hydrocyl

A Soydan Brand

Quality Production Centre in HYDRAULIC CYLINDERS

HYDRAULIC CYLINDER MANUFACTURING

- Hydrocyl, a brand from Soydan Fluid Power Technologies, combines quality and customer oriented production approach in hydraulic cylinder manufacturing.
- Head office and factory in Izmir, Turkey
- Manufacturing hydraulic cylinders and manifolds at Ataturk Organized Industrial Zone, on a surface area of 5.000 m2, of which 3.000 m2 is covered area
- Young and dynamic engineering team and an experienced production team
- Quality certificates: ISO 3834-2, 9001, 14001 and 45001 certificates
- Producing single acting cylinders, double acting cylinders, customised special cylinders
- Based on customer customer specifications, Hydrocyl offers standard and customized solutions, having its design & engineering team create the requested characteristics with modern CAD programs
- Most of the hydraulic cylinders Hydrocyl produces are used in the following sectors: iron and steel, machinery, mining, mobile hydraulics and construction machinery, marine, hydraulic presses
- End to end quality control
- 100% testing of the final product as per ISO10100 regulations

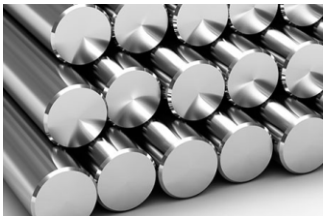
PRODUCTION STANDARDS AND RAW MATERIALS

- All design is made by our own engineers, with both 2D and 3D drawings made for each part of the cylinder
- Each and every part of the cylinder is machined inhouse, for cylinders up to 4 metres in stroke and 400mm in diameter
- Tubes are obtained ready inside honed and bars are obtained ready outside chromed from major quality European manufacturers
- All welding processes are inhouse (ISO 3834-2 certification)
- All painting processes are inhouse
- All assembling processes are inhouse
- All marking processes are inhouse

TUBES

Our cylinder bodies are made from high resistance steel tubes, honed to max. 0,40 µm Ra finishing. We use cold-drawn seamless tubes of European origin with an inside tolerance of ISO-H8, meeting the E355 + SR steel standard. Other steel qualities may be used upon request. Chrome plating of the tubes can also be made.

RODS



We use hard chrome plated rod bars of European origin. Induction hardened chrome bars are available upon request. Our standard rod bars have a tolerance of ISO-f7, meeting the C45E steel standard in accordance with EN 10083 (Ck45 in DIN 2391). Other steels such as 20MnV6 and 42CrMo4 are used depending on project needs.

SEALS

We work exclusively with Kastas, a leading manufacturers of hydraulic sealing technologies, offering a wide range of solutions and sales & service partners in 80 countries as well Kastas Europe GmbH, a logistics center in central Europe. We use Kastas's specific sealing solutions for various industries. We also use other European sealing brands if required by the customer.

STEEL

We process hydraulic cylinder parts such as front covers, rear covers, bushes, joints from 1st grade cold drawn and vacuumed steel, meeting the Ck45 standard in accordance with DIN 17200. We can use a variety of different steel grades depending on application requirements or specific customer requests.

Head office & factory: AOSB, Izmir, Turkey
Office: Buyaka Kule 2, Istanbul, Turkey
(+90) 232 502 4774
info@soydanhidrolik.com

QUALITY CONTROL

Soydan ERS Hidrolik Silindir A.Ş.

SON KALİTE KONTROL RAPORU

DOKÜMAN NO	FRM-03
İLK YAYIN TARİHİ	18.02.2021
REVİZYON NO/TARİHİ	–
SAYFA NO	1/1

ÜRÜN BİLGİLERİ

FİRMA ADI : XXXXXXXXXXX | SİPARİŞ NUMARASI : ERS-S-277 | RAPOR TARİHİ : 29.07.2021

SİLİNDİR TİPİ : ERS3-40/28-105 ÖFB HS | ADET : 5 | S.K.K. NUMARASI : 21/162

SIRA NO	İSTENEN ÖLÇÜLER	TOLERANSLAR -	TOLERANSLAR +	ÖLÇÜM CİHAZI	MİNİMUM ÖLÇÜM	MAKSİMUM ÖLÇÜM	SONUÇ KABUL	SONUÇ Ş.KABUL	SONUÇ RED
1	KAPALI BOY 250,00 MM	1	1	Ş.METRE	250,00	250,00	✔		
2	STROK MESAFESİ 105,00 MM	1	1	Ş.METRE	105,00	105,00	✔		
3	SİLİNDİR ÇAPI Ø40,00 MM	H8 (+0,039)		KUMPAS	40,02	40,02	✔		
4	MİL ÇAPI Ø28,00 MM	0,02 0,041	0	KUMPAS	27,96	27,96	✔		
5	MİL ÖN İÇ PASO M16 / 32,00 MM	0,2	0,2	KUMPAS	OK		✔		
6	MİL ÖN ÇAP BOY Ø27,00 / 25,00	0,2	0,2	KUMPAS	26,98 / 25,00		✔		
7	MİL ÖN ANAHTAR 24,00 AA	0,2	0,2	KUMPAS	23,84	2395,00	✔		
8	ARKA YAĞ GİRİŞİ G 1/4 "	GEÇER/GEÇMEZ		KUMPAS	OK		✔		
9	ÖN FLANŞ BAĞLANTI DELİKLERİ Ø8,50 / 4 ADET	0,3	0,3	KUMPAS	8,55 / 4 ADET		✔		
10	ÖN FLANŞ BAĞLANTI DELİK EKSENLERİ 47,20 MM / 58,20	0,3	0,3	KUMPAS	47,17 / 58,17		✔		
11	BOYA KONTOLÜ RAL 9005	VAR / YOK		GÖZLE	RAL 9005		✔		
12	SIZDIRMAZLIK TESTİ 150 BAR / 3 KEZ 10SN	10 BAR	10 BAR	SIZDIRMAZLIK TEST CİHAZI	OK	OK	✔		

Açıklama:

Ön yağ girişi boru yardımıyla arka kısımdan 8,00 mm somun + yüksük ve 8L rakor ile sağlanmıştır.

KONTROL EDEN	ONAYLAYAN
Kalite Kontrol Sorumlusu Sami ÇINAR	Proje ve Satış Müdürü Özgür YAŞAR

- Customer's specifications are thoroughly followed and checked in each manufacturing stage by the quality control department
- Every part should be within the tolerances specified in the technical drawings
- Welds are checked with NDT methods
- Final products are 100% tested to satisfy ISO 10100 rules

TESTING (100%)

Soydan ERS Hidrolik Silindir A.Ş.

