

# kalıpyansan®

STANDART KALIP ELEMANLARI SANAYİ VE TİCARET LİMİTED ŞİRKETİ





**kalipyansan®**



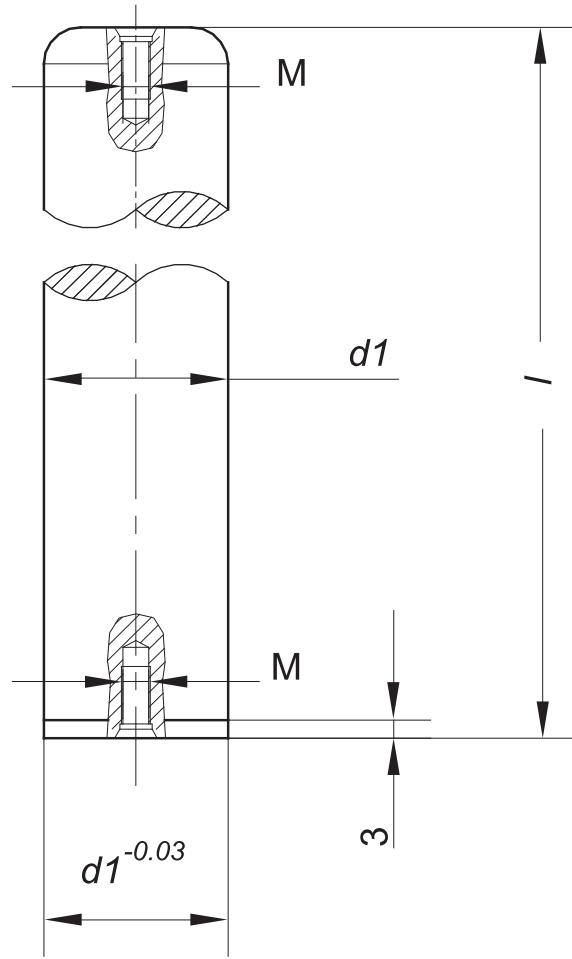
Our Company has been established in 1981 to produce standardized die elements such as ISO 10243 die springs, punches, ejector pins, ball bearing cages, guides, bushes. Starting business in a small workshop as the first producer of these precision elements in Turkey, today we are proud to continue supply of standardized die elements. Quality, timely delivery and technical support is our philosophy in doing business.

Mütevazi başlangıçlardan yola çıkarak, 1981 yılından bu güne kadar olan deneyimimizle dünya standartlarında üretim yapmaktayız.

Üretimini gerçekleştirdiğimiz standart kalıp elemanları programımız sizlere ebat ve malzeme açısından çok geniş seçme olanakları sağlamaktadır. Standart ürün ihtiyaçlarınızın çoğunluğunu stoklarımızda bulabilirsiniz. Stokta bulunmayan özel ebatlı malzeme ihtiyaçlarınızı seri üretimimiz sayesinde kısa sürede teslim edebilmekteyiz.

Kalipyansan için imalatta önemli olan, sadece hazırda malzeme bulundurmak değil, teknolojinin gereklerine uygun olarak, kontrollü, homojen ve sürdürülebilir bir kaliteyi yakalamaktır. Hammadde girişinden, mamul çıkışına kadar tüm imalat aşamalarında, malzeme analizi, ısıtma işlemi, ölçü kontrolü ve yüzey kalitesini kapsayan eksiksiz ara kontroller yapılmaktadır. Son kontrol ile sadece yüksek kalitedeki mamüllerin fabrikamızdan çıkışına izin verilir.

Kalipyansan; sanayideki kalıpların imalinde ve kullanımında temel teşkil eden, üstün kaliteli standart kalıp elemanlarını bu katalogla birlikte sizlerin hizmetine sunmaktadır.



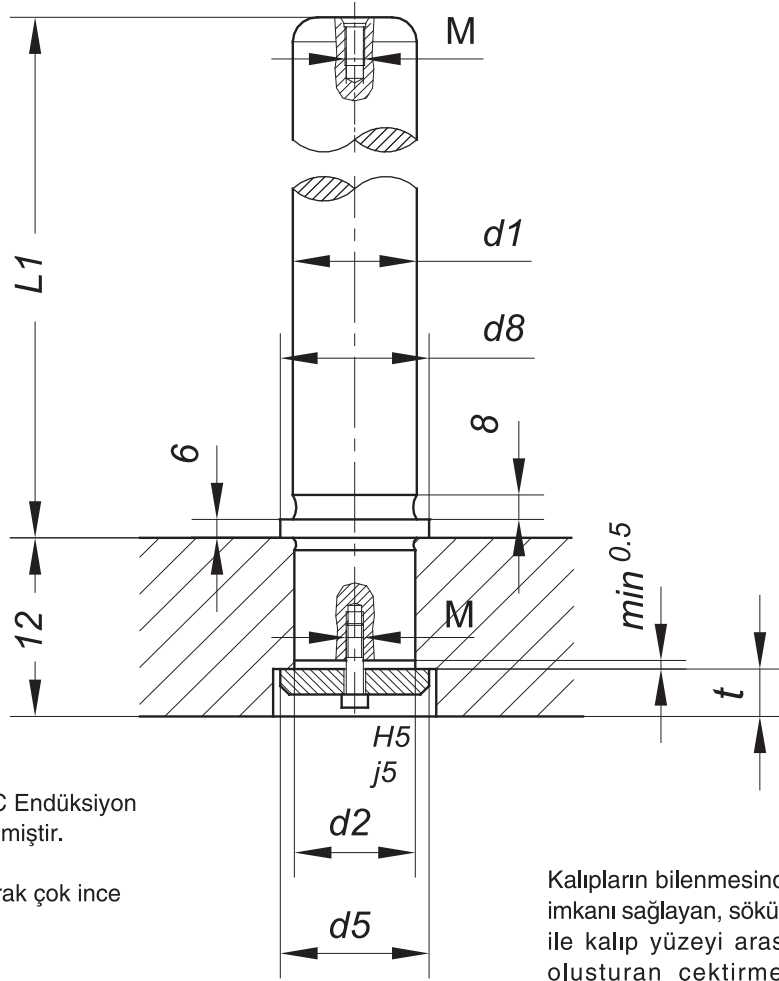
Malzeme : İmalat çeliği  
Sertlik : 60 ± 2 HRC Endüksiyon ile sertleştirilmiştir.  
Derinlik : ≥ 1.5 mm  
Yüzey : Hassas olarak çok ince taşlanmış.

Material : Tool Steel  
Surface Hardness : 60 ± 2 HRC Induction hardened  
Hardness Penetration : ≥ 1.5 mm  
Execution : Precision ground

204.			
d <sub>1h3</sub>	l	M	Order Sipariş No.
12	100	M6 x 20	204.12.100
15	100		204.15.100
	125		204.15.125
16	100		204.16.100
	125		204.16.125
18	125		204.18.125
	160		204.18.160
19	200		204.18.200
	125		204.19.125
	160		204.19.160
20	200		204.19.200
	125		204.20.125
	160	204.20.160	
24	200	204.20.200	
	125	204.24.125	
	160	201.24.160.	
25	200	204.24.200	
	220	204.24.220	
	125	204.25.125	
	160	204.25.160	
25	200	204.25.200	
	220	204.25.220	

204.			
d <sub>1h3</sub>	l	M	Order Sipariş No.
30	160	M8 x 25	204.30.160.
	200		204.30.200
	220		204.30.220
	240		204.30.240
	260		204.30.260
	280		204.30.280
32	160		204.32.160
	200		204.32.200
	220		204.32.220
	240		204.32.240
38	260		204.32.260
	280		204.32.280
	160	204.38.160	
	200	204.38.200	
40	240	204.38.240	
	280	204.38.280	
	315	204.38.315	
40	160	204.40.160	
	200	204.40.200	
	240	204.40.240	
	280	204.40.280	
	315	204.40.315	

204.			
d <sub>1h3</sub>	l	M	Order Sipariş No.
48	200	M10 x 30	204.48.200
	240		204.48.240
	280		204.48.280
	315		204.48.315
	400		204.48.400
50	200		204.50.200
	240		204.50.240
	280		204.50.280
60	315		204.50.315
	400		204.50.400
	240		204.60.240
63	315		204.60.315
	400	204.60.400	
	450	204.60.450	
80	240	204.63.240	
	315	204.63.315	
	400	204.63.400	
	450	204.63.450	
80	315	M12 x 30	204.80.315
	400		204.80.400
	500		204.80.500
	600		204.80.600



Malzeme: İmalat çeliği  
Sertlik :  $60 \pm 2$  HRC Endüksiyon ile sertleştirilmiştir.  
Derinlik :  $\geq 1.5$  mm  
Yüzey : Hassas olarak çok ince taşlanmış.

Material : Tool Steel  
Surface Hardness :  $60 \pm 2$  HRC Induction hardened  
Hardness Penetration :  $\geq 1.5$  mm  
Execution : Precision ground

Kalıpların bilenmesinde, çabuk ve kolay montaj imkanı sağlayan, sökülebilir, kılavuz sütun eksenine kalıp yüzeyi arasında hatasız bir dik açı oluşturan çektirmeli kılavuz sütunlardır.

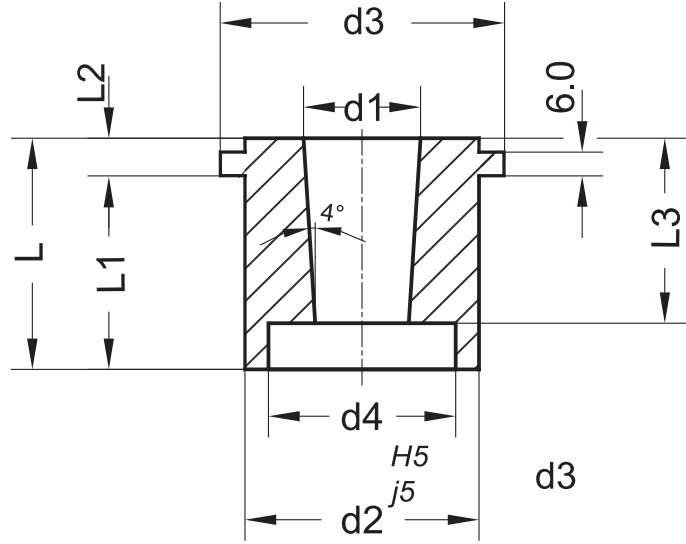
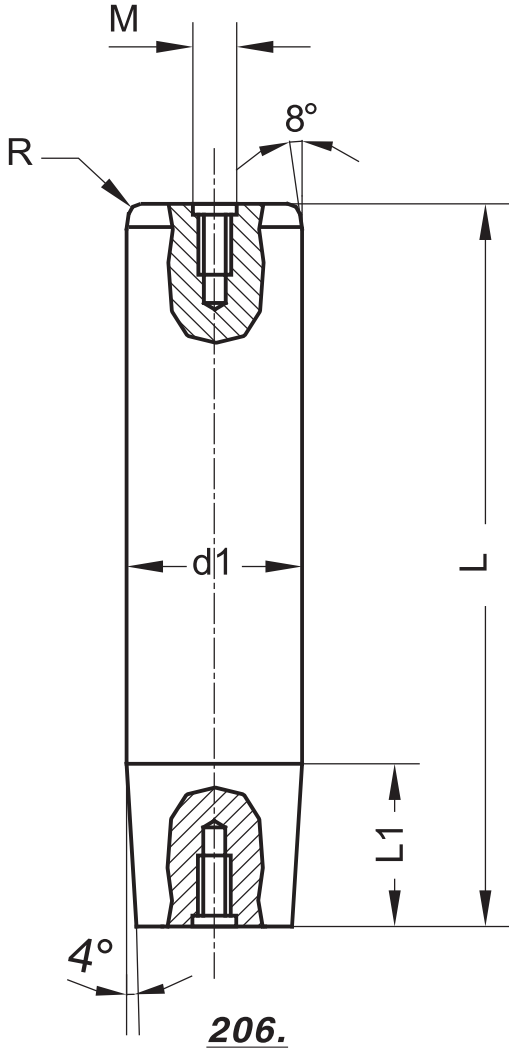
Demountable pillars with shoulder are suited to applications where die sharpening requires dismantling and re-fitting

**205.**

d <sub>1h3</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>2</sub>	d <sub>8</sub>	d <sub>5</sub>	t	M	Order No. Sipariş No.
24	125	32	24	31,5	32	11	M6x20	205.24.125
	160	32	24	31,5	32	11	M6x20	205.24.160
	200	32	24	31,5	32	11	M6x20	205.24.200
	220	32	24	31,5	32	11	M6x20	205.24.220
	240	32	24	31,5	32	11	M6x20	205.24.240
25	125	32	25	31,5	32	11	M6x20	205.25.125
	160	32	25	31,5	32	11	M6x20	205.25.160
	200	32	25	31,5	32	11	M6x20	205.25.200
	220	32	25	31,5	32	11	M6x20	205.25.220
	240	32	25	31,5	32	11	M6x20	205.25.240
30	125	36	30	39,5	40	14	M8x25	205.30.125
	160	36	30	39,5	40	14	M8x25	205.30.160
	200	36	30	39,5	40	14	M8x25	205.30.200
	220	36	30	39,5	40	14	M8x25	205.30.220
	240	36	30	39,5	40	14	M8x25	205.30.240
	260	36	30	39,5	40	14	M8x25	205.30.260
	280	36	30	39,5	40	14	M8x25	205.30.280
32	125	36	32	39,5	40	14	M8x25	205.32.125
	160	36	32	39,5	40	14	M8x25	205.32.160
	200	36	32	39,5	40	14	M8x25	205.32.200
	220	36	32	39,5	40	14	M8x25	205.32.220
	240	36	32	39,5	40	14	M8x25	205.32.240
	260	36	32	39,5	40	14	M8x25	205.32.260
	280	36	32	39,5	40	14	M8x25	205.32.280

**205.**

d <sub>1h3</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>2</sub>	d <sub>8</sub>	d <sub>5</sub>	t	M	Order No. Sipariş No.
38	160	40	40	56	50	15	M8x25	205.38.160
	200	40	40	56	50	15	M8x25	205.38.200
	240	40	40	56	50	15	M8x25	205.38.240
	280	40	40	56	50	15	M8x25	205.38.280
	160	40	42	56	50	15	M8x25	205.40.160
40	200	40	42	56	50	15	M8x25	205.40.200
	240	40	42	56	50	15	M8x25	205.40.240
	280	40	42	56	50	15	M8x25	205.40.280
	200	50	50	71	60	18,5	M10x30	205.48.200
48	240	50	50	71	60	18,5	M10x30	205.48.240
	280	50	50	71	60	18,5	M10x30	205.48.280
	315	50	50	71	60	18,5	M10x30	205.48.315
50	200	50	52	71	60	18,5	M10x30	205.50.200
	240	50	52	71	60	18,5	M10x30	205.50.240
	280	50	52	71	60	18,5	M10x30	205.50.280
	315	50	52	71	60	18,5	M10x30	205.50.315
	200	56	60	80	70	22,5	M10x35	205.60.200
60	240	56	60	80	70	22,5	M10x35	205.60.240
	280	56	60	80	70	22,5	M10x35	205.60.280
	315	56	60	80	70	22,5	M10x35	205.60.315
	350	56	60	80	70	22,5	M10x35	205.60.350
	200	56	63	80	70	22,5	M10x35	205.63.200
63	240	56	63	80	70	22,5	M10x35	205.63.240
	280	56	63	80	70	22,5	M10x35	205.63.280
	315	56	63	80	70	22,5	M10x35	205.63.315
	350	56	63	80	70	22,5	M10x35	205.63.350


**207.**
**206.**

d1h3	L	I <sub>1</sub>	M	Order / Sipariş No
24	160	37	M8 x 25	206.24.160
	200			206.24.200
	225			206.24.225
	250			206.24.250
25	160	37	M8 x 25	206.25.160
	200			206.25.200
	225			206.25.225
	250			206.25.250
30	160	45	M8 x 25	206.30.160
	200			206.30.200
	225			206.30.225
	250			206.30.250
32	160	45	M8 x 25	206.32.160
	200			206.32.200
	225			206.32.225
	250			206.32.250

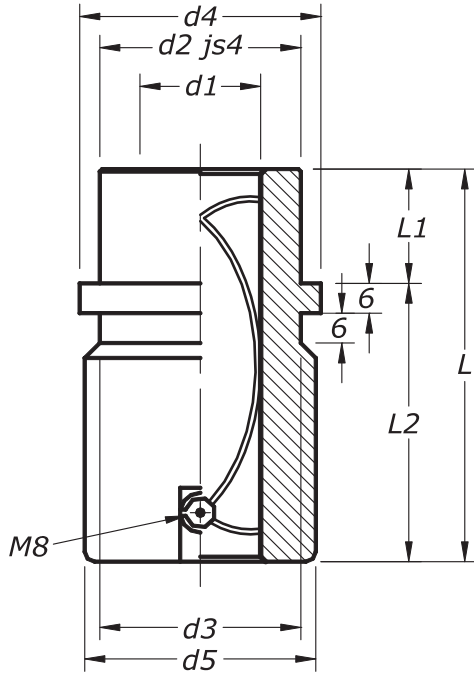
**206.**

d1h3	L	I <sub>1</sub>	M	Order / Sipariş No
38	200	50	M8 x 25	206.38.200
	225			206.38.225
	250			206.38.250
	315			206.38.315
40	200	50	M8 x 25	206.40.200
	225			206.40.225
	250			206.40.250
	315			206.40.315
48	225	55	M10 x 30	206.48.225
	250			206.48.250
	315			206.48.315
	400			206.48.400
50	225	55	M10 x 30	206.50.225
	250			206.50.250
	315			206.50.315
	400			206.50.400

