

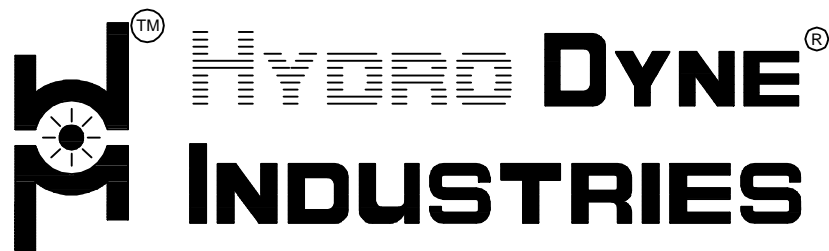
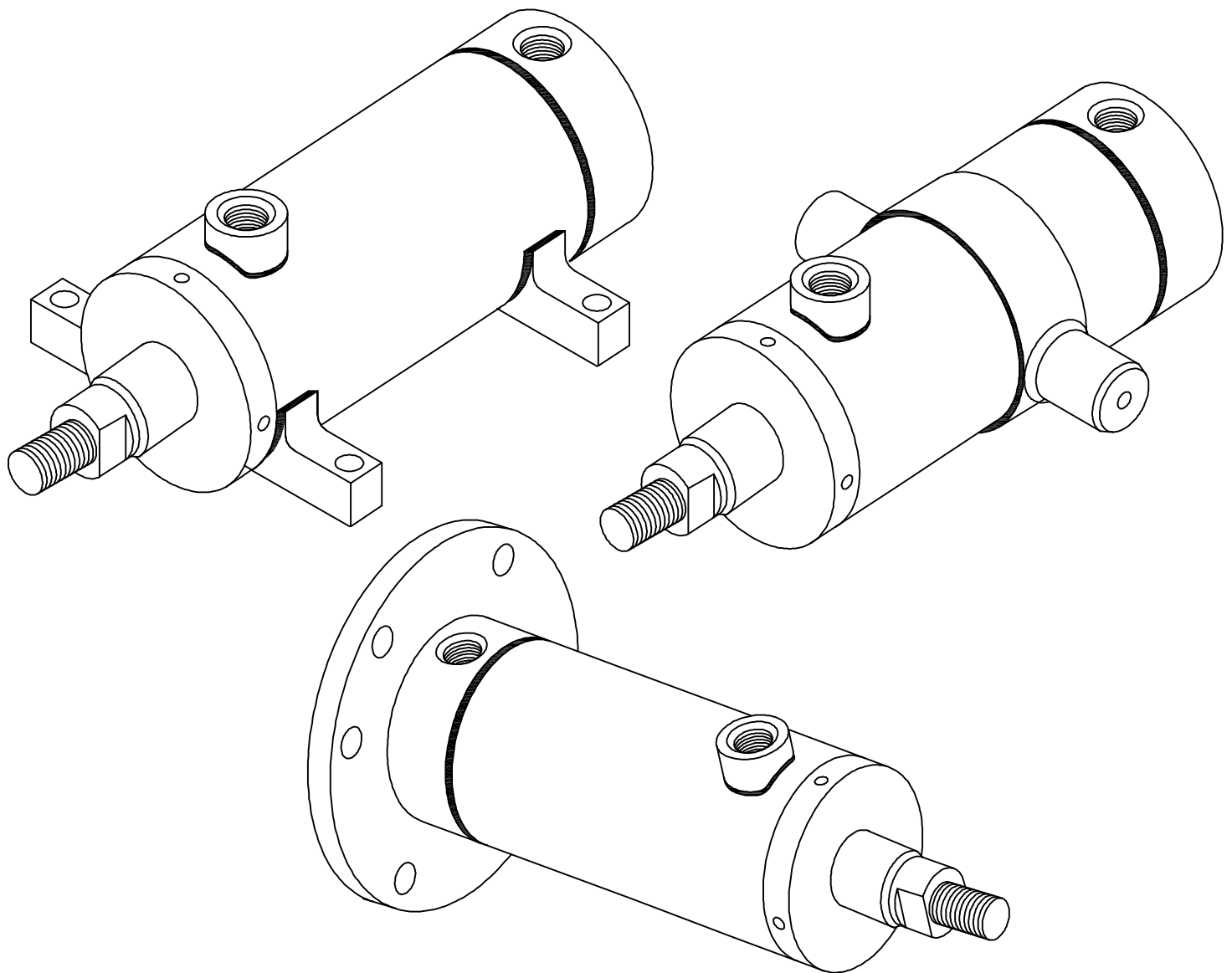
# Hydraulic Cylinders

## WCG Series

Working Pressure upto 160 bars



Streamline Welded Construction



Total Fluidpower Performance

An ISO 9001:2015 certified co.