HİDROLİK SİLİNDİR TEST RAPORU
(Hydraulic Cylinder Test Report)

Firma Adı / Company Name	xxxxxxxx	Test Raporu No / Test Report No	21/135
Sipariş Numası / You Order Number	ERS-S-273	Adet / Quantity	10
Silindir Tipi / Cylinder mark type	ERS3-63/35-406 HİDROLİK SİLİNDİR		
Test Tarihi / Test Date	09.08.2021	Honlanmış Boru Çapı / Honed Tube Diameter	Ø63/75 mm (H8)
Test Sıvısı Standardı / Test Fluid Standard	ISO 6743-4	Mil Çapı / Shaft Diameter	Ø35 mm (f7) indüksiyonlu
Akışkan Sıcaklık Aralığı	15-45 °C	Silindir Sızdırmazlık Piston Seals	PU
Çalışma Basıncı / Working pressure	160 Bar	Strok / Stroke	406 mm
Test Sıvısı Kirlilik Seviyesi Standardı / Test Fluid Contamination Level Standard	ISO 4406: 1999		

Testler / Tests	Test Basıncı / Test pressure		Sonuçlar / Results
Yüksek Basınç Testi / High Pressure test	240	Bar	OK
İç Sızdırmazlık Testi / Internal sealing elements test	240	Bar	OK
Dış Sızdırmazlık Testi / External sealing elements test	240	Bar	OK

Hidrolik silindirler, ISO 10100:2001 - Hidrolik Akışkan Gücü - Silindirler - Kabul Testleri Standardına uygun olarak test edilmiştir.
Hydraulic cylinders have been tested in accordance with ISO 10100: 2
Hydraulic Fluid Power - Cylinders - Acceptance Tests Standard.

Uyarılar / Remarks

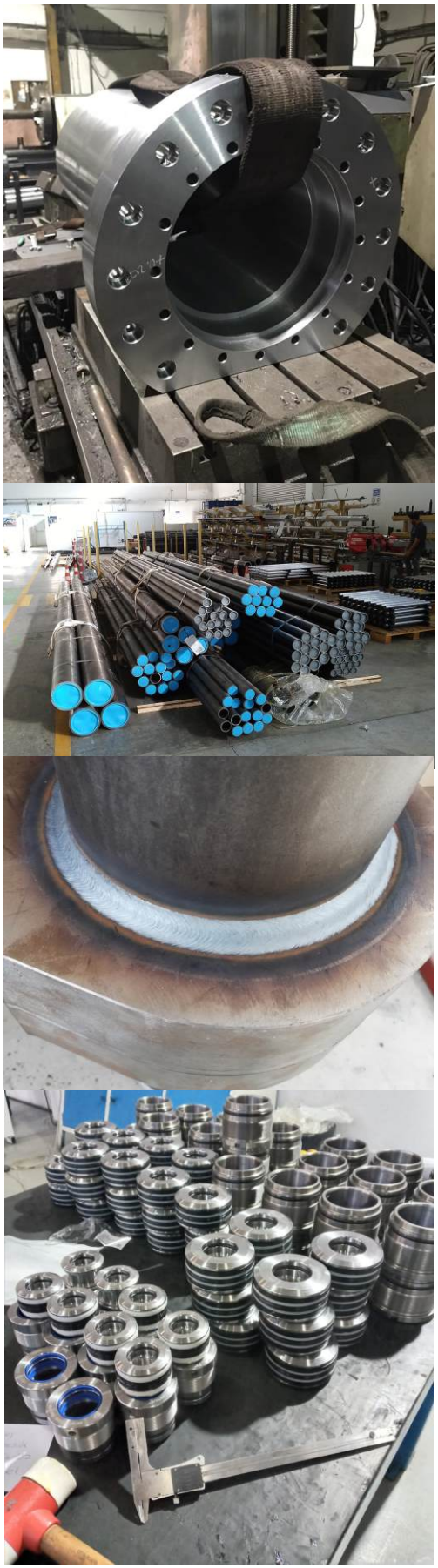
Kalite Kontrol / Quality Control — Kalite Kontrol Sorumlusu / Quality control officer — Sami ÇINAR

Onaylayan / Approval — Proje ve Satış Müdürü / Project and Sales Mana — Özgür YAŞAR

Ekler / Enclosures

Each and every hydraulic cylinder manufactured at our factory is tested for leakage-freeness as per ISO 10100 standard at min. working pressure and 1.5 times of working pressure. External measurements such as stroke and tube sizes are checked by our quality control personnel. We provide our customers with a test report (a sample is presented above) for 100% of the cylinders produced at our factory.

KEY ADVANTAGES IN PRODUCTION



Good lead times as a result of:

- Strong honed tube and chromed bar stocks (standard steel qualities are E355+SR and C45E, but other qualities such as 42CrMo4 and 20MnV6 are available
- Separation of OEM standard production line and customised cylinder production line
- Sufficient and versatile computerised and manual machinery

High quality production as a result of:

- Tubes are obtained ready inside honed and bars are obtained ready outside chromed from major quality European manufacturers such as Marcegaglia, Cromsteel, Uranie, Nimet
- Customer's specifications are thoroughly followed and checked in each manufacturing stage by the quality control department
- Welds are made as per ISO 3834-2 standards
- Each and every cylinder part should be within the tolerances specified in the technical drawings
- Final products are 100% tested to satisfy ISO 10100 rules and higher

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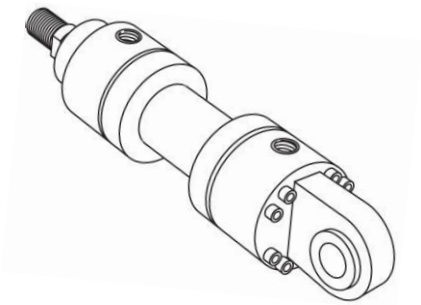
FROM OUR PRODUCTION

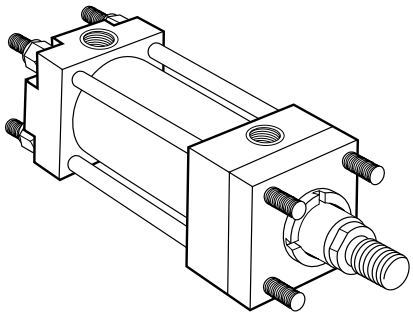
THERMAL DEBURRING

Hydrocyl can utilise the thermal deburring technology, which uses a brief blast of extreme heat to completely remove burrs. The workpiece is placed in a closed, sealed chamber, which is then filled with a precise mixture of combustible gas and oxygen. This mixture is then ignited, creating a small, controlled explosion with combustion temperatures as high as 3500°C.

