

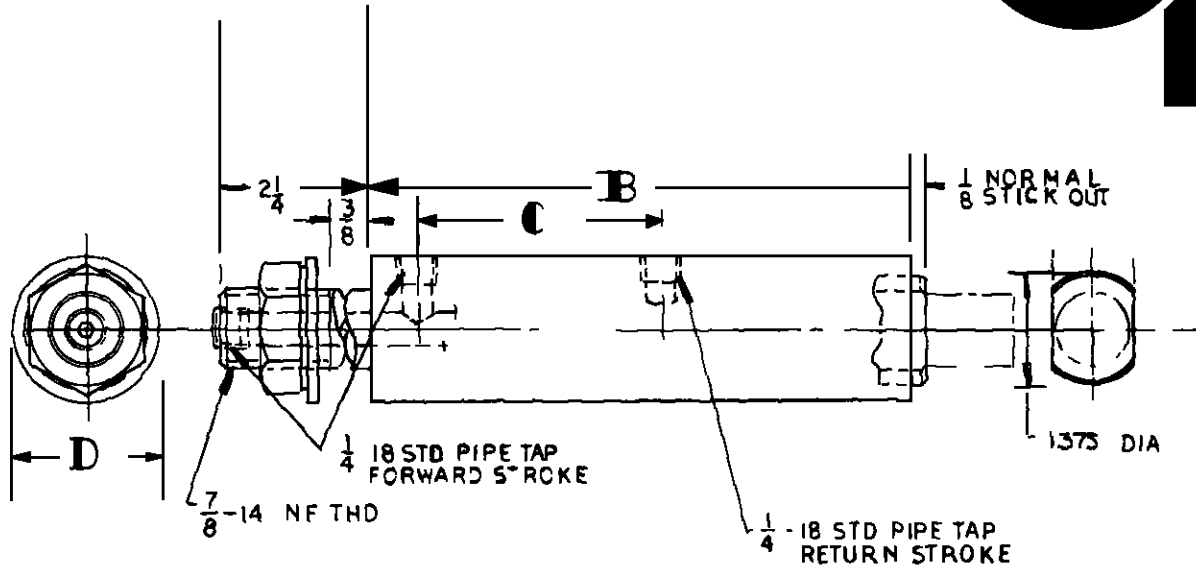
Grossel Tool Company

Cylinder Catalogue

Section D

Hydraulic Cylinders

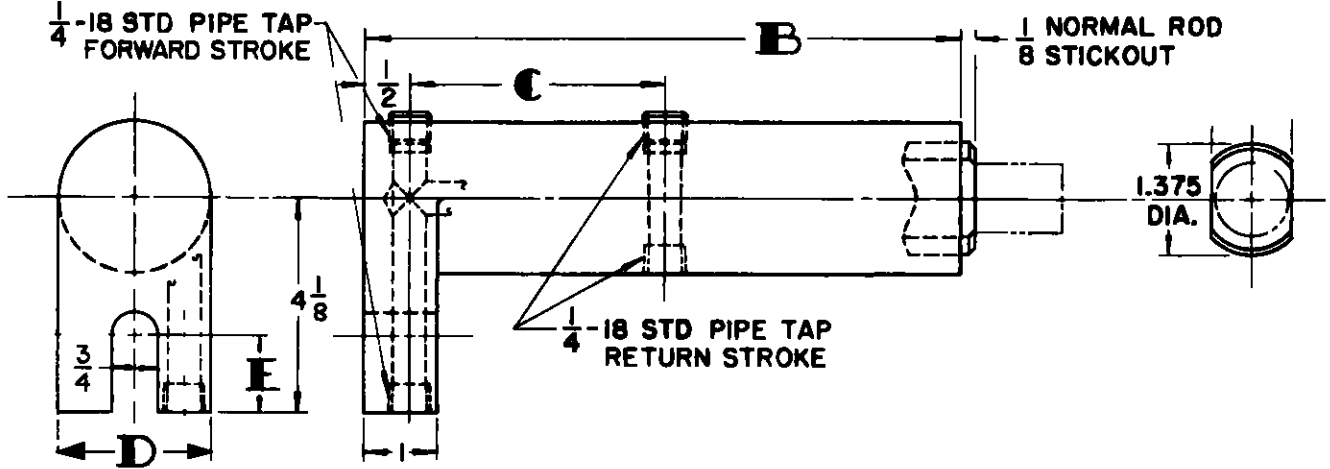




For each additional 1/2" of stroke longer than shown, add 1" to dimension B

EXAMPLE OF CODE					TABULATED DIMENSIONS			PISTON AREA		FORCE AT LINE PRESSURE PSI		
mtng style	mfg std	nom sq in area	strk	rod end ser	B	C	D	FORWARD	RE-TURN	300	400	500
GH	100	1.5	See Note*									
BORE	MODEL NO		STROKE									
1 1/8 Single Piston	GH-100-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	GH-100-1.0-*		1	5 1/4	2 3/8							
	GH-100-1.5-*		1 1/2	6 1/4	2 7/8							
	GH-100-2.0-*		2	7 1/4	3 3/8							
	GH-100-2.5-*		2 1/2	8 1/4	3 7/8							
1 5/8 Single Piston	GH-200-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	GH-200-1.0-*		1	5 1/4	2 3/8							
	GH-200-1.5-*		1 1/2	6 1/4	2 7/8							
