

RP SERIES

200 psi Mill-type Cylinder

Delivering superior long-term performance and value

**Designed and engineered
for severe-service applications**

Bore Size: 2" to 20"

Piston rod diameter: 5/8" to 5 1/2"

- Heavy duty construction with steel flanged end caps and heavy wall tubing for continuous 200 psi service
- Extra-long heavy duty rod bushing with dual wipers
- 4 wrench flats on piston rod + option to accept LDT
- Made-to-order stroke lengths
- Reduce design and development costs

Overview



Our 200 psi Mill-type cylinder is designed to handle the most severe service applications.

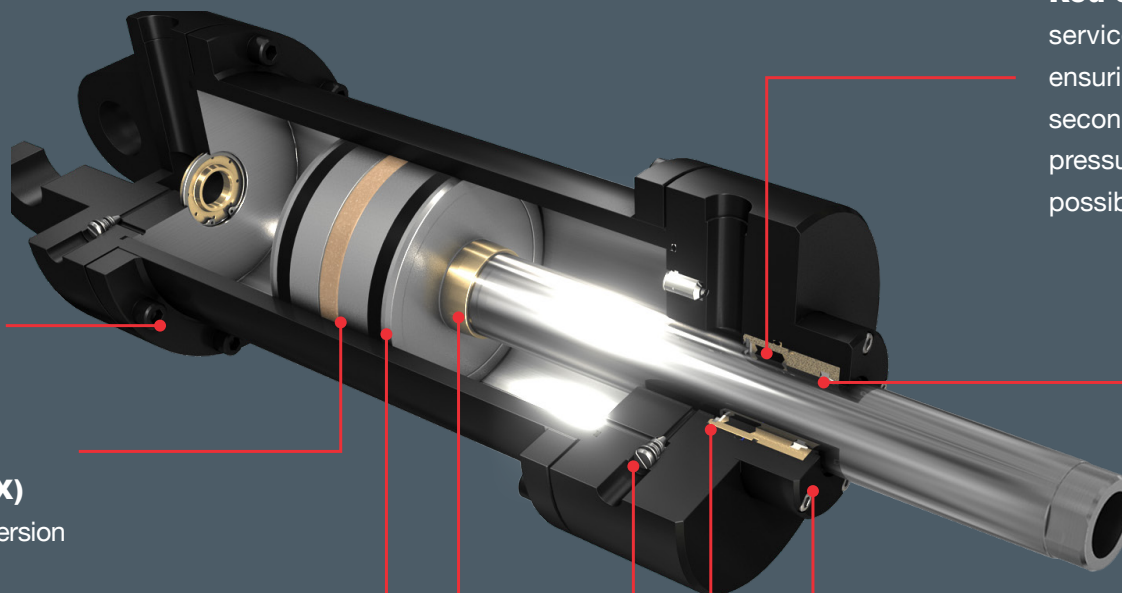
Cowan's RP Series was designed in response to our customers' need for a more durable, more reliable product to reduce their replacement and maintenance costs. As a result there is an increase to productivity and efficiency of operations. Based on design specifications that are not subject to NFPA limitations, the RP Series uses thicker end caps, bigger pistons, bearings, advanced gland design, and numerous other features. Together these assure greater reliability under the severest environmental and operational conditions.

Over 50 years of cylinder design and manufacturing experience

- Extra bearing surface accommodates additional side loading
- Advanced gland design keeps the cylinder interior clean for increased seal longevity
- Dual buffer rod seals
- Wide ductile iron piston for long bearing and seal life
- Custom mounts to suit any application

Fully backed by Cowan Dynamics' warranty and service/support guarantee

Series Design & Materials



Cap Screw | Grade 8

High Strength Nylon Wear Ring (2X)
BZ-PTFE for high temp version

High Load Piston Seal

Cushion Plunger
Floating cushion plunger provides maximum cushioning effect combined with a quick start for optimum performance

Rod Seal | PTFE - Low friction and long service life; Allows a fine film of oil to pass ensuring the necessary lubrication of the secondary seal; Geometry designed to vent pressure from the reverse side - to reduce possibility of pressure trap between seals.

