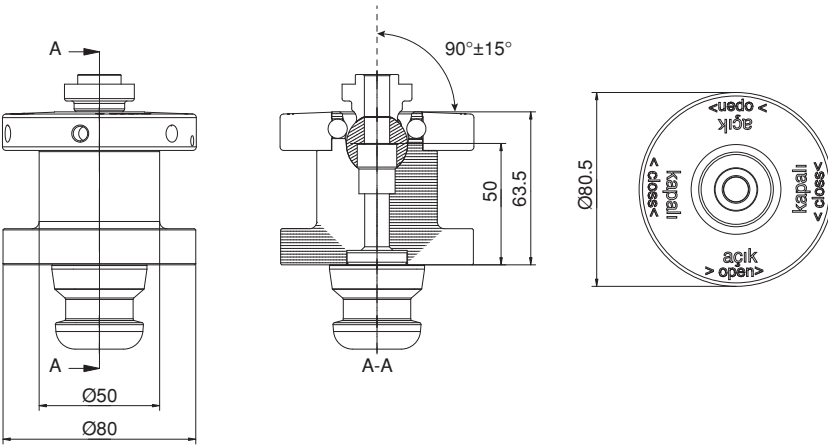
Referans Nr.	Özellikler / Specifications	
0900-UL800.360	<p>Çap / Çap: 80mm Yükseklik / Boy: 63,50mm Tutma kuvveti (M10): 3500 kgf Tutma kuvveti (M12): 5000 kgf Tekrarlanabilirlik: &lt;0.005 mm Ağırlık: 1.90 kg</p>	<p>Diameter: 80mm Höhe / Height: 63,50mm Retention force (M10): 3500 kgf Retention force (M12): 5000 kgf Repeatability: &lt;0,005mm Weight: 1.90 kg</p>

#### Ürün Nr. 0900 5-Eksen Eğimli Parçalar İçin Blok Bağlama

- Eğimli parçalarınızı 15° kadar bağlama olanağı sağlar.
- İş parçasını en az üç noktadan bağlama olmalıdır.

#### Product Nr. 0900 5-Axis Clamping Block Curved Workpieces

- Enables to clamp inclined workpieces with up to 15°
- At least three clamping points for the workpiece required.



## 5-Eksen Blok Bağlama Modüler Çektirme Cıvatası

### 5-Axis Clamping Block Modular Puller

Referans Nr.	Özellikler / Specifications	
0900-UL800.382	<p>Çap top / top çapı: 25.4mm ile dahil. merkezleme kapağı 15° Çalışma Ağırlık: 0.10 kg</p>	<p>Diameter head / head diameter: 25.4 mm included centering cover 15° working weight: 0.10 kg</p>

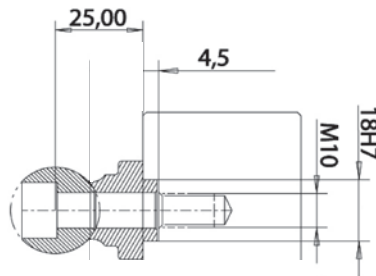


#### Ürün Nr. 0900 5-Eksen Blok Bağlama Modüler Çektirme Cıvatası

- 15° maksimum açılma boşluk.

#### Product Nr. 0900 5-Axis Clamping Block Modular Puller

- 15° maximum angular space

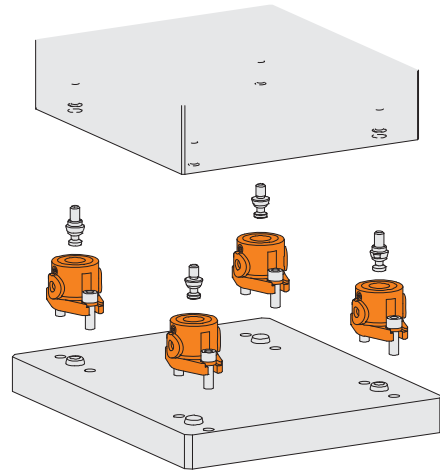
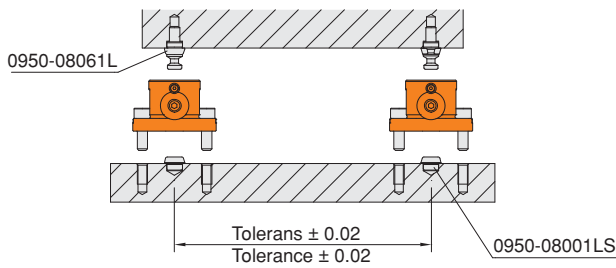
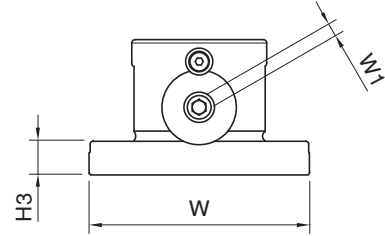
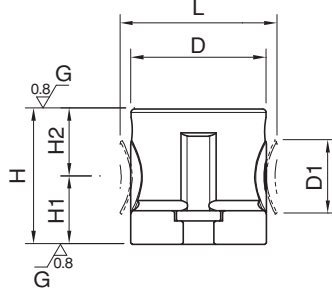
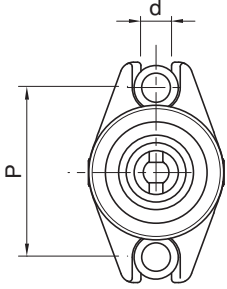


Referans Nr.	D	H (±0.01)	D1	L	H1	H2	W	H3	d	P	W1	Sıkma Kuvveti Clamping Force Kgf	İzin Verilen Tork Allowable Screw Torque (N-m)	(g)
0950-08040	40	40	22	46	20	20	65	10	9	50	4	800	8	300
0950-12063	60	63	32	69	33	30	95	15	13	75	6	1500	22	1400

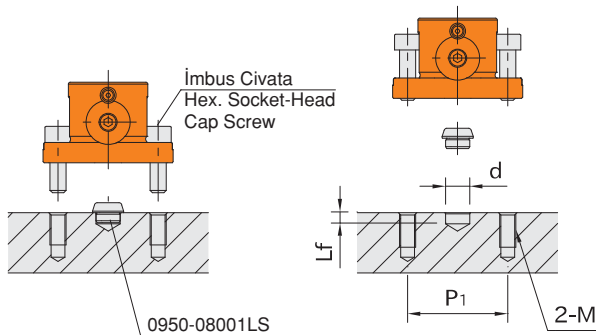


Ürün Nr. 0950 5-Eksen Blok Bađlama

Product Nr. 0950 5-Axis Clamping Block



### Uygulama Örneđi / Application Example



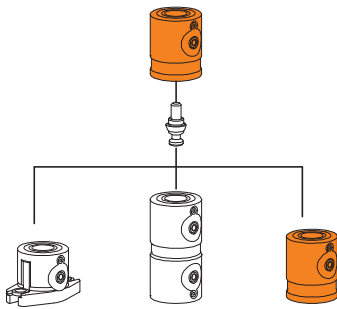
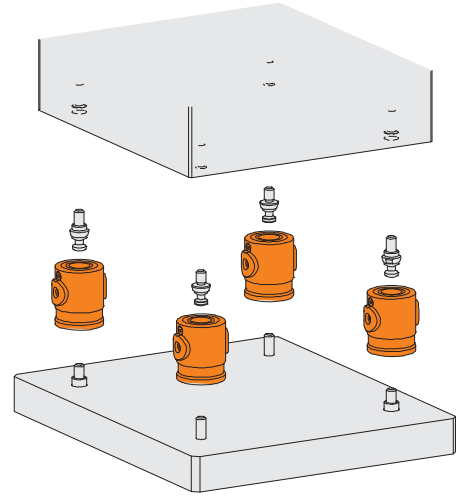
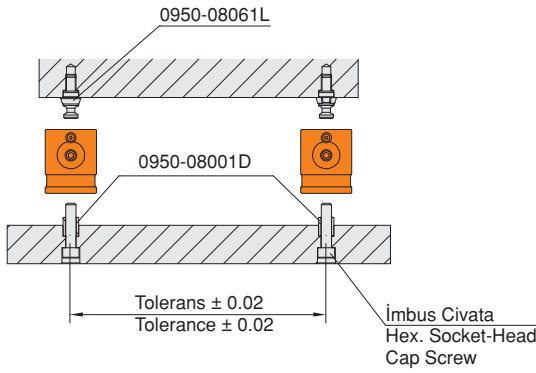
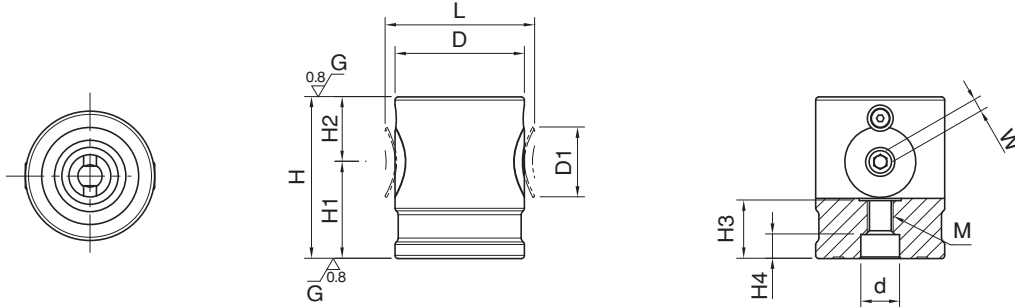
Referans Nr.	d (H7)	Lf	M	P1
0950-08040	40	40	M8	20
0950-12063	60	63	M12	30



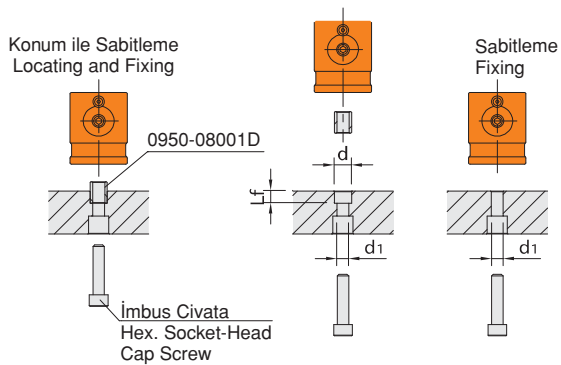
Referans Nr.	D	H (±0.01)	D1	L	H1	H2	H3	d (H7)	H4	M	W	Sıkma Kuvveti Clamping Force Kgf	İzin Verilen Tork Allowable Screw Torque (N-m)	(g)
0950-08050	40	50	22	46	30	20	18	40	7.5	M8	4	800	8	500
0950-12080	60	80	32	69	50	30	25	60	10.5	M12	6	1500	22	1600



Ürün Nr. 0950 5-Eksen Blok Bağlama Yükseltme Product Nr. 0950 5-Axis Clamping Block Extension



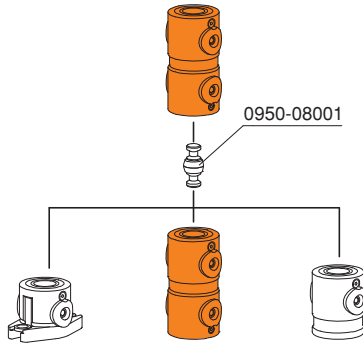
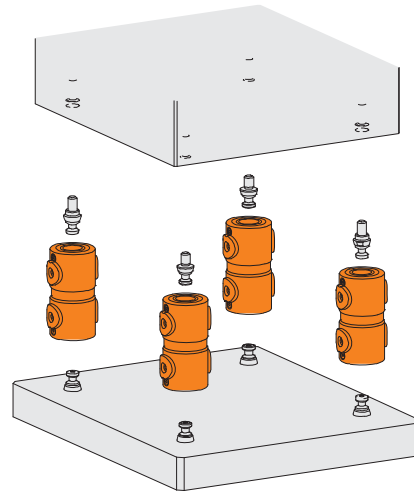
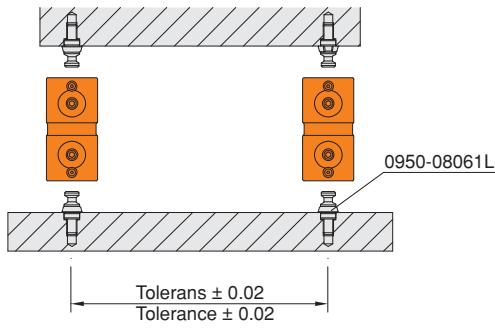
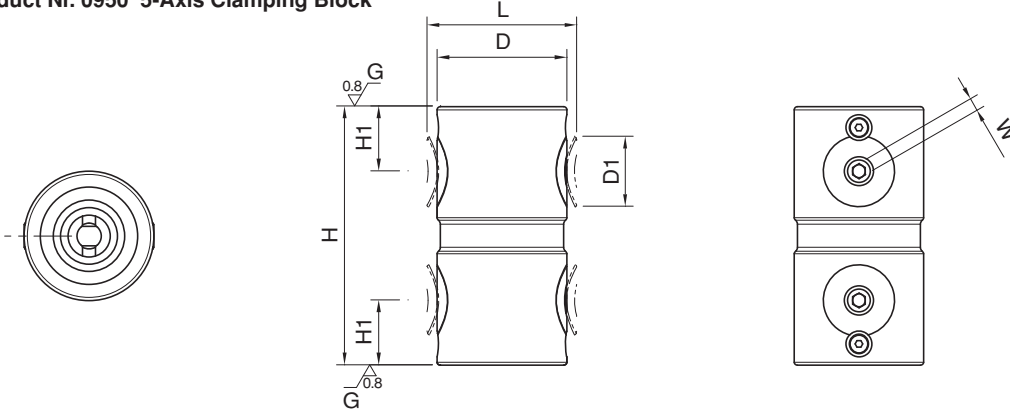
### Uygulama Örneği / Application Example



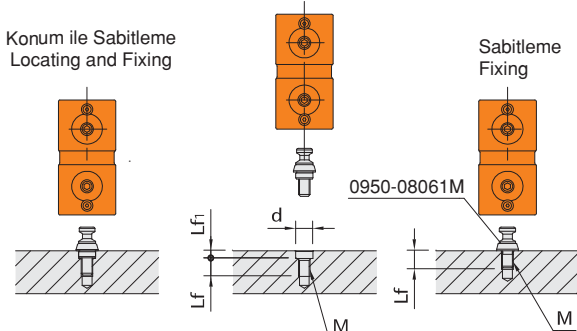
Referans Nr.	d (H7)	Lf	d1 (+0.2 0)
0950-08050	12	8.5	12
0950-12080	18	12.5	18

Referans Nr.	D	H (±0.01)	D1	L	H1	W	Sıkma Kuvveti Clamping Force Kgf	izin Verilen Tork Allowable Screw Torque (N-m)	(g)
0950-08080	40	80	22	46	20	4	800	8	700
0950-12125	60	125	32	69	30	6	1500	22	2600

Ürün Nr. 0950 5-Eksen Blok Bağlama  
Product Nr. 0950 5-Axis Clamping Block



### Uygulama Örneği / Application Example



Referans Nr.	d (H7)	Lf	Lf1	M
0950-08080	12	13	5.5	8
0950-12125	18	19	6.5	12

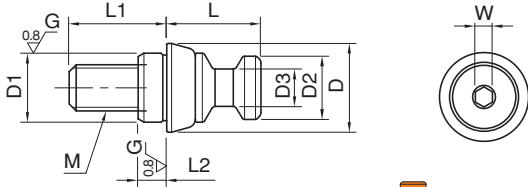
Referans Nr.	M	D1 (g6)	L2	L1	D	L	D2	D3	W	(g)
0950-08061L	M6	10	5	17	15.5	16.5	11	6.5	3	17
0950-08000L	M8	12	5	17	15.5	16.5	11	6.5	3	20
0950-12081L	M8	12	5	17	24.5	25	16	9.5	5	52
0950-12001L	M12	18	6	24	24.5	25	16	9.5	5	70

Ürün Nr. 0950 5-Eksen Blok Bağlama Çektirme Civatası

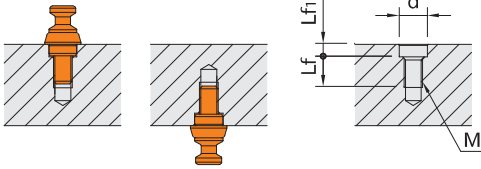
• Tolerans  $\pm 0.02$

Product Nr. 0950 5-Axis Clamping Block Puller Bolt

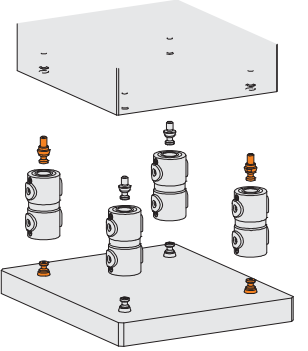
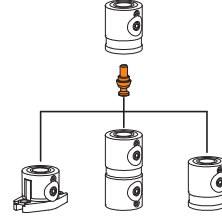
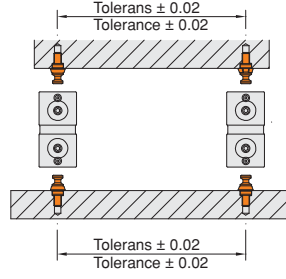
• Tolerance  $\pm 0.02$



Uygulama Örneği  
Application Example



Referans Nr.	d (H7)	Lf	Lf1	M
0950-08061L	10	13	5.5	M6
0950-08000L	12	13	5.5	M8
0950-12081L	12	13	5.5	M8
0950-12001L	18	19	6.5	M12



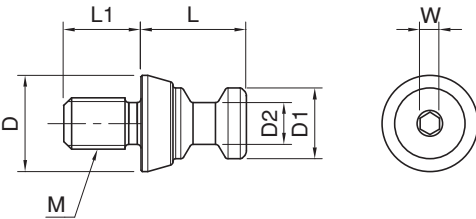
Referans Nr.	M	L1	D	L	D1	D2	W	(g)
0950-08061M	M6	9	15	16.5	11	6.5	3	13
0950-08001M	M8	12	15	16.5	11	6.5	3	16
0950-12081M	M8	12	24	25	16	9.5	5	46
0950-12001M	M12	18	24	25	16	9.5	5	57

Ürün Nr. 0950 5-Eksen Blok Bağlama Çektirme Civatası

• Tolerans  $\pm 0.2$

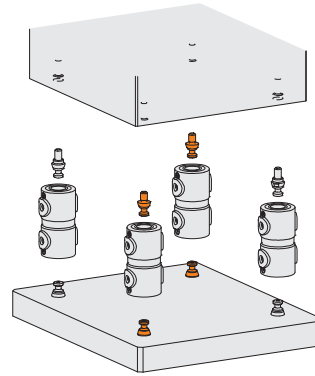
Product Nr. 0950 5-Axis Clamping Block Puller Bolt

• Tolerance  $\pm 0.2$



## 5-Eksen Blok Bağlama Çektirme Civatası

5-Axis Clamping Block Puller Bolt



## 5-Eksen Blok Bağlama Çektirme Civatası

5-Axis Clamping Block Puller Bolt

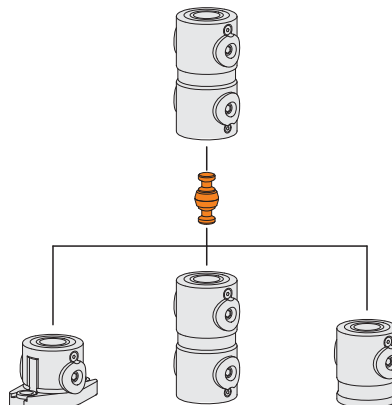
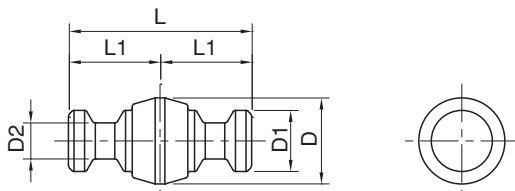
Referans Nr.	D	L	D1	D2	L1	(g)
0950-08001	15.5	33	11	6.5	16.5	24
0950-12001	24.5	50	16	9.5	25	85

Ürün Nr. 0950 5-Eksen Blok Bağlama Çektirme Civatası

• Tekrarlama Konumlaması 0.2

Product Nr. 0950 5-Axis Clamping Block Puller Bolt

• Locating Repeatability is 0.2



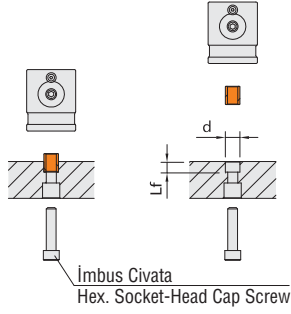
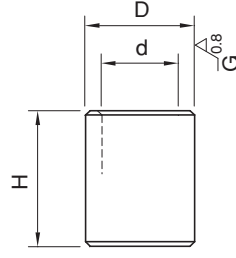
Referans Nr.	d	D (h6)	H	$\frac{D}{d}$ (g)
0950-08001D	8.5	12	15	7
0950-12001D	12.5	18	22	22

**Ürün Nr. 0950 5-Eksen Blok Bağlama Konumlama Burcu**

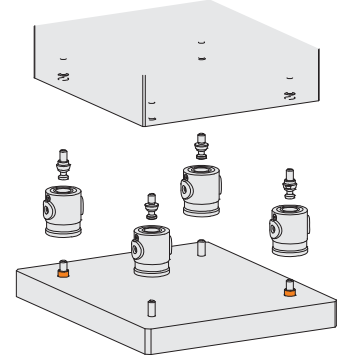
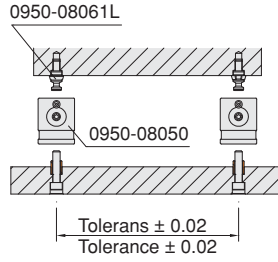
• Tolerans  $\pm 0.02$

**Product Nr. 0950 5-Axis Clamping Block Locating Bushings**

• Tolerance  $\pm 0.02$



Referans Nr.	d (H7)	Lf
0950-08001D	12	8.5
0950-12001D	18	12.5



Referans Nr.	D	H	D1	H1	d	$\frac{D}{d}$ (g)	
0950-08001LS	15.5	10	12	g6	5	8	6
0950-12001LS	24.5	12	18	g6	6	12	24
0950-08001SM	15.5	12	12	-0.02	5	-	11
0950-12001SM	24.5	18	18	-0.05	6	-	37

**Ürün Nr. 0950 5-Eksen Blok Bağlama Konumlama Burcu**

• Taşlanmış Tolerans  $\pm 0.02$   
• Standart Tolerans  $^{+0.1}_0$

**Product Nr. 0950 5-Axis Clamping Block Locating Bushings**

• Stoning Tolerans  $\pm 0.02$   
• Standard Tolerance  $^{+0.1}_0$

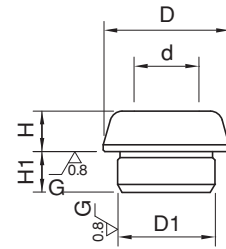
## 5-Eksen Blok Bağlama Konumlama Burcu



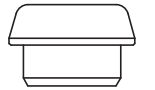
**LS**  
Taşlanmış  
Stoning



**SM**  
Standart  
Standard

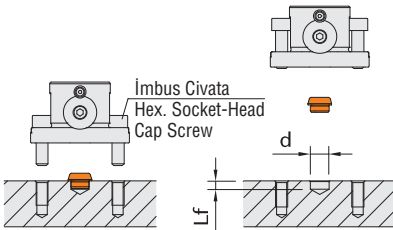


**L**  
Taşlanmış  
Stoning

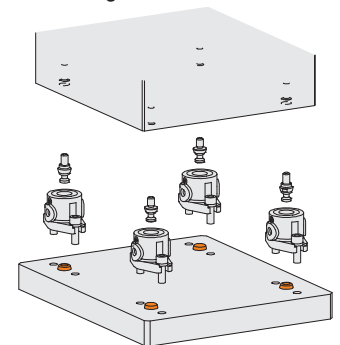
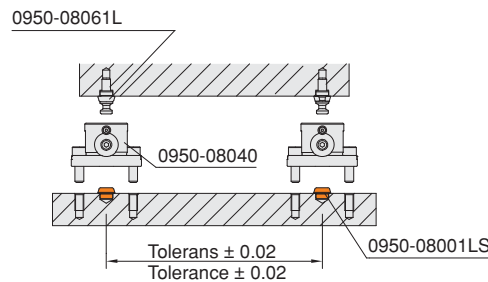


**S**  
Standart  
Standard

**Uygulama Örneği / Application Example**

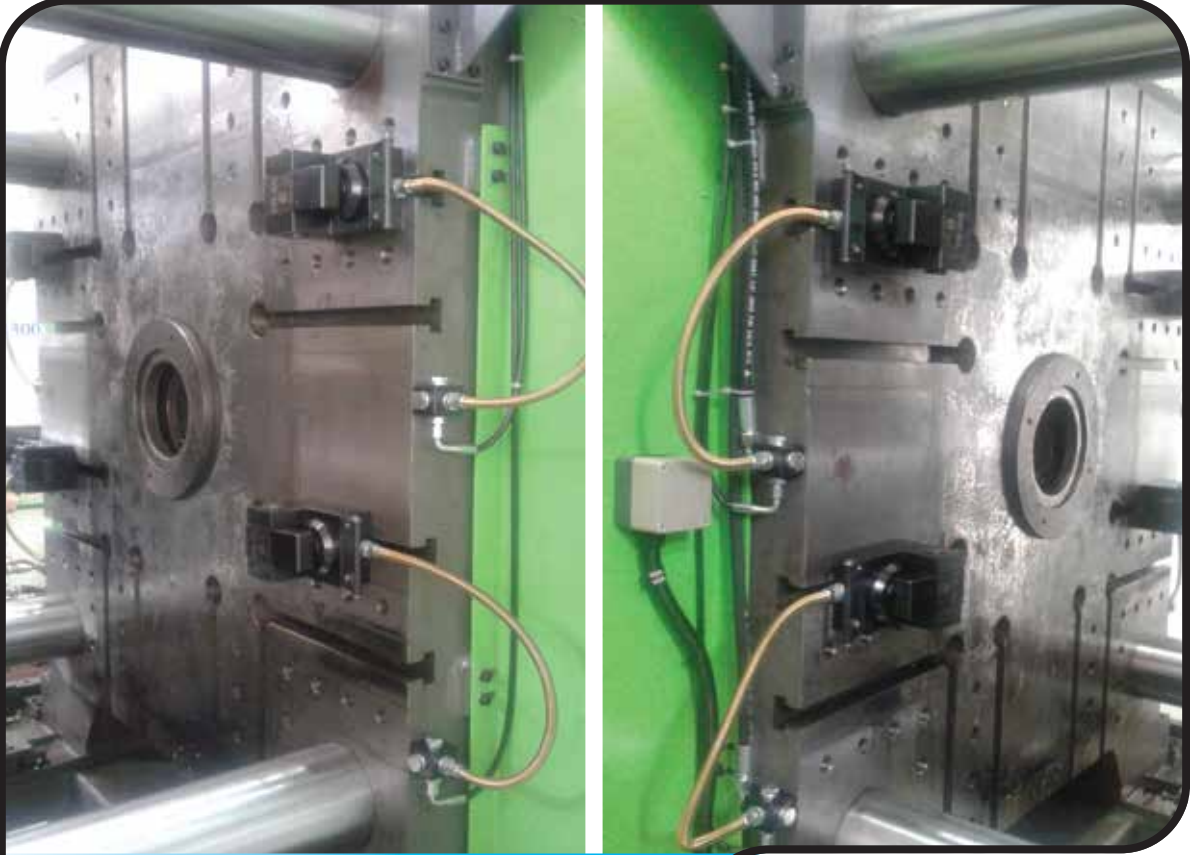


Referans Nr.	d (H7)	Lf
0950-08001LS	12	5.5
0950-12001LS	18	6.5

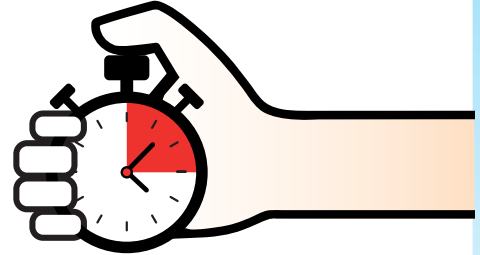


# HIZLI KALIP DEĞİŞTİRME SİSTEMİ

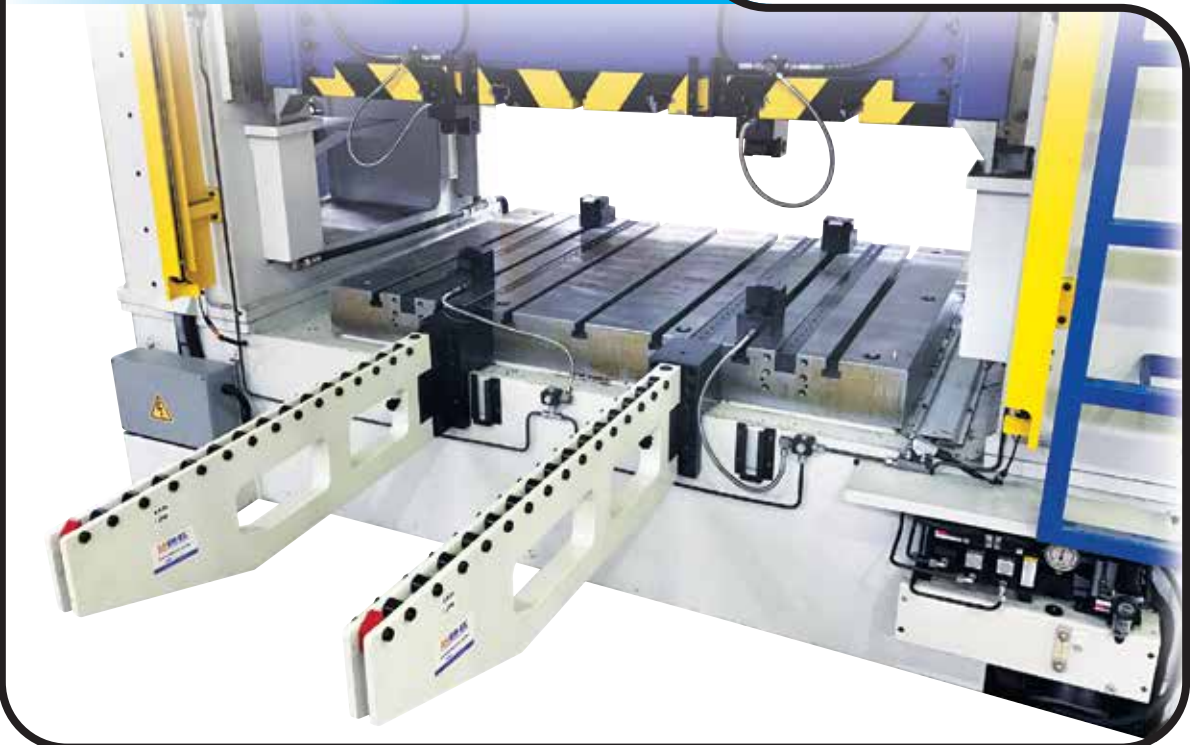
QUICK MOLD CHANGE SYSTEM



QUICK **MOLD** CHANGE SYSTEM



QUICK **DIE** CHANGE SYSTEM





**Hızlı Kalıp Değişirme Sistemi**

Kalıpların hızlı değiştiği, modellerin çeşitli ve üretim adetlerinin (talep miktarlarının) az olduğu zamanlarda kalıp değişirme süresini azaltıp iş güvenliğini sağlamaktır. Bu durumda **hızlı kalıp değişirme sistemine geçmenin tam vaktidir.**

**Uygulama**

- Pres - hidrolik pres - enjeksiyon
- Değişik otomatik makina bağlama sistemi

**Application**

- Press - hydraulic press - injection
- Different automatic machine clamp system

**Quick Die Change System**

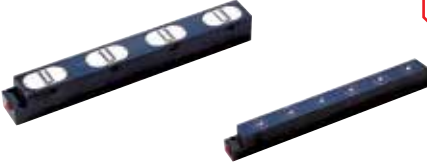
It's an era for making high frequency of die changing with multiple patterns and small quantity. In order to save die changing time and ensure operational safety, it is just in time to apply Quick Die Change System.

**Elektronik Operasyon Kontrol Paneli  
Electronic Control Operation Panel**

- Makineye bağlanmak için interlock kontrol switch donanımlıdır.
- It is equipped with interlock control switch for connecting to the machine.
- Oluşabilecek herhangi bir operasyon hatasını engellemek için güvenlik kontrol aygıtı ile birlikte tasarlanmıştır.
- It is designed with safety control device which prevents any operation error.

**Kalıp Kaldırma / Die Lifter****Model: DL - DB - DLS - DBS**

- Hidrolik tipi, yaylı tipi.
- Hydraulic type, spring type.
- T veya U kanala kurulum.
- Install in the T-slot or U-slot.

**Kalıp Kaydırma Kolu / Die Arm****Model: RC - RD - RE/RF - RS**

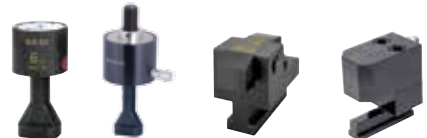
- Tezgah pleyti üzerine kalıp kolayca itilebilir veya çekilebilir.
- Can pull out and push in the die from the plate easily.
- Kaydırma kolunun 4 ayrı modeli vardır.
- There are 4 different models of die arm.

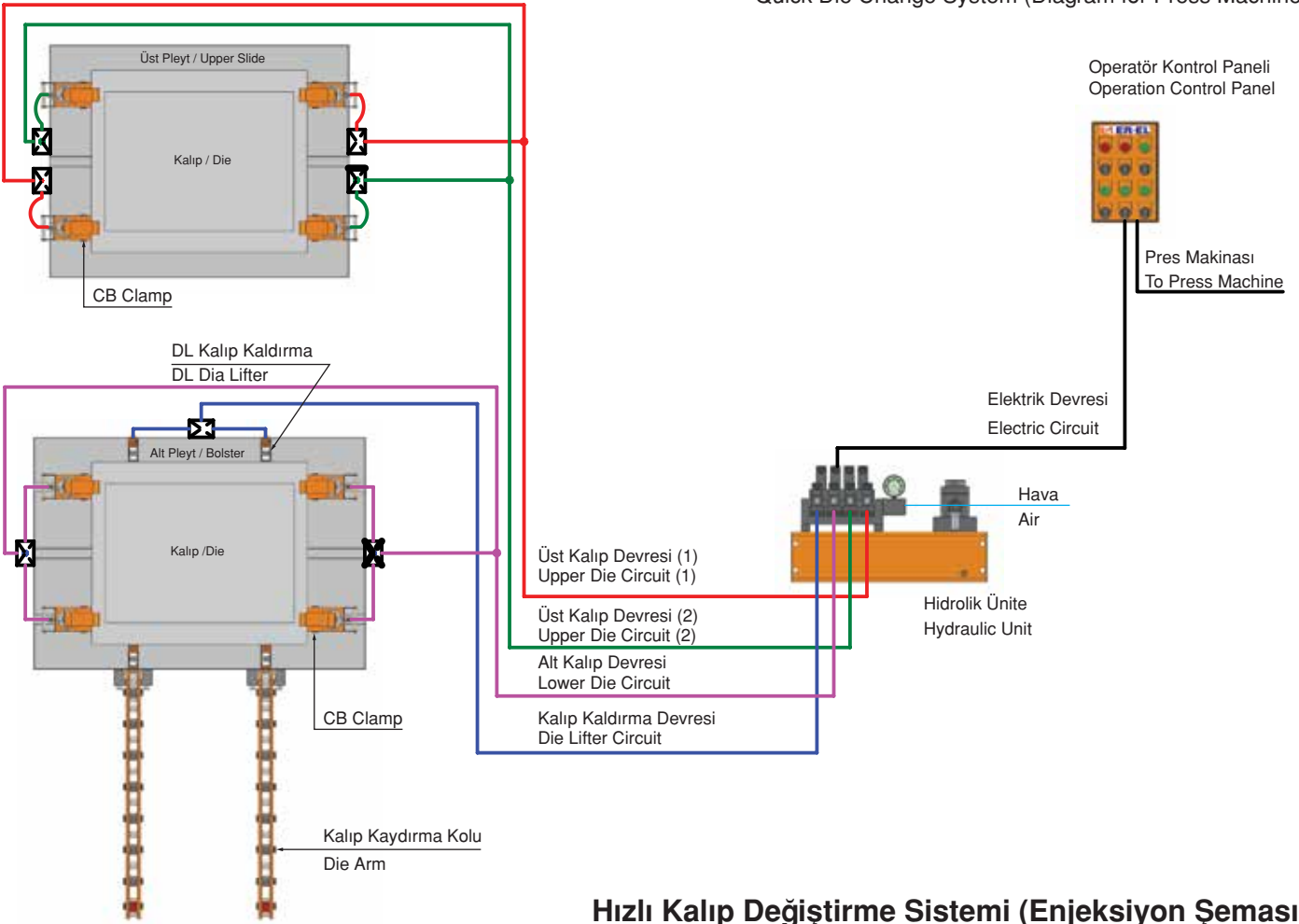
**Hava Tahrikli Hidrolik Pompa Ünitesi  
Air Driven Hydraulic Pump Unit**

- Makinelerde basınç denetleme ve interlock özelliği.
- Capable of pressure inspection and interlocking with machines.
- Aygıtlar arası eşit seviyede hareket operasyon güvenliğini sağlar.
- The movements between each devices will be pinned down mutually in order to ensure operational safety.

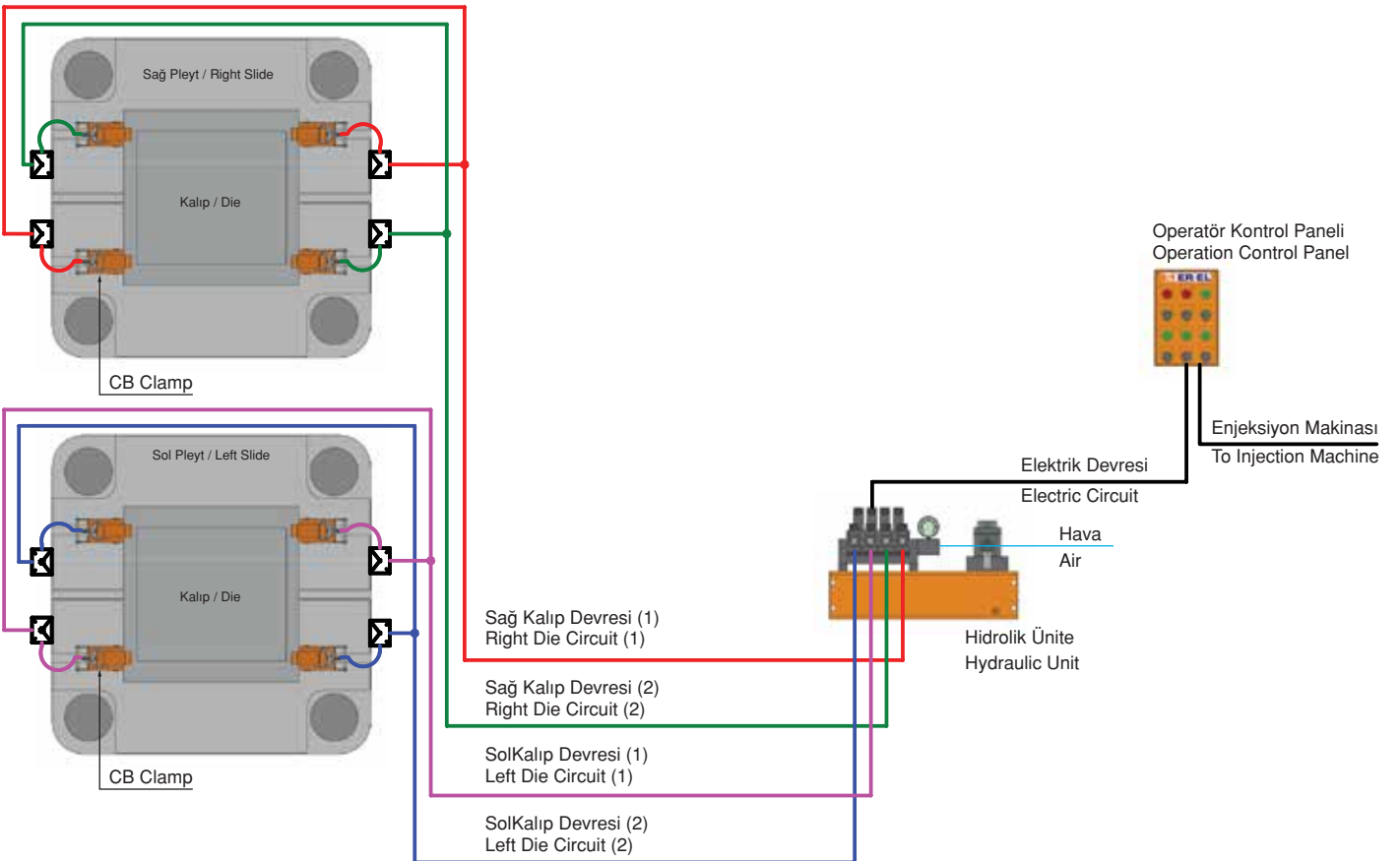
**Kalıp Pabucu / Die Clamp****Model : CA - CV - CB - CC**

- Kalıbı bağlamak için civata kullanılan geleneksel metodların yerini alır.
- Replacing the traditional method which uses screws to fix dies.
- Ürün "T" kanal pleytli tezgahlarda kullanılır.
- Using T-slots to lock or fix directly on the plate.





## Hızlı Kalıp Değişirme Sistemi (Enjeksiyon Şeması)

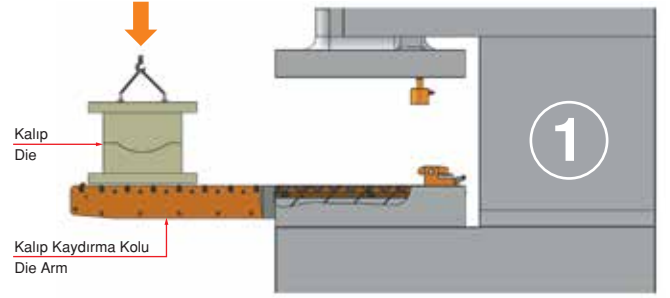


### Kalıbı yükleyin.

Bir vinç veya forklift kullanarak kalıbı yükleyin.  
Kalıp kaydırma kolu ile kolay yükleme imkanı sağlar.

### Load the die

Load the die using a crane or forklift.  
The pre-rollers enable easy loading.

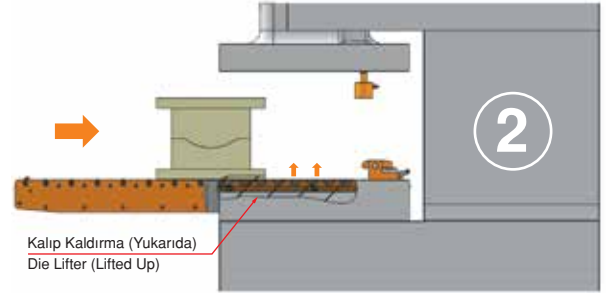


### Kalıbı pleyte aktarın.

Kalıp kaydırma kolu kalıp kaldırımlarla kalıbı hareket ettirmek için çok az kuvvet gerekir. Kalıp kaldırımları T - / U - kanallarına yerleştirilmiştir. Kalıp kaldırma: Hidrolik basınç **ON**

### Transfer the die to the bolster.

With the pre-rollers and die lifters, minimal force is required to move the die. Die lifters are set in the T - / U - slots. Die Lifter : Hydraulic pressure **ON**

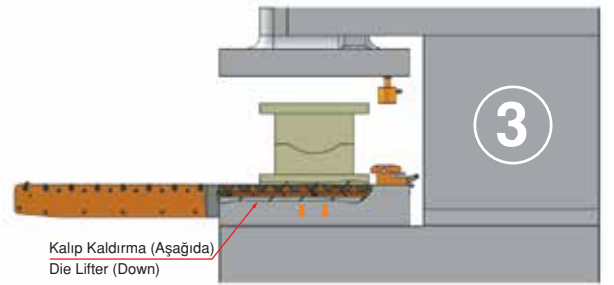


### Pleytin üzerinde kalıbı ayarlayın.

Kontrol panelinden butona basarak kalıp kaldırmacı indirilir ve kalıp pleyte temas eder. Kalıp Kaldırma : Hidrolik Basınç **OFF**

### Set the die on the bolster.

With push-button operation, the die lifter releases and the die makes contact with the bolster. Die Lifter : Hydraulic Pressure **OFF**

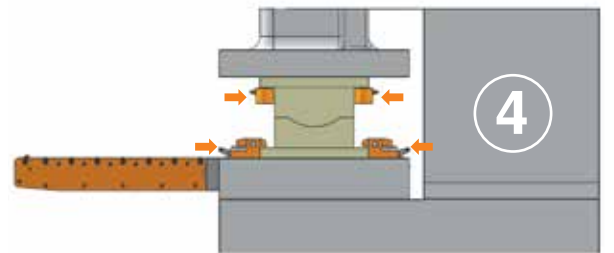


### Hidrolik pabuçları ayarlayın.

Hidrolik pabuçları kalıba göre ayarlayın. Hidrolik pabuçları T kanalları üzerine kaydırarak kalıba yaklaştırın. Hidrolik Pabuç : Hidrolik Basınç **OFF**

### Set the automatic clamps.

Set the slide to the bottom dead center . Slide automatic clamps on the T -slot and bring them near the die. Hydraulic Clamp : Hydraulic Pressure **OFF**

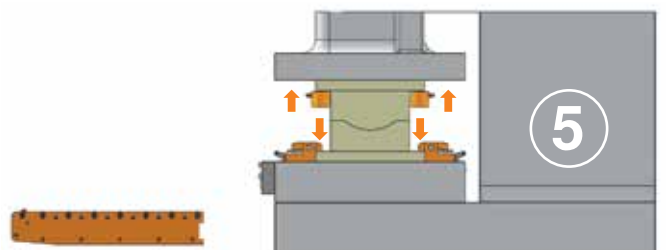


### Kalıbı kilitle.

Kontrol panelinden butona basarak hidrolik pabuçlarla kalıbı kilitleyin. Güvenlik onayından sonra kalıp kaydırma kolu çıkarılabilir. Hidrolik Pabuç : Hidrolik Basınç **ON**

### Lock the die.

With push-button operation, automatic clamps lock the die. After safety confirmation, the pre-roller can be removed. Hydraulic Clamp : Hydraulic Pressure **ON**



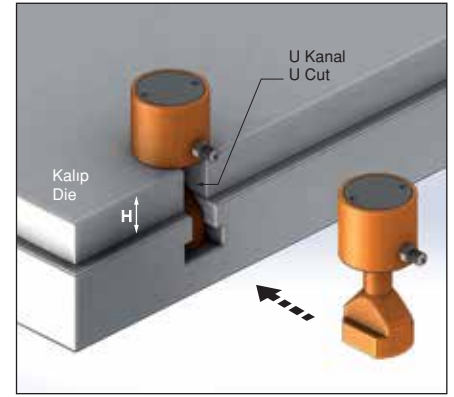
Model		CA-1	CA-2	CA-4	CA-6	CA-10	CA-16	CA-25
Bağlama kapasitesi Capacity of clamp	Ton	1	2	4	6	10	16	25
Toplam strok (X) Total stroke (X)	mm	6	8	8	8	8	8	8
Pabuç strok (Y) Stroke of clamp (Y)	mm	3	4	4	4	4	4	4
Muhafaza edilen strok (Z) Preserved stroke (Z)	mm	3	4	4	4	4	4	4
Silindirin toplam hacmi Total volumn of cylinder	cc	3	7	13	21	32	54	76
Kalıp taban kalınlığı toleransı (H) The tolerance of the template thickness (H)	mm	±1.5	±2	±2	±2	±2	±2	±2

Hidrolik basınç / Hydraulic pressure : 250kgf/cm<sup>2</sup>



- Satın almadan önce T-Kanal (a,b,c,d) ölçüsü ve kalıp tabanı kalınlığını (H) bildiriniz.
- Please indicate the size of T-slot (a,b,c,d) and the thickness (H) of the template for the die when purchasing.

Referans Nr.	ØF	E	ØG	ØJ	H+d max.	L max.	a min.	K	P
1010-CA01	44	48	12	30	60	12	8	9.5	PT1/8
1010-CA02	53	52	16	48	80	17	12	12	PT1/8
1010-CA04	65	58	23	58	90	20	16	15	PT1/4
1010-CA06	82	65	30	64	100	25	18	15	PT1/4
1010-CA10	99	71	38	78	110	30	22	15	PT1/4
1010-CA16	126	82	45	88	120	38	28	17	PT1/4
1010-CA25	150	100	55	98	140	45	36	23	PT1/4

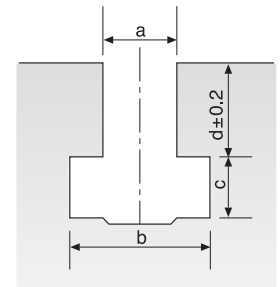
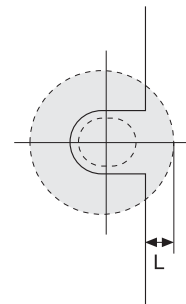
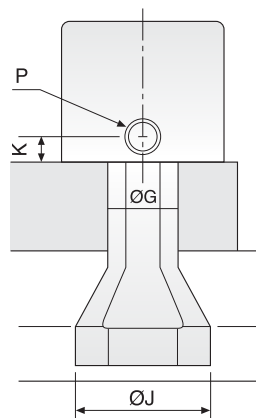
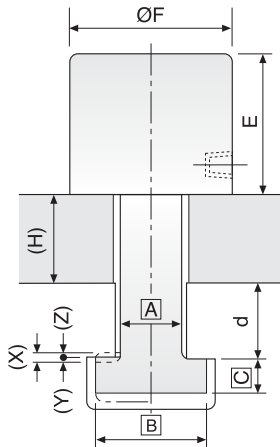


### Ürün Nr. 1010 Hidrolik Pabuç Model CA

- Pabuç ölçüleri (A), (B) ve (C) T-Kanala bağlı olarak belirlenir.
- Eğer pabuç ölçüsü (H+d) yukarıdaki maksimum değerlerden fazla ise, özel tasarım olarak kabul edilir.
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

### Product Nr. 1010 Hydraulic Clamp Model CA

- The sizes of clamps (A),(B) and (C) are made based on the size of T slot.
- If the thickness of clamp (H+d) is more than the max. value listed on the left, it will be regarded as special pattern.
- Standard Temperature : 60°
- Optional Temperature : 160°




L: Pabuç için şablonun uzunluğu  
L: Template's length for clamp

Model		CV-4	CV-6	CV-10
Bağlama kapasitesi Capacity of clamp	Ton	4	6	10
Toplam strok (X) Total stroke (X)	mm	8	8	8
Pabuç strok (Y) Stroke of clamp (Y)	mm	4	4	4
Muhafaza edilen strok (Z) Preserved stroke (Z)	mm	4	4	4
Silindirin toplam hacmi Total volumn of cylinder	cc	13	21	32
Kalıp taban kalınlığı toleransı (H) The tolerance of the template thickness (H)	mm	±2	±2	±2

Hidrolik basınç / Hydraulic pressure : 250kgf/cm<sup>2</sup>



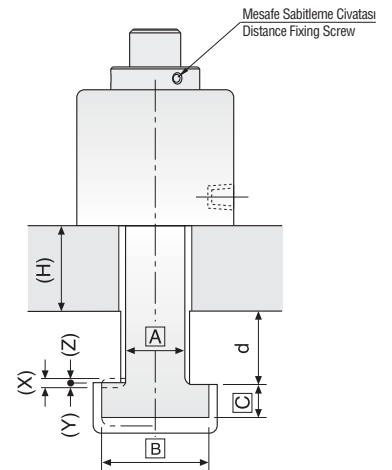
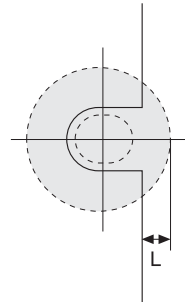
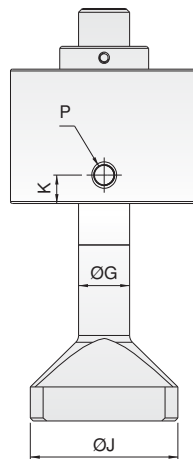
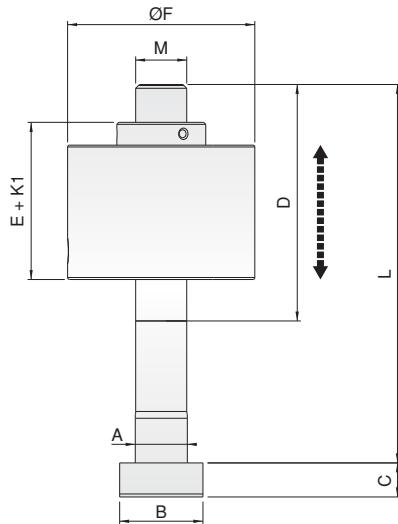
Referans Nr.		A	B	C	D	E + K1	Ayar Mesafesi	F	Max. L	M	ØG	ØJ	K	P
1010-CV042020125	20	19.6	32	12	85	70	15	65	125	M20	20	58	15	PT 1/4
1010-CV042022160	20	19.6	32	12	110	70	40	65	160	M20	20	58	15	PT 1/4
1010-CV042020160	22	21.6	35	14	85	70	15	65	125	M20	20	58	15	PT 1/4
1010-CV042022125	22	21.6	35	14	110	70	40	65	160	M20	20	58	15	PT 1/4
1010-CV062424125	24	23.6	40	16	85	77	8	82	125	M24	24	64	15	PT 1/4
1010-CV062424160	24	23.6	40	16	110	77	33	82	160	M24	24	64	15	PT 1/4
1010-CV062428125	28	27.6	44	18	85	77	8	82	125	M24	24	64	15	PT 1/4
1010-CV062428160	28	27.6	44	18	110	77	33	82	160	M24	24	64	15	PT 1/4
1010-CV102727160	27	26.6	46	18	110	83	27	99	160	M27	27	78	15	PT 1/4
1010-CV102727200	27	26.6	46	18	125	83	42	99	200	M27	27	78	15	PT 1/4
1010-CV102732160	32	31.6	50	20	110	83	27	99	160	M27	27	78	15	PT 1/4
1010-CV102732200	32	31.6	50	20	125	83	42	99	200	M27	27	78	15	PT 1/4

### Ürün Nr. 1010 Hidrolik Pabuç Model CV

- Vidalanarak mesafe ayarı yapılabilir.
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

### Product Nr. 1010 Hydraulic Clamp Model CV

- Screw-distance adjustment can be made.
- Standard Temperature : 60°
- Optional Temperature : 160°





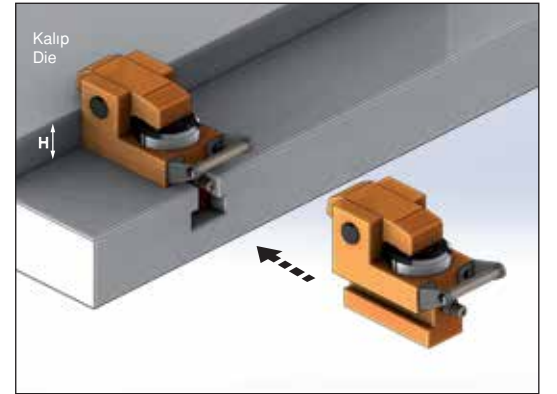
Model		CB-1	CB-2	CB-4	CB-6	CB-10	CB-16	CB-25
Bağlama kapasitesi Capacity of clamp	Ton	1	2	4	6	10	16	25
Toplam strok (X) Total stroke (X)	mm	6	8	8	8	8	8	8
Pabuç strok (Y) Stroke of clamp (Y)	mm	2.5	3	3	3	3	3	3
Muhafaza edilen strok (Z) Preserved stroke (Z)	mm	3.5	5	5	5	5	5	5
Silindirin toplam hacmi Total volumn of cylinder	cc	3	7.5	13	21	38	55	98
Kalıp taban kalınlığı toleransı (H) The tolerance of the template thickness (H)	mm	±1.5	±2	±2	±2	±2	±2	±2



- Satın almadan önce T-Kanal (a,b,c,d) ölçüsü ve kalıp tabanı kalınlığını (H) bildiriniz.
- Please indicate the size of T-slot (a,b,c,d) and the thickness (H) of the template for the die when purchasing.

Hidrolik basınç / Hydraulic pressure : 250kgf/cm<sup>2</sup>

Referans Nr.	L	K	J	H min.	H+d min. max	E min.	F	G	a min.	C min.	P
1015-CB01	74.5	60	14.5	25	100	42	44	20	10	6.5	PT1/8
1015-CB02	110	90	20	25	100	73	68	32	14	10	PT1/4
1015-CB04	134	110	24	25	130	77	79	40	18	12	PT1/4
1015-CB06	159	130	29	30	150	92	96	46	22	14	PT1/4
1015-CB10	189	159	30	40	140	114	117	54	24	16	PT1/4
1015-CB16	230	200	30	40	130	126	129	58	28	20	PT1/4
1015-CB25	265	235	30	45	120	148	156	70	36	23	PT1/4

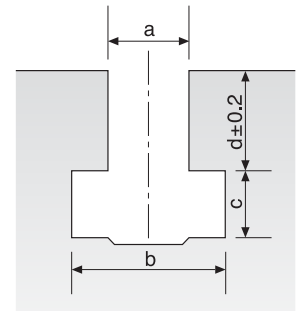
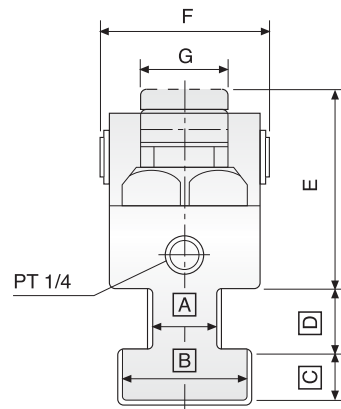
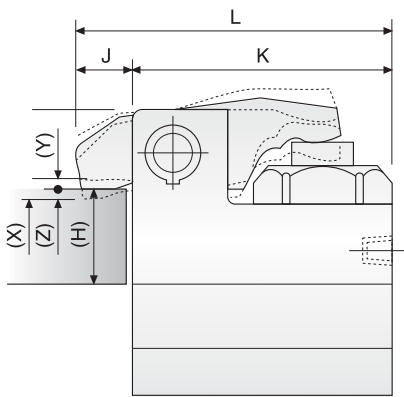


### Ürün Nr. 1015 Hidrolik Pabuç Model CB

- Pabuç ölçüleri (A),(B),(C) ve (D) T-Kanala bağlı olarak belirlenir.
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

### Product Nr. 1015 Hydraulic Clamp Model CB

- The sizes of clamps(A),(B),(C) and (D) are made based on the size of T-slot.
- Standard Temperature : 60°
- Optional Temperature : 160°



Model		CC-1	CC-2	CC-4	CC-6	CC-10
Bağlama kapasitesi Capacity of clamp	Ton	1	2	4	6	10
Toplam strok (X) Total stroke (X)	mm	9	9	9	12	12
Pabuç strok (Y) Stroke of clamp (Y)	mm	4	4	4	4	4
Muhafaza edilen strok (Z) Preserved stroke (Z)	mm	5	5	5	8	8
Silindirin toplam hacmi Total volumn of cylinder	cc	3	7.5	13	21	38
Kalıp taban kalınlığı toleransı (H) The tolerance of the template thickness (H)	mm	±1.5	±2	±2	±2	±2



- Satın almadan önce T-Kanal (a,b,c,d) ölçüsü ve kalıp tabanı kalınlığını (H) bildiriniz.
- Please indicate the size of T-slot (a,b,c,d) and the thickness (H) of the template for the die when purchasing.

Hidrolik basınç / Hydraulic pressure : 250kgf/cm<sup>2</sup>

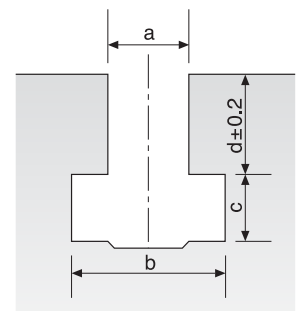
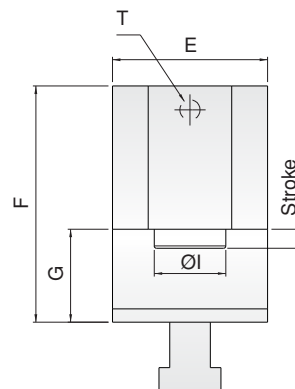
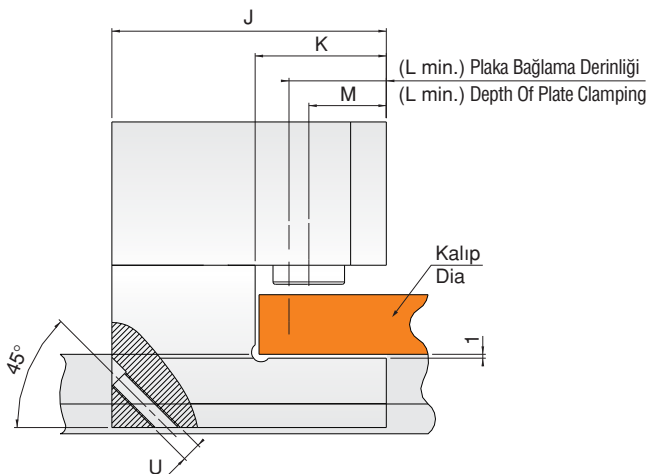
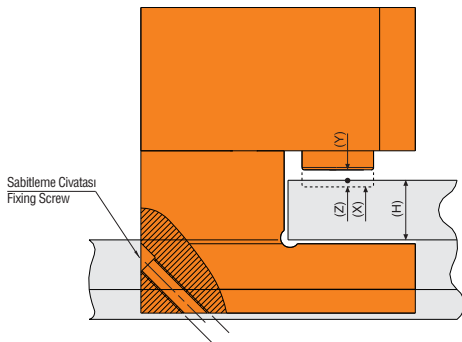
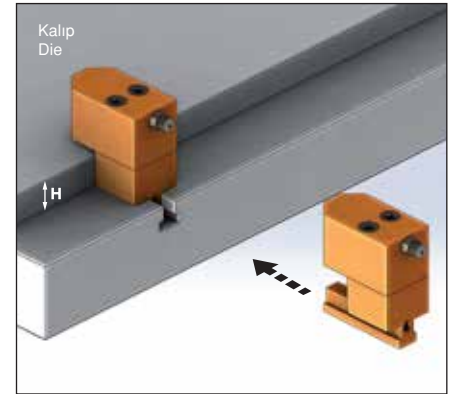
Referans Nr.	H min. - max	A min.	C min.	E	F	G	I	J	K	L min.	M	T	U
1015-CC01	20-35	10	6.5	43	G+43	H+9	Ø16	75	33	27	21.5	1/8	M5
1015-CC02	25-40	14	10	50	G+50	H+9	Ø18	91	43	30	25	1/8	M5
1015-CC04	25-40	18	12	65	G+60	H+9	Ø30	115	55	40	32.5	1/8	M8
1015-CC06	35-55	22	14	80	G+65	H+12	Ø37.5	130	65	48	40	1/4	M10
1015-CC10	40-60	24	16	100	G+82	H+12	Ø50	160	85	60	49	1/4	M12

### Ürün Nr. 1015 Hidrolik Pabuç Model CC

- Pabuç ölçüleri (A),(B),(C) ve (D) T-Kanala bağlı olarak belirlenir.
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

### Product Nr. 1015 Hydraulic Clamp Model CC

- The sizes of clamps(A),(B),(C) and (D) are made based on the size of T-slot.
- Standard Temperature : 60°
- Optional Temperature : 160°



Model		CD-2	CD-4	CD-6	CD-10	CD-16	CD-25
Bağlama kapasitesi Capacity of clamp	Ton	2	4	6	10	16	25
Toplam strok (X) Total stroke (X)	mm	8	8	8	8	8	8
Pabuç strok (Y) Stroke of clamp (Y)	mm	3	3	3	3	3	3
Muhafaza edilen strok (Z) Preserved stroke (Z)	mm	5	5	5	5	5	5
Silindirin toplam hacmi Total volumn of cylinder	cc	7.5	13	21	38	55	98
Kalıp taban kalınlığı toleransı (H) The tolerance of the template thickness (H)	mm	±2	±2	±2	±2	±2	±2



Hidrolik basınç / Hydraulic pressure : 250kgf/cm<sup>2</sup>

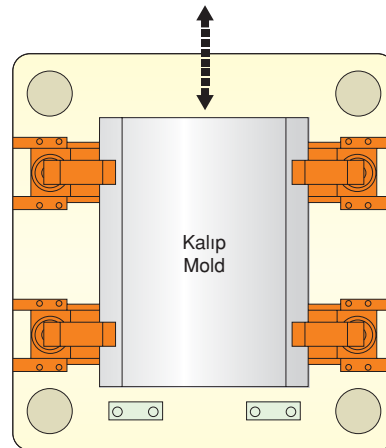
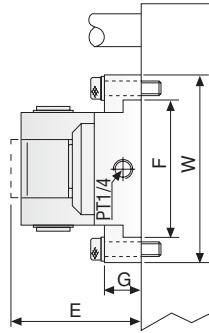
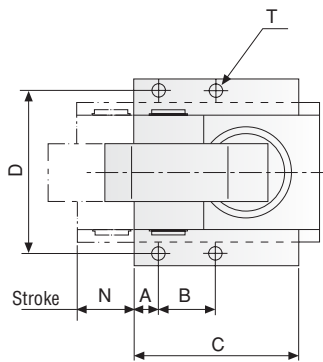
Referans Nr.	A	B	C	D	E min.	F	G	W	N max.	T
1015-CD02	12	20	80	98	90	76	30	124	25	M10x20D
1015-CD04	12	25	100	109	93	87	30	135	30	M12x24D
1015-CD06	15	30	120	126	109	104	30	152	35	M12x24D
1015-CD10	15	35	150	148	131	124	36	174	40	M14x28D
1015-CD16	20	40	200	166	142	138	44	200	50	M18x36D
1015-CD25	20	45	235	200	163	168	48	240	60	M22x45D

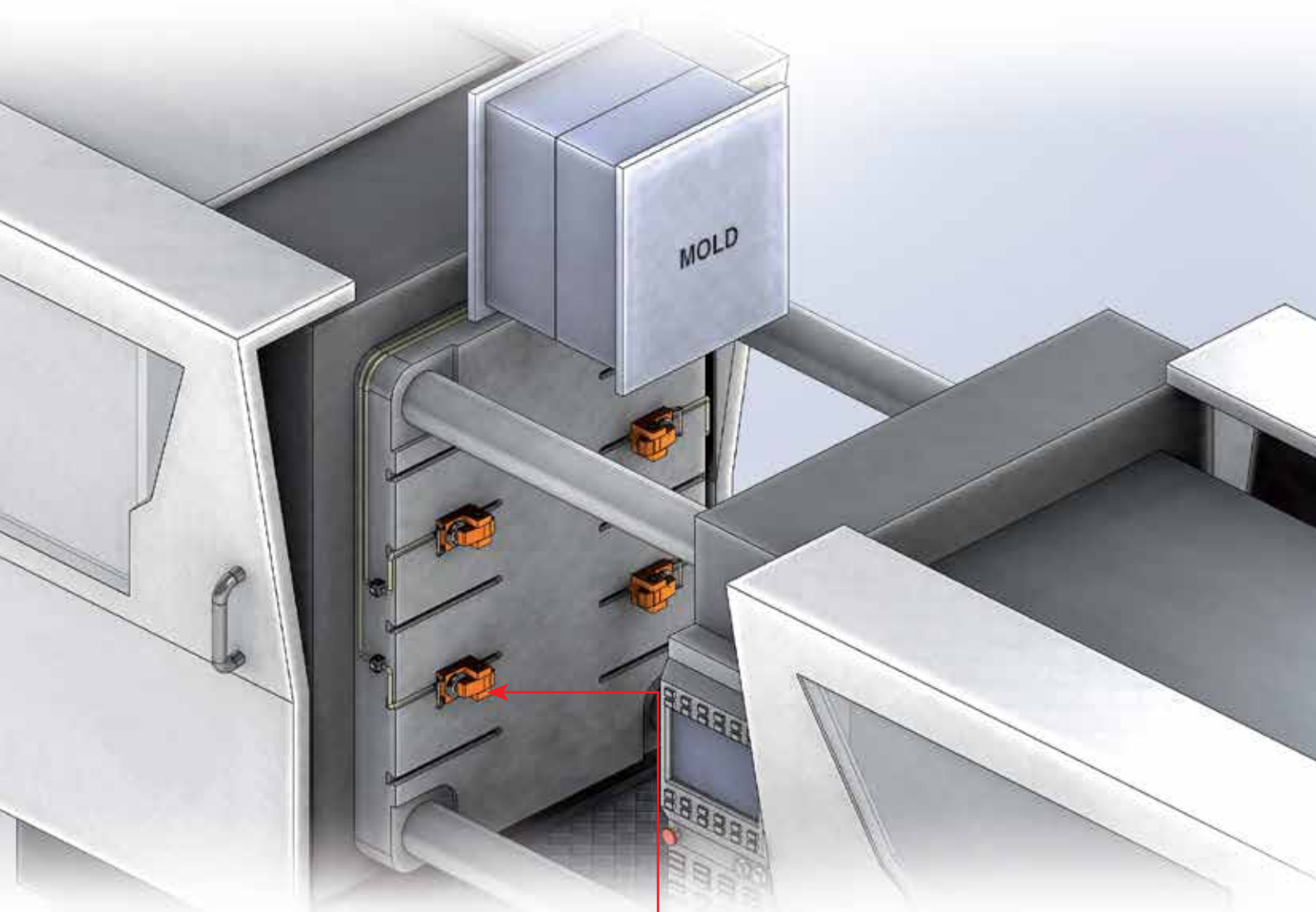
### Ürün Nr. 1015 Hidrolik Pabuç Model CD

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

### Product Nr. 1015 Hydraulic Clamp Model CD

- Standard Temperature : 60°
- Optional Temperature : 160°





**Hidrolik Pabuç Modelleri / Hydraulic Clamp Models**



**Model CA**



**Model CV**



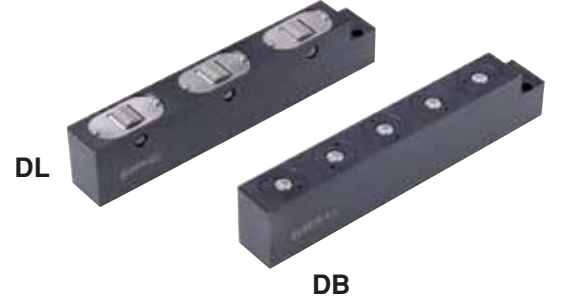
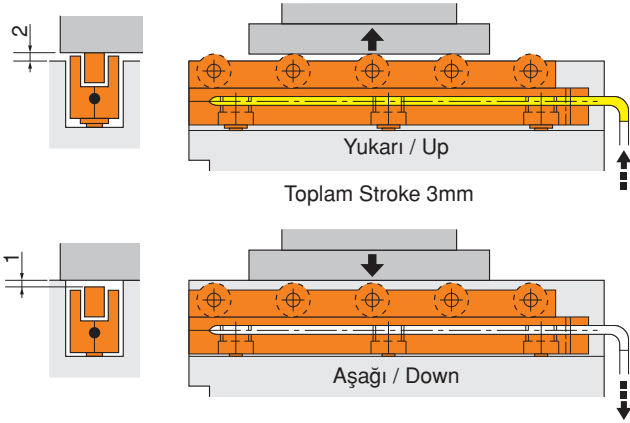
**Model CB**

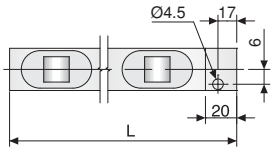
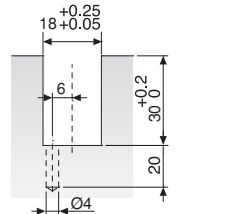


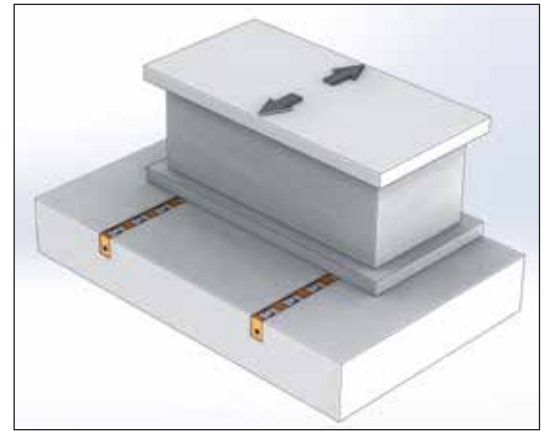
**Model CC**



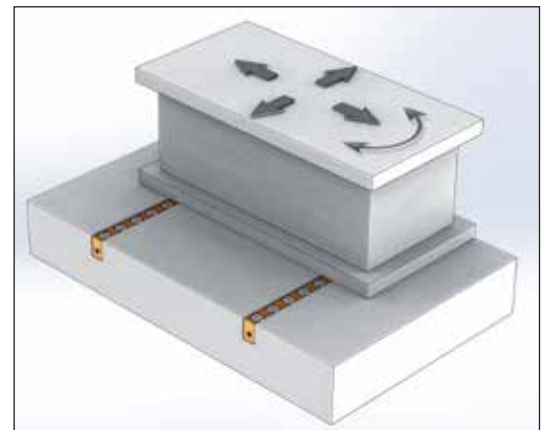
**Model CD**



Dış Ölçüler Outline Dimensions	<p>□18 Serisi / Serial</p> 
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



**Model DL Hareket Yönü**  
**Model DL Movement Direction**



**Model DB Hareket Yönü**  
**Model DB Movement Direction**

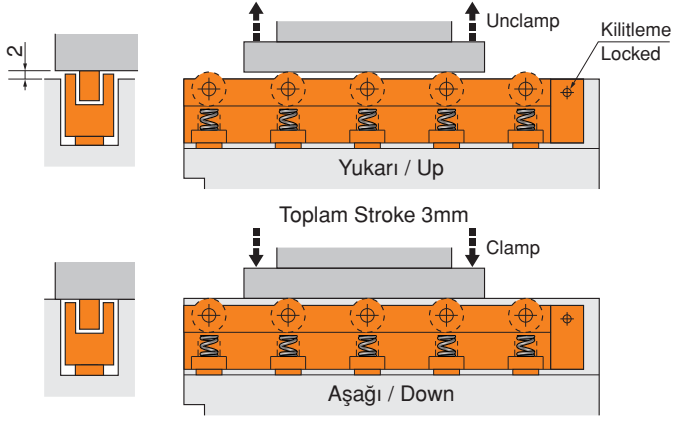
Referans Nr.	L	□18				Hid. Silindir Hyd. cylinder	Piston	Kapasite Capacity kg
		DL18		DB18				
		Rulo Roller (DL)	Kapasite Capacity kg	Misket Ball (DB)	Kapasite Capacity kg			
1020-0200	200	3	300	5	250	2	560	
1020-0300	300	5	500	7	350			
1020-0400	400	6	560	10	500			
1020-0500	500	8	800	12	600	3	840	
1020-0600	600	9	840	15	750			
1020-0700	700	11	840	17	840			
1020-0800	800	12	1120	20	1000	4	1120	
1020-0900	900	14	1120	22	1100			
1020-1000	1000	15	1250	25	1250	5	1400	

**Ürün Nr. 1020 Hidrolik Kalıp Kaldırma Model DL-DB**

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

**Product Nr. 1020 Die Lifter Hydraulic Model DL-DB**

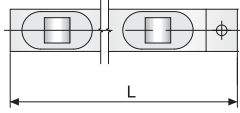
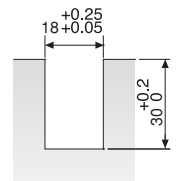
- Standard Temperature : 60°
- Optional Temperature : 160°

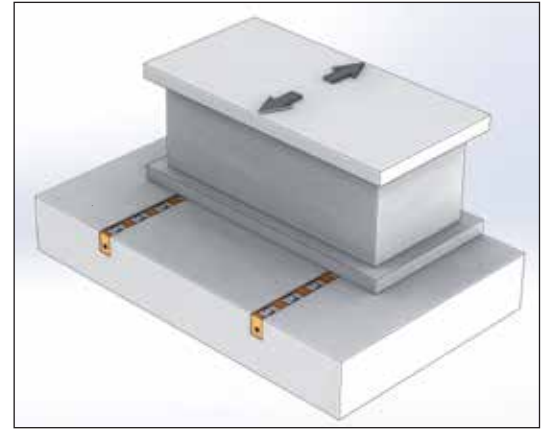


DLS





DBS

Dış Ölçüler Outline Dimensions	D□18 Serisi / Serial 
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DLS Hareket Yönü  
Model DLS Movement Direction

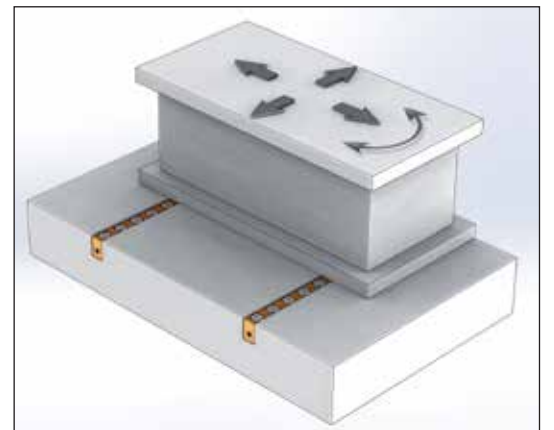
Referans Nr.	L	D□18					
		DLS18			DBS18		
		Rulo Roller (DLS)		Kapasite Capacity kg	Misket Ball (DBS)		Kapasite Capacity kg
1022-0200	200	3	4	200	5	6	150
1022-0300	300	5	6	300	7	8	200
1022-0400	400	6	7	350	10	11	275
1022-0500	500	8	9	450	12	13	325
1022-0600	600	9	10	500	15	16	400
1022-0700	700	11	12	600	17	18	450
1022-0800	800	12	13	650	20	21	525
1022-0900	900	14	15	750	22	23	575
1022-1000	1000	15	16	800	25	26	650

### Ürün Nr. 1022 Hidrolik Kalıp Kaldırma Model DLS-DBS

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

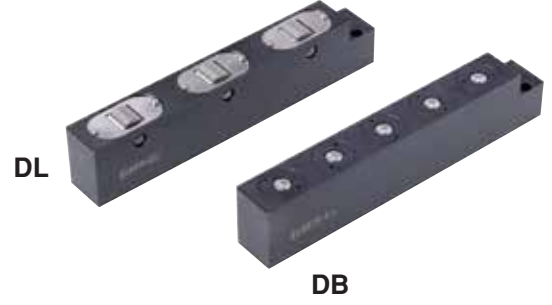
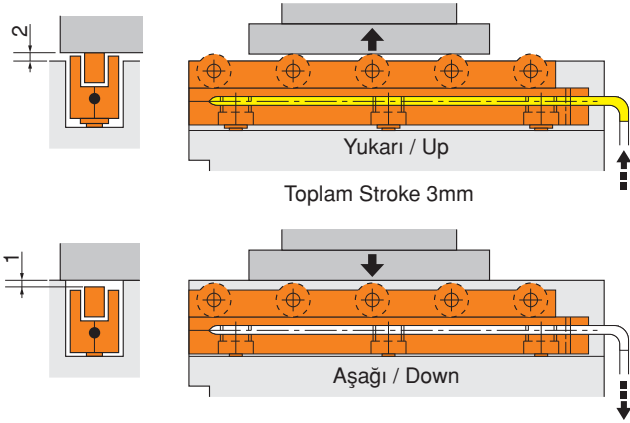
### Product Nr. 1022 Die Lifter Hydraulic Model DLS-DBS

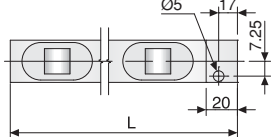
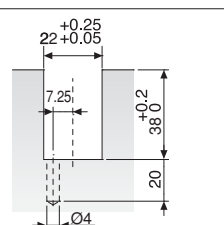
- Standard Temperature : 60°
- Optional Temperature : 160°

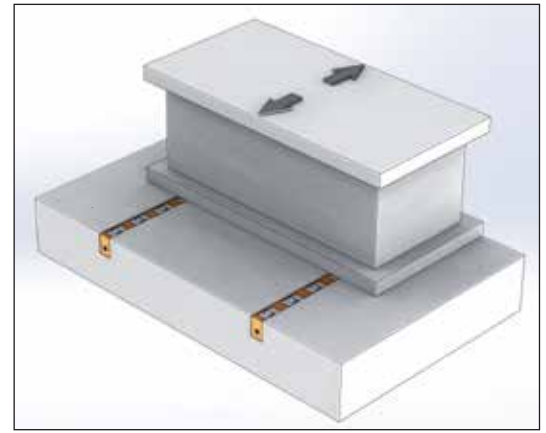


Model DBS Hareket Yönü  
Model DBS Movement Direction

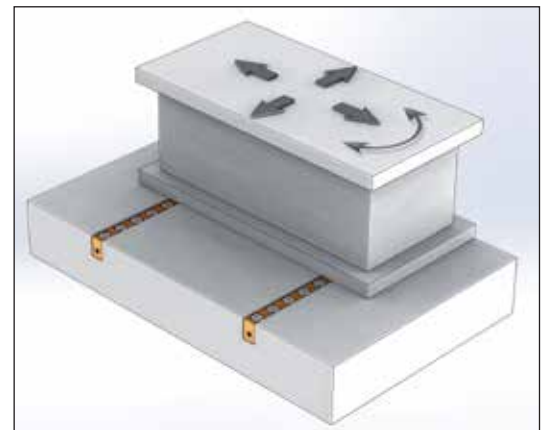




Dış Ölçüler Outline Dimensions	<p>D□22 Serisi / Serial</p> 
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DL Hareket Yönü  
Model DL Movement Direction



Model DB Hareket Yönü  
Model DB Movement Direction

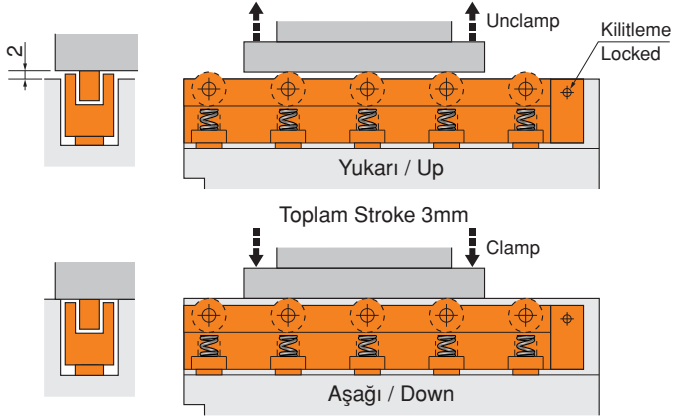
Referans Nr.	L	D□22				Hid. Silindir Hyd. cylinder	
		DL22		DB22		Piston	Kapasite Capacity kg
		Rulo Roller (DL)	Kapasite Capacity kg	Misket Ball (DB)	Kapasite Capacity kg		
1020-0200	200	3	480	5	370	2	1000
1020-0300	300	5	800	7	518		
1020-0400	400	6	960	10	740		
1020-0500	500	8	1280	12	888	3	1500
1020-0600	600	9	1400	15	1110		
1020-0700	700	11	1500	17	1250		
1020-0800	800	12	1920	20	1480	4	2000
1020-0900	900	14	2000	22	1628		
1020-1000	1000	15	2000	25	1850		

**Ürün Nr. 1020 Hidrolik Kalıp Kaldırma Model DL-DB**

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

**Product Nr. 1020 Die Lifter Hydraulic Model DL-DB**

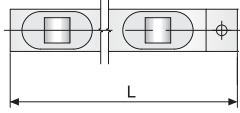
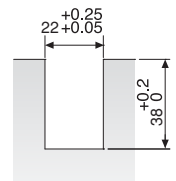
- Standard Temperature : 60°
- Optional Temperature : 160°

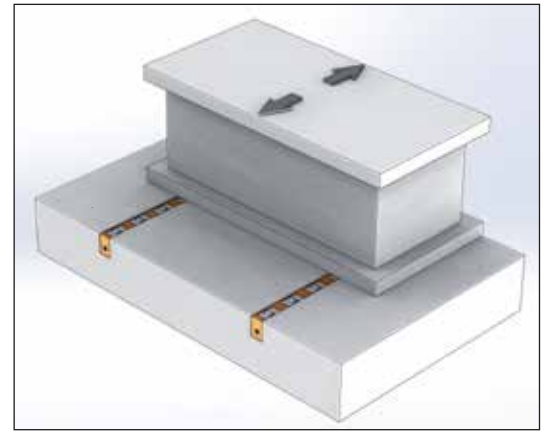


DLS





DBS

Dış Ölçüler Outline Dimensions	D□22 Serisi / Serial 
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DLS Hareket Yönü  
Model DLS Movement Direction

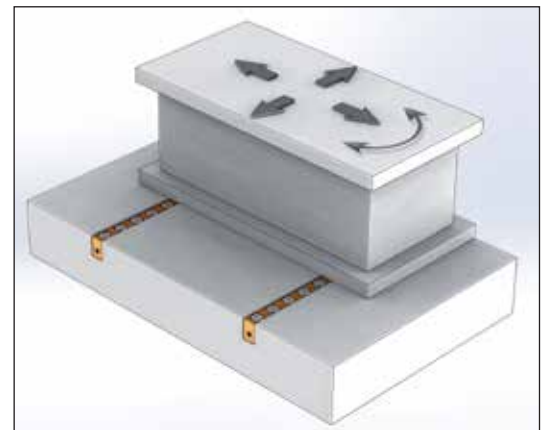
Referans Nr.	L	D□22					
		DLS22			DBS22		
		Rulo Roller (DLS)		Kapasite Capacity kg	Misket Ball (DBS)		Kapasite Capacity kg
1022-0200	200	3	3	240	5	5	200
1022-0300	300	5	5	400	7	7	280
1022-0400	400	6	6	480	10	10	400
1022-0500	500	8	8	640	12	12	480
1022-0600	600	9	9	720	15	15	600
1022-0700	700	11	11	880	17	17	680
1022-0800	800	12	12	960	20	20	800
1022-0900	900	14	14	1120	22	22	880
1022-1000	1000	15	15	1200	25	25	1000