	GH-200-2.0-*		2	7 1/4	3 3/8							
	GH-200-2.5-*		2 1/2	8 1/4	3 7/8							
1 1/8 & 1 5/8 Tandem Dual Piston	GH-300-0.5-*		1/2	4 1/4	1 7/8	2 or 2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,500 lbs	
	GH-300-1.0-*		1	5 1/4	2 3/8							
	GH-300-1.5-*		1 1/2	6 1/4	2 7/8							
	GH-300-2.0-*		2	7 1/4	3 3/8							
	GH-300-2.5-*		2 1/2	8 1/4	3 7/8							
1 5/8 Dual Piston	GH-400-0.5-*		1/2	4 1/4	1 7/8	2 or 2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	GH-400-1.0-*		1	5 1/4	2 3/8							
	GH-400-1.5-*		1 1/2	6 1/4	2 7/8							
	GH-400-2.0-*		2	7 1/4	3 3/8							
	GH-400-2.5-*		2 1/2	8 1/4	3 7/8							
GH-400-3.0-*		3	9 1/4	4 3/8								

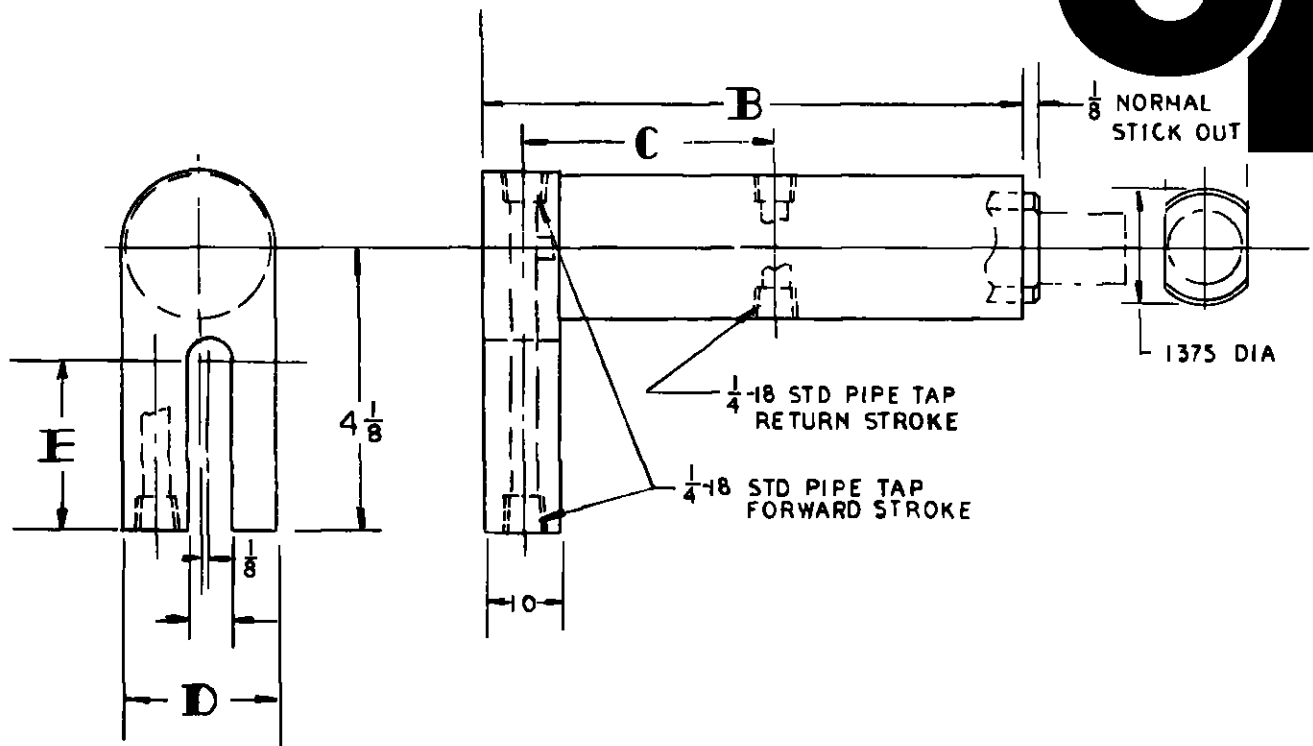
*NOTE Add piston rod end series number to model no. when ordering, such as "1", or "7", etc
Add "S" to Model No when 1 3/4" or 2" is needed



