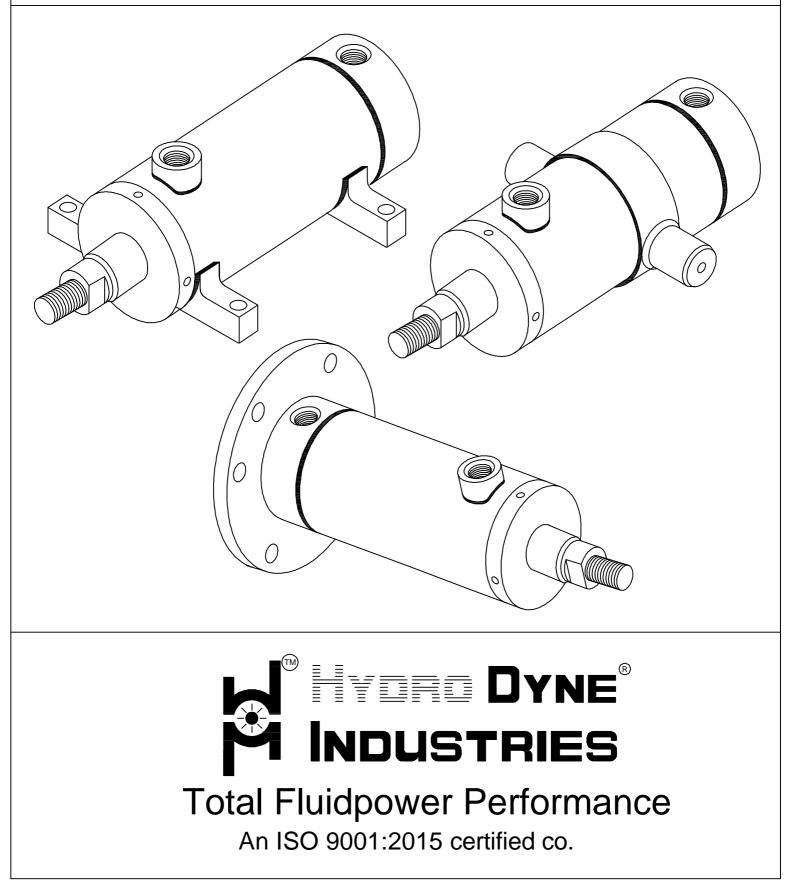
Hydraulic Cylinders WCG Series Working Pressure upto 160 bars



Streamline Welded Construction



WCG SERIES

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 limitaion.

THE GLAND

Gland can be externally removed without dismentalling the cylinder. Its long bearing surface is inboard of the seal assuring positive lubrication from within the cylinder. Leak proof gland seals consists of :

- a) Polyurethane / low friction nitrile seal completely self compensating and self relieving to withstand all pressure variations and mechanical deflections that may occur.
- b) 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 road 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

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 perpendicaular surface Flow passages of large size are provided to avoid pressure drop, For optional cushioining, 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.

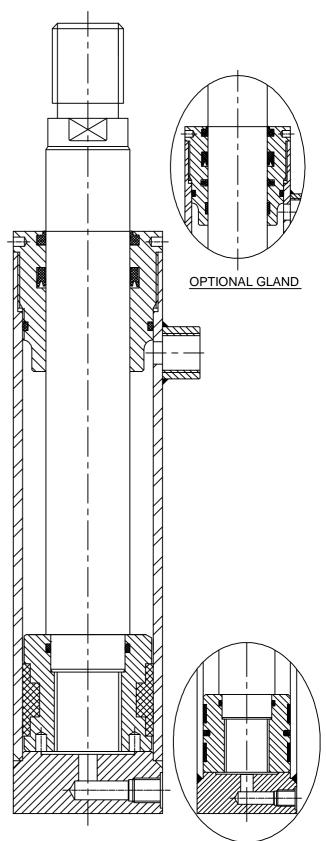
PORTS

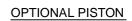
Extra size ports are designed for low pressure drops for oil flow. Normally, at gland side, the port is welded and on the cap end the port is machined on the cap end. Optionally extended port is provided on cap end also.

THE SEALS

Cylinder Division

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 .





