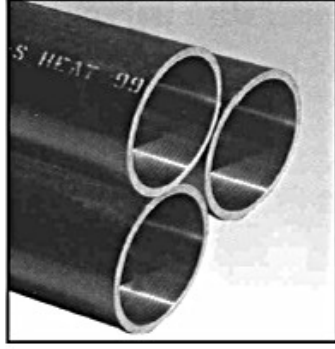


HİDROLİK SİLİNDİR BORULARI

HYDRAULIC CYLINDER TUBES



TEKNİK ÖZELLİKLER

- İç çap 0 25 mm'den 0 250 mm'ye kadar hazır.
- Diksişsiz soğuk ve sıcak çekme DİN 2391 - 2448
- İç yüzeyleri honlanmış, parlatılmış ve yağlanmış
- St 52 ve St 52.2 BK + S Kalitesinde
- iç çap toleransı ISO H8
- İç yüzey pürüzlülüğü, Ra: 0.4 Mikron
- Düzgünlük, 1 /1000 mm.
- Kopma Direnci: Rm. 650 N/mm2
- 5-8 metre üretim boylarında

TECHNICAL SPECIFICATIONS

- From internal 0 25 mm to 0 250 mm ready to delivery from stock
- Seamless, hot rolled and cold drawn DİN 2391 - DİN 2448
- Internally honed, burnished, oiled
- Steel grade ST 52 and St 52.2 BK+S
- Internal diameter tolerance ISO H8
- Internal surface roughness, Ra: 0.4 micron
- Straightness : 1/1000 mm
- Breaking stress: Rm. min: 650 N/mm2
- Commercial length: random 5-8 mt

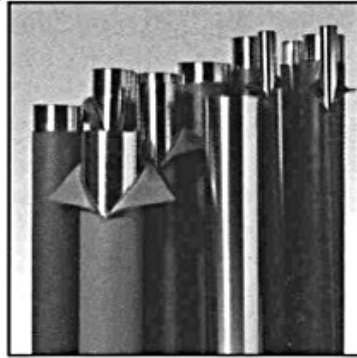


HİDROLİK SİLİNDİR BORULARI HYDRAULIC CYLINDER TUBES			
İÇ ÇAP (mm) INTERNAL DIAMETER	DIŞ ÇAP (mm) OUTER DIAMETER	ÇALIŞMA BASINCI(bar) WORKING PRESS	AĞIRLIK (KG/mt) WEIGHT
25	35	426	3,70
32	40	405	3,54
40	50	388	5,55
50	60	319	6,78
50	65	454	10,60
55	75	533	16,00
60	70	270	8,01
63	75	305	10,20
65	85	464	18,50
80	90	208	10,50
70	85	339	14,33
80	95	301	16,18
80	100	390	22,20
90	105	271	18,03
100	115	246	19,88
100	120	319	27,13
110	130	293	29,60
110	135	358	37,80
115	135	216	22,66
120	140	271	32,10
125	145	261	33,30
125	150	319	42,40
140	160	235	36,99
140	165	288	47,01
150	180	319	61,00
160	180	208	41,92
160	190	301	64,70
180	210	270	62,80
200	220	170	51,80
200	230	246	79,53
200	244,5	348	120,40
220	245	190	71,75
220	273	360	161,00
240	298,5	365	194,13
250	323,9	425	261,35

DEĞİŞİK ÇAP VE ÖLÇÜLER İÇİN LÖTFEN FİRMAMIZLA İRTİBATA GEÇİNİZ
Please contact us for further diameter and sizes.

KROM KAPLI MİLLER

CHROME COATED STEEL BARS



TEKNİK ÖZELLİKLER

CHROME COATED BARS

- Material: SAE 1040 - 1050
- Diameter tolerance : ISO f7
- Chrome layer thickness: 30 micron ±5
- Chrome layer hardness:
Min: 850 - Max: 1150 Vickers
- Surface roughness: 0.1 - 0.25 micron
- Flatness referring center: f 7/2
- Commercial length: random 5- 7 mt
- Plastic coated for protection against mechanical impacts.

INDUCTION HARDENED AND CHROME COATED BARS

- Material: C 55
- Diameter tolerance : ISO f7
- Hardened layer depth: 1 - 3 mm
- Hardness of induction hardened layer: 60- 63 HRC
- Commercial length: 5 - 6 mt random
- Plastic coated for protection against mechanical impacts.

TEKNİK ÖZELLİKLER

SERT KROM KAPLI MİLLER

- Çelik Kalitesi Ç1040-1050
- Sert krom kaplama kalınlığı noktada 30 mikron ± 5 mikron
- Sert krom kaplama tabakası sertliği
Min. 850 Vickers
Max. 1150 Vickers'dir.
- Yüzey pürüzlülüğü Ra: 0.1 - 0.25 mikron
- Merkeze göre yassılık toleransı f 7/2'dir.
- 5 - 7 metrelik üretim boylarında
- Üzerleri koruma maksatlı plastik ile kaplıdır
- Çap toleransı: ISO f 7

İNDÜKSİYONLU

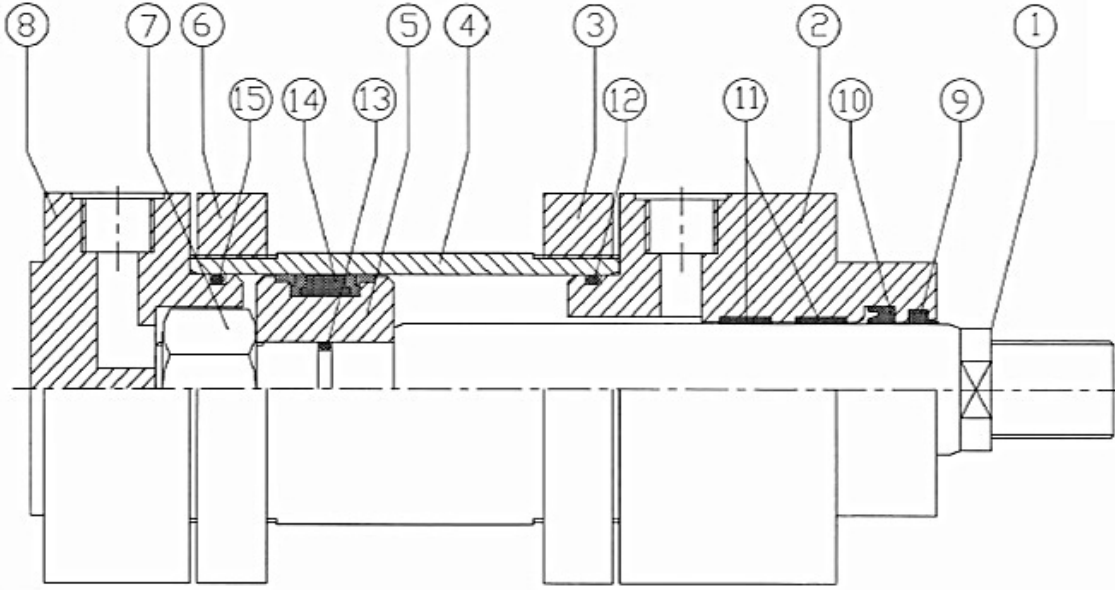
SERT KROM KAPLI MİLLER

- İndüksiyonla sertleştirilmiş tabaka sertliği 60 -63 HRC dir.
- Çap toleransları sert krom kaplı millerdeki gibidir.
- İndüksiyonla sertleştirilmiş tabakanın derinliği 1-3 mm' dir.
- Çelik kalitesi Ç41140

