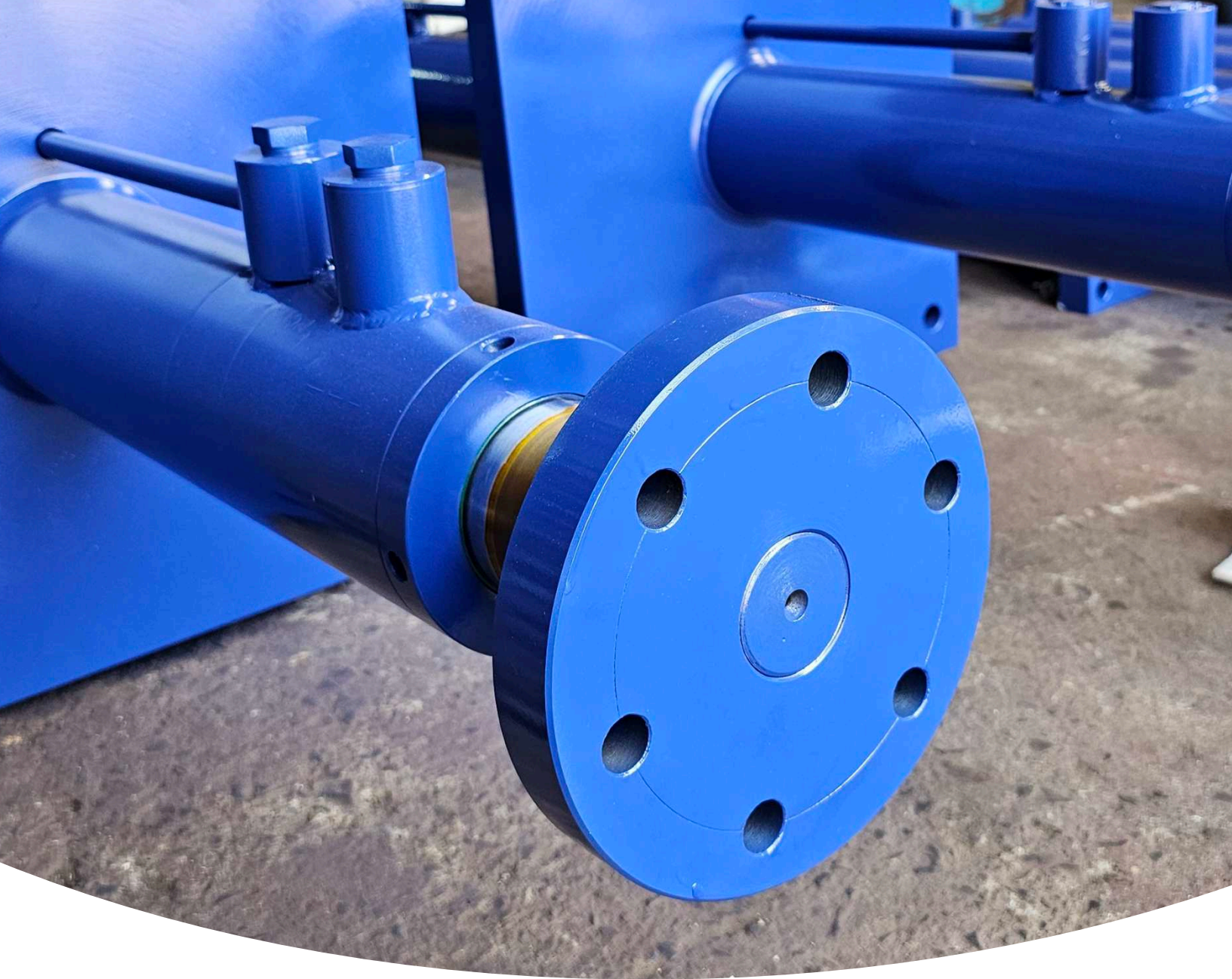




Hydraulic Cylinders

Catalog



HYDRAULIC CYLINDERS • POWER UNITS • RECYLINDERING • SERVICE & MAINTENANCE

www.apexhydropneumatic.com

HRC SERIES

Round-line hydraulic cylinders - technical and dimensional catalogue

01**COMPANY PROFILE**

Capabilities, markets and applications

02-03**02****GENERAL CHARACTERISTICS**

Operating limits, fluids and filtration

04**03****OPERATING INSTRUCTIONS**

Storage, installation, service and sealing

05-07**04****MOUNTING OVERVIEW**

Available cylinder mounting methods

08**05****HRC PRODUCT KEY**

Ordering code and configuration guide

09**06****DIMENSIONS AND MOUNTINGS**

Basic, eye, clevis, flange, trunnion and foot

10-18**07****POSITION SENSING**

End-position and linear measurement options

19**08****EXTENDED CYLINDER RANGE**

Motion types and standard platform

20-22**09****CUSTOMIZED CYLINDERS**

Special materials, sizes and configurations

23**10****SERVICE AND REPAIR**

Repair, overhauling and technical support

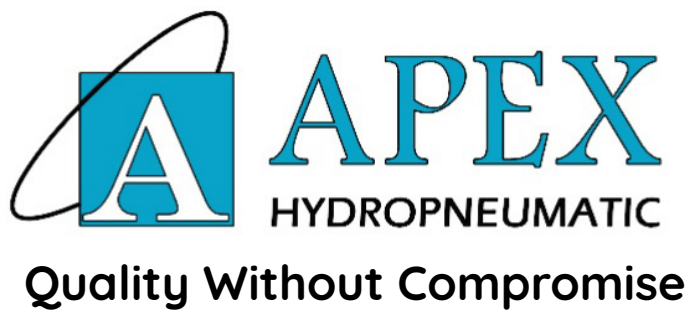
24**11****CONTACT APEX**

Sales and technical enquiries

25**HRC AT A GLANCE**

Bore up to 1000 mm | Pressure up to 700 bar

Standard and engineered-to-order configurations



First class facilities

high level of automation with in-line process control

Full product range

standard, customized, ex-proof, stainless steel, safety certified

Advanced Technology

thanks to long lasting investments in R&D

Quality first

according to ISO 9001, including automotive's sector methods

Sales & service

Wide network of experienced engineers, oriented to customer

Professional team

to quickly meet every customer need

Apex. Our name implies strength. And that's exactly what you'll find throughout our entire product line.



Apex Cylinders are renowned for their legendary performance, durability and affordability. That's why you'll find Apex Cylinders in use all over the world.

Here is a short list of what you can expect from Apex Cylinders:

- Design and Application Experience
- Responsiveness
- Fast Product Delivery
- System Integration Capabilities
- Ingenuity and Creativity
- Organizational Integrity
- Highest Quality
- Competitive Pricing
- Financial Stability
- Worldwide Support



Markets and Applications

Apex Cylinders are utilized worldwide in many markets and applications, including:

- Oil and Gas
- Renewable Energy
- Power Generation
- Process Valves
- Mining
- Primary Metals
- Metal Fabrication
- Marine
- Civil Engineering Projects (including IND Army Corps of Engineers Projects)
- Military and Commercial Aerospace
- Material Handling
- Testing and Analysis
- Construction
- Wood Processing
- Waste Processing
- Automotive
- Tire Press
- Machine Tools
- Entertainment

GENERAL CHARACTERISTICS

Piston diameter:	Upto 1000 mm
Max. pressure:	Upto 700 bars
Piston speed:	As per customer requirement
Temperature range:	-60° C to +100° C
Mounting position:	Any

The seals are designed for use with hydraulic oils in accordance with DIN 51524 and DIN 51525 and a temperature range of -30 ° C to +100 ° C. Seals for other temperature ranges and operating media as well as for other cylinder and rod materials are available upon request.

OPERATING PRESSURE

Our hydraulic cylinders are subjected to a static pressure test before delivery. The operating pressure can be selected freely on the basis of the operating conditions and the required level of safety – with reference to the test pressure.

PORTS

The oil ports are manufactured with standard metric fine thread or Whitworth pipe thread.

VENTILATION

Ventilation takes place at idling pressure through the base or rod-end oil port. Additional ventilation connections on the hydraulic cylinder can be provided upon customer request.

