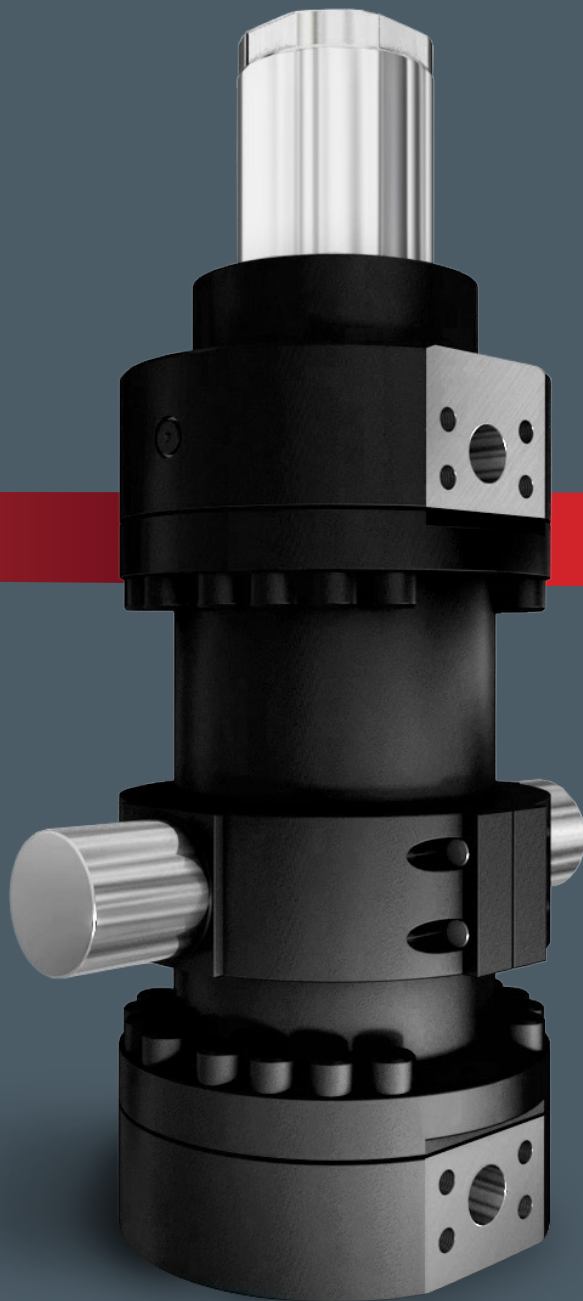




RM SERIES

Metric Cylinder – 250 bar

Delivering superior long-term performance and value

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

**Bore Size: 40mm to 320mm
Piston rod diameter: 25mm to 220mm**

- Heavy duty construction with steel flanged end caps and heavy wall tubing for continuous 300 bar 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 250 bar Mill-type cylinder is designed to handle the most severe service applications.

Cowan's RM 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 RM 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

- High pressure rating - well above industry standards
- 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

Temperature Ratings	
Low Temperature	-54C to 60C
Standard Temperature	-50C to 105C
High Temperature	-29C to 205C

Barrel | Seamless steel tubing, honed & polished to minimize friction

Cap | Machined steel

Sae Code 62
Flange ports are standard; BSPP, SAE, NPT also available

Cap Screw | Grade 8

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

Piston | Ductile iron is standard

High Load Piston Seal

Barrel Seal
Nitrite "O" Ring

Head
Machined steel

Seals | Standard seals are suitable for water glycol or standard mineral oil; High temp seals available as an option

1st Rod Seal | PTFE - Low friction and long service life; Protects secondary seal from pressure spikes; 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; Acts as an internal wiper to protect secondary seal from internal contaminants

2nd Rod Seal | PTFE - Low friction; Excellent low-pressure seal ability, long service life

Bronze Teflon Wiper
Double-acting wiper ensures the best sealing performance

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

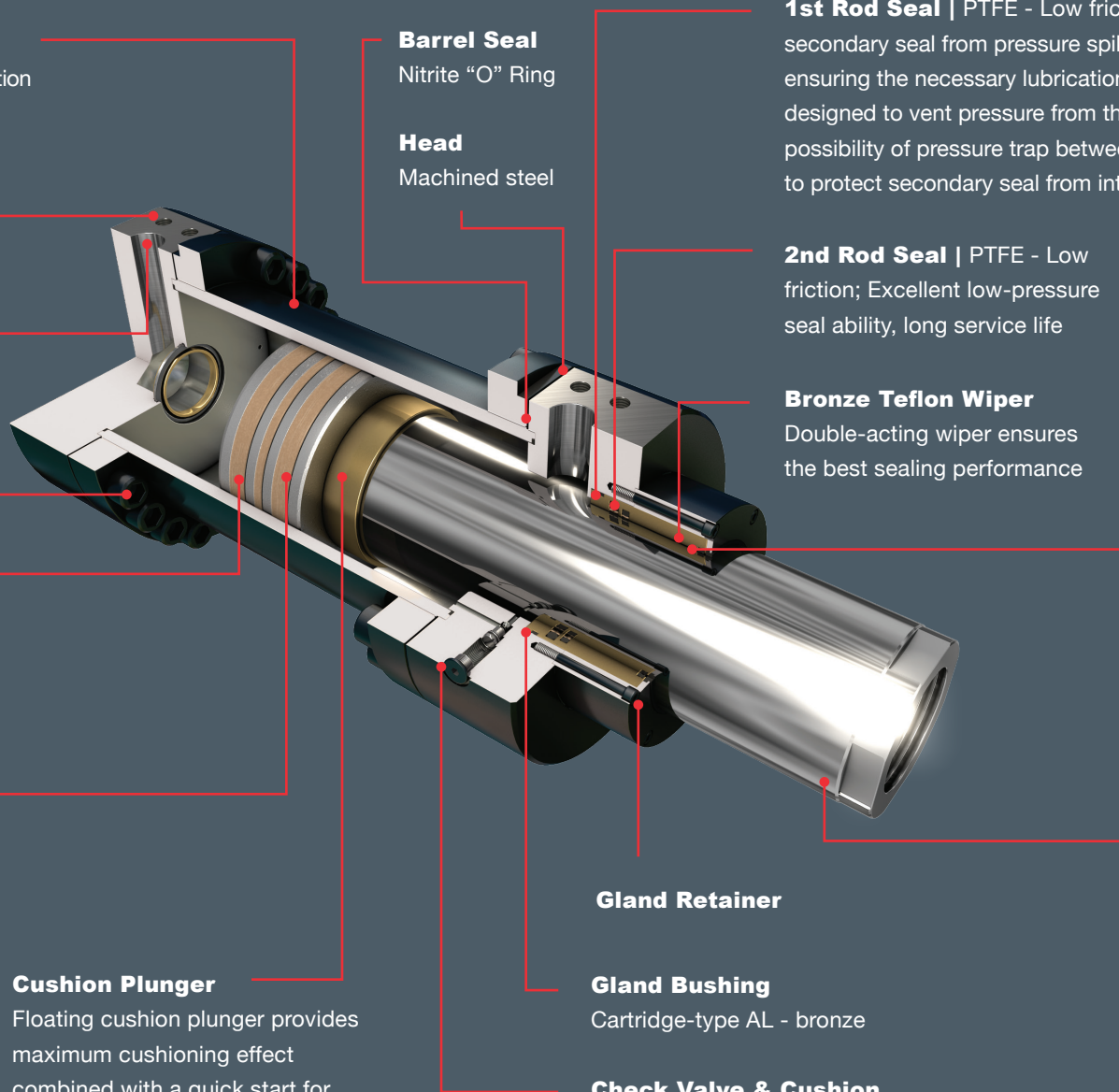
Piston Rod
Steel SAE 1045 Ground, hard chrome-plated & polished 17 - 4 PH; stainless steel available as an option