### Ürün Nr. 1022 Hidrolik Kalıp Kaldırma Model DLS-DBS

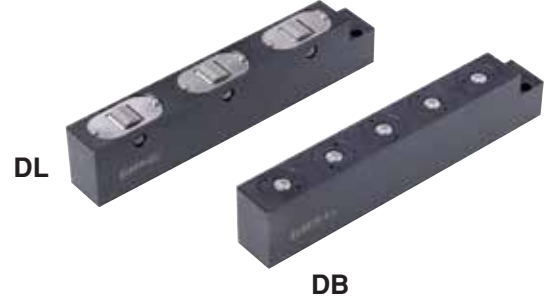
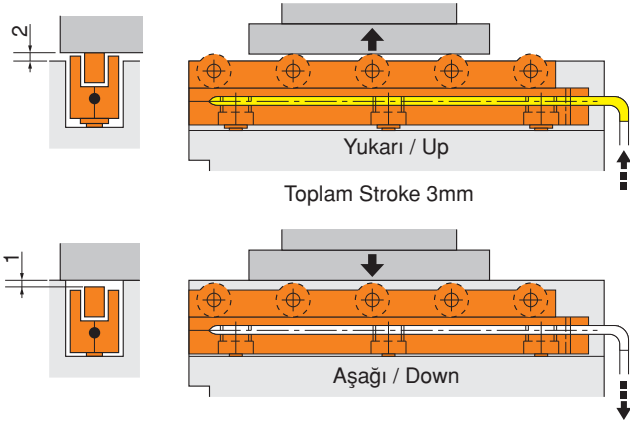
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

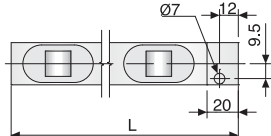
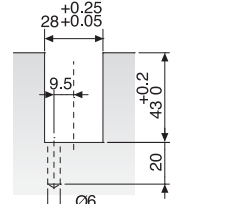
### Product Nr. 1022 Die Lifter Hydraulic Model DLS-DBS

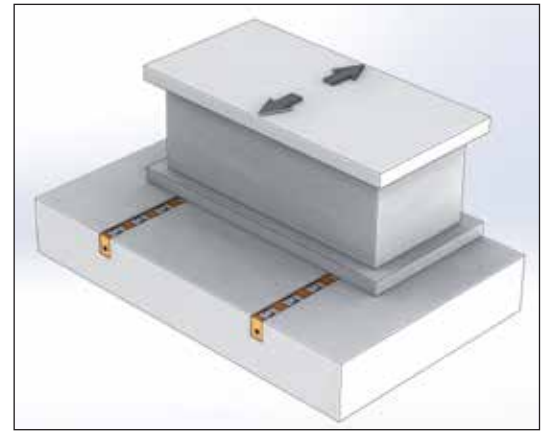
- Standard Temperature : 60°
- Optional Temperature : 160°



Model DBS Hareket Yönü  
Model DBS Movement Direction

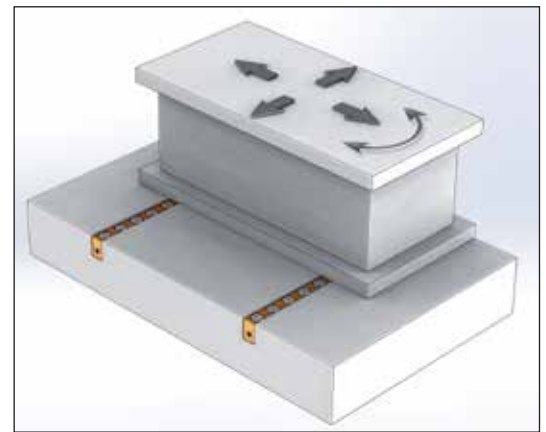


Dış Ölçüler Outline Dimensions	D□28 Serisi / Serial
	
Plejt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DL Hareket Yönü  
Model DL Movement Direction

Referans Nr.	L	D□28				Hid. Silindir Hyd. cylinder	
		Rulo Roller (DL)	Kapasite Capacity kg	Misket Ball (DB)	Kapasite Capacity kg	Piston	Kapasite Capacity kg
1020-0200	200	3	750	5	475		
1020-0300	300	5	1250	7	665	2	1260
1020-0400	400	6	1260	10	950		
1020-0500	500	8	1890	12	1140		
1020-0600	600	9	1890	15	1425	3	1890
1020-0700	700	11	1890	17	1615		
1020-0800	800	12	2520	20	1900		
1020-0900	900	14	2520	22	2090	4	2520
1020-1000	1000	15	3150	25	2375		
1020-1100	1100	16	3150	27	2565	5	3150
1020-1200	1200	17	3150	30	2850		
1020-1300	1300	18	3780	32	3040		
1020-1400	1400	19	3780	35	3325	6	3780
1020-1500	1500	20	3780	37	3515		
1020-1600	1600	22	4410	40	3800		
1020-1700	1700	24	4410	42	3990	7	4410
1020-1800	1800	25	4410	45	4275		
1020-1900	1900	27	5040	47	4465	8	5040



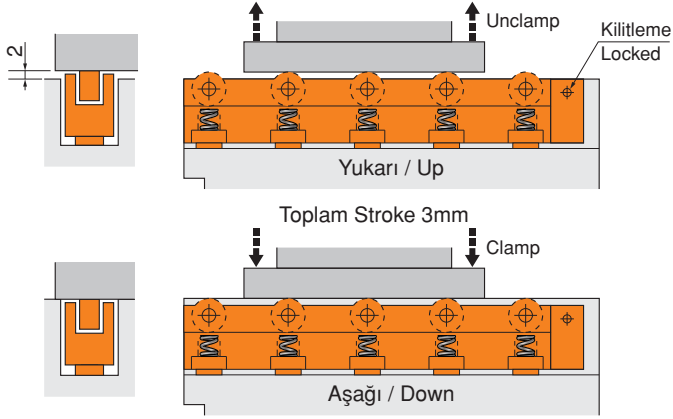
Model DB Hareket Yönü  
Model DB Movement Direction

**Ürün Nr. 1020 Hidrolik Kalıp Kaldırma Model DL-DB**

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

**Product Nr. 1020 Die Lifter Hydraulic Model DL-DB**

- Standard Temperature : 60°
- Optional Temperature : 160°

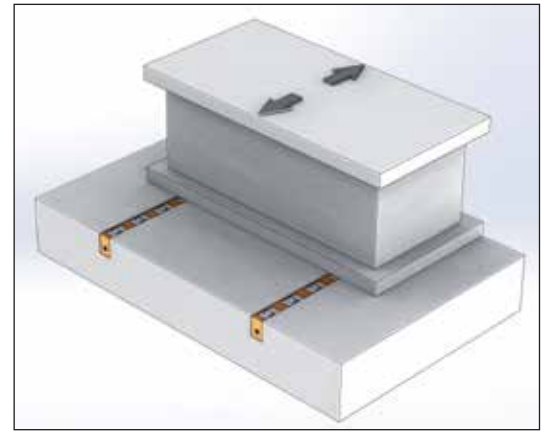


DLS



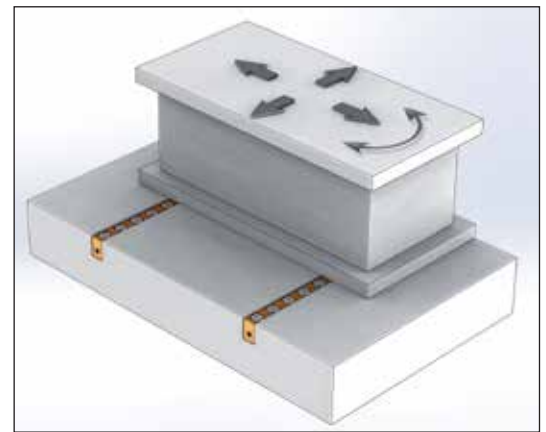
DBS

Dış Ölçüler Outline Dimensions	D□28 Serisi / Serial
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DLS Hareket Yönü  
Model DLS Movement Direction

Referans Nr.	L	D□28					
		DLS28			DBS28		
		Rulo Roller (DLS)	Kapasite Capacity kg	Misket Ball (DBS)	Kapasite Capacity kg	Misket Ball (DBS)	Kapasite Capacity kg
1022-0200	200	3	4	500	5	5	315
1022-0300	300	5	6	750	7	7	441
1022-0400	400	6	7	875	10	10	630
1022-0500	500	8	9	1125	12	12	756
1022-0600	600	9	10	1250	15	15	945
1022-0700	700	11	12	1500	17	17	1071
1022-0800	800	12	13	1625	20	20	1260
1022-0900	900	14	15	1875	22	22	1386
1022-1000	1000	15	16	2000	25	25	1575
1022-1100	1100	16	17	2125	27	27	1701
1022-1200	1200	17	18	2250	30	30	1890
1022-1300	1300	18	19	2375	32	32	2016
1022-1400	1400	19	20	2500	35	35	2205
1022-1500	1500	20	21	2625	37	37	2331
1022-1600	1600	22	23	2875	40	40	2520
1022-1700	1700	24	25	3125	42	42	2646
1022-1800	1800	25	26	3250	45	45	2835
1022-1900	1900	27	28	3500	47	47	2961



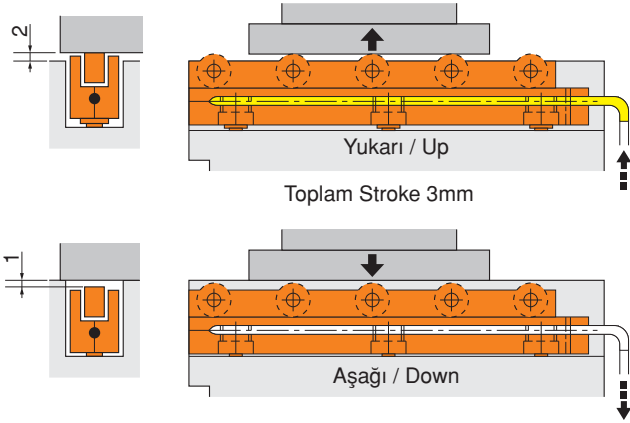
Model DBS Hareket Yönü  
Model DBS Movement Direction

Ürün Nr. 1022 Hidrolik Kalıp Kaldırma Model DLS-DBS

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

Product Nr. 1022 Die Lifter Hydraulic Model DLS-DBS

- Standard Temperature : 60°
- Optional Temperature : 160°

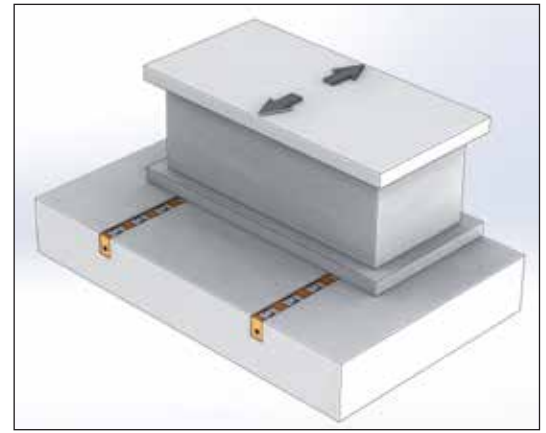


DL

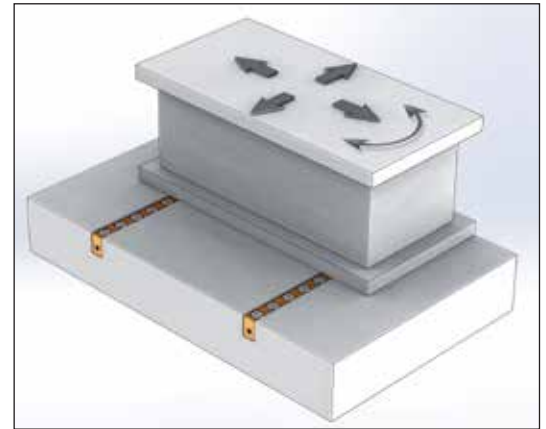


DB

Dış Ölçüler Outline Dimensions	D□36 Serisi / Serial
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DL Hareket Yönü  
Model DL Movement Direction



Model DB Hareket Yönü  
Model DB Movement Direction

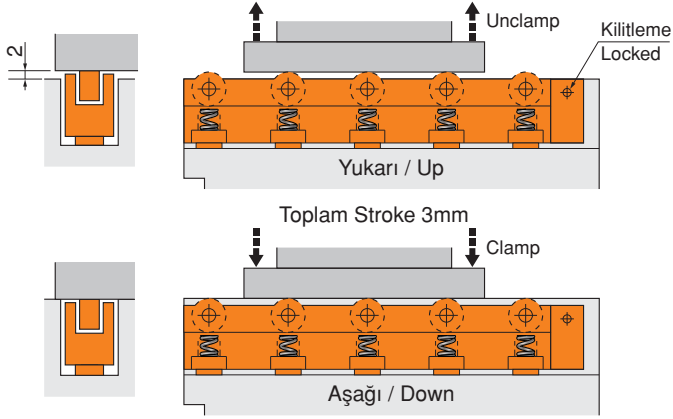
Referans Nr.	L	D□36				Hid. Silindir Hyd. cylinder	
		DL36		DB36		Piston	Kapasite Capacity kg
		Rulo Roller (DL)	Kapasite Capacity kg	Misket Ball (DB)	Kapasite Capacity kg		
1020-0200	200	3	1050	5	600	2	1700
1020-0300	300	5	1750	7	840		
1020-0400	400	6	1700	10	1200		
1020-0500	500	8	2600	12	1440	3	2600
1020-0600	600	9	2600	15	1800		
1020-0700	700	11	2600	17	2040		
1020-0800	800	12	2600	20	2400		
1020-0900	900	14	3500	22	2640	4	3500
1020-1000	1000	15	3500	25	3000		
1020-1100	1100	16	3500	27	3240		
1020-1200	1200	17	4400	30	3600		
1020-1300	1300	18	4400	32	3840		
1020-1400	1400	19	4400	35	4200	5	4400
1020-1500	1500	20	4400	37	4400		
1020-1600	1600	22	5300	40	4800		
1020-1700	1700	24	5300	42	5040	6	5300
1020-1800	1800	25	5300	45	5300		
1020-1900	1900	27	5300	47	5300		

**Ürün Nr. 1020 Hidrolik Kalıp Kaldırma Model DL-DB**

- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

**Product Nr. 1020 Die Lifter Hydraulic Model DL-DB**

- Standard Temperature : 60°
- Optional Temperature : 160°

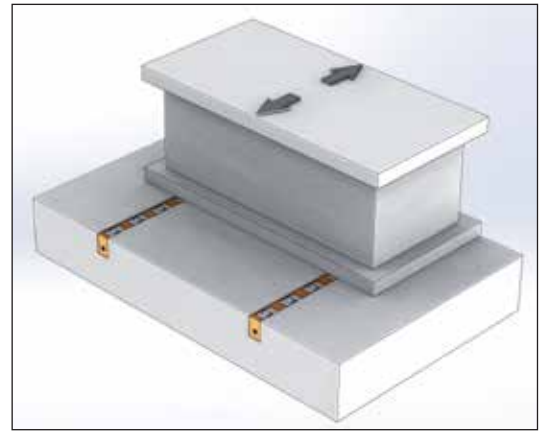


DLS



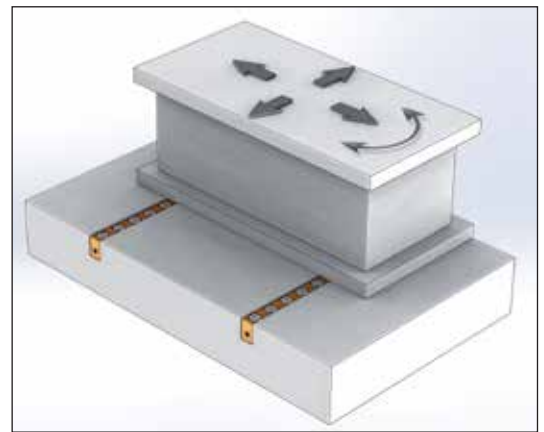
DBS

Dış Ölçüler Outline Dimensions	D□36 Serisi / Serial 
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DLS Hareket Yönü  
Model DLS Movement Direction

Referans Nr.	L	D□36					
		DLS36			DBS36		
		Rulo Roller (DLS)		Kapasite Capacity kg	Misket Ball (DBS)		Kapasite Capacity kg
1022-0200	200	3	3	600	5	5	500
1022-0300	300	5	5	1000	7	7	700
1022-0400	400	6	6	1200	10	10	1000
1022-0500	500	8	8	1600	12	12	1200
1022-0600	600	9	9	1800	15	15	1500
1022-0700	700	11	11	2200	17	17	1700
1022-0800	800	12	12	2400	20	20	2000
1022-0900	900	14	14	2800	22	22	2200
1022-1000	1000	15	15	3000	25	25	2500
1022-1100	1100	16	16	3200	27	27	2700
1022-1200	1200	17	17	3400	30	30	3000
1022-1300	1300	18	18	3600	32	32	3200
1022-1400	1400	19	19	3800	35	35	3500
1022-1500	1500	20	20	4000	37	37	3700
1022-1600	1600	22	22	4400	40	40	4000
1022-1700	1700	24	24	4800	42	42	4200
1022-1800	1800	25	25	5000	45	45	4500
1022-1900	1900	27	27	5400	47	47	4700



Model DBS Hareket Yönü  
Model DBS Movement Direction

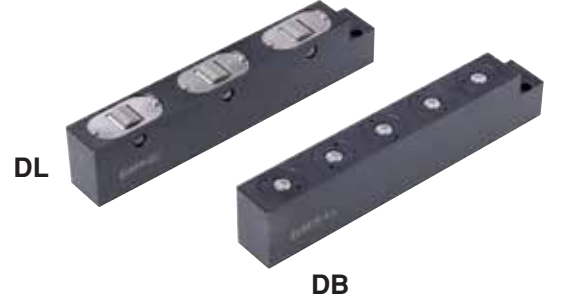
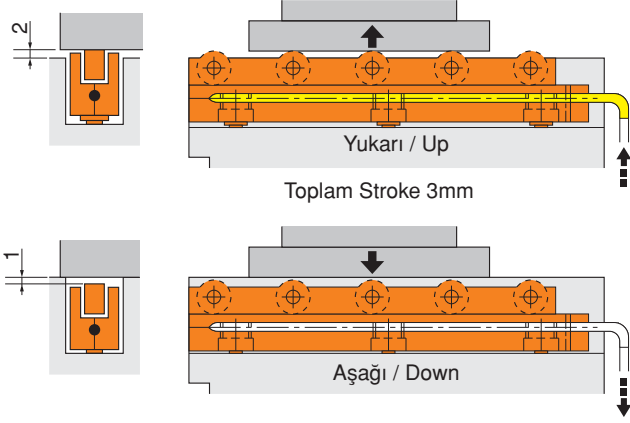
Ürün Nr. 1022 Hidrolik Kalıp Kaldırma Model DLS-DBS

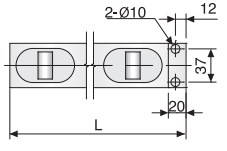
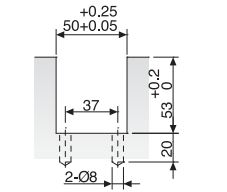
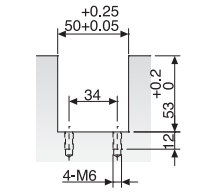
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

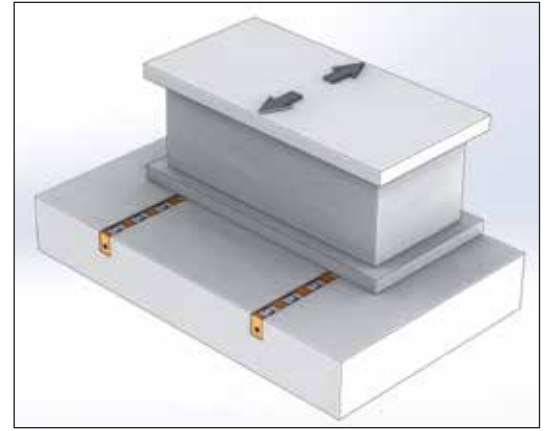
Product Nr. 1022 Die Lifter Hydraulic Model DLS-DBS

- Standard Temperature : 60°
- Optional Temperature : 160°

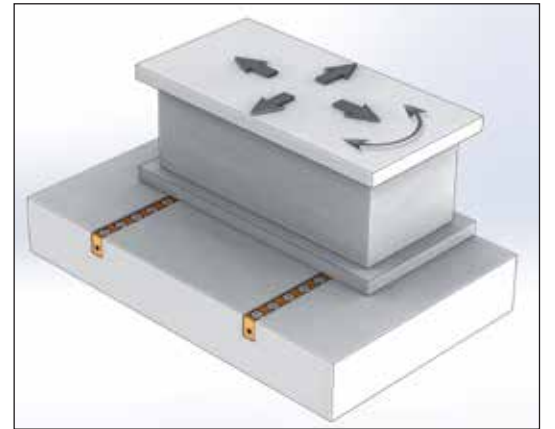




Dış Ölçüler Outline Dimensions	D□50 Serisi / Serial DL50-2100'den önce	D□50 Serisi / Serial DL50-2100'den sonra
		
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)		



**Model DL Hareket Yönü**  
**Model DL Movement Direction**



**Model DB Hareket Yönü**  
**Model DB Movement Direction**

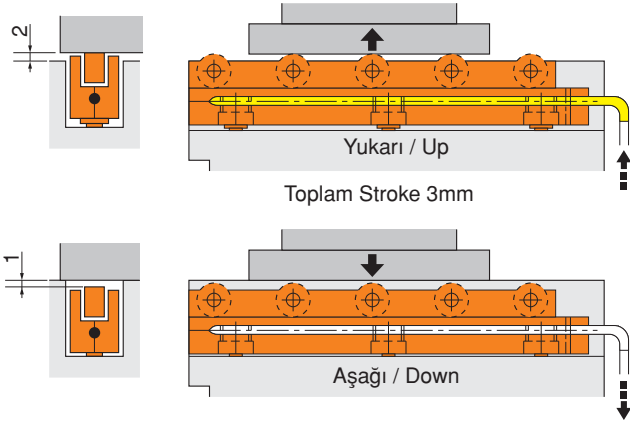
Referans Nr.	L	D□50				Hid. Silindir Hyd. cylinder	
		DL50		DB50		Piston	Kapasite Capacity kg
		Rulo Roller (DL)	Kapasite Capacity kg	Misket Ball (DB)	Kapasite Capacity kg		
1020-0200	200	2	1000	4	640	2	2200
1020-0300	300	3	1500	6	960		
1020-0400	400	4	2000	9	1440		
1020-0500	500	5	2500	11	1760	3	3300
1020-0600	600	6	3000	13	2080		
1020-0700	700	7	3300	16	2560		
1020-0800	800	8	3300	18	2880	4	4400
1020-0900	900	9	4400	20	3200		
1020-1000	1000	10	4400	23	3680		
1020-1100	1100	11	4400	25	4000	5	5500
1020-1200	1200	12	5500	27	4320		
1020-1300	1300	13	5500	29	4640		
1020-1400	1400	14	5500	31	4960	6	6600
1020-1500	1500	15	5500	33	5280		
1020-1600	1600	16	6500	35	5600		
1020-1700	1700	17	6500	38	6080	7	7700
1020-1800	1800	18	6500	40	6400		
1020-1900	1900	19	6500	42	6720		
1020-2000	2000	20	7700	44	7040	8	8800
1020-2100	2100	21	7700	46	7360		
1020-2200	2200	22	7700	48	7680		
1020-2300	2300	23	7700	50	7700	8	8800
1020-2400	2400	24	8800	52	8320		
1020-2500	2500	25	8800	54	8640		

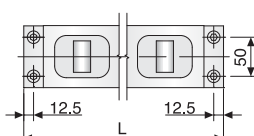
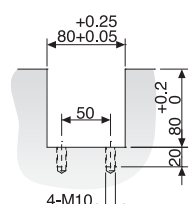
**Ürün Nr. 1020 Hidrolik Kalıp Kaldırma Model DL-DB**

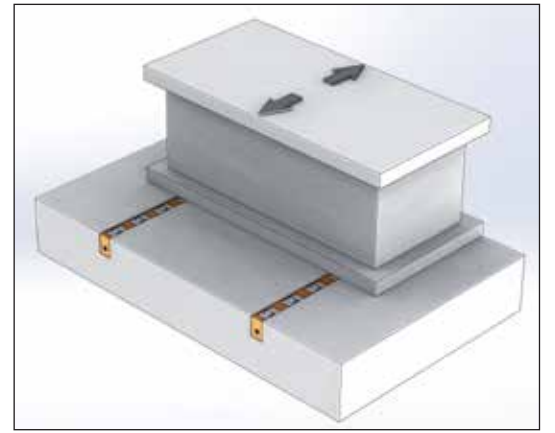
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

**Product Nr. 1020 Die Lifter Hydraulic Model DL-DB**

- Standard Temperature : 60°
- Optional Temperature : 160°



Dış Ölçüler Outline Dimensions	D□80 Serisi / Serial 
Pleyt için işlem ölçüsü (U-Kanal) Processing Size for Plate (U-slot)	



Model DL Hareket Yönü  
Model DL Movement Direction

Referans Nr.	L	D□80			
		DL80		Hid. Silindir Hyd. cylinder	
		Rulo Roller (DL)	Kapasite Capacity kg	Piston	Kapasite Capacity kg
1020-0200	200	-	-	-	-
1020-0300	300	-	-	-	-
1020-0400	400	-	-	-	-
1020-0500	500	5	3250	2	5600
1020-0600	600	6	3900		
1020-0700	700	7	4550	3	8400
1020-0800	800	8	5200		
1020-0900	900	9	5850		
1020-1000	1000	10	6500	4	11200
1020-1100	1100	11	7150		
1020-1200	1200	12	7800		
1020-1300	1300	13	8450		
1020-1400	1400	14	9100	5	14000
1020-1500	1500	15	9750		
1020-1600	1600	16	10400	6	16800
1020-1700	1700	17	11050		
1020-1800	1800	18	11700		
1020-1900	1900	19	12350		
1020-2000	2000	20	13000		
1020-2100	2100	21	13650		
1020-2200	2200	22	14300		
1020-2300	2300	23	14950		
1020-2400	2400	24	15600		
1020-2500	2500	25	16250	8	22400

**Ürün Nr. 1020 Hidrolik Kalıp Kaldırma Model DL-DB**

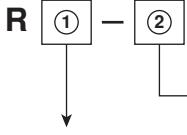
- Standart Sıcaklık : 60°
- Opsiyonel Sıcaklık : 160°

**Product Nr. 1020 Die Lifter Hydraulic Model DL-DB**

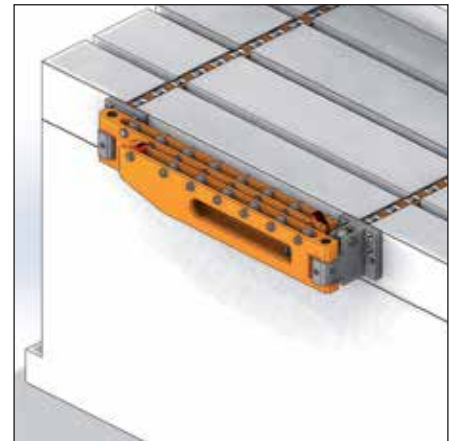
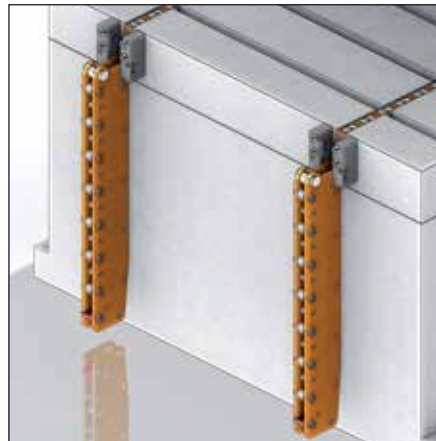
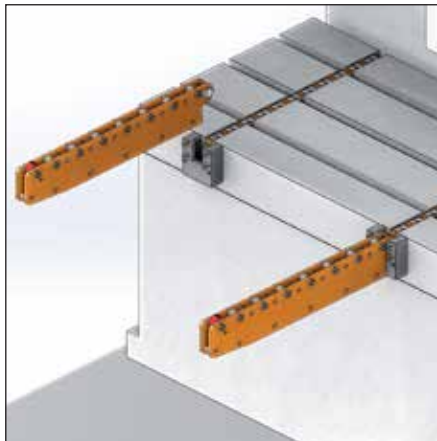
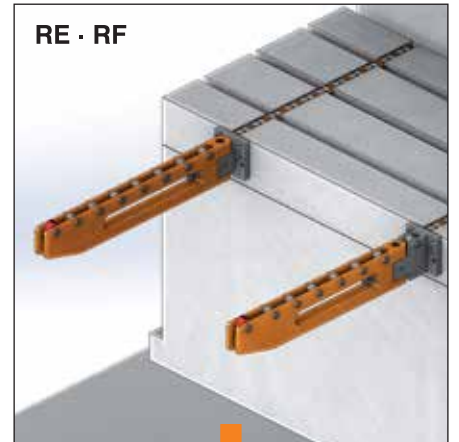
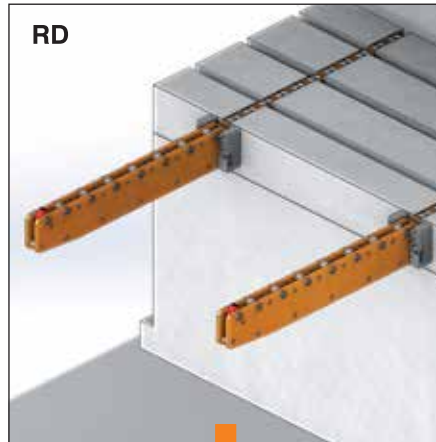
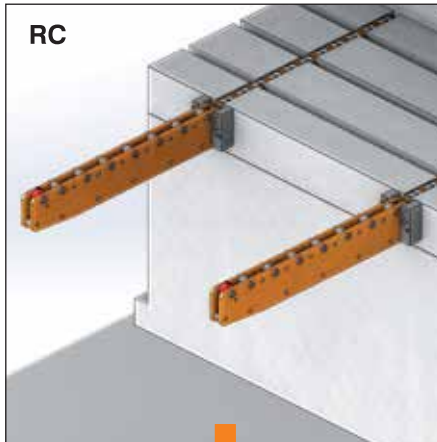
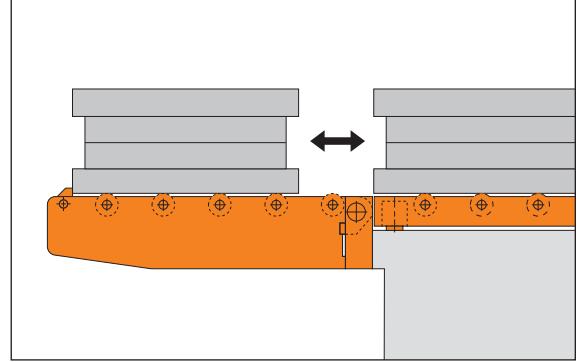
- Standard Temperature : 60°
- Optional Temperature : 160°

**Model RC - RD - RE/RF - RS**

Model Seçimi / Model Selection



Model	Saklama Metodu / Storage Method	Tanımlama / Specification
C	Demonte / Dismantling	580 mm
D	Asmalı / Hanging	760 mm
E	Katlamalı (kısa) / Folding (short)	880 mm
F	Katlamalı (uzun) / Folding (long)	990 mm



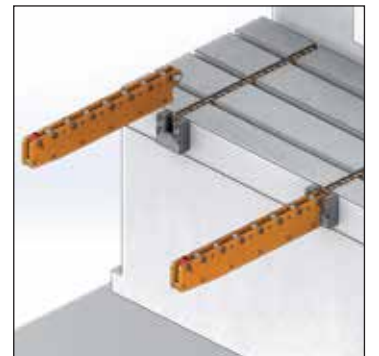
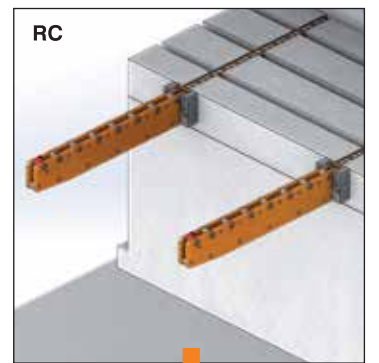
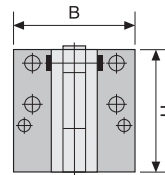
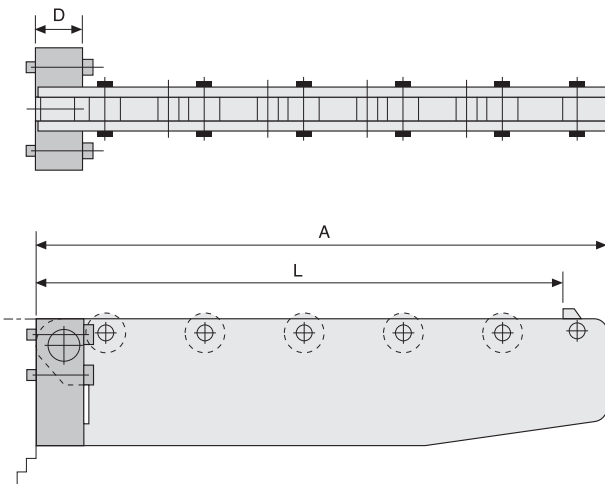
Referans Nr.	Destek Modeli Model of Support	İhtiyaç Duyulan Kalıp uzunluğu Length Needed of the Die L(mm)	Max. Kapasite Max. Capacity (kgf)	Top. Uzunluk Total Length A (mm)	Destek ölçüleri Size of Support			Kurulum için Delik Şekilleri Hole Pattern For Installation	Silindir sayısı Number of Roller
					D	B	H		
1025-RC580	RC-12	500	800	550	48	115	118	A Tipi / A Type	5
1025-RC760	RC-12	700	600	750	48	115	118	A Tipi / A Type	7
1025-RC880	RC-16	800	800	850	48	115	158	B Tipi / B Type	8
1025-RC990	RC-20	900	900	950	48	115	188	B Tipi / B Type	9
1027-RC05125	RC-14H	500	1250	550	55	130	138	C Tipi / C Type	7
1027-RC05160	RC-16H	500	1600	550	55	130	158	C Tipi / C Type	7
1027-RC05200	RC-18H	500	2000	550	55	130	178	C Tipi / C Type	7
1027-RC07125	RC-14H	700	1250	750	55	130	138	C Tipi / C Type	9
1027-RC07160	RC-16H	700	1600	750	55	130	158	C Tipi / C Type	9
1027-RC07200	RC-18H	700	2000	750	55	130	178	C Tipi / C Type	9
1027-RC08125	RC-16H	800	1250	850	55	130	158	C Tipi / C Type	10
1027-RC08160	RC-18H	800	1600	850	55	130	178	C Tipi / C Type	10
1027-RC08200	RC-20H	800	2000	850	55	130	188	C Tipi / C Type	10
1027-RC09160	RC-22H	900	1600	950	55	130	218	C Tipi / C Type	11

Ürün Nr. 1027 Kalıp Kaydırma Kolu Model RC

Product Nr. 1027 Die Arm Model RC

**Model RC (Demonte / Dismantling)**

- RC modelinde, kol ve destek ayrı olarak kullanılabilir.
- The arm itself and the support in Model RC can be used separately.



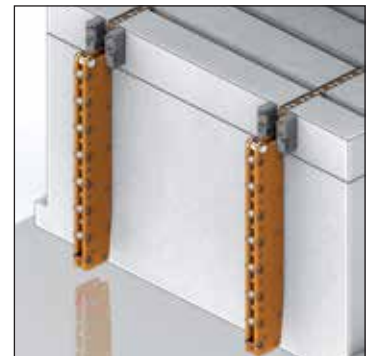
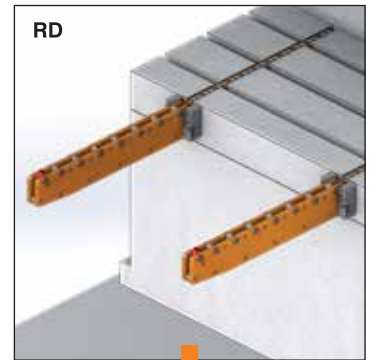
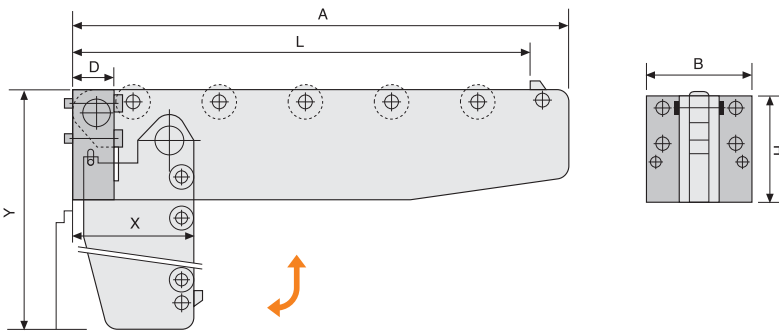
Referans Nr.	İhtiyaç Duyulan Kalıp uzunluğu Length Needed of the Die L(mm)	Max. Kapasite Max. Capacity (kgf)	Top. Uzunluk Total Length A (mm)	Asma Ölçüleri Size of Hanging		Destek Ölçüleri Size of Support			Kurulum İçin Delik Şekilleri Hole Pattern For Installation	Silindir sayısı Number of Roller
				X	Y	D	B	H		
1030-RD580	500	800	550	140	620	52	115	118	A Tipi / A Type	5
1030-RD760	700	600	750	140	820	52	115	118	A Tipi / A Type	7
1030-RD880	800	800	850	180	960	52	115	158	B Tipi / B Type	8
1030-RD990	900	900	950	220	1100	52	115	188	B Tipi / B Type	9
1030-RD05125	500	1250	550	170	645	62	130	138	C Tipi / C Type	7
1030-RD05160	500	1600	550	190	670	62	130	158	C Tipi / C Type	7
1030-RD05200	500	2000	550	210	675	62	130	178	C Tipi / C Type	7
1030-RD07125	700	1250	750	170	840	62	130	138	C Tipi / C Type	9
1030-RD07160	700	1600	750	190	865	62	130	158	C Tipi / C Type	9
1030-RD07200	700	2000	750	210	890	62	130	178	C Tipi / C Type	9
1030-RD08125	800	1250	850	190	960	62	130	158	C Tipi / C Type	10
1030-RD08160	800	1600	850	210	985	62 <td 130	178	C Tipi / C Type	10	
1030-RD08200	800	2000	850	220	995	62	130	188	C Tipi / C Type	10
1030-RD09160	900	1600	950	250	1130	62	130	218	C Tipi / C Type	11

Ürün Nr. 1030 Kalıp Kaydırma Kolu Model RD

Product Nr. 1030 Die Arm Model RD

**Model RD (Asmalı / Hanging)**

- RD modelinin asma uzunluğu (Y) zemin ve plaka arasındaki yükseklik farkından daha düşük olmalıdır.
- The hanging length (Y) of Model RD should be less than the height between the plate and the ground



Referans Nr.	İhtiyaç Duyulan Kalıp uzunluğu Length Needed of the Die L (mm)	Max. Kapasite Max. Capacity (kgf)	Top. Uzunluk Total Length A (mm)	Kurulum İçin Gerekli Minimum Mesafe Min. Distance for Installation C (mm)	Katlı Haliyle Ölçüler Size of Fold Down		Destek ölçüleri Size of Support		Silindir Sayısı Number of Roller	M	N	Kurulum İçin Delik Şekilleri Hole Pattern For Installation
					X	Y	B	H				
1033-RERF580	500	800	550	525	90	150	115	118	5	57	120	A Tipi / A Type
1033-RERF760	700	600	750	725	90	150	115	118	7	57	120	A Tipi / A Type
1033-RERF880	800	800	850	825	90	150	115	158	8	57	120	B Tipi / B Type
1033-RERF990	900	900	950	925	90	150	115	188	9	57	120	B Tipi / B Type

**Ürün Nr. 1033 Kalıp Kaydırma Kolu Model RE-RF**

- İş bittiğinde sağa veya sola katlanabilir.

**Product Nr. 1033 Die Arm Model RE-RF**

- Itself can be turned left or right for storage.

Referans Nr.	İhtiyaç Duyulan Kalıp uzunluğu Length Needed of the Die L (mm)	Max. Kapasite Max. Capacity (kgf)	Top. Uzunluk Total Length A (mm)	Kurulum İçin Gerekli Minimum Mesafe Min. Distance for Installation C (mm)	Katlı Haliyle Ölçüler Size of Fold Down		Destek ölçüleri Size of Support		Silindir Sayısı Number of Roller	M	N	Kurulum İçin Delik Şekilleri Hole Pattern For Installation
					X	Y	B	H				
1035-RERF05160	500	1600	550	525	105	170	130	158	7	74	140	C Tipi / C Type
1035-RERF05200	500	2000	550	525	105	170	130	178	7	74	140	C Tipi / C Type
1035-RERF07160	700	1600	750	725	105	170	130	158	9	74	140	C Tipi / C Type
1035-RERF07200	700	2000	750	725	105	170	130	178	9	74	140	C Tipi / C Type
1035-RERF08160	800	1600	850	825	105	170	130	178	10	74	140	C Tipi / C Type
1035-RERF08200	800	2000	850	825	105	170	130	188	10	74	140	C Tipi / C Type
1035-RERF09160	900	1600	950	925	105	170	130	218	11	74	140	C Tipi / C Type
1035-RERF09200	900	2000	950	925	105	170	130	248	11	74	140	C Tipi / C Type

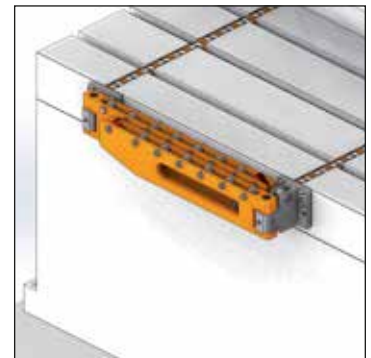
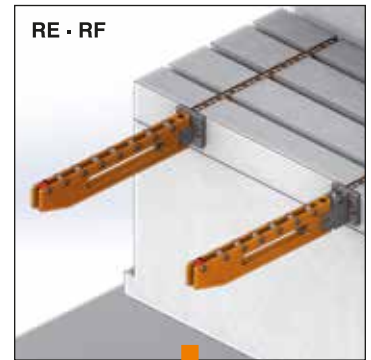
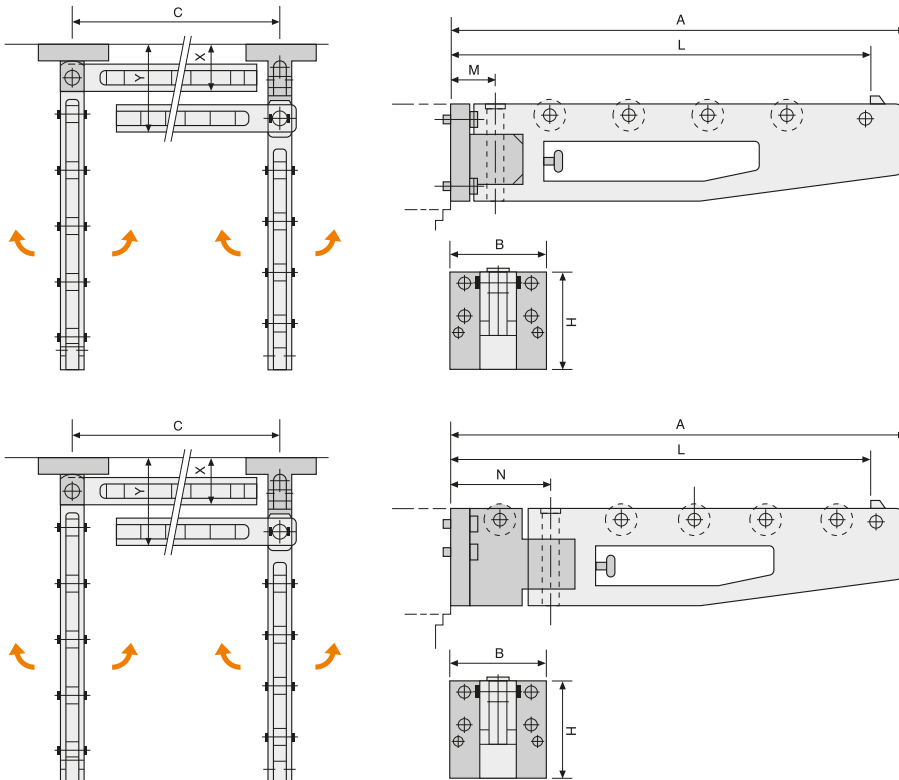
**Ürün Nr. 1035 Kalıp Kaydırma Kolu Model RE-RF**

- İş bittiğinde sağa veya sola katlanabilir.
- RE ve RF Modellerinin kurulduğu mesafe (C) mesafesinden daha büyük olmalıdır.

**Product Nr. 1035 Die Arm Model RE-RF**

- Itself can be turned left or right for storage.
- The distance for installing the two arms of Model RE and RF should be more than the distance between the installations (C)


 Model RE  
Katlamalı / Folding

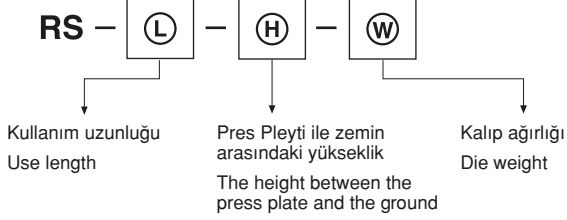
 Model RF  
Katlamalı / Folding




### Model RS (Destek / Supporter)

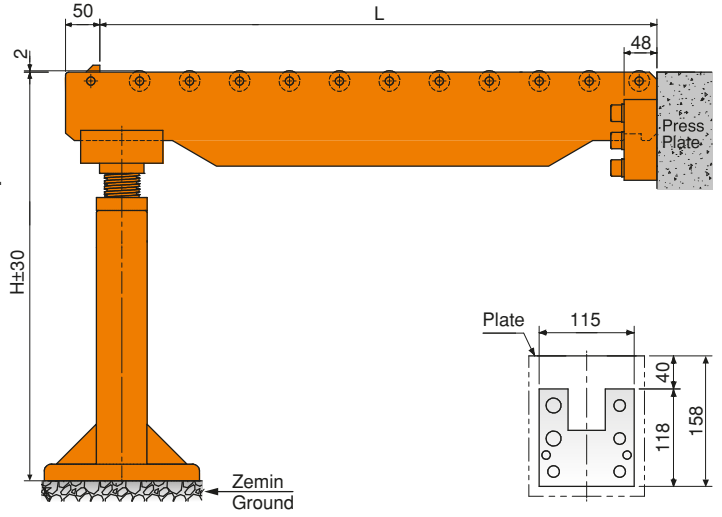


#### Model Seçimi / Model Selection

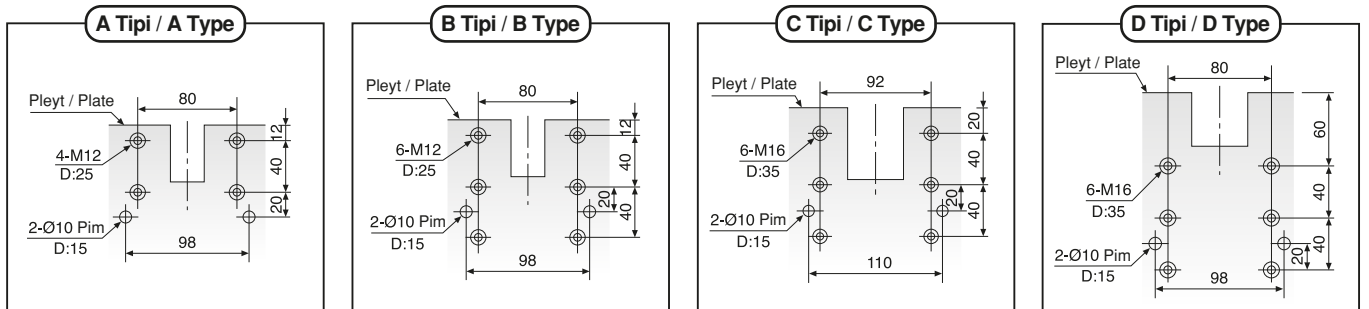


### Ürün Nr. 1037 Kalıp Kaydırma Kolu Model RS Product Nr. 1037 Die Arm Model RS

- Sipariş verirken yukarıdaki bilgileri bildirmeniz gerekmektedir.
- Delik işleminde (D) tipi destek ölçülerini kullanın.
- Please clearly indicate the above information while ordering.
- Adopt (D) type to install hole pattern.

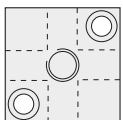


### DELİK DELME ŞABLONLARI HOLE PATTERN FOR INSTALLATION



### Aksesuarlar Accessories

**Bağlayıcı Tüp / Tube Connector**  
Referans Nr. 1036



**Döner Eklem**  
Rotary Joint  
Referans Nr. 1037




**Pabuç Askısı**  
Clamp Bracket  
Model CA



**Pabuç Askısı**  
Clamp Bracket  
Model CB



Referans Nr.	L1	L2	H	 (kg)
1040-PB0801P1V	250	225	367	15.55
1040-PB0801P2V	310	285	367	18.55
1040-PB0801P3V	428	403	367	21.50
1040-PB0801P4V	487	462	367	24.70
1040-PC1201P3V	-	397	367	-



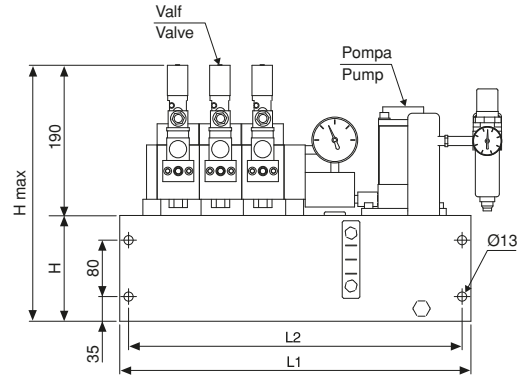
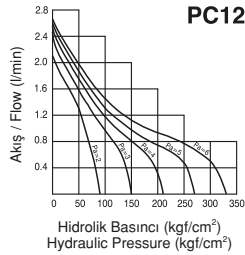
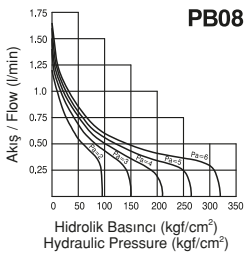
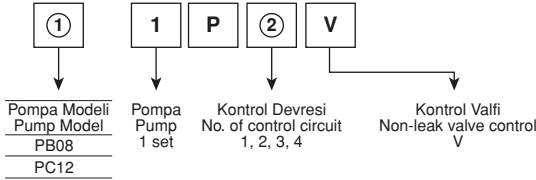
### Ürün Nr. 1040 Hava Tahrikli Hidrolik Pompa Ünitesi

- Hidrolik Pompa hava tahriklidir. Hidrolik basınç ayarlanan seviyeye geldiğinde pompalamayı tasarruf etmek için keser. Diğer taraftan, çalışma basıncı azalırsa, pompa devamlılığı sağlamak için otomatik olarak basınç verir.
- Devre kontrol sistemi olası kaçakları denetleme ve engelleme fonksiyonuyla tasarlanmıştır. Pnömatik basınç devre dışı kalsa bile hidrolik basınç kalır.
- Basınç denetleme ve makinelere bağlanma özelliği vardır.
- CA ve CB-16 veya 25 bağlama pabuçlarıyla uygulama yapıldığında, PC12 model pompa kullanılması önerilir.
- Kapasite 400 max. Bar
- Basınç kontrol valfli

### Product Nr. 1040 Air Driven Hydraulic Pump Unit

- The hydraulic pump is driven by air. Once the hydraulic pressure reaches the pressure setting, it stops pumping which is energy saving. Meanwhile, if the working pressure reduces, the pump would supply pressure automatically to keep working pressure continuously.
- The circuit control system is designed with the function of checking and avoiding oil leakage. If pneumatic pressure out, the hydraulic pressure still maintains.
- It is capable of pressure inspection and connecting to machines.
- It is suggested to adopt pump model PC12 when used with clamp model CA&CB-16 or 25.
- Capacity 400 max. bar
- Pressure control valve

### Model Seçimi / Model Selection



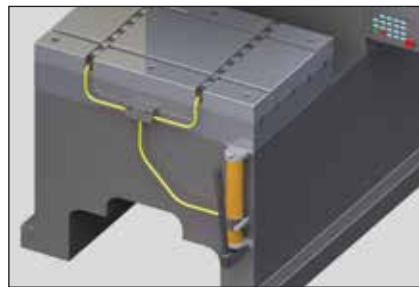
Referans Nr.
1040-PB0101

### Ürün Nr. 1040 Hidrolik El Pompası

- Sadece kalıp kaldırma kullanıldığında alternatif olarak hidrolik el pompası kullanılabilir.
- 250 Bar

### Product Nr. 1040 Hydraulic Hand Pump

- If only the die lifter is used, the usage of a manual hydraulic pump can alternatively be used.
- 250 Bar



Alternatif Sistem  
Alternative Systems

### Hidrolik El Pompası

Hydraulic Hand Pump



Referans Nr.	Devreli Circuits
1041-QDC01	1
1041-QDC02	2
1041-QDC03	3
1041-QDC04	4

### Ürün Nr. 1041 Kontrol Ünitesi

Product Nr. 1041 Control Unit

### Kontrol Ünitesi

Control Unit





Referans Nr.	Valf Valve	Akış - Flow		bar
		(l/min)	(l/min)	
1040-1P1VD	1	6	14	150
1040-1P2VD	2	6	14	150
1040-1P3VD	3	6	14	150
1040-1P4VD	4	6	14	150

**Ürün Nr. 1040 Elektrikli Hidrolik Pompa Ünitesi**

- Doğrudan bağlantı sistemine 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.

Referans Nr.	Valf Valve	Akış - Flow		bar
		(l/min)	(l/min)	
1040-1P1V	1	6	14	150
1040-1P2V	2	6	14	150
1040-1P3V	3	6	14	150
1040-1P4V	4	6	14	150

**Ürün Nr. 1040 Elektrikli Hidrolik Pompa Ünitesi**

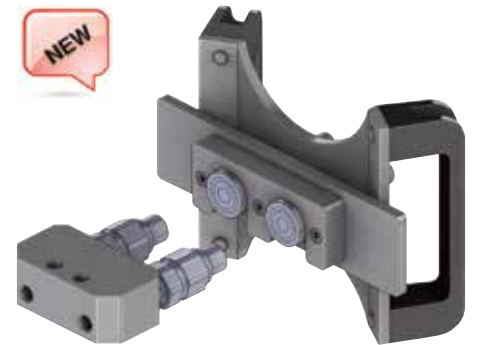
- Jaklı sisteme uygundur.
- Satın almadan önce (l/dk.) akış hızını belirtiniz.

**Product Nr. 1040 Electric Hydraulic Pump Unit**

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

**Elektrikli Hidrolik Pompa Ünitesi**

Referans Nr.
1042-02

**Ürün Nr. 1042 Modüler Quick Coupling****Product Nr. 1042 Moduler Quick Coupling****Modüler Quick Coupling**

# 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 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 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.

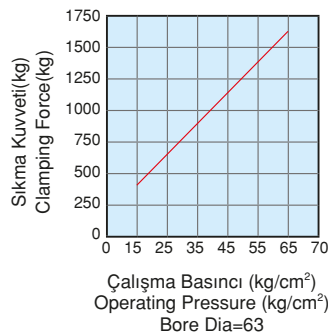
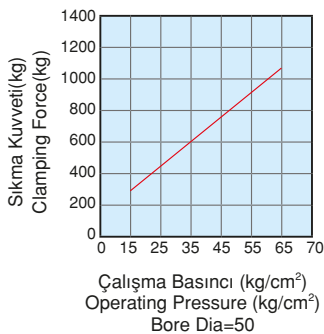
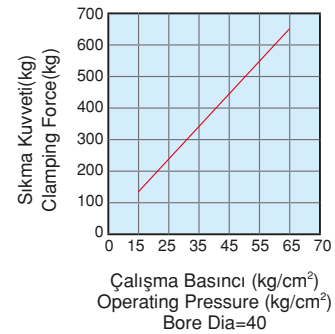
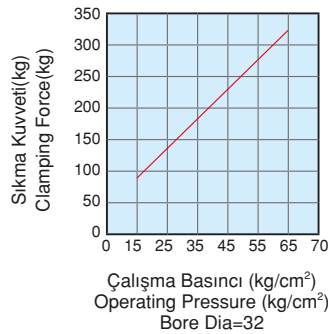
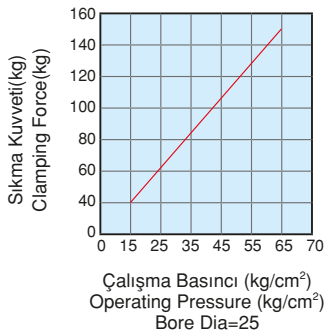


### Sipariş örneği / Ordering example

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

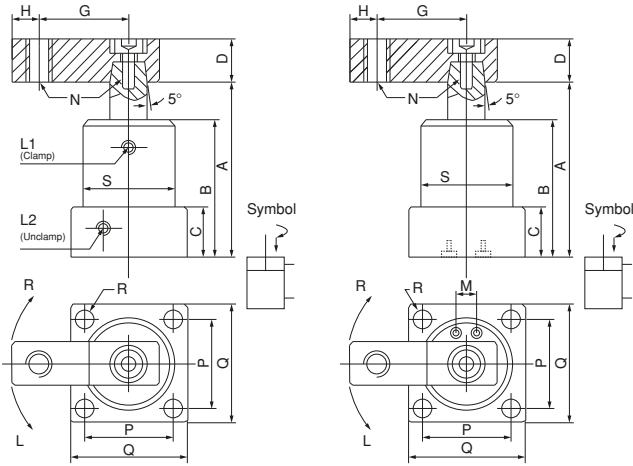
### Değişik hidrolik basınçlar altında teorik bağlama gücünü gösteren şematik tablolar

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	Bağlı Gücü/Clamp Force (25kg/cm <sup>2</sup> )	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	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	Tel Kol / Single Arm	70 kg/cm <sup>2</sup>	20-45 kg/cm <sup>2</sup>	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	Ø 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	Ø 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	Ø 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	Ø 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	Ø 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

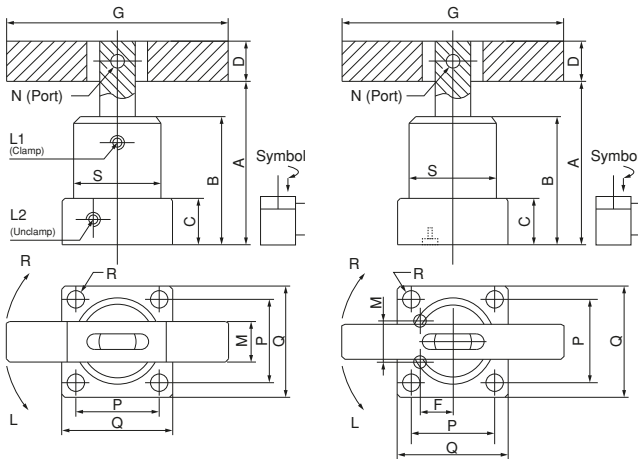
- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



# 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	Bağlı Gücü/Clamp Force (25kg/cm <sup>2</sup> )	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	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 <sup>2</sup>	20-45 kg/cm <sup>2</sup>	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	Ø 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	Ø 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	Ø 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	Ø 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	Ø 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

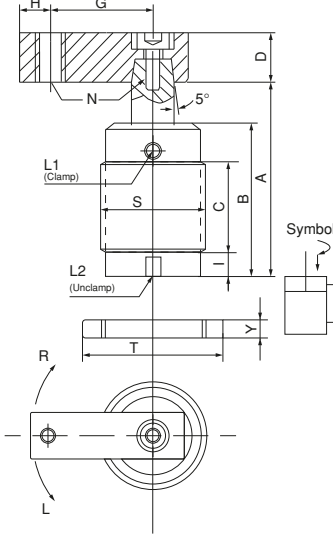
NHSD – Flange Version, Double Arms  
With Pipe or the Manifold

- 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. Basıncı Max. Pressure	Normal Basıncı 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 <sup>2</sup> )	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) Kilitli 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 <sup>2</sup>	20-45 kg/cm <sup>2</sup>	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

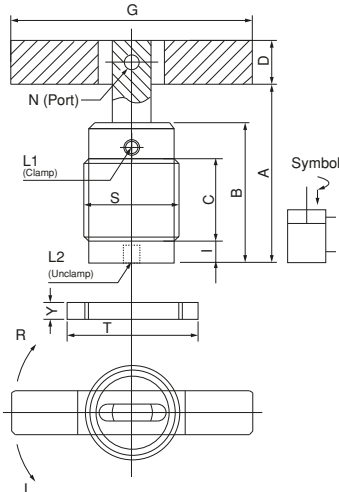
- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



# Hidrolik Dönmeli Bağlama

## Hydraulic Swing Clamp

Referans Nr.	Bağlama Tipi Mounting Type	Bağlama Kolu Clamping Arm	Max. Basıncı Max. Pressure	Normal Basıncı 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 <sup>2</sup> )	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) Kilitli Sım. 2.ad. T (mm) 2 pcs/set	Y (mm)	Ağırlık Weight (kg)	
1050-NHTSD-25	Dişli Gövde / Threaded Body	Çift Kol / Double Arm	70 kg/cm <sup>2</sup>	20-45 kg/cm <sup>2</sup>	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-NHTSD-32							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-NHTSD-40							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-NHTSD-50							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.



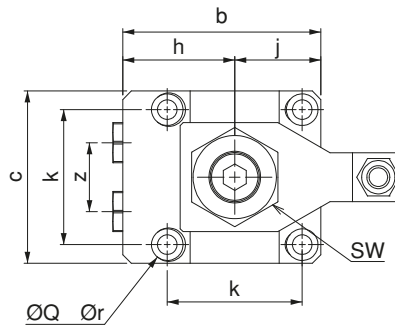
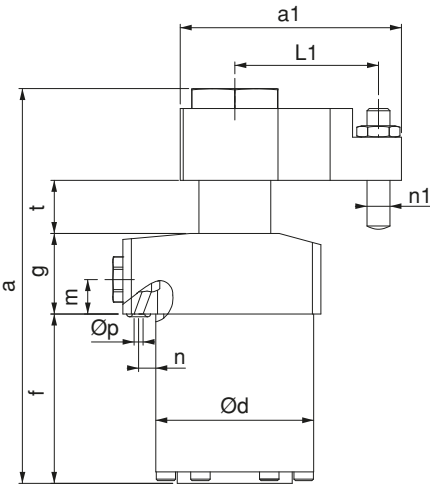
Referans Nr.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	M (mm)	N (mm)	P (mm)	Q (mm)	R (mm)	T (mm)	Z (mm)	A1 (mm)	L1 (mm)	N1 (mm)	(kg)
1051-VS035	129	61	51	48	80	52	28	35.5	25.5	40	12	30	3	9.5	5.5	16	22	65.5	42	M6	0.84
1051-VS042	146	69	60	55	87	59	28	39	30	47	12	33.5	3	11	6.5	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 <sup>2</sup> Cylinder Area cm <sup>2</sup>	Toplam Strok Total Stroke	Sıkma Strok Clamp Stroke	Dönme Strok Swivel Stroke	Silindir Hacmi cm <sup>3</sup> /Sıkma Cylinder Volume cm <sup>3</sup> /Clamp	Silindir Hacmi cm <sup>3</sup> /Boşta Cylinder Volume cm <sup>3</sup> /Release	Maximum Çalışma Basıncı 70 kg/cm <sup>2</sup> Clamping Force at 70 kg/cm <sup>2</sup>	Min./Max. Çalışma Basıncı kg /cm <sup>2</sup> Min./Max. Operating Pressure kg /cm <sup>2</sup>	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°

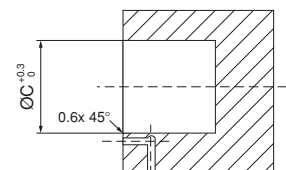
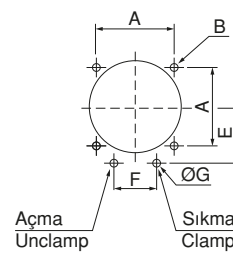
### Ürün Nr. 1051 Hidrolik Dönmeli Bağlama

### Product Nr. 1051 Hydraulic Rotary Linking

### 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 25 kg/cm <sup>2</sup> )	Çalışma Isısı Operating Temperature	(kg)
1052-VT25S	23.5	20.5	3	70	20	100kg	0 - 70°C	0.60
1052-VT32S	26	23	3	70	20	160kg	0 - 70°C	0.92
1052-VT40S	29.5	26.5	3	70	20	250kg	0 - 70°C	1.86
1052-VT50S	35	32	3	70	20	390kg	0 - 70°C	2.34
1052-VT63S*	41	38	3	70	20	620kg	0 - 70°C	3.90



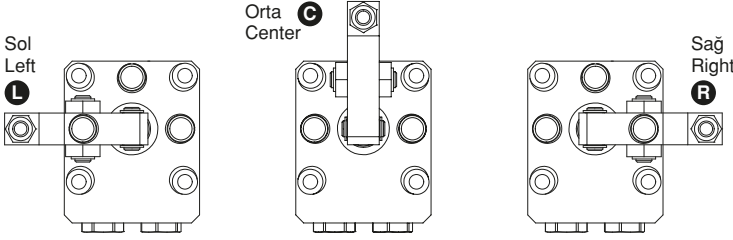
### Ürün Nr. 1052 Hidrolik Üstten Bağlama

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

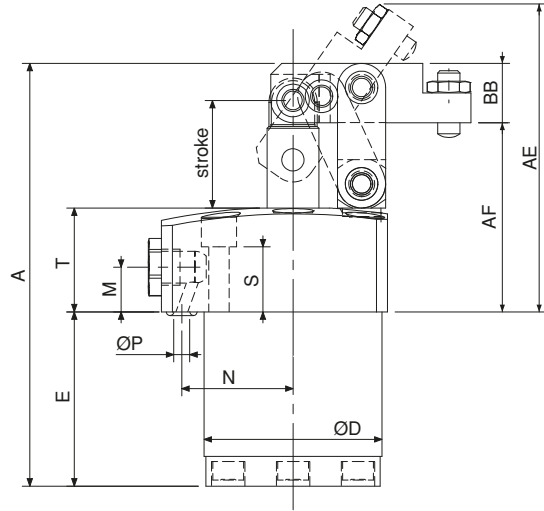
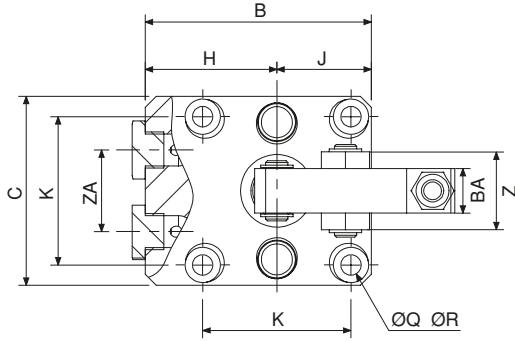
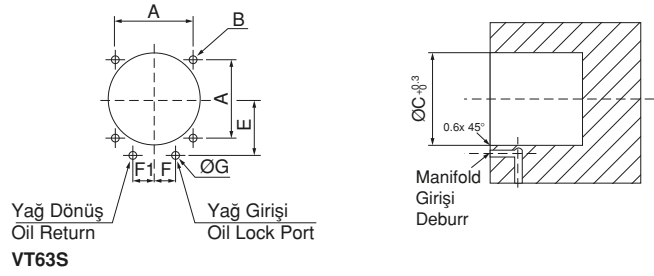
### Product Nr. 1052 Hydraulic Above Clamp

- 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	F	G	H	J	K	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	part	ZA	Bağlama Pabucu Clamping Arm				Q	R
																										AE	AF	BA	BB		
1052-VT25S	114	61	51	48	75	47	28	35.5	25.5	40	12	30	3	9.5	5.5	17.5	35	14	29	34.5	26	13	21	G1/8	22	92.4	51	12	16	9.5	5.5
1052-VT32S	132.5	69	60	55	87	59	28	39	30	47	12	33.5	3	11	6.8	15	37.5	16	31.5	35.5	30	16	28	G1/8	24	101.9	53.5	16	20	11	6.8
1052-VT40S	147	81	70	65	93	63	30	46	35	55	13	39.5	5	11	6.8	15.5	45	18	37	39	35.5	19	37	G1/4	30	111.4	59	19	25	11	6.8
1052-VT50S	175	94.5	85	75	108	71	37	52	42.5	63	16	45	5	14	9	19.5	55	22	45	48	43.5	25	40	G1/4	32	130.8	72	22	32	14	9
1052-VT63S	207	109.5	100	90	128	88	40	59.5	50	75	16	52.5	5	17.5	11	19	64.5	28	52	52.5	52.5	28	49	G3/8	37	146.5	81	25	38	17.5	11

### Açıklama

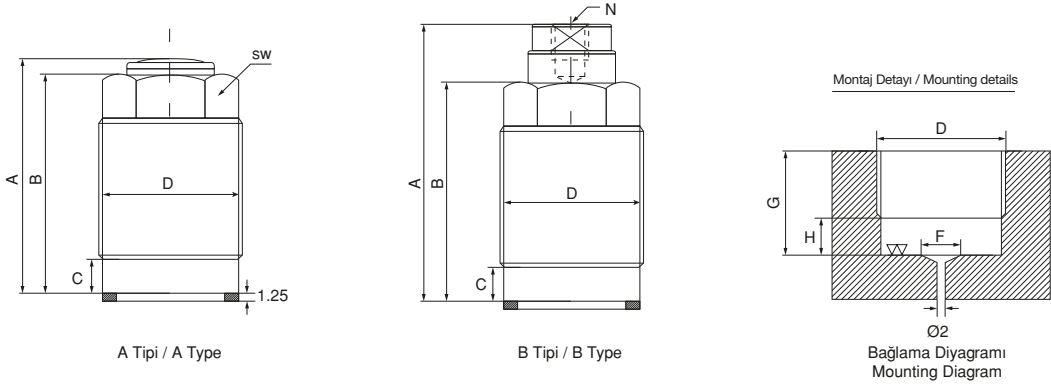
Bu dişli-gövde bağlama silindiri itme koşullu ve iş parçasını güvenle bağlamak için belirli bir strok aralığında çalışır. Dişli gövde bağlama silindirinin montaj şekli, önerilen ölçülerde aşağıdaki çizimde belirtilmiştir. Bu montaj da yağ sızıntısını önlemek için teflon pul kullanılır.

### 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.



Referans Nr.	Çalışma Yağı Basıncı Operating Oil Pressure	Hareket Tipi Acting Type	Strok Stroke S (mm)	Piston Çubuğu Piston Rod Ø (mm)	Bağl. Gücü/Clamp Force (200kg/cm <sup>2</sup> )	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 <sup>2</sup>	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 <sup>2</sup> ) Effic. area (cm <sup>2</sup> )	Max. Yağ akış alanı (l/min) Max. oil flow rate (l/min)	Silindir kapa. (cm <sup>3</sup> ) Cylinder cap. (cm <sup>3</sup> )		<sup>2</sup> Yay geri çekiş gücü (N) <sup>2</sup> Return spring force (N)	Sıkma Kuvveti Clamp Force (200g/cm <sup>2</sup> )
			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								
1055-CMD02	5	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	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	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	20	1.2	2.5	9.3	13	28	16	3.76	1.13	3.8	7.5	100~193	828
1055-CMD20	10	20	2	4.3	15.8	22.2	36	20	6.40	1.92	6.4	12.8	170~267	1400

Ürün Nr. 1055 Hidrolik Çekme Dişli Silindir

Product Nr. 1055 Hydraulic Pull Cylinder

Sipariş Örneği  
Ordering example

Nr. 1055

CMD

02  
Seri / Series

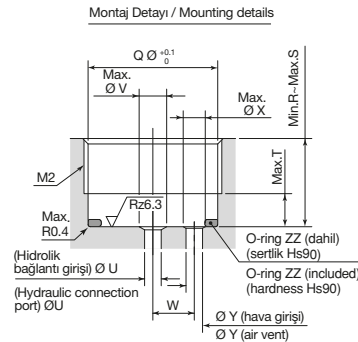
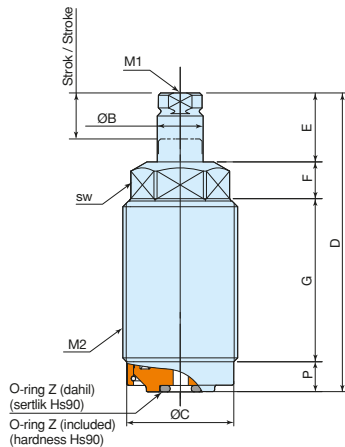
16  
Piston Ø

5  
Strok / Stroke



### Teknik Ölçüler / Technical Dimensions

	Strok (mm) Stroke (mm)		B	C	D		E	F	G		(yassılar arasında sw geniş.) (hex width across flats) sw	(üç kısım 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	
																											depth 11
CMD02	5	10	10	20.3	51	65	10	15	7.5	27	36	17	M6x1	M22	6.5	20.5	13	32.5	41.5	5.5	3	5	7	4	3	P6	AS568-017
CMD04	5	10	10	23.3	51	65	10	15	8	26.5	35.5	19	M6x1	M25	6.5	23.5	14	32	41	5.5	3	5	7.5	4	3	P6	AS568-019
CMD06	10	20	12	28.3	69	96	16	26	9.5	35.5	52.5	24	M8x1.25	M30	8	28.5	15	42.5	59.5	7	3	5	9.5	4	3	P6	AS568-022
CMD10	10	20	16	34.3	73	101	17	27	11.5	35.5	53.5	30	M10x1.5	M36	9	34.5	17	43.5	61.5	8	4	5	12	4	3	P6	AS568-026
CMD20	10	20	20	46.3	80	109	19	29	13.5	35.5	54.5	41	M12x1.75	M48	12	46.5	20	46.5	65.5	11	6	7	15	4	3	P8	AS568-031



Referans Nr.	Kuvvet Desteği 70kg / cm <sup>2</sup> 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 <sup>2</sup>	25 - 70 kg / cm <sup>2</sup>	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	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	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/cm<sup>2</sup>, 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

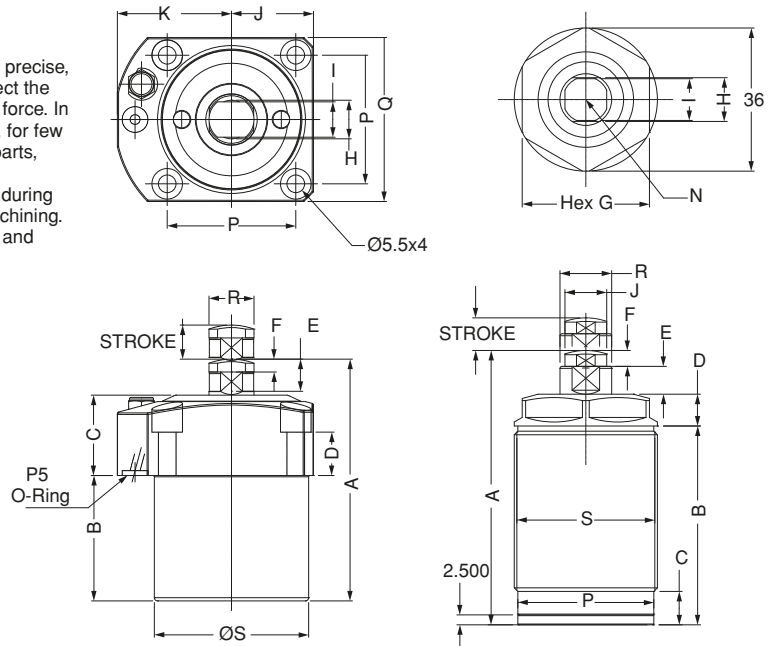
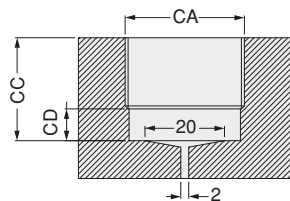
- The operating range is 25-70 kg/cm<sup>2</sup>, the mounting type includes thread body and upper flange, and we have piping mounting and manifold mounting in upper flange type.
- Inlet orifice is smaller, so it can reduce the speed of plunger when it is rising, it can reduce the impact onto workpiece, 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. Basıncı Max. Pressure	Min. Basıncı Min. Pressure	Normal Basıncı 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 pozisyondayken 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**

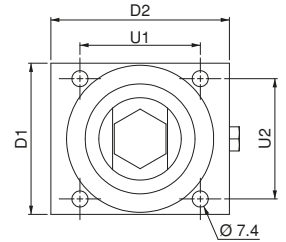
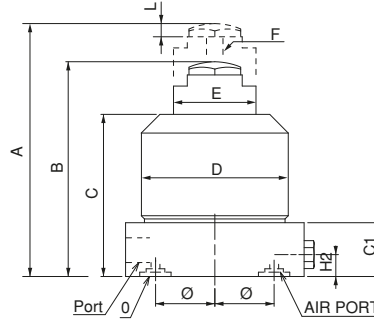
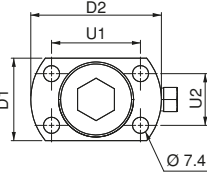
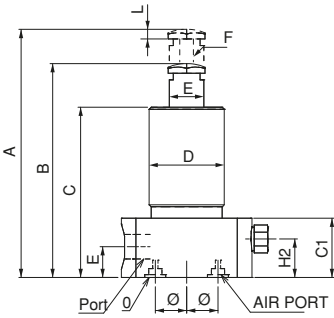
**Description**

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/cm² Supporting Force	Temas Kuvveti / kg Contact force	A	B	C	D	E	F	Ağırlık Weight (kg)
1056-SP16A	100-350 kg/cm²	Yaylı Spring	8	16	210 kg	-	79	54	8	M30 x1.5	11	8	0.30
1056-SP16B	100-350 kg/cm²	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

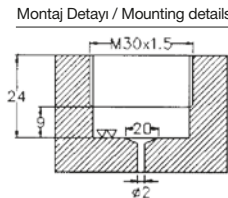
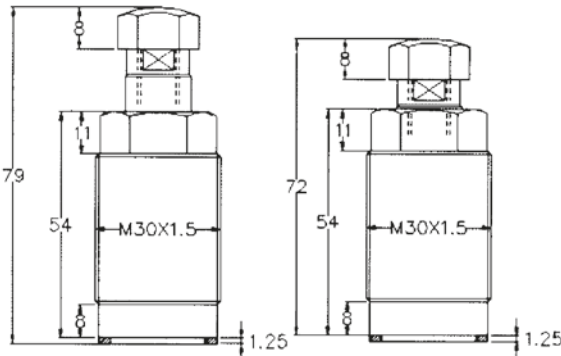
**Ürün Nr. 1056 Hidrolik İş Parçası Desteği**

**Product Nr. 1056 Hydraulic Work Support**



SP16A

SP16B



Referans Nr.	Temp. up to	Piston Ø D (mm)	Rod Ø d (mm)	Force to pull at 100 bar (kgf)	Force to pull at 500 bar (kgf)	Spring return force, min. (N)	Oil volume per 10 mm stroke (cm <sup>3</sup> )	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 (kg)
1057-010016	100 °C	16	10	110	600	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
1057-015016	150 °C																								
1057-010025	100 °C	25	16	270	1430	140	2.90	65	45	27	50	8.5	33	22.5	18	11	M10x15	G1/4	-	50	30	13	8	91	1.2
1057-015025	150 °C																								
1057-010032	100 °C	32	20	460	2420	195	4.90	75	55	35	55	10.5	38	27.5	22	11	M12x15	G1/4	-	55	35	17	10	110	1.8
1057-015032	150 °C																								
1057-010040	100 °C	40	25	730	3790	270	7.65	85	63	35	63	10.5	40	31.5	24	11	M16x25	G1/4	4	63	40	-	10	114	2.6
1057-015040	150 °C																								
1057-010050	100 °C	50	32	1100	5730	440	11.60	100	75	35	76	13	44	37.5	27	13	M20x25	G1/4	4	76	45	-	12	125	3.8
1057-015050	150 °C																								
1057-010063	100 °C	63	40	1790	9230	430	18.60	125	95	44	95	17	50	47.5	26	17	M27x40	G1/2	4	95	65	-	12	146	6.7
1057-015063	150 °C																								
1057-010080	100 °C	80	50	2920	15180	760	30.63	160	120	46	120	21	60	60	34	21	M30x40	G1/2	5	120	80	-	12	193	12.8
1057-015080	150 °C																								
1057-100100	100 °C	100	63	4560	23500	1200	47.36	200	150	55	158	25	64	75	35	25	M42x60	G1/2	6	158	108	-	12	185	24
1057-150100	150 °C																								

### Ürün Nr. 1057 Çekme Tipi Silindir

### Product Nr. 1057 Pull-Type Cylinder

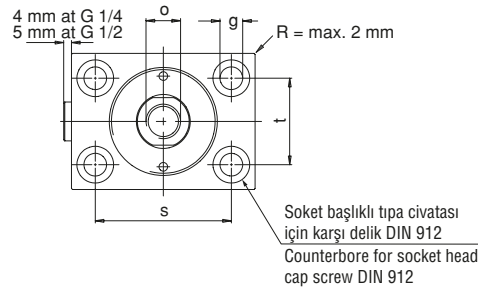
- Uzunluk ve açı ölçüleri DIN 7168-m'ye göre dir.
- Tolerances for length and angle dimensions as per DIN 7168-m

### 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.

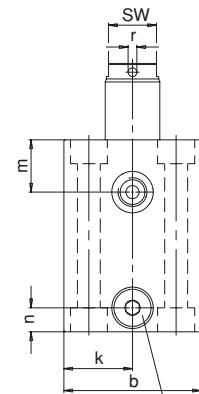
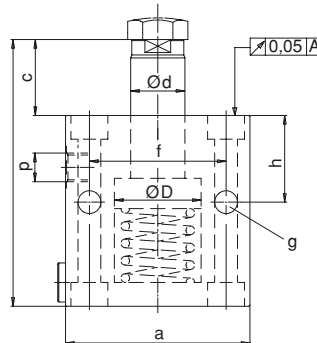
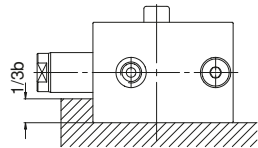
### Important notes

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 barı 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 alaşımıdır.



### 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

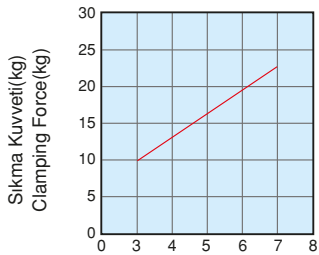
#### x 90° –

Açı / Angle

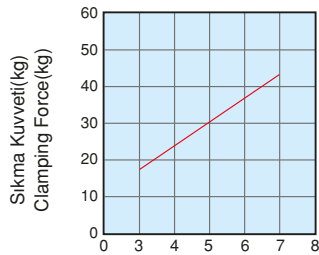
0°  
45°  
60°  
90°  
180°

### Değişik hidrolik basınçlar altında teorik bağlama gücünü gösteren şematik tablolar

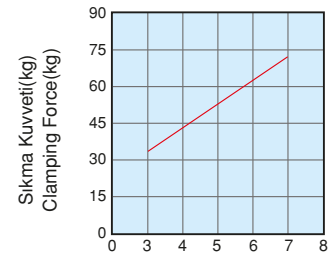
Schematic view showing a theoretical clamping force under different hydraulic pressure:



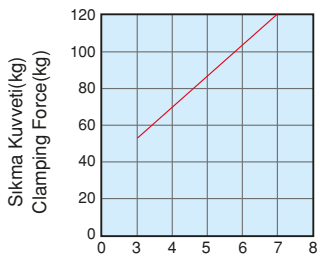
Çalışma Basıncı (kg/cm<sup>2</sup>)  
Operating Pressure (kg/cm<sup>2</sup>)  
Bore Dia=25



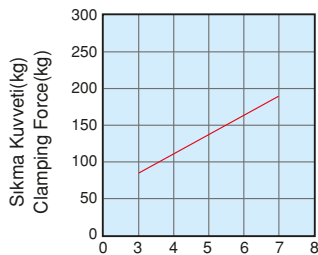
Çalışma Basıncı (kg/cm<sup>2</sup>)  
Operating Pressure (kg/cm<sup>2</sup>)  
Bore Dia=32



Çalışma Basıncı (kg/cm<sup>2</sup>)  
Operating Pressure (kg/cm<sup>2</sup>)  
Bore Dia=40

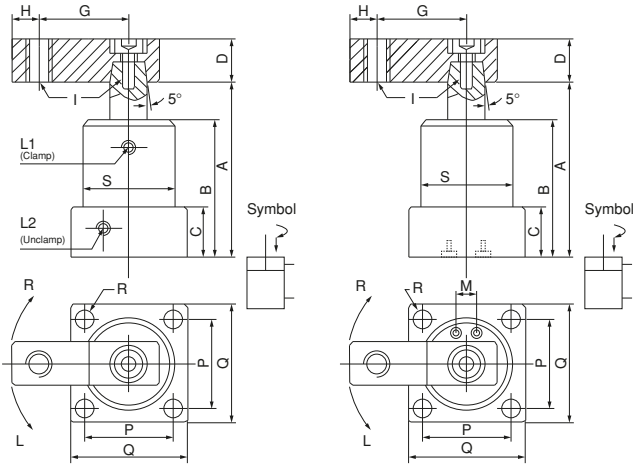


Çalışma Basıncı (kg/cm<sup>2</sup>)  
Operating Pressure (kg/cm<sup>2</sup>)  
Bore Dia=50



Çalışma Basıncı (kg/cm<sup>2</sup>)  
Operating Pressure (kg/cm<sup>2</sup>)  
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 (kg/cm <sup>2</sup> )	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	I (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	M (mm)	F (mm)	Ağırlık Weight (kg)
1058-NAS025	Flanş / Bottom Flange	Tel Kol / Single Arm	7 kg/cm <sup>2</sup>	4-6 kg/cm <sup>2</sup>	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 Uyarlama, Tek Kol  
Borulu veya Manifoldlu

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

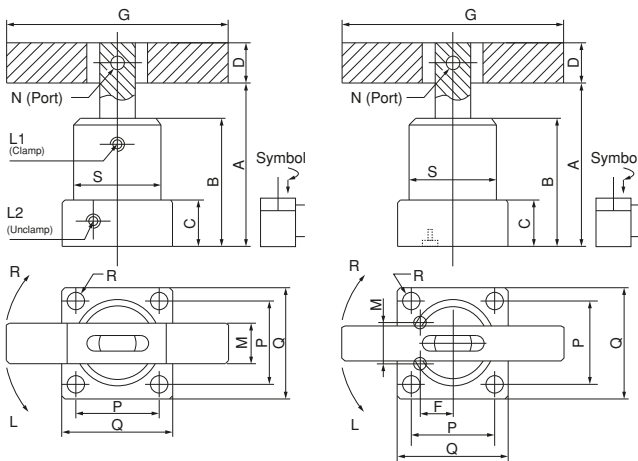
- Satın almadan önce hareket tipini ve dönme açısını bildiriniz.
- Before buying please, movement indicate the type and rotation angle.