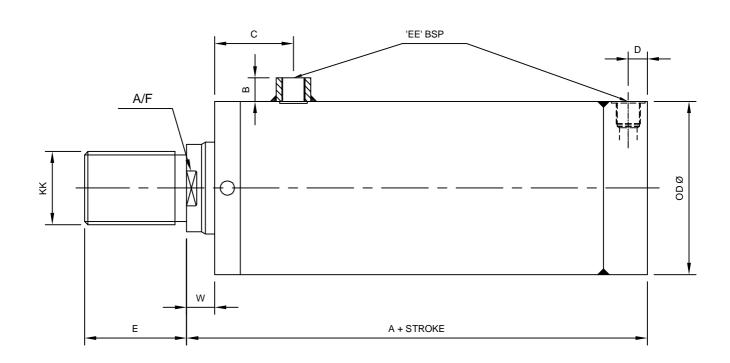
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WCG SERIES

BASIC CYLINDER DIMENSIONS



**DIMENSIONAL CHART :

BOREØ	STANDARD	'EE' BSP	RODØ	A/F	КК	OD Ø	А	В	С	D	E	W
40.0	STD 1	4/01	18	15	M14X1.5	40	147	18	57	16	18	12
40.0	STD 2	1/2"	22	18	M16X1.5	48				16	22	12
50.0	STD 1	4 /01	25	20	M20X1.5		168	18	60	16	28	14
50.0	STD 2	1/2"	28	22	M20X1.5	60					28	14
00.0	STD 1		28	22	M20X1.5	73	184	18	68	16	28	16
63.0	STD 2	1/2"	36	30	M27X2						36	16
	STD 1		36	30	M27X2		214	20	77	19	36	18
80.0	STD 2	3/4"	45	39	M33X2	95					45	18
100.0	STD 1		45	39	M33X2		233	20	81	19	45	20
100.0	STD 2	3/4"	56	48	M42X2	116					56	20
	STD 1		56	48	M42X2		246	20	88		56	23
125.0	STD 2	3/4"	70	62	M52X2	140				19	70	23
100.0	STD 1		70	62	M52X2		285	22	103		70	25
160.0	STD 2	1"	90	80	M68X3.0	185				23.5	90	25

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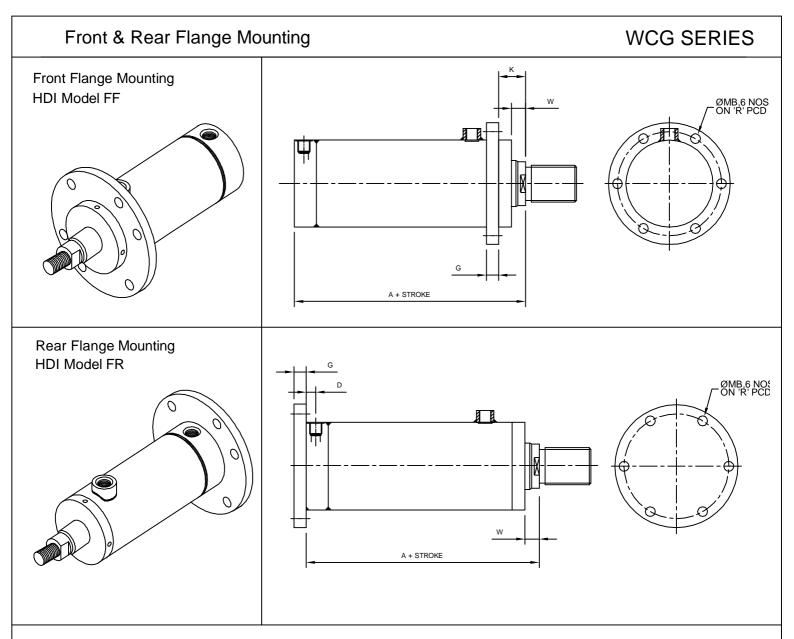
2

WCG SERIES

THREADED GLAND STREAMLINE CONSTRUCTION HYDRAULIC CYLINDER

SPECIFICATIONS

SPECIFICATIONS								
1. MAX. OPERATING PRES	SSURE 180 Bar (standard) Upto 250 Bar (upon request)						
2. TEMPRATURE	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	Rear Flange Mounting	Foot Lug Mounting						
FF	FR	LE						
Intermediate Trunion Mounting	Rear Clevis (Female) Mounting	Rear Clevis (male) Mounting						
UM	CF	СМ						
Cylinder 3 Division	E-mail : mktg@hydrodynei Website : www.hydrodyne	PINDUSTRIES ndustries.com industries.com						



