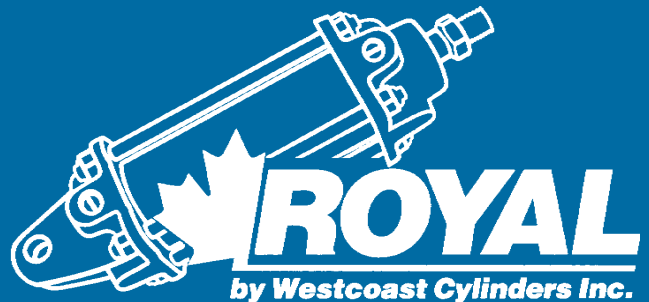


3500/5000
psi rating

Heavy Duty series

XH

hydraulic cylinders

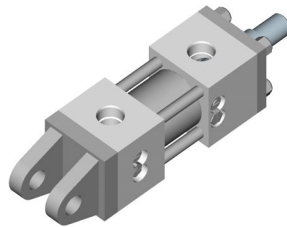


Page Description

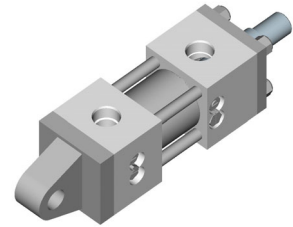
1	Contents
2	Features Description

Mounting Dimensions

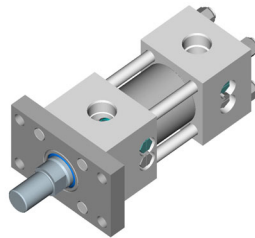
3	C	Clevis Mount
3	E	Pivot Eye
4	R	Rod End Rectangular Flange
4	B	Blind End Rectangular Flange
5	W	Self-aligning Eye
5	T	Mid Trunnion
6		Accessories
7		Accessories, Rod End Styles
8		Accessories
9		Technical Data
10		Technical Data, Torque Specs
back-cover		Cylinder Nomenclature



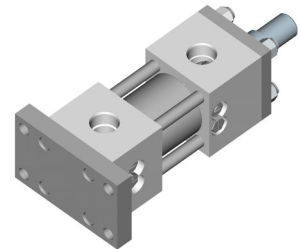
3

Clevis Mount

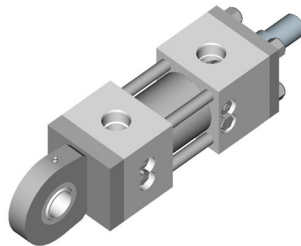
3

Pivot Eye

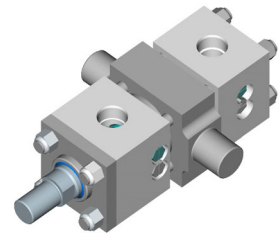
4

Rod End Rectangular Flange

4

Blind End Rectangular Flange

5

Self-Aligning Eye

5

Mid Trunnion

“for Severe Applications...”

DESIGN OVERVIEW

The XH-Series Cylinders take over where regular NFPA hydraulic cylinders leave off. The XH Series has been designed to serve the applications where high speed and severe shock are present. It provides long cushions for smooth deceleration of fast moving loads while still providing fast breakaway.

FEATURES

Rated to 3500 psi working pressure.

Oversize Mounts and Tie Rods.

Extra large heads allow for larger ports and longer cushions.

Longer Cushions profiled to provide constant cushioning force to reduce shock and bounce.

Triple Ball Checks at each end for fast breakaway. Needle valve is located at position 4.

Hard Chrome Plated Piston Rod (CPO) C1045/C1050 material. Optional Induction Hardened Chrome Plated (I.H.C.P) Piston Rods and optional Rod Stud.

Cast Iron Piston Rings to cope with pressure spikes.

Oversize pinholes - on Pin-mounted styles.

Thicker lugs and wider spacing for increased bearing area.

MOUNTING STYLES

Clevis Mount.

Pivot Eye Mount.

Rod End Rectangular Flange Mount.

Blind End Rectangular Flange Mount.

Self-Aligning Eye Mount.

Mid Trunnion Mount.

Note: rear pin-mounted styles have detachable mounts.

APPLICATIONS

The robust design of the XH series cylinder makes it suitable for applications where shock and impact are present. The large pin diameters and wide lug spacing provide ample bearing area for mounting longevity. Oversized tie rods ensure the cylinder heads stay rigidly located even with extreme extension loads. The cushion profile provides a more consistent deceleration, by maintaining an even back pressure during deceleration.

The XH series is also suitable for use in high-speed applications. The larger heads accept large SAE Flange ports for high flow. Triple ball checks allow for fast break out of the cushion area, while the longer cushion provides ample deceleration time.

Westcoast Cylinders Inc.:

The Company has been manufacturing high quality, reliable ROYAL cylinders for over 40 years. Production started with a single cylinder design and expanded to a full range of multi-use, hydraulic, pneumatic cylinders and accessories.

Quality:

WCI is a leader in the design and manufacture of custom heavy duty cylinders. The materials, machinery and tools used to produce our products are continuously being updated. Our cylinders are built to the highest standards utilizing the latest technology and processes.

Delivery:

WCI maintains a large range of stock parts which gives us the flexibility to respond to your needs in emergency situations. Please contact the factory to expedite your special requirements.

Westcoast Cylinders Inc.

