

BRASSLINE CYLINDERS



— 3/8" TO 2" BORES —

— 6 MOUNTING STYLES —

— MOUNTING ACCESSORIES —

— 250 PSI AIR, 500 PSI HYDRAULIC —

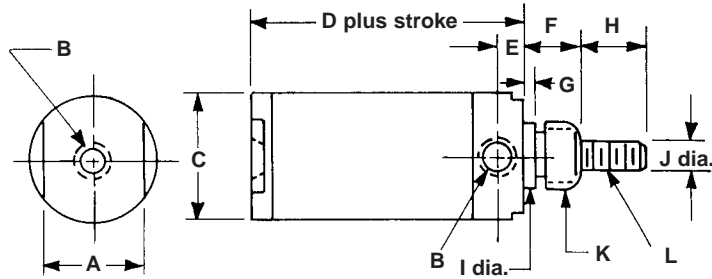
— SPECIAL CONFIGURATIONS AVAILABLE —



National
FLUID POWER
Association
MEMBER

CONTROL LINE EQUIPMENT, INC.

14750 Industrial Parkway • Cleveland, Ohio 44135
(216) 433-7766 • FAX: (216) 433-7664



Bore	A	Two Places B	C	D	E	F	G	H	I	J	K	L	Model Numbers	
													Single Acting	Double Acting
3/8"	3/8	10-32NF	9/16	1-11/16*	7/32	9/16	7/64	5/8	.529	3/16	1/2-20NF	10-32NF	1110101	1120101
1/2"	9/16	10-32NF	3/4	1-11/16*	7/32	9/16	7/64	5/8	.529	3/16	1/2-20NF	10-32NF	1110201	1120201
3/4"	11/16	1/8-27NPT	1	1-31/32*	19/64	19/32	7/64	1	.684	1/4	5/8-18NF	1/4-28NF	1110301	1120301
1"	1	1/8-27NPT	1-1/4	1-31/32†	19/64	19/32	7/64	1	.684	5/16	5/8-18NF	5/16-24NF	1110401	1120401
1-1/8"	1-1/8	1/8-27NPT	1-3/8	1-31/32†	19/64	19/32	7/64	1	.684	5/16	5/8-18NF	5/16-24NF	1110501	1120501
1-1/2"	1-1/2	1/8-27NPT	1-3/4	2-5/8★	3/8	13/16	3/16	1	1.122	1/2	1-14NF	1/2-20NF	1110601	1120601
2"	1-3/4	1/4-18NPT	2-1/4	2-5/8★	3/8	1	3/16	1-7/8	1.373	5/8	1-1/4-12NF	5/8-18NF	1110701	1120701

Note: For Single Acting Spring Return Cylinders — Add To Base Length

*1" For Strokes 0" to 1-1/4"

*1-1/2" For Strokes 1-5/16" to 4-1/4"

*2" For Strokes 4-5/16" to 5-1/4" (3/4" Bore only)

★1-1/2" For Strokes 0" to 2"

★2" For Strokes 2-1/8" to 4"

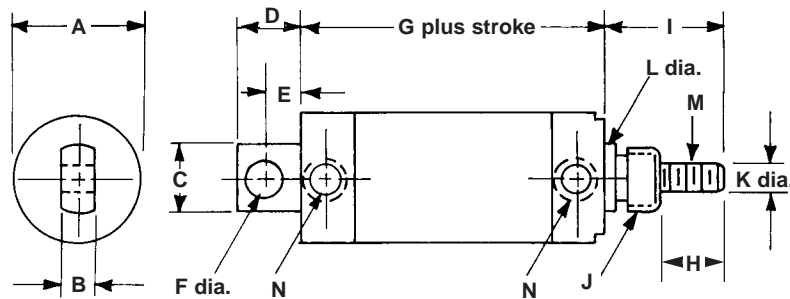
★3" For Strokes 4-1/8" to 8"

†0" For Strokes 0" to 1-1/8" (1" for spring extended single acting)

†1" For Strokes 1-1/4" to 4-1/2"

†1-1/2" For Strokes 4-5/8" to 6-1/2"

†2" For Strokes 6-5/8" to 8-1/2"