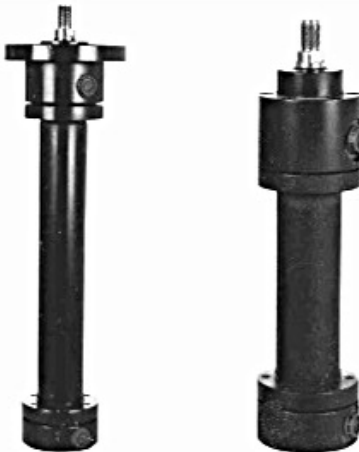
KROM KAPLI MİLLER CHROME COATED STEEL BARS			
ÇAP (mm) DIAMETER	AĞIRLIK (kg/mt) WEIGHT	ÇAP (mm) DIAMETER	AĞIRLIK (kg/mt) WEIGHT
8	0,43	40	9,87
10	0,62	45	12,49
12	0,89	50	15,41
14	1,21	55	18,65
16	1,58	55	18,99
18	1,99	60	22,20
20	2,47	65	26,05
22	2,98	70	30,21
25	3,85	75	34,68
28	4,83	80	39,46
30	5,55	90	49,94
32	6,31	100	61,65
35	7,55		
36	7,99		

DEĞİŞİK ÇAP VE ÖLÇÜLER İÇİN LÖTFEN FİRMAMIZLA İRTİBATA GEÇİNİZ
Please contact us for further diameter and sizes.

HİDROLİK SİLİNDİRLER



Parça (components)	Malzeme (material)
1 Kromlu mil (chrome plated rod)	Ck 45 f7
2 Ön kafa (front and cap)	C 1050
3 Ön boru flanşı (front flange)	C 1050
4 Honlanmış boru (Cylinder body)	ST 52 H8
5 Piston (piston)	C 1050
6 Arka boru flanşı (rear flange)	C 1050
7 Somun (self-locking)	C 1050
8 Arka kapak (rear and cap)	C 1050
9 Toz keçesi (wiper)	NBR
10 Boğaz keçesi (rod seal)	PU
11 Boğaz yataklanması (rod guides)	POM
12 O-ring (o-ring seal)	NBR
13 O-ring (o-ring seal)	NBR
14 Piston keçesi (piston seal)	NBR - POM
15 O-ring (o-ring seal)	NBR



PİSTON	ROD	A1(cm ^2)	A2(cm ^2)	160 bar	
				F1 (kg)	F2 (kg)
Ø32	18	8,04	5,50	1286	880
	22		4,24		678
Ø40	22	12,57	8,77	2011	1403
	28		6,41		1026
Ø50	28	19,63	13,48	3141	2157
	36		9,46		1514
Ø63	36	31,17	20,99	4987	3358
	45		15,27		2443
Ø80	45	50,27	34,36	8043	5498
	56		25,64		4102
Ø100	56	78,54	53,91	12566	8626
	70		40,06		6410
Ø125	70	122,72	84,23	19635	13477
	80		72,45		11592
Ø140	80	153,94	103,67	24630	16587
	90		90,32		14451
Ø160	90	201,06	137,44	32170	21990
	100		122,52		19603
Ø180	100	254,47	175,93	40715	28149
	110		159,44		25510
Ø200	110	314,16	219,13	50266	35061
	120		201,06		32170

SİLİNDİR TİPİ

BORU ÇAPI

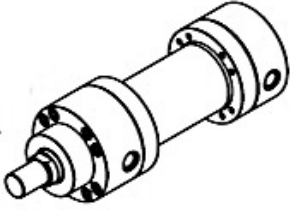
STROK

BAĞLANTI
ELEMENLARI

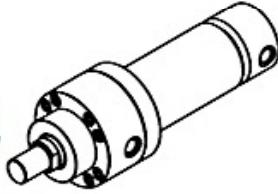
HS



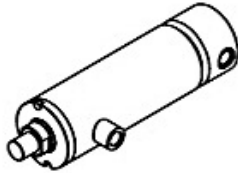
HS 01



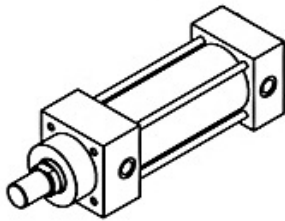
HS 02



HS03

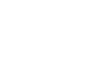
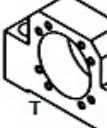
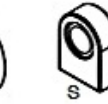
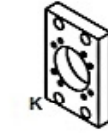
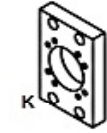
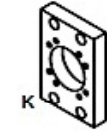
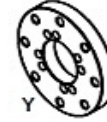
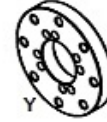