## DESIGN FEATURES & MATERIALS

Hydrodyne WCG series STREAMLINE WELDED CYLINDERS are designed for compactness, based on many years of experience in manufacture of heavy duty hydraulic cylinders suited for industrial and in particular mobile application where space is normally a limitation.

### THE GLAND

Gland can be externally removed without dismantling the cylinder. Its long bearing surface is inboard of the seal assuring positive lubrication from within the cylinder.

Leak proof gland seals consists of :

- Polyurethane / low friction nitrile seal completely self compensating and self relieving to withstand all pressure variations and mechanical deflections that may occur.
- Secondary seal - Hydro dyne wiper seal performs a double service by wiping clean any oil film adhering to the rod on the advance stroke, and cleaning the dirt off the rod on return stroke

A static 'o' ring seal is used to seal between the gland & head and to serve as a prevailing torque lock .

Optional :- Variety of optional gland seals are available depend upon gland material, Cast iron or steel.

### THE PISTON

The piston is of one piece construction manufactured from fine grain cast iron or steel ,dependent upon the piston seal requirements. The standard piston seal is a double acting elastomeric seal . The wide piston surface considerably reduces bearing loads and wear during mechanical deflection . long thread engagement with the piston rod provides greater shock absorption, and the piston is permanently locked with a pin .

Optional :- Variety of optional Piston seals are available depend upon piston material, CI or steel.

### THE CAP END

The cap end is manufactured from low carbon steel and is welded to the the tube end. The cap ends is sufficiently long to provide long cushion lengths when required. The cap end port is machined in the cap end on counter faced perpendicular surface Flow passages of large size are provided to avoid pressure drop, For optional cushioning, adjustable needle and check valve flush with the cap end is provided.

### THE PISTON ROD

Piston rod is made from high tensile medium carbon steel,ground and hard chrome plated to thickness of 25-30 microns and surface finish to 0.5um or better in special case (with prior acceptance) .

### THE CYLINDER BODY

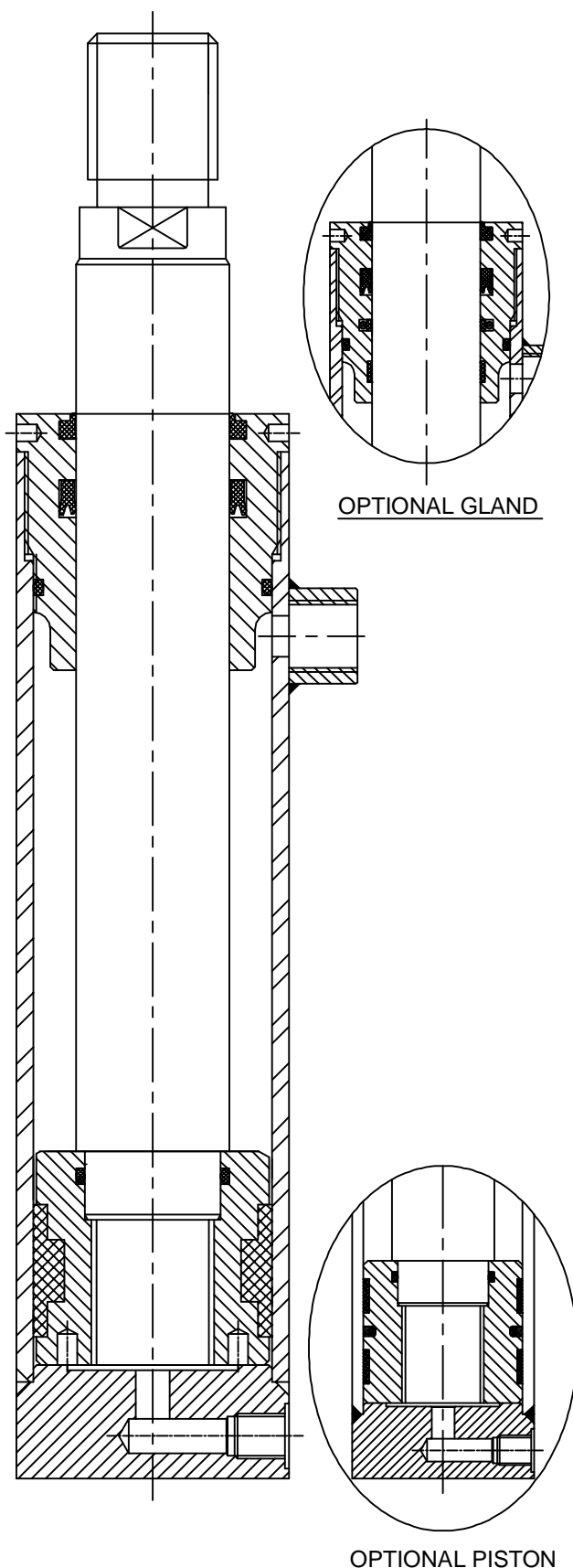
The cylinder is made from heavy wall steel tubing ,honed to a micro-finish bore . Normally, all major welding on the tube are done before the honing. The gland threads on the tube ID are machined after honing to ensure concentricity between the piston, rod, and the tube bore.

