



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

## Bağlama Pabuçları, Destekler ve Civatalar

*Clamping Components, Supports and Bolts*



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<p>Nr. 1120 T Nr. 1120 LT S. 06</p> <p>Nr. 1130 T Nr. 1130 LT S. 07</p> 	<p>Nr. 1150 T Nr. 1150 LT S. 08</p> <p>Nr. 1160 T Nr. 1160 LT Nr. 1165 T S. 09</p> 	<p>Nr. 1120 M Nr. 1120 LM S. 10</p> <p>Nr. 1130 M Nr. 1130 LM S. 11</p> 	<p>Nr. 1150 M Nr. 1150 LM S. 12</p> <p>Nr. 1160 M Nr. 1160 LM Nr. 1165 M S. 13</p> 	<p>Nr. 1120 DT Nr. 1120 LDT S. 14</p> <p>Nr. 1130 DT Nr. 1130 LDT S. 15</p> 	<p>Nr. 1150 DT Nr. 1150 LDT S. 17</p> <p>Nr. 1160 DT Nr. 1160 LDT S. 18</p> 
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<p>Nr. 1490 S. 40</p>  <p>Nr. 1510 S. 40</p> 	<p>Nr. 1515 S. 41</p>  <p>Nr. 1517 S. 41</p>  <p>Nr. 1520 S. 41</p> 	<p>Nr. 1530 S. 42</p> 	<p>Nr. 1550 S. 42</p> 	<p>Nr. 1555 S. 43</p>  <p>Nr. 1560 S. 43</p>  <p>Nr. 1565 S. 43</p> 	<p>Nr. 1570 S. 43</p>  <p>Nr. 1575 S. 43</p> 
<p>Nr. 1580 S. 44</p>  <p>Nr. 1585 S. 44</p> 	<p>Nr. 1590 S. 47</p> 	<p>Nr. 1610 S. 48</p> 	<p>Nr. 1630 S. 49</p> 	<p>Nr. 1650 S. 50</p>  <p>Nr. 1670 S. 50</p> 	<p>Nr. 1690 S. 51</p> 
<p>Nr. 1710 S. 53</p>  <p>Nr. 1730 S. 53</p> 	<p>Nr. 1750 S. 54</p>  <p>Nr. 1770 S. 54</p> 	<p>Nr. 1790 S. 55</p>  <p>Nr. 1810 S. 55</p>  <p>Nr. 1830 S. 55</p> 	<p>Nr. 1840 S. 56</p>  <p>Nr. 1850 S. 56</p>  <p>Nr. 1870 S. 56</p> 	<p>Nr. 1890 S. 57</p>  <p>Nr. 1910 S. 57</p>  <p>Nr. 1930 S. 57</p> 	<p>Nr. 1950 S. 58</p>  <p>Nr. 1955 S. 58</p> 
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# KIZAKLI KOMBİNE BAĞLAMA PABUCU UYGULAMALARI

COMBINED SLIDING CLAMP APPLICATION



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2

3

4



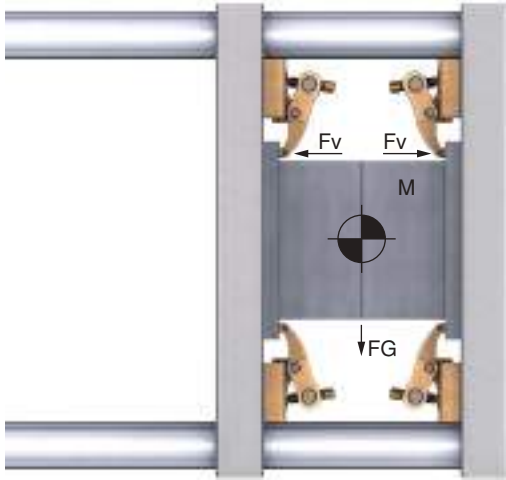
1

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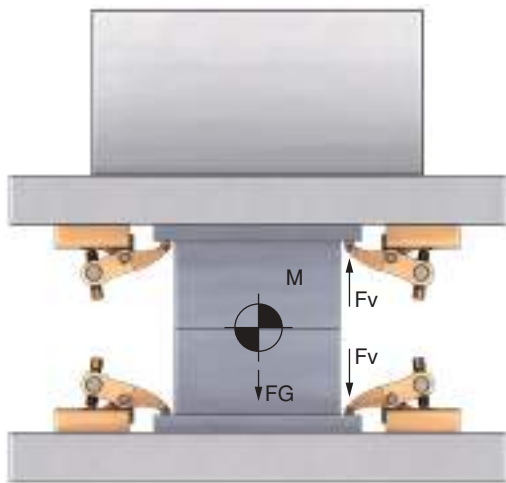




**Enjeksiyon Kalıpları İçin Uygulama Örneği**  
*Power Clamp For Injection Moulding*

**Hesaplama Formülü / Formula Calculator**

$\frac{M \times FG}{1000} = \text{kN}$	$\frac{2500 \times 9.81}{1000} = 24.52 \text{ kN}$
$\frac{\text{kN}}{\mu} = \text{Sonuç / Result}$	$\frac{24.52}{0.14} = 175.14 \text{ kN}$
$\frac{\text{Sonuç}}{Fv} = \text{Bağlama Sayısı / Number of Clamp}$	$\frac{175.14 \text{ kN}}{25 \text{ kN}} = 7 \text{ Bağlama / Clamp}$ 8 adet kullanın 8 pcs Use

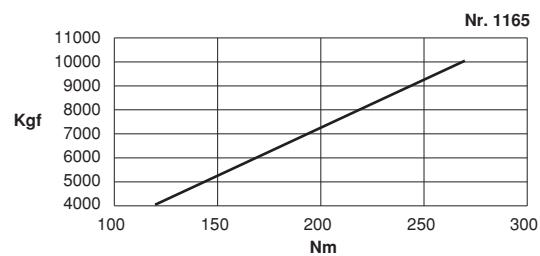
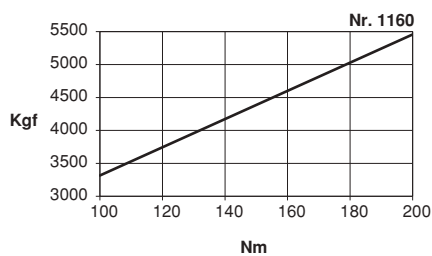
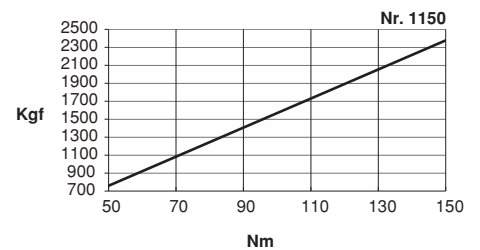
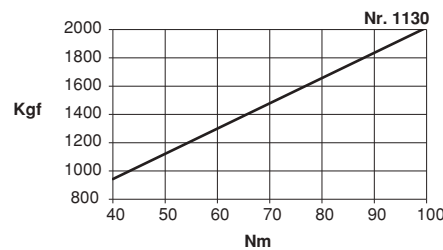
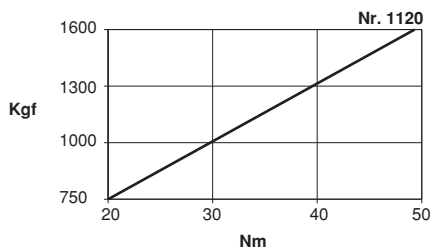



**Pres Kalıpları İçin Uygulama Örneği**  
*Power Clamp For Press Moulding*

**Hesaplama Formülü / Formula Calculator**

$\frac{M \times FG}{1000} = \text{kN}$	$\frac{5000 \times 9.81}{1000} = 49.050 \text{ kN}$
$\frac{\text{kN}}{\mu} = \text{Sonuç / Result}$ (Üst Kalıp %60) (Alt Kalıp %40)	$\frac{49.05}{0.14} = 350.35 \text{ kN}$ (%60 Üst Kalıp= 210.21) (%40 Alt Kalıp= 140.14)
$\frac{\text{Sonuç}}{Fv} = \text{Bağlama Sayısı / Number of Clamp}$ (Üst Kalıp)	$\frac{210.21 \text{ kN}}{25 \text{ kN}} = 8 \text{ Bağlama Sayısı}$ 8 Number of Clamp
$\frac{\text{Sonuç}}{Fv} = \text{Bağlama Sayısı / Number of Clamp}$ (Alt Kalıp)	$\frac{140.14 \text{ kN}}{25 \text{ kN}} = 5.6 \text{ Bağlama / Clamp}$ 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	Nm	
			min	max												
1120-014 T	14	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1740
1120-016 T	16	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1755
1120-018 T	18	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1785
1120-014 LT	14	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	1600	50	1980
1120-016 LT	16	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	1600	50	1995
1120-018 LT	18	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	1600	50	2000

### Ürün Nr. 1120-(T) Kızaklı Kombine Bağlama Pabucu

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

### Ürün Nr. 1120-(LT) Kızaklı Kombine Bağlama Pabucu

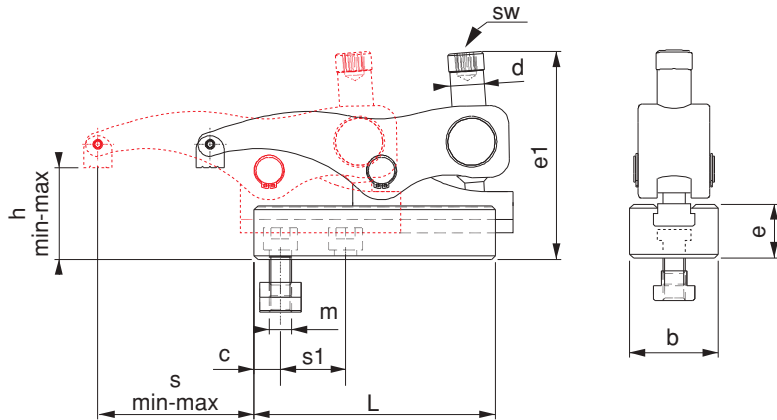
- (a) 14-18 T-Kanalda M12 imbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 0-50 mm.
- İleri-geri hareket mesafesi 69mm'dir. Sıkma Kuvveti 1600 kgf.

### Product Nr. 1120-(T) Combined Sliding Clamp

- (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.

### Product Nr. 1120-(LT) Combined Sliding Clamp

- (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 69mm. Clamping force is 1600 kgf.



### UYGULAMA;

- 1- Alt kızağı iş parçasına uygun şekle getirer sabitle
- 2- Üst gövdeyi kızağa 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	Nm	g
			min	max												
1130-014 T	14	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3040
1130-016 T	16	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3055
1130-018 T	18	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3085
1130-020 T	20	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3135
1130-022 T	22	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3150
1130-014 LT	14	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3820
1130-016 LT	16	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3835
1130-018 LT	18	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3865
1130-020 LT	20	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3915
1130-022 LT	22	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3930

### Ürün Nr. 1130-(T) Kızaklı Kombine Bağlama Pabucu

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

### Ürün Nr. 1130-(LT) Kızaklı Kombine Bağlama Pabucu

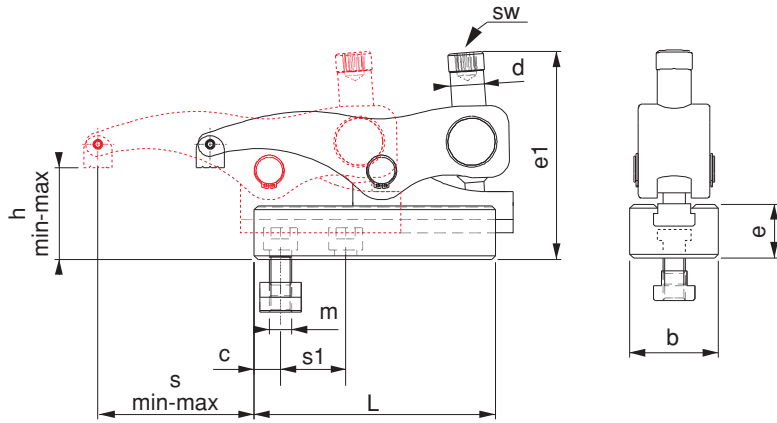
- (a) 14-22 T-Kanalda M12 imbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 0-60 mm.
- İleri-geri hareket mesafesi 92mm'dir. Sıkma Kuvveti 2000 kgf.

### Product Nr. 1130-(T) Combined Sliding Clamp

- (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.

### Product Nr. 1130-(LT) Combined Sliding Clamp

- (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 92mm. Clamping force is 2000 kgf.



#### UYGULAMA;

- 1- Alt kazağı iş parçasına uygun şekle getir sabitle
- 2- Üst gövdeyi kazağa 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
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#### 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	Nm	g
			min	max												
1150-118 T	18	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4410
1150-120 T	20	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4460
1150-122 T	22	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4515
1150-124 T	24	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4615
1150-128 T	28	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4715
1150-118 LT	18	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5770
1150-120 LT	20	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5830
1150-122 LT	22	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5885
1150-124 LT	24	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5985
1150-128 LT	28	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	6000

### Ürün Nr. 1150-(T) Kızaklı Kombine Bağlama Pabucu

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

### Ürün Nr. 1150-(LT) Kızaklı Kombine Bağlama Pabucu

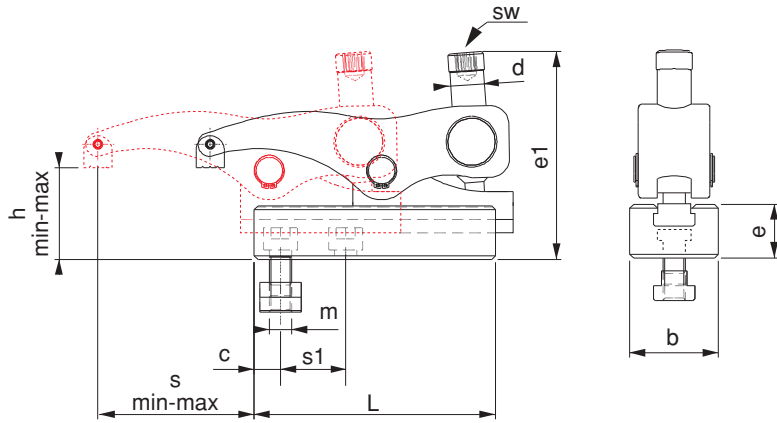
- (a) 18-28 T-Kanalda M16 imbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 0-65mm.
- İleri-geri hareket mesafesi 110mm'dir. Sıkma Kuvveti 2500 kgf.

### Product Nr. 1150-(T) Combined Sliding Clamp

- (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.

### Product Nr. 1150-(LT) Combined Sliding Clamp

- (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 110mm. Clamping force is 2500 kgf.



1150... T

1150... LT



#### UYGULAMA;

- 1- Alt kızağı iş parçasına uygun şekle getir sabitle
- 2- Üst gövdeyi kızağa 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	s1	e1	d		L	e	b	c	Sıkma Kuvveti Clamping Force Kgf	Nm	
1160-222 T	22	M20	20	80	17-92	41.5	175	M24	12 24	178	55	74	24	5500	200	9030
1160-224 T	24	M20	20	80	17-92	41.5	175	M24	12 24	178	55	74	24	5500	200	9120
1160-228 T	28	M24	20	80	17-92	41.5	175	M24	12 24	178	55	74	24	5500	200	9180
1160-236 T	36	M24	20	80	17-92	41.5	175	M24	12 24	178	55	74	24	5500	200	9600
1160-222 LT	22	M20	20	80	25-148	41.5	175	M24	12 24	256	55	74	24	5500	280	12110
1160-224 LT	24	M20	20	80	25-148	41.5	175	M24	12 24	256	55	74	24	5500	280	12210
1160-228 LT	28	M24	20	80	25-148	41.5	175	M24	12 24	256	55	74	24	5500	280	12270
1160-236 LT	36	M24	20	80	25-148	41.5	175	M24	12 24	256	55	74	24	5500	280	12310
1165-222 T	22	M20	30	80	34-92	41.5	194	M24	12 24	205	55	85	24	10000	270	11820
1165-224 T	24	M20	30	80	34-92	41.5	194	M24	12 24	205	55	85	24	10000	270	11900
1165-228 T	28	M24	30	80	34-92	41.5	194	M24	12 24	205	55	85	24	10000	270	11960
1165-236 T	36	M24	30	80	34-92	41.5	194	M24	12 24	205	55	85	24	10000	270	12000

**Ürün Nr. 1160-(T) Kızaklı Kombine Bağlama Pabucu**

- (a) 22-36 T-Kanalda M20-M24 imbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 20-80mm.
- İleri-geri hareket mesafesi 75mm'dir. Sıkma Kuvveti 5500 kgf.