For each additional 1/2" of stroke longer than shown, add 1" to dimension B

EXAMPLE OF CODE					TABULATED DIMENSIONS				PISTON AREA		FORCE AT LINE PRESSURE PSI		
mng style	mfg std	nom sq in area	strk	rod end ser	B	C	D	E	FORWARD	RE-TURN	300	400	500
3	GH	100	15	See Note*									
BORE	MODEL NO		STROKE										
1 1/8 Single Piston	3-GH-100-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2 3/8	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	3-GH-100-1.0-*		1	5 1/4	2 3/8								
	3-GH-100-1.5-*		1 1/2	6 1/4	2 7/8								
	3-GH-100-2.0-*		2	7 1/4	3 3/8								
	3-GH-100-2.5-*		2 1/2	8 1/4	3 7/8								
1 5/8 Single Piston	3-GH-200-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2 3/8	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	3-GH-200-1.0-*		1	5 1/4	2 3/8								
	3-GH-200-1.5-*		1 1/2	6 1/4	2 7/8								
	3-GH-200-2.0-*		2	7 1/4	3 3/8								
	3-GH-200-2.5-*		2 1/2	8 1/4	3 7/8								
1 1/8 & 1 5/8 Tandem Dual Piston	3-GH-300-0.5-*		1/2	4 1/4	1 7/8	2	2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,500 lbs	
	3-GH-300-1.0-*		1	5 1/4	2 3/8								
	3-GH-300-1.5-*		1 1/2	6 1/4	2 7/8								
	3-GH-300-2.0-*		2	7 1/4	3 3/8								
	3-GH-300-2.5-*		2 1/2	8 1/4	3 7/8								
1 5/8 Dual Piston	3-GH-400-0.5-*		1/2	4 1/4	1 7/8	2	2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	3-GH-400-1.0-*		1	5 1/4	2 3/8								
	3-GH-400-1.5-*		1 1/2	6 1/4	2 7/8								
	3-GH-400-2.0-*		2	7 1/4	3 3/8								
	3-GH-400-2.5-*		2 1/2	8 1/4	3 7/8								
3-GH-400-3.0-*		3	9 1/4	4 3/8									

