Industrial cylinder

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Industrial cylinder

HOW TO ORDER YOUR MAILHOT CYLINDER

ORDER CODE ASSEMBLY

MH ☐ - ☐ - ☐ - ☐ - ☐ - ☐

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2	SERIES
20	150 lb/in.^{2}(air)
22	3000 lb/in.^{2}(hydraulic)

3	CYLINDER BORE
1.50	1 1/2
2.00	2
2.50	2 1/2
3.00	3
3.25	3 1/4
3.50	3 1/2
4.00	4
4.50	4 1/2
5.00	5
6.00	6
7.00	7
8.00	8
9.00	9
10.0	10
12.0	12

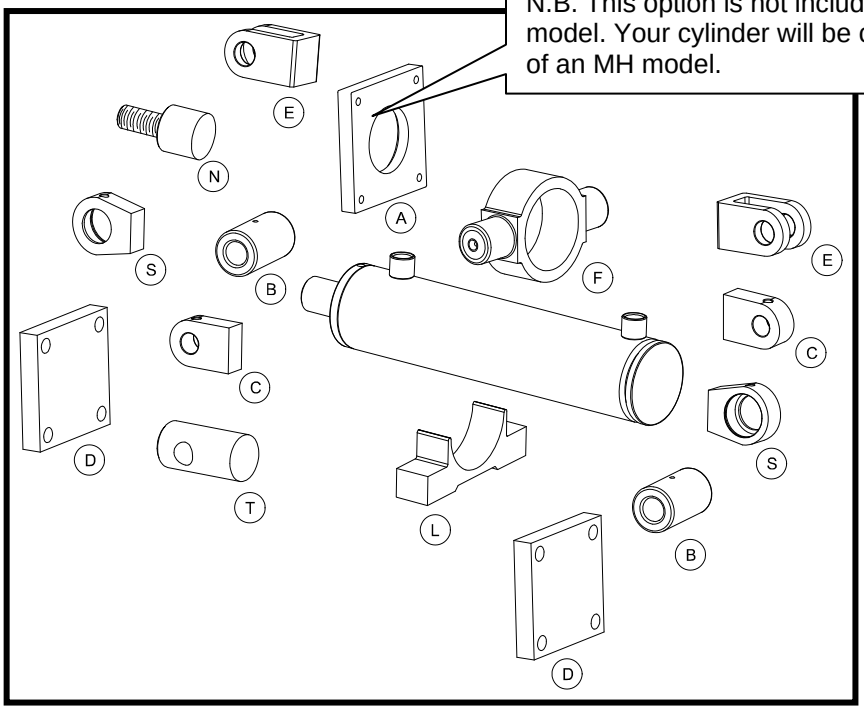
4	STROKE LENGTH
XXX	From 0” to 240”

5 & 6	CUSHIONS
C	OPTION 5: FRONT CUSHION OPTION 6: REAR CUSHION

MOUNTINGS

N.B. This option is not included in a standard model. Your cylinder will be coded SM instead of an MH model.

ROD SIDE



TUBE SIDE

Industrial cylinder

HOW TO ORDER YOUR MAILHOT CYLINDER

APPLICATION ADDITIONAL INFORMATION
(NEEDED INFORMATION TO CUSTOMIZE YOUR CYLINDER)

GENERAL

APPLICATION ☐ Double acting ☐ single acting
☐ Mobile ☐ Forestry ☐ Plant ☐ Snow ☐ Other: _____

Working mode ☐ pushing LOAD _____ ☐ pulling LOAD _____

Working pressure _____ PSI

Oil type ☐ Hydraulic ☐ Other _____

Cylinder installation ☐ Horizontal ☐ Vertical ☐ Oblique _____ °

Replacement cylinder ☐ No ☐ Yes Description: _____

Prototype cylinder ☐ No ☐ Yes

ENVIRONMENT

☐ Salty Air ☐ Submerged ☐ Mine ☐ Other _____

CONSTRAINTS

Vibrations ☐ Yes ☐ No **Temperature** _____

Speed _____ **Cycles** _____

Dynamic load _____ **Side load** _____

ANTICORROSIVE PROTECTION

Quenched ☐ QP ☐ QPQ

Chromed shaft ☐ 0.001" Cr ☐ 0.002" Cr ☐ 0.003" Cr

Others ☐ Stainless steel rod ☐ Chromed stainless steel rod

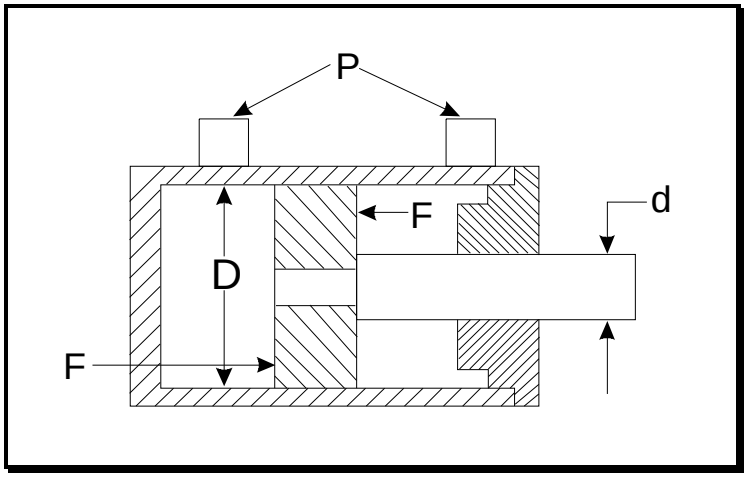
PAINT

☐ No paint ☐ Oiled ☐ Gray primer ☐ Black primer

Industrial cylinder

COMPONENT MATERIAL SPECIFICATIONS

The following formulas* are useful to determine data when choosing a Mailhot Industries Inc. cylinder.



Variables: F = Force (lbs.)
P = Pressure (P.S.I.)
A = Area (Sq.in.)

Starting with those variables and if one is unknown, it is possible to calculate this unknown data with one of the following formulas:

If unknown is F then P X A
If unknown is P then F ÷ A
If unknown is A then F ÷ P

Extension area calculation: $A = 0.7854 \times D^2$
Retraction area calculation: $A = 0.7854 \times (D^2 - d^2)$

Cylinder speed calculation: $\frac{231 \times G.P.M.}{A} = In./min.$

Example: For a 4" diameter cylinder (bore) fed with a 7 G.P.M. pump, speed calculation is as follows:

$$\frac{231 \times 7}{12.5664} = 128.67 \text{ In. min.}$$

*The preceding formulas are only for guiding purposes. For more detailed capacities of the Mailhot Industries Inc. cylinders, we invite you to communicate with your Mailhot representative at one of the phone numbers appearing at the back of this brochure.

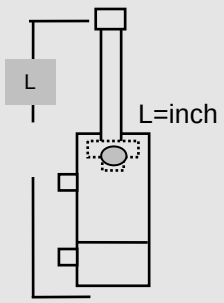
ROD DIMENSIONAL GUIDE

THRUST (LBS)	ROD DIAMETER											
	3/4	1 1/4	1 1/2	1 3/4	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2
50	62											
100	55	112										
200	47	99										
300	44	88	142									
500	38	75	130	180								
750	28	70	122	170	198	272						
1,000	15	60	103	156	191	258	332					
1,250	21	52	94	140	183	251	316	400				
1,500	19	50	92	136	168	240	300	390				
2,000	15	43	81	113	150	229	291	360	430	500		
4,000	12	31	62	96	120	170	252	309	380	445		
6,000		25	52	80	100	160	197	262	346	407	478	
8,000		22	45	75	99	134	189	230	310	372	445	
10,000		21	40	67	89	121	173	210	268	334	410	480
20,000			27	48	63	104	142	171	216	275	330	375
30,000				40	51	81	115	155	204	233	273	320
40,000				30	45	70	99	135	176	225	242	292
50,000					35	62	90	121	162	198	234	260
60,000						56	82	103	144	181	225	254
70,000						48	74	96	133	168	208	246
80,000						43	70	90	125	157	200	234
90,000						37	66	84	119	149	185	225
100,000							60	76	112	141	172	212
125,000							48	64	100	125	155	190
150,000								55	91	115	141	174
200,000									69	100	124	150
250,000										80	110	134
300,000											100	121
350,000											80	105
400,000												85

Maximum length in inches

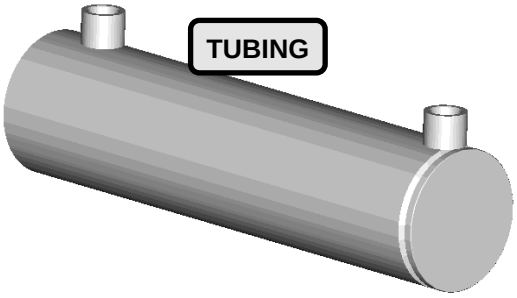
This table helps to determine the MAXIMUM length (L) of a cylinder, rod included (see drawing below) when the thrust and the cylinder rod diameter are known.

This table contains all main rod diameters of our cylinders. However, it is possible that some diameters are not shown but are available.



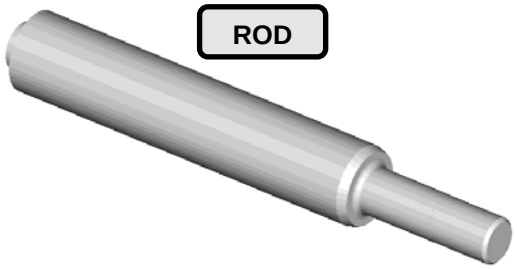
Industrial cylinder

TUBING



- D.O.M. (ST 52.3) tubing, ASTM A-513 standard
- Inner surface finish of 15-25 R.M.S.
- Yield at 75 K.S.I.
- Tensile at 85 K.S.I.

