

# **N-FORCER®**

**.75 Ton to 7.5 Tons Nitrogen Gas Springs**

**( 7.5 kN to 75 kN )**

**“IS” Series**

**International Standards**

**NAAMS Standards**



Detachable mounts shown  
Welded mounts also available

**Die, Mold & Automation Components, Inc. 14300 Henn Street Dearborn, MI 48126**  
**Phone : 1.800.220.2242 [www.n-forcer.com](http://www.n-forcer.com)**

## Introduction

We at Die, Mold & Automation Components, Inc., have been providing quality products since 1986, have dedicated our resources to produce the most trouble-free nitrogen gas spring on today's market. This dedication to quality has enabled our customers to achieve the elite manufacturing status which helps them excel in today's highly competitive market.

## N-FORCER® BENEFITS

### Quality Construction

Bodies are welded construction. Rods are machined from alloy steel on CNC equipment, hardened and chrome plated. Rods are super finished to reduce friction and provide a **long service life**.

### Customer Service

**N-FORCER®** dedicates all of our resources to supply customers with the best service, and support.

### Versatile

**N-FORCER®** gas springs are used as self-contained or hose systems. We also offer a wide variety of mounting options that meet **international automotive standards**.

### Economical

- Eliminate costly manifolds.
- Competitive product pricing

### Leak-Proof Design

**N-FORCER®** uses a cartridge that contains a double lip rod seal. This **unique seal** prevents contaminants from entering the gas spring, and also provides an **excellent resistance to wear**.

### Dependable

Long service life.  
**Proven** in the field.  
Providing American made **reliable** products since 1986.

# N-FORCER®

## “ISO” SERIES HOSE SYSTEMS

A very cost effective alternative to the expensive  
Manifold systems of the past.

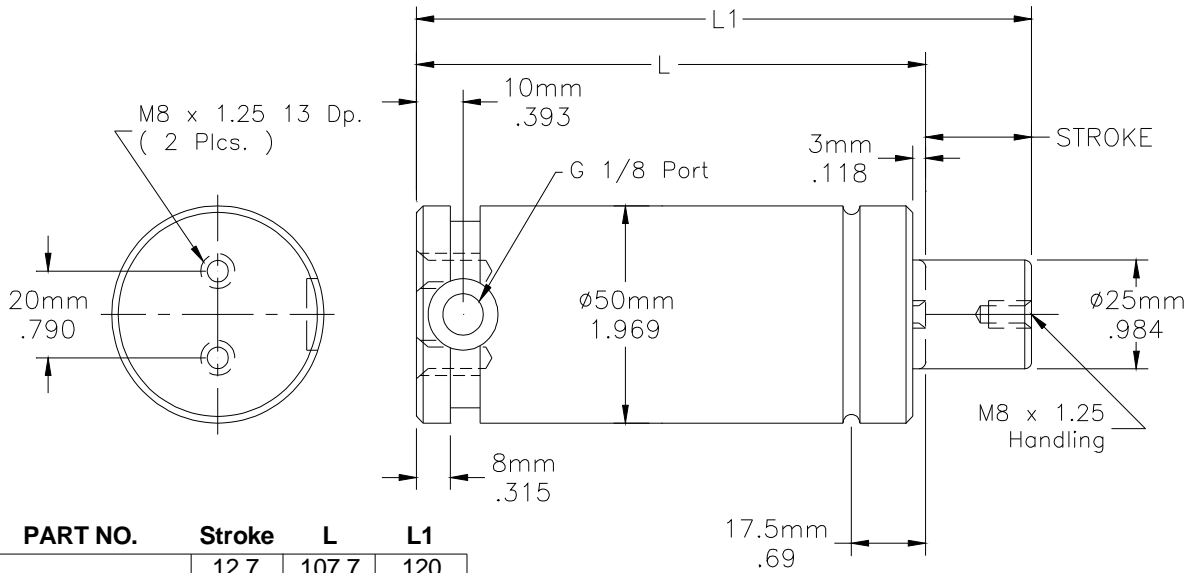
All of the Advantages--Plus more flexibility



We will Manufacture the Plate and Hose at our plant,  
or we will supply hose with fittings attached for you to  
assemble on your plate.

# N-FORCER®

## IS075 - (7.5 kN - .75 Ton) Basic Mount



PART NO.	Stroke	L	L1
IS075 x 013	12.7	107.7	120
	0.50	4.24	4.74
IS075 x 025	25	120	145
	0.98	4.72	5.71
IS075 x 038	38.1	133.1	171
	1.50	5.24	6.74
IS075 x 050	50	145	195
	1.97	5.71	7.67
IS075 x 063	63.5	158.5	222
	2.50	6.24	8.74
IS075 x 075	75	170	245
	2.95	6.69	9.64
IS075 x 080	80	175	255
	3.15	6.89	10.04
IS075 x 088	88.9	183.9	273
	3.50	7.24	10.74
IS075 x 100	100	195	295
	3.94	7.68	11.61
IS075 x 114	114.3	209.3	324
	4.50	8.24	12.74
IS075 x 125	125	220	345
	4.92	8.66	13.58
IS075 x 138	139.7	234.7	374
	5.50	9.24	14.74
IS075 x 150	150	245	395
	5.91	9.65	15.55
IS075 x 160	160	255	415
	6.30	10.04	16.34
IS075 x 175	175	270	445
	6.89	10.63	17.52
IS075 x 200	200	295	495
	7.87	11.61	19.49
IS075 x 225	225	320	545
	8.86	12.60	21.45
IS075 x 250	250	345	595
	9.84	13.58	23.42
IS075 x 275	275	370	645
	10.83	14.57	25.39
IS075 x 300	300	395	695
	11.81	15.55	27.36

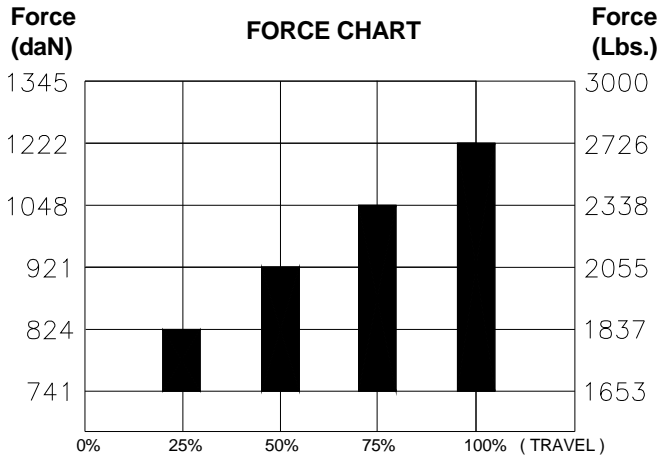


Chart is showing maximum force base on 2175 psi ( 150 bar ) charging pressure. If less than max. the force is reduced proportionally.

Example: Forces on chart are multiplied by .69 at 1500 psi ( 103 bar ), by .46 at 1000 psi ( 69 bar ), etc.

**NOTE: MAXIMUM TRAVEL RECOMMENDED IS 90% OF STROKE.**

● Denotes NAAMS standard stroke lengths.

### ORDERING EXAMPLE

IS075 x 013 - D - 150

Part No.  
Series, Model  
and Stroke

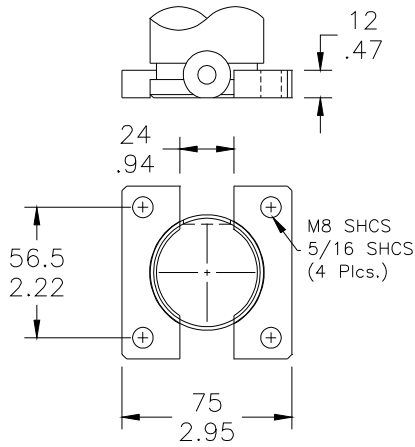
Mounting Option  
"D" Basic, optional  
mounts on page 5.

Charging Pressure  
H = open flow or hosed, no  
pressure, no valve.  
Self contained = 51-150 bar  
or 750 - 2175 psi. If not  
specified the 2175 psi  
is default.