### PORTS

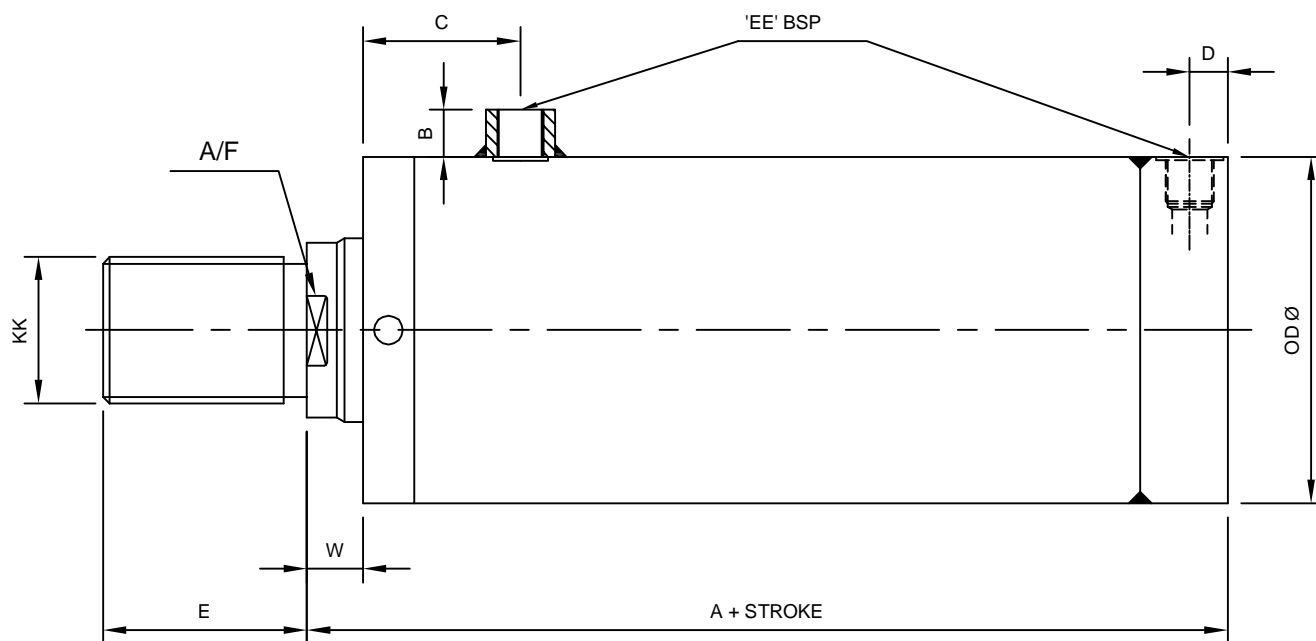
Extra size ports are designed for low pressure drops for oil flow. Normally, at gland side, the port is welded and on the cap end the port is machined on the cap end. Optionally extended port is provided on cap end also.