ROD



- Material: C-1045, ASTM A-108 standard
- Surface finish: 10-15 R.M.S.
- Minimal yield: 95 K.S.I.
- Tensile: 105 K.S.I.
- Rod finish: Inducted grounded chrome, chrome plated for a minimal thickness of .001 or salt nitrided QP® or QPQ®

HEAD & PISTON

- ASTM A-536 standard
- “Ductile” casting (continuously cast iron bar)
- Yield at 45,000 lb/in²
- Tensile at 60,000 lb/in²

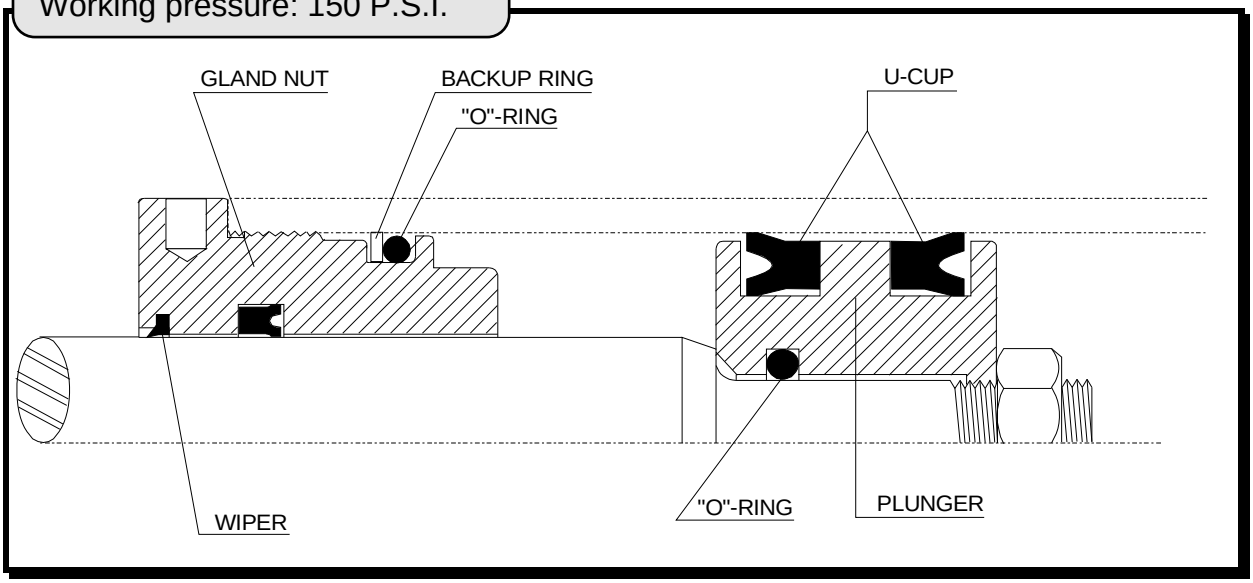
For more than 40 years, Mailhot Industries has manufactured and exported cylinders worldwide. We have developed leading-edge expertise to answer the needs of our customers, providing a full range of standard or customized products that meet specific applications or specialized characteristics and adapt to variable weather conditions.

Our industrial-type cylinders are manufactured according to the strictest criteria, using only top quality materials for a superior product supported with a parts and labor warranty. The high steel content of our cylinders means you benefit from all the mechanical properties and consistency of raw materials.

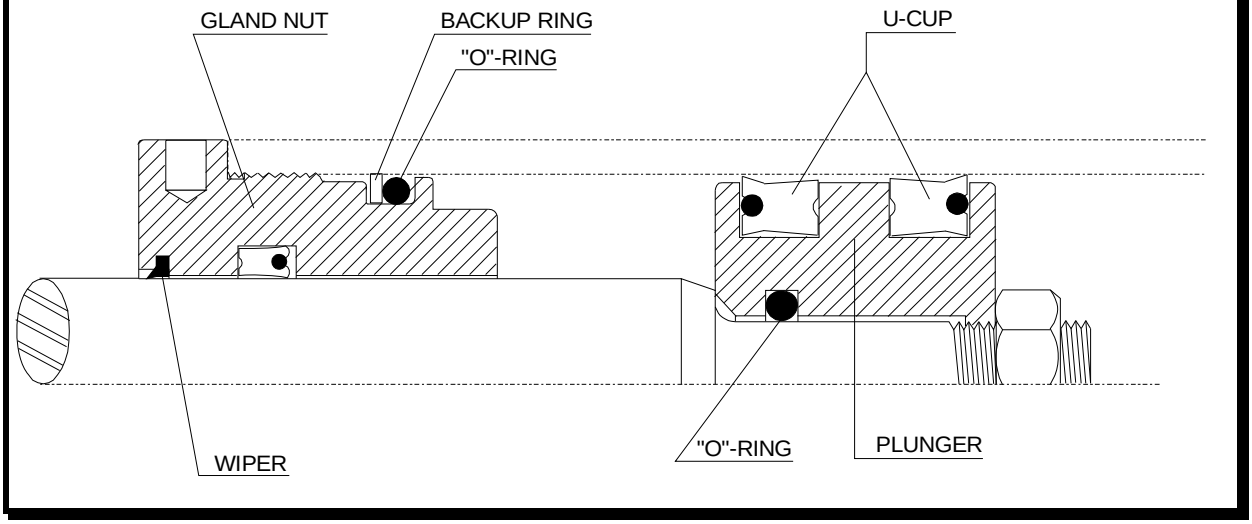
Finally, all our cylinder components are treated with salt nitrite for outstanding corrosion resistance when compared to conventional materials.

INTERNAL CONFIGURATION OF OUR CYLINDERS

No. 20 series
Air cylinder
Working pressure: 150 P.S.I.



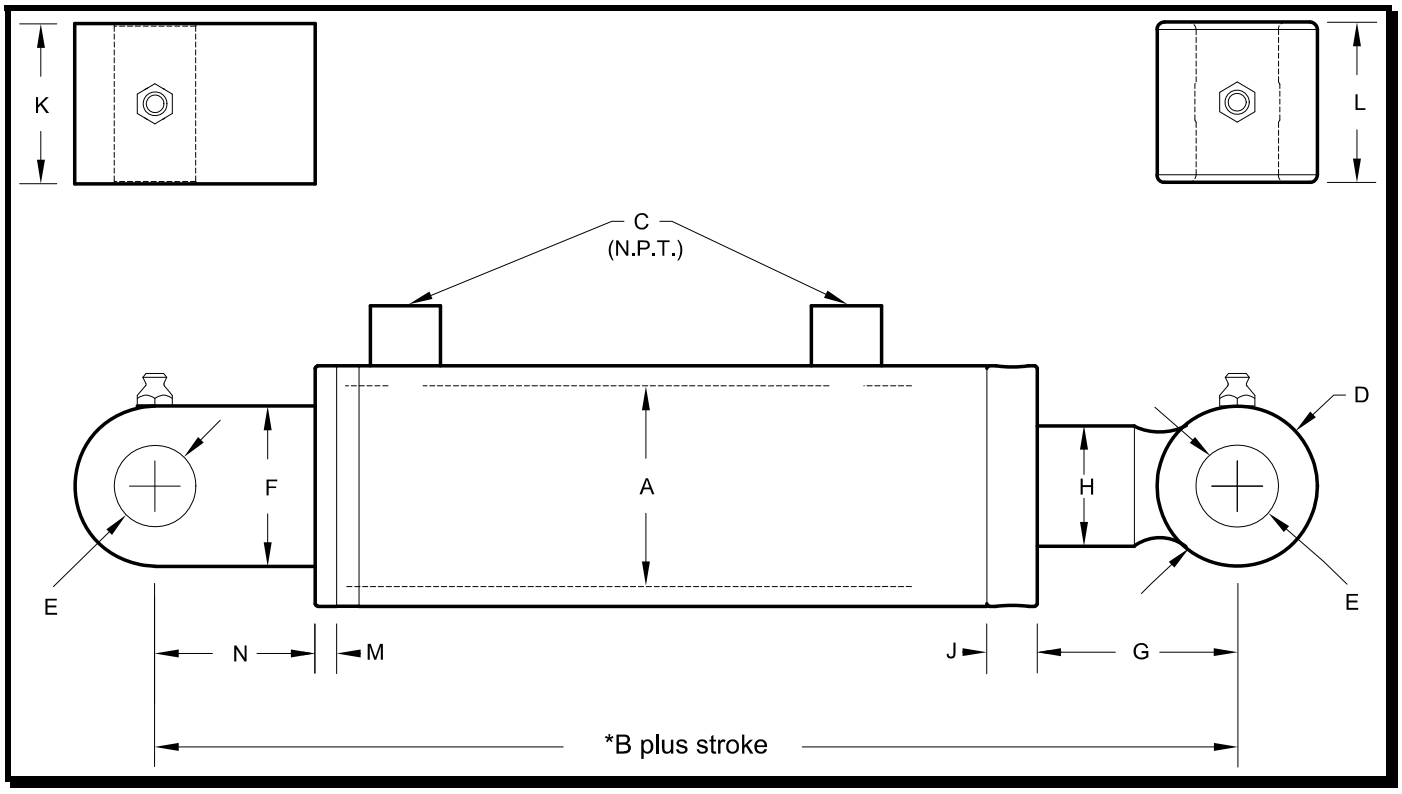
No. 22 series
Hydraulic cylinder
Working pressure: 3000 P.S.I.