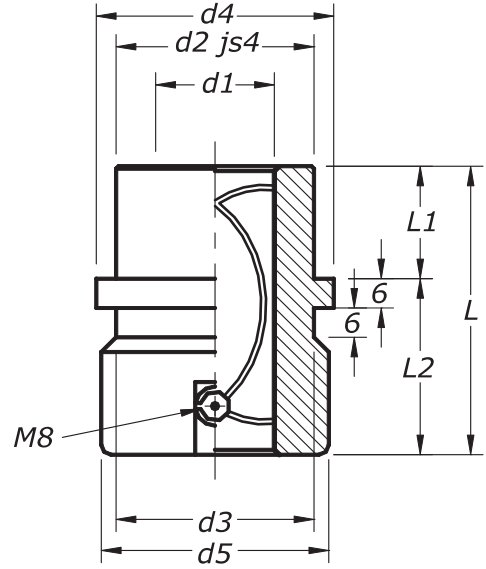
**207.**

Ø d1	24-25	30-32	38-40	48-50
Ø d2	40	48	58	70
Ø d3	48	54	64	78
Ø d4	26	32	40	50
L	52	60	65	73
L1	40	45	50	55
L2	12	15	15	18
L3	37	45	50	55
<b>Sipariş Örneği / Example of Ordering</b>				
Ø d1 = 32				
207.32				

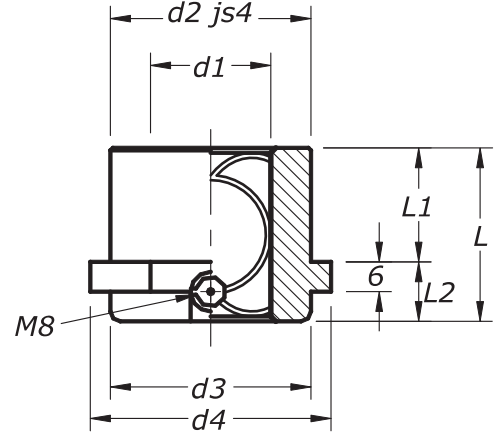
ISO 9448



**651.**



**652.**



**653.**

Malzeme : Takım Çeliği  
Material : Tool Steel  
Sertlik : 54± 56 HRC  
Hardness

**651.**

d <sub>1</sub>	d <sub>2=3</sub>	d <sub>4</sub>	d <sub>5</sub>	l	l <sub>1</sub>	l <sub>2</sub>
19-20	32	40	39	59	23	36
24-25	40	48	46	79	23	56
30-32	48	56	53	93	30	63
38-40	58	66	63	108	37	71
48-50	70	80	77	127	47	80
60-63	85	95	92	150	60	90
80	105	118	115	150	60	90

**Sipariş Örneği / Example of Ordering**

651	d <sub>1</sub>	L
50	x	127

651.50.127

**652.**

d <sub>1</sub>	d <sub>2=3</sub>	d <sub>4</sub>	d <sub>5</sub>	l	l <sub>1</sub>	l <sub>2</sub>
19-20	32	40	39	43	23	20
24-25	40	48	46	59	23	36
30-32	48	56	53	75	30	45
38-40	58	66	63	82	37	45
48-50	70	80	77	97	47	50
60-63	85	95	92	116	60	56
80	105	118	115	120	60	60

**Sipariş Örneği / Example of Ordering**

652	d <sub>1</sub>	L
50	x	97

652.50.97

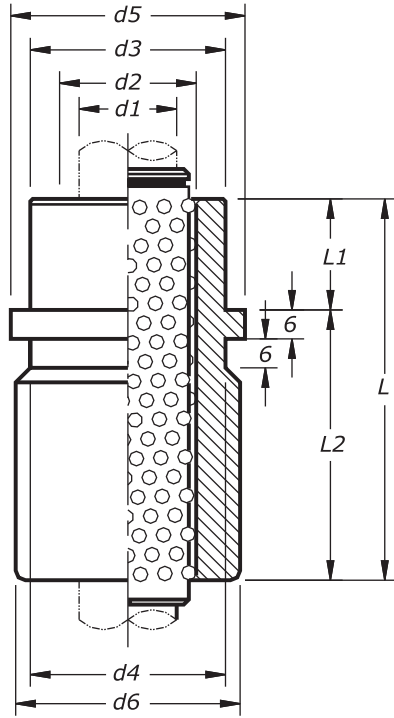
**653.**

d <sub>1</sub>	d <sub>2=3</sub>	d <sub>4</sub>	d <sub>5</sub>	l	l <sub>1</sub>	l <sub>2</sub>
19-20	32	40	39	35	23	12
24-25	40	48	46	35	23	12
30-32	48	56	53	42	30	12
38-40	58	66	63	52	37	15
48-50	70	80	77	65	47	18
60-63	85	95	92	80	60	20
80	105	118	115	80	60	20

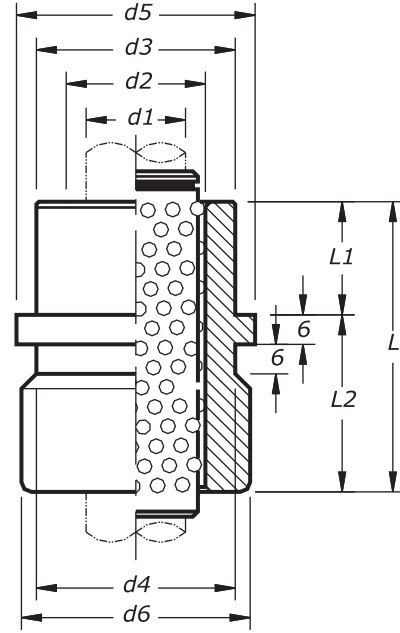
**Sipariş Örneği / Example of Ordering**

651	d <sub>1</sub>	L
50	x	65

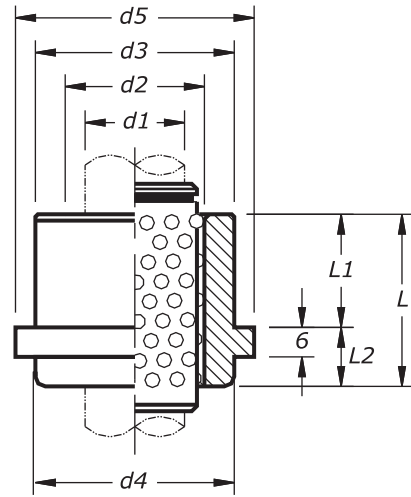
653.50.065



**654.**



**655.**



**656.**

Malzeme : Takım Çeliği  
Material : Tool Steel

Sertlik : 62±2 HRC  
Hardness

### 654.

d <sub>1</sub>	d <sub>2</sub>	d <sub>3-4</sub>	d <sub>5</sub>	d <sub>6</sub>	l	l <sub>1</sub>	l <sub>2</sub>
19-20	25-26	32	40	39	59	23	36
24-25	30-31	40	48	46	79	23	56
30-32	38-40	48	56	53	93	30	63
38-40	46-48	58	66	63	108	37	71
48-50	56-58	70	80	77	127	47	80
60-63	68-71	85	95	92	150	60	90

#### Sipariş Örneği / Example of Ordering

654	d1	L	
	50	x 127	654.50.127

### 655.

d <sub>1</sub>	d <sub>2</sub>	d <sub>3-4</sub>	d <sub>5</sub>	d <sub>6</sub>	l	l <sub>1</sub>	l <sub>2</sub>
19-20	25-26	32	40	39	43	23	20
24-25	30-31	40	48	46	59	23	36
30-32	38-40	48	56	53	75	30	54
38-40	46-48	58	66	63	82	37	45
48-50	56-58	70	80	77	97	47	50
60-63	68-71	85	95	92	116	60	56

#### Sipariş Örneği / Example of Ordering

655	d1	L	
	50	x 97	655.50.097

### 656.

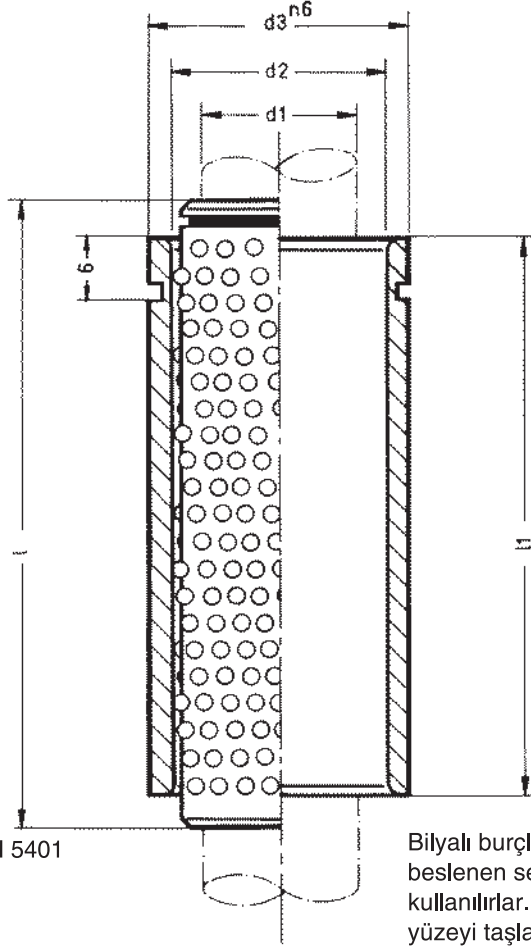
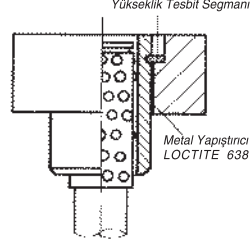
d <sub>1</sub>	d <sub>2</sub>	d <sub>3-4</sub>	d <sub>5</sub>	d <sub>6</sub>	l	l <sub>1</sub>	l <sub>2</sub>
19-20	25-26	32	40	39	35	23	12
24-25	30-31	40	48	46	35	23	12
30-32	38-40	48	56	53	42	30	12
38-40	46-48	58	66	63	52	37	15
48-50	56-58	70	80	77	65	47	18
60-63	68-71	85	95	92	80	60	20

#### Sipariş Örneği / Example of Ordering

656	d1	L	
	50	x 97	656.50.065



Bilyalı kafes + Çelik burç  
Takım olarak



Malzeme : Burç : Sementasyon çeliği  
Sertlik : 62 ± 2 HRC  
Derinlik : ≥ 0.5 mm  
Bilyalı kafes : Bronz  
Bilya : Sertleştirilmiş çelik DIN 5401

Material : Bush : Tool Steel  
Hardness : 62 ± 2 HRC  
Hardness Penetration : ≥ 0.5 mm  
Cage : Brass  
Balls : Hardened Steel DIN 5401

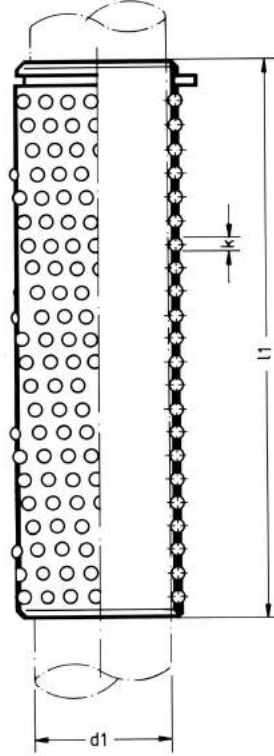
Bilyalı burçlar, otomatik sürücü ile beslenen seri ve hassas kalıplarda kullanılırlar. Çelik burcun delik yüzeyi taşlandıktan sonra honlanmıştır.

## 661.

d <sub>1</sub>	l <sub>1</sub>	l	d <sub>2</sub>	d <sub>3</sub>	Order No. Sipariş No.
12	35	40	17	22	661.12.035
15	40	50	21	30	661.15.040
	55	60			661.15.055
16	40	50	22	36	661.16.040
	55	60			661.16.055
18	35	40	24	36	661.18.035
	50	55			661.18.050
	65	70			661.18.065
	75	80			661.18.075
19	35	40	25	36	661.19.035
	50	55			661.19.050
	65	70			661.19.065
	75	80			661.19.075
20	35	40	26	36	661.20.035
	50	55			661.20.050
	65	70			661.20.065
	75	80			661.20.075
24	40	50	30	40	661.24.040
	55	65			661.24.055
	70	80			661.24.070
	85	90			661.24.085
25	40	50	31	40	661.25.040
	55	65			661.25.055
	70	80			661.25.070
	85	90			661.25.085

## 661.

d <sub>1</sub>	l <sub>1</sub>	l	d <sub>2</sub>	d <sub>3</sub>	Order No. Sipariş No.
30	45	55	38	48	661.30.045
	60	70			661.30.080
	80	85			661.30.080
	100	105			661.30.100
32	45	55	40	48	661.32.045
	60	70			661.32.060
	80	85			661.32.080
	100	105			661.32.100
38	50	55	48	58	661.38.050
	65	75			661.38.065
	90	95			661.38.090
	110	115			661.38.110
40	50	55	50	58	661.40.050
	65	75			661.40.065
	90	95			661.40.090
	110	115			661.40.110
48	55	60	58	68	661.48.055
	75	80			661.48.075
	105	120			661.48.105
50	55	60	60	68	661.50.055
	75	80			661.50.075
	105	120			661.50.105



Ball cages with stop are also available

Boşluk bırakmaksızın intibak ederek sürtünmesiz bir şekilde hareket ederler. Bu sayede bir kaç milyon strok sonunda kılavuz sütunlarda ve burçlarda asgari aşınmayı oluştururlar. Bilyalı kafesler özel bir bronz alaşımından imal edilmektedir ve bu alaşım sert olup uzun bir çalışma ömrü sağlamaktadır. Kılavuz sütununa gelen yükün eşit olarak bütün yüzeyi kapsayabilmesi için bilyalar hilesel olarak dizilmişler ve tesadüfi şekilde yerlerinden çıkılmalarını önleyecek biçimde monte edilmişlerdir.

