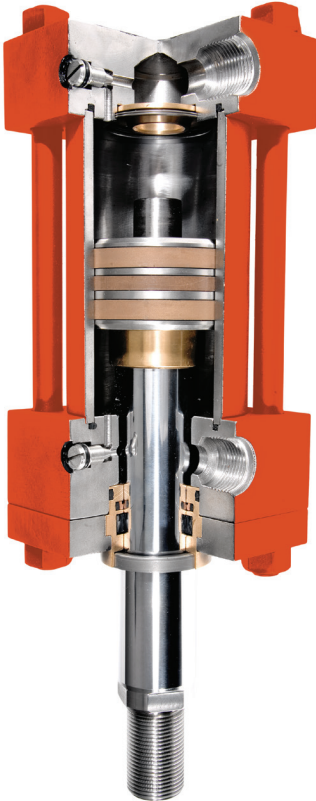


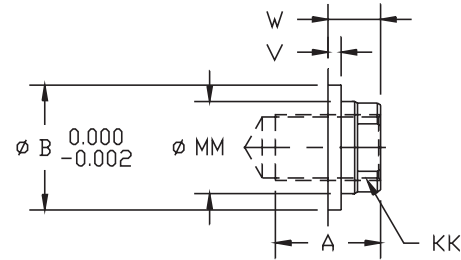
Bettis GVO-C Series

GVO-CHP-DA Hydraulic Actuators



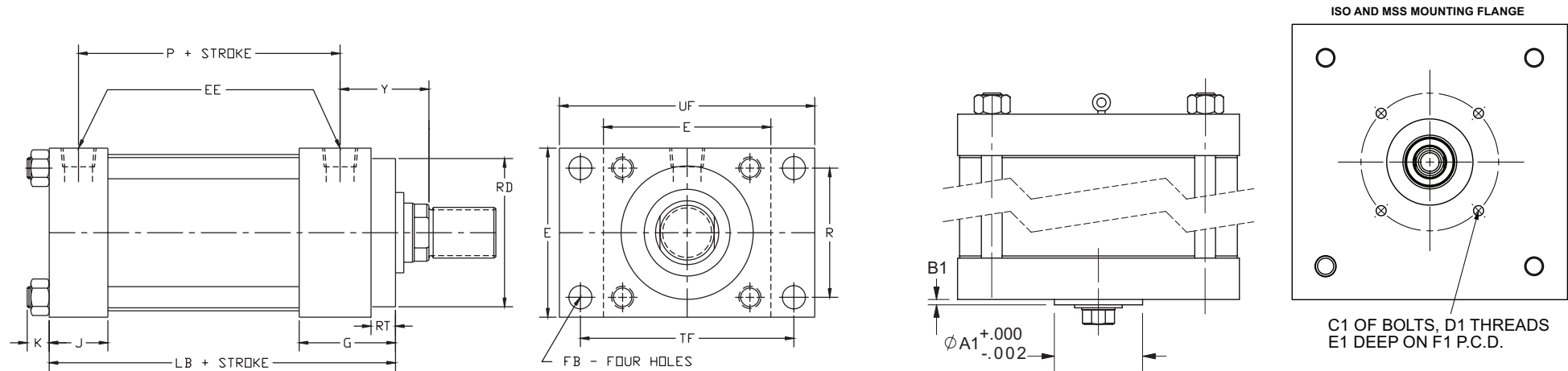
Rod Thread Size (1-1/2" to 6" Bore)

SMALL FEMALE ROD END



Dimensions (in)						
Bore	Rod Ø MM	KK	A	B	V	W
1½	0.63	7/16-20	0.75	1.13	0.25	0.63
2	1.00	¾-16	1.13	1.50	0.25	0.75
2½	1.00	¾-16	1.13	1.50	0.25	0.75
3¼	1.38	1-14	1.63	2.00	0.25	0.88
4	1.75	1¼-12	2.00	2.38	0.25	1.00
5	2.00	1½-12	2.25	2.63	0.25	1.13
6	2.50	1¾-12	3.00	3.13	0.25	1.25
7	3.00	2¼-12	3.50	3.75	0.25	1.25
8	3.50	2½-12	3.50	4.25	0.25	1.25
10	4.50	3¼-12	4.50	5.25	0.25	1.50
12	5.50	4-12	5.50	6.25	0.25	1.50
14	7.00	5-12	7.00	8.00	0.38	1.56