MAILHOT INDUSTRIES

Industrial cylinder

Model MH-1



SPECIFICATIONS

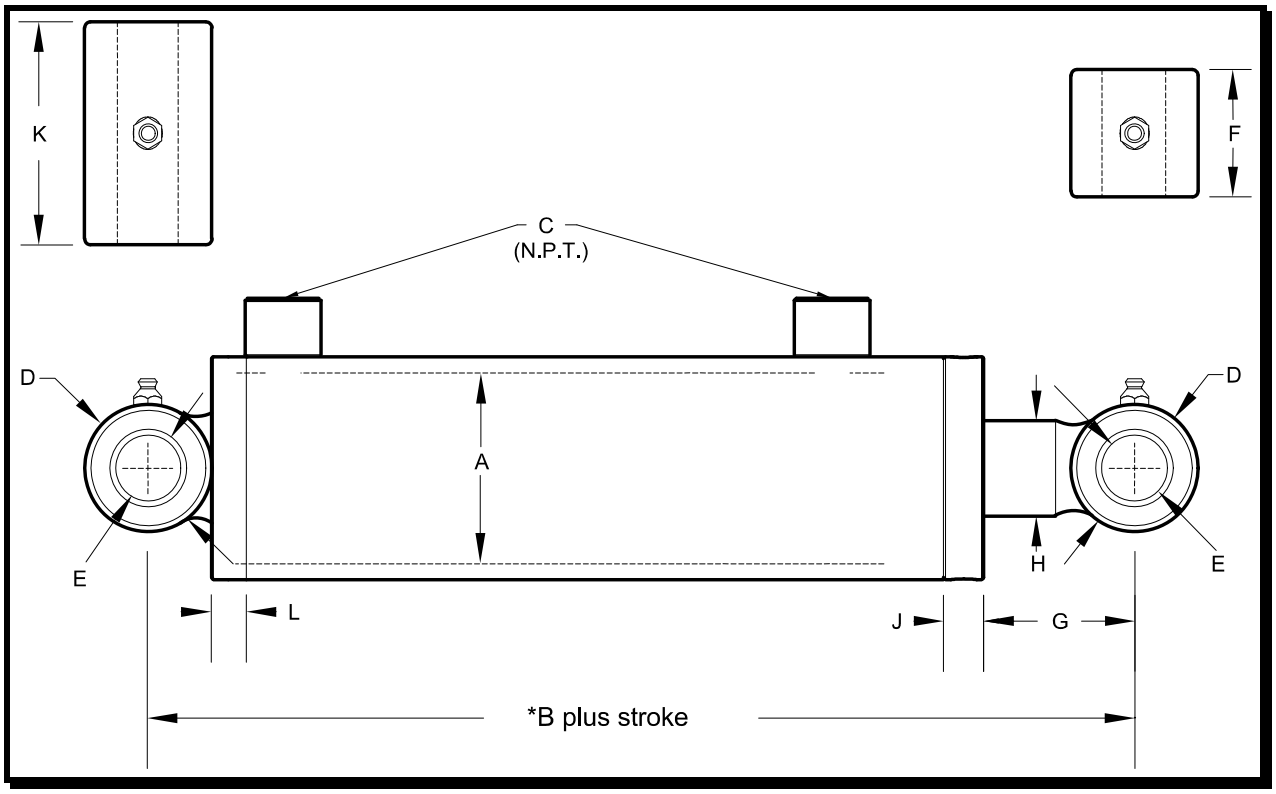
A	*B	C	D	E	F	G	H	J	K	L	M	N
1 1/2	7 3/4	3/8	1 1/2	3/4	1 1/2	1 5/8	3/4	3/8	3/4	1 1/2	1/4	1 3/4
2	10 1/2	3/8	2	1	2	2 1/2	1 1/4	5/8	1	2	1/2	2
2 1/2	10 1/2	3/8	2	1	2	2 1/2	1 1/2	5/8	2	2	1/2	2
3	10 1/2	1/2	2	1	2	2 3/8	1 1/2	5/8	2	2	1/2	2
3 1/4	10 5/8	1/2	2 1/4	1 1/4	2 1/2	2 1/2	1 1/2	5/8	2	2	1/2	2
3 1/2	10 5/8	1/2	2 1/4	1 1/4	2 1/2	2 1/2	1 3/4	5/8	2	2	1/2	2
4	11 1/2	1/2	2 1/2	1 1/2	3	2 5/8	2	5/8	2	2 1/4	1/2	2 1/4
4 1/2	12 1/2	3/4	2 1/2	1 1/2	3	2 5/8	2	5/8	2	2 1/2	1/2	2 1/4
5	14	3/4	3	2	4	2 7/8	2 1/2	5/8	2 1/2	3	3/4	2 3/4
6	14 3/4	1	3	2	4	2 7/8	2 1/2	5/8	2 1/2	3 1/2	3/4	3
7	16 3/4	1	4	2 1/2	5	3 7/8	3	5/8	3	4	1	3 1/4
8	16 1/2	1	4	2 3/4	5	3 7/8	4	5/8	3	4	1 1/4	3 1/4
9	17 3/4	1	4 1/2	3	6	4	4	1 1/4	3	5	1 1/2	3 1/2
10	18 1/4	1 1/4	4 1/2	3	6	4	5	1 1/4	4	6	2	3 1/2
12	21 1/4	1 1/2	5	3 1/2	6 1/2	4 1/2	5	1 1/4	4	6	2 1/4	4

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-2



SPECIFICATIONS

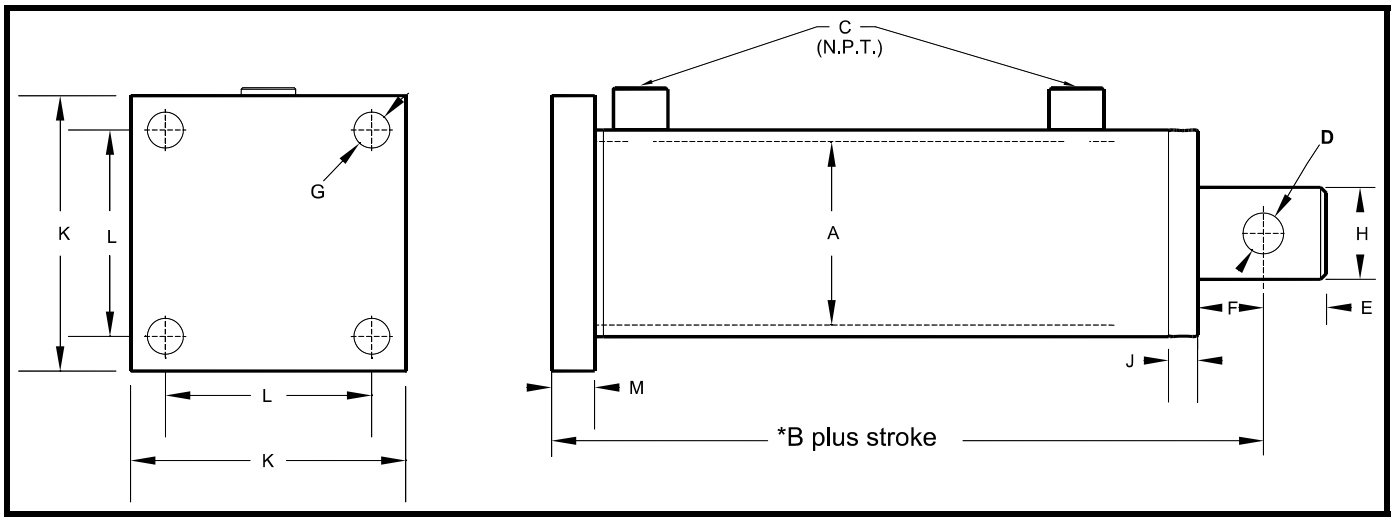
A	*B	C	D	E	F	G	H	J	K	L
1 1/2	6 3/4	3/8	1 1/2	3/4	1 1/2	1 5/8	3/4	3/8	2	1/4
2	9 1/2	3/8	2	1	2	2 1/2	1 1/4	5/8	2 1/2	1/2
2 1/2	9 1/2	3/8	2	1	2	2 1/2	1 1/2	5/8	3	1/2
3	9 1/2	1/2	2	1	2	2 3/8	1 1/2	5/8	3 1/2	1/2
3 1/4	9 3/4	1/2	2 1/4	1 1/4	2	2 1/2	1 1/2	5/8	3 3/4	1/2
3 1/2	9 3/4	1/2	2 1/4	1 1/4	2	2 1/2	1 3/4	5/8	4	1/2
4	10 1/2	1/2	2 1/2	1 1/2	2 1/4	2 5/8	2	5/8	4 1/2	1/2
4 1/2	11 1/2	3/4	2 1/2	1 1/2	2 1/2	2 5/8	2	5/8	5	1/2
5	12 3/4	3/4	3	2	3	2 7/8	2 1/2	5/8	5 3/4	3/4
6	13 1/4	1	3	2	3 1/2	2 7/8	2 1/2	5/8	6 3/4	3/4
7	15 1/2	1	4	2 1/2	4	3 7/8	3	5/8	7 3/4	1
8	15 3/4	1	4	2 3/4	4	3 7/8	4	5/8	9	1 1/4
9	16 1/2	1	4 1/2	3	5	4	4	1 1/4	10 1/2	1 1/2
10	17	1 1/4	4 1/2	3	6	4	5	1 1/4	12	2
12	19 3/4	1 1/2	5	3 1/2	6	4 1/2	5	1 1/4	14	2 1/4

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-3



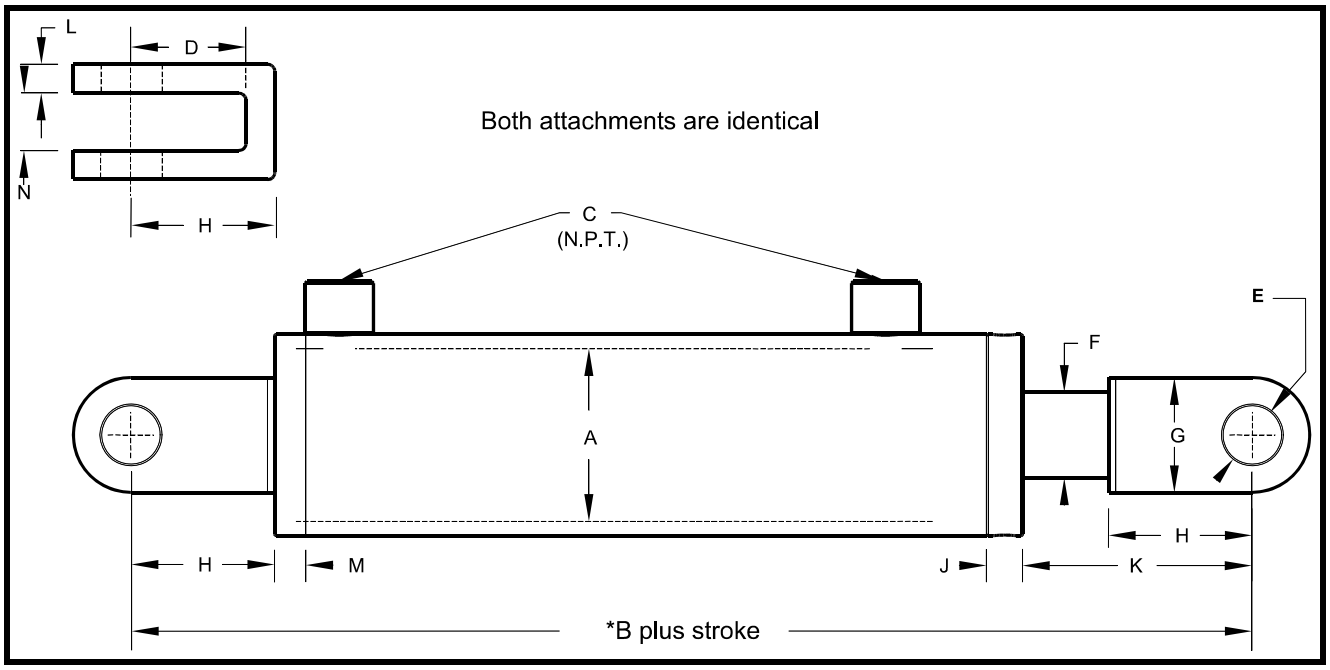
SPECIFICATIONS

A	*B	C	D	E	F	G	H	J	K	L	M
1 1/2	5 1/4	3/8	3/8	5/8	9/16	3/8	3/4	3/8	3	2 1/4	5/16
2	7	3/8	1/2	3/4	13/16	7/16	1 1/4	5/8	3 1/2	2 5/8	11/16
2 1/2	7 3/8	3/8	5/8	1	1 3/16	1/2	1 1/2	5/8	4 1/4	3 1/4	11/16
3	7 1/2	1/2	5/8	1	1 3/16	5/8	1 1/2	5/8	5	3 3/4	11/16
3 1/4	7 1/2	1/2	5/8	1	1 3/16	5/8	1 1/2	5/8	5	3 3/4	11/16
3 1/2	8 1/4	1/2	3/4	1 1/8	1 3/16	3/4	1 3/4	5/8	5 1/2	4 1/4	15/16
4	8 3/4	1/2	7/8	1 3/8	1 7/16	3/4	2	5/8	6	4 1/2	15/16
4 1/2	9 1/2	3/4	7/8	1 3/8	1 7/16	7/8	2	5/8	7	5	15/16
5	10 5/8	3/4	1	1 1/2	1 13/16	7/8	2 1/2	5/8	7 1/2	5 1/2	1 3/16
6	11 1/2	1	1 1/4	2	2 3/16	1	2 1/2	5/8	8 1/2	6 1/2	1 3/16
7	12 1/2	1	1 1/2	2	2 3/16	1 1/4	3	5/8	10	7 1/2	1 11/16
8	12 7/8	1	1 3/4	2 3/4	2 9/16	1 1/2	4	5/8	12	9	1 11/16
9	14 1/2	1	1 3/4	2 3/4	2 9/16	1 3/4	4	1 1/4	14	10 1/2	2 7/16
10	16	1 1/4	2	3	3 5/16	1 3/4	5	1 1/4	15	11 1/2	2 7/16
12	18 5/8	1 1/2	2 1/4	3 1/4	3 3/4	2	5	1 1/4	17	13 1/2	2 7/8

All dimensions are in inches.