FILTERING

When the system is filled during operation, the hydraulic fluid must be filtered so that contamination with solids does not exceed the thresholds according to NAS 1638 Class 8 (Class 9 for 15µm and smaller) or ISO17/14. Finer filtration increases the lifetime of the equipment. Whatever the application, it must be ensured that the above limits are not exceeded.

DIFFERENTIAL CYLINDER

It must be ensured that differential cylinders have a free flow of hydraulic fluid from the piston rod end so that the pressure never exceeds the maximum operating pressure as a result of the pressure ratio.

STORAGE

In order to ensure a long shelf life of the bearing surfaces and seals of hydraulic cylinders, and to protect them against corrosion, the piston rods should be retracted and the cylinders filled completely with oil. It is important to ensure that no air is trapped in the cylinder and that the connections are sealed airtight. The piston rod thread, the free rod end, and ball and socket joints should be coated lightly with anti-corrosion grease. If the cylinders are stored at fluctuating ambient temperatures, they must be protected with a pressure relief valve on each port end. After long periods of storage, pressure marks may occur at the seals, but these will disappear after the piston has been extended and retracted several times.

INSTALLATION

During the installation of hydraulic cylinders the following points should be noted:

- Before installing the hydraulic cylinder in the system, the type designation must be compared with the ordering data
- Make sure to keep the hydraulic cylinder and the area around it clean
- The operating fluid must be compatible with the sealing material
- Pipes should be cleaned of dirt, scale, chips, and the like before installation
- Never use lint-producing cloth or special paper for cleaning purposes
- The hydraulic cylinders must be installed and operated without any radial forces or stress. These transverse forces put a strain on the piston and piston rod guide of the hydraulic cylinder and lead to a shorter lifetime and leakages or even destruction.

COMMISSIONING

Before commissioning, the hydraulic cylinder must be vented. At idle pressure, open the bleeder screw / base- and rod-end screw and let the air escape. When no more bubbles come forth from the oil, re-tighten the bleed screw / screw.

MAINTENANCE

Hydraulic cylinders are generally maintenance free. For heavy-duty use, make sure to lubricate the bearings, such as the articulated and swivel eyes as well as the trunnion. Seals and bearings are consumables. Once the internal or external leakage reaches an unacceptable level, we recommend that you replace the seals and bearings and check the cylinder for further wear. Of course we are always at your service to do this work for you.

REPLACEMENT PARTS

When ordering spare parts, always include the imprinted order number, which is located to the right of the base-end connection (in reference to the piston rod).

ASSEMBLY AND DISASSEMBLY

When seals are changed, all seals and guide elements in general should be replaced. The contact surfaces of metallic parts should be checked for any cracks or score marks. If they do not exhibit any signs of damage or abnormal wear, then they can be re-used.

In order to disassemble the hydraulic cylinder, unscrew the rod guide (12) from the cylinder housing (9) using a hook wrench. Pull the rod (8) out of the cylinder housing (9). After removing the piston (3) by means of a hook wrench, all of the sealing elements (1, 3, 4, 10, 11, 13, 15) and guide elements (2, 14) can now be replaced.

Oil the seals lightly and slip on with the help of a round-pointed tool. Be sure to install the rod seal (13) and the scraper ring (15) in the right direction. Once all of the seal and guide elements have been replaced, insert the piston into the lubricated cylinder housing (9). Lubricate the thread of the rod guide (12) and screw in firmly into the cylinder housing (9). Mount the assembled cylinder on a test bench to check for proper functioning and leaks.

PLEASE NOTE :

Installation, repair and commissioning of cylinders may be carried out only by trained specialist personnel with the necessary expertise. Apex assumes no liability for any damage resulting from installation, repairs and commissioning, which were not carried out or commissioned by Apex.



Advanced Sealing Technology

All components are manufactured by Apex and designed for high performance, long service life, low friction and zero leakage.

- **Tri-lip rod seal** (3 sealing edges!) and bi-directional piston seal feature proven leak-free performance.
- **Durable polyurethane** material is used to maximize seal life.
- **Nitrile end seals and backup rings** on a smooth bore of the cylinder body for optimal sealing and elimination of extrusion problems.
- **Composite rod and piston wear rings** are internally lubricated for reduced friction and formulated for heavy-duty, load-bearing applications.
- **Standard rod material is case-hardened, hard chrome plated** and polished to an optimum finish.
- And since we make our own seals, **all seals have immediate availability** in other popular compounds.

Switch-Ready

- The Apex Position Indicating Switch is the lowest cost point feedback solution for carbon steel cylinders with a piston magnet ring.
- Switches can be located anywhere along the stroke and in any orientation.
- Unique round body brackets minimize installation time.
- EPS & CLS threaded switches are available for end-of-stroke sensing.

Easy Installation

Standard mounts and rod ends accommodate commercially-available accessories.

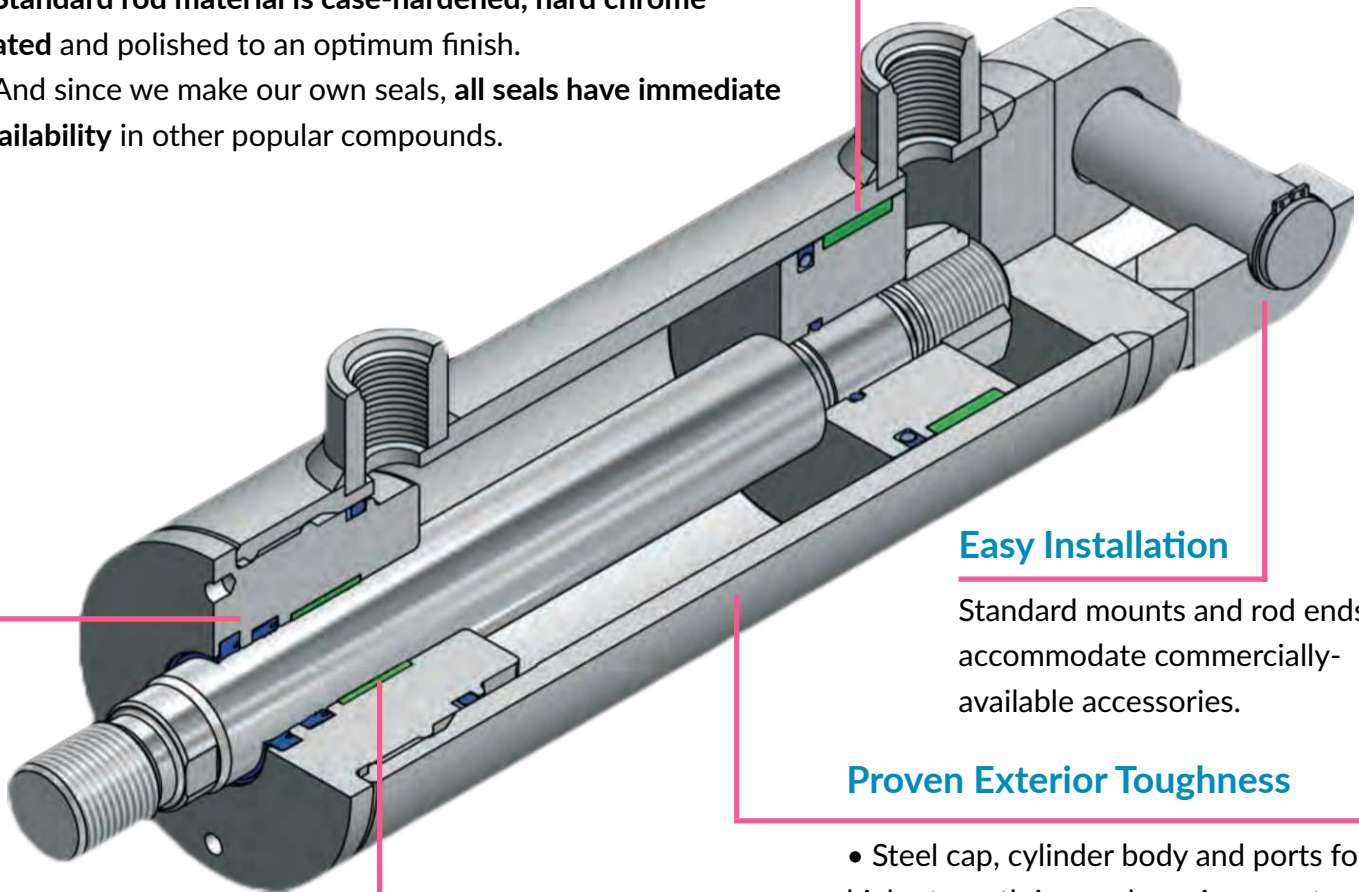
Proven Exterior Toughness

- Steel cap, cylinder body and ports for high-strength in rough environments.
- Case hardened, hard chrome plated and polished carbon steel piston rod for damage resistance, long rod seal life and low friction.
- Outboard urethane rod wiper seal to remove external debris and adherents from the piston rod.
- High quality paint coating for interior or exterior applications.