Actuator Dimensions (1-1/2" to 8" Bore)



Dimensions (in)										
BORE	E	EE		FB	R	TF	UF	LB	RD	RT
		NPT	SAE							
1½	2.50	0.50	10	0.44	1.63	3.44	4.25	5.00	2.13	0.38
2	3.00	0.50	10	0.25	2.05	4.13	5.13	5.25	2.50	0.38
2½	3.50	0.50	10	0.25	2.55	4.63	5.63	5.38	2.50	0.38
3¼	4.50	0.75	12	0.69	3.25	5.88	7.13	6.25	3.00	0.63
4	5.00	0.75	12	0.69	3.82	6.38	7.63	6.63	3.50	0.63
5	6.50	0.75	12	0.94	4.95	8.19	9.75	7.13	4.00	0.75
6	7.50	1.00	16	1.06	5.73	9.44	11.25	8.38	4.50	0.88
7	8.50	1.25	20	1.19	6.58	10.63	12.63	9.50	5.25	0.63
8	9.50	1.50	24	1.19	7.50	11.81	14.00	10.50	5.75	0.63

MSS Flange Mounting Dimensions (in)							
MSS FLANGE	MAX. THRUST (lbs.)	A1	B1	C1	D1	E1	F1
FA07	4,500	2.10	0.12	4	5/16-18	1/16	2.75
FA10	9,000	2.30	0.12	4	3/8-16	1/16	4.00
FA14	25,000	3.75	0.16	4	5/8-11	13/16	5.50
FA16	35,000	5.00	0.19	4	3/4-10	1/8	6.50
FA25	50,000	6.00	0.19	8	5/8-11	1/8	10.00
FA30	75,000	7.00	0.19	8	3/4-10	1/8	11.75
FA35	140,000	8.50	0.19	8	1-8	1/4	14.00
FA40	230,000	9.00	0.32	8	1¼-7	1/2	16.00

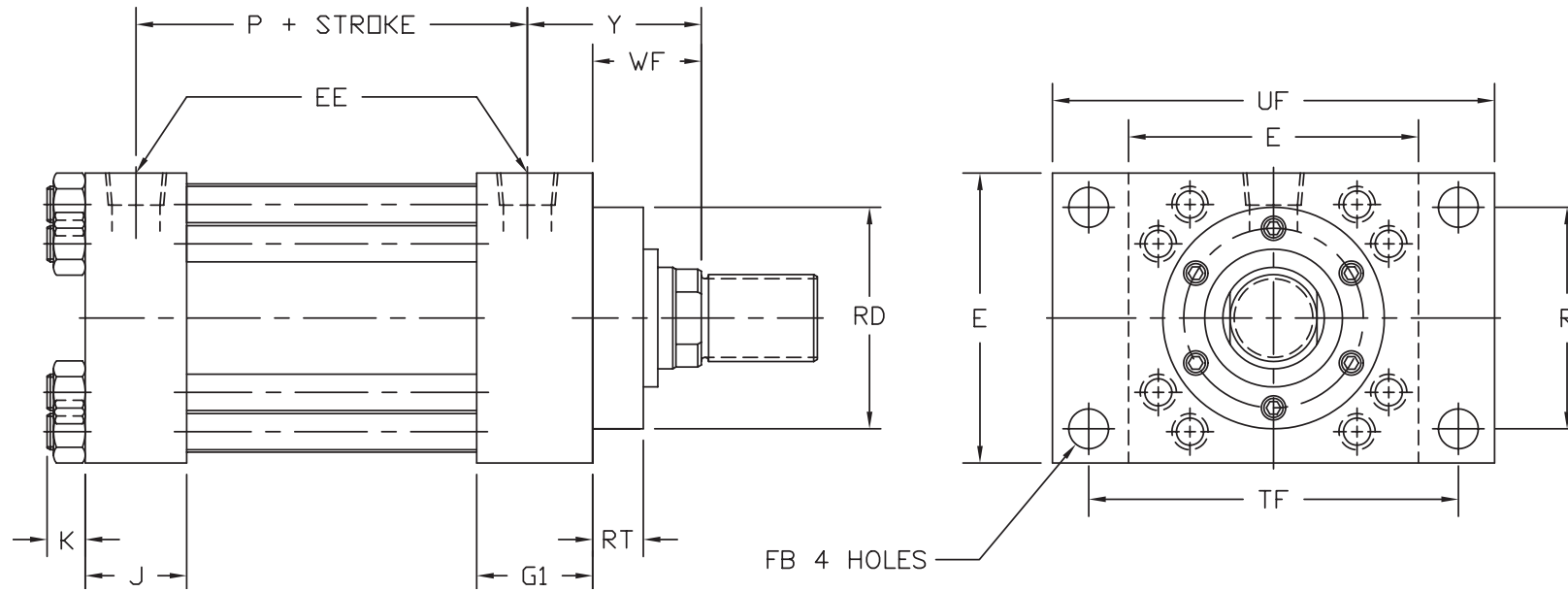
Consult factory for more detailed dimensions