Metallic Rod Scraper
(Standard) Rugged scraper deflects contamination away from the rod seals for long service life

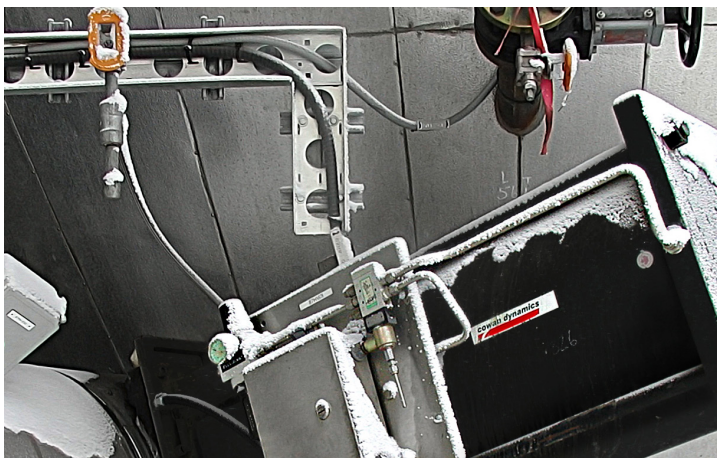
Gland Bushing
Cartridge-type AL - bronze

Gland Retainer

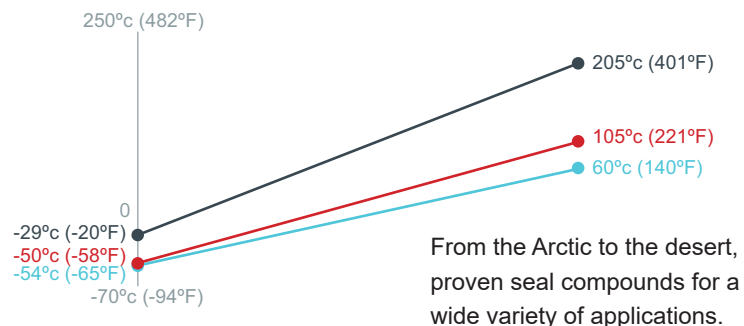
Cushion Valve | Fully retained for safety

Material Breakdown	STANDARD
Head & Cap	Machined Steel
Barrel	Seamless Steel Tubing Honed ID *Optional Chrome Plating available
Barrel Seal	Nitrile O-Ring
Piston	Ductile Iron
Piston rod	Steel SAE 1045
Gland	SAE 660 Bronze

Specifications



Caption Here:
Sample Text



- **Thrust: up to 367,566 lbs**
- **Bore size: 2"- 20"**
- **Configuration: Single-Stage**
- **Stroke Range: Up to 144"**
- **Pressure Rating: 200 psi**
- **Rod Size: 5/8" to 5 1/2"**

Add-Ons



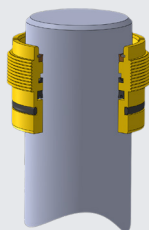
Limit Switches

Mechanical Limit Switch SPDT, for Open & Close Indication. Inductive switches also available. Solid State, Reed and inductive type also available. Specify brand and part number



Available in 316 Stainless Construction

for corrosive applications. Includes attachments such as Rod clevis and Eye brackets.



GT3 Gland for Harsh Environments

Triple-seal gland with dual wipers. Rugged metallic scraper and urethane double-acting wiper deflect contamination away from the rod seal for long service life.

- Low Temp
- Cast iron construction for applications where yellow metals are not allowed

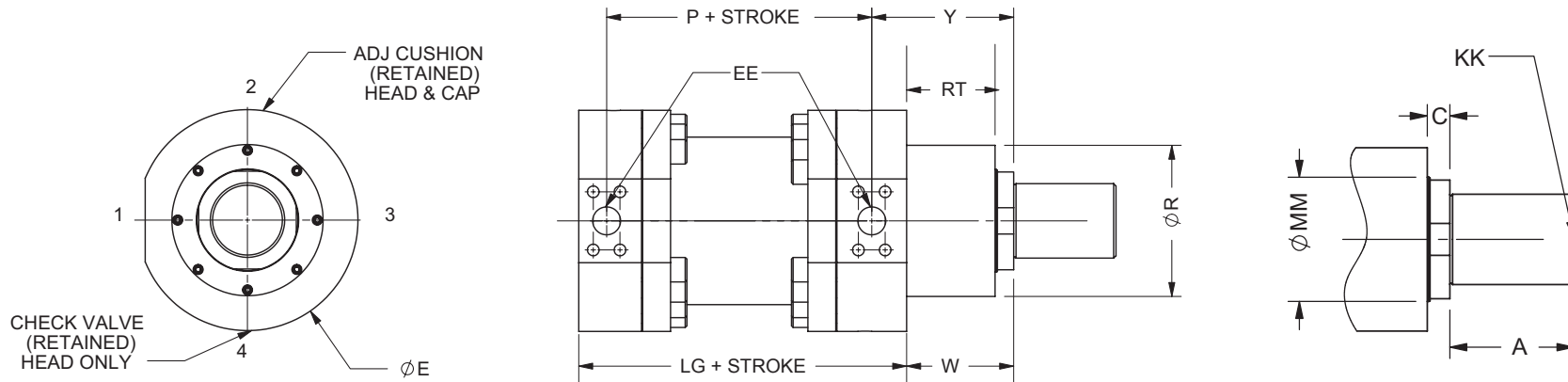


Balluff LDT

Optional Balluff LDT for continuous position feedback. 4-20mA, 0-10V and digital outputs available.