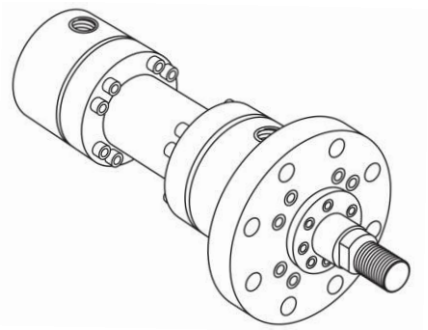
ISO CYLINDER RANGE



ISO 6020/1 cylinders



ISO 6020/2 cylinders

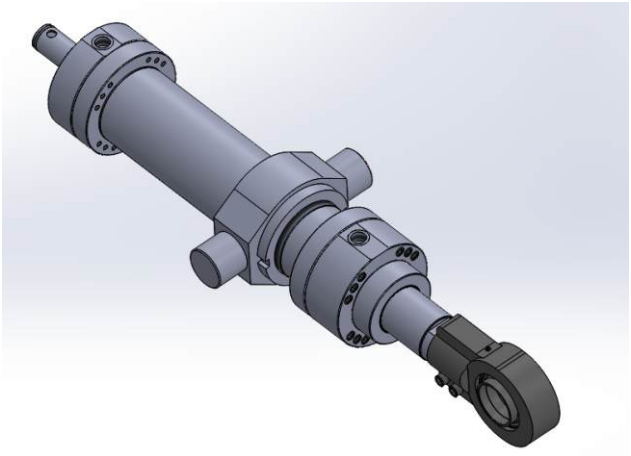


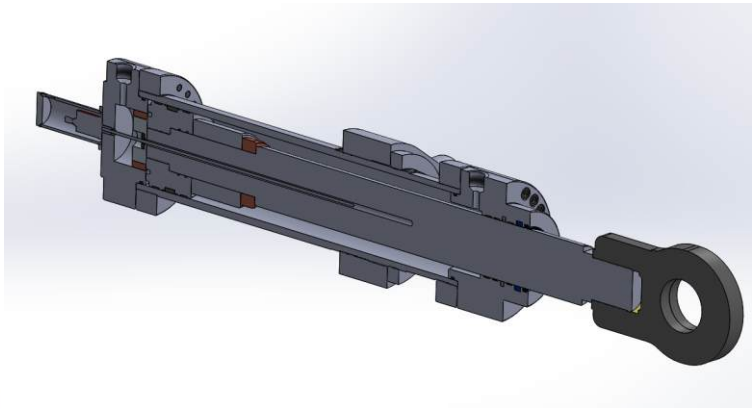
ISO 6022 cylinders

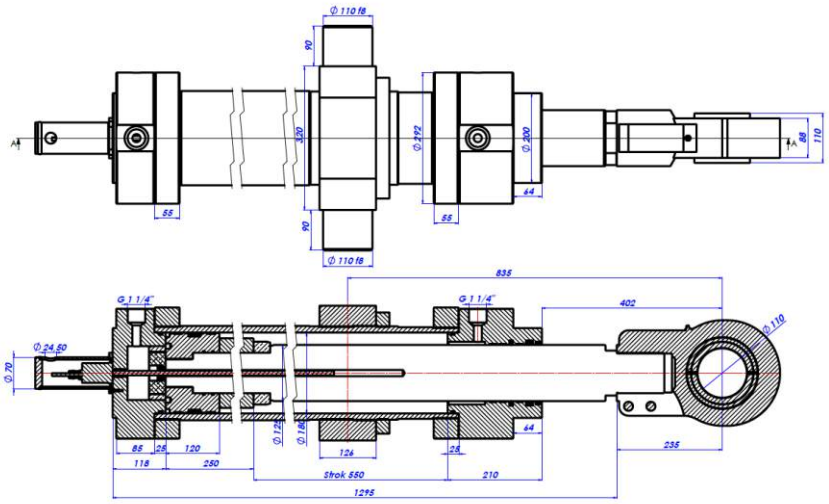
Our standard production range is above. For any cylinder that does not conform to ISO standards, please consult our factory. Our specialty in designing hydraulic cylinders from scratch and flexibly integrating these new designs into our production line enables us to maintain a short lead time.

CUSTOMER REFERENCES

DESIGN PROCESS







PRODUCTION PROCESS

EXAMPLES FROM OUR PRODUCTS

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EXAMPLES FROM OUR PRODUCTS

SHIPMENT PROCESS

SAMPLE ORDERING CODE

01	02	03	04	05	06	07	08	09	10
HYC1	**125/70**	**500**	**CT05CT06**	**PN**	**M01**	**C00**	**MS0**	**MP0**	**R1002**

01: Cylinder Type

Cetop	**HYC1**
Welded	**HYC2**

02: Tube Inside Diameter (mm)	**Rod Diameter (mm)**	
Ø40	Ø25	**40/25**
Ø50	Ø28	**50/28**
Ø63	Ø36	**63/36**
Ø80	Ø45	**80/45**
Ø100	Ø56	**100/56**
Ø125	Ø70	**125/70**
Ø140	Ø80	**140/80**
Ø160	Ø90	**160/90**
Ø200	Ø110	**200/110**

03: Stroke (mm)

10 - 5200	**500**

04: Connection Type

Round Flange at Head End	**CT01**
Round Flange at Cap End	**CT02**
Plain Clevis at Head End	**CT03**
Plain Clevis at Cap End	**CT04**
Self-Aligning Clevis at Head End	**CT05**
Self-Aligning Clevis at Cap End	**CT06**
Trunnion	**CT07**

05: Sealing Type

Viton	**V**
PU/NBR	**PN**

06: Rod Material

Ck45 Chromed	**M01**
Ck45 Chromed + induction hardened	**M02**

07: Cushioning

No cushioning	**C00**
Double sided fixed cushioning	**C01**
Front fixed cushioning	**C02**
Rear fixed cushioning	**C03**
Double sided adjustable cushioning	**C04**
Front adjustable cushioning	**C05**
Rear adjustable cushioning	**C06**

08: Sensor

No sensor	**MS0**
Linear sensor	**MS1**
Front and rear proximity sensor	**MS2**
Front proximity sensor	**MS3**
Rear Proximity Sensor	**MS4**