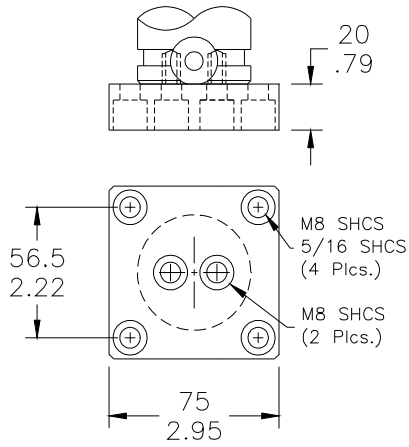
# N-FORCER<sup>®</sup>

## IS075 - (7.5 kN - .75 Ton) Optional Mounts

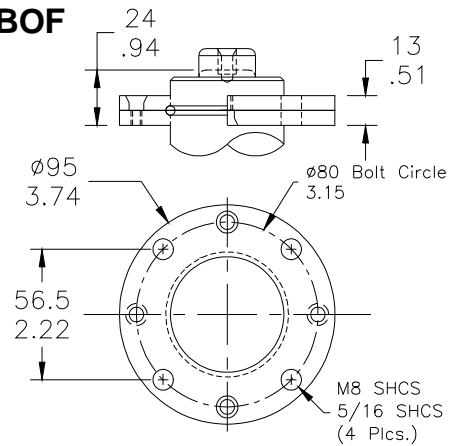
**BSF**



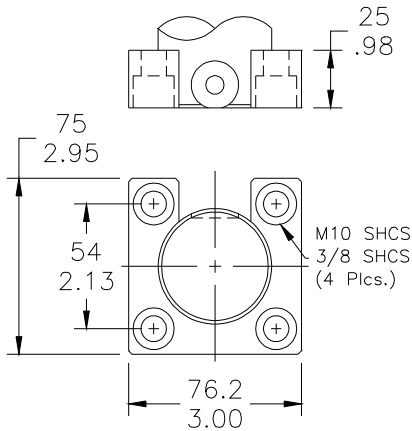
**BF**



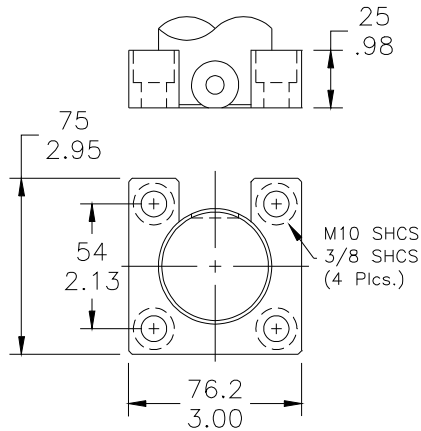
**BOF**



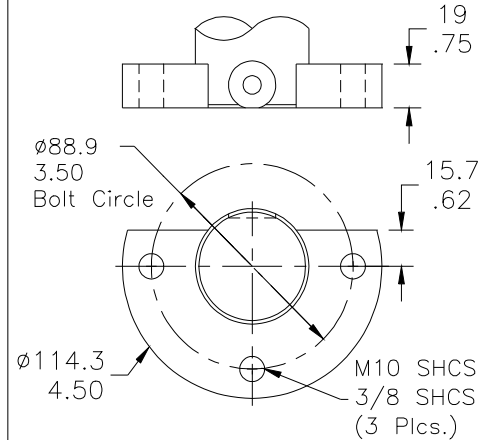
**SF - Welded**



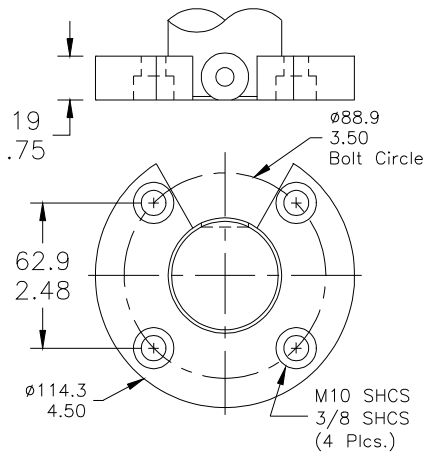
**SF1 - Welded**



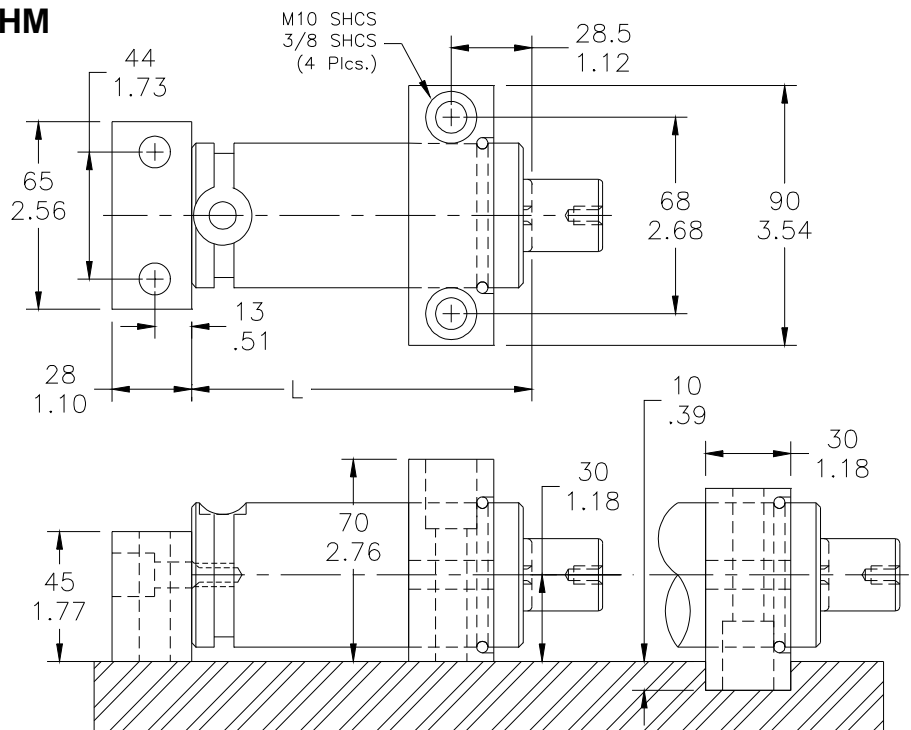
**R2 - Welded**



**RF - Welded**

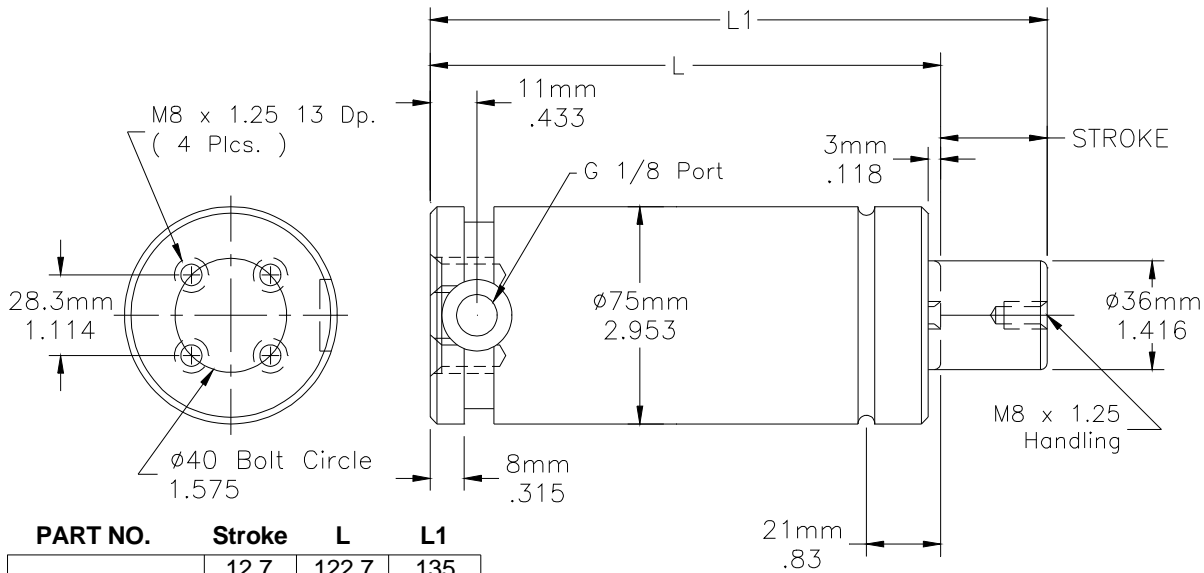


**HM**



# N-FORCER®

## IS150 - (15 kN - 1.5 Ton) Basic Mount



PART NO.	Stroke	L	L1
IS150 x 013	12.7	122.7	135
	0.50	4.83	5.33
IS150 x 025	25	135	160
	0.98	5.31	6.30
IS150 x 038	38.1	148.1	186
	1.50	5.83	7.33
IS150 x 050	50	160	210
	1.97	6.30	8.27
IS150 x 063	63.4	173.4	237
	2.50	6.83	9.32
IS150 x 075	75	185	260
	2.95	7.28	10.24
IS150 x 080	80	190	270
	3.15	7.48	10.63
IS150 x 088	88.9	198.9	288
	3.50	7.83	11.33
IS150 x 100	100	210	310
	3.94	8.27	12.20
IS150 x 114	114.3	224.3	339
	4.50	8.83	13.33
IS150 x 125	125	235	360
	4.92	9.25	14.17
IS150 x 139	139.7	249.7	389
	5.50	9.83	15.33
IS150 x 150	150	260	410
	5.91	10.24	16.14
IS150 x 160	160	270	430
	6.30	10.63	16.93
IS150 x 175	175	285	460
	6.89	11.22	18.11
IS150 x 200	200	310	510
	7.87	12.20	20.08
IS150 x 225	225	335	560
	8.86	13.19	22.05
IS150 x 250	250	360	610
	9.84	14.17	24.02
IS150 x 275	275	385	660
	10.83	15.16	25.98
IS150 x 300	300	410	710
	11.81	16.14	27.95

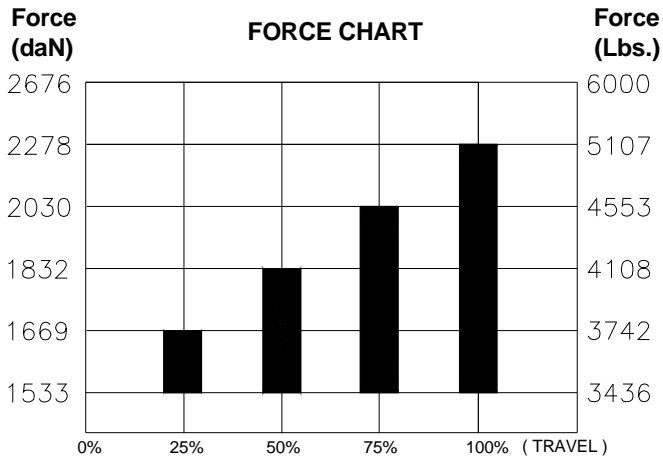


Chart is showing maximum force base on 2175 psi (150 bar) charging pressure. If less than max. the force is reduced proportionally.