225 Edworthy Way
New Westminster BC
Canada V3L 5G4

Telephone: 604-527-1120

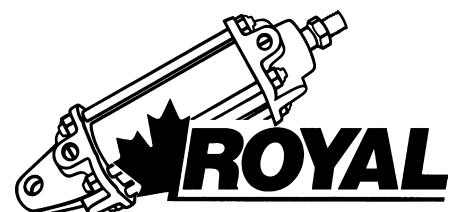
Facsimile: 604-527-1170

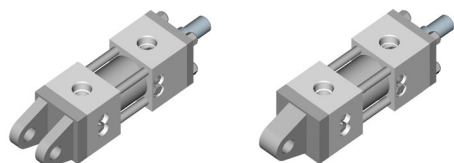
Phone Toll Free: 1-877-637-6925

Fax Toll Free: 1-866-527-1170

email: sales@royalcylinders.com

...High Speeds"





model XHC, XHE

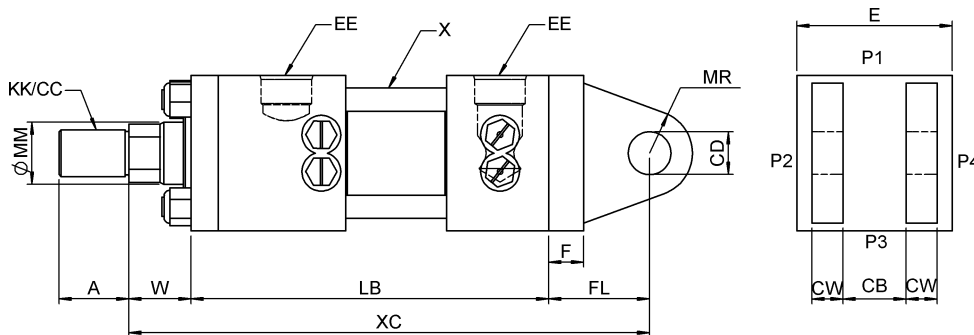
BORE	ROD DIA			CC	A	W	+ STROKE		E	+ STR		XHC	XHE	CD	CW	EE	MR	F	FL	X
	ROD	MM	KK				XC	XC		LB	CB	CB	SAE							
2 1/2	1	1 3/8	1-14	1 1/4-12	1	5/8	2	16 1/8	4	11 1/2	1 17/32	1 1/2	1	3/4	-16	1	1 1/8	2 5/8	5/8	
	2	1 3/4	1 1/4-12	1 1/2-12	2		2	16 1/8	4	11 1/2	1 17/32	1 1/2	1	3/4	-16	1	1 1/8	2 5/8	5/8	
3 1/4	1	1 3/4	1 1/4-12	1 1/2-12	2		2	16 3/4	5	11 1/2	2 1/32	2	1	3/8	1	-20	1 3/8	1 1/8	3 1/4	3/4
	2	2	1 1/2-12	1 3/4-12	2	1/4	2	16 3/4	5	11 1/2	2 1/32	2	1	3/8	1	-20	1 3/8	1 1/8	3 1/4	3/4
4	1	2	1 1/2-12	1 3/4-12	2	1/4	2	16 7/8	6	11 1/2	2 17/32	2 1/2	1	3/4	1 1/4	-20	1 3/4	1 1/8	3 3/8	7/8
	2	2 1/2	1 7/8-12	2 1/4-12	3		2	16 7/8	6	11 1/2	2 17/32	2 1/2	1	3/4	1 1/4	-20	1 3/4	1 1/8	3 3/8	7/8

Notes:

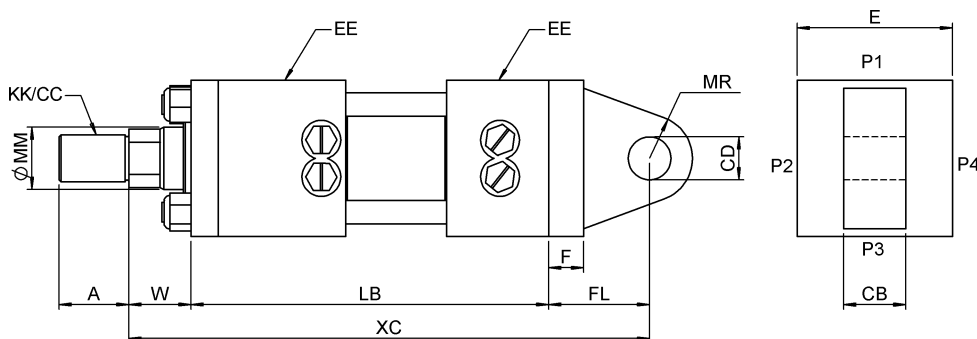
1. All dimensions in inches.
2. EE standard port is SAE See Cylinder Nomenclature for SAE flange or Alternate port size.
3. See Cylinder Nomenclature for thread options.

Blind End Mounting is oversize as standard. Extra large mounting is also available and is also NFPA compatible. Please contact the factory for this option.

