

N-FORCER®

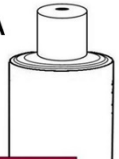
“CSN” SERIES 7/16 Port
“CISN” SERIES G1/8 Port
Compact Nitrogen Die Springs
3/4 Ton to 5 Ton of Force on Contact
Welded Mounts



Die, Mold & Automation Components, Inc. 14400 Henn Street Dearborn, MI 48126
Phone : 1.800.220.2242 www.n-forcer.com

N-FORCER[®]

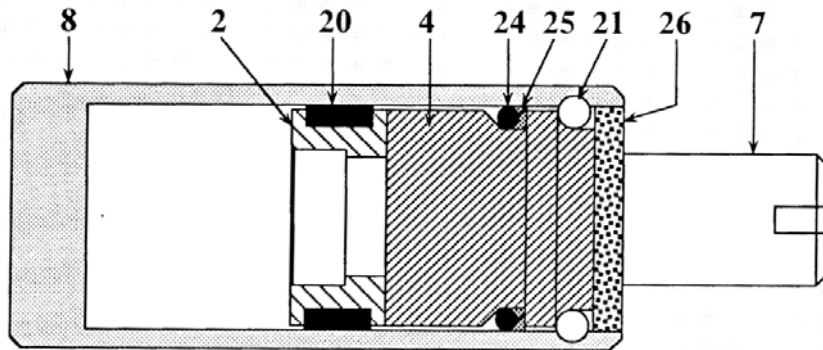
Made in the USA



N-FORCER

GAS Springs Since 1986

“CSN/CISN” SERIES PARTS LIST



Series = (# # #)
Stroke = (# #)

Individual Repair Parts:

- | | |
|---|---|
| 8. Tube Assembly P/N: <u>N(# # #)- 88 (# #)</u>
(please note port type for #8) | 25. O-ring back-up P/N: <u>N(# # #)-25</u> |
| 20. Wear Ring P/N: <u>N(# # #) -20</u> | 21. Retaining Rings P/N: <u>N(# # #) -21</u> |
| 4. Cartridge P/N: <u>N(# # #) -04S</u> | 26. Protective Ring P/N: <u>N(# # #) -26S</u> |
| 2. Piston Rod Retainer P/N: <u>N(# # #) -02</u> | 7. Piston Rod P/N: <u>N(# # #) -77(# #)</u> |
| | 24. Cartridge O-ring P/N: <u>N(# # #) -24</u> |

REPAIR KITS

Standard Repair Kit Order P/N: **CSN (# # #) - RK**

Example: CSN300-RK
This represents a repair kit for a 3 ton cylinder with a Garloc bearing.

Both CSN and CISN cylinders use the same repair kits. The only difference between the two is the port size for charging/hosing the gas cylinder.
Repair kits will be one of the following:
CSN75-RK
CSN150-RK
CSN300-RK
CSN500-RK



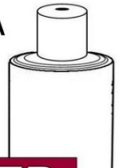
Repair Kit Contents:

Complete Cartridge (#4)
Wear Ring (#20)
Rod End Cover (#26)
Valve
Bottle of Oil

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MOUNTING RECOMMENDATIONS

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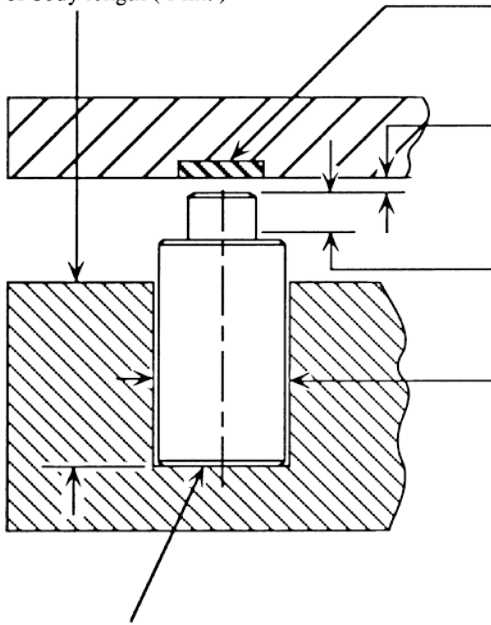


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Drop in Model - Vertical Mount

Pocket depth to be 75% of body length (Min.)



Provide a hard, flat surface for the piston rod to strike. (50 Rc) Must be perpendicular to the C/L of the piston rod.

Allow 1mm clearance with die in open position.

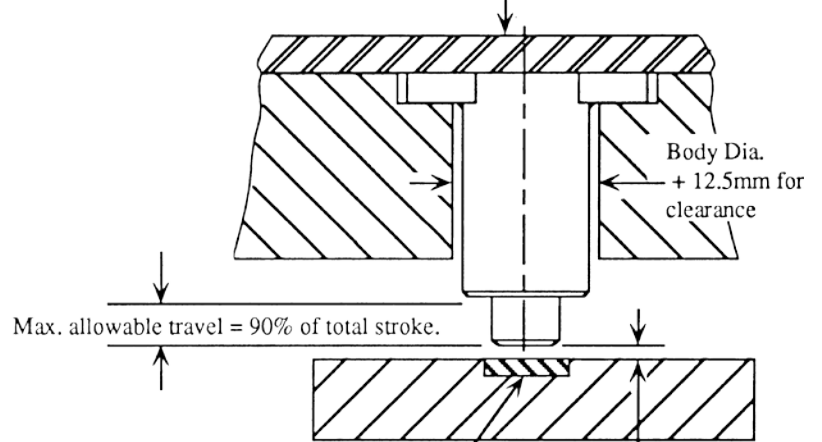
Max. allowable travel = 90% of total stroke.

Hole Dia. to be Body Dia. + 1.5mm max.

Provide a solid flat surface in the bottom of the hole for the N-FORCER to sit. Drill points are not acceptable.

Inverted Vertical Mount with Welded Lugs

Provide a solid plate to reinforce the mounting lugs of the N-FORCER.



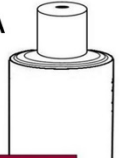
Provide a hard, flat surface for the piston rod to strike. (50 Rc) Must be perpendicular to the C/L of the piston rod.

Allow 1mm clearance with die in open position.

N-FORCER®

PRACTICAL APPLICATIONS

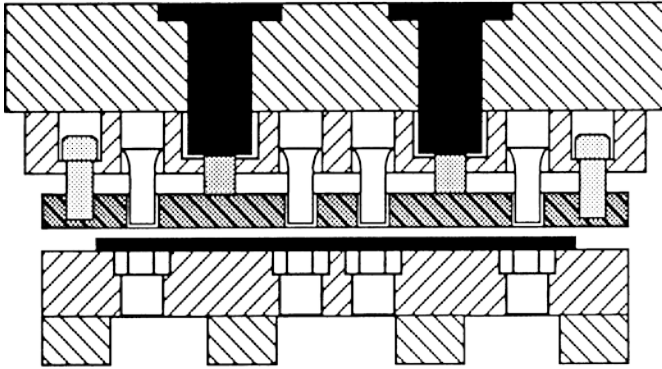
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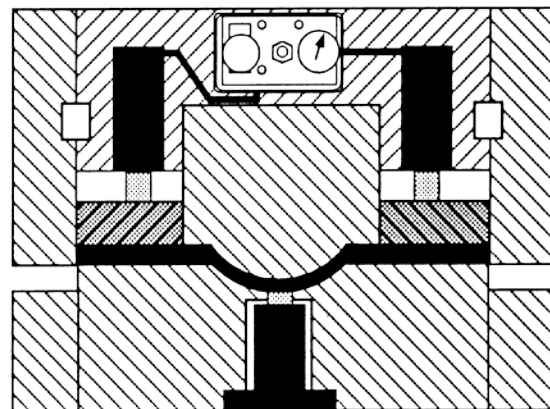
STRIPPING



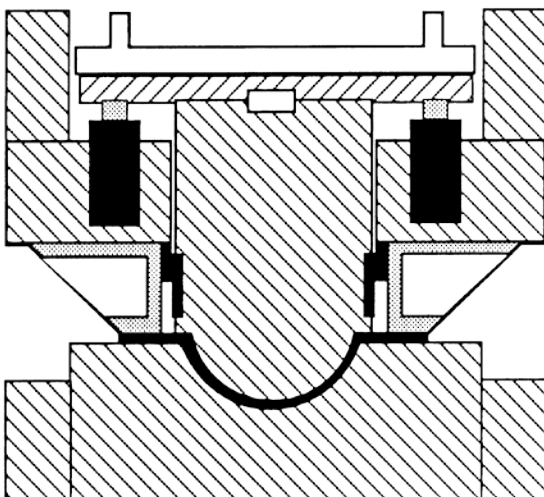
Nitrogen die springs curtail that ever present situation of broken punches due to uneven pressures on stripper plates. They also give the high pressures needed on those difficult stripping jobs.