Bore	A	B	C	D	E	F	G	H	I	J	K	L	M	Two Places N	Model Numbers	
															Single Acting	Double Acting
3/8"	9/16	.248	1/2	5/8	5/16	.261	1-7/8*	5/8	1-3/16	1/2-20NF	3/16	.529	10-32NF	10-32NF	1110102	1120102
1/2"	3/4	.248	1/2	5/8	5/16	.261	1-7/8*	5/8	1-3/16	1/2-20NF	3/16	.529	10-32NF	10-32NF	1110202	1120202
3/4"	1	.248	5/8	5/8	5/16	.261	2-5/16*	1	1-19/32	5/8-18NF	1/4	.684	1/4-28NF	1/8-27NPT	1110302	1120302
1"	1-1/4	.375	3/4	23/32	13/32	.313	2-5/16†	1	1-19/32	5/8-18NF	5/16	.684	5/16-24NF	1/8-27NPT	1110402	1120402
1-1/8"	1-3/8	.375	3/4	23/32	13/32	.313	2-5/16†	1	1-19/32	5/8-18NF	5/16	.684	5/16-24NF	1/8-27NPT	1110502	1120502
1-1/2"	1-3/4	.615	1-3/8	1-3/8	11/16	.375	3-1/8★	1	1-13/16	1-14NF	1/2	1.122	1/2-20NF	1/8-27NPT	1110602	1120602
2"	2-1/4	.740	1-1/2	1-3/8	3/4	.500	3-1/8★	1-7/8	2-7/8	1-1/4-12NF	5/8	1.373	5/8-18NF	1/4-18NPT	1110702	1120702

Note: For Single Acting Spring Return Cylinders — Add To Base Length

*1" For Strokes 0" to 1-1/4"

*1-1/2" For Strokes 1-5/16" to 4-1/4"

*2" For Strokes 4-5/16" to 5-1/4" (3/4" Bore only)

★1-1/2" For Strokes 0" to 2"

★2" For Strokes 2-1/8" to 4"

★3" For Strokes 4-1/8" to 8"

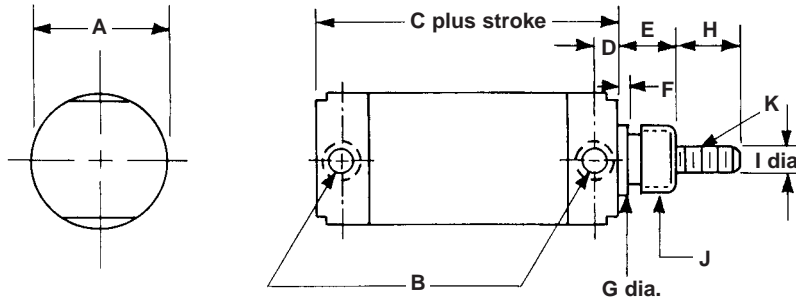
†0" For Strokes 0" to 1-1/8" (1" for spring extended single acting)

†1" For Strokes 1-1/4" to 4-1/2"

†1-1/2" For Strokes 4-5/8" to 6-1/2"

†2" For Strokes 6-5/8" to 8-1/2"

HOW TO ORDER: WHEN ORDERING PLEASE SPECIFY MODEL NO. – STROKE – PLAIN ROD END IF DESIRED – MOUNTING BRACKETS (IF REQUIRED). FOR SPRING EXTENDED SINGLE ACTING MODEL NO. SPECIFY 113XXXX. SEE PAGES 6 & 7 FOR OPTION CODES AND ADDITIONAL ORDERING INFORMATION.



Bore	A	Two Places B	C	D	E	F	G	H	I	J	K	Model Numbers	
												Single Acting	Double Acting
3/8"	9/16	10-32NF	1-7/8*	7/32	9/16	7/64	.529	5/8	3/16	1/2-20NF	10-32NF	1110105	1120105
1/2"	3/4	10-32NF	1-7/8*	7/32	9/16	7/64	.529	5/8	3/16	1/2-20NF	10-32NF	1110205	1120205
3/4"	1	1/8-27NPT	2-5/16*	19/64	19/32	7/64	.684	1	1/4	5/8-18NF	1/4-28NF	1110305	1120305
1"	1-1/4	1/8-27NPT	2-5/16†	19/64	19/32	7/64	.684	1	5/16	5/8-18NF	5/16-24NF	1110405	1120405
1-1/8"	1-3/8	1/8-27NPT	2-5/16†	19/64	19/32	7/64	.684	1	5/16	5/8-18NF	5/16-24NF	1110505	1120505
1-1/2"	1-3/4	1/8-27NPT	3-1/8★	3/8	13/16	3/16	1.122	1	1/2	1-14NF	1/2-20NF	1110605	1120605
2"	2-1/4	1/4-18NPT	3-1/8★	3/8	1	3/16	1.373	1-7/8	5/8	1-1/4-12NF	5/8-18NF	1110705	1120705