Composite Wear Rings

Apex bearing materials are backed by over 30 years of manufacturing expertise.

- Heat stabilized and internally lubricated for low friction and maximum service life in any application.
- Strength characteristics meet or exceed most metals traditionally used in wear rings.



Mounting Methods

We also build other models according to customer specifications.



BASIC DESIGN



EYE MOUNTING



SPHERICAL EYE MOUNTING



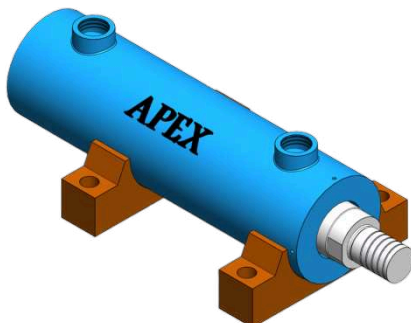
CLEVIS MOUNTING



FRONT FLANGE MOUNTING



REAR FLANGE MOUNTING



FOOT MOUNTING



TRUNNION MOUNTING

HRC –  –  –  –  –  –  –  –  – 

1 2 3 4 5 6 7 8

1 TYPE

D = double-acting

S = single-acting

2 MOUNTING TYPE

A = articulated eye

S = swivel eye

H = head flange

B = base flange

G = trunnion

T = tangential feet

3 PISTON DIAMETER (mm)

4 ROD DIAMETER (mm)

5 STROKE (mm)

6 TYPE OF MOUNTING ON PISTON ROD

G = piston rod eye, clampable

S = swivel eye, clampable

GK = fork head, clampable

X = custom mounts

7 POSITION OF THE OIL PORTS

(with reference to the rod)

0 = oil port position standard

1 = oil port position 90° to the left

2 = oil port position 90° to the right

3 = oil port position 180°

4 = custom position see SO-text

8 ADDITIONAL SPECIFICATIONS

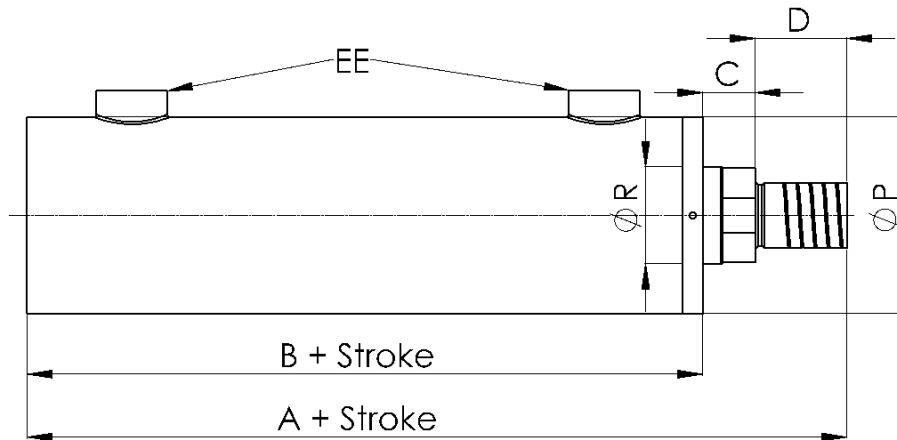
S = standard

SO = custom

HRC –  –  –  –  –  –  –  –  – 

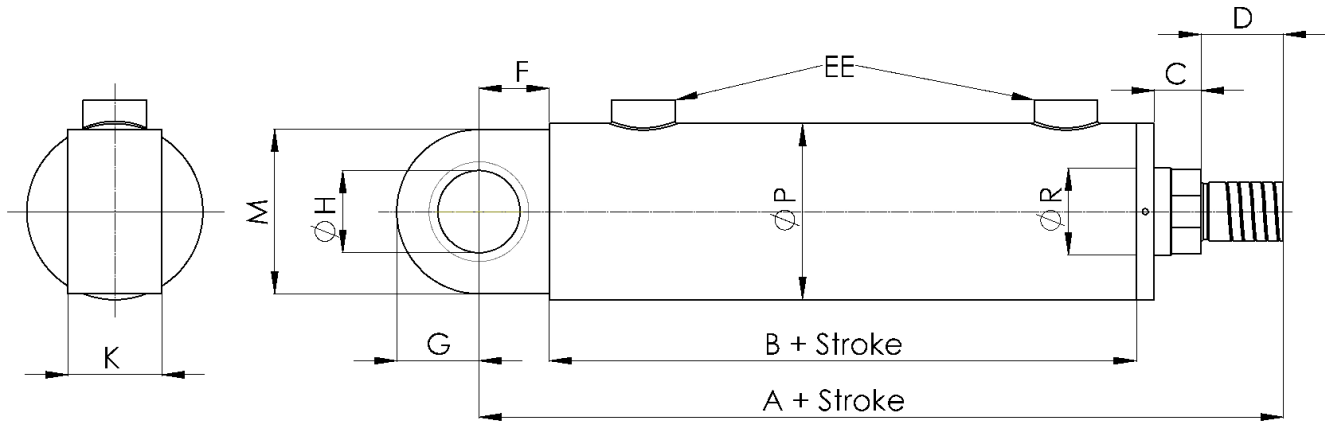
1 2 3 4 5 6 7 8

BASIC DESIGN



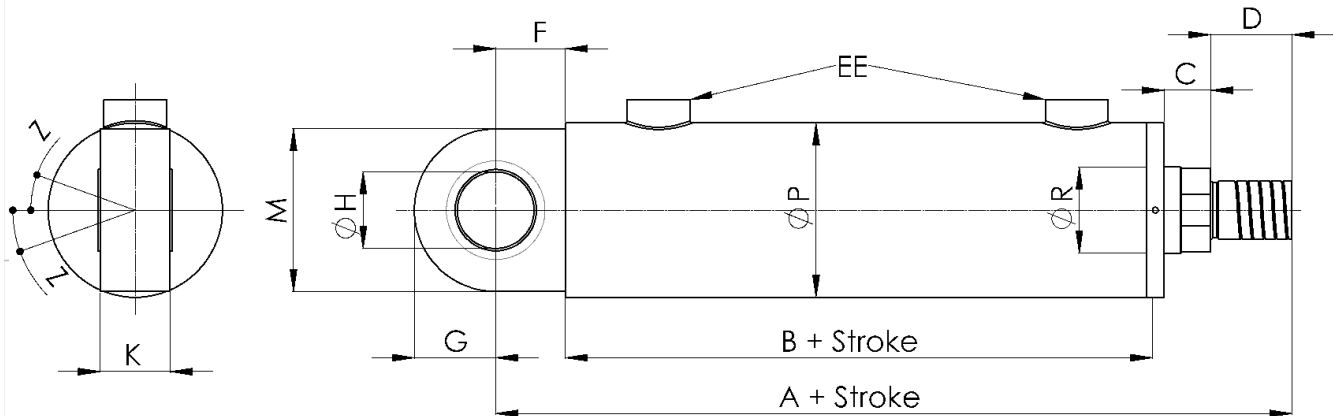
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP
32	18	42	161	130	15	16	1/4
	22						
40	22	50	171	140	15	16	1/4
	28						
50	28	63	192	155	15	22	3/8
	36						
63	36	75	213	165	20	28	3/8
	45						
80	45	95	245	190	20	35	1/2
	56						
100	56	120	280	215	20	45	1/2
	70						
125	70	145	330	245	20	65	3/4
	90						
140	90	165	390	275	50	65	3/4
	100						
160	100	190	435	305	50	80	1
	110						
180	110	220	490	340	50	100	1
	125						
200	125	245	530	370	50	110	1
	140						
220	140	273	590	415	55	120	1 1/4
	160						
250	160	298	665	480	55	130	1 1/4
	180						
280	180	323	715	520	55	140	1 1/4
	200						
320	200	368	785	565	70	150	1 1/2
	220						
360	220	419	880	640	70	170	1 1/2
	250						