# 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 <sup>2</sup> )	A (mm) Sökme Unclamp	B (mm)	C (mm)	D (mm)	G (mm)	H (mm)	L1 Bağlama / Clamp L2 Sökme / Unclamp	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 <sup>2</sup>	4-6 kg/cm <sup>2</sup>	Çift Hareketli / Double Acting	90° (0° 45°, 60°, 180°) ± 2°	12	14	32	16	30	102.5	71	23	□ 19	100	Ø 8	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

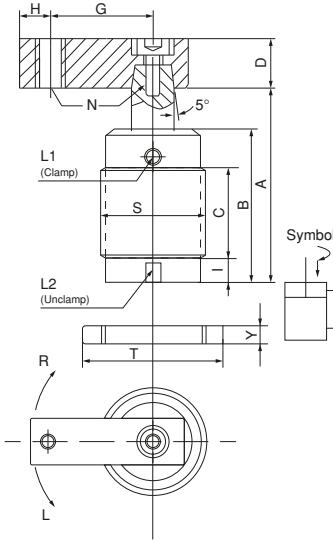
NASD – Flanşlı Uyarlama, Çift Kol  
Borulu veya Manifoldlu

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 <sup>2</sup> )	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) Kona Sm. 2 ad. T (mm) 2 pcs/set	Y (mm)	Ağırlık Weight (kg)
1058-NATS025	Dişli Gövde / Threaded Body	Tek Kol / Single Arm	7 kg/cm <sup>2</sup>	4-6 kg/cm <sup>2</sup>	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 Uyarılama, Tek Kol Borulu

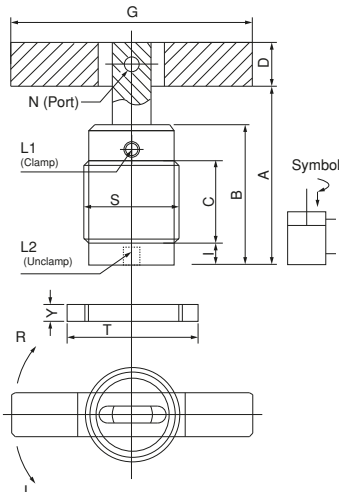
NATS – Threaded Version, Single Arm With Pipe

- 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 <sup>2</sup> )	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) Kona Sm. 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 <sup>2</sup>	4-6 kg/cm <sup>2</sup>	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 Uyarılama, 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.



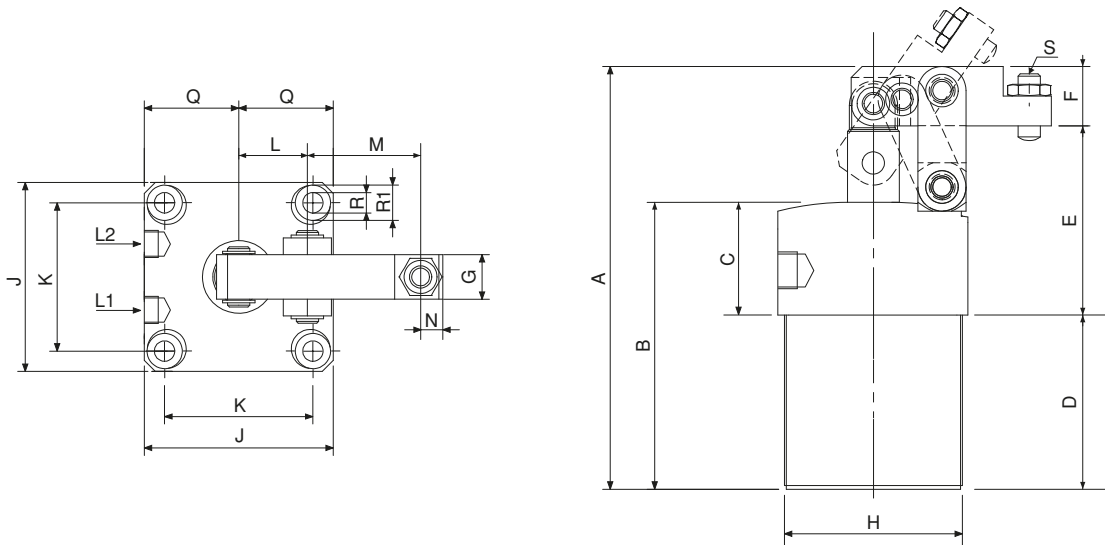
Referans Nr.	Çalıřma Basıncı Operating Pressure	Çalıřma Isısı Temperature Range	Baęlama Tipi Mounting Type	Strok Stroke (mm)	Delik Çapı / Bore Diameter Ø (mm)	Piston Çubuęu Piston Rod Ø (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	O	N	P	Q	R	R1	S	L1 Baęlama / Clamp L2 Sokme / Uncclamp	Aęirlik Weight (kg)
1058-PLCU25	4-10 kgf/cm <sup>2</sup>	-10° ~ +80°	Üst Flans ve Diřli Gövde Upper Flange & Threaded Body	22	Ø 25	Ø 14	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	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	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	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	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 Prnmatik Üstten Baęlama

Product Nr. 1058 Pneumatic Above Clamp



Borulu / With Pipe





# HİDROLİK FİKSTÜR UYGULAMALARI

HYDRAULIC FIXTURE APPLICATION





# **ER-EL**<sup>®</sup> ZERO CLAMP

## Zero Point Clamping Systems



Ø90  
1250 kgf



Ø120  
2500 kgf



Ø138  
4000 kgf



Ø190  
6000 kgf



# ER-EL® ZERO CLAMP

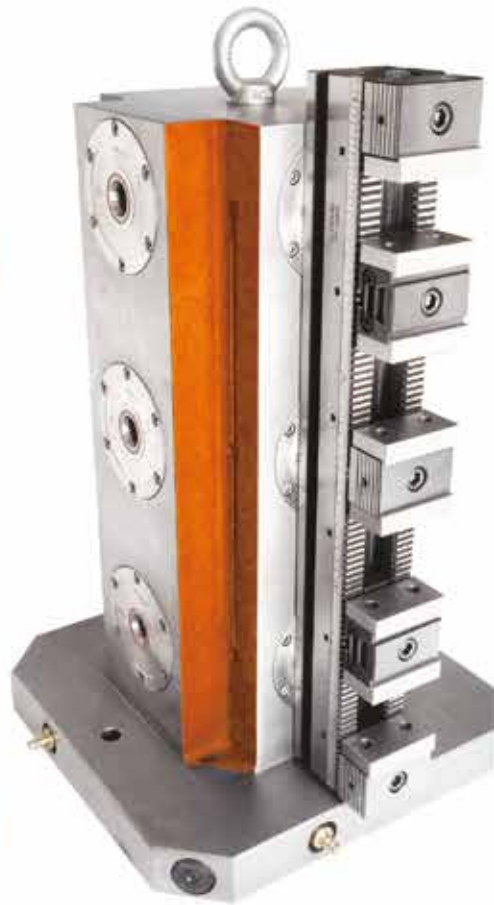


Tekrarlanabilen Hassasiyetin  
**Doruk Noktası**

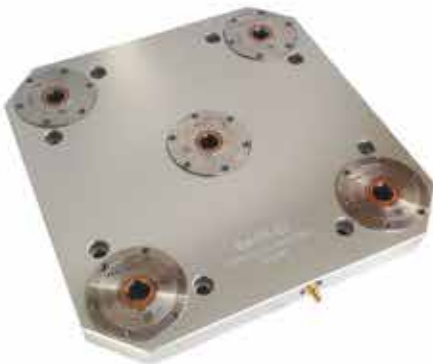
0,005 Tekrarlanabilen Hassasiyet  
0,005 Repeat Accoracy

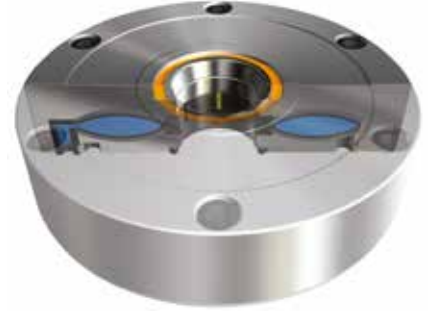


Nr. 2475

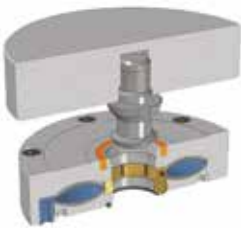
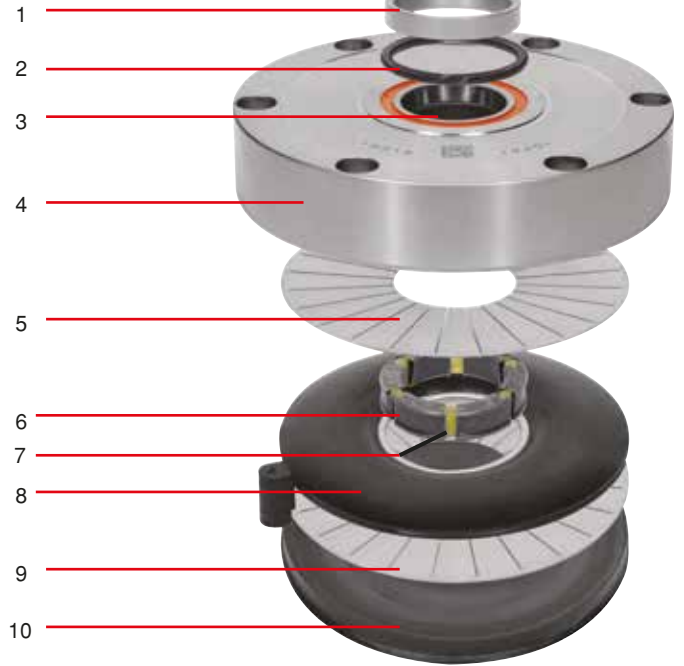


Nr. 2480



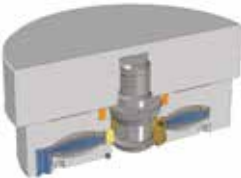
**Açıklama / Description**

- 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



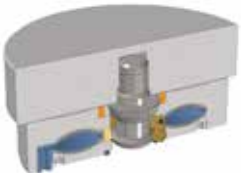
Plaka açık vaziyetteki ZeroClamp aynasına yerleştirilir.

The pallet is placed on the opened ZeroClamp chuck.



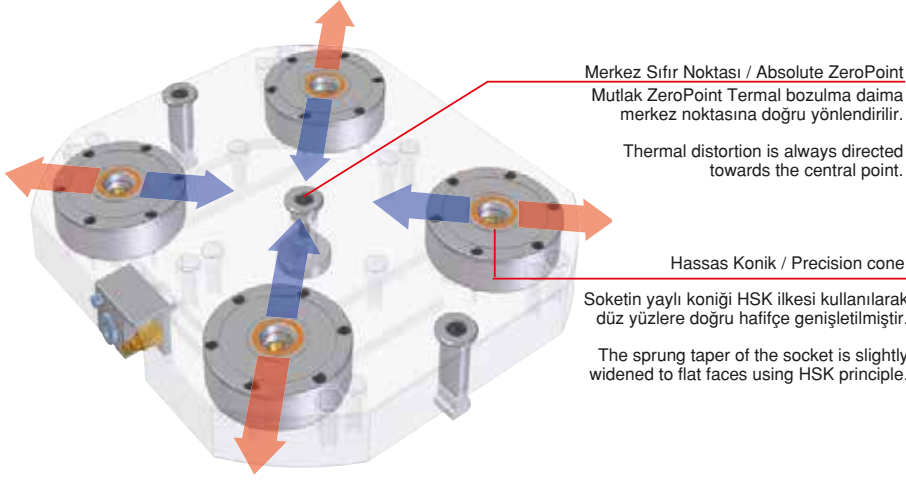
Hava hortumu içindeki hava basıncı sayesinde, yaylı elemanlar kilitleme ünitesini (bağlama plakalarını) açık tutar.

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.



- 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 Prensipli

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.

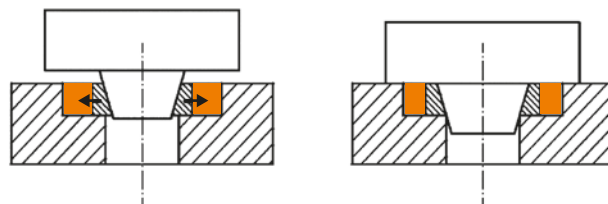
Zero Clamp sıfır noktası sıkma sistemi, yüzey ve konik temas kullanımıyla aynı şekilde çalışır. Konik çekilirken, oturma halkası minimal genişlemiş olacaktır. Böylece düzlem oturma noktası ile temas halinde paletin içinde veya iş parçasında herhangi bir oynama ortadan kalkar.

### 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 canical 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.





<b>ZeroClamp Benzersiz Özellikleri</b> <b>ZeroClamp Unique Features</b>	<b>Benzer Ürünlerdeki Sistemler</b> <b>Competitor Systems</b>
<p><b>Basit düzeni ile tasarım tescilli patent</b> Sadece birkaç basit bileşenle son derece güvenilir bir tasarım sağlar. Hatta talaş bile ünitenin fonksiyonunu etkilemez.</p> <p><b>Patent-registered design with a simple layout.</b> Just a few simple components provide an extremely reliable desing. Even swarf will not affect the function of the clamping unit.</p>	<p>Bilyeli burç, piston, valf vs. gibi karışık mekanizmalar. Talaş ile tıkanığında 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><b>HSK prensibi nedeniyle yüksek hassasiyet</b> 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><b>High precision due to the HSK principle</b> 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><b>Termal sabitlik</b> 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><b>Thermal stability</b> 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><b>Sadece bir tip bağlama civatası gerektirir.</b> Pim deliğine takılması gereken sadece tek tip civata bağlanması gerektiğinden çok daha basit kullanımlıdır.</p> <p><b>Only one type of clamping bolt required.</b> 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><b>Kendinden kilitli değildir</b> 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><b>No self-locking.</b> 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><b>Eğilme yok</b> Düzen ve tasarım bağlama civatalarının eğilmesini engeller. Eğimli pozisyonlar veya dengesiz yüklerde bile, merkez oyuktaki yüksek dengeden dolayı kolay söküp takma işlemleri.</p> <p><b>No tilting</b> 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, söküp takma 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><b>Düşük montaj yüksekliği olan pnömatik sistem</b> Bağlaması yay vasıtasıyla, serbest bırakılması hava basıncıyla. Standart hava basıncıyla bile yüksek bağlama gücü olan patentli tasarımdır.</p> <p><b>Pneumatic system with low installation height</b> 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>



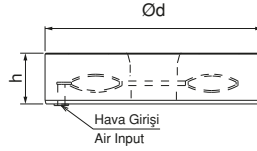
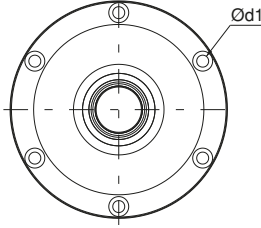
Referans Nr.	d	h	d1	Nm	sıkma kuvveti clamping force Kgf	(g)
1060-090	90	22	M4	5	1250	730
1060-120	120	28	M6	14	2500	1840
1060-138	138	33	M8	35	4000	2860
1060-190	190	38	M8	35	6000	5460

**Ürün Nr. 1060 ER-EL Zero Clamp Gövde**

- Min. Bar 5.5
- Max. Bar 8

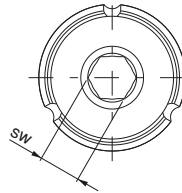
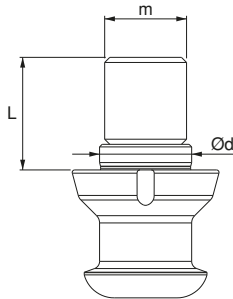
**Product Nr. 1060 ER-EL Zero Clamp Body**

- Min. Bar 5.5
- Max. Bar 8


**Çektirme Civatası**

Pull Stud

Referans Nr.	m	L	d	sw	Nm	(g)
1065-09012	M12	20	14 k6	6	80	40
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**


# BAĞLAMA PABUÇLARI

CLAMPING COMPONENTS



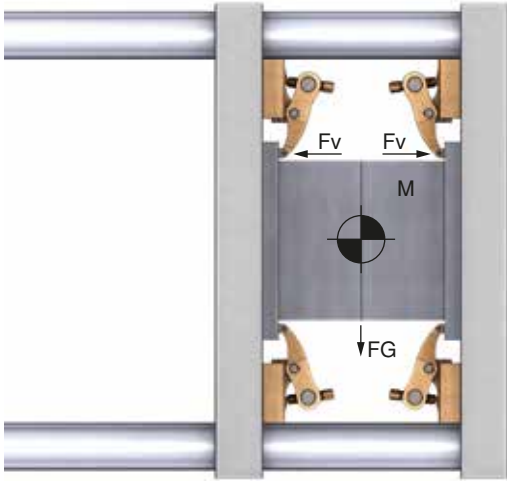
# KIZAKLI KOMBİNE BAĞLAMA PABUCU

*COMBINED SLIDING CLAMP*



# BAĞLAMA ŞABLONLARI

## CLAMPING TEMPLATES



### Enjeksiyon Kalıpları İçin Uygulama Örneği

Power Clamp For Injection Moulding

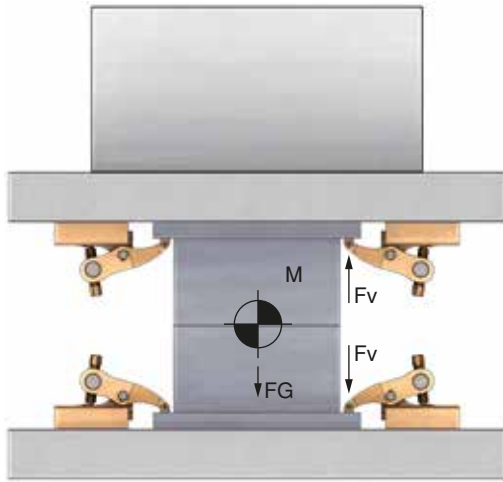
#### Hesaplama Formülü / Formula Calculator

$$\frac{M \times FG}{1000} = \text{kN} \quad \frac{2500 \times 9.81}{1000} = 24.52 \text{ kN}$$

$$\frac{\text{kN}}{\mu} = \text{Sonuç / Result} \quad \frac{24.52}{0.14} = 175.14 \text{ kN}$$

$$\frac{\text{Sonuç}}{Fv} = \text{Bağlama Sayısı / Number of Clamp} \quad \frac{175.14 \text{ kN}}{25 \text{ kN}} = 7 \text{ Bağlama / Clamp}$$

8 adet kullanın  
8 pcs Use



### Pres Kalıpları İçin Uygulama Örneği

Power Clamp For Press Moulding

#### Hesaplama Formülü / Formula Calculator

$$\frac{M \times FG}{1000} = \text{kN} \quad \frac{5000 \times 9.81}{1000} = 49.050 \text{ kN}$$

$$\frac{\text{kN}}{\mu} = \text{Sonuç / Result} \quad \frac{49.05}{0.14} = 350.35 \text{ kN}$$

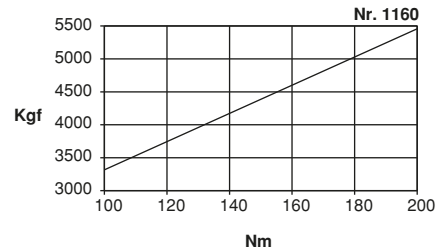
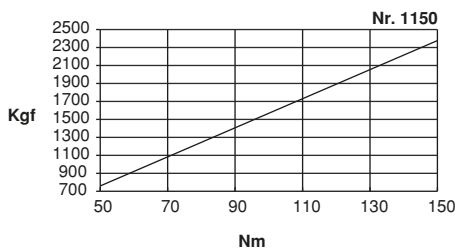
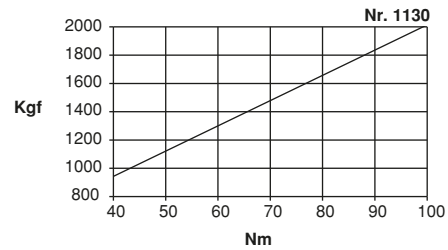
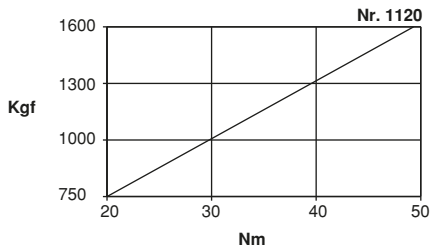
(Üst Kalıp %60)  
(Alt Kalıp %40)      (%60 Üst Kalıp= 210.21)  
(%40 Alt Kalıp= 140.14)

$$\frac{\text{Sonuç}}{Fv} = \text{Bağlama Sayısı / Number of Clamp} \quad \frac{210.21 \text{ kN}}{25 \text{ kN}} = 8 \text{ Bağlama Sayısı / 8 Number of Clamp}$$

$$\frac{\text{Sonuç}}{Fv} = \text{Bağlama Sayısı / Number of Clamp} \quad \frac{140.14 \text{ kN}}{25 \text{ kN}} = 5.6 \text{ Bağlama / Clamp}$$

6 adet kullanın  
6 pcs Use

### K.K.S.P Kuvvet Diyagramı / Force Diagram



Referans Nr.	a	m	h		s	s1	e1	d	sw	L	e	b	c	Sıkma Kuvveti Clamping Force Kgf	Scales (g)
			min	max											
1120-014 T	14	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	1700
1120-016 T	16	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	1700
1120-018 T	18	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	1700
1130-014 T	14	M12	0	60	15-83	30	113	M18	10	130	39	48	17.5	2000	3040
1130-016 T	16	M12	0	60	15-83	30	113	M18	10	130	39	48	17.5	2000	3055
1130-018 T	18	M12	0	60	15-83	30	113	M18	10	130	39	48	17.5	2000	3085
1130-020 T	20	M12	0	60	15-83	30	113	M18	10	130	39	48	17.5	2000	3135
1130-022 T	22	M12	0	60	15-83	30	113	M18	10	130	39	48	17.5	2000	3150

### Ürün Nr. 1120-1130 Kızaklı Kombine Bağlama Pabucu

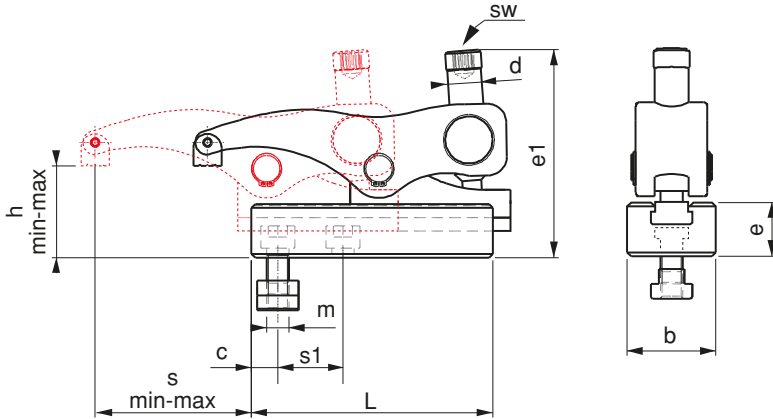
• **Nr. 1120** (a) 14-18 T-Kanalda M12 imbus civata DIN 508 T-Pabuçla kullanılır. Parça yükseklik sıkma aralığı 0-50 mm ileri-geri hareket mesafesi 54mm'dir. Sıkma Kuvveti 1600 kgf.

• **Nr.1130** (a) 14-22 T-Kanalda M12 imbus civata DIN 508 T-Pabuçla kullanılır. Parça yükseklik sıkma aralığı 0-60 mm ileri-geri hareket mesafesi 68mm'dir. Sıkma Kuvveti 2000 kgf.

### Product Nr. 1120-1130 Combined Sliding Clamp

• **Nr. 1120** (a) 14-18 is used in T-Slot and M12 imbus bolt is used with DIN 508 T-Nut. Height clamping gap of the piece is 0-50mm, back-and- forth movement distance is 54mm. Clamping force is 1600 kgf.

• **Nr. 1130** (a) 14-22 is used in T-Slot and M12 imbus bolt is used with DIN 508 T-Nut. Height clamping gap of the piece is 0-60mm, back-and- forth movement distance is 68mm. Clamping force is 2000 kgf.



### UYGULAMA;

- 1- Alt kızıağı iş parçasına uygun şekle getir sabitle
- 2- Üst gövdeyi kızıağa sür, istenilen pozisyona getir
- 3- Pabuç imbus civatasıyla iş parçasını sabitle
- 4- Parça işlenmek için hazır

### APPLICATION;

- 1- Slide cradle is brought to suitable form with the work piece and then it is fixed
- 2- Upper body is driven to the slide and it is brought to desired position
- 3- Work piece is fixed with the imbus bolt of the clamp
- 4- Then the work piece becomes ready to be machined.

### Kullanım Alanı


Enjeksiyon makineleri presler, freze tezgahları, matkap tezgahları ve çeşitli sanayi makineleri

### Area of Use

Injection Machines, Presses, Milling Machines, Drilling Machines and various Industrial Machines





Referans Nr.	a	m	h		s	s1	e1	d	sw	L	e	b	c	Sıkma Kuvveti Clamping Force Kgf	Scales (g)	
			min	max												
1150-118 T	18	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	2500	4410	
1150-120 T	20	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	2500	4460	
1150-122 T	22	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	2500	4515	
1150-124 T	24	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	2500	4620	
1150-128 T	28	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	2500	4725	
																
1160-222 T	22	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	9030
1160-224 T	24	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	9120
1160-228 T	28	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	9180
1160-236 T	36	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	9600

### Ürün Nr. 1150-1160 Kızaklı Kombine Bağlama Pabucu

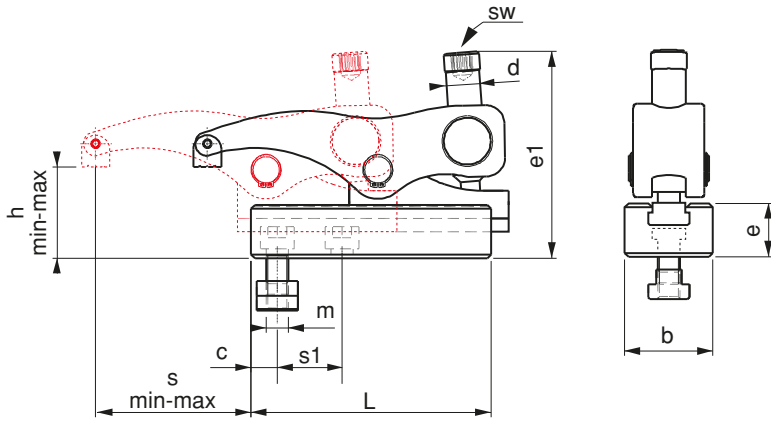
• **Nr. 1150** (a) 18-28 T-Kanalda M16 imbus civata DIN 508 T-Pabuçla kullanılır. Parça yükseklik sıkma aralığı 0-65mm ileri-geri hareket mesafesi 78mm'dir. Sıkma Kuvveti 2500 kgf.

• **Nr. 1160** (a) 22-36 T-Kanalda M20-M24 imbus civata DIN 508 T-Pabuçla kullanılır. Parça yükseklik sıkma aralığı 20-80mm ileri-geri hareket mesafesi 73mm'dir. Sıkma Kuvveti 5500 kgf.

### Product Nr. 1150-1160 Combined Sliding Clamp

• **Nr. 1150** (a) 18-28 is used in T-Slot and M16 imbus bolt is used with DIN 508 T-Nut. Height clamping gap of the piece is 0-65mm, back-and-forth movement distance is 78mm. Clamping force is 2500 kgf.

• **Nr. 1160** (a) 22-36 is used in T-Slot and M20-M24 imbus bolt is used with DIN 508 T-Nut. Height clamping gap of the piece is 20-80mm, back-and-forth movement distance is 73mm. Clamping force is 5500 kgf.



#### UYGULAMA;

- 1- Alt kızıağı iş parçasına uygun şekle getir sabitle
- 2- Üst gövdeyi kızıağa sür, istenilen pozisyona getir
- 3- Pabuç imbus civatasıyla iş parçasını sabitle
- 4- Parça işlenmek için hazır

#### APPLICATION;

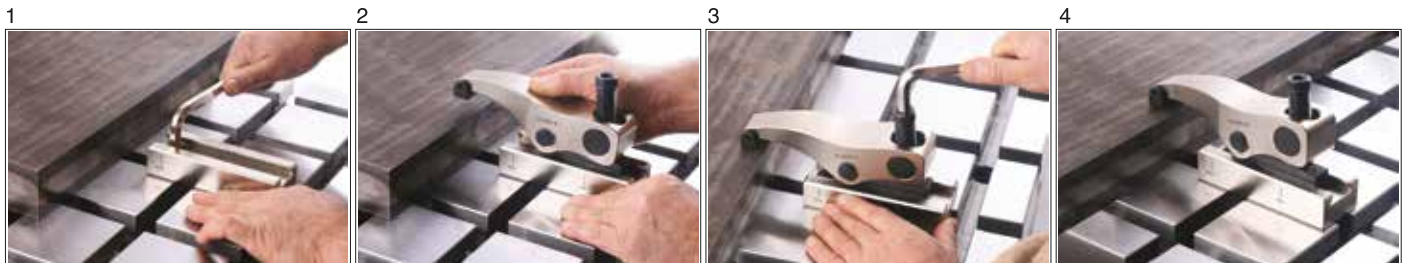
- 1- Slide cradle is brought to suitable form with the work piece and then it is fixed
- 2- Upper body is driven to the slide and it is brought to desired position
- 3- Work piece is fixed with the imbus bolt of the clamp
- 4- Then the work piece becomes ready to be machined.

#### Kullanım Alanı




Enjeksiyon makineleri presler, freze tezgahları, matkap tezgahları ve çeşitli sanayi makineleri

#### Area of Use

Injection Machines, Presses, Milling Machines, Drilling Machines and various Industrial Machines





Referans Nr.		m	h		s	e1	e2	d		L	b	e3	c	 (g)
			min	max										
1120-014 DT	14	M12	36	86	12-66	136	71.5	M14	8	104	38	38	13	2540
1120-016 DT	16	M12	36	86	12-66	136	71.5	M14	8	104	38	38	13	2540
1120-018 DT	18	M12	36	86	12-66	136	71.5	M14	8	104	38	38	13	2540
1130-014 DT	14	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4750
1130-016 DT	16	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4775
1130-018 DT	18	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4805
1130-020 DT	20	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4855
1130-022 DT	22	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4905

**Ürün Nr. 1120:Alt Destekli**

- M12 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 36-86mm
- Sıkma kuvveti 1600kgf

**Product Nr. 1120:Bottom Supported**

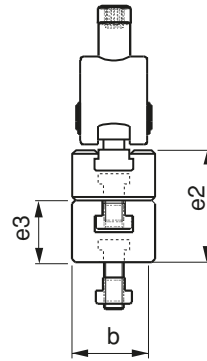
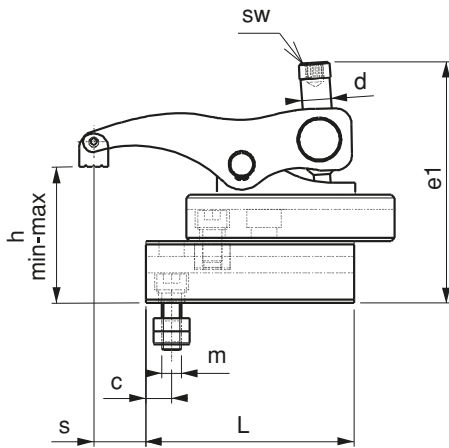
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 36-86mm
- Clamping Force is 1600kgf

**Ürün Nr. 1130:Alt Destekli**

- M12 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 45-105mm
- Sıkma kuvveti 2000kgf

**Product Nr. 1130:Bottom Supported**

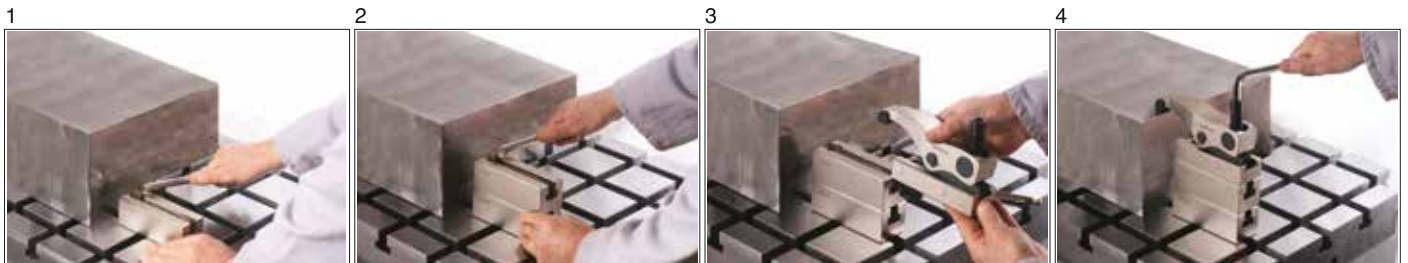
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 45-105mm
- Clamping Force is 2000kgf


**UYGULAMA;**

- 1- Alt desteği iş parçasına uygun şekle getir sabitle
- 2- K.K.S.P destekler artırılarak istenilen mesafeye ulaşılır
- 3- K.K.S.P imbus civata ile T-Pabuca karşılık T-Kanala tak istenilen pozisyona getir.
- 4- Pabuç imbus civatasıyla iş parçasını sabitle

**APPLICATION**

- 1- Bottom support is brought to suitable form with the work piece and then it is fixed.
- 2- Desired distance is reached by increasing K.K.S.P supports
- 3- K.K.S.P is applied in T-Slot with imbus bolt against T-Nut
- 4- Work piece is fixed with the imbus bolt of the clamp



Referans Nr.	a	m	h		s	e1	e2	d	sw		L	b	e3	c	(g)
			min	max											
1150-118 DT	18	M16	48	113	18-96	173	90	M20	12		140	55	48	19.5	6625
1150-120 DT	20	M16	48	113	18-96	173	90	M20	12		140	55	48	19.5	6690
1150-122 DT	22	M16	48	113	18-96	173	90	M20	12		140	55	48	19.5	6750
1150-124 DT	24	M16	48	113	18-96	173	90	M20	12		140	55	48	19.5	6840
1150-128 DT	28	M16	48	113	18-96	173	90	M20	12		140	55	48	19.5	6960
1160-222 DT	22	M20	79	139	17-92	235	114	M24	12	24	178	74	59	24	13330
1160-224 DT	24	M20	79	139	17-92	235	114	M24	12	24	178	74	59	24	13465
1160-228 DT	28	M24	79	139	17-92	235	114	M24	12	24	178	74	59	24	13580
1160-236 DT	36	M24	79	139	17-92	235	114	M24	12	24	178	74	59	24	13890

**Ürün Nr. 1150:Alt Destekli**

- M16 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 48-113mm
- Sıkma kuvveti 2500kgf

**Product Nr. 1150:Bottom Supported**

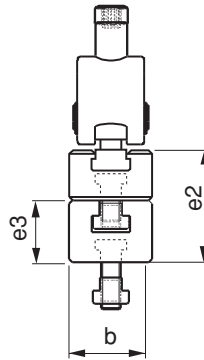
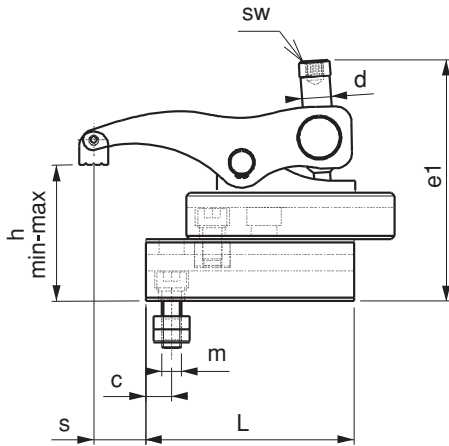
- M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 48-113mm
- Clamping Force is 2500kgf

**Ürün Nr. 1160:Alt Destekli**

- M20-M24 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 79-139mm
- Sıkma kuvveti 5500kgf

**Product Nr. 1160:Bottom Supported**

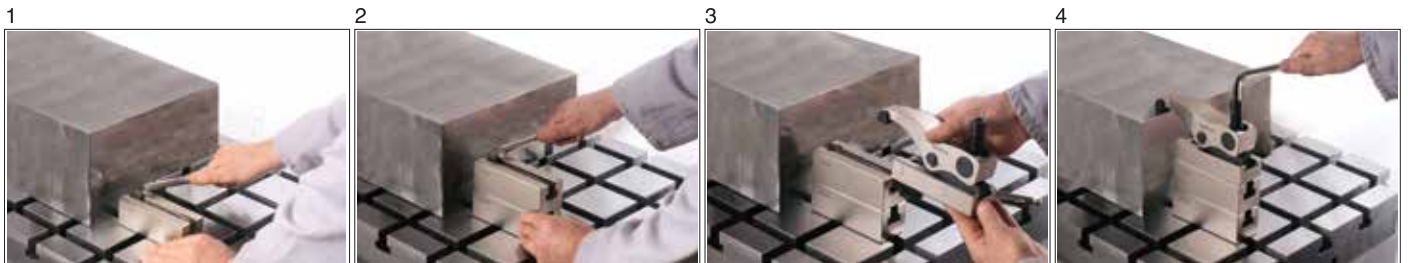
- M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 79-139mm
- Clamping Force is 5500kgf


**UYGULAMA;**

- 1- Alt desteği iş parçasına uygun şekle getir sabitle
- 2- K.K.S.P destekler artırılarak istenilen mesafeye ulaşılır
- 3- K.K.S.P imbus civata ile T-Pabuca karşılık T-Kanala tak istenilen pozisyona getir.
- 4- Pabuç imbus civatasıyla iş parçasını sabitle

**APPLICATION**

- 1- Bottom support is brought to suitable form with the work piece and then it is fixed.
- 2- Desired distance is reached by increasing K.K.S.P supports
- 3- K.K.S.P is applied in T-Slot with imbus bolt against T-Nut
- 4- Work piece is fixed with the imbus bolt of the clamp



Referans Nr.	m	h		s	s1	e1	d	SW	L	e	b	c	k	Sıkma Kuvveti Clamping Force Kgf	Scales (g)
		min	max												
1120-010 M	M10	0	50	12-66	25	100	M14	8	104	35.5	38	13	20	1600	1700
1120-012 M	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	20	1600	1700
1130-012 M	M12	0	60	15-83	30	113	M18	10	130	39	48	17.5	22	2000	3000
1130-016 M	M16	0	60	15-83	30	113	M18	10	130	39	48	17.5	26	2000	3030

### Ürün Nr. 1120 Kızaklı Kombine Bağlama Pabucu

- M10-M12 dış deliklerde (1120-310)-(1120-312) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-50mm, sıkma kuvveti 1600 kgf.

### Product Nr. 1120 Combined Sliding Clamp

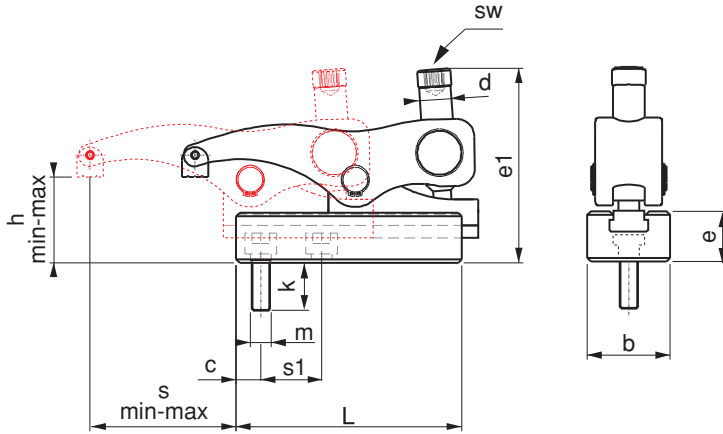
- In the outer holes M10-M12 are used with the Reference Nr. imbus bolt (1120-310)-(1120-312)
- Height clamping gap of the piece is 0-50mm and Clamping Force is 1600 kgf.

### Ürün Nr. 1130 Kızaklı Kombine Bağlama Pabucu

- M12-M16 dış deliklerde (1130-412)-(1130-416) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-60mm, sıkma kuvveti 2000 kgf.

### Product Nr. 1130 Combined Sliding Clamp

- In the outer holes M12-M16 are used with the Reference Nr. imbus bolt (1130-412)-(1130-416)
- Height clamping gap of the piece is 0-60mm and Clamping Force is 2000 kgf.

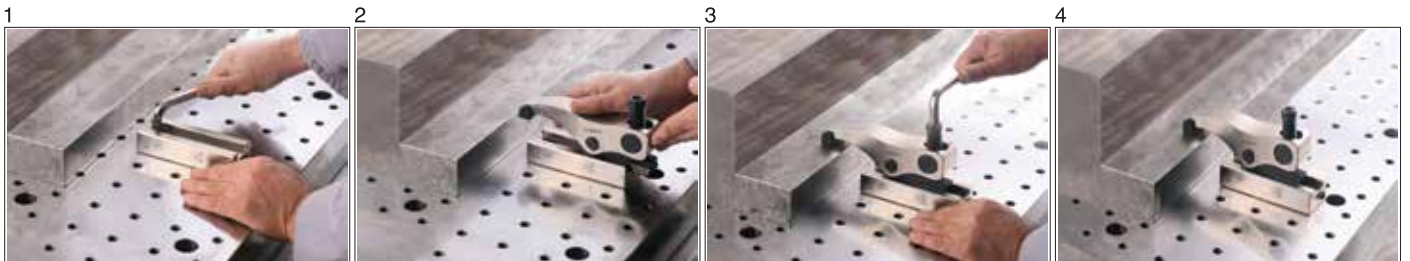



### AVANTAJLARI;

- 1600 kgf - 2000 kgf sıkma kuvveti
- Delik ve T-Kanalda kullanım
- Kızak üzerinde kaydırarak değişik pozisyonlarda sabitleme
- imbus civatasıyla desteksiz yüksek ve düşük mesafeleri sıkır
- Pratik yapısından dolayı hızlı ve kolay şekilde bağlama sağlar

### ADVANTAGES

- 1600 kgf - 2000 kgf Clamping Force.
- Usings in the hole and T-Slot.
- Ability to be fixed in various positions by sliding on the slide.
- It clamps high and low distances without support with the imbus bolt.
- It provides rapid and easy connection due to its practical structure.



Referans Nr.	m	h		s	s1	e1	d	sw	L	e	b	c	k	Sıkma Kuvveti Clamping Force Kgf	Scales (g)	
		min	max													
1150-116 M	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	26	2500	4340	
1150-118 M	M18	0	65	18-96	35	125	M20	12	140	43	55	19.5	30	2500	4360	
1150-120 M	M20	0	65	18-96	35	125	M20	12	140	43	55	19.5	30	2500	4370	
																
1160-220 M	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	34	5500	8880
1160-222 M	M22	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	38	5500	8900
1160-224 M	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	44	5500	8920
1160-230 M	M30*	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	51	5500	9110

### Ürün Nr. 1150 Kızaklı Kombine Bağlama Pabucu

- M16-M18-M20 dış deliklerde (1150-516)-(1150-518)-(1160-520) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-65mm, sıkma kuvveti 2500 kgf

### Ürün Nr. 1160 Kızaklı Kombine Bağlama Pabucu

- M20-M22-M24-M30 dış deliklerde(1160-620)-(1160-622) (1160-624)-(1160-724)-(1160-730) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 20-80mm, sıkma kuvveti 5500 kgf

**Not:** 1160-230M kodlu ürünün alt T-Kızaklı gövdesindeki civata yeri standart değildir. Civata yeri bu ürüne özel işlenmektedir.

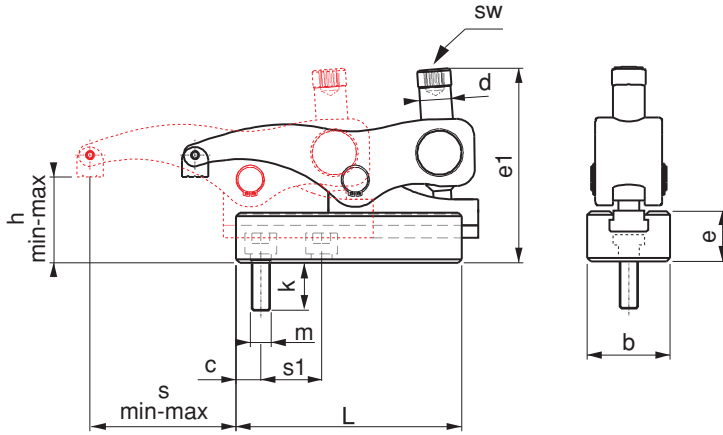
### Product Nr. 1150 Combined Sliding Clamp

- In the outer holes M16-M18-M20 are used with the Reference Nr. imbus bolt (1150-516)-(1150-518)-(1150-520).
- Height clamping gap of the piece is 0-65mm and Clamping Force is 2500 kgf.

### Product Nr. 1160 Combined Sliding Clamp

- In the outer holes M20-M22-M24-M30 are used with the Reference Nr. imbus bolt (1160-620)-(1160-622)-(1160-624)-(1160-724)-(1160-730)
- Height clamping gap of the piece is 20-80mm and Clamping Force is 5500 kgf.

**Note:** The drilling for cylinder head screw of the support element for 1160-230M is not standard. It is specially manufactured for this product.

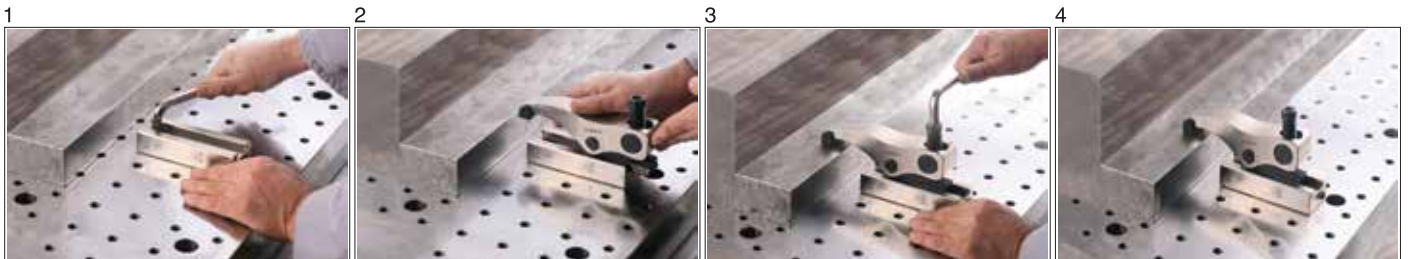






### AVANTAJLARI;

- 2500 kgf - 5500 kgf sıkma kuvveti
- Delik ve T-Kanalda kullanım
- Kızak üzerinde kaydırarak değişik pozisyonlarda sabitleme
- imbus civatasıyla desteksiz yüksek ve düşük mesafeleri sıkır
- Pratik yapısından dolayı hızlı ve kolay şekilde bağlama sağlar

### ADVANTAGES

- 2500 kgf - 5500 kgf Clamping Force.
- Usings in the hole and T-Slot.
- Ability to be fixed in verious positions by sliding on the slide.
- It clamps high and low distances without support with the imbus bolt.
- It provides rapid and easy connection due to it's practical structure.



Referans Nr.		h		sw		
		min	max			
1120-0050	14-18	0	50	8	-	860
1130-0060	14-22	0	60	10	-	1680
1150-0062	18-28	0	65	12	-	2565
1160-2080	22-36	20	80	12	24	5050

**Ürün Nr. 1120-1130-1150-1160**  
**Üst Kızak Grubu**




- Üst Kızak Grubu: Dövme Çelik
- Sertleştirilmiş

**Product Nr. 1120-1130-1150-1160**  
**Upper Slide Group**

- Upper Slide Group: Forged Steel
- Hardened



**Üst Kızak Grubu**  
Upper Slide Group

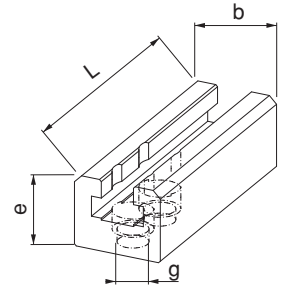
Referans Nr.	g 		L	b	e	
1130-047	M12 M16	18-28	130	48	39	1275
1150-053	M16 M18 M20	18-28	140	55	42	1700
1160-074	M20 M22 M24	22-28	178	74	55	3650
1160-075	M30*	36	178	74	55	3650

**Ürün Nr. 1120-1130-1150-1160**  
**Alt T-Kızaklı Gövde**




- Sertleştirilmiş

**Product Nr. 1120-1130-1150-1160**  
**Body with Bottom T-Slide**

- Hardened



**T-Kızaklı Gövde**  
Body with Bottom T-Slide

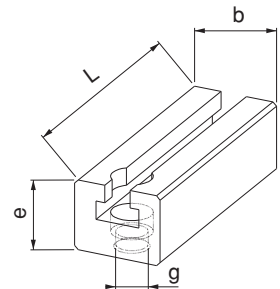
Referans Nr.	g 		L	b	e	
1130-045	M12 M16	14	130	48	45	1630
1150-048	M16 M18 M20	18	140	55	48	2070
1160-059	M20 M22 M24	28	178	74	55	3980

**Ürün Nr. 1120-1130-1150-1160**  
**Alt Destek**

- Sertleştirilmiş

**Product Nr. 1120-1130-1150-1160**  
**Bottom Support**

- Hardened



**Alt Destek**  
Bottom Support

Referans Nr.	m	L	SW		(g)
1120-0714	M14	72	8	-	138
1130-0818	M18	83	10	-	235
1150-0920	M20	96	12	-	360
1160-1024	M24	134	12	24	795

### Ürün Nr. 1120-1130-1150-1160 Pabuç Kaldırma Civata ve Somunu

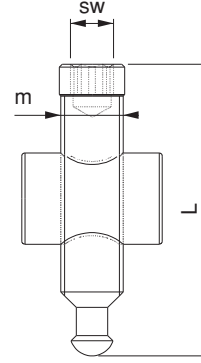
- Kalite 10.9
- Siyah Kaplama

### Product Nr. 1120-1130-1150-1160 Clamp Lifting Bolt and Nut

- Quality 10.9
- Black Coating

## Pabuç Kaldırma Civata ve Somunu

Clamp Lifting Bolt and Nut



Referans Nr.	m	L	d	sw	(g)
1120-310	M10	29	16.5	8	28
1120-312	M12	29	16.5	8	34
1130-412	M12	30	20.5	10	45
1130-416	M16	34	20.5	10	75
1150-516	M16	34	24.5	12	75
1150-518	M18	38	24.5	12	90
1150-520	M20	38	24.5	12	105
1160-620	M20	45	34	12	170
1160-622	M22	49	34	12	95
1160-624	M24	45	34	12	390
1160-724	M24	55	34	12	405
1160-730	M30*	66	38.5	12	400

### Ürün Nr. 1120-1130-1150-1160 Sabitleme İmbus Civatası

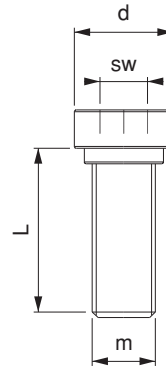
- M12-M16-M18-M20 dış delikler için
- Kalite 10.9
- Siyah kaplama

### Prod. Nr. 1120-1130-1150-1160 Imbus Bolt for Fixing



- For M12-M16-M18-M20 thread holes
- Quality 10.9
- Black Coating

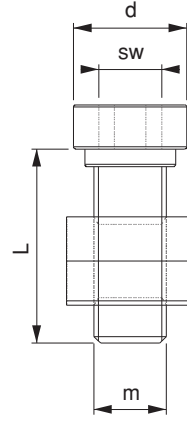
## Sabitleme İmbus Civatası

Imbus Bolt for Fixing





Referans Nr.		m	L	d	sw	
1120-512	12	M10	29	16.5	8	48
1120-514*	14	M12	29	16.5	8	54
1130-614*	14	M12	30	20.5	10	80
1130-616	16	M12	30	20.5	10	100
1130-618	18	M12	30	20.5	10	130
1130-620	20	M12	36	20.5	10	180
1130-622	22	M12	36	20.5	10	220
1150-718*	18	M16	34	24.5	12	145
1150-720	20	M16	34	24.5	12	190
1150-722	22	M16	42	24.5	12	260
1150-724	24	M16	42	24.5	12	350
1150-728	28	M16	42	24.5	12	470
1160-822	22	M20	45	34	12	320
1160-824	24	M20	45	34	12	410
1160-826*	28	M24	45	34	12	550
1160-828	28	M24	55	34	12	580
1160-832	32	M24	61	34	12	603
1160-836	36	M24	66	38.5	12	865




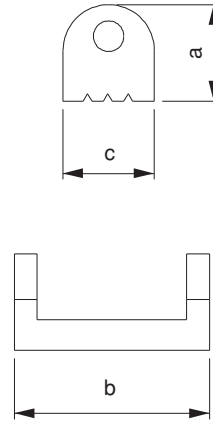
### Ürün Nr. 1120-1130-1150-1160 Sabitleme İmbus Civata ve T-Pabuç

- (a) 14-28 T-Kanal sabitleme imbus civata ve T-Pabuç DIN 508
- Kalite 10.9
- Siyah Kaplama
- Yıldızlı olan kodlar alt destek civatalarıdır.

### Prod. Nr. 1120-1130-1150-1160 Fixing Imbus Bolt and T-Nut

- (a) 14-28 T-Slot fixing imbus bolt and T-Nut DIN 508
- Quality 10.9
- Black Coating
- Star-marked codes are bottom support bolts.

Referans Nr.	a	b	c	
1120-DP	13.5	26.5	12	15
1120-BSP	15.5	26.5	12	18
1120-ESP	18	26.5	12	21
1130-DP	17	32	15	20
1130-BSP	19	32	15	30
1130-ESP	22	32	15	30
1150-DP	19	38	18	40
1150-BSP	21	38	18	40
1150-ESP	25	38	18	50
1160-DP	22	44	22	55
1160-BSP	25	44	22	70
1160-ESP	28	44	22	80



## Ön Baskı Pabucu

Front Press Clamp





### Ürün Nr. 1120-1130-1150-1160 Ön Baskı Pabucu

- Ürün DP : Düz parça sıkma
- Ürün BSP: Boyuna silindirik sıkma
- Ürün ESP: Enine silindirik sıkma
- Siyah Kaplama

### Prod. Nr. 1120-1130-1150-1160 Front Press Clamp

- Product DP : Straight piece clamping
- Product BSP: Longitudinal cylinder clamping
- Product ESP: Lateril cylinder clamping
- Black Coating

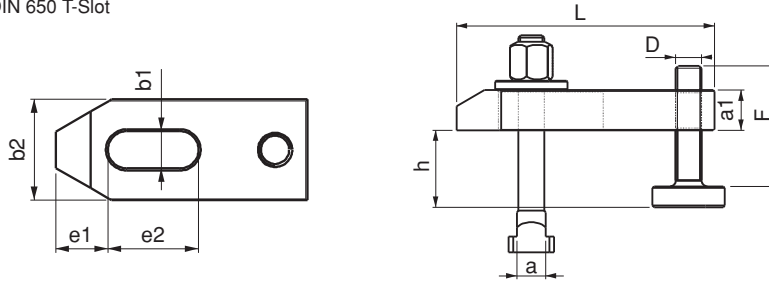
Referans Nr.		L	Nr.1330		e1	e2	b1	Nr.1610	h	Nr.1490 D x F	
			a1	b2							
1170-1010080	10	80	15	30	15	30	11	M10x10x80	10-35	M10x42	370
1170-1212100	12	100	20	40	21	40	14.5	M12x12x100	12-40	M12x50	740
1170-1212125	12	125	20	40	21	50	14.5	M12x12x160	12-85	M12x95	940
1170-1214100	14	100	20	40	21	40	14.5	M12x14x100	12-40	M12x50	705
1170-1214125	14	125	20	40	21	50	14.5	M12x14x160	12-85	M12x95	965
1170-1616125	16	125	25	50	26	45	18.5	M16x16x125	15-50	M16x62	1115
1170-1616160	16	160	25	50	26	65	18.5	M16x16x160	15-85	M16x97	1870
1170-1618125	18	125	25	50	26	45	18.5	M16x18x125	15-50	M16x62	1540
1170-1618160	18	160	25	50	26	65	18.5	M16x18x160	15-85	M16x97	1900
1170-2020160	20	160	30	60	30	60	22.5	M20x20x160	15-45	M20x62	1675
1170-2020200	20	200	30	60	30	80	22.5	M20x20x200	15-80	M20x97	3295
1170-2022160	22	160	30	60	30	60	22.5	M20x22x160	15-45	M20x62	2730
1170-2022200	22	200	30	60	30	80	22.5	M20x22x200	15-80	M20x97	3340
1170-2424160	24	160	30	70	35	60	26.5	M24x24x160	16-60	M24x81	3465
1170-2424200	24	200	30	70	35	80	26.5	M24x24x200	16-95	M24x116	4660
1170-2428160	28	160	30	70	35	60	26.5	M24x28x160	16-60	M24x81	5560
1170-2428200	28	200	30	70	35	80	26.5	M24x28x200	16-95	M24x116	4755



### Ürün Nr. 1170 Ayarlanabilir Destek Civatalı Kombine Bağlama Pabuç

• Ürün DIN 650 T-Kanala uyumludur.

### Product Nr. 1170 Combined Coupling Clamp with Adjustable Support Bolt

• Product is suitable to DIN 650 T-Slot



Referans Nr.		L	Nr.1450		e1	e2	b1	Nr.1610	h	Nr.1490 D x F	
			a1	b2							
1190-1010100	10	100	15	30	32	32	11	M10x10x80	26-50	M10x42	405
1190-1212125	12	125	20	40	40	40	14.5	M12x12x100	33-60	M12x50	870
1190-1214125	14	125	20	40	40	40	14.5	M12x14x100	37-60	M12x50	890
1190-1616160	16	160	25	50	49	50	18.5	M16x16x125	41-75	M16x62	1785
1190-1618160	18	160	25	50	49	50	18.5	M16x18x125	41-75	M16x62	1810
1190-2020200	20	200	30	60	55	70	22.5	M20x20x160	46-75	M20x62	3105
1190-2022200	22	200	30	60	55	70	22.5	M20x22x160	46-75	M20x62	3155
1190-2424200	24	200	35	70	72	60	26	M24x24x200	52-95	M24x81	4695
1190-2428200	28	200	35	70	72	60	26	M24x28x200	52-95	M24x81	4790

### Ürün Nr. 1190 Ayarlanabilir Destek Civatalı Kombine Bağlama Z-Pabuç

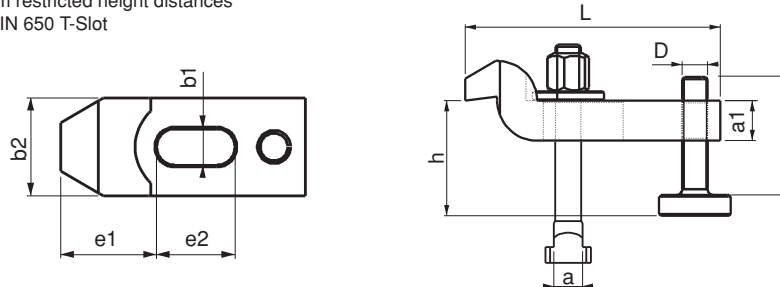
• Kısıtlı yükseklik mesafelerinden kazanma amaçlı kullanılır.



• Ürün DIN 650 T-Kanala uyumludur.

### Product Nr. 1190 Combined Coupling Z-Clamp with Adjustable Support Bolt

• This is used to gain from restricted height distances

• Product is suitable to DIN 650 T-Slot



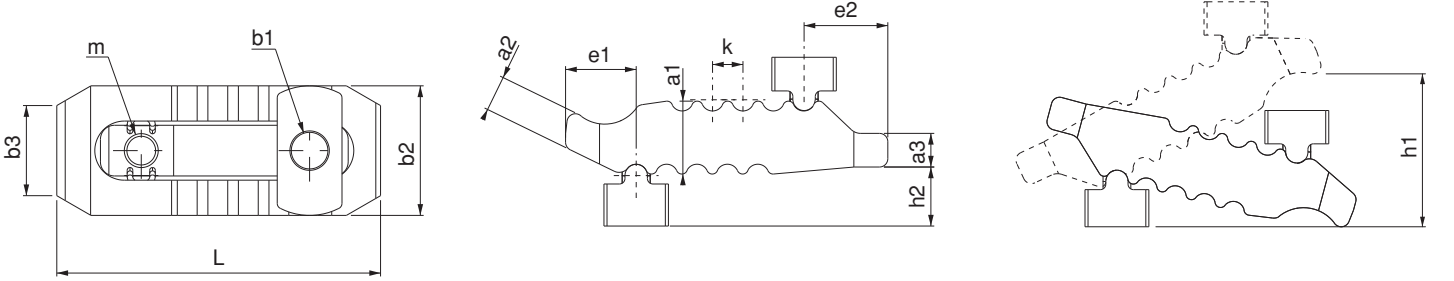
Referans Nr.		a1	a2	a3	b2xL	b3	e1	e2	h2	k	b1	m	h1	kgf	
1195-44115	10-12-14	27	12.5	12	44x115	30	25	30	21	11	13	M12	0-55	3000	506
1195-55150	12-14-16-18	36	18	17	55x150	41	35	36	23	12	17	M16	0-70	4000	1382
1195-63187	16-18-20-22	42	25	20	63x187	30	44	44	32.5	14	21	M20	0-80	6000	2241
1195-70235	20-22-24-28	51	36.5	24	70x235	30	60	47	34	17	25	M20	0-100	7500	3550

#### Ürün Nr. 1195 Çift Taraflı Bağlama Pabucu

- Malzeme: Dövme Çelik
- Sertleştirilmiş
- Siyah Kaplama


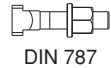

#### Product Nr. 1195 Coupling Clamps Double Sided

- Material: Forged Steel
- Hardened
- Black coating



## Kombine Çift Taraflı Bağlama Pabucu

### Combined Coupling Clamps Double Sided

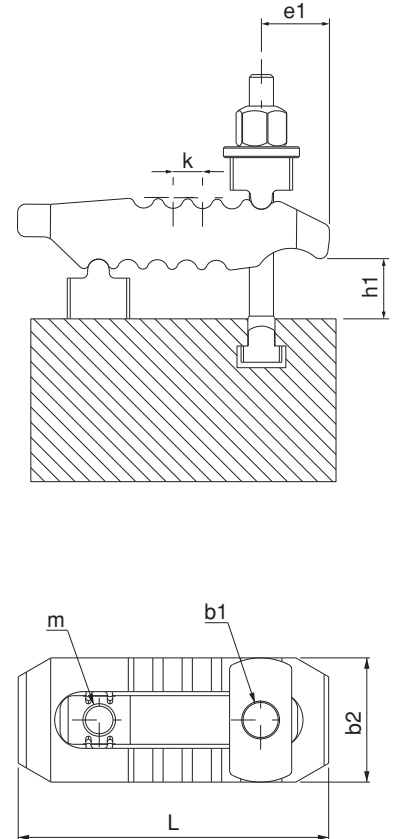
Referans Nr	b1	b2xL	e1	h1	k	m			Sıkma Kuvveti Clamping Force kgf	
1195-1010100	13	44x115	25	0-55	11	M12	10	M10x10x100	2500	613
1195-1212125	13	44x115	25	0-55	11	M12	12	M12x12x125	3000	686
1195-1214125	13	44x115	25	0-55	11	M12	14	M12x14x125	3000	705
1195-1212160	17	55x150	35	0-70	12	M16	12	M12x12x160	3500	1591
1195-1214160	17	55x150	35	0-70	12	M16	14	M12x14x160	3500	1610
1195-1616160	17	55x150	35	0-70	12	M16	16	M16x16x160	4000	1798
1195-1618160	17	55x150	35	0-70	12	M16	18	M16x18x160	4000	1818
1195-1616200	21	63x187	44	0-80	14	M20	16	M16x16x200	5500	2715
1195-1618200	21	63x187	44	0-80	14	M20	18	M16x18x200	5500	3018
1195-2020200	21	63x187	44	0-80	14	M20	20	M20x20x200	6000	3018
1195-2022200	21	63x187	44	0-80	14	M20	22	M20x22x200	6000	3060
1195-2020250	25	70x235	60	0-100	17	M20	20	M20x20x250	7000	4368
1195-2022250	25	70x235	60	0-100	17	M20	22	M20x22x250	7000	4410
1195-2424250	25	70x235	60	0-100	17	M20	24	M24x24x250	7500	4895
1195-2428250	25	70x235	60	0-100	17	M20	28	M24x28x250	7500	4966


#### Ürün Nr. 1195 Kombine Çift Taraflı Bağlama Pabucu

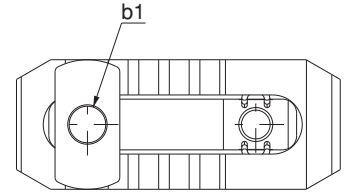
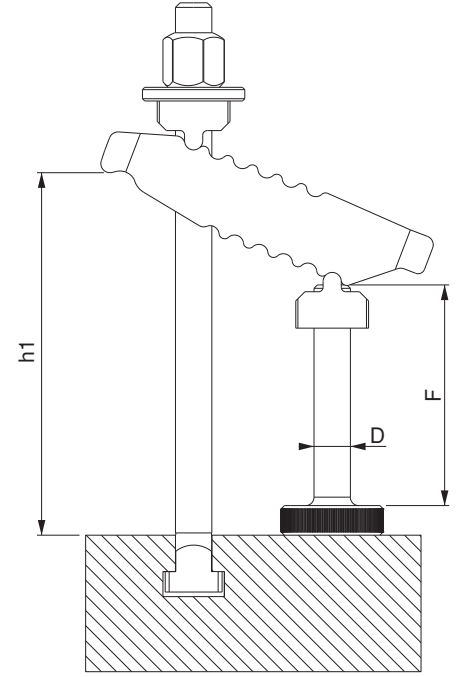
- Ürün DIN 650 T-Kanala uyumludur.

#### Product Nr. 1195 Combined Coupling Clamps Double Sided

- Product is suitable to DIN 650 T-Slot



Referans Nr	B1	D x F	 DIN 787	h1
1195-10101005013	13	M12x50	M10x10x100	15-31
1195-12121605013	13	M12x50	M12x12x160	15-97
1195-12141605013	13	M12x50	M12x14x160	15-97
1195-12122006217	17	M16x62	M12x12x200	18-126
1195-12142006217	17	M16x62	M12x14x200	18-126
1195-16162006217	17	M16x62	M16x16x200	18-126
1195-16182006217	17	M16x62	M16x18x200	18-126
1195-12122009717	17	M16x97	M12x12x200	18-120
1195-12142009717	17	M16x97	M12x14x200	18-120
1195-16162509717	17	M16x97	M16x16x250	39-161
1195-16182509717	17	M16x97	M16x18x250	39-161
1195-16162506221	21	M20x62	M16x16x250	18-129
1195-16182506221	21	M20x62	M16x18x250	18-129
1195-20202506221	21	M20x62	M20x20x250	18-129
1195-20222506221	21	M20x62	M20x22x250	18-129
1195-16162509721	21	M20x97	M16x16x250	18-151
1195-16182509721	21	M20x97	M16x18x250	18-151
1195-20203159721	21	M20x97	M20x20x315	42-184
1195-20223159721	21	M20x97	M20x22x315	42-184
1195-20203156225	25	M20x62	M20x20x315	21-147
1195-20223156225	25	M20x62	M20x22x315	21-147
1195-24243156225	25	M20x62	M24x24x315	21-147
1195-24283156225	25	M20x62	M24x28x315	21-147
1195-20203159725	25	M20x97	M20x20x315	21-182
1195-20223159725	25	M20x97	M20x22x315	21-182
1195-24243159725	25	M20x97	M24x24x315	21-182
1195-24283159725	25	M20x97	M24x28x315	21-182






### Ürün Nr. 1195 Kombine Çift Taraflı Bağlama Pabucu

- Ürün DIN 650 T-Kanala uyumludur.

### Product Nr. 1195 Combined Coupling Clamps Double Sided

- Product is suitable to DIN 650 T-Slot

Referans Nr.			b1	b2xL	d	e1	e2	h	
1200-50140	-	-	17	50x140	60	30	55	75	900
1200-60175	-	-	21	60x175	80	40	70	85	1600
1200-12125	12	M12x12x125	17	50x140	60	30	55	0-50	1070
1200-14125	14	M12x14x125	17	50x140	60	30	55	0-55	1080
1200-16160	16	M16x16x160	17	50x140	60	30	55	0-75	1270
1200-18160	18	M16x18x160	17	50x140	60	30	55	0-75	1280
1200-20200	20	M20x20x200	21	60x175	80	40	70	0-85	2300
1200-22200	22	M20x22x200	21	60x175	80	40	70	0-85	2370

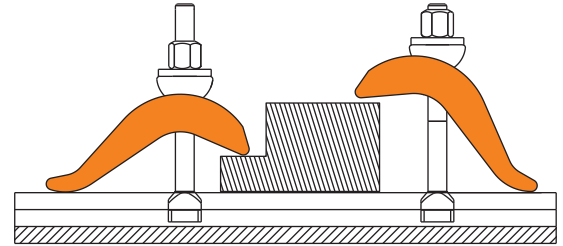
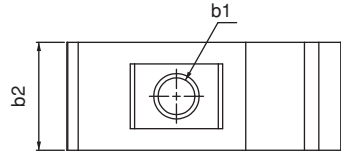
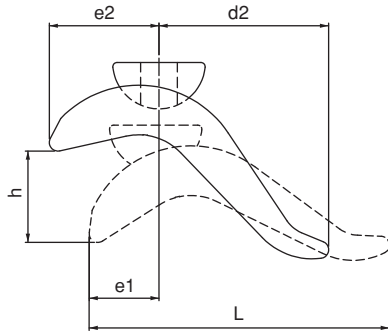


#### Ürün Nr. 1200 S-Bağlama Pabucu

- Malzeme: Dövme Çelik
- Sertleştirilmiş
- Çinko Kaplama




#### Product Nr. 1200 S-Connecting Lugs

- Material: Forged Steel
- Hardened
- Zinc Coating



## Kademeli Bağlama Pabucu

### Stepped Coupling Clamp

Referans Nr.	b1			m	h	b x L	c	d	e1	k x3	
1205-017	17	16-18	-	93	15-50	65x165	39	128	30	17	2.10
1205-021	21	20-22	-	111	20-65	75x189	43	146	33	19	3.20
1205-025	25	24-28	-	126	20-75	85x213	49	164	39	21	4.50
1205-031	31	36	-	143.5	20-85	95x238	56	182	46	23	6.30
1205-016	17	16	M16x16x125	93	15-50	65x165	39	128	30	17	2.50
1205-018	17	18	M16x18x125	93	15-50	65x165	39	128	30	17	2.50
1205-020	21	20	M20x20x160	111	20-65	75x189	43	146	33	19	3.90
1205-022	21	22	M20x22x160	111	20-65	75x189	43	146	33	19	3.90
1205-024	25	24	M24x24x200	126	20-75	85x213	49	164	39	21	5.70
1205-028	25	28	M24x28x200	126	20-75	85x213	49	164	39	21	5.70
1205-036	31	36	M30x36x250	143.5	20-85	95x238	56	182	46	23	8.80

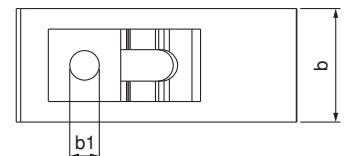
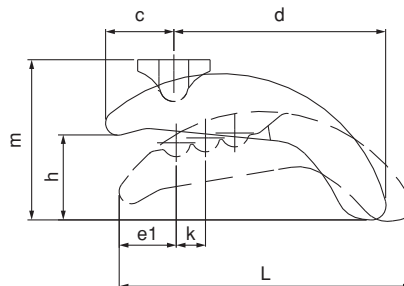


#### Ürün Nr. 1205 Kademeli Bağlama Pabucu

- Destek kullanmadan 15-85mm arası kullanım imkanı sağlar
- Malzeme: Dövme Çelik
- Sertleştirilmiş
- Çinko Kaplama

#### Product Nr. 1205 Stepped Coupling Clamp

- It provides using between 15-85 mm without supporting.
- Material: Forged Steel
- Hardened
- Zinc Coating



Referans Nr.	b1	a	DIN 787	m	h	b x L	c	d	e1	k x4	(g)
1210-013	13	12-14	-	52	0-40	40x90	28	48	23	14	340
1210-017	18	16-18	-	80	0-60	58x130	38	74	29	18	990
1210-021	22	20-22	-	98	0-75	68x140	46	80	32	20	1450
1210-025	26	24-28	-	110	0-90	78x175	52	100	39	24	2360
1210-012	13	12	M12x12x100	52	0-40	40x90	28	48	23	14	400
1210-014	13	14	M12x14x100	52	0-40	40x90	28	48	23	14	420
1210-016	18	16	M16x16x160	80	0-60	58x130	38	74	29	18	1140
1210-018	18	18	M16x18x160	80	0-60	58x130	38	74	29	18	1145
1210-020	22	20	M20x20x200	98	0-75	68x140	46	80	32	20	1560

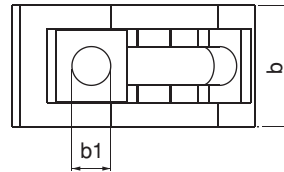
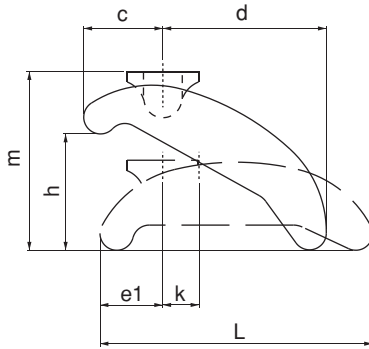


#### Ürün Nr. 1210 Kademeli Bağlama Pabucu

- Destek kullanmadan 0-75mm arası kullanım imkanı sağlar
- Malzeme: Dövme Çelik
- Sertleştirilmiş
- Çinko Kaplama

#### Product Nr. 1210 Stepped Coupling Clamp

- It provides using between 0-75 mm without supporting.
- Material: Forged Steel
- Hardened
- Zinc Coating



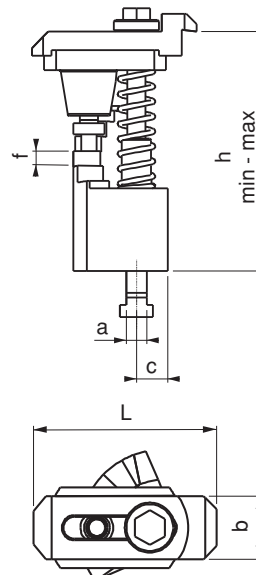
Referans Nr.	a	h min - max	f	c	L	b	(g)
1230-01	14-16-18-20-22	40 - 80	5	16	110	38	1200
1230-02		70 - 125	10	16	110	38	1490
1230-03		120 - 175	10	18	110	38	2700
1230-04		170 - 225	10	23	110	38	4260

#### Ürün Nr. 1230 Basamaklı Kombine Pabuç

- Pabuçun çift taraflı kullanım özelliği; basamaklı yükselticisi ile kısıtlı alanlarda kullanım avantajı sağlar.
- DIN 650 T-Kanala uyumludur.
- Pabuç malzeme: Sertleştirilmiş
- Civata 10.9 kalite
- Gövde statik boyalı diğer parçalar siyah kaplama

#### Product Nr. 1230 Stepped Combined Clamp

- Double-sided usage of the clamp provides using advantage in restricted areas
- Product is suitable to DIN 650 T-Slot
- Clamp Material: Hardened
- Bolt Quality: 10.9
- Body is statically painted and the other parts are black coated





## Basamaklı Kombine Pabuç

### Stepped Combined Clamp

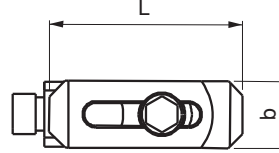




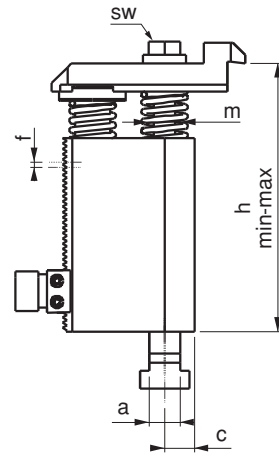
Referans Nr.		h min-max	f	c	L	b	m	sw	Sıkma Kuvveti Clamping Force Kgf	Nm	 (g)
1250 - 02	14-16-18-20-22	80-137	3	17	110	38	M12	19	2250	85	2015
1250 - 03		125-224	3	17	110	38	M12	19	2250	85	2910
1250 - 04		160-300	3	17	110	38	M12	19	2250	85	3665





**Ürün Nr. 1250 Kombine Bağlama Pabuç**

- Pabucun çift taraflı kullanım özelliği; kendi içinde bulunan kademeli yükseltici desteği ile kısıtlı alanlarda kullanım kolaylığı sağlar.
- DIN 650 T-Kanala uyumludur.
- Pabuç Malzeme: Sertleştirilmiş
- Cıvata 10.9 kalite
- Siyah kaplama


**Product Nr. 1250 Combined Coupling Clamp**

- Double-sided usage of the clamp and its stepped lifter's support provides using advantage in restricted areas
- It is suitable to DIN 650 T-Slot
- Clamp Hardness: Hardened
- Bolt Quality: 10.9
- Black coating



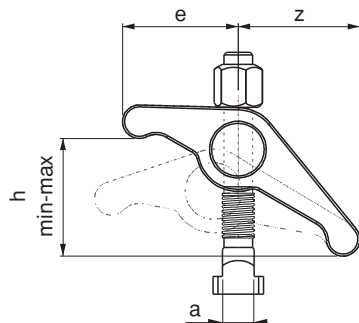
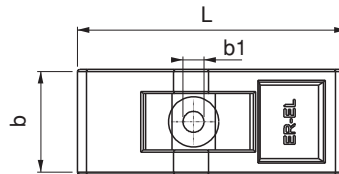
Referans Nr.		h min-max	 DIN 787	b1	e	z	L	b	 (g)
1270-1012	12	0-45	M10x12x125	11	48	61	109	40	660
1270-1214	14	0-45	M12x14x125	13	48	61	109	40	705
1270-1416	16	0-55	M14x16x125	15	57	72	129	50	1190
1270-1618	18	0-55	M16x18x125	17	57	72	129	50	1265

**Ürün Nr. 1270 Desteksiz Askı Pabuç**

- Destek kullanmadan 0-55 mm arası kullanım imkanı sağlar.
- Malzeme: Dövme çelik
- Pabuç Malzeme: Sertleştirilmiş
- Cıvata 12.9 kalite
- Çinko Kaplama

**Product Nr. 1270 Unsupported Suspension Clamp**

- Product provides using between 0-55 mm without using support
- Material: Forged Steel
- Clamp Hardness: Hardened
- Bolt Quality: 12.9
- Zinc Coating


**Desteksiz Askı Pabuç**

## Unsupported Suspension Clamp



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

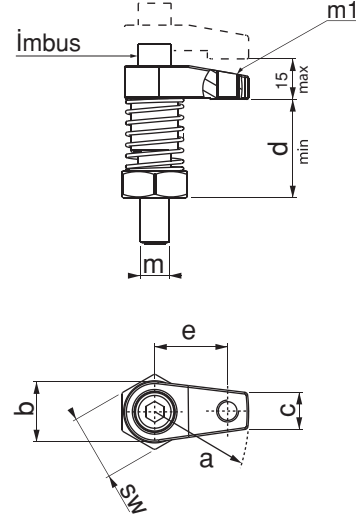
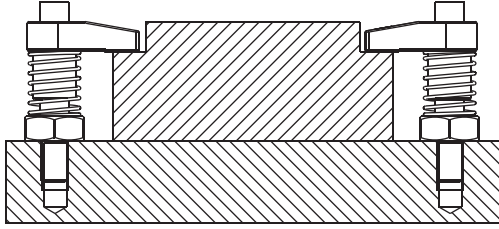


### Ürün Nr. 1275 Kombine Burçlu Pabuç

- Kısıtlı alanlarda çalışma özelliği
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 1275 Combined Clamp With Bush

- Function working in restricted areas
- Hardened
- Black coated



## Kombine Burçlu Pabuç

Referans Nr.	a	Ø 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

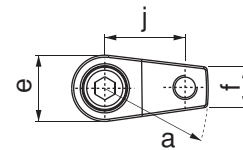
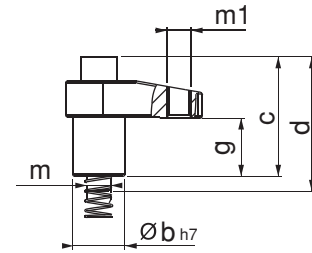


### Ürün Nr. 1280 Kombine Burçlu Pabuç

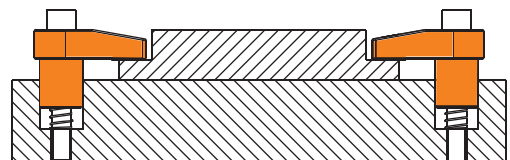
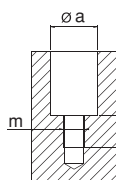
- Kısıtlı alanlarda çalışma özelliği  
plaka üstüne uygulama seçeneği
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 1280 Combined Clamp With Bush

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



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



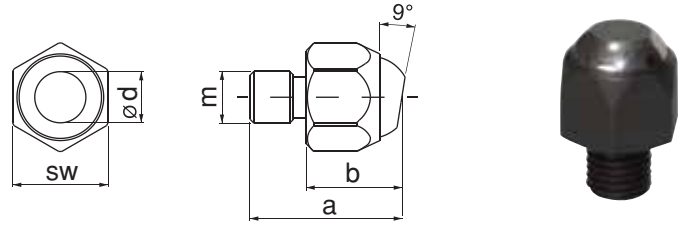
Referans Nr.	a	b	m	d	sw	(g)
1282-0825	25	12	M8	8	14	10
1282-1030	30	17	M10	10	17	30
1282-1235	35	22	M12	12	22	65
1282-1642	42	26	M16	14	27	125

**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**

- It is applicable with Nr. 1275 and 1280 for graded clean surfaces.
- Hardened
- Black coated



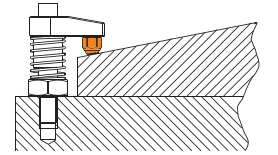
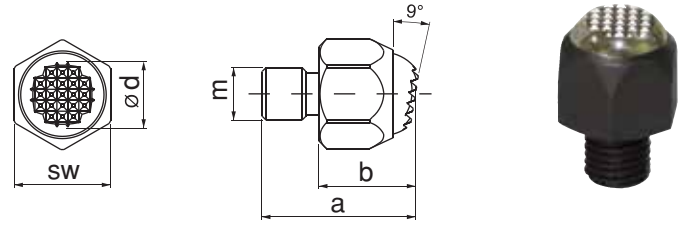
Referans Nr.	a	b	m	d	sw	(g)
1283-0825	25	12	M8	8	14	10
1283-1030	30	17	M10	10	17	30
1283-1235	35	22	M12	12	22	60
1283-1642	42	26	M16	14	27	120