Example: Forces on chart are multiplied by .69 at 1500 psi (103 bar), by .46 at 1000 psi (69 bar), etc.

**NOTE: MAXIMUM TRAVEL RECOMMENDED IS 90% OF STROKE.**

● Denotes NAAMS standard stroke lengths.

### ORDERING EXAMPLE

IS150 x 013 - D - 150

Part No. Series, Model and Stroke

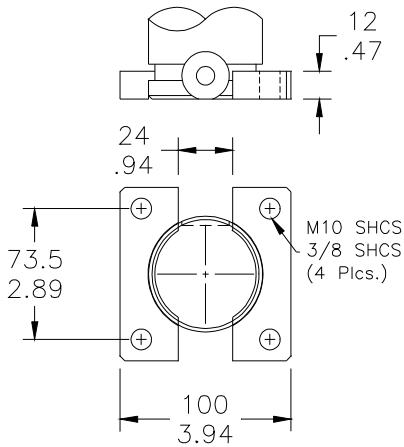
Mounting Option "D" Basic, optional mounts on page 7.

Charging Pressure  
H = open flow or hoses, no pressure, no valve.  
Self contained = 51-150 bar or 750 - 2175 psi. If not specified the 2175 psi is default.

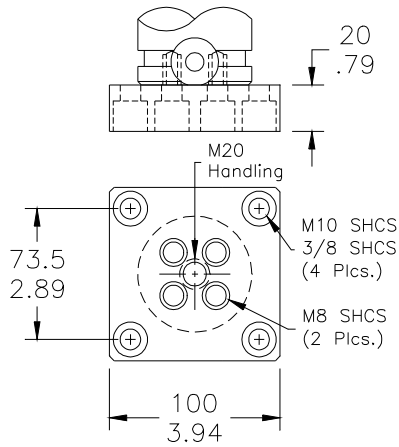
# N-FORCER<sup>®</sup>

## IS150 - (15 kN - 1.5 Ton) Optional Mounts

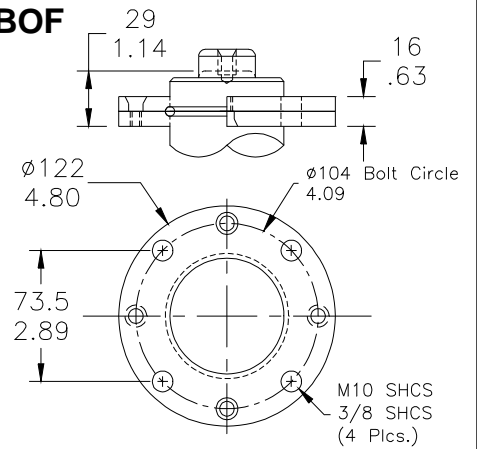
**BSF**



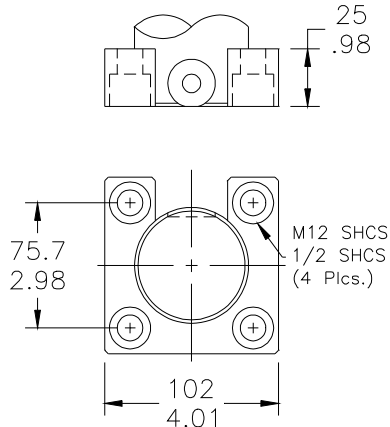
**BF**



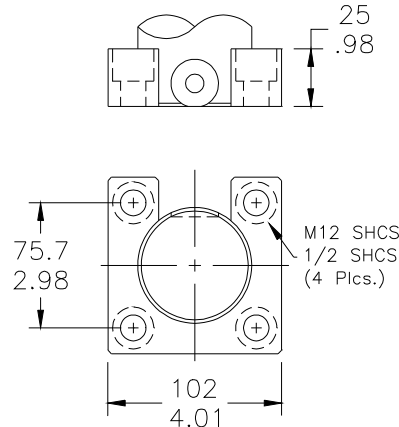
**BOF**



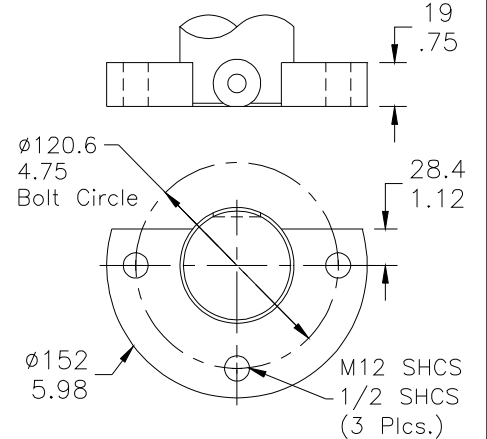
**SF - Welded**



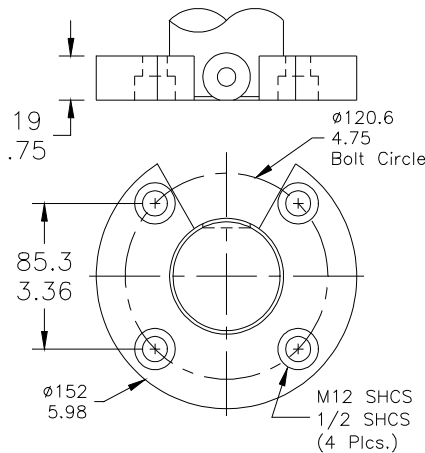
**SF1 - Welded**



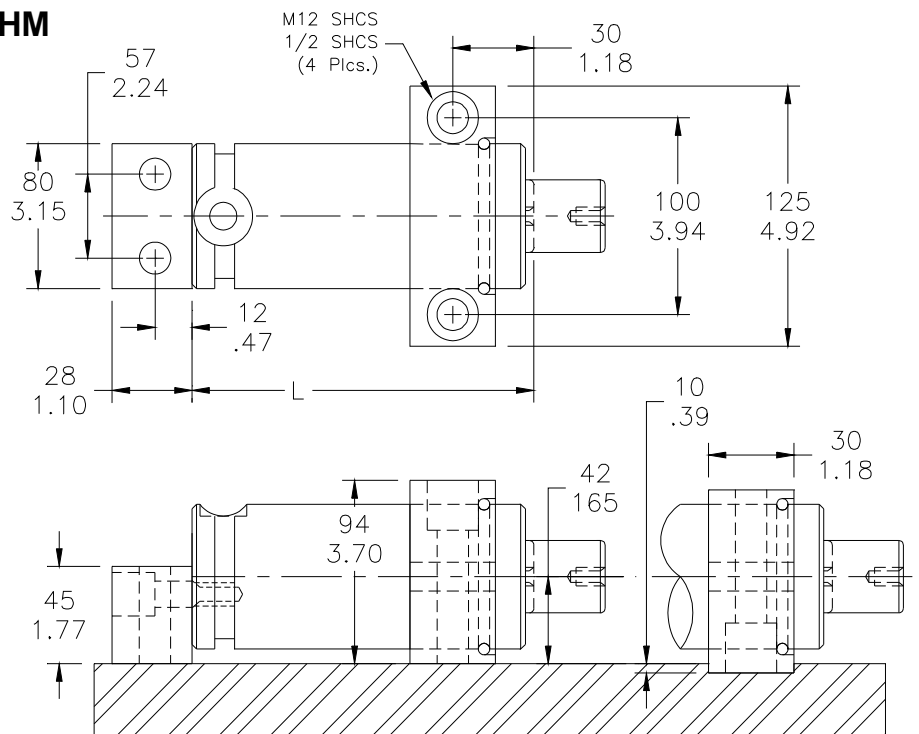
**R2 - Welded**



**RF - Welded**

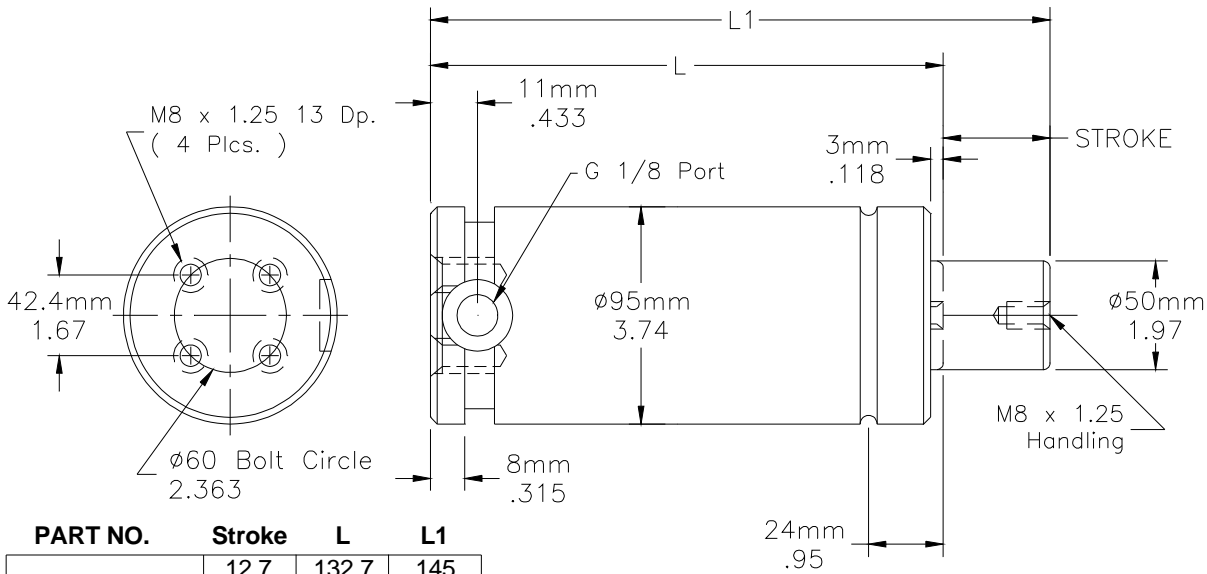


**HM**



# N-FORCER®

## IS300 - (30 kN - 3.0 Ton) Basic Mount



PART NO.	Stroke	L	L1
IS300 x 013	12.7	132.7	145
	0.50	5.22	5.72
IS300 x 025	25	145	170
	0.98	5.71	6.69
IS300 x 038	38.1	158.1	196
	1.50	6.22	7.72
IS300 x 050	50	170	220
	1.97	6.69	8.66
IS300 x 063	63.4	183.4	247
	2.50	7.22	9.72
IS300 x 075	75	195	270