*Other Mounting Patterns are available; consult factory

Thrust Values (lbs)						ISO or MSS Mounting Pattern*	
BORE	Rod ϕ MM	1500 PSI		3000 PSI		STD	OPT
		EXTEND	RETRACT	EXTEND	RETRACT		
1½	0.63	2,650	2,190	5,300	4,380	F/FA10	F/FA07
2	1.00	4,710	3,540	9,420	7,070	F/FA14	F/FA10
2½	1.00	7,360	6,190	14,720	12,370	F/FA14	F/FA10
3¼	1.38	12,440	10,220	24,880	20,430	F/FA14	F/FA10
4	1.75	18,840	15,240	37,680	30,470	F/FA25	F/FA16
5	2.00	29,440	24,730	58,880	49,460	F/FA30	F/FA25
6	2.50	42,390	35,040	84,780	70,070	F/FA35	F/FA30
7	3.00	57,700	47,100	115,400	94,200	F/FA35	F/FA30
8	3.50	75,360	60,940	150,720	121,880	F/FA40	F/FA35

ISO Flange Mounting Dimensions (mm)							
ISO FLANGE	MAX. THRUST (N)	A1	B1	C1	D1	E1	F1
F07	19,995	55	3	4	M8	11	70
F10	39,990	70	3	4	M10	16	102
F14	99,996	99	4	4	M16	19	140
F16	150,007	130	5	4	M20	22	165
F25	200,010	200	5	8	M16	22	254
F30	325,014	229	5	8	M20	22	297
F35	700,034	260	5	8	M30	22	356
F40	1,100,054	300	8	8	M36	22	406

Actuator Dimensions (10" to 14" Bore)



Dimensions (in)											
BORE	E	EE		FB	R	TF	UF	LG	RD	RT	WF
		SAE	SAE-61								
10	12.63	24	2.00	1.81	9.89	15.88	19.00	12.13	8.25	1.44	2.94
12	14.88	24	2.50	2.06	11.75	18.50	22.00	14.50	9.38	1.69	5.38
14	17.13	24	2.50	2.31	12.90	21.00	25.00	15.63	10.50	1.94	5.88

Consult factory for more detailed dimensions and larger sizes
*Other Mounting Patterns are available; consult factory

Thrust Values (lbs)					
BORE	Rod Φ MM	1500 PSI		3000 PSI	
		EXTEND	RETRACT	EXTEND	RETRACT
10	4.50	117,750	93,910	235,500	187,820
12	5.50	169,560	133,950	339,120	267,890
14	7.00	230,790	173,100	461,580	346,190

Material Breakdown

Material Breakdown	Standard	Stainless Steel Material Option
Head and cap	Machined Steel	316
Barrel	Honed Seamless Steel Tubing *Optional Chrome Plating available	Application Dependent <i>Consult Factory</i>
Piston	Ductile Iron	Ductile Iron
Piston rod	1045	17-4 PH
Gland	SAE 660 Bronze	SAE 660 Bronze
Tie Rod	Stress-proof Steel	17-4 PH

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