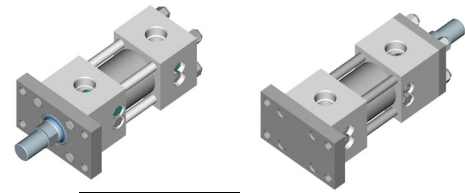
Model XHC Fixed Clevis Style MP1



Model XHE Pivot Eye Style MP3



model XHR, XHB

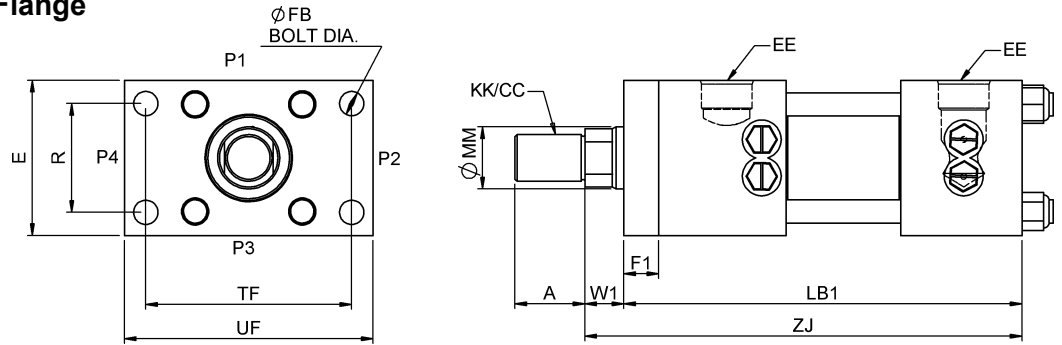


BORE	ROD DIA										ADD STROKE		E	+ STR		R	FB	TF	UF		
	ROD	MM	KK	CC	A	F1	W	W1	ZF	ZJ	LB1	SAE									
2 1/2	1	1 3/8	1-14	1 1/4-12	1	5/8	1	1/8	2	1 7/8	14	5/8	13	1/2	4	11 5/8	-16	3.25	5/8	5 7/8	7 1/8
	2	1 3/4	1 1/4-12	1 1/2-12	2			1 1/8	2	1 7/8	14	5/8	13	1/2	4	11 5/8	-16	3.25	5/8	5 7/8	7 1/8
3 1/4	1	1 3/4	1 1/4-12	1 1/2-12	2			1 1/8	2	1 7/8	14	5/8	13	1/2	5	11 5/8	-20	3.81	5/8	6 3/8	7 5/8
	2	2	1 1/2-12	1 3/4-12	2	1/4	1 1/8	2	1 7/8	14	5/8	13	1/2	5	11 5/8	-20	3.81	5/8	6 3/8	7 5/8	
4	1	2	1 1/2-12	1 3/4-12	2	1/4	1 1/8	2	1 7/8	14	5/8	13	1/2	6	11 5/8	-20	4.95	7/8	8 3/16	9 3/4	
	2	2 1/2	1 7/8-12	2 1/4-12	3			1 1/8	2	1 7/8	14	5/8	13	1/2	6	11 5/8	-20	4.95	7/8	8 3/16	9 3/4

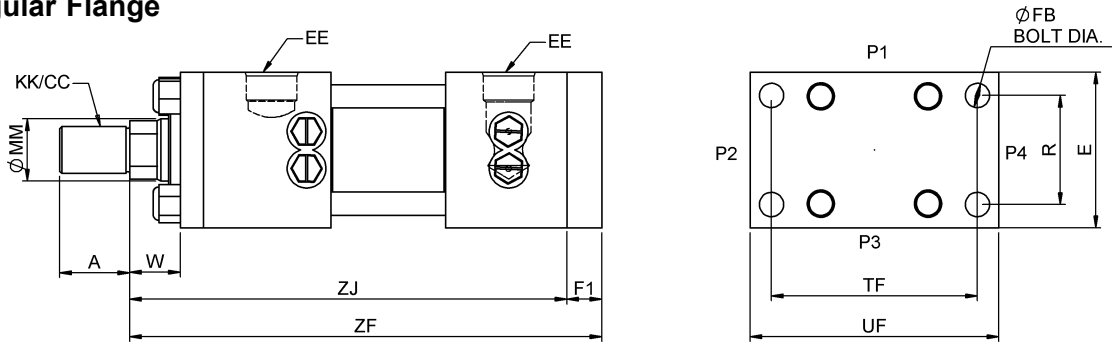
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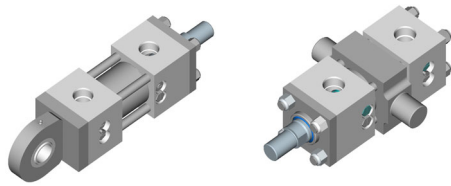
1. All dimensions in inches.
2. EE standard port is SAE See Cylinder Nomenclature for SAE flange or Alternate port size.
3. See Cylinder Nomenclature for thread options.