Dimensions - FF & FR

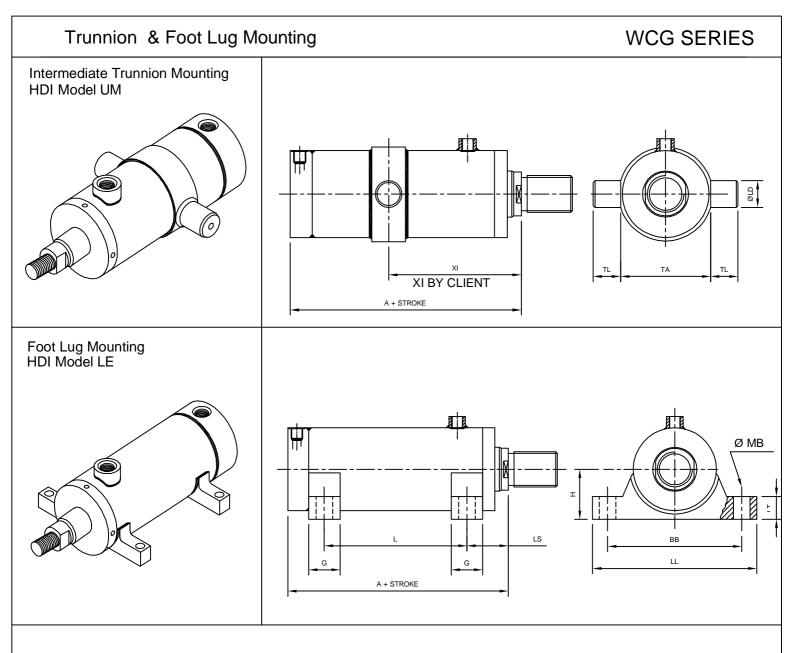
BOREØ	D	G	к	MBØ	R P.C.D.
40.0	16	15	22	8.5	90.0
50.0	16	18	25	10.5	100.0
63.0	16	22	29	13.0	115.0
80.0	19	25	33	13.0	150.0
100.0	19	35	35	17.0	175.0
125.0	19	40	38	22.0	210.0
160.0	23	50	41	30.0	270.0

All dimensions are in millimetres unless otherwise stated.

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4



Dimensions - UM & LE

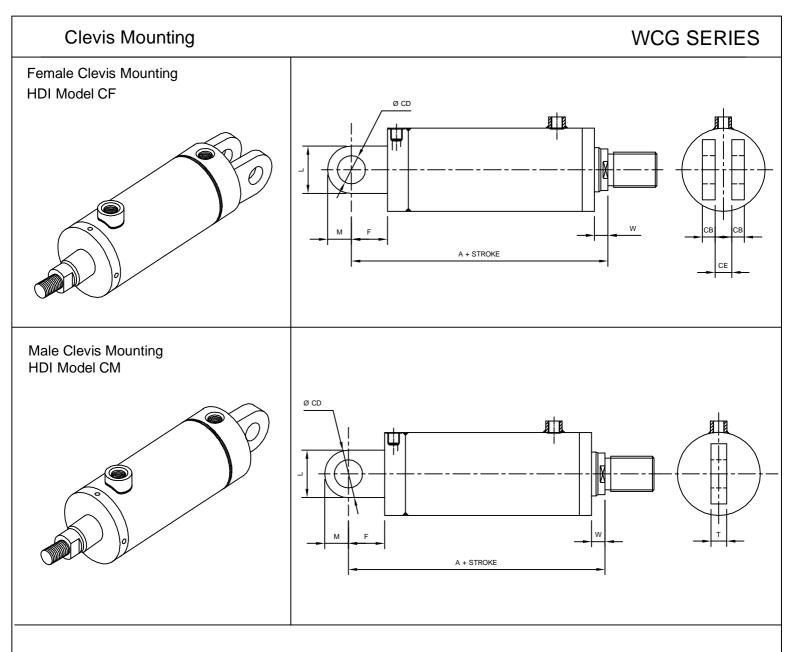
BOREØ	BB	LL	LT	MB Ø	Н	G	ТА	Ĺ	TL	LS	LDØ	MIN XI
40.0	74	90	13	9.0	35.0	22	68.0	65	12.0	33	16	97.0
50.0	85	105	19	11.0	40.0	25	82.0	79	16.0	37.5	20	102.0
63.0	96	120	26	14.0	48.0	30	98.0	86	20.0	44	25	113.0
80.0	123	155	26	18.0	58.0	40	117.0	96	25.0	53	32	124.0
100.0	145	185	32	22.0	70.0	50	140.0	101	32.0	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.

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Dimensions - CM & CF

BOREØ	А	СВ	ØCD	CE	F	L	М	Т
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.

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IRD

LYNE

DUSTRIES

MODEL NUMBER

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

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

symbols thats 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.