### THE SEALS

All dynamic ,elastomeric seals used with series WCG cylinders are design to seal with minimum friction under varying pressure .This together with fine finishes on the cylinder bore and piston rod,provide long seal life .



BASIC CYLINDER DIMENSIONS



**\*\*DIMENSIONAL CHART :**

BOREØ	STANDARD	'EE' BSP	RODØ	A/F	KK	OD Ø	A	B	C	D	E	W
40.0	STD 1	1/2"	18	15	M14X1.5	48	147	18	57	16	18	12
	STD 2		22	18	M16X1.5						22	12
50.0	STD 1	1/2"	25	20	M20X1.5	60	168	18	60	16	28	14
	STD 2		28	22	M20X1.5						28	14
63.0	STD 1	1/2"	28	22	M20X1.5	73	184	18	68	16	28	16
	STD 2		36	30	M27X2						36	16
80.0	STD 1	3/4"	36	30	M27X2	95	214	20	77	19	36	18
	STD 2		45	39	M33X2						45	18
100.0	STD 1	3/4"	45	39	M33X2	116	233	20	81	19	45	20
	STD 2		56	48	M42X2						56	20
125.0	STD 1	3/4"	56	48	M42X2	140	246	20	88	19	56	23
	STD 2		70	62	M52X2						70	23
160.0	STD 1	1"	70	62	M52X2	185	285	22	103	23.5	70	25
	STD 2		90	80	M68X3.0						90	25

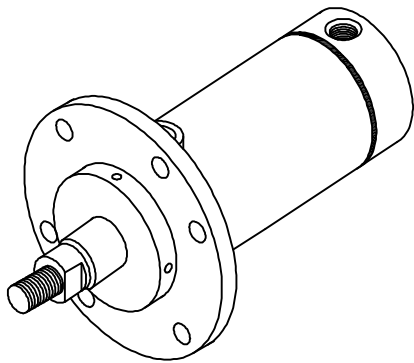
THREADED GLAND STREAMLINE CONSTRUCTION HYDRAULIC CYLINDER

SPECIFICATIONS

1. **MAX. OPERATING PRESSURE** --- 180 Bar (standard)  
Upto 250 Bar (upon request)
2. **TEMPERATURE** --- -20°C to +80°C with standard nitrile/polyurethane seals.  
Higher temperature with viton/teflon seals.
3. **MEDIUM** --- Mineral oil  
Cylinders to operate with water based fluids available on request.