**Model XHR
Rod End Rectangular Flange
Style MF1**



**Model XHB
Blind End Rectangular Flange
Style MF2**





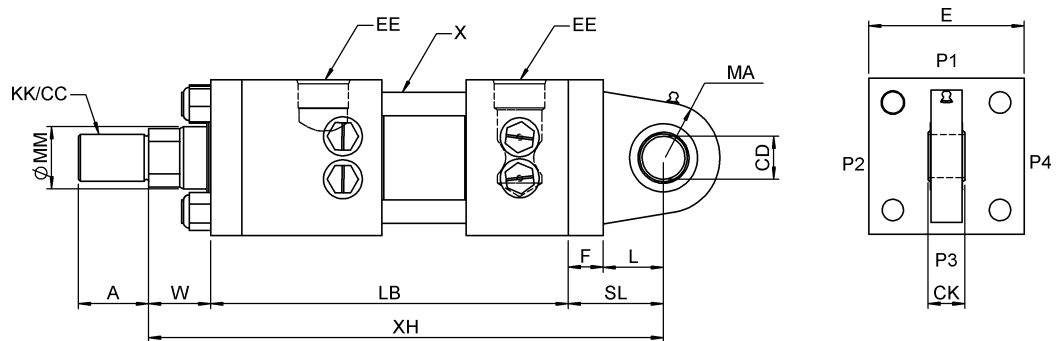
model XHW, XHT

BORE	ROD	ROD DIA		CC	A	W	+ STROKE		E	+ STROKE		CD	CK	EE		MA	F	SL	L	X
		MM	KK				XH	LB		SAE	MA									
2 1/2	1	1 3/8	1-14	1 1/4-12	1 5/8	2	16	3/16	4	11 1/2	1	7/8	-16	1 1/2	1 1/8	2 11/16	1 9/16	5/8	5/8	
	2	1 3/4	1 1/4-12	1 1/2-12	2	2	16	3/16	4	11 1/2	1	7/8	-16	1 1/2	1 1/8	2 11/16	1 9/16	5/8	5/8	
3 1/4	1	1 3/4	1 1/4-12	1 1/2-12	2	2	16	9/16	5	11 1/2	1 3/8	1 3/16	-20	1 3/4	1 1/8	3 1/16	1 15/16	3/4	3/4	
	2	2	1 1/2-12	1 3/4-12	2 1/4	2	16	9/16	5	11 1/2	1 3/8	1 3/16	-20	1 3/4	1 1/8	3 1/16	1 15/16	3/4	3/4	
4	1	2	1 1/2-12	1 3/4-12	2 1/4	2	17	1/16	6	11 1/2	1 3/4	1 17/32	-20	2 1/4	1 1/8	3 9/16	2 7/16	7/8	7/8	
	2	2 1/2	1 7/8-12	2 1/4-12	3	2	17	1/16	6	11 1/2	1 3/4	1 17/32	-20	2 1/4	1 1/8	3 9/16	2 7/16	7/8	7/8	

Notes:

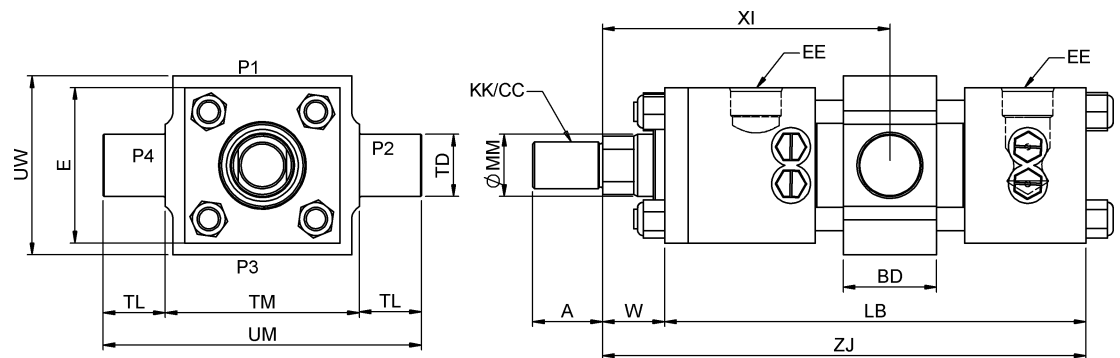
- All dimensions in inches.
- EE standard port is SAE. See Cylinder Nomenclature for SAE flange or Alternate port size.
- See Cylinder Nomenclature for thread options.

Model XHW Self-Aligning Eye Style MPU3



BORE	ROD	ROD DIA		CC	A	W	+ STROKE		XI (min)	E	+ STROKE		EE		BD	TD	TL	TM	UM	UW
		MM	KK				ZJ	LB			SAE	BD	TD							
2 1/2	1	1 3/8	1-14	1 1/4-12	1 5/8	2	13	1/2	8 3/8	4	11 1/2	-16	2	1 3/4	1 3/4	5	8 1/2	4 1/2	4 1/2	
	2	1 3/4	1 1/4-12	1 1/2-12	2	2	13	1/2	8 3/8	4	11 1/2	-16	2	1 3/4	1 3/4	5	8 1/2	4 1/2	4 1/2	
3 1/4	1	1 3/4	1 1/4-12	1 1/2-12	2	2	13	1/2	8 7/8	5	11 1/2	-20	3	2	2	6 1/4	10 1/4	5 3/4	5 3/4	
	2	2	1 1/2-12	1 3/4-12	2 1/4	2	13	1/2	8 7/8	5	11 1/2	-20	3	2	2	6 1/4	10 1/4	5 3/4	5 3/4	
4	1	2	1 1/2-12	1 3/4-12	2 1/4	2	13	1/2	8 7/8	6	11 1/2	-20	3	2 1/2	2 1/2	7	12	6 1/2	6 1/2	
	2	2 1/2	1 7/8-12	2 1/4-12	3	2	13	1/2	8 7/8	6	11 1/2	-20	3	2 1/2	2 1/2	7	12	6 1/2	6 1/2	

Model XHT Mid Trunnion Style MT4

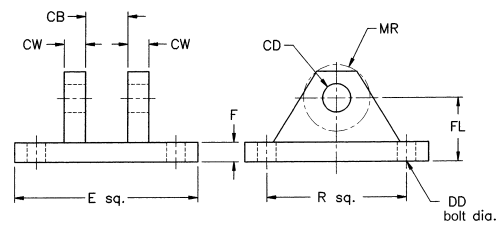


Warning: Trunnion mounted cylinders swivel in one direction and are designed to carry shear loads only. Pins must be held rigidly and in accurate alignment. Improper mounting may result in failure of pins or mount.