Standard Cylinder – No Mounting

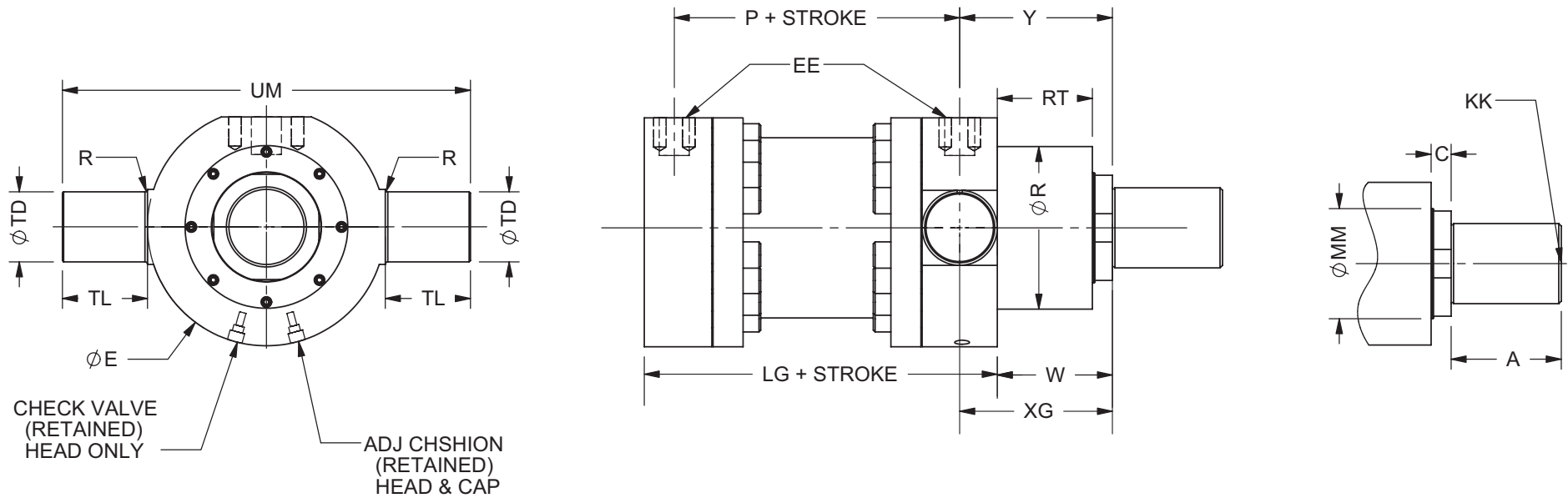
Actuation Solutions and Systems for the World's Most Challenging Environments



BORE	Dimensions (in)											Thrust (lbs)	
	MM	A	C	E	EE (NPT)	KK	R	RT	Y	H	P	LG	200 psi
2	1.00	1.00		3.5	0.50	¾-16			2.50		3.63		628
3	1.38	1.38		5.13	0.50	1-14			3.13		4.25		1,414
4	1.75	1.75		6.56	0.50	1 ¼-12			3.38		4.50		2,513
5	2.00	2.00		7.69	0.75	1 ½-12			3.69		5.38		3,927
6	2.50	2.50		8.94	0.75	1 ⅞-12			3.88		6.13		5,655
8	2.50	2.50		10.13	0.75	1 ⅞-12			3.75		3.75		10,053
10	3.00	3.00		12.13	0.75	2-12			4.19		4.00		15,708
12	3.00	3.00		14.63	1.00	2-12			4.31		4.38		22,619
14	3.50	3.50		17.38	1.00	2 ½-12			4.63		4.63		30,788
16	3.50	3.50		19.38	1.25	2 ½-12			4.75		5.13		40,212
18	4.25	4.25		21.88	1.25	3-12			5.50		5.38		none in pdf
20	4.25	4.25		23.88	1.50	3-12			5.63		5.88		**