**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 coated



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**

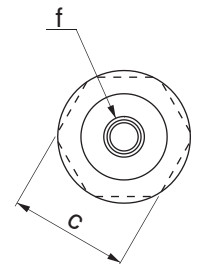
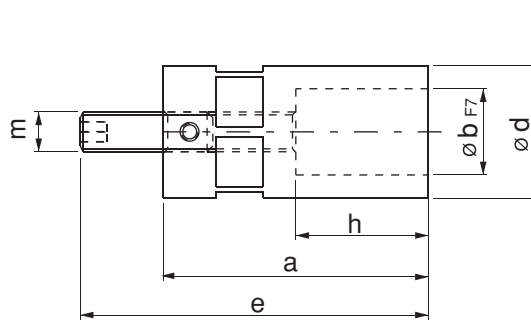
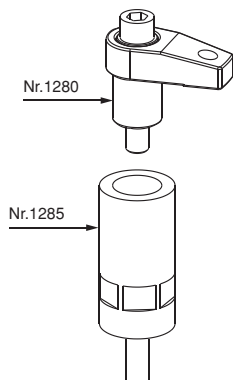
- Nr.1280 ürün ile yüksek parça bağlamalarda kullanılır
- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 1285 Support to the hive**

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

**Yükseltme Kovanı**


Support to The Hive



# BAĞLAMA PABUÇLARI

CLAMPING COMPONENTS



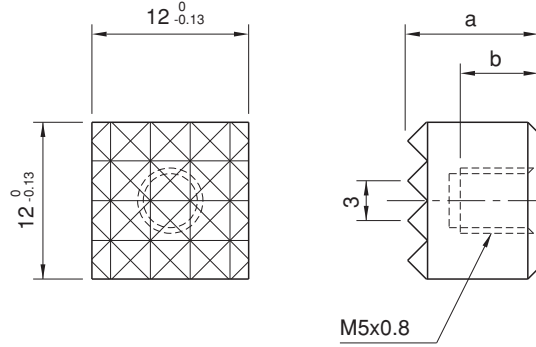
Referans Nr.	a ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	b	 (g)
1287-CT9120	12	7.8	13


**Ürün Nr. 1287 Baskı Pabucu**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 1287 Pressure Pad**

- Sertleştirilmiş
- 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

**Ürün Nr. 1287 Baskı Pabucu**

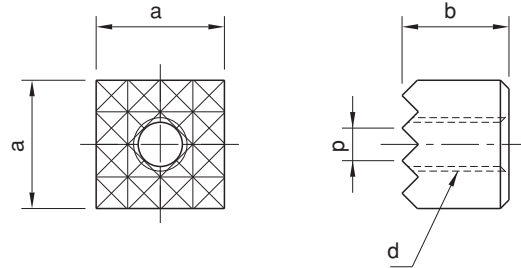
- Sertleştirilmiş
- Siyah kaplama


**Product Nr. 1287 Pressure Pad**

- Hardened
- Black coating

**Baskı Pabucu**

## Pressure Pad



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

**Ürün Nr. 1287 Baskı Pabucu**

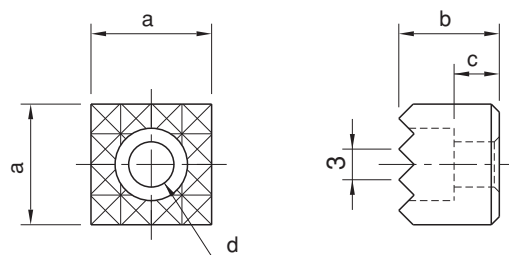
- Sertleştirilmiş
- Siyah kaplama


**Product Nr. 1287 Pressure Pad**

- Hardened
- Black coating

**Baskı Pabucu**

## Pressure Pad



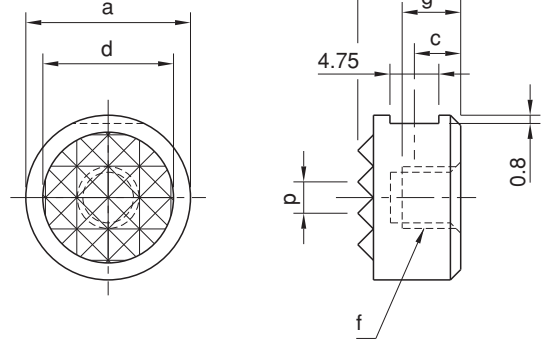
Referans Nr.	a ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	b ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	c	d	f	g	p	 (g)
1288-CT102	10	12	6	7.9	M5x0.8	8	2.3	6
1288-CT122	12	12	6	9.5	M5x0.8	8	3	9
1288-CT162	16	12	6	12.7	M6x1	7.8	3	17
1288-CT202	20	12	6	15.9	M6x1	7.8	3	28
1288-CT252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


**Baskı Pabucu**

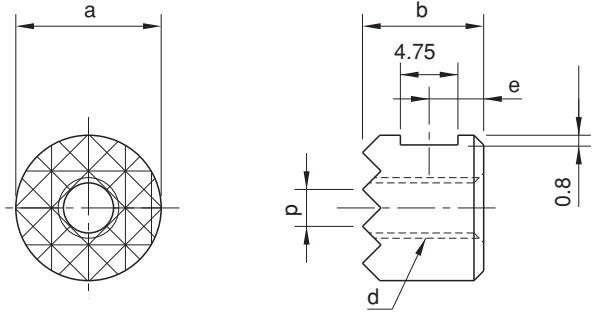
Referans Nr.	a ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	b ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	d	e	p	 (g)
1288-HS102	10	12	M5x0.8	6	2.3	6
1288-HS122	12	12	M5x0.8	6	3	9
1288-HS162	16	12	M6x1	6	3	15
1288-HS202	20	12	M6x1	6	3	25
1288-HS252	25	12	M6x1	6	3	40


**Ürün Nr. 1288 Baskı Pabucu**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 1288 Pressure Pad**

- Hardened
- Black coating


**Baskı Pabucu**

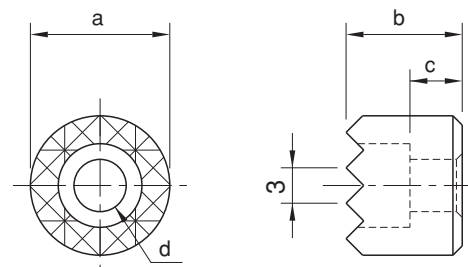
Referans Nr.	a ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	b ( $\begin{smallmatrix} 0 \\ -0.13 \end{smallmatrix}$ )	c	d	 (g)
1288-HS122C	12	12	6.5	M4	8
1288-HS162C	16	12	6.5	M4	15
1288-HS202C	20	12	6.5	M5	23
1288-HS252C	25	12	6.5	M6	38

**Ürün Nr. 1288 Baskı Pabucu**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 1288 Pressure Pad**

- Hardened
- Black coating





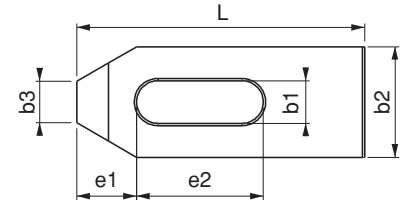
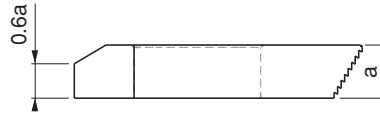
Referans Nr.	L	b1	metrik		a	b2	b3	e1	e2	(g)
			whitworth							
1290-06050	50	6.6	M6	1/4	10	20	8	10	20	50
1290-06080	80								30	95
1290-08060	60	9	M8	5/16	12	25	10	13	22	100
1290-08100	100								45	170
1290-10080	80	11	M10	3/8	15	30	12	15	30	190
1290-10100	100								45	225
1290-12100	100	14.5	M12-M14	1/2	20	40	14	21	45	435
1290-12125	125								55	580
1290-16125	125	18.5	M16-M18	5/8	25	50	18	26	55	855
1290-16160	160								65	1175

### Ürün Nr. 1290 Merdiven Diş Bağlama Pabucu

- 1310 Nr. Merdiven destek ile kullanılır
- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1290 Serrated Thread Clamp

- Product is used with No. 1310 Serrated Support
- Hardened
- Black Coating



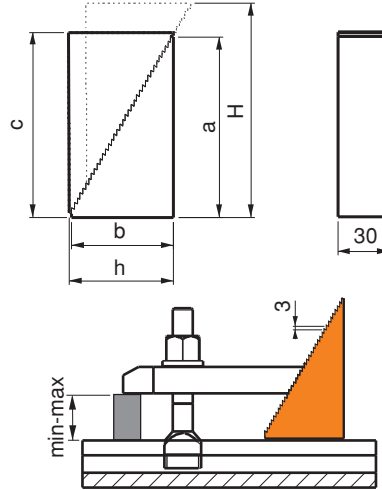
Referans Nr.	h-H	a	b	c	min-max	(g)
1310-02	48-112	73	45	76	0-60	825
1310-03	58-139	90	55	93	0-75	1250
1310-04	66-165	108	64	111	0-90	685

### Ürün Nr. 1310 Merdiven Diş Destek

- 1290 Nr. Merdiven diş pabuç ile kullanılır
- Siyah Kaplama

### Product Nr. 1310 Serrated Thread Support

- Product is used with No. 1290 Serrated Thread Clamp
- Black Coating



## Merdiven Diş Destek

Serrated Thread Support



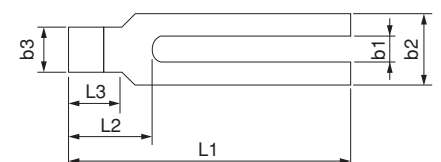
Referans Nr.	b1	L1	metrik		a	b2	b3	L2	L3	(g)
			whitworth							
1320-08100	9	100	M8	5/16	15	30	16	32	18	240
1320-10125	11	125	M10	3/8	20	30	20	38	24	380
1320-12160	14.5	160	M12-M14	1/2	25	40	24	47	30	800
1320-12200	14.5	200	M12-M14	1/2	25	40	24	47	30	950
1320-16200	18.5	200	M16-M18	5/8	30	50	28	57	36	1500
1320-16250	18.5	250	M16-M18	5/8	30	50	28	57	36	1850
1320-20250	22.5	250	M20-M22	3/4	40	60	35	68	45	2900
1320-20315	22.5	315	M20-M22	3/4	40	60	35	68	45	3600
1320-24250	26	250	M24	1	40	70	43	83	56	3400
1320-24315	26	315	M24	1	40	70	43	83	56	4300
1320-30315	33	315	M30	1 1/4	50	80	50	88	56	6000
1320-30400	33	400	M30	1 1/4	50	80	50	88	56	7300

### Ürün Nr. 1320 Çatal Pabuç

- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1320 Bifurcated Clamp

- Hardened
- Black Coating



## Çatal Pabuç

Bifurcated Clamp



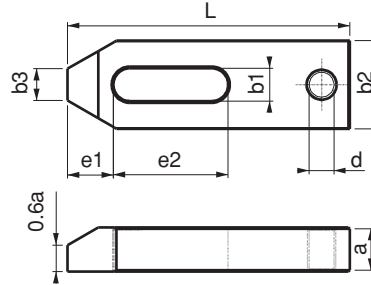
Referans Nr.	L	b1	metrik		a	b2	b3	e1	e2	d	(g)
			metrik	whitworth							
1330-06050	50	6,6	M6	1/4	10	20	8	10	20	M8	50
1330-08060	60	9	M8	5/16	12	25	10	13	22	M8	105
1330-10080	80	11	M10	3/8	15	30	12	15	30	M10	210
1330-12100	100	14,5	M12-M14	1/2	20	40	14	21	40	M12	465
1330-12125	125							21	50		590
1330-16125	125	18,5	M16-M18	5/8	25	50	18	26	45	M16	930
1330-16160	160							26	65		1200
1330-20160	160	22,5	M20-M22	3/4	30	60	22	30	60	M20	1710
1330-20200	200							30	80		2170
1330-20250	250							35	100		3885
1330-24160	160	26	M24	1	30	70	26	60	60	M24	1965
1330-24200	200							80	2920		
1330-24250	250							100	3720		
1330-24315	315							100	6435		
1330-30250	250							33	40		80
1330-30315	315	50	50	80	34	45	130	M24	7665		
1330-36400	400	43	M36-M42	11/2	58	100	43	100	150	M30	14490

### Ürün Nr. 1330 Destek Delikli Düz Pabuç

- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1330 Straight Clamp with Support Hole

- Hardened
- Black Coating



Referans Nr.	L	b1	metrik		a	b2	b3	e1	e2	(g)	
			metrik	whitworth							
1350-06050	50	6,6	M6	1/4	10	20	8	10	20	60	
1350-08060	60	9	M8	5/16	12	25	10	13	22	110	
1350-10080	80	11	M10	3/8	15	30	12	15	30	185	
1350-12100	100	14,5	M12-M14	1/2	20	40	14	21	40	480	
1350-12125	125							21	50		610
1350-16125	125	18,5	M16-M18	5/8	25	50	18	26	45	980	
1350-16160	160							26	65		1240
1350-20160	160	22,5	M20-M22	3/4	30	60	22	30	60	1795	
1350-20200	200							30	80		2255
1350-24200	200							35	70		26
1350-24250	250	100	3875								
1350-30250	250	33	M30	11/4	40	80	34	45	100	4990	
1350-30315	315	50	50	80	34	45	130	7885			
1350-36400	400	43	M36-M42	11/2	60	100	43	100	150	14450	

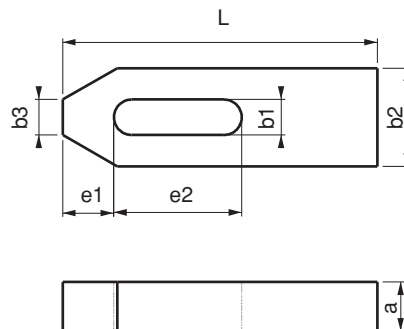
### DIN 6314

### Ürün Nr. 1350 Düz Pabuç

- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1350 Straight Clamp

- Hardened
- Black Coating



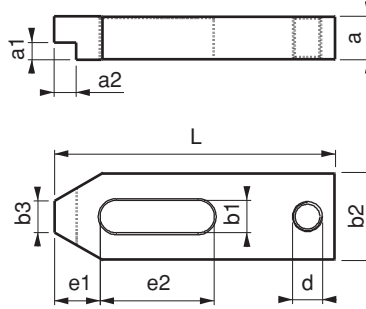
## Düz Pabuç

Straight Clamp

Referans Nr.	L	b1	metrik		a	b2	a1xa2	b3	e1	e2	d	(g)
			metrik	whitworth								
1370-10080	80	11	M10	3/8	15	30	5x8	12	15	30	M10	180
1370-12100	100	14.5	M12-14	1/2	20	40	8x10	14	21	40	M12	410
1370-12125	125											590
1370-16125	125	18.5	M16-18	5/8	25	50	10x12.5	18	26	45	M16	910
1370-16160	160											1180
1370-20160	160	22.5	M20-22	3/4	30	60	12x15	22	30	60	M20	1575
1370-20200	200											2150
1370-24160	160	26	M24	1	30	70	12x15	26	35	60	M24	1800
1370-24200	200											2875
1370-24250	250											3500

**Ürün Nr. 1370 Kademeli Destek Delikli Düz Pabuç**

- Kısıtlı alanlarda yükseklikten kazanma amaçlı kullanılır.
- Sertleştirilmiş
- Siyah Kaplama


**Product Nr. 1370 Straight Clamp with Stepped Support Hole**

- This product is used in restricted areas with the purpose of gaining height
- Hardened
- Black Coating



Referans Nr.	L	b1	metrik		a	b2	b3	b4	(g)
			metrik	whitworth					
1390-06060	60	6.6	M6	1/4	12	19	6.2	3	65
1390-08080	80	9	M8	5/16	15	25	8	4	140
1390-10100	100	11	M10	3/8	20	30	9.5	5	240
1390-12125	125	14.5	M12-M14	1/2	25	38	12	6	700
1390-12160	160								915
1390-12200	200	18.5	M16-M18	5/8	27	48	15	8	1235
1390-16160	160								945
1390-16200	200								1215
1390-16250	250	22.5	M20-M22	3/4	37	52	20	10	2000
1390-20200	200								1650
1390-20250	250								2765
1390-20315	315								3510
1390-20500	500	26	M24	1	37	66	20	10	7200
1390-24200	200								2260
1390-24250	250								2740
1390-24315	315								3515
1390-24500	500								7100
1390-30250	250	33	M30	11/4	47	73	20	12	3500
1390-30315	315								4190
1390-30400	400								5735
1390-30600	600								8455
1390-301000	1000	40	M36	11/2	57	100	30	12	28000
1390-36400	400								10800
1390-36600	600								16500
1390-42600	600	43	M42	11/2	77	123	40	12	28800

**DIN 6315B**
**Ürün Nr. 1390 Çatal Pabuç**

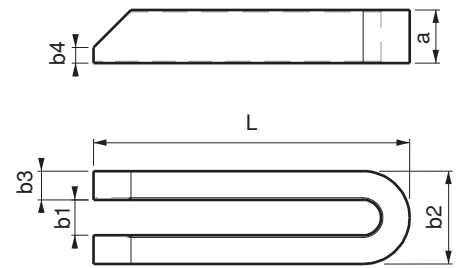
- Kademeli yüzeylerde şekilli iş parçalarının bağlanmasında pabucun yapısı itibarı ile kolaylık sağlar
- Sertleştirilmiş
- Siyah Kaplama

**Product Nr. 1390 Bifurcated Clamp**

- Due to the structure of the clamp, this product provides convenience for the couplings of formed work pieces on graded surfaces
- Hardened
- Black Coating

**Çatal Pabuç**

## Bifurcated Clamp



Referans Nr.	L	b1	metrik		a	b2	a1xa2	e1	e2	h	(g)
			metrik	whitworth							
1387-12070	70	13	M12	1/2	21.5	40	8x6	11	40	14	255
1387-16070	70	17	M16	5/8	29.5	40	10x7	11	40	22	290

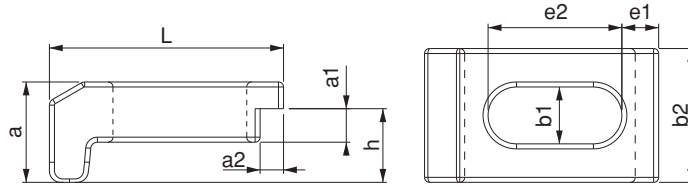


### Ürün Nr. 1387 Plaka Sıkma Pabucu

- Yükselticisiz çalışma özelliği avantajı sağlar
- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1387 Plate Sliding Clamp

- Provides the advantage of working without support.
- Hardened
- Black coated



## Kademeli Destek Delikli Çatal Pabuç

Bifurcated Clamp with Stepped Support Hole

Referans Nr.	L	b1	metrik		a	e2	a1xa2	b2	d	(g)
			metrik	whitworth						
1400-10100	100	11	M10	3/8	18.5	70	10x10	28	M10	260
1400-12125	125	14.5	M12-14	1/2	25	90	12x12	40	M12	565
1400-16160	160	18.5	M16-18	5/8	30	110	15x15	50	M16	1235
1400-20200	200	22.5	M20-22	3/4	40	135	20x20	60	M20	2460



### Ürün Nr. 1400 Kademeli Destek Delikli Çatal Pabuç

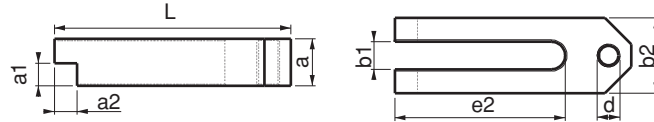
- Sertleştirilmiş
- Siyah Kaplama

Kademeli ve kısıtlı alanlarda kullanım avantajı sağlar.

It provides usage advantage in gradual and limited areas.

### Product Nr. 1400 Bifurcated Clamp with stepped support Hole

- Hardened
- Black Coating



## Destek Delikli Çatal Pabuç

Bifurcated Clamp with Support Hole

Referans Nr.	L	b1	metrik		a	e1	e2	b2	d	(g)
			metrik	whitworth						
1410-10100	100	11	M10	3/8	18.5	5	70	28	M10	260
1410-12125	125	14.5	M12-14	1/2	25	6	90	40	M12	560
1410-16160	160	18.5	M16-18	5/8	30	8	110	50	M16	1230
1410-20200	200	22.5	M20-22	3/4	40	10	135	60	M20	1490



### Ürün Nr. 1410 Destek Delikli Çatal Pabuç

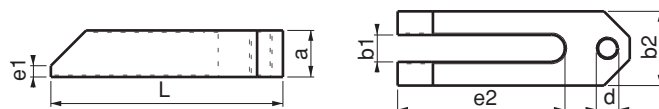
- Sertleştirilmiş
- Siyah Kaplama


Kademeli parçalarda ileri sıkmalarda hareket ve kullanım avantajı sağlar.

It provides usage advantage for gradual parts during forward tightenings.

### Product Nr. 1410 Bifurcated clamp with support hole

- Hardened
- Black Coating

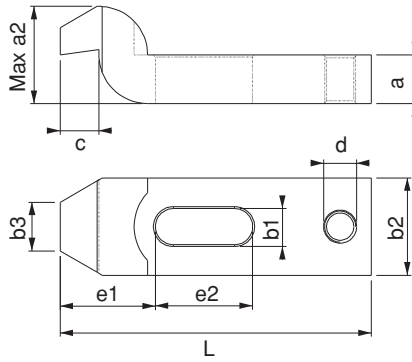


Referans Nr.	L	b1	metrik		a	a2	b2	b3	c	e1	e2	d	
			metrik	whitworth									
1450-06060	60	6.6	M6	1/4	10	20	20	10	8	20	20	M8	80
1450-08080	80	9	M8	5/16	12	24	25	12	9	25	25	M8	170
1450-10100	100	11	M10	3/8	15	30	30	15	12	32	32	M10	245
1450-12125	125	14.5	M12-M14	1/2	19	40	38	20	16	40	40	M12	600
1450-16125	125	18.5	M16-M18	5/8	24	50	48	25	20	49	40	M16	925
1450-16160	160									50	50		1205
1450-20160	160	22.5	M20-M22	3/4	29	58	58	30	24	55	55	M20	1705
1450-20200	200									70	70		2145
1450-24160	160									53	55		2110
1450-24200	200	26	M24	1	33	70	70	35	28	72	60	M24	3070
1450-24250	250									72	80		3710
1450-30250	250	33	M30	1 1/4	38	80	77	40	40	91	80	M24	4635
1450-30315	315				48	100				100	100		7050

#### DIN 6316

#### Ürün Nr. 1450 Destek Delikli Z-Bağlama Pabucu

- Yükseklikten kazanma ve somun geçişlerinde avantaj sağlar
- Sertleştirilmiş
- Siyah Kaplama




#### Product Nr. 1450 Z-Type Cranked Clamp with Support Hole

- This product provides advantage to gain from the height and in the passings of the bolt
- Hardened
- Black Coating



## Silindir Başlı Çatal Pabuç

### Forked Clamp with Pin Head

Referans Nr.	L1	b1	metrik		a	b2	Ød	L2	L3	
			metrik	whitworth						
1470-08100	100	9	M8	5/6	15	30	12	30	18	180
1470-10125	125	11	M10	3/8	20	30	16	36	24	290
1470-12160	160	14.5	M12-M14	1/2	25	40	20	45	30	715
1470-12200	200									815
1470-16200	200	18.5	M16-M18	5/8	30	50	24	55	36	1210
1470-16250	250									1550
1470-20250	250	22.5	M20-M22	3/4	40	60	30	65	45	2680
1470-20315	315									3435
1470-24250	250	26	M24	1	40	70	38	80	56	3060
1470-24315	315									4120
1470-30315	315	34	M30	1 1/4	50	80	45	85	56	5600
1470-30400	400									7135

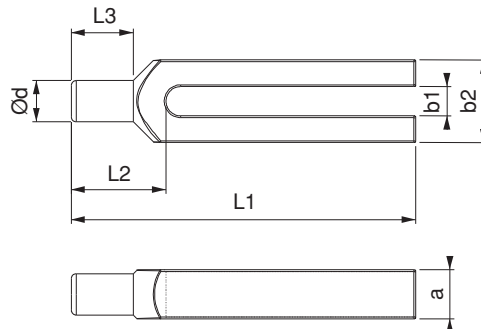
#### DIN 6315C

#### Ürün Nr. 1470 Silindir Başlı Çatal Pabuç

- Muhtelif iş parçalarının delikli yüzeylerine girerek iş parçasını sabitler
- Sertleştirilmiş
- Siyah Kaplama

#### Product Nr. 1470 Forked Clamp with Pin Head

- This product fixes the work pieces by entering in the holed surfaces of various work pieces
- Hardened
- Black Coating



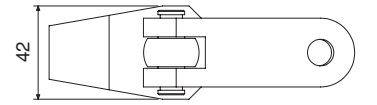
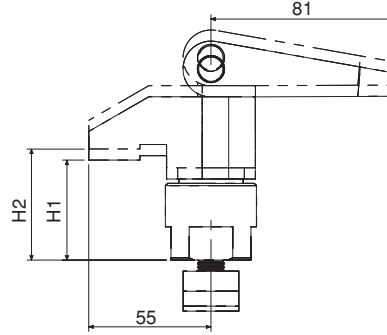
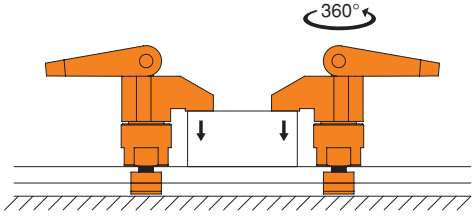
Referans Nr.		H1 - H2 (mm)	Sıkma Kuvveti Clamping Force Kgf	
1472-02530	14-16-18-20-22	25 - 30	1000	1000
1472-03035		30 - 35	1000	1150
1472-03540		35 - 40	1000	1225
1472-04045		40 - 45	1000	1245
1472-04550		45 - 50	1000	1275

## 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)	
1473-06001	76	10	11	6	10.7	1	10	4
1473-08001	102	12	13	8	13.9	1.3	12	8
1473-10001	204	16	17	10	16.7	1.6	16	16

## Sıkıştırma Pimi

Spring Locating Pins



## Ürün Nr. 1473 Sıkıştırma Pimi

## Product Nr. 1473 Spring Locating Pins

### Özellikler

- Geçici bir iş bağlama profili için idealdir.

### Not

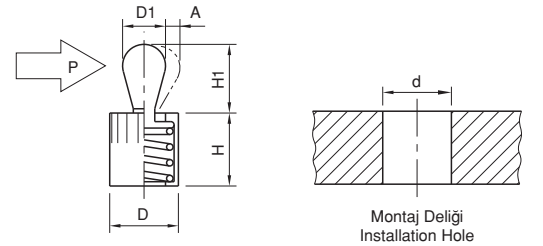
- Pimin hareket etmesi için gerekli olan minimum "P" değeri
- Parça : 90 °C'ye kadar

### Features

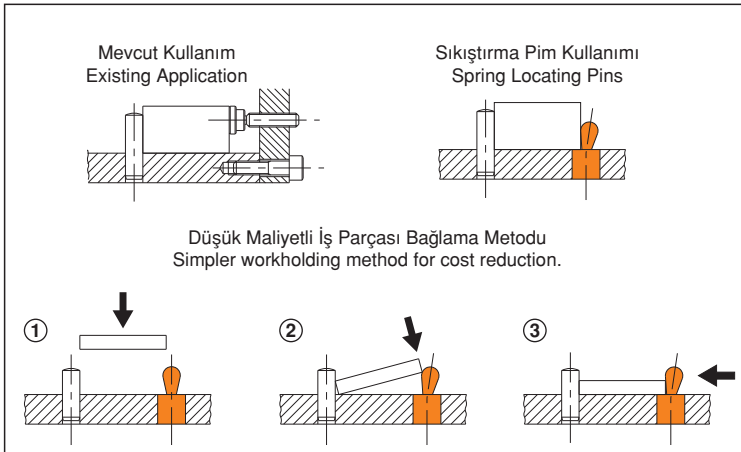
- Ideal for temporary clamping of low-profile workpieces.

### Note

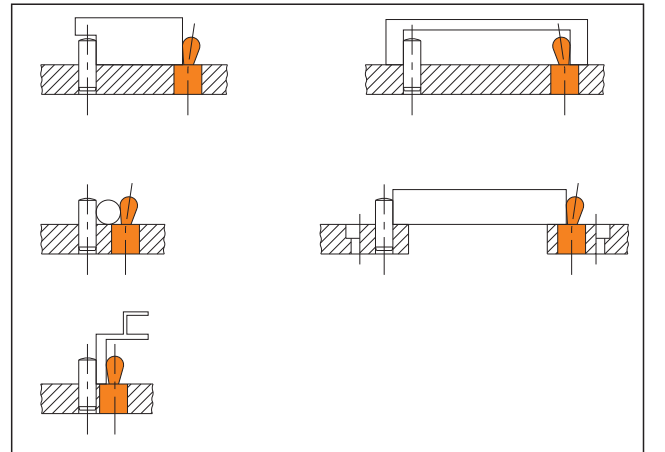
- The stated value "P" denotes the minimum force needed to move the pin.
- Heat resistance : 90 °C



## Kullanım Şekli / How To Use



## Çeşitli Uygulamalar / Application Examples





Referans Nr.	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**

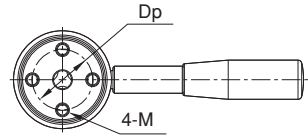
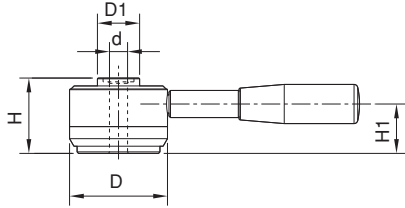
- Black coated

**Not**

- Pimler ve çektirme civataları ayrıca sipariş edilir.

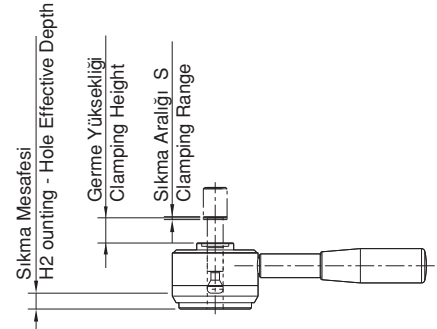
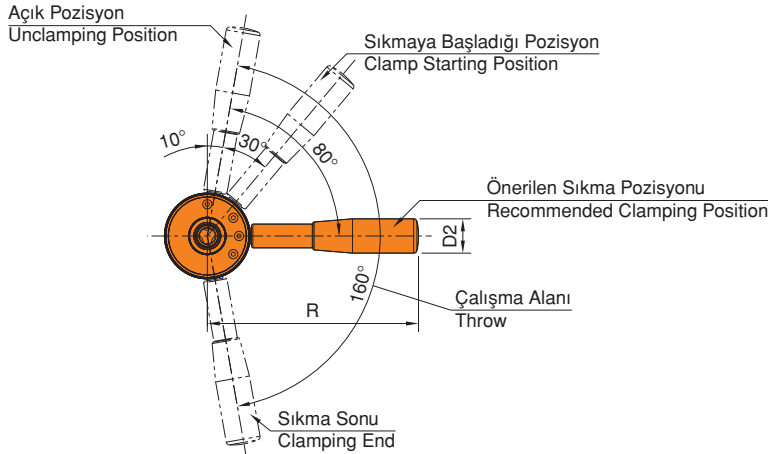
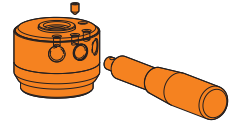
**Note**

- 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**

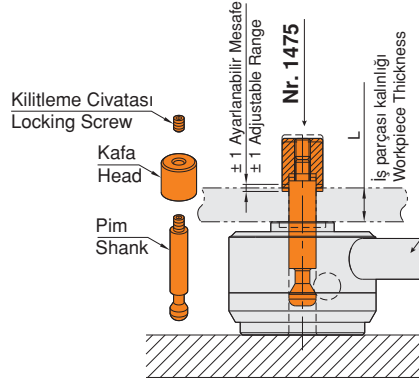
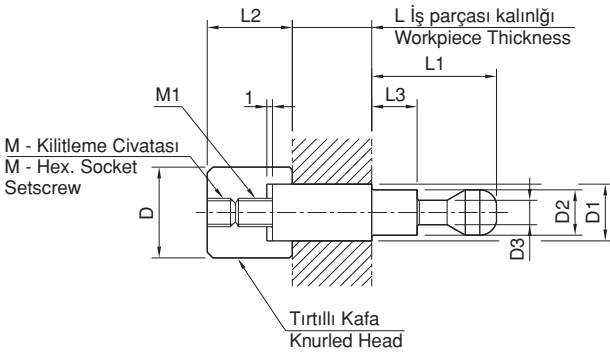
- Shank**
- Hardness: Induction
  - Precision ground

- Shank**
- Black coated



- Not**
- Talebe göre üretim.

- Note**
- Custom Clamping Pins are available on request.



**Kullanım Şekli / How To Use**

**Nr. 1474**

- L İş parçası kalınlığında ± 1mm ayarlanabilir.  
L dimension is adjustable by ± 1mm 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

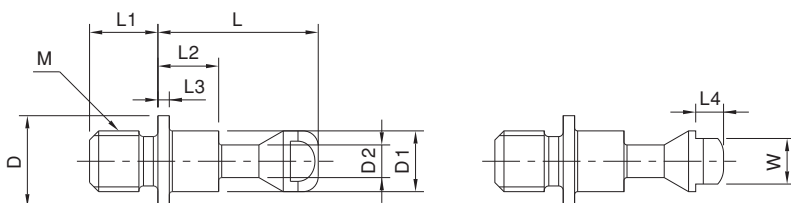
**Product Nr. 1476 Clamping Screws**

- Black coated

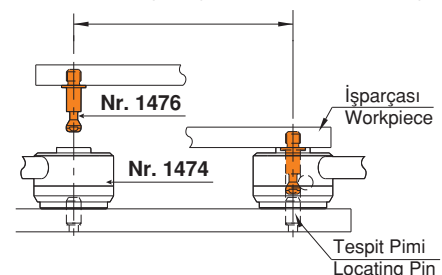


- Not**
- Özel bağlama vidalar (farklı vida boyları) istek üzerine üretim yapılır.

- Note**
- Custom Clamping Screws (different screw thread sizes) are available on request.



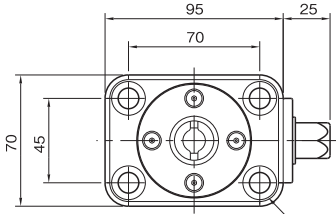
Çektirme civataları önerilen aralık toleransında olmalı  
Recommended Spacing Tolerance in Use of Clamping Screws



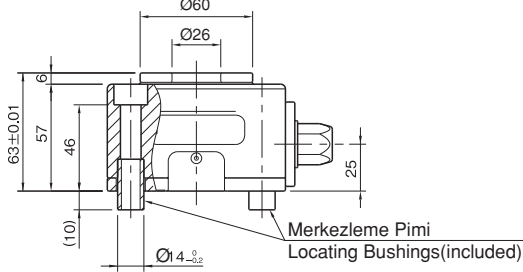
Referans Nr.	Sıkma Kuvveti Clamping Force Kgf	Tork N-m	(kg)
1477-00012	1200	40	2.3

**Ürün Nr. 1477 Pimli Bağlama**

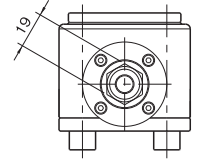
**Product Nr. 1477 Power-tool Actuated Block Pull Clamps**



Sabitleme Civata Yeri For M10 Cap Screws

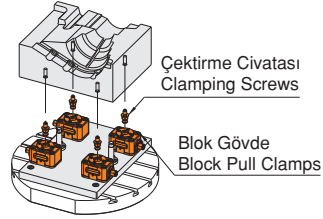


Merkezi Pimi Locating Bushings(included)



**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.

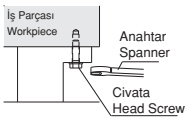


**2. Daha iyi işlenebilirlik**  
Blok çekme ile daha kolay iş bağlama ve klasik yöntemden daha kullanışlıdır.

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

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

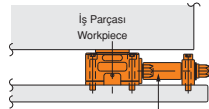
**3. Actuated Remote-Control Units**  
If used in conjunction with Power-Tool Actuated Remote-Control Units, Block Pull Clamps can be installed at the best possible position under the workpiece.



Mevcut Uygulama Conventional Method

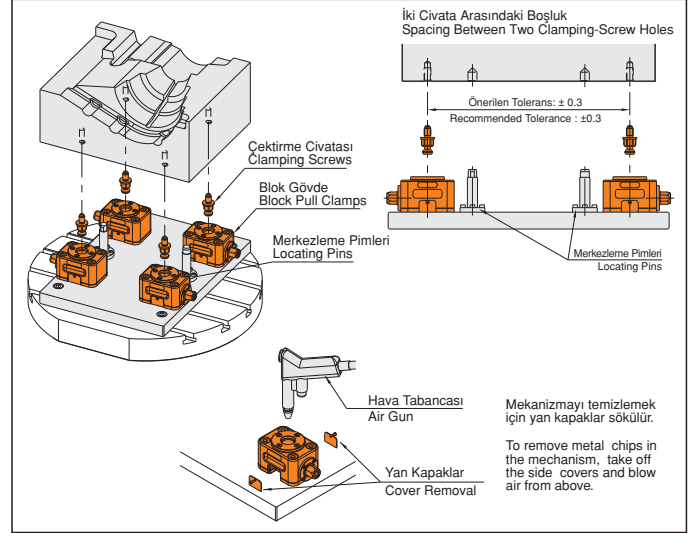


Çektirme Civatası ile Uygulama Application with pull stud



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

**Kullanım Şekli / How To Use**



İki Civata Arasındaki Boşluk Spacing Between Two Clamping-Screw Holes  
Önerilen Tolerans: ± 0.3  
Recommended Tolerance: ±0.3

Merkezi Pimleri Locating Pins

Hava Tabancası Air Gun  
Yan Kapaklar Cover Removal  
Mekanizmayı temizlemek için yan kapaklar sökülür.  
To remove metal chips in the mechanism, take off the side covers and blow air from above.

**Bağlama Civatası**

Clamping Screws

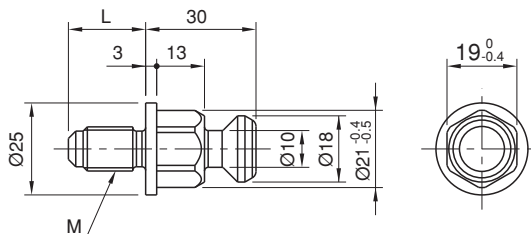
Referans Nr.	M	L	(g)
1478-00012	M12x	21	75
1478-00016	M16	28	98

**Ürün Nr. 1478 Bağlama Civatası**


- Sertleştirilmiş
- Siyah Kaplama

**Product Nr. 1478 Clamping Screws**

- Hardened
- Black coated



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

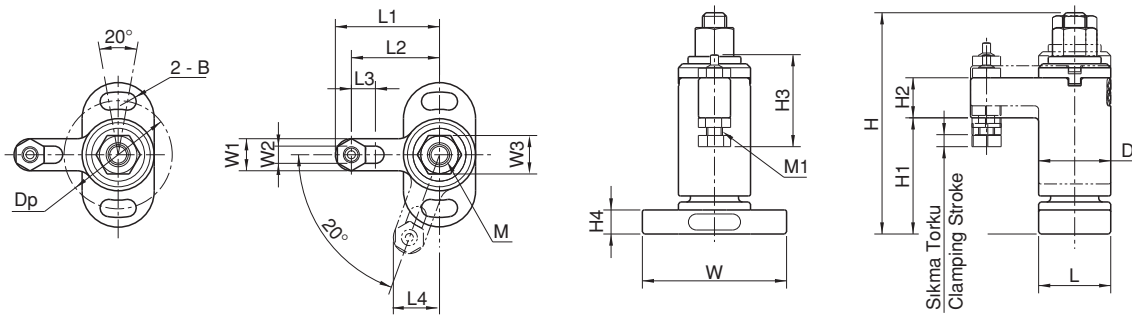
**Product Nr. 1479 Swing Clamps For Torque Control**

**Body**

- Hardened
- Black coated

**Clamping Spindle**

- Black coated



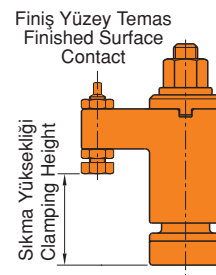
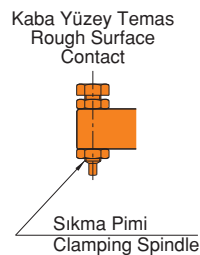
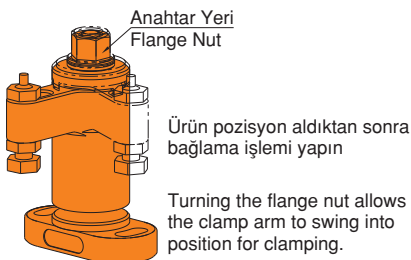
**Not**

- Bağlama işlemini tork anahtarları ile yapın.


**Note**

- Do not use a power tool (impact wrench etc.) to turn the flange nut, for damage prevention.

**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 coated

**Clamping Arm**

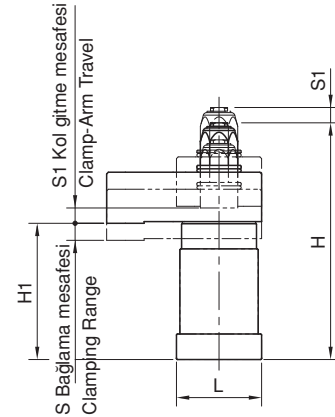
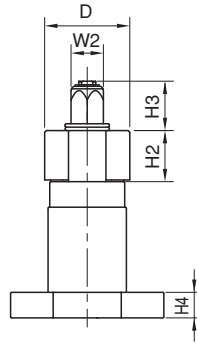
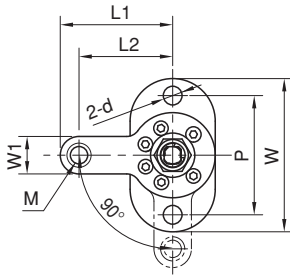
- Hardened
- Black coated

**Özellikler**

- Hızlı bağlama için üründe sıkma anahtarına tepkili mekanizma vardır.
- Kısa bir hareketle 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.



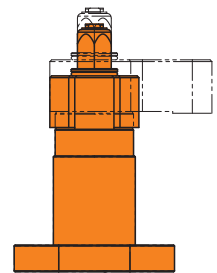
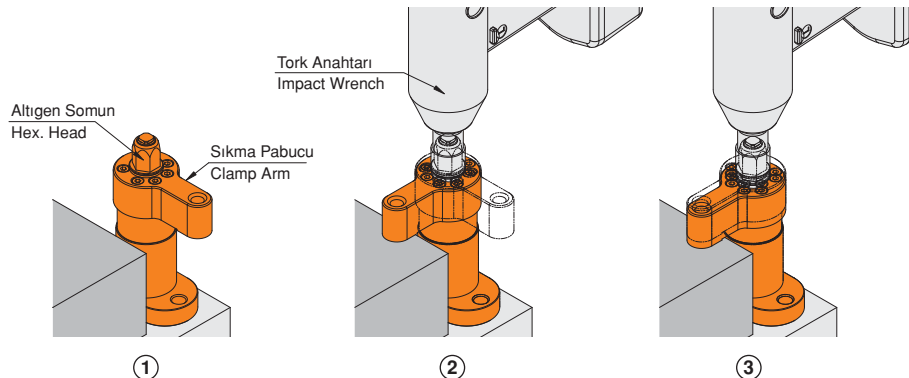
**Not**

- Bağlama işlemini 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 spiral dönmeli bağlama  
For robotized production lines, use Spiral-Acting Swing Clamps.

Referans Nr.	Sıkma Yüksekliği Clamping Height				Sıkma Torqu Clamping Stroke	İnme Torqu 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.										
1481-0150R	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	
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**

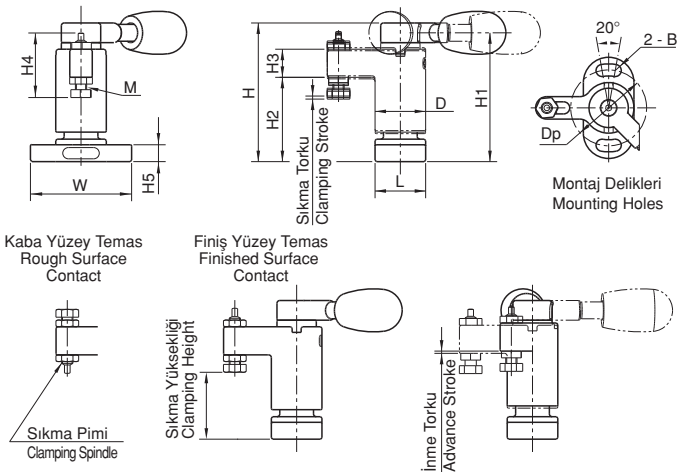
- Siyah Kaplama

**Product Nr. 1481 Swing Clamps**
**Body**

- Hardened
- Black coated

**Clamping Spindle**

- Black coated



Kaba Yüzey Temas  
Rough Surface Contact

Finiş Yüzey Temas  
Finished Surface Contact

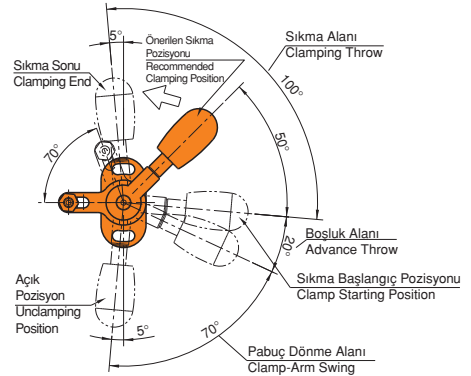
Sıkma Pimi  
Clamping Spindle

Sıkma Yüksekliği  
Clamping Height

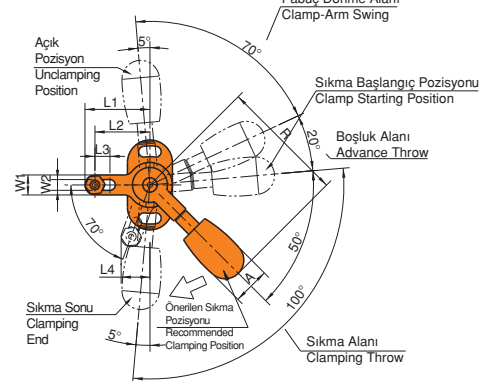
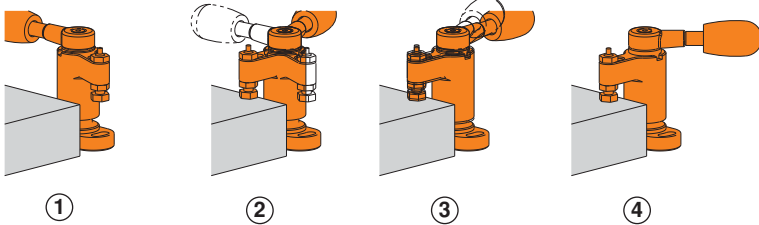
İnme Torqu  
Advance Stroke

Montaj Delikleri  
Mounting Holes

Saat Yönünün Tersi  
Counterclockwise Clamping




Saat Yönü / Clockwise Clamping


**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

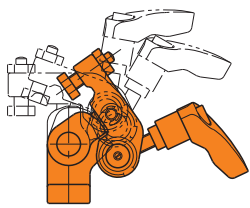
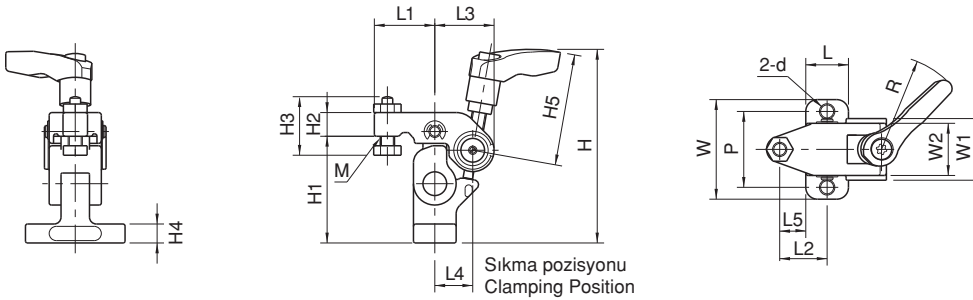
**Product Nr. 1483 One-Touch Above Clamping**

**Body**

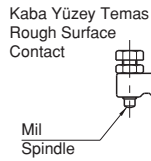
- Hardened
- Black coated

**Clamping Spindle**

- Black coated

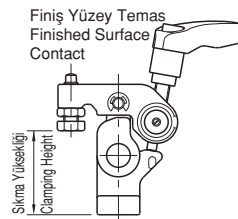


Açık Pozisyon  
Unclamped



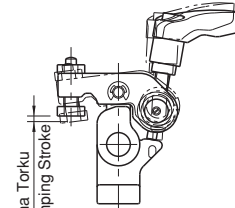
Kaba Yüzey Temas  
Rough Surface Contact

Mil  
Spindle



Finiş Yüzey Temas  
Finished Surface Contact

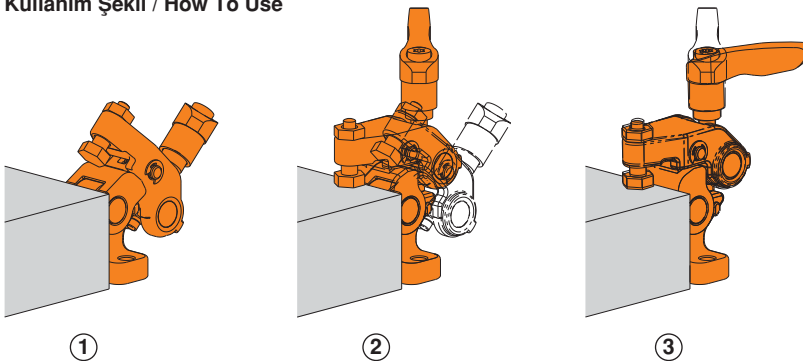
Sıkma Yüksekliği  
Clamping Height



Sıkma Torku  
Clamping Stroke

Ayarlanabilir Mesafe  
Clamping Throw

**Kullanım Şekli / How To Use**



①

②

③

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**

**Product Nr. 1484 Outer Diameter Clamp**

**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

**Technical Data**

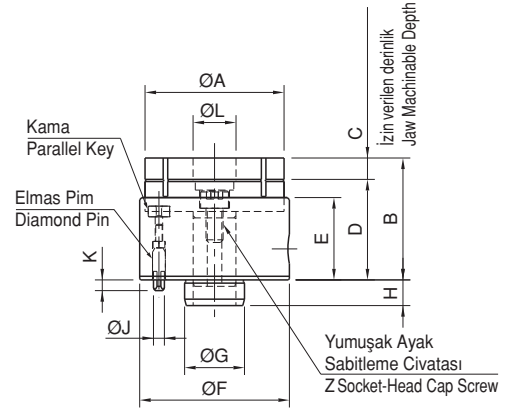
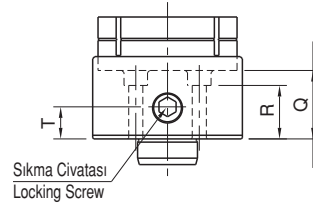
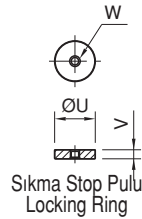
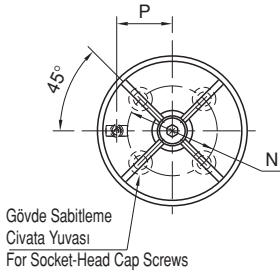
- Part locating repeatability: ±0.03
- Jaw locating repeatability: ±0.02

**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

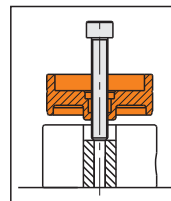
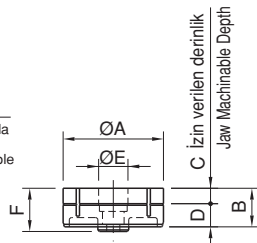
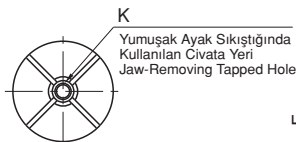
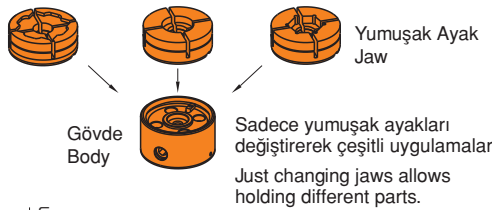
**Ürün Nr. 1485 Yumuşak Ayak**

- 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**

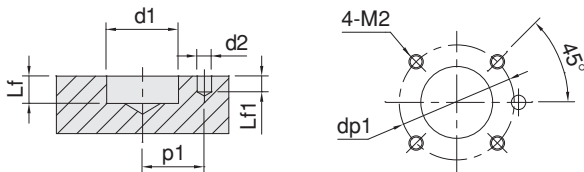
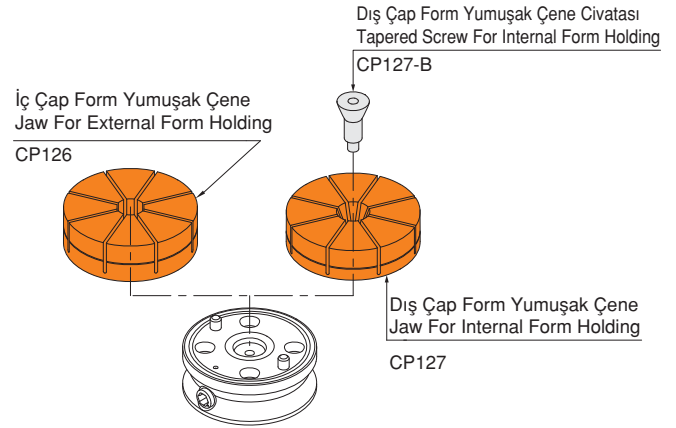
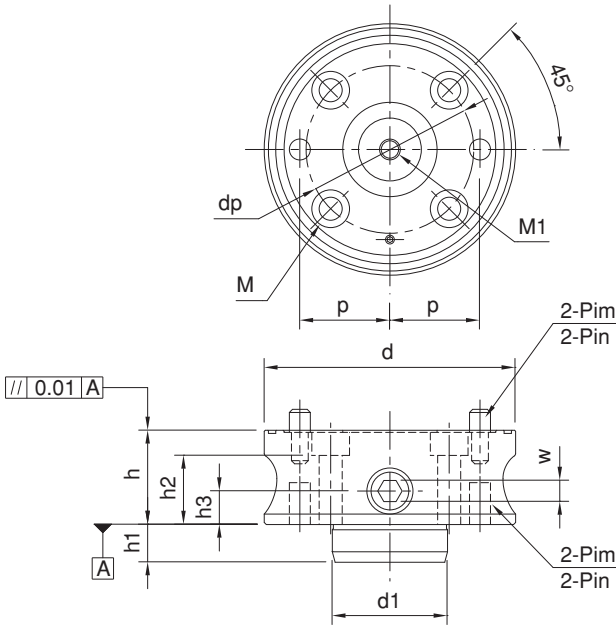
- Nikel Kaplama
- Parça Tekrarlanabilirlik ±0.03
- Yumuşak Ayak Tekrarlanabilirlik ±0.03

**Product Nr. 1486 Inner and Outer Diameter Clamp**

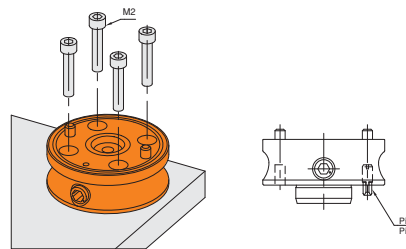
- Nickel Coating
- Part locating repeatability: ±0.03
- Jaw locating repeatability: ±0.02

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

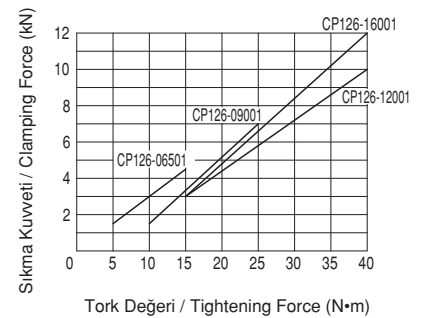
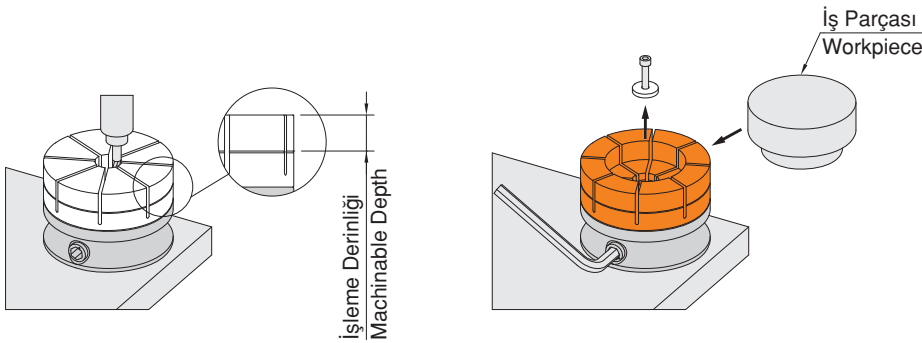
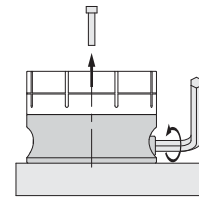
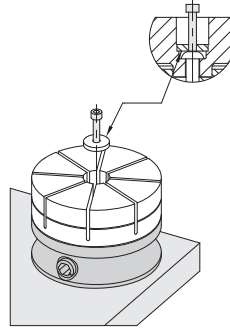
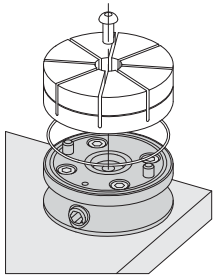
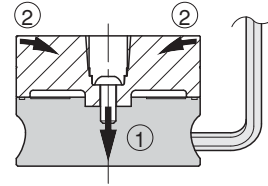
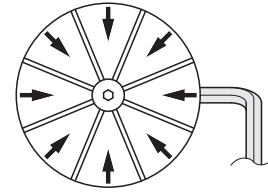
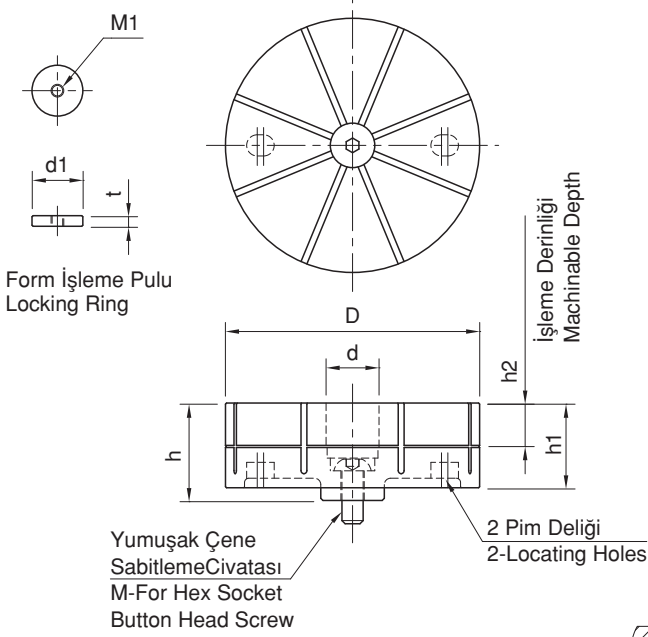
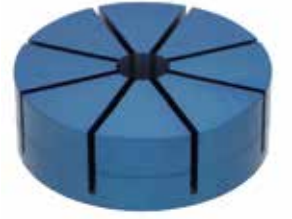
Referans Nr.	D	d	h1	h2	M	h	M	d1	t	(g)
1486-CP126.06501	65	21	25	10	M8x20	29	M5	20	4	200
1486-CP126.09001	90	25	35	15	M10x20	40	M6	24	5	500
1486-CP126.12001	120	25	40	20	M10x25	46	M6	24	5	1100
1486-CP126.16001	160	29	45	25	M12x25	52	M8	28	6	2200

**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

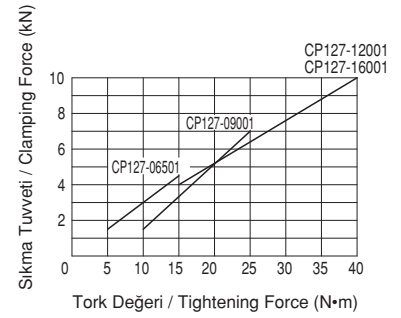
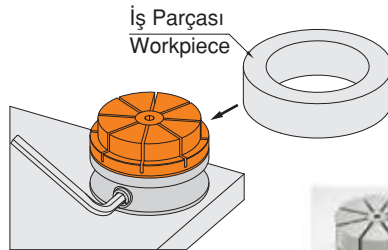
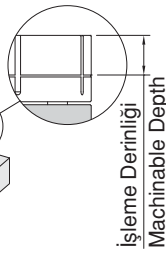
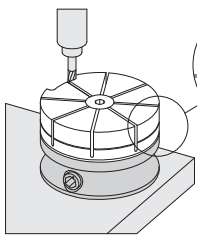
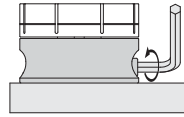
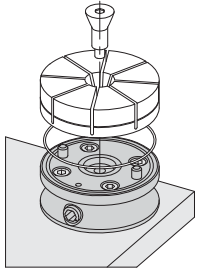
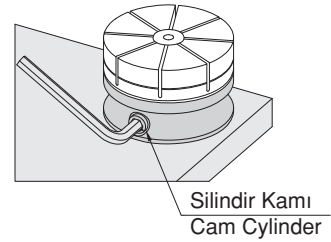
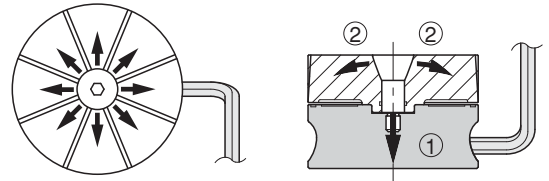
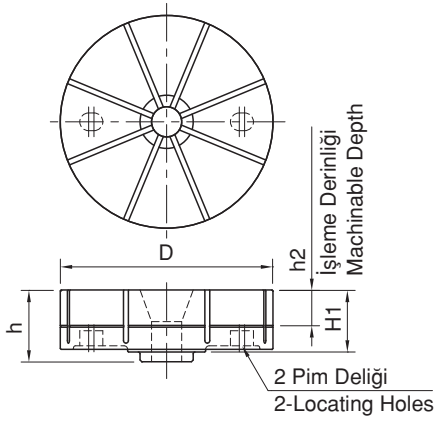


**Ürün Nr. 1486 İç Çap Form Yumuşak Çene**

- 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



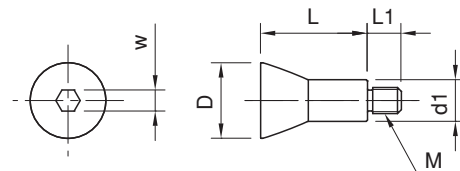
Referans Nr.	D	L	M	L1	d1	w	(g)
1486-CP127.06501B	22.5	29	M8	10	13.2	6	50
1486-CP127.09001B	27	35	M10	11	16	8	80
1486-CP127.12001B	29	41	M10	13	16	8	100
1486-CP127.16001B	33	47	M12	14	18	10	150

**Ürün Nr. 1486 İç Çap Form Yumuşak Çene Civatası**


- Gümüş kaplama

**Product Nr. 1486 Inner Diameter Soft Jaw Bolt**

- Silver coating





Referans Nr.	D		H	H1	R	H2		L1	Uygun Civatalar Proper Cap Screws	Sıkma Kuvveti Clamping Force Kgf	 (g)
	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**

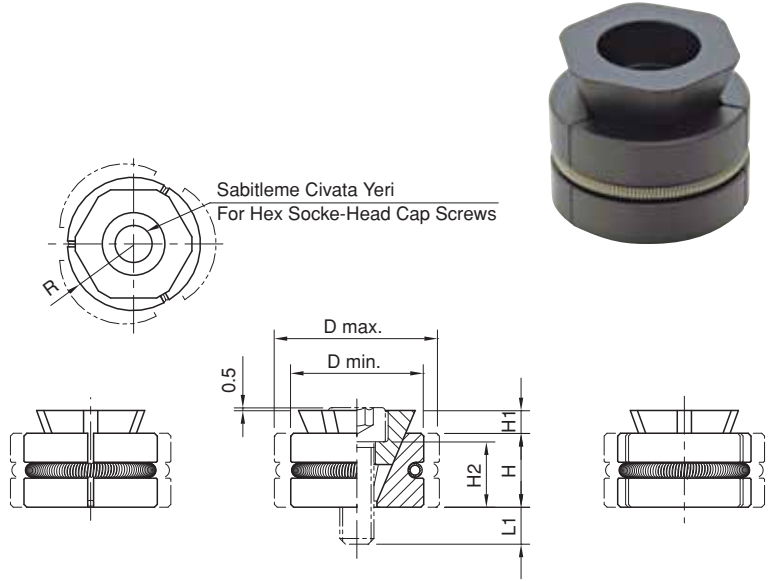
- Hardened
- Black coated

**Özellik**

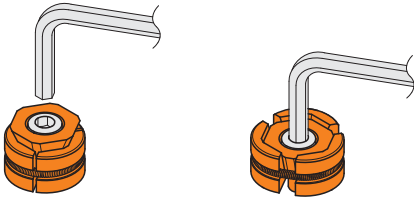
- Bu pabuçlar iş parçasını iç çaptan sıkma işlemi yapar.
- Kamanın konik yapısından dolayı güçlü bir bağlama yapar.
- Uzun strok özelliği ile dökülmüş deliklerde ve kaba deliklerde kullanım olanağı sağlar.

**Feature**

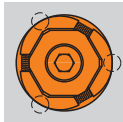
- These clamps hold the inside diameter of the workpiece.
- The wedge construction allows powerfully clamping the workpiece.
- Long clamping stroke is ideal for holding as-cast or roughly-finished holes.



**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.

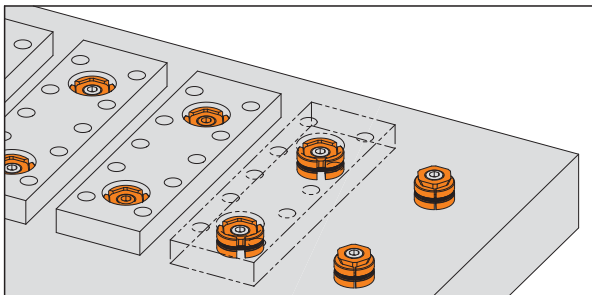
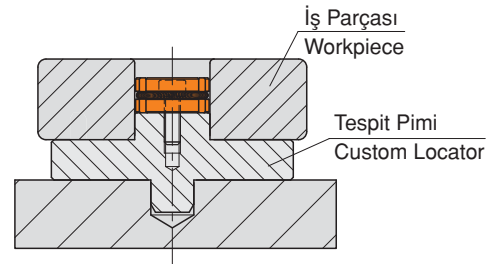
The clamp makes a line contact with the workpiece at the clamping mode. This contact can mar the surface of the workpiece depending on its materials, and using these clamps for accurately finished holes is not recommended.

**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**

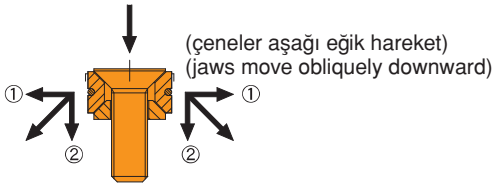
- Hardened
- Black Coated

**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

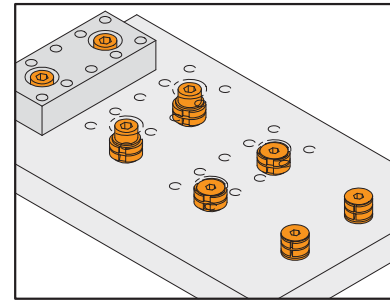
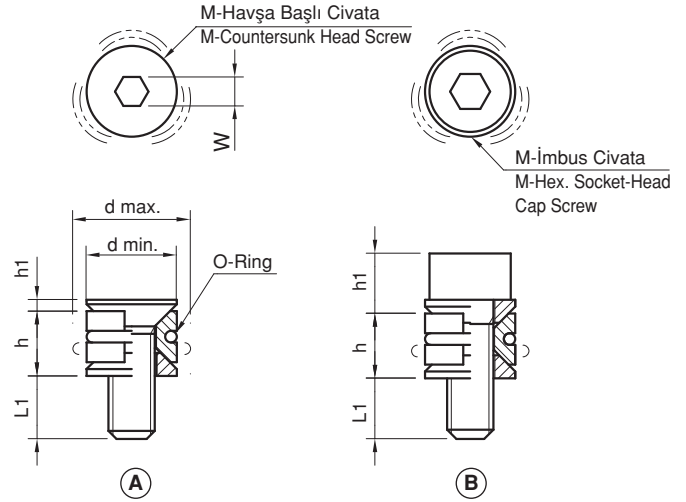
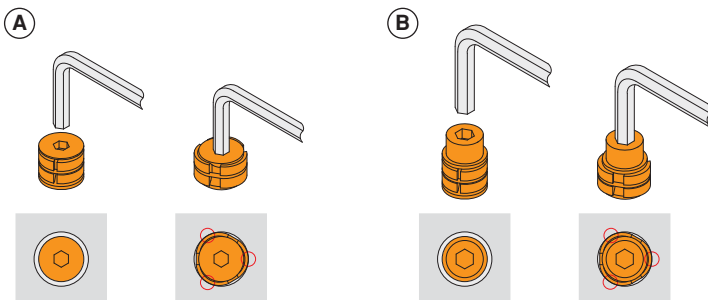
**Kullanım Şekli / How To Use**

**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.

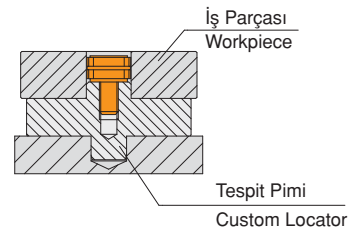
Example of applications where two compact ID holding clamps are used.

**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 ( <sup>0</sup> / <sub>-0.05</sub> )	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 coated

**Tapered Screw**

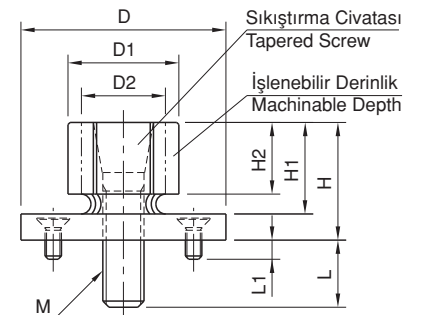
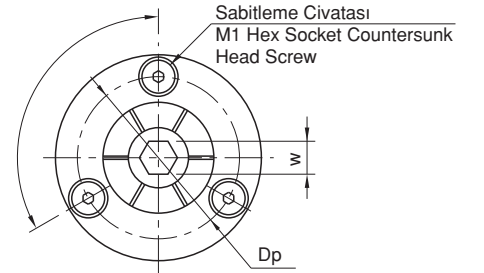
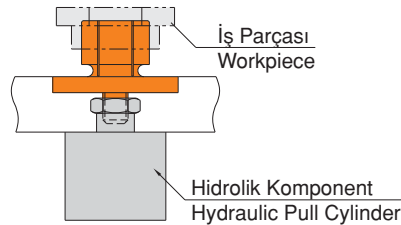
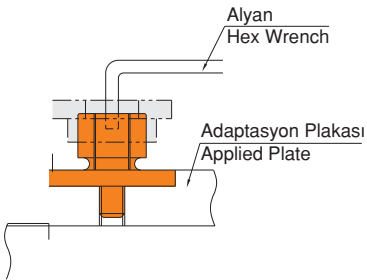
- Hardened

**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.	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

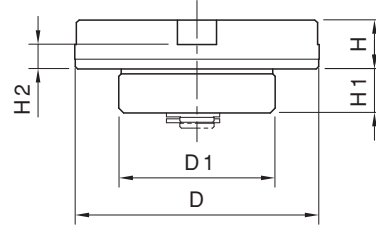
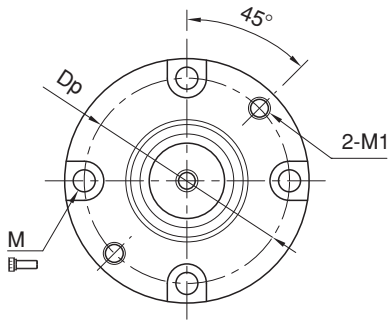


#### Ürün Nr. 1489 Konumlama Burcu (Kapalı)

- 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.

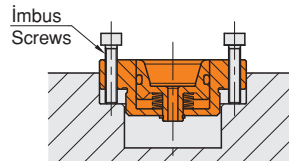
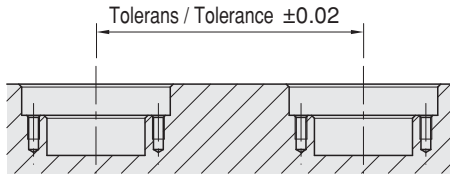
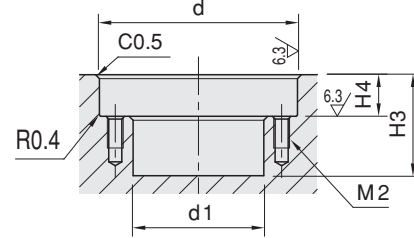
#### Product Nr. 1489 Flex Locator Bushings (Blind)

- 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

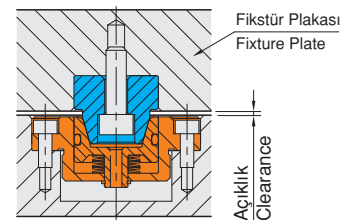
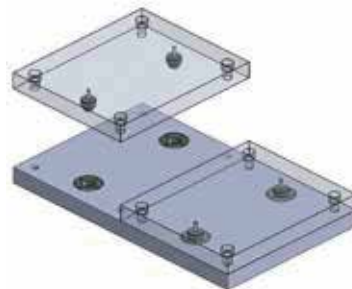
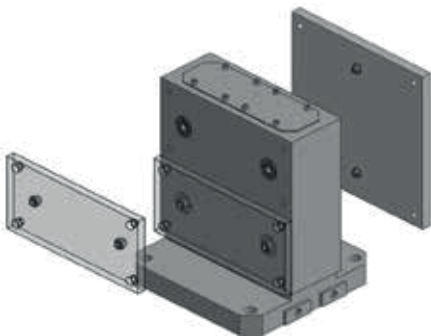


#### Montaj Detayı / Mounting Details

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

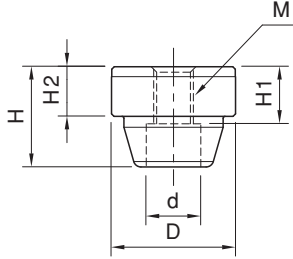


Referans Nr.	D (g6)	H2	H	M	H1	d	(g)
1489-16032	16	5.5	11.5	M5x0.80	6	8	18
1489-25050	25	10	20	M8x1.25	11.5	11	49
1489-38070	38	15	29.5	M10x1.50	18	14	176
1489-56095	56	22	43.5	M16x2.00	28.5	20	569



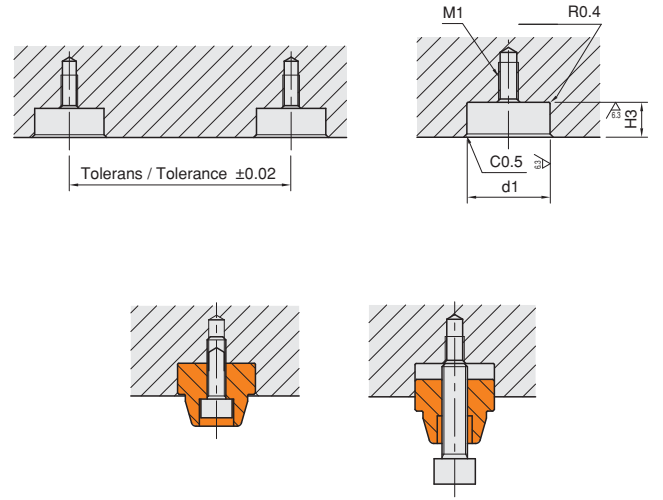
Ürün Nr. 1489 Konumlama Pimi

Product Nr. 1489 Flex Locator Pins



**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



**Konumlama Pimi Kapağı**

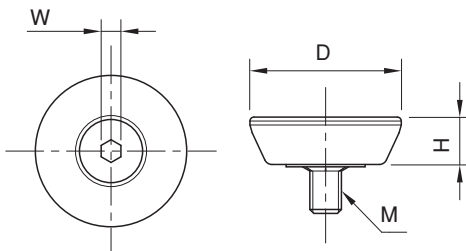
Flex Locator Protecting Covers

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

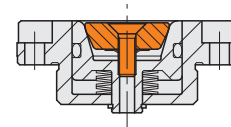


Ürün Nr. 1489 Konumlama Pimi Kapağı

Product Nr. 1489 Flex Locator Protecting Covers



**Montaj Detayı / Mounting Details**







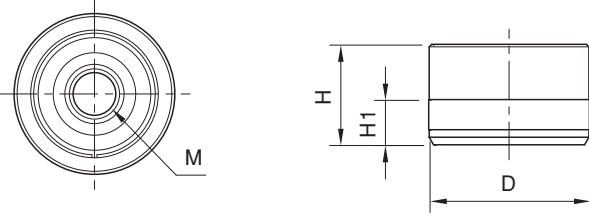
Referans Nr.	D	H	H1	M	Kaldırma Kuvveti Lifting Force (N)	(g)
1489-20045A	25 <sup>+0.028</sup> <sub>+0.018</sub>	16	8	M8x1.25	540	46
1489-12025A	32 <sup>+0.031</sup> <sub>+0.021</sub>	20	9	M10x1.50	600	92
1489-15032A	45 <sup>+0.031</sup> <sub>+0.021</sub>	26	11	M14x1.50	780	230

### 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.

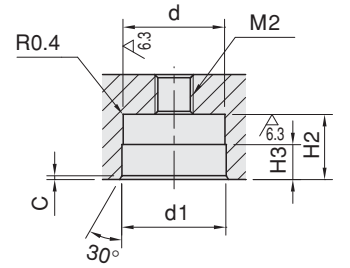
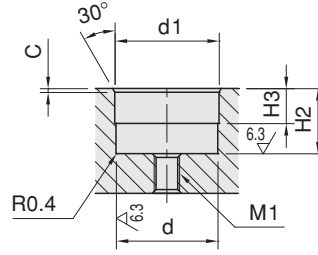
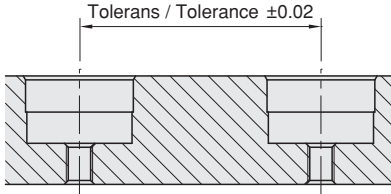
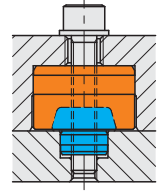
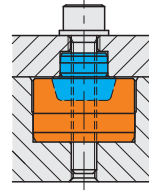
### Product Nr. 1489 Flex Locator Bushings (Through)

- 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

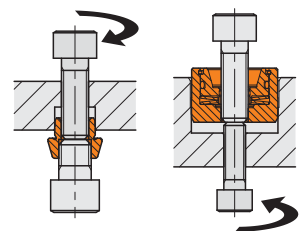
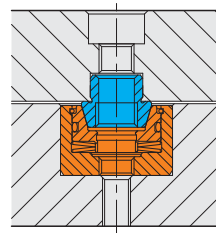
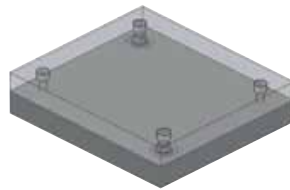
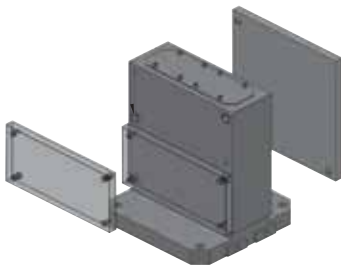



### Montaj Detayı / Mounting Details

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



### Uygulama Örneği / Application Example

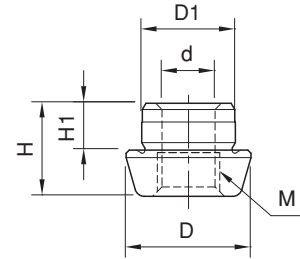


Referans Nr.	D1 (p6)	H1	D	H	M	d	
1489-20045	12	4.5	15	10	M10x1.50	8.5	6
1489-12025	15	7.5	20	15	M12x1.75	10.2	16
1489-15032	20	10	30	20	M16x2.00	14	47



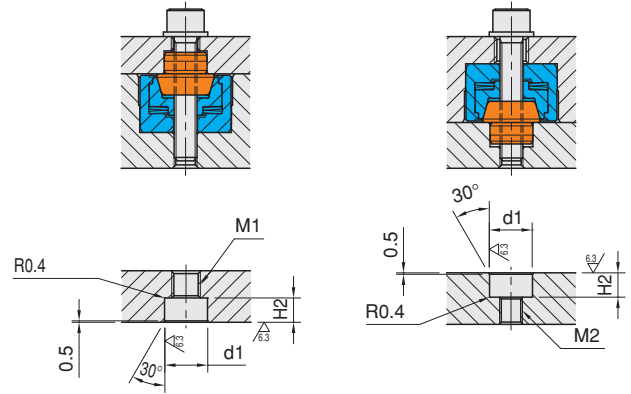
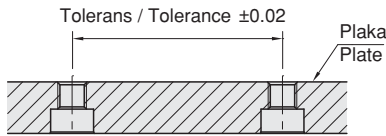
Ürün Nr. 1489 Konumlama Pimi


Product Nr. 1489 Flex Locator Pins



**Montaj Detayı / Mounting Details**

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



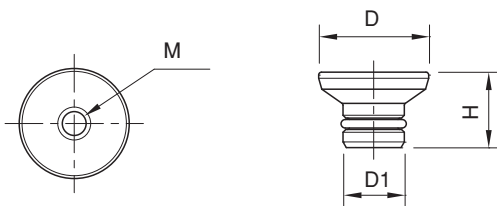
Referans Nr.	D	H	D1	M	
1489-20045P	15	10	9	M4x0.7	2
1489-12025P	19	13	11	M5x0.8	5
1489-15032P	29	18	16	M6x1.0	17

Ürün Nr. 1489 Konumlama Pimi Kapağı

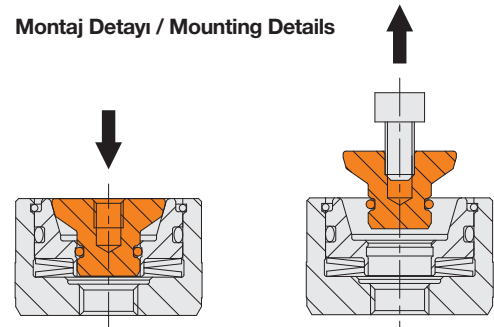
Product Nr. 1489 Flex Locator Protecting Covers

**Konumlama Pimi Kapağı**

Flex Locator Protecting Covers



**Montaj Detayı / Mounting Details**



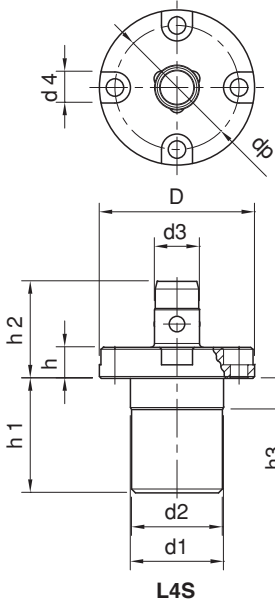
Referans Nr.	d1 g6	h3	d2	h1	D	h	d3 (h8)	h2	d	Lf	d4	dp	M	Hava Basıncı Air Pressure (MPa)	Sıkma Kuvveti Clamping Force (N)	(g)
1489-18L4S	24	8	23.4	29.5	40	8	12	11	4.5	3.5	8	32	-	0.5	250	154
1489-26L4S	32	8.5	31.4	31.7	51	9.5	16	16	5.5	4	9.5	41	-	0.5	350	289
1489-18L4SG	24	8	23.4	29.5	40	8	12	11	4.5	3.5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

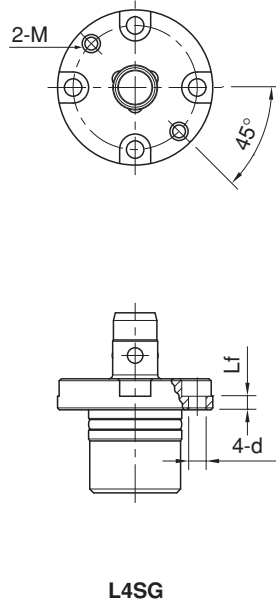
- Nikel Kaplama
- Tekrarlama Hassasiyeti  $\pm 10\mu\text{m}$

### Product Nr. 1489 Pneumatic Clamp

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



L4S



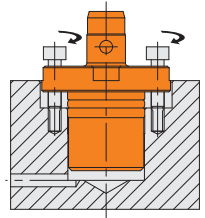
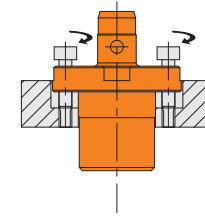
L4SG



L4S



L4SG



# Pnömatik Bağlama Burç

## Pneumatic Clamping Bush

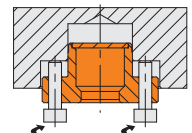
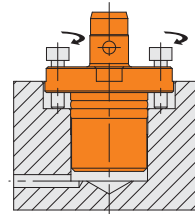
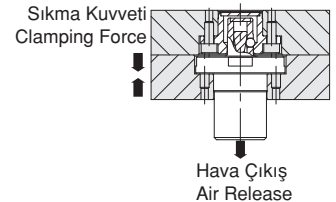
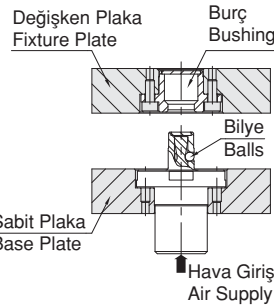
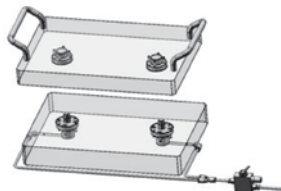
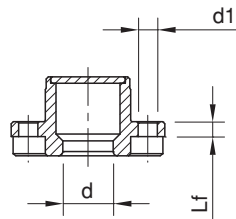
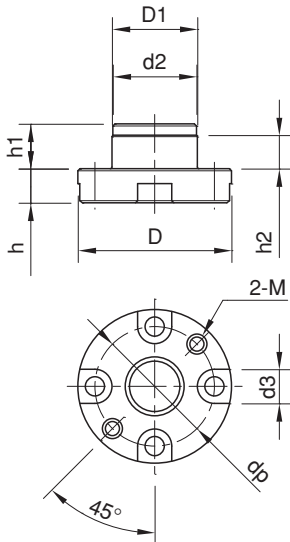
Referans Nr.	D1 g6	h2	d2	h1	D	h	d e7	d1	Lf	d3	M	dp	(g)
1489-18BU	20	7.5	19.6	10.5	36	8	12.1	4.5	3.5	8	M4x0.7	28	57
1489-26BU	25	7	24.6	11	44	9.5	16.1	5.5	4	9.5	M5x0.8	34	97

### 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  $\pm 10\mu\text{m}$

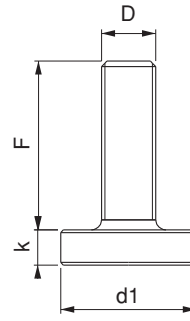


# DESTEKLER

SUPPORTS



Referans Nr.	D x F	d1	k	
1490-08032	M8x32	25	8	40
1490-10042	M10x42	30	8	60
1490-12050	M12x50	36	10	110
1490-12095	M12x95	36	10	150
1490-16062	M16x62	45	13	240
1490-16097	M16x97	45	13	285
1490-16117	M16x117	45	13	310
1490-20062	M20x62	50	13	320
1490-20097	M20x97	50	13	390
1490-20117	M20x117	50	13	430
1490-24081	M24x81	50	14	445
1490-24116	M24x116	50	14	555
1490-30180	M30x180	70	24	1650

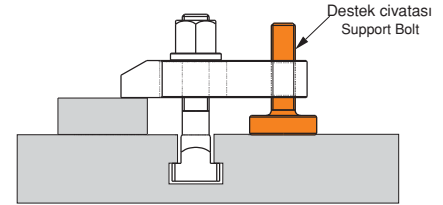







**Ürün Nr. 1490 Pabuç Destek Civatası**

- Siyah Kaplama

**Product Nr. 1490 Clamp Support Bolt**

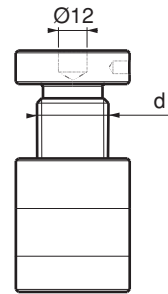
- Black Coating



Referans Nr.		d			 kgf	
1510-023030	23-30	M16	34	32	1000	140
1510-040060	40-60	M16	34	32	1800	250
1510-042052	42-52	Tr 30x4	50	50	6000	570
1510-050070	50-70	Tr 30x4	50	50	6000	680
1510-070100	70-100	Tr 30x4	50	50	6000	960
1510-100140	100-140	Tr 30x4	50	50	6000	1395
1510-140220	140-220	Tr 30x4	54	54	6000	2285
1510-210330	210-330	Tr 30x6	58	58	8000	3950
1510-260430	260-430	Tr 30x6	68	68	8000	7250

**Trapez Diş Yükseltici Destek**

Trapeze Thread Lifter Support



**Ürün Nr. 1510 Trapez Diş Yükseltici Destek**

- 1510 Nr. yükselticiler DIN 6314-6315-6316 pabuçlarda yükseltici destek amaçlı kullanılır.
- Hareketli parça üstünde bulunan Ø12mm delik Referens Nr. 1555-1560-1565-1570-1575 yükselticiler üst üste ve farklı amaçlı kullanılır
- Siyah Kaplama
- Destek Civatası : Sertleştirilmiş

**Product Nr. 1510 Trapeze Thread Lifter Support**

- No.1510 Lifters are used in DIN 6314-6315-6316 clamps as the lifter support
- Hole with Ø12mm taking place on the moving part are used with the lifters with the Reference Nr.1 555-1560-1565-1570-1575 on top of each other and also used with different purpose.
- Black Coating
- Support Bolt : Hardened



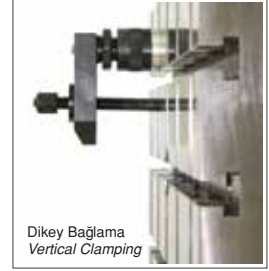
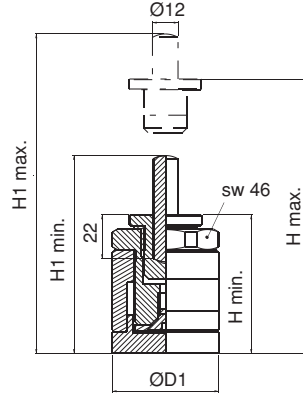
Referans Nr.	H min.	H max.	D1	Ø12x50 H1 min.- H1 max.	Ø12x80 H1 min.- H1 max.	⬇️ Kgf	⚖️ (g)
1515-065085	65	85	50	93-113	123-143	3000	810
1515-085125	85	125	50	113-153	143-183	3000	1050

### Ürün Nr. 1515 Manyetik Vidalı Yükseltici

- Ürün manyetik olduğundan dolayı kendi ağırlığını taşıdığı için yatay bağlamalarda özellikle enjeksiyon makinelerinde kullanım avantajı sağlar.
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 1515 Magnetic Screw Booster

- Because of magnetic it holds its own weight. Therefore it provides using advantage in horizontal clamping especially on injection machines.
- Hardened
- Black coating



## Modüler Manyetik Yükseltici

Modular Magnetic Booster

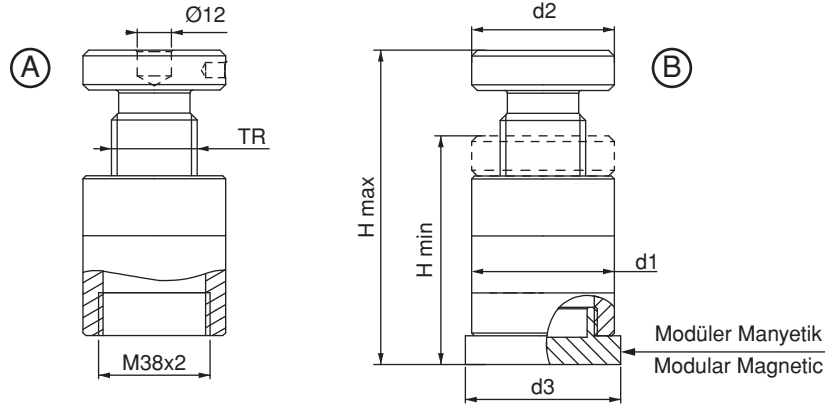
Referans Nr.	H min-max. A	H min-max. B	TR	d1	d2	d3	⬇️ kgf	⚖️ (g)
1517-04262	42-52	52-62	30x4	50	50	53.5	6000	700
1517-05080	50-70	60-80	30x4	50	50	53.5	6000	770
1517-70110	70-100	80-110	30x4	50	50	53.5	6000	1050

### Ürün Nr. 1517 Modüler Manyetik Yükseltici

- Siyah Kaplama

### Product Nr. 1517 Modüler Magnetic Booster

- Black coating



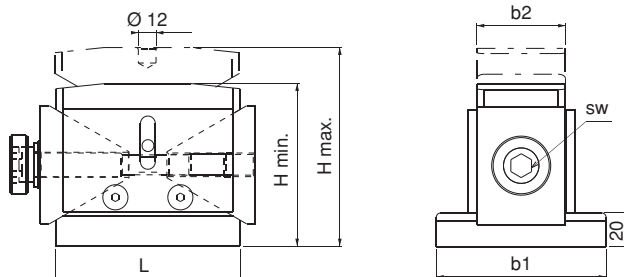
Referans Nr.	H min.	H max.	b1	b2	L	sw	⬆️ kgf	⚖️ (g)
1520-050063	50	63	-	40	63	8	4000	1890
1520-100125	100	125	115	60	125	14	10000	9910
1520-170190	170	190	145	80	175	22	25000	28480

### Ürün Nr. 1520 Blok Destek

- Ürün Özellikle ağır parçaların desteklenmesi ve kaldırılması için tasarlanmıştır.
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 1520 Support Block




- Designed for supporting and lifting of heavy work pieces
- Hardened
- Black coating



## Blok Destek Support Block





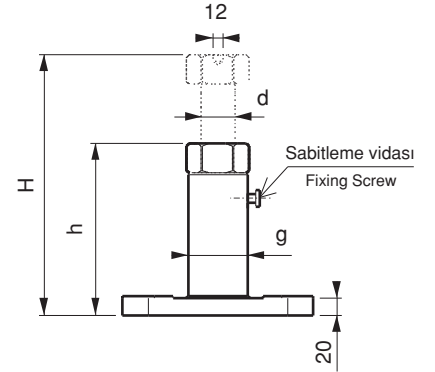
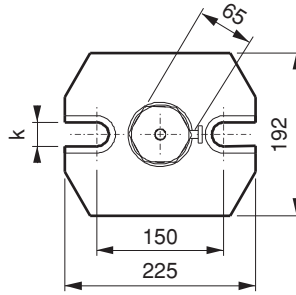
Referans Nr.		d	g	k	 kgf	 (kg)
1530-200	200-300	Tr40x7	69	28	8000	10.0
1530-280	280-460	Tr40x7	69	28	6000	11.8
1530-430	430-750	Tr40x7	69	28	5000	14.2
1530-710	710-1250	Tr40x7	69	28	4000	20.9




### Ürün Nr. 1530 Büyük Boy Yükseltici Destek

- Yüksek parçalarda kullanım amaçlı trapez diş yükseltici destek
- Gövde statik boyalı. Altı köşede bulunan Ø12mm delik
- Referans Nr. 1555-1560-1565-1570-1575 ürünlerle kullanıldığında farklı kullanım avantajı sağlar.