Industrial cylinder

Model MH-4



SPECIFICATIONS

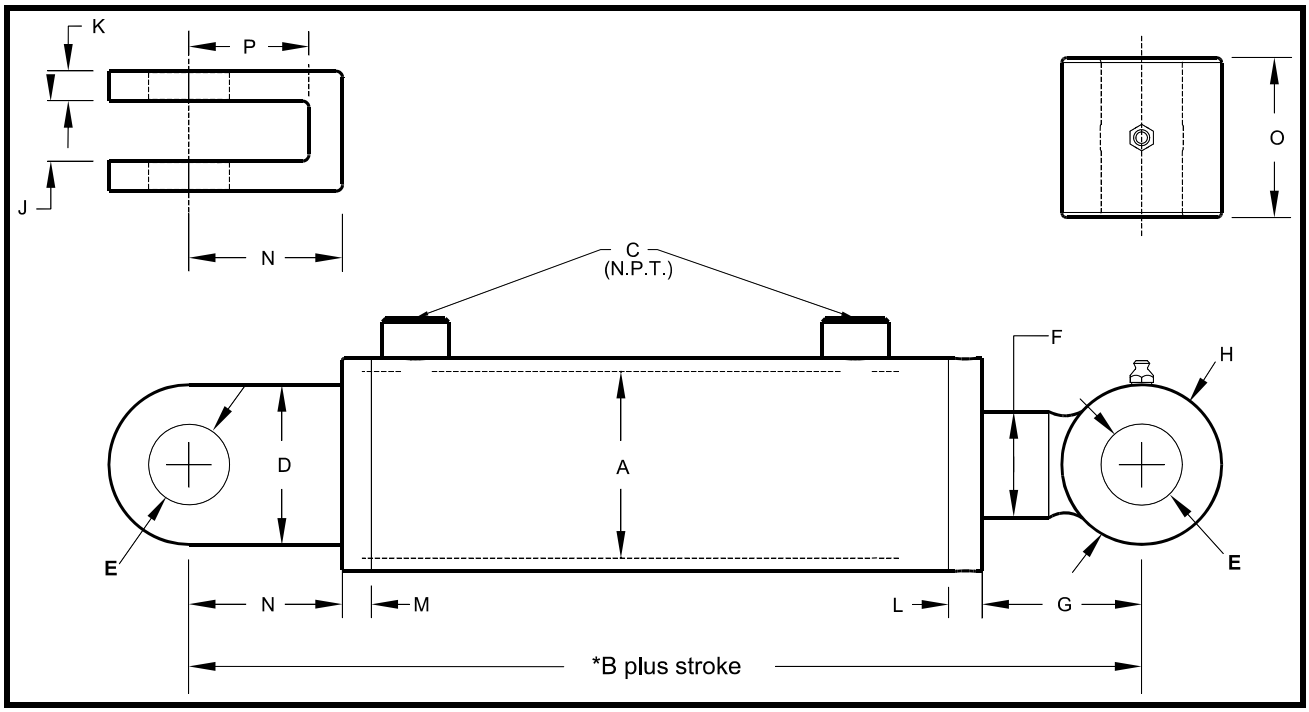
A	*B	C	D	E	F	G	H	J	K	L	M	N
1 1/2	9 1/2	3/8	1 3/4	3/4	3/4	1 1/2	2 1/8	3/8	3	3/8	1/4	3/4
2	12 1/2	3/8	2	1	1 1/4	2	2 1/2	5/8	4	1/2	1/2	1
2 1/2	12 1/2	3/8	2	1	1 1/2	2	2 1/2	5/8	4	1/2	1/2	1
3	12 1/2	1/2	2	1	1 1/2	2	2 1/2	5/8	3 7/8	1/2	1/2	1
3 1/4	12 1/2	1/2	2	1 1/4	1 1/2	2 1/2	2 1/2	5/8	3 7/8	1/2	1/2	1
3 1/2	12 1/2	1/2	2	1 1/4	1 3/4	2 1/2	2 1/2	5/8	3 7/8	1/2	1/2	1
4	13 3/4	1/2	2 1/4	1 1/2	2	3	2 7/8	5/8	4 1/4	5/8	1/2	1 1/4
4 1/2	14 3/4	3/4	2 1/4	1 1/2	2	3	2 7/8	5/8	4 1/4	5/8	1/2	1 1/4
5	16 3/4	3/4	2 3/4	2	2 1/2	4	3 1/2	5/8	4 7/8	3/4	3/4	1 1/4
6	17 3/4	1	3	2	2 1/2	4	3 3/4	5/8	5 1/8	3/4	3/4	1 1/2
7	20	1	3 1/4	2 1/2	3	5	4 1/4	5/8	6 1/8	1	1	1 3/4
8	20 1/4	1	3 1/4	2 3/4	4	5	4 1/4	5/8	6 1/8	1	1 1/4	2
9	21 1/2	1	3 1/2	3	4	6	4 3/4	1 1/4	6 1/2	1 1/2	1 1/2	2 1/2
10	22 1/2	1 1/4	3 1/2	3	5	6	5	1 1/4	6 3/4	1 1/2	2	3
12	26	1 1/2	4	3 1/2	5	6 1/2	5 3/4	1 1/4	7 1/2	1 3/4	2 1/4	3 1/2

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-5



SPECIFICATIONS

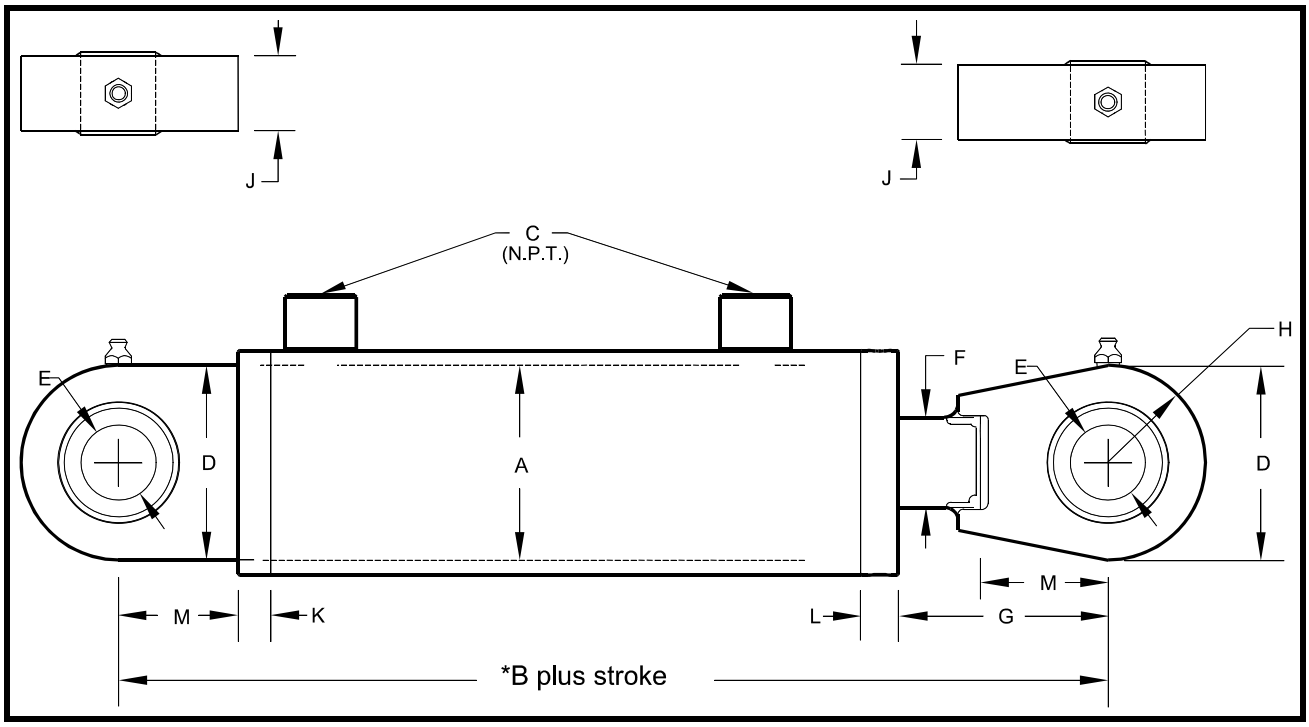
A	*B	C	D	E	F	G	H	J	K	L	M	N	O	P
1 1/2	8 1/8	3/8	1 1/2	3/4	3/4	1 5/8	1 1/2	3/4	3/8	3/8	1/4	2 1/8	1 1/2	1 3/4
2	11	3/8	2	1	1 1/4	2 1/2	2	1	1/2	5/8	1/2	2 1/2	2	2
2 1/2	11	3/8	2	1	1 1/2	2 1/2	2	1	1/2	5/8	1/2	2 1/2	2	2
3	11	1/2	2	1	1 1/2	2 3/8	2	1	1/2	5/8	1/2	2 1/2	2	2
3 1/4	11 1/8	1/2	2 1/2	1 1/4	1 1/2	2 1/2	2 1/4	1	1/2	5/8	1/2	2 1/2	2	2
3 1/2	11 1/8	1/2	2 1/2	1 1/4	1 3/4	2 1/2	2 1/4	1	1/2	5/8	1/2	2 1/2	2	2
4	12 1/8	1/2	3	1 1/2	2	2 5/8	2 1/2	1 1/4	5/8	5/8	1/2	2 7/8	2 1/4	2 1/4
4 1/2	13 1/8	3/4	3	1 1/2	2	2 5/8	2 1/2	1 1/4	5/8	5/8	1/2	2 7/8	2 1/2	2 1/4
5	14 3/4	3/4	4	2	2 1/2	2 7/8	3	1 1/4	3/4	5/8	3/4	3 1/2	3	2 3/4
6	15 1/2	1	4	2	2 1/2	2 7/8	3	1 1/2	3/4	5/8	3/4	3 3/4	3 1/2	3
7	17 3/4	1	5	2 1/2	3	3 7/8	4	1 3/4	1	5/8	1	4 1/4	4	3 1/4
8	17 1/2	1	5	2 3/4	4	3 7/8	4	2	1	5/8	1 1/4	4 1/4	4	3 1/4
9	19	1	6	3	4	4	4 1/2	2 1/2	1 1/2	1 1/4	1 1/2	4 3/4	5	3 1/2
10	19 3/4	1 1/4	6	3	5	4	4 1/2	3	1 1/2	1 1/4	2	5	6	3 1/2
12	23	1 1/2	6 1/2	3 1/2	5	4 1/2	5	3 1/2	1 3/4	1 1/4	2 1/4	5 3/4	6	4