(Head) Trunnion Mount

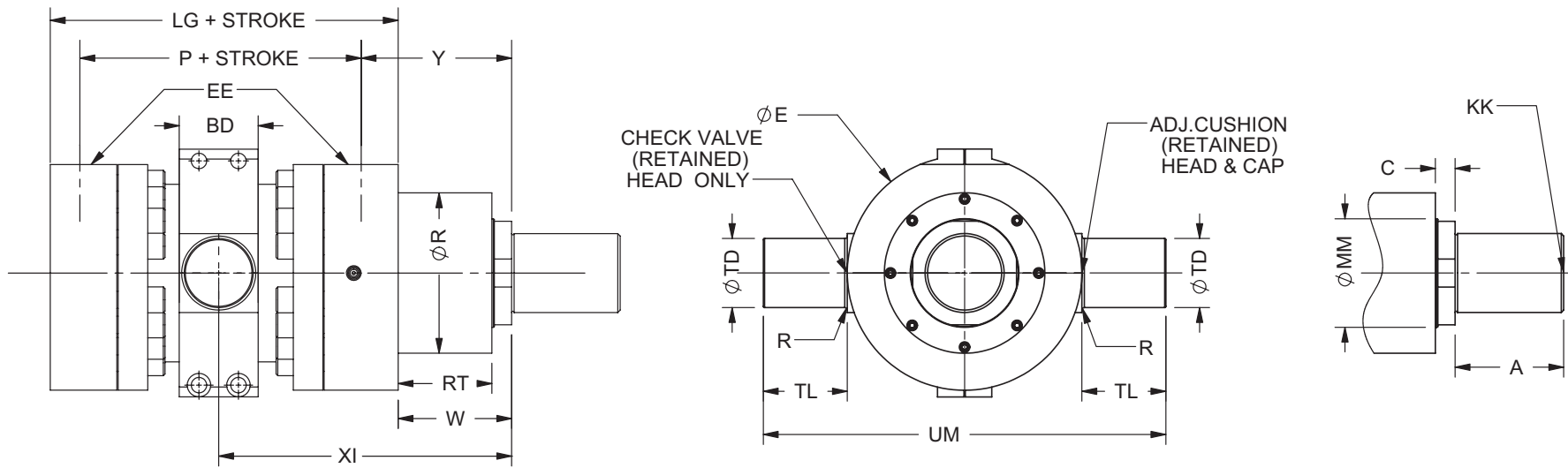
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Dimensions (in)															
BORE	MM	A	C	E	EE (NPT)	XG	KK	R	RT	Y	TD	TL	UM	P	LG
2	1.00	1.00		3.25	0.50	4.31	3/4-16			2.50	1.25	1.25	6.25	3.63	
3	1.38	1.38		4.75	0.50	5.25	1-14			3.13	1.38	1.38	7.88	4.25	
4	1.75	1.75		6.38	0.50	5.63	1 1/4-12			3.38	1.75	1.75	10.13	4.50	
5	2.00	2.00		7.38	0.75	6.38	1 1/2-12			3.69	2.00	2.00	11.56	5.38	
6	2.50	2.50		8.88	0.75	6.94	1 7/8-12			3.88	2.25	2.25	13.63	6.13	
8	2.50	2.50		10.00	0.75	5.63	1 7/8-12			3.75	1.50	1.63	13.50	3.75	
10	3.00	3.00		12.00	0.75	6.19	2-12			4.19	1.75	1.88	16.00	4.00	
12	3.00	3.00		14.25	1.00	6.50	2-12			4.31	2.00	2.13	19.00	4.38	
14	3.50	3.50		17.25	1.00	6.94	2 1/2-12			4.63	2.25	2.38	22.25	4.63	
16	3.50	3.50		19.25	1.25	7.31	2 1/2-12			4.75	2.50	2.63	24.75	5.13	
18	4.25	4.25		21.75	1.25	8.19	3-12			5.50	2.75	2.88	27.75	5.38	
20	4.25	4.25		23.75	1.50	8.56	3-12			5.63	3.00	3.13	30.25	5.88	