EYE MOUNTING



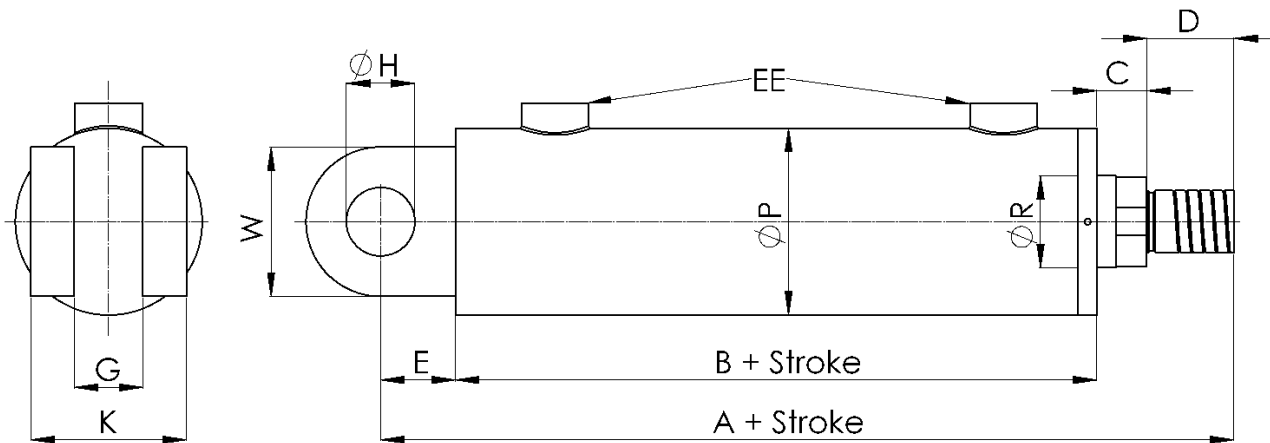
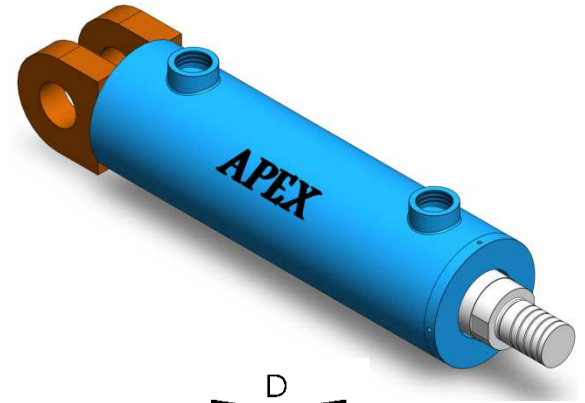
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	F	G	H	M	K
32	18 22	42	194	125	15	16	1/4	38	23	20	40	20
40	22 28	50	216	140	15	16	1/4	45	27	25	40	25
50	28 36	63	243	155	15	22	3/8	51	33	30	50	30
63	36 45	75	274	165	20	28	3/8	61	38	35	60	40
80	45 56	95	314	190	20	35	1/2	69	49	40	75	50
100	56 70	120	368	215	20	45	1/2	88	55	50	100	60
125	70 90	145	445	245	20	65	3/4	115	70	70	125	90
140	90 100	165	505	275	50	65	3/4	115	70	70	125	90
160	100 110	190	576	305	50	80	1	141	80	80	140	108
180	110 125	220	640	340	50	100	1	150	90	90	150	128
200	125 140	245	700	370	50	110	1	170	100	100	165	138
220	140 160	273	775	415	55	120	1 1/4	185	110	110	180	148
250	160 180	298	875	480	55	130	1 1/4	210	120	120	200	168
280	180 200	323	945	520	55	140	1 1/4	230	140	140	240	188
320	200 220	368	1045	565	70	150	1 1/2	260	160	160	280	218
360	220 250	419	1170	640	70	170	1 1/2	290	180	180	320	238

SPHERICAL EYE MOUNTING



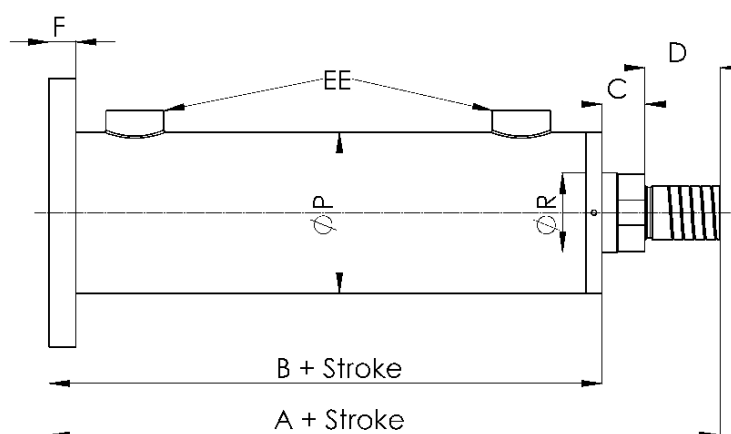
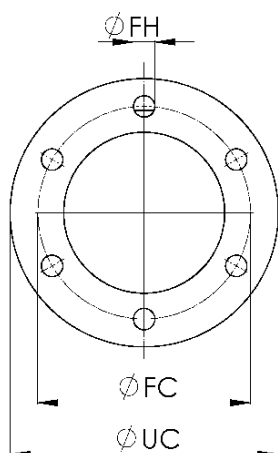
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	F	G	H	M	K
32	18	42	194	125	15	16	1/4	38	23	20	40	20
	22											
40	22	50	216	140	15	16	1/4	45	27	25	40	25
	28											
50	28	63	243	155	15	22	3/8	51	33	30	50	30
	36											
63	36	75	274	165	20	28	3/8	61	38	35	60	40
	45											
80	45	95	314	190	20	35	1/2	69	49	40	75	50
	56											
100	56	120	368	215	20	45	1/2	88	55	50	100	60
	70											
125	70	145	445	245	20	65	3/4	115	70	70	125	90
	90											
140	90	165	505	275	50	65	3/4	115	70	70	125	90
	100											
160	100	190	576	305	50	80	1	141	80	80	140	108
	110											
180	110	220	640	340	50	100	1	150	90	90	150	128
	125											
200	125	245	700	370	50	110	1	170	100	100	165	138
	140											
220	140	273	775	415	55	120	1 1/4	185	110	110	180	148
	160											
250	160	298	875	480	55	130	1 1/4	210	120	120	200	168
	180											
280	180	323	945	520	55	140	1 1/4	230	140	140	240	188
	200											
320	200	368	1045	565	70	150	1 1/2	260	160	160	280	218
	220											
360	220	419	1170	640	70	170	1 1/2	290	180	180	320	238
	250											