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-6



SPECIFICATIONS

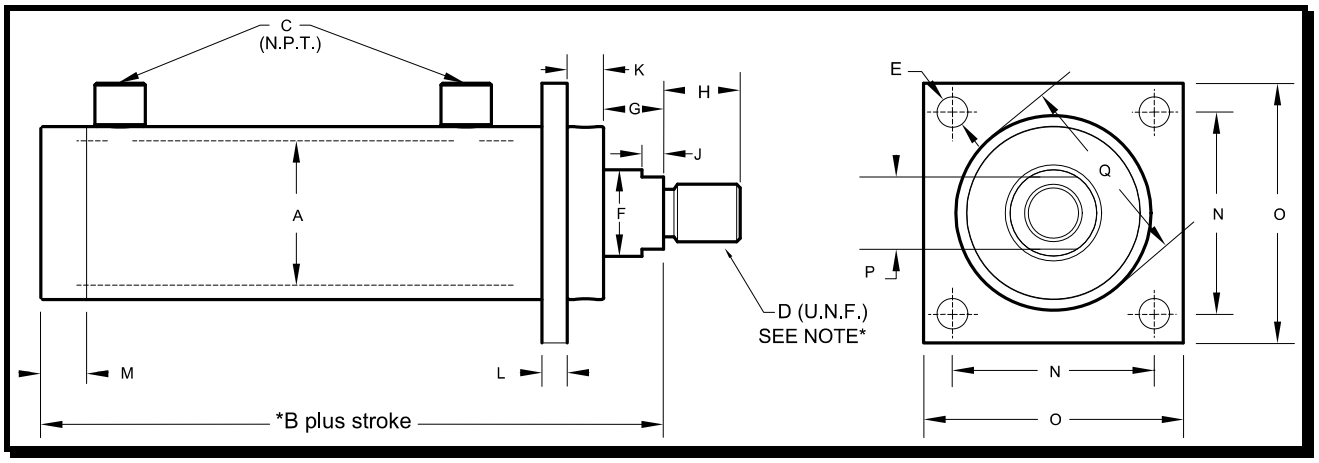
A	*B	C	D	E	F	G	H	J	K	L	M
1 1/2	8 3/4	3/8	2	3/4	3/4	2 5/8	1	7/8	1/4	3/8	1 3/4
2	11 1/2	3/8	2 3/4	1	1 1/4	3 1/2	1 3/8	1 1/8	1/2	5/8	2
2 1/2	11 1/2	3/8	2 3/4	1	1 1/2	3 1/2	1 3/8	1 1/8	1/2	5/8	2
3	11 1/2	1/2	2 3/4	1	1 1/2	3 3/8	1 3/8	1 1/8	1/2	5/8	2
3 1/4	11 1/2	1/2	3 1/4	1 1/4	1 1/2	3 3/8	1 5/8	1 1/4	1/2	5/8	2
3 1/2	11 1/2	1/2	3 1/4	1 1/4	1 3/4	3 3/8	1 5/8	1 1/4	1/2	5/8	2
4	12 1/2	1/2	3 3/4	1 1/2	2	3 5/8	1 7/8	1 1/2	1/2	5/8	2 1/4
4 1/2	13 1/2	3/4	3 3/4	1 1/2	2	3 5/8	1 7/8	1 1/2	1/2	5/8	2 1/4
5	15 1/4	3/4	5	2	2 1/2	4 1/8	2 1/2	2	3/4	5/8	2 3/4
6	16 1/4	1	5	2	2 1/2	4 3/8	2 1/2	2	3/4	5/8	3
7	18	1	6 1/4	2 1/2	3	5 1/8	3 1/8	2 1/2	1	5/8	3 1/4
8	17 3/4	1	6 3/4	2 3/4	4	5 1/8	3 3/8	2 3/4	1 1/4	5/8	3 1/4
9	19	1	7 1/2	3	4	5 1/4	3 3/4	3	1 1/2	1 1/4	3 1/2
10	19 1/2	1 1/4	7 1/2	3	5	5 1/4	3 3/4	3	2	1 1/4	3 1/2
12	23 3/4	1 1/2	8 1/2	3 1/2	5	7	4 1/4	3 1/2	2 1/4	1 1/4	4

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-7



SPECIFICATIONS

A	*B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
1 1/2	5 7/8	3/8	1/2-20	3/8	3/4	1 3/8	3/4	1/2	3/8	3/8	3/8	2 1/4	3	5/8	1 7/8
2	7 3/4	3/8	3/4-16	7/16	1 1/4	1 1/2	1 1/4	3/4	5/8	1/2	3/4	2 5/8	3 1/2	1	2 3/8
2 1/2	7 3/4	3/8	1-14	1/2	1 1/2	1 1/2	1 1/4	3/4	5/8	1/2	3/4	3 1/2	4 1/2	1 1/4	3
3	7 7/8	1/2	1-14	5/8	1 1/2	1 1/2	1 1/4	3/4	5/8	1/2	3/4	3 3/4	5	1 1/4	3 1/2
3 1/4	7 7/8	1/2	1-14	5/8	1 1/2	1 1/2	1 1/4	3/4	5/8	1/2	3/4	3 3/4	5	1 1/4	3 3/4
3 1/2	8 1/4	1/2	1-14	3/4	1 3/4	1 5/8	1 3/8	7/8	5/8	1/2	1	4 1/2	5 1/2	1 1/2	4
4	8 7/8	1/2	1 1/4-12	3/4	2	1 3/4	1 1/2	1	5/8	5/8	1	4 1/2	6	1 3/4	4 1/2
4 1/2	9 7/8	3/4	1 1/4-12	7/8	2	1 3/4	1 1/2	1	5/8	5/8	1	5	7	1 3/4	5
5	10 5/8	3/4	1 1/2-12	7/8	2 1/2	1 3/4	1 3/4	1	5/8	3/4	1 1/4	5 1/2	7 1/2	2	5 3/4
6	11 1/8	1	1 3/4-12	1	2 1/2	1 3/4	1 3/4	1	5/8	3/4	1 1/4	6 1/2	8 1/2	2	6 3/4
7	12 3/8	1	1 3/4-12	1 1/4	3	2	2	1 1/4	5/8	1	1 3/4	7 1/2	10	2 1/2	7 3/4
8	11 7/8	1	2-12	1 1/2	4	2	2 1/2	1 1/4	5/8	1 1/4	1 3/4	9	12	3 1/2	8 3/4
9	13	1	2 1/2-12	1 3/4	4	2 1/4	3	1 1/2	1 1/4	1 1/4	2	10 1/2	14	3 1/2	10
10	13 1/2	1 1/4	3-12	1 3/4	5	2 1/4	3	1 1/2	1 1/4	1 1/2	2 1/2	11 1/2	15	4 1/2	11
12	16	1 1/2	3-12	2	5	2 1/2	3	1 1/2	1 1/4	1 3/4	3	13 1/2	17	4 1/2	14 1/2

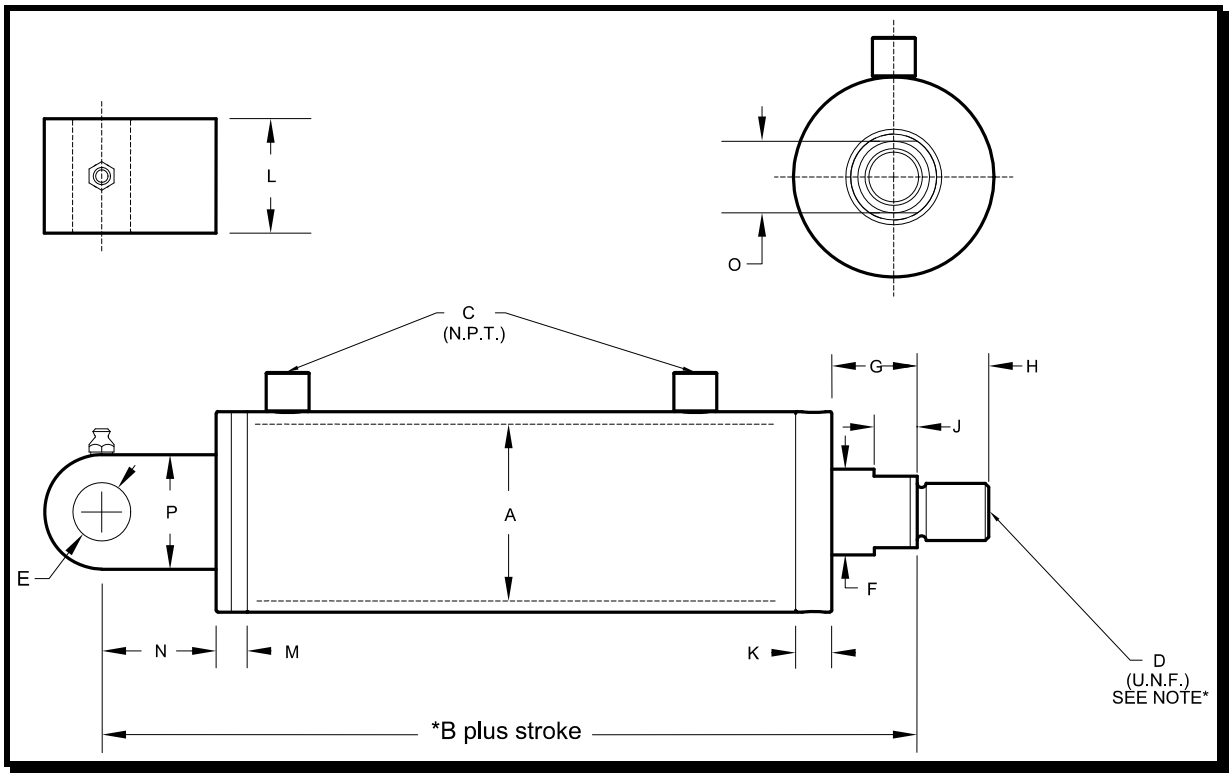
NOTE: For available attachments, please refer to page 19. In order to obtain the accurate stroke, add A measurement indicated on the attachment page to *B measurement.