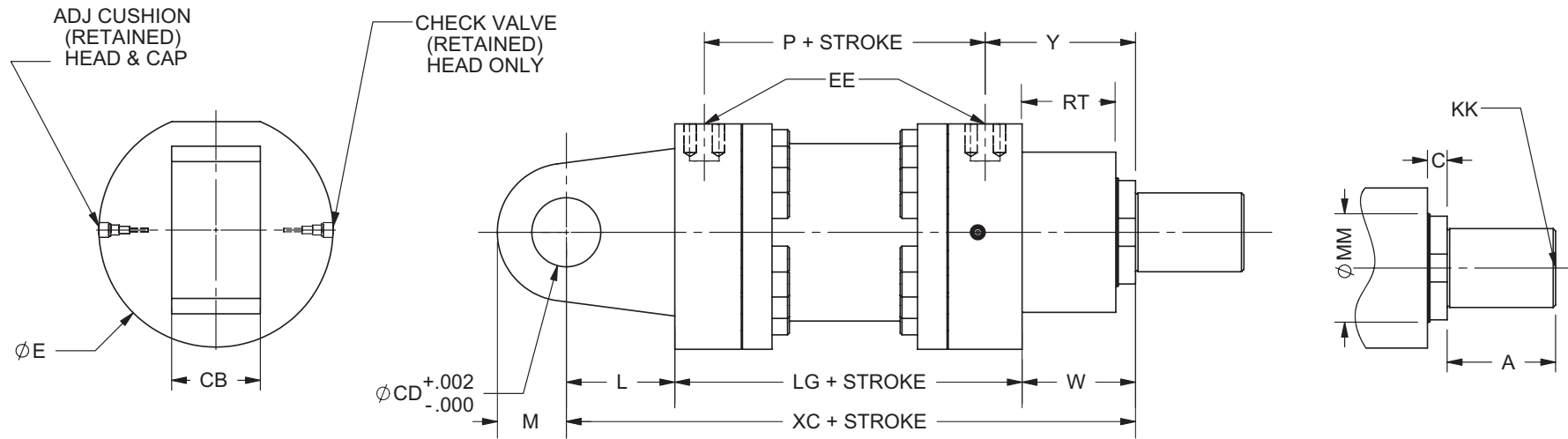
Intermediate Trunnion

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Male Clevis

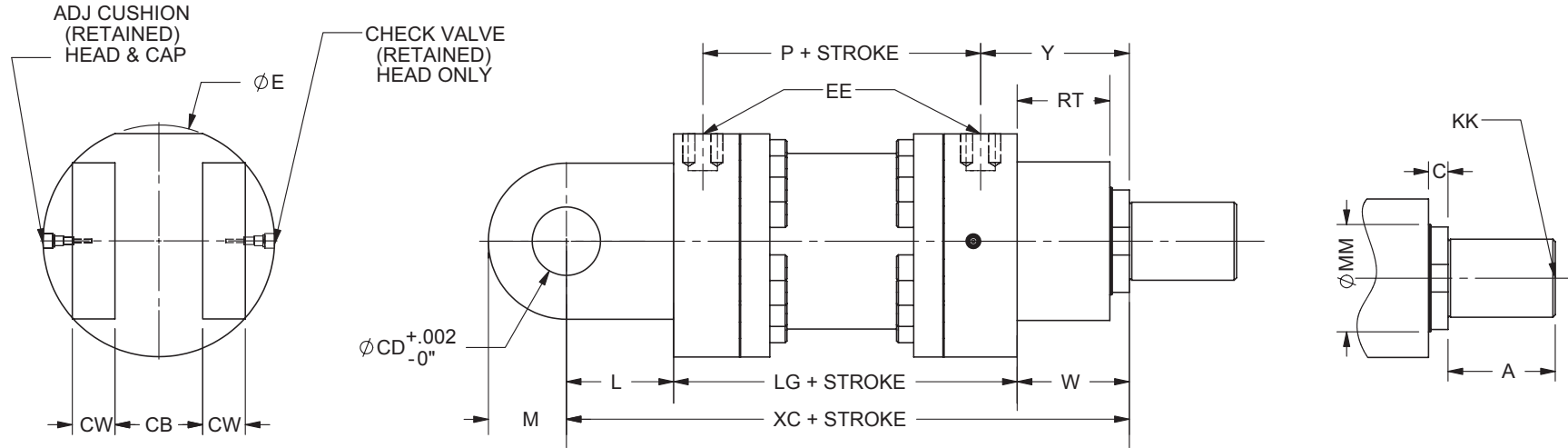
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Dimensions (in)																
BORE	MM	A	C	CD	CB	E	EE (NPT)	KK	L	M	RT	W	Y	XC	P	LG
2	1.00	1.00		0.75	1.25	3.25	0.50	3/4-16	1.38	0.75			2.50	8.13	3.63	
3	1.38	1.38		1.00	1.50	4.75	0.50	1-14	1.63	1.13			3.13	9.75	4.25	
4	1.75	1.75		1.38	2.00	6.38	0.50	1 1/4-12	1.88	1.25			3.38	10.50	4.50	
5	2.00	2.00		1.38	2.00	7.38	0.75	1 1/2-12	2.13	1.38			3.69	12.13	5.38	
6	2.50	2.50		1.75	2.50	8.88	0.75	1 7/8-12	2.63	1.63			3.88	13.75	6.13	
8	2.50	2.50		1.75	3.00	10.00	0.75	1 7/8-12	2.31	1.75			3.75	10.50	3.75	
10	3.00	3.00		2.00	3.50	12.00	0.75	2-12	2.63	2.00			4.19	11.50	4.00	
12	3.00	3.00		2.00	3.50	14.25	1.00	2-12	2.63	2.00			4.31	12.19	4.38	
14	3.50	3.50		2.50	4.00	17.25	1.00	2 1/2-12	3.25	2.50			4.63	13.38	4.63	
16	3.50	3.50		2.50	4.00	19.25	1.25	2 1/2-12	3.25	2.50			4.75	14.13	5.13	
18	4.25	4.25		3.00	5.00	21.75	1.25	3-12	3.75	3.00			5.50	15.63	5.38	
20	4.25	4.25		3.00	5.00	23.75	1.50	3-12	3.75	3.00			5.63	16.38	5.88	