Bilyalı kafes : Bronz  
Bilya : Sertleştirilmiş çelik DIN 5401  
Cages : Brass  
Balls : Hardened steel DIN 5401

671.			
d <sub>1</sub>	l <sub>1</sub>	k	Order / Sipariş No
12	40	2.5	671.12.040
	50		671.15.050
15	60	3	671.15.060
	70		671.15.070
16	50	3	671.16.050
	60		671.16.060
18	70	3	671.16.070
	55		671.18.055
18	70	3	671.18.070
	80		671.18.080
19	90	3	671.18.090
	55		671.19.055
19	70	3	671.19.070
	80		671.19.080
20	90	3	671.19.090
	55		671.20.055
20	70	3	671.20.070
	80		671.20.080
24	90	3	671.20.090
	50		671.24.050
24	65	3	671.24.065
	80		671.24.080
25	90	3	671.24.090
	100		671.24.100
25	120	3	671.24.120
	50		671.25.050
25	65	3	671.25.065
	80		671.25.080
25	90	3	671.25.090
	100		671.25.100
25	120	3	671.25.120

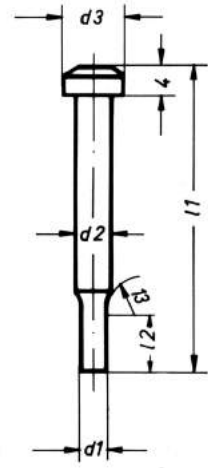
671.			
d <sub>1</sub>	l <sub>1</sub>	k	Order / Sipariş No
30	55	4	671.30.055
	70		671.30.070
	85		671.30.085
	105		671.30.105
	120		671.30.120
	140		671.30.140
32	160	4	671.30.160
	55		671.32.055
	70		671.32.070
	85		671.32.085
	105		671.32.105
	120		671.32.120
38	140	4	671.32.140
	160		671.32.160
	55		671.38.055
	75		671.38.075
	95		671.38.095
	115		671.38.115
40	120	4	671.38.120
	140		671.38.140
	160		671.38.160
	200		671.38.200
	240		671.38.240
	55		671.40.055
40	75	4	671.40.075
	95		671.40.095
	115		671.40.115
	120		671.40.120
	140		671.40.140
	160		671.40.160
40	200	4	671.40.200
	240		671.40.240

671.			
d <sub>1</sub>	l <sub>1</sub>	k	Order / Sipariş No
48	60	4	671.48.060
	80		671.48.080
	100		671.48.100
	120		671.48.120
	140		671.48.140
	160		671.48.160
50	180	4	671.48.180
	200		671.48.200
	240		671.48.240
	60		671.50.060
	80		671.50.080
	100		671.50.100
60	120	4	671.50.120
	140		671.50.140
	160		671.50.160
	180		671.50.180
	200		671.50.200
	240		671.50.240
60	95	4	671.60.095
	105		671.60.105
	120		671.60.120
	140		671.60.140
	200		671.60.200
	240		671.60.240
63	95	4	671.63.095
	105		671.63.105
	120		671.63.120
	140		671.63.140
	200		671.63.200
	240		671.63.240
80	120	6	671.80.120
	140		671.80.140
	160		671.80.160
	200		671.80.200
	240		671.80.240

**DIN 9844 Form A / B**



**Form A**



**Form B**

Malzeme : HWS %12 Cr'lu Takım çeliği	- HSS Yüksek hız çeliği	Material : HWS	HSS
Sipariş no : Form A = 10.2	- Form A = 10.3	Cod No. : Form A = 10.2	Form A = 10.3
Form B = 11.2	- Form B = 11.3	Form B = 11.2	Form B = 11.3
Sertlik : Gövde = 62 ± 2 HRC	- Gövde = 64 ± 2 HRC	Hardness : Shank = 62 ± 2 HRC	Shank = 62 ± 2 HRC
: Şapka = 45 ± 5 HRC	- Şapka = 45 ± 5 HRC	Head 45 ± 5 HRC	Head 45 ± 5 HRC

**103.**

d <sub>1</sub> h <sub>6</sub>	d <sub>3</sub>	l <sub>1</sub> + 0,5
2,0	3,6	Stoktaki boylar 100 mm. Diğer çap ve boylar istek üzerine imal edilebilir.
3,0	5,0	
4,0	7,0	
5,0	8,5	
6,0	10,0	100 mm lengths are available in stocks. Other diameter and l engths could be produce according to the customer specifications.
8,0	12,0	
10,0	14,5	
12,0	18,0	

Sipariş Örneği / Example of Ordering:

Delik Zımbası / Hole Punch

Malzeme / Material HWS = 102 x d<sub>1</sub> x l<sub>1</sub>

203 DIN 9844 Form A Özel zımba / Special punch

Sipariş Örneği / Example of Ordering:

S Başlı özel Zımba /C. Head special Punch

Malzeme / Material HWS = 202 x d<sub>1</sub> x l<sub>1</sub>

**113.**

d <sub>1</sub> h <sub>6</sub>	d <sub>2</sub>	d <sub>3</sub>	l <sub>1</sub> + 0,5
1,0 - 1,9	2	3,6	Stoktaki boylar 100 mm. Diğer çap ve boylar istek üzerine imal edilebilir.
2,0 - 2,9	3	5,0	
3,0 - 3,9	4	7,0	
4,0 - 4,9	5	8,5	
5,0 - 5,9	6	10,0	100 mm lengths are available in stocks. Other diameter and l engths could be produce according to the customer specifications.
6,0 - 7,9	8	12,0	
8,0 - 9,9	10	14,5	
10,0 - 11,9	12	18,0	

Delik Zımbası / Hole Punch

Malzeme / Material HSS = 113 x d<sub>1</sub> x l<sub>1</sub>

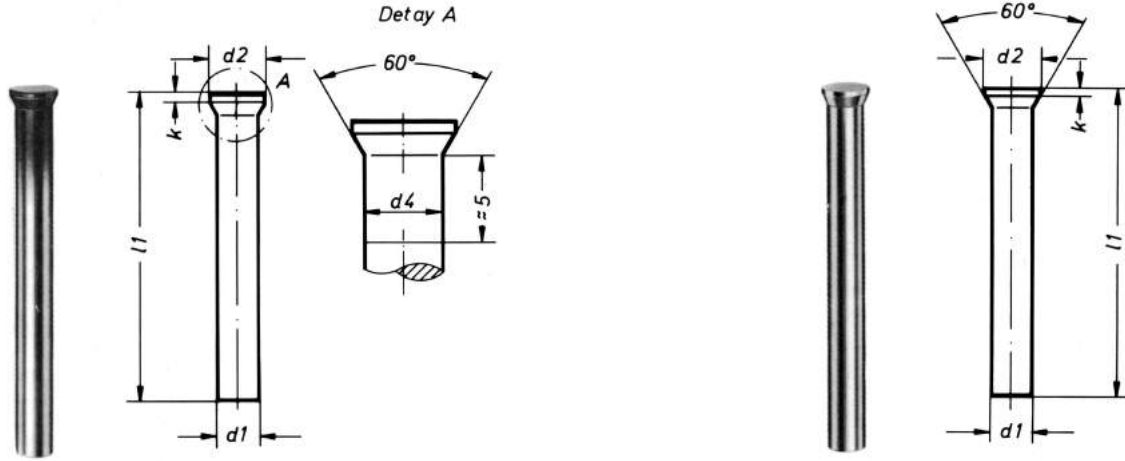
203 DIN 9844 Form B Özel zımba / Special punch

Sipariş Örneği / Example of Ordering:

S Başlı özel Zımba /C. Head special Punch

Malzeme / Material HSS = 213 x d<sub>1</sub> x l<sub>1</sub> x d<sub>1</sub> x 12

## DIN 9861 Form DA / D



Form DA

Form D

Malzeme : HWS %12 Cr'lu Takım çeliği  
Sipariş no : Form DA = 12.2  
Form D = 13.2  
Sertlik : Gövde = 62 ± 2 HRC  
: Şapka = 45 ± 5 HRC

- HSS Yüksek hız çeliği  
- Form DA = 12.3  
Form D = 13.3  
- Gövde = 64 ± 2 HRC  
- Şapka = 45 ± 5 HRC

Material : HWS  
Ord.Cod No. : Form DA = 12.2  
Form D = 13.2  
Hardness : Shank = 62 ± 2 HRC  
Head 45 ± 5 HRC

HSS  
Form DA = 12.3  
Form D = 13.3  
Shank = 64 ± 2 HRC  
Head 45 ± 5 HRC

### 122. / 123.

d <sub>1</sub> h6	d <sub>2</sub>	d <sub>4</sub>	k	l <sub>1</sub> +0,5
1,0 - 1,1	1,8	d <sub>1</sub> +0,03	0,5	Stoktaki boylar 71 - 80 - 100 mm.
1,2 - 1,3	2,0			
1,4 - 1,5	2,2			
1,6 - 1,7	2,5			
1,8 - 1,9	2,8			
2,0	3,0			
2,1 - 2,2	3,2			
2,3 - 2,5	3,5			
2,6 - 2,9	4,0			
3,0 - 3,4	4,5			
3,5 - 3,9	5,0			
4,0 - 4,4	5,5			
4,5 - 4,9	6,0			
5,0 - 5,4	6,5			
5,5 - 5,9	7,0			
6,0 - 6,4	8,0	d <sub>1</sub> +0,04	1,0	Stoktaki boylar 71 - 80 - 100 mm.
6,5 - 7,0	9,0			
7,5 - 8,0	10,0			
8,5 - 9,0	11,0			
9,5 - 10,0	12,0			
10,5 - 11,0	13,0			
11,5 - 12,0	14,0			

Sipariş Örneği / Example of Ordering:

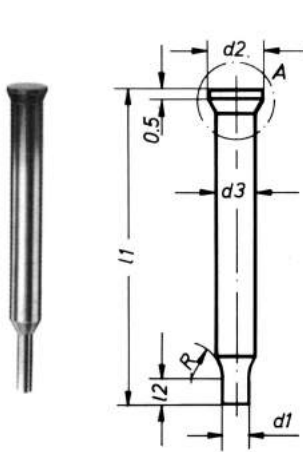
Zimba / Punch  
Malzeme / Material HSS = 122 x d<sub>1</sub> x l<sub>1</sub>

### 132. / 133.

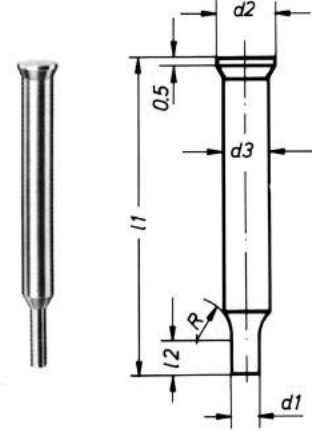
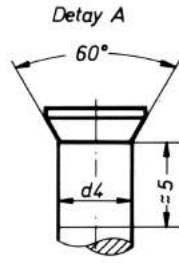
d <sub>1</sub> h6	d <sub>2</sub>	k	l <sub>1</sub> +0,5
1,0 - 1,1	1,8	0,5	Stoktaki boylar 71 - 80 - 100 mm.
1,2 - 1,3	2,0		
1,4 - 1,5	2,2		
1,6 - 1,7	2,5		
1,8 - 1,9	2,8		
2,0	3,0		
2,1 - 2,2	3,2		
2,3 - 2,5	3,5		
2,6 - 2,9	4,0		
3,0 - 3,4	4,5		
3,5 - 3,9	5,0		
4,0 - 4,4	5,5		
4,5 - 4,9	6,0		
5,0 - 5,4	6,5		
5,5 - 5,9	7,0		
6,0 - 6,4	8,0	1,0	Stoktaki boylar 71 - 80 - 100 mm.
6,5 - 7,0	9,0		
7,5 - 8,0	10,0		
8,5 - 9,0	11,0		
9,5 - 10,0	12,0		
10,5 - 11,0	13,0		
11,5 - 12,0	14,0		

Sipariş Örneği / Example of Ordering:

Zimba / Punch  
Malzeme / Material HSS = 133 x d<sub>1</sub> x l<sub>1</sub>



Form CA



Form C

Malzeme : HWS %12 Cr'lu Takım çeliği  
Siparişno : Form CA = 14.2  
: Form C = 15.2  
Sertlik : Gövde = 62 ± 2 HRC  
: Şapka = 45 ± 5 HRC

- HSS Yüksek hız çeliği  
- Form CA = 14.3  
Form C = 15.3  
- Gövde = 64 ± 2 HRC  
- Şapka = 45 ± 5 HRC

**142. / 143.**

d <sub>1</sub> h <sub>6</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	l <sub>2</sub>	l <sub>1</sub> +0,5
0,50 - 0,55	3	2	d <sub>3</sub> +0,03	7	Stoktaki boylar 71 mm.
0,60 - 0,65					
0,70 - 0,75					
0,80 - 0,85					
0,90 - 0,95					
1,00 - 1,10					
1,20 - 1,30					
1,40 - 1,50					
1,60 - 1,70					
1,80 - 1,90					
2,00 - 2,10					
2,20 - 2,30					
2,40 - 2,50					
2,60 - 2,70					
2,80 - 2,90					
	4,5	3			

Sipariş Örneği

Havşa başlı kademeli zımba

Malzeme / HSS = 143 x d<sub>1</sub> x l<sub>1</sub>**223.** DIN 9861 Form CA'ya uygun özel zımba

Sipariş Örneği

Havşa başlı kademeli özel zımba

Malzeme / HSS = 223 x d<sub>3</sub> x l<sub>1</sub> x d<sub>1</sub> x l<sub>2</sub>**152. / 153.**

d <sub>1</sub> h <sub>6</sub>	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	l <sub>1</sub> +0,5
0,50 - 0,55	3	2	7	Stoktaki boylar 71 mm.
0,60 - 0,65				
0,70 - 0,75				
0,80 - 0,85				
0,90 - 0,95				
1,00 - 1,10				
1,20 - 1,30				
1,40 - 1,50				
1,60 - 1,70				
1,80 - 1,90				
2,00 - 2,10				
2,20 - 2,30				
2,40 - 2,50				
2,60 - 2,70				
2,80 - 2,90				
	4,5	3		

Sipariş Örneği

Havşa başlı kademeli zımba

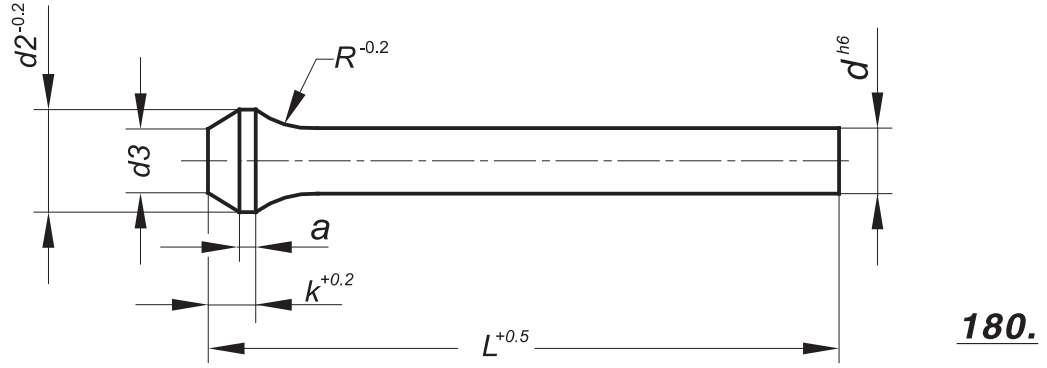
Malzeme / HWS = 152 x d<sub>1</sub> x l<sub>1</sub>**232.** DIN 9861 Form C'ye uygun özel zımba

Sipariş Örneği

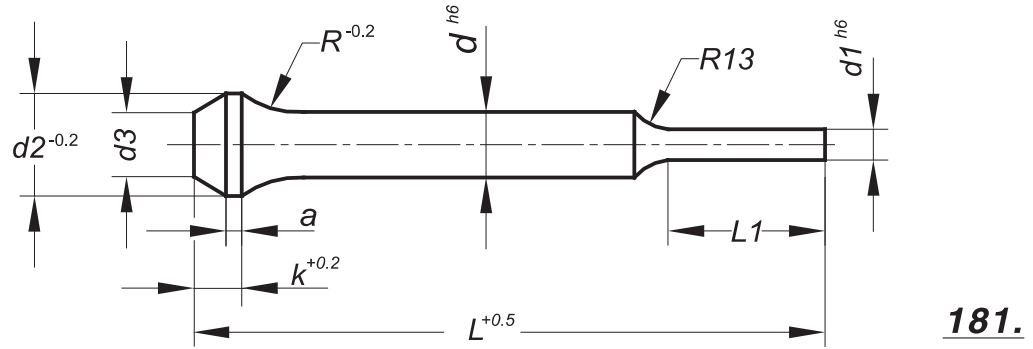
Havşa başlı kademeli özel zımba

Malzeme / HWS = 232 x d<sub>3</sub> x l<sub>1</sub> x d<sub>1</sub> x l<sub>2</sub>





**180.**



**181.**

Malzeme : HSS  
Material

Gövde Sertlik : 64±2 HRC  
Shaft Hardness

Şapka Sertlik : 50±5 HRC  
Head Hardness

**Şişe Boyunlu (Radüs Başlı) Delik Zımbaları**

Kalın, silisli, paslanmaz (krom nikel) sac ve buna benzer, kopma mukavemeti yüksek malzemelerin delik delme işlemlerinde zımba şapkasının kopmasını önlemek amacı ile tasarlanmış, şapka dayanımı yüksek zımbalardır. Özel durumlarda kademeli olarak ta kullanılırlar.

Delik zımbasının; aşınmalara karşı mukavemetini artırarak, daha düşük sürtünme kat sayısı ile çalışmasını sağlamak için, delinecek malzeme cinsine ve baskı adedine bağlı olarak zımba yüzeyine PVD kaplama işlemi tavsiye edilmektedir. Yapılan bu kaplama işlemi sayesinde zımbaların baskı adetlerinde minimum 3, maksimum 8 kata varan ömür artışları tespit edilmektedir.