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-8



SPECIFICATIONS

A	*B	C	D	E	F	G	H	J	K	L	M	N	O	P
1 1/2	7 1/2	3/8	1/2-20	3/4	3/4	1 3/8	3/4	1/2	3/8	3/4	1/4	1 3/4	5/8	1 1/2
2	9 1/2	3/8	3/4-16	1	1 1/4	1 1/2	1 1/4	3/4	5/8	1	1/2	2	1	2
2 1/2	9 1/2	3/8	1-14	1	1 1/2	1 1/2	1 1/4	3/4	5/8	2	1/2	2	1 1/4	2
3	9 5/8	1/2	1-14	1	1 1/2	1 1/2	1 1/4	3/4	5/8	2	1/2	2	1 1/4	2
3 1/4	9 5/8	1/2	1-14	1 1/4	1 1/2	1 1/2	1 1/4	3/4	5/8	2	1/2	2	1 1/4	2 1/2
3 1/2	9 3/4	1/2	1-14	1 1/4	1 3/4	1 5/8	1 3/8	7/8	5/8	2	1/2	2	1 1/2	2 1/2
4	10 5/8	1/2	1 1/4-12	1 1/2	2	1 3/4	1 1/2	1	5/8	2	1/2	2 1/4	1 3/4	3
4 1/2	11 5/8	3/4	1 1/4-12	1 1/2	2	1 3/4	1 1/2	1	5/8	2	1/2	2 1/4	1 3/4	3
5	12 7/8	3/4	1 1/2-12	2	2 1/2	1 3/4	1 3/4	1	5/8	2 1/2	3/4	2 3/4	2	4
6	13 5/8	1	1 3/4-12	2	2 1/2	1 3/4	1 3/4	1	5/8	2 1/2	3/4	3	2	4
7	14 7/8	1	1 3/4-12	2 1/2	3	2	2	1 1/4	5/8	3	1	3 1/4	2 1/2	5
8	14 5/8	1	2-12	2 3/4	4	2	2 1/2	1 1/4	5/8	3	1 1/4	3 1/4	3 1/2	5
9	16	1	2 1/2-12	3	4	2 1/4	3	1 1/2	1 1/4	3	1 1/2	3 1/2	3 1/2	6
10	16 1/2	1 1/4	3-12	3	5	2 1/4	3	1 1/2	1 1/4	4	2	3 1/2	4 1/2	6
12	19 1/4	1 1/2	3-12	3 1/2	5	2 1/2	3	1 1/2	1 1/4	4	2 1/4	4	4 1/2	6 1/2

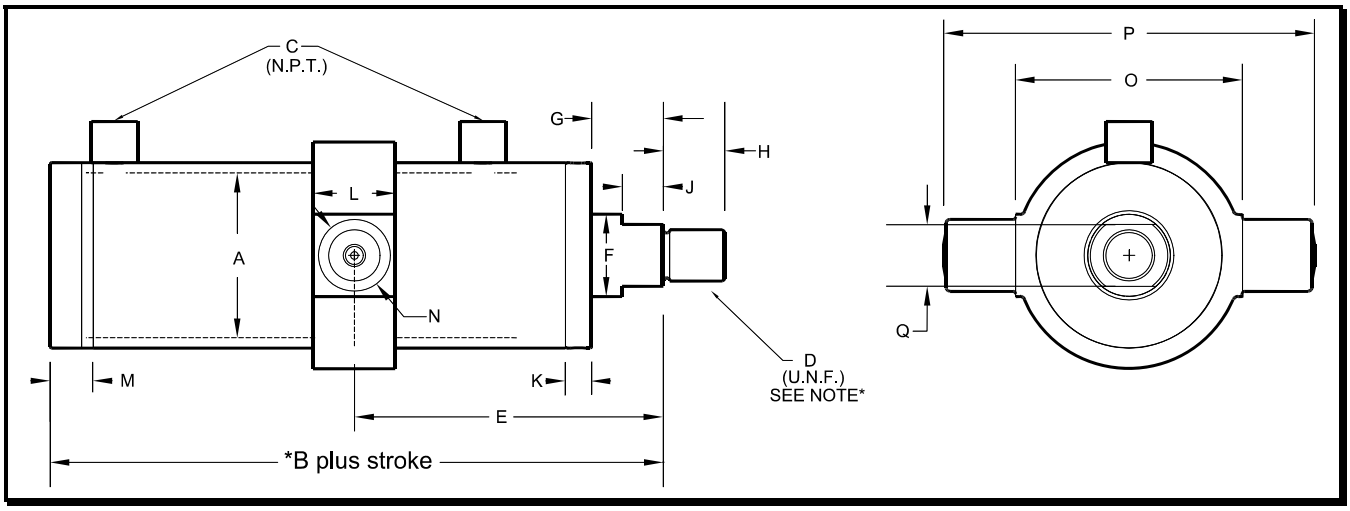
NOTE: For available attachments, please refer to page 19. In order to obtain the accurate stroke, add A measurement indicated on the attachment page to *B measurement.

All dimensions are in inches.

MAILHOT INDUSTRIES

Industrial cylinder

Model MH-9



SPECIFICATIONS

A	*B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
1 1/2	5 7/8	3/8	1/2-20	5 3/8	3/4	1 3/8	3/4	1/2	3/8	1	3/8	7/8	2 3/4	4 1/2	5/8
2	7 3/4	3/8	3/4-16	6 1/2	1 1/4	1 1/2	1 1/4	3/4	5/8	1 1/4	3/4	1	3 1/4	5 1/4	1
2 1/2	7 3/4	3/8	1-14	6 1/2	1 1/2	1 1/2	1 1/4	3/4	5/8	1 1/2	3/4	1 1/4	4	6 1/2	1 1/4
3	7 7/8	1/2	1-14	6 3/4	1 1/2	1 1/2	1 1/4	3/4	5/8	1 3/4	3/4	1 1/2	4 1/2	7 1/2	1 1/4
3 1/4	7 7/8	1/2	1-14	6 3/4	1 1/2	1 1/2	1 1/4	3/4	5/8	1 3/4	3/4	1 1/2	4 3/4	7 3/4	1 1/4
3 1/2	8 1/4	1/2	1-14	6 7/8	1 3/4	1 5/8	1 3/8	7/8	5/8	2	1	1 3/4	5	8 1/2	1 1/2
4	8 7/8	1/2	1 1/4-12	7 1/2	2	1 3/4	1 1/2	1	5/8	2	1	1 3/4	5 1/2	9	1 3/4
4 1/2	9 7/8	3/4	1 1/4-12	7 3/4	2	1 3/4	1 1/2	1	5/8	2 1/2	1	2	6	10	1 3/4
5	10 5/8	3/4	1 1/2-12	8	2 1/2	1 3/4	1 3/4	1	5/8	2 1/2	1 1/4	2	7	11	2
6	11 1/8	1	1 3/4-12	8 1/2	2 1/2	1 3/4	1 3/4	1	5/8	2 1/2	1 1/4	2	8	12	2
7	12 3/8	1	1 3/4-12	9	3	2	2	1 1/4	5/8	3	1 3/4	2 1/2	9 1/2	14 1/2	2 1/2
8	11 7/8	1	2-12	9 3/4	4	2	2 1/2	1 1/4	5/8	3	1 3/4	2 1/2	10 1/2	15 1/2	3 1/2
9	13	1	2 1/2-12	11	4	2 1/4	3	1 1/2	1 1/4	3 1/2	2	3	12 1/2	18 1/2	3 1/2
10	13 1/2	1 1/4	3-12	11 1/4	5	2 1/4	3	1 1/2	1 1/4	4	2 1/2	3 1/2	13 1/2	20 1/2	4 1/2
12	16	1 1/2	3-12	12	5	2 1/2	3	1 1/2	1 1/4	4 1/2	3	4	15 1/2	23	4 1/2

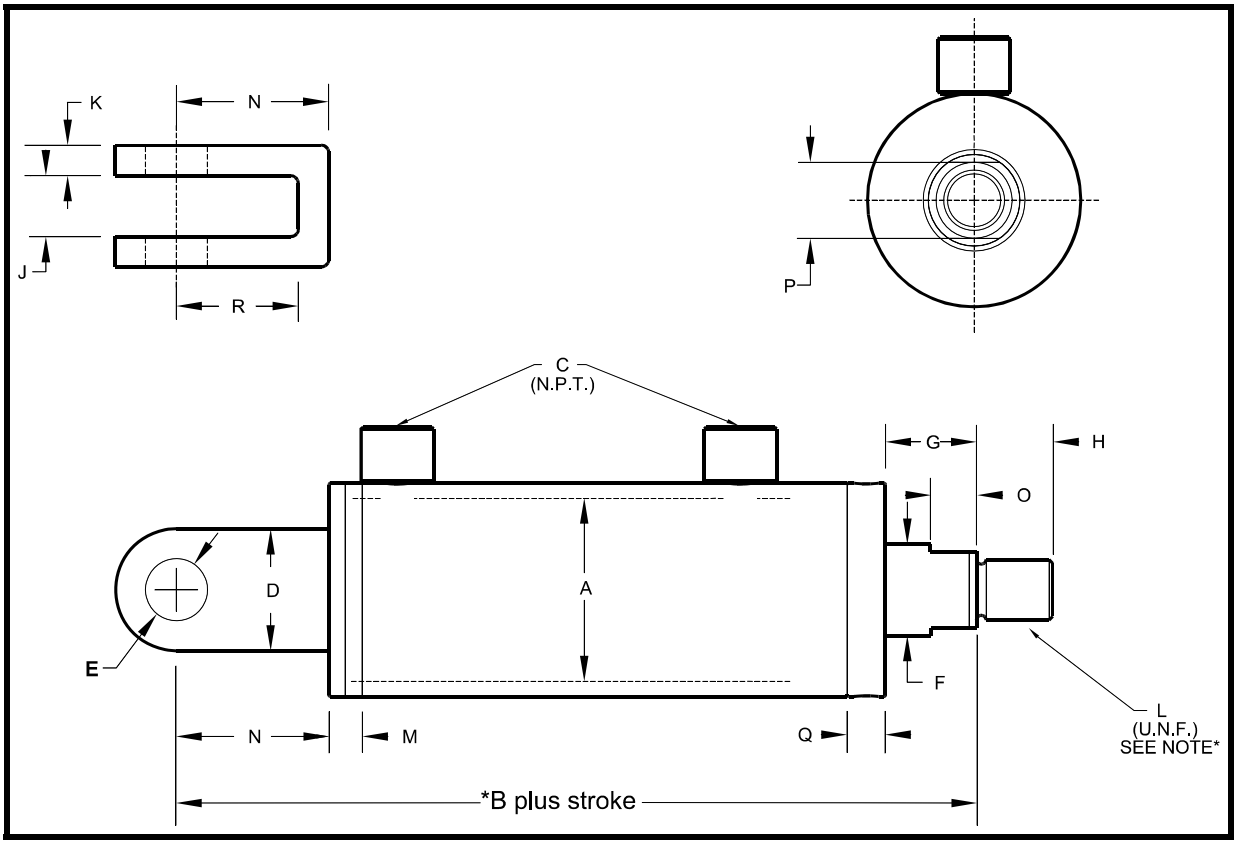
NOTE: For available attachments, please refer to page 19. In order to obtain the accurate stroke, add A measurement indicated on the attachment page to *B measurement.