	2.95	7.68	10.63
IS300 x 080	80	200	280
	3.15	7.87	11.02
IS300 x 088	88.9	208.9	298
	3.50	8.22	11.72
IS300 x 100	100	220	320
	3.94	8.66	12.60
IS300 x 114	114.3	234.3	349
	4.50	9.22	13.72
IS300 x 125	125	245	370
	4.92	9.65	14.57
IS300 x 139	139.7	259.7	399
	5.50	10.22	15.72
IS300 x 150	150	270	420
	5.91	10.63	16.53
IS300 x 160	160	280	440
	6.30	11.02	17.32
IS300 x 175	175	295	470
	6.89	11.61	18.50
IS300 x 200	200	320	520
	7.87	12.60	20.47
IS300 x 225	225	345	570
	8.86	13.58	22.44
IS300 x 250	250	370	620
	9.84	14.57	24.41
IS300 x 275	275	395	670
	10.83	15.55	26.38
IS300 x 300	300	420	720
	11.81	16.54	28.35

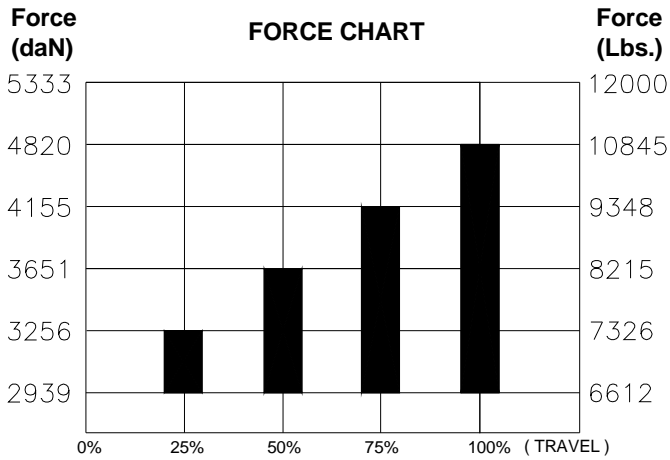


Chart is showing maximum force base on 2175 psi ( 150 bar ) charging pressure. If less than max the force is reduced proportionally.

Example: Forces on chart are multiplied by .69 at 1500 psi, ( 103 bar ), by .46 at 1000 psi ( 69 bar ), etc.

**NOTE: MAXIMUM TRAVEL RECOMMENDED IS 90% OF STROKE.**

● Denotes NAAMS standard stroke lengths.

### ORDERING EXAMPLE

IS300 x 013 - D - 150

Part No.  
Series, Model  
and Stroke

Mounting Option  
"D" Basic, optional  
mounts on page 9.

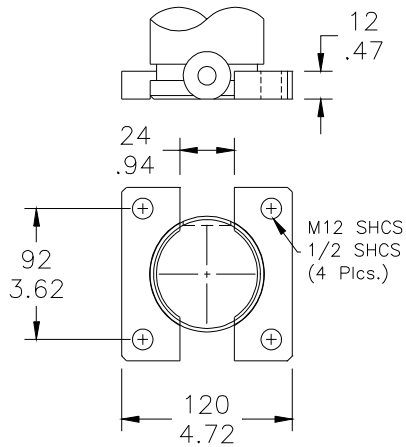
Charging Pressure  
H = open flow or hoses, no  
pressure, no valve.  
Self contained = 51-150 bar  
or 750 - 2175 psi. If not  
specified the 2175 psi  
is default.