### Product Nr. 1530 King Size Lifter Support

- This is a trapeze thread lifting support having the purpose of using with High Pieces.
- Body and statical painting. It provides different usage advantages when Ø12mm hole is used with 1555-1560-1565-1570-1575 reference numbered products taking place.



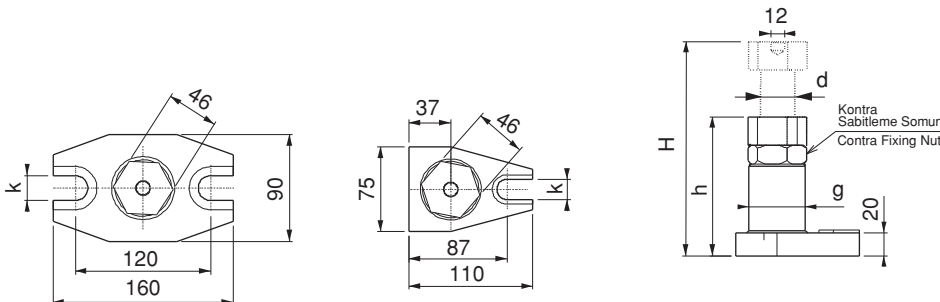
Referans Nr.		d	g	k	 kgf	 (kg)
1550-100	100-140	Tr30x6	49	18	6000	2.05
1550-140	140-200	Tr30x6	49	18	6000	2.45
1550-200	200-320	Tr30x6	49	22	4000	3.90
1550-320	320-550	Tr30x6	49	22	2500	5.15


### Ürün Nr. 1550 Büyük Boy Yükseltici Destek

- Yüksek parçalarda kullanım amaçlı trapez diş yükseltici destek
- Gövde statik boyalı. Altı köşede bulunan Ø12mm delik
- Referans Nr. 1555-1560-1565-1570-1575 ürünlerle kullanıldığında farklı kullanım avantajı sağlar.

### Product Nr. 1550 King Size Lifter Support

- This is a trapeze thread lifting support having the purpose of using with High Pieces.
- Body and statical painting. It provides different usage advantages when Ø12mm hole is used with 1555-1560-1565-1570-1575 reference numbered products taking place.



Referans Nr.	h	Ø d	
1555	10	37	75

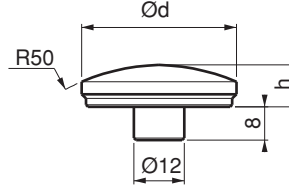
Bu ürünler Nr. 1510-1517-1530-1550 ürünler ile kullanılır  
These products are used with the product Nos 1510-1517-1530-1550 taking place.

## Ürün Nr. 1555 Trapez Diş Yükseltici Radüslü Destek



- Açılı yüzeylerde kullanım kolaylığı sağlar
- Siyah Kaplama

## Product Nr. 1555 Trapeze Thread Lifter Rad-top Support

- This part provides usage convenience on angled surfaces
- Black Coating



## Radüslü Destek Rad-top Support

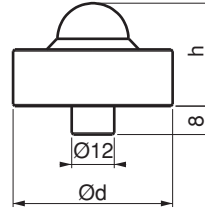
Referans Nr.	h	Ø d		Kgf	
1560	25	45	3000	220	

## Ürün Nr. 1560 Trapez Diş Yükseltici Bilyalı Destek


- Bozuk yüzeylerde kullanım kolaylığı sağlar
- Siyah Kaplama

## Product Nr. 1560 Trapeze Thread Lifter Ball Support

- This part provides usage convenience on irregular surfaces
- Black Coating



## Bilyalı Destek Ball Support

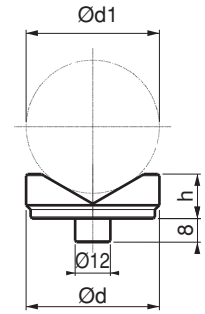
Referans Nr.	h	Ø d	Ø d1		
			min	max	
1565	15	45	10	50	130

## Ürün Nr. 1565 Trapez Diş Yükseltici V-Yatak


- Silindirik parçalarda V yatak desteği
- Siyah Kaplama

## Product Nr. 1565 Trapeze Thread Lifter V-Clamping Block

- V clamping block support for cylindrical pieces
- Black Coating



## V-Yatak V-Clamping Block

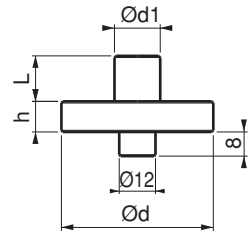
Referans Nr.	h	Ø d	Ø d1	L	
1570	12	50	15	20	220

## Ürün Nr. 1570 Trapez Diş Yükseltici Pimli Destek


- Şekilli parçalarda araya giderek destek sağlar
- Siyah Kaplama

## Product Nr. 1570 Trapeze Thread Lifter Pin Support

- This part provides support for formed pieces by entering in between
- Black Coating



## Pimli Destek Pin Support

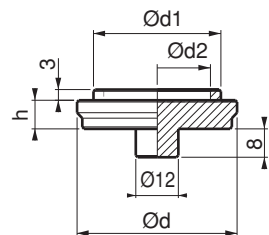
Referans Nr.	h	Ø d	Ø d1	Ø d2	
1575	8	45	35.8	30	105

## Ürün Nr. 1575 TDY Ara Merkezleme Vasatı


- Trapez diş yükselticiler üst üste kullanıldığında ara merkezleme vasatı olarak kullanılır
- Siyah Kaplama

## Product Nr. 1575 TDY Intermediary Centering Mean

- This part is used as Intermediary Centering Mean when used with Trapeze Thread Lifters
- Black Coating



## Ara Merkezleme Vasatı Intermediary Centering Mean

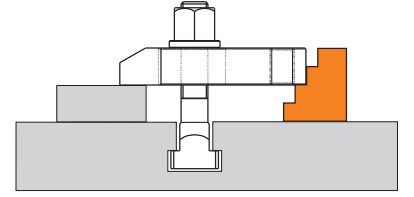
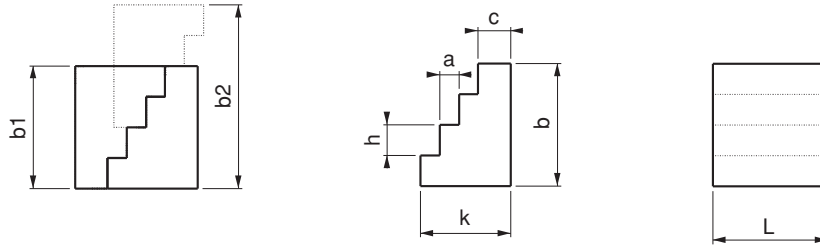
Referans Nr.	h	a	c	k	b	L	b1	b2	
1580-050	13	8	13	37	52	50	52	78	460
1580-060	16	10	17	47	64	60	64	96	860
1580-070	19	13	18	57	76	70	76	114	1420

**Ürün Nr. 1580 Basamaklı Destek**



- Siyah Kaplama

**Product Nr. 1580 Stepped Support**

- Black Coating


**Merdiven Diş Kombine Destek**

## Serrated Thread Combined Support

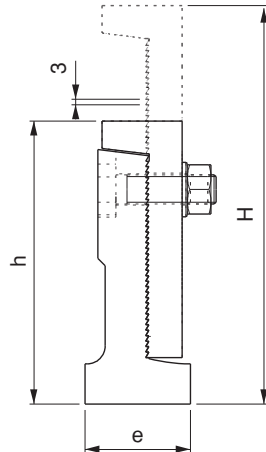
Referans Nr.	h-H	e	 kgf	
1585-050	110-150	48x48	4000	1120
1585-060	155-220	60x58	5000	2710
1585-080	220-340	80x78	6000	6560

**Ürün Nr. 1585 Merdiven Diş Kombine Destek**

- Yükseltme aralığı (hatve) 3mm'dir
- Siyah Kaplama

**Product Nr. 1585 Serrated Thread Combined Support**

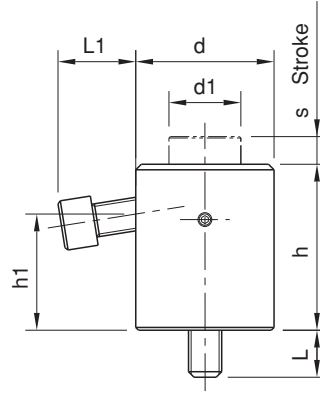
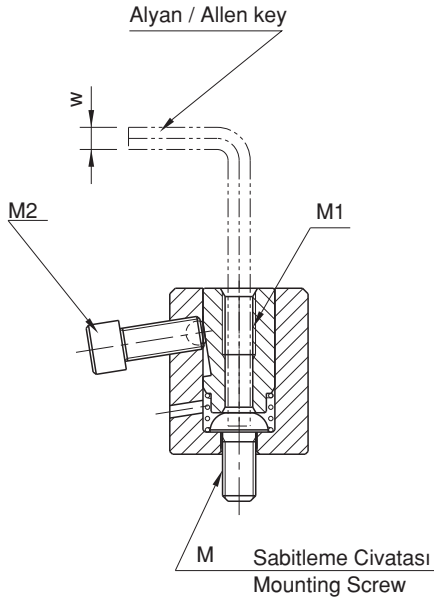
- Lifting gap (screw pitch) is 3 millimeters
- Black Coating



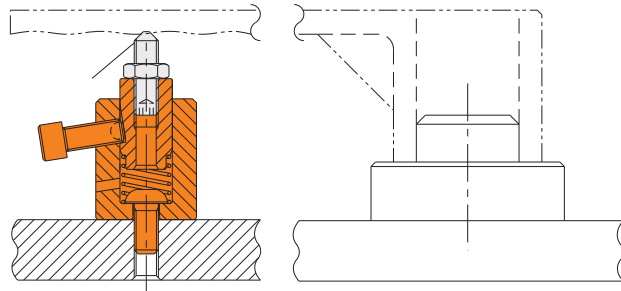
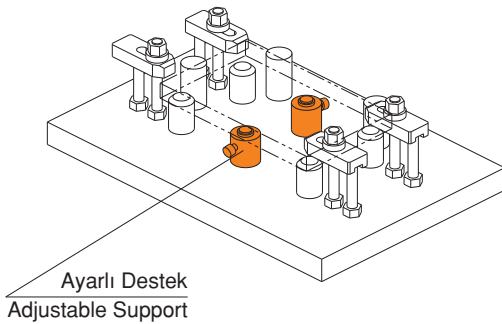
Referans Nr.	h	s	M1	d1	d	M	L	w	h1	L1	M2	İzin Verilen Vida Torku Allowable Screw Torque(Nm)	Destek Kapasitesi Support Capacity (kgf)	Piston Yay Kuvveti Piston Spring Force (N)	(g)
1588-060	33	6	M6x12	14	28	M6	10	4	22	14.1	M6x16	7.5	400	10~22	150
1588-080	42	10	M8x16	19	35	M8	15	5	28.5	18.8	M8x20	14	600	10~27	300
1588-100	50	10	M10x20	22	42	M10	14	6	34	23.8	M10x25	18	750	14~28	540
1588-120	60	10	M12x24	26	50	M12	17	8	42	28.5	M12x30	22	900	15~30	865
1588-160	70	10	M16x32	33	60	M16	22	10	47	26.5	M12x30	25	900	15~35	1.390

Ürün Nr. 1588 Ayarlı Destek  
• Siyah kaplama

Product Nr. 1588 Adjustable Support  
• Black coating




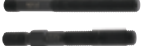

### Uygulama Örneği / Application Example

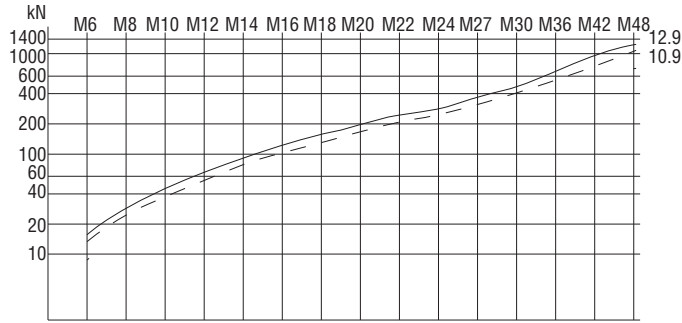


# CİVATALAR

BOLTS



		Kalite Dayanım Sınıfları Quality Strength Classes		
		10	10.9	12.9
DIN 787		-	-	X
DIN 6379		-	X	-
DIN 6330B DIN 6331 Nr. 1830		X	-	-
Sembol gerilme mukavemeti [N/mm <sup>2</sup> ] Nominal tensile strength [N/mm <sup>2</sup> ]		1000	1000	1200
Minimum akma noktası [N/mm <sup>2</sup> ] Minimum yield point [N/mm <sup>2</sup> ]		-	900	1080



Standart Anahtar İle Öngerilme Kuvveti  
Pre-stress Force With Standard Spanner

### Çizelge Özelliklerinin Açıklanması:

- **İzin Verilen Civata Yükü** : Maksimum gerilim yükü ve vida hesabı alınarak vurgu yapıldı. Aktif kuvvetler, akma noktası, sadece güvenlik için %80 kullanılır.
- **İzin Verilen Ön Gerilme Kuvveti** : Yük, vida ve somun uygulamasında, tablodaki rakamların sürtünmeye karşılık, itme yüzeyleri ve parçanın  $\mu = 0,14$  sürtünme kat sayısı geçerlidir.
- **İzin Verilen Ön Gerilme Kuvveti Yağlı Hesaplama** : Yük, vida ve somun uygulamasında, parçanın  $\mu = 0,1$  sürtünme kat sayısı hesaplanmalıdır.

### Explanation Of Table Characteristics:

- **Permissible Bolt Load** : is the maximum tension load, the screw can be stressed with taking into account all active forces. The yield point is only utilized to 80% for safety.
- **Permissible Pre-stress Force** : is the load, the screw can be pre-stressed at most, when tightening the matching nut. Figures of table are valid for a friction of  $\mu = 0,14$  in thrust faces and thread, corresponding to the friction of greased medium faces.
- **Allowed pretension with oil calculation** : At an application with screws and nuts, the load must be calculated with a  $\mu = 0,1$  frictional factor of the workpiece.

### Civata ve Somun İçin Mukavemet 10.9 ve 12.9 Kalite ve Momentleri / Strength Figures And Torques For Bolts And Nuts:

Diş / Threads	Kalite Quality	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M48	
Hatve / Pitch of thread	mm	1	1.25	1.50	1.75	2	2	2.50	2.50	2.50	3	3	3.50	4	4.50	5	
<b>Somun / Nuts</b>																	
Sertlik / Hardness DIN 6330 / 6331 / 6334	HRC	10															
Test Kuvveti (AS x Sp) Test force DIN EN 20898-2	kN	10	20.9	38.1	60	88	121	165	203	260	321	374	486	595	866	-	-
<b>"T" Pabuç DIN 508 / Nr. 1710 Nuts for T-Slots DIN 508 / Nr. 1710</b>																	
Ölçü / Size		M6x8	M8x10	M10x12	M12x14	-	M16x18	-	M20x22	-	M24x28	-	M30x36	M36x42	M42x48	M48x54	
Sertlik / Hardness	HRC	22 - 30															
Test Kuvveti / Test Force	kN	16	29	46	67	-	128	-	196	-	282	-	448	653	653	653	
<b>Civata / Bolts</b>																	
Sertlik / Hardness	HRC	10.9	32 - 39														
		12.9	39 - 44														

### Sıkma Verileri / Tightening Data

Minimum Kırılma Kuvveti Minimum Breaking Force (AS x Rm)	kN	10.9	21	38	60	88	(120)	(163)	(200)	(255)	(315)	(367)	(477)	(583)	(850)	(1165)	(1531)	
		12.9	(24)	(45)	71	103	(140)	192	(234)	299	(370)	431	(560)	(684)	(997)	(1367)	(1797)	
İzin verilen civata yükü max. Verim noktası $\mu = 0,80$	Permissible bolt load max. 80% of yield point	kN	10.9	14	27	43	63	86	118	144	184	228	265	345	421	614	843	1107
			12.9	17	32	51	74	101	138	169	215	266	310	404	493	719	986	1296
(X Sp AS) Test kuvveti DIN EN ISO 898, bölüm 1	Test force (AS x Sp) to DIN EN ISO 898, part 1	kN	10.9	17	30	48	70	(96)	(130)	(159)	(203)	(252)	(293)	(381)	(466)	(678)	(930)	(1222)
			12.9	(20)	(35)	56	82	(112)	152	(186)	238	(294)	342	(445)	(544)	(792)	(1087)	(1428)
İzin verilen ön gerilme kuvveti max. Verim % 90 Nokta ve sürtünme $\mu = 0,14$	Permissible pre-stress force max. 90% of yield Point and friction $\mu = 0,14$	kN	10.9	13	25	38	55	77	107	130	167	208	240	315	384	561	773	1018
			12.9	15	29	44	65	91	125	152	196	243	281	369	449	657	904	1191
Çerilme öncesi müsaade edilen tork değeri Kuvvet ve sürtünme $\mu = 0,14$	Required torque for permissible pre-stress Force and friction $\mu = 0,14$	Nm	10.9	14	36	67	120	191	302	405	580	772	994	1455	1930	3378	5415	8162
			12.9	17	43	79	141	223	354	474	679	903	1163	1703	2258	3953	6337	9571
Müsaade edilen kol uzunluğu ön gerilme kuvveti	Required length for lever to achieve permissible pre-stress force	mm	10.9	42	90	175	300	450	700	920	1200	1560	-	-	-	-	-	-
			12.9	51	110	210	360	550	830	1100	1470	1860	-	-	-	-	-	-
Standart anahtar ile tork değeri elde etmek mümkündür	Possible torque to obtain with standard spanner, resulting	Nm	-	60	80	90	100	110	125	140	150	170	185	225	240	300	330	410
Öngerilme kuvveti	Prestress force	kN	-	54	53	48	43	43	43	43	42	42	43	45	43	45	46	50
Bu öngerilme kuvveti ile tehlikeli var	With this pre-stress force there is danger of		10.9	Kırılma breakage		permanent deformation		hareket kuvvetinin başlangıcında bağlama ünitesinin gevşemesi loosening of clamping unit at start of motive force										
			12.9	kalkıcı deformasyon														

As = Sembolik kesit mm<sup>2</sup>  
As = Nominal cross section in mm<sup>2</sup>

Sp = Min. N / mm<sup>2</sup> cinsinden sıkma kuvveti  
Sp = min. Clamping force in N/mm<sup>2</sup>

Rm = Min. N/mm<sup>2</sup> yük faktörü  
Rm = min. load factor in N/mm<sup>2</sup>

$\mu$  = sürtünme  
 $\mu$  = friction



Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN	Tightening Data
							Nm	kN				
1590-0606025		x25	15									8
1590-0606040	M6x6	x40	28	5.7	10	4	17	17				11
1590-0606063		x63	40									15
1590-0808032		x32	22									13
1590-0808050	M8x8	x50	35	7.7	12	6	43	32				16
1590-0808080		x80	50									20
1590-1010040		x40	23									35
1590-1010063	M10x10	x63	45	9.7	15	6	79	51				45
1590-1010080		x80	50									60
1590-1010100		x100	60									70
1590-1012050		x50	35									50
1590-1012063		x63	40									60
1590-1012080		x80	55									65
1590-1012100	M10x12	x100	60	11.7	18	7	79	51				75
1590-1012125		x125	75									90
1590-1012160		x160	90									105
1590-1012200		x200	120									120
1590-1212050		x50	35									65
1590-1212063		x63	40									70
1590-1212080		x80	55									80
1590-1212100	M12x12	x100	65	11.7	18	7	141	74				100
1590-1212125		x125	75									110
1590-1212160		x160	100									140
1590-1212200		x200	120									160
1590-1214050		x50	35									80
1590-1214063		x63	45									90
1590-1214080		x80	55									100
1590-1214100	M12x14	x100	65	13.7	22	8	141	74				110
1590-1214125		x125	75									135
1590-1214160		x160	100									160
1590-1214200		x200	120									180
1590-1416063		x63	45									115
1590-1416080		x80	55									140
1590-1416100		x100	65									160
1590-1416125	M14x16	x125	75	15.7	25	9	223	101				180
1590-1416160		x160	100									220
1590-1416200		x200	120									255
1590-1416250		x250	150									300
1590-1616063		x63	45									140
1590-1616080		x80	55									160
1590-1616100		x100	65									190
1590-1616125	M16x16	x125	85	15.7	25	9	354	138				225
1590-1616160		x160	100									270
1590-1616200		x200	120									315
1590-1616250		x250	150									380
1590-1618063		x63	45									170
1590-1618080		x80	55									185
1590-1618100		x100	65									220
1590-1618125	M16x18	x125	85	17.7	28	10	354	138				245
1590-1618160		x160	100									295
1590-1618200		x200	120									340
1590-1618250		x250	150									405
1590-1820080		x80	55									260
1590-1820100		x100	65									290
1590-1820125		x125	85									340
1590-1820160	M18x20	x160	110	19.7	32	12	474	169				390
1590-1820200		x200	125									455
1590-1820250		x250	150									535
1590-1820315		x315	190									650
1590-2020080		x80	55									300
1590-2020100		x100	65									330
1590-2020125		x125	85									380
1590-2020160	M20x20	x160	110	19.7	32	12	679	215				450
1590-2020200		x200	125									535
1590-2020250		x250	160									635
1590-2020315		x315	190									760
1590-2022080		x80	55									345
1590-2022100		x100	65									380
1590-2022125		x125	85									435
1590-2022160	M20x22	x160	110	21.7	35	14	679	215				500
1590-2022200		x200	125									590
1590-2022250		x250	150									695
1590-2022315		x315	190									820

Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN	Tightening Data
							Nm	kN				
1590-2224080		x80	55									465
1590-2224100		x100	65									515
1590-2224125		x125	85									580
1590-2224160	M22x24	x160	110	23.7	40	16	903	266				660
1590-2224200		x200	125									775
1590-2224250		x250	150									805
1590-2224315		x315	190									1050
1590-2424100		x100	70									550
1590-2424125		x125	85									630
1590-2424160		x160	110									725
1590-2424200	M24x24	x200	125	23.7	40	16	1163	310				850
1590-2424250		x250	150									990
1590-2424315		x315	190									1180
1590-2424400		x400	240									1410
1590-2428100		x100	70									660
1590-2428125		x125	85									730
1590-2428160		x160	110									820
1590-2428200	M24x28	x200	125	27.7	44	18	1163	310				950
1590-2428250		x250	150									1090
1590-2428315		x315	190									1300
1590-2428400		x400	240									1530
1590-2428500		x500	290									1800
1590-3036125		x125	80									1280
1590-3036160		x160	110									1440
1590-3036200	M30x36	x200	135	35.6	54	22	2258	493				1620
1590-3036250		x250	150									1880
1590-3036315		x315	200									2150
1590-3036500		x500	300									3010
1590-3642160		x160	100									2260
1590-3642250		x250	175									2890
1590-3642400	M36x42	x400	250	41.6	65	26	3953	719				4010
1590-3642600		x600	340									5900
1590-4248160		x160	100									3550
1590-4248250	M42x48	x250	175	47.6	75	30	6337	986				4530
1590-4248400		x400	250									6160

**DIN 787**
**Ürün Nr. 1590 T-Ayaklı Saplama**

- Kalite 12.9
- Siyah kaplama

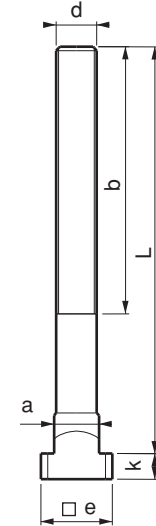
**Product Nr. 1590 T-Slot Bolt**

- Quality 12.9
- Black coating


 Loctite  
8150

**Note:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.



Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN
							Nm	kN			
1610-0606025		x25	15								19
1610-0606040	M6x6	x40	28	5.7	10	4	17	17			25
1610-0606063		x63	40								36
1610-0808032		x32	22								39
1610-0808050	M8x8	x50	35	7.7	12	6	43	32			45
1610-0808080		x80	50								56
1610-1010040		x40	23								65
1610-1010063	M10x10	x63	45	9.7	15	6	79	51			80
1610-1010080		x80	50								90
1610-1010100		x100	60								110
1610-1012050		x50	35								85
1610-1012063	M10x12	x63	40								95
1610-1012080		x80	55								100
1610-1012100		x100	60	11.7	18	7	79	51			110
1610-1012125		x125	75								125
1610-1012160		x160	90								140
1610-1012200		x200	120								160
1610-1212050		x50	35								120
1610-1212063	M12x12	x63	40								128
1610-1212080		x80	55								140
1610-1212100		x100	65	11.7	18	7	141	74			160
1610-1212125		x125	75								170
1610-1212160		x160	100								195
1610-1212200		x200	120								220
1610-1214050		x50	35								140
1610-1214063	M12x14	x63	45								150
1610-1214080		x80	55								155
1610-1214100		x100	65	13.7	22	8	141	74			175
1610-1214125		x125	75								195
1610-1214160		x160	100								220
1610-1214200		x200	120								240
1610-1416063		x63	45								200
1610-1416080	M14x16	x80	55								230
1610-1416100		x100	65								245
1610-1416125		x125	75	15.7	25	9	223	101			270
1610-1416160		x160	100								310
1610-1416200		x200	120								340
1610-1416250		x250	150								390
1610-1616063		x63	45								260
1610-1616080	M16x16	x80	55								285
1610-1616100		x100	65								310
1610-1616125		x125	85	15.7	25	9	354	138			345
1610-1616160		x160	100								385
1610-1616200		x200	120								435
1610-1616250		x250	150								505
1610-1618063		x63	45								290
1610-1618080	M16x18	x80	55								305
1610-1618100		x100	65								340
1610-1618125		x125	85	17.7	28	10	354	138			370
1610-1618160		x160	100								415
1610-1618200		x200	120								460
1610-1618250		x250	150								525
1610-1820080		x80	55								405
1610-1820100	M18x20	x100	65								435
1610-1820125		x125	85								480
1610-1820160		x160	110	19.7	32	12	474	169			535
1610-1820200		x200	125								610
1610-1820250		x250	150								680
1610-1820315		x315	190								790
1610-2020080		x80	55								480
1610-2020100	M20x20	x100	65								515
1610-2020125		x125	85								570
1610-2020160		x160	110	19.7	32	12	679	215			635
1610-2020200		x200	125								725
1610-2020250		x250	160								820
1610-2020315		x315	190								950
1610-2022080		x80	55								530
1610-2022100	M20x22	x100	65								565
1610-2022125		x125	85								620
1610-2022160		x160	110	21.7	35	14	679	215			690
1610-2022200		x200	125								775
1610-2022250		x250	150								880
1610-2022315		x315	190								1050

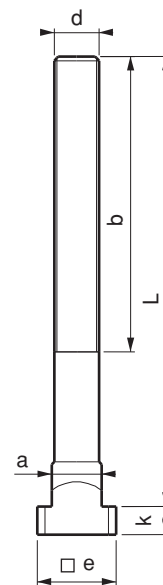
Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri		Tightening Data	Nm	kN
							Nm	kN			
1610-2224080		x80	55								700
1610-2224100		x100	65								740
1610-2224125		x125	85								805
1610-2224160	M22x24	x160	110	23.7	40	16	903	266			890
1610-2224200		x200	125								1000
1610-2224250		x250	150								1115
1610-2224315		x315	190								1280
1610-2424100		x100	70								885
1610-2424125	M24x24	x125	85								970
1610-2424160		x160	110								1060
1610-2424200		x200	125	23.7	40	16	1163	310			1180
1610-2424250		x250	150								1320
1610-2424315		x315	190								1515
1610-2424400		x400	240								1750
1610-2428100		x100	70								1000
1610-2428125	M24x28	x125	85								1065
1610-2428160		x160	110								1150
1610-2428200		x200	125	27.7	44	18	1163	310			1280
1610-2428250		x250	150								1425
1610-2428315		x315	190								1640
1610-2428400		x400	240								1870
1610-2428500		x500	290								2170
1610-3036125		x125	80								1900
1610-3036160	M30x36	x160	110								2065
1610-3036200		x200	135	35.6	54	22	2258	493			2250
1610-3036250		x250	150								2500
1610-3036315		x315	200								2770
1610-3036500		x500	300								3630
1610-3642160		x160	100								3310
1610-3642250	M36x42	x250	175								3930
1610-3642400		x400	250	41.6	65	26	3953	719			5010
1610-3642600		x600	340								6900
1610-4248160		x160	100								4600
1610-4248250	M42x48	x250	175	47.6	75	30	6337	986			5600
1610-4248400		x400	250								7200

**DIN 787**
**Ürün Nr. 1610 Somunlu Pullu T-Ayaklı Saplama**

- Kalite 12.9
- Siyah kaplama

**Product Nr. 1610 T-Slot Bolt with Nut and Washer**

- Quality 12.9
- Black coating




**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.



Loctite 8150

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.

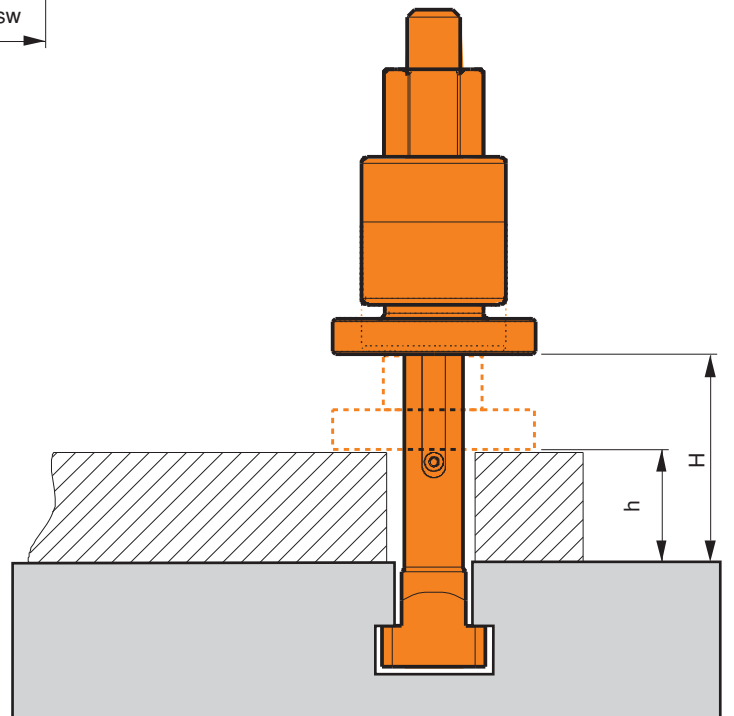
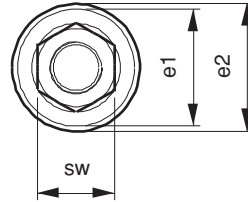
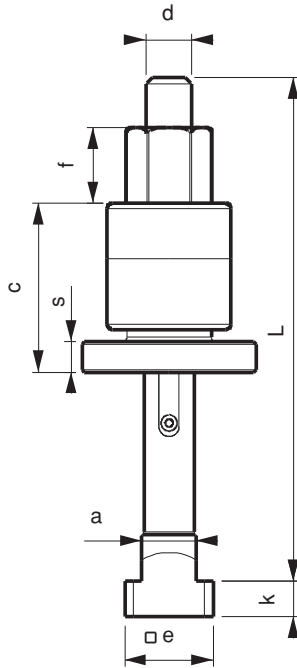
Referans Nr.	dx	a	e	k	h-H	e1	e2	c	s	f	sw	Sıkma Verileri Tightening Data		
												Nm	kN	
1630-2022200	M20x22x200	21.7	35	14	25-75	49	69	92	12	30	30	679	215	1635
1630-2022250	M20x22x250	21.7	35	14	70-120	49	69	92	12	30	30	679	215	1720
1630-2424200	M24x24x200	23.7	40	16	25-75	53	74	92	12	30	36	1163	310	2075
1630-2424250	M24x24x250	23.7	40	16	70-120	53	74	92	12	30	36	1163	310	2250
1630-2428200	M24x28x200	27.7	44	18	25-75	53	74	92	12	30	36	1163	310	2180
1630-2428250	M24x28x250	27.7	44	18	70-120	53	74	92	12	30	36	1163	310	2340
1630-3036200	M30x36x200	35.6	54	22	25-75	68	88	94	14	30	46	2258	493	3660
1630-3036250	M30x36x250	35.6	54	22	70-120	68	88	94	14	30	46	2258	493	3910

**Ürün Nr. 1630 Kombine T-Ayaklı Saplama**

- Ağır preslerde, büyük kalıplarda çalışma esnasında vibrasyondan kaynaklanan olabilecek gevşemeyi somunun kontra sıkma yapısından dolayı önler
- Kalite 12.9
- Siyah kaplama

**Product Nr. 1630 Combined T-Slot Bolt**

- Because of it's contra tightening structure, it prevents loosening which may be generated by the vibration during working with heavy presses and big moulds.
- Quality 12.9
- Black coating




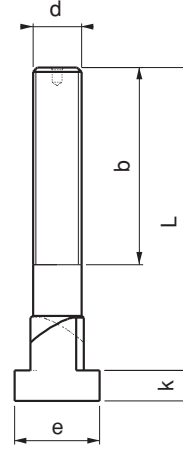
**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.



Loctite  
8150

Referans Nr.	dx	x L	b	a	e	k	Sıkma Verileri Tightening Data		
							Nm	kN	
1650-1214050		x50	35						70
1650-1214080	M12x14	x80	55	13.7	22	8	141	74	100
1650-1214125		x125	75						120
1650-1618063		x63	45						160
1650-1618100	M16x18	x100	65	17.7	28	10	354	138	220
1650-1618160		x160	100						280
1650-2022080		x80	55						330
1650-2022125	M20x22	x125	85	21.7	35	14	679	215	430
1650-2022200		x200	120						570
1650-2428100		x100	70						650
1650-2428125	M24x28	x125	85	27.7	44	18	1163	310	770
1650-2428250		x250	150						1150

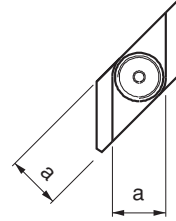


#### Ürün Nr. 1650 Dereceli T-Ayaklı Saplama

- T-Kanal pleytlerde üstten T-Kanala girip bağlama özelliği vardır
- Kalite 12.9
- Siyah kaplama

#### Product Nr. 1650 Graded T-Slot Bolt

- In T-Slot plates it has the feature of making the coupling by entering T-Slot the top.
- Quality 12.9
- Black coating




**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.



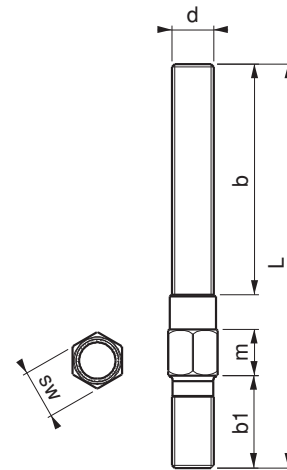
Loctite  
8150

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.

Referans Nr.	d	L	b	b1	m	sw	Sıkma Verileri Tightening Data		
							Nm	kN	
1670-12130	M12	130	65	24	14	14	120	63	160
1670-12160		160	90						185
1670-14130	M14	130	65	28	15	15	191	86	216
1670-14160		160	90						246
1670-16140	M16	140	70	32	16	17	302	118	310
1670-16160		160	95						340
1670-18150	M18	150	70	35	19	19	405	144	395
1670-18180		180	95						450
1670-20150	M20	150	70	40	22	22	580	184	520
1670-20180		180	95						575
1670-22150	M22	150	70	40	22	24	772	228	610
1670-22180		180	95						705
1670-24170	M24	170	75	47	22	27	994	265	875
1670-24205		205	105						990
1670-24250		250	140						1125
1670-30250	M30	250	135	55	32	36	1930	421	1950
1670-30315		315	195						2260

## Anahtar Ağızlı Saplama

### Wrench Mouth Stud



#### Ürün Nr. 1670 Anahtar Ağızlı Saplama

- Kullanım alanı; Enjeksiyon makinelerinde ve M12-14-16-18-20-22-24-30 diş açılmış pleytlerde kullanılır.
- Kalite 10.9
- Siyah kaplama

#### Product Nr. 1670 Wrench Mouth Stud

- Area of Use: This stud is used in injection machines and in plates with M12-14-16-18-20-22-24-30 threads
- Quality 10.9
- Black coating





Loctite  
8150

**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.



Referans Nr.	d x L	b1	b	Sıkma Verileri Tightening Data		 (g)
				Nm	kN	
1690-08040	x40		20			10
1690-08063	x63		40			15
1690-08080	x80		50			20
1690-08100	x100		63	36	27	30
1690-08125	x125		75			35
1690-08160	x160		100			45
1690-10050	x50		25			20
1690-10063	x63		32			25
1690-10080	x80		50			35
1690-10100	x100		63	67	43	45
1690-10125	x125		75			55
1690-10160	x160		100			70
1690-10200	x200		125			95
1690-12050	x50		25			35
1690-12063	x63		32			40
1690-12080	x80		50			55
1690-12100	x100		63	120	63	70
1690-12125	x125		75			90
1690-12160	x160		100			115
1690-12200	x200		125			140
1690-14063	x63		32			60
1690-14080	x80		50			75
1690-14100	x100		63			95
1690-14125	x125		75	191	86	120
1690-14160	x160		100			150
1690-14200	x200		125			195
1690-14250	x250		160			240
1690-16063	x63		32			85
1690-16080	x80		50			105
1690-16100	x100		63			130
1690-16125	x125		75			160
1690-16160	x160		100	302	118	205
1690-16200	x200		125			260
1690-16250	x250		160			325
1690-16315	x315		180			405
1690-16500	x500		315			650
1690-18080	x80		50			130
1690-18100	x100		60			160
1690-18125	x125		75			200
1690-18160	x160		100	405	144	260
1690-18200	x200		125			320
1690-18250	x250		150			400
1690-18315	x315		180			510
1690-20080	x80		32			155
1690-20100	x100		60			200
1690-20125	x125		70			250
1690-20160	x160		100			330
1690-20200	x200		125	580	184	400
1690-20250	x250		160			510
1690-20315	x315		200			640
1690-20400	x400		250			815
1690-20500	x500		315			1020
1690-22100	x100		45			250
1690-22125	x125		70			305
1690-22160	x160		100			400
1690-22200	x200		125	772	228	500
1690-22250	x250		160			620
1690-22315	x315		180			780
1690-22400	x400		250			1010
1690-24100	x100		45			290
1690-24125	x125		70			365
1690-24160	x160		100			470
1690-24200	x200		125			580
1690-24250	x250		160	994	265	730
1690-24315	x315		200			920
1690-24400	x400		250			1170
1690-24500	x500		315			1470
1690-24630	x630		315			1860
1690-30125	x125		56			570
1690-30200	x200		125			910
1690-30250	x250		160			1150
1690-30315	x315		200	1930	421	1435
1690-30500	x500		315			2315
1690-30700	x700		400			3215
1690-301000	x1000		400			4700

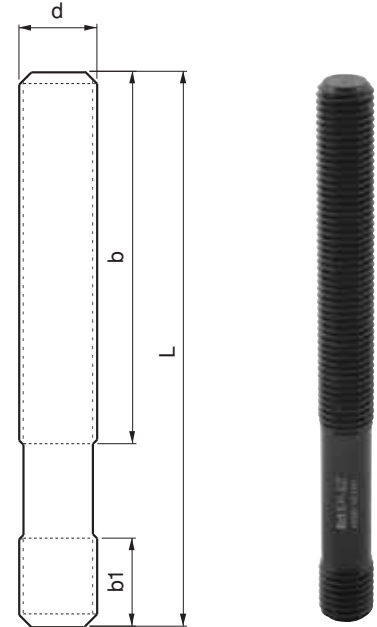
Referans Nr.	d x L	b1	b	Sıkma Verileri Tightening Data		 (g)
				Nm	kN	
1690-36160	x160		80			1100
1690-36200	x200		125			1340
1690-36250	x250		160			1710
1690-36315	M36 x315	51	200	3378	614	2150
1690-36400	x400		250			2700
1690-36500	x500		315			3450
1690-36700	x700		400			4750
1690-42315	M42 x315	59	200	5415	843	2950
1690-42400	x400		250			3750
1690-42500	x500		315			4690

**DIN 6379**
**Ürün Nr. 1690 Düz Saplama**

- Kalite 10.9
- Siyah kaplama

**Product Nr. 1690 Straight Stud**

- Quality 10.9
- Black coating



**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.

**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.

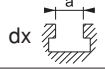


 Loctite  
8150

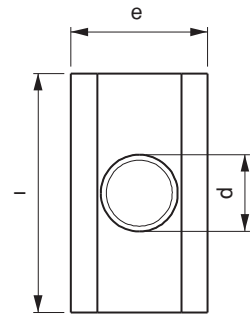
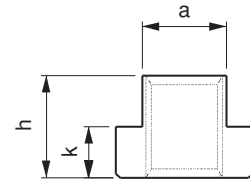
# SOMUN, PUL, AKSESUARLAR

NUT, WASHER, ACCESSORIES





Referans Nr.		a	e	l	h	k	
1710-0608	M6x8	7.7	13	26	10	6	14
1710-0810	M8x10	9.7	15	30	12	6	25
1710-1012	M10x12	11.7	18	36	14	7	49
1710-1214	M12x14	13.7	22	44	16	8	82
1710-1416	M14x16	15.7	25	50	18	9	120
1710-1618	M16x18	17.7	28	56	20	10	165
1710-1820	M18x20	19.7	32	64	24	12	260
1710-2022	M20x22	21.7	35	70	28	14	365
1710-2224	M22x24	23.7	40	80	32	16	535
1710-2428	M24x28	27.7	44	88	36	18	745
1710-3036	M30x36	35.6	54	108	44	22	1390





### Ürün Nr. 1710 Uzun T-Pabuç

- Hassas makina pleytlerinde T-Kanalı korur
- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

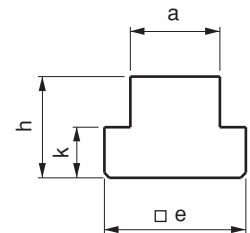
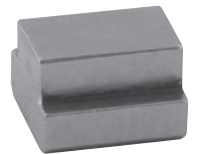
### Product Nr. 1710 Long T-Nut

- This clamp protects T-Slot in sensitive machine plates
- Hardened
- Black coating
- Quality 10

Referans Nr.		a	e	h	k	
1730-06	6	5.7	10	8	4	4
1730-08	8	7.7	13	10	6	10
1730-10	10	9.7	15	12	6	16
1730-12	12	11.7	18	14	7	27
1730-14	14	13.7	22	16	8	50
1730-16	16	15.7	25	18	9	70
1730-18	18	17.7	28	20	10	95
1730-20	20	19.7	32	24	12	150
1730-22	22	21.7	35	28	14	210
1730-24	24	23.7	40	32	16	310
1730-28	28	27.7	44	36	18	430
1730-36	36	35.6	54	44	22	800
1730-42	42	41.6	65	52	26	1400

### Deliksiz T-Pabuç

T-Nut without Hole





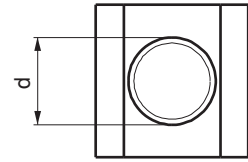
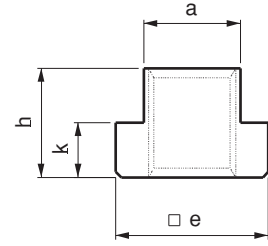
### Ürün Nr. 1730 Deliksiz T-Pabuç

- İsteğe göre delik delme dış çekme uygulanabilir

### Product Nr. 1730 T-Nut without Hole

- Arbitrary thread cutting can be applied



Referans Nr.	dx 	a	e	h	k	 (g)
1750-0608	M6x8	7.7	13	10	6	10
1750-0810	M8x10	9.7	15	12	6	12
1750-0812	M8x12*	11.7	18	14	7	22
1750-1012	M10x12					20
1750-0814	M8x14*	13.7	22	16	8	40
1750-1014	M10x14*					37
1750-1214	M12x14					30
1750-0816	M8x16*	15.7	25	18	9	60
1750-1016	M10x16*					55
1750-1216	M12x16*					55
1750-1416	M14x16					45
1750-0818	M8x18*	17.7	28	20	10	90
1750-1018	M10x18*					87
1750-1218	M12x18*					80
1750-1418	M14x18*					75
1750-1618	M16x18					65
1750-1620	M16x20*	19.7	32	24	12	115
1750-1820	M18x20					105
1750-1622	M16x22*	21.7	35	28	14	170
1750-1822	M18x22*					160
1750-2022	M20x22					150
1750-1624	M16x24*	23.7	40	32	16	260
1750-2024	M20x24*					240
1750-2224	M22x24					220
1750-1628	M16x28*	27.7	44	36	18	375
1750-2028	M20x28*					350
1750-2228	M22x28*					330
1750-2428	M24x28					330
1750-2436	M24x36*	35.6	54	44	22	665
1750-3036	M30x36					585
1750-3642	M36x42	41.6	65	52	26	1025
1750-4248	M42x48	47.6	75	60	30	1600


**DIN 508**
**Ürün Nr. 1750 T-Pabuç**

- T-Pabucun mukavemeti için dişli kısmının tümüne vidalama yapılması gerekir
- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

**Product Nr. 1750 T-Nut**

- Screwing must be done on the entire thread part for the endurance of T-Nut
- Hardened
- Black coating
- Quality 10

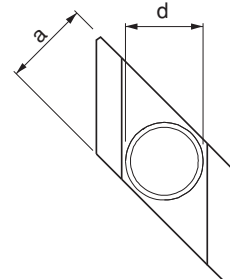
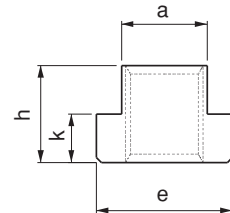
Referans Nr.	dx 	a	e	h	k	 (g)
1770-0810	M8x10	9.7	15	12	6	10
1770-1012	M10x12	11.7	18	14	7	15
1770-1014	M10x14*	13.7	22	16	8	30
1770-1214	M12x14					25
1770-1416	M14x16	15.7	25	18	9	40
1770-1018	M10x18*					70
1770-1618	M16x18					60
1770-1620	M16x20*	19.7	32	24	12	95
1770-1820	M18x20					90
1770-1622	M16x22*	21.7	35	28	14	135
1770-2022	M20x22					125
1770-1628	M16x28*					27.7
1770-2028	M20x28*	295				
1770-2428	M24x28	265				



**Ürün Nr. 1770 Dereceli T-Pabuç**

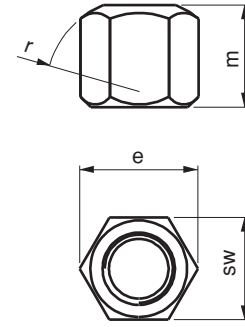
- T-Kanal pleytlerde üstten T-Kanala girip bağlama özelliği vardır
- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

**Product Nr. 1770 Graded T-Nut**

- It has the feature of making the coupling by entering T-Slot plates from the top
- Hardened
- Black coating
- Quality 10

**Dereceli T-Pabuç**
**Graded T-Nut**




Referans Nr.		sw	e	m	r	
1790-06	M6	10	11.5	9	9	5
1790-08	M8	13	15	12	12	9
1790-10	M10	17	19.6	15	15	20
1790-12	M12	19	21.9	18	17	25
1790-14	M14	22	25.4	21	20	40
1790-16	M16	24	27.7	24	22	55
1790-18	M18	27	31.2	27	24	80
1790-20	M20	30	34.6	30	27	110
1790-22	M22	32	36.9	33	30	130
1790-24	M24	36	41.5	36	32	190
1790-30	M30	46	53.1	45	41	400
1790-36	M36	55	63.5	54	50	680
1790-42	M42	65	75	63	58	1150

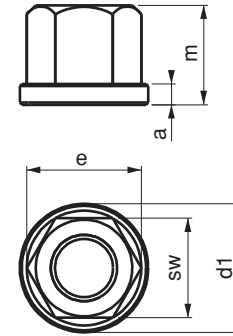

**DIN 6330B**
**Ürün Nr. 1790 Takviyeli Somun**

- Düz yüzey DIN 6340 pul ile kullanılır
- Radüslü yüzey DIN 6319D ve DIN 6319G pullar ile kullanılır
- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

**Product Nr. 1790 Hexagon Nut**

- Flat surface is used with DIN 6340 Washer
- This nut is used with Rad-top surface DIN 6319D and DIN 6319G washers
- Hardened
- Black Coating
- Quality 10

Referans Nr.		sw	e	m	a	d1	
1810-08	M8	13	14.7	12	3.5	18	12
1810-10	M10	17	19.2	15	4	22	25
1810-12	M12	19	21.5	18	4	25	30
1810-14	M14	22	24.9	21	4.5	28	50
1810-16	M16	24	27.2	24	5	31	65
1810-18	M18	27	30.6	27	5	34	90
1810-20	M20	30	34	30	6	37	130
1810-22	M22	32	36.3	33	6	40	155
1810-24	M24	36	40.8	36	6	45	220
1810-30	M30	46	52.3	45	8	58	465
1810-36	M36	55	62	54	10	68	500
1810-42	M42	65	75	63	12	80	1340


**Pullu Somun**

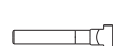

Nut with Washer

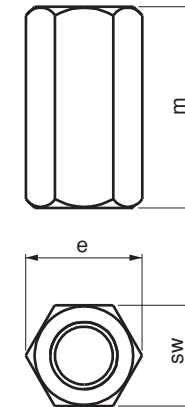

**DIN 6331**
**Ürün Nr. 1810 Pullu Somun**

- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

**Product Nr. 1810 Nut with Washer**

- Hardened
- Black Coating
- Quality 10

Referans Nr.		sw	e	m	
1830-06	M6	10	11.7	18	8
1830-08	M8	13	15	24	19
1830-10	M10	17	19.6	30	40
1830-12	M12	19	21.6	36	55
1830-14	M14	22	25.4	42	90
1830-16	M16	24	27.7	48	115
1830-18	M18	27	31.2	54	165
1830-20	M20	30	34.6	60	230
1830-22	M22	32	36.9	66	245
1830-24	M24	36	41.5	72	400
1830-30	M30	46	53.1	90	840
1830-36	M36	55	63.5	108	1430
1830-42	M42	65	75	126	2330


**Uzatma Somun**

Extension Nut


**Ürün Nr. 1830 Uzatma Somun**

- DIN 787 T-Ayaklı saplama ve DIN 6379 düz saplamalarda uzatma amaçlı kullanılır
- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

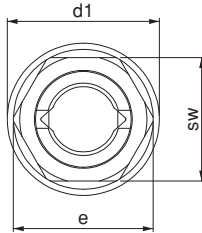
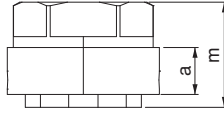
**Product Nr. 1830 Extension Nut**

- It is used in DIN 787 T-Studs and DIN 6379 Straight Studs as extension
- Hardened
- Black Coating
- Quality 10

Referans Nr.	metrik	a	d1	e	m	sw	(g)
1840-16	M16	11.5	34	30.7	27.5	27	105
1840-20	M20	14	44	38.8	33	34	210
1840-24	M24	18.5	50.4	46	35	41	365


**Ürün Nr. 1840 Hızlı Somun**

- Somun açık konumda uzun dişlerde hızlı ilerleme kolaylığı sağlar.
- Sertleştirilmiş
- Çinko Kaplama
- Kalite 10


**Product Nr. 1840 Quick Nut**

- Enables fast sliding on long threads, with nut at open position.
- Hardened
- Zinc Coating
- Quality 10


**Oynar Başlı Pullu Somun**

## Ball Head Nut

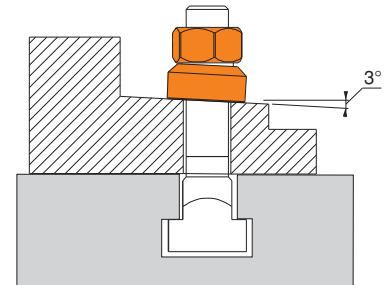
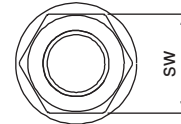
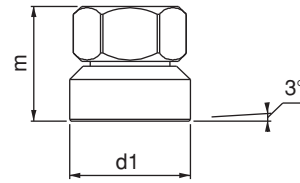
Referans Nr.	sw	d1	m	(g)	
1850-08	M8	13	17	14	10
1850-10	M10	17	21	18	30
1850-12	M12	19	24	22	40
1850-16	M16	24	30	28	70
1850-20	M20	30	36	35	140
1850-24	M24	36	44	43	260

**Ürün Nr. 1850 Oynar Başlı Pullu Somun**

- Açılı yüzeylerde pulun kendi içindeki hareketinden dolayı kullanım avantajı sağlar
- Sertleştirilmiş
- Siyah kaplama
- Kalite 10

**Product Nr. 1850 Ball Head Nut**

- It provides advantage for using on angled surfaces due to the movement of the washer within itself
- Hardened
- Black Coating
- Quality 10



Referans Nr.	metrik		d1	d2	s	(g)
	metrik	whitworth				
1870-06	M6	1/4	6.4	17	3	6
1870-08	M8	5/16	8.4	23	4	10
1870-10	M10	3/8	10.5	28	4	16
1870-12	M12	1/2	13	35	5	30
1870-14	M14	-	15	40	5	40
1870-16	M16	5/8	17	45	6	60
1870-18	M18	-	19	45	6	60
1870-20	M20	3/4	21	50	6	70
1870-22	M22	7/8	23	50	8	90
1870-24	M24	7/8	25	60	8	140
1870-30	M30	1 1/8	31	68	10	215
1870-36	M36	1 1/4	38	80	12	360
1870-42	M42	1 1/2	44	98	15	640

**DIN 6340**
**Ürün Nr. 1870 Pul**

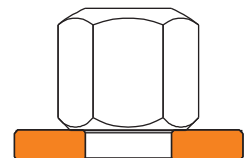
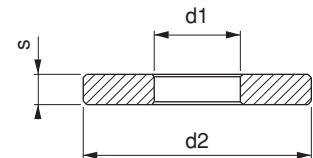
- Sertleştirilmiş
- Siyah kaplama



**DIN 6340**
**Product Nr. 1870 Washer**

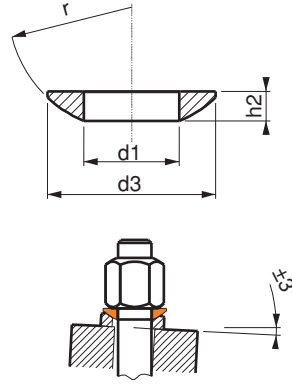
- Hardened
- Black Coating

**Pul**

## Washer



Referans Nr.		d1	d3	h2	r	
1890-06	M6	6.4	12	2.3	9	1.5
1890-08	M8	8.4	17	3.2	12	2.5
1890-10	M10	10.5	21	4.0	15	5
1890-12	M12	13	24	4.6	17	7
1890-14	M14	15	28	5.0	22	10
1890-16	M16	17	30	5.3	22	15
1890-20	M20	21	36	6.3	27	20
1890-24	M24	25	44	8.2	32	40
1890-30	M30	31	56	11.2	41	95
1890-36	M36	37	68	14.0	50	190
1890-42	M42	43	78	17.0	58	297





#### DIN 6319C

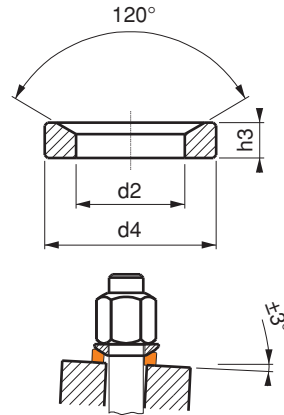
##### Ürün Nr. 1890 Radüslü Pul

- DIN 6319D DIN 6319G pullar ile açılı yüzeylerde kullanılır
- Sertleştirilmiş
- Siyah kaplama

##### Product Nr. 1890 Rad-top Washer

- This washer is used with DIN 6319G washers on angled surfaces
- Hardened
- Black Coating

Referans Nr.		max. KN	d2	d4	h3	
1910-06	M6	9	7.1	12	2.8	2
1910-08	M8	17	9.6	17	3.5	4
1910-10	M10	26	12	21	4.2	6.5
1910-12	M12	38	14.2	24	5	10
1910-14	M14	53	16.5	28	5.6	10
1910-16	M16	73	19	30	6.2	15
1910-20	M20	117	23.2	36	7.5	25
1910-24	M24	168	28	44	9.5	55
1910-30	M30	269	35	56	12	120
1910-36	M36	394	42	68	15	220
1910-42	M42	542	49	78	18	365



## Dereceli Pul

### Graded Washer





#### DIN 6319D

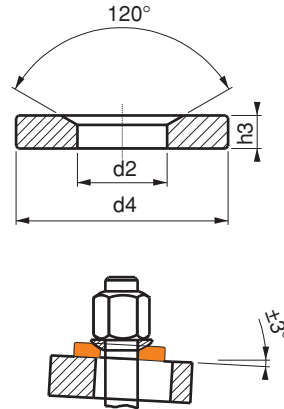
##### Ürün Nr. 1910 Dereceli Pul

- DIN 6319C radüslü pul ile açılı yüzeylerde kullanılır
- Sertleştirilmiş
- Siyah kaplama

##### Product Nr. 1910 Graded Washer

- This washer is used with DIN 6319C rad-top washers on angled surfaces
- Hardened
- Black Coating

Referans Nr.		d2	d4	h3	
1930-06	M6	7.1	17	4	5.5
1930-08	M8	9.6	24	5	13
1930-10	M10	12	30	5	19
1930-12	M12	14.2	36	6	32
1930-14	M14	16.5	40	6	45
1930-16	M16	19	44	7	65
1930-20	M20	23.2	50	8	90
1930-24	M24	28	59	10	150
1930-30	M30	35	68	10	180
1930-36	M36	42	79	12	285
1930-42	M42	49	100	15	640



## Dereceli Pul

### Graded Washer



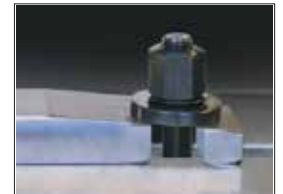
#### DIN 6319G

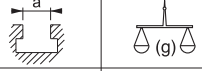
##### Ürün Nr. 1930 Dereceli Pul

- DIN 6319C radüslü pul ile açılı yüzeylerde kullanılır
- DIN 6319D ye göre daha büyük çaplı deliklerde kullanılır
- Sertleştirilmiş
- Siyah kaplama

##### Product Nr. 1930 Graded Washer

- This washer is used with DIN 6319C rad-top washers on angled surfaces
- According to DIN 6319D, it is used in the holes with bigger diameter
- Hardened
- Black Coating



Referans Nr.		
1950-1214	12-14	25
1950-1618	16-18	45
1950-2022	20-22	45
1950-2428	24-28	70

**Ürün Nr. 1950 T-Kanal Temizleyici**

- T-Kanalları temizlemek için kullanılır

**Product Nr. 1950 T-Slot Scraper**

- This scraper is used to clean T-Slots

Referans Nr	Genişlik Width (mm)	Boy Length (mm)	Miktar Quantity
1955-T010	10	300	6
1955-T012	12	400	6
1955-T014	14	400	6
1955-T016	16	400	6
1955-T018	18	450	6
1955-T181	18	1000	5
1955-T205	20	500	10
1955-T020	20	1000	5
1955-T022	22	1000	5
1955-T024	24	1000	5
1955-T028	28	1000	5
1955-T036	36	1000	5

**T-Kanal Koruyucu**

Milling T-Slot Cover

**Ürün Nr. 1955 T-Kanal Koruyucu**

- T-Kanal aralarını gereksiz talaş dolmasını kirlenmesini önler. T-Kanalınızı korur ve temizliğini kolaylaştırır.
- Malzeme: Alüminyum

**Product Nr. 1955 Milling T-Slot Cover**

- It prevents unnecessary shavings filling and become dirty. It is used to clean T-Slots.
- Material: Aluminum





Referans Nr.		
1960-110	14-16-18-20	1160

**Ürün Nr. 1960 Modüler T-Blok**

- Sertleştirilmiş
- Siyah kaplama

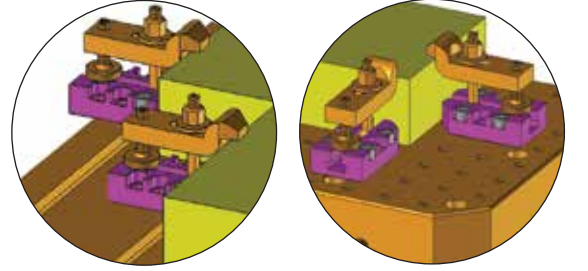
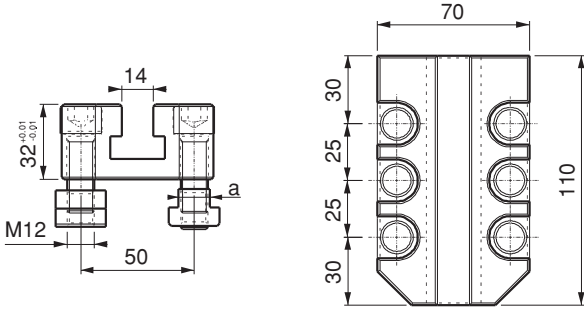
Tezgaah pleytine bağlanacak iş parçasının orantısız duruşunda pleytin uygun bir yerine sabitlenerek iş parçasını bağlamada kolaylık sağlar.



**Product Nr. 1960 Modular T-Block**

- Hardened
- Black coating

It provides convenience to fix the work piece on a suitable place of the plate during the non-proportional stopping of the work piece to be applied on the plate of the bench



**Pabuç Kaldırma Yaylı Pul**

for Lifting the Washer

Referans Nr.		Ø D	Ø d	L	L1	
1970-10	M10	27	10.5	35	20	65
1970-12	M12	27	12.5	40	33	70
1970-14	M14	28	14.5	40	30	60
1970-16	M16	37	16.5	45	30	110
1970-18	M18	37	18.5	45	40	115
1970-20	M20	37	21	45	42	105
1970-22	M22	37	23	45	45	120
1970-24	M24	45	25	50	45	170

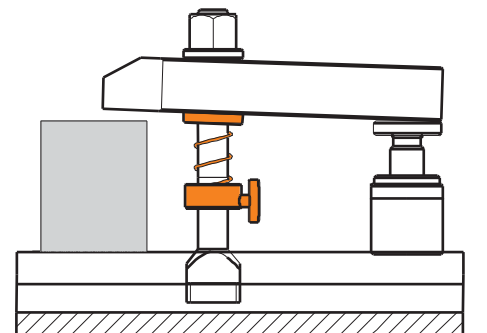
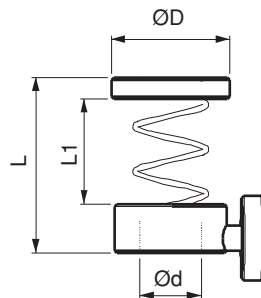
**Ürün Nr. 1970 Pabuç Kaldırma Yaylı Pul**

- Bağlama ve sökme işleminde pabucu dengeli şekilde kaldırarak çalışma kolaylığı sağlar
- Siyah kaplama



**Product Nr. 1970 Springed Washer for Lifting the Washer**





- This washer provides convenience of using in coupling and dismantling processes by lifting the clamp evenly
- Black coating

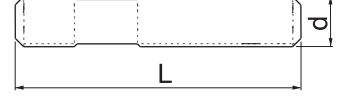


# SETLER

## SETS



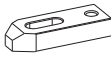
Referans Nr.			 (kg)	DIN 6379 d x L 
1990-1012	M10x12	265x255	6.44	M10x80-100-160-200
1990-1214	M12x14	305x255	8.72	M12x80-100-160-200
1990-1416	M14x16	435-255	12.98	M14x80-100-160-200
1990-1618	M16x18	435-255	16.30	M16x80-100-160-200
1990-1820	M18x20	495x255	17.82	M18x80-100-160-200
1990-2022	M20x22	540x255	23.10	M20x100-125-160-200

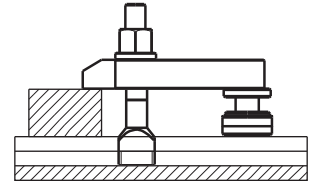
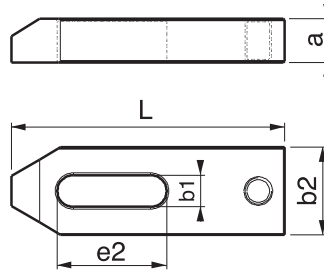

**Ürün Nr. 1990 Vidalı Yükselticili Bağlama Set**

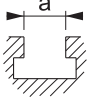
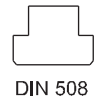

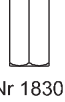


- Tabla üzerine iş parçası ve aparatların hızlı ve güvenli bir şekilde bağlanması için çelik mamülden üretilmiş parçalardan oluşan bağlama seti

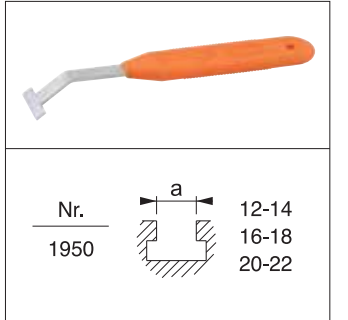
**Product Nr. 1990 Screwed Coupling Set with Lifter**


- This is the coupling set produced from steel product in order to couple the work piece or apparatuses on the table in a rapid and safe way.

Nr.	L	b1		a	e2	b2
1330	80	11	M10	15	30	30
1330	100	14.5	M12-M14	20	40	40
1330	125				40	40
1330	125	18.5	M16-M18	25	45	50
1330	160				45	50
1330	160	22.5	M20-M22	30	60	60
1330	200				60	60

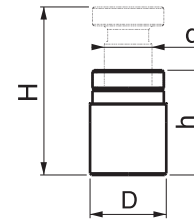


					
a	DIN 508	DIN 6330 B	Nr 1830	DIN 6331	DIN 6340
12	M10	M10	M10	M10	M10
14	M12	M12	M12	M12	M12
16	M14	M14	M14	M14	M14
18	M16	M16	M16	M16	M16
20	M18	M18	M18	M18	M18
22	M20	M20	M20	M20	M20



Nr.		
1950	a	12-14 16-18 20-22




Nr.	h	H	d	D
1510	23	30	M16	34
1510	40	60	M16	34
1510	70	100	Tr 30x4	50
1510	100	140	Tr 30x4	50


**Ürün: 52 Parça Vida Yükselticili İş Bağlama Set**

- 6 adet DIN 508 T-Pabuç (M20x22'de 4 adet)
- 16 adet DIN 6379 saplama
- 6 adet DIN 6330B takviyeli somun
- 4 adet DIN 6331 pullu somun
- 2 adet Nr. 1830 uzatma somun
- 4 adet DIN 6340 kalın pul
- 4 adet Nr. 1330 destek delikli pabuç
- 8 adet Nr. 1510 vida diş yükseltici destek
- 1 adet Nr. 1950 T-Kanal temizleyici
- 1 adet statik boyalı çelik set
- Not: M20 VBS'de somun ve pul 4'er adet  
M10-12 VBS'de 1510 yükseltici 6 adet konulmaktadır.

**Product: 52 piece set of Screwed Coupling Set with Lifter**

- 6 pieces of DIN 508 T-Nut (M20x22 4 piece)
- 16 pieces of DIN 6379 Stud
- 6 pieces of DIN 6330B Supported Nut
- 4 pieces of DIN 6331 Nut with Washer
- 2 pieces of No. 1830 Extension Nut
- 4 pieces of DIN 6340 Thick Washer
- 4 pieces of No. 1330 Clamp with Support Hole
- 8 pieces of No. 1510 Screw Thread Lifter Support
- 1 piece of No. 1950 T-Slot Scraper
- 1 piece of Steel Set with Statical Paint
- Note: 1990-2022= Hexagon nut and washer = 4 pcs  
1990-1012 and 1990-1214= 1510 support 6 pcs

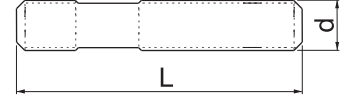
Referans Nr.				DIN 6379 d x L
2010-1012	M10x12	330x255	7.27	M10x80-100-160-200
2010-1214	M12x14	380x255	9.26	M12x80-100-160-200
2010-1416	M14x16	435x255	12.29	M14x80-100-160-200
2010-1618	M16x18	435x255	15.62	M16x80-100-160-200
2010-1820	M18x20	495x255	18.00	M18x80-100-160-200

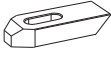

**Ürün Nr. 2010 Merdiven Yükselticili Bağlama Set**

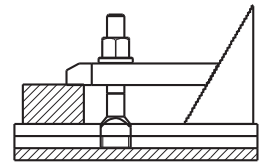
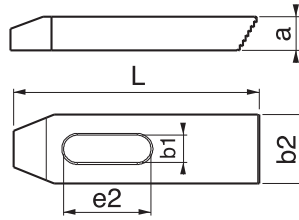
- Tabla üzerine iş parçası ve aparatların hızlı ve güvenli bir şekilde bağlanması için çelik mamülden üretilmiş parçalardan oluşan bağlama seti.

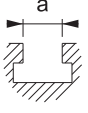





**Product Nr. 2010 Coupling Set with Serrated Hell Block**

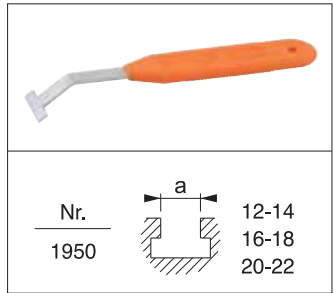
- This is the coupling set produced from steel product in order to couple the work piece or apparatuses on the table in a rapid and safe way.