This is a very common use for nitrogen cylinders in the upper half of die as many progressive dies require the parts to be drawn in this manner.

CONVENTIONAL DRAW



FLOATING PUNCH

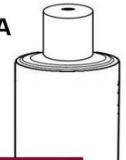


In this application the draw punch is not attached to the inner slide. Instead the punch is suspended on self-contained cylinders mounted into the blankholder plate or the upper shoe. This reduces die setting time and makes the punch more accessible for refinishing in the press.

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PRACTICAL APPLICATIONS

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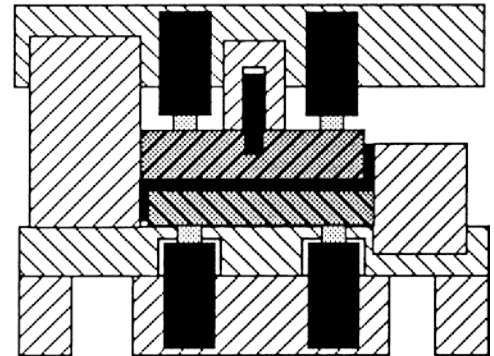


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GAS Springs Since 1986

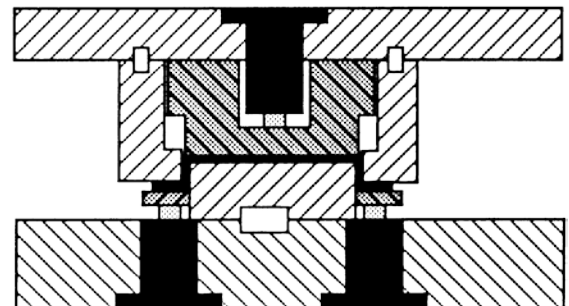
Forming in two direction is accomplished very easily using nitrogen die springs. By varying the pressures in the cylinders, you can attain the correct forces needed to produce quality parts.

DOUBLE ACTION FORMING



With the high forces available on contact the nitrogen die springs are an excellent alternative to coil die springs. The ability to vary the forces generated by the nitrogen die springs also gives you better control over your final product.

INVERTED DRAW



N-FORCER®



FORCE CHARTS

Maximum Force in KN based on 150 Bar Charge (2175psi)

If changing pressure is less than 150 Bar, force is reduced proportionally. EXAMPLE: Forces listed on chart are multiplied by .75 at 112.5 Bar, by .50 at 75 Bar, etc.

CSN / CISN 075		
CHARGING PRESSURE	DIE OPEN	DIE CLOSED
	FORCE	FORCE
500 PSI	380 Lbs	626 Lbs
34 Bar	1.69 KN	2.78 KN
750 PSI	570 Lbs	940 Lbs
52 Bar	2.53 KN	4.18 KN
1000 PSI	760 Lbs	1253 Lbs
69 Bar	3.38 KN	5.57 KN
1500 PSI	1140 Lbs	1880 Lbs
103 Bar	5.07 KN	8.36 KN
1750 PSI	1330 Lbs	2193 Lbs
120 Bar	5.91 KN	9.75 KN
2000 PSI	1520 Lbs	2507 Lbs
138 Bar	6.76 KN	11.1 KN
2175 PSI	1653 Lbs	2725 Lbs
150 bar	73.8 KN	12.18 KN

CSN / CISN 150		
CHARGING PRESSURE	DIE OPEN	DIE CLOSED
	FORCE	FORCE
500 PSI	790 Lbs	1174 Lbs
34 Bar	3.51 KN	5.22 KN
750 PSI	1185 Lbs	1761 Lbs
52 Bar	5.27 KN	7.83 KN
1000 PSI	1580 Lbs	2348 Lbs
69 Bar	7.03 KN	10.4 KN
1500 PSI	2370 Lbs	3522 Lbs
103 Bar	10.5 KN	15.7 KN
1750 PSI	2765 Lbs	4109 Lbs
120 Bar	12.3 KN	18.3 KN
2000 PSI	3160 Lbs	4696 Lbs
138 Bar	14.0 KN	20.9 KN
2175 PSI	3436.50 Lbs	5107 Lbs
150 bar	16.3 KN	22.65 KN

CSN / CISN 300		
CHARGING PRESSURE	DIE OPEN	DIE CLOSED
	FORCE	FORCE
500 PSI	1520 Lbs	2492 Lbs
34 Bar	6.76 KN	11.1 KN
750 PSI	2280 Lbs	3739 Lbs
52 Bar	10.1 KN	16.6 KN
1000 PSI	3040 Lbs	4985 Lbs
69 Bar	13.5 KN	22.2 KN
1500 PSI	4560 Lbs	7478 Lbs
103 Bar	20.3 KN	33.3 KN
1750 PSI	5320 Lbs	8724 Lbs
120 Bar	23.7 KN	38.8 KN
2000 PSI	6080 Lbs	9971 Lbs
138 Bar	27.0 KN	44.3 KN
2175 PSI	6612 Lbs	10843 Lbs
150 bar	29.4 KN	48.3KN

CSN / CISN 500		
CHARGING PRESSURE	DIE OPEN	DIE CLOSED
	FORCE	FORCE
500 PSI	2578 Lbs	3912 Lbs
34 Bar	11.5 KN	17.4 KN
750 PSI	3867 Lbs	5869 Lbs
52 Bar	17.2 KN	26.1 KN
1000 PSI	5157 Lbs	7825 Lbs
69 Bar	22.9 KN	34.8 KN
1500 PSI	7735 Lbs	11738 Lbs
103 Bar	34.4 KN	52.2 KN
1750 PSI	9024 Lbs	13694 Lbs
120 Bar	40.1 KN	60.9 KN
2000 PSI	10314 Lbs	15651 Lbs
138 Bar	45.9 KN	69.7 KN
2175 PSI	11216 Lbs	17019 Lbs
150 bar	49.95 KN	75.9 KN

N-FORCER®

ORDERING PROCEDURE

“CSN / CISN” COMPACT SERIES



WHEN ORDERING CYLINDERS, PLEASE USE THE FOLLOWING FORMAT.

1. 2. 3. 4. 5.
CSN 300 X 4 - RD - 2000

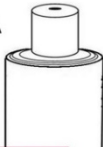
NOTE: CYLINDERS WILL BE SPECIFIED AS NOMINAL INCH STROKES ON ALL PACKING SLIPS AND INVOICES.

- Series:** CSN = 7/16-20 Port, Compact Series
CISN = G 1/8 Port, Compact Series
*CSNF = ½-20 Port (Special Order Item), Compact Series
- Tonnage:** 075 (6.7 KN) - 150 (14KN) - 300 (27KN) - 500 (45.8 KN)
- Stroke Length:** Available Strokes (mm) ~ 12.5, 25, 38.1, 50, 63.4, 75, 80, 88.9
100, 144.3, 125, 150, 139.7, 160.
- Mounting Style:** Detailed on pages 10 through 13.
- Charging Pressure:** (specify) 14 Bar minimum to 138 Bar maximum. If no pressure is specified, the die spring will be shipped with no valve installed.