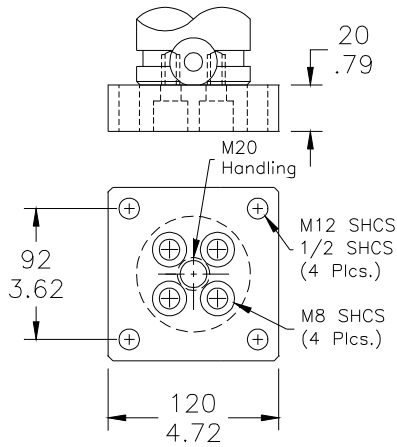
# N-FORCER<sup>®</sup>

## IS300 - (30 kN - 3.0 Ton) Optional Mounts

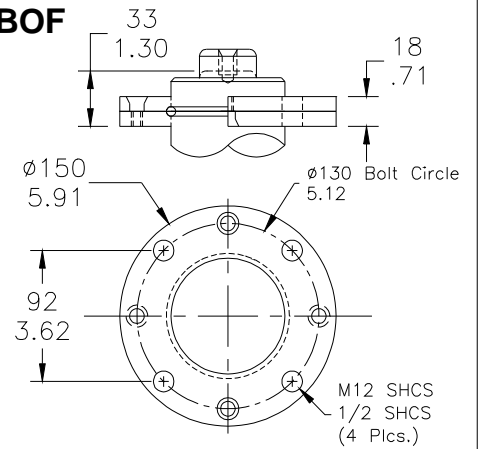
**BSF**



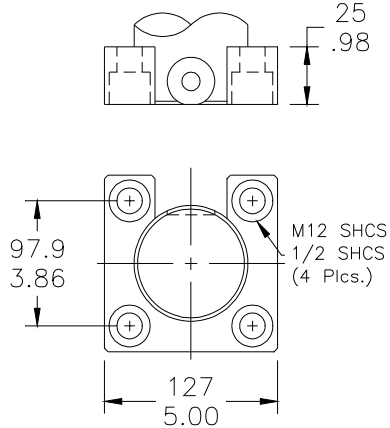
**BF**



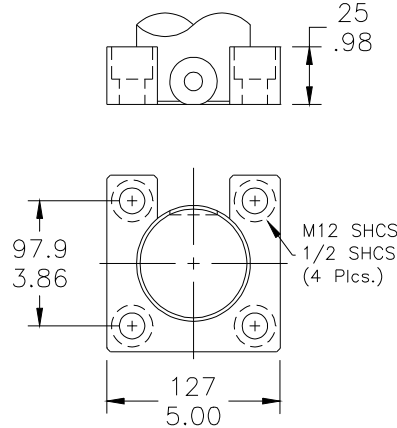
**BOF**



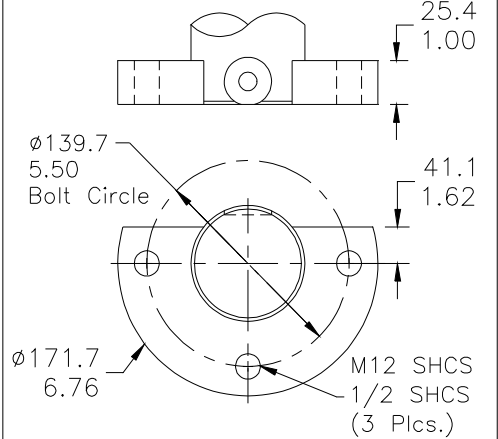
**SF - Welded**



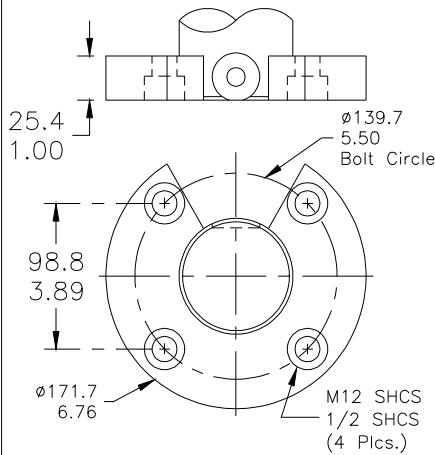
**SF1 - Welded**



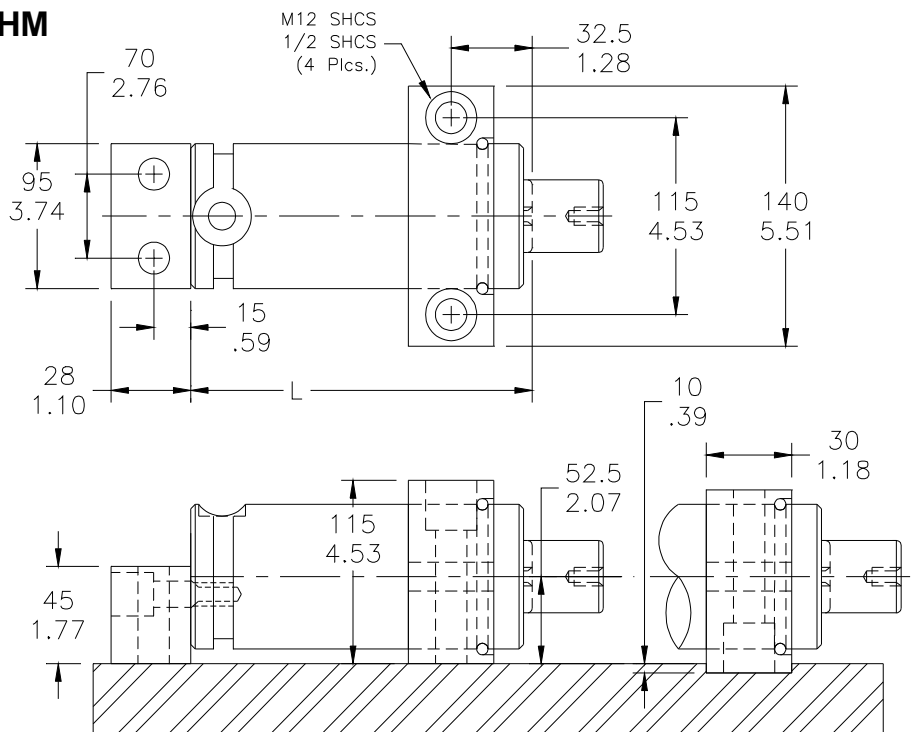
**R2 - Welded**



**RF - Welded**

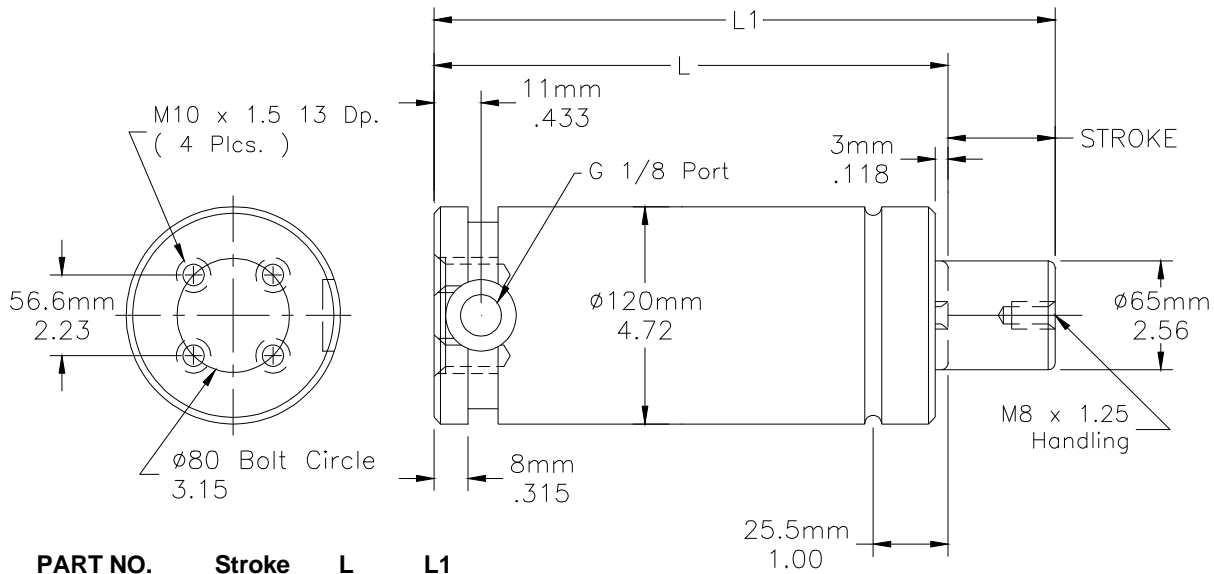


**HM**



# N-FORCER®

## IS500 - (50 kN - 5.0 Ton) Basic Mount



PART NO.	Stroke	L	L1
● IS500 x 025	25	165	190
	0.98	6.50	7.48
● IS500 x 038	38.1	178.1	216
	1.50	7.01	8.51
● IS500 x 050	50	190	240
	1.97	7.48	9.45
IS500 x 063	63.5	203.5	267
	2.50	8.01	10.51
IS500 x 075	75	215	290
	2.95	8.46	11.42
● IS500 x 080	80	220	300
	3.15	8.66	11.81
IS500 x 088	88.9	228.9	318
	3.50	9.01	12.51
● IS500 x 100	100	240	340
	3.94	9.45	13.38
IS500 x 114	114.3	254.3	369
	4.50	10.01	14.51
● IS500 x 125	125	265	390
	4.92	10.43	15.35
IS500 x 139	139.7	279.7	419
	5.41	11.01	16.51
IS500 x 150	150	290	440
	5.91	11.42	17.32
● IS500 x 160	160	300	460
	6.30	11.81	18.11
IS500 x 175	175	315	490
	6.89	12.40	19.29
● IS500 x 200	200	340	540
	7.87	13.39	21.26
IS500 x 225	225	365	590
	8.86	14.37	23.23
IS500 x 250	250	390	640
	9.84	15.35	25.20
IS500 x 275	275	415	690
	10.83	16.34	27.16
IS500 x 300	300	440	740
	11.81	17.32	29.13

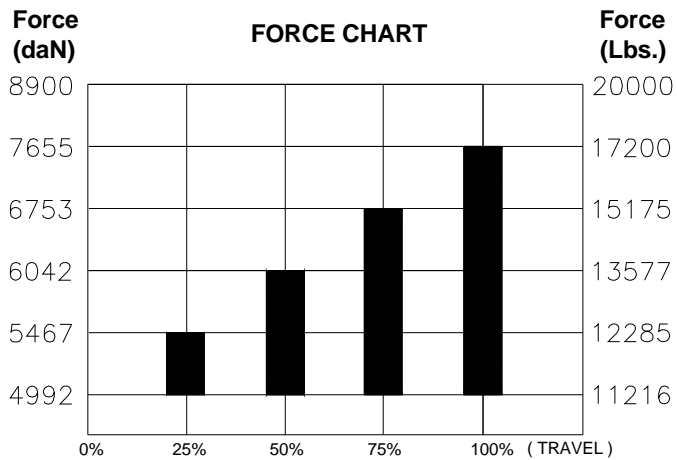


Chart is showing maximum force base on 2175 psi ( 150 bar ) charging pressure. If less than max. the force is reduced proportionally.  
 Example: Forces on chart are multiplied by .69 at 1500 psi, ( 103 bar ), by .46 at 1000 psi ( 69 bar ), etc.

**NOTE: MAXIMUM TRAVEL RECOMMENDED IS 90% OF STROKE.**

● Denotes NAAMS standard stroke lengths.

### ORDERING EXAMPLE

IS500 x 025 - D - 150

Part No.  
Series, Model  
and Stroke

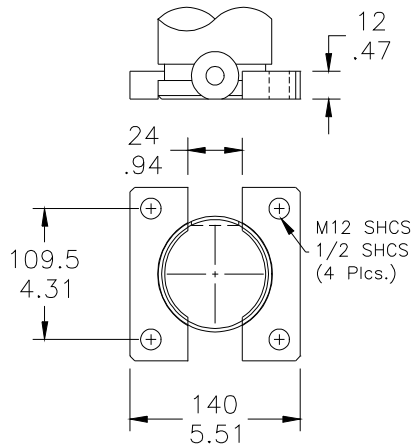
Mounting Option  
"D" Basic, optional  
mounts on page 11.