HS 04

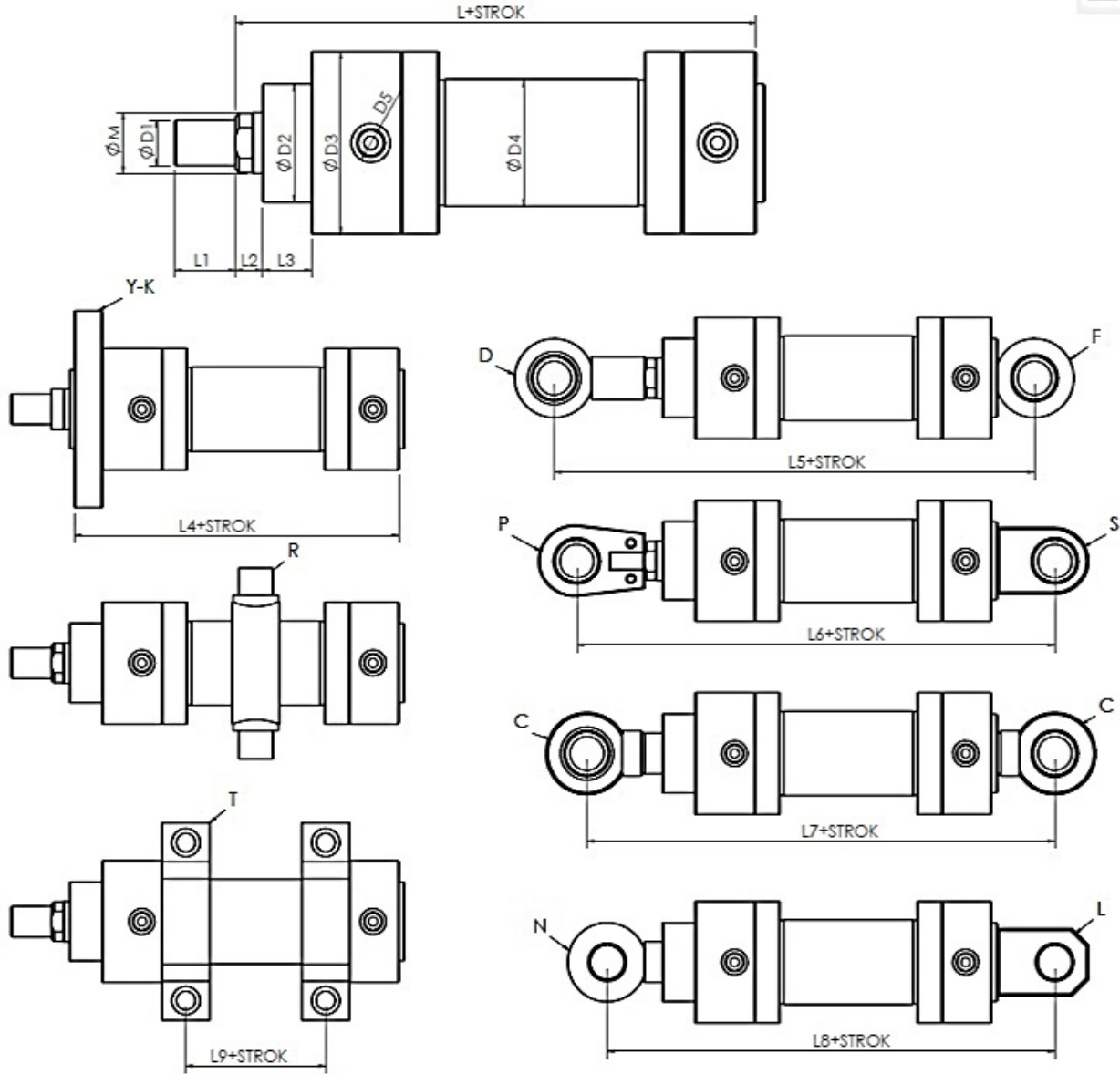


- Y : YUVARLAK FLANŞ
K : KARE FLANŞ
P : KISA TİP OYNAR MAFSAL
R : TERAZİ MAFSAL
S : LAMA TİP OYNAR MAFSAL
D : OYNAR MAFSAL
T : YER BAĞLANTI
C : KISA KAYNAKLI OYNAR MAFSAL
F : BURÇ TİP OYNAR
M : LAMA TİP VIDALI OYNAR MAFSAL
L : LAMA TİP BURÇLU
N : YUVARLAK BURÇLU
H : ÇATAL BAĞLANTI