**Ürün Nr. 1160-(LT) Kızaklı Kombine Bağlama Pabucu**

- (a) 22-36 T-Kanalda M20-M24 imbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 20-80mm.
- İleri-geri hareket mesafesi 123mm'dir. Sıkma Kuvveti 5500 kgf.

**Ürün Nr. 1165-(T) Kızaklı Kombine Bağlama Pabucu**

- (a) 22-36 T-Kanalda M20-M24 imbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 30-80mm.
- İleri-geri hareket mesafesi 58mm'dir. Sıkma Kuvveti 10000 kgf.

**Product Nr. 1160-(T) Combined Sliding Clamp**

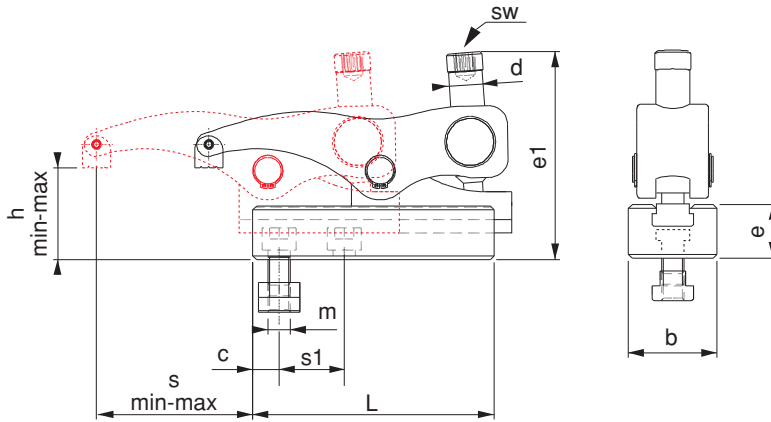
- (a) 22-36 is used in T-Slot and M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 20-80mm.
- Back and forth movement distance is 75mm. Clamping force is 5500 kgf.

**Product Nr. 1160-(LT) Combined Sliding Clamp**

- (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 123mm. Clamping force is 5500 kgf.

**Product Nr. 1165-(T) Combined Sliding Clamp**

- (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 30-80mm.
- Back and forth movement distance is 58mm. Clamping force is 10000 kgf.


**UYGULAMA;**

- 1- Alt kazağı iş parçasına uygun şekle getir sabitle
- 2- Üst gövdeyi kazağa 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.		h		s	s1	e1	d	sw	L	e	b	c	k	Sıkma Kuvveti Clamping Force Kgf	Nm	
		min	max													
1120-010 M	M10	0	50	12-66	25	100	M14	8	104	35.5	38	13	20	1600	50	1740
1120-012 M	M12	0	0	12-66	25	100	M14	8	104	35.5	38	13	20	1600	50	1755
1120-010 LM	M10	0	50	12-81	25	100	M14	8	130	35.5	38	13	20	1600	50	1980
1120-012 LM	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	20	1600	50	1995

### Ürün Nr. 1120-(M) Kızaklı Kombine Bağlama Pabucu

- M10-M12 dış deliklerde (1120-310)-(1120-312) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-50 mm.
- İleri-geri hareket mesafesi 54mm'dir. Sıkma Kuvveti 1600 kgf.

### Ürün Nr.1120-(LM) Kızaklı Kombine Bağlama Pabucu

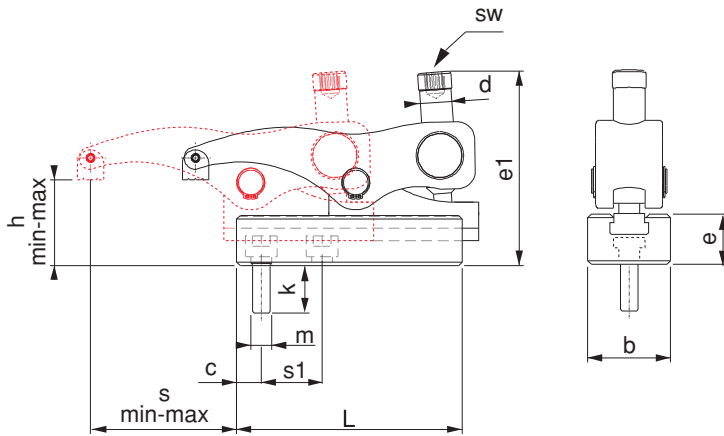
- M10-M12 dış deliklerde (1120-310)-(1120-312) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-50 mm.
- İleri-geri hareket mesafesi 69mm'dir. Sıkma Kuvveti 1600 kgf.

### Product Nr. 1120-(M) 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.
- Back and forth movement distance is 54mm. Clamping force is 1600 kgf.

### Product Nr.1120-(LM) 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.
- Back and forth movement distance is 69mm. Clamping force is 1600 kgf.



1120-... M



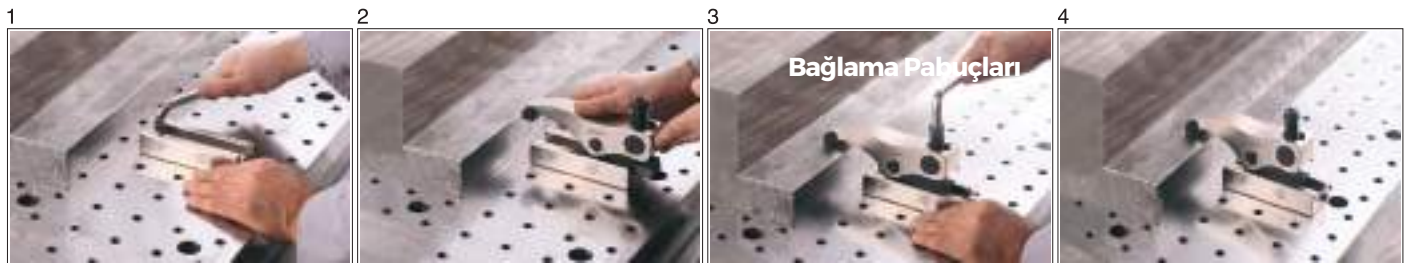
1120-... LM



### AVANTAJLARI;

- 1600 kgf - 2000 kgf sıkma kuvveti
- Delik ve T-Kanalda kullanım
- Kızak üzerinde kaydırarak değişik pozisyonlarda sabitleme
- imbus civatasıyla desteklessiz 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 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		s	s1	e1	d	sw	L	e	b	c	k	Sıkma Kuvveti Clamping Force Kgf	Nm	
		min	max													
1130-012 M	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	22	2000	100	3040
1130-016 M	M16	0	60	15-83	30	113	M18	10	130	39	48	17,5	26	2000	100	3055
1130-012 LM	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	22	2000	100	3820
1130-016 LM	M16	0	60	15-107	30	113	M18	10	170	39	48	17,5	26	2000	100	3835

### Ürün Nr. 1130-(M) Kızaklı Kombine Bağlama Pabucu

- M12-M16 dış deliklerde (1130-412)-(1130-416) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-60 mm.
- İleri-geri hareket mesafesi 68mm'dir. Sıkma Kuvveti 2000 kgf.

### Ürün Nr. 1130-(LM) Kızaklı Kombine Bağlama Pabucu

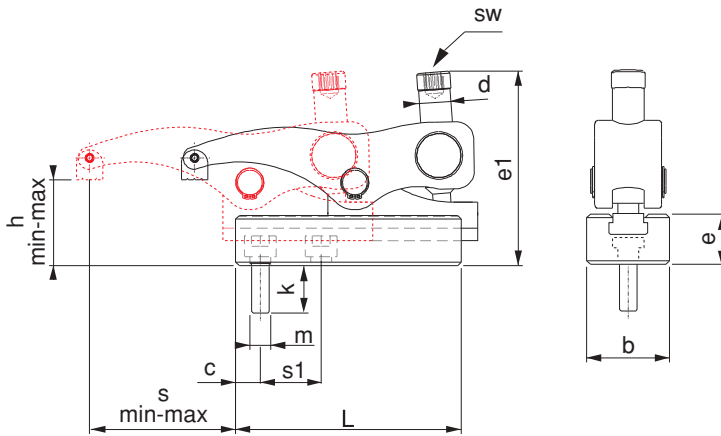
- M12-M16 dış deliklerde (1130-412)-(1130-416) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-60 mm.
- İleri-geri hareket mesafesi 92mm'dir. Sıkma Kuvveti 2000 kgf.

### Product Nr. 1130-(M) 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.
- Back and forth movement distance is 68mm. Clamping force is 2000 kgf.

### Product Nr. 1130-(LM) 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.
- Back and forth movement distance is 92mm. Clamping force is 2000 kgf.

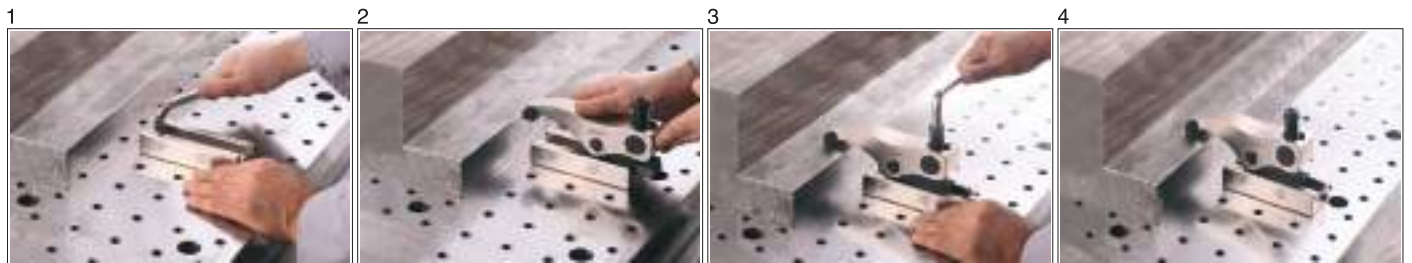


#### AVANTAJLARI;



- 1600 kgf - 2000 kgf sıkma kuvveti
- Delik ve T-Kanalda kullanım
- Kızak üzerinde kaydırarak değişik pozisyonlarda sabitleme
- imbus civatasıyla desteklessiz 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 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		s	s1	e1	d	sw	L	e	b	c	k	Sıkma Kuvveti Clamping Force Kgf	Nm	
		min	max													
1150-116 M	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	26	2500	150	4340
1150-118 M	M18	0	65	18-96	35	125	M20	12	140	43	55	19.5	30	2500	150	4360
1150-120 M	M20	0	65	18-96	35	125	M20	12	140	43	55	19.5	30	2500	150	4370
1150-116 LM	M16	0	65	18-128	35	125	M20	12	200	43	55	19.5	26	2500	150	5770
1150-118 LM	M18	0	65	18-128	35	125	M20	12	200	43	55	19.5	30	2500	150	5830
1150-120 LM	M20	0	65	18-128	35	125	M20	12	200	43	55	19.5	30	2500	150	5885

### Ürün Nr. 1150-(M) Kızaklı Kombine Bağlama Pabucu

- M16-M18-M20 diş deliklerde (1150-516)-(1150-518)-(1160-520) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-65mm.
- İleri-geri hareket mesafesi 78mm'dir. Sıkma Kuvveti 2500 kgf.

### Ürün Nr. 1150-(LM) Kızaklı Kombine Bağlama Pabucu

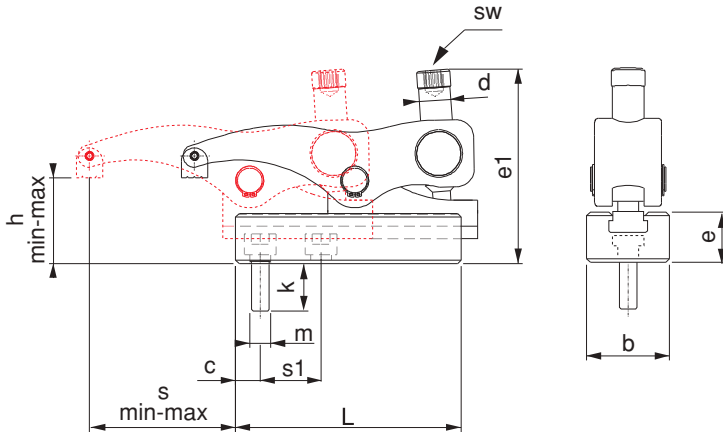
- M16-M18-M20 diş deliklerde (1150-516)-(1150-518)-(1160-520) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 0-65mm.
- İleri-geri hareket mesafesi 110mm'dir. Sıkma Kuvveti 2500 kgf.

### Product Nr. 1150-(M) 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.
- Back and forth movement distance is 78mm. Clamping force is 2500 kgf.

### Product Nr. 1150-(LM) 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.
- Back and forth movement distance is 110mm. Clamping force is 2500 kgf.

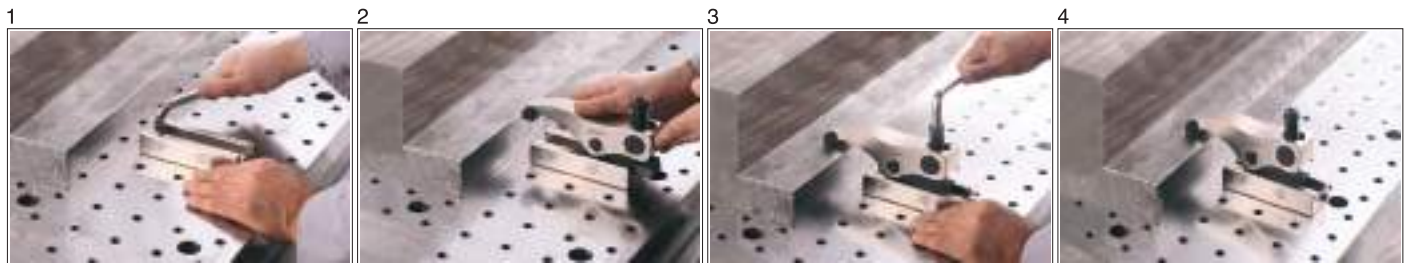





#### AVANTAJLARI;

- 1600 kgf - 2000 kgf sıkma kuvveti
- Delik ve T-Kanalda kullanım
- Kızak üzerinde kaydırarak değişik pozisyonlarda sabitleme
- imbus civatasıyla desteksiz yüksek ve düşük mesafeleri sıkar
- 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 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		s	s1	e1	d		L	e	b	c	k	Sıkma Kuvveti Clamping Force Kgf	Nm		
		min	max														
1160-220 M	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	34	5500	200	8880
1160-222 M	M22	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	38	5500	200	8900
1160-224 M	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	44	5500	200	8920
1160-230 M	M30*	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	51	5500	200	9110
1160-220 LM	M20	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	34	5500	280	12110
1160-222 LM	M22	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	38	5500	280	12210
1160-224 LM	M24	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	44	5500	280	12270
1160-230 LM	M30*	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	51	5500	280	12310
1165-220 M	M20	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	34	10000	270	11820
1165-222 M	M22	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	38	10000	270	11900
1165-224 M	M24	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	44	10000	270	11960
1165-230 M	M30*	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	51	10000	270	12000

### Ürün Nr. 1160-(M) Kızaklı Kombine Bağlama Pabucu

- M20-M22-M24-M30 diş deliklerde(1160-620)-(1160-622) (1160-624)-(1160-724)-(1160-730) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 20-80mm.
- İleri-geri hareket mesafesi 75mm'dir. Sıkma Kuvveti 5500 kgf.

### Ürün Nr. 1160-(LM) Kızaklı Kombine Bağlama Pabucu

- M20-M22-M24-M30 diş deliklerde(1160-620)-(1160-622) (1160-624)-(1160-724)-(1160-730) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 20-80mm.
- İleri-geri hareket mesafesi 123mm'dir. Sıkma Kuvveti 5500 kgf.

### Ürün Nr. 1165-(M) Kızaklı Kombine Bağlama Pabucu

- M20-M22-M24-M30 diş deliklerde(1160-620)-(1160-622) (1160-624)-(1160-724)-(1160-730) Referans Nr. imbus civatayla kullanılır.
- Parça yükseklik sıkma aralığı 30-80mm.
- İleri-geri hareket mesafesi 58mm'dir. Sıkma Kuvveti 10000 kgf.

**Not:** Nr.1160-230M - Nr.1165-230M kodlu ürünün alt T-Kızaklı gövdesindeki civata yeri standart değildir. Civata yeri bu ürüne özel işlenmektedir.

### Product Nr. 1160-(M) 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.
- Back and forth movement distance is 75mm. Clamping force is 5500 kgf.