Nr.	L	b1		a	e2	b2
1290	80 100	11	M10	15	30 45	30
1290	100 125	14.5	M12-M14	20	45 55	40
1290	125 160	185	M16-M18	25	65 65	50

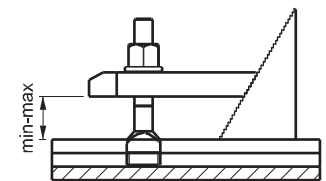
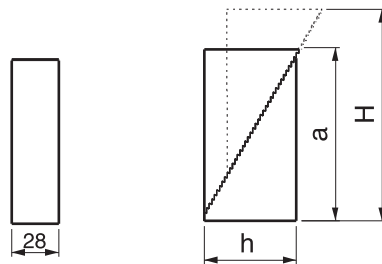


					
	DIN 508	DIN 6330 B	Nr 1830	DIN 6331	DIN 6340
12	M10	M10	M10	M10	M10
14	M12	M12	M12	M12	M12
16	M14	M14	M14	M14	M14
18	M16	M16	M16	M16	M16
20	M18	M18	M18	M18	M18



Nr.		
1950		12-14 16-18 20-22

Nr.	h-H	a	min-max
1310	37-85	57	0-40
1310	48-112	73	0-60
1310	58-139	90	0-75
1310	66-165	108	0-90

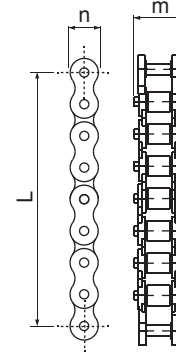
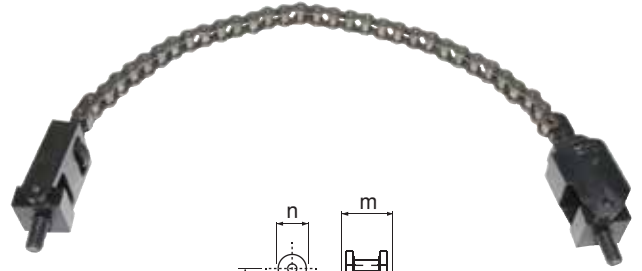

**Ürün: 52 Parça Merdiven Destekli İş Bağlama Set**

- 6 adet DIN 508 T-Pabuç
- 16 adet DIN 6379 saplama
- 6 adet DIN 6330B takviyeli somun
- 4 adet DIN 6331 pullu somun
- 2 adet 1830 uzatma somun
- 4 adet DIN 6340 kalın pul
- 4 adet Nr.1290 merdiven pabuç
- 8 adet Nr. 1310 merdiven diş destek
- 1 adet Nr. 1950 T-Kanal temizleyici
- 1 adet statik boyalı çelik set

**Product: 52 piece set of Coupling Set with Serrated Hell Block**

- 6 pieces of DIN 508 T-Nut (M20x22 4 piece)
- 16 pieces of DIN 6379 Stud
- 6 pieces of DIN 6330B Supported Nut
- 4 pieces of DIN 6331 Nut with Washer
- 2 pieces of No. 1830 Extension Nut
- 4 pieces of DIN 6340 Thick Washer
- 4 pieces of No. 1290 Serrated Clamp
- 8 pieces of No. 1310 Clamp with Support Hole
- 1 piece of No. 1950 T-Slot Scraper
- 1 piece of Steel Set with Statical Paint

Referans Nr.			Sıkma kuvveti Clamping force kgf	L	m	n	(g)
2020-120125	M12	14-16-18	1500	125	20	15	1414
2020-120250	M12		1500	250	20	15	1528
2020-120500	M12		1500	500	20	15	1755
2020-121000	M12		1500	1000	20	15	2210
2020-160125	M16	18-20-22-24	4000	125	33	21	3495
2020-160250	M16		4000	250	33	21	3810
2020-160500	M16		4000	500	33	21	4480
2020-161000	M16		4000	1000	33	21	5820



**Ürün Nr. 2020 Zincirli Sıkma**

- Silindirik ve oval iş parçalarının bağlanabilmesi için tasarlanmıştır.
- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 2020 Fixture Chain**

- It is designed for clamping of cylinder and oval workpieces.
- Hardened
- Black coated

Referans Nr.		a	b	c	e1	f1	h1 min.	h1 max.	m	s1	Sıkma kuvveti Clamping force kgf	(g)
2020-12125	14-16-18	36	36	18	49	21	95	125	M12	35	1500	580
2020-16162	18-20-22-24	37	44	25	64	29	117	162	M16	45	4000	1275

**Ayar Ünitesi**

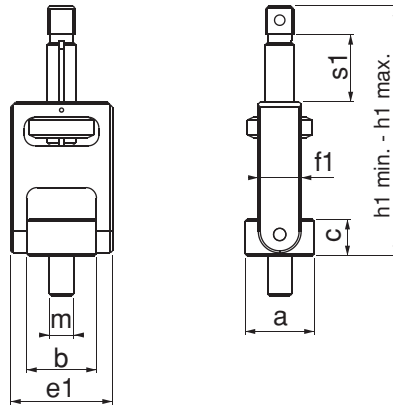
Setting Unit

**Ürün Nr. 2020 Ayar Ünitesi**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 2020 Setting Unit**

- Hardened
- Black coated



Referans Nr.		a	b	c	e2	f2	h2 min.	h2 max.	s2	SW	m	Sıkma kuvveti Clamping force kgf	(g)
2020-12127	14-16-18	36	36	18	54	49	111	127	16	36	M12	1500	945
2020-16170	18-20-22-24	37	44	25	70	62	140	170	30	46	M16	4000	1890

**Kanca Ünitesi**

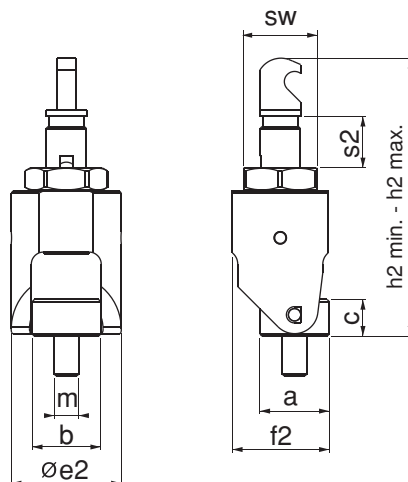
Hook Unit

**Ürün Nr. 2020 Kanca Ünitesi**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 2020 Hook Unit**

- Hardened
- Black coated





# YANDAN BAĞLAMA PABUÇLAR

*SIDE CLAMPS*





Referans Nr.		c	L	b	n	k	k1	k2	L1	d	d1	d2	sw	sıkma kuvveti clamping force Kgf	Tork Değeri Allowable Screw Torque (N-m)	 (g)
2030-14	14	5	90	23	47	47	26	26	65	M12	M12	M12	10	2000	35	3490
2030-16	16															3670
2030-18	18															5000
2030-20	20															5355
2030-22	22															5720
2030-24	24															6190
2030-28	28	6650														

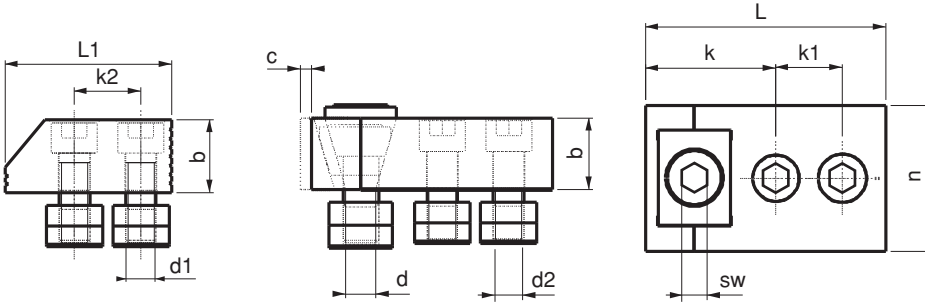








#### Ürün Nr. 2030 Dereceli Yandan Bağlama Set

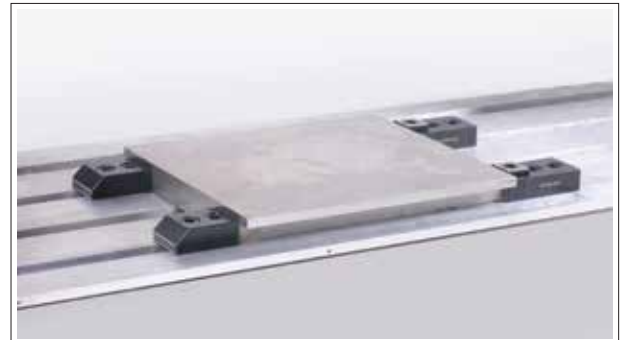
- İş parçasını dayama yönünde sıkıldığında parçanın özgün yapısını değişikliğe sebep vermez
- Sertleştirilmiş
- Siyah kaplama
- Plastik kutuda set



#### Product Nr. 2030 Graded side Wrench Set

- When the product clamps the work piece in the direction of rest, it does not cause alteration in the genuine structure of the piece.
- Hardened
- Black coating
- Set is in the plastic box



Set İçindekiler / The set consists of						
Parça Part						
Adet Quantity	2	2	10	10	1	1



Referans Nr.		c	L	L1	L2	L3	b	b1 ±0.01	n	k	k1	k2	d	d1	d2	sw	sıkma kuvveti clamping force Kgf	Tork Değeri Allowable Screw Torque (N-m)	 (g)
2050-14	14	5	110	90	85	65	41	18	47	47	26	26	M12	M12	M12	6	1000	15	5920
2050-16	16																		6210
2050-18	18																		8090
2050-20	20																		8440
2050-22	22	5	115	95	85	65	46	18	57	52	26	26	M12	M12	M12	8	1250	20	8825
2050-24	24																		10080
2050-28	28																		10750

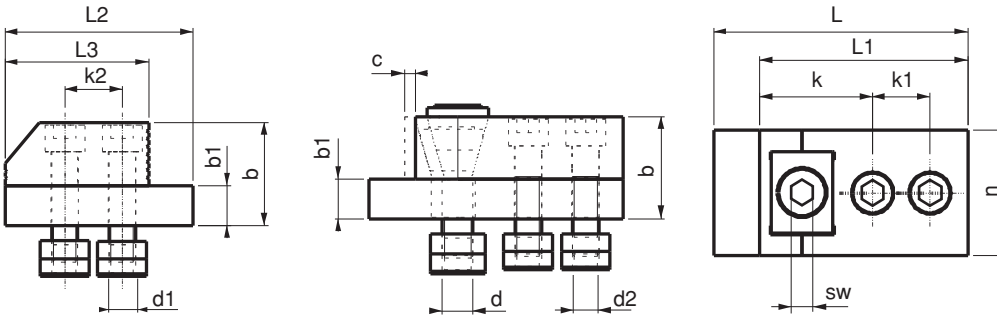


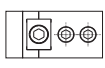
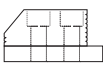




### Ürün Nr. 2050 Dereceli Yandan Bağlama (Paralelli) Set

- İş parçasını dayama yönünde sıktığında parçanın özgün yapısını değişikliğe sebep vermez. Paralelli oluşundan dolayı işlenen parçaya delik işlemi uygulanabilir.
- Sertleştirilmiş
- Siyah kaplama
- Plastik kutuda set



### Product Nr. 2050 Graded side Wrench Set (With Parallel)

- When the product clamps the work piece in the direction of rest, it does not cause alteration in the genuine structure of the piece. Because of being with parallel, hole process can be applied on the machined piece.
- Hardened
- Black coating
- Set is in the plastic box



Set İçindekiler / The set consists of						
Parça Part						
Adet Quantity	2	2	10	10	2	1



Referans Nr.		c	L	b	b1	n	n1	n2	k	k1	k2	sw	ı	h	h1	d	d1	sıkma kuvveti clamping force Kgf	Tork Değeri Allowable Screw Torque (N-m)	 (g)
2070-14	14	10	142	24	8	37	12.5	18.5	65	54	26	6	65	23	10	M12	M12	850	15	3575
2070-16	16																			3710
2070-18	18	14	145	28	10	48	12.5	18.5	74	56	26	8	65	28	11	M12	M12	1000	35	5215
2070-20	20																			5400
2070-22	22																			5610

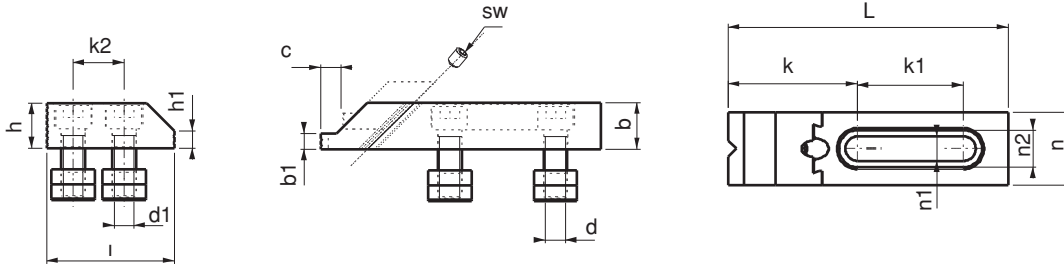
### Ürün Nr. 2070 Kızaklı Yandan Bağlama Set

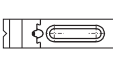





- Hareketli çenenin kızaklı yapısından dolayı iş parçasını dayama ve pleyt yönüne sıkar. Çenenin geniş hareketi iş parçasını bağlama ve sökmede kolaylık sağlar.
- DIN 650 T-Kanala uyumludur
- Çene Sertlik : Sertleştirilmiş
- Siyah kaplama
- Plastik kutuda set

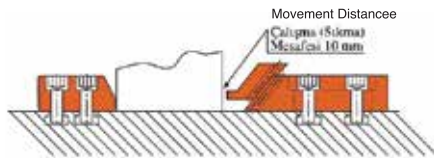


### Product Nr. 2070 Sliding Side Wrench Set

- Because of the sliding structure of the moving jaw it clamps the work piece in the direction of resting and plate.
- Wide movement of the jaw provides convenience in coupling and dismantling of the workpiece.
- It is in compliance with DIN 650 T-Slot
- Hardness of jaw: Hardened
- Black coating
- Set is in the plastic box



Set İçindekiler / The set consists of						
Parça Part						
Adet Quantity	2	2	8	8	2	1



Not: Sabit dayamanın dereceli tarafı ince parçalar, düz tarafı ise kalın parçalarda kullanılmak üzere iki farklı şekilde kullanılabilir.   
Note: Fixed rest can be used as two different ways: Graded side is used for thin pieces and the Straight side is used with thick pieces.



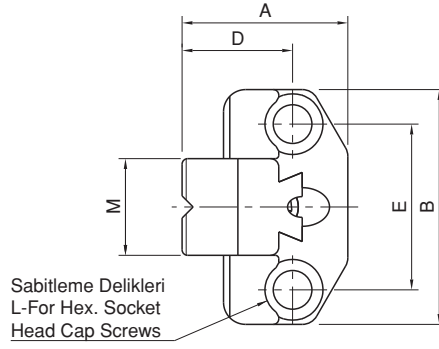
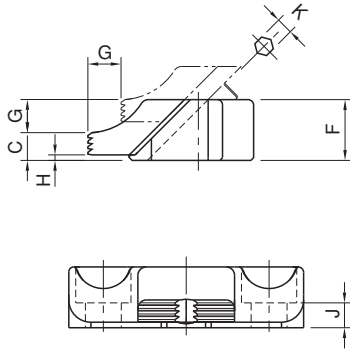
Referans Nr.	A	B	C	D	E	F	G	H	J	K	L	M	Sıkma Kuvveti Clamping Force Kgf	Tork Deđeri Allowable Screw Torque (N-m)	(g)
2072-08016	39.5	65	7.5	25	45	16	7	1.5	7	4	M8	25	400	8	160
2072-12022	60	85	10	40	60	22	12	2	9	6	M12	35	900	26	450
2072-16030	77	100	14	50	70	30	14	2	13	8	M16	40	1700	60	900

**Ürün Nr. 2072 Yandan Bađlama**

- Siyah Kaplama

**Product Nr. 2072 Side Clamps**

- Black Coating


**Yandan Bađlama**

## Side Clamps

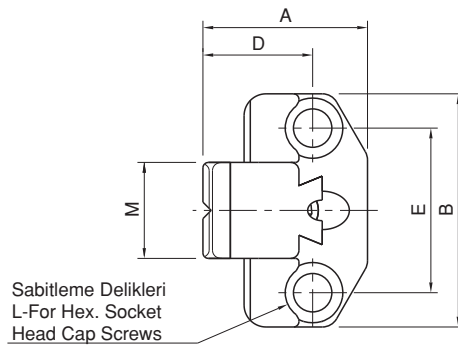
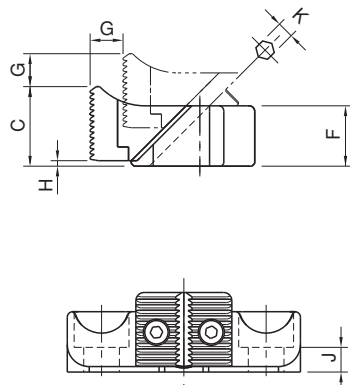
Referans Nr.	A	B	C	D	E	F	G	H	J	K	L	M	Sıkma Kuvveti Clamping Force Kgf	Tork Deđeri Allowable Screw Torque (N-m)	(g)
2073-08016	39.5	65	19.5	25	45	16	7	1.5	7	4	M8	25	400	8	180
2073-12022	60	85	29	40	60	22	12	2	9	6	M12	35	900	26	500
2073-16030	77	100	38	50	70	30	14	2	13	8	M16	40	1700	60	1010

**Ürün Nr. 2073 Yandan Bađlama**

- Çene Sertlik: Sertleřtirilmiř
- 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

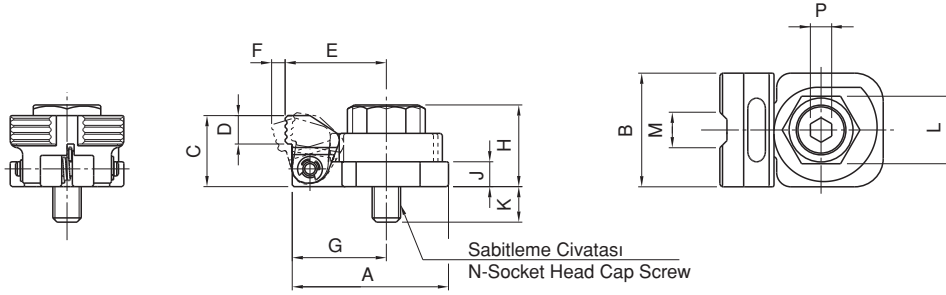


#### Ürün Nr. 2077 Yandan Bağlama

- Siyah Kaplama

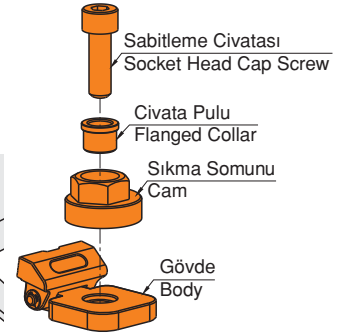
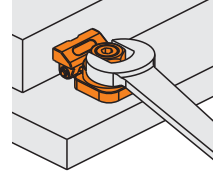
#### Product Nr. 2077 Side Clamps

- 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.



## Yandan Bağlama

### Side Clamps

Referans Nr.		A	H	L	Sıkma Kuvveti Clamping Force Kgf	(g)
2080-01428	14 - 16 - 18 - 20 - 22 - 24 - 28	61	57	110	3000	1850

#### Ürün Nr. 2080 Yandan Bağlama

- Vida kaldırması ile dikey ve yatay sıkma kuvveti sağlamakta.

#### Gövde

- Statik Boya

#### Çene

- Sertleştirilmiş

#### Product Nr. 2080 Side Clamps

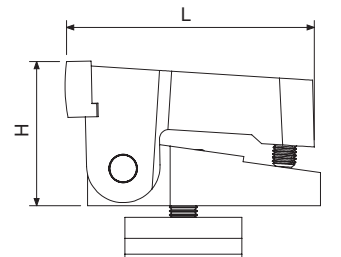
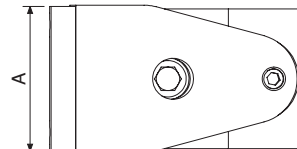
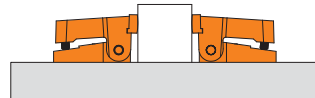
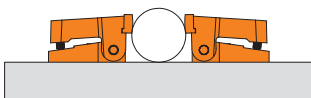
- Vertical down thrust and horizontal clamping force available simultaneously with the operation of leverage screw



#### Body

- Statical Painting

#### Jaw

- Hardened



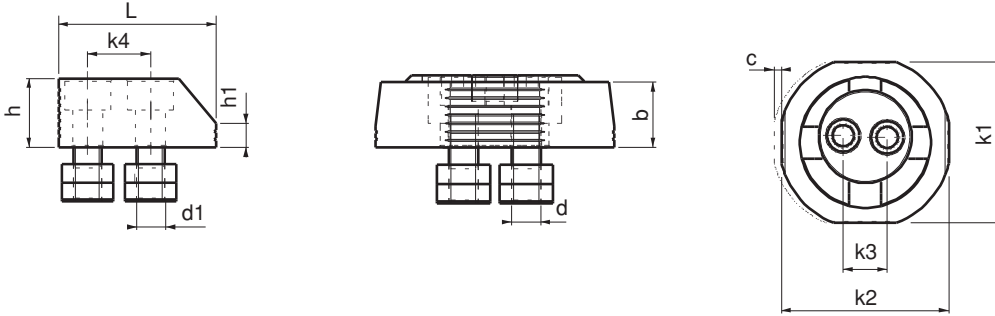
Referans Nr.		c	b	k1	k2	k3	k4	L	h	h1	d	d1	sıkma kuvveti clamping force Kgf	
2090-14	14	3.5	30	95	99	26	26	65	28	10	M12	M12	3500	7925
2090-16	16													8490
2090-18	18													4610
2090-20	20													8850
2090-22	22													9030
2090-24	24													9490
2090-28	28													9800



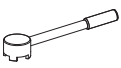





**Ürün Nr. 2090 Kollu Yandan Bağlama Set**

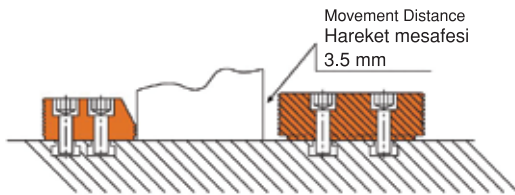
- Ürünün eksantrik çalışma sistemi saat yönünde sıkıldığında iş parçasını dayama ve pleyt yönüne özel dizayn anahtarları ile yüksek kuvvette sıkar.
- 1-Kollu yandan sıkma pabucunun eksantrik hareketi 3.5 mm'dir.
- 2-Ürün iş parçasına 1.5 - 2 mm yaklaşır.
- 3-10 mm alyan ile imbus civataları sabitlenir.
- 4-Ürünü anahtarları ile saat yönünde çevirerek iş parçasını sabitleme işlemi gerçekleştirilir.
- DIN 650 T-Kanala uyumludur
- Somun Sertlik : Sertleştirilmiş
- Siyah kaplama
- Plastik kutuda set

**Product Nr. 2090 Armed Side Press Set**

- When the eccentric working system of the product is tightened clockwise, it clamps the work piece with high force in the direction of resting and plate with it's special designed wrench.
- 1-Eccentric movement of Armed Side Clamp 3.5 mm.
- 2-It brings the product 1.5 - 2mm close to the work piece
- 3-imbus bolts are fixed with 10mm allen.
- 4-Fixing of the work piece is implemented by turning the product clockwise with the wrench.
- It is in compliance with DIN 650 T-Slot
- Hardness of nut: Hardened
- Black coating
- Set is in the plastic box



Set İçindekiler / The set consists of							
Parça Part							
Adet Quantity	2	2	1	8	8	1	1





Not: Sabit dayamanın dereceli tarafı ince parçalar, düz tarafı ise kalın parçalarda kullanılmak üzere iki farklı şekilde kullanılabilir.

Note: Fixed rest can be used as two different ways: Graded side is used for thin pieces and the Straight side is used with thick pieces.





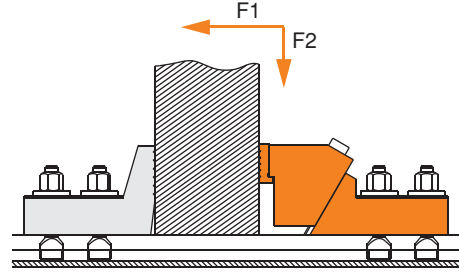
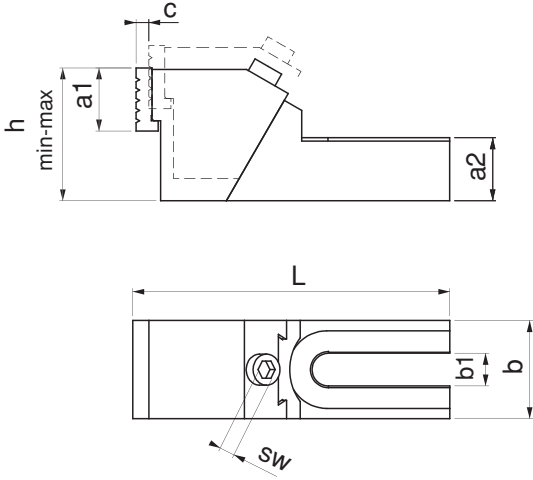
Referans Nr.		a1	a2	b	b1	c	h min-max	L	sw	F1 Sıkma kuvveti Clamping force Kgf	F2 Sıkma kuvveti Clamping force Kgf	 (kg)
2095-571	14-16-18	37	37	57	19	8	78-98	185	10	2250	350	3.68
2095-761	20-22-24-28	37	45	76	26	11	98-118	240	14	3000	450	7.66

## Ürün Nr. 2095 Blok Yandan Bağlama



- İş parçasını dayama ve pleyt yönüne sıkır özellikle yüksek iş parçaları için tasarlanmıştır
- Çene Sertlik: Sertleştirilmiş
- Siyah kaplama

## Product Nr. 2095 Block Side Press

- It clamps the workpieces in clamp rest direction and plate direction, it is designed especially for high workpieces.
- Hardness of jaw: Hardened
- Black coating



# Blok Yandan Bağlama

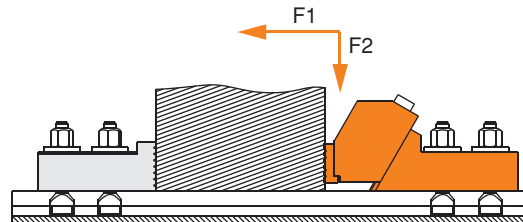
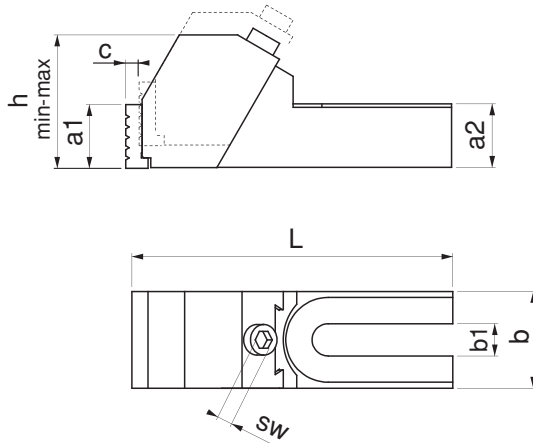
Referans Nr.		a1	a2	b	b1	c	h min-max	L	sw	F1 Sıkma kuvveti Clamping force Kgf	F2 Sıkma kuvveti Clamping force Kgf	 (kg)
2095-572	14-16-18	37	37	57	19	8	78-98	185	10	2250	350	3.6
2095-762	20-22-24-28	37	45	76	26	11	98-118	240	14	3000	450	6.7



## Ürün Nr. 2095 Blok Yandan Bağlama

- İş parçasını dayama ve pleyt yönüne sıkır büyük plakaların bağlanabilmesi için tasarlanmıştır
- Çene Sertlik: Sertleştirilmiş
- Siyah kaplama

## Product Nr. 2095 Block Side Press

- It clamps the workpieces in clamp rest direction and plate direction, it is designed for clamping big plates.
- Hardness of jaw: Hardened
- Black coated



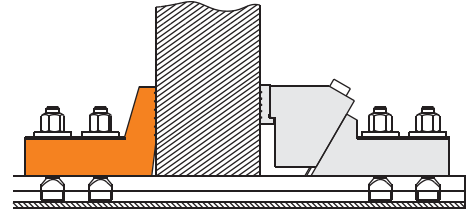
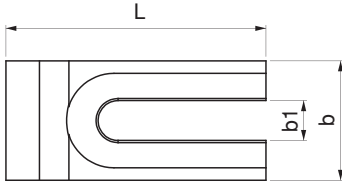
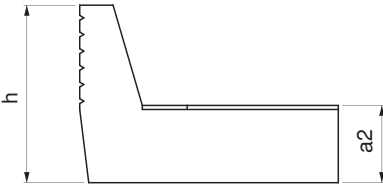
Referans Nr.		a2	b	b1	h	L	 (kg)
2098-571	14-16-18	37	57	19	85	124	2.025
2098-761	20-22-24-28	45	76	26	105	154	4.185

### Ürün Nr. 2098 Blok Yandan Bağlama Dayaması



- 2095-571 ve 761 pabuçlar için dayama olarak tasarlanmıştır.
- Siyah kaplama

### Product Nr. 2098 Block Stopper Side Press

- It is designed as clamp rest for clamps 2095-571 and 761.
- Black coating



## Blok Yandan Bağlama Dayaması

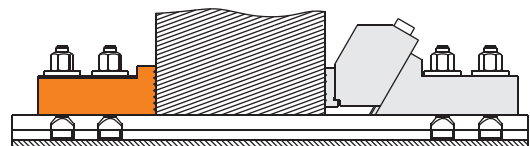
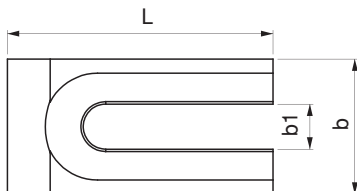
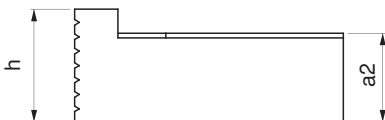
Referans Nr.		a2	b	b1	h	L	 (kg)
2098-572	14-16-18	37	57	19	47	112	2.800
2098-762	20-22-24-28	45	76	26	49	140	4.185

### Ürün Nr. 2098 Blok Yandan Bağlama Dayaması

- 2095-572 ve 762 pabuçlar için dayama olarak tasarlanmıştır.
- Siyah kaplama

### Product Nr. 2098 Block Stopper Side Press

- It is designed as clamp rest for clamps 2095-572 and 762.
- Black coating



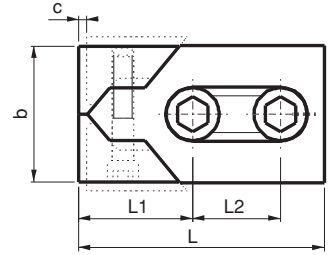
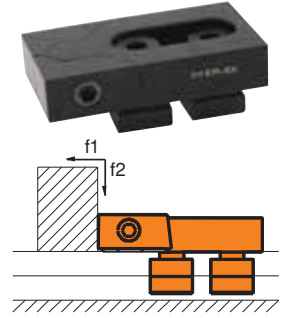
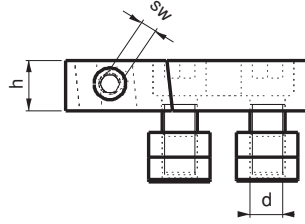
Referans Nr.	a	c	h	b	L	L1	L2	sw	d	Sıkma Kuvveti Clamping Force		(g)
										f1 Kgf	f2 Kgf	
2110-12	12	3	20	40	80	39	26	6	M10	1600	60	415
2110-14	14									2200	90	425
2110-16	16									3200	120	785
2110-18	18	4	25	50	100	46	34	8	M14	3600	140	810
2110-20	20									3600	140	850
2110-22	22									3600	140	2275
2110-24	24	5	28.5	78	140	65	50	10	M20	3600	140	2360
2110-28	28									4000	160	2500

### Ürün Nr. 2110 Çift Çeneli Yandan Bağlama

- İş parçasını dayama ve pleyt yönünde sıkar, pabucun yapısından dolayı kuvvetli sıkma yapar.
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 2110 Side Press Clamp with Double Claw

- Product clamps the work piece in the direction of rest and plate. It achieves powerful clamping because of the clamp's structure.
- Hardened
- Black coating



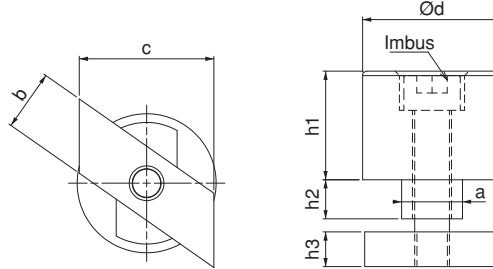
Referans Nr.	a	a h6	b -0.6	c DIN 650	d ±0.01	h1 ±0.01	h1 ±0.02	h2	h3	ISO 4762	(g)
2120-1450	14	0-0.011	14	24	32	-	50	9	8	M8x60	355
2120-1825	18	0-0.011	18	30	40	25	-	15	10	M10x40	360
2120-1850	18	0-0.011	18	30	40	-	50	15	10	M10x65	600
2120-2225	22	0-0.013	22	38	40	25	-	15	14	M10x50	410
2120-2250	22	0-0.013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

### Ürün Nr. 2120 Silindir Dayama

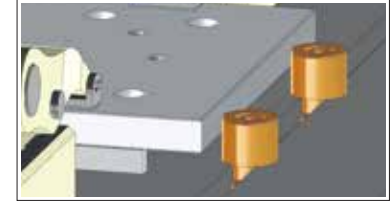
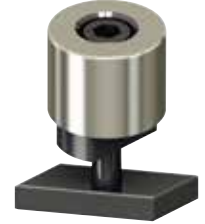
- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 2120 Cylinder Pluggable

- Hardened
- Black coating



### Silindir Dayama Cylinder Pluggable



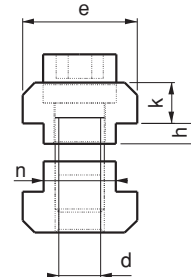
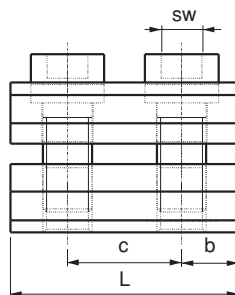
Referans Nr.	a	n	e	c	d	b	h	k	L	sw	(g)
2130-14	14	13.7	22	22	M8	11	4	8	44	6	180
2130-16	16	15.7	25	25	M12	12.5	5	9	50	10	270
2130-18	18	17.7	28	28	M12	14	5	10	56	10	355
2130-20	20	19.7	32	32	M16	16	5	12	64	14	570
2130-22	22	21.7	35	35	M16	17.5	6	14	70	14	770
2130-24	24	23.7	40	40	M20	20	6	16	80	17	1180
2130-28	28	27.7	44	44	M20	22	6	18	88	17	1560

### Ürün Nr. 2130 Dayama

- Dayama referans alma, uzunlamasına ve enlemesine kullanılır.
- Sertleştirilmiş
- Siyah kaplama


### Product Nr. 2130 Clamp Rest

- Clamp Rest is used for reference taking, longitudinal and cross-wise.
- Hardened
- Black coating



### Dayama Clamp Rest



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

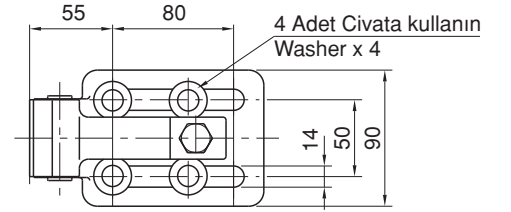
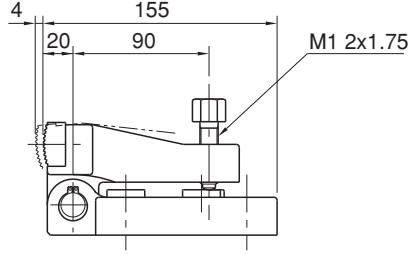
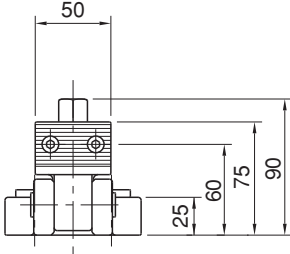
- Material: Cast Iron
- Black coating

#### 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

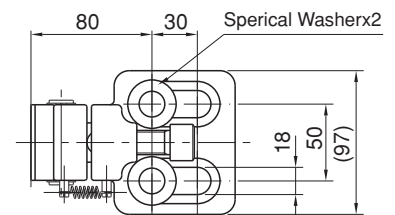
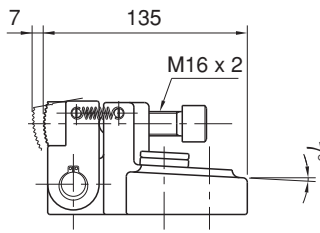
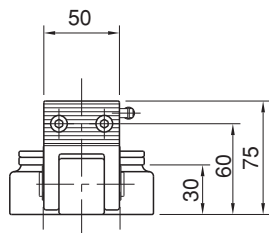
- Material: Cast Iron
- Black coating

#### 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

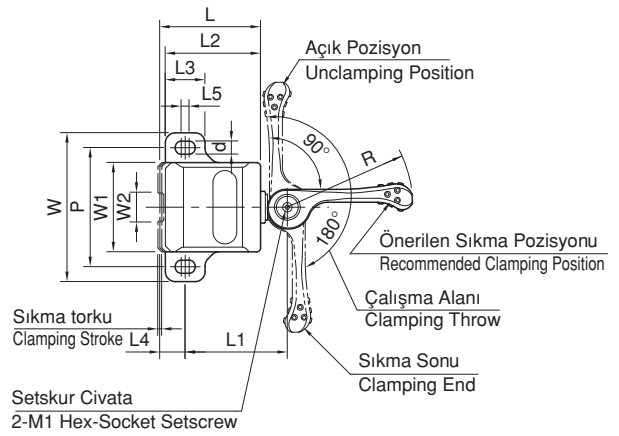
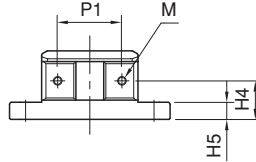
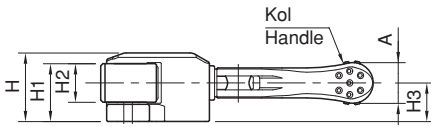
Referans Nr.	H	L	L2	R	L1	H3	M1
2139-32150	32	51	48	63	51.5	18	M4x0.7
2139-40200	40	67	63	80	67	22	M5x0.8

Referans Nr.	A	Sıkma Torku Clamping Stroke	Çalışma Yüğü Operating Load (N)	Sıkma Kuvveti Clamping Force Kgf	
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

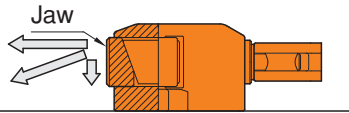


**Özellikler**

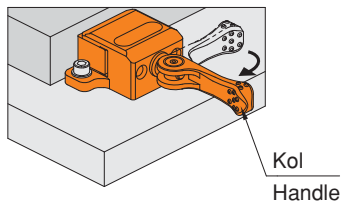
- Kol ile tek dokunuşta sıkma.
- Finiş işlerde mükemmel bağlama.
- Parçanın kalkmaması için çeneyi aşağı ve ileri iter.

**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.



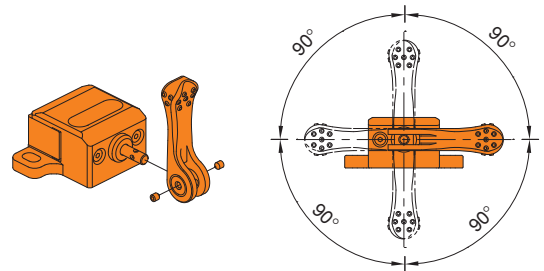
**Kullanım Şekli  
How To Use**



**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

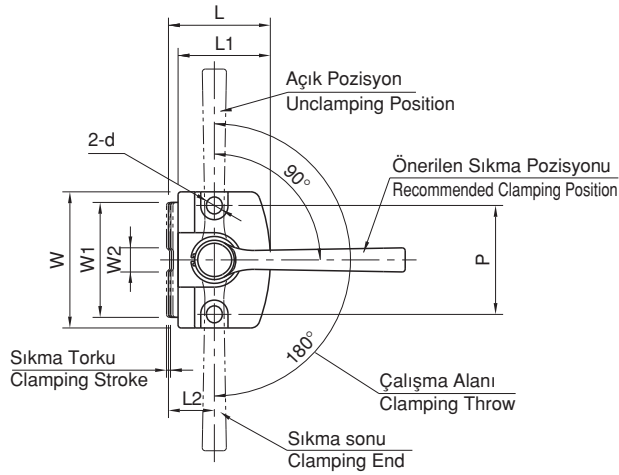
Referans Nr.	H	D	H1	R	A	W3	M1	İzin Verilen Tork Allowable Screw Torque (N m)	Sıkma Kuvveti Clamping Force Kgf	
2141-00010	30	13	20	63	12	6	M4x0.7	10	400	85
2141-00015	46	19	30	100	18	10	M5x0.8	27	600	290

**Ürün Nr. 2141 Yandan Bağlama**

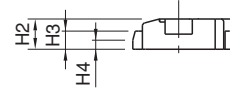
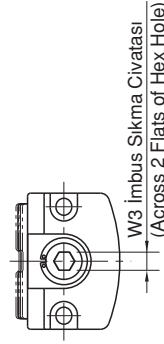
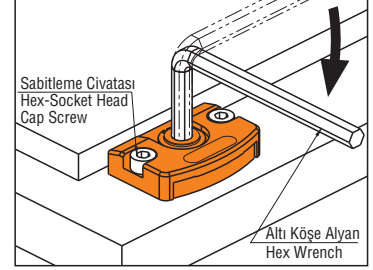
- Gövde**
- Siyah kaplama
- Çene**
- Sertleştirilmiş
  - Siyah Kaplama

**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**



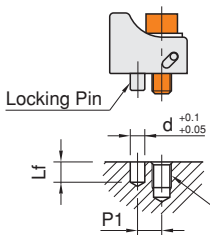
**Ürün Nr. 2143 Yandan Bağlama**

- Sertleştirilmiş
- Siyah Kaplama

**Product Nr. 2143 Side Clamps**

- Hardened
- Black coating

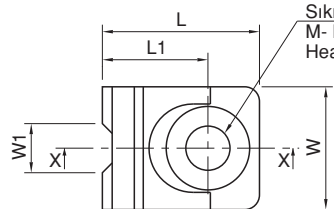
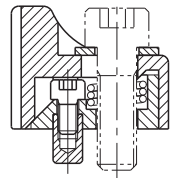
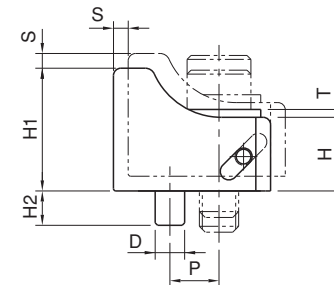
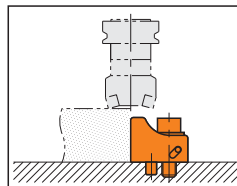
**Kurulum ve Kullanım Şekli / How To Use and Install**



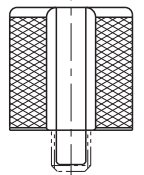
Nr.	M1	d	Lf	P1
CP107-08015	M 8	6	8	10
CP107-10019	M10	6	8	12
CP107-12023	M12	8	11	16
CP107-16025	M16	10	11	20

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

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



Sıkma Cıvatası  
M- Hex. Socket  
Head Cap Screws





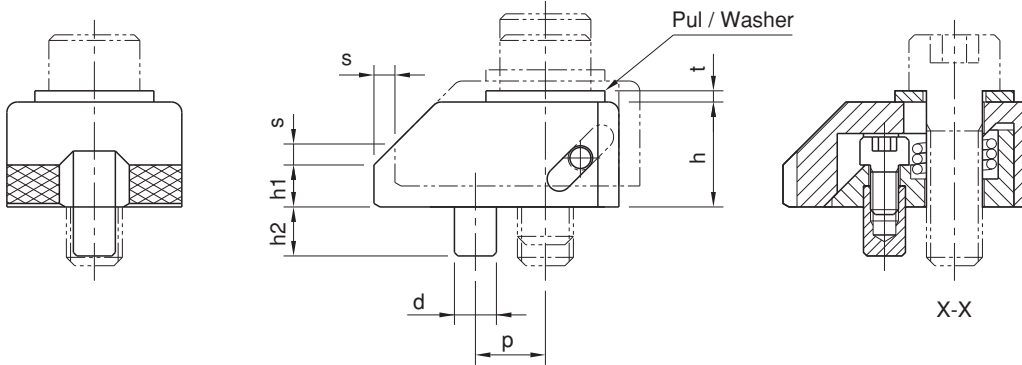
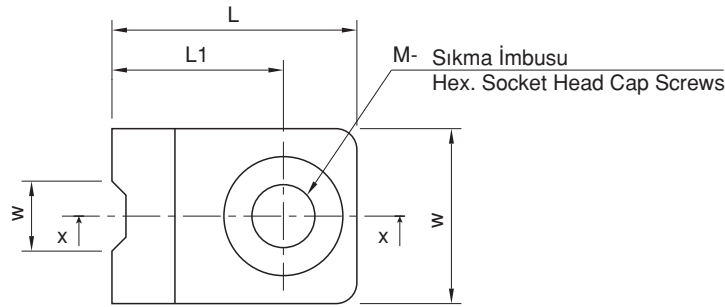
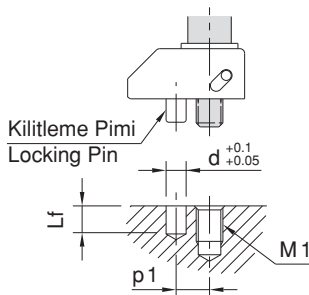
Referans Nr.	s	w	w1	h1	L1	P	d (h7)	h2	M	L	h	t	Sıkma Kuvveti Clamping Force (N)	İzin Verilen Vida Torku Allowable Screw Torque (N·m)	(g)
2144-08015	3	25	10	6	24.5	10	6	7	M8	35	15	1.6	7.000	25	100
2144-10019	4	30	11	8	29	12	6	7	M10	43	19	2	8.500	50	185
2144-12023	5	35	12	9	37	16	8	10	M12	54	23	2.3	20.000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

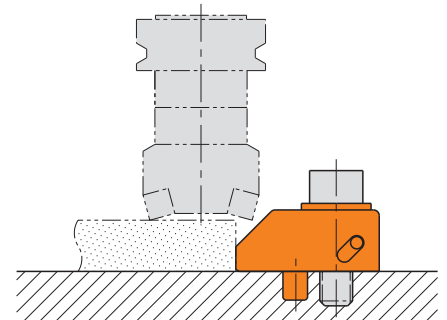
- Sertleştirilmiş
- Siyah kaplama


**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



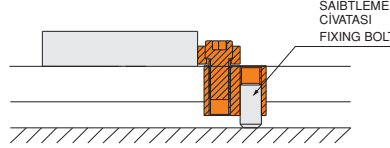
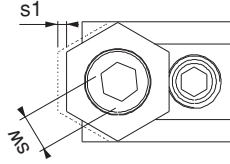
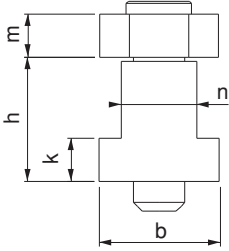
Referans Nr.		s1	m	sw	L	h	k	n	b	Sıkma Kuvveti Clamping Force	
										kgf	(g)
2150-08	8	1.4	5	4	23	9.5	6	7.7	13	310	25
2150-10	10	1.4	5	4	23	14	6	9.7	15	310	35
2150-12	12	1.2	7	5	28	15	7	11.7	18	340	60
2150-14	14	1.7	7	7	30	22	8	13.7	22	800	95
2150-16	16	1.7	10	8	30	22	9	15.7	25	1500	130
2150-18	18	2	10	8	35	28	10	17.7	28	1500	190
2150-20	20	2.5	13	10	40	32	12	19.7	32	2000	290
2150-22	22	2.5	13	12	45	38	14	21.7	35	2000	390

### Ürün Nr. 2150 Kanal İçi Yandan Bağlama

- Ürünün T-Gövdesi tamamıyla tezgah kanalına girer. Sadece ürünün eksantrik başlığı tabla yüzeyinde kaldığı için ince parçalarda sıkma kolaylığı sağlar.
- DIN 650 T-Kanala uyumludur
- Sertleştirilmiş
- Siyah kaplama



### Product Nr. 2150 In-slot Side Clamp

- T-Slot of the product enters in the slot of the bench completely. Since only the eccentric headpiece remains on the surface of the table, this provides easy clamping of the thin pieces.
- It is in compliance with DIN 650 T-Slot
- Hardened
- Black coating



# Yandan Bağlama Pençe Pabuç

## Jaw Clamp

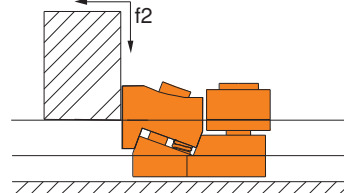
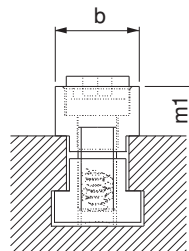
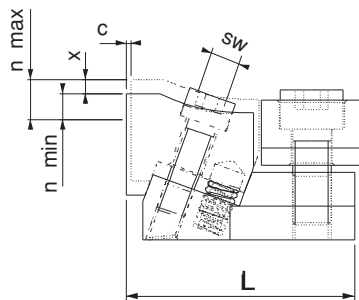
Referans Nr.		c	n		x	L	b	m1	sw	Sıkma Kuvveti Clamping Force		
			min	max						f1 kgf	f2 kgf	
2170-12	12	2	2	6	4	46	21	10	5	500	60	120
2170-14	14	2.5	2.5	7.5	5	51	26	10	6	550	70	200
2170-16	16	3	2.5	8.5	6	61	27.5	12	6	800	90	290
2170-18	18	3	2	8	6	67	35	13	8	900	100	420
2170-20	20	4	2.5	11	8.5	78	38	13	10	1200	140	640
2170-22	22	4.5	2.5	12	9.5	87	39	16.5	10	1600	190	830



### Ürün Nr. 2170 Yandan Bağlama Pençe Pabuç

- İş parçasını dayama ve pleyt yönüne sıkar
- T-Kanal içinde çalışması yükseklik avantajı sağlar
- DIN 650 T-Kanala uyumludur
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 2170 Jaw Clamp

- This product clamps the workpiece in the direction of resting and plate
- It's working in T-Slot provides height advantage
- It is in compliance with DIN 650 T-Slot
- Hardened
- Black coating



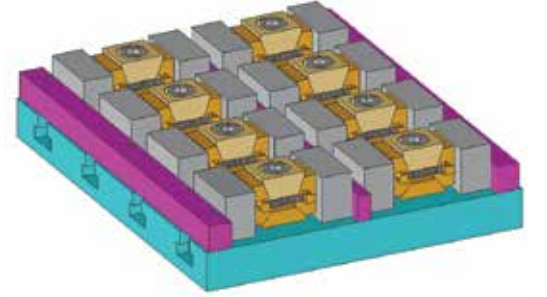
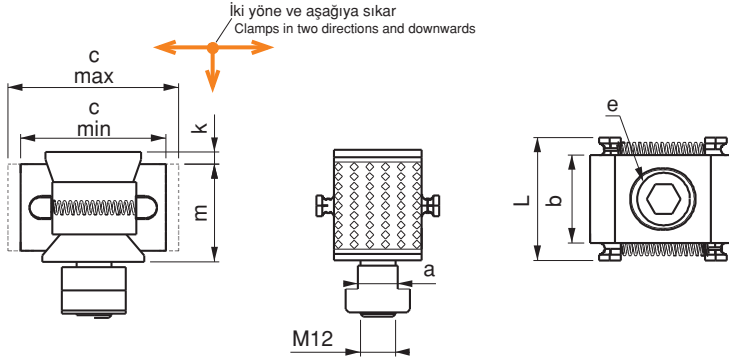
Referans Nr.	c			m	k	b	L	e DIN 912	Sıkma Kuvveti Clamping Force kgf	
	min	max								
2190-5055	50	55	14-16-18-20-22	35	4	30	42	M12	1750	390

### Ürün Nr. 2190 Çift Açılır Yandan Bağlama



- Bir noktadan iki yöne ve pleyt yönüne doğru sıkma işlemi yapar.
- M12 diş pleytlerde ve (a) 14-16-18-20-22 T-Kanal ölçülerinde kullanılır.
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 2190 Side Press with Double Opening

- This product makes press process from one point to two directions and towards the direction of the plate.
- It is used in M12 thread plates and (a) 14-16-18-20-22 T-Slot measurings
- Hardened
- Black coating



## Çift Açılır Yandan Bağlama

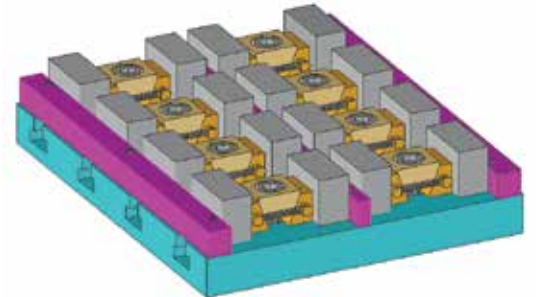
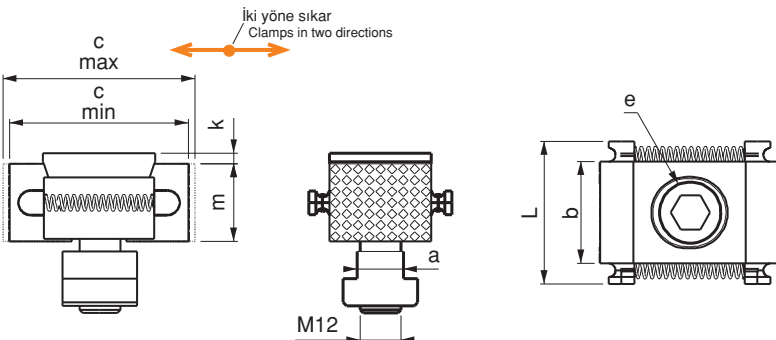
Referans Nr.	c			m	k	b	L	e DIN 912	Sıkma Kuvveti Clamping Force kgf	
	min	max								
2210-4954	49	54	14-16-18-20-22	23	4	30	42	M12	1500	280


### Ürün Nr. 2210 Çift Açılır Yandan Bağlama

- Bir noktadan iki yöne sıkma işlemi yapar.
- M12 diş pleytlerde ve (a) 14-16-18-20-22 T-Kanal ölçülerinde kullanılır.
- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 2210 Side Press with Double Opening

- This product makes press process from one point to two directions.
- It is used in M12 thread plates and (a) 14-16-18-20-22 T-Slot measurings
- Hardened
- Black coating



Referans Nr.	h x b x L	tolerans tolerance h	tolerans tolerance b	 (kg)	Adet Piece
2230-028	14x10x150	±0.01	±0.01	10.8	2
	16x10x150				2
	18x10x150				2
	20x10x150				2
	22x10x150				2
	24x10x150				2
	26x10x150				2
	28x10x150				2
	30x10x150				2
	32x10x150				2
	35x10x150				2
	40x10x150				2
	45x10x150				2
50x10x150	2				

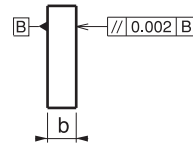
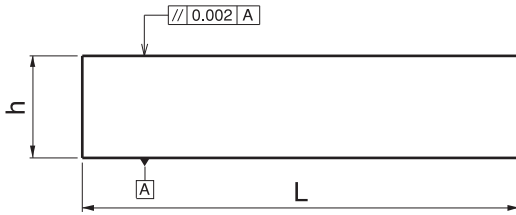



**Ürün Nr. 2230 Paralel Set-28**

- Ürün iş parçalarının paralel bağlanmasında ve hassas işlenmesinde altlık olarak kullanılır.
- 28 parça
- Sertleştirilmiş
- Ahşap kutuda set

**Product Nr. 2230 Paralel Set-28**

- This product is used for parallel coupling of the workpieces and as the base for sensitive machinings of the work pieces.
- 28 pieces.
- Hardened
- Set is in the wooden box



Referans Nr.	h x b x L	tolerans tolerance h	tolerans tolerance b	 (kg)	Adet Piece
2250-016	20x6x100	±0.01	±0.01	10.6	2
	23x8x100				2
	28x10x100				2
	36x12x150				2
	42x14x150				2
	48x16x150				2
	58x18x150				2
	65x22x150				2

**Paralel Set**

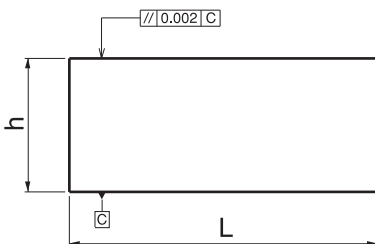


**Ürün Nr. 2250 Paralel Set-16**

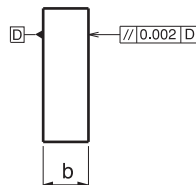
- Ürün iş parçalarının paralel bağlanmasında ve hassas işlenmesinde altlık olarak kullanılır.
- 16 parça
- Sertleştirilmiş
- Ahşap kutuda set


**Product Nr. 2250 Paralel Set-16**

- This product is used for parallel coupling of the workpieces and as the base for sensitive machinings of the work pieces.
- 16 pieces.
- Hardened
- Set is in the wooden box



- Sertleştirilmiş
- Hardened



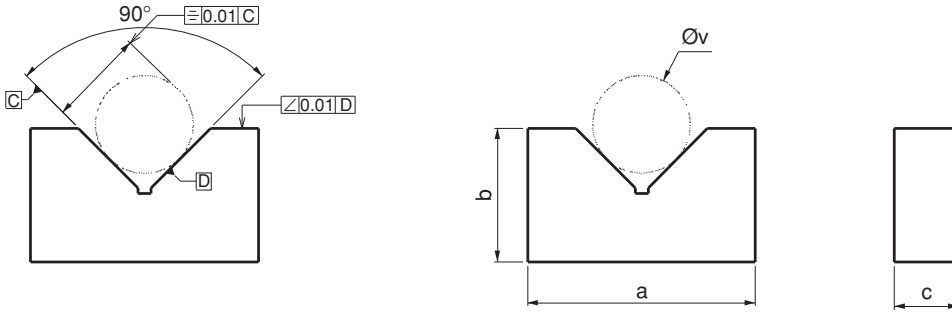
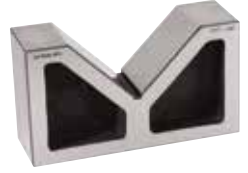
Referans Nr.	a	b	c	Øv		 (g)
				min	max	
2270-140	140	82	40	20	110	1980
2270-204	204	115	66	15	150	6150


**Ürün Nr. 2270 V-Yatak**

- Malzeme : Döküm
- Silindir parçaların paralel bağlanmasında ve hassas işlenmesinde altlık olarak kullanılır.
- İkili takım

**Product Nr. 2270 V-Clamping Block**

- Material: Casting
- This product is used in parallel couplings of cylindrical pieces and it is also used as the base for sensitive machinings of the workpieces.
- Set of two pieces



Referans Nr.	a	b	c	Øv1		Øv2		Øv3		Øv4		 (g)
				min	max	min	max	min	max	min	max	
2290-120	120	100	60	12	40	12	60	12	75	12	90	2840
2290-150	152	132	74	15	80	15	95	15	110	15	120	4975

**XV-Yatak**

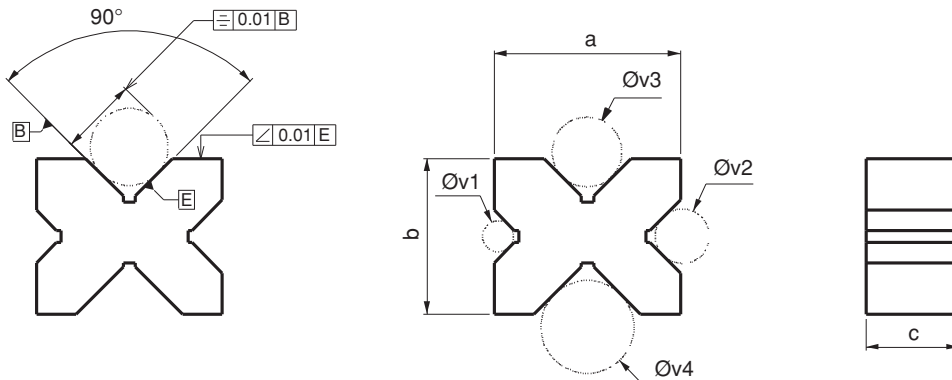
XV-Clamping Block


**Ürün Nr. 2290 XV-Yatak**

- Malzeme : Döküm
- Silindir parçaların paralel bağlanmasında hassas işlenmesinde altlık olarak kullanılır, X formunda olmasından dolayı 4 ayrı yüzeyi kullanma avantajı sağlar.
- İkili takım

**Product Nr. 2290 XV-Clamping Block**

- Material: Casting
- This product is used in parallel couplings of cylindrical pieces and it is also used as the base for sensitive machinings of the workpieces. It provides using advantage in 4 different surfaces because of being in X form.
- Set of two pieces



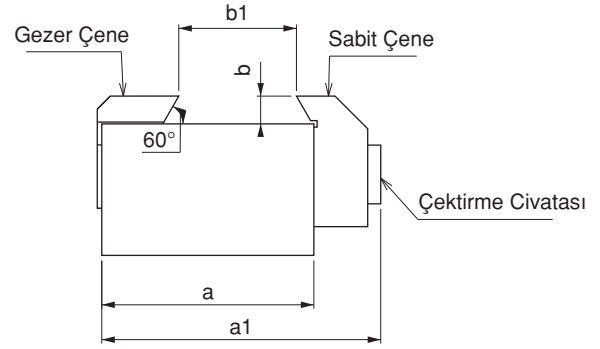
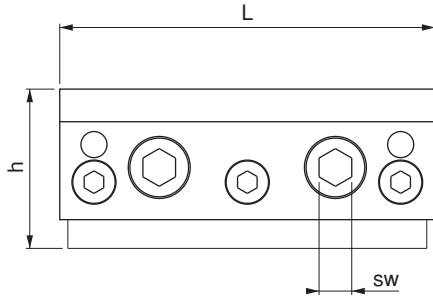
Referans Nr.	L	h	a	a1	b	b1	sw	 (g)
2295-090	90	39	55	73	7	21-35	8	1480
2295-115	115	49	65	82.5	8.5	31-42	10	2690
2295-130	130	56	75	98	10	37-48	12	4160

### Ürün Nr. 2295 CNC 5 Eksen Parça Bağlama Aparatı

- İş parçasına kırılmaç yuva açılarak aparata bağlanır.
- Sertleştirilmiş
- Siyah kaplama


### Product Nr. 2295 CNC 5 Axis Clamping Parts Apparatus

- Apparatus is connected at workpiece, swallow nest opening.
- Hardened
- Black coating



## CNC 5 Eksen Parça Bağlama Takozu

CNC 5 Axis Clamping Parts Wedge

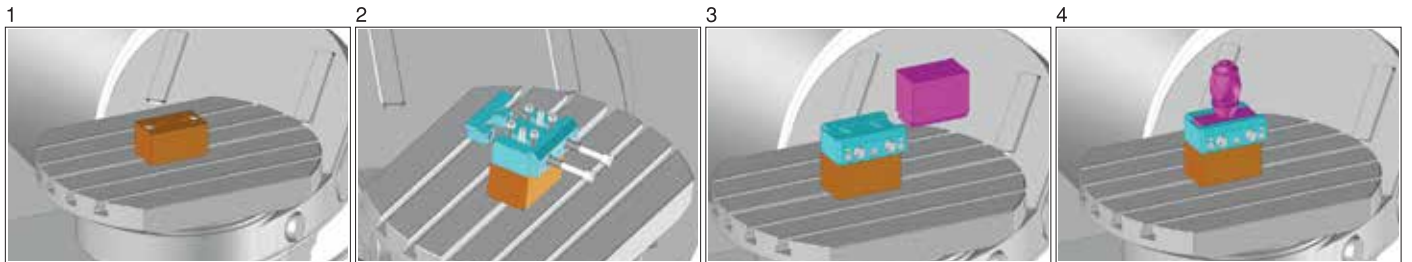
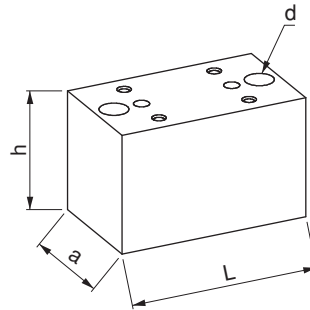
Referans Nr.	a	h	L	d	 (g)
2297-090	55	58	87	M10	2110
2297-115	65	68	110	M12	3750
2297-130	75	80	126.5	M12	5830

### Ürün Nr. 2297 CNC 5 Eksen Parça Bağlama Takozu

- Sertleştirilmiş
- Siyah kaplama

### Product Nr. 2297 CNC 5 Axis Clamping Parts Wedge

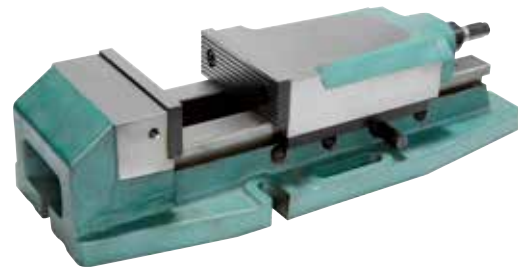
- Hardened
- Black coating






# MENGENELER

VICES



Referans Nr.	a	a1	b	c	e	f	h	L	ı	s	n	sıkma kuvveti clamping force kgf	 (kg)
2300-127130	170	127	0-130	63	112	209	112	374	115	100	49	2750	31

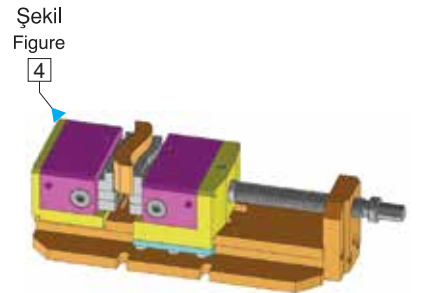
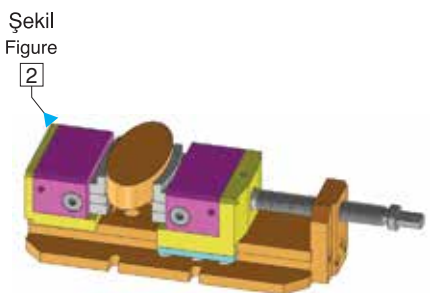
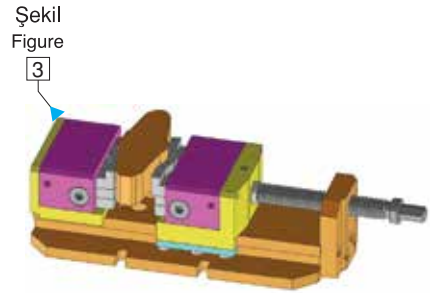
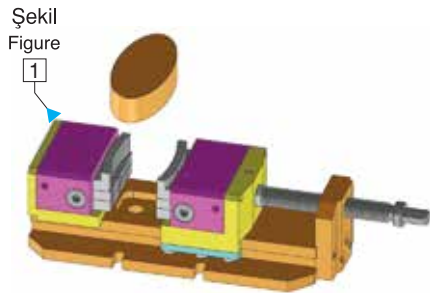
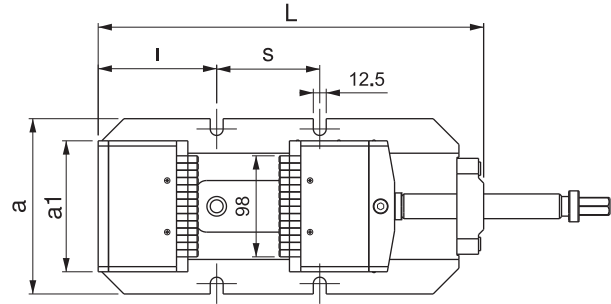
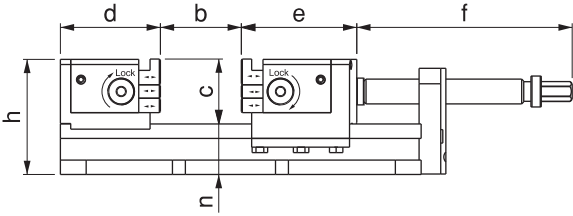
**Ürün Nr. 2300 Kavramalı Mengene**


- Mengene çenelerinin bağlanacak iş parçasına göre form alması ve gerektiğinde bu formun sabitlenebilir olması kavramalı mengineenin en önemli özelliğidir. (Şekil 1-2-3-4'teki gibi)
- Çene : Sertleştirilmiş



**Product Nr. 2300 Vice Grip**

- Clamping jaws need to be connected to this form and take the form according to the workpiece to be set permanently, the most important feature of the vice grip. (1-2-3-4 shape as shown in)
- Jaw : Hardened



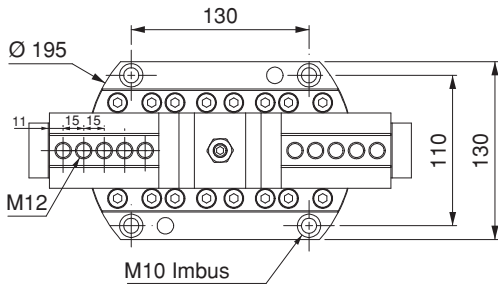
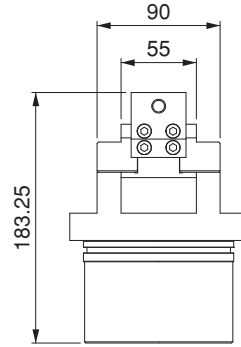
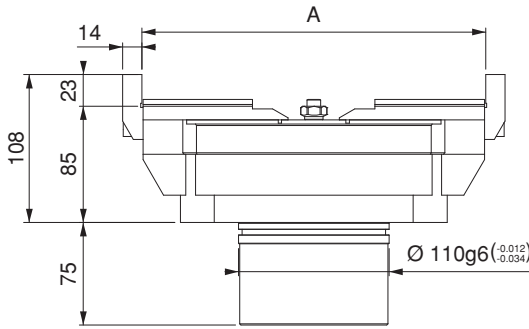
Referans Nr.	A min-max	Strok	Hydraulic Bar	Sıkma kuvveti Clamping force kgf	
2305-0251	0 - 251	13 x 2	30	750	15.2
			40	1000	
			50	1250	
			60	1500	

### Ürün Nr. 2305 Hidrolik Çift Açılır Mengene

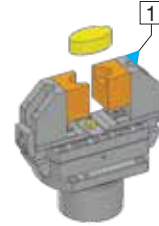
- Ürün işlem yapılacak malzemeyi sabitleirken aynı zamanda da merkezleme yapmaktadır. Bu sistemin avantajı özellikle dış çap ölçüleri değişken malzemelerde merkez değişmeden işlem yapılabilir. Diğer özelliği ise yumuşak çenelere işlenecek parçanın formu uygulanabilir (1-2-3-4 şekillerde görüldüğü gibi.)
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.
- Sistem hidrolik çalışır
- Yağ giriş - Yağ dönüş
- Siyah Kaplama

### Product Nr. 2305 Hydraulic Centering Vice

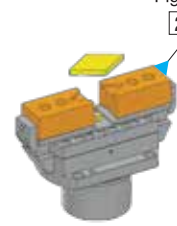
- This product fixes the material to be processes and at the same time it makes centering. The advantage of this system specially shows itself when making machinings of the materials having different outer diameter measurements as it implements this process without changing the center. It's other characteristic is to apply the form of the piece to be machined with soft claws (as seen in Figures: 1-2-3-4-5 and 6).
- Entire moving surface is sensitively grinded and hardened.
- Hydraulic system works
- Oil inlet - Oil outlet
- Black coating



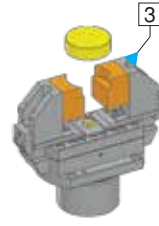
Şekil Figure 1



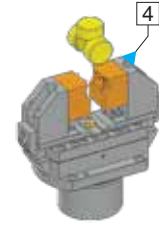
Şekil Figure 2




Şekil Figure 3



Şekil Figure 4



Referans Nr.	A min-max	Strok	Pneumatic Bar	Sıkma kuvveti Clamping force kgf	
2307-0188	0-188	8.5x2	6	750	18.5

## Pnömatik Çift Açılır Mengene

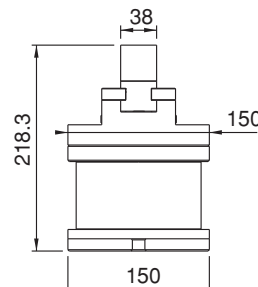
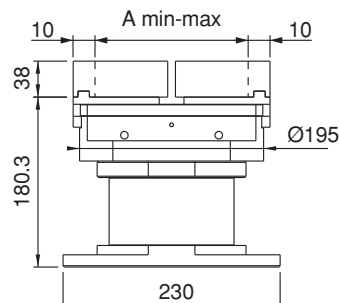
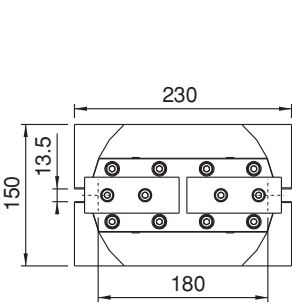
Pneumatic Centering Vice

### Ürün Nr. 2307 Pnömatik Çift Açılır Mengene

- Sistem pnömatik çalışır.

### Product Nr. 2307 Pneumatic Centering Vice

- Pneumatic system works



# MEKANİK ÇELİK MENGENE UYGULAMASI

MECHANICAL STEEL VICE APPLICATION





Referans Nr.	a	L	c/2	açılır opens 2 x mm	iş başlama kapasitesi Work Piece Coupling Capacity (mm)	b	b1	b2 ±0,02	b3	p1	p2	s1	s2	sıkma kuvveti clamping force kgf	sw	(kg)
2310-060	60	120	90	20	120	23.5	70.5	67.5	91	174	124	150	100	1000	9	7
2310-078	78	180	130	30	180	33	97	93	126	224	124	200	100	1600	12	14
2310-100	100	220	154	38	220	35	99	95	130	274	174	250	150	1600	12	22
2310-125	125	260	174	47	260	38	108	103	141	324	174	300	150	2200	14	35
2310-157	157	350	208	75	350	46	123	118	164	424	224	400	200	2200	17	65

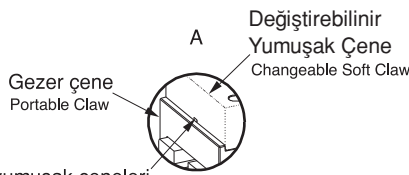
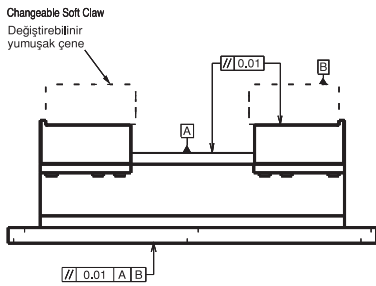
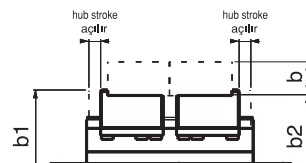
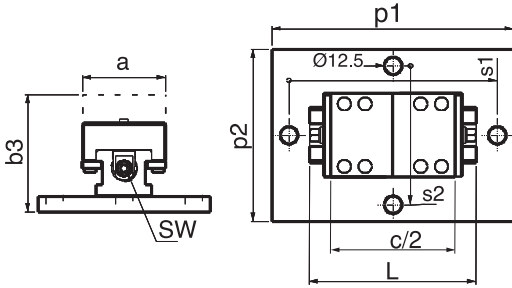
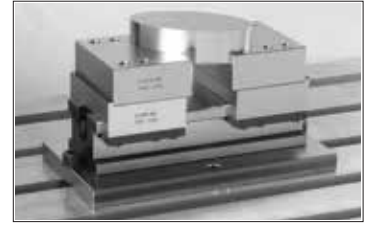


#### Ürün Nr. 2310 Çift Açılır Çelik Mengene

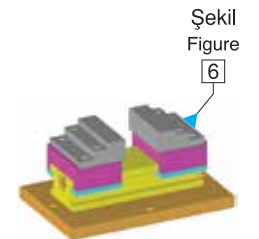
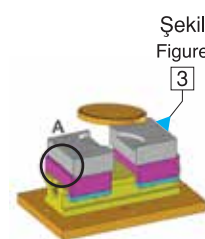
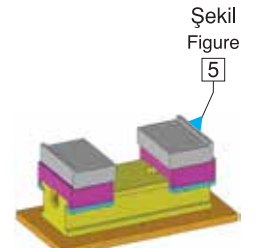
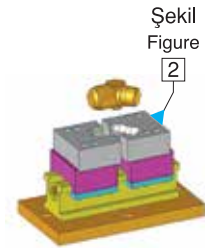
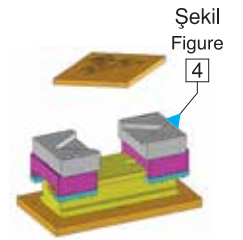
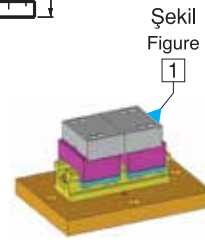
- Ürün işlem yapılacak malzemeyi sabitlerken aynı zamanda da merkezleme yapmaktadır.
- Bu sistemin avantajı özellikle dış çap ölçüleri değişken malzemelerde merkez değişmeden işlem yapılabilir.
- Diğer özelliği ise yumuşak çenelere işlenecek parçanın formu uygulanabilir (1-2-3-4-5-6 şekillerde görüldüğü gibi).
- Kullanım alanı: CNC ve mekanik frezeler, taşlama, matkap gibi çeşitli sanayi makinelerinde kullanılır.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.
- Çeneleri ayrı olarak satın almanız gerekir.
- Siyah Kaplama

#### Product Nr. 2310 Steel Vice with Double Opening

- This product fixes the material to be processes and at the same time it makes centering. The advantage of this system specially shows itself when making machinings of the materials having different outer diameter measurements as it implements this process without changing the center. It's other characteristic is to apply the form of the piece to be machined with soft claws (as seen in Figures: 1-2-3-4-5 and 6).
- Area of Using: This product is used in various industry machines such as CNC and mechanical milling machines, grinding and auger.
- Entire moving surface is sensitively grinded and hardened.
- You need to purchase jaws separate.
- Black coating



Gezer çene kaması yumuşak çeneleri söküp takma hassasiyeti  $\pm 0.02$  dir  
Demounting and mounting of portable jaw wedge soft claws is  $\pm 0.02$ .



Referans Nr.	a	L	c/2	açılır opens 2 x mm	b1	b2 ±0,02	p1	p2	s1	sıkma kuvveti clamping force kgf	sw	(kg)
2315-060	60	120	90	20	117.5	114.5	174	56	150	1000	9	4.1
2315-078	78	180	130	30	159	155	224	73.5	200	1600	12	10
2315-100	100	220	154	38	159	155	274	95	250	1600	12	17.2

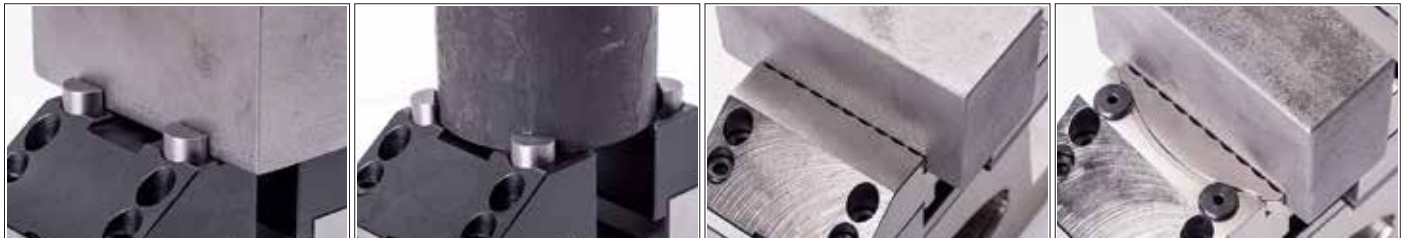
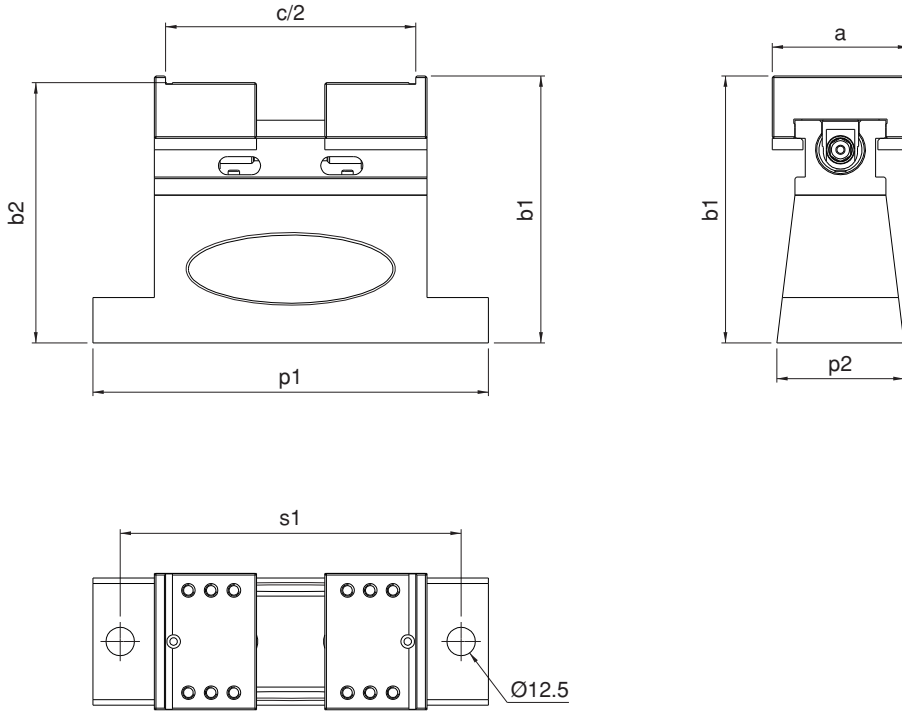


### Ürün Nr. 2315 Çift Açılır 5-Eksen Mengene

- Ürün işlem yapılacak malzemeyi sabitlerken aynı zamanda da merkezleme yapmaktadır.
- Bu sistemin avantajı özellikle dış çap ölçüleri değişken malzemelerde merkez değişmeden işlem yapılabilir.
- Kullanım alanı: CNC ve CNC 5-Eksen sanayi makinalarında kullanılır.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.
- Çeneleri ayrı olarak satın almanız gerekir.
- Siyah Kaplama

### Product Nr. 2315 Double Opening 5-Axis Vice

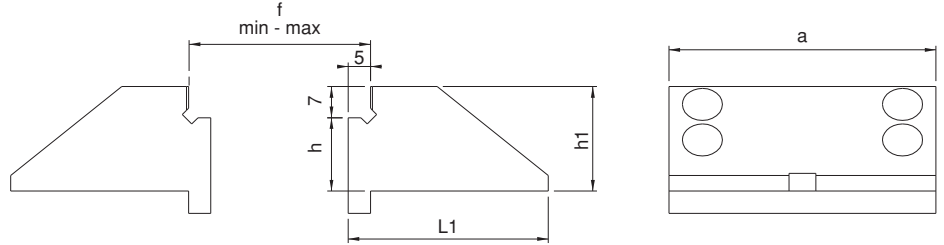
- This product fixes the material to be processes and at the same time it makes centering. The advantage of this system specially shows itself when making machinings of the materials having different outer diameter measurements as it implements this process without changing the center.
- Area of Using: This product is used in various industry machines such as CNC and CNC 5-Axis mechanical milling machines,
- Entire moving surface is sensitevely grinded and hardened.
- You need to purchase jaws separate.
- Black coating





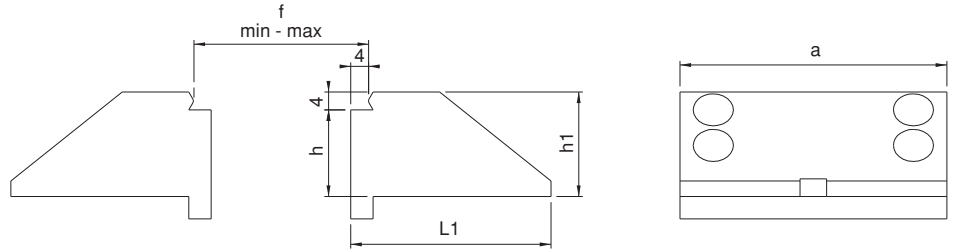
Referans Nr.	f min-max	h	h1	L1	a
2310-23150601	10-50	16.5	23.5	45	60
2310-23150781	10-70	26	33	65	78
2310-23151001	10-86	28	35	77	100
2310-23151251	10-104	31	38	87	125
2310-23151571	10-160	39	46	104	157

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



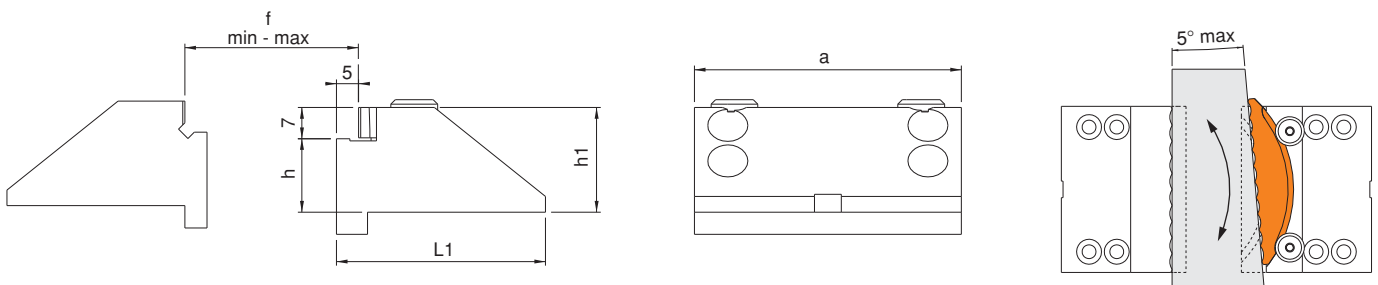
Referans Nr.	f min-max	h	h1	L1	a
2310-23150602	8-48	20.5	23.5	45	60
2310-23150782	8-68	29	33	65	78
2310-23151002	8-84	31	35	77	100
2310-23151252	8-102	34	38	87	125
2310-23151572	8-158	46	46	104	157

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



Referans Nr.	f min-max	h	h1	L1	a
2310-23150603	10-50	16.5	23.5	47	60
2310-23150783	10-70	26	33	67	78
2310-23151003	10-86	28	35	79	100

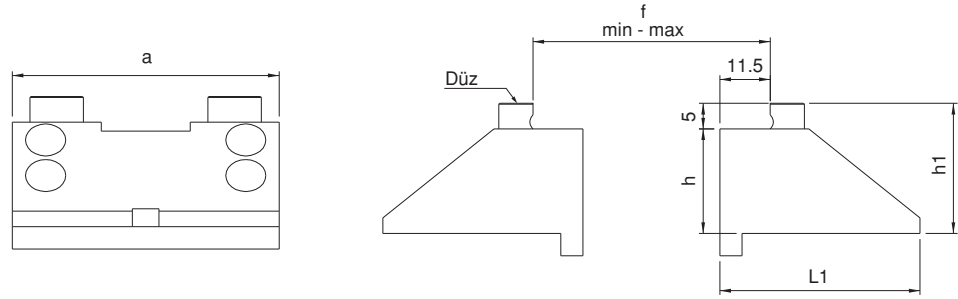
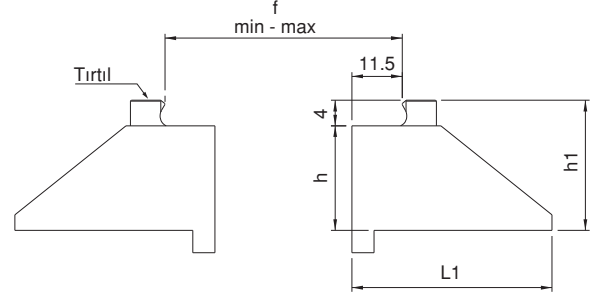
- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



Referans Nr.	f min-max	h	h1	L1	a
2310-23150604	23-63	23.5	27.5	45	60
2310-23150784	23-83	33	37	65	78
2310-23151004	23-99	35	39	77	100

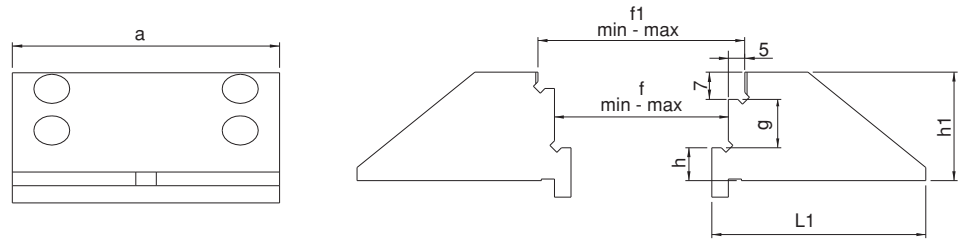
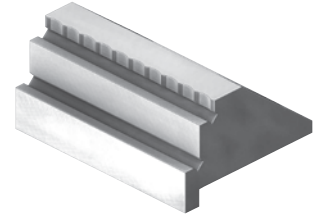
- Satın almadan önce çene özelliğini belirtiniz. (Tırtıl veya Düz)
- Sertleştirilmiş
- Siyah Kaplama

- You should specify the jaw feature before make purchase.(Serrated or Straight)
- Hardened
- Black Coating



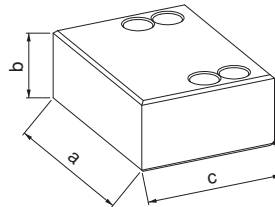
Referans Nr.	f min-max	f1 min-max	h	h1	g	L1	a
2310-23150605	10-50	20-60	7	23.5	11.5	45	60
2310-23150785	10-70	20-80	10	33	16	65	78
2310-23151005	10-86	20-96	10	35	18	77	100
2310-23151255	10-104	20-114	10	38	21	87	125
2310-23151575	10-160	20-170	10	46	29	104	157

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



Referans Nr.	a	b	c
2310-23150606	60	23.5	45
2310-23150786	78	33	65
2310-23151006	100	35	77
2310-23151256	125	38	87
2310-23151576	157	46	104

**Yumuşak Çene**  
**Soft Jaw**



Referans Nr.
2310-2315-060AG
2310-2315078AG
2310-2315100AG
2310-2315125AG
2310-2315157AG

**Alt Gövde**  
**Sub-body**



Referans Nr.
2310-2315060GÇ
2310-2315078GÇ
2310-2315100GÇ
2310-2315125GÇ
2310-2315157GÇ


**Gezer Çene**  
**Portable Jaw**



Referans Nr.
2310-2315060M
2310-2315078M
2310-2315100M
2310-2315125M
2310-2315157M

**Mil**  
**Pin**



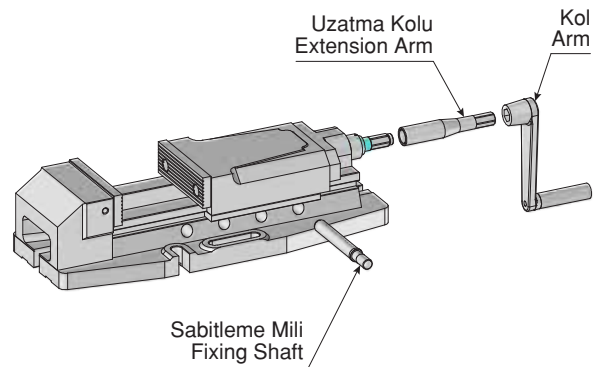
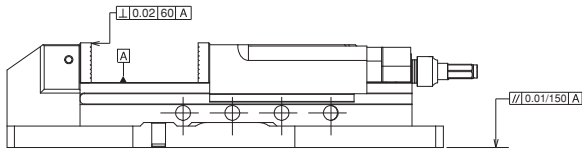
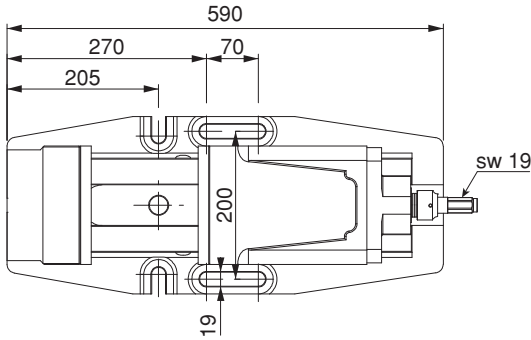
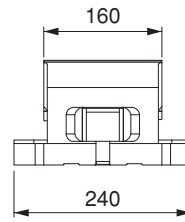
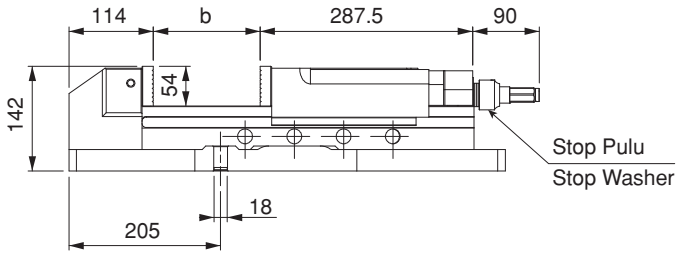
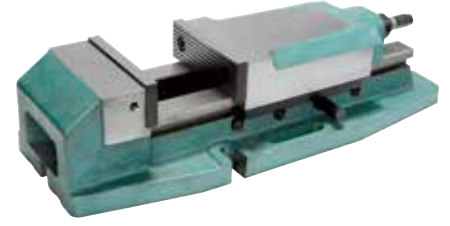
Referans Nr.	b	Sıkma kuvveti Clamping force kgf	 (kg)
2320-160200	0-200	4500	60

**Ürün Nr. 2320 Hidrolik Mengene**

- Kullanım alanı: CNC ve mekanik frezeler, matkap tezgahları, çeşitli sanayi makineleri.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

**Product Nr. 2320 Hydraulic Vice**

- Area of Using: CNC and mechanical milling machines, drilling machines, various industrial machines
- Entire moving surface is sensitively grinded and hardened.