ön orta arka

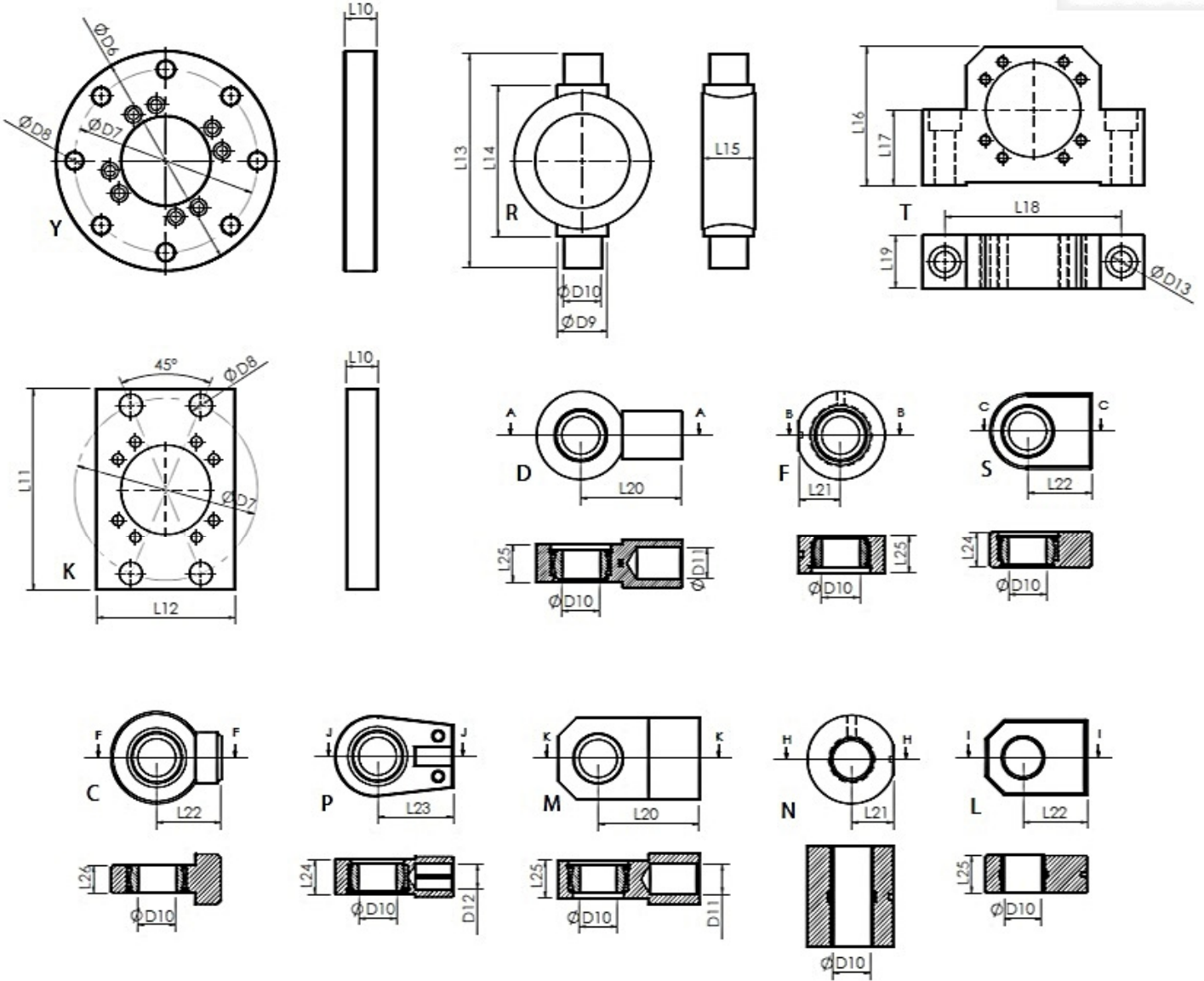


HS 01 TİPİ HİDROLİK SİLİNDİRLER



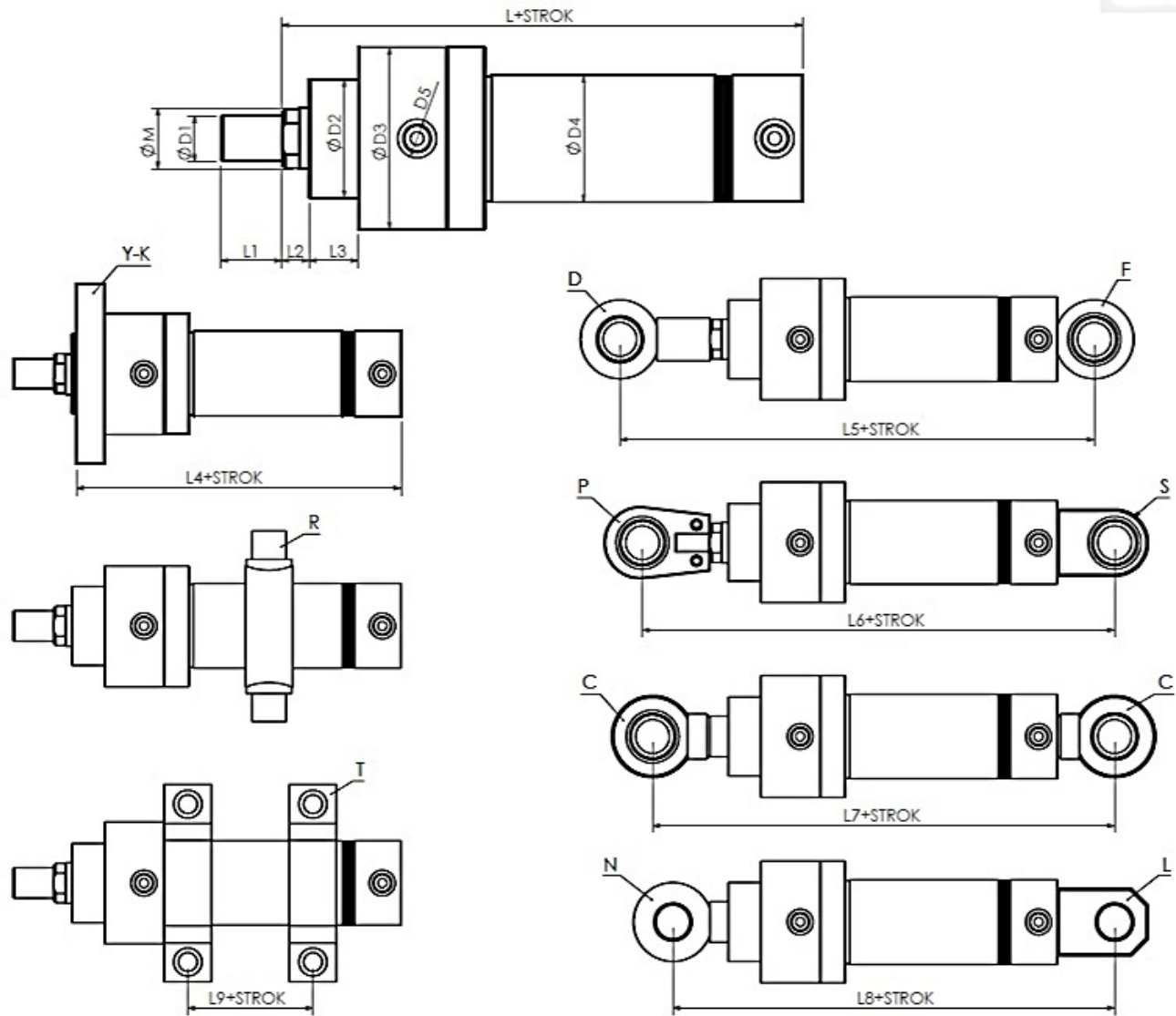
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32	16	14	M12x1,5	40	68	40	1/4"	110	92	9	20	16	-	-	10.5	155	16	13	19	139
	18	16	M14x1,5	40	68	40	1/4"	110	92	9	20	16	-	-	10.5	155	18	13	19	139
40	22	18	M16x1,5	50	78	50	3/8"	125	106	9	25	20	M16x1,5	M16*1,5	10.5	174	22	13	19	158
	28	24	M20x1,5	50	78	50	3/8"	125	106	9	25	20	M16x1,5	M16*1,5	10.5	174	28	13	19	158
50	28	24	M20x1,5	60	98	60	3/8"	148	126	11	30	25	M20x1,5	M16*1,5	12.5	185	28	14	24	167
	36	30	M27x2	60	98	60	3/8"	148	126	11	30	25	M20x1,5	M16*1,5	12.5	185	36	14	24	167
63	36	30	M27x2	70	108	75	3/8"	170	145	13	40	30	M27x2	M22*1,5	16.5	208	36	16	29	188
	45	38	M33x2	70	108	75	3/8"	170	145	13	40	30	M27x2	M22*1,5	16.5	208	45	16	29	188
80	45	38	M33x2	85	129	95	1/2"	195	165	17.5	50	40	M33x2	M35*1,5	20.5	236	45	18	36	214
	56	48	M42x2	85	129	95	1/2"	195	165	17.5	50	40	M33x2	M35*1,5	20.5	236	56	18	36	214
100	56	48	M42x2	106	158	115	1/2"	238	200	22	60	50	M42x2	M45*1,5	24.5	275	56	20	37	250
	70	60	M48x2	106	158	115	1/2"	238	200	22	60	50	M42x2	M45*1,5	24.5	275	70	20	37	250
125	70	60	M48x2	132	186	145	3/4"	272	235	22	70	60	M48x1,5	M58*1,5	24.5	297	63	23	37	269
	80	70	M56x2	132	186	145	3/4"	272	235	22	70	60	M48x1,5	M58*1,5	24.5	297	75	23	37	269
140	80	70	M56x2	145	210	160	3/4"	296	260	22	80	70	M56x2	M65*1,5	-	328	75	25	40	298
	90	80	M64x3	145	210	160	3/4"	296	260	22	80	70	M56x2	M65*1,5	-	328	85	25	40	298
160	90	80	M64x3	160	240	180	1"	316	280	22	95	80	M64x3	M80*1,5	-	339	85	25	41	309
	100	90	M72x3	160	240	180	1"	316	280	22	95	80	M64x3	M80*1,5	-	339	90	25	41	309
180	100	90	M72x3	185	262	210	1"	365	320	26	105	90	M72x3	M100*1,5	-	377	90	30	45	342
	110	95	M80x3	185	262	210	1"	365	320	26	105	90	M72x3	M100*1,5	-	377	95	30	45	342
200	110	95	M80x3	200	299	245	1"	385	340	26	115	100	M80x3	M110*1,5	-	397	95	30	45	362
	120	100	M85x3	200	299	245	1"	385	340	26	115	100	M80x3	M110*1,5	-	397	100	30	45	362