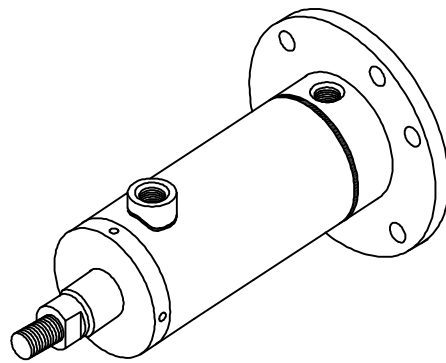
**MOUNTING STYLES**

Front Flange Mounting



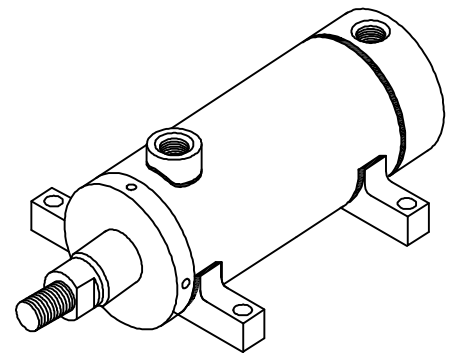
FF

Rear Flange Mounting



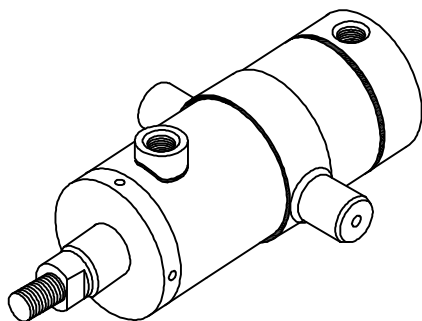
FR

Foot Lug Mounting



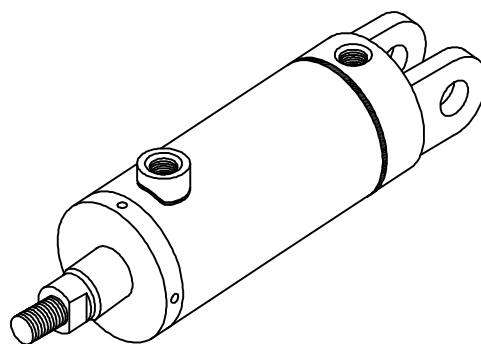
LE

Intermediate Trunion Mounting



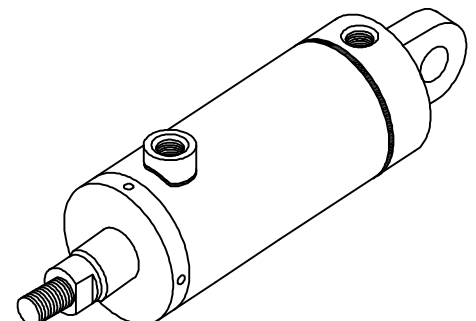
UM

Rear Clevis (Female) Mounting



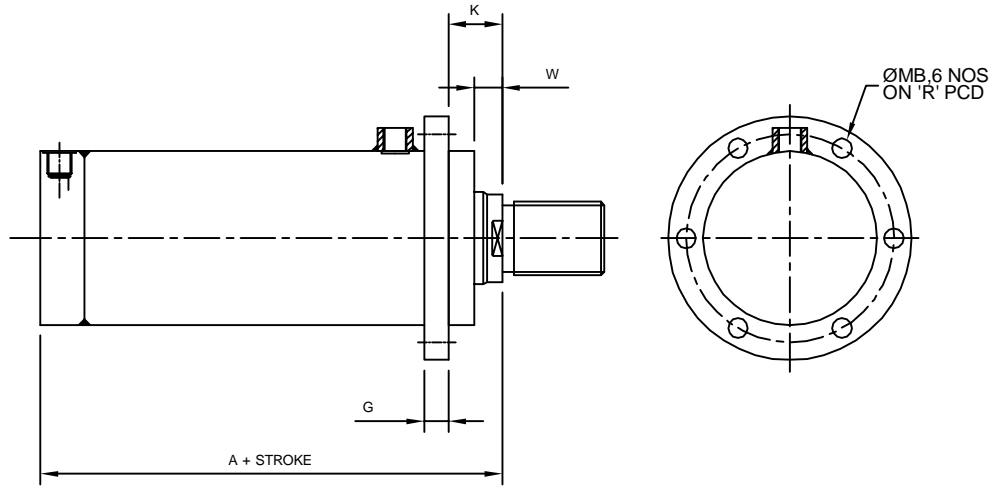
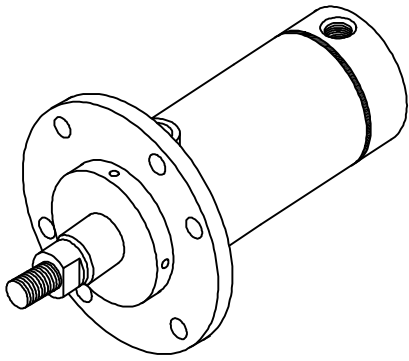
CF

Rear Clevis (male) Mounting

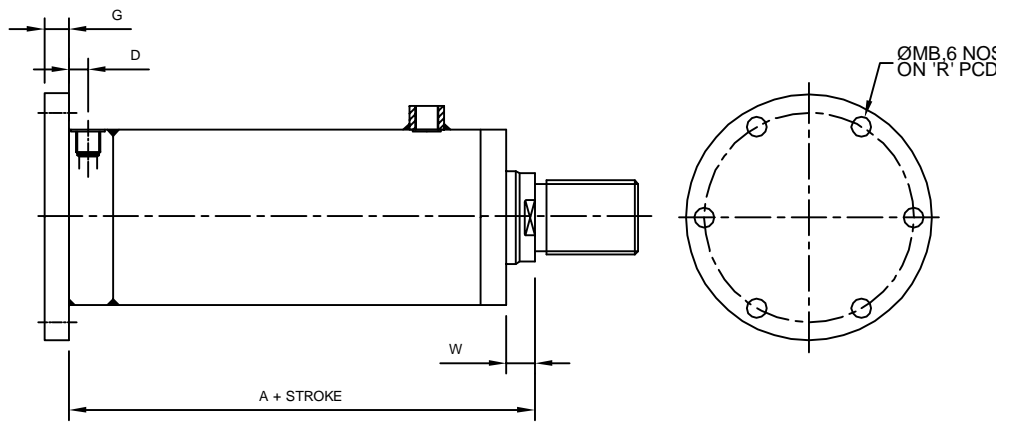
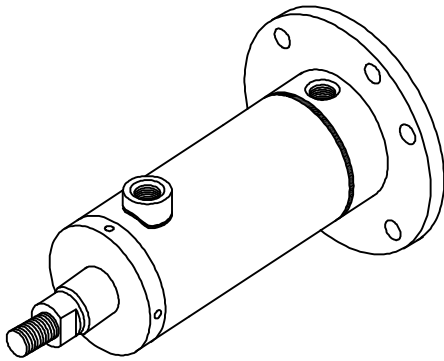