REPAIR KITS: Specify series, tonnage:

- EXAMPLE for 300 Series Cylinder Repair Kit: CSN/CISN 300-RK**

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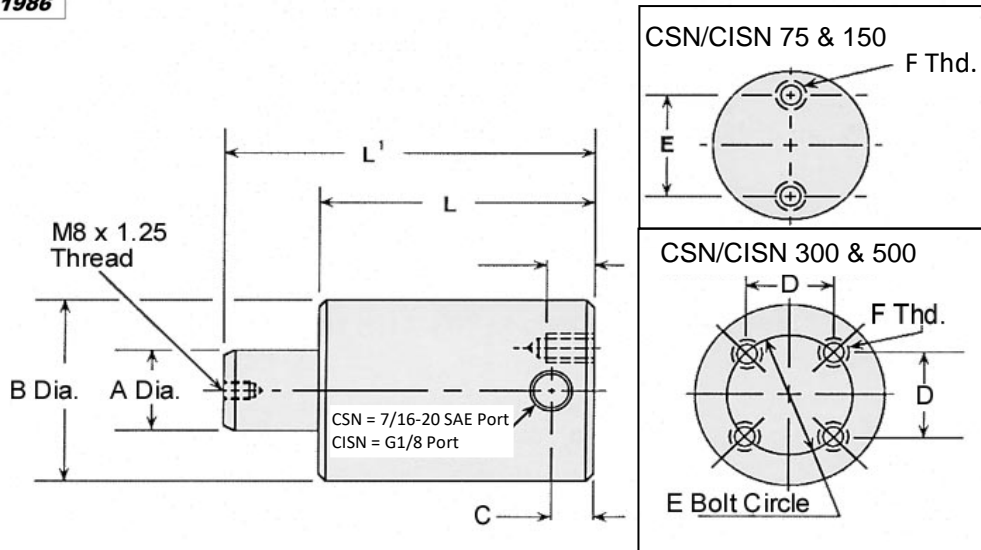
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GAS Springs Since 1986

N-FORCER®

MOUNTING STYLE "D" BASIC DROP -

May also be fastened in place using threaded holes.



CSN = 7/16 PORT

CISN = G1/8 PORT

MODEL	A	B	C	D	E	F
CSN/CISN 075D	.98" (25)	1.97" (50)	.407" (10.3)	~	1.25" (31.7)	3/8 - 16
CSN/CISN 075-DM	.98" (25)	1.97" (50)	.407" (10.3)	~	1.25" (31.7)	M10X1.5
CSN/CISN 150-D	1.42" (36)	2.97" (75)	.407" (10.3)	~	1.50" (38.1)	1/2 - 13
CSN/CISN 150-DM	1.42" (36)	2.97" (75)	.407" (10.3)	~	1.50" (38.1)	M12X1.75
CSN/CISN 300-D	1.97" (50)	3.72" (95)	.43" (11)	2.13" (54.1)	3.00" (76.2)	1/2 - 13
CSN/CISN 300-DM	1.97" (50)	3.72" (95)	.43" (11)	2.13" (54.1)	3.00" (76.2)	M12X1.75
CSN/CISN 500-D	2.56" (65)	4.72" (120)	.43" (11)	2.25" (57.1)	3.18" (80.8)	1/2 - 13
CSN/CISN 500-DM	2.56" (65)	4.72" (120)	.43" (11)	2.25" (57.1)	3.18" (80.8)	M12X1.75

CSN/CISN 075

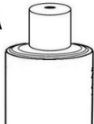
stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.25	4.73	5.25	5.72	6.25	6.70	6.89	7.25	7.69	8.25	8.67	9.25	9.66	10.04
	107.9	120.0	133.3	145.0	158.7	170.0	175.0	184.1	195.0	209.5	220.0	234.9	245.0	255.0
L ₁	4.74	5.71	6.74	7.68	8.74	9.65	10.04	10.74	11.62	12.74	13.58	14.74	15.56	16.34
	120.4	145.0	171.2	195.0	222.0	245.0	255.0	272.8	295.0	323.6	345.0	374.4	395.0	415.0

CSN/CISN 150 ~ CSN/CISN 300 ~ CSN/CISN 500

stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.50	4.98	5.50	5.97	6.50	6.95	7.15	7.50	7.94	8.50	8.92	9.50	9.91	10.30
	114.3	126.5	139.7	151.6	165.1	176.5	181.6	190.5	201.6	215.9	226.5	241.3	251.7	261.6
L ₁	5.00	5.96	7.00	7.94	9.00	9.90	10.30	11.00	11.88	13.00	13.84	15.00	15.82	16.60
	127.0	151.4	177.8	201.6	228.6	251.4	261.6	279.4	301.7	330.2	351.5	381.0	401.8	421.6

Note: CSN/CISN 75 thru 500, We have manufactured strokes up to 325mm.

Made in the USA

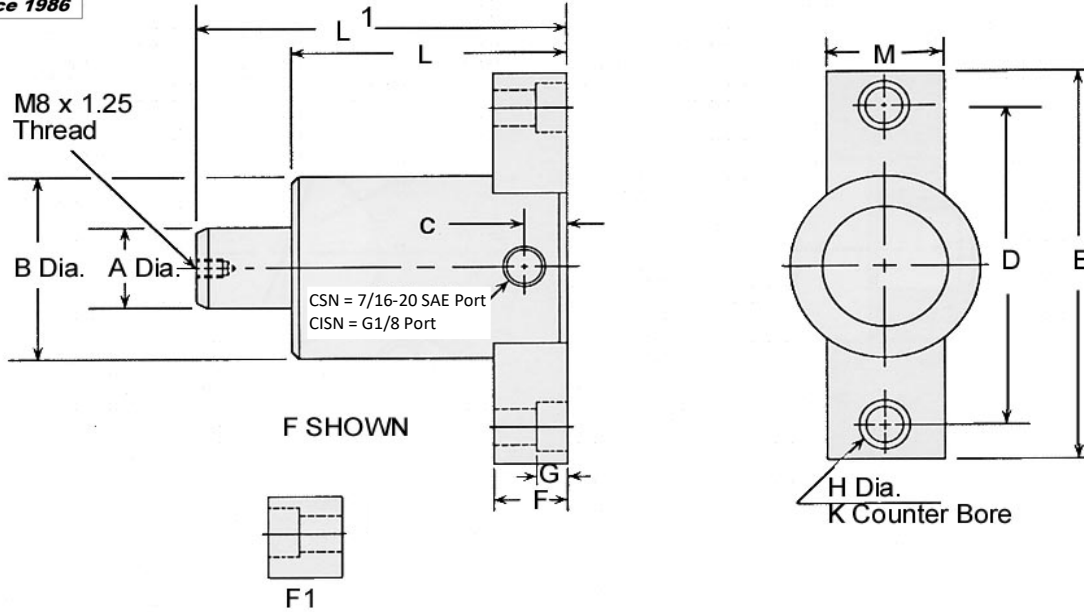


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GAS Springs Since 1986

N-FORCER®

MOUNTING STYLE "F" Rear Lug Mount



MODEL	A	B	C	D	E	F	G	H	K	M
CSN/CISN 075	.98	1.98	.407	3.50	4.25	.748	.43	.43	.71	1.25
CSN/CISN 075	25	50	10.3	89	108	19	11.0	11.0	18	31.7
CSN/CISN 150	1.42	2.98	.407	4.75	6.00	.748	.53	.53	.78	1.50
CSN/CISN 150	36	75	10.3	120	152.3	19	13.5	13.5	20	38.0
CSN/CISN 300	1.97	3.73	.43	5.75	7.00	.748	.53	.53	.78	1.50
CSN/CISN 300	50	95	11	146	178	19	13.5	13.5	20	38.0
CSN/CISN 500	2.56	4.72	.43	6.50	7.75	.748	.53	.53	.78	1.50
CSN/CISN 500	65	120	11	165	197	19	13.5	13.5	20	38.0

CSN/CISN 075

stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.25	4.73	5.25	5.72	6.25	6.70	6.89	7.50	7.69	8.25	8.67	9.25	9.66	10.04
	107.9	120.0	133.3	145.0	158.7	170.0	175.0	184.1	195.0	209.5	220.0	234.9	245.0	255.0
L ₁	4.74	5.71	67.4	7.68	8.74	9.65	10.04	10.74	11.62	12.74	13.58	14.74	15.56	16.34
	120.4	145.0	171.2	195.0	222.0	245.0	255.0	272.8	295.0	326.6	345.0	374.4	395.0	415.0

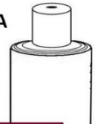
CSN/CISN 150 ~ CSN/CISN 300 ~ CSN/CISN 500

stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.50	4.98	5.50	5.97	6.50	6.95	7.15	7.50	7.94	8.50	8.92	9.50	9.91	10.30
	114.3	126.5	139.7	151.6	165.1	176.5	181.6	190.5	201.6	215.9	226.5	241.3	251.7	261.6
L ₁	5.00	5.96	7.00	7.94	9.00	9.90	10.30	11.00	11.8	13.00	13.84	15.00	15.82	16.60
	127.0	151.4	177.8	201.6	228.6	251.4	261.6	279.4	301.7	330.2	351.5	381.0	401.8	421.6

Note: CSN/CISN 75 thru 500, We have manufactured strokes up to 325mm.