Referans Nr.	a	b	c	L	d	e	f	h	i	n	s	sıkma kuvveti clamping force kgf	(kg)
2330-127160	127	0-160	60	422	99	78	160	115	125	55	200	3500	28
2330-157200	157	0-200	60	462	99	78	160	115	150	55	200	4500	46
2330-157300	157	0-300	60	562	99	78	160	115	150	55	250	4500	51
2330-197300	197	0-300	60	562	99	78	160	115	150	55	250	4500	66
2330-197400	197	0-400	60	662	99	78	160	115	150	55	350	4500	73
2330-197500	197	0-500	60	762	99	78	160	115	150	55	250/250	4500	80

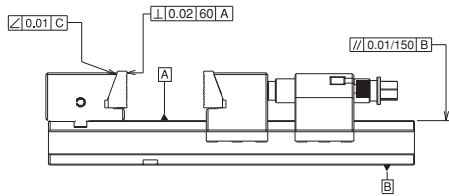
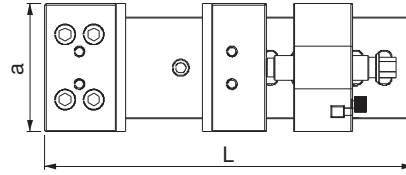
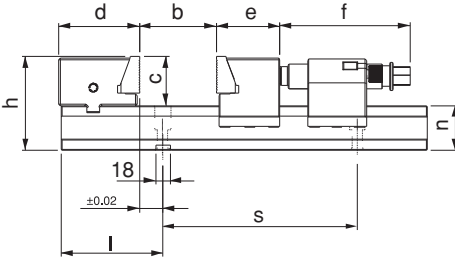


### Ürün Nr. 2330 Mekanik Çelik Mengene

- Mekanik çelik mengene sertleştirilmiş ve hassas taşlanmış olarak mükemmel kullanıma sahiptir. Kullanım özelliği işlenecek malzemeyi sabitlerken sabit ve hareketli çenelerde bulunan modüler çeneler yaylı sisteminden dolayı malzemeyi mengene tabanına doğru çeker ve güvenli çalışma sağlar. Kamalı sabitleme özelliğiyle hareketli çene mesafesi hızlı ayarlanabilir, kolay kullanılır.
- Kullanım alanı: CNC ve mekanik frezeler, taşlama ve matkap tezgahları, çeşitli sanayi makineleri
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

### Product Nr. 2330 Mechanical Steel Vice

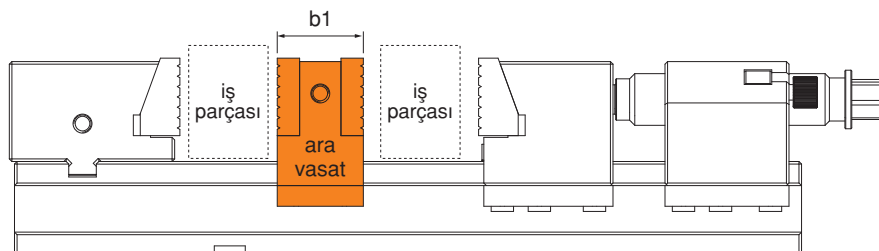
- Mechanical Steel Vice is hardened and it has excellent way of using because of being sensitively grinded. It's usage characteristic fixes the material to be machined and at the same time it pulls the material to the base of the vice because of having springed system of modular jaws taking place in the moving jaws. Entire moving surface is sensitively grinded. With it's wedged fixing characteristic, moving jaw distance can be adjusted rapidly and can be used with convenience.
- Area of Using: CNC and mechanical milling machines, grinding and drilling machines, various industrial machines
- Entire moving surface is sensitively grinded and hardened.




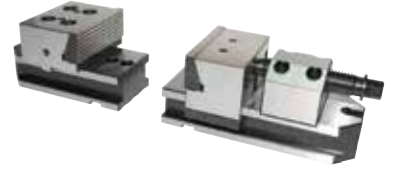
## 2'li Bağlama İçin Ara Vasat

Medium Part to Connect Two Work Piece

Referans Nr.	b1	(kg)
2330-127	50	3.1
2330-157	50	3.8
2330-197	50	4.7



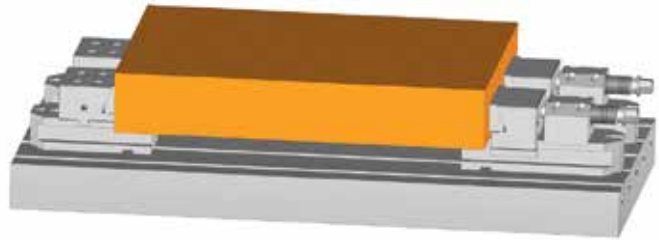
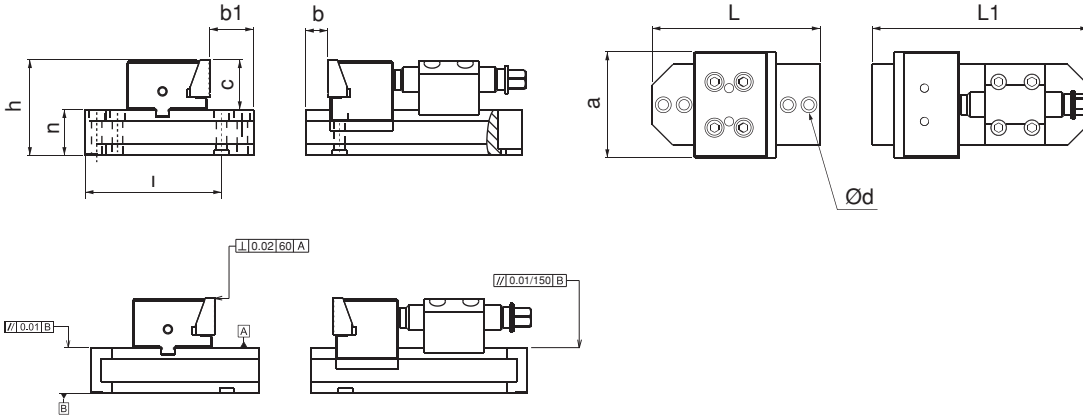
Referans Nr.	a	L	L1	b1	b	c	h	i	n	Ød	sıkma kuvveti clamping force kgf	 (kg)
2345-127	127	202	260	53	0-58	60	115	163.5	55	12.5	3500	28


**Ürün Nr. 2345 Modüler Mekanik Çelik Mengene**


- Ürün çenelerinin hareketli oluşu iş parçasını karşıya ve aşağıya çekerek sıkar. Mengenenin iki parçalı ve paralel oluşu büyük iş parçalarını bağlamada delik diş vs. gibi işlemlerde kolaylık sağlar.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

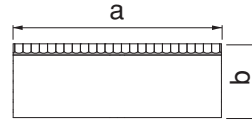
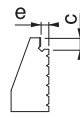
**Product Nr. 2345 Modular Mechanical Steel Vice**

- Because of sliding clamping jaws it clamps the workpieces in opposite direction and down. The vice consists of two parts and it is parallel which provides clamping big tools, threading and similar processes easy.
- Entire moving surface is sensitively grinded and hardened.






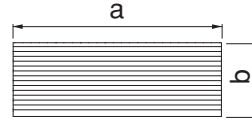
Referans Nr.	a	b	c	d	e	f	
2333-127	127	45	7	-	5	-	760
2333-157	157	45	7	-	5	-	935
2333-197	197	45	7	-	5	-	1180



**Ürün Nr. 2333 Mekanik Çelik Mengene Faturalı Çene**  
**Product Nr. 2333 Mechanical Steel Vice Jaws with Stopper**


- Sertleştirilmiş
- Hardened

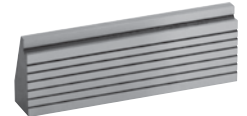
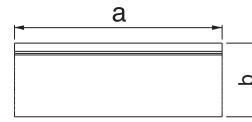
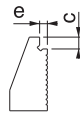
Referans Nr.	a	b	c	d	e	f	
2334-127	127	45	-	-	-	-	765
2334-157	157	45	-	-	-	-	960
2334-197	197	45	-	-	-	-	1185



**Ürün Nr. 2334 Mekanik Çelik Mengene Düz Çene**  
**Product Nr. 2334 Mechanical Steel Vice with Straight Jaw**


- Sertleştirilmiş
- Hardened

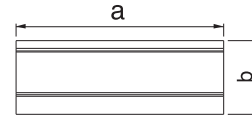
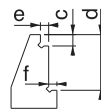
Referans Nr.	a	b	c	d	e	f	
2335-127	127	45	7	-	5	-	760
2335-157	157	45	7	-	5	-	935
2335-197	197	45	7	-	5	-	1180



**Ürün Nr. 2335 Mekanik Çelik Mengene Faturalı Çene**  
**Product Nr. 2335 Mechanical Steel Vice Jaws with Stopper**


- Sertleştirilmiş
- Hardened

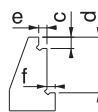
Referans Nr.	a	b	c	d	e	f	
2340-127	127	45	7	34	5	5	950
2340-157	157	45	7	34	5	5	1010
2340-197	197	45	7	34	5	5	1290



**Ürün Nr. 2340 Mekanik Çelik Mengene Faturalı Çene**  
**Product Nr. 2340 Mechanical Steel Vice Jaws with Stopper**

- Sertleştirilmiş
- Hardened

Referans Nr.	a	b	c	d	e	f	
2336-127	127	45	7	34	5	5	950
2336-157	157	45	7	34	5	5	1010
2336-197	197	45	7	34	5	5	1290



**Ürün Nr. 2340 Mekanik Çelik Mengene Faturalı Çene**  
**Product Nr. 2340 Mechanical Steel Vice Jaws with Stopper**

- Sertleştirilmiş
- Hardened

Referans Nr.
2330-127160AG
2330-157200AG
2330-157300AG
2330-197300AG
2330-197400AG
2330-197500AG

**Ürün Nr. 2330 Alt Gövde**  
**Product Nr. 2330 Sub-body**



Referans Nr.
2330-127SÇ
2330-157SÇ
2330-197SÇ

**Ürün Nr. 2330 Sabit Çene**  
**Product Nr. 2330 Fixed Jaw**



Referans Nr.
2330-127GÇ
2330-157GÇ
2330-197GÇ

**Ürün Nr. 2330 Gezer Çene**  
**Product Nr. 2330 Portable Jaw**



Referans Nr.
2330-127GS
2330-157GS
2330-197GS

**Ürün Nr. 2330 Gezer Somun**  
**Product Nr. 2330 Portable nut**



Referans Nr.
2330-127SK
2330-157SK
2330-197SK

**Ürün Nr. 2330 Stop Kaması**  
**Product Nr. 2330 Wedge of Stop**



Referans Nr.
2330-127M
2330-157M
2330-197M

**Ürün Nr. 2330 Mil**  
**Product Nr. 2330 Pin**



Referans  
Nr.

2345-127SAG

**Ürün Nr. 2345 Sabit Alt Gövde**  
**Product Nr. 2345 Fixed Sub-body**Referans  
Nr.

2345-127GAG

**Ürün Nr. 2345 Gezer Alt Gövde**  
**Product Nr. 2345 Portable Sub-body**Referans  
Nr.

2345-127SÇ

**Ürün Nr. 2345 Sabit Çene**  
**Product Nr. 2345 Fixed Jaw**Referans  
Nr.

2345-127GÇ

**Ürün Nr. 2345 Gezer Çene**  
**Product Nr. 2345 Portable Jaw**Referans  
Nr.

2345-127SS

**Ürün Nr. 2345 Sabit Somun**  
**Product Nr. 2345 Fixed Nut**Referans  
Nr.

2345-127M

**Ürün Nr. 2345 Mil**  
**Product Nr. 2345 Pin**

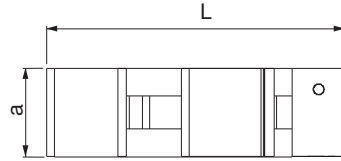
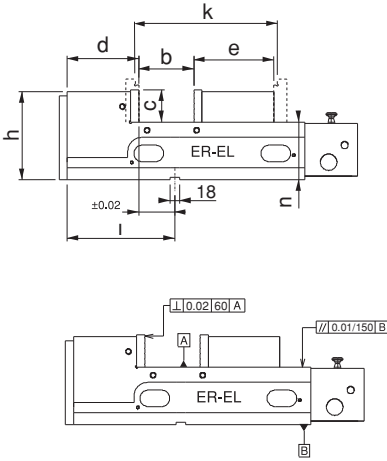
Referans Nr.	a	b	c	k	L	d	e	h	i	n ±0.01	sıkma kuvveti clamping force kgf	hareket mesafesi Moving Distance Torque	(kg)
2350-160E	160	160	58	310	530	130	145	160	190	105	2000	4	62

### Ürün Nr. 2350 Pnömatik Mengene 160E

- 6 Bar hava ile çalışır. Pnömatik yapısından dolayı sıkma-açma işlemlerinde hız kazandırır.
- 2000 kgf sıkma kuvvetiyle iş parçasını sabitler. İsteğe bağlı bar ayar butonuyla sıkma kuvveti ayarlanabilir.
- Kullanım alanı: CNC ve mekanik frezeler, matkap tezgahları, çeşitli sanayi makineleri.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

### Product Nr. 2350 Pneumatic Vice 160E

- It works with 6 Bar Air. It provides speed in clamping-opening processes because of it's pneumatic structure.
- It fixes the workpiece with it's 2000 kgf clamping force. Clamping force can be adjusted with it arbitrary bar adjustment button.
- Area of Using: CNC and mechanical milling machines, drilling machines, various industrial machines
- Entire moving surface is sensitively grinded and hardened.



- "k" ölçüsüne yedek çenelerle ulaşılır. Yedek çeneler takıma dahil değildir.
- "k" measurement is reached by the spare jaws. The spare jaws are not included in the set.

Referans Nr.	a	a1	b	c	k	L	d	e	h	i	n ±0.01	sıkma kuvveti clamping force kgf	hareket mesafesi Moving Distance Torque	(kg)
2370-051	130	188	60	58	135	327	64	209	160	-	105	1100	4	37
2370-052	130	185	140	63	225	400	69	300	160	173	105	2200	4	44
2370-053	160	201	200	63	300	485	93	353	166	170	105	3300	4	63
2370-054	200	240	250	63	360	530	93	410	166	185	105	4100	4	81

### Ürün Nr. 2370 Pnömatik Mengene B

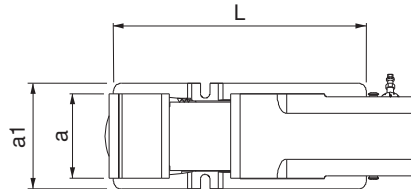
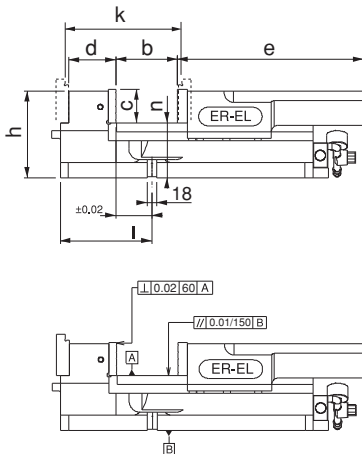
- 6 Bar hava ile çalışır. Pnömatik yapısından dolayı sıkma-açma işlemlerinde hız kazandırır.
- 1100 kgf ile 4100 kgf sıkma kuvvetiyle iş parçasını sabitler. İsteğe bağlı bar ayar butonuyla sıkma kuvveti ayarlanabilir.
- Kullanım alanı: CNC ve mekanik frezeler, matkap tezgahları, çeşitli sanayi makineleri.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

### Product Nr. 2370 Pneumatic Vice B

- It works with 6 Bar Air. It provides speed in clamping-opening processes because of it's pneumatic structure.
- It fixes the workpiece with it's 1100 kgf and 4100 kgf clamping force. Clamping force can be adjusted with it arbitrary bar adjustment button.
- Area of Using: CNC and mechanical milling machines, drilling machines, various industrial machines
- Entire moving surface is sensitively grinded and hardened.

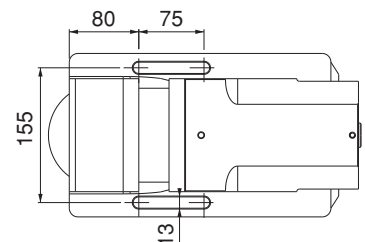
# Pnömatik Mengene

## Pneumatic Vice



- "k" ölçüsüne yedek çenelerle ulaşılır. Yedek çeneler takıma dahil değildir.
- "k" measurement is reached by the spare jaws. The spare jaws are not included in the set.

### 2370-051 Detay / Detail



Referans Nr.	b	b1	b2	L	h	s	SW	Standart bağlama adedi coupling piece	Sıkma kuvveti Clamping force kgf	(kg)
2375-092	92	61	224	430	119	400	19	2	2000	44
2375-192	192	61	324	530	119	500	19	2	2000	48.7
2375-342	342	61	474	680	124	650	19	2	2000	52.5
2375-442	442	61	575	780	124	750	19	2	2000	57

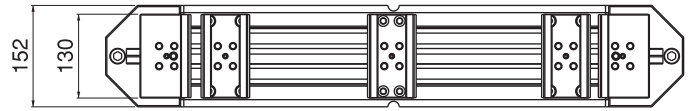
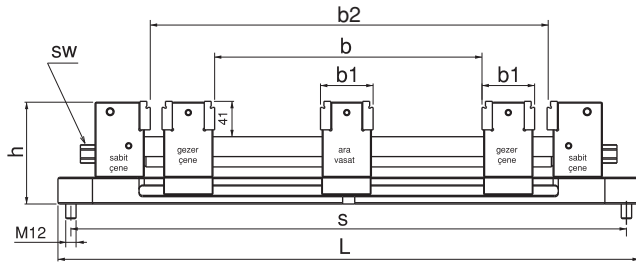


### Ürün Nr. 2375 Grup Çift Açılır Çelik Mengene

- Ürün hassas taşlanmış olup şekillerdeki gibi çok amaçlı kullanım özelliğine sahip tek hareketle bir ve birden fazla iş parçasını sıkılmak için tasarlanmıştır.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

### Product Nr. 2375 Group Double Opens Steel Vice

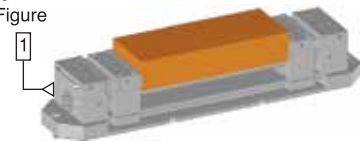
- It is fine ground. As figures below it is multifunctional. It is designed for clamping 1 or more than one workpieces with only 1 tool motion.
- Entire moving surface is sensitively grinded and hardened.



Referans Nr.	İş Bağlama Adetleri / Volume Workholding				
	1 iş parçası 1 Workpiece	2 iş parçası 2 Workpiece	3 iş parçası 3 Workpiece	4 iş parçası 4 Workpiece	5 iş parçası 5 Workpiece
2375-092	92	15	-	-	-
2375-192	192	66	23	-	-
2375-342	342	140	73	39.5	-
2375-442	442	190	106.5	64.5	39

### Bütün Uygulamaların Tek Hareketle Sıkma Özelliği / All applications feature a single motion-Tightening

Şekil  
Figure



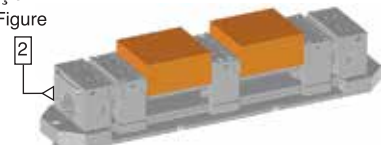
Tekli bağlama şekli  
Figure clamping 1 piece

Şekil  
Figure



Gezer paraleller üzerinde  
ince iş parçası bağlama şekli  
Figure clamping thin workpiece  
on motion parallels

Şekil  
Figure



İkili bağlama şekli  
Figure clamping 2 peaces

Şekil  
Figure



Çoklu bağlama şekli  
Figure multiple clamping

Şekil  
Figure



İş parçalarının kendi arasında 2mm  
kadar ölçü farkını içine sindiren mekanizma  
Sabit çene referanslı  
merkezden dışa bağlama şekli  
Figure based on fixed jaw clamping  
from centre in outward

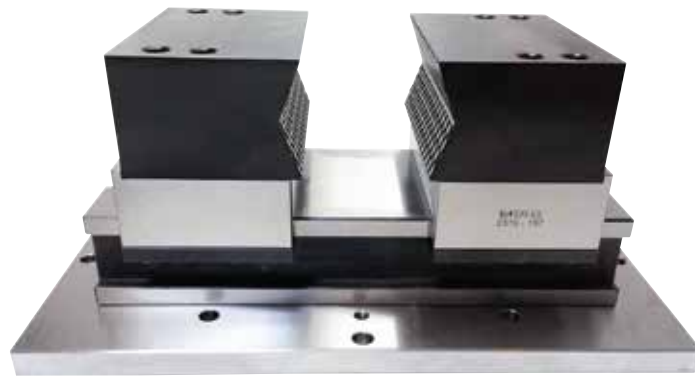
Şekil  
Figure



Yumuşak ayak ile bağlama şekli  
Figure clamping with soft legs

# MENGENE UYGULAMALARI

*VISE APPLICATIONS*





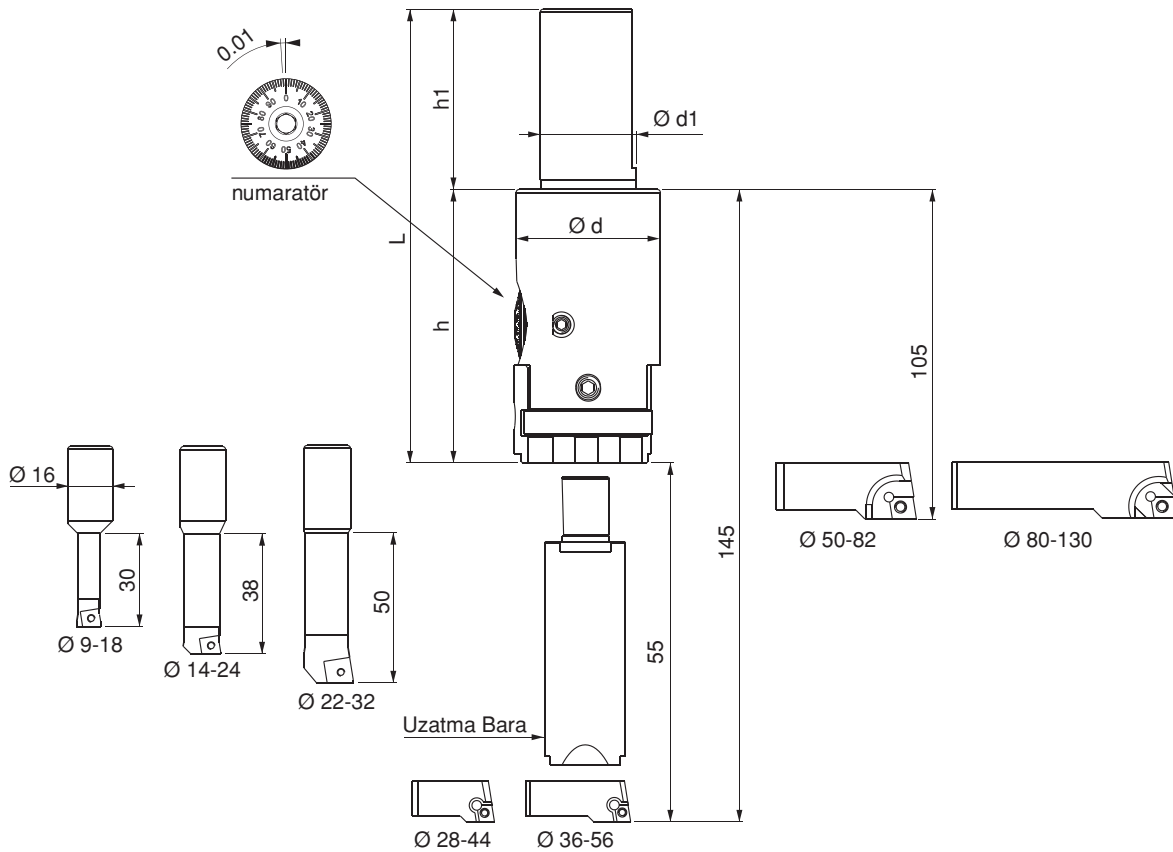
Referans Nr.	d	d1	h	h1	L	(kg)
2385-130	48	32	91	60	151	3.05

## Ürün Nr. 2385 Hassas Delik İşleme Aparatı

- Ürün 0.01 işleme hassasiyetli olup 9mm'den 130mm çapa 145 mm derinliğe işlem yapabilir değiştirilebilir bara ve kartuş özelliği ile mükemmel kullanıma sahiptir.

## Product Nr. 2385 Precision Hole Making Tool

- It works with 0.01 sensitivity in diameter 9-130 mm and 145 mm depth. Because of replaceable function kater and cartouche it is perfect in using.



**Not:**  
Ø 52 den sonra  
gövdeyle 105 mm  
uzatma barayla  
145 mm  
derinliğe ulaşır.

Note; from diameter 52: It reaches 105 mm depth with its slot and 145 mm depth with its extended kater

Referans Nr.	Cinsi Type	Uç Tipi Type of Inserts	Devir Rotation	İlerleme Progress	ap
2386-00918	09-18 Bara	CCMT 06	2700 d/dk.	F 75	0.1 - 0.5 mm
2386-01424	14-24 Bara	CCMT 06	2500 d/dk.	F 75	0.1 - 0.5 mm
2386-02232	22-32 Bara	CCMT 09	2000 d/dk.	F 50	0.1 - 1 mm
2386-02844	28-44 Kartuş	CCMT 06	1800 d/dk.	F 60	0.1 - 1 mm
2386-03656	36-56 Kartuş	CCMT 06	1500 d/dk.	F 65	0.1 - 1.5 mm
2386-05082	50-82 Kartuş	CCMT 09	1500 d/dk.	F 70	0.1 - 2 mm
2386-80130	80-130 Kartuş	CCMT 09	360 d/dk.	F 75	2 mm
2386-00055	Uzatma Bara	-	400 d/dk.	F 75	1.5 mm

Referans Nr.	J x M	k	h	h1	e	L	L1	L2	(g)
2390-010	ISO30-M12	83	99	35	18	85	128	26	6030
2390-015	ISO40-M16								6555
2390-020	ISO50-M24								9110
2390-025	BT40 - M16								6900
2390-030	BT50 - M24								9840
2390-035	SK40- M16					6750			
2390-040	SK50- M24					8970			
2390-045	MK4 - M16					6180			
2390-050	MK4 Kamalı					6880			
2390-055	MK5 - M20					7785			
2390-060	MK5 Kamalı	7450							

### Ürün Nr. 2390 Delik İşleme Aparatı

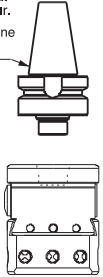
- Ürün 0.02 işleme hassasiyetli olup 18mm'den 210mm'ye kadar işlem yapabilir.
- Modüler sistem oluşu kullanım için kolaylık sağlar.
- Tutucu değiştirilerek CNC ve Mekanik tezgahlarda kullanım avantajı sağlar.
- Ürün, 4 ad. delik barası, 1 ad. T-Kanal temizleyici ile ahşap kutudadır.
- Değiştirilebilir Tutucular:
- ISO-30-40-50 BT40-50 SK40-50 MK4-5 ile kullanım imkanı.

### Product Nr. 2390 Hole Machining Apparatus

- Product has 0.02 machining sensitivity and it can implement processes from 18mm to 210mm.
- It's modular system structure provides convenience in using.
- It provides the possibility of using in CNC and Mechanical benches by changing the holder.
- The product takes place in a wooden box with it's 4 hole bar, 1 T-Slot scraper.
- Changeable Holders:
- Possibility to be used with ISO30-40-50 BT 40-50 SK40-50 MK4-5.

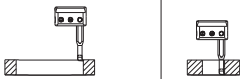


Modülerdir, sabitleme işlemi saat yönüne doğru vidalanarak yapılır.  
It is modular. Fixing process is done screwing towards clockwise



Referans Nr.	L	L1	e	Kesici uç tipi Cutting Edge type	(g)
2395-1	85	-	18	DCMT	112
2395-2	95	-	18	DCMT	130
2395-3	132	-	18	DCMT	200
2395-4	-	128	18	-	360

min	Ø	max	c1	devir dk. Revolution per minute
18		95	50	400-450
18		95	63	400-450
20		100	100	170-220

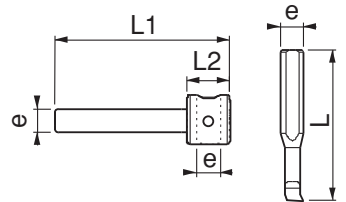
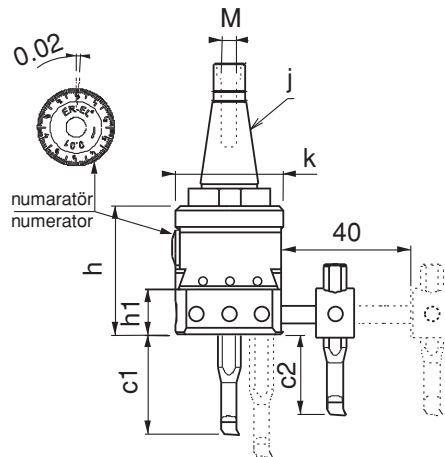



- Ürünün kazağındaki alt deliklerine baraları takarak 18mm'den 100mm çapa kadar büyütme 0-100mm kadar derinliğe inebilir.
- It is possible to have enlargement from 18mm to 100mm by attaching bars to the bottom holes taking place in the slide of the product and it can go down to depth up to 0-100mm.

min	Ø	max	c2	devir dk. Revolution per minute
95		210	55	90-170
95		210	65	90-170



- Ürünün kazağındaki yan deliğe ara vasatı takarak, şekilde görüldüğü gibi 95mm'den - 210mm çapa kadar büyütme, 0-65mm kadar derinliğe inebilir
- By applying intermediary means to the side hole of the product's slide, it is possible to have enlargement from 95mm to 210mm and it can go down to depth up to 0-65mm as seen in the figure.



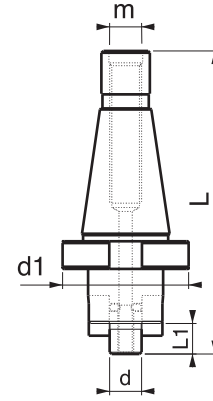
Referans Nr.	ISO	d	d1	L	L1	m	
2410-3016	ISO 30	16	48	125	17	M12	665
2410-3022	ISO 30	22	48	125	19	M12	760
2410-3027	ISO 30	27	48	125	21	M12	790
2410-3032	ISO 30	32	63.5	125	22	M12	1020
2410-4016	ISO 40	16	63.5	153	17	M16	1170
2410-4027	ISO 40	27	63.5	153	19	M16	1360
2410-4032	ISO 40	32	63.5	153	24	M16	1605
2410-4040	ISO 40	40	73.5	153	27	M16	1795
2410-5016	ISO 50	16	98	195	17	M24	3250
2410-5022	ISO 50	22	98	195	19	M24	3350
2410-5027	ISO 50	27	98	195	21	M24	3400
2410-5032	ISO 50	32	98	195	24	M24	3590
2410-5040	ISO 50	40	98	195	27	M24	3750

**Ürün Nr. 2410 ISO 30-40-50**  
**Freze Tarama Kafa Tutucusu**


- Sertleştirilmiş
- Hassas taşlama

**Product Nr. 2410 ISO 30-40-50**  
**Milling Machine Hatching Headpiece Holder**

- Hardened
- Sensitive Grinding



## Freze Tarama Başlığı Tutucusu

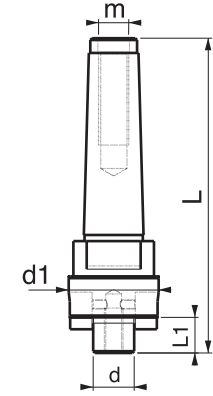
Referans Nr.	MK	d	d1	L	L1	m	
2415-0416	MK 4	16	40	168	17	M16	945
2415-0422	MK 4	22	48	168	19	M16	1010
2415-0427	MK 4	27	53	168	21	M16	1135
2415-0432	MK 4	32	63.5	168	24	M16	1255
2415-0516	MK 5	16	63.5	208	17	M20	2145
2415-0522	MK 5	22	63.5	208	19	M20	2375
2415-0527	MK 5	27	63.5	208	21	M20	2360
2415-0532	MK 5	32	63.5	208	24	M20	2500
2415-0540	MK 5	40	73.5	208	27	M20	2700

**Ürün Nr. 2415 MK4-MK5**  
**Freze Tarama Kafa Tutucusu**



- Sertleştirilmiş
- Hassas taşlama

**Product Nr. 2415 MK4-MK5**  
**Milling Machine Hatching Headpiece Holder**

- Hardened
- Sensitive Grinding



## Freze Tarama Başlığı

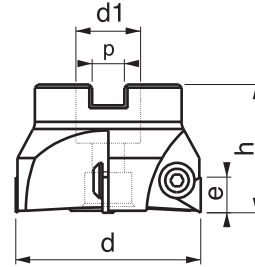
Referans Nr.	d	h	d1	p	e		Kesici uç tipi Cutting Edge type	
2420-0403	40	44	16	8.5	16	3	TPKN	230
2420-0503	50	44	22	10.5	16	3	TPKN	310
2420-0633	63	44	22	10.5	16	3	TPKN	410
2420-0634	63	44	22	10.5	16	4	TPKN	480
2420-0804	80	52	32	14.5	22	4	TPKN	800
2420-1005	100	52	32	14.5	22	5	TPKN	1320

**Ürün Nr. 2420 Freze Tarama Başlığı**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 2420 Milling Machine Hatching Headpiece**

- Hardened
- Black Coating



Referans Nr.	d	Metrik	Alyan Allen
2420-06	40-50-63	M6x0.75	4
2420-08	80-100	M8x1	5

**Ürün Nr. 2420 Yedek Baskı Vidası**

- Sertleştirilmiş
- Siyah kaplama

**Product Nr. 2420 Spare Press Screw**

- Hardened
- Black Coating

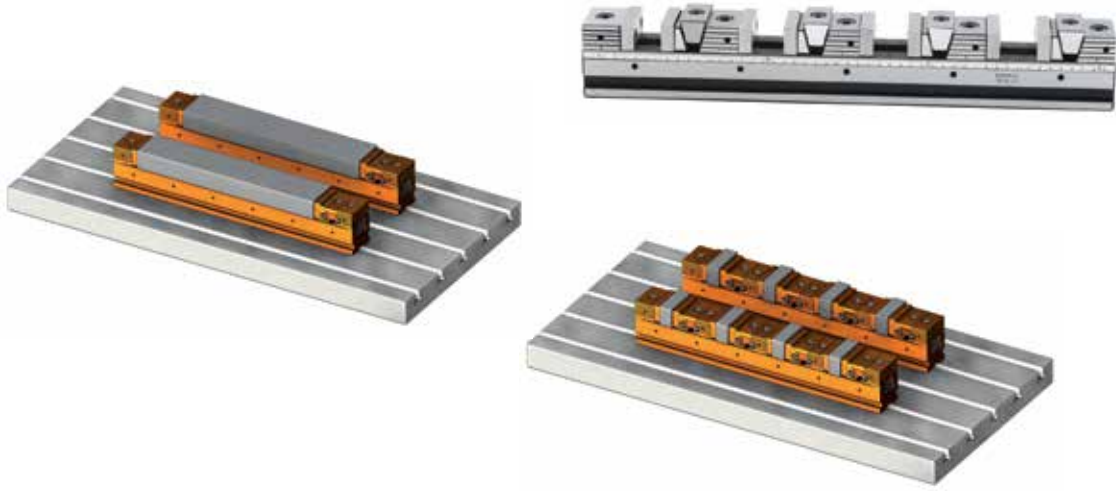


# ÇOK ÇENELİ SERİ MENGENELER

MULTI JAWED WRENCH TOOLING

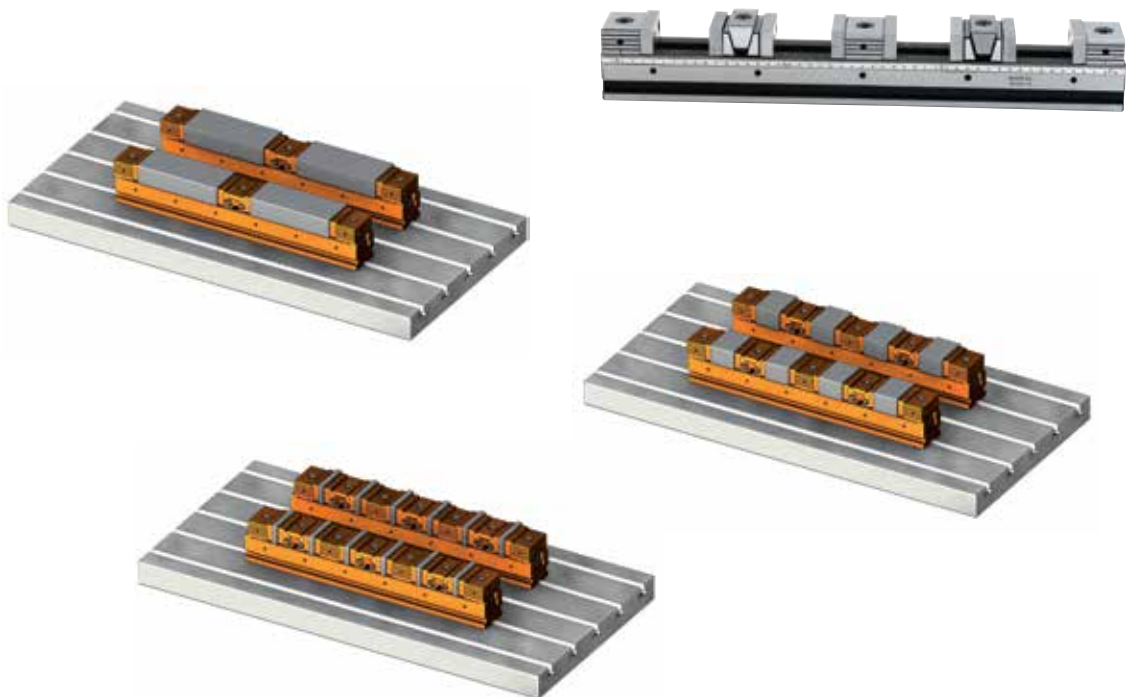
## Çok Çeneli Seri Mengene Tek Yöne Sıkma Şekli


One Direction Clamping of Multi Jawed Wrench Tooling



## Çok Çeneli Seri Mengene Çift Yöne Sıkma Şekli

Two Direction Clamping of Multi Jawed Wrench Tooling



Referans Nr.	L	n	h1	h2	h	o	e	f	b	c	k	ı	p H7	Standart bağlama adedi Coupling Piece	sıkma kuvveti clamping force kgf	 (kg)
2430-055300	300	55	50	32	72	12.5	36	65	100	50	100	100	18	2	1750	9
2430-055500	500	55	50	32	72	12.5	36	65	100	50	100	300	18	4		15
2430-075400	400	75	65	37	102	12.5	48	77	100	50	100	200	18	2	2000	20
2430-075600	600	75	65	37	102	12.5	48	77	100	50	100	400	18	4		33
2430-100400	400	100	65	37	102	12.5	48	80	100	50	100	200	18	2	2500	27
2430-100600	600	100	65	37	102	12.5	48	80	100	50	100	400	18	3		41

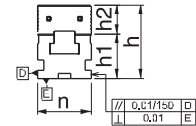
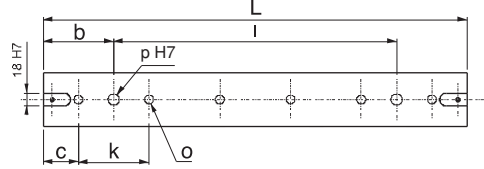
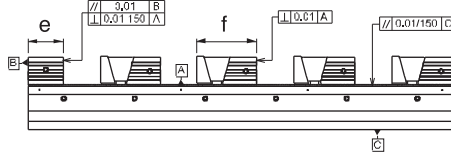
### Ürün Nr. 2430 Çok Çeneli Seri Mengene

- Ürüne birden fazla iş bağlama imkanı sağlar. Çeneler modülerdir, istenen ölçüye ayarlanır.
- Gruplara bağlanan yumuşak ayaklara iş parçası formu uygulanabilir.
- Hassas taşlama
- Çeneleri ayrı olarak satın almanız gerekir.



### Product Nr. 2430 Multi Jawed Wrench Tooling

- It provides the attachments of more than one workpieces to the product. Jaws are modular and can be adjusted to the desired measurement.
- Form of the workpiece can be applied on the soft legs connected to the groups.
- Sensitive Grinding
- You need to purchase jaws separate.



Referans Nr.	GEZER ÇENE İLE İŞ PARÇASI BAĞLAMA ADETLERİ / Numbers of Portable Jaw with Workpiece Couplings				
	1 İş parçası 1 Workpiece	2 İş parçası 2 Workpiece	3 İş parçası 3 Workpiece	4 İş parçası 4 Workpiece	5 İş parçası 5 Workpiece
2430-055300	196mm	65mm	22mm	-	-
2430-055500	394mm	165mm	88mm	50mm	26mm
2430-075400	268mm	95mm	38mm	9mm	-
2430-075600	472mm	197mm	106mm	60mm	32mm
2430-100400	265mm	93mm	35mm	-	-
2430-100600	469mm	195mm	103mm	57mm	30mm

**Not:** İş bağlama adetleri ölçülerinde yumuşak ayak dahil değildir.

**Note:** It does not include binding units of measure soft feet in business.





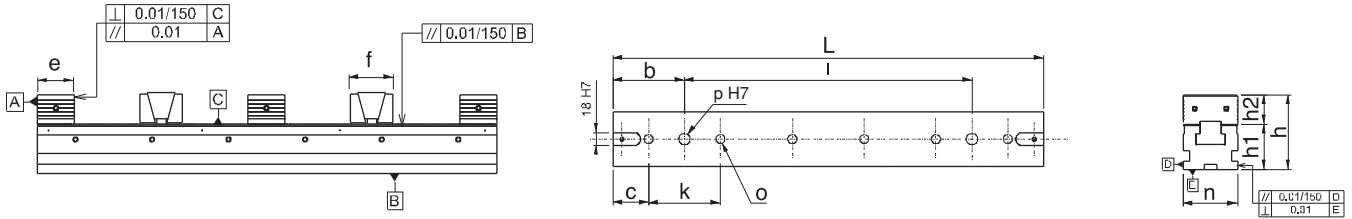
Referans Nr.	L	n	h1	h2	h	o	e	f	b	c	k	ı	p H7	sıkma kuvveti clamping force Kgf
2435-055300	300	55	50	32	82	12.5	32	37	100	50	100	100	18	1750
2435-055500	500	55	50	32	82	12.5	32	37	100	50	100	300	18	
2435-075400	400	75	65	37	102	12.5	37	57	100	50	100	200	18	2000
2435-075600	600	75	65	37	102	12.5	37	57	100	50	100	400	18	
2435-100400	400	100	65	37	102	12.5	37	57	100	50	100	200	18	2500
2435-100600	600	100	65	37	102	12.5	37	57	100	50	100	400	18	

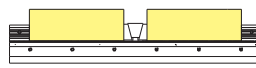
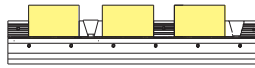
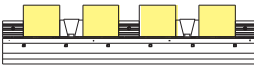

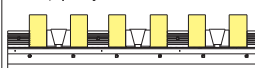
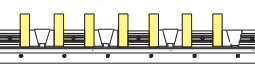
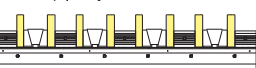
### Ürün Nr. 2435 Çok Çeneli Seri Mengene

- Çift açılır.
- Çeneleri ayrı olarak satın almanız gerekir.

### Product Nr. 2435 Multi Jawed Wrench Tooling

- Double Opening
- You need to purchase jaws separate.



Referans Nr.	ÇİFT AÇILIR ÇENE İLE İŞ PARÇASI BAĞLAMA ADETLERİ / Numbers of Double Opening Jaw with Workpiece Couplings			
	2 İş parçası 2 Workpiece	3 İş parçası 3 Workpiece	4 İş parçası 4 Workpiece	
2435-055300				
2435-055300	75mm	37mm	16mm	
2435-055500	173mm	103mm	66mm	
2435-075400	107mm	55mm	28mm	
2435-075600	209mm	123mm	79mm	
2435-100400	104mm	53mm	26mm	
2435-100600	206mm	121mm	77mm	
	5 İş parçası 5 Workpiece	6 İş parçası 6 Workpiece	7 İş parçası 7 Workpiece	8 İş parçası 8 Workpiece
2435-055300				
2435-055300	-	-	-	-
2435-055500	45mm	30mm	20mm	-
2435-075400	13mm	-	-	-
2435-075600	54mm	45mm	24mm	14mm
2435-100400	12mm	-	-	-
2435-100600	52mm	34mm	22mm	12mm

**Not:** İş bağlama aletleri ölçülerinde yumuşak ayak dahil değildir.

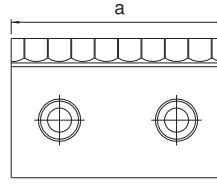
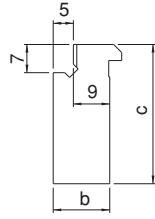
**Note:** It does not include binding units of measure soft feet in business.





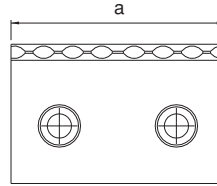
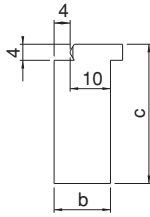
Referans Nr.	a	b	c
2430-24350551	55	14	34
2430-24350751	75	14	39
2430-24351001	100	14	39

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



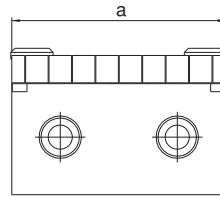
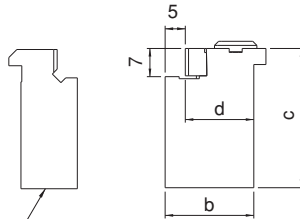
Referans Nr.	a	b	c
2430-24350552	53	14	34
2430-24350752	73	14	39
2430-24351002	98	14	39

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



Referans Nr.	a	b	c	d
2430-24350553	53	22	34	17
2430-24350753	73	25	39	20
2430-24351003	98	25	39	20

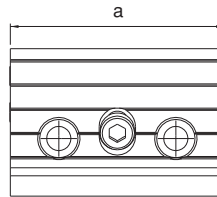
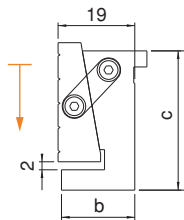
- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



2430-24350551  
2430-24350751  
2430-24351001

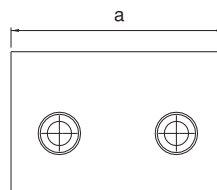
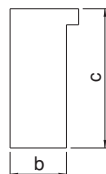
Referans Nr.	a	b	c
2430-24350554	53	19	34
2430-24350754	73	19	39
2430-24351004	98	19	39

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



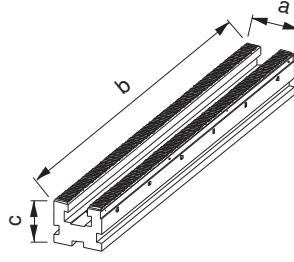
Referans Nr.	a	b	c
2430-24350555	53	14	34
2430-24350755	73	14	39
2430-24351005	98	14	39

**Seri Mengene Yumuşak Çene**  
**Serial Vice Soft Jaw**



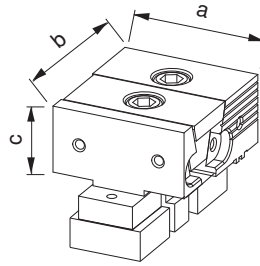
Referans Nr.	a	b	c
2430-2435055300AG	55	300	50
2430-2435055500AG	55	500	50
2430-2435075400AG	75	400	65
2430-2435075600AG	75	600	65
2430-2435100400AG	100	400	65
2430-2435100600AG	100	600	65

**Seri Mengene Alt Gövde**  
Serial Vice Sub-Body



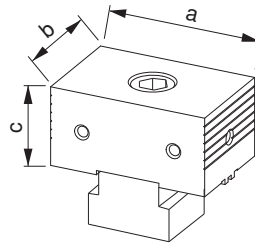
Referans Nr.	a	b	c
2430-2435055GÇ	54	65	32
2430-2435075GÇ	74	77	37
2430-2435100GÇ	99	80	37

**Seri Mengene Gezer Çene**  
Serial Vice Portable Jaw



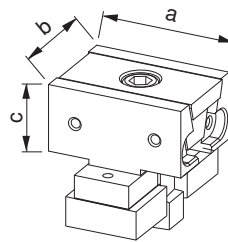
Referans Nr.	a	b	c
2430-2435055DA	54	36	32
2430-2435075DA	74	48	37
2430-2435100DA	99	48	37

**Seri Mengene Dayama**  
Serial Vice Resting



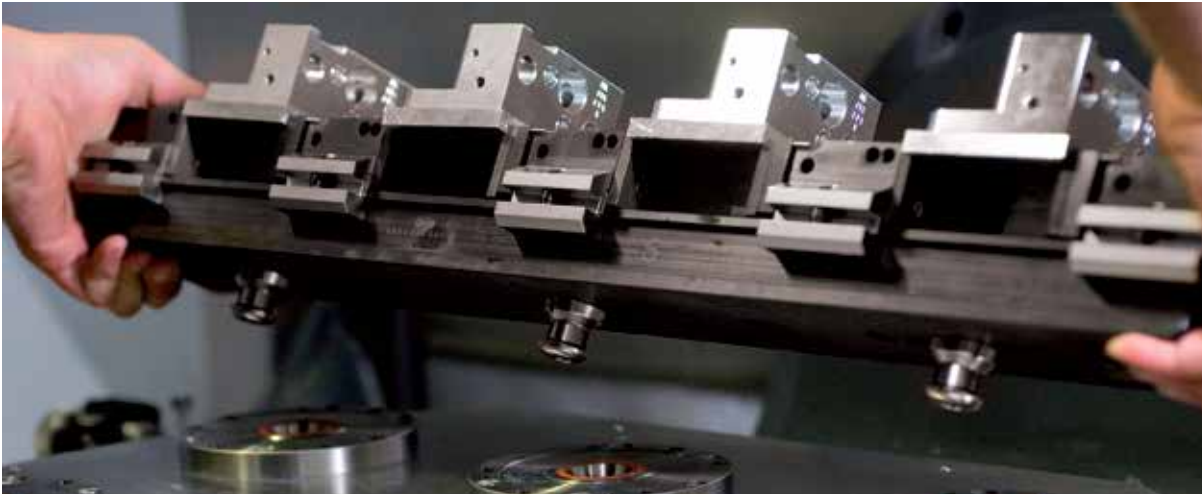
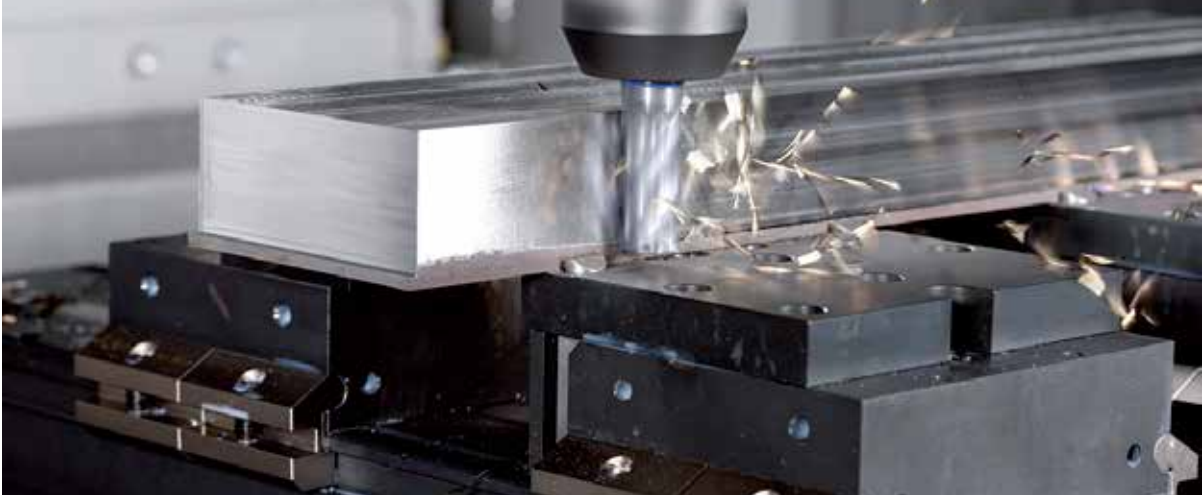
Referans Nr.	a	b	c
2430-2435055ÇA	54	36	32
2430-2435075ÇA	74	48	37
2430-2435100ÇA	99	48	37

**Seri Mengene Çift Açılır**  
Serial Vice Double Opening



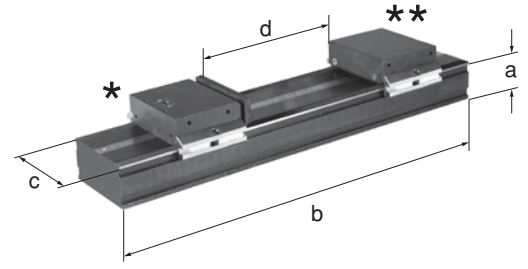
# SERİ MENGENE

*SERIAL VICE*



Referans Nr.	a	b	c	d
2440-SL080400	35	400	80	0-289
2440-SL080500	35	500	80	0-389
2440-SL080600	35	600	80	0-489

Ürün Nr. 2440 Seri Mengene  
Product Nr. 2440 Serial Vice



**Gezer Çene Çeşitleri / Portable Jaw Types**



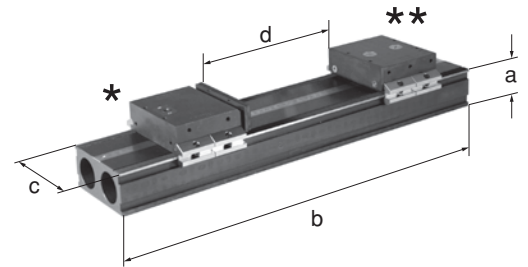
**Dayama Çeşitleri / Stopper Types**



**Seri Mengene**

Referans Nr.	a	b	c	d
2440-SL120300	60	300	120	0-90
2440-SL120600	60	600	120	0-390
2440-SL120800	60	800	120	0-590

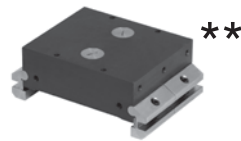
Ürün Nr. 2440 Seri Mengene  
Product Nr. 2440 Serial Vice



**Gezer Çene Çeşitleri**



**Dayama**



**Seri Mengene Dayaması**

Referans Nr.
2440-SL80120

Ürün Nr. 2440 Seri Mengene Dayaması  
Product Nr. 2440 Serial Vice Workpiece Stop



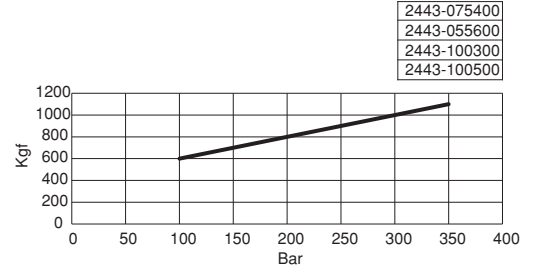
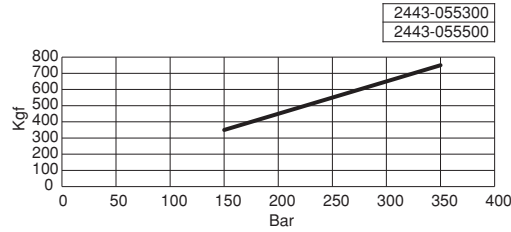
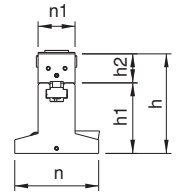
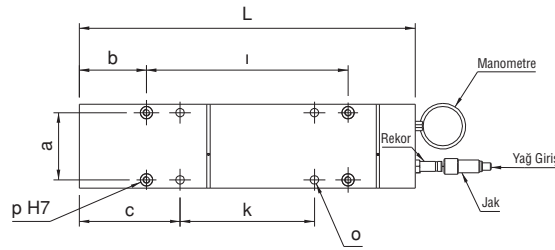
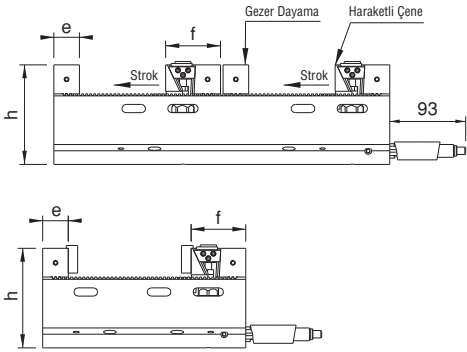
Referans Nr.	L	n	n1	h	h1	h2	o	e	f	a	b	c	k	ı	p H7	Standart bağlama adedi Coupling Piece	Stroke	sıkma kuvveti clamping force Kgf
2443-055300	300	125	55	148	105	43	12.5	38	81.5	100	50	100	100	200	18	1	8	750
2443-055500	500	125	55	148	105	43	12.5	38	81.5	100	100	150	200	300	18	2	8	750
2443-075400	400	175	75	158	115	43	12.5	48	88	150	50	100	200	300	18	2	8	1100
2443-075600	600	175	75	158	115	43	12.5	48	88	150	100	150	300	400	18	-	8	1100
2443-100400	400	175	100	158	115	43	12.5	48	88	150	50	100	200	300	18	2	8	1100
2443-100600	600	175	100	158	115	43	12.5	48	88	150	100	150	300	400	18	-	8	1100

### Ürün Nr. 2443 Hidrolik Çok Çeneli Seri Mengene

- Satın almadan önce bağlama adetlerini belirtiniz
- Çeneleri ayrı olarak satın almanız gerekir.

### Product Nr. 2443 Hydraulic Multi Jawed Wrench Tooling

- Please, you specify about number of clamping before you make purchase.
- You need to purchase jaws separate.



Referans Nr.	GEZER ÇENE İLE İŞ PARÇASI BAĞLAMA ADETLERİ / Numbers of Portable Jaw with Workpiece Couplings		
	1 İş parçası 1 Workpiece	2 İş parçası 2 Workpiece	3 İş parçası 3 Workpiece
2443-055300	182 mm	-	-
2443-055500	-	128 mm	-
2443-075400	-	68 mm	-
2443-075600	-	170 mm	68 mm
2443-100400	-	68 mm	-
2443-100600	-	170 mm	68 mm

**Not:** İş bağlama adetleri ölçülerinde yumuşak ayak dahil değildir.

**Note:** It does not include binding units of measure soft feet in business.





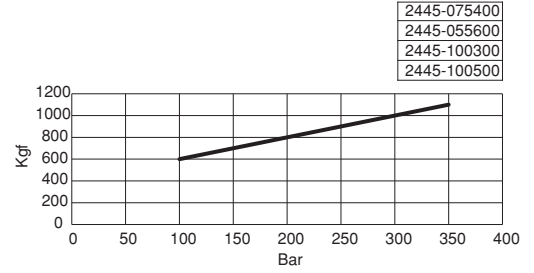
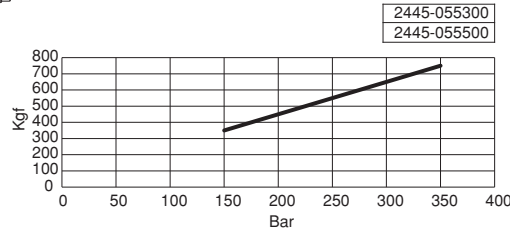
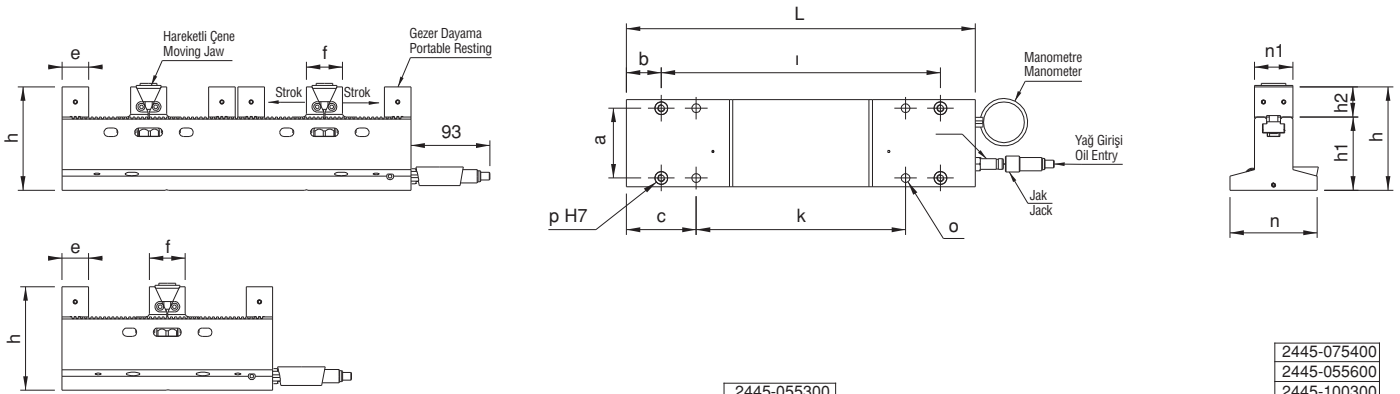
Referans Nr.	L	n	n1	h	h1	h2	o	e	f	a	b	c	k	ı	p H7	Standart bağlama adedi Coupling Piece	Stroke	sıkma kuvveti clamping force Kgf
2445-055300	300	125	55	148	105	43	12.5	38	51.5	100	50	100	100	200	18	2	8x2	750
2445-055500	500	125	55	148	105	43	12.5	38	51.5	100	100	150	200	400	18	4	8x2	750
2445-075400	400	175	75	158	115	43	12.5	48	51.5	150	50	100	200	300	18	2	8x2	1100
2445-075600	600	175	75	158	115	43	12.5	48	51.5	150	100	150	300	500	18	4	8x2	1100
2445-100400	400	175	100	158	115	43	12.5	48	51.5	150	50	100	200	300	18	2	8x2	1100
2445-100600	600	175	100	158	115	43	12.5	48	51.5	150	100	150	300	500	18	4	8x2	1100

### Ürün Nr. 2445 Hidrolik Çok Çeneli Seri Mengene

• Çeneleri ayrı olarak satın almanız gerekir.

### Product Nr. 2445 Hydraulic Multi Jawed Wrench Tooling

• You need to purchase jaws separate.



Referans Nr.	ÇİFT AÇILIR ÇENE İLE İŞ PARÇASI BAĞLAMA ADETLERİ Numbers of Double Opening Jaw with Workpiece Couplings	
	2 İş parçası 2 Workpiece	4 İş parçası 4 Workpiece
2445-055300	87 mm	-
2445-055500	-	60 mm
2445-075400	125 mm	-
2445-075600	-	75 mm
2445-100400	125 mm	-
2445-100600	-	75 mm

**Not:** İş bağlama adetleri ölçülerinde yumuşak ayak dahil değildir.

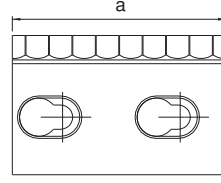
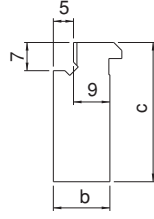
**Note:** It does not include binding units of measure soft feet in business.





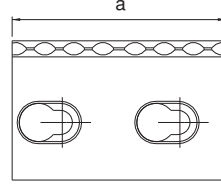
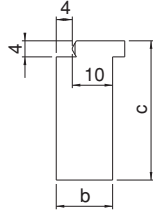
Referans Nr.	a	b	c
2443-24450551	55	14	38
2443-24450751	75	14	38
2443-24451001	100	14	38

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



Referans Nr.	a	b	c
2443-24450552	55	14	38
2443-24450752	75	14	38
2443-24451002	100	14	38

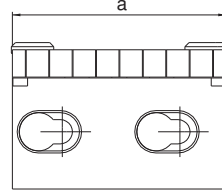
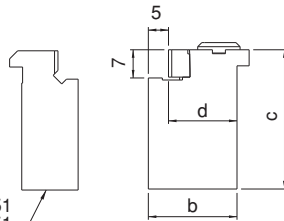
- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



Referans Nr.	a	b	c	d
2443-24450553	55	22	38	17
2443-24450753	75	25	38	20
2443-24451003	100	25	38	20

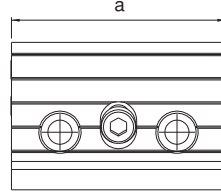
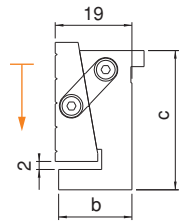
- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating

2443-24450551  
2443-24450751  
2443-24451001



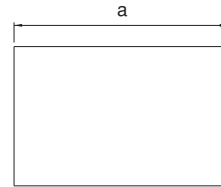
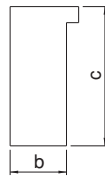
Referans Nr.	a	b	c
2443-24450554	55	19	38
2443-24450754	75	19	38
2443-24451004	100	19	38

- Sertleştirilmiş
- Nikel Kaplama
- Hardened
- Nickel Coating



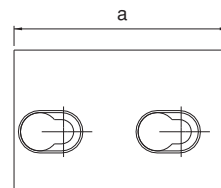
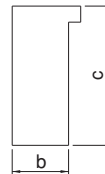
Referans Nr.	a	b	c
2443-24450555	55	14	38
2443-24450755	75	14	38
2443-24451005	100	14	38

### Yumuşak Çene Soft Jaw



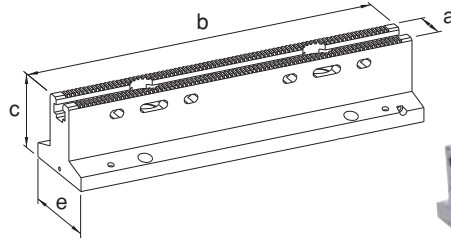
Referans Nr.	a	b	c
2443-24450556	55	14	38
2443-24450756	75	14	38
2443-24451006	100	14	38

### Yumuşak Çene Soft Jaw



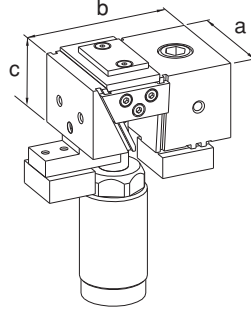
Referans Nr.	a	b	c	e
2443-055300AG	55	300	105	125
2443-055500AG	55	500	105	125
2443-075400AG	75	400	115	175
2443-075600AG	75	600	115	175
2443-100400AG	100	400	115	175
2443-100600AG	100	600	115	175

**Hidrolik Alt Gövde**  
**Hydraulic Sub-body**



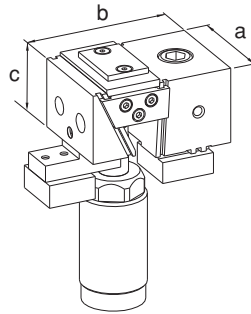
Referans Nr.	a	b	c
2443-055HÇ	55	81.5	43
2443-075HÇ	75	88	43
2443-100HÇ	100	88	43

**Hareketli Çene**  
**Moving Jaw**



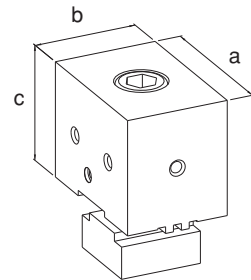
Referans Nr.	a	b	c
2443-055MHÇ	55	81.5	43
2443-075MHÇ	75	88	43
2443-100MHÇ	100	88	43

**Manyetik Hareketli Çene**  
**Moving Jaw**



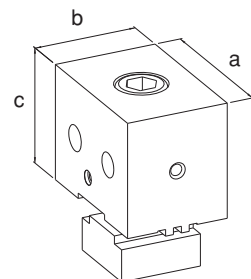
Referans Nr.	a	b	c
2443-2445055GD	55	38	43
2443-2445075GD	75	48	43
2443-2445100GD	100	48	43

**Gezer Dayama**  
**Portable Resting**



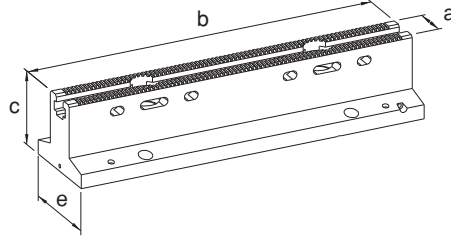
Referans Nr.	a	b	c
2443-2445055MGD	55	38	43
2443-2445075MGD	75	48	43
2443-2445100MGD	100	48	43

**Manyetik Gezer Dayama**  
**Magnetic Portable Resting**



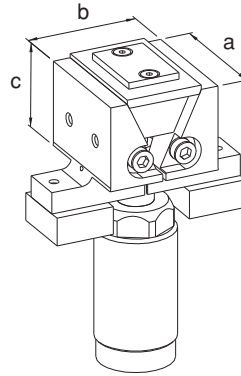
Referans Nr.	a	b	c	e
2445-055300AG	55	300	105	125
2445-055500AG	55	500	105	125
2445-075400AG	75	400	115	175
2445-075600AG	75	600	115	175
2445-100400AG	100	400	115	175
2445-100600AG	100	600	115	175

**Hidrolik Alt Gövde**  
**Hydraulic Sub-body**



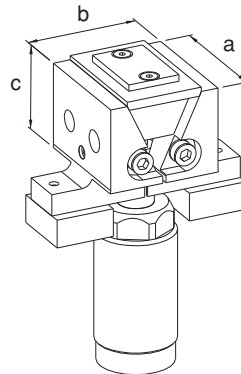
Referans Nr.	a	b	c
2445-055HÇ	55	51.5	43
2445-075HÇ	75	51.5	43
2445-100HÇ	100	51.5	43

**Hareketli Çene**  
**Moving Jaw**



Referans Nr.	a	b	c
2445-055MHÇ	55	51.5	43
2445-075MHÇ	75	51.5	43
2445-100MHÇ	100	51.5	43

**Manyetik Hareketli Çene**  
**Moving Jaw**



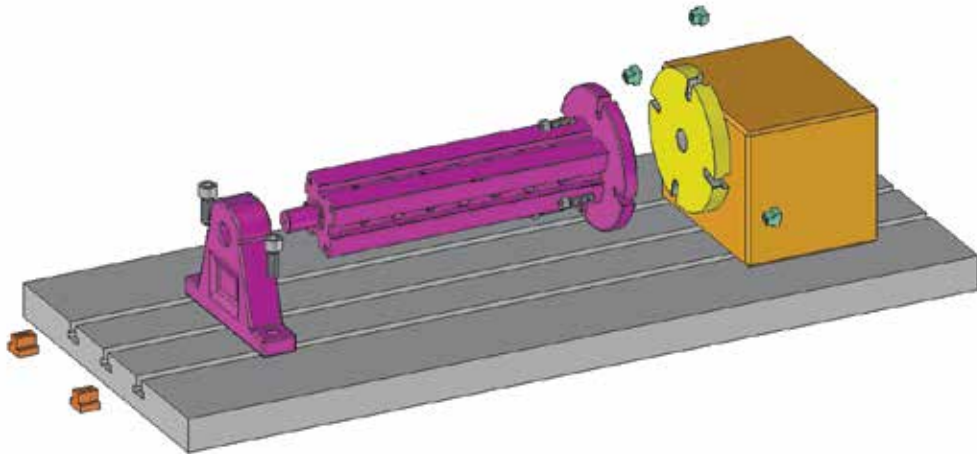
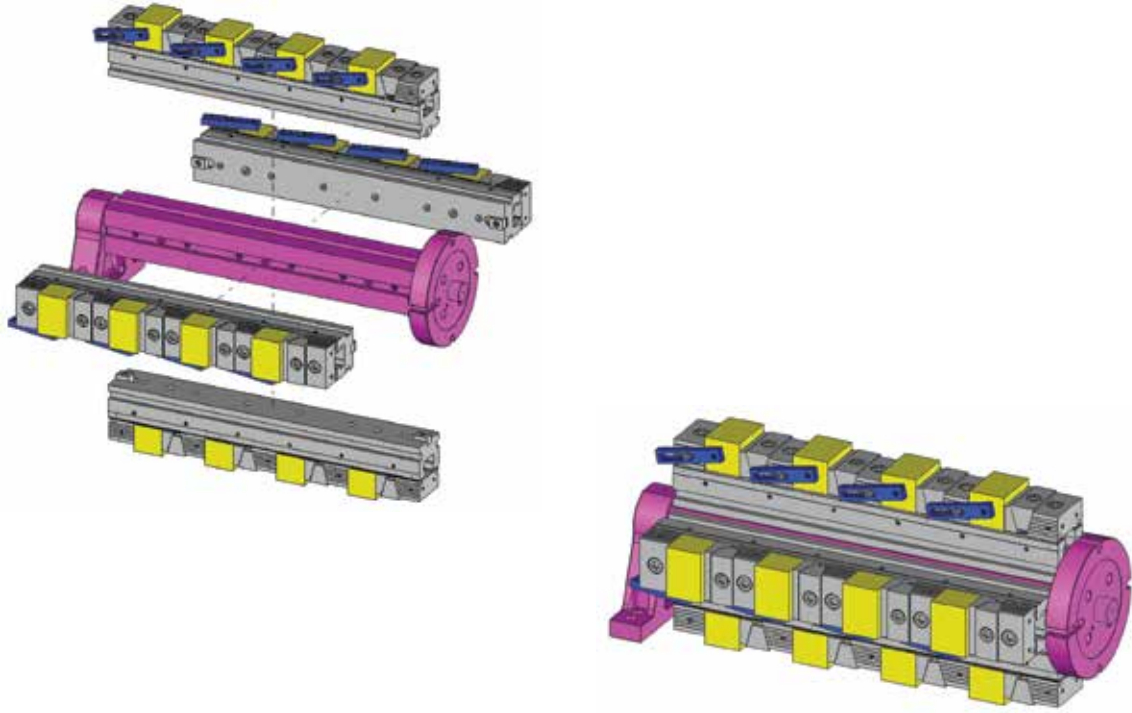
# HİDROLİK EKİPMANLAR

HYDRAULIC EQUIPMENT



# DİVİZÖR KULELERİ

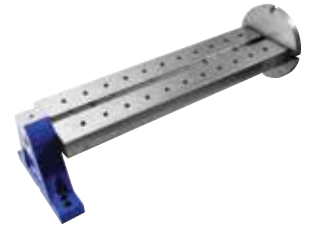
INDEX TABLE TURRETS



Referans Nr.	L	i	f	n	b	k	c	e	s	Ø16H7 j	Ø16H7 j1	(kg)
2450-415L	503.5	415	45	-	125	35	31	30	72	100	100	29.25
2450-615L	703.5	615	50	-	160	35	31	30	90	100	300	46.75

**Ürün Nr. 2450 Divizör Kulesi (Dikdörtgen)**

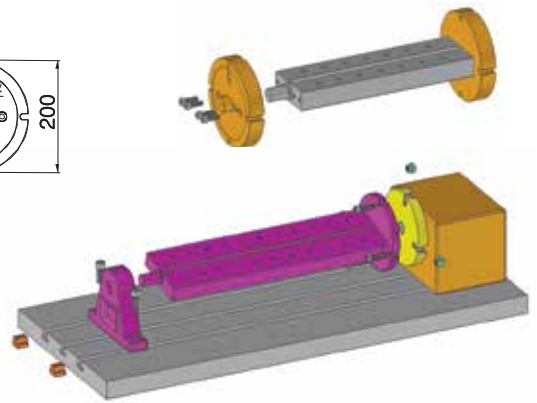
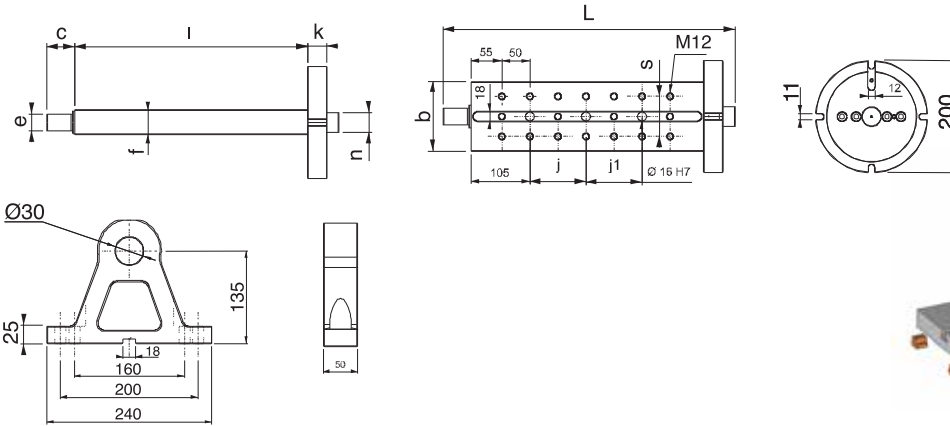
- Divizör kulesi dik işleme tezgahlarında divizöre bağlanarak, dördüncü eksenini 360 derece kullanma imkanı sağlar.
- Divizör kulesi üzerine iş parçası direk bağlanabildiği gibi, mengene grupları veya farklı aparatlarda kullanılır.
- Siparişte divizör marka model numarasını bildiriniz.
- Yatak merkezi yükseklik için alt plakalar mevcuttur.
- Malzeme : Döküm



Yatak = Nr.2460

**Product Nr. 2450 Index Table Turret (Rectangular)**

- Index Table Turret is connected to the index table of vertical machining benches and this application provides the possibility to use the fourth axis in 360 degrees.
- Workpiece taking place on the Index Table Turret can be applied directly and at the same time it can be used in vice groups and with different apparatuses.
- Please, let the dividing brand, model number in the order.
- The lower plate is available for the center height.
- Material : Casting



Referans Nr.	L	i	n	k	e	c	Ø16H7 j	Ø16H7 j1	(kg)
2470-415K	502	415	-	35	30	31	100	100	33
2470-615K	702	615	-	35	30	31	100	300	42

**Ürün Nr. 2470 Divizör Kulesi (Kare)**

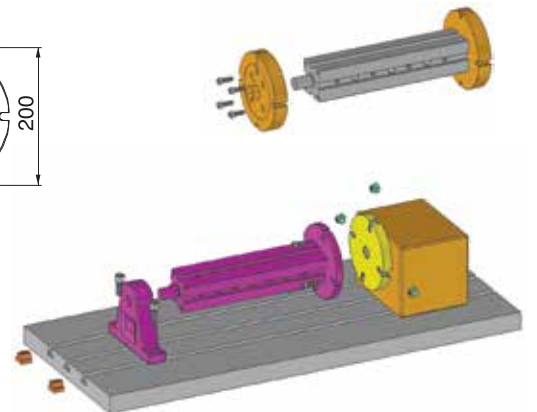
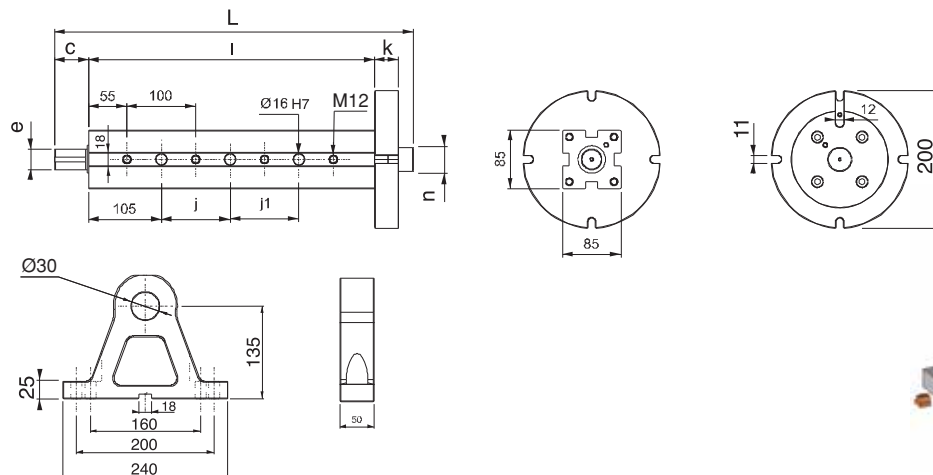
- Divizör kulesi dik işleme tezgahlarında divizöre bağlanarak, dördüncü eksenini 360 derece kullanma imkanı sağlar.
- Divizör kulesi üzerine iş parçası direk bağlanabildiği gibi, mengene grupları veya farklı aparatlarda kullanılır.
- Siparişte divizör marka model numarasını bildiriniz.
- Yatak merkezi yükseklik için alt plakalar mevcuttur.
- Malzeme : Döküm





Yatak = Nr.2460

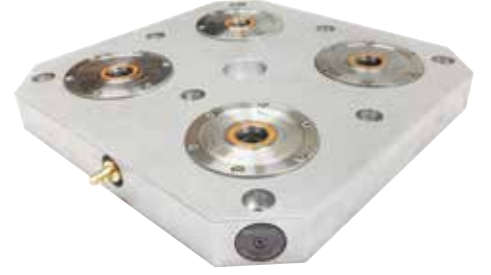
**Product Nr. 2470 Index Table Turret (Square)**

- Index Table Turret is connected to the index table of vertical machining benches and this application provides the possibility to use the fourth axis with 360 degrees.
- Workpiece taking place on the Index Table Turret can be applied directly and at the same time it can be used in vice groups and with different apparatuses.
- Material : Casting





Referans Nr.	a	b	c	d	Zero Clamp adet / pcs.		sıkma kuvveti clamping force Kgf	 (kg)
2475-50400	50	400	160	200	4	Ø120	4x2500=10000 kgf	24
2475-50500	50	500	200	350	4	Ø120	4x2500=10000 kgf	30
2475-50630	50	630	250	200	6	Ø120	6x2500=15000 kgf	44

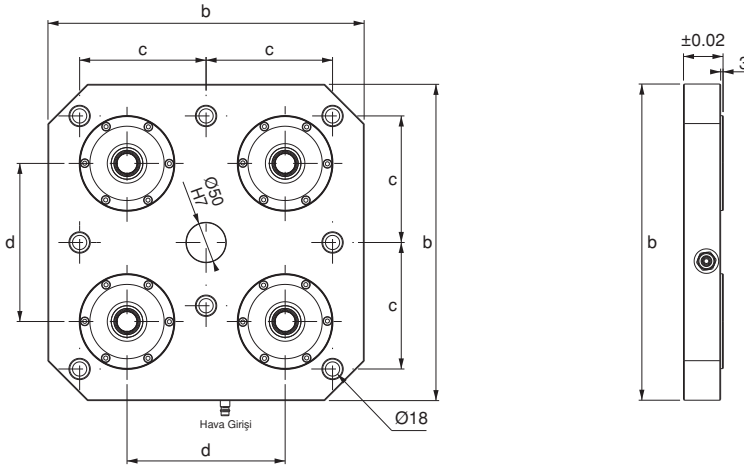


#### Ürün Nr. 2475 ER-EL Zero Clamp Uygulamalı Tabla

• Malzeme: Alüminyum

#### Product Nr. 2475 ER-EL Zero Clamp Plate Application



• Material: Aluminium



- Ürünün uygulama alanı çizelgede sunulan ile sınırlı değildir. Farklı uygulamalarda yapılabilir.
- Product application area is not limited to the alues given in tables. Various applications are possible.