CLEVIS MOUNTING



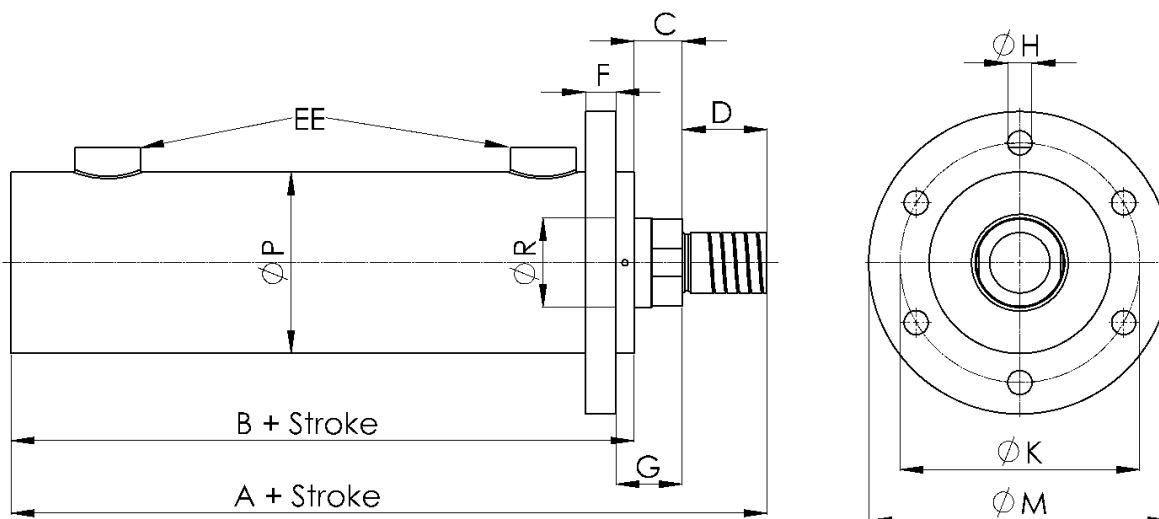
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	E	G	H	W	K
32	18	42	194	125	15	16	1/4	38	20	20	40	40
	22											
40	22	50	216	140	15	16	1/4	45	25	25	40	49
	28											
50	28	63	243	155	15	22	3/8	51	30	30	50	60
	36											
63	36	75	274	165	20	28	3/8	61	40	35	60	80
	45											
80	45	95	314	190	20	35	1/2	69	50	40	75	90
	56											
100	56	120	368	215	20	45	1/2	88	60	50	100	110
	70											
125	70	145	445	245	20	65	3/4	115	90	70	125	160
	90											
140	90	165	505	275	50	65	3/4	115	90	70	125	160
	100											
160	100	190	576	305	50	80	1	141	110	80	140	200
	110											
180	110	220	640	340	50	100	1	150	130	90	150	230
	125											
200	125	245	700	370	50	110	1	170	140	100	165	250
	140											
220	140	273	775	415	55	120	1 1/4	185	150	110	180	270
	160											
250	160	298	875	480	55	130	1 1/4	210	170	120	200	300
	180											
280	180	323	945	520	55	140	1 1/4	230	190	140	240	330
	200											
320	200	368	1045	565	70	150	1 1/2	260	220	160	280	380
	220											
360	220	419	1170	640	70	170	1 1/2	290	240	180	320	420
	250											

REAR FLANGE MOUNTING



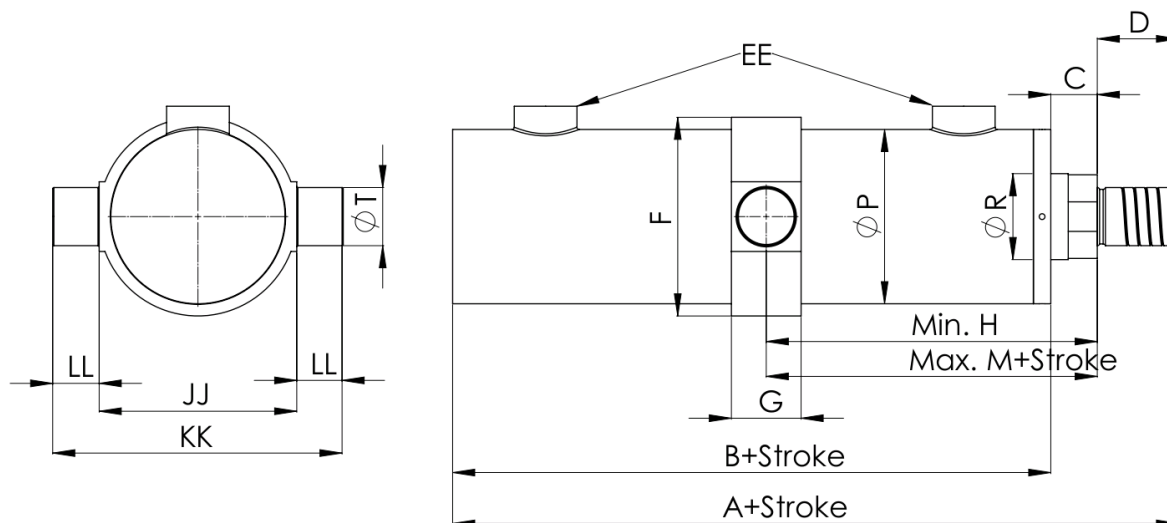
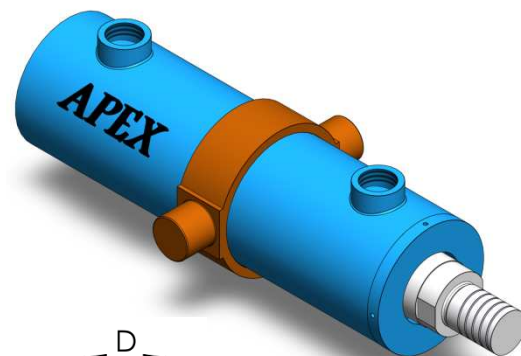
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	Ø F	Ø FH	Ø FC	Ø UC
32	18	42	171	140	15	16	1/4	15	9(4x)	80	100
	22										
40	22	50	186	155	15	16	1/4	17	11(4x)	100	125
	28										
50	28	63	207	170	15	22	3/8	20	14(4x)	115	145
	36										
63	36	75	228	180	20	28	3/8	23	14(6x)	130	160
	45										
80	45	95	255	200	20	35	1/2	26	18(6x)	155	190
	56										
100	56	120	290	225	20	45	1/2	32	18(8x)	175	210
	70										
125	70	145	340	255	20	65	3/4	40	22(8x)	215	260
	90										
140	90	165	400	285	50	65	3/4	40	26(8x)	245	300
	100										
160	100	190	445	315	50	80	1	45	26(8x)	270	325
	110										
180	110	220	495	345	50	100	1	50	33(8x)	305	375
	125										
200	125	245	540	380	50	110	1	55	33(8x)	335	405
	140										
220	140	273	590	415	55	120	1 1/4	60	39(8x)	375	455
	160										
250	160	298	665	480	55	130	1 1/4	65	39(8x)	430	510
	180										
280	180	323	715	520	55	140	1 1/4	70	39(12x)	465	545
	200										
320	200	368	785	565	70	150	1 1/2	80	45(12x)	535	625
	220										
360	220	419	880	640	70	170	1 1/2	90	45(12x)	580	670
	250										