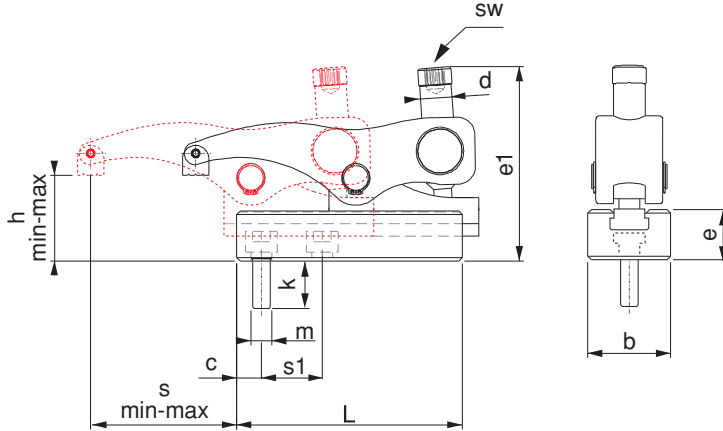
### Product Nr. 1160-(LM) Combined Sliding Clamp

- 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.
- Back and forth movement distance is 123mm. Clamping force is 5500 kgf.

### Product Nr. 1165-(M) 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 30-80mm.
- Back and forth movement distance is 58mm. Clamping force is 10000 kgf.

**Note:** The drilling for cylinder head screw of the support element for 1160-230M - Nr.1165-230M is not standard. It is specially manufactured for this product.

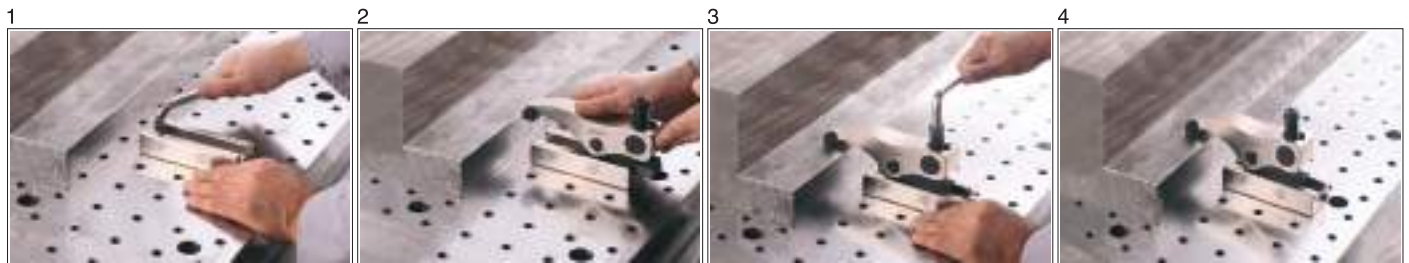


### AVANTAJLARI;

- 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 it's practical structure.



Referans Nr.	a	m	h		s	e1	e2	d	sw	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
1120-014 LDT	14	M12	36	86	12-81	136	71.5	M14	8	130	38	38	13	2980
1120-016 LDT	16	M12	36	86	12-81	136	71.5	M14	8	130	38	38	13	2995
1120-018 LDT	18	M12	36	86	12-81	136	71.5	M14	8	130	38	38	13	3000

### Ürün Nr. 1120-(DT) Alt Destekli

- M12 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 36-86mm.
- İleri-geri hareket mesafesi 54mm'dir. Sıkma Kuvveti 1600 kgf.

### Ürün Nr. 1120-(LDT) Alt Destekli

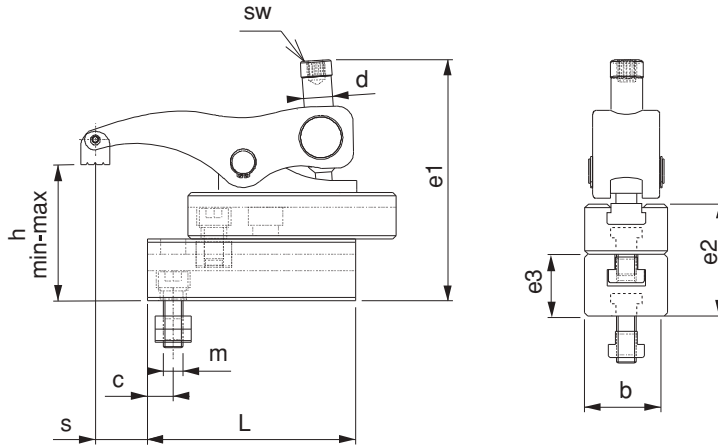
- M12 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 36-86mm.
- İleri-geri hareket mesafesi 69mm'dir. Sıkma Kuvveti 1600 kgf.

### Product Nr. 1120-(DT) Bottom Supported

- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 36-86mm
- Back and forth movement distance is 54mm. Clamping force is 1600 kgf.

### Product Nr. 1120-(LDT) Bottom Supported

- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 36-86mm.
- Back and forth movement distance is 69mm. Clamping force is 1600 kgf.

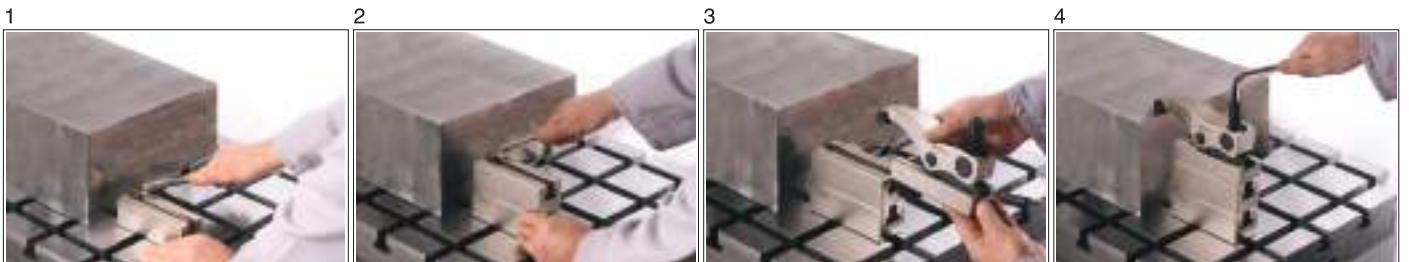


### UYGULAMA;




- 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	e1	e2	d		L	b	e3	c	 (g)
			min	max										
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	4885
1130-022 DT	22	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4905
1130-014 LDT	14	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	5970
1130-016 LDT	16	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	5985
1130-018 LDT	18	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	6015
1130-020 LDT	20	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	6045
1130-022 LDT	22	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	6080

### Ürün Nr. 1130-(DT) Alt Destek

- M12 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 45-105mm
- İleri-geri hareket mesafesi 68mm'dir. Sıkma Kuvveti 2000 kgf.

### Product Nr. 1130-(DT) Bottom Supported

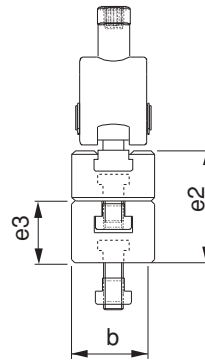
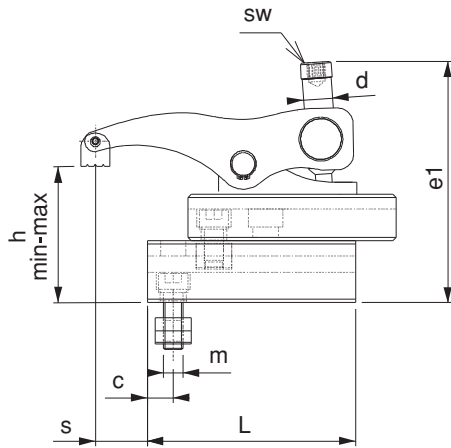
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 45-105mm
- Back and forth movement distance is 68mm. Clamping force is 2000 kgf.

### Ürün Nr. 1130-(LDT) Alt Destek

- M12 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 45-105mm
- İleri-geri hareket mesafesi 92mm'dir. Sıkma Kuvveti 2000 kgf.

### Product Nr. 1130-(LDT) Bottom Supported

- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 45-105mm
- Back and forth movement distance is 92mm. Clamping force is 2000 kgf.

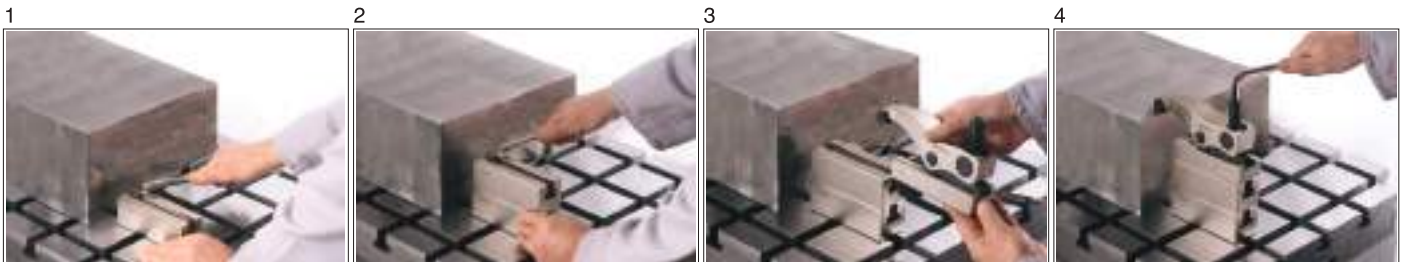


### UYGULAMA;

- 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
1150-118 LDT	18	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8770
1150-120 LDT	20	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8830
1150-122 LDT	22	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8885
1150-124 LDT	24	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8985
1150-128 LDT	28	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	9000

### Ürün Nr. 1150-(DT) Alt Destekli

- M16 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 48-113mm
- İleri-geri hareket mesafesi 78mm'dir. Sıkma Kuvveti 2500 kgf.

### Product Nr. 1150-(DT) Bottom Supported

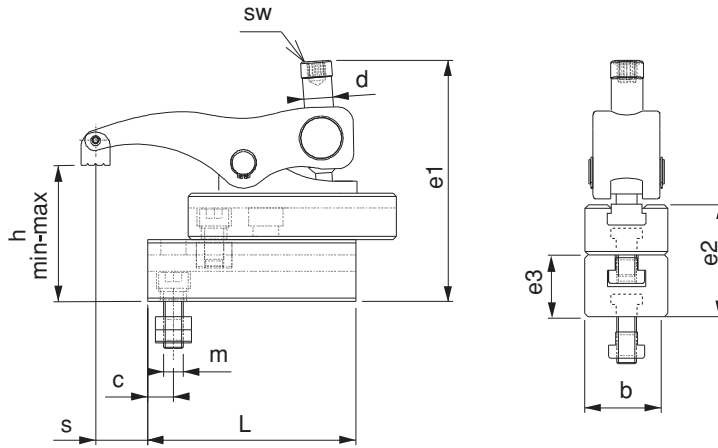
- M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 48-113mm
- back-and- forth movement distance is 78mm. Clamping force is 2500 kgf.

### Ürün Nr. 1150-(LDT) Alt Destekli

- M16 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 48-113mm
- İleri-geri hareket mesafesi 110mm'dir. Sıkma Kuvveti 2500 kgf.

### Product Nr. 1150-(LDT) Bottom Supported

- M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 48-113mm
- back-and- forth movement distance is 110mm. Clamping force is 2500 kgf.

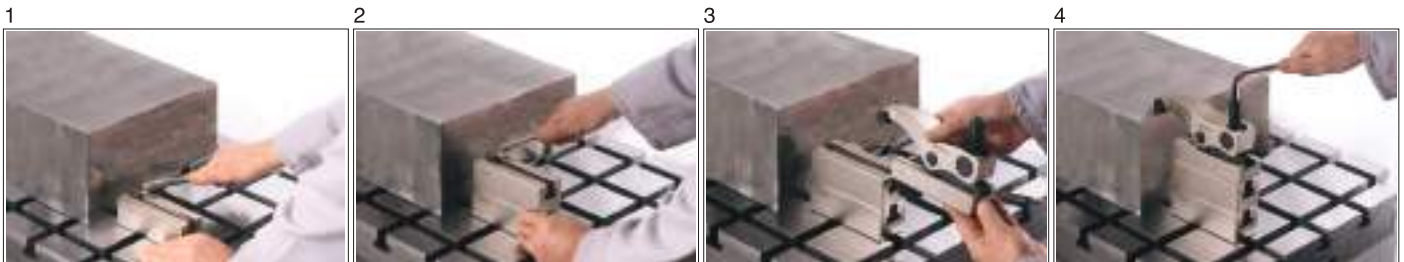


### UYGULAMA;

- 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											
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
1160-222 LDT	22	M20	79	139	25-148	235	114	M24	12	24	256	74	59	24	17910
1160-224 LDT	24	M20	79	139	25-148	235	114	M24	12	24	256	74	59	24	18210
1160-228 LDT	28	M24	79	139	25-148	235	114	M24	12	24	256	74	59	24	18270
1160-236 LDT	36	M24	79	139	25-148	235	114	M24	12	24	256	74	59	24	18310

### Ürün Nr. 1160-(DT) Alt Destekli

- M20-M24 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 79-139mm
- İleri-geri hareket mesafesi 75mm'dir. Sıkma Kuvveti 5500 kgf.

### Ürün Nr. 1160-(LDT) Alt Destekli

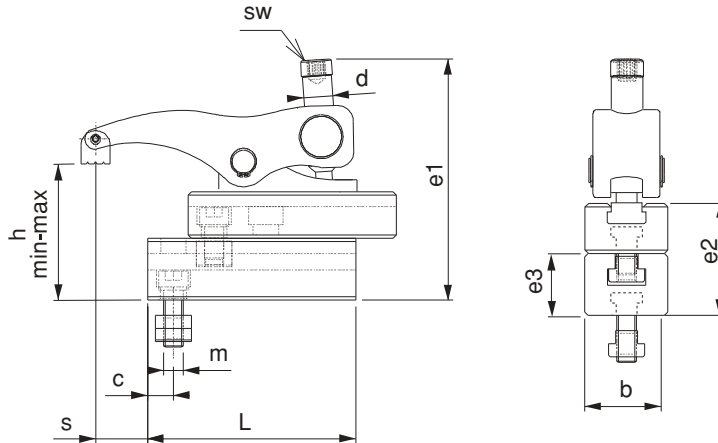
- M20-M24 İmbus civata DIN 508 T-Pabuçla kullanılır.
- Parça yükseklik sıkma aralığı 79-139mm
- İleri-geri hareket mesafesi 123mm'dir. Sıkma Kuvveti 5500 kgf.

### Product Nr. 1160-(DT) Bottom Supported

- M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 79-139mm
- Back and forth movement distance is 75mm. Clamping force is 5500 kgf.

### Product Nr. 1160-(LDT) Bottom Supported

- M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 79-139mm
- Back and forth movement distance is 123mm. Clamping force is 5500 kgf.