Note: For Single Acting Spring Return Cylinders — Add To Base Length

*1" For Strokes 0" to 1-1/4"

*1-1/2" For Strokes 1-5/16" to 4-1/4"

*2" For Strokes 4-5/16" to 5-1/4" (3/4" Bore only)

†0" For Strokes 0" to 1-1/8" (1" for spring extended single acting)

†1" For Strokes 1-1/4" to 4-1/2"

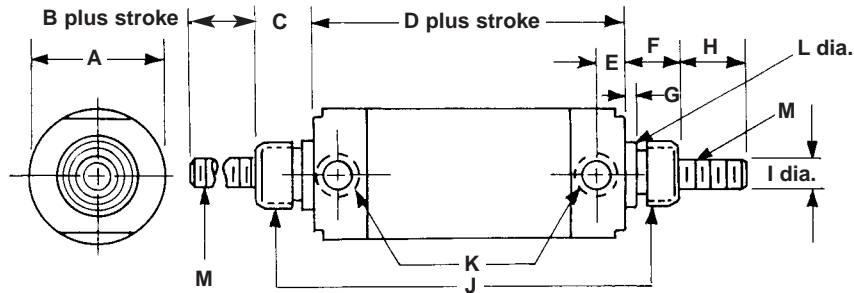
†1-1/2" For Strokes 4-5/8" to 6-1/2"

†2" For Strokes 6-5/8" to 8-1/2"

★1-1/2" For Strokes 0" to 2"

★2" For Strokes 2-1/8" to 4"

★3" For Strokes 4-1/8" to 8"



Bore	A	B	C	D	E	F	G	H	I	Two Places J	Two Places K	Two Places L	Two Places M	Model Numbers	
														Single Acting	Double Acting
3/4"	1	1	19/32	2-5/16*	19/64	19/32	7/64	1	1/4	5/8-18NF	1/8-27NPT	.684	1/4-28NF	1150304	1180304
1"	1-1/4	1	19/32	2-5/16†	19/64	19/32	7/64	1	5/16	5/8-18NF	1/8-27NPT	.684	5/16-24NF	1150404	1180404
1-1/8"	1-3/8	1	19/32	2-5/16†	19/64	19/32	7/64	1	5/16	5/8-18NF	1/8-27NPT	.684	5/16-24NF	1150504	1180504
1-1/2"	1-3/4	1	13/16	3-1/8★	3/8	13/16	3/16	1	1/2	1-14NF	1/8-27NPT	1.122	1/2-20NF	1150604	1180604
2"	2-1/4	1-7/8	1	3-1/8★	3/8	1	3/16	1-7/8	5/8	1-1/4-12NF	1/4-18NPT	1.373	5/8-18NF	1150704	1180704

Note: For Single Acting Spring Return Cylinders — Add To Base Length

*1" For Strokes 0" to 1-1/4"

*1-1/2" For Strokes 1-5/16" to 4-1/4"

*2" For Strokes 4-5/16" to 5-1/4"

†0" For Strokes 0" to 1-1/8"

†1" For Strokes 1-1/4" to 4-1/2"

†1-1/2" For Strokes 4-5/8" to 6-1/2"