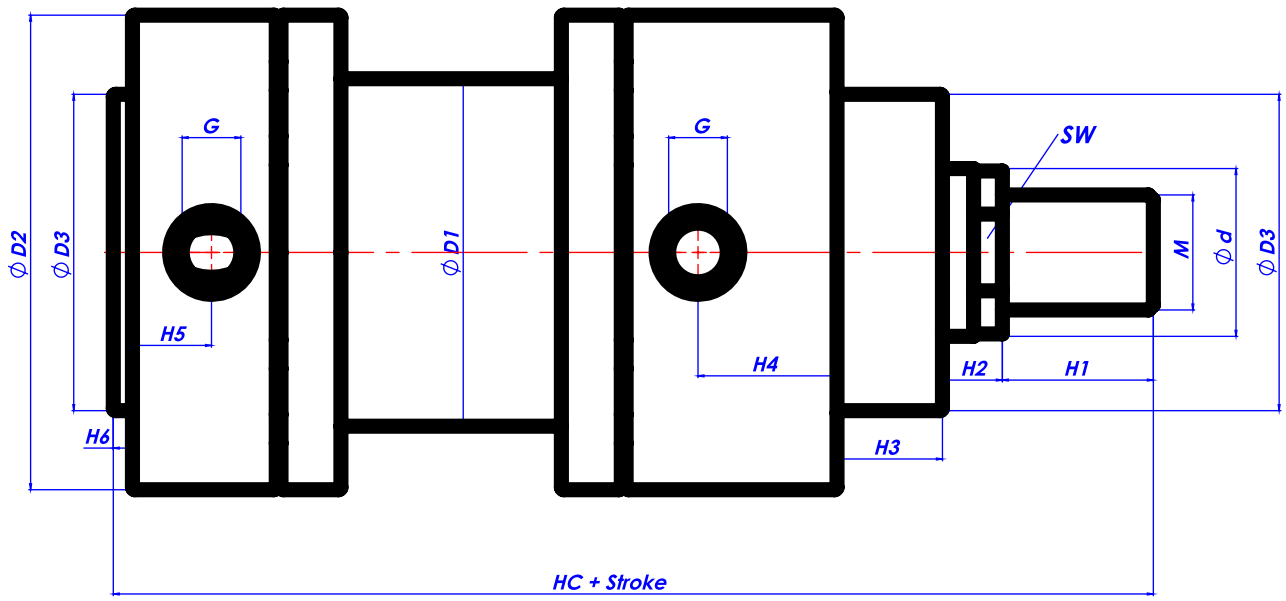
09: Test Coupling

No test coupling	**MP0**
Double sided test coupling	**MP1**
Front test coupling	**MP2**
Rear test coupling	**MP3**

10: Painting

No paint	**N**
Primed only	**P**
Primed + top coated (RAL …)	**R**

DIMENSIONS: CETOP TYPE CYLINDERS

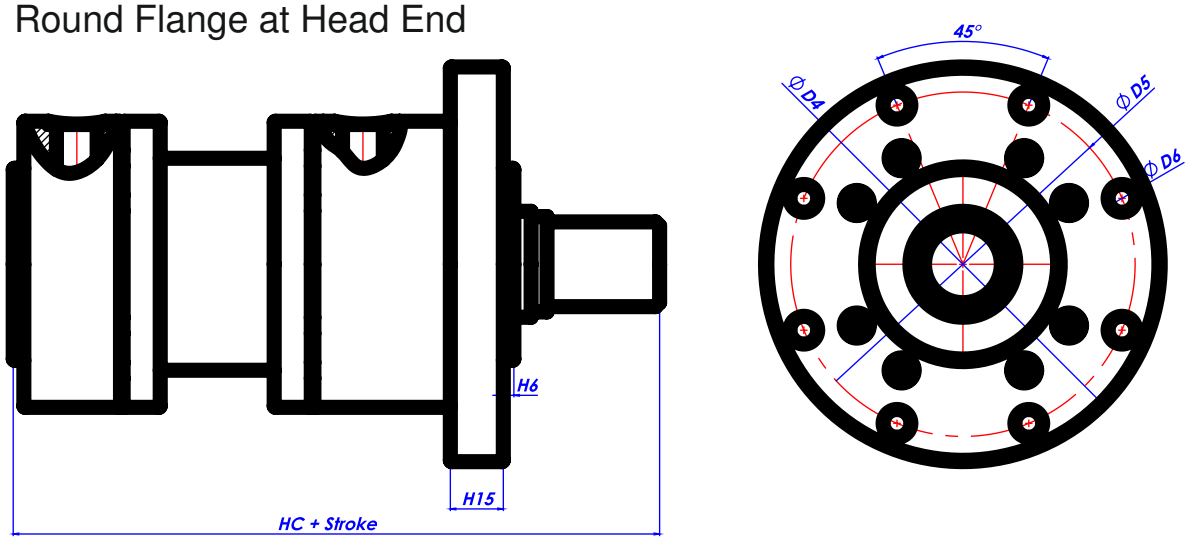


	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125	Ø140	Ø160	Ø200
Ød	25	28	36	45	56	70	80	90	110
SW	19	22	30	36	46	60	65	75	95
M	M16x1,5	M20x1,5	M27x2	M33x2	M42x2	M48x2	M64x3	M64x3	M80x3
ØD1	50	60	75	95	115	145	160	180	230
ØD2	88	106	118	138	168	198	216	236	296
ØD3	52	52	70	90	106	132	145	160	200
ØD4	128	148	175	200	242	270	298	320	400
ØD5	110	125	150	170	200	230	260	280	340
ØD6	9	11	13	17	21	21	21	21	26
ØD7	52	60	70	85	106	132	145	160	200
ØD8	20	25	30	40	50	60	80	80	100
ØD9	20	25	30	40	50	60	80	80	100
ØD10	75	85	106	128	148	198	218	235	298
ØD11	20	25	32	40	50	63	80	80	100
G	G 1/4"	G 3/8"	G 3/8"	G 1/2"	G 1/2"	G 3/4"	G 1"	G 1"	G 1 1/4"
H1	22	28	36	45	56	63	85	85	95
H2	15	15	15	15	15	25	25	25	30
H3	22	25	30	37	37	44	48	48	55
H4	36	36	39	39	39	58	66	66	79
H5	19	22	22	25	25	33	40	40	45
H6	4	5	5	5	5	8	8	8	10
H7	14	15	20	27	27	28	32	32	35
H8	38	45	51	69	88	100	141	141	170
H9	50	55	65	100	123	140	180	180	250
H10	19	23	28	35	40	50	60	60	70
H11	48	58	68	88	98	126	142	142	188
H12	80	90	110	140	160	210	240	265	310
H13	18	20	25	35	40	50	63	63	80
H14	28	38	48	58	68	76	95	95	118
H15	18	20	25	32	32	36	40	40	45
HC	213	246	269	299	310	384	438	438	518
HC1	227	261	289	326	337	412	470	470	553
HC2	251	291	320	368	398	484	579	579	688