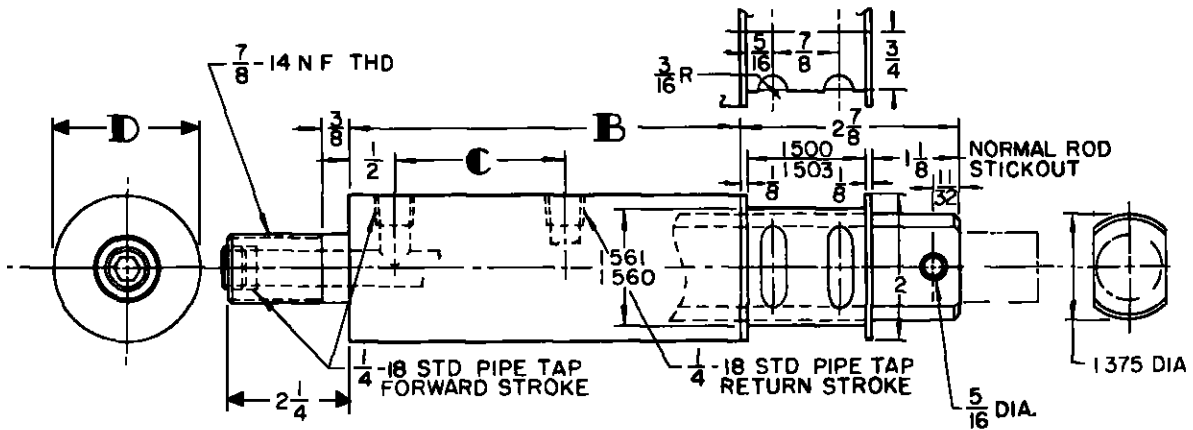
*NOTE Add piston rod end series number to model no. when ordering, such as "1", or "7", etc
Add "S" to Model No when 1 3/4" or 2" is needed



For each additional 1/2" of stroke longer than shown, add 1" to dimension B

EXAMPLE OF CODE					TABULATED DIMENSIONS				PISTON AREA		FORCE AT LINE PRESSURE PSI		
mfg style	mfg std	nom sq in area	strk	rod end ser	B	C	D	E	FORWARD	RE-TURN	300	400	500
3A	GH	100	1.5	See Note*									
BORE		MODEL NO		STROKE									
1 1/8 Single Piston	3A-GH-100-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2 3/8	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	3A-GH-100-1.0-*		1	5 1/4	2 3/8								
	3A-GH-100-1.5-*		1 1/2	6 1/4	2 7/8								
	3A-GH-100-2.0-*		2	7 1/4	3 3/8								
	3A-GH-100-2.5-*		2 1/2	8 1/4	3 7/8								
1 5/8 Single Piston	3A-GH-200-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2 3/8	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	3A-GH-200-1.0-*		1	5 1/4	2 3/8								
	3A-GH-200-1.5-*		1 1/2	6 1/4	2 7/8								
	3A-GH-200-2.0-*		2	7 1/4	3 3/8								
	3A-GH-200-2.5-*		2 1/2	8 1/4	3 7/8								
1 1/8 & 1 5/8 Tandem Dual Piston	3A-GH-300-0.5-*		1/2	4 1/4	1 7/8	2	2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,500 lbs	
	3A-GH-300-1.0-*		1	5 1/4	2 3/8								
	3A-GH-300-1.5-*		1 1/2	6 1/4	2 7/8								
	3A-GH-300-2.0-*		2	7 1/4	3 3/8								
	3A-GH-300-2.5-*		2 1/2	8 1/4	3 7/8								
1 5/8 Dual Piston	3A-GH-400-0.5-*		1/2	4 1/4	1 7/8	2	2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	3A-GH-400-1.0-*		1	5 1/4	2 3/8								
	3A-GH-400-1.5-*		1 1/2	6 1/4	2 7/8								
	3A-GH-400-2.0-*		2	7 1/4	3 3/8								
	3A-GH-400-2.5-*		2 1/2	8 1/4	3 7/8								
3A-GH-400-3.0-*		3	9 1/4	4 3/8									