Charging Pressure  
H = open flow or hoses, no  
pressure, no valve.  
Self contained = 51-150 bar  
or 750 - 2175 psi. If not  
specified the 2175 psi  
is default.

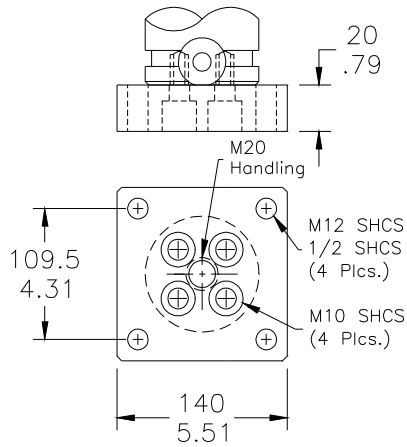
# N-FORCER<sup>®</sup>

## IS500 - (50 kN - 5.0 Ton) Optional Mounts

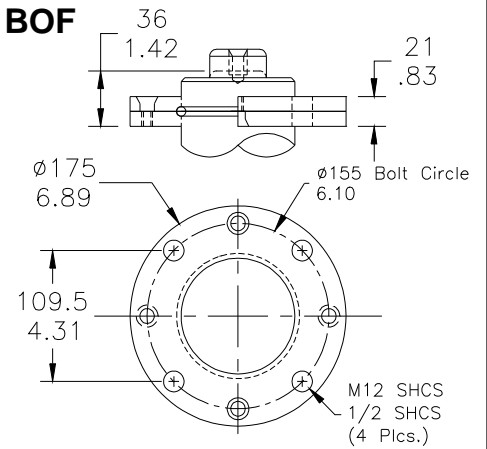
**BSF**



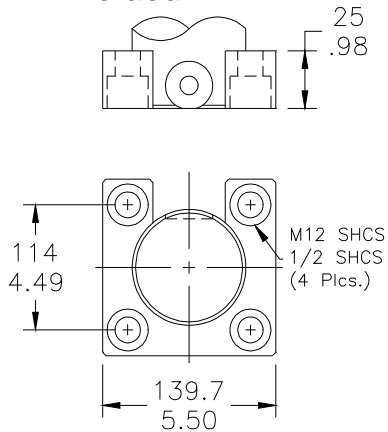
**BF**



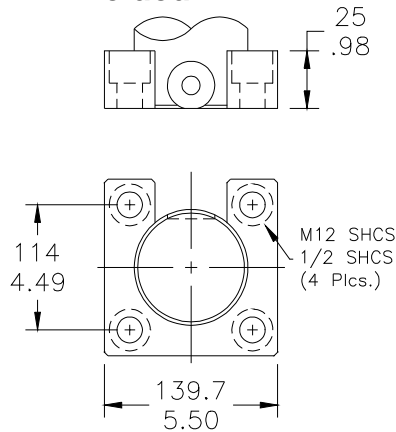
**BOF**



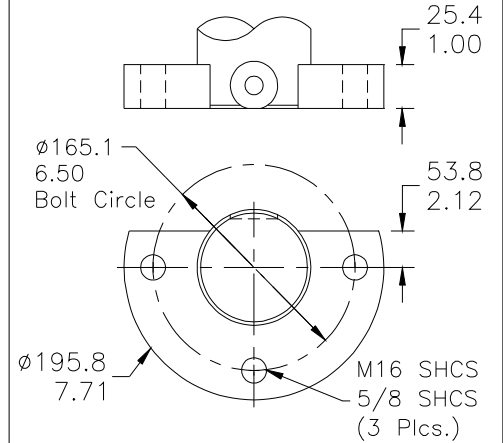
**SF - Welded**



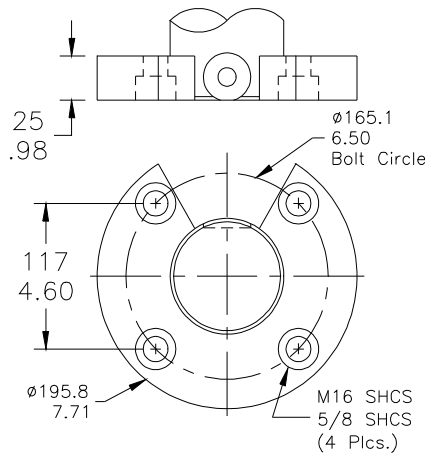
**SF1 - Welded**



**R2 - Welded**

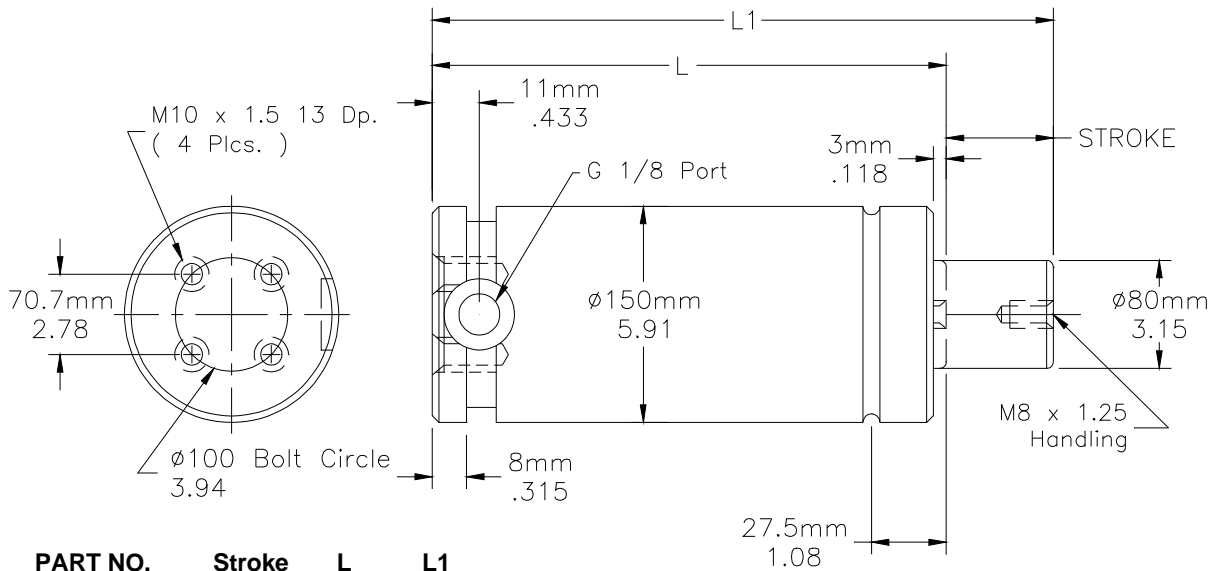


**RF - Welded**



# N-FORCER<sup>®</sup>

## IS800 - (75 kN - 7.5 Ton) Basic Mount



PART NO.	Stroke	L	L1
● IS800 x 025	25	180	205
	0.98	7.09	8.07
● IS800 x 038	38.1	193.1	231
	1.50	7.60	9.10
● IS800 x 050	50	205	255
	1.97	8.07	10.04
IS800 x 063	63.5	218.5	282
	2.50	8.60	11.10
IS800 x 075	75	230	305
	2.95	9.06	12.01
● IS800 x 080	80	235	315
	3.15	9.25	12.40
IS800 x 088	88.9	243.9	333
	3.50	9.60	13.10
● IS800 x 100	100	255	355
	3.94	10.04	13.98
IS800 x 114	114.3	269.3	384
	4.50	10.60	15.10
● IS800 x 125	125	280	405
	4.92	11.02	15.95
IS800 x 139	139.7	294.7	434
	5.50	11.60	17.10
IS800 x 150	150	305	455
	5.91	12.01	17.91
● IS800 x 160	160	315	475
	6.30	12.40	18.70
IS800 x 175	175	330	505
	6.89	12.99	19.88
● IS800 x 200	200	355	555
	7.87	13.98	21.85
IS800 x 225	225	380	605
	8.86	14.96	23.82
IS800 x 250	250	405	655
	9.84	15.94	25.79
IS800 x 275	275	430	705
	10.83	16.93	27.76
IS800 x 300	300	455	755
	11.81	17.91	29.72

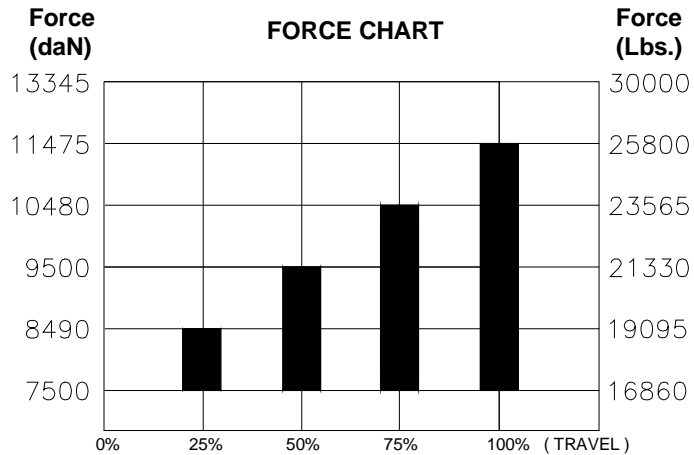


Chart is showing maximum force base on 2175 psi ( 150 bar ) charging pressure. If less than max. the force is reduced proportionally.