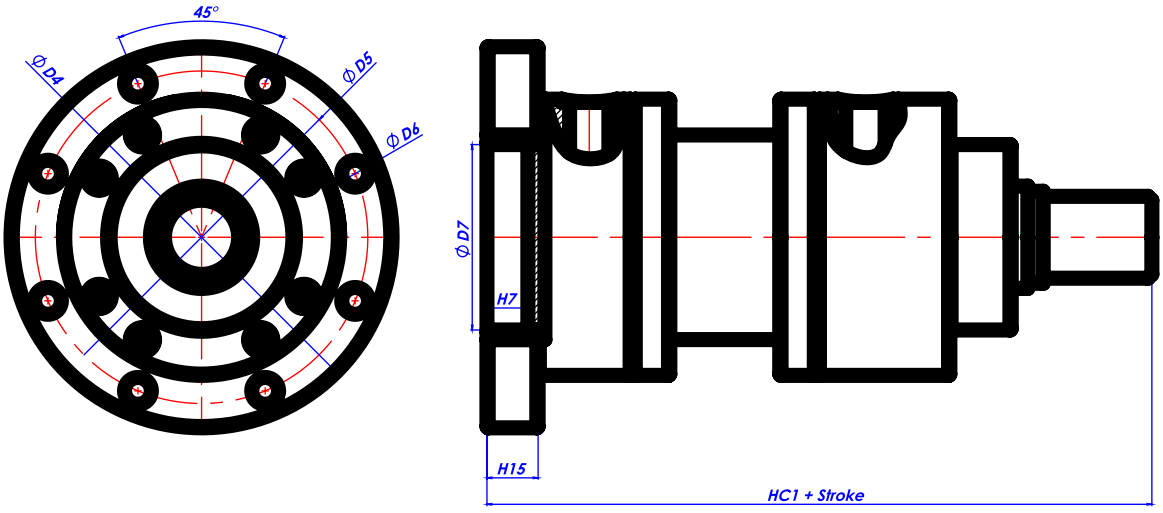
							Optional Rod Diameters											
	Ø40		Ø50		Ø63		Ø80		Ø100		Ø125		Ø140		Ø160		Ø200	
Ød	28	30	30	36	40	45	50	56	60	70	80	90	90	100	100	110	120	140
SW	22	24	24	30	32	36	41	46	48	60	65	75	75	85	85	95	105	125
M	M16x1,5		M20x1,5		M27x2		M33x2		M42x2		M48x2		M64x3		M64x3		M80x3	