TIN, TIALN, TiCN

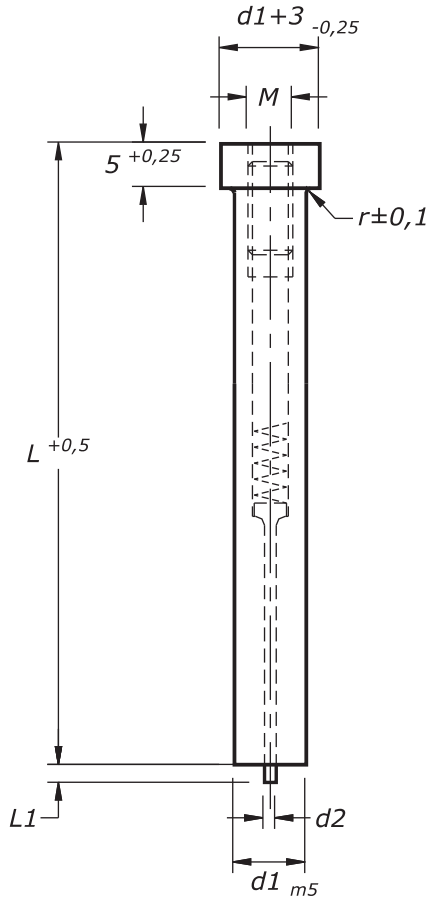
d h6	d Kademe/Steps	d1	L1	d2 Kademe/Steps	a	d3	k<sup>+0.2</sup>	r	L
2,0	0,1	3,1 - 5,9	15	3,0	1,5	d ± 0,1	3,0	6,5	71
2,1 - 2,2									
2,3 - 2,5									
2,6 - 2,9									
3,0 - 3,4									
3,5 - 3,9									
4,0 - 4,4									
4,5 - 4,9									
5,0 - 5,4									
5,5 - 5,9									
6,0 - 6,4	0,5	6,1 - 9,9	20	10,0	1,5	d ± 0,1	4,0	10	80
6,5 - 7,0									
7,5 - 8,0									
8,5 - 9,0									
9,5 - 10,0									
10,5 - 11,0									
11,5 - 12,0									
12,5 - 13,0									
13,5 - 14,0									
14,5 - 15,0									
15,5 - 16,0	0,5	10,1 - 12,9	25	15,0	1,5	d ± 0,1	4,0	12	100
16,0 - 17,0									
17,0 - 18,0									
18,0 - 19,0									
19,0 - 20,0									
20,0 - 21,0									
21,0 - 22,0									
22,0 - 23,0									
23,0 - 24,0									
24,0 - 25,0									

Sipariş Örneği

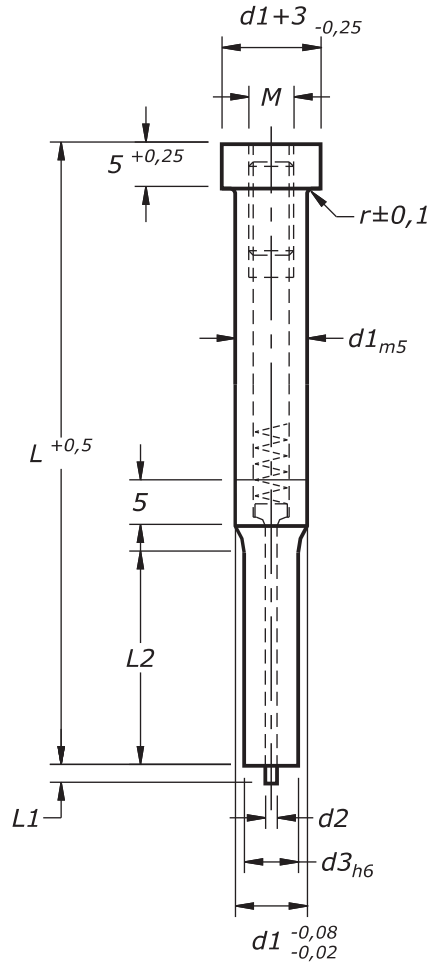
Şişe boyunlu (Radüs başlı) delik zımbası

183.0600.080.0500

**ISO 8020**



**190.**



**191.**

Malzeme : HSS  
Material

Gövde Sertlik : 64±2 HRC  
Shaft Hardness

Şapka Sertlik : 50±5 HRC  
Head Hardness

Delik zımbasının; aşınmalara karşı mukavemetini artırarak, daha düşük sürtünme kat sayısı ile çalışmasını sağlamak için, delinecek malzeme cinsine ve baskı adedine bağlı olarak zımba yüzeyine PVD kaplama işlemi tavsiye edilmektedir. Yapılan bu kaplama işlemi sayesinde zımbaların baskı adetlerinde minimum 3, maksimum 8 kata varan ömür artışları tespit edilmektedir.  
TIN, TIALN, TiCN

**190.**

d <sub>1</sub>	r	d <sub>2</sub>	d <sub>5</sub>	L <sub>1</sub>	L
5,0	0,3	0,9	2,5	0,8	71-80-100
6,0			3		
8,0		1,3	4		
10,0		1,6	5		
13,0	0,4	2,1	6	2,0	
16,0				2,5	
20,0				2,6	

Sipariş Örneği / Example of Ordering

**190.** d1 L  
6,0 x 71 **190.0600.071**

**191.**

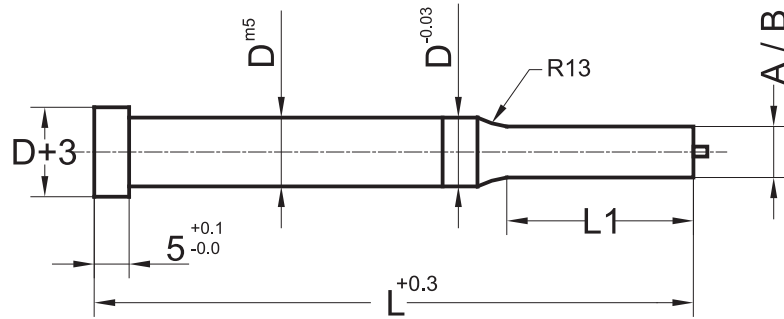
d <sub>3</sub>	d <sub>1</sub>	d <sub>2</sub>	M	r	L <sub>1</sub>	L
2,5	-	7,9	8	1,3	4	71-80-100
4,0	-	9,9	10	1,6	5	
5,0	-	12,9	13	2,1	6	
8,0	-	15,9	16	2,1	6	
				0,3	1,5	
				0,4	2,0	

Sipariş Örneği / Example of Ordering

**191.** d1 d3 L  
4,0 x 7,0 80 **191.0400.0700.080**



ISO 8020



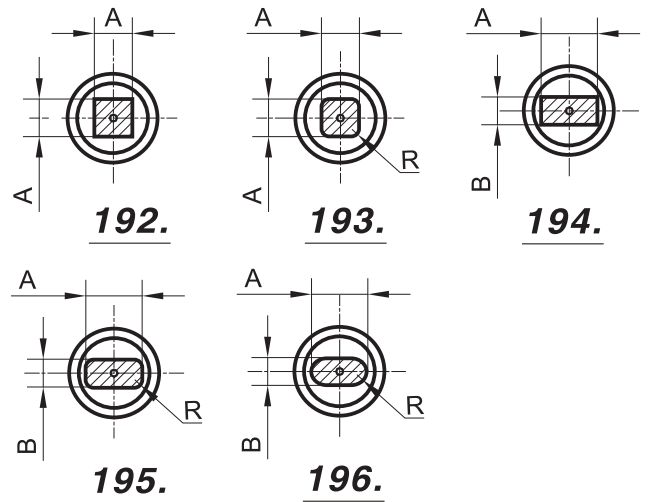
**192.**

Type / ØD	I <sub>1</sub>	L	A
192.06	13	71	3,0 - 4,0
192.08	19		4,0 - 5,5
192.10			5,5 - 7,0
192.13		7,0 - 9,0	
192.16	100	80	9,0 - 11,0
192.20		11,0 - 14,0	
192.25		14,0 - 17,5	
192.32	25	18,0 - 22,0	

Sipariş Örneği

Type / ØD	I <sub>1</sub>	L	A
192.13	19	80	8,50

**192.13.19.080.0850**



**193.**

Type / ØD	I <sub>1</sub>	L	A	R
193.06	13	71	3,0 - 4,0	0,5 - 1,0
193.08	19		4,0 - 5,5	
193.10			5,5 - 7,0	
193.13		7,0 - 9,0		
193.16	100	80	9,0 - 11,0	1,0 - 2,0
193.20		11,0 - 14,0		
193.25		14,0 - 17,5		
193.32	25	18,0 - 22,0	1,5 - 3,0	

Sipariş Örneği

Type / ØD	I <sub>1</sub>	L	A	R
193.13	19	80	8,50	1,0

**193.13.19.080.0850.010**

**195.**

Type / ØD	I <sub>1</sub>	L	A	B	R
195.06	13	71	2,4 - 4,0	2,4 - 4,0	0,5 - 1,0
195.08	19		3,5 - 5,5	3,5 - 5,5	
195.10			4,0 - 7,0	4,0 - 7,0	
195.13		5,0 - 9,0	5,0 - 9,0		
195.16	100	80	6,0 - 11,0	6,0 - 11,0	1,0 - 2,0
195.20		7,0 - 14,0	7,0 - 14,0		
195.25		8,0 - 17,0	8,0 - 17,0		
195.32	25	18,0 - 22,0	10,0 - 22,0	10,0 - 22,0	1,5 - 3,0

Sipariş Örneği

Type / ØD	I <sub>1</sub>	L	A	B	R
195.13	19	80	8,50	11,0	1,0

**195.13.19.080 / 8,5 x 11,0 - 1,0**

**194.**

Type / ØD	I <sub>1</sub>	L	A	B
194.06	13	71	2,4 - 4,0	2,4 - 4,0
194.08	19		3,5 - 5,5	3,5 - 5,5
194.10			4,0 - 7,0	4,0 - 7,0
194.13		5,0 - 9,0	5,0 - 9,0	
194.16	100	80	6,0 - 11,0	6,0 - 11,0
194.20		7,0 - 14,0	7,0 - 14,0	
194.25		8,0 - 17,0	8,0 - 17,0	
194.32	25	18,0 - 22,0	10,0 - 22,0	10,0 - 22,0

Sipariş Örneği

Type / ØD	I <sub>1</sub>	L	A	B
194.16	19	100	6,0	11,0

**194.16.19.100 / 6,0 x 11,0**

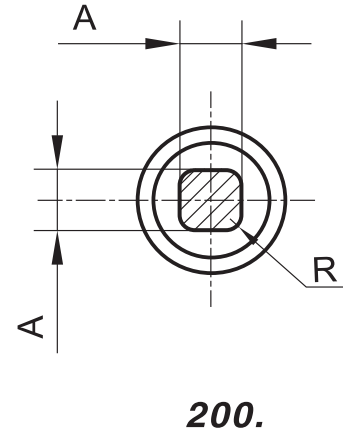
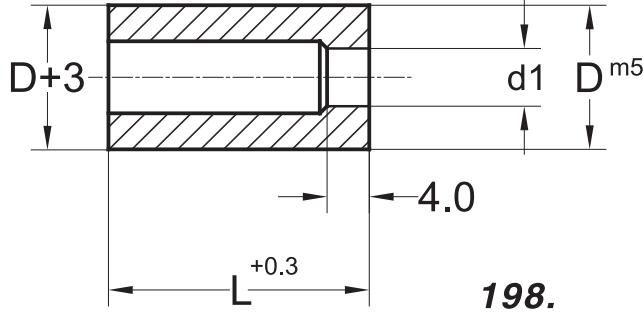
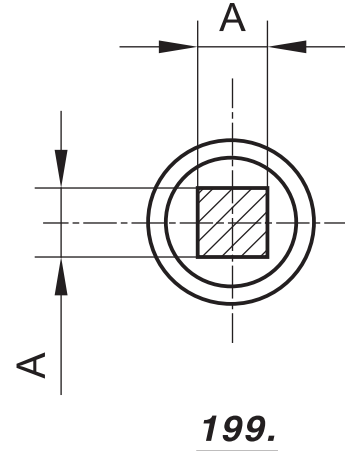
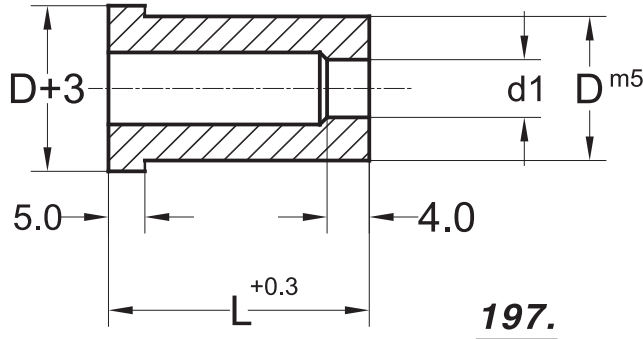
**196.**

Type / ØD	I <sub>1</sub>	L	A	B
196.06	13	71	3,0 - 5,0	3,0 - 5,0
196.08	19		4,0 - 7,0	4,0 - 7,0
196.10			5,0 - 9,0	5,0 - 9,0
196.13		6,0 - 12,0	6,0 - 12,0	
196.16	100	80	7,0 - 15,0	7,0 - 15,0
196.20		8,0 - 19,0	8,0 - 19,0	
196.25		10,0 - 24,0	10,0 - 24,0	
196.32	25	18,0 - 22,0	12,0 - 30,0	12,0 - 30,0

Sipariş Örneği

Type / ØD	I <sub>1</sub>	L	A	B
196.13	19	80	8,5	11,5

**196.13.19.080 / 8,5 x 11,0**



### 197.

Type / ØD	L			Ø d1
	22	28	32	
197.08	•	•	•	1,5 - 3,2
197.10	•	•	•	1,5 - 5,0
197.13	•	•	•	2,0 - 7,0
197.16	•	•	•	5,0 - 9,0
197.20	•	•	•	7,0 - 11,0
197.25		•	•	11,0 - 16,0
197.32		•	•	13,0 - 20,0

Sipariş Örneği

Type / ØD	L	Ø d1
197.13	28	6,5

**197.13.28.0650**

### 199.

Type / ØD	L			A
	22	28	32	
199.13	•	•	•	2,0 - 7,0
199.16	•	•	•	2,4 - 9,0
199.20	•	•	•	3,2 - 11,0
199.25		•	•	5,0 - 16,0
199.32		•	•	6,0 - 20,0

Sipariş Örneği

Type / ØD	L	Ø d1
199.13	28	6,5

**199.13.28.0650**

### 198.

Type / ØD	L			Ø d1
	22	28	32	
198.08	•	•	•	1,5 - 3,2
198.10	•	•	•	1,5 - 5,0
198.13	•	•	•	2,0 - 7,0
198.16	•	•	•	5,0 - 9,0
198.20	•	•	•	7,0 - 11,0
198.25		•	•	11,0 - 16,0
198.32		•	•	13,0 - 20,0

Sipariş Örneği

Type / ØD	L	Ø d1
198.08	22	3,0

**198.08.22.0300**

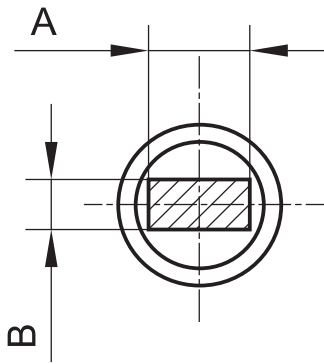
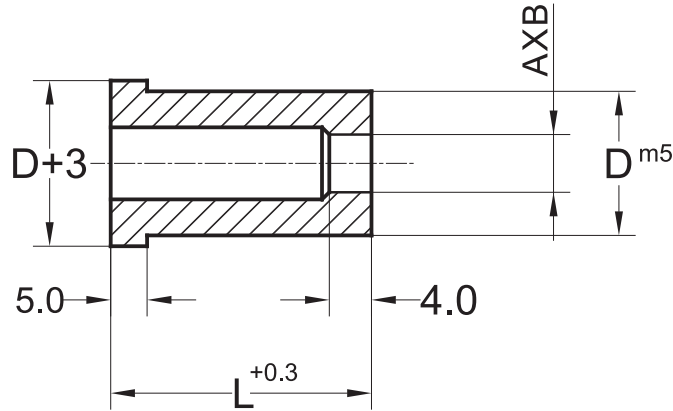
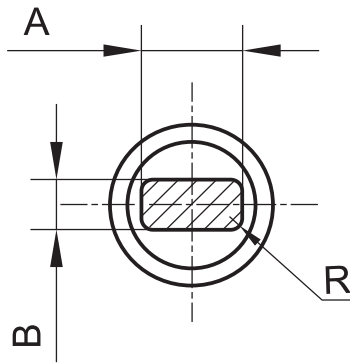
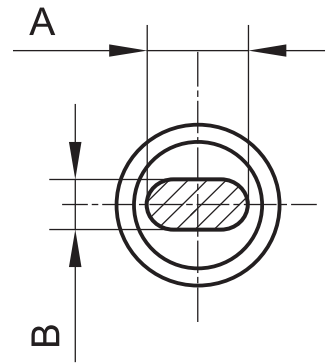
### 200.