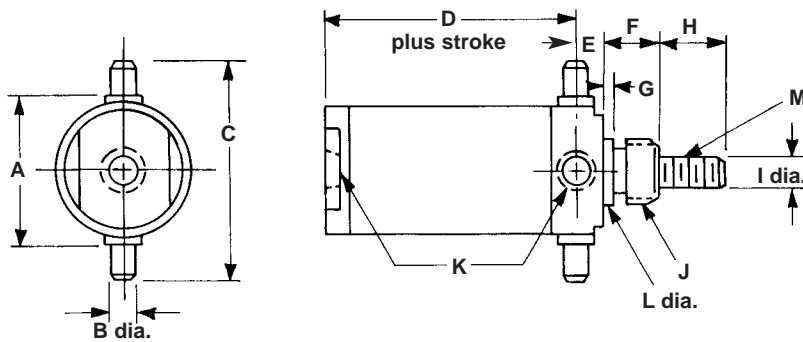
†2" For Strokes 6-5/8" to 8-1/2"

★1-1/2" For Strokes 0" to 2"

★2" For Strokes 2-1/8" to 4"

★3" For Strokes 4-1/8" to 8"

HOW TO ORDER: WHEN ORDERING PLEASE SPECIFY MODEL NO. – STROKE – PLAIN ROD END IF DESIRED – MOUNTING BRACKETS (IF REQUIRED). FOR SPRING EXTENDED SINGLE ACTING (SINGLE ROD END ONLY) MODEL NO. SPECIFY 113XXXX. SEE PAGES 6 & 7 FOR OPTION CODES AND ADDITIONAL ORDERING INFORMATION.



Bore	A	B	C	D	E	F	G	H	I	J	Two Places K	L	M	Model Numbers	
														Single Acting	Double Acting
3/8"	13/16	.251	1-5/16	1-15/32*	7/32	9/16	7/64	5/8	3/16	1/2-20NF	10-32NF	.529	10-32NF	1110106	1120106
1/2"	1	.251	1-1/2	1-15/32*	7/32	9/16	7/64	5/8	3/16	1/2-20NF	10-32NF	.529	10-32NF	1110206	1120206
3/4"	1-1/8	.251	1-5/8	1-43/64*	19/64	19/32	7/64	1	1/4	5/8-18NF	1/8-27NPT	.684	1/4-28NF	1110306	1120306
1"	1-1/2	.313	2-1/4	1-43/64†	19/64	19/32	7/64	1	5/16	5/8-18NF	1/8-27NPT	.684	5/16-24NF	1110406	1120406
1-1/8"	1-1/2	.313	2-1/4	1-43/64†	19/64	19/32	7/64	1	5/16	5/8-18NF	1/8-27NPT	.684	5/16-24NF	1110506	1120506
1-1/2"	2-1/4	.376	3	2-1/4★	3/8	13/16	3/16	1	1/2	1-14NF	1/8-27NPT	1.122	1/2-20NF	1110606	1120606
2"	2-7/8	.501	3-7/8	2-1/4★	3/8	1	3/16	1-7/8	5/8	1-1/4-12NF	1/4-18NPT	1.373	5/8-18NF	1110706	1120706

Note: For Single Acting Spring Return Or Extended Cylinders — Add To Base Length

*1" For Strokes 0" to 1-1/4"

*1-1/2" For Strokes 1-5/16" to 4-1/4"

*2" For Strokes 4-5/16" to 5-1/4" (3/4" Bore only)

★1-1/2" For Strokes 0" to 2"

★2" For Strokes 2-1/8" to 4"

★3" For Strokes 4-1/8" to 8"

†0" For Strokes 0" to 1-1/8" (1" for spring extended single acting)

†1" For Strokes 1-1/4" to 4-1/2"

†1-1/2" For Strokes 4-5/8" to 6-1/2"

†2" For Strokes 6-5/8" to 8-1/2"

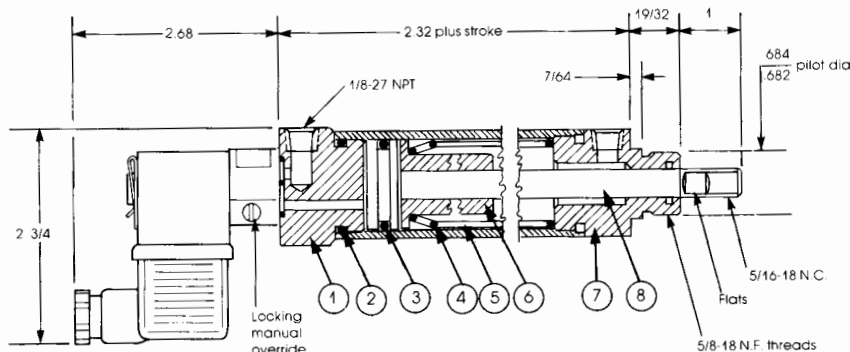
HOW TO ORDER: WHEN ORDERING PLEASE SPECIFY MODEL NO. – STROKE – PLAIN ROD END IF DESIRED – MOUNTING BRACKETS (IF REQUIRED). FOR SPRING EXTENDED SINGLE ACTING MODEL NO. SPECIFY 113XXXX. SEE PAGES 6 & 7 FOR OPTION CODES AND ADDITIONAL ORDERING INFORMATION.