DIMENSIONS: CETOP TYPE CYLINDERS

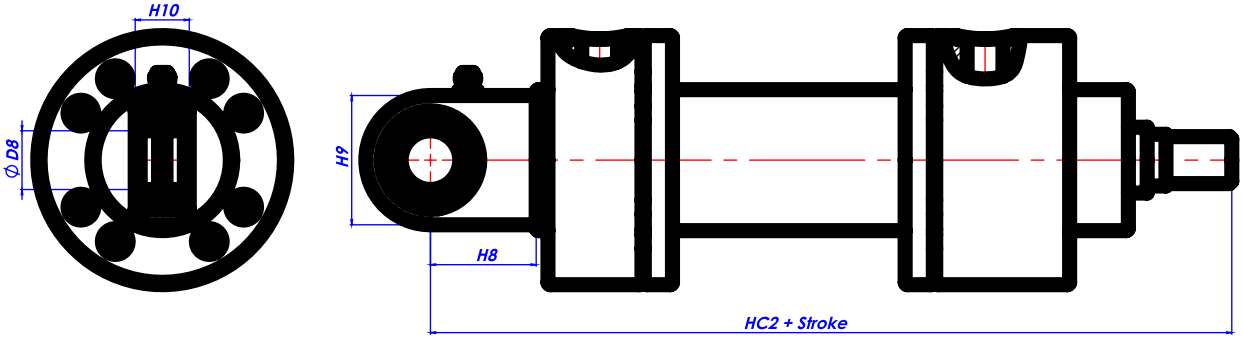
Round Flange at Head End



Round Flange at Cap End

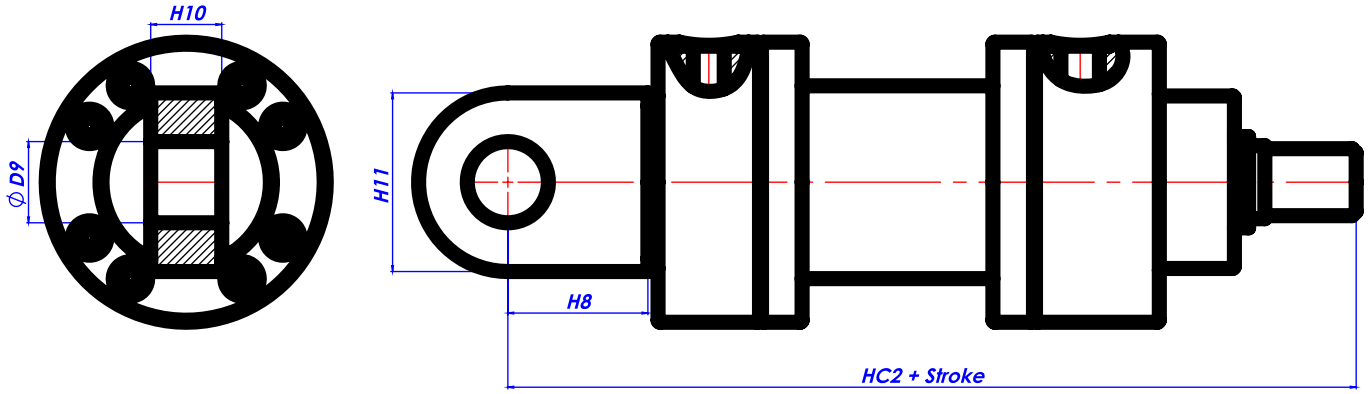


Self Aligning Clevis at Cap End

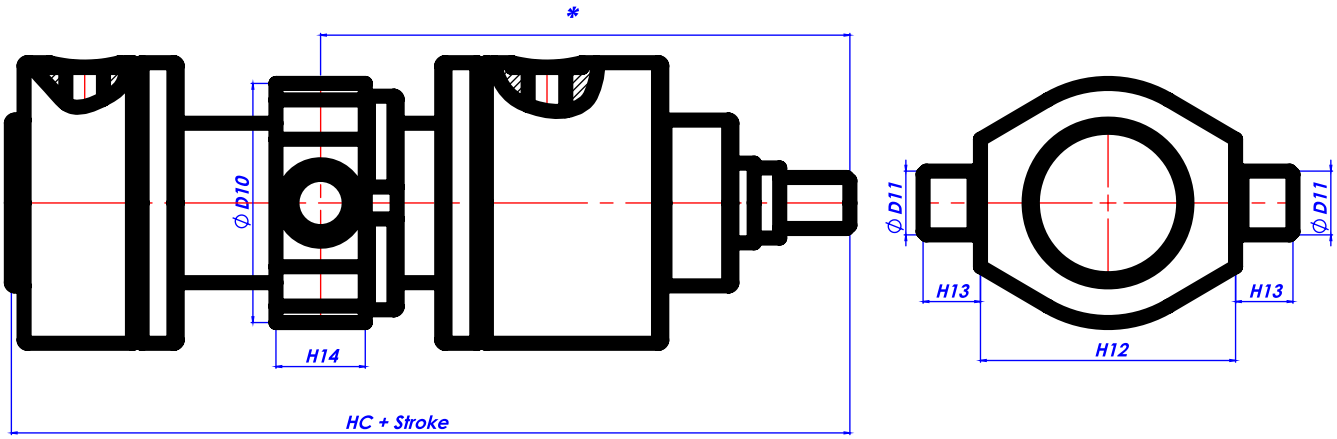


DIMENSIONS: CETOP TYPE CYLINDERS

Plain Clevis at Cap End

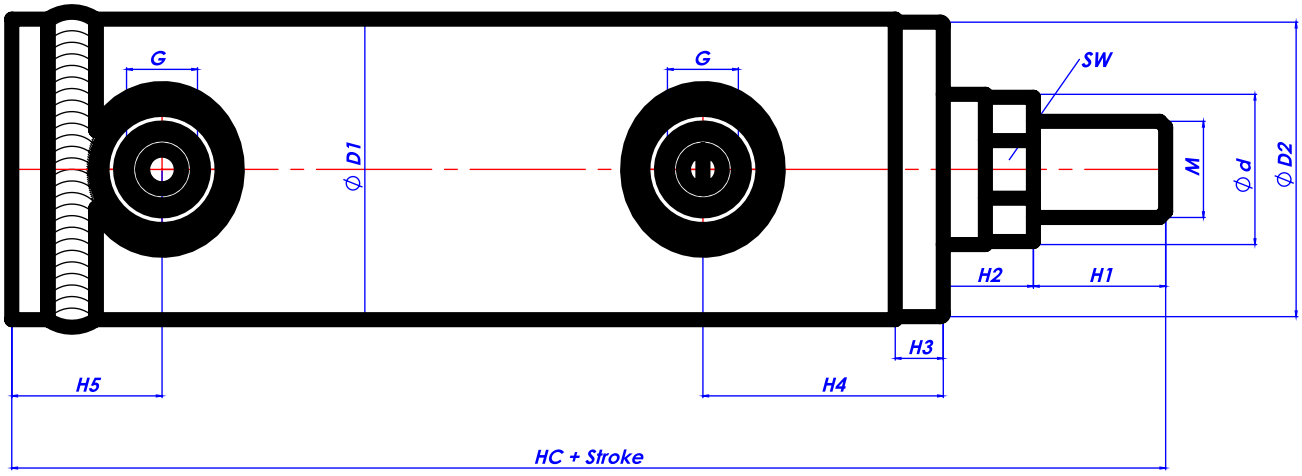


Trunnion



** Bu ölçü müşteri ihtiyacına ve stroğa bağlı değişir*
** This dimension will change according to the stroke and customer needs.*

DIMENSIONS: WELDED TYPE CYLINDERS

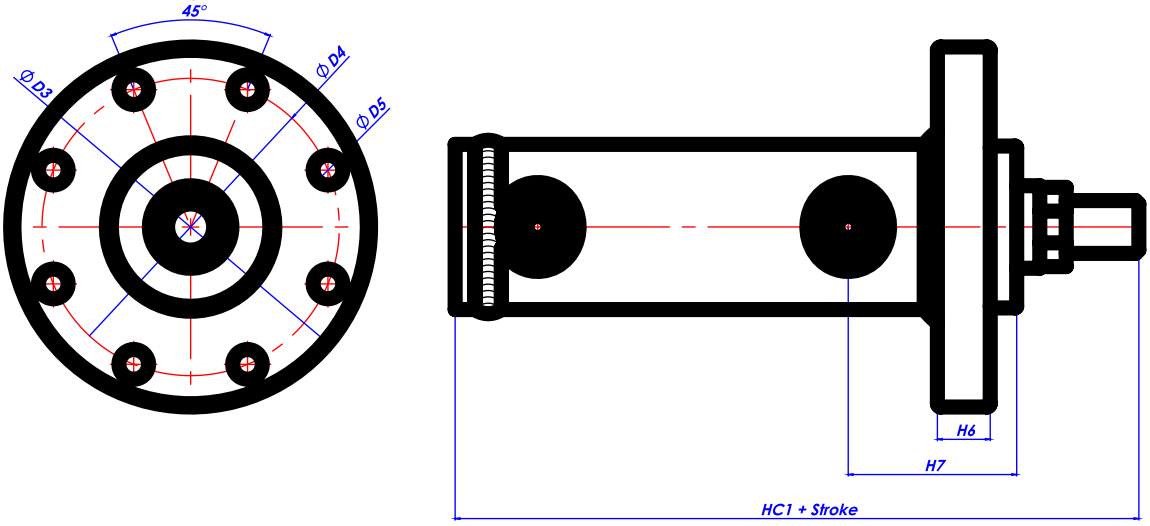


	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125	Ø140	Ø160	Ø200
Ød	25	28	36	45	56	70	80	90	110
SW	19	22	30	36	46	60	65	75	95
M	M16x1,5	M20x1,5	M27x2	M33x2	M42x2	M48x2	M64x3	M64x3	M80x3
ØD1	50	60	75	95	115	145	160	180	230
ØD2	49	59	74	94	114	144	158	178	228
ØD3	109	127	137	178	208	228	267	284	347
ØD4	90	100	110	150	170	190	220	240	300
ØD5	9	11	13	17	21	21	21	21	26
ØD6	20	25	30	40	50	60	80	80	100
ØD7	20	25	30	40	50	60	80	80	100
ØD8	20	25	32	40	50	63	80	80	100
ØD9	75	85	106	128	148	198	218	235	298
G	G 1/4"	G 3/8"	G 3/8"	G 1/2"	G 1/2"	G 3/4"	G 3/4"	G 1"	G 1"
H1	22	28	36	45	56	63	85	85	95
H2	15	15	15	15	15	25	25	25	30
H3	8	8	15	15	15	15	15	15	15
H4	40	43	70	70	67	75	75	95	95
H5	25	25	25	25	35	35	35	45	50
H6	16	18	20	25	25	30	35	35	40
H7	51	58	70	70	75	90	100	110	115
H8	41	48	50	60	65	80	85	95	105
H9	38	45	51	69	88	100	141	141	170
H10	50	50	65	100	123	140	180	180	250
H11	19	23	28	35	40	50	60	60	70
H12	48	58	68	88	98	126	142	142	188
H13	28	38	48	58	68	76	95	95	118
H14	18	20	25	35	40	50	63	63	80
H15	80	90	110	140	160	210	240	265	310
HC	142	163	206	220	236	273	295	325	355
HC1	157	183	206	220	246	293	325	345	380
HC2	158	186	231	255	266	318	345	375	410
HC3	180	208	257	289	324	373	436	466	525