Type / ØD	L			A	R
	22	28	32		
200.13	•	•	•	2,0 - 7,0	0,8 - 1,5
200.16	•	•	•	2,4 - 9,0	1,0 - 2,0
200.20	•	•	•	3,2 - 11,0	1,5 - 3,0
200.25		•	•	5,0 - 16,0	
200.32		•	•	6,0 - 20,0	

Sipariş Örneği

Type / ØD	L	Ø d1	R
200.16	32	8,0	1,8

**200.16.32.0800.018**

201.202.203.**201.**

Type Ø D	L			A	B
	22	28	32		
201.13	•	•	•	2,0 - 7,0	2,0 - 7,0
201.16	•	•	•	2,4 - 9,0	2,4 - 9,0
201.20	•	•	•	3,2 - 11,0	3,2 - 11,0
201.25		•	•	5,0 - 16,0	5,0 - 16,0
201.32		•	•	6,0 - 20,0	6,0 - 20,0

## Sipariş Örneği

Type Ø D	L	A	B
201.20	32	8,0	1,8

201.20.32 / 8,3 x 11,0

**202.**

Type Ø D	L			A	B	R
	22	28	32			
202.13	•	•	•	2,0 - 7,0	2,0 - 7,0	0,8 - 1,5
202.16	•	•	•	2,4 - 9,0	2,4 - 9,0	
202.20	•	•	•	3,2 - 11,0	3,2 - 11,0	1,0 - 2,0
202.25		•	•	5,0 - 16,0	5,0 - 16,0	
202.32		•	•	6,0 - 20,0	6,0 - 20,0	1,5 - 3,0

## Sipariş Örneği

Type Ø D	L	A	B	R
202.20	28	8,3	11,0	2,0

202.20.28 / 8,3 x 11,0 - 2,0

**203.**

Type Ø D	L			A	B
	22	28	32		
203.13	•	•	•	2,0 - 7,0	2,0 - 7,0
203.16	•	•	•	2,4 - 9,0	2,4 - 9,0
203.20	•	•	•	3,2 - 11,0	3,2 - 11,0
203.25		•	•	5,0 - 16,0	5,0 - 16,0
203.32		•	•	6,0 - 20,0	6,0 - 20,0

## Sipariş Örneği

Type Ø D	L	A	B
203.16	28	2,5	7,0

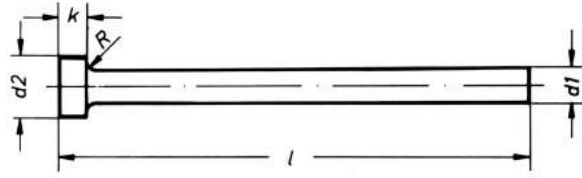
203.16.28 / 2,5 x 7,0

### DIN 1530 Form A



Plastik enjeksiyon kalıplarında; itici pim olarak kullanılırlar. Gövde, sertleştirilmiş ve çok ince taşlanmıştır. They use in plastic enjeksiyon dies like ejektor device. Shank hardened and precision ground.

★ Also Hotwork Ejector pins Nitrided DIN 1530 Form A are available



Malzeme / Material : 1.2210 Takım çeliği/Tool Steel  
1.2344 Sıcak iş çeliği/Hotwork Steel  
Sipariş No. / Order No. : 40.1  
Sertlik / Hardness : Gövde / Shank = 60 ± 2 HRC  
Şapka / Head = 45 ± 5 HRC

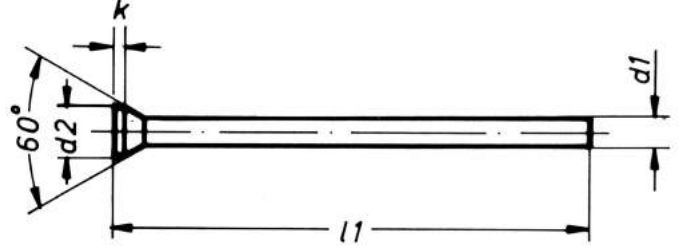
### 401.

d <sub>2</sub> -0,2	k-0,05	R	d <sub>1</sub> g6	l <sub>±2</sub>	Order / Sipariş No.	
4	2	0,3	2	100	401.0200.100	
				125	401.0200.125	
				160	401.0200.160	
				200	401.0200.200	
			2,2	100	401.0220.100	
				125	401.0220.125	
				160	401.0220.160	
				200	401.0220.200	
			5	2,5	100	401.0250.100
					125	401.0250.125
					160	401.0250.160
					200	401.0250.200
2,7	100	401.0270.100				
	125	401.0270.125				
	160	401.0270.160				
	200	401.0270.200				
6	3	3	100	401.0300.100		
			125	401.0300.125		
			160	401.0300.160		
			200	401.0300.200		
		3,2	100	401.0320.100		
			125	401.0320.125		
			160	401.0320.160		
			200	401.0320.200		
		3,3	100	401.0330.100		
			125	401.0330.125		
			160	401.0330.160		
			200	401.0330.200		
7	3,5	100	401.0350.100			
		125	401.0350.125			
		160	401.0350.160			
		200	401.0350.200			
8	4	4	100	401.0400.100		
			125	401.0400.125		
			160	401.0400.160		
			200	401.0400.200		
		4,2	100	401.0420.100		
			125	401.0420.125		
			160	401.0420.160		
			200	401.0420.200		
		315	100	401.0420.250		
			125	401.0420.315		
			160	401.0420.315		
			200	401.0420.315		

### 401.

d <sub>2</sub> -0,2	k-0,05	R	d <sub>1</sub> g6	l <sub>±2</sub>	Order / Sipariş No.			
8	3	0,3	4,5	100	401.0450.100			
				125	401.0450.125			
				160	401.0450.160			
				200	401.0450.200			
			10	5	250	401.0450.250		
					315	401.0450.315		
					100	401.0500.100		
					125	401.0500.125		
			160	160	401.0500.160			
				200	401.0500.200			
				250	401.0500.250			
				315	401.0500.315			
12	5	0,5	5,5	100	401.0550.100			
				125	401.0550.125			
				160	401.0550.160			
				200	401.0550.200			
			6	6	250	401.0550.250		
					315	401.0550.315		
					100	401.0600.100		
					125	401.0600.125		
			160	7	160	401.0600.160		
					200	401.0600.200		
					250	401.0600.250		
					315	401.0600.315		
14	8	0,5	7	100	401.0700.100			
				125	401.0700.125			
				160	401.0700.160			
				200	401.0700.200			
			160	8	250	401.0700.250		
					315	401.0700.315		
					100	401.0800.100		
					125	401.0800.125		
			160	8	160	401.0800.160		
					200	401.0800.200		
					250	401.0800.250		
					315	401.0800.315		
16	10	0,5	10	100	401.1000.100			
				125	401.1000.125			
				160	401.1000.160			
				200	401.1000.200			
			160	10	250	401.1000.250		
					315	401.1000.315		
					100	401.1200.100		
					125	401.1200.125		
			20	7	0,8	12	160	401.1200.160
							200	401.1200.200
							250	401.1200.250
							315	401.1200.315

## DIN 1530 Form D



Malzeme / Material : 1.2210 Takım çeliği / Tool Steel  
Sertlik / Hardness : Gövde / Shank = 60 ± 2 HRC  
Şapka / Head = 45 ± 5 HRC

Plastik enjeksiyon kalıplarında; itici pim olarak kullanılırlar.  
Gövde, sertleştirilmiş ve çok ince taşlanmıştır.  
They use in plastic enjeksiyon dies like ejektor device.  
Shank hardened and precision ground.

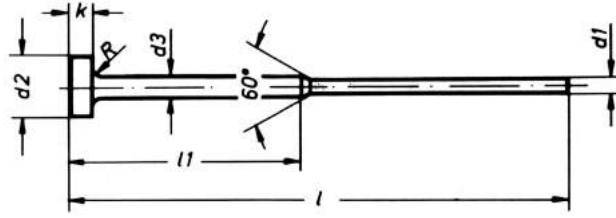
★ Also Hotwork Ejector pins Nitrided DIN 1530 Form A are available

## 421.

d <sub>2</sub> -0,2	k+0,2	d <sub>1</sub> g6	l <sub>1+2</sub>	Order / Sipariş No.
1,8	0,5	1	100	421.0100.100
		1,1		421.0110.100
2		1,2		421.0120.100
		1,3		421.0130.100
2,2		1,4		421.0140.100
		1,5	100	421.0150.100
2,5		1,6	100	421.0160.100
			160	421.0160.160
		1,7	100	421.0170.100
			160	421.0170.160
2,8		1,8	100	421.0180.100
		160	421.0180.160	
3		2	100	421.0200.100
			160	421.0200.160
			200	421.0200.200
3,2		2,1	100	421.0210.100
			160	421.0210.160
			200	421.0210.200
		2,2	100	421.0220.100
			160	421.0220.160
			200	421.0220.200
3,5		2,3	100	421.0230.100
			160	421.0230.160
			200	421.0230.200
		2,4	100	421.0240.100
			160	421.0240.160
			200	421.0240.200
		2,5	100	421.0250.100
			160	421.0250.160
			200	421.0250.200
4		2,6	100	421.0260.100
			160	421.0260.160
			200	421.0260.200
		2,7	100	421.0270.100
			160	421.0270.160
			200	421.0270.200
		2,8	100	421.0280.100
			160	421.0280.160
			200	421.0280.200
4,5		3	100	421.0300.100
			160	421.0300.160
			200	421.0300.200
			250	421.0300.250

## 421.

d <sub>2</sub> -0,2	k+0,2	d <sub>1</sub> g6	l <sub>1+2</sub>	Order / Sipariş No.
4,5	0,5	3,1	100	421.0310.100
			160	421.0310.160
			200	421.0310.200
			250	421.0310.250
5		3,5	100	421.0350.100
			160	421.0350.160
			200	421.0350.200
			250	421.0350.250
5,5		4	100	421.0400.100
			160	421.0400.160
			200	421.0400.200
			250	421.0400.250
6		4,5	100	421.0450.100
			160	421.0450.160
			200	421.0450.200
			250	421.0450.250
6,5		5	100	421.0500.100
			160	421.0500.160
			200	421.0500.200
			250	421.0500.250
7		5,5	100	421.0550.100
			160	421.0550.160
			200	421.0550.200
			250	421.0550.250
8		6	100	421.0600.100
			160	421.0600.160
			200	421.0600.200
			250	421.0600.250
9	1	6,5	160	421.0650.160
			200	421.0650.200
			250	421.0650.250
			160	421.0700.160
10		7	200	421.0700.200
			250	421.0700.250
			160	421.0800.160
			200	421.0800.200
12		10	250	421.0800.250
			160	421.1000.160
			200	421.1000.200
			250	421.1000.250
14		12	160	421.1200.160
			200	421.1200.200
			250	421.1200.250



Malzeme : 1.2210 Takım çeliği  
 Sertlik : Gövde =  $60 \pm 2$  HRC  
 Şapka =  $45 \pm 5$  HRC

Plastik enjeksiyon kalıplarında itici pim olarak kullanılırlar. Gövde, sertleştirilmiş ve çok ince taşlanmıştır.

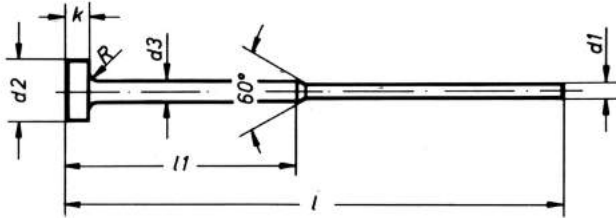
## 411.

d <sub>1</sub> g6	d <sub>2</sub> - 0,2	d <sub>3</sub> - 0,1	k- 0,05	R	100	125	160	200
					50	50	75	75
0,8 - 1,4	4	2	2	0,3				
1,5 - 1,9	6	3	3					
2,0 - 2,4	6	3	3					
2,5 - 2,9	6	3	3					
3,0 - 3,9	8	4	3					

### Sipariş Örneği

Kademeli İtici pim

Malzeme / WS = 411 x d<sub>1</sub> x l



Malzeme : 1.2344 Sıcak iş çeliği  
 Sertlik : Gövde  $\geq 950$  HV 0.3  
 Şapka =  $45 \pm 5$  HRC

Metal enjeksiyon, bakalit kalıplarında itici pim olarak kullanılırlar. Gövde, nitrürlenmiş ve çok ince taşlanmıştır.

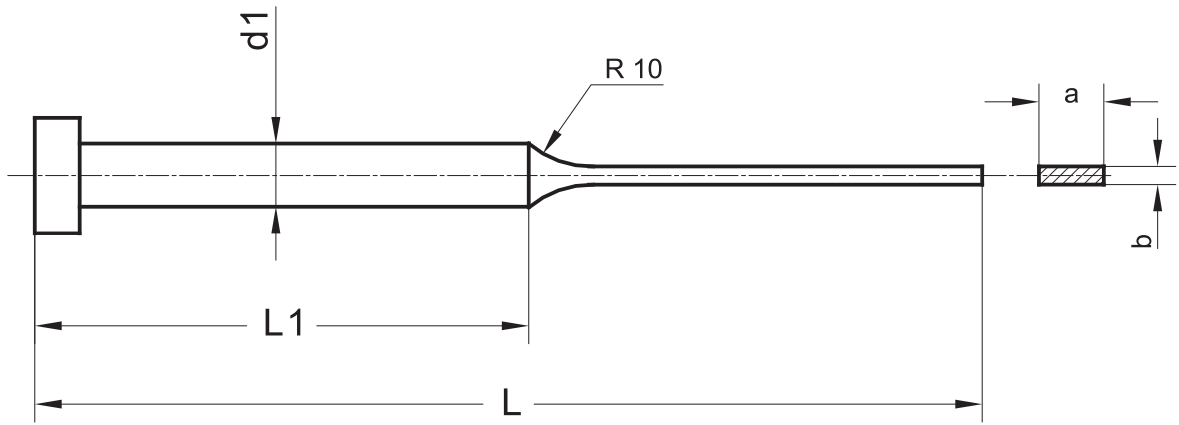
## 414.

d <sub>1</sub> g6	d <sub>2</sub> - 0,2	d <sub>3</sub> - 0,1	k- 0,05	R	100	125	160	200
					50	50	75	75
0,8 - 1,4	4	2	2	0,3				
1,5 - 1,9	6	3	3					
2,0 - 2,4	6	3	3					
2,5 - 2,9	6	3	3					
3,0 - 3,9	8	4	3					

### Sipariş Örneği

Kademeli İtici pim

Malzeme / WS = 414 x d<sub>1</sub> x l



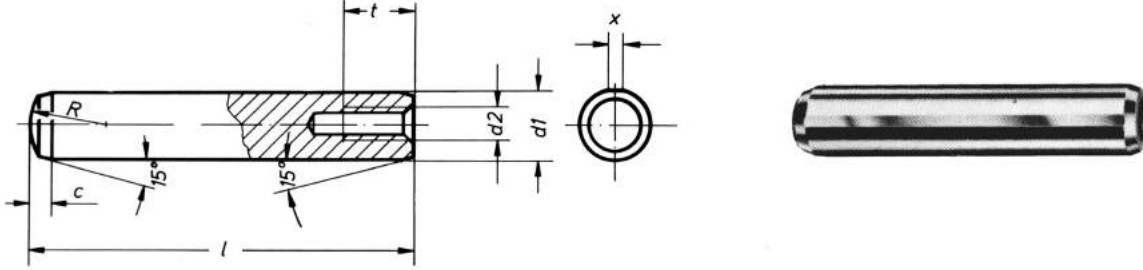
**412.**

Ø d1	L	100	125	160	200	250	a x b
	L1	50	60	80	100	125	
3,0		•	•	•	•	•	0,8 x 2,5
4,0		•	•	•	•	•	0,8 x 2,5
6,0		•	•	•	•	•	1,2 x 5,5
8,0		•	•	•	•	•	2,0 x 7,5
10,0		•	•	•	•	•	2,5 x 9,5
12,0		•	•	•	•	•	4,0 x 11,5
16,0		•	•	•	•	•	5,0 x 15,5

Sipariş Örneği

Ø d1	L						axb
3,0			125				0,8 x 2,5

412.0300.125 / 0,8 x 2,5



Malzeme : Sementasyon çeliği;  
yüzey sertleştirilmesi  
yapılmış, çok ince  
taşlanmış.  
Sertlik : 60 ± 2 HRC

**311.**

$d_1^{m6}$	l	$d_2$	R	t	c	Sipariş no.
6	20	M4	6	6	1,5	311.0600.020
	24					311.0600.024
	28					311.0600.028
	32					311.0600.032
	36					311.0600.036
	40					311.0600.040
	50					311.0600.050
	60					311.0600.060
	8					20
24		311.0800.024				
28		311.0800.028				
32		311.0800.032				
36		311.0800.036				
40		311.0800.040				
50		311.0800.050				
60		311.0800.060				
80		311.0800.080				
10	20	M6	10	10	2,5	311.1000.024
	28					311.1000.028
	32					311.1000.032
	36					311.1000.036
	40					311.1000.040
	50					311.1000.050
	60					311.1000.060
	80					311.1000.080
	100					311.1000.100

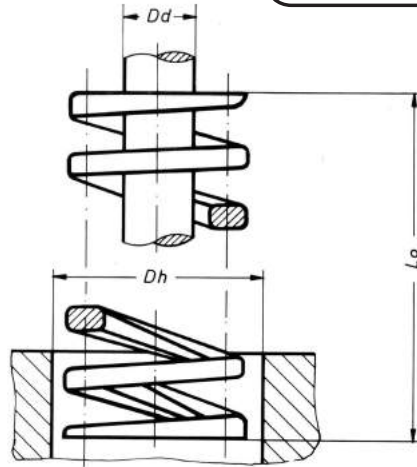
**311.**

$d_1^{m6}$	l	$d_2$	R	t	c	Sipariş no.					
12	32	M6	12	10	3	311.1200.032					
	36					311.1200.036					
	40					311.1200.040					
	50					311.1200.050					
	60					311.1200.060					
	80					311.1200.080					
	100					311.1200.100					
	120					311.1200.120					
	14					40	M8	16	12	3,5	311.1400.040
						50					311.1400.050
60		311.1400.060									
80		311.1400.080									
100		311.1400.100									
16	40	M8	16	12	4	311.1600.040					
	50					311.1600.050					
	60					311.1600.060					
	80					311.1600.080					
	100					311.1600.100					
20	50	M10	20	16	5	311.2000.050					
	60					311.2000.060					
	80					311.2000.080					
	100					311.2000.100					
	120					311.2000.120					





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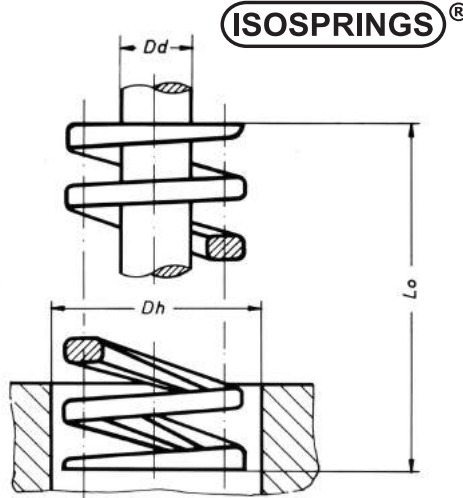
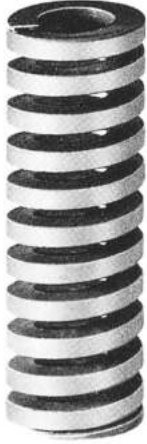


Dört değişik yükleme çeşidi ile tüm kalıp konusunda imalatın özel ihtiyaçlarına cevap verecek niteliktedir. Kolay ve çabuk farkedilebilmesi açısından değişik renklerle belirlenmiş olan, her dört cins yaylar çok geniş bir çap ve uzunluk çeşidi kapsamaktadır.