CM

Front Flange Mounting  
HDI Model FF



Rear Flange Mounting  
HDI Model FR

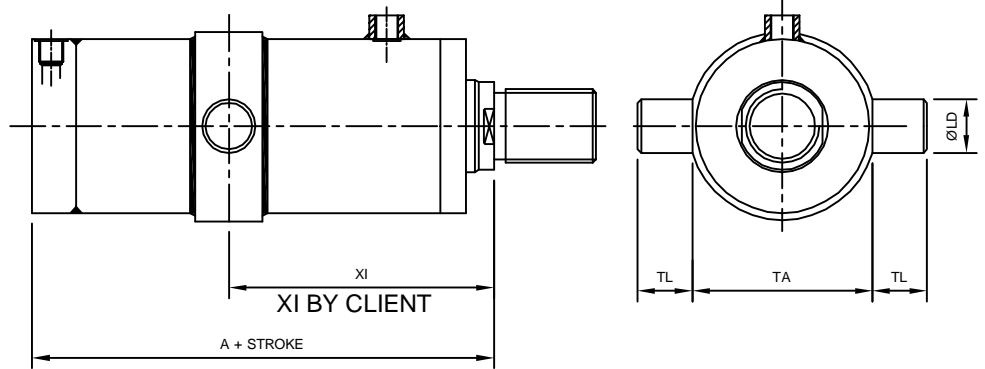
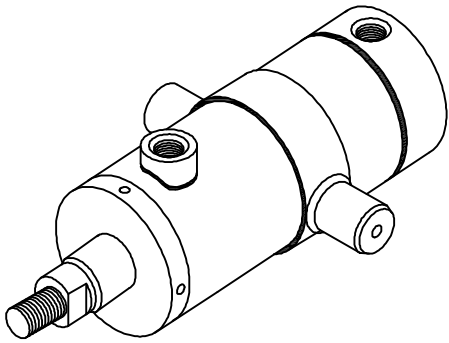


Dimensions - FF & FR

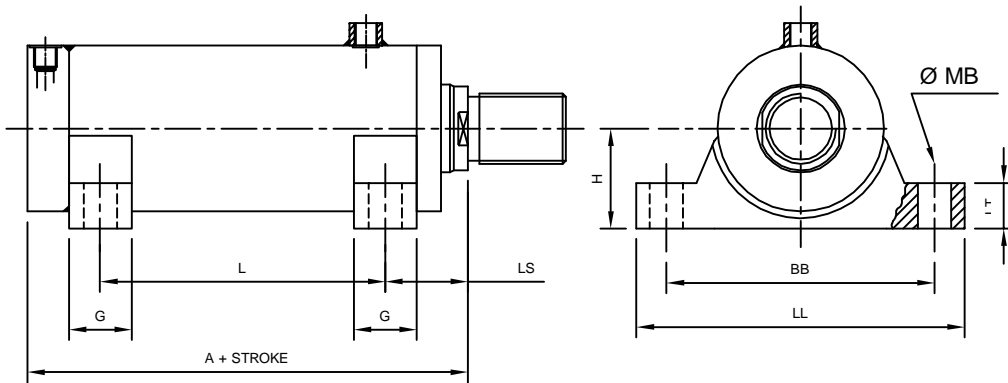
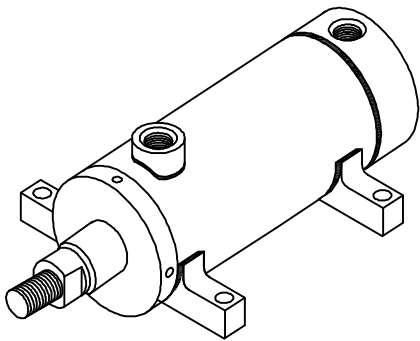
BOREØ	D	G	K	MBØ	R P.C.D.
40.0	16	15	22	8.5	90.0
50.0	16	18	25	10.5	100.0
63.0	16	22	29	13.0	115.0
80.0	19	25	33	13.0	150.0
100.0	19	35	35	17.0	175.0
125.0	19	40	38	22.0	210.0
160.0	23	50	41	30.0	270.0