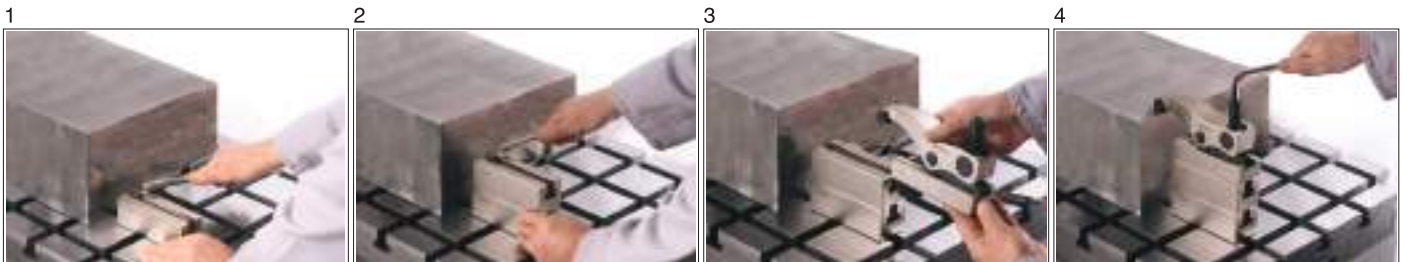


### UYGULAMA;

- 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





### Üst Kızak Grubu

Upper Slide Group

Referans Nr.		h		sw		
		min	max			
1120-0050	14-18	0	50	8	-	860
1120-0051	14-18	0	50	8	-	1050
1130-0060	14-22	0	60	10	-	1680
1130-0061	14-22	0	60	10	-	2150
1150-0062	18-28	0	65	12	-	2565
1150-0063	18-28	0	65	12	-	3360
1160-2080	22-36	20	80	12	24	5050
1160-2081	22-36	20	80	12	24	6900
1165-3080	22-36	20	80	-	24	6850

Ürün Nr. 1120-1130-1150-1160-1165

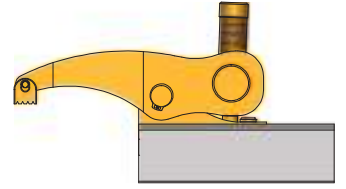
#### Üst Kızak Grubu

- Üst Kızak Grubu: Dövme Çelik
- Sertleştirilmiş

Product Nr. 1120-1130-1150-1160-1165




#### Upper Slide Group

- Upper Slide Group: Forged Steel
- Hardened



### T-Kızaklı Gövde

Body with Bottom T-Slide

Referans Nr.	g 		L	b	e	
1120-045	M10 M12	14-18	104	38	35.5	750
1120-145	M10 M12	14-18	130	38	39	950
1130-047	M12 M16	18-28	130	48	39	1275
1130-147	M12 M16	18-28	170	48	39	1700
1150-053	M16 M18 M20	18-28	140	55	42	1700
1150-153	M16 M18 M20	18-28	200	55	42	2500
1160-074	M20 M22 M24	22-28	178	74	55	3650
1160-075	M30*	36	178	74	55	3650
1160-174	M20 M22 M24	22-28	256	74	55	5400
1160-175	M30*	36	256	74	55	5400
1165-085	M20 M22 M24	36	205	85	55	5300
1165-086	M30*	36	205	85	55	5300

Ürün Nr. 1120-1130-1150-1160-1165

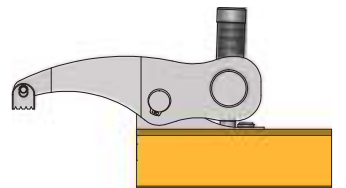
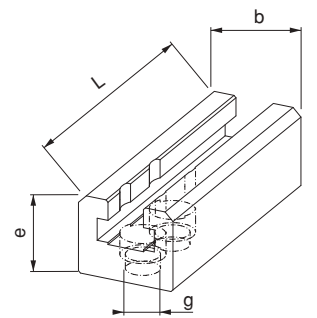
#### Alt T-Kızaklı Gövde

- Sertleştirilmiş

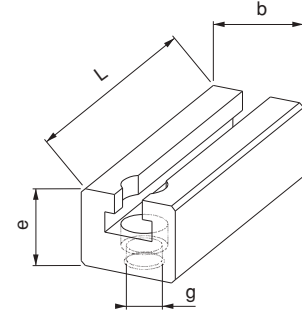
Product Nr. 1120-1130-1150-1160-1165

#### Body with Bottom T-Slide

- Hardened



Referans Nr.	g	a	L	b	e	(g)
1120-040	M10 M12	14	104	38	38	820
1120-140	M10 M12	14	130	38	38	1030
1130-045	M12 M16	14	130	48	45	1630
1130-145	M12 M16	14	170	48	45	2150
1150-048	M16 M18 M20	18	140	55	48	2070
1150-148	M16 M18 M20	18	200	55	48	3000
1160-059	M20 M22 M24	28	178	74	59	3980
1160-159	M20 M22 M24	28	256	74	59	5800


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

- Sertleştirilmiş

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

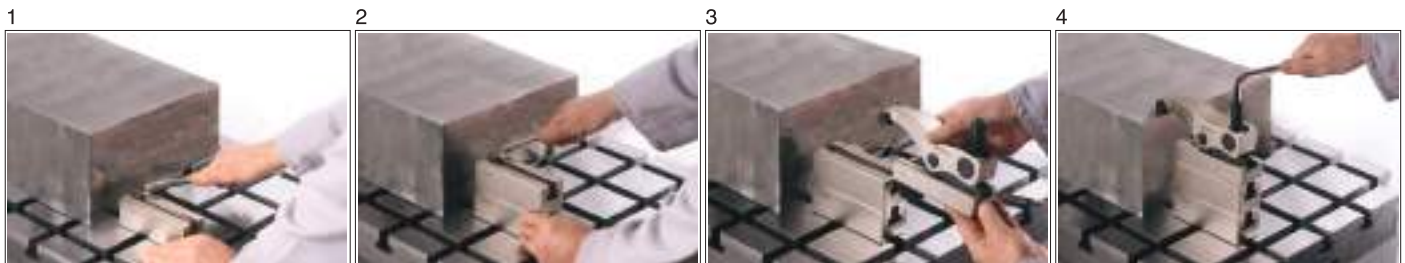
- Hardened


**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	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
1165-1124	M24	149	-	24	950

### Ürün Nr. 1120-1130-1150-1160-1165 Pabuç Kaldırma Civata ve Somunu

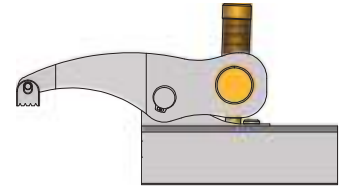
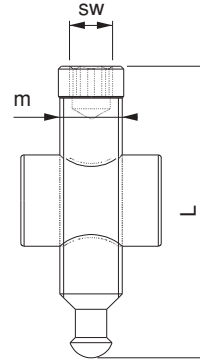
- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1120-1130-1150-1160-1165 Clamp Lifting Bolt and Nut

- Hardened
- Black Coating

## Pabuç Kaldırma Civata ve Somunu

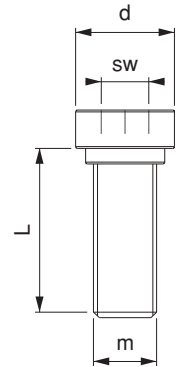
Clamp Lifting Bolt and Nut



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	217
1160-624	M24	45	34	12	390
1160-724	M24	55	34	12	405
1160-730	M30*	66	38.5	12	450
1165-820	M20	45	34	12	170
1165-822	M22	49	34	12	217
1165-824	M24	45	34	12	390
1165-924	M24	55	34	12	405
1165-930	M30*	66	38.5	12	400

## Sabitleme İmbus Civatası

Imbus Bolt for Fixing





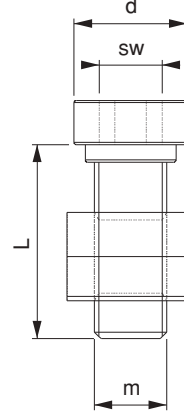
### Ürün Nr. 1120-1130-1150-1160-1165 Sabitleme İmbus Civatası

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

### Product Nr. 1120-1130-1150-1160-1165 Imbus Bolt for Fixing

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

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
1165-922	22	M20	45	34	12	320
1165-924	24	M20	45	34	12	410
1165-926*	28	M24	45	34	12	550
1165-928	28	M24	55	34	12	580
1165-932	32	M24	61	34	12	603
1165-936	36	M24	66	38.5	12	865




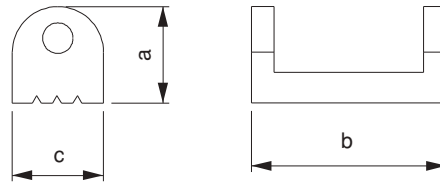
### Ürün Nr. 1120-1130-1150-1160-1165 Sabitleme İmbus Civata ve T-Pabuç

- (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. 1120-1130-1150-1160-1165 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
1165-DP	22	44	22	55
1165-BSP	25	44	22	70
1165-ESP	28	44	22	80



### Ön Baskı Pabucu Front Press Clamp

DP



BSP



ESP



### Ürün Nr. 1120-1130-1150-1160-1165 Ön Baskı Pabucu

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

### Prod. Nr. 1120-1130-1150-1160-1165 Front Press Clamp

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



# MİKSAN HIZLI BAĞLAMA SİSTEMLERİ

MIKSAN QUICK COUPLING SYSTEMS





**MİKSAN®**

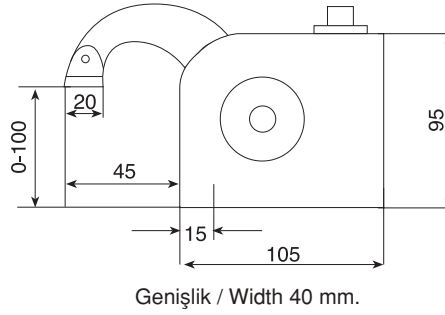
*Hızlı Bağlama Sistemleri*

MIKSAN bir ER-EL markasıdır.





Referans Nr.		Sıkma Kuvveti Clamping Force	Nm	
1168-MB101112	12	1000	160	1.70
1168-MB101114	14	1000	160	1.70
1168-MB101116	16	1000	160	1.70
1168-MB101118	18	1000	160	1.70
1168-MB101120	20	1000	160	1.70

Ürün Nr. 1168 Kombine Bağlama Pabucu  
Product Nr. 1168 Combined Clamp

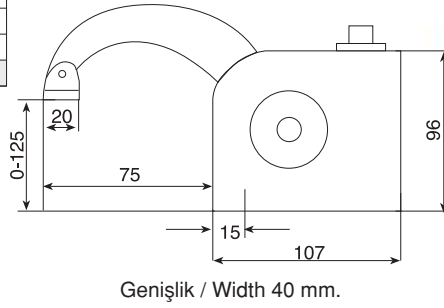


## Kombine Bağlama Pabucu

Combined Clamp



Referans Nr.		Sıkma Kuvveti Clamping Force	Nm	
1168-MBU103112	12	1000	160	1.80
1168-MBU103114	14	1000	160	1.80
1168-MBU103116	16	1000	160	1.80
1168-MBU103118	18	1000	160	1.80
1168-MBU103120	20	1000	160	1.80

Ürün Nr. 1168 Kombine Bağlama Pabucu  
Product Nr. 1168 Combined Clamp

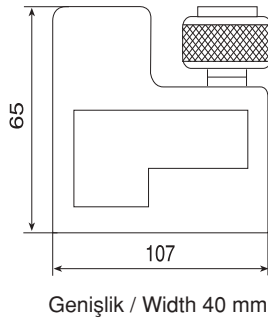


## Kombine Bağlama Pabucu Alt Destek

Combined Clamp Bottom Support



Referans Nr.		
1168-MK1021	16	1.80

Ürün Nr. 1168 Kombine Bağlama Pabucu Alt Destek  
Product Nr. 1168 Combined Clamp Bottom Support

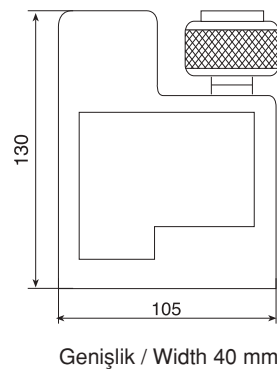


## Kombine Bağlama Pabucu Alt Destek

Combined Clamp Bottom Support

Referans Nr.		
1168-MK1022	16	1.10

Ürün Nr. 1168 Kombine Bağlama Pabucu Alt Destek  
Product Nr. 1168 Combined Clamp Bottom Support



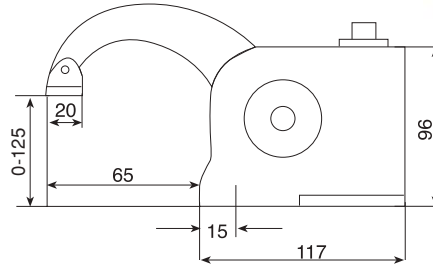
Uygulama Örneği  
Example Application





Referans Nr.	a	Sıkma Kuvveti Clamping Force	Nm	(kg)
1168-MFB204112	12	1000	160	1.70
1168-MFB204114	14	1000	160	1.70
1168-MFB204116	16	1000	160	1.70
1168-MFB204118	18	1000	160	1.70
1168-MFB204120	20	1000	160	1.70

Ürün Nr. 1168 Kombine Bağlama Pabucu  
Product Nr. 1168 Combined Clamp



Genişlik / Width 40 mm.



Referans Nr.	a	(kg)
1168-MFK204212	12	0.80
1168-MFK204214	14	0.80
1168-MFK204216	16	0.80
1168-MFK204218	18	0.80
1168-MFK204220	20	0.80

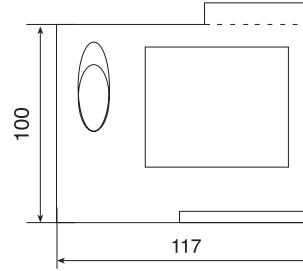
Ürün Nr. 1168 Kombine Bağlama Pabucu  
Product Nr. 1168 Combined Clamp



Uygulama Örneği  
Example Application

## Kombine Bağlama Pabucu Alt Destek

Combined Clamp Bottom Support



Genişlik / Width 40 mm.



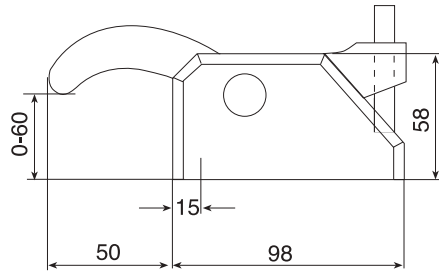
Referans Nr.	a	Sıkma Kuvveti Clamping Force	Nm	(kg)
1168-MEP501116	16	2000	110	2.80
1168-MEP501118	18	2000	110	2.80
1168-MEP501120	20	2000	110	2.80
1168-MEP501122	22	2000	110	2.80
1168-MEP501124	24	2000	110	2.80

Ürün Nr. 1168 Kombine Bağlama Pabucu  
Product Nr. 1168 Combined Clamp



## Kombine Bağlama Pabucu

Combined Clamp



Genişlik / Width 72 mm.



## Kombine Bağlama Pabucu Alt Destek

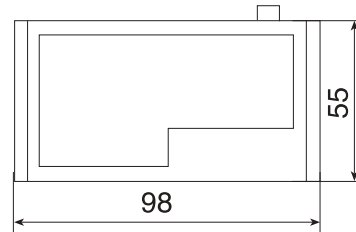
Combined Clamp Bottom Support

Referans Nr.	a	(kg)
1168-MPK5022	18	0.90

Ürün Nr. 1168 Kombine Bağlama Pabucu Alt Destek  
Product Nr. 1168 Combined Clamp Bottom Support



Uygulama Örneği  
Example Application





Genişlik / Width 72 mm.





MIKSAN bir ER-EL markasıdır.

Combined Clamp

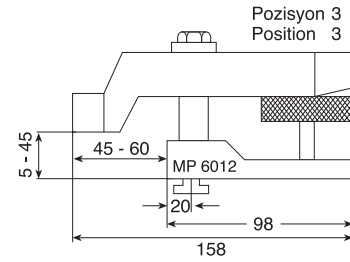
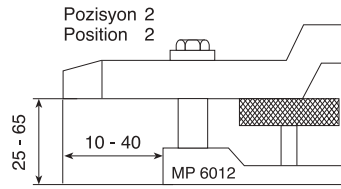
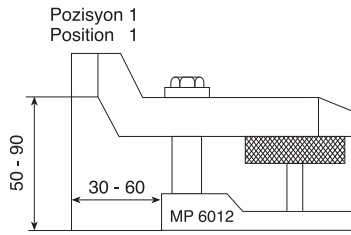
Referans Nr.		Sıkma Kuvveti Clamping Force	Nm	
1168-MP601214	14	2000	130	2.50
1168-MP601216	16	2000	130	2.50
1168-MP601218	18	2000	130	2.50
1168-MP601220	20	2000	130	2.50

### Ürün Nr. 1168 Kombine Bağlama Pabucu

- Pabucun çift taraflı kullanım özelliği; kendi içinde bulunan yükseltici desteği ile kısıtlı alanlarda kullanım kolaylığı sağlar.



### Product Nr. 1168 Combined Clamp

- Double-sided usage of the clamp and it's stepped lifter's provides using advantage in restricted areas



Genişlik / Width 60 mm.

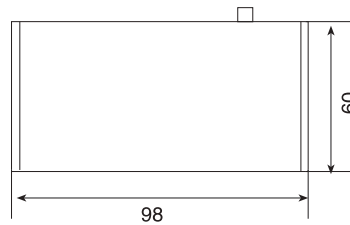


Referans Nr.		
1168-MY602114	14	0.60
1168-MY602116	16	0.60
1168-MY602118	18	0.60
1168-MY602120	20	0.60

### Ürün Nr. 1168 Kombine Bağlama Pabucu Alt Destek Product Nr. 1168 Combined Clamp Bottom Support

## Kombine Bağlama Pabucu Alt Destek

Combined Clamp Bottom Support





Genişlik / Width 58 mm.