Gland Retainer

Gland Bushing
Cartridge-type AL - bronze

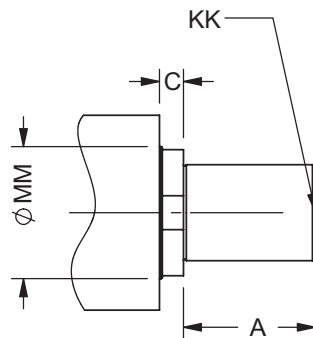
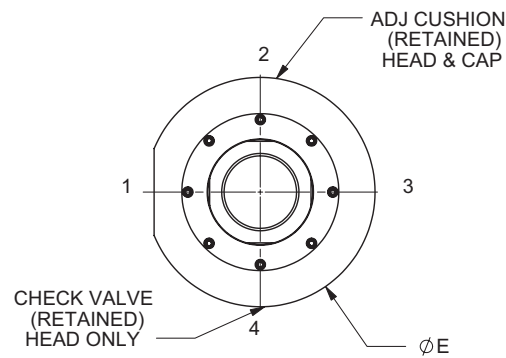
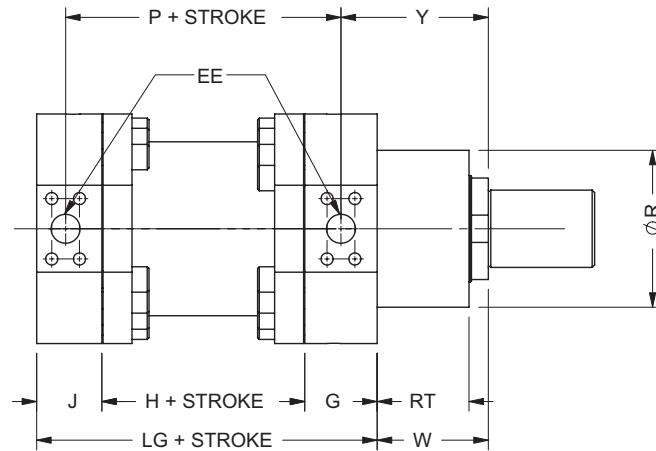
Check Valve & Cushion Valve | Fully retained for safety

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



Standard Cylinder – No Mounting

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

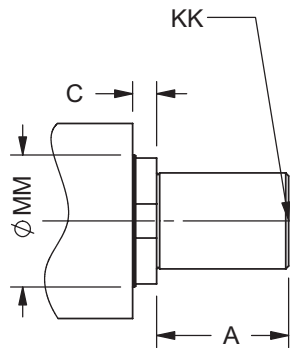
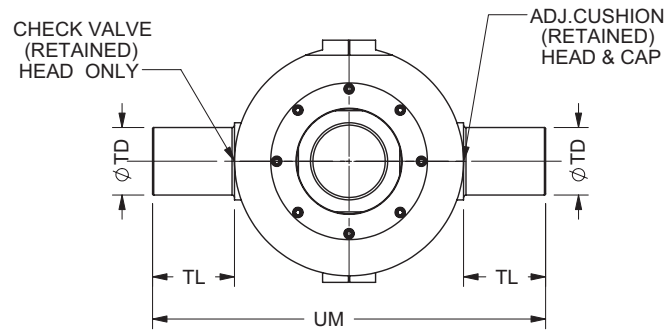
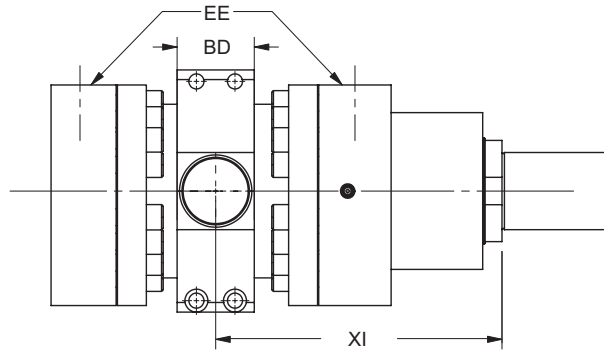