Clevis Type Mounting Bracket

Adapts to HE mount cylinder or HE rod eye

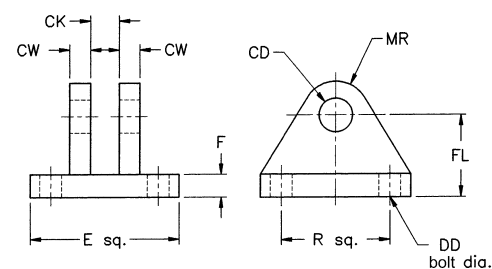
PART	HCM15	HCM2	HCM32	HCM4	HCM5	HCM6	HCM7	HCM8	HCM10	HCM12
CB	25/32	1 9/32	1 17/32	2 1/32	2 9/16	2 9/16	3 1/16	3 1/16	4 1/16	4 9/16
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
CW	1/2	5/8	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2
DD	13/32	17/32	21/32	21/32	15/16	1 1/16	1 3/16	1 5/16	1 13/16	2 1/16
E	3 1/2	5	6 1/2	7 1/2	9 1/2	12 3/4	12 3/4	12 3/4	15 1/2	17 1/2
F	1/2	5/8	3/4	7/8	7/8	1	1	1	1 11/16	1 15/16
FL	1 1/2	1 7/8	2 1/4	3	3 5/8	4 1/4	4 1/2	6	6 11/16	7 11/16
MR	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
R	2.55	3.82	4.95	5.73	7.50	9.40	9.40	9.40	12.00	13.75



Mounting Bracket for Self-Aligning Rod Eye

Adapts to HW mount cylinder, HWE and HRES rod eye

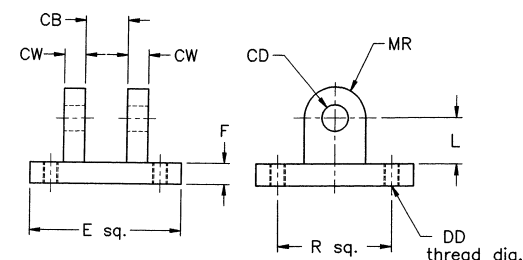
PART	HWM15	HWM2	HWM32	HWM4	HWM5	HWM6	HWM7	HWM8
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3
CK	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4	2 3/16	2 5/8
CW	5/16	1/2	5/8	3/4	3/4	7/8	1 1/4	1 1/2
DD	13/32	17/32	21/32	21/32	15/16	1 1/16	1 3/16	1 5/16
E	2 1/2	3 1/2	4 1/2	5	6 1/2	7 1/2	8 1/2	9 1/2
F	3/8	9/16	11/16	13/16	15/16	15/16	15/16	1
FL	1 1/2	2 1/16	2 7/16	3 1/16	3 15/16	4 3/16	4 11/16	5 1/4
MR	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3
R	1.63	2.55	3.25	3.82	4.95	5.73	6.58	7.50



Detachable Clevis - MP-2 Mount (NFPA)

Adapts to HM eye-type mounting bracket

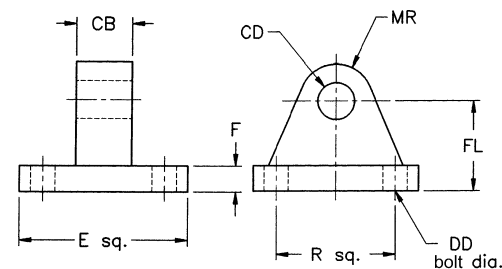
PART	HMP2-15T	HMP2-25T	HMP2-32T	HMP2-4T	HMP2-5T	HMP2-6T	HMP2-7T	HMP2-8T
CB	0.76	0.76	1.51	2.03	2.53	2.53	3.03	3.03
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3
CW	1/2	5/8	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2
DD	3/8-24	1/2-20	5/8-18	5/8-18	7/8-14	1-14	1 1/8-12	1 1/4-12
E	2 1/2	3 1/2	4 1/2	5	6 1/2	7 1/2	8 1/2	9 1/2
F	3/8	5/8	3/4	7/8	7/8	1	1	1
L	3/4	1 1/4	1 1/2	2 1/8	2 1/4	2 1/2	3	3 1/4
MR	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3
R	1.63	2.56	3.25	3.81	4.94	5.75	6.59	7.50



Eye Type Mounting Bracket

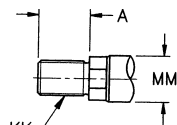
Adapts to HC mount cylinder or HC rod clevis

PART	HM15	HM25	HM32	HM4	HM5	HM6	HM7	HM8	HM10	HM12
CB	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
DD	13/32	17/32	21/32	21/32	29/32	1 1/16	1 3/16	1 5/16	1 13/16	2 1/16
E	2 1/2	3 1/2	4 1/2	5	6 1/2	7 1/2	8 1/2	9 1/2	12 5/8	14 7/8
F	3/8	5/8	3/4	7/8	7/8	1	1	1	1 11/16	1 15/16
FL	1 1/8	1 7/8	2 1/4	3	3 1/8	3 1/2	4	4 1/4	5 11/16	6 7/16
MR	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
R	1.63	2.56	3.25	3.81	4.95	5.75	6.59	7.50	9.62	11.50

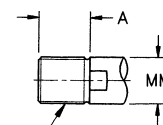


Rod End Styles

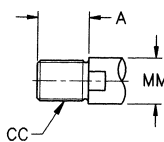
(See model dimension tables for dimension values)