All dimensions are in inches.

Rev. April 29, 98

Industrial cylinder

Model MH-10



SPECIFICATIONS

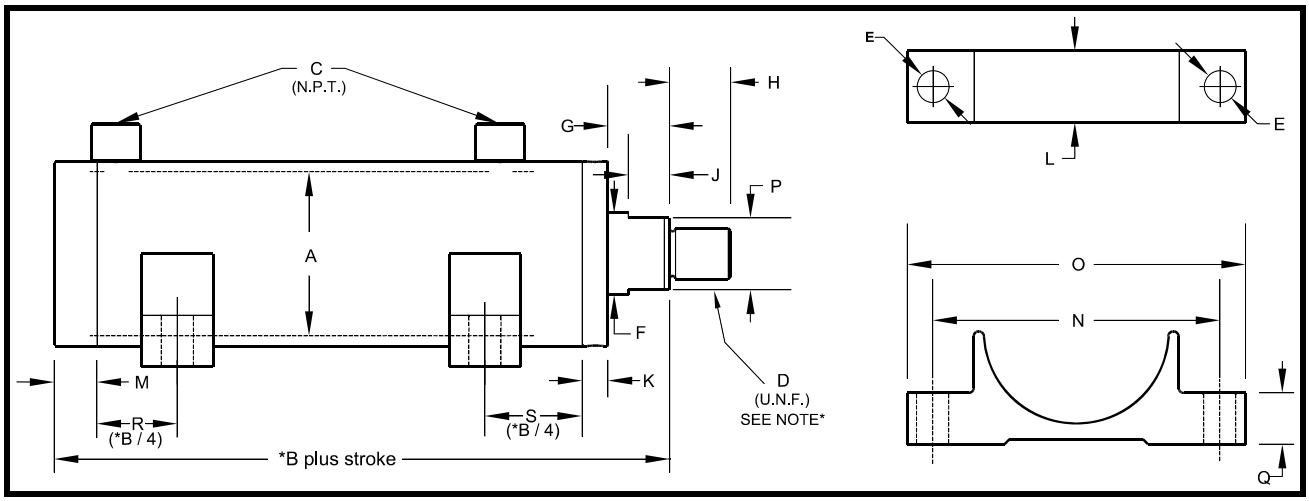
A	*B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
1 1/2	7 7/8	3/8	1 1/2	3/4	3/4	1 3/8	3/4	3/4	3/8	1/2-20	1/4	2 1/8	1/2	5/8	3/8	1 3/4
2	10	3/8	2	1	1 1/4	1 1/2	1 1/4	1	1/2	3/4-16	1/2	2 1/2	3/4	1	5/8	2
2 1/2	10	3/8	2	1	1 1/2	1 1/2	1 1/4	1	1/2	1-14	1/2	2 1/2	3/4	1 1/4	5/8	2
3	10 1/8	1/2	2	1	1 1/2	1 1/2	1 1/4	1	1/2	1-14	1/2	2 1/2	3/4	1 1/4	5/8	2
3 1/4	10 1/8	1/2	2 1/2	1 1/4	1 1/2	1 1/2	1 1/4	1	1/2	1-14	1/2	2 1/2	3/4	1 1/4	5/8	2
3 1/2	10 1/4	1/2	2 1/2	1 1/4	1 3/4	1 5/8	1 3/8	1	1/2	1-14	1/2	2 1/2	7/8	1 1/2	5/8	2
4	11 1/4	1/2	3	1 1/2	2	1 3/4	1 1/2	1 1/4	5/8	1 1/4-12	1/2	2 7/8	1	1 3/4	5/8	2 1/4
4 1/2	12 1/4	3/4	3	1 1/2	2	1 3/4	1 1/2	1 1/4	5/8	1 1/4-12	1/2	2 7/8	1	1 3/4	5/8	2 1/4
5	13 5/8	3/4	4	2	2 1/2	1 3/4	1 3/4	1 1/4	3/4	1 1/2-12	3/4	3 1/2	1	2	5/8	2 3/4
6	14 3/8	1	4	2	2 1/2	1 3/4	1 3/4	1 1/2	3/4	1 3/4-12	3/4	3 3/4	1	2	5/8	3
7	15 7/8	1	5	2 1/2	3	2	2	1 3/4	1	1 3/4-12	1	4 1/4	1 1/4	2 1/2	5/8	3 1/4
8	15 5/8	1	5	2 3/4	4	2	2 1/2	2	1	2-12	1 1/4	4 1/4	1 1/4	3 1/2	5/8	3 1/4
9	17 1/4	1	6	3	4	2 1/4	3	2 1/2	1 1/2	2 1/2-12	1 1/2	4 1/4	1 1/2	3 1/2	1 1/4	3 1/2
10	18	1 1/4	6	3	5	2 1/4	3	3	1 1/2	3-12	2	5	1 1/2	4 1/2	1 1/4	3 1/2
12	21	1 1/2	6 1/2	3 1/2	5	2 1/2	3	3 1/2	1 3/4	3-12	2 1/4	5 3/4	1 1/2	4 1/2	1 1/4	4

NOTE: For available attachments, please refer to page 19. In order to obtain the accurate stroke, add A measurement indicated on the attachment page to *B measurement.

All dimensions are in inches.

Industrial cylinder

Model MH-11



SPECIFICATIONS

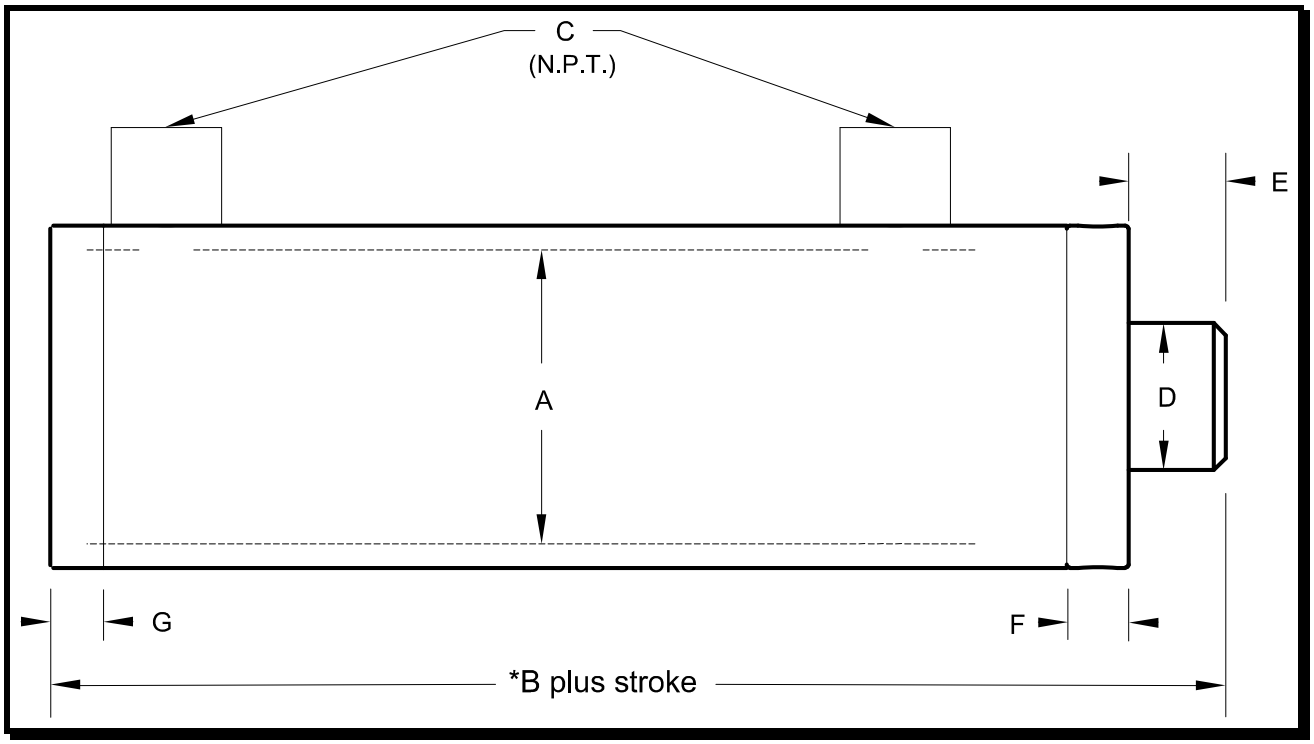
A	*B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
1 1/2	5 7/8	3/8	1/2-20	3/8	3/4	1 3/8	3/4	1/2	3/8	1	3/8	3 1/2	4 1/2	5/8	3/4	1 1/2	1 1/2
2	7 3/4	3/8	3/4-16	7/16	1 1/4	1 1/2	1 1/4	3/4	5/8	1	3/4	4 1/4	5	1	7/8	2	2
2 1/2	7 3/4	3/8	1-14	1/2	1 1/2	1 1/2	1 1/4	3/4	5/8	1 1/4	3/4	4 3/4	5 3/4	1 1/4	7/8	2	2
3	7 7/8	1/2	1-14	5/8	1 1/2	1 1/2	1 1/4	3/4	5/8	1 1/2	3/4	5 1/2	6 3/4	1 1/4	1	2	2
3 1/4	7 7/8	1/2	1-14	5/8	1 1/2	1 1/2	1 1/4	3/4	5/8	1 1/2	3/4	5 7/8	7	1 1/4	1	2	2
3 1/2	8 1/4	1/2	1-14	3/4	1 3/4	1 5/8	1 3/8	7/8	5/8	1 3/4	1	6 1/2	7 3/4	1 1/2	1 1/4	1 7/8	1 7/8
4	8 7/8	1/2	1 1/4-12	3/4	2	1 3/4	1 1/2	1	5/8	1 3/4	1	7	8 1/4	1 3/4	1 1/4	2 1/4	2 1/4
4 1/2	9 7/8	3/4	1 1/4-12	7/8	2	1 3/4	1 1/2	1	5/8	2	1	7 3/4	9 1/4	1 3/4	1 1/2	2 1/2	2 1/2
5	10 5/8	3/4	1 1/2-12	7/8	2 1/2	1 3/4	1 3/4	1	5/8	2	1 1/4	8 1/2	10	2	1 1/2	2 5/8	2 5/8
6	11 1/8	1	1 3/4-12	1	2 1/2	1 3/4	1 3/4	1	5/8	2 1/4	1 1/4	10	12	2	1 3/4	2 3/4	2 3/4
7	12 3/8	1	1 3/4-12	1 1/4	3	2	2	1 1/4	5/8	2 1/2	1 3/4	11 1/4	13 1/2	2 1/2	2	3	3
8	11 7/8	1	2-12	1 1/2	4	2	2 1/2	1 1/4	5/8	3	1 3/4	13 1/4	16	3 1/2	2 1/4	3	3
9	13	1	2 1/2-12	1 3/4	4	2 1/4	3	1 1/2	1 1/4	3 1/2	2	15 1/2	18 3/4	3 1/2	2 1/2	3 1/4	3 1/4
10	13 1/2	1 1/4	3-12	1 3/4	5	2 1/4	3	1 1/2	1 1/4	3 1/2	2 1/2	17 1/4	20 3/4	4 1/2	2 1/2	3 1/4	3 1/4
12	16	1 1/2	3-12	2	5	2 1/2	3	1 1/2	1 1/4	4	3	18	21 1/2	4 1/2	2 3/4	4	4

All dimensions are in inches.