BORE		E	EE	G	J	ADD STROKE		
	SAE CODE 62		SAE			P	LG	H
4	3/4	6.50	12	2.75	2.25	5.56	8.50	3.50
5	3/4	7.50	12	3.00	2.50	6.31	9.75	4.25
6	1	9.13	16	3.25	2.75	7.25	11.00	5.00
8	1-1/2	11.88	24	3.75	3.38	9.38	13.63	6.50
10	2	14.88	32	4.50	4.25	10.63	15.63	6.88
12	2	18.13	32	5.00	4.50	12.75	17.75	8.25
14	2	20.13	32	5.50	4.88	13.00	18.88	8.50
16	2	23.50	32	6.50	5.88	14.13	22.00	9.63

BORE	MM	KK	A	R	RT	C	W	Y
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00

Intermediate Trunnion

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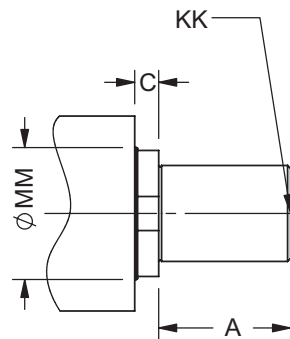
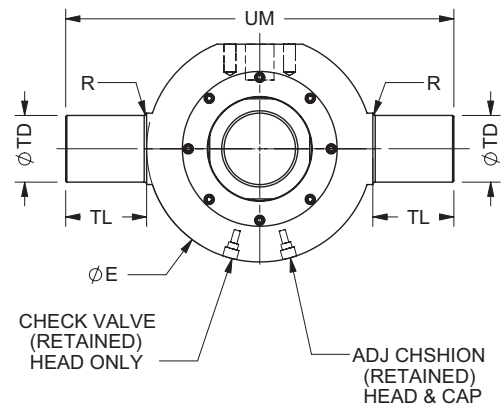
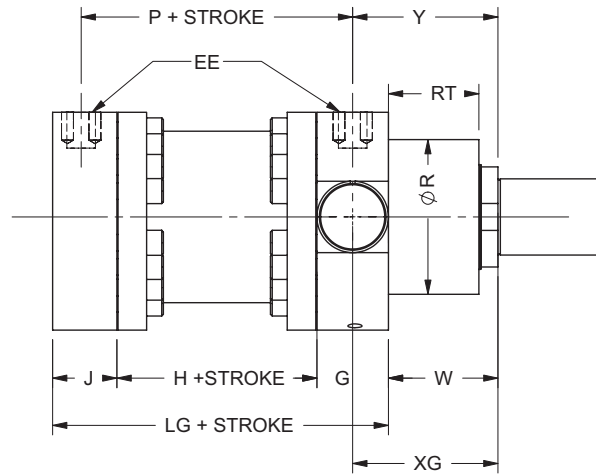


BORE	E	EE		G	J	BD	TD	TL	UM	ADD STROKE		
		SAE	SAE CODE 62							P	LG	H
4	6.50	12	3/4	2.75	2.25	2.00	1.75	2.13	10.75	5.56	8.50	3.50
5	7.50	12	3/4	3.00	2.50	2.75	2.25	2.63	12.75	6.31	9.75	4.25
6	9.13	16	1	3.25	2.75	3.00	2.50	3.00	15.13	7.25	11.00	5.00
8	11.88	24	1-1/2	3.75	3.38	4.50	3.50	4.25	20.38	9.38	13.63	6.50
10	14.88	32	2	4.50	4.25	5.00	4.00	5.25	25.38	10.63	15.63	6.88
12	18.13	32	2	5.00	4.50	6.00	5.00	6.25	30.63	12.75	17.75	8.25
14	20.13	32	2	5.50	4.88	6.50	5.50	6.75	33.63	13.00	18.88	8.50
16	23.50	32	2	6.50	5.88	7.50	6.50	7.25	38.00	14.13	22.00	9.63

BORE	MM	KK	A	R	RT	C	W	Y	XI
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	Customers Specs
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50	
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50	
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50	
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00	
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00	
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00	

Head Trunnion

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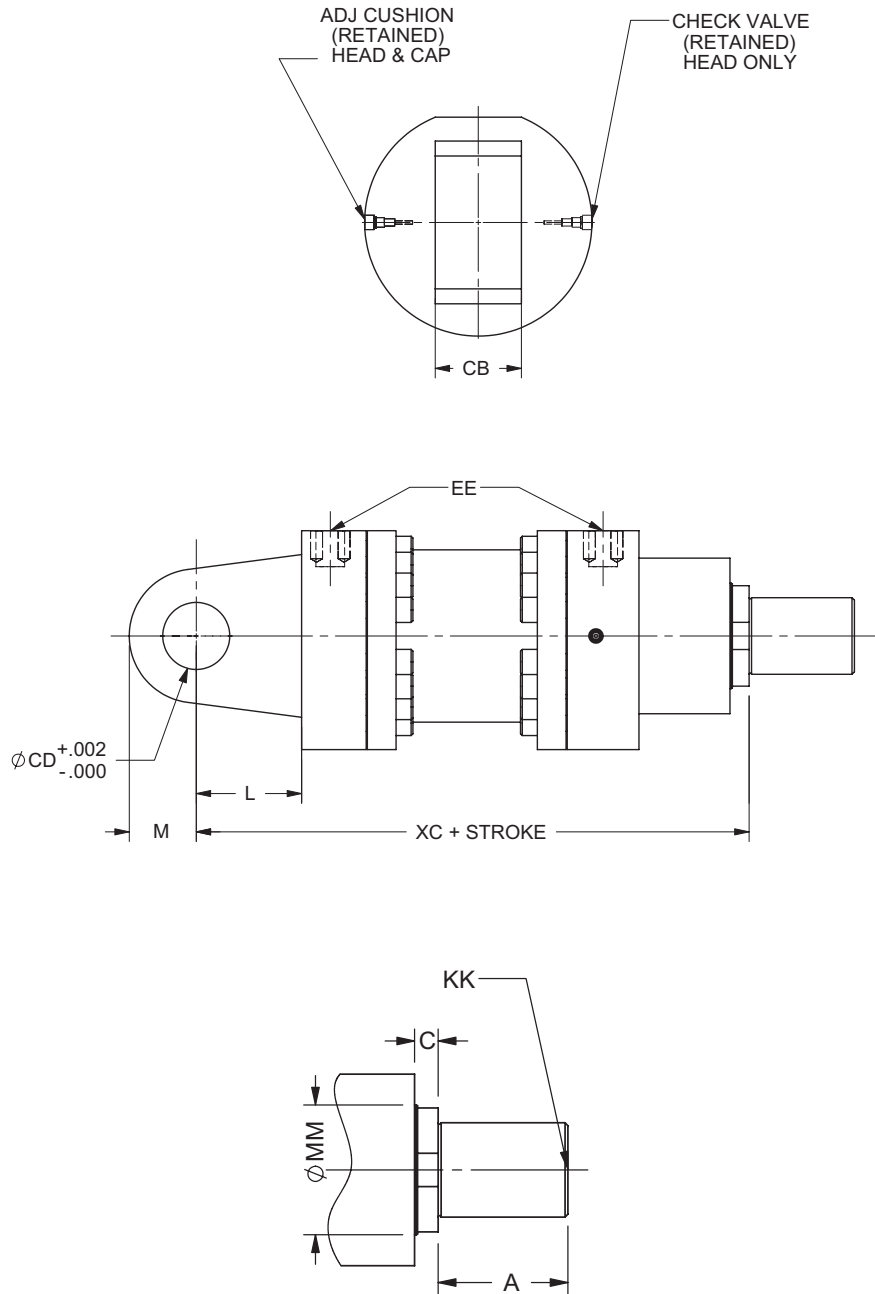