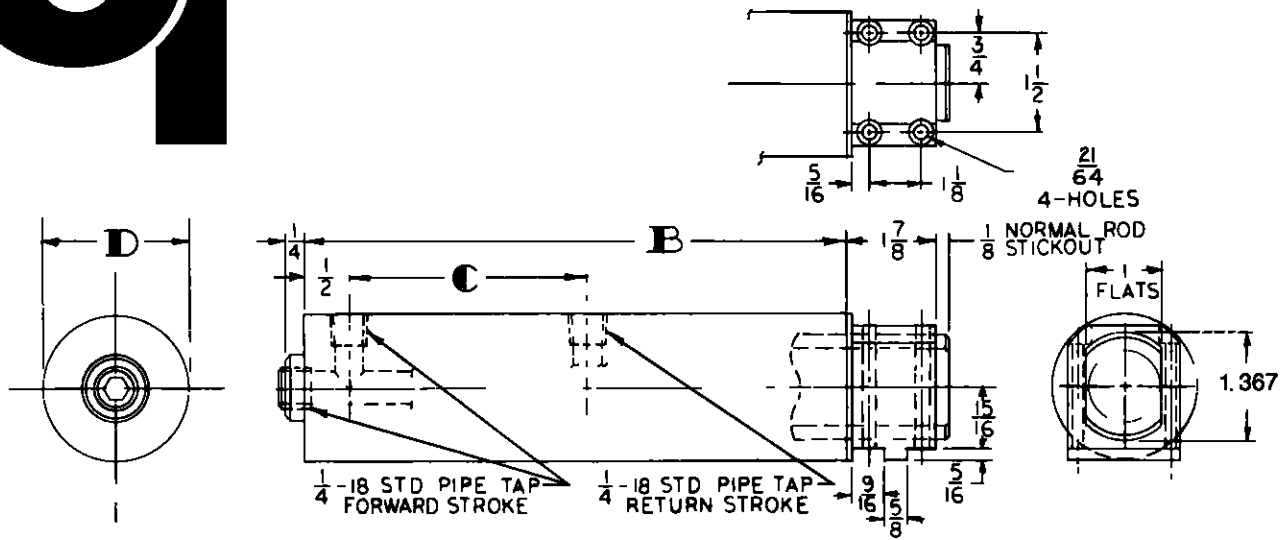
*NOTE Add piston rod end series number to model no. when ordering, such as "1", or "7", etc
Add "S" to Model No. when 1 3/4" or 2" is needed



For each additional 1/2" of stroke longer than shown, add 1" to dimension B

EXAMPLE OF CODE					TABULATED DIMENSIONS			PISTON AREA		FORCE AT LINE PRESSURE PSI		
mtng style	mtng std	nom sq in area	strk	rod end ser	B	C	D	FORWARD	RE-TURN	300	400	500
5 - GH - 100 - 15 - P*				See Note*								
BORE		MODEL NO		STROKE								
1 1/8 Single Piston	5-GH-100-0.5-P.*		1/2	4 1/4	17/8	1 3/4 or 2	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	5-GH-100-1.0-P.*		1	5 1/4	2 3/8							
	5-GH-100-1.5-P.*		1 1/2	6 1/4	2 7/8							
	5-GH-100-2.0-P.*		2	7 1/4	3 3/8							
	5-GH-100-2.5-P.*		2 1/2	8 1/4	3 7/8							
	5-GH-100-3.0-P.*		3	9 1/4	4 3/8							
1 5/8 Single Piston	5-GH-200-0.5-P.*		1/2	4 1/4	17/8	1 3/4 or 2	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	5-GH-200-1.0-P.*		1	5 1/4	2 3/8							
	5-GH-200-1.5-P.*		1 1/2	6 1/4	2 7/8							
	5-GH-200-2.0-P.*		2	7 1/4	3 3/8							
	5-GH-200-2.5-P.*		2 1/2	8 1/4	3 7/8							
	5-GH-200-3.0-P.*		3	9 1/4	4 3/8							
1 1/8 & 1 5/8 Tandem Dual Piston	5-GH-300-0.5-P.*		1/2	4 1/4	17/8	2 or 2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,500 lbs	
	5-GH-300-1.0-P.*		1	5 1/4	2 3/8							
	5-GH-300-1.5-P.*		1 1/2	6 1/4	2 7/8							
	5-GH-300-2.0-P.*		2	7 1/4	3 3/8							
	5-GH-300-2.5-P.*		2 1/2	8 1/4	3 7/8							
	5-GH-300-3.0-P.*		3	9 1/4	4 3/8							
1 5/8 Dual Piston	5-GH-400-0.5-P.*		1/2	4 1/4	17/8	2 or 2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	5-GH-400-1.0-P.*		1	5 1/4	2 3/8							
	5-GH-400-1.5-P.*		1 1/2	6 1/4	2 7/8							
	5-GH-400-2.0-P.*		2	7 1/4	3 3/8							
	5-GH-400-2.5-P.*		2 1/2	8 1/4	3 7/8							
	5-GH-400-3.0-P.*		3	9 1/4	4 3/8							