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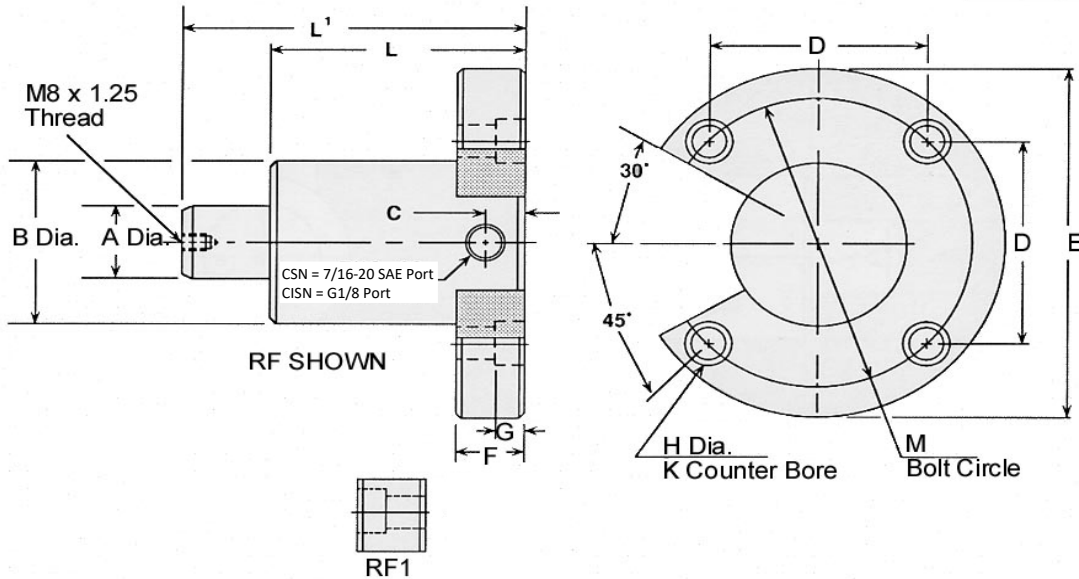
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N-FORCER

GAS Springs Since 1986

MOUNTING STYLE "RF" Rear Flange Mount



Model	A	B	C	D	E	F	G	H	K	M
CSN/CISN 075	.98	1.97	.407	2.48	4.50	.748	.43	.43	.71	3.50
CSN/CISN 075	25	50	10.3	62.9	114.3	19	11.0	11.0	18	88.9
CSN/CISN 150	1.42	2.97	.407	3.36	5.98	.748	.53	.53	.79	4.75
CSN/CISN 150	36	75.4	10.3	85.3	152	19	13.5	13.5	20	120.6
CSN/CISN 300	1.97	3.72	.43	3.89	6.76	.984	.53	.53	.79	5.50
CSN/CISN 300	50	94.4	11	99	171.6	25	13.5	13.5	20	139.7
CSN/CISN 500	2.56	4.72	.43	4.60	7.70	.984	.67	.69	1.02	6.50
CSN/CISN 500	65	120	11	117	195.5	25	17	17.5	26	165.1

CSN/CISN 075

stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.25	4.73	5.25	5.72	6.25	6.70	6.89	7.25	7.69	8.25	8.67	9.25	9.66	10.04
	107.9	120.0	133.3	145.0	158.7	170.0	175.0	184.1	195.0	209.5	220.0	234.9	245.0	255.0
L ₁	4.74	5.71	6.74	7.68	8.74	9.65	10.04	10.74	11.62	12.74	13.58	14.74	15.56	16.34
	120.4	145.0	171.2	195.0	222.0	245.0	255.0	272.8	295.0	326.6	345.0	374.4	395.0	415.0

CSN/CISN 150 ~ CSN/CISN 300 ~ CSN/CISN 500

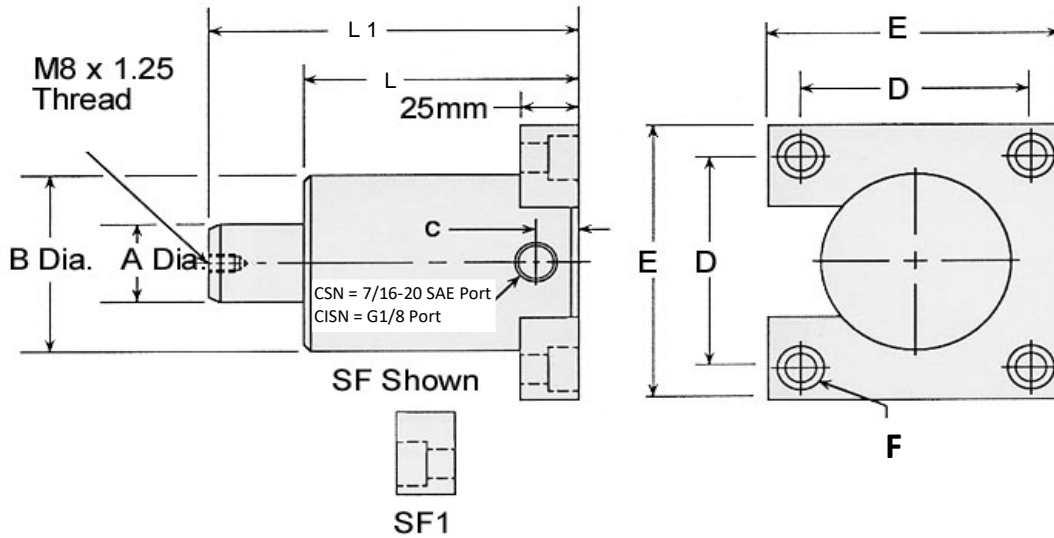
stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.50	4.98	5.50	5.97	6.50	6.95	7.15	7.50	7.94	8.50	8.92	9.50	9.91	10.30
	114.3	126.5	139.7	151.6	165.1	176.5	181.6	190.5	201.6	215.9	226.5	241.3	251.7	261.6
L ₁	5.00	5.96	7.00	7.94	9.00	9.90	10.30	11.00	11.8	13.00	13.84	15.00	15.82	16.60
	127.0	151.4	177.8	201.6	228.6	251.4	261.6	279.4	301.7	330.2	351.5	381.0	401.8	421.6

Note: CSN/CISN 75 thru 500, We have manufactured strokes up to 325mm.



N-FORCER®

MOUNTING STYLE "SF" Square Rear Flange



MODEL	A	B	C	D	E	G	H	K
CSN/CISN 075	.98	1.97	.407	2.13	2.95	.53	.44	.71
CSN/CISN 075	25	50	10.3	54	75	13.5	11.0	18
CSN/CISN 150	1.42	2.97	.407	2.99	4.01	.53	.53	.79
CSN/CISN 150	36	75	10.3	76	102	13.5	13.5	20
CSN/CISN 300	1.97	3.72	.43	3.85	5.00	.53	.53	.79
CSN/CISN 300	50	94.4	11	98	126.9	13.5	13.5	20
CSN/CISN 500	2.56	4.72	.43	4.49	5.51	.53	.53	.79
CSN/CISN 500	65	120	11	114	139.9	13.5	13.5	20

CSN/CISN 075

stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.25	4.73	5.25	5.72	6.25	6.70	6.89	7.25	7.69	8.25	8.67	9.25	9.66	10.04
	107.9	120.0	133.3	145.0	158.7	170.0	175.0	184.1	195.0	209.5	220.0	234.9	245.0	255.0
L ₁	4.74	5.71	6.74	7.68	8.74	9.65	10.04	10.74	11.62	12.74	13.58	14.74	15.56	16.34
	120.4	145.0	171.2	195.0	222.0	245.0	255.0	272.8	295.0	323.6	345.0	374.4	395.0	415.0

CSN/CISN 150 ~ CSN/CISN 300 ~ CSN/CISN 500

stroke	.50	.98	1.50	1.97	2.50	2.95	3.15	3.50	3.94	4.50	4.92	5.50	5.91	6.30
	12.7	25	38.1	50	63.5	75	80	88.9	100	114.3	125	139.7	150	160
L	4.50	4.98	5.50	5.97	6.50	6.95	7.15	7.50	7.94	8.50	8.92	9.50	9.91	10.30
	114.3	126.5	139.7	151.6	165.1	176.5	181.6	190.5	201.6	215.9	226.5	241.3	251.7	261.6
L ₁	5.00	5.96	7.00	7.94	9.00	9.90	10.30	11.00	11.88	13.00	13.84	15.00	15.82	16.60
	127.0	151.4	177.8	201.6	228.6	251.4	261.6	279.4	301.7	330.2	351.5	381.0	401.8	421.6

Note: CSN/CISN 75 thru 500, We have manufactured strokes up to 325mm.