BORE	E	EE		G	J	BD	TD	TL	UM	ADD STROKE		
		SAE	SAE CODE 62							P	LG	H
4	6.50	12	3/4	2.75	2.25	2.00	1.75	2.13	10.75	5.56	8.50	3.50
5	7.50	12	3/4	3.00	2.50	2.75	2.25	2.63	12.75	6.31	9.75	4.25
6	9.13	16	1	3.25	2.75	3.00	2.50	3.00	15.13	7.25	11.00	5.00
8	11.88	24	1-1/2	3.75	3.38	4.50	3.50	4.25	20.38	9.38	13.63	6.50
10	14.88	32	2	4.50	4.25	5.00	4.00	5.25	25.38	10.63	15.63	6.88
12	18.13	32	2	5.00	4.50	6.00	5.00	6.25	30.63	12.75	17.75	8.25
14	20.13	32	2	5.50	4.88	6.50	5.50	6.75	33.63	13.00	18.88	8.50
16	23.50	32	2	6.50	5.88	7.50	6.50	7.25	38.00	14.13	22.00	9.63

BORE	MM	KK	A	R	RT	C	W	Y	XG
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	4.63
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	5.13
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	5.38
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	5.25
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	5.50
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	5.88
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	5.63
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	6.00
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	6.50
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	6.75
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	6.88
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	7.13
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	7.63
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	7.50
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	8.00
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	8.25
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	8.50
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	8.25
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	8.50
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	8.75
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	8.75
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50	9.00
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50	9.00
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50	9.00
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00	9.50
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00	9.50
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00	9.50