All dimensions are in millimetres unless otherwise stated.

Intermediate Trunnion Mounting  
HDI Model UM



Foot Lug Mounting  
HDI Model LE

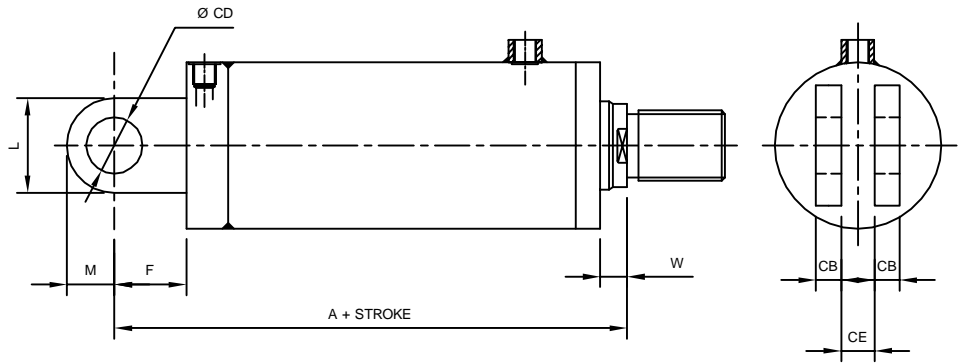
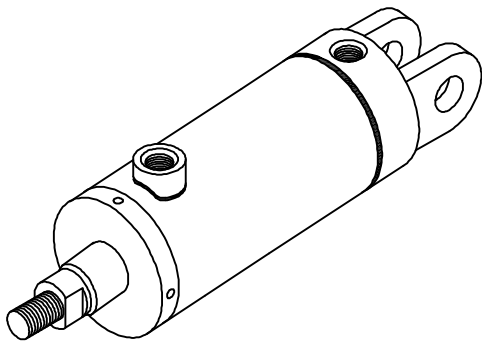


Dimensions - UM & LE

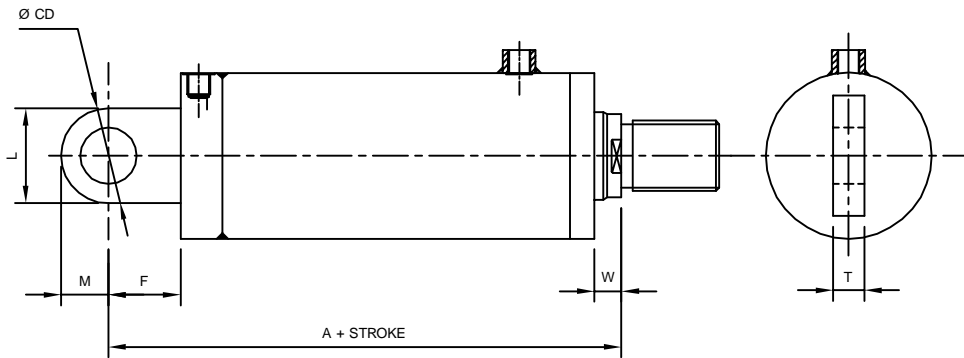
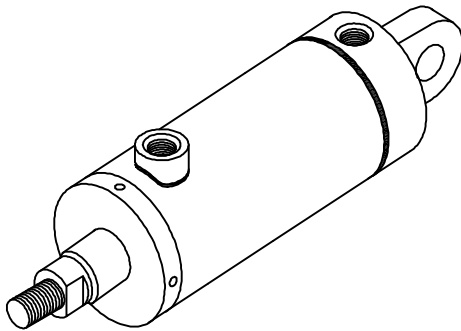
BOREØ	BB	LL	LT	MB Ø	H	G	TA	L	TL	LS	LDØ	MIN XI
40.0	74	90	13	9.0	35.0	22	68.0	65	12.0	33	16	97.0
50.0	85	105	19	11.0	40.0	25	82.0	79	16.0	37.5	20	102.0
63.0	96	120	26	14.0	48.0	30	98.0	86	20.0	44	25	113.0
80.0	123	155	26	18.0	58.0	40	117.0	96	25.0	53	32	124.0
100.0	145	185	32	22.0	70.0	50	140.0	101	32.0	60	40	132.0
125.0	172	220	32	26.0	85.0	55	170.0	105	40.0	65.5	66	144.0
160.0	236	290	38	30.0	108.0	70	225.0	108	50.0	76	77	172.0