FRONT FLANGE MOUNTING



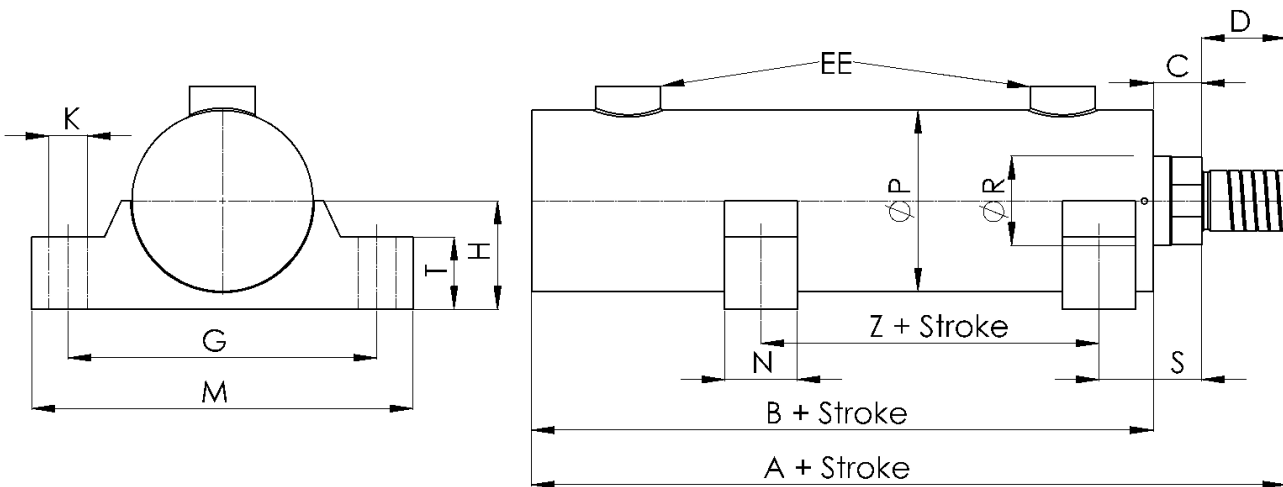
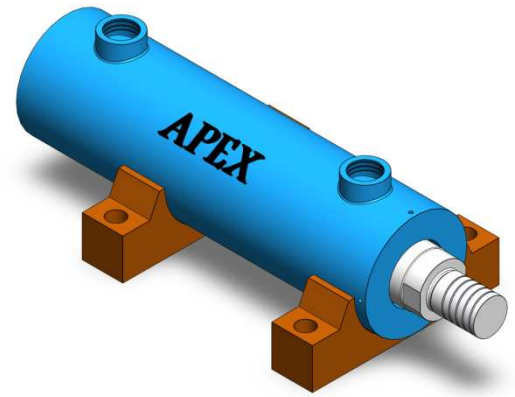
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	Ø F	Ø H	Ø K	Ø M	G
32	18	42	161	130	15	16	1/4	15	9(4x)	80	100	18
	22											
40	22	50	171	140	15	16	1/4	17	11(4x)	100	125	19
	28											
50	28	63	192	155	15	22	3/8	20	14(4x)	115	145	19
	36											
63	36	75	213	165	20	28	3/8	23	14(6x)	130	160	24
	45											
80	45	95	245	190	20	35	1/2	26	18(6x)	155	190	24
	56											
100	56	120	280	215	20	45	1/2	32	18(8x)	175	210	25
	70											
125	70	145	330	245	20	65	3/4	40	22(8x)	215	260	25
	90											
140	90	165	390	275	50	65	3/4	40	26(8x)	245	300	95
	100											
160	100	190	435	305	50	80	1	45	26(8x)	270	325	95
	110											
180	110	220	490	340	50	100	1	50	33(8x)	305	375	100
	125											
200	125	245	530	370	50	110	1	55	33(8x)	335	405	105
	140											
220	140	273	590	415	55	120	1 1/4	60	39(8x)	375	455	125
	160											
250	160	298	665	480	55	130	1 1/4	65	39(8x)	430	510	145
	180											
280	180	323	715	520	55	140	1 1/4	70	39(12x)	465	545	160
	200											
320	200	368	785	565	70	150	1 1/2	80	45(12x)	535	625	180
	220											
360	220	419	880	640	70	170	1 1/2	90	45(12x)	580	670	200
	250											

TRUNNION MOUNTING



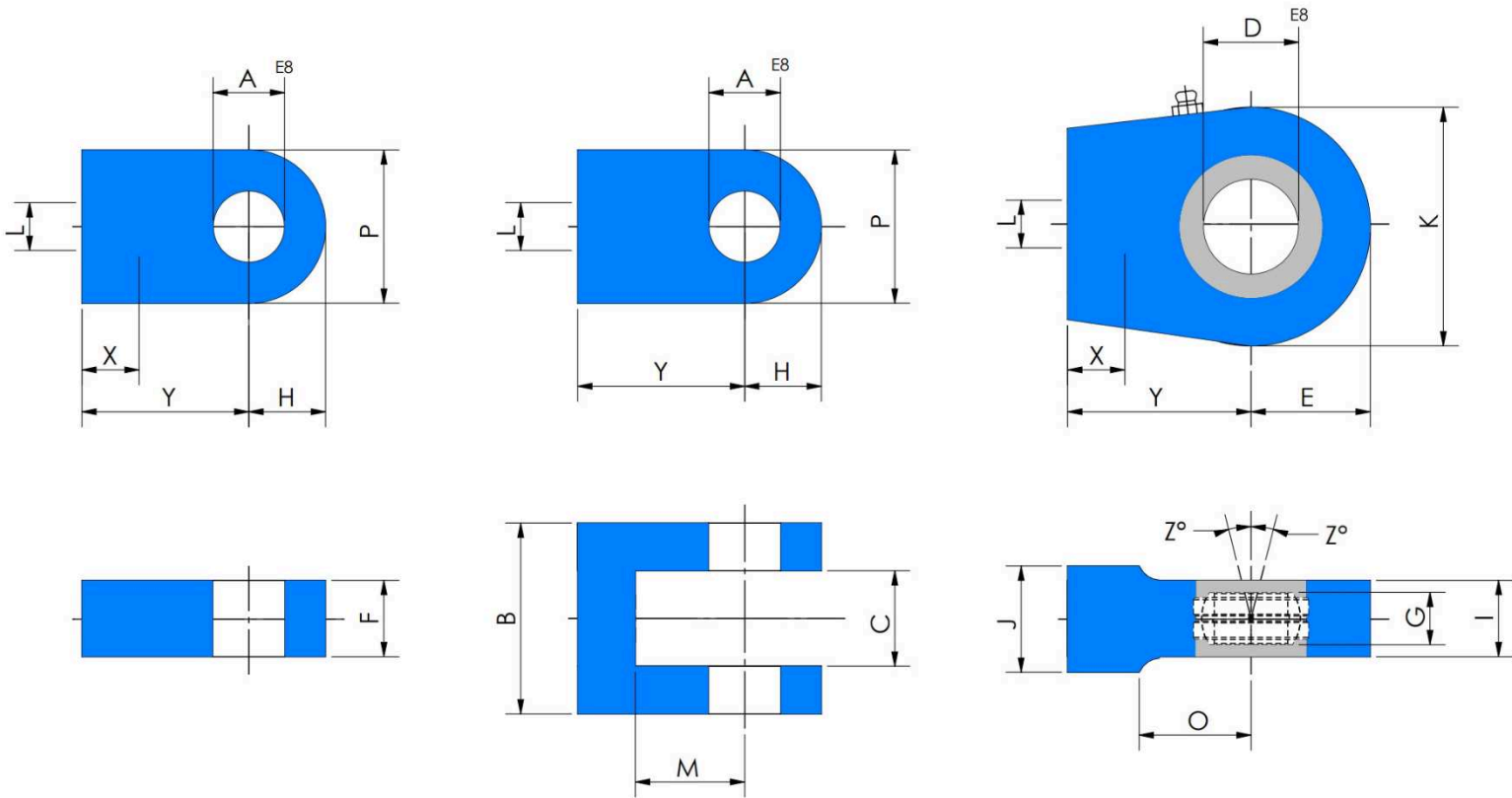
Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	F	H	KK	M	G	JJ	LL	Ø T
32	18 22	42	161	130	15	16	1/4	55	120	95	80	28	55	20	20
40	22 28	50	171	140	15	16	1/4	65	130	105	90	33	65	20	25
50	28 36	63	192	155	15	22	3/8	80	140	130	95	38	80	25	30
63	36 45	75	213	165	20	28	3/8	115	160	175	95	48	115	30	40
80	45 56	95	245	190	20	35	1/2	140	175	210	110	58	140	35	50
100	56 70	120	280	215	20	45	1/2	175	200	255	115	68	175	40	60
125	70 90	145	330	245	20	65	3/4	195	230	295	120	83	195	50	70
140	90 100	165	390	275	50	65	3/4	225	255	335	165	93	225	55	80
160	100 110	190	435	305	50	80	1	255	285	375	170	108	255	60	90
180	110 125	220	490	340	50	100	1	280	310	410	185	118	280	65	100
200	125 140	245	530	370	50	110	1	330	325	470	205	128	330	70	110
220	140 160	273	590	415	55	120	1 1/4	360	370	520	225	138	360	80	125
250	160 180	298	665	480	55	130	1 1/4	400	410	580	260	158	400	90	140
280	180 200	323	715	520	55	140	1 1/4	440	455	640	275	178	440	100	160
320	200 220	368	785	565	70	150	1 1/2	500	505	720	300	198	500	110	180
360	220 250	419	880	640	70	170	1 1/2	550	555	790	345	218	550	120	200