C - Yay oranı N/mm  
Fn - Yay kuvveti N  
Sn - Yaylanma mesafesi mm

501. / 502. / 503. / 504.

Dh mm	Dd mm	l0 mm	Hafif Yükleme (Yeşil renkli) (Green Color)			Orta Yükleme (Mavi renkli) (Blue Color)			Ağır Yükleme (Kırmızı renkli) (Red Color)			Özellikle Ağır Yükleme (Sarı renkli) (Yellow Color)								
			Sipariş no.	Yay oranı C N/mm	%37,5 lo max. baskı		Sipariş no.	Yay oranı C N/mm	%35 lo max. baskı		Sipariş no.	Yay oranı C N/mm	%30 lo max. baskı		Sipariş no.	Yay oranı C N/mm	%25 lo max. baskı			
					Fn N	Sn mm			Fn N	Sn mm			Fn N	Sn mm			Fn N	Sn mm		
10	5	25	501.10.025	12,0	110	9,4	502.10.025	17,5	160	8,7	503.10.025	22,0	170	7,5	504.10.025	35	215	6,2		
		32	501.10.032	9,8	110	12	502.10.032	15,0	160	11	503.10.032	20,0	170	9,6	504.10.032	26	205	8,0		
		38	501.10.038	7,6	110	14	502.10.038	13,0	160	13	503.10.038	15,0	170	11	504.10.038	22	205	9,5		
		45	501.10.045	6,8	110	16,5	502.10.045	11,0	160	15	503.10.045	13,0	170	13	504.10.045	18,2	200	11		
		50	501.10.050	6,0	110	19	502.10.050	10,0	160	18	503.10.050	11,0	170	15	504.10.050	15,4	200	13		
		65	501.10.065	4,6	110	24	502.10.065	7,5	160	22	503.10.065	9,0	170	19	504.10.065	12,5	200	16		
		75	501.10.075	3,6	110	28	502.10.075	6,0	160	27	503.10.075	7,0	170	23	504.10.075	10,4	200	19		
		300	501.10.300	1,0	110	114	502.10.300	1,5	160	107	503.10.300	1,8	170	91	504.10.300	2,5	190	76		
		12,5	6,3	25	501.13.025	16,0	150	9,4	502.13.025	26,0	220	8,7	503.13.025	41,0	300	7,5	504.13.025	61	380	6,2
				32	501.13.032	12,5	150	12	502.13.032	20,0	220	11	503.13.032	34,0	300	9,6	504.13.032	46	370	8,0
38	501.13.038			11,0	150	14	502.13.038	17,0	220	13	503.13.038	29,0	300	11	504.13.038	37	350	9,5		
45	501.13.045			9,0	150	16,5	502.13.045	14,0	220	15	503.13.045	24,0	300	13	504.13.045	31	340	11		
50	501.13.050			8,0	150	19	502.13.050	13,0	220	18	503.13.050	20	300	15	504.13.050	28	340	13		
65	501.13.065			6,0	150	24	502.13.065	10,0	220	22	503.13.065	15,0	300	19	504.13.065	22,5	340	16		
75	501.13.075			5,0	150	28	502.13.075	8,5	220	27	503.13.075	13,0	300	23	504.13.075	18,6	340	19		
300	501.13.300			1,6	150	114	502.13.300	2,0	220	107	503.13.300	3,5	300	91	504.13.300	4,3	330	76		
16	8	25	501.16.025	29,0	270	9,4	502.16.025	48,0	390	8,7	503.16.025	72,0	540	7,5	504.16.025	127	790	6,2		
		32	501.16.032	23,0	270	12	502.16.032	38,0	390	11	503.16.032	60,0	540	9,6	504.16.032	95	760	8,0		
		38	501.16.038	20,0	270	14	502.16.038	31,0	390	13	503.16.038	49,0	540	11	504.16.038	78	740	9,5		
		45	501.16.045	16,0	270	16,5	502.16.045	25,0	390	15	503.16.045	40,0	540	13	504.16.045	66	720	11		
		50	501.16.050	14,0	270	19	502.16.050	24,0	390	18	503.16.050	36,0	540	15	504.16.050	56	710	13		
		65	501.16.065	11,0	270	24	502.16.065	17,0	390	22	503.16.065	26,0	540	19	504.16.065	44	700	16		
		75	501.16.075	9,0	270	28	502.16.075	15,0	390	27	503.16.075	23,0	540	23	504.16.075	37	700	19		
		90	501.16.090	8,0	270	33	502.16.090	12,5	390	31	503.16.090	20,0	540	27	504.16.090	31	690	22		
		100	501.16.100	7,0	270	38	502.16.100	12,0	390	36	503.16.100	18,0	540	31	504.16.100	27,5	690	26		
		300	501.16.300	2,0	270	114	502.16.300	4,0	390	107	503.16.300	6,0	540	91	504.16.300	8,9	670	76		
20	10	25	501.20.025	52,0	490	9,4	502.20.025	89,0	780	8,7	503.20.025	231,0	1730	7,5	504.20.025	354	2200	6,2		
		32	501.20.032	39,0	480	12	502.20.032	70,0	770	11	503.20.032	178,0	1710	9,6	504.20.032	255	2040	8,0		
		38	501.20.038	31,0	470	14	502.20.038	56,0	730	13	503.20.038	142,0	1600	11	504.20.038	202	1920	9,5		
		45	501.20.045	27,2	470	16,5	502.20.045	47,0	710	15	503.20.045	118,0	1530	13	504.20.045	170	1870	11		
		50	501.20.050	24,2	470	19	502.20.050	39,0	700	18	503.20.050	102,0	1500	15	504.20.050	145	1850	13		
		65	501.20.065	18,8	470	24	502.20.065	31,0	680	22	503.20.065	80,0	1500	19	504.20.065	114	1820	16		
		75	501.20.075	15,9	470	28	502.20.075	26,0	680	27	503.20.075	65,0	1500	23	504.20.075	95	1810	19		
		90	501.20.090	13,6	470	33	502.20.090	22,4	680	31	503.20.090	55,0	1480	27	504.20.090	80	1770	22		
		100	501.20.100	12,0	470	38	502.20.100	19,7	680	36	503.20.100	48,0	1450	31	504.20.100	69	1750	26		
		115	501.20.115	10,6	470	43	502.20.115	17,3	680	40	503.20.115	43,0	1450	35	504.20.115	60	1730	29		
		125	501.20.125	9,6	470	49	502.20.125	15,7	680	44	503.20.125	38,0	1450	38	504.20.125	54	1700	32		
		150	501.20.150	8,0	470	57	502.20.150	13,0	680	53	503.20.150	31,5	1450	46	504.20.150	44	1660	38		
300	501.20.300	3,9	470	114	502.20.300	6,4	680	107	503.20.300	15,4	1400	91	504.20.300	21,5	1630	76				
25	12,5	25	501.26.025	100,0	950	9,4	502.26.025	165,0	1450	8,7	—	—	—	—	—	—	—	—		
		32	501.26.032	75,0	900	12	502.26.032	125,0	1400	11	503.26.032	286,0	2740	9,6	504.26.032	389	3110	8,0		
		38	501.26.038	75,0	880	14	502.26.038	98,0	1330	13	503.26.038	230,0	2530	11	504.26.038	307	2910	9,5		
		45	501.26.045	50,0	830	16,5	502.26.045	82,0	1290	15	503.26.045	193,0	2500	13	504.26.045	252	2770	11		
		50	501.26.050	45,0	830	19	502.26.050	72,0	1270	18	503.26.050	162,0	2450	15	504.26.050	211	2750	13		
		65	501.26.065	36,0	830	24	502.26.065	56,0	1240	22	503.26.065	128,0	2450	19	504.26.065	164	2630	16		
		75	501.26.075	29,5	830	28	502.26.075	45,0	1200	27	503.26.075	103,0	2350	23	504.26.075	134	2550	19		
		90	501.26.090	25,0	830	33	502.26.090	38,0	1200	31	503.26.090	88,0	2350	27	504.26.090	113	2480	22		
		100	501.26.100	21,5	830	38	502.26.100	34,0	1200	36	503.26.100	76,0	2350	31	504.26.100	98	2480	26		
		115	501.26.115	18,6	830	43	502.26.115	29,5	1200	40	503.26.115	68,0	2350	35	504.26.115	87	2480	29		
		125	501.26.125	17,5	830	49	502.26.125	26,8	1200	44	503.26.125	61,0	2300	38	504.26.125	78	2480	32		
		150	501.26.150	14,7	830	57	502.26.150	22,4	1200	53	503.26.150	50,0	2300	46	504.26.150	64	2450	38		
		175	501.26.175	12,5	830	67	502.26.175	18,8	1200	62	503.26.175	43,0	2280	53	504.26.175	55	2430	44		
		200	501.26.200	11,1	830	76	502.26.200	16,8	1200	71	503.26.200	37,0	2280	61	504.26.200	48	2400	51		
300	501.26.300	7,4	830	114	502.26.300	11,3	1200	107	503.26.300	25,0	2280	91	504.26.300	31	2360	76				

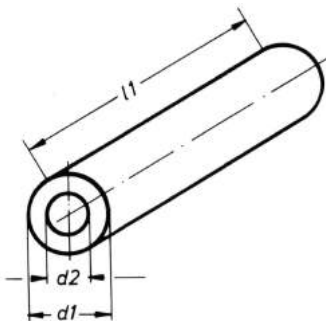


Yaylar için verilen çap ve uzunluklara göre ölçüm tablosundan arzu edilen basınç kuvvetinde seçim yapılır. Yaylar sekiz değişik delik ve malafa çapına göre düzenlenmiştir. Yay çapları özel ebadlarda olup sözü edilen delik ve malafa çaplarına uyusmaktadır.

C - Yay oranı N/mm  
Fn - Yay kuvveti N  
Sn - Yaylama mesafesi mm

## 501. / 502. / 503. / 504.

Dh mm	Dd mm	lo mm	Hafif Yükleme (Yeşil renkli) (Green Color)			Orta Yükleme (Mavi renkli) (Blue Color)			Ağır Yükleme (Kırmızı renkli) (Red Color)			Özellikle Ağır Yükleme (Sarı renkli) (Yellow Color)							
			Sipariş no.	Yay oranı C N/mm	%37,5 lo max. baskı	Fn N	Sn mm	Sipariş no.	Yay oranı C N/mm	%35 lo max. baskı	Fn N	Sn mm	Sipariş no.	Yay oranı C N/mm	%30 lo max. baskı	Fn N	Sn mm	Sipariş no.	Yay oranı C N/mm
32	16	38	501.32.038	93,0	1330	14	502.32.038	163,0	2180	13	503.32.038	392,0	4200	11	504.32.038	530	5050	9,5	
		45	501.32.045	81,0	1330	16,5	502.32.045	136,0	2100	15	503.32.045	324,0	4200	13	504.32.045	436	4800	11	
		50	501.32.050	68,0	1300	19	502.32.050	114,0	2060	18	503.32.050	277,0	4150	15	504.32.050	368	4750	13	
		65	501.32.065	54,0	1300	24	502.32.065	88,0	1990	22	503.32.065	216,0	410	19	504.32.065	288	4600	16	
		75	501.32.075	45,0	1280	28	502.32.075	72,0	1930	27	503.32.075	176,0	4050	23	504.32.075	230	4400	19	
		90	501.32.090	38,0	1250	33	502.32.090	63,0	1930	31	503.32.090	148,0	4000	27	504.32.090	193	4250	22	
		100	501.32.100	32,0	1220	38	502.32.100	52,0	1910	36	503.32.100	128,0	4000	31	504.32.100	164	4200	26	
		115	501.32.115	28,6	1220	43	502.32.115	47,0	1910	40	503.32.115	112,0	3900	35	504.32.115	145	4000	29	
		125	501.32.125	26,0	1220	49	502.32.125	43,0	1910	44	503.32.125	101,0	3900	38	504.32.125	131	4000	32	
		150	501.32.150	21,5	1220	57	502.32.150	36,0	1910	53	503.32.150	83,0	3850	46	504.32.150	107	4000	38	
		175	501.32.175	17,9	1200	67	502.32.175	30,0	1910	62	503.32.175	70,0	3750	53	504.32.175	91	4000	44	
		200	501.32.200	15,7	1200	76	502.32.200	25,9	1870	71	503.32.200	62,0	3750	61	504.32.200	80	4000	51	
		250	501.32.250	12,5	1200	95	502.32.250	20,6	1870	89	503.32.250	49,0	3700	76	504.32.250	63	4000	64	
		300	501.32.300	10,4	1200	114	502.32.300	17,4	1870	107	503.32.300	40,0	3650	91	504.32.300	52	4000	76	
		40	20	50	501.40.050	100,0	1900	19	502.40.050	165,0	2940	18	503.40.050	354,0	5350	15	504.40.050	590	7650
65	501.40.065			79,0	1900	24	502.40.065	125,0	2800	22	503.40.065	273,0	5200	19	504.40.065	459	7350	16	
75	501.40.075			64,0	1850	28	502.40.075	104,0	2740	27	503.40.075	225,0	5150	23	504.40.075	364	6900	19	
90	501.40.090			56,0	1850	33	502.40.090	86,0	2700	31	503.40.090	191,0	5150	27	504.40.090	298	6700	22	
100	501.40.100			48,0	1850	38	502.40.100	75,0	2700	36	503.40.100	167,0	5100	31	504.40.100	263	6600	26	
115	501.40.115			43,0	1850	43	502.40.115	66,0	2700	40	503.40.115	145,0	5000	35	504.40.115	232	6600	29	
125	501.40.125			39,0	1850	49	502.40.125	59,0	2700	44	503.40.125	131,0	4950	38	504.40.125	205	6550	32	
150	501.40.150			31,0	1730	57	502.40.150	48,0	2700	53	503.40.150	108,0	4950	46	504.40.150	168	6400	38	
175	501.40.175			26,0	1730	67	502.40.175	43,0	2700	62	503.40.175	91,0	4900	53	504.40.175	143	6300	44	
200	501.40.200			23,3	1730	76	502.40.200	38,0	2700	71	503.40.200	79,0	4850	61	504.40.200	123	6250	51	
250	501.40.250			18,8	1730	95	502.40.250	29,5	2700	89	503.40.250	63,0	4800	76	504.40.250	96	6150	64	
300	501.40.300			15,2	1730	114	502.40.300	24,2	2700	107	503.40.300	52,0	4750	91	504.40.300	80	6100	76	
50	25	65	501.51.065	152,0	3650	24	502.51.065	206,0	4620	22	503.51.065	420,0	8000	19	504.51.065	752	12000	16	
		75	501.51.075	123,0	3540	28	502.51.075	166,0	4420	27	503.51.075	339,0	7800	23	504.51.075	600	11400	19	
		90	501.51.090	102,0	3440	33	502.51.090	138,0	4340	31	503.51.090	290,0	7800	27	504.51.090	506	11100	22	
		100	501.51.100	90,0	3440	38	502.51.100	120,0	4300	36	503.51.100	248,0	7750	31	504.51.100	426	11050	26	
		115	501.51.115	79,0	3440	43	502.51.115	106,0	4300	40	503.51.115	217,0	7700	35	504.51.115	376	10900	29	
		125	501.51.125	70,0	3320	49	502.51.125	95,0	4220	44	503.51.125	193,0	7600	38	504.51.125	331	10500	32	
		150	501.51.150	57,0	3320	57	502.51.150	79,0	4220	53	503.51.150	156,0	7400	46	504.51.150	269	10300	38	
		175	501.51.175	50,0	3320	67	502.51.175	68,0	4220	62	503.51.175	134,0	7200	53	504.51.175	231	10200	44	
		200	501.51.200	41,0	3150	76	502.51.200	57,0	4170	71	503.51.200	117,0	7200	61	504.51.200	201	10200	51	
		250	501.51.250	34,0	3150	95	502.51.250	47,0	4080	89	503.51.250	91,0	6900	76	504.51.250	159	10200	64	
		300	501.51.300	27,8	3100	114	502.51.300	38,0	4080	107	503.51.300	74,0	6750	91	504.51.300	129	9800	76	



Çelik yayların kuvvet olarak yeterli olmadığı, yaylanma mesafesi fazla istenilmeyen kalıplarda kullanılırlar iki değişik sertliktedir.