Male Clevis

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

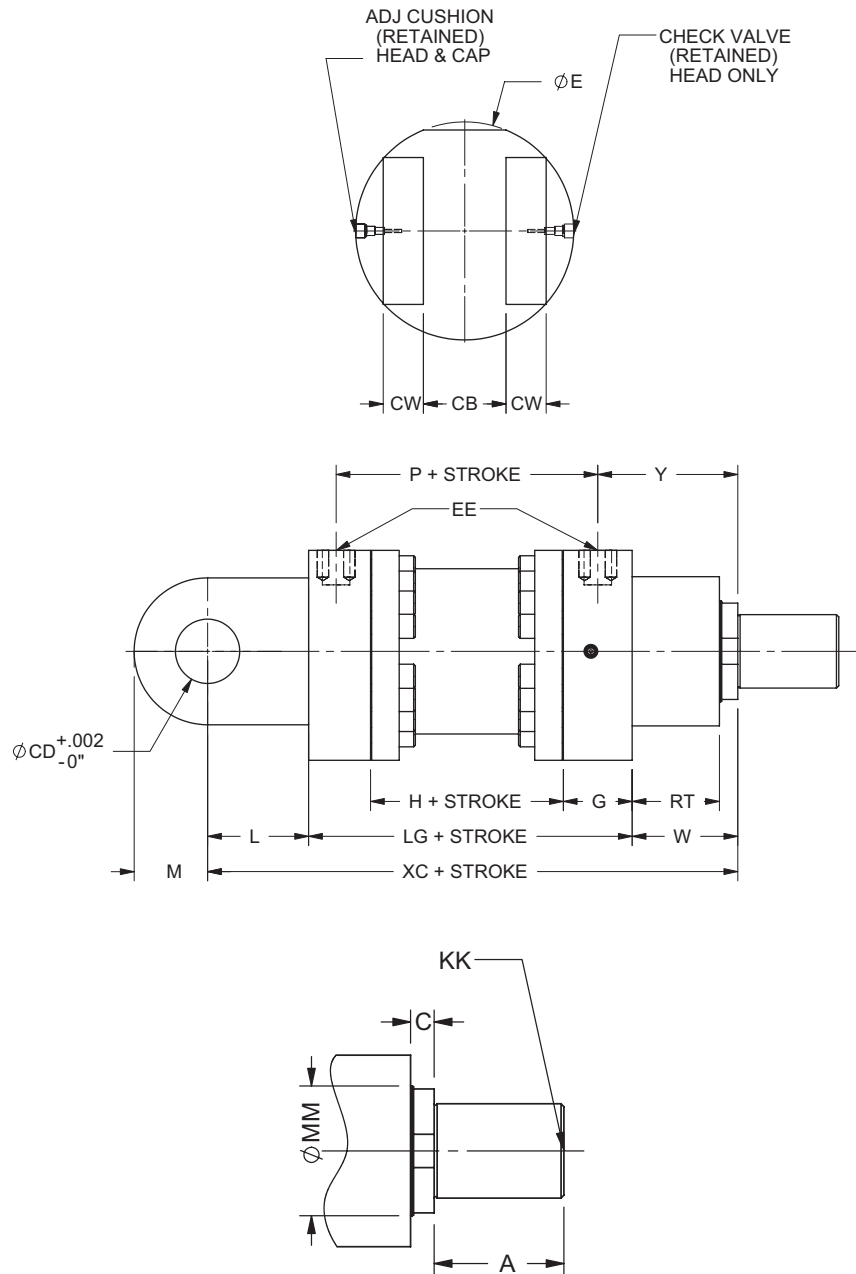


BORE	E	EE		G	J	CD	CB	L	M	ADD STROKE		
		SAE	SAE CODE 62							P	LG	H
4	6.50	12	3/4	2.75	2.25	1.75	2.50	3.00	1.63	5.56	8.50	3.50
5	7.50	12	3/4	3.00	2.50	2.00	2.50	3.44	2.00	6.31	9.75	4.25
6	9.13	16	1	3.25	2.75	2.00	3.00	3.81	1.88	7.25	11.00	5.00
8	11.88	24	1-1/2	3.75	3.38	3.50	4.50	5.50	4.00	9.38	13.63	6.50
10	14.88	32	2	4.50	4.25	4.00	5.50	5.81	4.50	10.63	15.63	6.88
12	18.13	32	2	5.00	4.50	5.00	6.50	6.75	5.50	12.75	17.75	8.25
14	20.13	32	2	5.50	4.88	5.50	8.00	7.31	6.00	13.00	18.88	8.50
16	23.50	32	2	6.50	5.88	6.50	9.50	8.25	7.00	14.13	21.50	9.63

BORE	MM	KK	A	R	RT	C	W	Y	XC
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	14.75
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	15.25
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	15.50
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	16.94
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	17.19
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	17.56
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	18.81
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	19.19
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	19.69
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	24.00
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	24.13
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	24.38
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	24.88
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	26.69
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	27.19
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	27.44
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	27.69
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	30.25
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	30.50
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	30.75
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	30.75
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50	32.31
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50	32.31
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50	32.31
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00	36.00
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00	36.00
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00	36.00

Female Clevis

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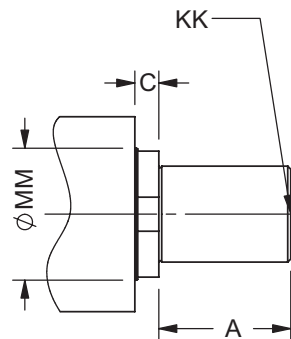
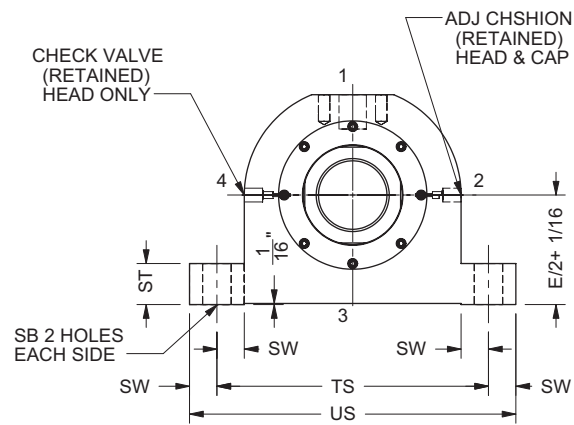
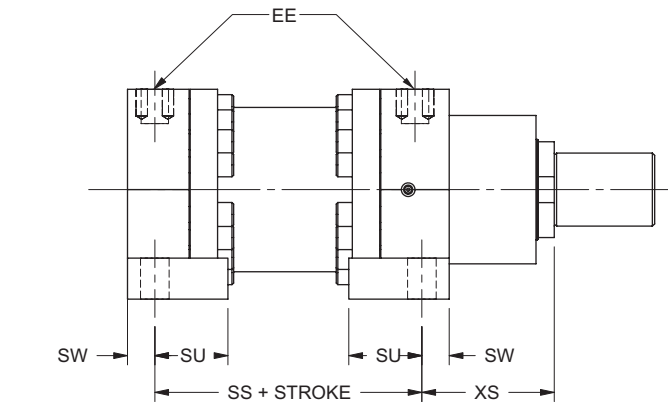


BORE	E	EE		G	J	CD	CB	CW	L	M	ADD STROKE		
		SAE	SAE CODE 62								P	LG	H
4	6.50	12	3/4	2.75	2.25	1.75	2.50	1.25	3.00	1.63	5.56	8.50	3.50
5	7.50	12	3/4	3.00	2.50	2.00	2.50	1.25	3.44	2.00	6.31	9.75	4.25
6	9.13	16	1	3.25	2.75	2.00	3.00	1.50	3.81	1.88	7.25	11.00	5.00
8	11.88	24	1-1/2	3.75	3.38	3.50	4.50	2.25	5.50	4.00	9.38	13.63	6.50
10	14.88	32	2	4.50	4.25	4.00	5.50	2.75	5.81	4.50	10.63	15.63	6.88
12	18.13	32	2	5.00	4.50	5.00	6.50	3.25	6.75	5.50	12.75	17.75	8.25
14	20.13	32	2	5.50	4.88	5.50	8.00	4.00	7.31	6.00	13.00	18.88	8.50
16	23.50	32	2	6.50	5.88	6.50	9.50	4.75	8.25	7.00	14.13	21.50	9.63

BORE	MM	KK	A	R	RT	C	W	Y	XC
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	14.75
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	15.25
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	15.50
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	16.94
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	17.19
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	17.56
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	18.81
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	19.19
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	19.69
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	24.00
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	24.13
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	24.38
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	24.88
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	26.69
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	27.19
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	27.44
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	27.69
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	30.25
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	30.50
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	30.75
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	30.75
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50	32.31
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50	32.31
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50	32.31
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00	36.00
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00	36.00
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00	36.00