Example: Forces on chart are multiplied by .69 at 1500 psi ( 103 bar ), by .46 at 1000 psi ( 69 bar ), etc.

**NOTE: MAXIMUM TRAVEL RECOMMENDED IS 90% OF STROKE.**

● Denotes NAAMS standard stroke lengths.

### ORDERING EXAMPLE

IS800 x 025 - D - 150

Part No.  
Series, Model  
and Stroke

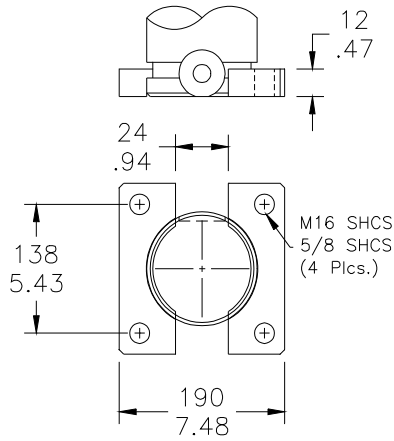
Mounting Option  
"D" Basic, optional  
mounts on page 13.

Charging Pressure  
H = open flow or hosed, no  
pressure, no valve.  
Self contained = 51-150 bar  
or 750 - 2175 psi. If not  
specified the 2175 psi  
is default.

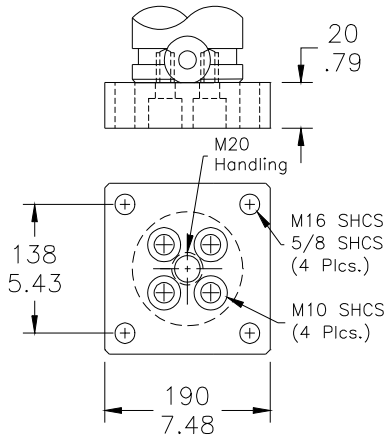
# N-FORCER<sup>®</sup>

## IS800 - (75 kN - 7.5 Ton) Optional Mounts

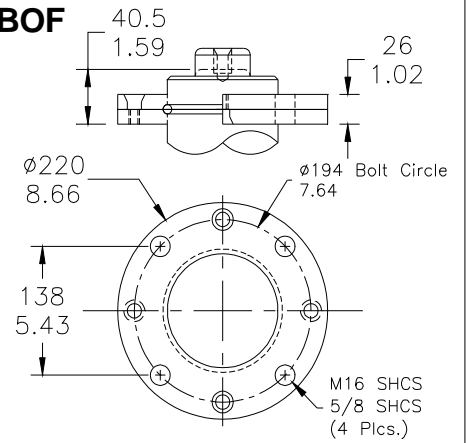
**BSF**



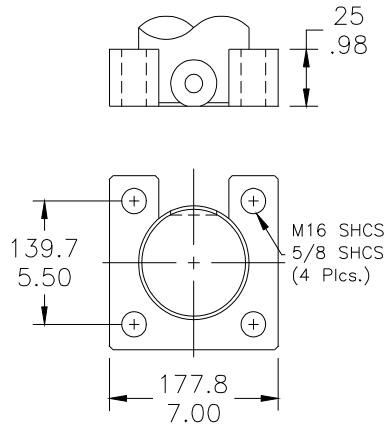
**BF**



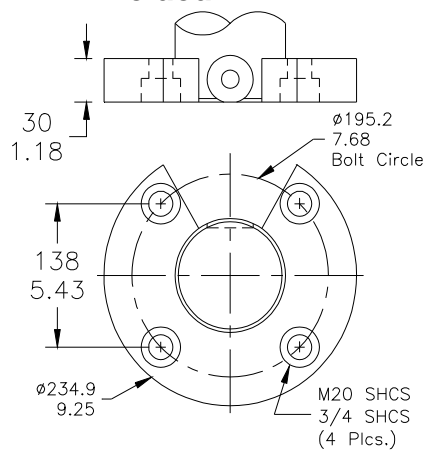
**BOF**



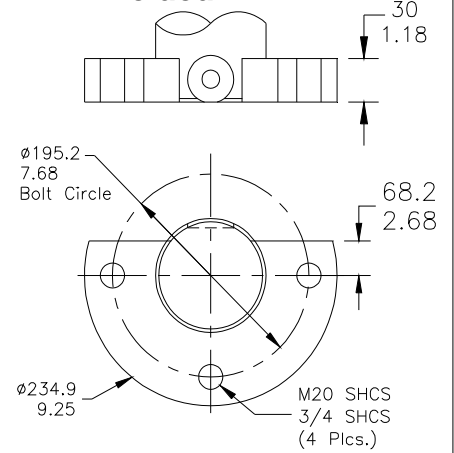
**SF2 - Welded**



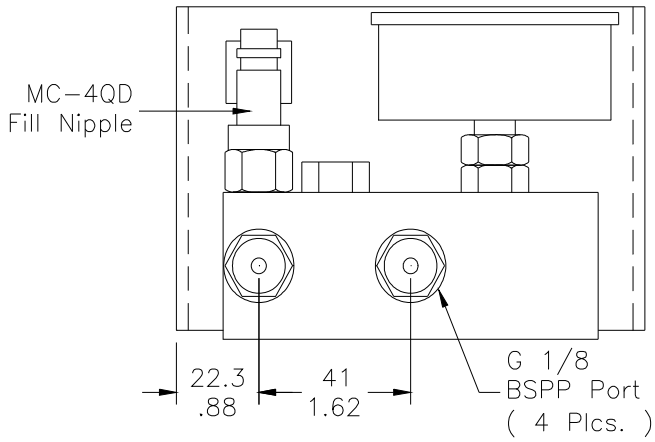
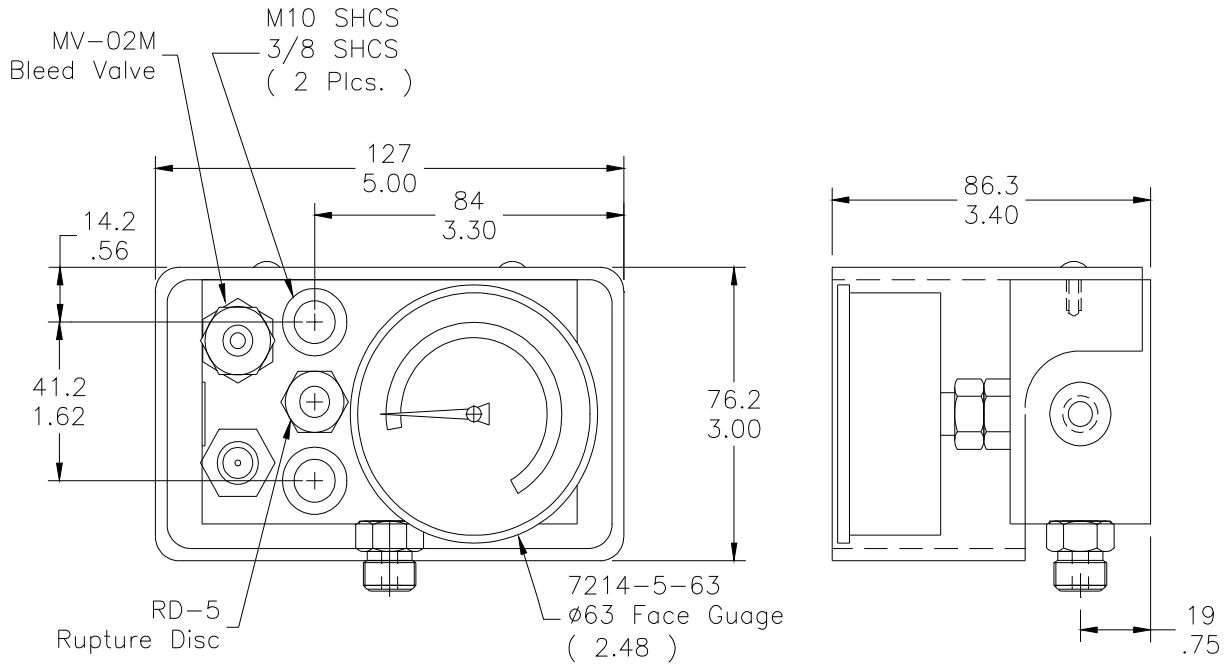
**RF - Welded**