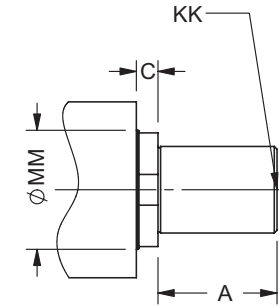
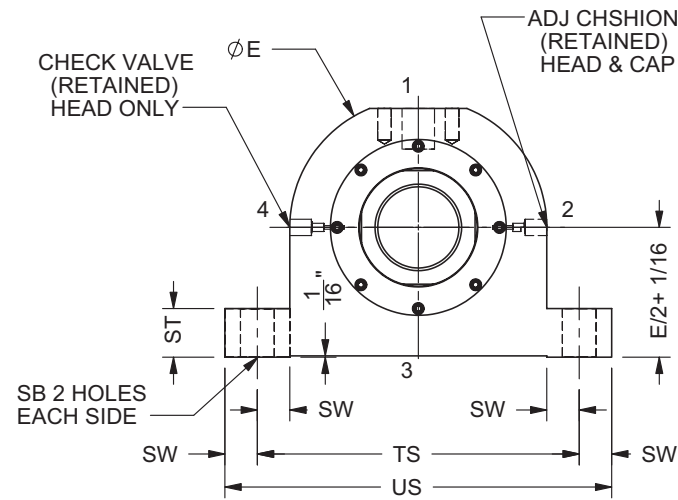
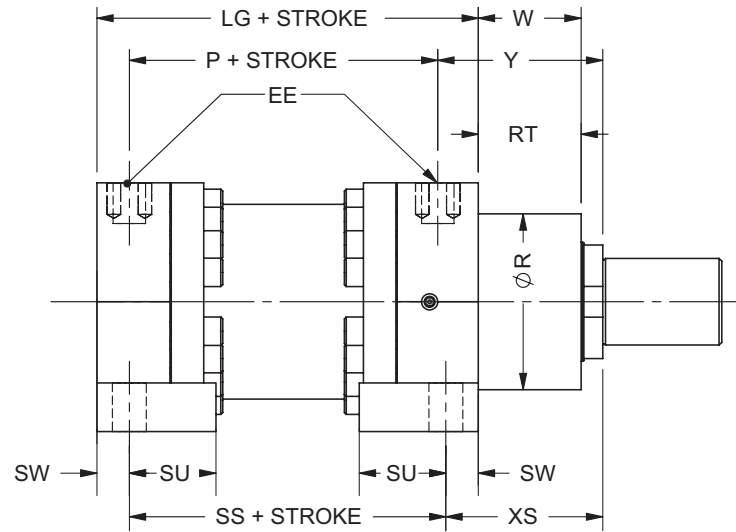
Female Clevis