HS 01 TİP HİDROLİK SİLİNDİR BAĞLANTI



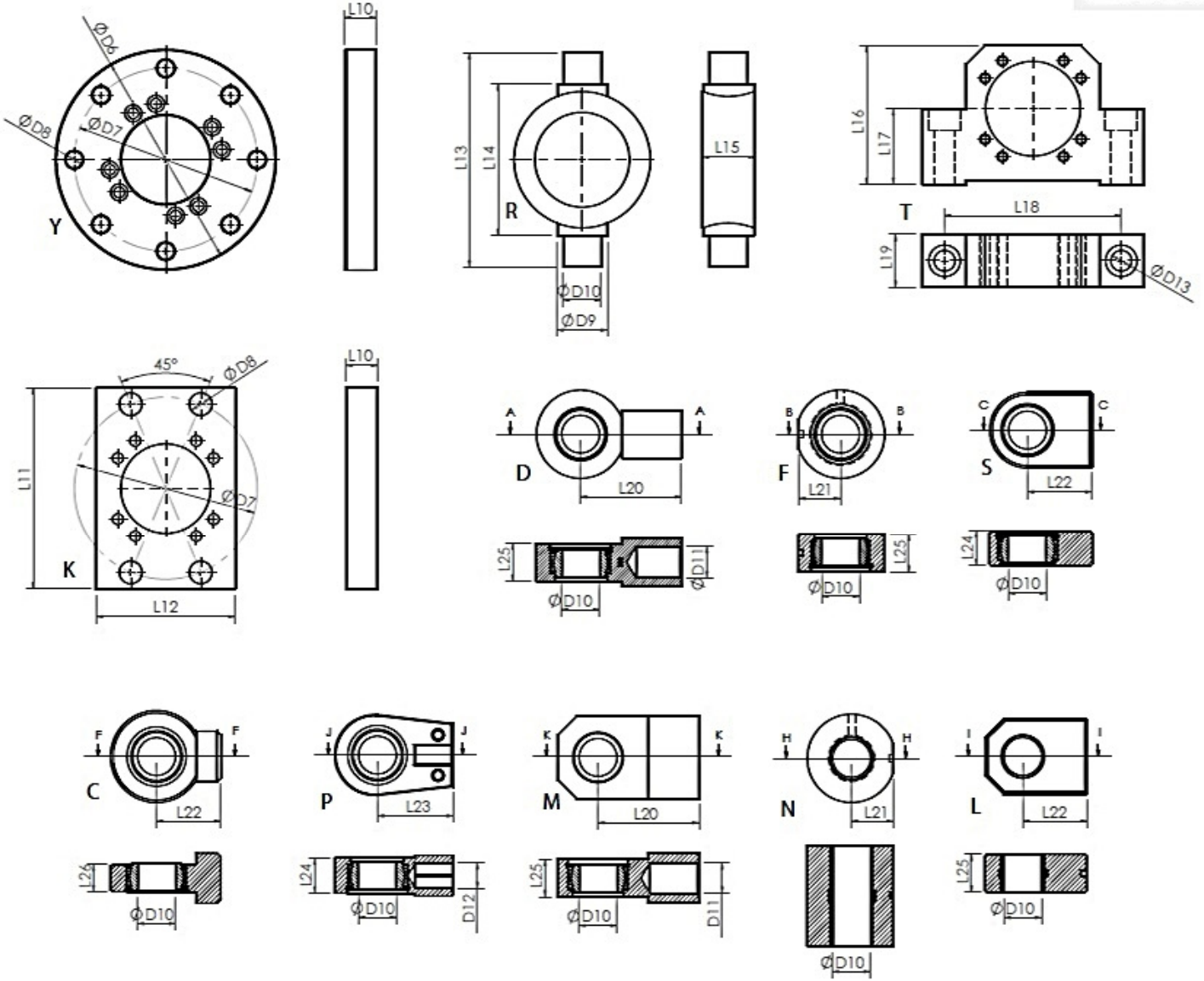
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-	-	-	-	-	16	105	70	99	75	30	65	35	85	30	-	-	-	-	-	-	-
254	267	255	240	36	16	115	80	122	90	30	75	40	100	30	52	23	38	50	19	20	16
283	285	260	263	30	20	140	90	145	105	36	90	50	125	36	65	28	45	50	23	25	20
326	324	315	297	24	25	160	110	170	120	42	110	60	140	42	80	33	51	60	28	30	22
381	395	379	353	24	32	182	125	199	135	52	130	69	175	52	97	43	69	85	35	35	26
453	473	456	421	22	32	220	150	220	160	62	155	80	220	62	120	53	88	105	40	40	35
505	532	502	465	8	32	252	180	295	195	76	200	105	245	76	140	63	100	130	50	50	44
563	598	563	518		35	-	-	332	220	86	-	-	-	-	160	70	115	150	55	55	49
604	655	626	565		36	-	-	366	240	96	-	-	-	-	180	80	141	170	60	65	55
667	742		622		40	-	-	415	275	110	-	-	-	-	195	90	150	210	65	75	-
712	807		672		40	-	-	475	315	120	-	-	-	-	210	100	170	235	70	85	-