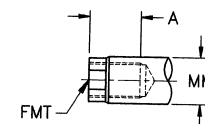
A
Standard Male Thread
NFFPA Style SM



C
Full Thread



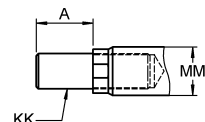
B
Oversize Male Thread
NFFPA Style LM



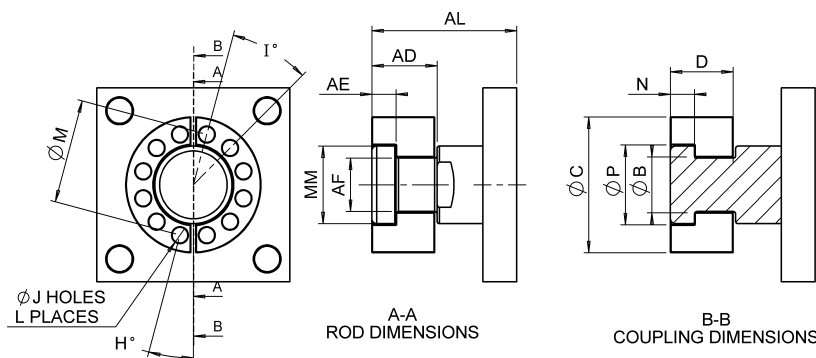
D
Female Thread
NFFPA Style SF



E
No Thread



G
Rod Stud
NFFPA Style SM



F
Rod End Coupler
Contact Our Factory for
Details

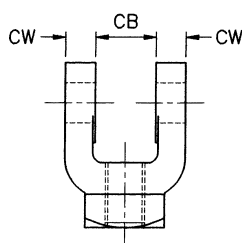
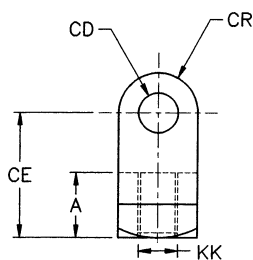
A-A
ROD DIMENSIONS

B-B
COUPLING DIMENSIONS

Rod Clevis

Adapts to male thread on piston rod

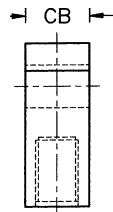
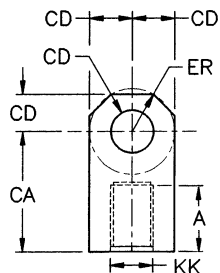
PART	HC15	HC15C	HC2	HC2C	HC32	HC4	HC5	HC5C	HC6	HC7	HC8	HC7C	HC10	HC10C	HC12C	HC12D
A	3/4	3/4	1 1/8	1 5/8	1 5/8	2	2 1/4	3	3	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	4	4 1/2
CB	0.781	0.781	1.281	1.531	1.531	2.031	2.563	2.563	2.563	3.063	3.063	3.063	4.063	4.063	4.531	4.531
CD	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	3 1/2	4	4
CE	1 1/2	1 1/2	2 3/8	3 1/8	3 1/8	4 1/8	4 1/2	5 1/2	5 1/2	6 1/2	6 3/4	6 3/4	7 3/4	7 3/4	8 1/2	9
CW	1/2	1/2	5/8	3/4	3/4	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2	2 1/4	2 1/4
CR	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	2 3/4	2 3/4	3 1/2	3 1/2	4	4
KK	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 1/2-12	2 3/4-12	3 1/4-12	3-12	3 3/4-12	4 1/4-12



Rod Eye

Adapts to HCM clevis-type mounting bracket

PART	HE15	HE15C	HE2	HE2C	HE32	HE4	HE5	HE5C	HE6	HE7	HE7C	HE8	HE10	HE12C	HE12D
A	3/4	3/4	1 1/8	1 1/8	1 5/8	2	2 1/4	2 1/4	3	3 1/2	3 5/8	3 1/2	4 1/2	4	4 1/2
CA	1/2	1/2	2 1/16	2 3/8	2 13/16	3 7/16	4	4 3/8	5	5 13/16	6 1/2	6 1/8	7 5/8	7 5/8	8 1/8
CB	3/4	3/4	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2	2 1/2	3	3 1/2	3	4	4 1/2	5
CD	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	4	4
ER	5/8	5/8	7/8	1 1/8	1 3/16	1 9/16	2	2 7/8	2 1/2	2 13/16	3 1/4	3 1/4	3 7/8	4	4
KK	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 3/4-12	2 1/2-12	3 1/4-12	3 3/4-12	4 1/4-12



Accessories for Rod End

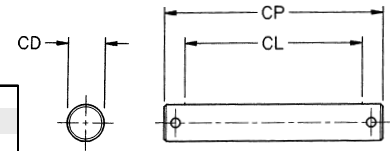
BORE	ROD DIA. MM	THREAD SIZE	ROD CLEVIS	LUG	PIVOT	ROD EYE	CLEVIS	SELF ALIGNING			
				MOUNTING BRACKET	PIN		MOUNTING BRACKET	ROD EYE	MOUNTING BRACKET	PIVOT PIN	
3 1/4	2 1/2	1 3/8	1-14	HC32	HM32	P6	HE32	HCM32	HWE32	HWM32	HWP32
		1 3/8	1 1/4-12	HC4	HM4	HP4	HE4	HCM4	HWE4	HWM4	HWP4
		1 3/4	1 1/4-12	HC4	HM4	HP4	HE4	HCM4	HWE4	HWM4	HWP4
		1 3/4	1 1/2-12	HC5	HM5	P12	HE5	HCM5	HWE5	HWM5	HWP5
4	2	1 1/2-12	HC5	HM5	P12	HE5	HCM5	HWE5	HWM5	HWP5	
	2	1 3/4-12	HC5C	HM6	HP6	HE5C	HCM6	N/A	N/A	N/A	
	2 1/2	2 1/2-12	HC6	HM6	HP6	HE6	HCM6	HWE6	HWM6	HWP6	
	2 1/2	2 3/4-12	HC7	HM7	HP7	HE7	HCM7	N/A	N/A	N/A	

Pivot Pin

Comes complete with cotter pins

Adapts to HC rod clevis or HCM clevis-type mounting bracket

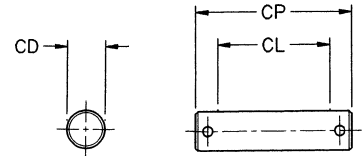
PART	P3	P4	P6	HP4	P12	HP6	HP5C	HP7	HP8	HP7C	HP10	HP12
CD	1/2	3/4	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	4
CL	1 3/4	2 1/2	3	4	5	5 1/2	5 13/16	6 3/16	6	6 1/2	8	9
CP	2 5/16	3 1/8	3 3/4	4 13/16	6 1/8	6	6 3/8	7 1/4	7 1/4	7 5/8	9 1/4	10 1/4