Specification Hydrodyne Industries cylinder HDI CYL Bore Specify in mm 4 Cushioned-Head non cushioned 4 ROD Single rod cylinder 4 SR Mounting Style Front Flange 5 FF Rear Flange 5 FF Foot Lig 6 LE Intermodiate Trunnion 6 LE Male Clevis 7 CM Female Clevis 7 CF Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown ************************************					-
Specification Hydrodyne Industries cylinder HDI CYL Bore Specify in mm 4 Cushioned-Head non cushioned 4 ROD Single rod cylinder 4 SR Mounting Style Front Flange 5 FF Rear Flange 5 FF Foot Lig 6 LE Intermodiate Trunnion 6 LE Main Clevis 7 CM Female Clevis 7 CF Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown ************************************	Feature	Description	Page	Symbol	Example
Bore Specify in mm 4 Bore Specify in mm 4 Cushioned-Head non cushioned 4 ROD Single rod cylinder 4 SR Double rod cylinder 4 DR Mounting Style Front Flange 5 FF Rear Flange 5 FF Potts BSP (Parallel Thread) KWCG Piston Rod No. Number as shown YROd End Dimensions* "Yrod End Dimensions" 4 1 Stroke Specify in mm					HDI CYL : 40.0 - * - SR - UM - WCG - 10 - R - C - 32 - S
Cushioned-Head non cushioned • ROD Single rod cylinder 4 SR Double rod cylinder 4 DR Mounting Style Front Flange 5 FF Rod Front Flange 5 FF Foot Lug Tunnion 6 UM Male Clevis 7 CF Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown * "Rod End Dimensions" 4 1 STD1: 10 STD2: 20 4 1 Ports BSP (Parallel Thread) R - Stroke Specify in mm - - Stroke Specify in mm - - Stroke Special Seals Sspecial Seals Sspecial Seals "Stroke Adjuster "Stroke Adjuster S S "Stroke Adjuster "Stroke Adjuster S - "Stroke Adjuster "Stroke Adjuster Stroke Adjuster S	Specification	Hydrodyne Industries cylinder		HDI CYL	
ROD Single rod cylinder 4 SR Duble rod cylinder 4 SR DR Mounting Style Front Flange Rear Flange Foot Lug Intermediate Trunnion Male Clevis 5 FF FR LE Series Used in all WCG Model nos. CF Piston Rod No. Number as shown "Rod End Dimensions" STD1: 10 STD2: 20 WCG Ports BSP (Parallel Thread) 4 1 2 Ports Special Features "Air Bleeds "Over Size Ports "Rod End Delows "Special Features" Air Bleeds "Over Size Ports "Rod End Delows "Special Features" S Air Bleeds "Over Size Ports "Rod end accesories S Air Bleeds "Over Size P	Bore	Specify in mm		4	
Note Double not cylinder 4 DR Double not cylinder 4 DR Mounting Style Front Flange Foot Lug Intermediate Trunnion Male Clevis 5 FF 6 Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown "Rod End Dimensions" STD1: 10 STD2: 20 WCG Ports BSP (Parallel Thread) 4 1 2 Ports BSP (Parallel Thread) C Stroke Specify in mm Special Features "Air Bleeds "Over Size Ports "Rod End Supports "Rod end accesories S	Cushioned-Head	non cushioned		*	
Mounting Style Front Flange Rear Flange Foot Lug Intermediate Trunnion Mele Clevis 5 5 6 1 8 6 1 1 7 FF 7 6 1 1 7 Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown "Rod End Dimensions" STD1: 10 STD2: 20 WCG Ports BSP (Parallel Thread) 4 1 2 Ports Special Features "Air Bleeds "Over Size Ports "Rod End Bellows "Special Seals "Stoke Adjuster "The Rod Supports "Rod end accesories S	ROD	Single rod cylinder	4	SR	
Rear Flange 5 FR Foot Lug Intermediate Trunnion 6 Male Clevis 7 CF Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown WCG "STD1: 10 STD2: 20 4 1 Ports BSP (Parallel Thread) R Cushion - Cap Used only if cushion required C Stroke Special Features "Air Bleeds "Over Size Ports "Rod End Bellows S Stope Adjuster "Tite Rod Supports "Rod end accesories S S		Double rod cylinder	4	DR	
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 WCG "Rod End Dimensions" 4 1 STD1: 10 STD2: 20 4 1 Ports BSP (Parallel Thread) R	Mounting Style	Front Flange	5	FF	
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 WCG "Rod End Dimensions" 4 1 STD1: 10 STD2: 20 4 1 Ports BSP (Parallel Thread) R		Rear Flange	5	FR	
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Female Clevis 7 CF Series Used in all WCG Model nos. WCG Piston Rod No. Number as shown WCG "Rod End Dimensions" STD1: 10 STD2: 20 4 1 Ports BSP (Parallel Thread) R Cushion - Cap Used only if cushion required C Stroke Specify in mm		Intermediate Trunnion	6	UM	
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Cushion - Cap Used only if cushion required C Stroke Specify in mm					
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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					
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*Stop Tube *Stroke Adjuster *Tie Rod Supports *Rod end accesories					-
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HYDRO DYNE[®] INDUSTRIES

Plot No.11, Sector No.2, Vasai Taluka Indl. Co-op. Estate Ltd., Gourai Pada, Vasai Road (E), Maharastra - 401 208
Tel. :0250-6457480/81/82, Mob. 09325004415
E-mail : mktg@hydrodyneindutries.com
Website :www.hydrodyneindustries.com