All dimensions are in millimetres unless otherwise stated.

Female Clevis Mounting  
HDI Model CF



Male Clevis Mounting  
HDI Model CM



Dimensions - CM & CF

BOREØ	A	CB	ØCD	CE	F	L	M	T
40.0	135	12.0	16.0	21.5	25	32	16	20.0
50.0	154	14.0	20.0	26.5	32	40	20	25.0
63.0	167.8	18.0	25.0	33.5	40	50	25	32.0
80.0	195.8	20.0	32.0	42.0	50	64	32	40.0
100.0	212.8	25.0	40.0	52.0	65	80	40	50.0
125.0	222.8	32.0	50.0	65.0	80	100	50	63.0
160.0	259.8	50.0	70.0	84.0	110	140	70	80.0

FOR SPERICAL ROLLER BEARING DESIGN PLEASE CONSULT WITH DESIGN

All dimensions are in millimetres unless otherwise stated.

# MODEL NUMBER

Each HDI Series WCG Cylinder is assigned a model number. Consisting of coded symbols, the model number can be used by customers, sales representatives & factory personnel as a complete & accurate description of the cylinder.

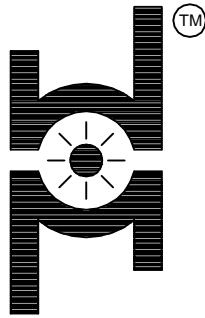
symbols that represents the cylinder features you wants, & put them down in sequence indicated by the example below. This example make use all of the 6 diff model number symbols group, although many model numbers will not require all, as in case where cushioning is not required, or where a double rod cylinder is not required, or where there are no special modifications, etc.

To develop a model number for a HDI cylinder, select those

Feature	Description	Page	Symbol	Example
				HDI CYL : 40.0 - * - SR - UM - WCG - 10 - R - C - 32 - S
Specification	Hydrodyne Industries cylinder	—	HDI CYL	
Bore	Specify in mm	—	4	
Cushioned-Head	non cushioned		*	
ROD	Single rod cylinder	4	SR	
	Double rod cylinder	4	DR	
Mounting Style	Front Flange	5	FF	
	Rear Flange	5	FR	
	Foot Lug	6	LE	
	Intermediate Trunnion	6	UM	
	Male Clevis	7	CM	
	Female Clevis	7	CF	
Series	Used in all WCG Model nos.		WCG	
Piston Rod No .	Number as shown	4		
	"Rod End Dimensions"			
	STD1: 10 STD2: 20		1 2	
Ports	BSP (Parallel Thread)		R	
Cushion - Cap	Used only if cushion required		C	
Stroke	Specify in mm		—	
Special Features	*Air Bleeds *Over Size Ports *Rod End Bellows *Special Seals *Stop Tube *Stroke Adjuster *Tie Rod Supports *Rod end accesories		S	







# HYDRO DYNE<sup>®</sup> INDUSTRIES

Plot No.11, Sector No.2, Vasai Taluka Indl. Co-op. Estate Ltd.,  
Gourai Pada, Vasai Road (E), Maharashtra - 401 208

Tel. :0250-6457480/81/82 , Mob. 09325004415

E-mail : [mktg@hydrodyneindustries.com](mailto:mktg@hydrodyneindustries.com)

Website :[www.hydrodyneindustries.com](http://www.hydrodyneindustries.com)