STANDARD FEATURES

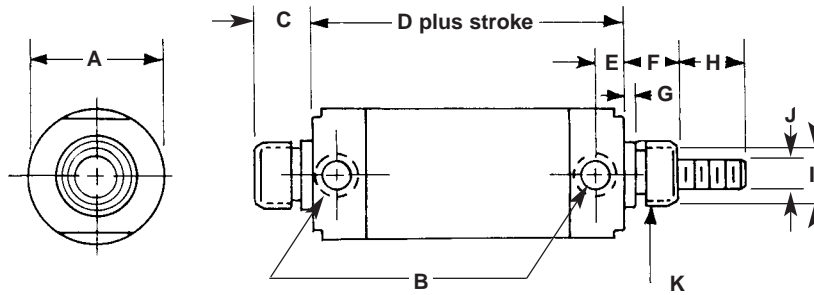
- Normally retracted or normally extended
- Wrench flats
- Operating pressure 15 to 145 PSIG

OPTIONAL FEATURES

- Rod extensions
- Rod wipers
- Plain rods (Plain rods must be specified)
- Optional rod end configurations available — Consult factory



HOW TO ORDER: WHEN ORDERING PLEASE SPECIFY MODEL NO. – STROKE – PLAIN ROD END IF DESIRED – MOUNTING BRACKETS (IF REQUIRED) – VOLTAGE BORE SIZE 1-1/8" – MODEL NUMBER 6110501*. SEE PAGES 6 & 7 FOR OPTION CODES AND ADDITIONAL ORDERING INFORMATION. *SPECIFY STROKE LENGTH AND VOLTAGE. EXAMPLE 6110501-02.00 – 120VAC. FOR OPTIONAL TRUNNION MOUNT VERSION, CONSULT FACTORY.



Bore	A	Two Places B	C	D	E	F	G	H	I	J	Two Places K	Model Numbers	
												Single Acting	Double Acting
3/8"	9/16	10-32NF	9/16	1-7/8*	7/32	9/16	7/64	5/8	.529	3/16	1/2-20NF	1110104	1120104
1/2"	3/4	10-32NF	9/16	1-7/8*	7/32	9/16	7/64	5/8	.529	3/16	1/2-20NF	1110204	1120204
3/4"	7/8	1/8-27NPT	19/32	2-5/16*	19/64	19/32	7/64	1	.684	1/4	5/8-18NF	1110304	1120304
1"	1-1/4	1/8-27NPT	19/32	2-5/16†	19/64	19/32	7/64	1	.684	5/16	5/8-18NF	1110404	1120404
1-1/8"	1-1/4	1/8-27NPT	19/32	2-5/16†	19/64	19/32	7/64	1	.684	5/16	5/8-18NF	1110504	1120504
1-1/2"	1-3/4	1/8-27NPT	13/16	3-1/8★	3/8	13/16	3/16	1	1.122	1/2	1-14NF	1110604	1120604
2"	2-1/4	1/4-18NPT	1	3-1/8★	3/8	1	3/16	1-7/8	1.373	5/8	1-1/4-12NF	1110704	1120704

Note: For Single Acting Spring Return Or Extended Cylinders — Add To Base Length

*1" For Strokes 0" to 1-1/4"

*1-1/2" For Strokes 1-5/16" to 4-1/4"

*2" For Strokes 4-5/16" to 5-1/4" (3/4" Bore only)

†0" For Strokes 0" to 1-1/8" (1" for spring extended single acting)

†1" For Strokes 1-1/4" to 4-1/2"

†1-1/2" For Strokes 4-5/8" to 6-1/2"