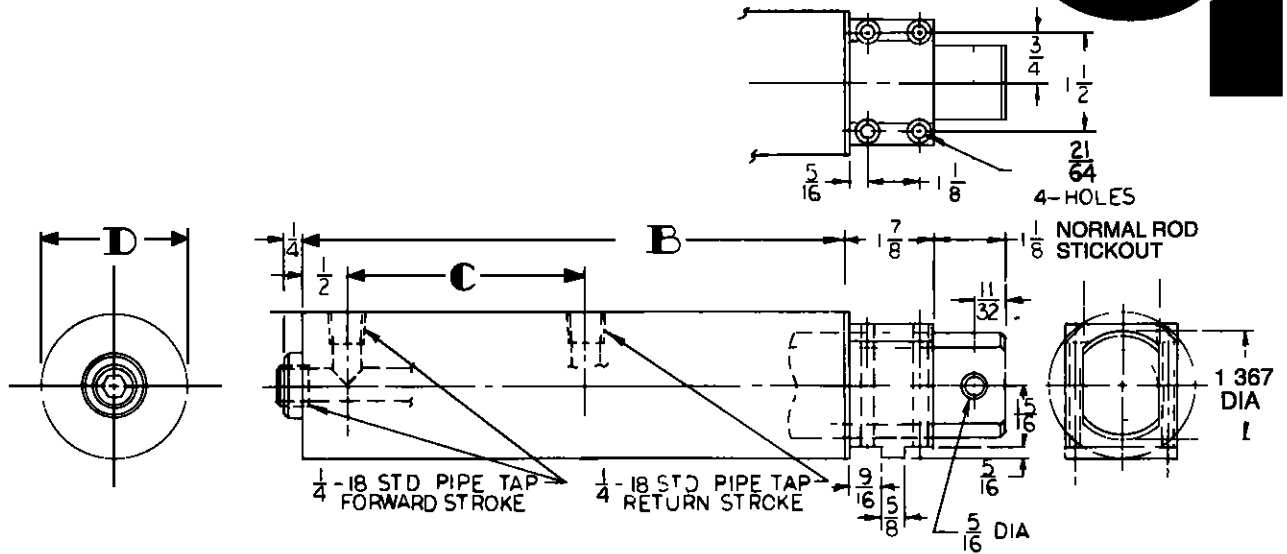
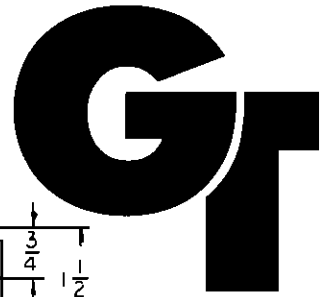
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For each additional 1/2" of stroke longer than shown, add 1" to dimension B

EXAMPLE OF CODE					TABULATED DIMENSIONS			PISTON AREA		FORCE AT LINE PRESSURE PSI		
mtng style	mfg std	nom sq in area	strk	rod end ser	B	C	D	FORWARD	RE-TURN	300	400	500
13HI - GH - 100 - 1.5 - See Note*												
BORE		MODEL NO		STROKE								
1 1/8 Single Piston	13HI-GH-100-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	13HI-GH-100-1.0-*		1	5 1/4	2 3/8							
	13HI-GH-100-1.5-*		1 1/2	6 1/4	2 7/8							
	13HI-GH-100-2.0-*		2	7 1/4	3 3/8							
	13HI-GH-100-2.5-*		2 1/2	8 1/4	3 7/8							
1 5/8 Single Piston	13HI-GH-200-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	13HI-GH-200-1.0-*		1	5 1/4	2 3/8							
	13HI-GH-200-1.5-*		1 1/2	6 1/4	2 7/8							
	13HI-GH-200-2.0-*		2	7 1/4	3 3/8							
	13HI-GH-200-2.5-*		2 1/2	8 1/4	3 7/8							
1 1/8 & 1 5/8 Tandem Dual Piston	13HI-GH-300-0.5-*		1/2	4 1/4	1 7/8	2 or 2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,600 lbs	
	13HI-GH-300-1.0-*		1	5 1/4	2 3/8							
	13HI-GH-300-1.5-*		1 1/2	6 1/4	2 7/8							
	13HI-GH-300-2.0-*		2	7 1/4	3 3/8							
	13HI-GH-300-2.5-*		2 1/2	8 1/4	3 7/8							
1 5/8 Dual Piston	13HI-GH-400-0.5-*		1/2	4 1/4	1 7/8	2 or 2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	13HI-GH-400-1.0-*		1	5 1/4	2 3/8							
	13HI-GH-400-1.5-*		1 1/2	6 1/4	2 7/8							
	13HI-GH-400-2.0-*		2	7 1/4	3 3/8							
	13HI-GH-400-2.5-*		2 1/2	8 1/4	3 7/8							
13HI-GH-400-3.0-*		3	9 1/4	4 3/8								