Side Lug

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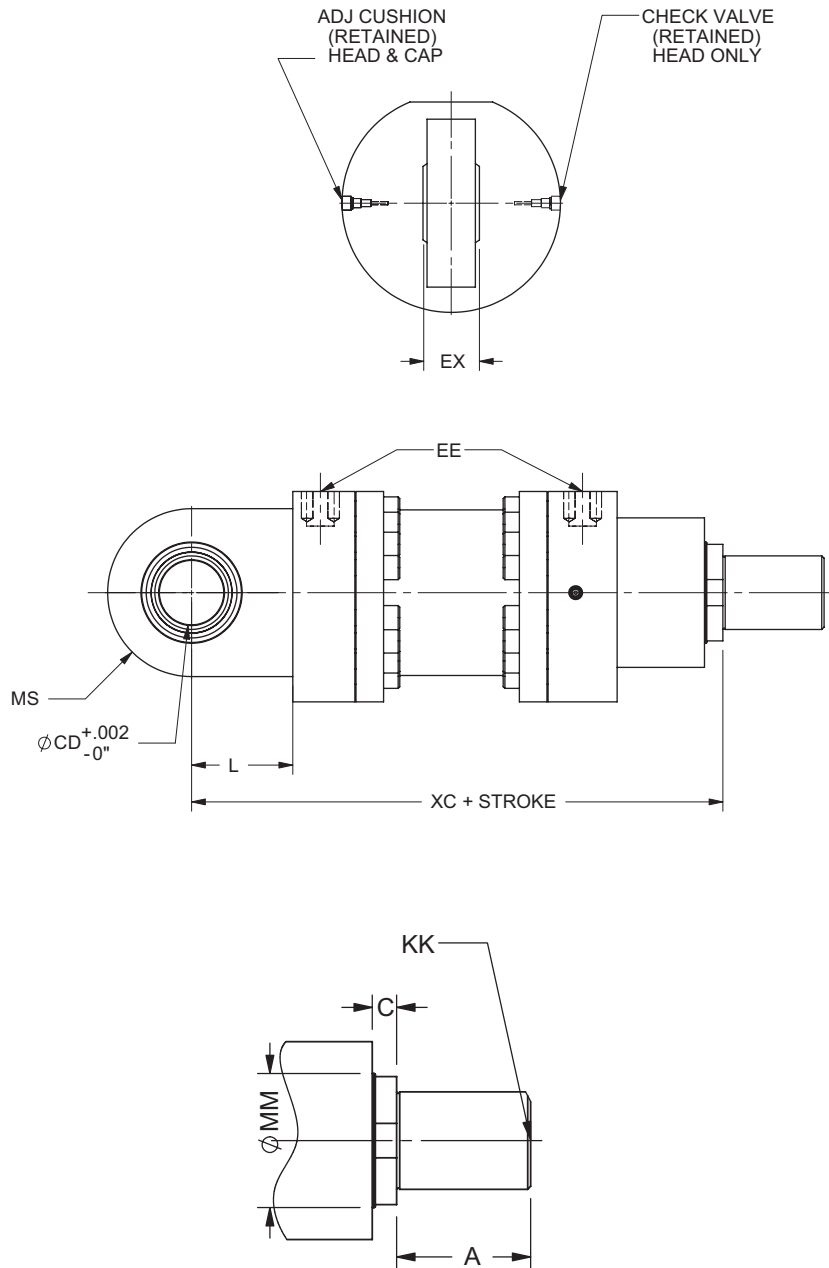


BORE	E	EE		G	J	SB	ST	SU	SW	TS	US	ADD STROKE			
		SAE	SAE CODE 62									P	LG	H	SS
4	6.50	12	3/4	2.75	2.25	0.81	1.00	2.50	0.75	8.00	9.50	5.56	8.50	3.50	7.00
5	7.50	12	3/4	3.00	2.50	1.06	1.50	3.00	1.00	9.50	11.50	6.31	9.75	4.25	7.75
6	9.13	16	1	3.25	2.75	1.31	1.88	3.50	1.25	11.63	14.13	7.25	11.00	5.00	8.50
8	11.88	24	1-1/2	3.75	3.38	1.57	2.25	4.00	1.50	14.88	17.88	9.38	13.63	6.50	10.63
10	14.88	32	2	4.50	4.25	1.88	2.50	5.00	1.88	18.63	22.38	10.63	15.63	6.88	11.88
12	18.13	32	2	5.00	4.50	2.38	2.75	5.00	2.25	22.63	27.13	12.75	17.75	8.25	13.25
14	20.13	32	2	5.50	4.88	2.63	2.88	6.88	2.50	25.13	30.13	13.00	18.88	8.50	13.88
16	23.50	32	2	6.50	5.88	3.13	2.88	7.75	3.00	29.50	35.50	14.13	22.00	9.63	16.00

BORE	MM	KK	A	R	RT	C	W	Y	XS
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	4.00
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	4.50
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	4.75
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	4.75
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	5.00
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	5.38
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	5.25
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	5.63
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	6.13
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	6.38
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	6.50
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	6.75
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	7.25
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	7.13
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	7.63
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	7.88
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	8.13
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	8.00
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	8.25
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	8.50
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	8.50
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50	8.75
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50	8.75
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50	8.75
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00	9.25
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00	9.25
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00	9.25