Pivot Pin for Self-Aligning Rod Eye

Adapts to HWM mounting bracket. Comes complete with cotter pins

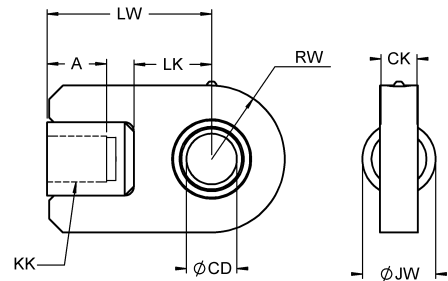
PART	HWP15	HWP2	HWP32	HWP4	HWP5	HWP6	HWP8
CD	1/2	3/4	1	1 3/8	1 3/4	2	3
CL	1 5/16	2	2 17/32	3 3/32	3 7/16	3 15/16	6 1/8
CP	1 7/8	2 9/16	3 3/16	3 3/4	4 3/16	4 11/16	7 1/4



Self-Aligning Rod Eye - Female

Adapts to male thread on piston rod

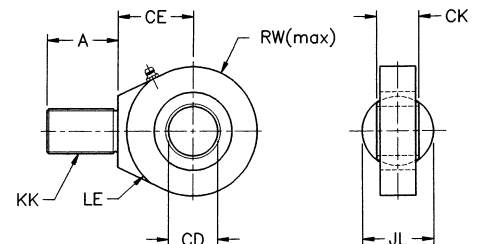
PART	HWE15	HWE2	HWE32	HWE4	HWE5	HWE6	HWE7	HWE8
A	3/4	1 1/8	1 5/8	2	2 1/4	3	3 1/2	3 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3
CK	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4	2 3/16	2 5/8
JW	3/4	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
KK	7/16-20	3/4-16	1-14	1 1/4-12	1 1/2-12	1 7/8-12	2 1/4-12	2 1/2-12
LW	1 3/4	2 3/4	3 5/8	4 1/2	5 5/8	6 3/4	7	7 1/8
RW	7/8	1 1/4	1 1/2	2	2 3/4	3	3 1/8	4
LK	5/8	1 1/4	1 5/8	2 1/8	2 5/8	3 1/2	3 1/8	3 1/4



Self-Aligning Rod Eye - Male

Adapts to female thread on piston rod

PART	HRES-1	HRES-2	HRES-3	HRES-4	HRES-5	HRES-6
A	11/16	1	1 1/2	2	2 1/8	2 7/8
CD	1/2	3/4	1	1 3/8	1 3/4	2
CE	7/8	1 1/4	1 7/8	2 1/8	2 1/2	2 3/4
CK	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4
JL	7/8	1 5/16	1 1/2	2	2 1/4	2 3/4
KK	7/16-20	3/4-16	1-14	1 1/4-12	1 1/2-12	1 7/8-12
LE	3/4	1 1/16	1 7/16	1 7/8	2 1/8	2 1/2
RW	7/8	1 1/4	1 3/8	1 13/16	2 3/16	2 5/8



CYLINDER DEVELOPED FORCE

BORE in	ROD DIA in	Work Major Area (in ²)	Work Minor Area (in ²)	Developed Force (lb)											
				@ Differential Pressure											
				1000		1500		2000		2500		3000		3500	
				push	pull	push	pull	push	pull	push	pull	push	pull	push	pull
2 1/2	1 3/8	4.91	3.42	4909	3424	7363	5136	9817	6848	12272	8560	14726	10272	17181	11983
	1 3/4	4.91	2.50	4909	2503	7363	3755	9817	5007	12272	6259	14726	7510	17181	8762
3 1/4	1 3/4	8.30	5.89	8296	5890	12444	8836	16592	11781	20739	14726	24887	17671	29035	20617
	2	8.30	5.15	8296	5154	12444	7731	16592	10308	20739	12885	24887	15463	29035	18040
4	2	12.57	9.42	12566	9425	18850	14137	25133	18850	31416	23562	37699	28274	43982	32987
	2 1/2	12.57	7.66	12566	7658	18850	11486	25133	15315	31416	19144	37699	22973	43982	26802

CYLINDER SIZING

- A cylinder must generate sufficient force to accelerate a load and overcome friction losses.
- System pressure losses must also be considered.
- The cylinder developed force table does not take into account friction, pressure losses or acceleration force.

Warning

These products are intended for industrial use only. Do not use these products in applications where the pressure and temperature exceeds the values listed below.

Through misuse, age or malfunction, components used in fluid power systems can fail. A designer utilizing these products must consider all modes of failure when designing machines and provide safeguards or warn the end user of possible modes of failure.

Cylinder Pressure and Temperature Ratings

XH-Series cylinders are rated to 3500 psig hydraulic pressure for normal use, and 5000 psi for non shock applications.

Temperature ratings for cylinders are limited to the maximum published temperature range of the least resistant seal component. In most cases that would be the standard buna-n o-ring seals. For higher temperatures specify a high temperature seal such as Viton. Buna-N temperature ratings: -30°F to 200°F (-34°C to 93°C).

Published Design Data

Westcoast Cylinders Inc. reserves the right to change specifications and other information included in this catalogue without notice. All information, data and dimension tables in this catalogue have been carefully compiled and thoroughly checked. However, no responsibility for possible errors or omissions can be assumed.