Rev. July 20, 06

Industrial cylinder

Model MH-12



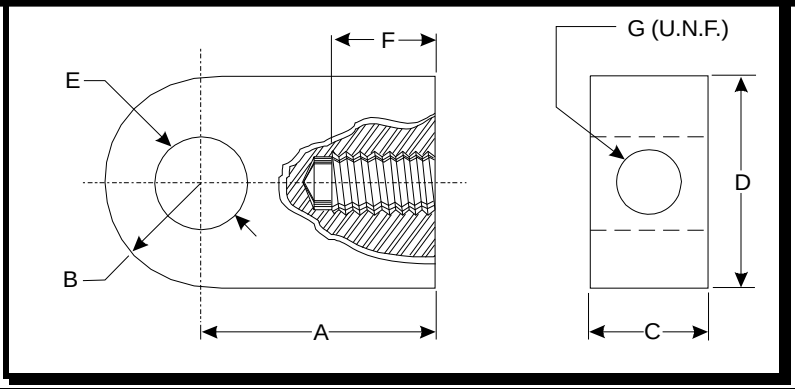
SPECIFICATIONS						
A					F	G
1 1/2	6	3/8	3/4	1 1/2	3/8	3/8
2	7 3/4	3/8	1 1/4	1 1/2	5/8	3/4
2 1/2	7 3/4	3/8	1 1/2	1 1/2	5/8	3/4
3	8	1/2	1 1/2	1 5/8	5/8	3/4
3 1/4	8	1/2	1 1/2	1 5/8	5/8	3/4
3 1/2	8 1/4	1/2	1 3/4	1 5/8	5/8	1
4	8 3/4	1/2	2	1 5/8	5/8	1
4 1/2	9 3/4	3/4	2	1 5/8	5/8	1
5	10 1/2	3/4	2 1/2	1 5/8	5/8	1 1/4
6	11	1	2 1/2	1 5/8	5/8	1 1/4
7	12	1	3	1 5/8	5/8	1 3/4
8	11 3/4	1 1/4	4	1 7/8	5/8	1 3/4
9	14	1 1/4	4	2	1 1/4	2
10	13 1/2	1 1/2	5	2	1 1/4	2 1/2
12	15 1/2	1 1/2	5	2	1 1/4	3

All dimensions are in inches.

Industrial cylinder

WARRANTY

MALE ROD EYE

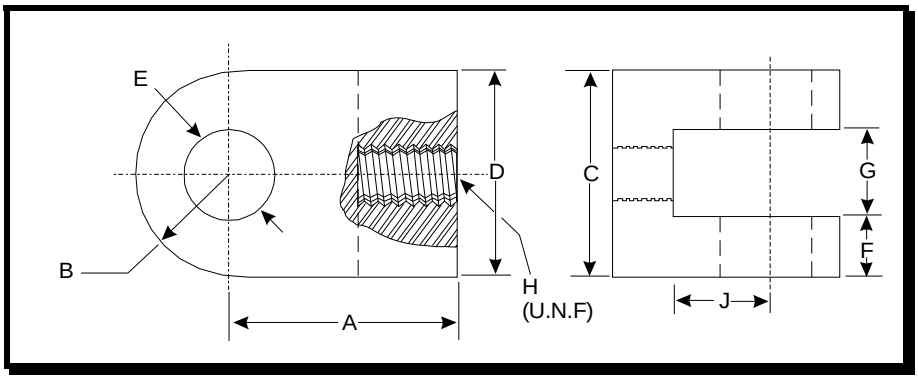


Part no. : SC-XXX

Replace XXX with appropriate code

CODE	A	B	C	D	E	F	G
586	2	3/4	3/4	1 1/2	3/4	3/4	1/2-20
587	3	1	1	2	1	1 1/4	3/4-16
588	3	1	2	2	1	1 1/4	1-14
589	3	1 1/4	2	2 1/2	1 1/4	1 3/8	1-14
590	3 1/2	1 1/4	2	2 1/2	1 1/4	1 3/8	1-14
591	3 1/2	1 1/2	2	3	1 1/2	1 1/2	1 1/4-12
592	4 1/2	2	2 1/2	4	2	1 3/4	1 1/2-12
593	5	2	2 1/2	4	2	1 3/4	1 3/4-12
594	5 1/2	2 1/2	3	5	2 1/2	2	1 3/4-12
595	6	2 1/2	3	5	2 3/4	2 1/2	2-12
596	6 1/2	3	3	6	3	3	2 1/2-12
597	6 1/2	3	4	6	3	3	3-12

FEMALE ROD EYE



Part no. : SE-XXX

Replace XXX with appropriate code

CODE	A	B	C	D	E	F	G	H	J
312	2	3/4	1 3/4	1 1/2	3/4	1/2	3/4	1/2-20	1 1/4
313	3	1	2 1/4	2	3/4	5/8	1	3/4-16	1 3/4
314	3	1	2 1/4	2	1	5/8	1	1-14	1 3/4
315	3	1 1/4	2 1/4	2 1/2	1 1/4	5/8	1	1-14	1 5/8
316	3 1/4	1 1/4	2 3/4	2 1/2	1 1/4	3/4	1 1/4	1-14	1 7/8
317	3 1/2	1 1/2	2 3/4	3	1 1/2	3/4	1 1/4	1 1/4-12	2
318	4	2	3	4	2	3/4	1 1/2	1 1/2-12	2 1/4
319	4	2	3 1/4	4	2	3/4	1 3/4	1 3/4-12	2 1/4
320	4 1/2	2 1/2	4	5	2 1/2	1 1/8	1 3/4	1 3/4-12	2 1/2
321	5	2 1/2	4 1/2	5	2 3/4	1 1/4	2	2-12	2 1/2
322	6	3	5 1/2	6	3	1 1/2	2 1/2	2 1/2-12	3
323	6	3	6	6	3	1 1/2	3	3-12	3

Industrial cylinder

A) PERIOD OF COVERAGE

by Mailhot Industries Inc. carry, from date of invoice, a one (1) year warranty on non-nitrated cylinders and a two (2) years warranty on nitrided cylinders (QP™ or QPQ™). This warranty applies on cylinders developped under specific technical data and accepted by " Mailhot Industries Inc.

B) COVERAGE, PARTS, LABOR AND TRANSPORT

1) Warranty mentioned in paragraph A applies only to defective parts and actual work done on those parts by Mailhot Industries Inc. or by a designated and authorized Mailhot Industries service center, or by a third party, provided there is an agreement between Mailhot Industries Inc. and the buyer. In all these cases, an authorization number must be issued by Mailhot Industries Inc. or its authorized representative. Notwithstanding the above, Mailhot Industries Inc. reserves the right to replace, in all or in parts, or to credit the product covered by this warranty.
2) Costs and expenditures related to the removal and reinstallation of the cylinder will be at the buyer's expense. Subsequently, if it is determined the product is defective and this defectivness is covered by present warranty, these charges will be credited to the buyer.
3) This warranty allows a maximum workmanship allocation predetermined by case and geographic location. You must contact Mailhot Industries for more details.
4) Cylinder must be returned to Mailhot industries Inc., or its authorised representative, prepaid. Subsequently, if it is determined the product is defective and this defectivness is covered by present warranty, transportation charges will be credited to the buyer.

C) EXCLUSIONS

"Mailhot Industries Inc." warranty policy does not cover the following;

A) The Mailhot cylinder or the hydraulic component has been modified by the buyer or user.
B) Failure of the Mailhot cylinder or the hydraulic component is a result of inadequate maintenance.
C) Failure of the Mailhot cylinder or the hydraulic component is a result of abuse or neglect.
D) Failure is a result to exceeding capacity limits of the Mailhot cylinder or hydraulic component.
E) Buyer or user persists on using a Mailhot cylinder or hydraulic component even though the system has been found to be defective, the system is not functioning properly or, any other problem related to the use of the Mailhot cylinder or component.
F) Buyer or third party who does the repair work not authorised by Mailhot Industries as per conditions in article 1, section B).
G) Warranty claim is presented to Mailhot Industries or its representative, more than 30 days after failure of Mailhot cylinder or hydraulic component.
H) Failure is a direct or indirect result from impact or any type of accident to vehicle or equipment on which the Mailhot cylinder or component is used on.
I) Failure of Mailhot cylinder or hydraulic component is a direct result of excessive usage such as overpressure exceeding recommended specifications by Mailhot industries.
J) Prototype cylinders used as such.
K) Travel fees for cylinder problem evaluation.
L) Lubricant and workshop supplies.
M) Cylinder repainting costs.
N) Cylinder installed on an hydraulic system without an adequate filtering element or system.

Mailhot Industries Inc. will not be liable for the consequential damages or contingent liabilities, including, but not limited to, loss of life, personal injury, loss of business income, downtime costs and trade, loss of vehicule usage, equipments or other commercial loss arising out of the failure of Mailhot cylinder or hydraulic component covered by present warranty.

E) ELECTED PLACE OF RESIDENCE

Mailhot Industries Inc. and the buyer agree, for any claims, or lawsuit for any reason, in relation with present agreement, to choose the law district of Joliette, province of Quebec, Canada, as the proper place of auditions of claims or lawsuits to the exclusion of any other law claims or lawsuit, as prescribed by the law.