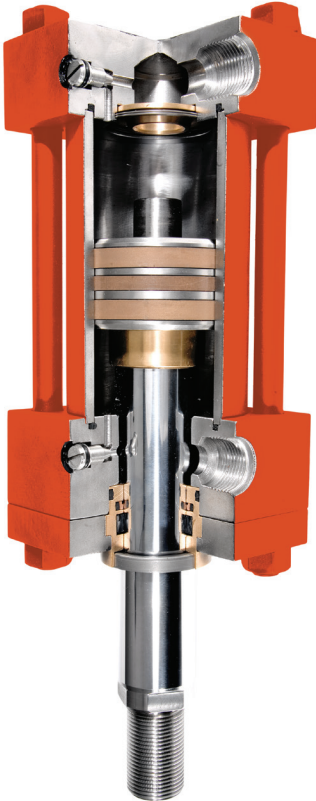


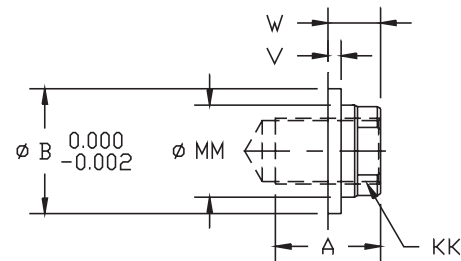
Bettis GVO-C Series

GVO-CHP-DA Hydraulic Actuators



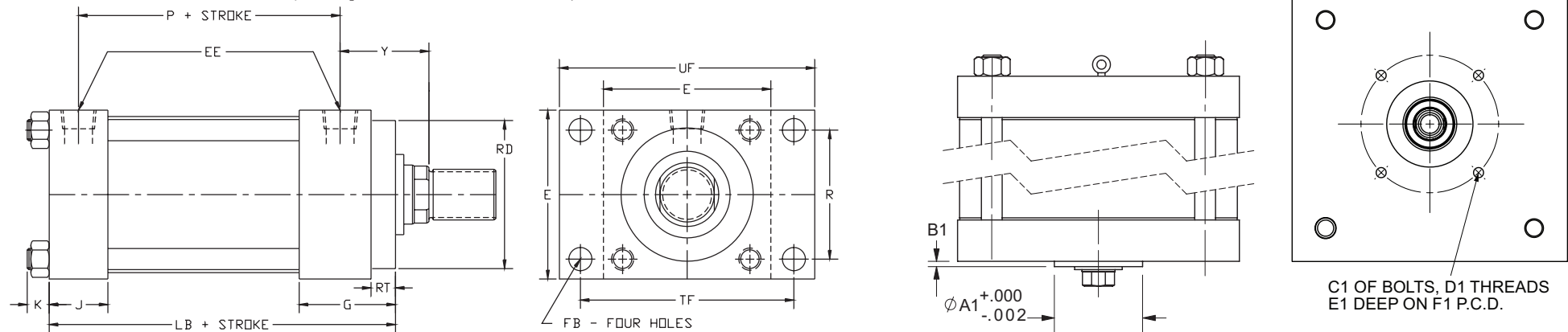
Rod Thread Size (1-1/2" to 6" Bore)