FOOT MOUNTING



Bore	Rod Ø R	Pipe Ø P	A	B	C	D	EE Ports BSP	Z	N	S	M	G	T	H	K
32	18	42	161	130	15	16	1/4	60	25	60	90	70	12	30	11
	22														
40	22	50	171	140	15	16	1/4	60	30	70	105	80	15	35	14
	28														
50	28	63	192	155	15	22	3/8	60	40	80	135	100	18	45	18
	36														
63	36	75	213	165	20	28	3/8	55	50	95	155	120	25	55	18
	45														
80	45	95	245	190	20	35	1/2	65	60	105	190	150	35	70	22
	56														
100	56	120	280	215	20	45	1/2	50	90	105	215	175	35	80	22
	70														
125	70	145	330	245	20	65	3/4	65	100	115	270	220	40	100	26
	90														
140	90	165	390	275	50	65	3/4	120	100	115	290	240	45	115	26
	100														
160	100	190	435	305	50	80	1	115	130	125	330	270	50	125	33
	110														
180	110	220	490	340	50	100	1	140	140	130	360	300	60	145	33
	125														
200	125	245	530	370	50	110	1	135	160	145	410	340	65	160	39
	140														

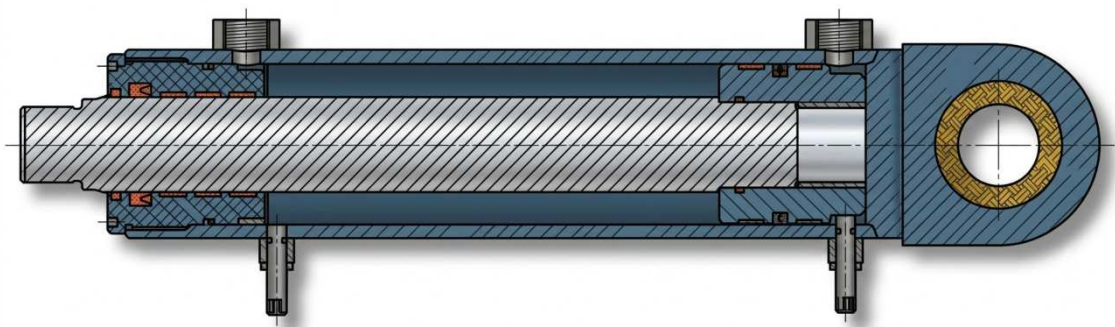
ROD END MOUNTINGS



Bore	X	Y	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	Z
32	15	50	20	40	20	20 (0/-0.01)	25	20	16 (0/-0.1)	18	19	25	56	M16X1.5	30	25	35	9
40	17	50	25	50	25	25 (0/-0.01)	28	25	20 (0/-0.1)	27	23	25	56	M16X1.5	34	28	40	7
50	23	60	30	60	30	30 (0/-0.01)	32	30	22 (0/-0.1)	33	28	32	64	M22X1.5	38	30	50	6
63	29	70	35	80	40	35 (0/-0.01)	39	40	25 (0/-0.1)	38	30	40	78	M28X1.5	42	38	60	6
80	36	85	40	90	50	40 (0/-0.01)	47	50	28 (0/-0.1)	49	35	49	94	M35X1.5	50	45	75	7
100	46	105	50	110	60	50 (0/-0.01)	58	60	35 (0/-0.1)	55	40	61	116	M45X1.5	60	55	100	6
125	59	125	60	130	70	60 (0/-0.01)	70	70	44 (0/-0.1)	60	50	75	130	M58X1.5	65	65	120	6
140	66	150	70	160	90	70 (0/-0.01)	82	90	49 (0/-0.1)	70	55	86	154	M65X1.5	75	75	125	6
160	81	170	80	200	110	80 (0/-0.01)	95	108	55 (0/-0.1)	80	60	102	176	M80X2	85	80	140	6
180	101	210	90	230	130	90 (0/-0.02)	113	128	60 (0/-0.2)	90	65	124	206	M100X2	95	90	150	5
200	111	235	100	250	140	100 (0/-0.02)	125	138	70 (0/-0.2)	100	70	138	230	M110X2	110	105	165	7
220	125	265	110	270	150	110 (0/-0.02)	143	148	70 (0/-0.2)	110	80	152	265	M120X3	125	115	180	6
250	135	310	120	300	170	120 (0/-0.02)	180	168	85 (0/-0.2)	120	90	172	340	M130X3	155	140	200	6
280	145	350	140	330	190	140 (0/-0.02)	200	188	90 (0/-0.2)	140	100	188	380	M140X4	185	160	240	7
320	155	400	160	380	220	160 (0/-0.02)	240	215	105 (0/-0.2)	160	110	218	420	M150X4	215	195	280	8
360	175	425	180	420	240	180 (0/-0.02)	300	238	105 (0/-0.2)	180	120	238	460	M170X4	220	220	320	6

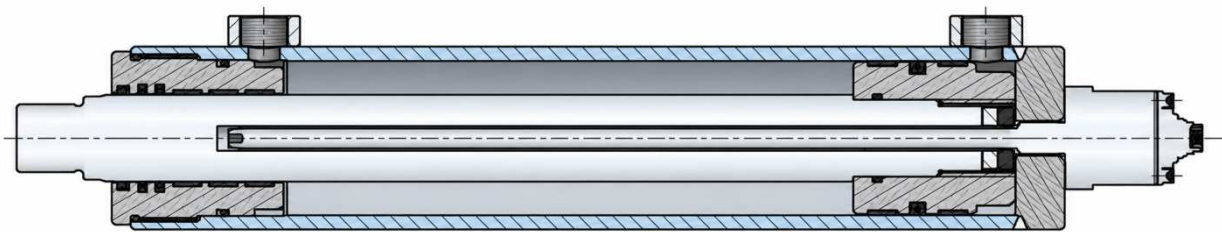
END POSITION SENSING AND LINEAR POSITION MEASUREMENT SYSTEM

END POSITION SENSOR



- + available either with plug-in connector or moulded PU cable
- + high operational safety due to the detection of end position directly at the piston
- + lower installation costs, no external mechanism necessary
- + can be integrated into all series

LINEAR POSITION MEASUREMENT SYSTEM



- + impervious to shock, vibration, temperature, contamination and moisture
- + wear and maintenance-free due to non-contact detection of the measuring position
- + absolute output signal, even after a power interruption, no homing run required
- + high resolution, reproducibility and linearity
- + easy installation, no power supply to the position encoder is needed
- + pressure resistant to 600 bar, for integration into hydraulic cylinders
- + reliable operation, even under extreme environmental conditions
- + individual setting of the zero point possible

PLEASE NOTE !

The total length of the cylinder can vary slightly upwards depending on the size due to the installation of the end position sensor or the linear displacement measurement system. Our technicians would be glad to assist you with any questions about your particular needs. Please contact us.

Our Other Range Of Cylinders

To move big things, you need powerful hydraulic cylinders. And the right power units to set them under pressure



Tie-Rod Construction Series



Heavy Duty Mill-Type Construction Series



Telescopic Cylinders



Double Ended Series



Special Design Cylinders



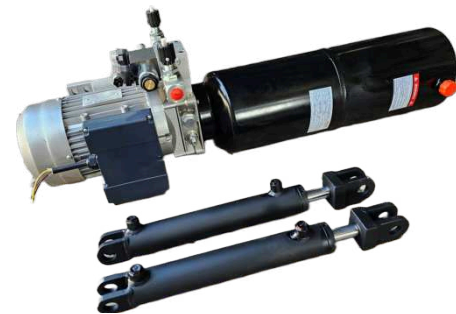
Threaded Design Cylinders



Water Operated SS Cylinders



With AC Powerpacks



With DC Powerpacks



With Foot Pump



With Hand Pump



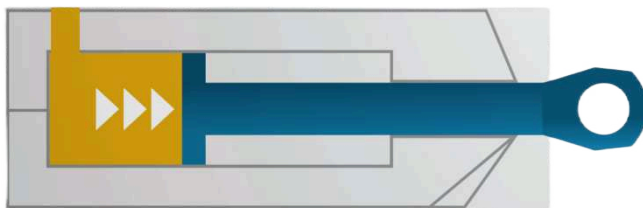
Tailor made solutions

Moving Powerful With Maximum Precision

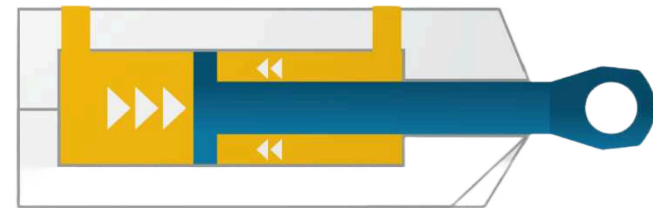
To move big things, you need powerful hydraulic cylinders. And the right power units to set them under pressure

We love the challenges posed by particularly large dimensions or complex details. Therefore our engineering and production team is specialized in the field of individually designed cylinders and small series for the global process industry. Hydraulic cylinders by Apex guarantee productivity in automotive, chemical or oil- and gas production units. They also provide solutions for demanding applications in specialized machines in mining, excavation or tunneling. We have been doing this successfully for more than four decades, our cylinders are synonymous with Indian engineering know-how and manufacturing expertise. Quality is our passion and the commitment of Apex staff.