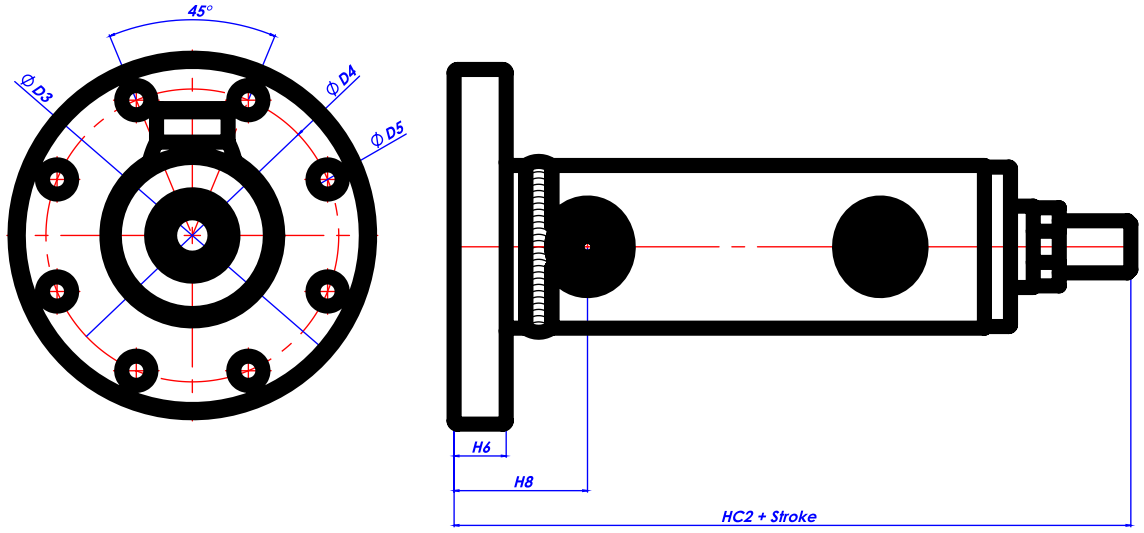
					Optional Rod Diameters											
	Ø40		Ø50		Ø63		Ø80		Ø100		Ø125		Ø140		Ø160		Ø200	
Ød	28	30	30	36	40	45	50	56	60	70	80	90	90	100	100	110	120	140
SW	22	24	24	30	32	36	41	46	48	60	65	75	75	85	85	95	105	125
M	M16x1,5		M20x1,5		M27x2		M33x2		M42x2		M48x2		M64x3		M64x3		M80x3	