HS 02 TİP HİDROLİK SİLİNDİRLER



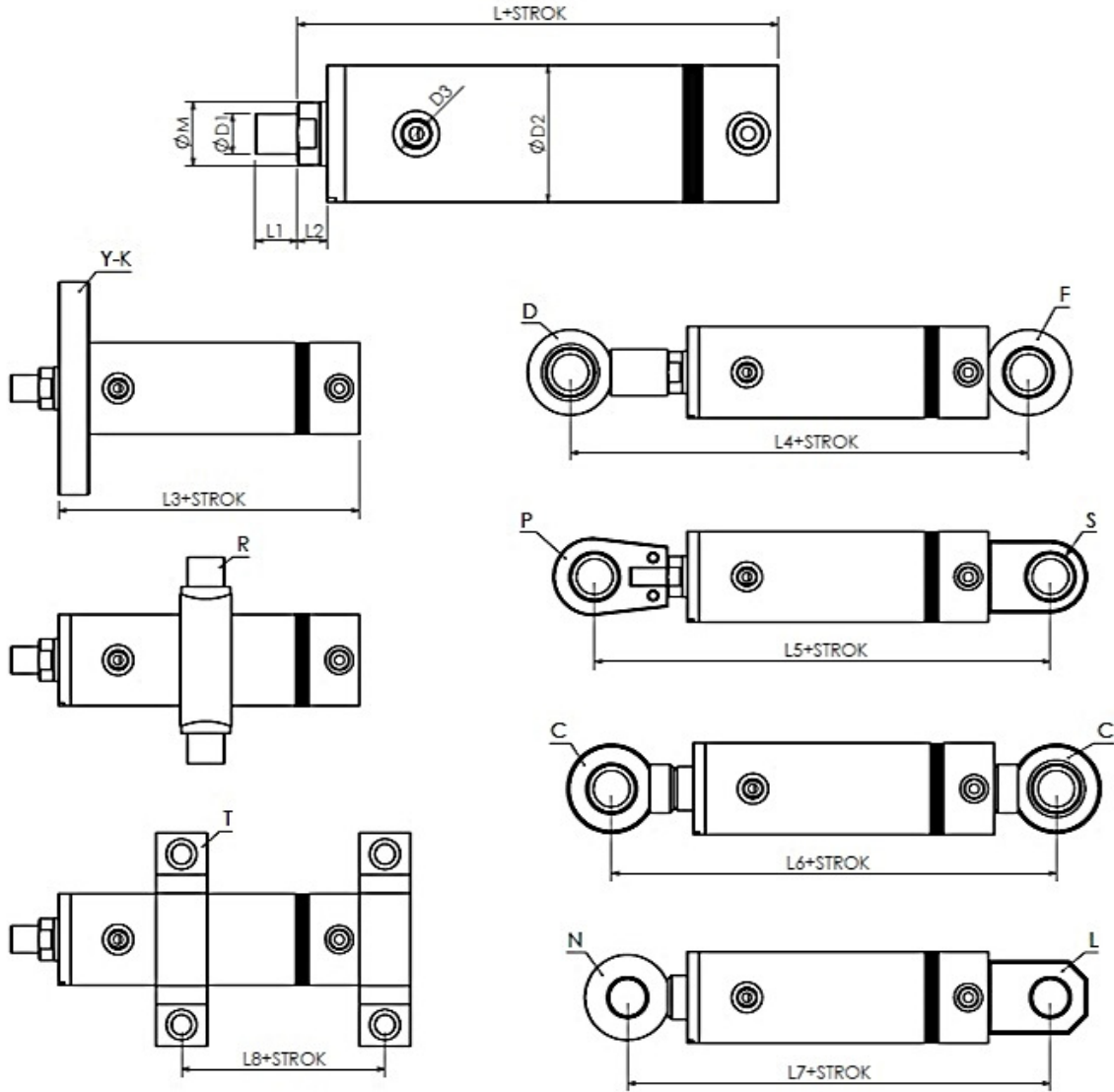
PISTON	M	AA	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	L	L1	L2	L3	L4
32	16	14	M12x1,5	40	68	40	1/4"	110	92	9	20	16	-	-	10.5	155	16	13	19	139
	18	16	M14x1,5														18			
40	22	18	M16x1,5	50	78	50	3/8"	125	106	9	25	20	M16x1,5	M16*1,5	10.5	174	22	13	19	158
	28	24	M20x1,5														28			
50	28	24	M20x1,5	60	98	60	3/8"	148	126	11	30	25	M20x1,5	M16*1,5	12.5	185	28	14	24	167
	36	30	M27x2														36			
63	36	30	M27x2	70	108	75	3/8"	170	145	13	40	30	M27x2	M22*1,5	16.5	208	36	16	29	188
	45	38	M33x2														45			
80	45	38	M33x2	85	129	95	1/2"	195	165	17.5	50	40	M33x2	M35*1,5	20.5	236	45	18	36	214
	56	48	M42x2														56			
100	56	48	M42x2	106	158	115	1/2"	238	200	22	60	50	M42x2	M45*1,5	24.5	275	56	20	37	250
	70	60	M48x2														63			
125	70	60	M48x2	132	186	145	3/4"	272	235	22	70	60	M48x1,5	M58*1,5	24.5	297	70	23	37	269
	80	70	M56x2														75			
140	80	70	M56x2	145	210	160	3/4"	296	260	22	80	70	M56x2	M65*1,5	-	328	75	25	40	298
	90	80	M64x3														85			
160	90	80	M64x3	160	240	180	1"	316	280	22	95	80	M64x3	M80*1,5	-	339	85	25	41	309
	100	90	M72x3														90			
180	100	90	M72x3	185	262	210	1"	365	320	26	105	90	M72x3	M100*1,5	-	377	90	30	45	342
	110	95	M80x3														95			
200	110	95	M80x3	200	299	245	1"	385	340	26	115	100	M80x3	M110*1,5	-	397	95	30	45	362
	120	100	M85x3														100			

HS 02 TİP HİDROLİK SİLİNDİR BAĞLANTI



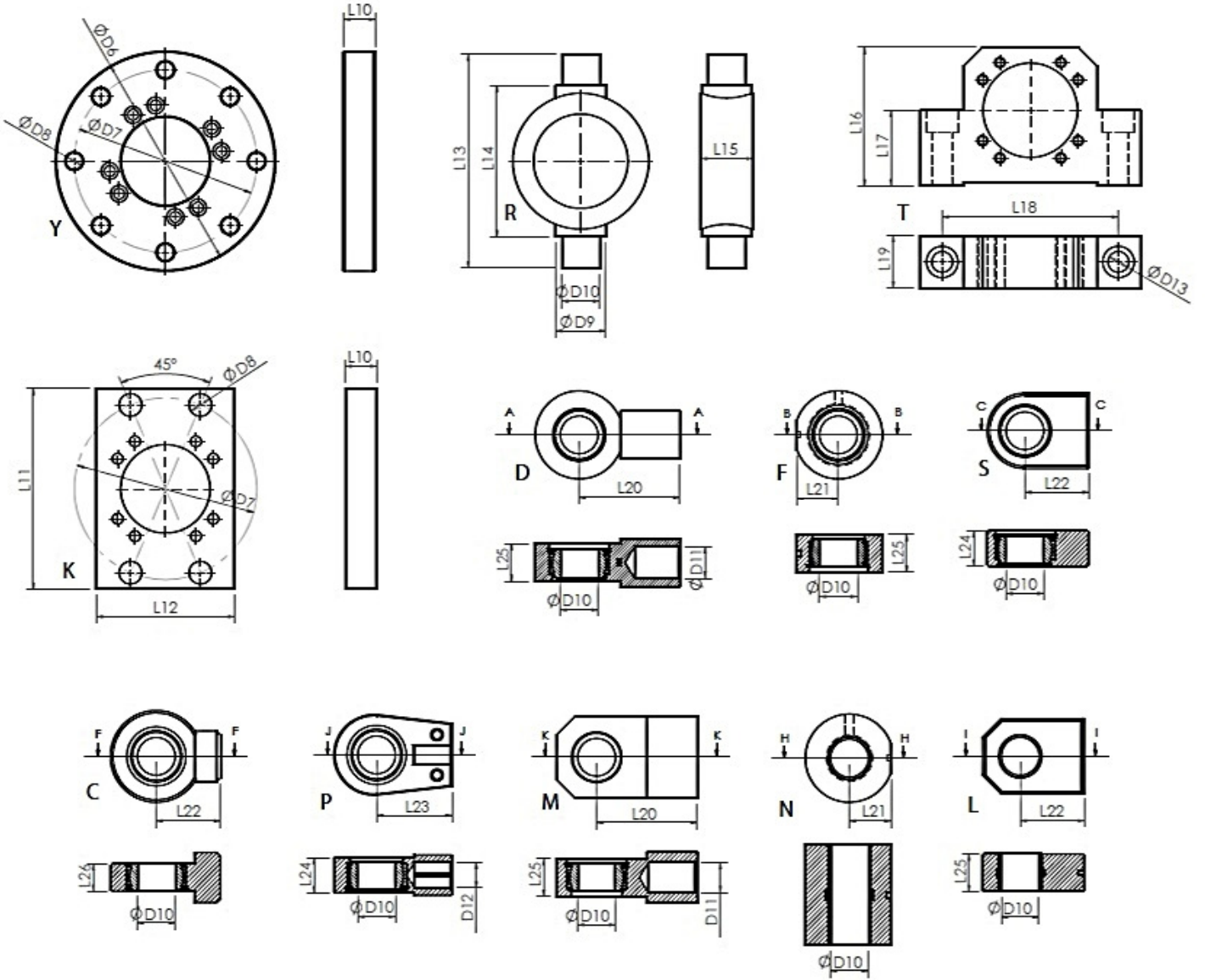
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-	-	-	-	-	16	105	70	99	75	30	65	35	85	30	-	-	-	-	-	-	-
254	267	255	240	36	16	115	80	122	90	30	75	40	100	30	52	23	38	50	19	20	16
283	285	280	263	30	20	140	90	145	105	36	90	50	125	36	65	28	45	50	23	25	20
326	324	315	297	24	25	160	110	170	120	42	110	60	140	42	80	33	51	60	26	30	22
381	395	379	353	24	32	182	125	199	135	52	130	69	175	52	97	43	69	85	35	35	28
453	473	456	421	22	32	220	150	220	160	62	155	80	220	62	120	53	88	105	40	40	35
505	532	502	465	8	32	252	180	295	195	76	200	105	245	76	140	63	100	130	50	50	44
563	598	563	518		35	-	-	332	220	86	-	-	-	-	160	70	115	150	55	55	49
604	655	626	565		36	-	-	366	240	96	-	-	-	-	180	80	141	170	60	65	55
667	742		622		40	-	-	415	275	110	-	-	-	-	195	90	150	210	65	75	-
712	807		672		40	-	-	475	315	120	-	-	-	-	210	100	170	235	70	85	-