605 = 80 Shore A= %35 esneme (Yeşil renkte)

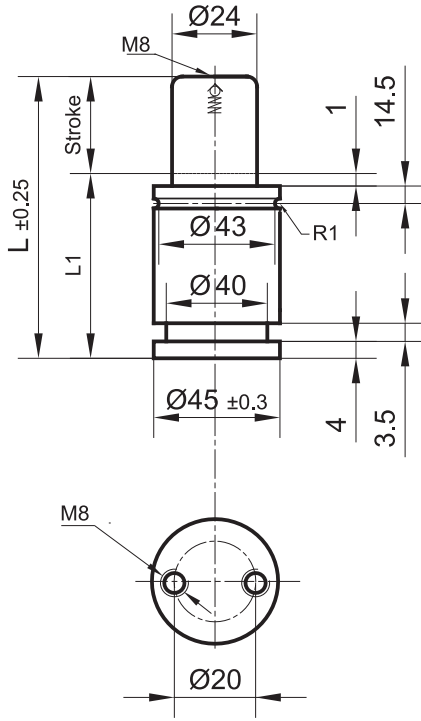
606 = 90 Shore A= % 30 esneme (Sarı renkte)

## 605./606.

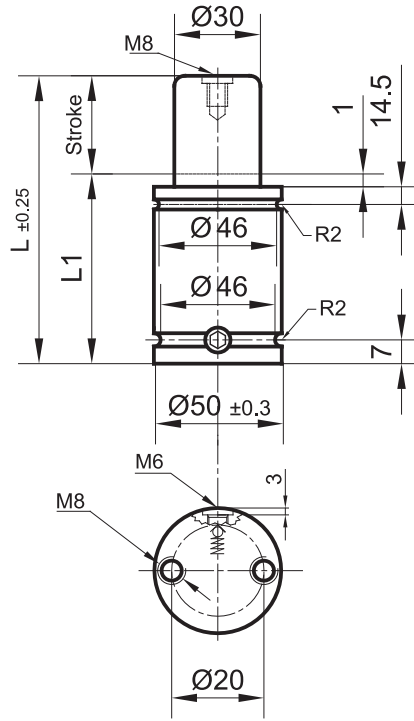
Sipariş no	d <sub>1</sub>	d <sub>2</sub>	l <sub>1</sub>
60 .016	16	6,5	300
60 .020	20	8,5	300
60 .025	25	10,5	300
60 .032	32	13,5	300
60 .040	40	17,0	300
60 .050	50	17,0	300
60 .063	63	17,0	300
60 .080	80	21,0	300
60 .100	100	21,0	300



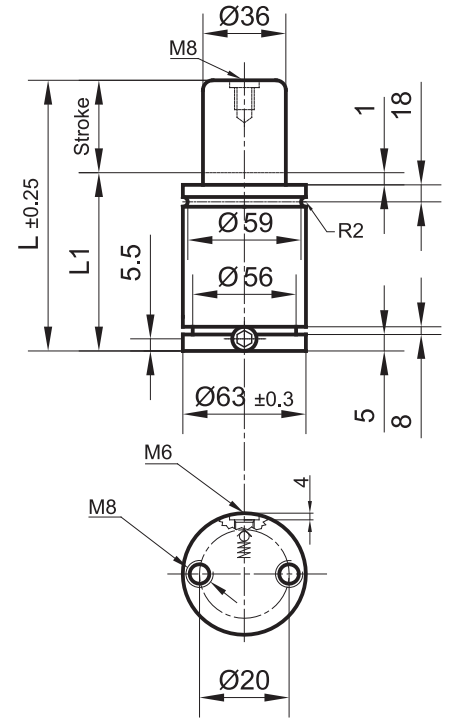
**NITROFLEX®**



**702.0700.**



**702.1000.**



**702.1500.**

**702.0700.**

Stroke	L	$l_1$	Order / Sipariş No
10	52	42	702.0700.010
13	58	45	702.0700.013
16	64	48	702.0700.016
19	70	51	702.0700.019
25	82	57	702.0700.025
32	96	64	702.0700.032
38	108	70	702.0700.038
50	132	82	702.0700.050
63	158	95	702.0700.063
75	182	107	702.0700.075
80	192	112	702.0700.080
100	232	132	702.0700.100
125	282	157	702.0700.125

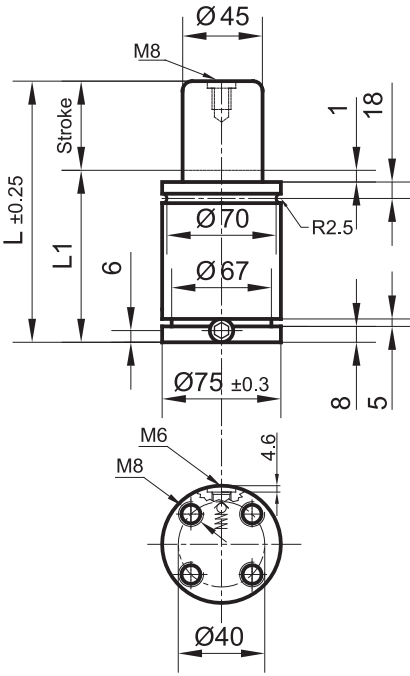
**702.1000.**

Stroke	L	$l_1$	Order / Sipariş No
10	58	48	702.1000.010
13	64	51	702.1000.013
16	70	54	702.1000.016
19	76	57	702.1000.019
25	88	63	702.1000.025
32	102	70	702.1000.032
38	114	76	702.1000.038
50	138	88	702.1000.050
63	164	101	702.1000.063
75	188	113	702.1000.075
80	198	118	702.1000.080
100	238	138	702.1000.100
125	288	163	702.1000.125

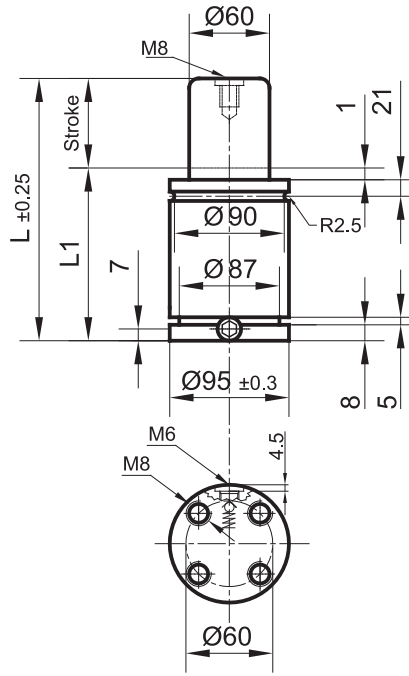
**702.1500.**

Stroke	L	$l_1$	Order / Sipariş No
10	64	54	702.1500.010
13	70	57	702.1500.013
16	76	60	702.1500.016
19	82	63	702.1500.019
25	94	69	702.1500.025
32	108	76	702.1500.032
38	120	82	702.1500.038
50	144	94	702.1500.050
63	170	107	702.1500.063
75	194	119	702.1500.075
80	204	124	702.1500.080
100	244	144	702.1500.100
125	294	169	702.1500.125

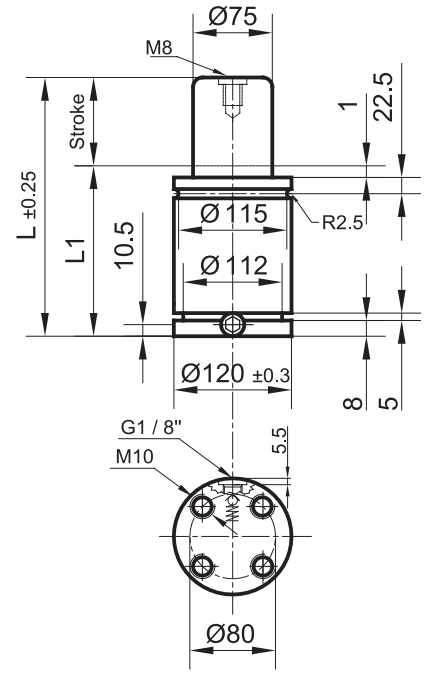
## NITROFLEX®



**702.2400.**



**702.4200.**



**702.6600.**

### 702.2400.

Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	65	55	702.2400.010
13	71	58	702.2400.013
16	77	61	702.2400.016
19	83	64	702.2400.019
25	95	70	702.2400.025
32	109	77	702.2400.032
38	121	83	702.2400.038
50	145	95	702.2400.050
63	171	108	702.2400.063
75	195	120	702.2400.075
80	205	125	702.2400.080
100	245	145	702.2400.100
125	295	170	702.2400.125

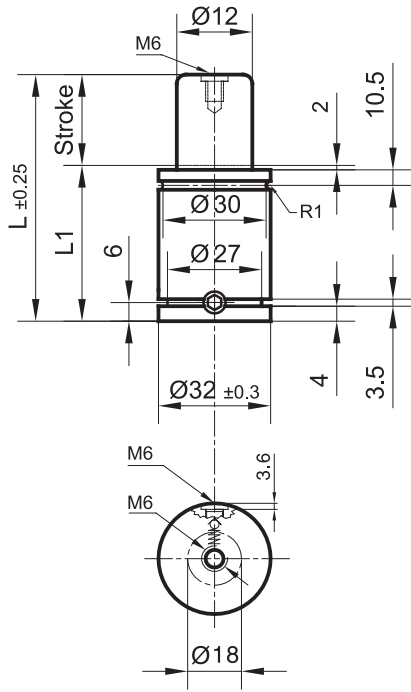
### 702.4200.

Stroke	L	I <sub>1</sub>	Order / Sipariş No
16	97	81	702.4200.016
19	103	84	702.4200.019
25	115	90	702.4200.025
32	129	97	702.4200.032
38	141	103	702.4200.038
50	165	115	702.4200.050
63	191	128	702.4200.063
75	215	140	702.4200.075
80	225	145	702.4200.080
100	265	165	702.4200.100
125	315	190	702.4200.125

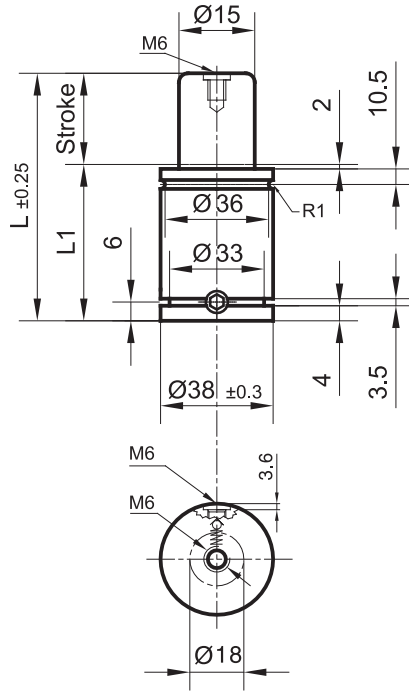
### 702.6600.

Stroke	L	I <sub>1</sub>	Order / Sipariş No
16	107	91	702.6600.016
19	113	94	702.6600.019
25	125	100	702.6600.025
32	139	107	702.6600.032
38	151	113	702.6600.038
50	175	125	702.6600.050
63	201	138	702.6600.063
75	225	150	702.6600.075
80	235	155	702.6600.080
100	275	175	702.6600.100
125	325	200	702.6600.125

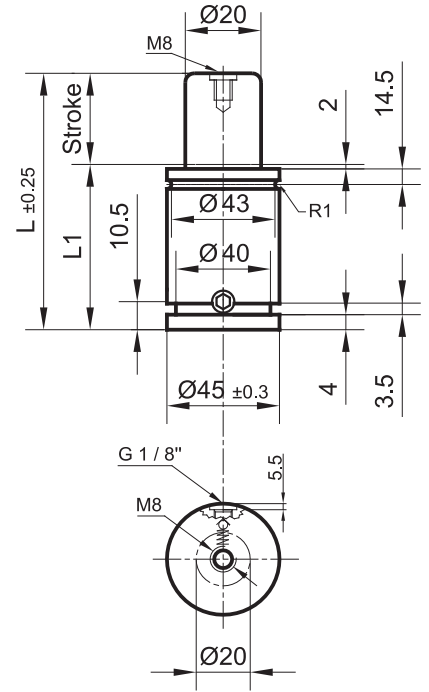
**NITROFLEX®**



**703.0150.**



**703.0250.**



**703.0500.**

**703.0150.**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	70	60	703.0150.010
13	75,4	62,4	703.0150.013
16	82	66	703.0150.016
25	100	75	703.0150.025
38	126	88	703.0150.038
50	150	100	703.0150.050
63	177	114	703.0150.063
80	210	130	703.0150.080
100	250	150	703.0150.100
125	300	175	703.0150.125

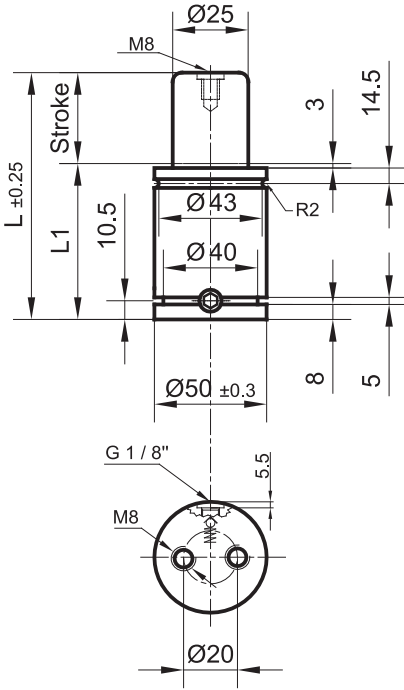
**703.0250.**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	70	60	703.0250.010
13	75,4	62,4	703.0250.013
16	82	66	703.0250.016
19	88	69	703.0250.019
25	100	75	703.0250.025
38	126	88	703.0250.038
50	150	100	703.0250.050
63	177	114	703.0250.063
80	210	130	703.0250.080
100	250	150	703.0250.100
125	300	175	703.0250.125

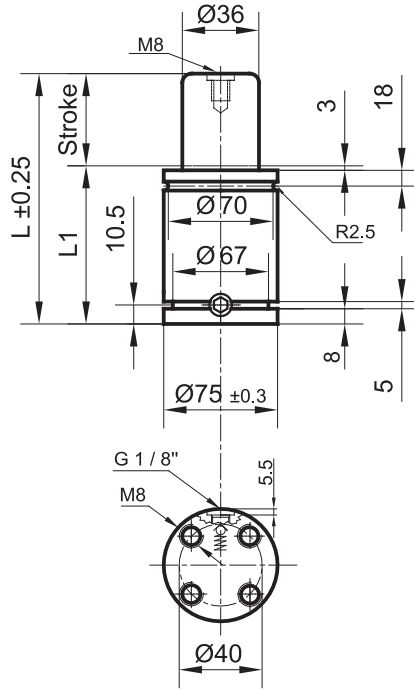
**703.0500.**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
13	110,4	97,4	703.0500.013
25	135	110	703.0500.025
38	161	123	703.0500.038
50	185	135	703.0500.050
63	212	149	703.0500.063
80	245	165	703.0500.080
100	285	185	703.0500.100
125	335	210	703.0500.125
160	405	245	703.0500.160

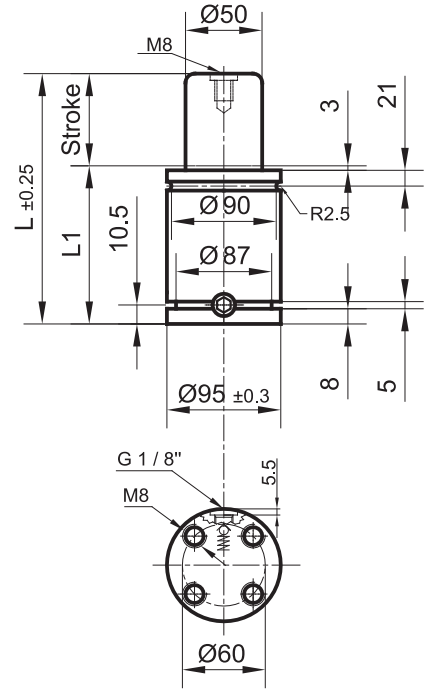
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**703.0750.**



**703.1500.**



**703.3000.**

### 703.0750.

Stroke	L	I <sub>1</sub>	Order / Sipariş No
13	120,4	107,4	703.0750.013
25	145	120	703.0750.025
38	171	133	703.0750.038
50	195	145	703.0750.050
63	222	159	703.0750.063
80	255	175	703.0750.080
100	295	195	703.0750.100
125	345	220	703.0750.125
160	415	255	703.0750.160
200	495	295	703.0750.200
250	595	345	703.0750.250
300	695	395	703.0750.300