ACCESSORIES



CA-2000 QD- Charging Assembly with quick disconnect coupling.
 Please specify your charging tanks max pressure when ordering as connection types vary with tank pressure.



HC-1QD - Female Quick Disconnect Coupling



FA-4 Threaded filling adapter
 Thread 7/16-20 Threaded end into valve compartment of cylinder.
 Thread high pressure hose coupling onto .305-32 end. (CSN type)



FA-4QD - Quick Disconnect Filling adapter
 Thread 7/16-20 Thd. end into valve compartment of cylinder. Attach high pressure hose coupling to male end.



CA-2000 ~ Threaded Goose Neck Only.
 With .305 - 32 threaded coupling.



N-FORCER®

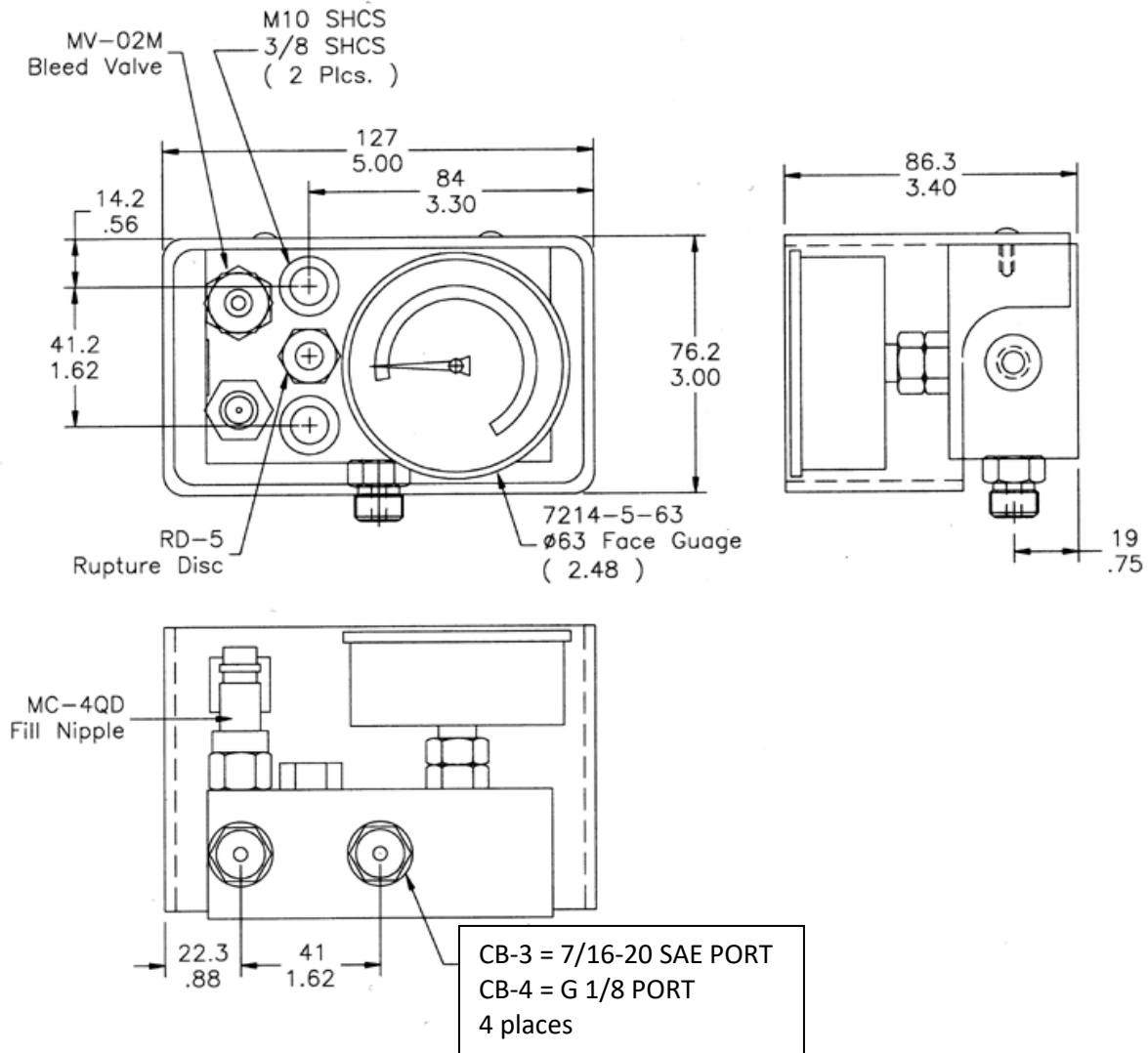
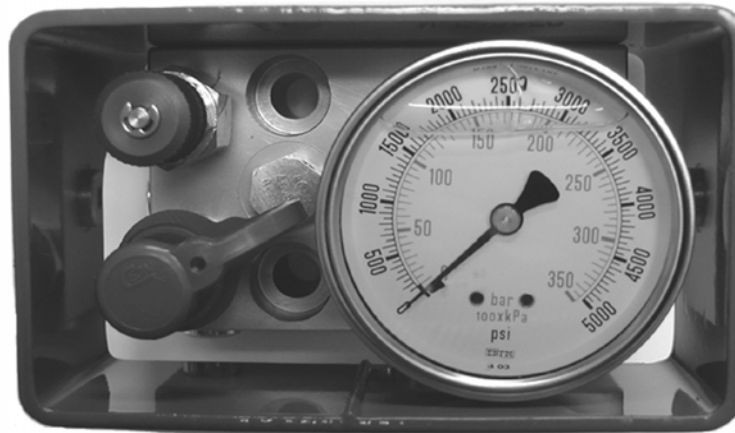
Made in the USA



N-FORCER

GAS Springs Since 1986

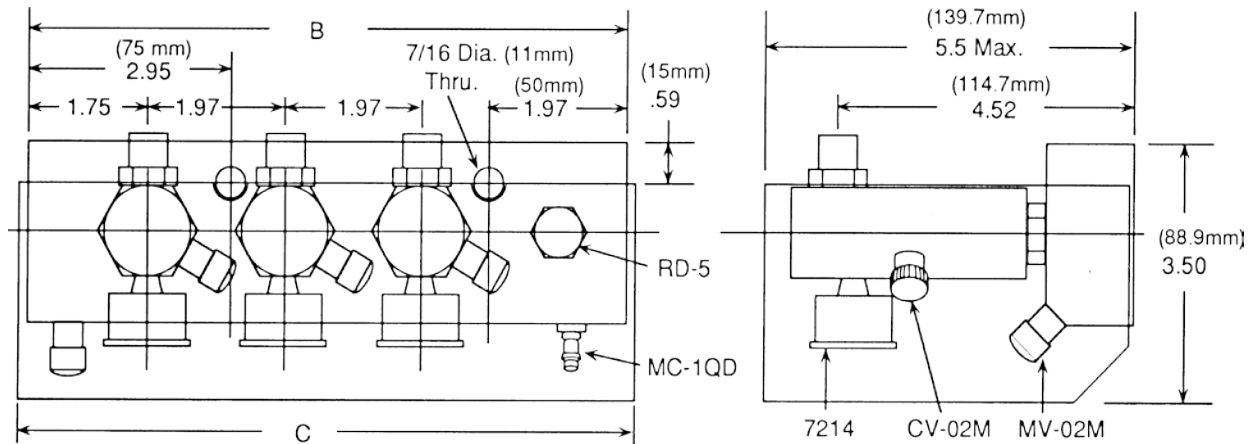
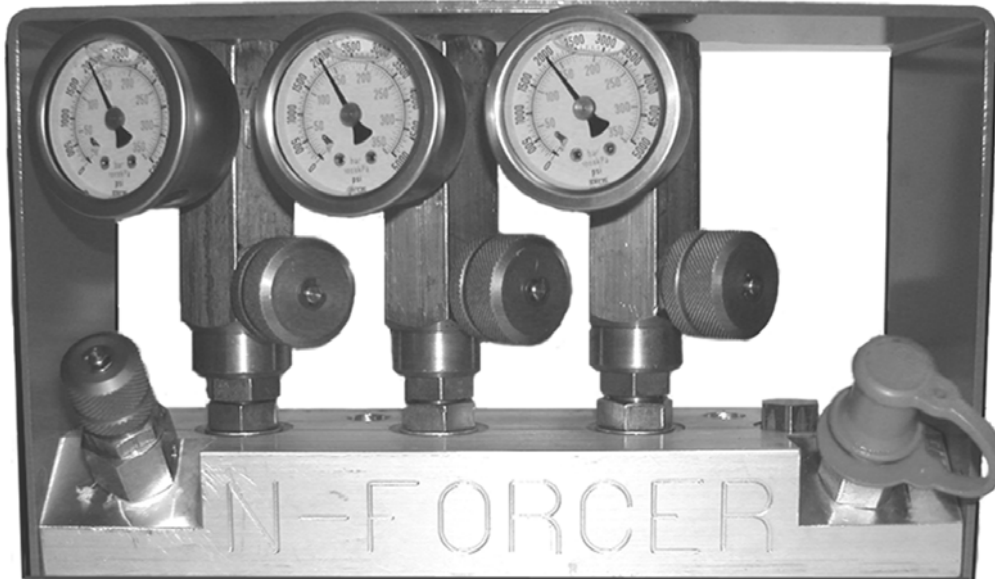
**CB-4 Control Panel (G1/8 BSPP)
&
CB-3 Control Panel (7/16-20 SAE PORT)**