Uygulama Örneği  
Example Application

# BAĞLAMA PABUÇLARI

CLAMPING COMPONENTS



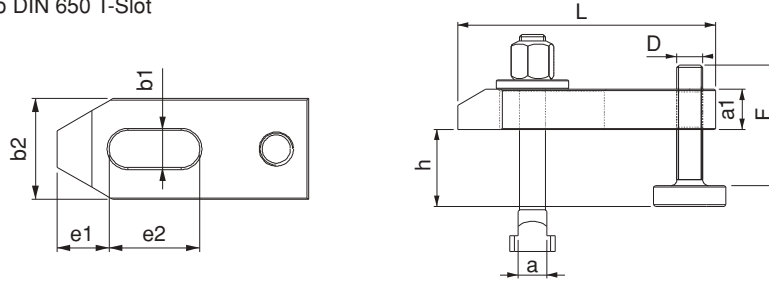
Referans Nr.		L	Nr.1330		e1	e2	b1	Nr.1610	h	Nr.1490 D x F	
			a1	b2							
1170-1010080	10	80	15	30	15	30	11	M10x10x80	10-35	M10x42	370
1170-1212100	12	100	20	40	21	40	14.5	M12x12x100	12-40	M12x50	740
1170-1212125	12	125	20	40	21	50	14.5	M12x12x160	12-85	M12x95	940
1170-1214100	14	100	20	40	21	40	14.5	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

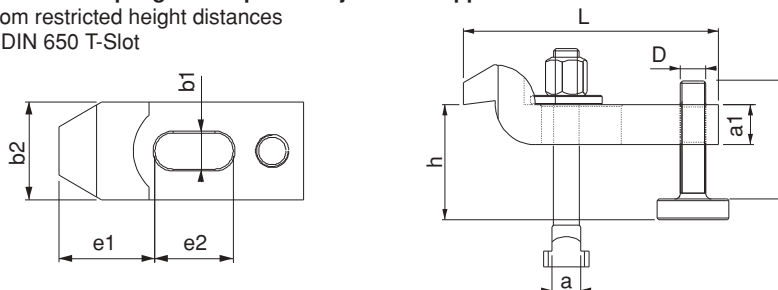
• Kısıtlı yükseklik mesafelerinden kazanma amaçlı kullanılır.



• 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



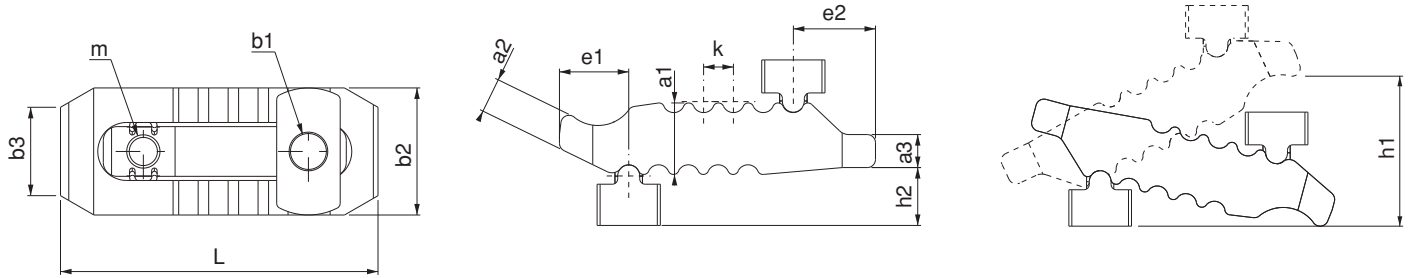
Referans Nr.		a1	a2	a3	b2xL	b3	e1	e2	h2	k	b1	m	h1	kgf	
1195-44115	10-12-14	27	12.5	12	44x115	30	25	30	21	11	13	M12	0-55	3000	506
1195-55150	12-14-16-18	36	18	17	55x150	41	35	36	23	12	17	M16	0-70	4000	1382
1195-63187	16-18-20-22	42	25	20	63x187	30	44	44	32.5	14	21	M20	0-80	6000	2241
1195-70235	20-22-24-28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

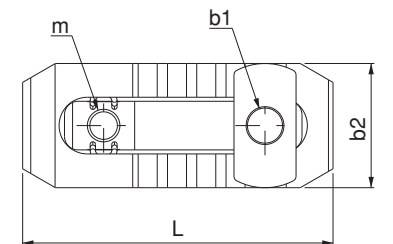
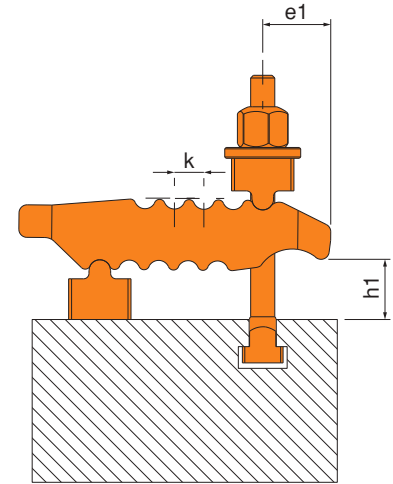
Referans Nr	b1	b2xL	e1	h1	k	m			Sıkma Kuvveti Clamping Force kgf	
1195-1010100	13	44x115	25	0-55	11	M12	10	M10x10x100	2500	613
1195-1212125	13	44x115	25	0-55	11	M12	12	M12x12x125	3000	686
1195-1214125	13	44x115	25	0-55	11	M12	14	M12x14x125	3000	705
1195-1212160	17	55x150	35	0-70	12	M16	12	M12x12x160	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.

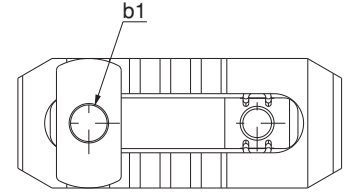
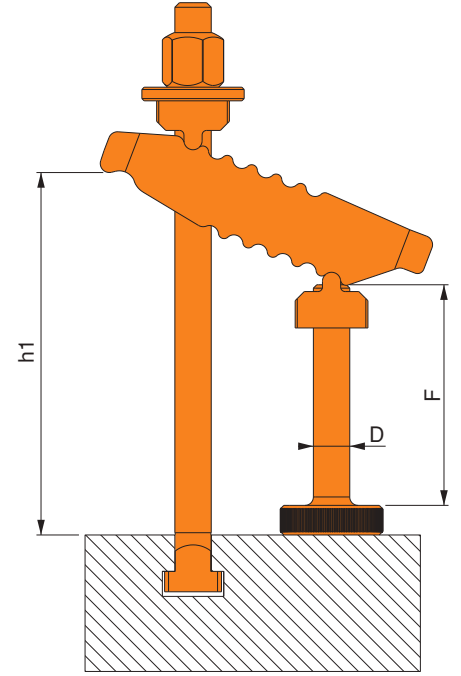
### Product Nr. 1195 Combined Coupling Clamps Double Sided

- 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


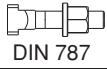



### Ürün Nr. 1195 Kombine Çift Taraflı Bağlama Pabucu

- 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	16-18	-	17	50x140	60	30	55	75	900
1200-60175	20-22	-	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

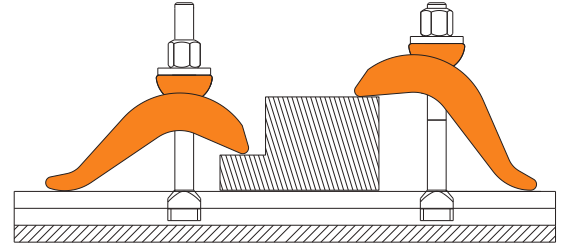
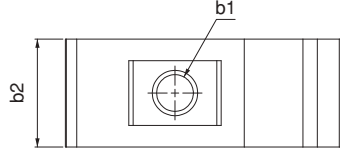
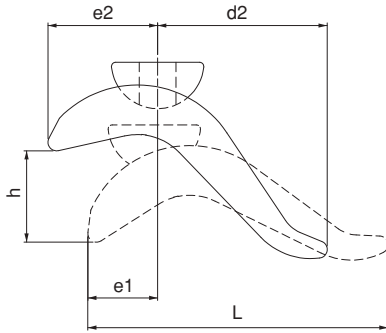


#### Ürün Nr. 1200 S-Bağlama Pabucu

- Malzeme: Dövme Çelik
- Çinko Kaplama


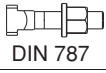

#### Product Nr. 1200 S-Coupling Clamp

- Material: Forged Steel
- 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	2100
1205-021	21	20-22	-	111	20-65	75x189	43	146	33	19	3200
1205-025	25	24-28	-	126	20-75	85x213	49	164	39	21	4500
1205-031	31	36	-	143.5	20-85	95x238	56	182	46	23	6300
1205-016	17	16	M16x16x125	93	15-50	65x165	39	128	30	17	2500
1205-018	17	18	M16x18x125	93	15-50	65x165	39	128	30	17	2500
1205-020	21	20	M20x20x160	111	20-65	75x189	43	146	33	19	3900
1205-022	21	22	M20x22x160	111	20-65	75x189	43	146	33	19	3900
1205-024	25	24	M24x24x200	126	20-75	85x213	49	164	39	21	5700
1205-028	25	28	M24x28x200	126	20-75	85x213	49	164	39	21	5700
1205-036	31	36	M30x36x250	143.5	20-85	95x238	56	182	46	23	8800

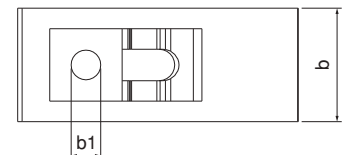
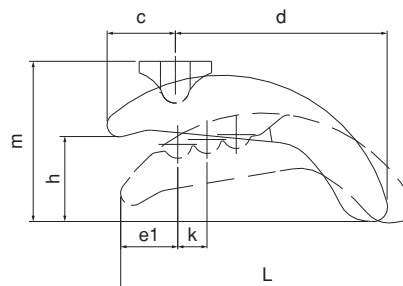


#### Ürün Nr. 1205 Kademeli Bağlama Pabucu

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

#### Product Nr. 1205 Stepped Coupling Clamp

- It provides using between 15-85 mm without supporting.
- Material: Forged Steel
- 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	17	16-18	-	80	0-60	58x130	38	74	29	18	990
1210-021	21	20-22	-	98	0-75	68x140	46	80	32	20	1450
1210-025	25	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	17	16	M16x16x160	80	0-60	58x130	38	74	29	18	1140
1210-018	17	18	M16x18x160	80	0-60	58x130	38	74	29	18	1145
1210-020	21	20	M20x20x200	98	0-75	68x140	46	80	32	20	1560

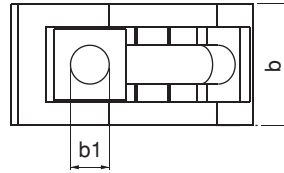
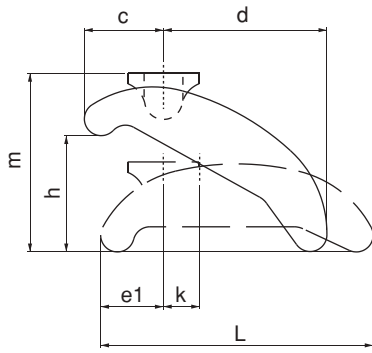


#### Ürün Nr. 1210 Kademeli Bağlama Pabucu

- 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



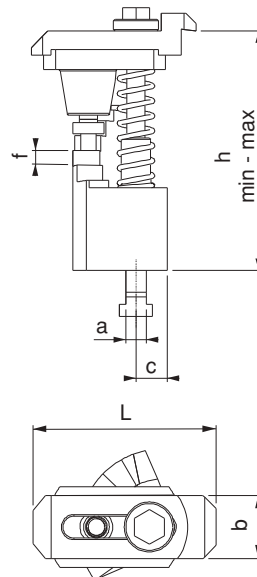
Referans Nr.	a	h min - max	f	c	L	b	(g)
1230-01	14-16-18-20-22	40 - 80	5	16	110	38	1200
1230-02		70 - 125	10	16	110	38	1490
1230-03		120 - 175	10	18	110	38	2700
1230-04		170 - 225	10	23	110	38	4260

#### Ürün Nr. 1230 Basamaklı Kombine Pabuç

- Pabucun çift taraflı kullanım özelliği; basamaklı yükselticisi ile kısıtlı alanlarda kullanım avantajı sağlar.
- DIN 650 T-Kanala uyumludur.
- Pabuç malzeme: Sertleştirilmiş
- Cıvata 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 coating



## Basamaklı Kombine Pabuç

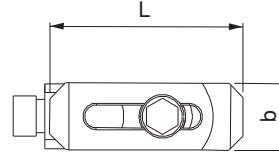
### Stepped Combined Clamp



Referans Nr.		h min-max	f	c	L	b	m	sw	Sıkma Kuvveti Clamping Force Kgf	Nm	
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

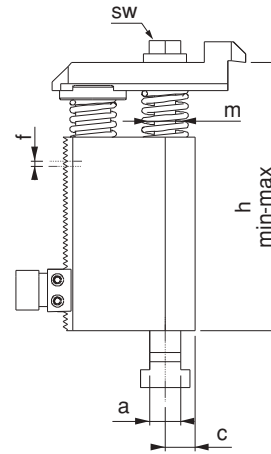
### Ürün Nr. 1250 Kombine Bağlama Pabuçu


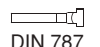

- Pabucun çift taraflı kullanım özelliği; kendi içinde bulunan kademeli yükseltici desteği ile kısıtlı alanlarda kullanım kolaylığı sağlar.
- DIN 650 T-Kanala uyumludur.
- Pabuç Malzeme: Sertleştirilmiş
- Civata 10.9 kalite
- Siyah kaplama



### Product Nr. 1250 Combined Coupling Clamp

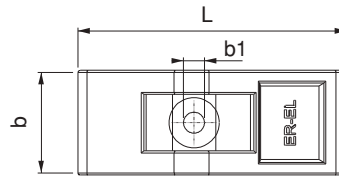
- Double-sided usage of the clamp and its stepped lifter's support provides using advantage in restricted areas
- It is suitable to DIN 650 T-Slot
- Clamp Hardness: Hardened
- Bolt Quality: 10.9
- Black coating



Referans Nr.		h min-max		b1	e	z	L	b	
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 Pabuçu

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



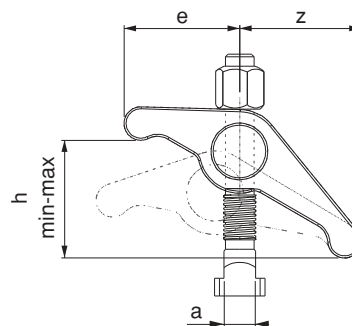
### Desteksiz Askı Pabuçu

Unsupported Suspension Clamp



### 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





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									95
1290-08060	60	9	M8	5/16	12	25	10	13	22	100
1290-08100	100									170
1290-10080	80	11	M10	3/8	15	30	12	15	30	190
1290-10100	100									225
1290-12100	100	14.5	M12-M14	1/2	20	40	14	21	45	435
1290-12125	125									580
1290-16125	125	18.5	M16-M18	5/8	25	50	18	26	55	855
1290-16160	160									1175

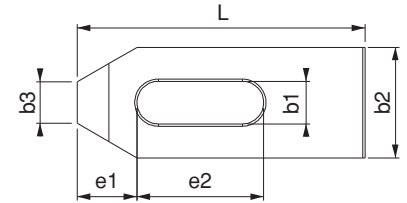


### Ürün Nr. 1290 Merdiven Diş Bağlama Pabucu

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

### Product Nr. 1290 Serrated Thread Clamp

- Product is used with Nr. 1310 Serrated Support
- Hardened
- Black Coating



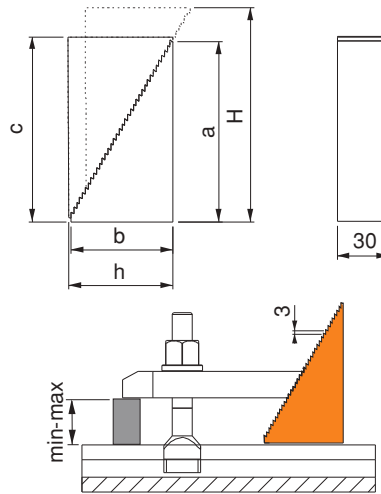
Referans Nr.	h-H	a	b	c	min-max	(g)
1310-02	48-112	73	45	76	0-60	825
1310-03	58-139	90	55	93	0-75	1250
1310-04	66-165	108	64	111	0-90	685