### 703.1500.

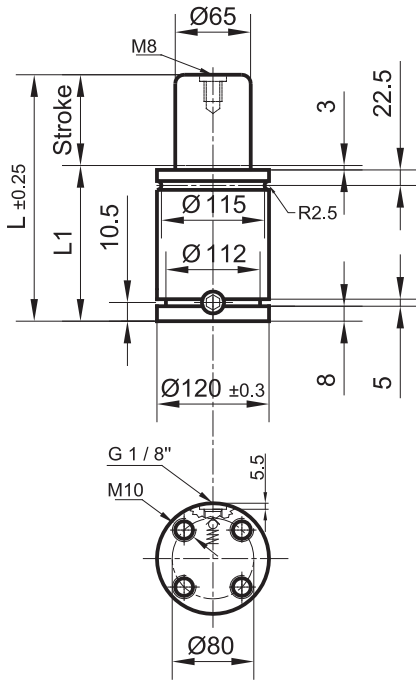
Stroke	L	I <sub>1</sub>	Order / Sipariş No
25	160	135	703.1500.025
38	186	148	703.1500.038
50	210	160	703.1500.050
63	237	174	703.1500.063
80	270	190	703.1500.080
100	310	210	703.1500.100
125	360	235	703.1500.125
160	430	270	703.1500.160
200	510	310	703.1500.200
250	610	360	703.1500.250
300	710	410	703.1500.300

### 703.3000.

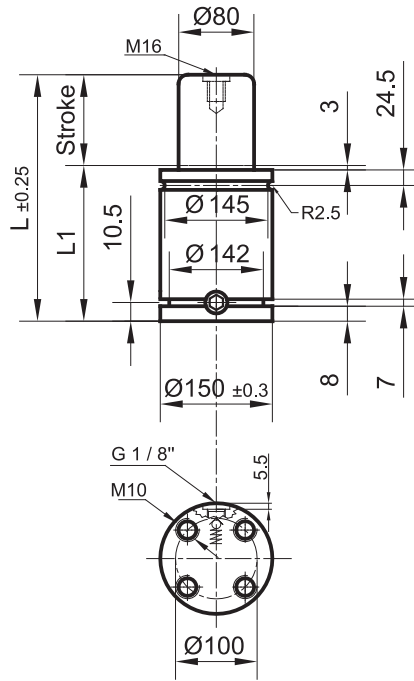
Stroke	L	I <sub>1</sub>	Order / Sipariş No
25	170	145	703.3000.025
38	196	158	703.3000.038
50	220	170	703.3000.050
63	247	184	703.3000.063
80	280	200	703.3000.080
100	320	220	703.3000.100
125	370	245	703.3000.125
160	440	280	703.3000.160
200	520	320	703.3000.200
250	620	370	703.3000.250
300	720	420	703.3000.300



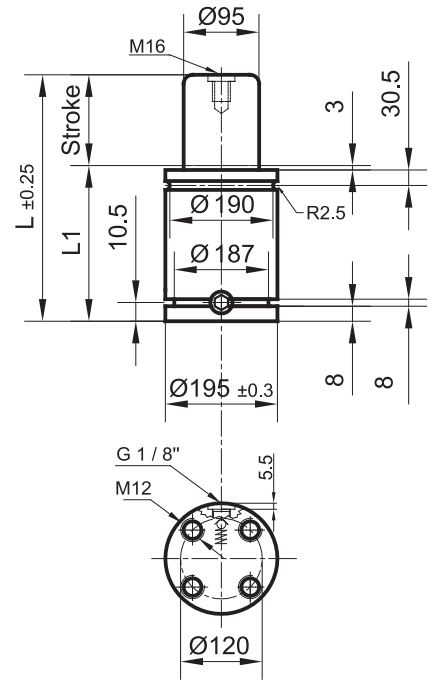
**NITROFLEX®**



**703.5000.**



**703.7500.**



**703.10000.**

**703.5000.**

Stroke	L	$l_1$	Order / Sipariş No
25	190	165	703.5000.025
38	216	178	703.5000.038
50	240	190	703.5000.050
63	267	204	703.5000.063
80	300	220	703.5000.080
100	340	240	703.5000.100
125	390	265	703.5000.125
160	460	300	703.5000.160
200	540	340	703.5000.200
250	640	390	703.5000.250
300	740	440	703.5000.300

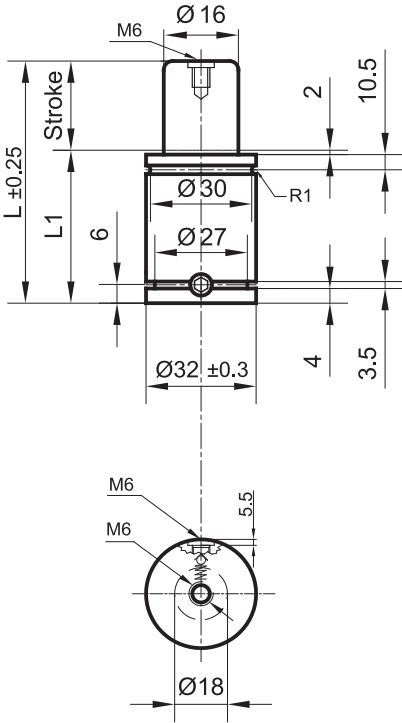
**703.7500.**

Stroke	L	$l_1$	Order / Sipariş No
25	205	180	703.7500.025
38	231	193	703.7500.038
50	255	205	703.7500.050
63	282	219	703.7500.063
80	315	235	703.7500.080
100	355	255	703.7500.100
125	405	280	703.7500.125
160	475	315	703.7500.160
200	555	355	703.7500.200
250	655	405	703.7500.250
300	755	455	703.7500.300

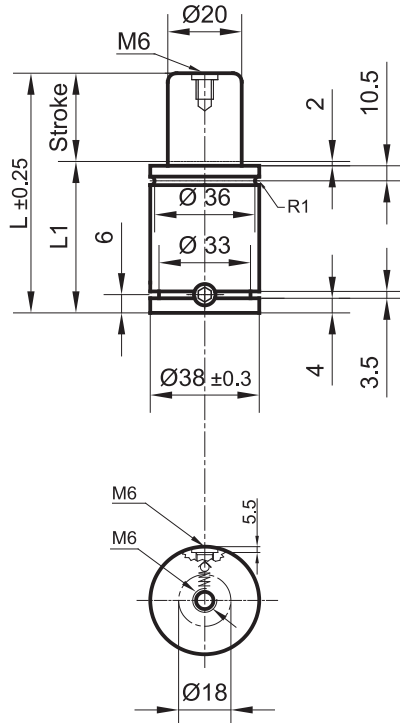
**703.10000.**

Stroke	L	$l_1$	Order / Sipariş No
25	210	185	703.10000.025
38	236	198	703.10000.038
50	260	210	703.10000.050
63	287	224	703.10000.063
80	320	240	703.10000.080
100	360	260	703.10000.100
125	410	285	703.10000.125
160	480	320	703.10000.160
200	560	360	703.10000.200
250	660	410	703.10000.250
300	760	460	703.10000.300

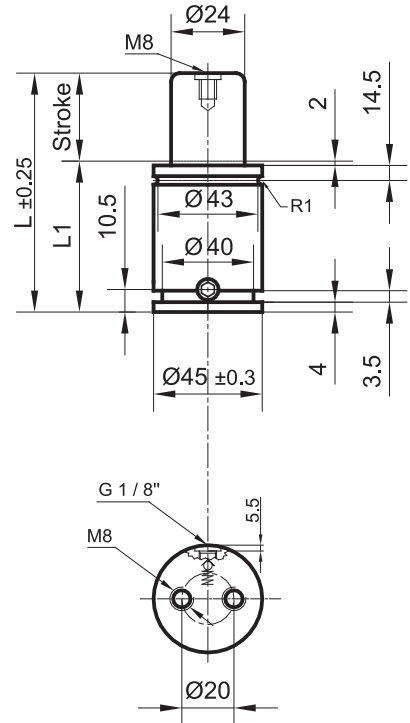
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**704.0300.**



**704.0500.**



**704.0700.**

### 704.0300.

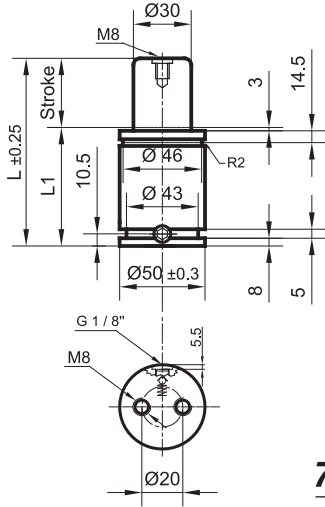
Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	70	60	704.0300.010
13	75,7	62,7	704.0300.013
16	82	66	704.0300.016
25	100	75	704.0300.025
38	126	88	704.0300.038
50	150	100	704.0300.050
63	176,5	113,5	704.0300.063
80	210	130	704.0300.080
100	250	150	704.0300.100
125	300	175	704.0300.125

### 704.0500.

Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	70	60	704.0500.010
13	75,7	62,7	704.0500.013
16	82	66	704.0500.016
19	88	69	704.0500.019
25	100	75	704.0500.025
38	126	88	704.0500.038
50	150	100	704.0500.050
63	176,5	113,5	704.0500.063
80	210	130	704.0500.080
100	250	150	704.0500.100
125	300	175	704.0500.125

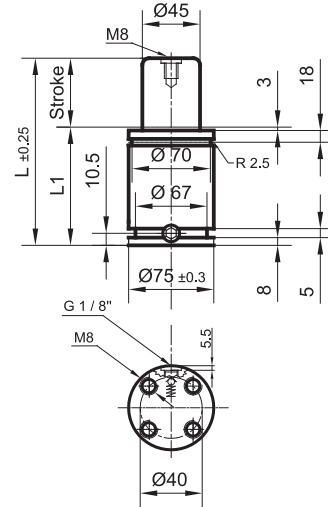
### 704.0700.

Stroke	L	I <sub>1</sub>	Order / Sipariş No
13	110,4	97,7	704.0700.013
25	135	110	704.0700.025
38	161	123	704.0700.038
50	185	135	704.0700.050
63	212	148,5	704.0700.063
80	245	165	704.0700.080
100	285	185	704.0700.100
125	335	210	704.0700.125
160	405	245	704.0700.160



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**704.1000.**



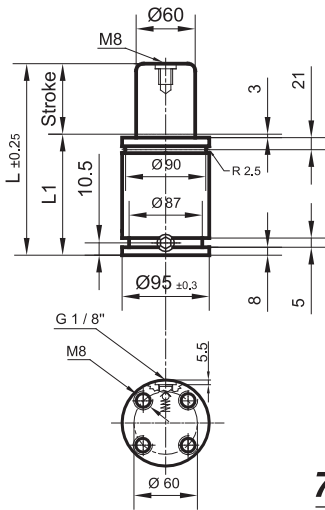
**704.2400.**

**704.1000**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
13	120	107	704.1000.013
25	145	120	704.1000.025
38	171	133	704.1000.038
50	195	145	704.1000.050
63	222	159	704.1000.063
80	255	175	704.1000.080
100	295	195	704.1000.100
125	345	220	704.1000.125
160	415	255	704.1000.160
200	495	295	704.1000.200
250	595	345	704.1000.250
300	695	395	704.1000.300

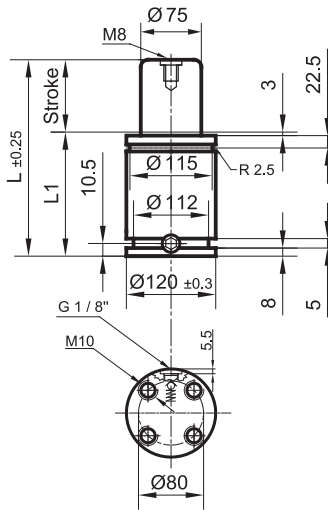
**704.2400**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
25	160	135	704.2400.025
38	186	148	704.2400.038
50	210	160	704.2400.050
63	237	174	704.2400.063
80	270	190	704.2400.080
100	310	210	704.2400.100
125	360	235	704.2400.125
160	430	270	704.2400.160
200	510	310	704.2400.200
250	610	360	704.2400.250
300	710	410	704.2400.300



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**704.4200.**



**704.6600.**

**704.4200.**

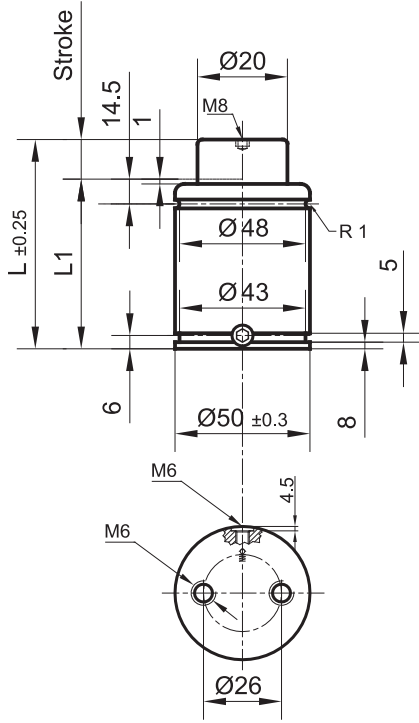
Stroke	L	I <sub>1</sub>	Order / Sipariş No
25	170	145	704.4200.025
38	196	158	704.4200.038
50	220	170	704.4200.050
63	247	184	704.4200.063
80	280	200	704.4200.080
100	320	220	704.4200.100
125	370	245	704.4200.125
160	440	280	704.4200.160
200	520	320	704.4200.200
250	620	370	704.4200.250
300	720	420	704.4200.300

**704.6600.**

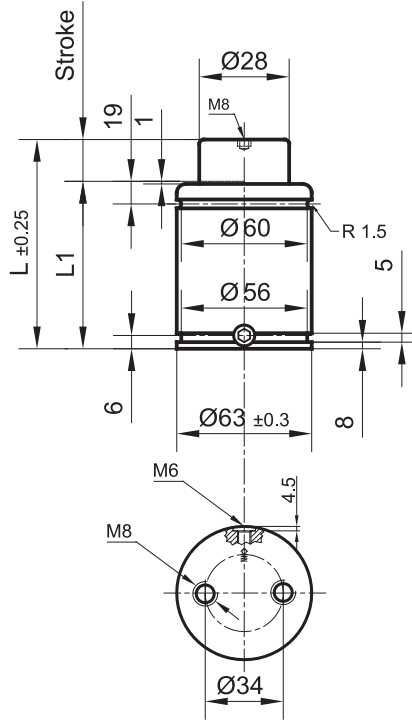
Stroke	L	I <sub>1</sub>	Order / Sipariş No
25	190	165	704.6600.025
38	216	178	704.6600.038
50	240	190	704.6600.050
63	267	204	704.6600.063
80	300	220	704.6600.080
100	340	240	704.6600.100
125	390	265	704.6600.125
160	460	300	704.6600.160
200	540	340	704.6600.200
250	640	390	704.6600.250
300	740	440	704.6600.300



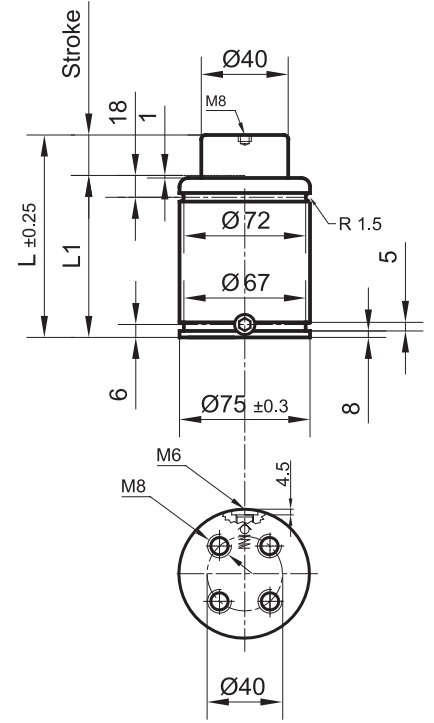
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**705.1800.**



**705.3000.**



**705.4700.**

**705.1800.**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
6	66	60	705.1800.006
10	80	70	705.1800.010
16	106	90	705.1800.016
25	135	110	705.1800.025
32	162	130	705.1800.032
40	190	150	705.1800.040
50	220	170	705.1800.050

**705.3000.**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	85	75	705.3000.010
16	103	87	705.3000.016
25	130	105	705.3000.025
32	150	118	705.3000.032
40	175	135	705.3000.040
50	205	155	705.3000.050

**705.4700.**

Stroke	L	I <sub>1</sub>	Order / Sipariş No
10	80	70	705.4700.010
16	106	90	705.4700.016
25	135	110	705.4700.025
32	167	135	705.4700.032
40	200	160	705.4700.040
50	240	190	705.4700.050





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