DIMENSIONS: WELDED TYPE CYLINDERS

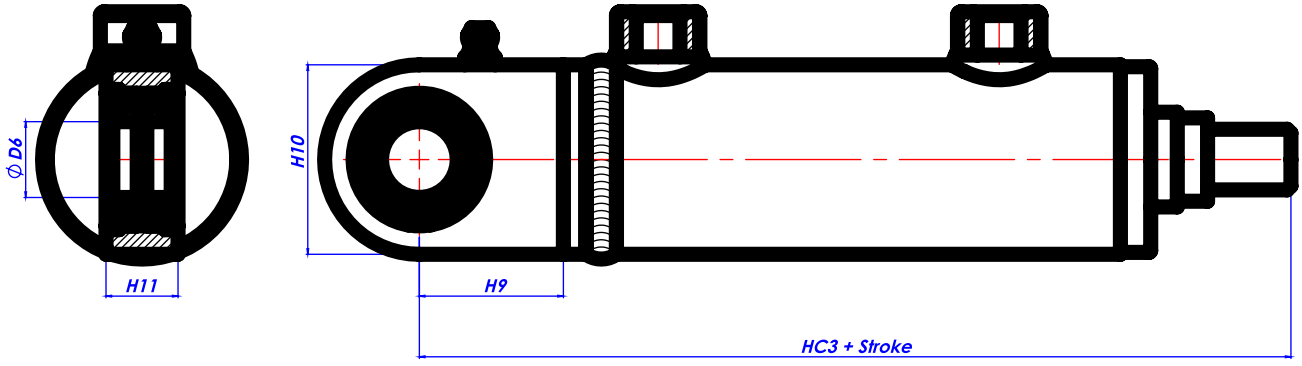
Round Flange at Head End



Round Flange at Cap End

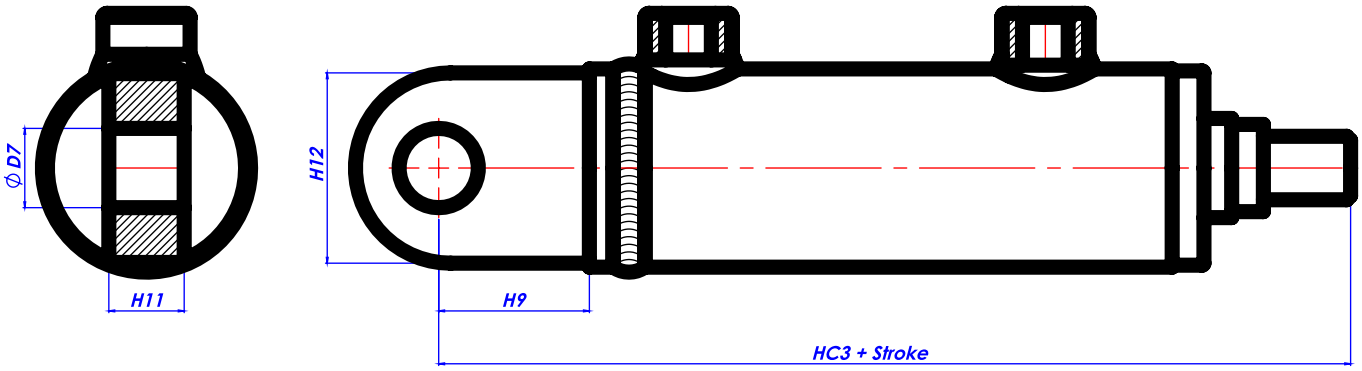


Self Aligning Clevis at Cap End

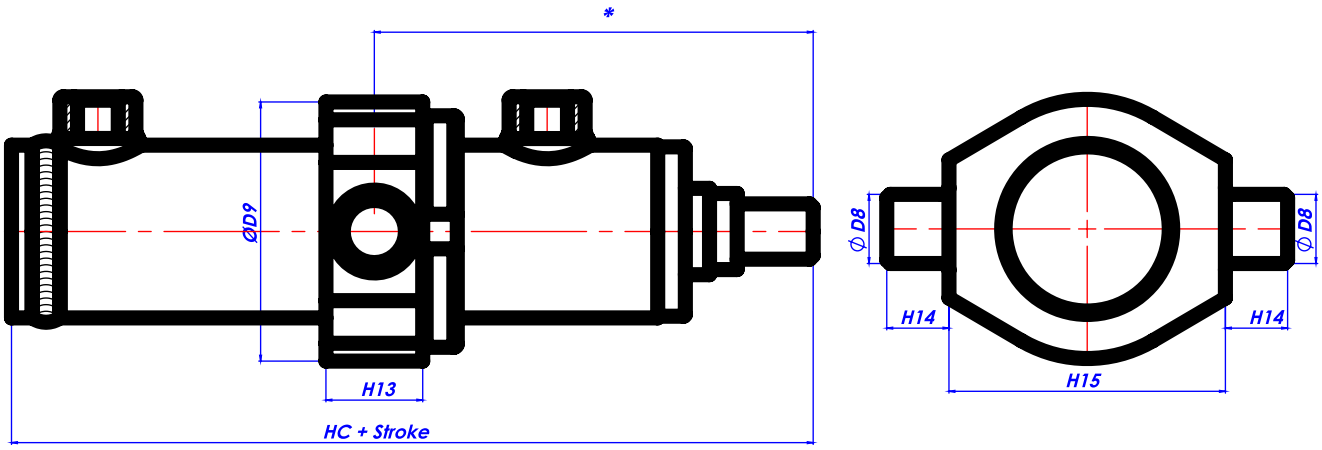


DIMENSIONS: WELDED TYPE CYLINDERS

Plain Clevis at Cap End



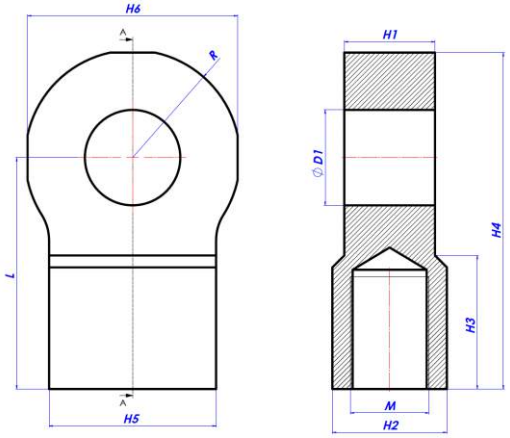
Trunnion



** Bu ölçü müşteri ihtiyacına ve stroğa bağlı değişir*
** This dimension will change according to the stroke and customer needs*

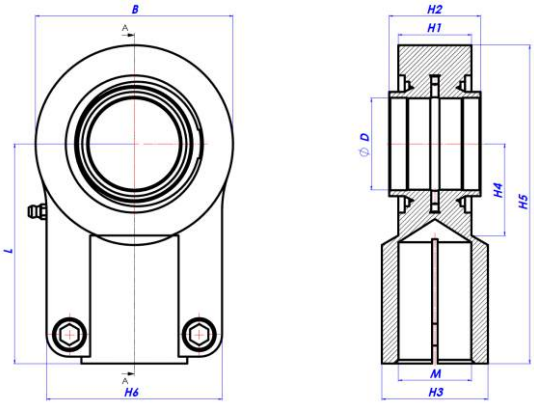
DIMENSIONS: CLEVIS OPTIONS

Plain Clevis at Rod End



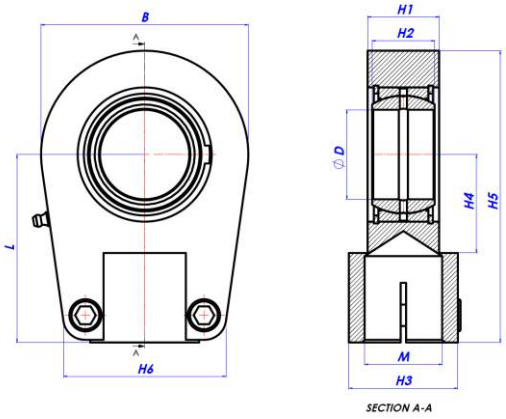
	HYC-ÖEB-Ø20	HYC-ÖEB-Ø25	HYC-ÖEB-Ø30	HYC-ÖEB-Ø40	HYC-ÖEB-Ø50	HYC-ÖEB-Ø60	HYC-ÖEB-Ø80	HYC-ÖEB-Ø100
ØD	20	25	30	40	50	60	80	100
M	M16x1,5	M20x1,5	M27x2	M33x2	M42x2	M48x2	M64x3	M80x3
L	52	65	80	97	120	140	180	210
R	25	30	35	45	50	63	72	99.5
H1	19	23	28	38	40	50	60	69
H2	25	33	38	48	58	68	88	107
H3	30	35	48	56	70	78	102	112
H4	76	94	114	141	169	202	251	307
H5	38	46	60	70	80	100	120	170
H6	48	58	68	88	98	124	142	194

Self Aligning Clevis -1



	HYC-ÖEBK1-Ø20	HYC-ÖEBK1-Ø25	HYC-ÖEBK1-Ø32	HYC-ÖEBK1-Ø40	HYC-ÖEBK1-Ø50	HYC-ÖEBK1-Ø63	HYC-ÖEBK1-Ø80	HYC-ÖEBK1-Ø100
ØD	20	25	32	40	50	63	80	100
M	M16x1,5	M20x1,5	M27x2	M33x2	M42x2	M48x2	M64x3	M80x3
L	52	65	80	97	120	140	180	210
B	47	58	71	90	109	136	170	211
H1	17	22	28	33	41	53	67	85
H2	20	25	32	40	50	63	80	100
H3	25	30	38	47	58	70	90	110
H4	22	27	32	41	50	62	78	98
H5	77	96	118	146	179	213	270	322
H6	47	54	66	80	96	114	148	178

Self Aligning Clevis -2



	HYC-ÖEBK2-Ø20	HYC-ÖEBK2-Ø25	HYC-ÖEBK2-Ø30	HYC-ÖEBK2-Ø40	HYC-ÖEBK2-Ø50	HYC-ÖEBK2-Ø60	HYC-ÖEBK2-Ø80	HYC-ÖEBK2-Ø100
ØD	20	25	32	40	50	63	80	100
M	M16x1,5	M16x1,5	M22x1,5	M35x1,5	M45x1,5	M58x1,5	M80x2	M100x2
L	50	50	60	85	105	130	170	235
B	56	56	64	94	116	130	176	231
H1	19	23	28	35	40	50	60	70
H2	16	20	22	28	35	44	55	70
H3	25	25	32	49	61	75	105	138
H4	25	28	30	45	55	65	80	105
H5	80	80	94	135	168	200	265	360
H6	46	46	50	76	90	120	160	200

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