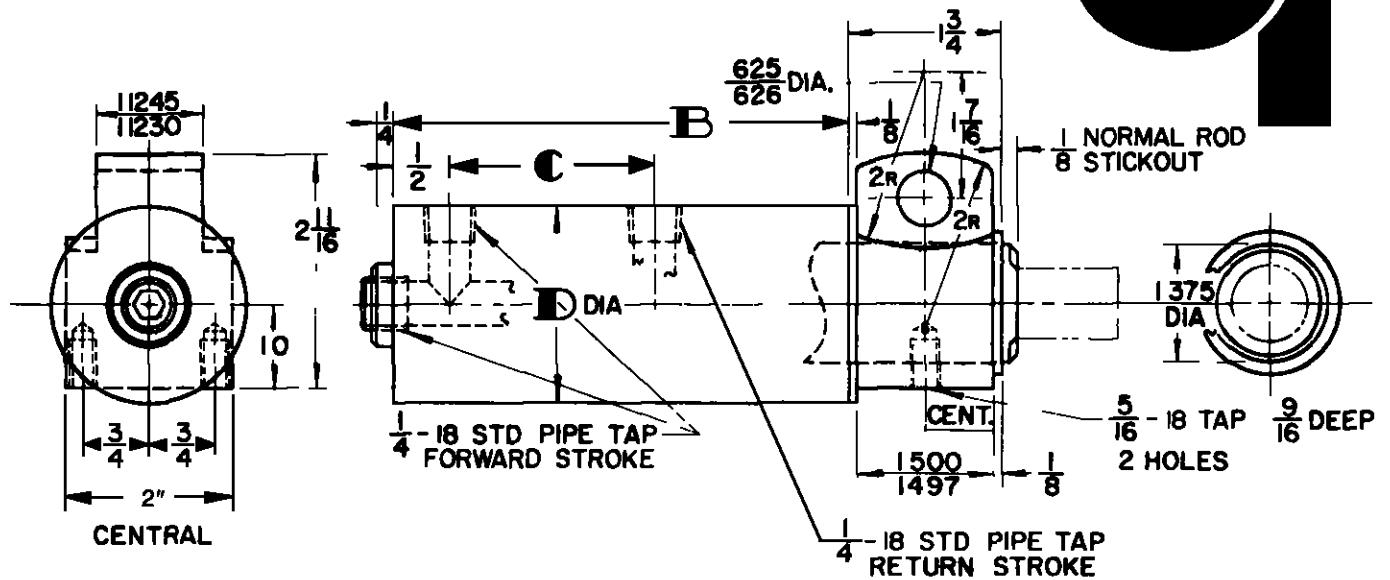
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Add "S" to Model No. when 1 3/4" or 2" is needed