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Dimensions (in)																	
BORE	MM	A	C	CD	CB	CW	E	EE (NPT)	KK	L	M	RT	W	Y	XC	P	LG
2	1.00	1.00		0.75	1.25	0.63	3.25	0.50	3/4-16	1.38	0.75			2.50	8.13	3.63	
3	1.38	1.38		1.00	1.50	0.75	4.75	0.50	1-14	1.63	1.13			3.13	9.75	4.25	
4	1.75	1.75		1.38	2.00	1.00	6.38	0.50	1 1/4-12	1.88	1.25			3.38	10.50	4.50	
5	2.00	2.00		1.38	2.00	1.25	7.38	0.75	1 1/2-12	2.13	1.38			3.69	12.13	5.38	
6	2.50	2.50		1.75	2.50	1.25	8.88	0.75	1 7/8-12	2.63	1.63			3.88	13.75	6.13	
8	2.50	2.50		1.75	3.00	1.50	10.00	0.75	1 7/8-12	2.31	1.75			3.75	10.50	3.75	
10	3.00	3.00		2.00	3.50	1.75	12.00	0.75	2-12	2.63	2.00			4.19	11.50	4.00	
12	3.00	3.00		2.00	3.50	1.75	14.25	1.00	2-12	2.63	2.00			4.31	12.19	4.38	
14	3.50	3.50		2.50	4.00	2.00	17.25	1.00	2 1/2-12	3.25	2.50			4.63	13.38	4.63	
16	3.50	3.50		2.50	4.00	2.00	19.25	1.25	2 1/2-12	3.25	2.50			4.75	14.13	5.13	
18	4.25	4.25		3.00	5.00	2.50	21.75	1.25	3-12	3.75	3.00			5.50	15.63	5.38	
20	4.25	4.25		3.00	5.00	2.50	23.75	1.50	3-12	3.75	3.00			5.63	16.38	5.88	

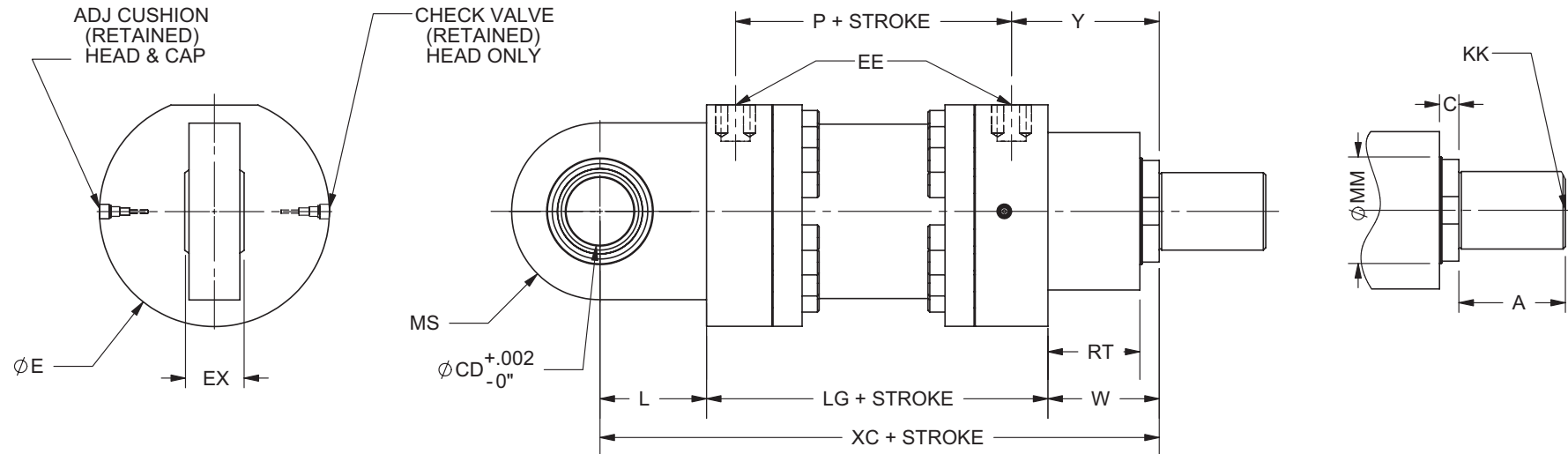
Side Lug



Dimensions (in)																				Thrust (lbs)
BORE	MM	A	C	E	EE (NPT)	KK	R	RT	Y	P	LG	W	SS	ST	SU	SW	TS	US	XS	200 psi
2	1.00	1.00		3.5	0.50	3/4-16			2.50	3.63			6.00	0.63		0.50	4.00	5.00	1.31	628
3	1.38	1.38		5.13	0.50	1-14			3.13	4.25			7.00	0.75		0.63	4.63	5.88	1.75	1,414
4	1.75	1.75		6.56	0.50	1 1/4-12			3.38	4.50			7.63	0.88		0.75	5.88	7.38	1.81	2,513
5	2.00	2.00		7.69	0.75	1 1/2-12			3.69	5.38			8.50	1.00		0.88	5.75	7.50	2.13	3,927
6	2.50	2.50		8.94	0.75	1 7/8-12			3.88	6.13			9.88	1.25		1.00	6.63	8.63	2.00	5,655
8	2.50	2.50		10.13	0.75	1 7/8-12			3.75	3.75			7.38	1.13		0.75	8.00	10.00	1.94	10,053
10	3.00	3.00		12.13	0.75	2-12			4.19	4.00			8.13	1.38		1.00	9.50	12.00	2.13	15,708
12	3.00	3.00		14.63	1.00	2-12			4.31	4.38			8.88	1.38		1.00	12.00	14.50	2.06	22,619
14	3.50	3.50		17.38	1.00	2 1/2-12			4.63	4.63			9.88	1.63		1.25	14.00	17.25	2.00	30,788
16	3.50	3.50		19.38	1.25	2 1/2-12			4.75	5.13			10.63	1.63		1.25	16.00	19.25	2.00	40,212
18	4.25	4.25		21.88	1.25	3-12			5.50	5.38			11.63	1.88		1.50	18.00	21.75	2.38	none in pdf
20	4.25	4.25		23.88	1.50	3-12			5.63	5.88			12.38	1.88		1.50	20.00	23.75	2.38	**