## ER-EL Zero Clamp Uygulamalı Kule

### ER-EL Zero Clamp Turret Application

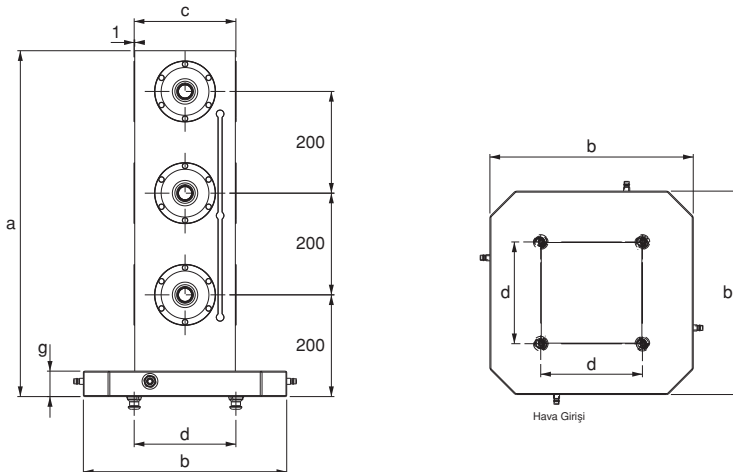
Referans Nr.	a	b	c	d	g	Zero Clamp adet / pcs.		Çekirme Cıvatası Pull Stud adet / pcs.	sıkma kuvveti clamping force Kgf	 (kg)
2480-400200	680	400	200	200	50	12	Ø120	4	3x2500=7500 kgf	100
2480-500200	680	500	200	350	50	12	Ø120	4	3x2500=7500 kgf	111
2480-630250	680	630	250	200	50	12	Ø138	6	3x4000=12000 kgf	178

#### Ürün Nr. 2480 ER-EL Zero Clamp Uygulamalı Kule



• Malzeme: Alüminyum

#### Product Nr. 2480 ER-EL Zero Clamp Turret Application

• Material: Aluminium

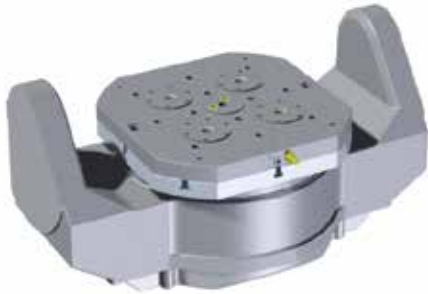
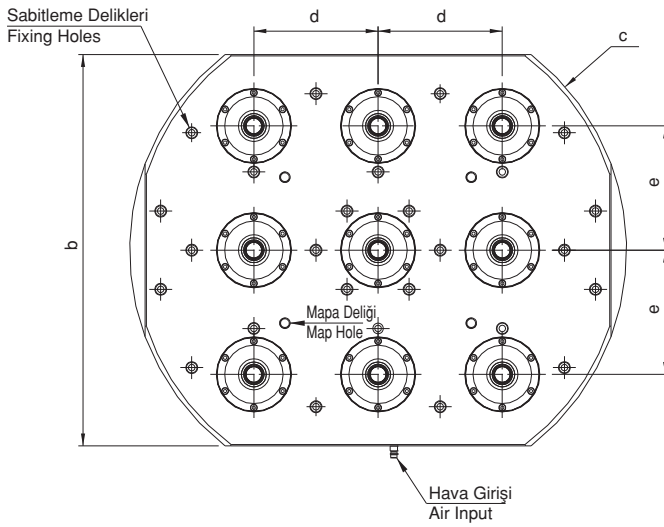
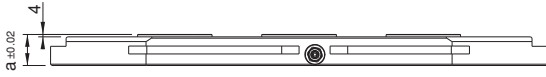


- Ürünün uygulama alanı çizelgede sunulan ile sınırlı değildir. Farklı uygulamalarda yapılabilir.
- Product application area is not limited to the alues given in tables. Various applications are possible.

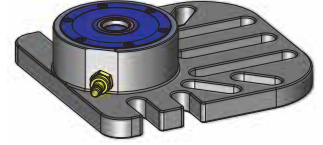
Referans Nr.	a	b	c	d	e		
2481-50630	50	630	800	200	200	Ø120	60

**Ürün Nr. 2481 5-Eksen Zero Clamp Tabla**  
• Malzeme: Alüminyum

**Product Nr. 2481 5-Axis Zero Clamp Plate**  
• Material: Aluminium



Referans Nr.	Sıkma kuvveti Clamping force kgf	 (kg)
2482-0120	2500	13.4

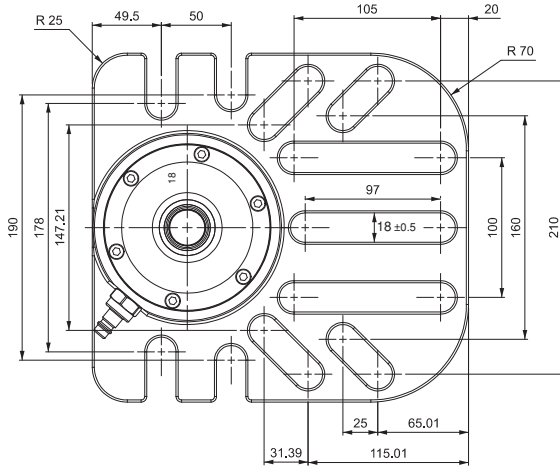
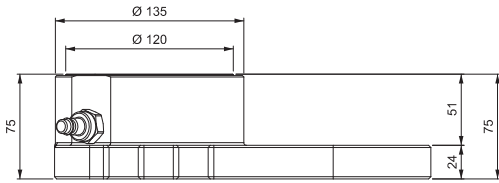



**Ürün Nr. 2482 Modüler Zero Clamp**

- Siyah Kaplama
- Taşlama

**Product Nr. 2482 Modular Zero Clamp**

- Black coating
- Stoning



Referans Nr.	a	b	c	d	e	h	h1	Sıkma kuvveti Clamping force kgf	 (kg)
2483-0090	105	90	220	160	13	50	36	1250	4.2
2483-0120	135	120	180	130	13	65	51	2500	8.4
2483-0138	160	138	250	200	17	80	61	4000	15.7

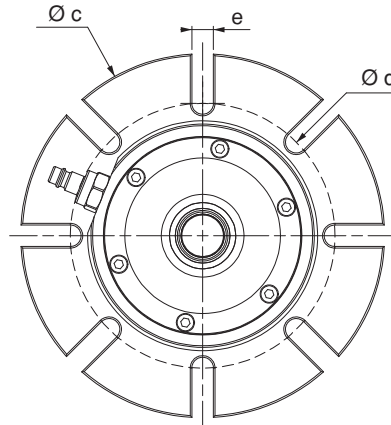
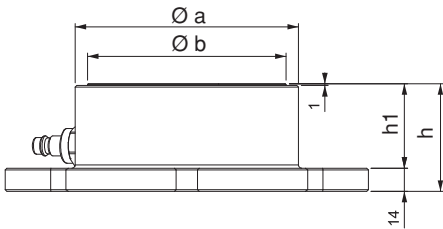
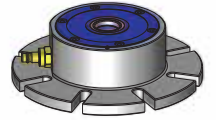
**Modüler Zero Clamp**

**Ürün Nr. 2483 Modüler Zero Clamp**

- Siyah Kaplama
- Taşlama

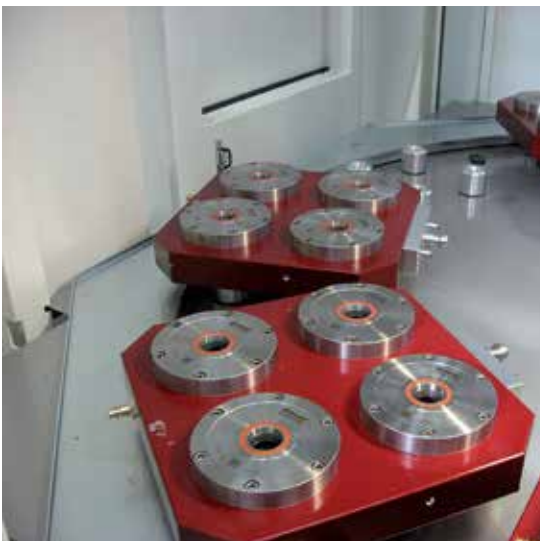
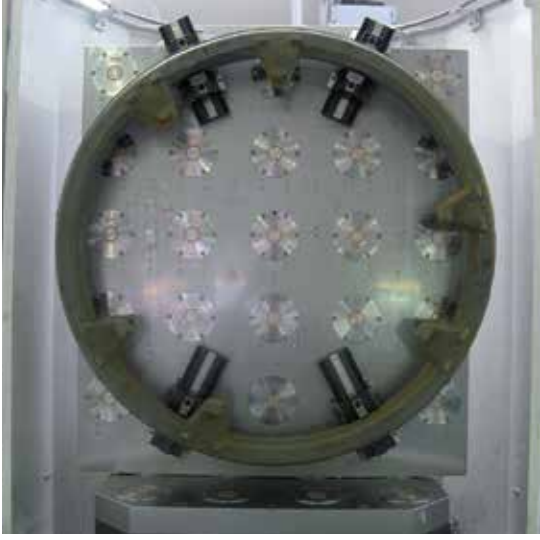
**Product Nr. 2483 Modular Zero Clamp**

- Black coating
- Stoning



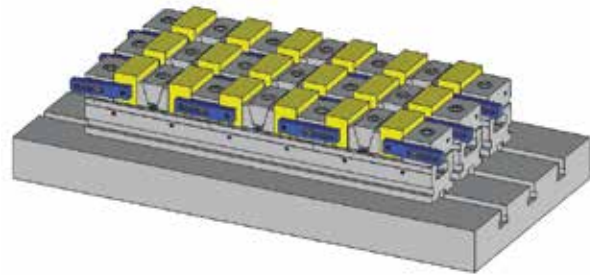
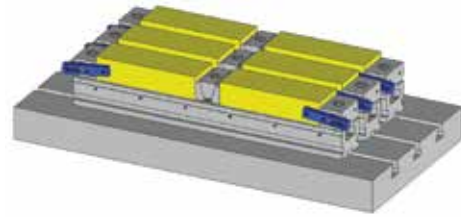
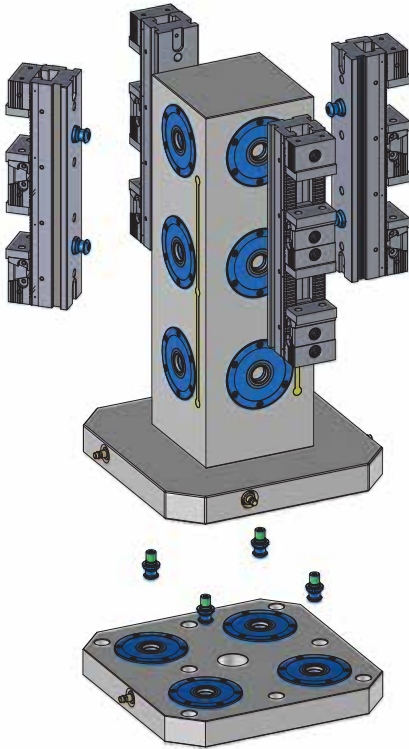
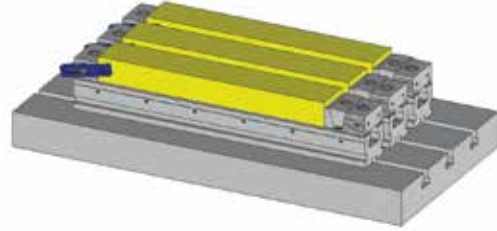
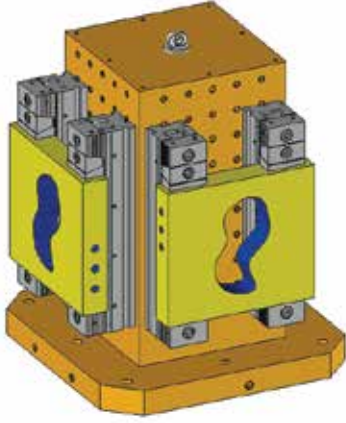
# ZERO CLAMP UYGULAMA ÖRNEKLERİ

ZERO CLAMP APPLICATION EXAMPLES



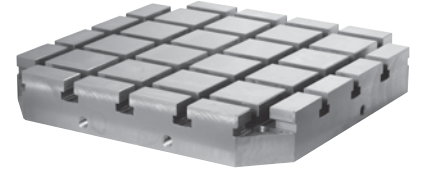
# KULE ve SERİ MENGENE UYGULAMALARI

TOWER and MULTI JAWED WRENCH TOOLING APPLICATIONS





Referans Nr.	a ±0.02	b	c	d	e	f	g	h ±0.02	(kg)
2490-7540014	75	400	320	14	55	18	160	80	71
2490-7550014	75	500	400	14	75	18	200	100	115
2490-7563014	75	630	500	14	100	18	250	125	188
2490-7540018	75	400	320	18	55	18	160	80	65
2490-7550018	75	500	400	18	75	18	200	100	107
2490-7563018	75	630	500	18	100	18	250	125	178

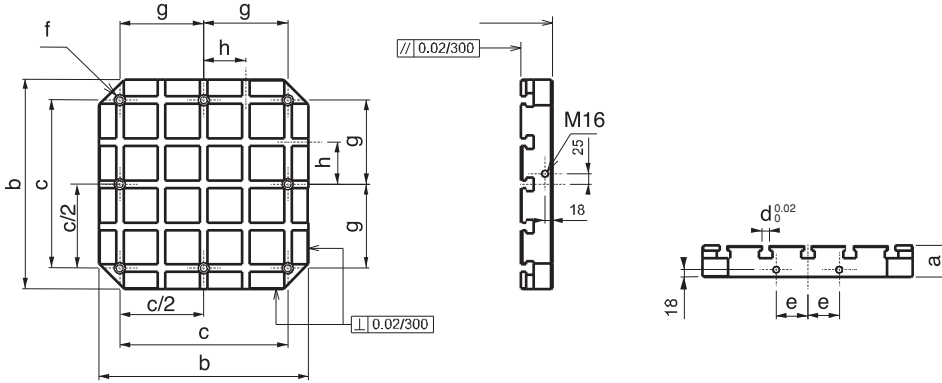


#### Ürün Nr. 2490 Yatay İşleme Tablası T-Kanlı

- Malzeme : Döküm
- Standart bağlama ekipmanlarına uyumludur.
- T-Kanal ölçüsü 14mm - 18mm DIN 650 standartındadır.

#### Product Nr. 2490 Horizontal Clamping Pallet with T-Slot

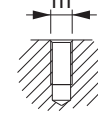
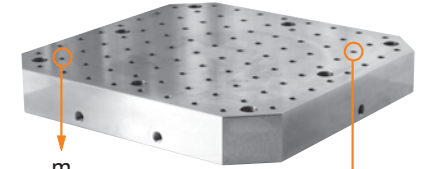
- Material : Casting
- It is in compliance with Standard Coupling Equipment.
- T-Slot measurement of 14mm - 18mm is in DIN 650 Standard.



Referans Nr.	a ±0.02	b	c	d	e	m	(kg)
2510-7540012	75	400	320	55	25	M12	80
2510-7550012	75	500	400	75	25	M12	127
2510-7563012	75	630	500	100	40	M12	204
2510-7540016	75	400	320	55	25	M16	79
2510-7550016	75	500	400	75	25	M16	125
2510-7563016	75	630	500	100	40	M16	200

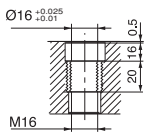
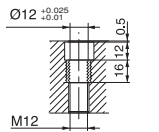
## CNC Yatay İşleme Tablası

### CNC Horizontal Clamping Pallet



Gövdeye dişli  
Referans Nr. 2510

Threaded body  
Reference No. 2510



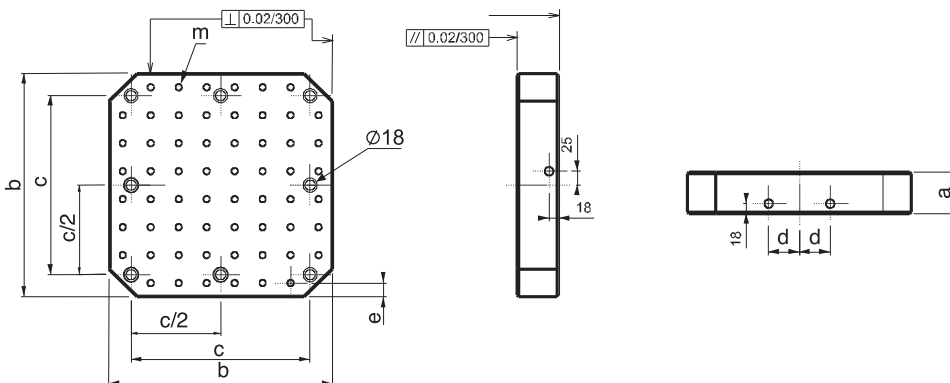
Referans Nr.	a ±0.02	b	c	d	e	m	(kg)
2520-7540012	75	400	320	55	25	M12	80
2520-7550012	75	500	400	75	25	M12	127
2520-7563012	75	630	500	100	40	M12	204
2520-7540016	75	400	320	55	25	M16	79
2520-7550016	75	500	400	75	25	M16	125
2520-7563016	75	630	500	100	40	M16	200

#### Ürün Nr. 2510 Yatay İşleme Tablası Delikli

- Malzeme : Döküm
- Standart bağlama ekipmanlarına uyumludur.
- Yüzeyinde M12 - M16 diş merkez aralığı  $50 \pm 0.02$
- Çelik burçlu dişleri sertleştirilmiştir.

#### Product Nr. 2510 Horizontal Clamping Pallet with Grid Holes

- Material : Casting
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is  $50 \pm 0.02$ .
- It's steel bush threads are hardened.



Çelik burçlu  
Referans Nr. 2520

Steel bush  
Reference No. 2520



Referans Nr.	a	b	Ød	e	f	t	(kg)
2530-040012	400	600	18	-	-	M12	73
2530-050012	500	600	18	-	-	M12	112
2530-060012	600	800	18	-	-	M12	162
2530-140012	400	800	18	-	-	M12	119
2530-145012	450	900	18	-	-	M12	151
2530-150012	500	1000	18	-	-	M12	173

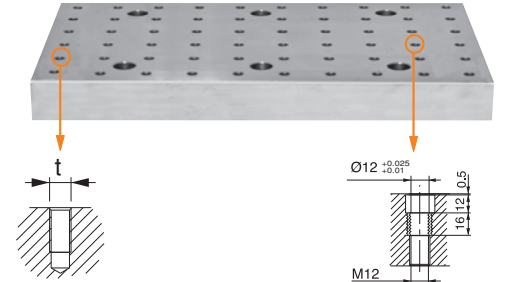
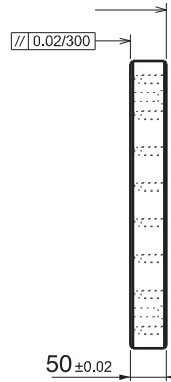
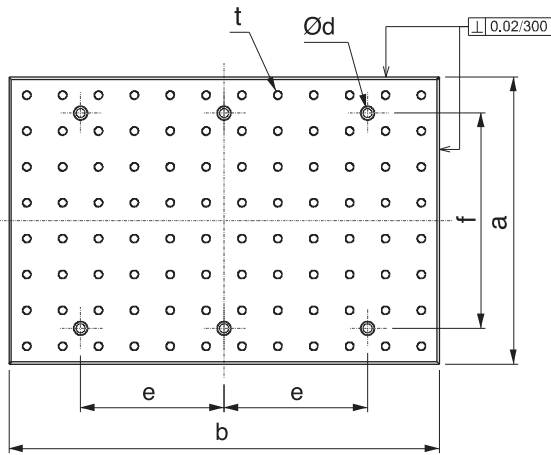
Referans Nr.	a	b	Ød	e	f	t	(kg)
2530-040016	400	600	18	-	-	M16	87
2530-050016	500	600	18	-	-	M16	108
2530-060016	600	800	18	-	-	M16	155
2530-140016	400	800	18	-	-	M16	115
2530-145016	450	900	18	-	-	M16	146
2530-150016	500	1000	18	-	-	M16	171

#### Ürün Nr. 2530 CNC Dik İşleme Pleyti Delikli

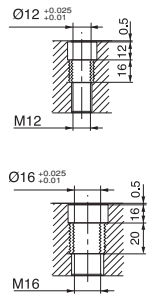
- Malzeme : Döküm
- Standart bağlama ekipmanlarına uyumludur.
- Yüzeyinde M12-M16 diş Merkez aralığı  $50 \pm 0.02$
- Çelik burçlu dişleri sertleştirilmiştir.

#### Product Nr. 2530 CNC Vertical Processing Plate with Holes

- Material : Casting
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is  $50 \pm 0.02$ .
- It's steel bush threads are hardened.



Gövdeye dişli  
Referans Nr. 2530  
Threaded body  
Reference No. 2530



Çelik burçlu  
Referans Nr. 2540  
Steel bush  
Reference No. 2540

## CNC Dik İşleme Pleyti

### CNC Vertical Processing Plate

Referans Nr.	a	b	c	d	e	f	Øg	h	i	j	(kg)
2550-040014	400	600	60	14	50	100	18	-	-	50	90
2550-050014	500	600	60	14	50	100	18	-	-	50	115
2550-060014	600	800	60	14	50	100	18	-	-	50	198
2550-140014	400	800	60	14	50	100	18	-	-	50	120
2550-145014	450	900	60	14	75	100	18	-	-	50	162
2550-150014	500	1000	60	14	50	100	18	-	-	50	199

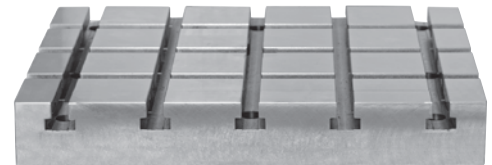
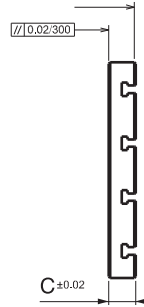
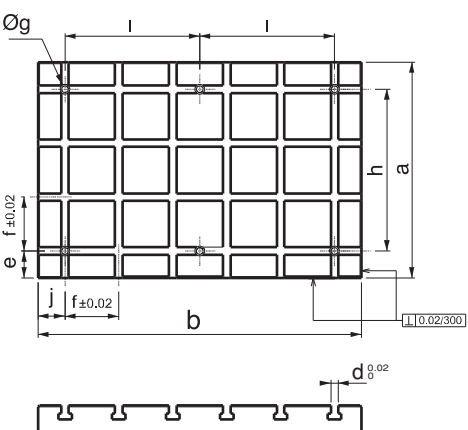
Referans Nr.	a	b	c	d	e	f	Øg	h	i	j	(kg)
2550-040018	400	600	75	18	50	100	18	-	-	50	108
2550-050018	500	600	75	18	50	100	18	-	-	50	135
2550-060018	600	800	75	18	50	100	18	-	-	50	216
2550-140018	400	800	75	18	50	100	18	-	-	50	143
2550-145018	450	900	75	18	75	100	18	-	-	50	183
2550-150018	500	1000	75	18	50	100	18	-	-	50	225

#### Ürün Nr. 2550 Dik İşleme Pleyti T-Kanallı

- Malzeme : Döküm
- Standart bağlama ekipmanlarına uyumludur.
- T-Kanal ölçüsü 14mm - 18mm DIN 650 standartındadır.

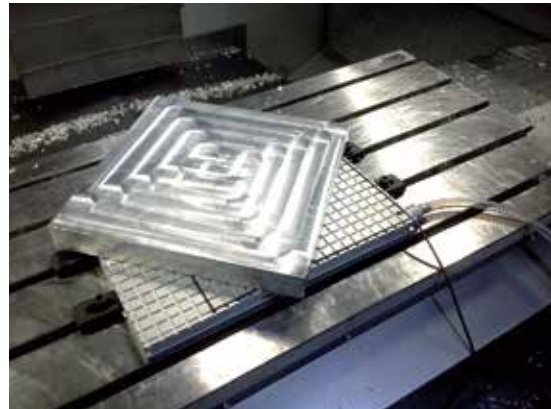
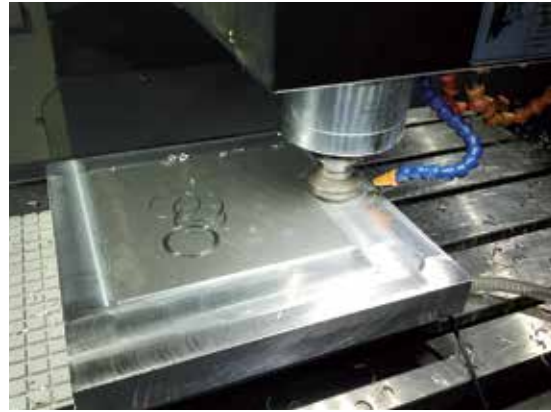
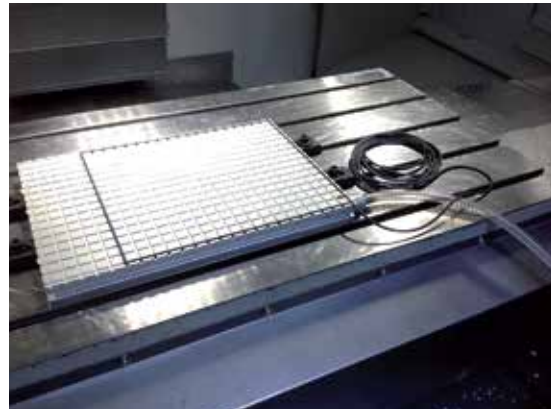
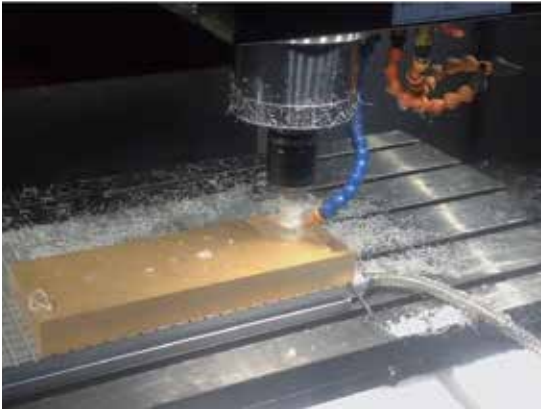
#### Product Nr. 2550 CNC Vertical Processing Plate with "T" Slot

- Material : Casting
- It is in compliance with Standard Coupling Equipment.
- T-Slot is in the standard of 14mm - 18mm DIN 650.



# VAKUMLU TABLA UYGULAMALARI

## VACUUM PLATE APPLICATION



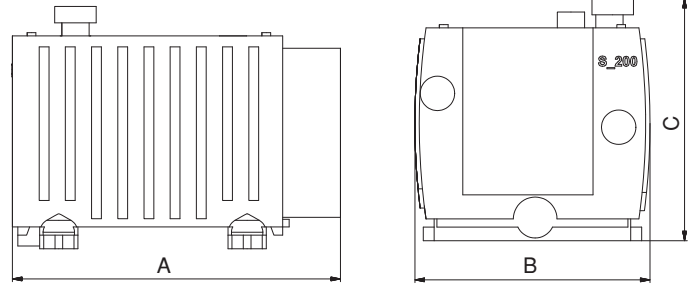
Referans Nr.	m <sup>3</sup> /h	Volt	Vakum Gücü End Press.	Kw	Hz	A	B	C	(kg)
2557-022	22	400	150-50 mbar	0.83	50	463	432	602	45.5
2557-045	45	400	150-50 mbar	1.20	50	515	572	743	57
2557-065	65	400	150-50 mbar	2.40	50	515	572	743	72
2557-100	100	400	150-50 mbar	3.85	50	525	620	920	110
2557-150	150	400	150-50 mbar	4.00	50	710	845	1100	200
2557-198	198	400	150-50 mbar	5.50	50	710	845	1100	220
2557-232	232	400	150-50 mbar	7.50	50	710	845	1100	240

## Ürün Nr. 2557 Pompa Ünitesi

• Su ve talaş ayrıştırıcı sistem

## Product Nr. 2557 Pump Unit

• Water and chip parser system



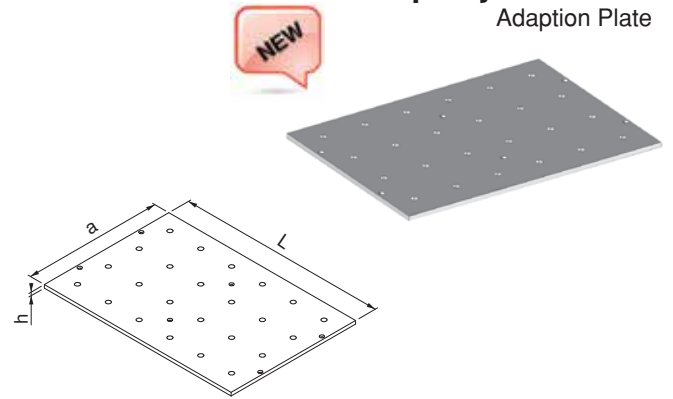
## Adaptasyon Tablası

Adaption Plate

Referans Nr.	a	L	h
2560-200300	200	300	10
2560-300400	300	400	10
2560-400400	400	400	10
2560-400600	400	600	10
2560-600900	600	900	10

## Ürün Nr. 2560 Adaptasyon Tablası

## Product Nr. 2560 Adaption Plate



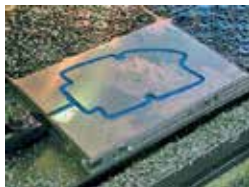
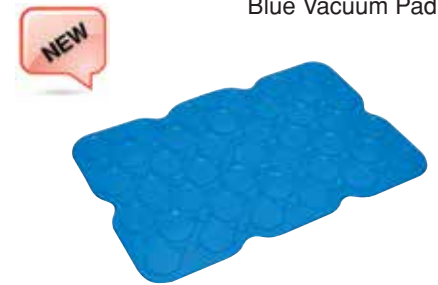
## Mavi Vakum Ped


Blue Vacuum Pad

Referans Nr.	200x300
2563-200300	200x300

## Ürün Nr. 2563 Mavi Vakum Ped

## Product Nr. 2563 Blue Vacuum Pad



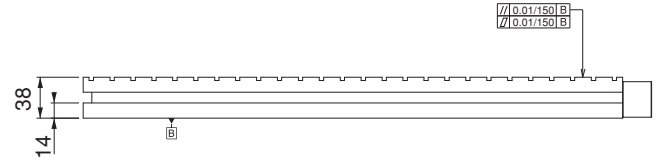
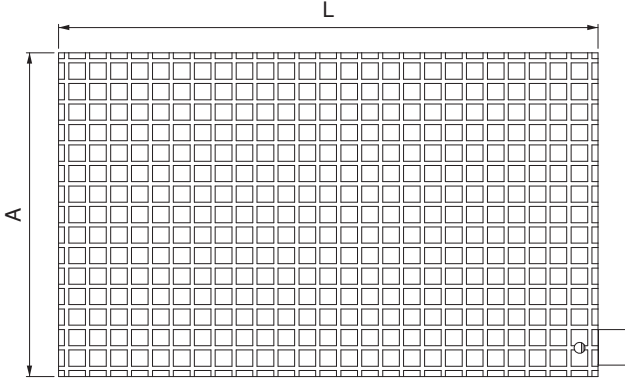
Referans Nr.	A	L	Kare Aralığı Square Range	 (kg)
2565-200300	200	300	20	6.20
2565-300400	300	400	20	12.30
2565-400400	400	400	20	16.40
2565-400600	400	600	20	24.60
2565-600900	600	900	20	55.40

**Ürün Nr. 2565 Vakumlu Pleyt**

• Malzeme: Alüminyum


**Product Nr. 2565 Vacuum Plate**

• Material : Aluminium



**Vakum Pompası**

Vacuum Pump

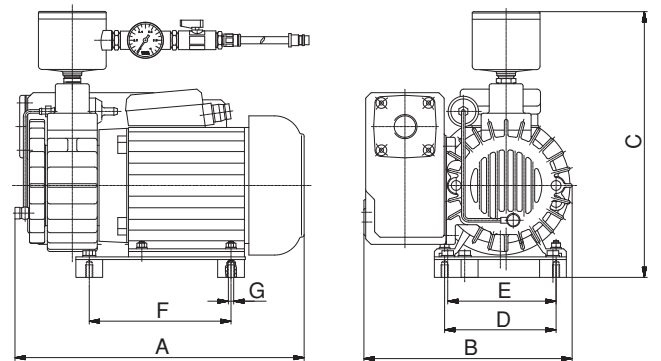
Referans Nr.	m³/h	Volt	Hz	Vakum Gücü End Press.	Kw	RPM	DB	Oil	A	B	C	D	E	F	G	 (kg)
2567-095969	10	230	50	20 mbar	0.37	3000 1/2min	59	0.3l	301	234	297	100	83	150	M8	24
2567-281548	10	400	50	20 mbar	0.37	3000 1/2min	59	0.3l	301	234	297	100	83	150	M8	24
2567-082115	16	230	50	20 mbar	0.55	3000 1/2min	60	0.3l	301	234	297	100	83	150	M8	10.3
2567-082116	16	400	50	20 mbar	0.55	3000 1/2min	60	0.3l	301	234	297	100	83	150	M8	10.3
2567-080156	21	230	50	20 mbar	0.75	3000 1/2min	62	0.5l	401	223	254	131	127	210	M8	22
2567-080078	21	400	50	20 mbar	0.75	3000 1/2min	62	0.5l	401	223	254	131	127	210	M8	22

**Ürün Nr. 2567 Vakum Pompası**

• Kuru sistem

**Product Nr. 2567 Vacuum Pump**

• Dry system



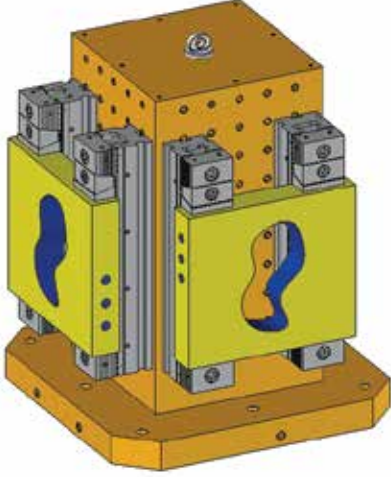
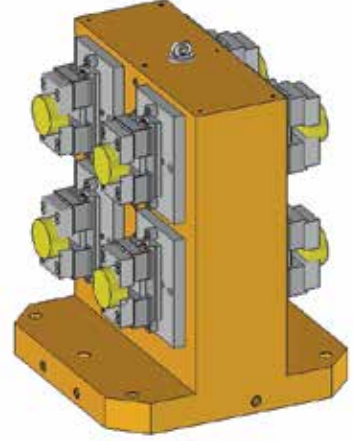


# CNC YATAY İŞLEME KULELERİ

CNC HORIZONTAL CLAMPING CUBE

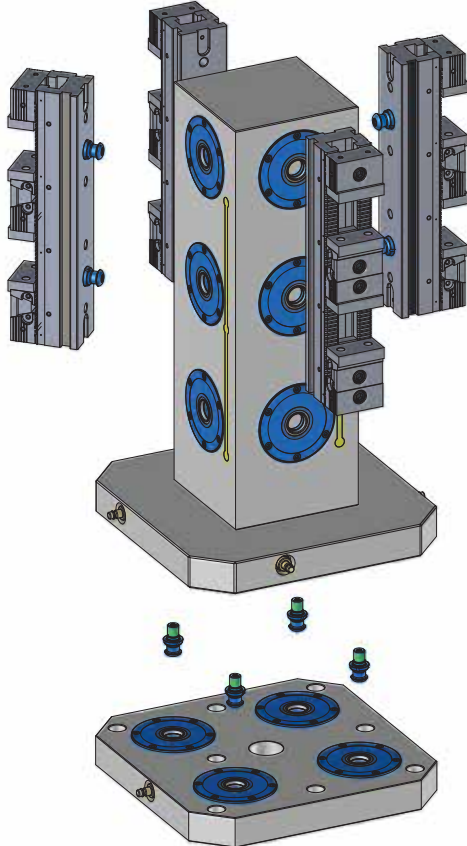
Nr.2670 Dikdörtgen kuleye  
Nr.2310 çift açılır mengenerle  
iş parçası bağlama şekli.

Nr.2670 clamping cube  
with Nr.2310 vice applications



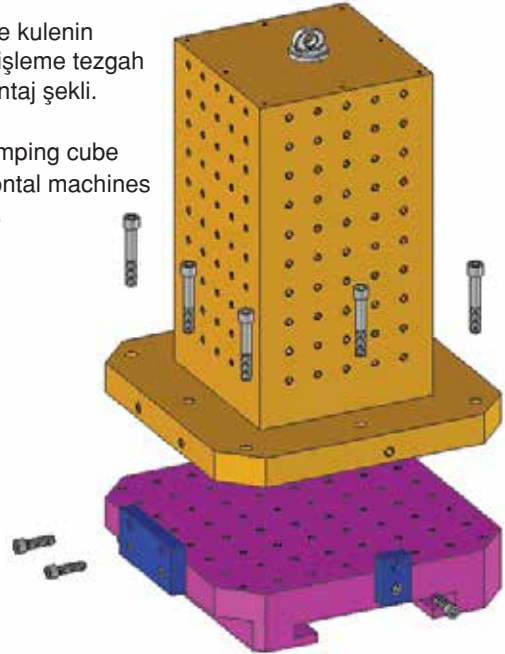
Nr.2650 kare kuleye  
Nr.2430 mengenerle  
iş parçası bağlama şekli

Nr.2650 clamping cube  
with Nr.2430 vice applications



Nr.2650 kare kulenin  
CNC yatay işleme tezgah  
pleytine montaj şekli.

Nr.2650 clamping cube  
CNC Horizontal machines  
applications



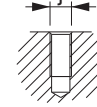
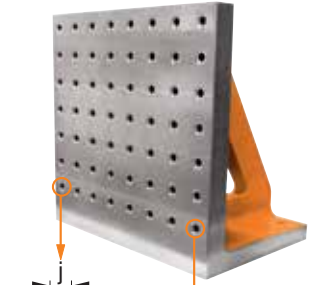
Referans Nr.	a	b	c	d	e	f	g	h	Ø1	j	k	s	s1	(kg)
2570-30012	300	300	220	100	250	90	40	30	18	M12	75	25	170	50
2570-40012	400	400	280	160	320	90	40	30	18	M12	75	30	240	88
2570-50012	500	500	345	200	400	90	50	35	18	M12	75	35	300	175
2570-63012	630	630	435	250	500	100	50	40	18	M12	105	40	360	298
2570-30016	300	300	220	100	250	90	40	30	18	M16	75	25	170	45
2570-40016	400	400	280	160	320	90	40	30	18	M16	75	30	240	84
2570-50016	500	500	345	200	400	90	50	35	18	M16	75	35	300	170
2570-63016	630	630	435	250	500	100	50	40	18	M16	105	40	360	293

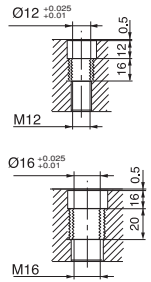
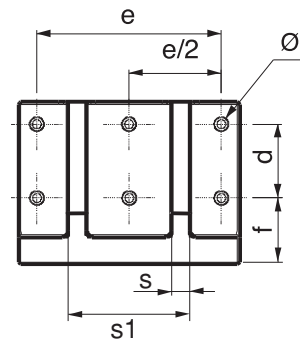
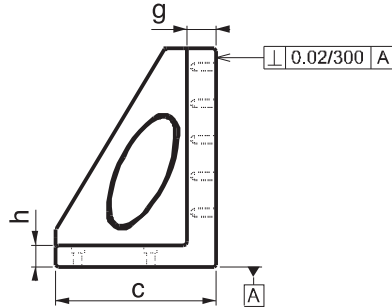
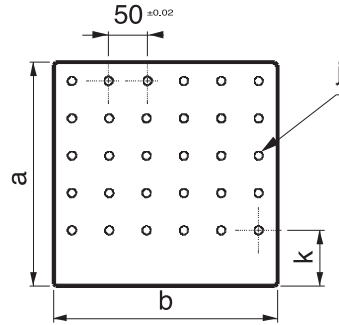
**Ürün Nr. 2570 L Gönye Delikli**

- Malzeme : Döküm
- CNC yatay ve dik işleme tezgahlarında kullanılır.
- Standart bağlama ekipmanlarına uyumludur.
- Yüzeyinde M12 - M16 diş merkez aralığı  $50 \pm 0.02$
- Çelik burçlu dişleri sertleştirilmiştir.

**Product Nr. 2570 L Setsquare with Hole**

- Material : Casting
- It is used in CNC Horizontal end Vertical processing benches.
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is  $50 \pm 0.02$ .
- It's steel bush threads are hardened.


 Gövdeye dişli  
Referans Nr. 2570

 Threaded body  
Reference No. 2570

 Çelik burçlu  
Referans Nr. 2575  
Steel bush  
Reference No. 2575

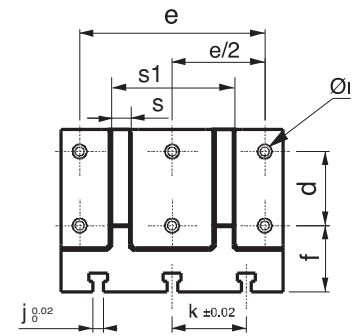
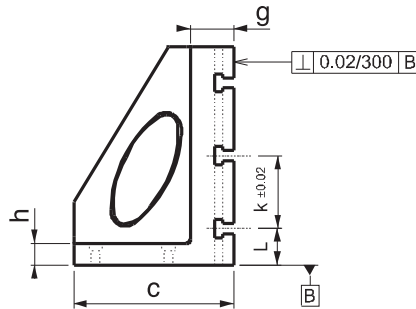
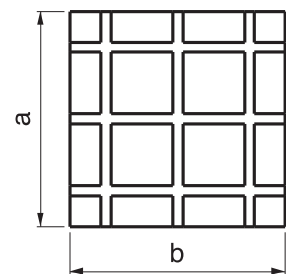
Referans Nr.	a	b	c	d	e	f	g	h	Ø1	j	k	L	s	s1	(kg)
2590-30014	300	300	220	100	250	90	60	30	18	14	100	50	25	170	50
2590-40014	400	400	300	160	320	90	60	30	18	14	100	50	30	240	100
2590-50014	500	500	350	200	400	90	60	35	18	14	100	50	35	300	185
2590-63014	630	630	450	250	500	100	65	40	18	14	125	65	40	360	315
2590-30018	300	300	220	100	250	90	60	30	18	18	100	50	25	170	50
2590-40018	400	400	300	160	320	90	60	30	18	18	100	50	30	240	98
2590-50018	500	500	350	200	400	90	60	35	18	18	100	50	35	300	174
2590-63018	630	630	450	250	500	100	65	40	18	18	125	65	40	360	286

**Ürün Nr. 2590 L Gönye T-Kanallı**

- Malzeme : Döküm
- CNC yatay ve dik işleme tezgahlarında kullanılır.
- Standart bağlama ekipmanlarına uyumludur.
- T-Kanal ölçüleri 14mm - 18mm DIN 650 standartındadır.

**Product Nr. 2590 L Setsquare T-Slot**

- Material : Casting
- It is used in CNC Horizontal end Vertical processing benches.
- It is in compliance with Standard Coupling Equipment.
- T-Slot is in the standard of 14mm - 18mm DIN 650.





Referans Nr.	b	d	c	c1	A min.	A max.	Sıkma kuvveti Clamping force kgf
2600-400400	400	160	320	-	-	-	4000
2600-500500	500	200	400	-	-	-	4000
2600-630630	630	250	500	-	-	-	4000

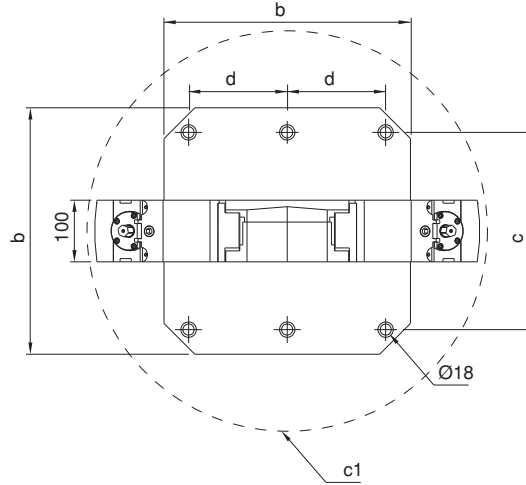
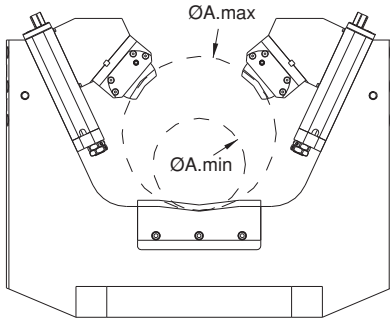


**Ürün Nr. 2600 Çatal Kule**

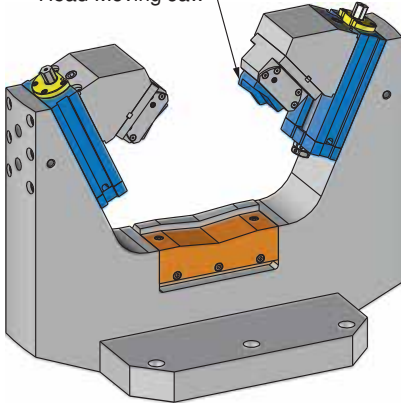
- Kullanım alanı: CNC yatay işleme, Borwect tezgahlarında silindir parçaların iki yüzeyinde işleme kolaylığı sağlar.
- Hareketli yüzeylerin tamamı hassas taşlanmış ve sertleştirilmiştir.

**Product Nr. 2600 Fork Tower**

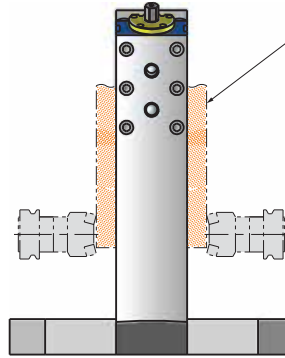
- Application area: Provides better operation on both sides of cylindric workpieces on cnc horizontal machines and bohrwerks.
- Entire moving surface is sensitively grinded and hardened.




Oynar Başlı Çene  
Head Moving Jaw



İş Parçası  
Workpiece



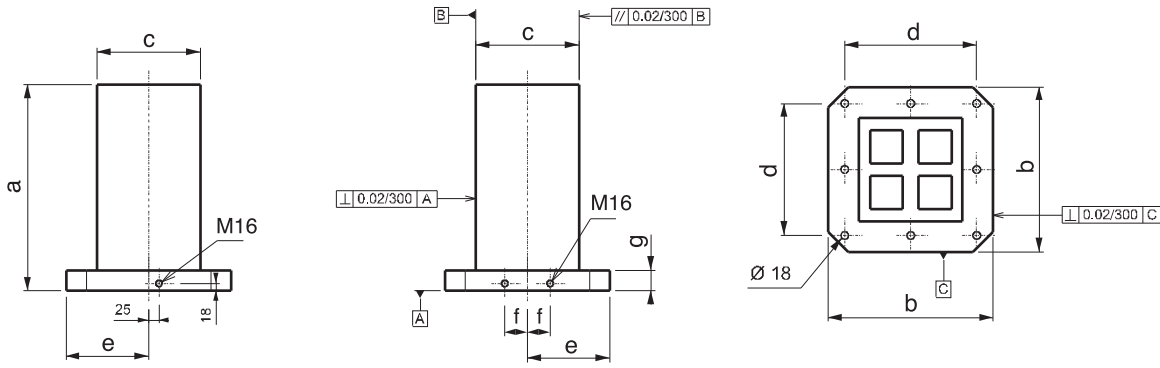
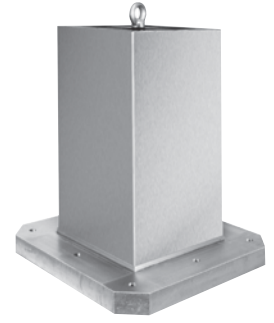
Referans Nr.	a	b	c	d	e	f	g	
2610-400250	500	400	250	320	200	55	50	180
2610-500300	600	500	300	400	250	75	50	240
2610-630350	700	630	350	500	315	100	50	390


#### Ürün Nr. 2610 Yatay İşleme Kulesi (Kare)

- İsteğe göre uygulama yapılabilmesi için yüzeyler deliksizdir.
- Malzeme : Döküm

#### Product Nr. 2610 Horizontal Processing Cube (Square)

- Application on the surface according to desired way.
- Material : Casting



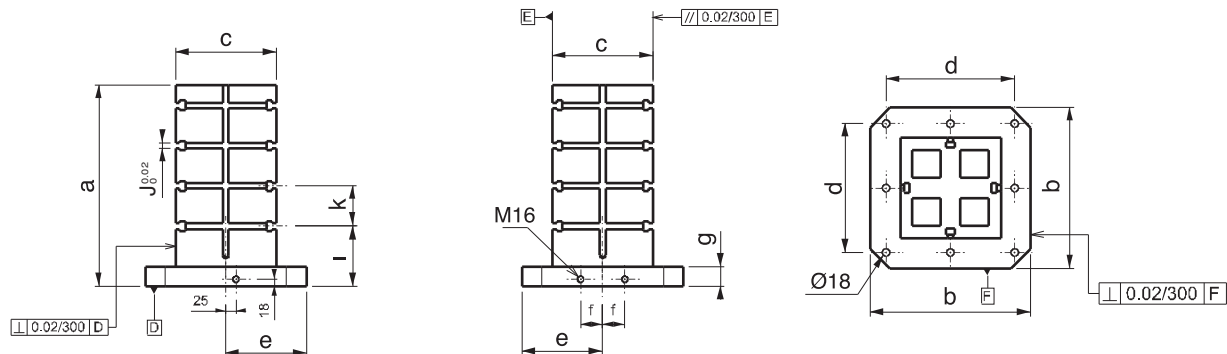
Referans Nr.	a	b	c	d	e	f	g	i	k	J ( $\varnothing 0.02$ )	
2630-40025014	500	400	250	320	200	55	50	150	100	14	165
2630-50030014	600	500	300	400	250	75	50	150	100	14	227
2630-63035014	700	630	350	500	315	100	50	150	125	14	375
2630-40025018	500	400	250	320	200	55	50	150	100	18	155
2630-50030018	600	500	300	400	250	75	50	150	100	18	223
2630-63035018	700	630	350	500	315	100	50	150	125	18	370

#### Ürün Nr. 2630 Yatay İşleme Kulesi (Kare) T-Kanlı

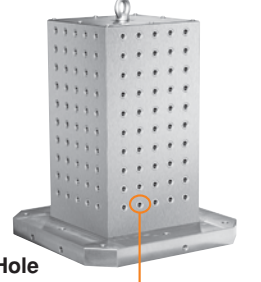
- Dört yüzeyine iş parçası bağlanabilir.
- Standart bağlama ekipmanlarına uyumludur.
- T-Kanal ölçüsü 14mm - 18mm DIN 650 standartındadır.
- Malzeme : Döküm

#### Product Nr. 2630 Horizontal Processing Cube (Square) with T-Slot

- Workpiece can be applied on four faces.
- It is in compliance with Standard Coupling Equipment.
- T-Slot is in the standard of 14mm - 18mm DIN 650.
- Material : Casting



Referans Nr.	a	b	c	d	e	f	g		
2650-40025012	500	400	250	320	200	55	50	M12	170
2650-50030012	600	500	300	400	250	75	50	M12	230
2650-63035012	700	630	350	500	315	100	50	M12	380
2650-40025016	500	400	250	320	200	55	50	M16	168
2650-50030016	600	500	300	400	250	75	50	M16	228
2650-63035016	700	630	350	500	315	100	50	M16	376

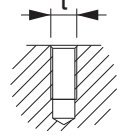
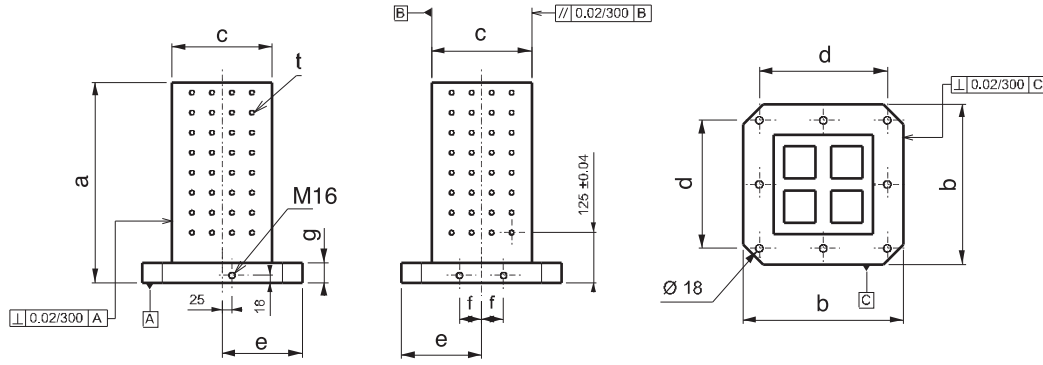


#### Ürün Nr. 2650 Yatay İşleme Kulesi (Kare) Delikli

- Malzeme : Döküm
- Dört yüzüne iş parçası bağlanabilir.
- Standart bağlama ekipmanlarına uyumludur.
- Her yüzeye M12 - M16 diş merkez aralığı 50mm ±0.02

#### Product Nr. 2650 Horizontal Processing Cube (Square) with Hole

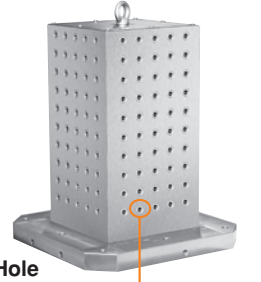
- Material : Casting
- Workpiece can be applied on four faces.
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is 50 ± 0.02.



## CNC Yatay İşleme Kulesi

### CNC Horizontal Processing Cube

Referans Nr.	a	b	c	d	e	f	g		
2660-40025012	500	400	250	320	200	55	50	M12	170
2660-50030012	600	500	300	400	250	75	50	M12	230
2660-63035012	700	630	350	500	315	100	50	M12	380
2660-40025016	500	400	250	320	200	55	50	M16	168
2660-50030016	600	500	300	400	250	75	50	M16	228
2660-63035016	700	630	350	500	315	100	50	M16	376

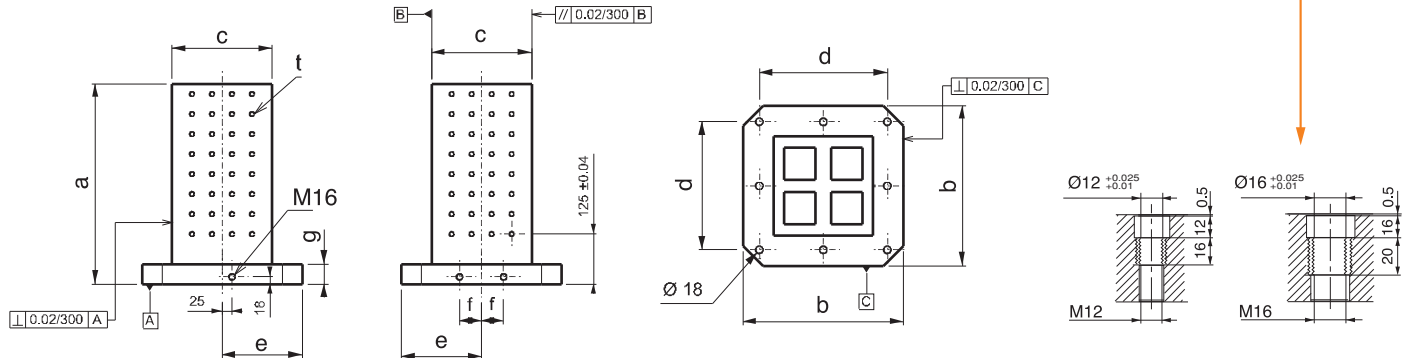


#### Ürün Nr. 2660 Yatay İşleme Kulesi (Kare) Delikli

- Malzeme : Döküm
- Dört yüzüne iş parçası bağlanabilir.
- Standart bağlama ekipmanlarına uyumludur.
- Her yüzeye M12 - M16 diş merkez aralığı 50mm ±0.02
- Çelik burçlu dişler sertleştirilmiştir.

#### Product Nr. 2660 Horizontal Processing Cube (Square) with Hole

- Material : Casting
- Workpiece can be applied on four faces.
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is 50 ± 0.02.
- It's steel bush threads are hardened.



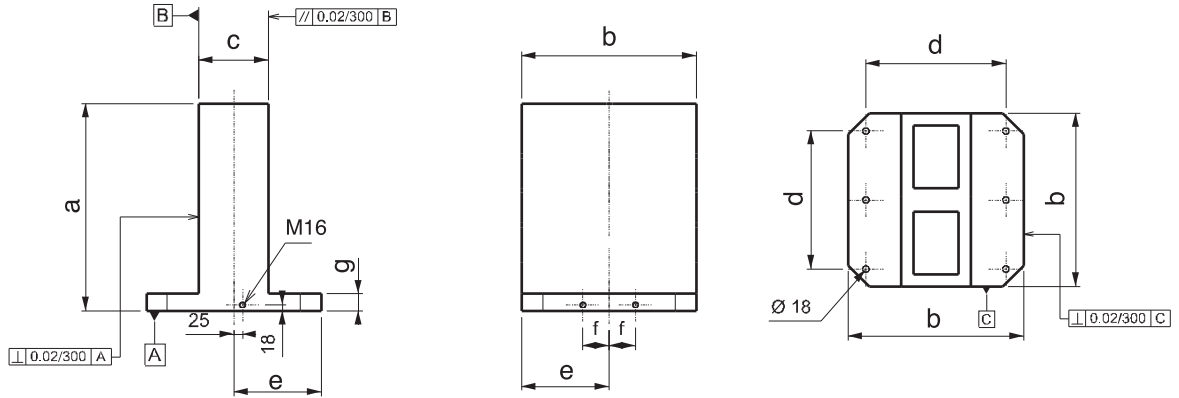
Referans Nr.	a	b	c	d	e	f	g	(kg)
2670-400150	500	400	150	320	200	55	50	175
2670-500200	600	500	200	400	250	75	50	265
2670-630250	700	630	250	500	315	100	50	484

#### Ürün Nr. 2670 Yatay İşleme Kulesi (Dikdörtgen)

- İsteğe göre uygulama yapılabilmesi için yüzeyler deliksizdir.
- Malzeme : Döküm

#### Product Nr. 2670 Horizontal Processing Cube (Rectangular)

- Application on the surface according to desired way.
- Material : Casting



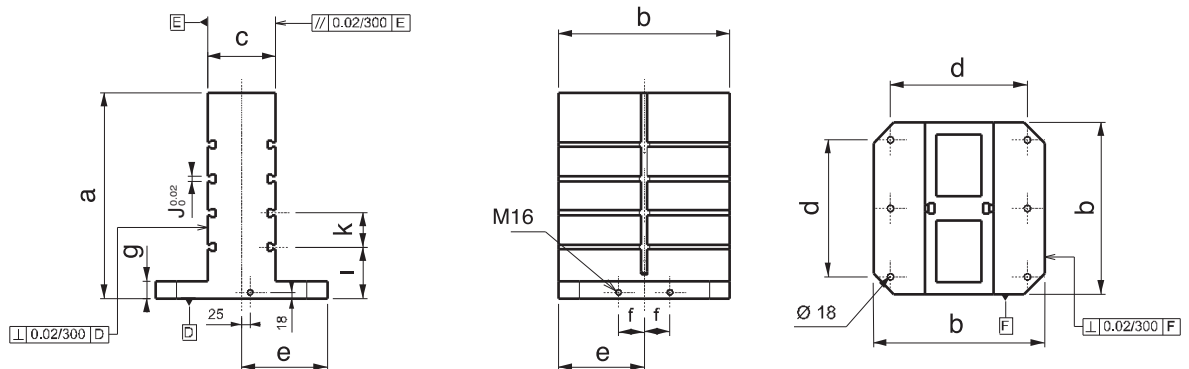
Referans Nr.	a	b	c	d	e	f	g	l	k (±0.02)	J ( $\frac{0.02}{0}$ )	(kg)
2690-40015014	500	400	150	320	200	55	50	150	100	14	165
2690-50020014	600	500	200	400	250	75	50	150	100	14	240
2690-63025014	700	630	250	500	315	100	50	150	125	14	455
2690-40015018	500	400	150	320	200	55	50	150	100	18	152
2690-50020018	600	500	200	400	250	75	50	150	100	18	238
2690-63025018	700	630	250	500	315	100	50	150	125	18	450

#### Ürün Nr. 2690 Yatay İşleme Kulesi (Dikdörtgen) T-Kanallı

- İki yüzeyine iş parçası bağlanabilir.
- Standart bağlama ekipmanlarına uyumludur.
- T-Kanal ölçüsü 14mm - 18mm DIN 650 standartındadır.
- Malzeme : Döküm

#### Product Nr. 2690 Horizontal Processing Cube (Rectangular) with T-Slot

- Workpiece can be applied on four faces.
- It is in compliance with Standard Coupling Equipment.
- T-Slot is in the standard of 14mm - 18mm DIN 650.
- Material : Casting



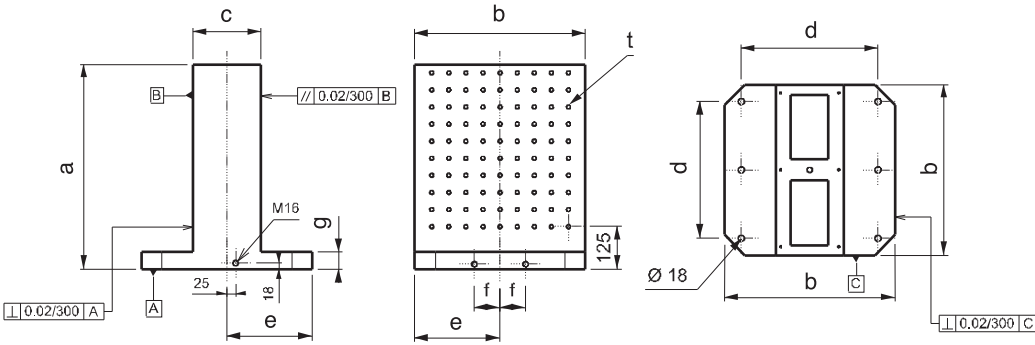
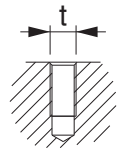
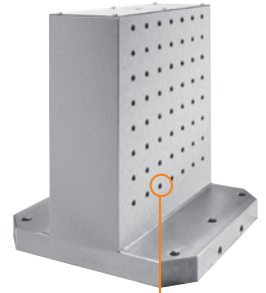
Referans Nr.	a	b	c	d	e	f	g		
2710-40015012	500	400	150	320	200	55	50	M12	170
2710-50020012	600	500	200	400	250	75	50	M12	250
2710-63025012	700	630	250	500	315	100	50	M12	475
2710-40015016	500	400	150	320	200	55	50	M16	164
2710-50020016	600	500	200	400	250	75	50	M16	248
2710-63025016	700	630	250	500	315	100	50	M16	470

#### Ürün Nr. 2710 Yatay İşleme Kulesi Dikdörtgen (Delikli)

- Malzeme : Döküm
- İki yüzeyine iş parçası bağlanabilir.
- Standart bağlama ekipmanlarına uyumludur.
- İki yüzeye M12 - M16 diş merkez aralığı 50mm  $\pm$ 0.02

#### Product Nr. 2710 Horizontal Processing Cube Rectangular (with Hole)

- Material : Casting
- Workpiece can be applied on two faces.
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is  $50 \pm 0.02$ .



## CNC Yatay İşleme Kulesi

### CNC Horizontal Processing Cube

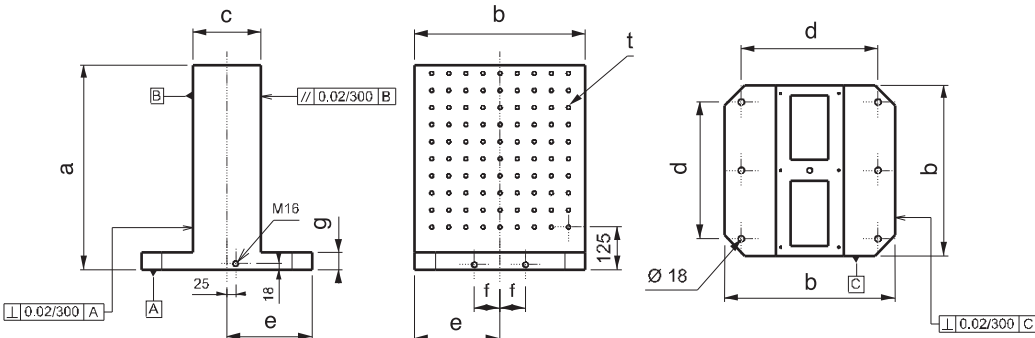
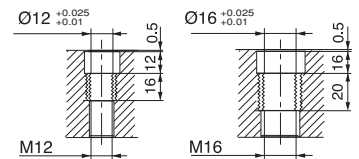
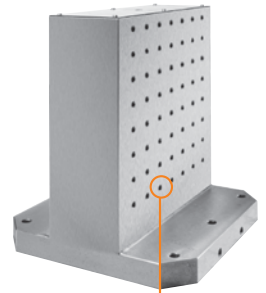
Referans Nr.	a	b	c	d	e	f	g		
2720-40015012	500	400	150	320	200	55	50	M12	170
2720-50020012	600	500	200	400	250	75	50	M12	250
2720-63025012	700	630	250	500	315	100	50	M12	475
2720-40015016	500	400	150	320	200	55	50	M16	164
2720-50020016	600	500	200	400	250	75	50	M16	248
2720-63025016	700	630	250	500	315	100	50	M16	470


#### Ürün Nr. 2720 Yatay İşleme Kulesi Dikdörtgen (Delikli)

- Malzeme : Döküm
- İki yüzeyine iş parçası bağlanabilir.
- Standart bağlama ekipmanlarına uyumludur.
- İki yüzeye M12 - M16 diş merkez aralığı 50mm  $\pm$ 0.02
- Çelik burçlu dişler sertleştirilmiştir.

#### Product Nr. 2720 Horizontal Processing Cube Rectangular (with Hole)

- Material : Casting
- Workpiece can be applied on two faces.
- It is in compliance with Standard Coupling Equipment.
- M12 - M16 thread gap on it's surface is  $50 \pm 0.02$ .
- It's steel bush threads are hardened.



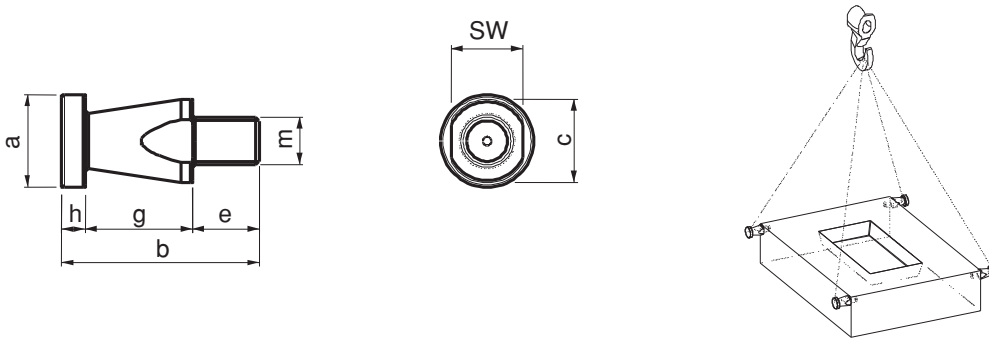
Referans Nr.	m	a	b	c	sw	e	g	h	Bir mapanın taşıma kuvveti Lifting Force of one Ringbolt Kgf	 (g)
2730-016	M16	39	85	35	30	30	45	10	660	370
2730-020	M20	39	85	35	30	30	45	10	1000	390


### Ürün Nr. 2730 Kalıp Taşıma Mapası

- Bağlama ölçüsü M16 - M20
- Siyah Kaplama

### Product Nr. 2730 Ringbolt for Mould Carrying

- Coupling Measurement: M16 - M20
- Black Coating



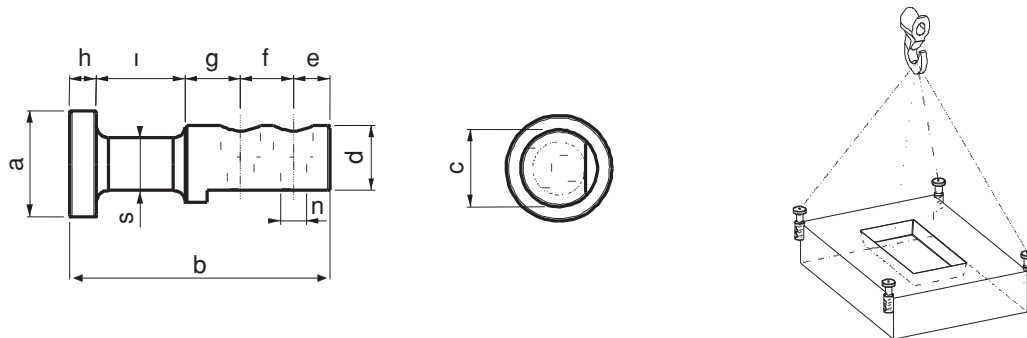
Referans Nr.	a	b	c	d	e	f	g	h	i	n	s	Bir mapanın taşıma kuvveti Lifting Force of one Ringbolt Kgf	 (g)
2750-044	44	108	32	27	15	22	23	11	37	11	22	400	525

### Ürün Nr. 2750 Kalıp Taşıma Mapası

- Bağlama civata ölçüsü DIN 912 M10x35 inbus
- Siyah Kaplama

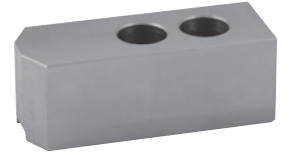
### Product Nr. 2750 Ringbolt for Mould Carrying

- Coupling Bolt Measurement: DIN 912 M10x35 Inbus
- Black Coating





Referans Nr.	inch	hatve halve	L	b	h	n t7	c	k	j	e	m	s	Ø min	(g)
2770-0612	6" inch	1.5x60	72	32	32	12	5	15	20	11	22	10	6.5	1460
2770-0814	8" inch	1.5x60	98	37	37	14	5	24	25	13	22	14	8.5	2785
2770-1016	10" inch	1.5x60	110	42	42	16	5	30	30	13	29	14	10	4060
2770-1218	12" inch	1.5x60	130	50	52	18	5	39	30	15	32	17	12	6510
2770-1221	12" inch	1.5x60	130	50	52	21	5	39	30	17	32	19	12	6575
2775-0612	6" inch	1.5x60	72	28	37	12	5	15	20	11	17	10	6.5	1415
2775-0814	8" inch	1.5x60	95	35	67	14	5	24	25	13	19	14	8.5	4465
2775-1016	10" inch	1.5x60	110	38	77	16	5	30	30	13	19	14	10	6850
2775-1218	12" inch	1.5x60	130	48	77	18	5	39	30	15	23	17	12	10075
2775-1221	12" inch	1.5x60	130	48	77	21	5	39	30	17	23	19	12	9600

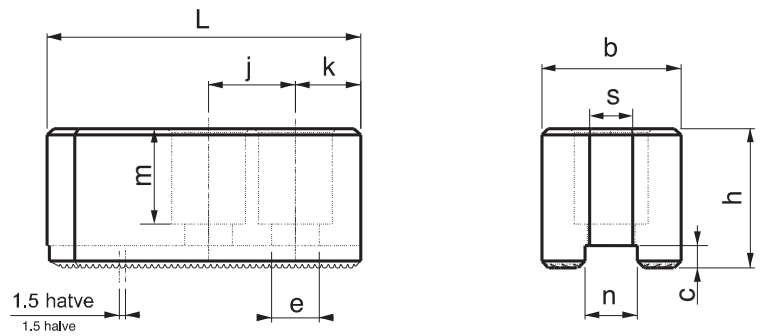


**Ürün Nr. 2770 - 2775 CNC Torna Yumuşak Ayak**

- 6" - 8" - 10" - 12" inch aynalar için

**Product Nr. 2770 - 2775 CNC Lathe Chuck Soft Podous**

- For chucks of 6" - 8" - 10" and 12"



**Yumuşak Ayak T-Pabucu**

CNC Soft Podous T-Nut

Referans Nr.	inch	L	h	n T6	n1	h1	d	j	(g)
2790-0610	6" inch	38	18.5	12	18	7.5	M10	20	55
2790-0812	8" inch	45	21.5	14	21	8.5	M12	25	85
2790-1012	10" inch	52	21.5	16	22	8.5	M12	30	115
2790-1214	12" inch	55	33.5	18	26.5	13.5	M14	30	225
2790-1216	12" inch	55	27	21	29	13.5	M16	30	210

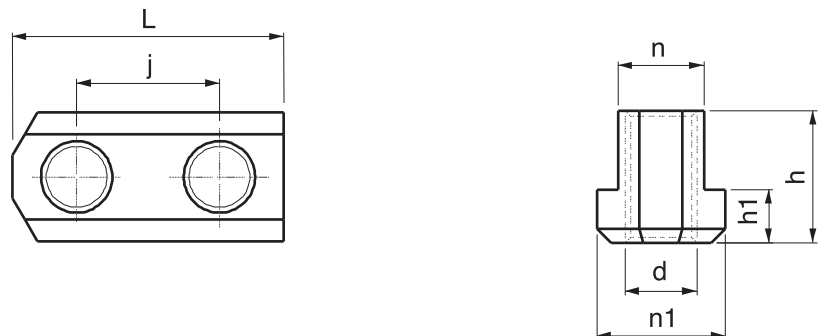


**Ürün Nr. 2790 CNC Torna Yumuşak Ayak T-Pabucu**

- 6" - 8" - 10" - 12" inch aynalar için
- Sertleştirilmiş
- Siyah Kaplama

**Product Nr. 2790 CNC Lathe Chuck Soft Podous T-Nut**

- For chucks of 6" - 8" - 10" and 12"
- Hardened
- Black Coating



## PROJE BAZLI ÖZEL UYGULAMALAR

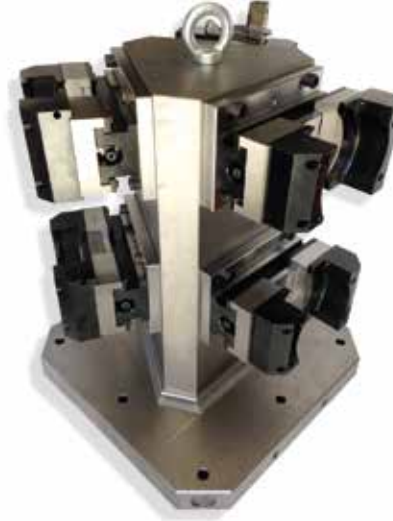
SPECIAL PROJECT BASED APPLICATIONS



Not : Her nevi iş parçasını bağlamak için mekanik, pnömatik ve hidrolik fiştür uygulamaları yapılmaktadır.  
Note : To connect all kinds of workpiece, mechanical, pneumatic and hydraulic fixture applications are made.

## PROJE BAZLI ÖZEL UYGULAMALAR

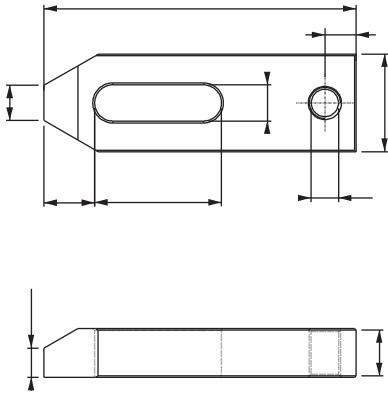
*SPECIAL PROJECT BASED APPLICATIONS*



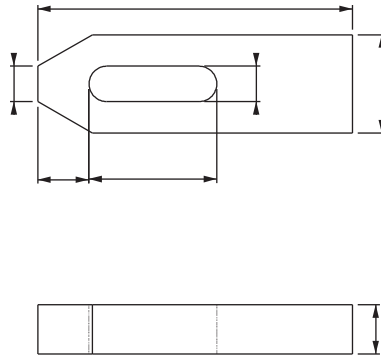
Not : Her nevi iş parçasını bağlamak için mekanik, pnömatik ve hidrolik fikstür uygulamaları yapılmaktadır.  
Note : To connect all kinds of workpiece, mechanical, pneumatic and hydraulic fixture applications are made.

## Özel Sipariş Oluşturma Şablonları / Create A Special Order Template

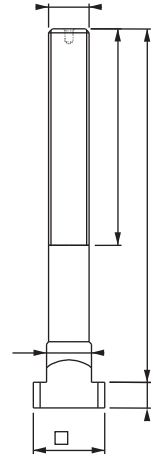
**Nr.1330 Destek Delikli Düz Pabuç**



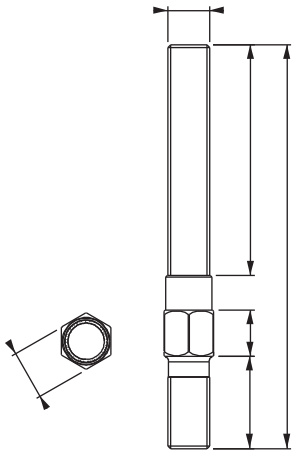
**Nr.1350 Düz Pabuç**



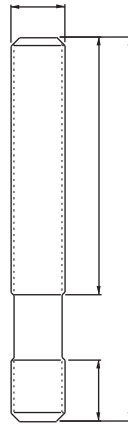
**Nr.1590 T-Ayaklı Saplama**



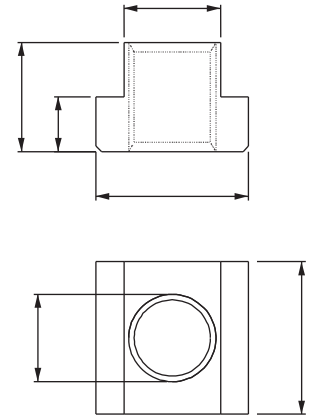
**Nr.1670 Anahtar Ağızlı Saplama**



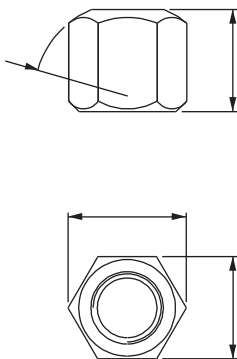
**Nr.1690 Düz Saplama**



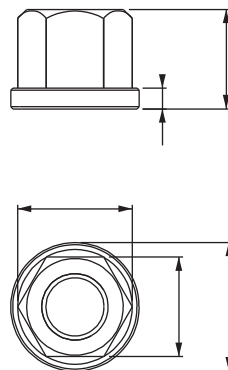
**Nr.1750 T-Pabuç**



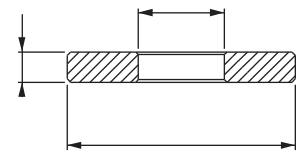
**Nr.1790 Takviyeli Somun**



**Nr.1810 Pullu Somun**

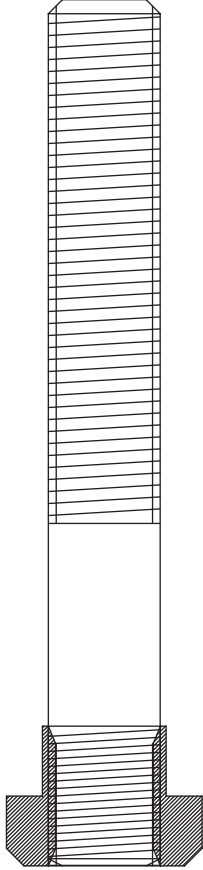


**Nr.1870 Pul**



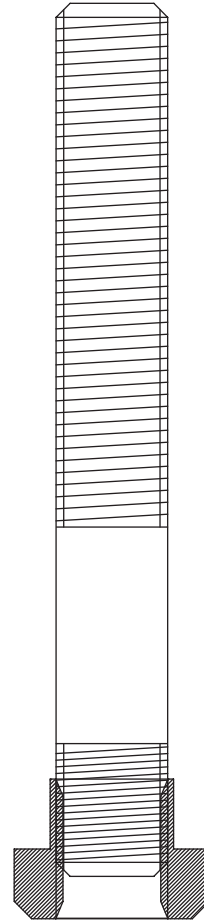
# DOĞRU - YANLIŞ KULLANIM

RIGHT - WRONG USE



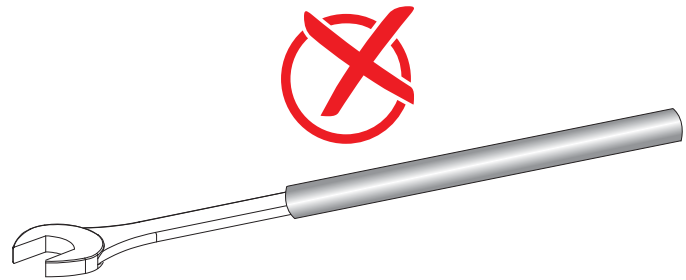
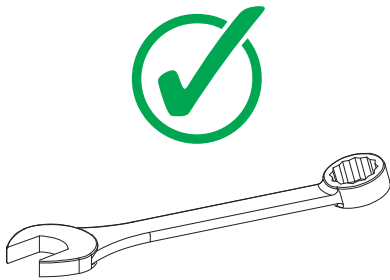
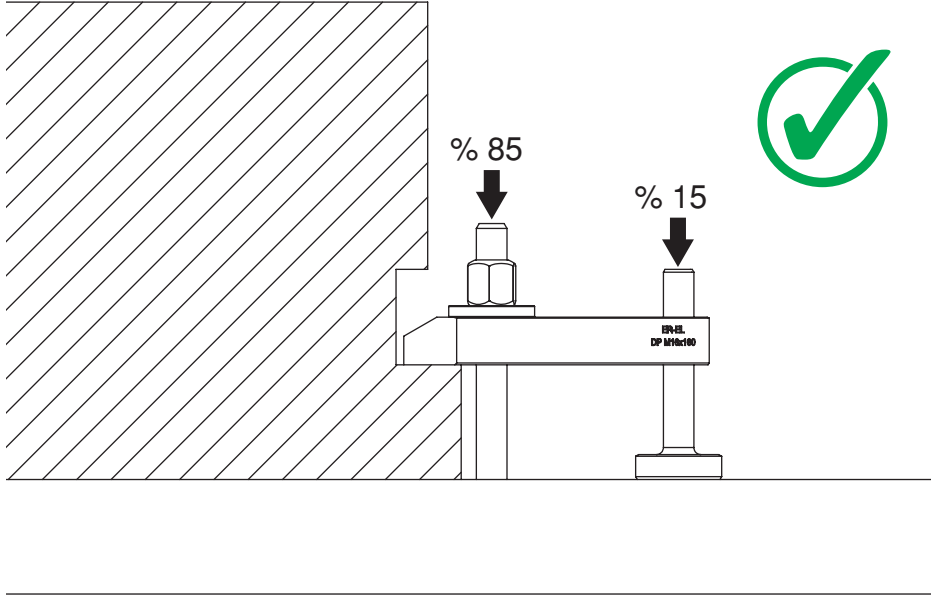
Modüler Kullanımlarda  
Saplamanın T-Pabuça  
Komple Vidalanmasına  
Dikkat Ediniz..!

Make sure that in the  
use of modular the T-Nut is  
screwed fully into the Stud.



# DOĞRU - YANLIŞ KULLANIM

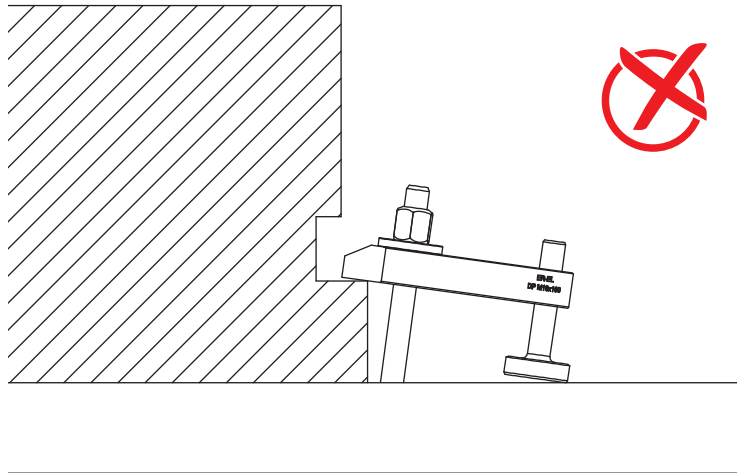
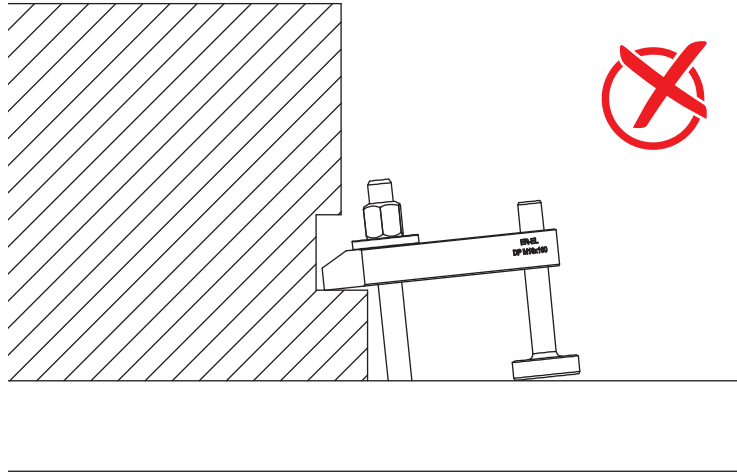
RIGHT - WRONG USE





# DOĞRU - YANLIŞ KULLANIM

RIGHT - WRONG USE









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