N-FORCER®



MCB -- Multiple Port Control Block



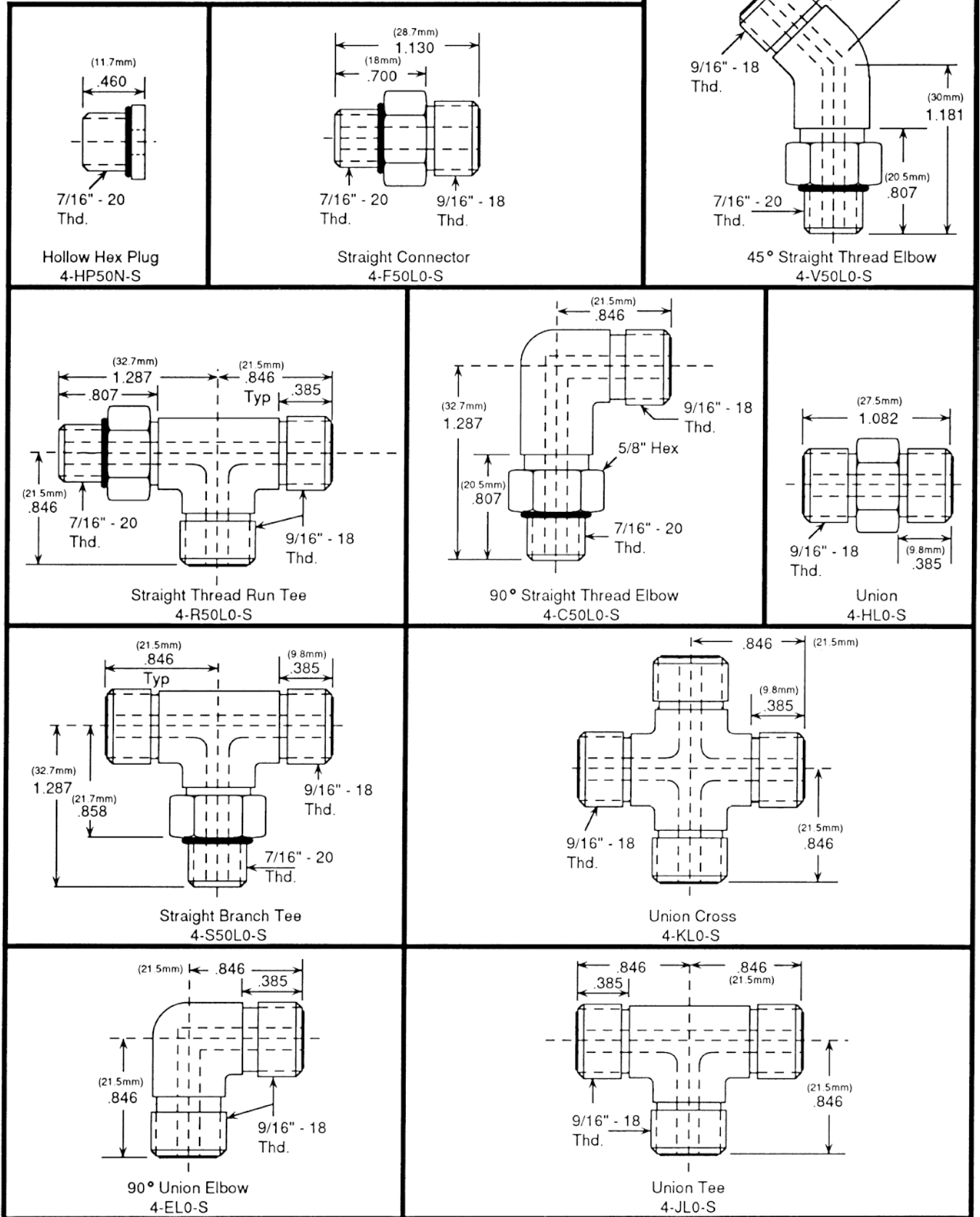
	B	C
MCB-3 (Three Station)	8.657" (219.9)	8.905" (226.2)
MCB-4 (Four Station)	10.626" (269.9)	10.878" (276.3)
MCB-5 (Five Station)	12.598" (320)	12.846" (326.3)
MCB-6 (Six Station)	14.567" (370)	14.815" (376.3)

Multiple Station Control Block

This control block offers from 3 to 6 individual port stations which operate independent from each other. Each station has two 7/16-20 SAE ports for hosing nitrogen die springs. All stations can be set for different pressures, or they can all be the same pressure but isolate different sections of the die for maintenance purposes. All stations have a pressure gauge and an opening and closing valve.