### Ürün Nr. 1310 Merdiven Diş Destek

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

### Product Nr. 1310 Serrated Thread Support

- Product is used with Nr. 1290 Serrated Thread Clamp
- Black Coating



## Merdiven Diş Destek

Serrated Thread Support



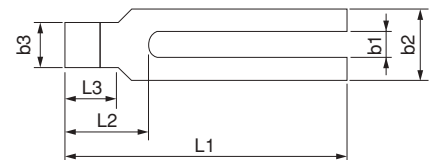
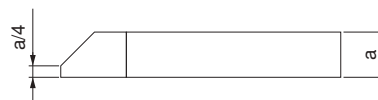
Referans Nr.	b1	L1	metrik		a	b2	b3	L2	L3	(g)
			whitworth							
1320-08100	9	100	M8	5/16	15	30	16	32	18	240
1320-10125	11	125	M10	3/8	20	30	20	38	24	380
1320-12160	14.5	160	M12-M14	1/2	25	40	24	47	30	800
1320-12200	14.5	200	M12-M14	1/2	25	40	24	47	30	950
1320-16200	18.5	200	M16-M18	5/8	30	50	28	57	36	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								80		100	2170
1330-20250	250								100		3885	
1330-24160	160	26	M24	1	30	70	26	35	60	M24	1965	
1330-24200	200								80		100	2920
1330-24250	250								100		3720	
1330-24315	315								100		6435	
1330-30250	250								33		M30	11/4
1330-30315	315	130	7665									
1330-36400	400	43	M36-M42	11/2	58	100	43	100	150	M30	14490	

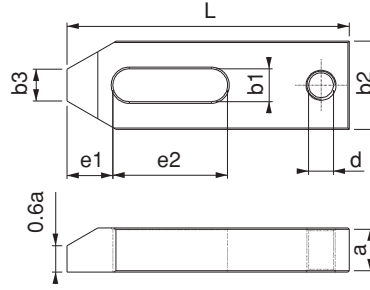


### Ürün Nr. 1330 Destek Delikli Düz Pabuç

- 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								80	2255
1350-24200	200								100	2570
1350-24250	250	100	3875							
1350-30250	250	33	M30	11/4	40	80	34	45	100	4990
1350-30315	315							130	7885	
1350-36400	400	43	M36-M42	11/2	60	100	43	100	150	14450

## Düz Pabuç

Straight Clamp



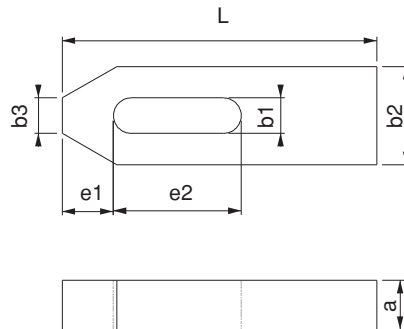
### DIN 6314

### Ürün Nr. 1350 Düz Pabuç

- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1350 Straight Clamp

- Hardened
- Black Coating



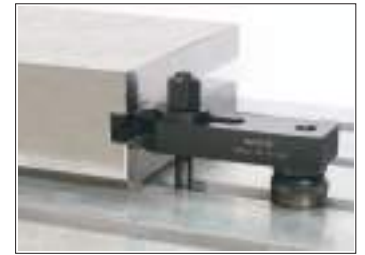
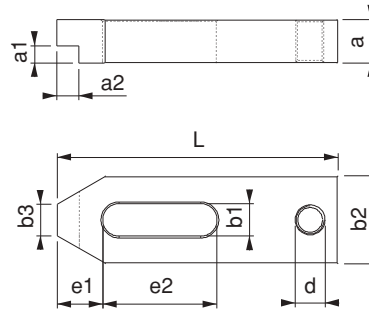
Referans Nr.	L	b1	metrik		a	b2	a1xa2	b3	e1	e2	d	(g)
			metrik	whitworth								
1370-10080	80	11	M10	3/8	15	30	5x8	12	15	30	M10	180
1370-12100	100	14.5	M12-14	1/2	20	40	8x10	14	21	40	M12	410
1370-12125	125											590
1370-16125	125	18.5	M16-18	5/8	25	50	10x12.5	18	26	45	M16	910
1370-16160	160											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				35		14x17			80		2875
1370-24250	250				35		14x17			100		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	945			
1390-16160	160				27				8	1215		
1390-16200	200				37				10	2000		
1390-16250	250	22.5	M20-M22	3/4	37	52	15	10	1650			
1390-20200	200				37				20	2765		
1390-20250	250				37				20	3510		
1390-20315	315				47				20	7200		
1390-20500	500	26	M24	1	37	66	20	10	2260			
1390-24200	200				37				2740			
1390-24250	250				37				3515			
1390-24315	315				47				7100			
1390-24500	500				33				M30	1 1/4	47	73
1390-30250	250	47	4190									
1390-30315	315	47	73	20		12	5735					
1390-30400	400	46	73	20		12	8455					
1390-30600	600	57	93	30		12	28000					
1390-301000	1000	40	M36	1 1/2		57	100	30			12	
1390-36400	400				57	16500						
1390-36600	600				77	123			40	12		28800
1390-42600	600	43	M42	1 1/2	77	123	40	12	28800			

#### DIN 6315B

#### Ürün Nr. 1390 Çatal Pabuç

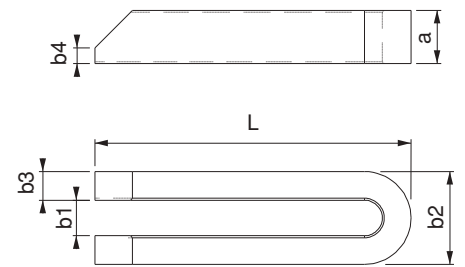
- Kademeli yüzeylerde şekilli iş parçalarının bağlanmasında pabuçun yapısı itibarı ile kolaylık sağlar
- Sertleştirilmiş
- Siyah Kaplama

#### 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

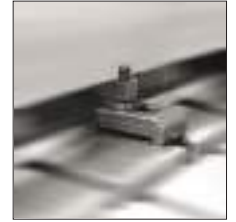
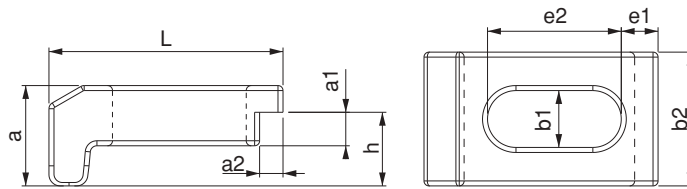


### Ürün Nr. 1387 Plaka Sıkma Pabucu

- Yükselticisiz çalışma özelliği avantajı sağlar
- Sertleştirilmiş
- Siyah Kaplama

### Product Nr. 1387 Plate Sliding Clamp

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



## 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	20	70	10x10	30	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

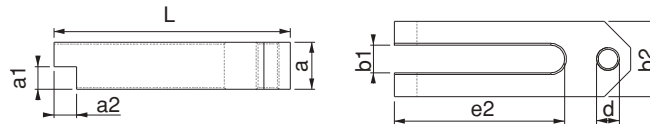
- Sertleştirilmiş
- Siyah Kaplama

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

- Hardened
- Black Coating

Kademeli ve kısıtlı alanlarda kullanım avantajı sağlar.

It provides usage advantage in gradual and limited areas.



## 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	20	5	70	30	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

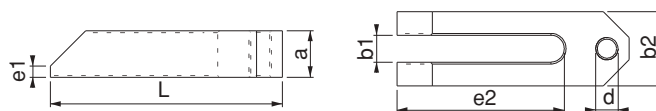
- Sertleştirilmiş
- Siyah Kaplama

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

- Hardened
- Black Coating

Kademeli parçalarda ileri sıkmalarda hareket ve kullanım avantajı sağlar.

It provides usage advantage for gradual parts during forward tightenings.



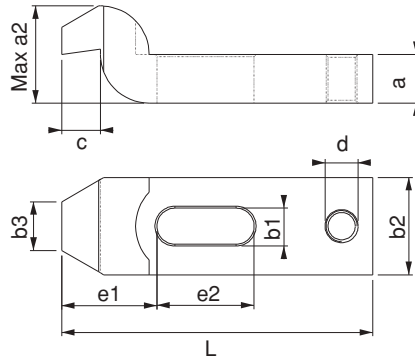


Referans Nr.	L	b1	metrik		a	a2	b2	b3	c	e1	e2	d	(g)
			whitworth										
1450-06060	60	6.6	M6	1/4	10	20	20	10	8	20	20	M8	80
1450-08080	80	9	M8	5/16	12	24	25	12	9	25	25	M8	170
1450-10100	100	11	M10	3/8	15	30	30	15	12	32	32	M10	245
1450-12125	125	14.5	M12-M14	1/2	19	40	38	20	16	40	40	M12	600
1450-16125	125	18.5	M16-M18	5/8	24	50	48	25	20	49	40	M16	925
1450-16160	160										50		1205
1450-20160	160	22.5	M20-M22	3/4	29	58	58	30	24	55	55	M20	1705
1450-20200	200										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				91	80	M24	4635
1450-30315	315				48	100	77	40	40	91	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	(g)
			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

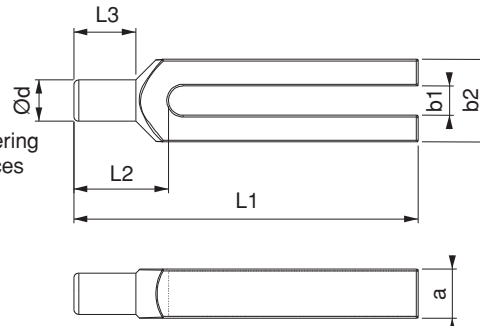
#### DIN 6315C

#### 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

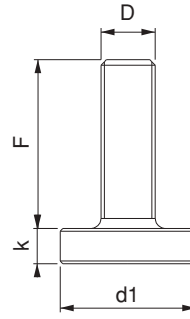


# DESTEKLER

SUPPORTS



Referans Nr.	D x F	d1	k	 (g)
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

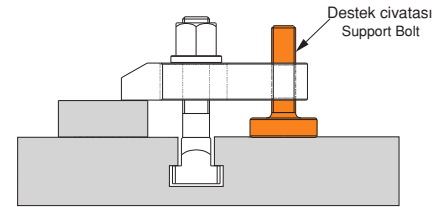







#### Ürün Nr. 1490 Pabuç Destek Civatası

- Siyah Kaplama

#### Product Nr. 1490 Clamp Support Bolt

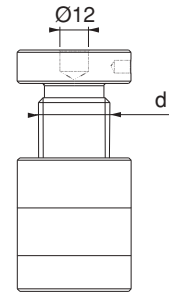
- Black Coating



Referans Nr.		d			 kgf	 (g)
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

- Nr. 1510 yükselticiler DIN 6314-6315-6316 pabuçlarda yükseltici destek amaçlı kullanılır.
- Hareketli parça üstünde bulunan Ø12mm delik Referans 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

- Nr.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



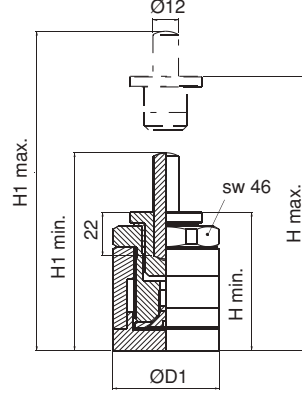
Referans Nr.	H min.	H max.	D1	Ø12x50 H1 min.- H1 max.	Ø12x80 H1 min.- H1 max.	↓ Kgf	↑ (g)
1515-065085	65	85	50	93-113	123-143	3000	810
1515-085125	85	125	50	113-153	143-183	3000	1050

### 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

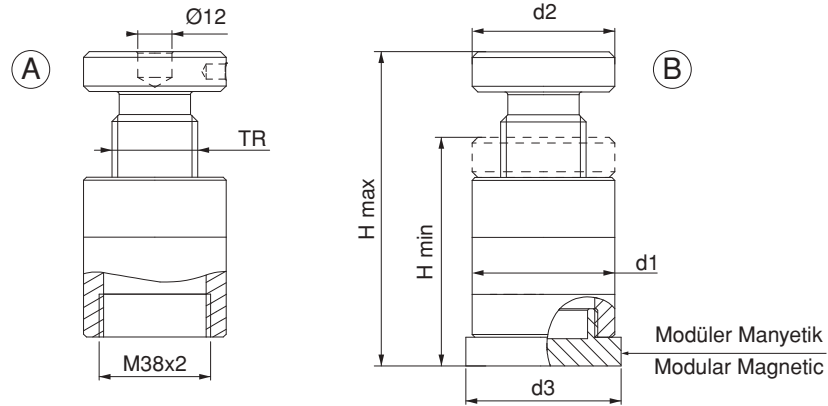
Referans Nr.	H min-max. A	H min-max. B	TR	d1	d2	d3	↓ kgf	↑ (g)
1517-04262	42-52	52-62	30x4	50	50	53.5	6000	700
1517-05080	50-70	60-80	30x4	50	50	53.5	6000	770
1517-70110	70-100	80-110	30x4	50	50	53.5	6000	1050

### Ürün Nr. 1517 Modüler Manyetik Yükseltici

- Siyah Kaplama

### Product Nr. 1517 Modular Magnetic Booster

- Black coating



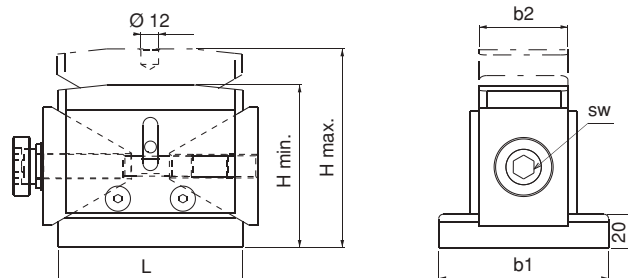
Referans Nr.	H min.	H max.	b1	b2	L	sw	↑ kgf	↑ (g)
1520-050063	50	63	-	40	63	8	4000	1890
1520-100125	100	125	115	60	125	14	10000	9910
1520-170190	170	190	145	80	175	22	25000	28480

### 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





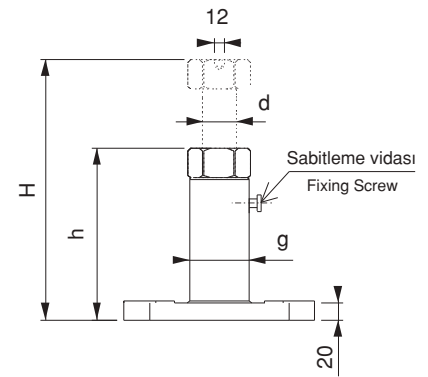
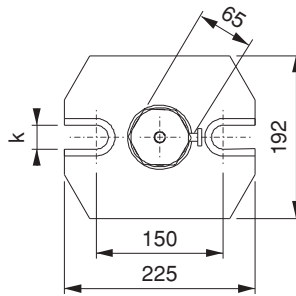
Referans Nr.		d	g	k	 kgf	 (kg)
1530-200	200-300	Tr40x7	69	28	8000	10.0
1530-280	280-460	Tr40x7	69	28	6000	11.8
1530-430	430-750	Tr40x7	69	28	5000	14.2
1530-710	710-1250	Tr40x7	69	28	4000	20.9




### 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.



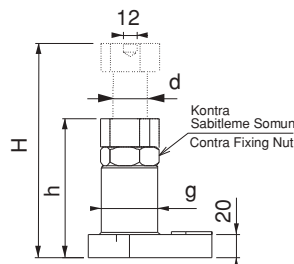
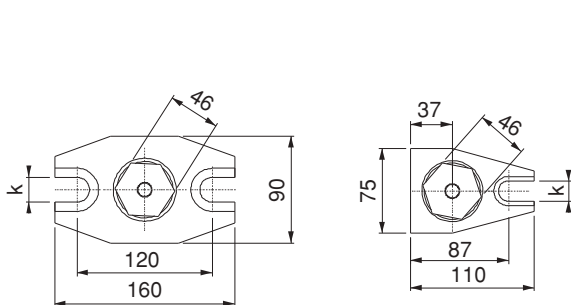
Referans Nr.		d	g	k	 kgf	 (kg)
1550-100	100-140	Tr30x6	49	18	6000	2.05
1550-140	140-200	Tr30x6	49	18	6000	2.45
1550-200	200-320	Tr30x6	49	22	4000	3.90
1550-320	320-550	Tr30x6	49	22	2500	5.15


### 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. 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.	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.