†2" For Strokes 6-5/8" to 8-1/2"

★1-1/2" For Strokes 0" to 2"

★2" For Strokes 2-1/8" to 4"

★3" For Strokes 4-1/8" to 8"

HOW TO ORDER: WHEN ORDERING PLEASE SPECIFY MODEL NO. – STROKE – PLAIN ROD END IF DESIRED – MOUNTING BRACKETS (IF REQUIRED). FOR SPRING EXTENDED SINGLE ACTING MODEL NO. SPECIFY 113XXXX. SEE PAGES 6 & 7 FOR OPTION CODES AND ADDITIONAL ORDERING INFORMATION.

RESERVED FOR
FUTURE PRODUCTS

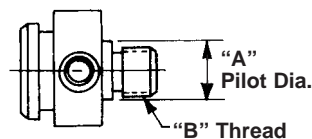
OPTION CODES

OPTION	NO.	DESCRIPTION	BORE SIZE (INCHES)				
			3/8"	1/2"	3/4"	1"	
Rod	11	Plain Rod (No Threads)	X	X	X	X	
	12	Option Thread (Specific Size Shown at Right)	10-24 x .50	10-24 x .50	1/4-20 x .69	5/16-18 x .69	
		Standard O.D. Size (Inches)	Optional O.D. Oversize (Inches)	Standard Oversize Rod Thread			
	13	3/16	1/4	1/4-28NF		X	
	13	1/4	5/16	5/16-24NF		X	
	13	5/16	3/8	3/8-24NF			X
	14	5/16	1/2	1/2-20NF			X
	13	1/2	5/8	5/8-18NF			
	14	1/2	3/4	3/4-16NF			
	13	5/8	3/4	3/4-16NF			
	54	Rod Wiper*				X	X
	36	Special Extension	Plain Rod (Total Rod Extension in the Retracted Position Must be Specified)	X	X	X	X
	37		Threaded Rod (Total Thread Length and total Rod Extension in the Retracted Position Must be Specified)	X	X	X	X
Seals	26	Viton	X	X	X	X	
Bumper	57	Bumper — rod end only		X	X	X	
	58	Bumper — blind end only		X	X	X	
	59	Bumper — both ends		X	X	X	
	60	303 Stainless steel rod	standard	standard	X	X	
	97	Plain Rod Extension To Interchange With Original Duramite® Units	H=1/2	H=1/2	H=3/4	H=3/4	
	98	Coarse Threaded Rod Without Flats To Interchange With Original Duramite® Units	H=1/2	H=1/2	H=3/4	H=3/4	
	99	Fine Threaded Rod Without Flats To Interchange With Original Duramite® Units	H=1/2	H=1/2	H=3/4	H=3/4	

•When rod wiper is specified, internal wipers are supplied, requiring a larger nosepiece. Nosepiece thread sizes are given in the chart below.