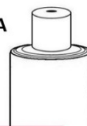
O-RING FACE SEAL HOSE FITTINGS

7/16" - 20 Threads

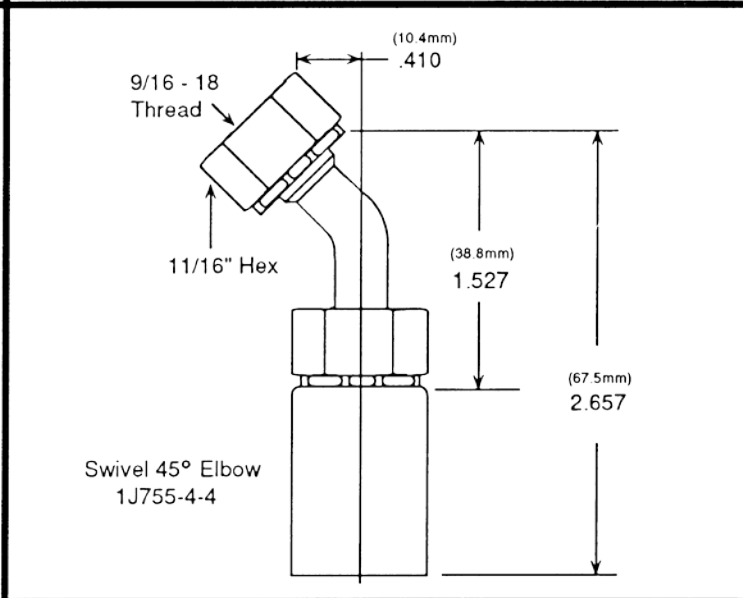
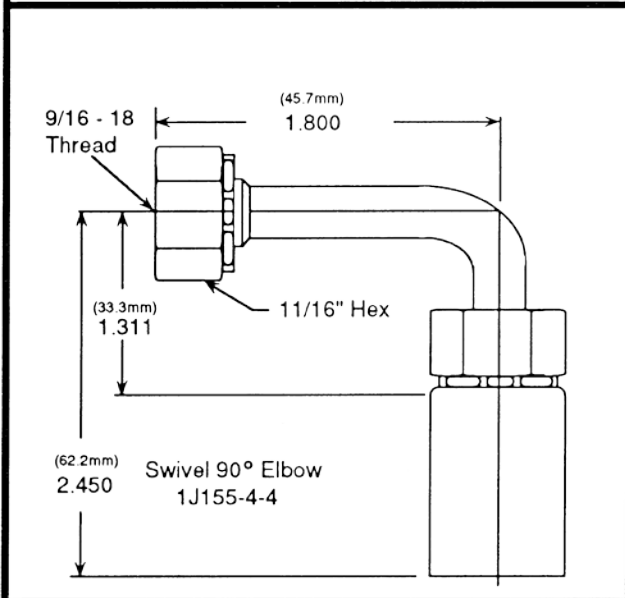
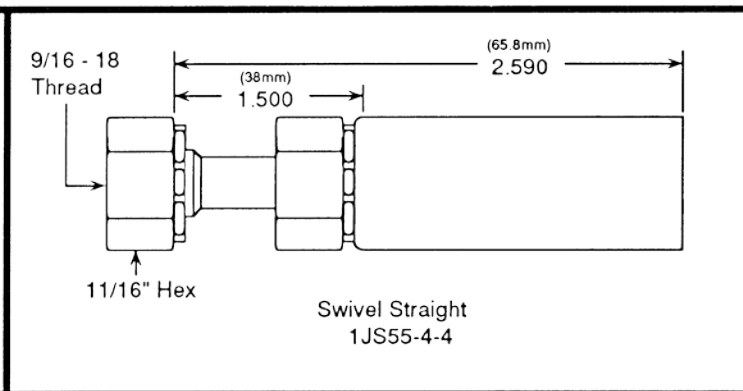
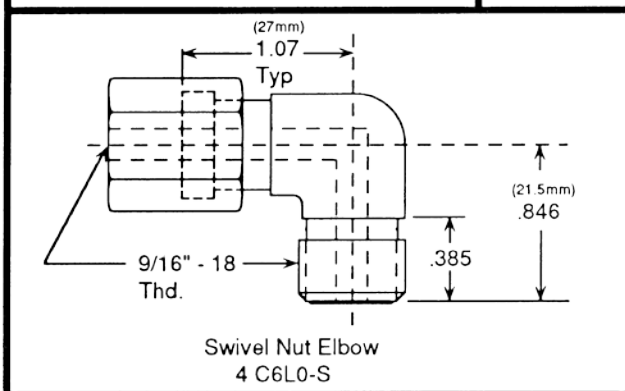
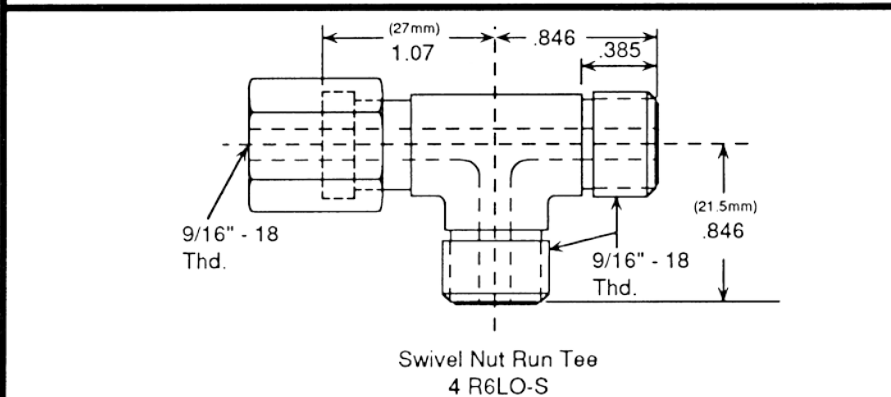
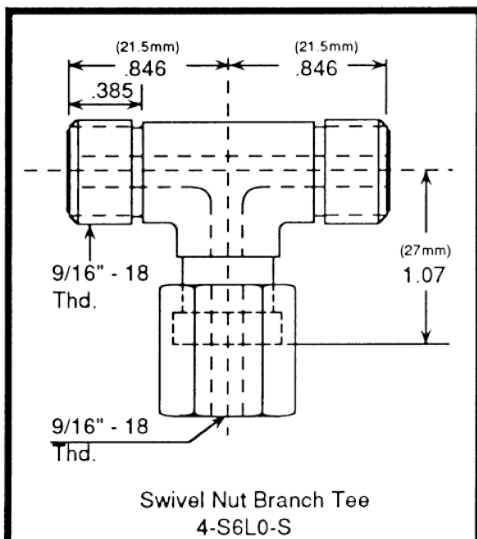


O-RING FACE SEAL HOSE FITTINGS

Made in the USA



N-FORCER
GAS Springs Since 1986

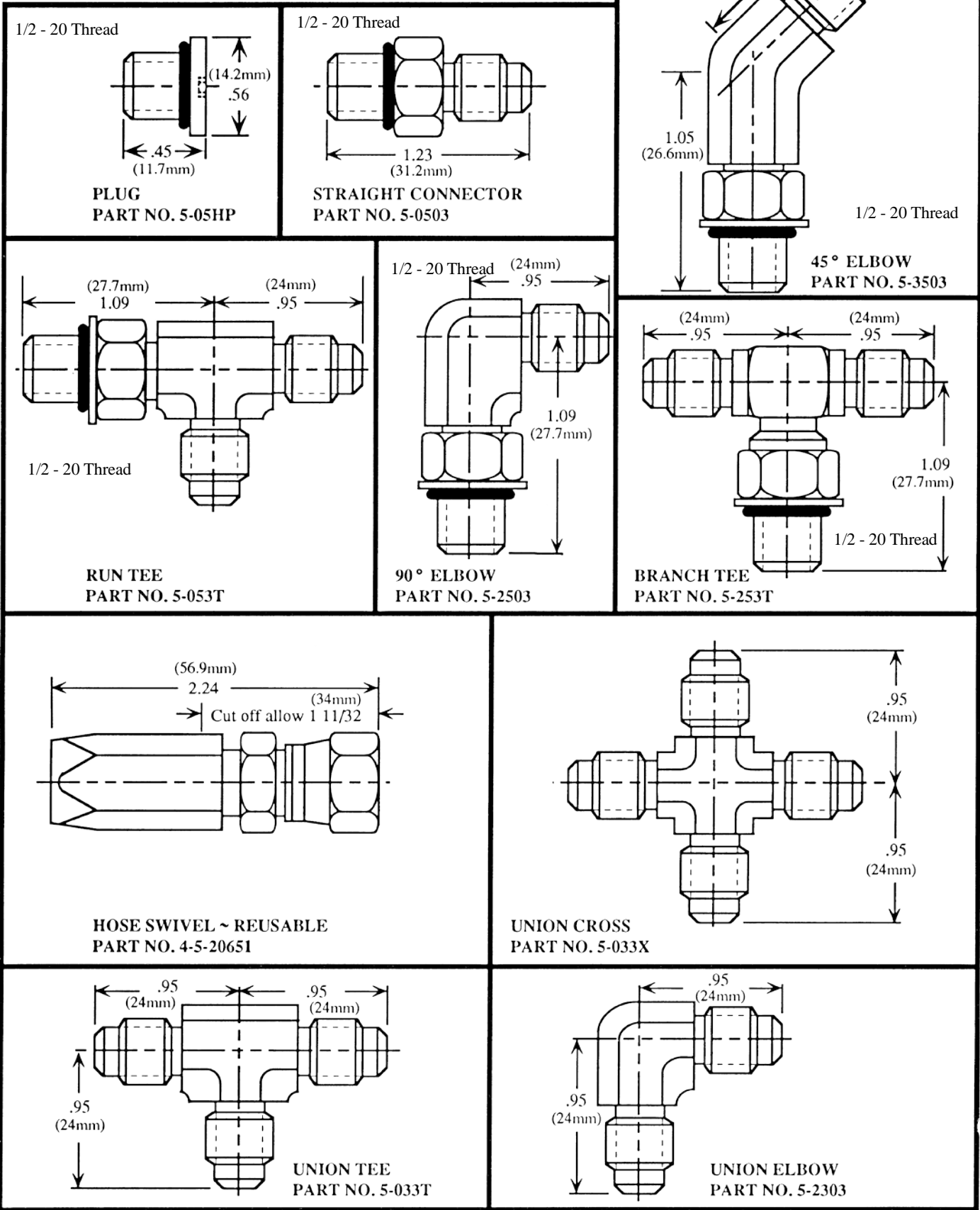


Medium Pressure Hose
518B-4

Hose I.D 6.3mm Hose O.D. 11.9mm
Maximum Working Pressure 189 Bar
Minumun Burst Pressure 758 Bar.
Minumun Bend Radius 38mm