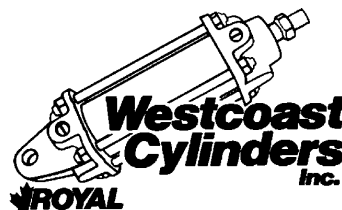
Warranty

Westcoast Cylinders Inc. warrants the material and workmanship of our cylinders for one full year when used under normal conditions, subject to factory inspection. WCI will repair or replace, at no cost, defective parts or cylinders. WCI will not assume expenses incurred in the field, pertaining to such repairs or replacements, except upon written authority. For a complete statement of terms and warranty contact Westcoast Cylinders Inc.

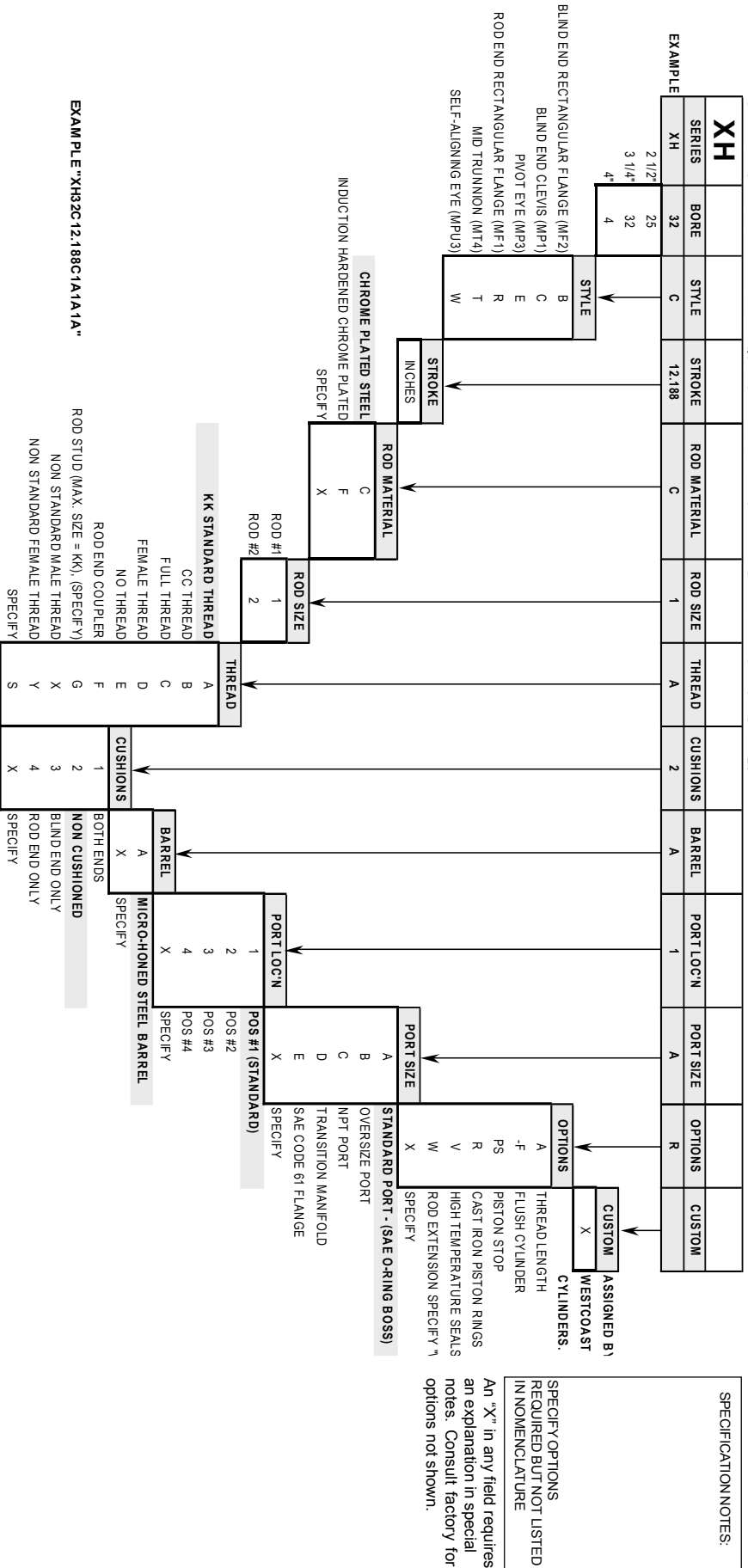
TIE-ROD LOCKNUT TORQUE			PISTON ASSEMBLY TORQUE		
BORE	TIE ROD	TORQUE (FT-LBS)	BORE	SIZE	TORQUE (FT-LBS)
2 1/2	5/8-18	150	2 1/2	1-14	700
3 1/4	3/4-16	230	3 1/4	1 1/4-12	850
4	7/8-14	320	4	1 1/2-12	1500

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 Canada V3L 5G4
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 Fax Toll Free: 1-866-527-1170
 email: sales@royalcylinders.com



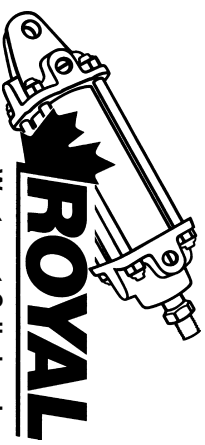
SPECIFYING AN "X" IN ANY FIELD REQUIRES AN EXPLANATION IN THE SPECIFICATION NOTES FIELD.



SPECIFICATION NOTES:

SPECIFY OPTIONS REQUIRED BUT NOT LISTED IN NOMENCLATURE

An "X" in any field requires an explanation in special notes. Consult factory for options not shown.



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 email: sales@royalcylinders.com

EXAMPLE "XH32C12.188C1A1A1A"