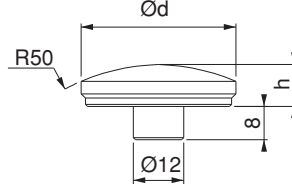
### Radüslü Destek Rad-top Support



#### 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



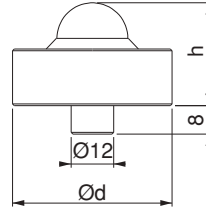
Referans Nr.	h	Ø d	 Kgf	
1560	25	45	3000	220

#### 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

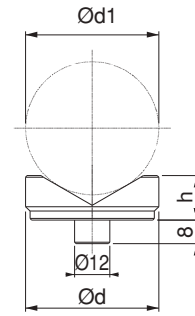
Referans Nr.	h	Ø d	Ø d1		
			min	max	
1565	15	45	10	50	130

#### 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

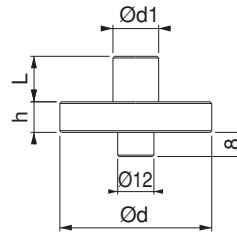
Referans Nr.	h	Ø d	Ø d1	L	

#### 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

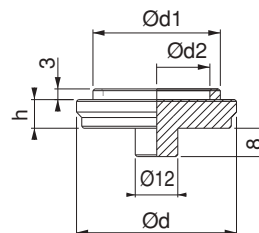
Referans Nr.	h	Ø d	Ø d1	Ø d2	

#### Ürün Nr. 1575 TDY Ara Merkekleme Vasatı


- Trapez diş yükselticiler üst üste kullanıldığında ara merkekleme 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 Merkekleme Vasatı Intermediary Centering Mean

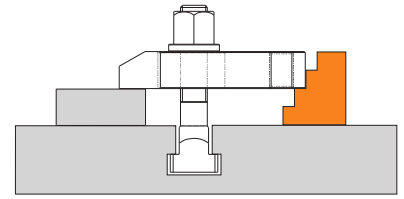
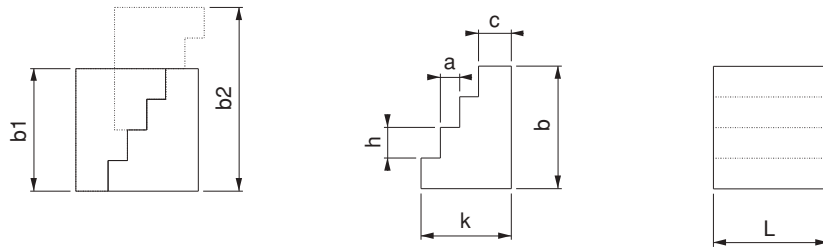
Referans Nr.	h	a	c	k	b	L	b1	b2	
1580-050	13	8	13	37	52	50	52	78	460
1580-060	16	10	17	47	64	60	64	96	860
1580-070	19	13	18	57	76	70	76	114	1420

**Ürün Nr. 1580 Basamaklı Destek**



- Siyah Kaplama

**Product Nr. 1580 Stepped Support**

- Black Coating


**Merdiven Diş Kombine Destek**

## Serrated Thread Combined Support

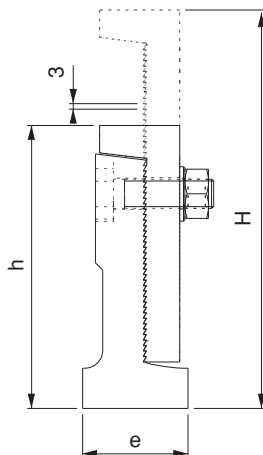
Referans Nr.	h-H	e	 kgf	
1585-050	110-150	48x48	4000	1120
1585-060	155-220	60x58	5000	2710
1585-080	220-340	80x78	6000	6560

**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






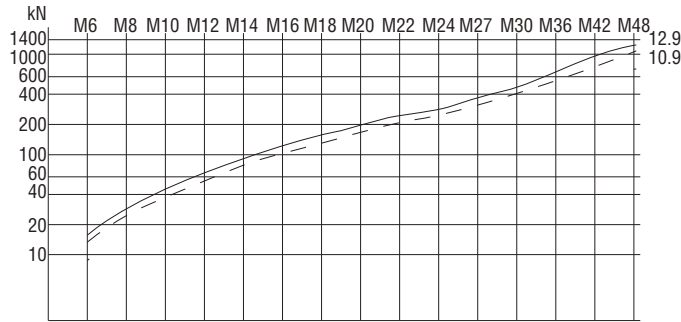
# CİVATALAR

*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	28-32														
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: % 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
			12.9	17	32	51	74	101	138	169	215	266	310	404	493	719	986
(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)
			12.9	(20)	(35)	56	82	(112)	152	(186)	238	(294)	342	(445)	(544)	(792)	(1087)
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
			12.9	15	29	44	65	91	125	152	196	243	281	369	449	657	904
Gerilme öncesi müsadde 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
			12.9	17	43	79	141	223	354	474	679	903	1163	1703	2258	3953	6337
Müsadde 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
Öngerilme kuvveti	Prestress force	kN	-	54	53	48	43	43	43	43	42	42	43	45	43	45	46
Bu öngerilme kuvveti ile tehlikeli var	With this pre-stress force there is danger of		10.9	Kırılma breakage		kalıcı deformasyon		permanent deformation		hareket kuvvetinin başlangıcında bağlama ünitesinin gevşemesi loosening of clamping unit at start of motive force							
			12.9														

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	
1590-0606025	M6x6	x25	15	5.7	10	4	17	17	8
1590-0606040		x40	28						11
1590-0606063		x63	40						15
1590-0808032	M8x8	x32	22	7.7	12	6	43	32	13
1590-0808050		x50	35						16
1590-0808080		x80	50						20
1590-1010040	M10x10	x40	23	9.7	15	6	79	51	35
1590-1010063		x63	45						45
1590-1010080		x80	50						60
1590-1010100	M10x12	x100	60	11.7	18	7	79	51	70
1590-1012050		x50	35						50
1590-1012063		x63	40						60
1590-1012080	M12x12	x80	55	11.7	18	7	141	74	65
1590-1012100		x100	65						100
1590-1012125		x125	75						110
1590-1012160	M12x14	x160	100	13.7	22	8	141	74	140
1590-1012200		x200	120						160
1590-1212050		x50	35						65
1590-1212063	M12x16	x63	40	15.7	25	9	223	101	70
1590-1212080		x80	55						80
1590-1212100		x100	65						100
1590-1212125	M14x16	x125	75	15.7	25	9	223	101	110
1590-1212160		x160	100						140
1590-1212200		x200	120						160
1590-1214050	M14x18	x250	150	17.7	28	10	354	138	255
1590-1214063		x50	35						80
1590-1214063		x63	45						90
1590-1214080	M16x16	x80	55	15.7	25	9	354	138	100
1590-1214100		x100	65						110
1590-1214125		x125	75						135
1590-1214160	M16x18	x160	100	17.7	28	10	354	138	160
1590-1214200		x200	120						170
1590-1214250		x250	150						180
1590-1616063	M16x20	x315	190	19.7	32	12	474	169	115
1590-1616080		x80	55						140
1590-1616100		x100	65						160
1590-1616125	M18x20	x125	85	15.7	25	9	354	138	190
1590-1616160		x160	100						225
1590-1616200		x200	120						270
1590-1616250	M18x22	x250	150	17.7	28	10	354	138	315
1590-1618063		x63	45						380
1590-1618080		x80	55						170
1590-1618100	M16x18	x100	65	15.7	25	9	354	138	185
1590-1618125		x125	85						220
1590-1618160		x160	100						245
1590-1618200	M16x20	x200	120	17.7	28	10	354	138	295
1590-1618250		x250	150						340
1590-1820080		x80	55						405
1590-1820100	M18x20	x100	65	19.7	32	12	474	169	260
1590-1820125		x125	85						290
1590-1820160		x160	110						340
1590-1820200	M20x20	x200	125	19.7	32	12	679	215	390
1590-1820250		x250	160						455
1590-1820315		x315	190						535
1590-2020080	M20x22	x190	650	21.7	35	14	679	215	650
1590-2020100		x80	55						300
1590-2020125		x100	65						330
1590-2020160	M20x20	x125	85	19.7	32	12	679	215	380
1590-2020200		x160	110						450
1590-2020250		x200	125						535
1590-2020315	M20x22	x250	160	21.7	35	14	679	215	635
1590-2022080		x80	55						345
1590-2022100		x100	65						380
1590-2022125	M20x22	x125	85	21.7	35	14	679	215	435
1590-2022160		x160	110						500
1590-2022200		x200	125						590
1590-2022250	M20x22	x250	150	21.7	35	14	679	215	695
1590-2022315		x315	190						820

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

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

- Kalite 12.9
- Siyah kaplama

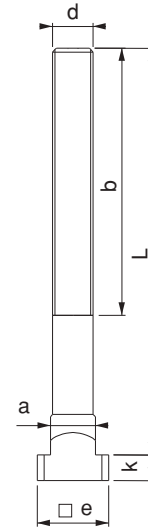
**Product Nr. 1590 T-Slot Bolt**

- Quality 12.9
- Black coating


 Loctite  
8150

**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.	dx	x L	b	a	e	k	Sıkma Verileri Tightening Data		Tightening Data (g)
							Nm	kN	
1610-0606025	M6x6	x25	15	5.7	10	4	17	17	19
1610-0606040		x40	28						25
1610-0606063		x63	40						36
1610-0808032	M8x8	x32	22	7.7	12	6	43	32	39
1610-0808050		x50	35						45
1610-0808080		x80	50						56
1610-1010040	M10x10	x40	23	9.7	15	6	79	51	65
1610-1010063		x63	45						80
1610-1010080		x80	50						90
1610-1010100	x100	60	110						
1610-1012050	M10x12	x50	35	11.7	18	7	79	51	85
1610-1012063		x63	40						95
1610-1012080		x80	55						100
1610-1012100		x100	60						110
1610-1012125		x125	75						125
1610-1012160		x160	90						140
1610-1012200	x200	120	160						
1610-1212050	M12x12	x50	35	11.7	18	7	141	74	120
1610-1212063		x63	40						128
1610-1212080		x80	55						140
1610-1212100		x100	65						160
1610-1212125		x125	75						170
1610-1212160		x160	100						195
1610-1212200	x200	120	220						
1610-1214050	M12x14	x50	35	13.7	22	8	141	74	140
1610-1214063		x63	45						150
1610-1214080		x80	55						155
1610-1214100		x100	65						175
1610-1214125		x125	75						195
1610-1214160		x160	100						220
1610-1214200	x200	120	240						
1610-1416063	M14x16	x63	45	15.7	25	9	223	101	200
1610-1416080		x80	55						230
1610-1416100		x100	65						245
1610-1416125		x125	75						270
1610-1416160		x160	100						310
1610-1416200		x200	120						340
1610-1416250	x250	150	390						
1610-1616063	M16x16	x63	45	15.7	25	9	354	138	260
1610-1616080		x80	55						285
1610-1616100		x100	65						310
1610-1616125		x125	85						345
1610-1616160		x160	100						385
1610-1616200		x200	120						435
1610-1616250	x250	150	505						
1610-1618063	M16x18	x63	45	17.7	28	10	354	138	290
1610-1618080		x80	55						305
1610-1618100		x100	65						340
1610-1618125		x125	85						370
1610-1618160		x160	100						415
1610-1618200		x200	120						460
1610-1618250	x250	150	525						
1610-1820080	M18x20	x80	55	19.7	32	12	474	169	405
1610-1820100		x100	65						435
1610-1820125		x125	85						480
1610-1820160		x160	110						535
1610-1820200		x200	125						610
1610-1820250		x250	150						680
1610-1820315	x315	190	790						
1610-2020080	M20x20	x80	55	19.7	32	12	679	215	480
1610-2020100		x100	65						515
1610-2020125		x125	85						570
1610-2020160		x160	110						635
1610-2020200		x200	125						725
1610-2020250		x250	160						820
1610-2020315	x315	190	950						
1610-2022080	M20x22	x80	55	21.7	35	14	679	215	530
1610-2022100		x100	65						565
1610-2022125		x125	85						620
1610-2022160		x160	110						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		Tightening Data (g)
							Nm	kN	
1610-2224080	M22x24	x80	55	23.7	40	16	903	266	700
1610-2224100		x100	65						740
1610-2224125		x125	85						805
1610-2224160		x160	110						890
1610-2224200		x200	125						1000
1610-2224250		x250	150						1115
1610-2224315	x315	190	1280						
1610-2424100	M24x24	x100	70	23.7	40	16	1163	310	885
1610-2424125		x125	85						970
1610-2424160		x160	110						1060
1610-2424200		x200	125						1180
1610-2424250		x250	150						1320
1610-2424315		x315	190						1515
1610-2424400	x400	240	1750						
1610-2428100	M24x28	x100	70	27.7	44	18	1163	310	1000
1610-2428125		x125	85						1065
1610-2428160		x160	110						1150
1610-2428200		x200	125						1280
1610-2428250		x250	150						1425
1610-2428315		x315	190						1640
1610-2428400	x400	240	1870						
1610-2428500	x500	290	2170						
1610-3036125	M30x36	x125	80	35.6	54	22	2258	493	1900
1610-3036160		x160	110						2065
1610-3036200		x200	135						2250
1610-3036250		x250	150						2500
1610-3036315		x315	200						2770
1610-3036500		x500	300						3630
1610-3642160	M36x42	x160	100	41.6	65	26	3953	719	3310
1610-3642250		x250	175						3930
1610-3642400		x400	250						5010
1610-3642600		x600	340						6900
1610-4248160	M42x48	x160	100	47.6	75	30	6337	986	4600
1610-4248250		x250	175						5600
1610-4248400		x400	250						7200

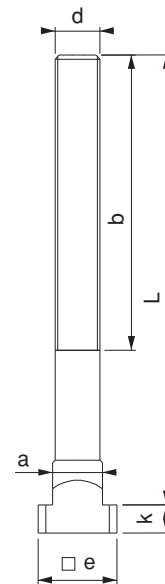
### DIN 787

#### 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

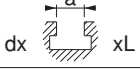



**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.



Loctite 8150

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

Referans Nr.	dx  xL	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 its 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

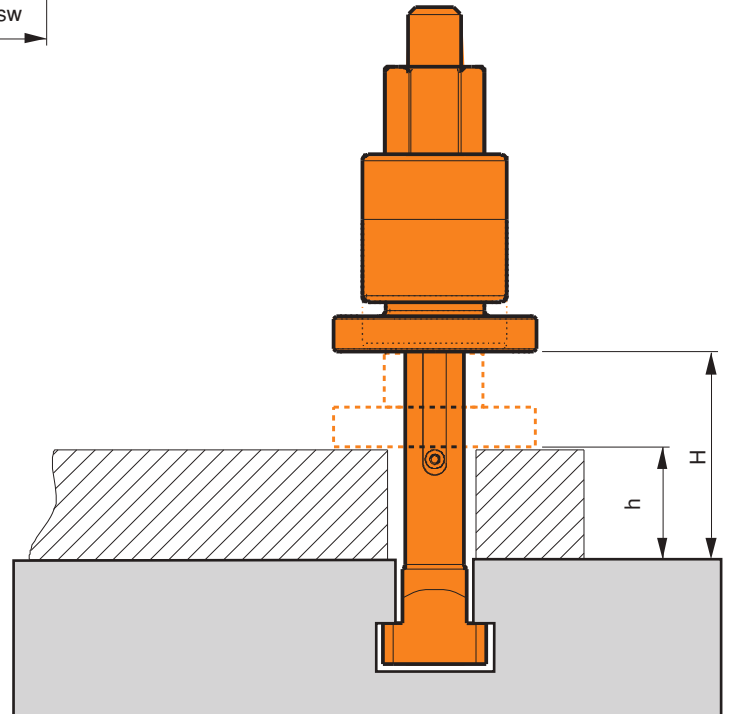
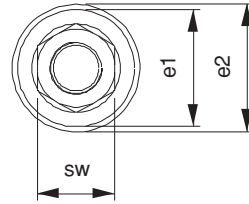
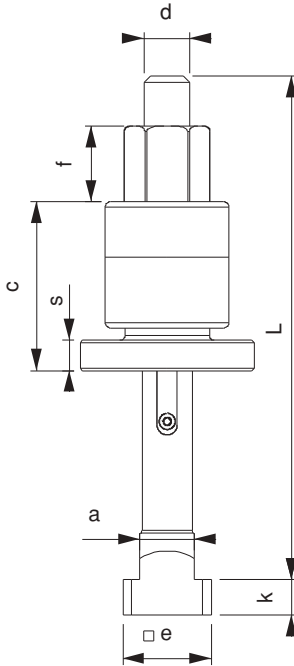


**Not:** 150 °C üzerindeki ortamlarda sıkma işlemi yapılırken dişlerin üzerine Loctite 8150 kullanılır.


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

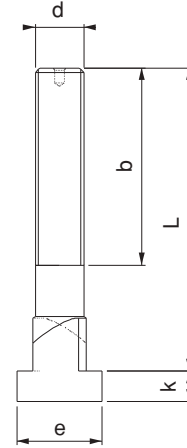


Loctite 8150





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

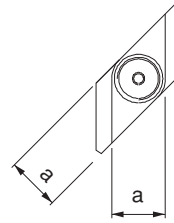


### Ürün Nr. 1650 Dereceli T-Ayaklı Saplama

- 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.