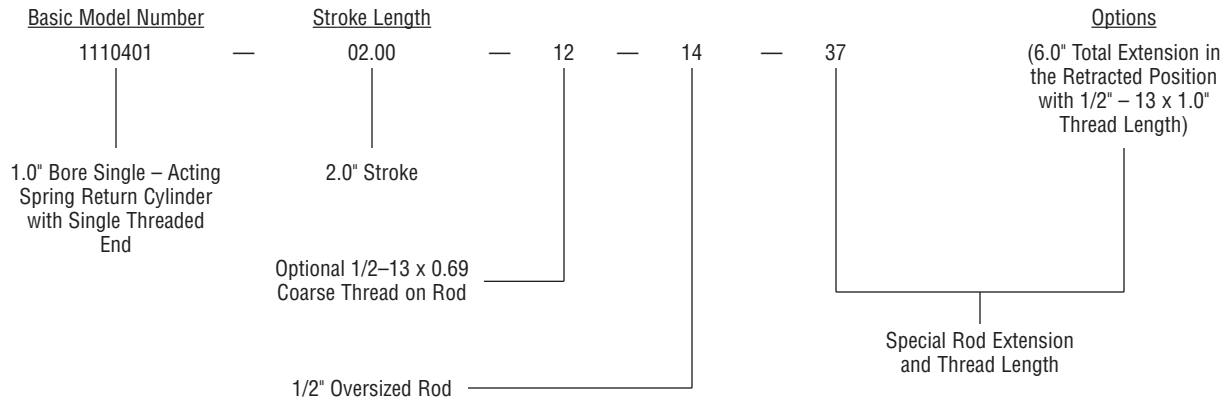
DIMENSIONS FOR OVERSIZED ROD ENDS

Oversized rod dia.	Bore	"B" thread	"A" pilot dia.
5/16" Dia.	3/4"	5/8-18NF	.686/.684
3/8" Dia.	1"	7/8-14NF	.934/.932
3/8" Dia.	1"	3/4-16NF	.750/.748
1/2" Dia.	1"	7/8-14NF	.934/.932
3/8" Dia.	1-1/8"	7/8-14NF	.934/.932
3/8" Dia.	1-1/8"	3/4-16NF	.750/.748
1/2" Dia.	1-1/8"	7/8-14NF	.934/.932
3/4" Dia.	1-1/2"	1-1/4-12NF	1.373/1.371
3/4" Dia.	2"	1-1/4-12NF	1.373/1.371



OPTION	NO.	DESCRIPTION	BORE SIZE (INCHES)			
			1-1/8"	1-1/2"	2"	
Rod	11	Plain Rod (No Threads)	X	X	X	
	12	Option Thread (Specific Size Shown at Right)	5/16-18 x .69	1/2-13 x .75	5/8-11 x 1.44	
		Standard O.D. Size (Inches)	Optional O.D. Oversize (Inches)	Standard Oversize Rod Thread		
	13	3/16	1/4	1/4-28NF		
	13	1/4	5/16	5/16-24NF		
	13	5/16	3/8	3/8-24NF	X	
	14	5/16	1/2	1/2-20NF	X	
	13	1/2	5/8	5/8-18NF		X
	14	1/2	3/4	3/4-16NF		X
	13	5/8	3/4	3/4-16NF		X
	54	Rod Wiper*		X	X	X
	36	Special Extension	Plain Rod (Total Rod Extension in the Retracted Position Must be Specified)	X	X	X
	37		Threaded Rod (Total Thread Length and total Rod Extension in the Retracted Position Must be Specified)	X	X	X
Seals	26	Viton	X	X	X	
Bumper	57	Bumper — rod end only	X	X	X	
	58	Bumper — blind end only	X	X	X	
	59	Bumper — both ends	X	X	X	
	60	303 Stainless steel rod	X	X	X	
	97	Plain Rod Extension To Interchange With Original Duramite® Units	H=3/4	H=1	H=1-1/2	
	98	Coarse Threaded Rod Without Flats To Interchange With Original Duramite® Units	H=3/4	H=1	H=1-1/2	
	99	Fine Threaded Rod Without Flats To Interchange With Original Duramite® Units	H=3/4	H=1	H=1-1/2	

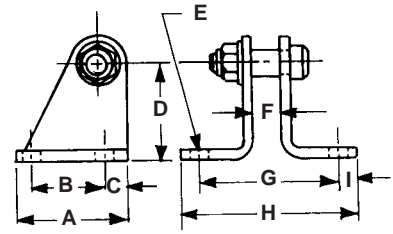
EXAMPLE:



MOUNTING ACCESSORIES

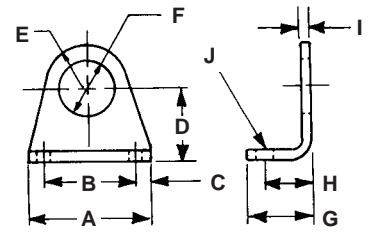
CLEVIS BRACKET FOR 3/8" TO 2" BORE

For Bore Size	A	B	C	D	E	F	G	H	I	Model Numbers
3/8"-3/4"	1-5/32	5/8	17/64	3/4	.191	17/64	1-3/8	1-29/32	17/64	22-0445
1"-1-1/8"	1-5/8	1	5/16	1-1/4	9/32	3/8	1-7/8	2-1/2	5/16	22-0454
1-1/2"	1-3/4	1	3/8	1-3/8	9/32	5/8	2-1/4	3	3/8	22-0462
2"	2-1/4	1-1/4	1/2	1-5/8	11/32	3/4	2-1/2	3-1/2	1/2	22-0470