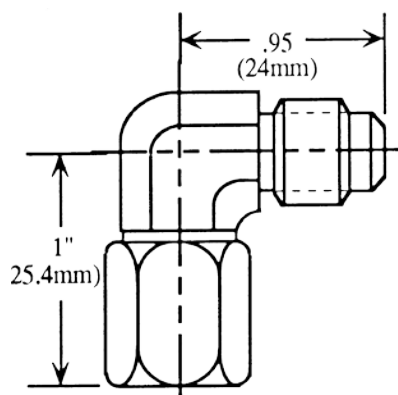
OPTIONAL HOSE FITTINGS

1/2" - 20 Threads

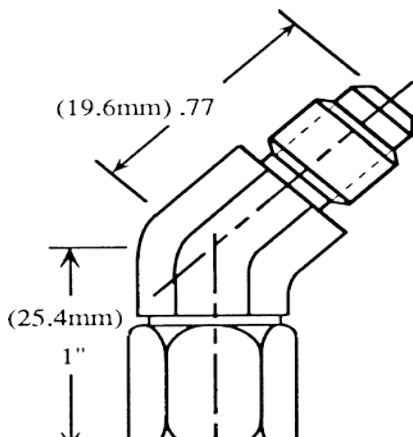




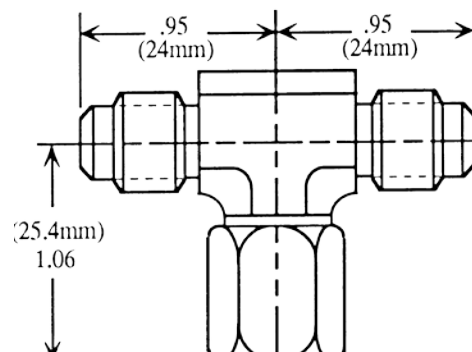
Optional Hose Fittings 1/2"-20 Threads



SWIVEL NUT 90° ELBOW
PART NO. 5-3903

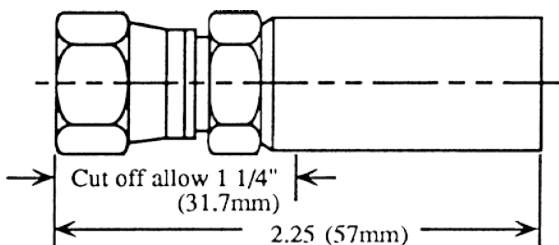


SWIVEL NUT 90° ELBOW
PART NO. 5-3703



SWIVEL NUT RUN TEE
PART NO. 5-393T

PERMANENT SWIVEL
PART NO. 5-3-10655



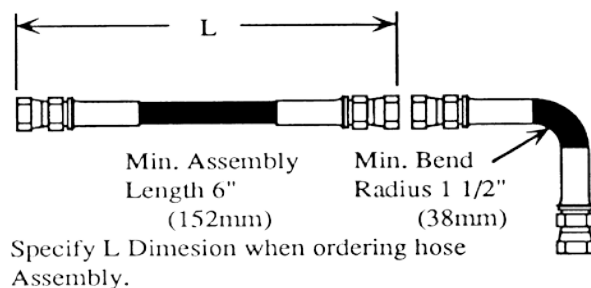
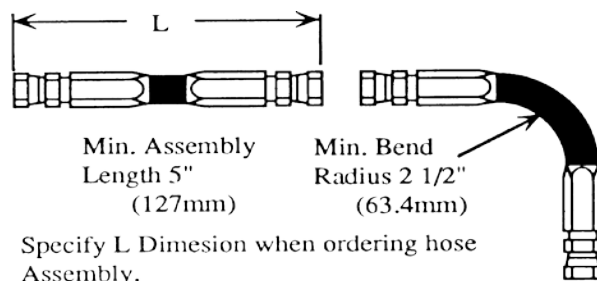
OPTIONAL HOSE FITTINGS For Reusable and Permanent Couplings

Part Number	ID in. mm	Max OD in mm	Max Working Pressure psi	Min Burst Pressure psi	Min Bend Radius in./mm	Weight Lbs/100ft.
NH-025	1/4	.47	2750	11000	2 1/2"	5.2
Metric	6.3	12	190 Bar	758 Bar	63.4	

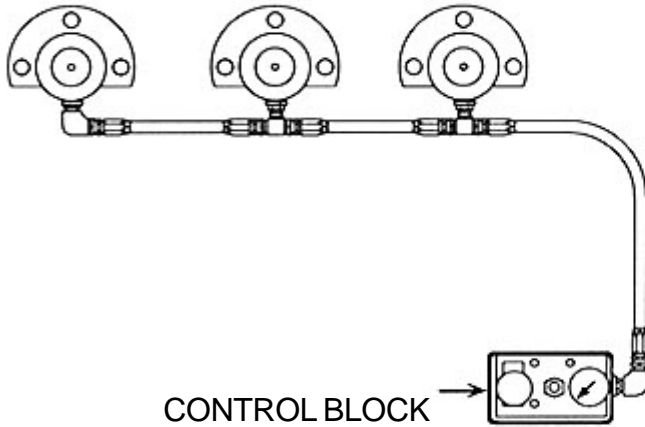
Medium Pressure Hose For Resuable Couplings

Part Number	ID in. mm	Max OD in mm	Max Working Pressure psi	Min Burst Pressure psi	Min Bend Radius in./mm	Weight Lbs/100ft.
NH-018	3/16	.42	5000	20000	1 1/2"	5.8
Metric	4.7	10.6	345 Bar	1379 Bar	38	

High Pressure Hose For Permanent Couplings



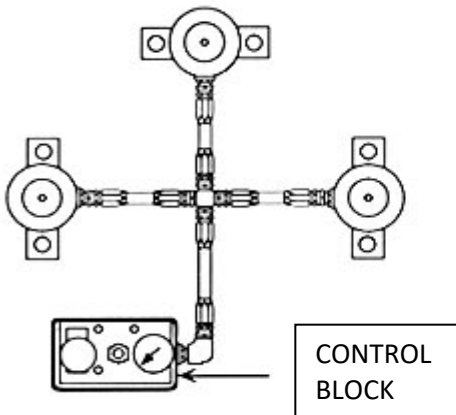
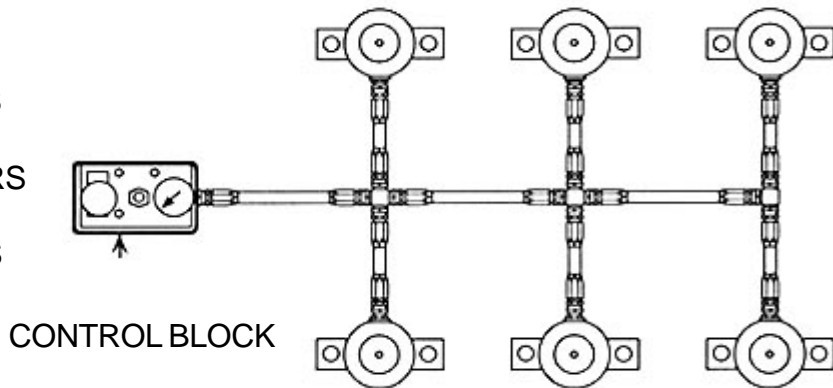
TYPICAL HOSE SYSTEM EXAMPLES



- (3) "R" MOUNT CYLINDERS
- (6) HOSE SWIVEL FITTINGS
PART NO 4-5-20651
- (2) 90 DEGREE ELBOW FITTINGS
PART NO 5-2503
- (2) BRANCH TEE FITTINGS
PART NUMBER 5-253T
- (1) CONTROL BLOCK

A MINIMUM OF 3 FEET HOSE
(914mm)

- (6) "F" MOUNT CYLINDERS
- (18) HOSE SWIVEL FITTINGS
PART NO 4-5-20651
- (7) STRAIGHT CONNECTORS
PART NO 5-0503
- (2) UNION CROSS FITTINGS
PART NO 5-033X
- (1) UNION TEE FITTING
PART NO 5-033T
- (1) CONTROL BLOCK



- (3) "F" MOUNT CYLINDERS
- (8) HOSE SWIVEL FITTINGS
PART NO 4-5-20651
- (3) STRAIGHT CONNECTORS
PART NO 5--5-3
- (1) UNION CROSS FITTINGS
PART NO 5-033X
- (1) 90 DEGREE ELBOW FITTING
PART NO 5-2503
- (1) CONTROL BLOCK

A MINIMUM OF 2 FEET HOSE OR 610mm