Spherical Bearing

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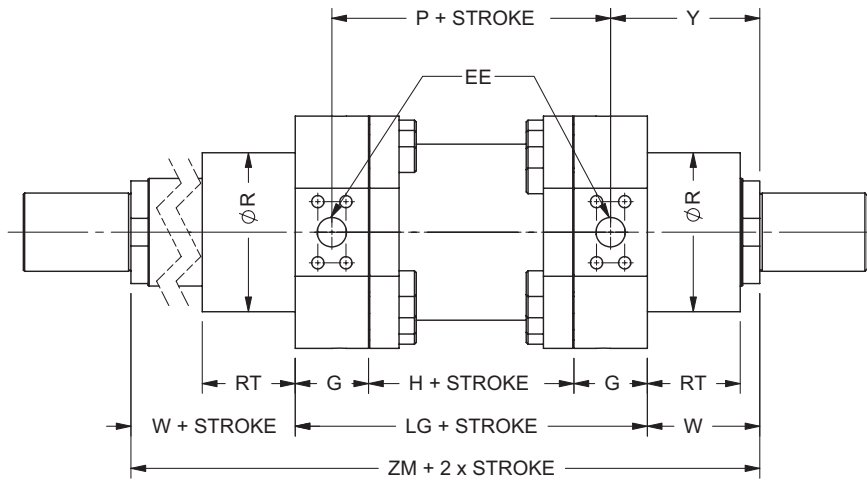


BORE	E	EE		G	J	CD	CB	L	MS	EX	ADD STROKE		
		SAE	SAE CODE 62								P	LG	H
4	6.50	12	3/4	2.75	2.25	1.75	2.50	3.00	1.75	1.53	5.56	8.50	3.50
5	7.50	12	3/4	3.00	2.50	2.00	2.50	3.44	2.00	1.75	6.31	9.75	4.25
6	9.13	16	1	3.25	2.75	2.50	3.00	3.81	2.50	2.18	7.25	11.00	5.00
8	11.88	24	1-1/2	3.75	3.38	3.50	4.50	5.50	3.50	3.06	9.38	13.63	6.50
10	14.88	32	2	4.50	4.25	4.00	5.50	5.81	4.00	3.50	10.63	15.63	6.88
12	18.13	32	2	5.00	4.50	5.00	6.50	6.75	5.00	4.38	12.75	17.75	8.25

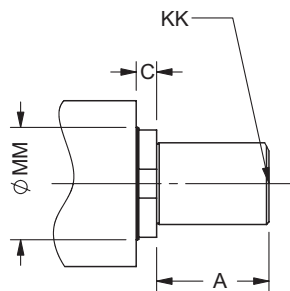
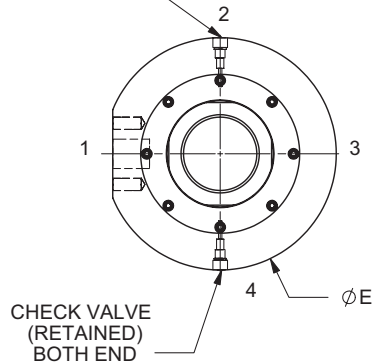
BORE	MM	KK	A	R	RT	C	W	Y	XC
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	14.75
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	15.25
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	15.50
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	16.94
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	17.19
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	17.56
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	18.81
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	19.19
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	19.69
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	24.00
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	24.13
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	24.38
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	24.88
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	26.69
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	27.19
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	27.44
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	27.69
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	30.25
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	30.50
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	30.75
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	30.75

Double-Ended Cylinder – No Mounting

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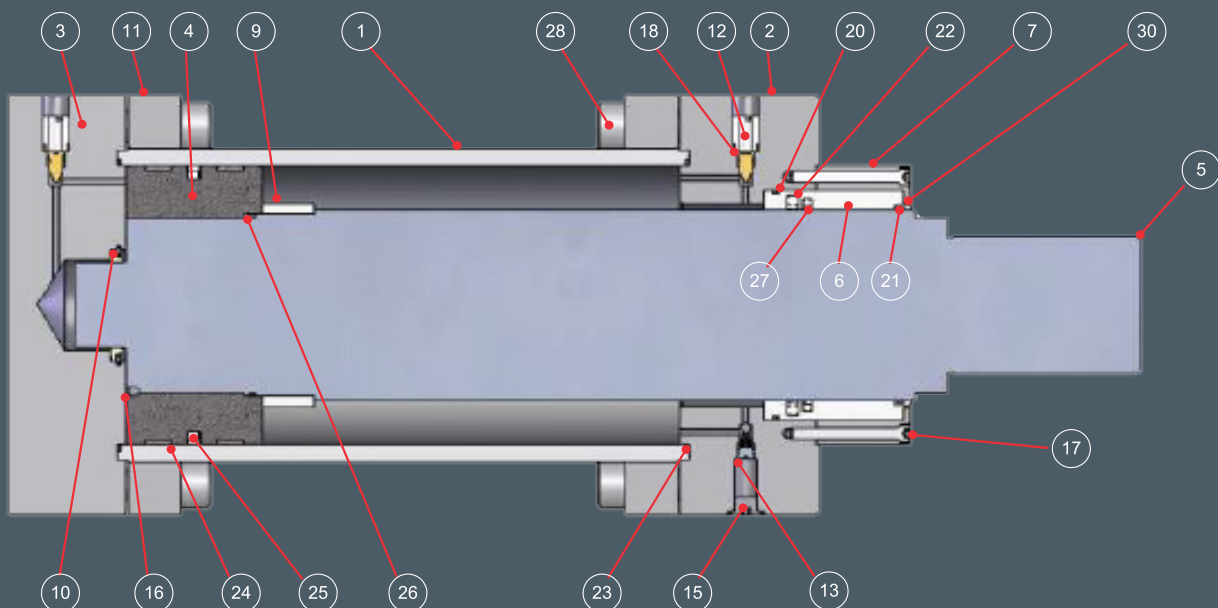
ADJ CUSHION
(RETAINED)
BOTH END



BORE	E	EE	G	ADD STROKE			
		SAE	SAE CODE 62		P	LG	H
4	6.50	12	3/4	2.75	5.56	9.00	3.50
5	7.50	12	3/4	3.00	6.31	10.25	4.25
6	9.13	16	1	3.25	7.25	11.50	5.00
8	11.88	24	1-1/2	3.75	9.38	14.00	6.50
10	14.88	32	2	4.50	10.63	15.88	6.88
12	18.13	32	2	5.00	12.75	18.25	8.25
14	20.13	32	2	5.50	13.00	19.50	8.50
16	23.50	32	2	6.50	14.13	22.63	9.63