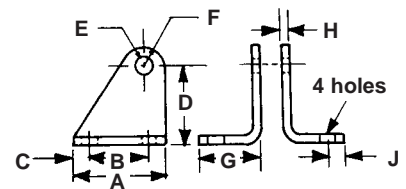
FOOT BRACKET FOR 3/8" TO 2" BORE

For Bore Size	A	B	C	D	E	F	G	H	I	J	Model Numbers
3/8"-1/2"	1-5/8	1-1/4	3/16	7/8	7/16	.534	7/8	5/8	1/8	.191	22-0440
3/4"-1-1/8"	1-5/8	1-1/4	3/16	1	9/16	.691	7/8	5/8	1/8	.191	22-0448
1-1/2"	2-1/2	1-7/8	5/16	1-5/8	7/8	1.126	1-1/2	15/16	.194	9/32	22-0457
2"	3-1/8	2-1/8	1/2	1-1/2	1-1/8	1.380	1-3/4	1-1/4	.194	11/32	22-0466



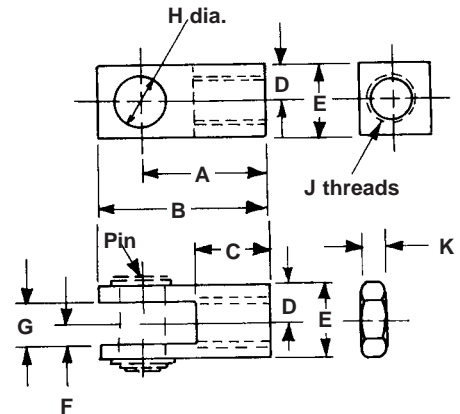
TRUNNION MOUNTING BRACKET FOR 3/8" TO 2" BORE

For Bore Size	A	B	C	D	E	F	G	H	I	J	Model Numbers
3/8"-3/4"	1-5/32	5/8	17/64	3/4	.253	17/64	53/64	.120	.191	17/64	22-0442
1"-1-1/8"	1-5/8	1	5/16	1-1/4	.315	5/16	1-1/16	.120	9/32	5/16	22-0450
1-1/2"	1-3/4	1	3/8	1-3/8	.376	3/8	1-3/16	.134	9/32	3/8	22-0458
2"	2-1/4	1-1/4	1/2	1-5/8	.504	1/2	1-3/8	.194	11/32	1/2	22-0465



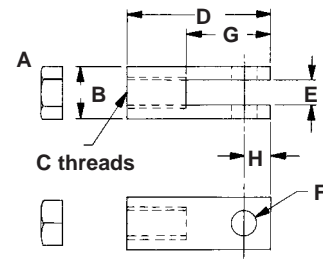
PISTON ROD CLEVIS FOR 3/8" TO 2" BORE (WITH PIN AND NUT)

For Bore Size	A	B	C	D	E	F	G	H	J	K	Model Numbers
3/8"-1/2"	.75	.93	.37	.18	.37	.09	.18	.18	10-32	.12	23-1500
3/4"	.93	1.18	.50	.25	.50	.12	.25	.25	1/4-28	.15	23-1501
1"-1-1/8"	.93	1.18	.50	.25	.50	.12	.25	.25	5/16-24	.18	23-1502
1-1/2"	1.31	1.68	.75	.37	.75	.18	.37	.37	1/2-20	.31	23-1504
2"	1.50	2.00	.75	.50	1.00	.25	.50	.50	5/8-18	.37	22-0471



PISTON ROD CLEVIS FOR 3/8" TO 1-1/2" BORE (WITH NUT ONLY)

For Bore Size	A	B	C	D	E	F	G	H	Model Numbers
3/8"-1/2"	10-24	3/8	10-24NC	1-1/8	3/16	3/16	13/16	1/4	22-0446
3/4"	1/4-20	1/2	1/4-20NC	1-3/8	1/4	1/4	13/16	1/4	22-0449
1"-1-1/8"	5/16-18	1/2	5/16-18NC	1-3/8	1/4	1/4	13/16	1/4	22-0455
1-1/2"	1/2-20	7/8	1/2-20NF	1-1/2	3/8	3/8	15/16	3/8	22-0463



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