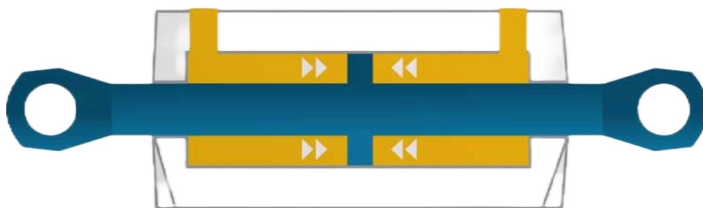
Four ways of movement : The entire of our Hydraulic Cylinders



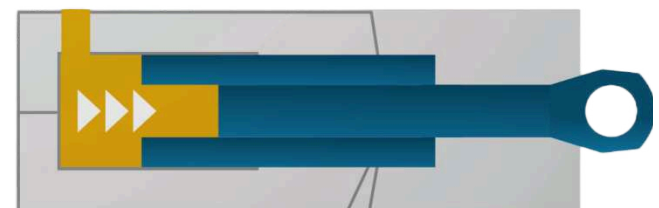
PLUNGER CYLINDERS
Hydraulic cylinders single-acting



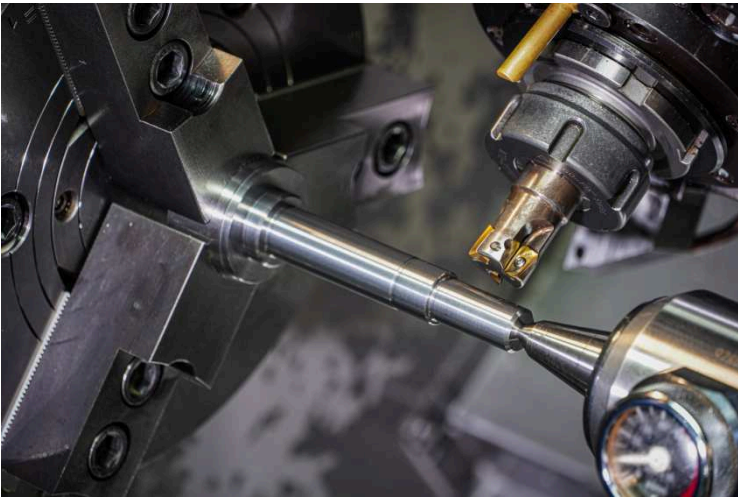
DIFFERENTIAL CYLINDERS
Cylinders double-acting



DOUBLE ACTING CYLINDERS
With two piston rods



TELESCOPIC CYLINDERS
Large stroke at small installation dimension



Made In INDIA

Series HRC cylinders are manufactured in the INDIA. Location is a significant part of our customer service model. We believe that customers value a domestic presence, for many reasons. A few include:

- **Quick Delivery**

standard lead time is a few days, with the capability of shipping some cylinder configurations within 72 hours. We deliver to your request.

- **Made To Order**

standard lead time is a few days, with the capability of shipping some cylinder configurations within 48 hours. We deliver to your request.

- **Non-Standard Designs**

since 80% of applications require cylinders that are not catalog standard, we organized our entire culture for flexibility. Our manufacturing processes are prepared to accommodate non-standard designs with minimal lead-time adjustments.

Advanced Manufacturing

Cylinders, by nature, are customized products. Whether it is something basic, such as stroke length, or something more complex, such as a special head, raw material and basic parts must be procured and manufactured into components for configured cylinders.

Organizing cylinder production and assembly requires some degree of planning. To do so, without sacrificing customer service, requires a sharp focus on advanced manufacturing processes.

Lean Manufacturing Principles

Apex Cylinders has utilized Lean Manufacturing techniques for many years, even before it was called by name. Cellular Manufacturing, Value Stream Mapping, Advanced Designing Softwares, Heavy Duty Testing, One-Piece Flow and other influences are pervasive in our manufacturing processes.

We now follow Lean Implementation to focus all aspects of our operation on the same goals for customer service.



Customized specifications

Bore	: up to 1000 mm
Rod.	: 18 to 700 mm
Stroke	: up to 15.000 mm
Working pressure.	: 200 bar to 700 bar
Test pressure	: 320 bar to 1000 bar
Piston speed.	: max 5 m/s
Fluid	: all kinds of oil
Temperature range	: -60°C to +100°C
Connections	: SAE, etc.
Cylinder body.	: SS, S355JZH, etc.
Protectant.	: Primer, 2 layers, 3 layers, etc.

Special Designs With

- Both Ends cushioning
- Integrated displacement transducer
- Integrated proximity switches
- Valve mounting faces
- Flanged cover/bottom construction
- Piston rod on both sides
- Manifolds
- Piping
- Complete stainless steel design
- High temperature seals VITON
- Low friction seals
- Including test certificates



Our job is to make your hydraulic movement possible

We will search for and find the solution that fits your equipment. Our specialty is an open mind, creativity and a proactive attitude. With the right questions asked we will find out the best solution. Difficult assignments will activate us more and more. More than 75% of our orders are custom-made and newly engineered. Try us...

Apex Hydropneumatic Repair & overhauling

Repairing hydraulic cylinders involves more than replacing broken parts. Who guarantees trouble free operation without defects in the future? The experts of Apex do! We have sound hydraulic knowledge and extensive experience with cylinders in all kind of applications.

All cylinders

The repair jobs involve preventive maintenance, renovation, spare parts of any kind and repair on site or in our workshop. With over 30 years of experience in hydraulics and a solid build up database throughout the years; we know what we are talking about.

Always available

Both service and repair requires immediate action and quick response. A permanent core of professionals is available to answer your questions and repair your cylinders or other hydraulic parts. We prefer in-house repair because of our well equipped workshop, but our service engineers will travel wherever or whenever you need them.

Please contact our repair department any time.

M +91 94092 10692



OUR REPAIRING SERVICES

- ✓ Complete dismantling & inspection
- ✓ Cleaning & surface preparation
- ✓ Rod straightening & re-chroming
- ✓ Barrel honing & internal polishing
- ✓ Seal kit replacement (all types)
- ✓ Bushing & wear ring replacement
- ✓ Welding of cylinder components
- ✓ Pressure testing & quality inspection
- ✓ Repainting with premium coating
- ✓ On-time delivery with performance guarantee

WE REPAIR ALL TYPES OF CYLINDERS



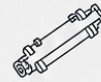
Tie-rod
Cylinders



Welded
Cylinders



Telescopic
Cylinders



All Brands
& Makes

WHY CHOOSE APEX HYDROPNEUMATIC?

- ✓ Experienced technicians with in-depth hydraulic knowledge
- ✓ Precision machining & advanced tools
- ✓ Genuine quality seal kits & components
- ✓ Cost-effective solutions with quick turnaround
- ✓ Guaranteed performance & customer satisfaction



WE DON'T JUST REPAIR CYLINDERS,
WE RESTORE PERFORMANCE.



MINIMUM DOWNTIME
MAXIMUM RELIABILITY



HRC

CONNECT WITH APEX

HRC SERIES | ROUND-LINE HYDRAULIC CYLINDERS

Engineering support. Custom manufacturing. Dependable service.

SALES & TECHNICAL ENQUIRIES

CALL

+91 94092 10692

+91 98241 67178

EMAIL

sales@apexhydropneumatic.com

apex_dinesh@ymail.com

WEB

www.apexhydropneumatic.com

WORKS & OFFICE

D/49-B, Diamond Park, Opp. Gujarat Agro, N.H. No. 8,
Behind Ruby Rushi, GIDC Estate, Naroda, Ahmedabad - 382330,
Gujarat, India

HYDRAULIC CYLINDERS | POWER UNITS | REPAIR & OVERHAULING

QUALITY WITHOUT COMPROMISE