HS 03 TİP HİDROLİK SİLİNDİRLER



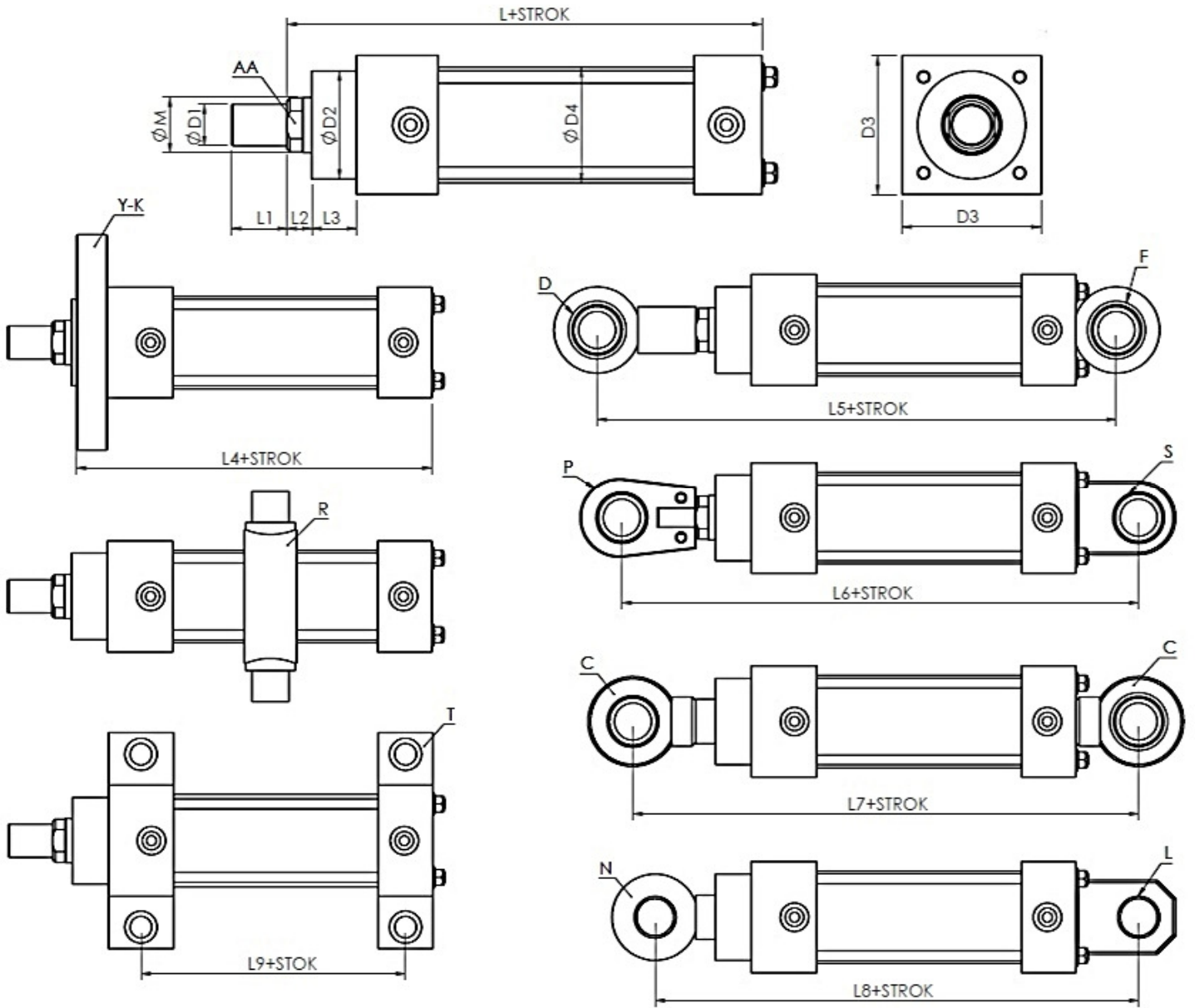
PİSTON	M	D1	D2	D3	D6	D7	D8	D9	D10	D11	D12	D13	L	L1	L2	L3	L4
32	14....	—	40	1/4"	110	92	9	20	—	—	—	10.5	134	—	13	120	—
18	—															
40	20....	M16*1,5	50	3/8"	125	106	9	25	20	M16x1,5	M16*1,5	10.5	137	17	13	124	212
25																
50	20....	M16*1,5	60	3/8"	148	126	11	30	25	M20x1,5	M16*1,5	12.5	145	17	14	131	238
35																
63	30....	M22*1,5	75	3/8"	170	145	13	40	30	M27x2	M22*1,5	16.5	163	23	16	147	276
45																
70	30....	M28*1,5	85	3/8"	170	145	13	40	35	M27x2	M22*1,5	16.5	173	23	16	157	286
55																
80	35....	M35*1,5	95	1/2"	195	165	17.5	50	40	M33x2	M35*1,5	20.5	186	36	18	168	326
60																
90	40....	M35*1,5	105	1/2"	195	165	17.5	50	40	M33x2	M35*1,5	20.5	186	36	18	168	326
60																
100	40....	M45*1,5	115	1/2"	238	200	22	60	50	M42x2	M45*1,5	24.5	227	46	20	207	400
75																
125	50....	M58*1,5	145	3/4"	272	235	22	70	60	M48x1,5	M58*1,5	24.5	241	59	23	218	444
90																