For each additional 1/2" of stroke longer than shown, add 1" to dimension B

EXAMPLE OF CODE					TABULATED DIMENSIONS			PISTON AREA		FORCE AT LINE PRESSURE PSI		
mtng style	mfg std	nom sq in area	strk	rod end ser	B	C	D	FORWARD	RE-TURN	300	400	500
13HI	GH	100	1.5	P*								
BORE	MODEL NO		STROKE									
1 1/8 Single Piston	13HI-GH-100-0.5-P.*		1/2	4 1/4	17/8	1 3/4 or 2	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	13HI-GH-100-1.0-P.*		1	5 1/4	2 3/8							
	13HI-GH-100-1.5-P.*		1 1/2	6 1/4	2 7/8							
	13HI-GH-100-2.0-P.*		2	7 1/4	3 3/8							
	13HI-GH-100-2.5-P.*		2 1/2	8 1/4	3 7/8							
1 5/8 Single Piston	13HI-GH-200-0.5-P.*		1/2	4 1/4	17/8	1 3/4 or 2	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	13HI-GH-200-1.0-P.*		1	5 1/4	2 3/8							
	13HI-GH-200-1.5-P.*		1 1/2	6 1/4	2 7/8							
	13HI-GH-200-2.0-P.*		2	7 1/4	3 3/8							
	13HI-GH-200-2.5-P.*		2 1/2	8 1/4	3 7/8							
1 1/8 & 1 5/8 Tandem Dual Piston	13HI-GH-300-0.5-P.*		1/2	4 1/4	17/8	2 or 2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,500 lbs	
	13HI-GH-300-1.0-P.*		1	5 1/4	2 3/8							
	13HI-GH-300-1.5-P.*		1 1/2	6 1/4	2 7/8							
	13HI-GH-300-2.0-P.*		2	7 1/4	3 3/8							
	13HI-GH-300-2.5-P.*		2 1/2	8 1/4	3 7/8							
1 5/8 Dual Piston	13HI-GH-400-0.5-P.*		1/2	4 1/4	17/8	2 or 2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	13HI-GH-400-1.0-P.*		1	5 1/4	2 3/8							
	13HI-GH-400-1.5-P.*		1 1/2	6 1/4	2 7/8							
	13HI-GH-400-2.0-P.*		2	7 1/4	3 3/8							
	13HI-GH-400-2.5-P.*		2 1/2	8 1/4	3 7/8							
13HI-GH-400-3.0-P.*		3	9 1/4	4 3/8								

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Add "S" to Model No. when 1 3/4" or 2" is needed



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EXAMPLE OF CODE					TABULATED DIMENSIONS			PISTON AREA		FORCE AT LINE PRESSURE PSI		
mtng style	mfg std	nom sq in area	strk	rod end ser	B	C	D	FOR- WARD	RE- TURN	300	400	500
20B	GH	100	1.5	See Note*								
BORE	MODEL NO		STROKE									
1 1/8 Single Piston	20B-GH-100-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	1.00 sq in	.688 sq in	300 lbs	400 lbs	500 lbs	
	20B-GH-100-1.0-*		1	5 1/4	2 3/8							
	20B-GH-100-1.5-*		1 1/2	6 1/4	2 7/8							
	20B-GH-100-2.0-*		2	7 1/4	3 3/8							
	20B-GH-100-2.5-*		2 1/2	8 1/4	3 7/8							
20B-GH-100-3.0-*		3	9 1/4	4 3/8								
1 5/8 Single Piston	20B-GH-200-0.5-*		1/2	4 1/4	1 7/8	1 3/4 or 2	2.00 sq in	1.767 sq in	600 lbs	800 lbs	1,000 lbs	
	20B-GH-200-1.0-*		1	5 1/4	2 3/8							
	20B-GH-200-1.5-*		1 1/2	6 1/4	2 7/8							
	20B-GH-200-2.0-*		2	7 1/4	3 3/8							
	20B-GH-200-2.5-*		2 1/2	8 1/4	3 7/8							
20B-GH-200-3.0-*		3	9 1/4	4 3/8								
1 1/8 & 1 5/8 Tandem Dual Piston	20B-GH-300-0.5-*		1/2	4 1/4	1 7/8	2 or 2 3/8	3.00 sq in	.688 sq in	900 lbs	1,200 lbs	1,500 lbs	
	20B-GH-300-1.0-*		1	5 1/4	2 3/8							
	20B-GH-300-1.5-*		1 1/2	6 1/4	2 7/8							
	20B-GH-300-2.0-*		2	7 1/4	3 3/8							
	20B-GH-300-2.5-*		2 1/2	8 1/4	3 7/8							
20B-GH-300-3.0-*		3	9 1/4	4 3/8								
1 5/8 Dual Piston	20B-GH-400-0.5-*		1/2	4 1/4	1 7/8	2 or 2 3/8	4.00 sq in	1.767 sq in	1,200 lbs	1,600 lbs	2,000 lbs	
	20B-GH-400-1.0-*		1	5 1/4	2 3/8							
	20B-GH-400-1.5-*		1 1/2	6 1/4	2 7/8							
	20B-GH-400-2.0-*		2	7 1/4	3 3/8							
	20B-GH-400-2.5-*		2 1/2	8 1/4	3 7/8							
20B-GH-400-3.0-*		3	9 1/4	4 3/8								

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