Spherical Bearing

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How to Order

Actuation Solutions and Systems for the World's Most Challenging Environments

SERIES

RP

BORE SIZE

H - 4" P - 10"
 K - 5" R - 12"
 L - 6" S - 14"
 M - 7" T - 16"
 N - 8"

ROD DIAMETER

J - 2" R - 5"
 K - 2 1/2" S - 5 1/2"
 L - 3" W - 7"
 M - 3 1/2" X - 8"
 N - 4" V - 9"
 P - 4 1/2" Y - 10"

ROD THREAD STYLE

N2 - Intermediate Male
 M2 - Intermediate Male Metric*

*Contact Cowan for size

CUSHIONS

5C - Adjustable both ends
 6C - Adjustable head end
 7C - Adjustable cap end
 8 - None

CUSHIONS POS

Omit if non Cushion
 CXX

XX denotes position
 ex: 23 = Pos 2 head
 Pos 3 Cap

DOUBLE ROD DIA

Omit if not required

DJ2 - 2" DR2 - 5"
 DK2 - 2 1/2" DS2 - 5 1/2"
 DL2 - 3" DW2 - 7"
 DM2 - 3 1/2" DX2 - 8"
 DN2 - 4" DV2 - 9"
 DP2 - 4 1/2" DY2 - 10"

2ND ROD THREAD STYLE

RN2 - 2nd Rod: Intermediate Male
 RM2 - 2nd Rod: Intermediate Male Metric*

*Contact Cowan for size

PORTS

GXX - SAE Code 62 flange
 FXX - SAE Code 61 flange
 SXX - SAE
 NXX - NPT
 BXX - BSPP
 MXX - ISO

XX denotes position
 ex: 12 = Pos 1 head,
 Pos 2 Cap

SEALS

N - Standard Seals
 F - High Temp
 L - Low Temp
 E - EPDM

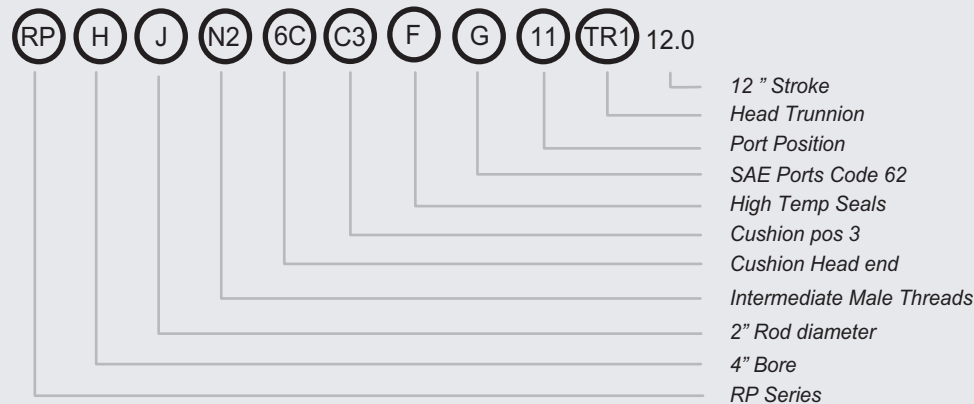
MOUNTINGS

PR1 Cap Fixed Clevis (with Clevis pin)
 PR3 Male Clevis (with pivot pin)
 SR2 Side lugs
 TR1 Head Trunnion
 TR2 Cap Trunnion
 TR4 Intermediate Trunnion
 SRB Spherical Bearing
 X0 No mount

OPTIONS

Please consult the factory for additional option codes

EXAMPLE



Related materials

Visit our website to download or request a printed catalogue.



Solutions Include:

Valve Actuators

Fail-Safe Systems

Digital Process Control Panels

Pneumatic Process Control Panels

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