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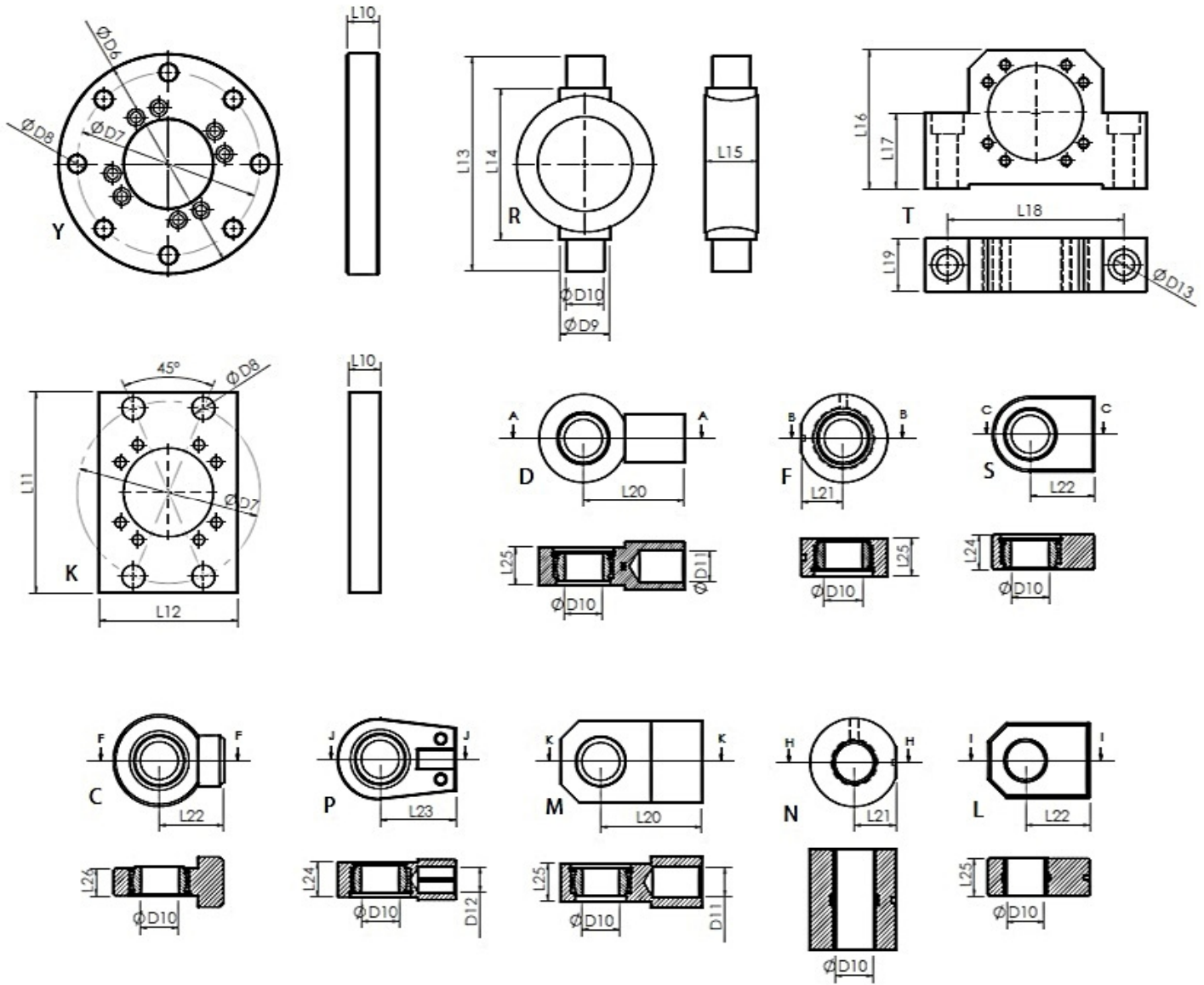
L5	L6	L7	L8	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26
-	-	-	-	16	105	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	213	198	54	16	115	80	122	90	30	75	40	100	30	52	23	38	50	19	20	16
240	235	218	58	20	140	90	145	105	36	90	50	125	36	65	28	45	50	23	25	20
274	265	247	67	25	160	110	170	120	42	110	60	140	42	80	33	51	60	28	30	22
294	304	267	67	25	160	110	170	120	42	110	60	140	42	80	33	61	70	30	30	25
340	324	298	78	32	182	125	199	135	52	130	69	175	52	97	43	69	85	35	35	28
340	324	298	78	32	182	125	199	135	52	130	69	175	52	97	43	69	85	35	35	28
420	403	368	95	32	220	150	220	160	62	155	80	220	62	120	53	88	105	40	40	35
471	441	404	106	32	252	180	295	195	76	200	105	245	76	140	63	100	130	50	50	44

HS 04 TİP HİDROLİK SİLİNDİRLER



PISTON	M	AA	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	L	L1	L2	L3	L4
32	16	14	M12x1,5	40	45	40	1/4"	110	92	9	20	16	-	-	10.5	155	16	13	19	139
	18	16	M14x1,5														18			
40	22	18	M16x1,5	50	60	50	3/8"	125	106	9	25	20	M16x1,5	M16*1,5	10.5	174	22	13	19	158
	28	24	M20x1,5														28			
50	28	24	M20x1,5	60	75	60	3/8"	148	126	11	30	25	M20x1,5	M16*1,5	12.5	185	28	14	24	167
	36	30	M27x2														36			
63	36	30	M27x2	70	90	75	3/8"	170	145	13	40	30	M27x2	M22*1,5	16.5	208	36	16	29	188
	45	38	M33x2														45			
80	45	38	M33x2	85	114	95	1/2"	195	165	17.5	50	40	M33x2	M35*1,5	20.5	236	45	18	36	214
	56	48	M42x2														56			
100	56	48	M42x2	106	126	115	1/2"	238	200	22	60	50	M42x2	M45*1,5	24.5	275	56	20	37	250
	70	60	M48x2														63			
125	70	60	M48x2	132	164	145	3/4"	272	235	22	70	60	M48x1,5	M58*1,5	24.5	297	63	23	37	269
	80	70	M56x2														75			
160	90	80	M64x3	160	198	180	1"	316	280	22	95	80	M64x3	M80*1,5	-	339	85	25	41	309
	100	90	M72x3														90			
200	110	95	M80x3	200	240	245	1"	385	340	26	115	100	M80x3	M110*1,5	-	397	95	30	45	362
	120	100	M85x3														100			

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L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26
-	-	-	-	92.5	16	105	70	99	75	30	65	35	85	30	-	-	-	-	-	-	-
249	262	250	235	104	16	115	80	122	90	30	75	40	100	30	52	23	38	50	19	20	16
278	280	275	258	106.5	20	140	90	145	105	36	90	50	125	36	65	28	45	50	23	25	20
321	319	310	292	114.5	25	160	110	170	120	42	110	60	140	42	80	33	51	60	28	30	22
376	390	374	348	129	32	182	125	199	135	52	130	69	175	52	97	43	69	85	35	35	28
448	468	451	416	151	32	220	150	220	160	62	155	80	220	62	120	53	88	105	40	40	35
500	527	497	460	160.5	32	252	180	295	195	76	200	105	245	76	140	63	100	130	50	50	44
599	650	621	560	184.5	36	-	-	366	240	96	-	-	-	-	180	80	141	170	60	65	55
707	802	-	667	215	40	-	-	475	315	120	-	-	-	-	210	100	170	235	70	85	-