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

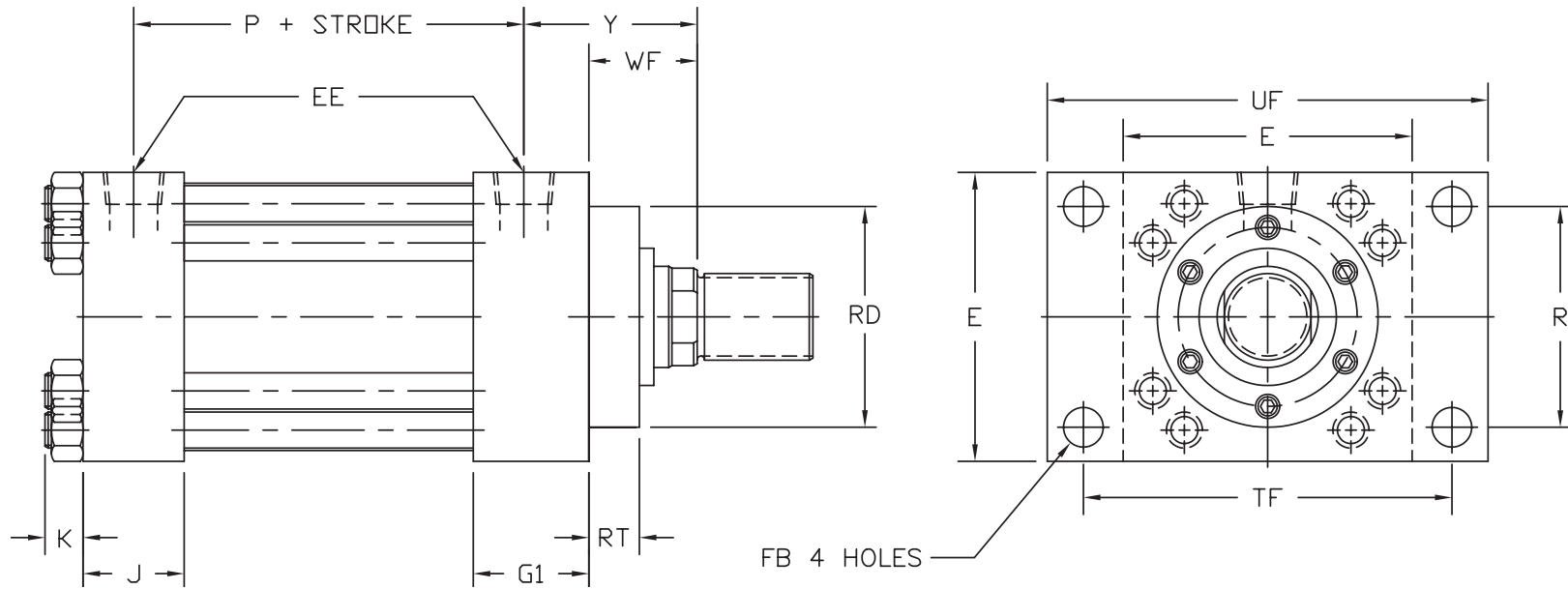
MSS Flange Mounting Dimensions (in)							
MSS FLANGE	MAX. THRUST (lbs.)	A1	B1	C1	D1	E1	F1
FA07	4,500	2.10	0.12	4	5/16-18	1 1/16	2.75
FA10	9,000	2.30	0.12	4	3/8-16	1 1/16	4.00
FA14	25,000	3.75	0.16	4	5/8-11	1 3/16	5.50
FA16	35,000	5.00	0.19	4	3/4-10	1 1/8	6.50
FA25	50,000	6.00	0.19	8	5/8-11	1 1/8	10.00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

World Area Configuration Centers (WACC) offer sales support, service, inventory and commissioning to our global customers. Choose the WACC or sales office nearest you:

NORTH & SOUTH AMERICA

19200 Northwest Freeway
Houston TX 77065
USA
T +1 281 477 4100
F +1 281 477 2809

Av. Hollingsworth
325 Iporanga Sorocaba
SP 18087-105
Brazil
T +55 15 3238 3788
F +55 15 3228 3300

ASIA PACIFIC

No. 9 Gul Road
#01-02 Singapore 629361
T +65 6777 8211
F +65 6268 0028

No. 1 Lai Yuan Road
Wuqing Development Area
Tianjin 301700
P. R. China
T +86 22 8212 3300
F +86 22 8212 3308

MIDDLE EAST & AFRICA

P. O. Box 17033
Dubai
United Arab Emirates
T +971 4 811 8100
F +971 4 886 5465

P. O. Box 10305
Jubail 31961
Saudi Arabia
T +966 3 340 8650
F +966 3 340 8790

24 Angus Crescent
Longmeadow Business Estate East
P.O. Box 6908 Greenstone
1616 Modderfontein Extension 5
South Africa
T +27 11 451 3700
F +27 11 451 3800

EUROPE

Berenyi u. 72- 100
Videoton Industry Park
Building #230
Székesfehérvár 8000
Hungary
T +36 22 53 09 50
F +36 22 54 37 00

For complete list of sales and manufacturing sites, please visit www.emerson.com/actuationtechnologieslocations or contact us at info.actuationtechnologies@emerson.com

www.emerson.com/bettis

©2017 Emerson. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Bettis™ is a mark of one of the Emerson family of companies. All other marks are property of their respective owners.

The contents of this publication are presented for information purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.