BORE	MM	KK	A	R	RT	C	W	Y	ZM
4	2	1 3/4-12	2.25	4.19	2.25	1.00	3.25	4.97	15.5
	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.47	16.5
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.72	17
5	2.5	2 1/4-12	3.00	4.69	2.75	1.00	3.75	5.56	17.75
	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.81	18.25
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.19	19
6	3	2 3/4-12	3.50	5.19	3.00	1.00	4.00	5.88	19.5
	3.5	3 1/4-12	3.50	5.69	3.38	1.00	4.38	6.25	20.25
	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	6.75	21.25
8	4	3 3/4-12	4.00	6.31	3.88	1.00	4.88	7.19	23.75
	4.5	4 1/4-12	4.50	6.94	4.00	1.00	5.00	7.31	24
	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.56	24.5
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.06	25.5
10	5	4 3/4-12	5.00	7.31	4.25	1.00	5.25	7.88	26.375
	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.38	27.375
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.63	27.875
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	8.88	28.375
12	5.5	5 1/4-12	5.50	7.94	4.75	1.00	5.75	8.50	29.75
	6	5 1/2-12	6.00	8.31	5.00	1.00	6.00	8.75	30.25
	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.00	30.75
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.00	30.75
14	7	6 1/2-12	7.00	9.31	5.25	1.00	6.25	9.50	32
	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	9.50	32
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	9.50	32
16	8	7 1/2-12	8.00	10.31	5.25	1.00	6.25	10.00	35.125
	9	8 1/2-12	9.00	11.31	5.25	1.00	6.25	10.00	35.125
	10	9 1/2-12	10.00	12.56	5.25	1.00	6.25	10.00	35.125

Spare Parts List



Item Number	Description	Quantity
1	Cylinder Barrel	1
2	Cylinder Head	1
3	Cylinder Cap	1
4	Piston	1
5	Piston Rod	1
6	Gland Bushing	1
7	Gland Retainer	1
9	Cushion Plunger	1
10	Cushion Bushing	1
11	Flange	2
12	Cushion Needle Valve Retainer	2
13	Check Valve	1
15	Check Valve Retainer	1
16	Piston Lock Pin	1
17	SHCS	*
18	Cushion Needle Valve	2
20	Gland O-ring with Backup	1
21	Teflon Bronze Wiper	1
22	Primary Rod Seal	1
23	Barrel O-ring	2
24	Piston Wear Band	2
25	Piston Seal	1
26	Piston-to-Rod O-ring	1
27	Secondary Rod Seal	1
28	SHCS	*
30	Metallic Rod Wiper	1

**Varies with Bore size. Contact your local Cowan office for more information*

How to Order

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World's Most Challenging Environments

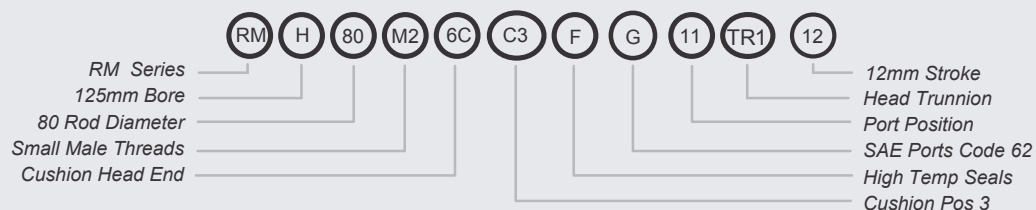
SERIES	BORE SIZE		ROD DIAMETER			ROD THREAD STYLE	CUSHIONS	CUSHION POS
RM	C - 40mm	H - 125mm	22 - 22mm	45 - 45mm	100 - 100mm	N2 - intermediate male	5C - adjustable both ends	Omit if not required
	D - 50mm	K - 140mm	22T - 22.4mm	50 - 50mm	110 - 110mm	M2 - intermediate male metric*	6C - adjustable head end	CXX
	E - 63mm	L - 160mm	28 - 28mm	56 - 56mm	125 - 125mm		7C - adjustable cap end	**XX denotes position
	F - 80mm	M - 180mm	32 - 32mm	70 - 70mm	140 - 140mm	*contact Cowan for size	8 - none	ex: 23 = Pos 2 head, Pos 3 Cap
	G - 100mm	N - 200mm	35T - 35.5mm	71 - 71mm				
			36 - 36mm	80 - 80mm				
			40 - 40mm	90 - 90mm				

DOUBLE ROD DIA	2ND ROD THREAD STYLE	PORTS	SEALS	MOUNTINGS
Omit if not required	RN2 - intermediate male	GXX - SAE code 62 flange	N - Standard Seals	PR1 - Cap Fixed Clevis (with clevis pin)
22 - 22mm	RM2 - intermediate male metric*	FXX - SAE code 61 flange	F - High Temp	PR3 - Male clevis (with pivot pin)
22T - 22.4mm		SXX - SAE	L - Low Temp	SR2 - Side Lugs
28 - 28mm	*contact Cowan for size	NXX - NPT	E - EPDM	TR4 - Intermediate Trunnion
32 - 32mm		BXX - BSPP		TR1 - Head Trunnion
35T - 35.5mm		MXX - ISO		TR2 - Cap Trunnion
36 - 36mm		**XX denotes position		SRB - Spherical Bearing
40 - 40mm		ex: 12 = Pos 1 head, Pos 2 Cap		X0 - No mount
45 - 45mm				
50 - 50mm				
56 - 56mm				

OPTIONS

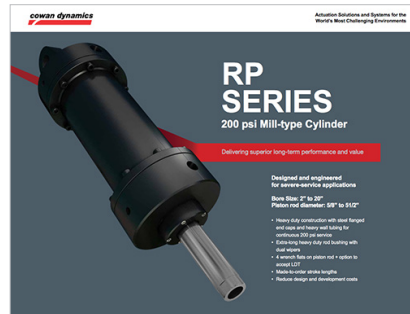
Please consult the factory for additional option codes

EXAMPLE



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**For sales and technical information,
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Montreal, Quebec H4C 1V4
TOLL-FREE: 855-341-3415
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