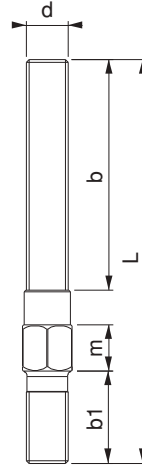


**Note:** Environments on the 150 °C when clamping action on the thread Loctite 8150 is used.

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 makinalarında 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




**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		
				Nm	kN	
1690-08040 1690-08063 1690-08080 1690-08100 1690-08125 1690-08160	M8 x40 x63 x80 x100 x125 x160	11	20 40 50 63 75 100	36	27	10 15 20 30 35 45
1690-10050 1690-10063 1690-10080 1690-10100 1690-10125 1690-10160 1690-10200	M10 x50 x63 x80 x100 x125 x160 x200	13	25 32 50 63 75 100 125	67	43	20 25 35 45 55 70 95
1690-12050 1690-12063 1690-12080 1690-12100 1690-12125 1690-12160 1690-12200	M12 x50 x63 x80 x100 x125 x160 x200	15	25 32 50 63 75 100 125	120	63	35 40 55 70 90 115 140
1690-14063 1690-14080 1690-14100 1690-14125 1690-14160 1690-14200 1690-14250	M14 x63 x80 x100 x125 x160 x200 x250	17	32 50 63 75 100 125 160	191	86	60 75 95 120 150 195 240
1690-16063 1690-16080 1690-16100 1690-16125 1690-16160 1690-16200 1690-16250 1690-16315 1690-16500	M16 x63 x80 x100 x125 x160 x200 x250 x315 x500	19	32 50 63 75 100 125 160 180 315	302	118	85 105 130 160 205 260 325 405 650
1690-18080 1690-18100 1690-18125 1690-18160 1690-18200 1690-18250 1690-18315	M18 x80 x100 x125 x160 x200 x250 x315	23	50 60 75 100 125 150 180	405	144	130 160 200 260 320 400 510
1690-20080 1690-20100 1690-20125 1690-20160 1690-20200 1690-20250 1690-20315 1690-20400 1690-20500	M20 x80 x100 x125 x160 x200 x250 x315 x400 x500	27	32 60 70 100 125 160 200 250 315	580	184	155 200 250 330 400 510 640 815 1020
1690-22100 1690-22125 1690-22160 1690-22200 1690-22250 1690-22315 1690-22400	M22 x100 x125 x160 x200 x250 x315 x400	31	45 70 100 125 160 180 250	772	228	250 305 400 500 620 780 1010
1690-24100 1690-24125 1690-24160 1690-24200 1690-24250 1690-24315 1690-24400 1690-24500 1690-24630	M24 x100 x125 x160 x200 x250 x315 x400 x500 x630	35	45 70 100 125 160 200 250 315 315	994	265	290 365 470 580 730 920 1170 1470 1860
1690-30125 1690-30200 1690-30250 1690-30315 1690-30500 1690-30700 1690-301000	M30 x125 x200 x250 x315 x500 x700 x1000	43	56 125 160 200 315 400 400	1930	421	570 910 1150 1435 2315 3215 4700

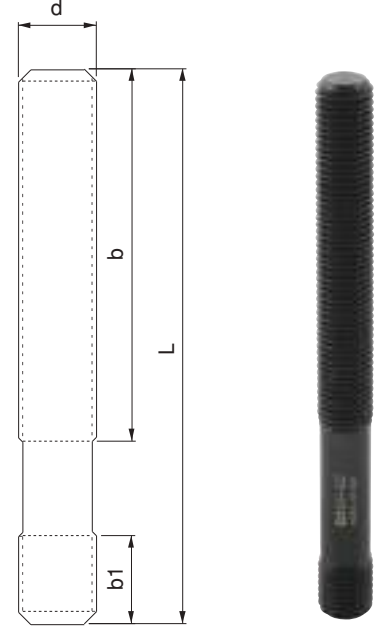
Referans Nr.	d x L	b1	b	Sıkma Verileri Tightening Data		
				Nm	kN	
1690-36160 1690-36200 1690-36250 1690-36315 1690-36400 1690-36500 1690-36700	M36 x160 x200 x250 x315 x400 x500 x700	51	80 125 160 200 250 315 400	3378	614	1100 1340 1710 2150 2700 3450 4750
1690-42315 1690-42400 1690-42500	M42 x315 x400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

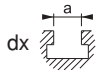



Loctite  
8150

# SOMUN, PUL, AKSESUARLAR

*NUT, WASHER, ACCESSORIES*



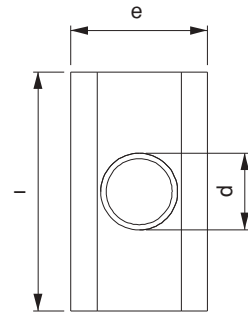
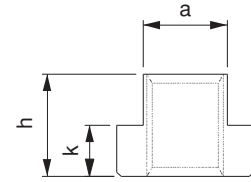
Referans Nr.		a	e	l	h	k	
1710-0608	M6x8	7.7	13	26	10	6	14
1710-0810	M8x10	9.7	15	30	12	6	25
1710-1012	M10x12	11.7	18	36	14	7	49
1710-1214	M12x14	13.7	22	44	16	8	82
1710-1416	M14x16	15.7	25	50	18	9	120
1710-1618	M16x18	17.7	28	56	20	10	165
1710-1820	M18x20	19.7	32	64	24	12	260
1710-2022	M20x22	21.7	35	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 pleylerinde 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

### Ürün Nr. 1730 Deliksiz T-Pabuç

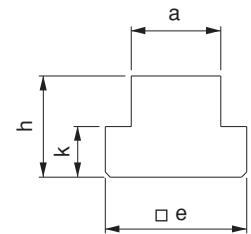
- İsteğe göre delik delme dış çekme uygulanabilir

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

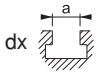

- Arbitrary thread cutting can be applied

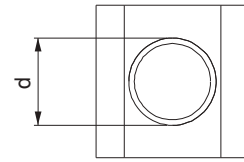
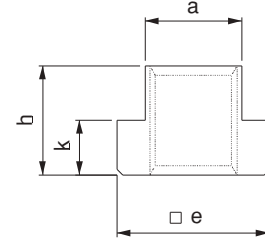
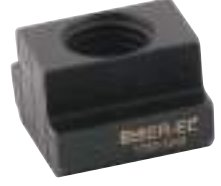
## Deliksiz T-Pabuç

T-Nut without Hole





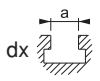

Referans Nr.	dx 	a	e	h	k	 (g)
1750-0506	M5x6	5.7	10	8	4	4
1750-0608	M6x8	7.7	13	10	6	10
1750-0810	M8x10	9.7	15	12	6	12
1750-0812	M8x12*	11.7	18	14	7	22
1750-1012	M10x12					20
1750-0814	M8x14*					40
1750-1014	M10x14*	13.7	22	16	8	37
1750-1214	M12x14					30
1750-0816	M8x16*					60
1750-1016	M10x16*	15.7	25	18	9	55
1750-1216	M12x16*					55
1750-1416	M14x16					45
1750-0818	M8x18*					90
1750-1018	M10x18*	17.7	28	20	10	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

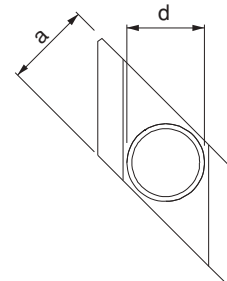
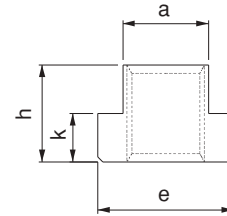

**DIN 508**
**Ürün Nr. 1750 T-Pabuç**

- 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

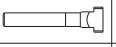

Referans Nr.	dx 	a	e	h	k	 (g)
1770-0810	M8x10	9.7	15	12	6	10
1770-1012	M10x12	11.7	18	14	7	15
1770-1014	M10x14*	13.7	22	16	8	30
1770-1214	M12x14					25
1770-1416	M14x16	15.7	25	18	9	40
1770-1018	M10x18*	17.7	28	20	10	70
1770-1618	M16x18					60
1770-1620	M16x20*	19.7	32	24	12	95
1770-1820	M18x20					90
1770-1622	M16x22*	21.7	35	28	14	135
1770-2022	M20x22					125
1770-1628	M16x28*	27.7	44	36	18	330
1770-2028	M20x28*					295
1770-2428	M24x28					265

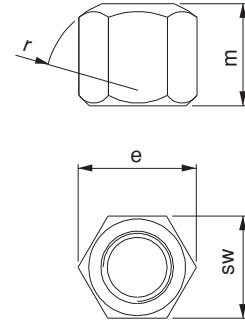
**Dereceli T-Pabuç**
**Graded T-Nut**

**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

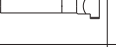

Referans Nr.		sw	e	m	r	
1790-06	M6	10	11.5	9	9	5
1790-08	M8	13	15	12	12	9
1790-10	M10	17	19.6	15	15	20
1790-12	M12	19	21.9	18	17	25
1790-14	M14	22	25.4	21	20	40
1790-16	M16	24	27.7	24	22	55
1790-18	M18	27	31.2	27	24	80
1790-20	M20	30	34.6	30	27	110
1790-22	M22	32	36.9	33	30	130
1790-24	M24	36	41.5	36	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

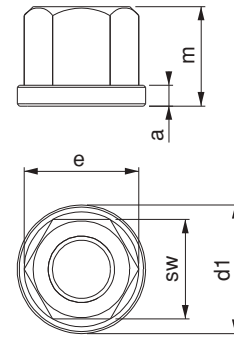

**DIN 6330B**
**Ürün Nr. 1790 Takviyeli Somun**

- 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**

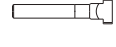

## Nut with Washer

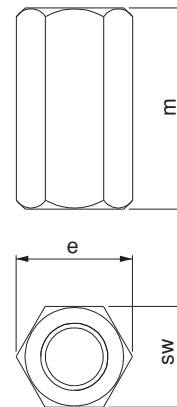

**DIN 6331**
**Ürün Nr. 1810 Pullu Somun**

- 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


**DIN 6334**
**Ürün Nr. 1830 Uzatma Somun**

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

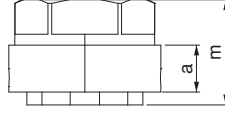
**Product Nr. 1830 Extension Nut**

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

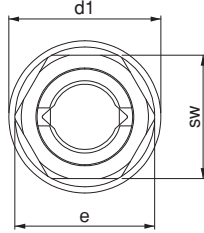
Referans Nr.	metrik	a	d1	e	m	sw	
1840-16	M16	11.5	34	30.7	27.5	27	105
1840-20	M20	14	44	38.8	33	34	210
1840-24	M24	18.5	50.4	46	35	41	365


**Ürün Nr. 1840 Hızlı Somun**

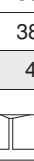
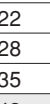
- Somun açık konumda uzun dişlerde hızlı ilerleme kolaylığı sağlar.
- Sertleştirilmiş
- Çinko Kaplama
- Kalite 10


**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

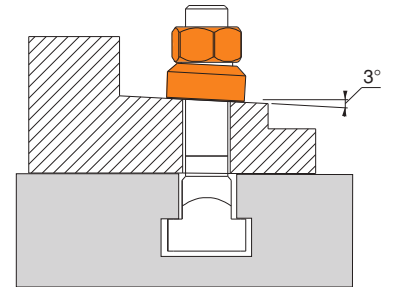
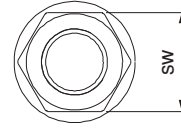
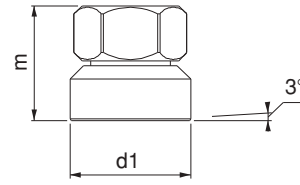
Referans Nr.		sw	d1	m	
1850-08	M8	13	17	14	10
1850-10	M10	17	21	18	30
1850-12	M12	19	24	22	40
1850-16	M16	24	30	28	70
1850-20	M20	30	36	35	140
1850-24	M24	36	44	43	260



**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.			d1	d2	s	
	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**

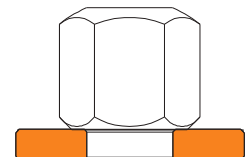
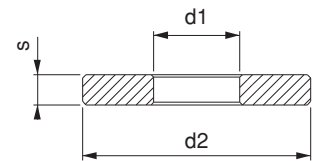
- Sertleştirilmiş
- Siyah kaplama



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

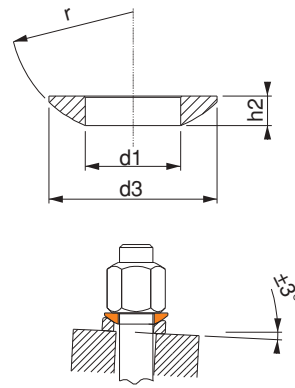
- Hardened
- Black Coating

**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

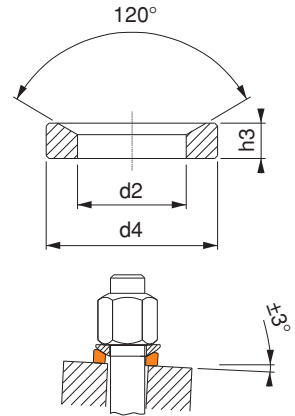
#### Ürün Nr. 1890 Radüslü Pul

- 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

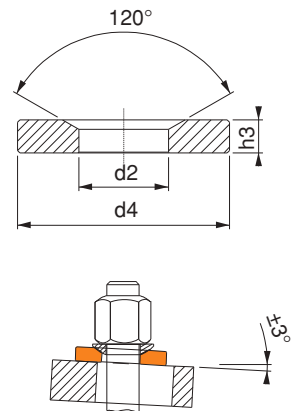
#### Ürün Nr. 1910 Dereceli Pul

- 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

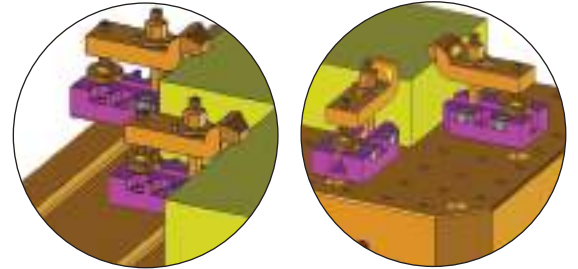
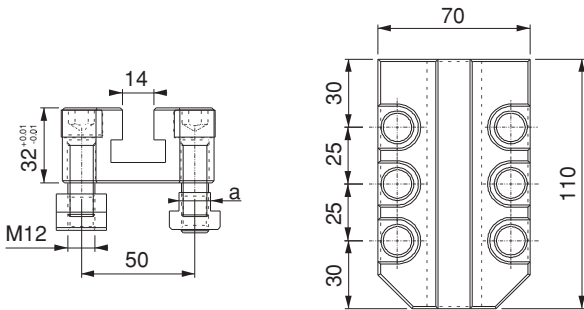
Tezgah pleytine bağlanacak iş parçasının orantısız duruşunda pleytin uygun bir yerine sabitlenerek iş parçasını bağlamada kolaylık sağlar.



**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



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

**Pabuç Kaldırma Yaylı Pul**

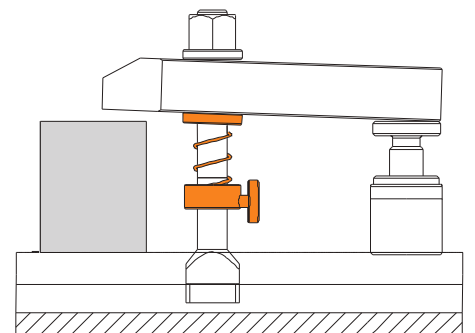
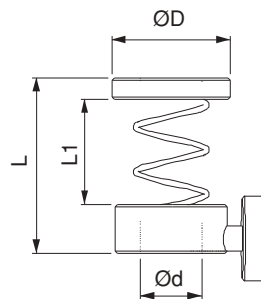
for Lifting the Washer

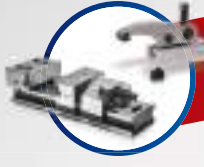
**Ürün Nr. 1970 Pabuç Kaldırma Yaylı Pul**

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

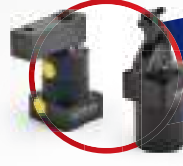
**Product Nr. 1970 Springed Washer for Lifting the Washer**

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





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