**R2 - Welded**



# N-FORCER<sup>®</sup> CB-4 Control Panel

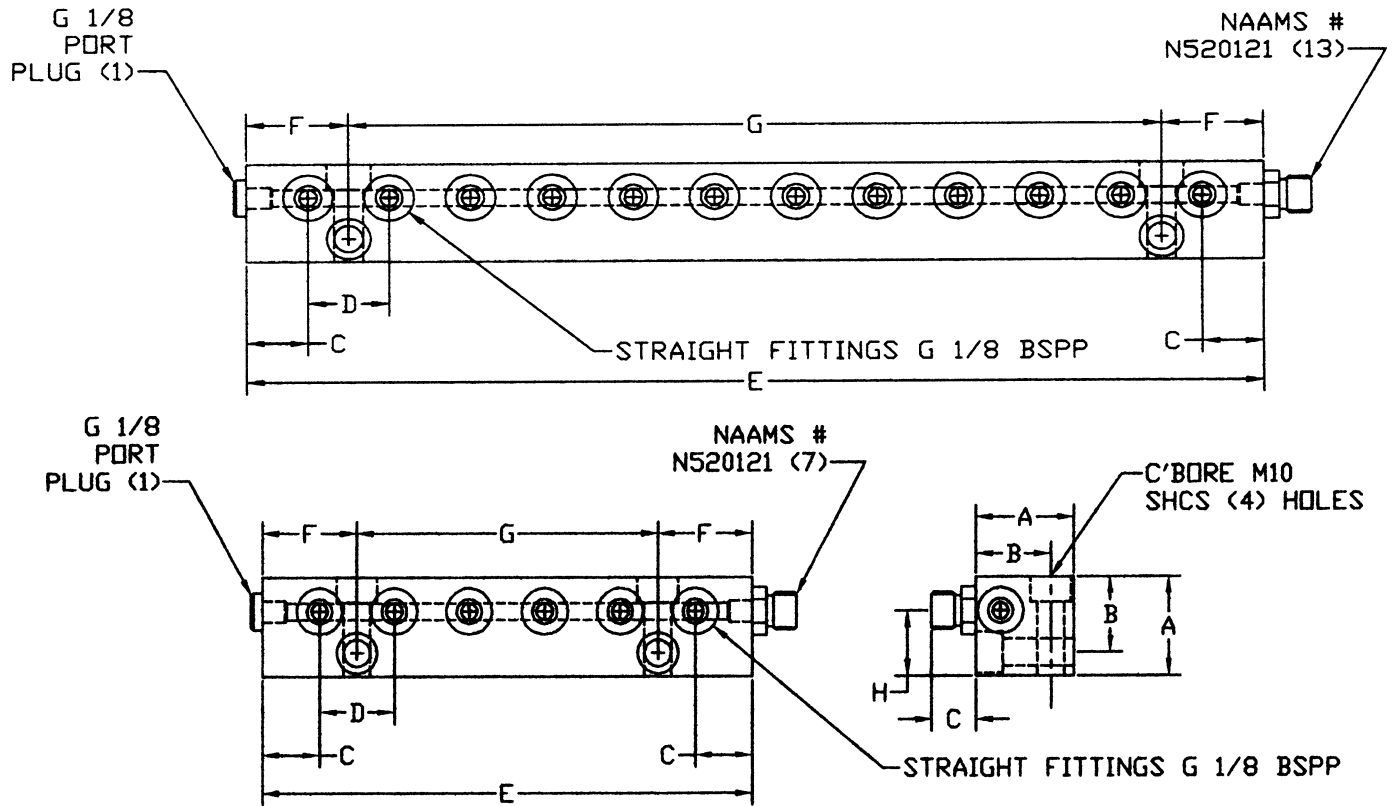


# N-FORCER®

## Distribution Blocks

### For Hosed Systems with 1/8" BSPB Ports

Distribution blocks are used with a control panel for multiple hose options



				A	B	C	D	E	F	G	H
GM	M-1630-6	6 PORT	MM	38	29	22	29	187	37	114	25
			IN	1.49	1.14	.86	1.14	7.36	1.45	4.48	.98
GM	M-1630-12	12 PORT	MM	38	29	22	29	359	37	286	25
			IN	1.49	1.14	.86	1.14	14.13	1.45	11.25	.98
	MDCB-6	6 PORT	MM	38	28.6	22.2	31.7	203.2	36.6	130	22.9
			IN	1.49	1.12	.87	1.24	8.00	1.44	5.11	.90
	MDCB-12	12 PORT	MM	38	28.6	22.2	31.7	393	36.6	320.5	22.9
			IN	1.49	1.12	.87	1.24	15.47	1.44	12.61	.90

MDCB-6 & 12 allow room for 90 degree elbow fitting to be rotated without interference with fitting in next port.

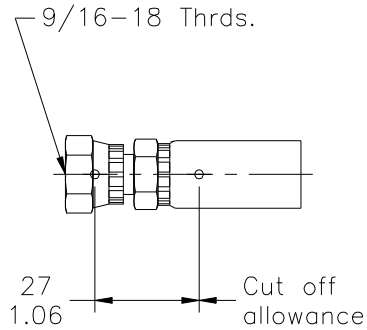
NAAMS N520121 fitting ordered seperately.

# N-FORCER<sup>®</sup>

## Hose Swivels & Hose

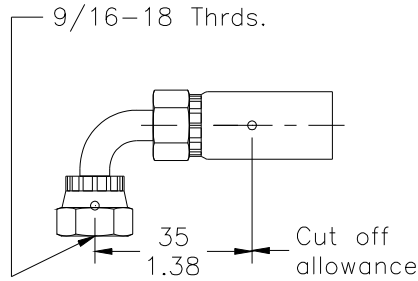
### For Hosed Systems

**1JC55-4-4 Permanent Hose Swvl.**



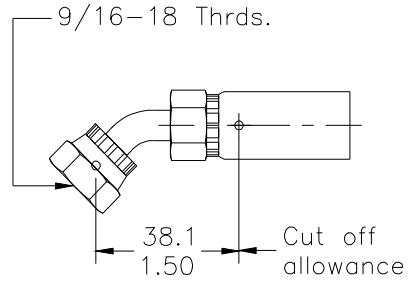
Straight Swivel ( o-ring face seal )

**1J955-4-4 Permanent Hose Swvl.**



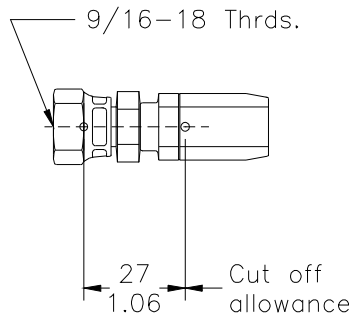
90° ( o-ring face seal )

**1J755-4-4 Permanent Hose Swvl.**



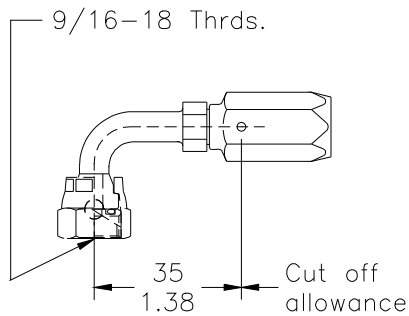
45° ( o-ring face seal )

**2JC51-4-4 Reusable Hose Swvl.**



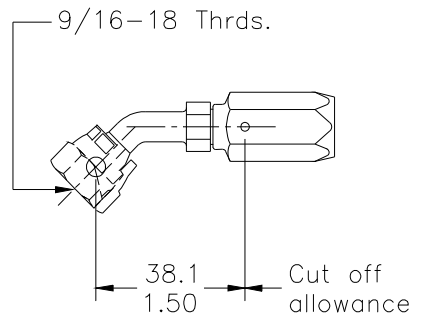
Straight Swivel ( o-ring face seal )

**2J951-4-4 Reusable Hose Swvl.**



90° ( o-ring face seal )

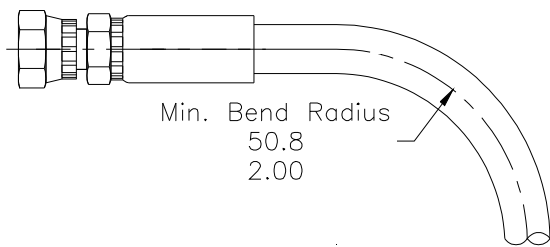
**2J751-4-4 Reusable Hose Swvl.**



45° ( o-ring face seal )

**520N-4 Hose for permanent hose swvl.**

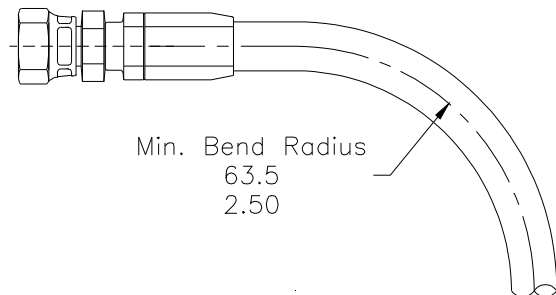
Meets or exceeds SAE 100R8 Specifications  
High Pressure Hose



Hose	OD	ID	Working Pressure	Burst Pressure
520N-4	13 0.51	6.3 0.25	345 bar 5000 psi	1380 bar 20000 psi

**510A-4 Hose for reusable hose swvl.**

Meets or exceeds SAE 100R7 Specifications  
Medium Pressure Hose

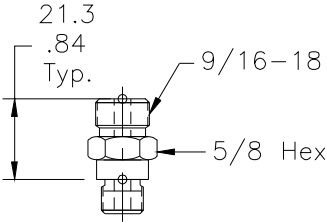
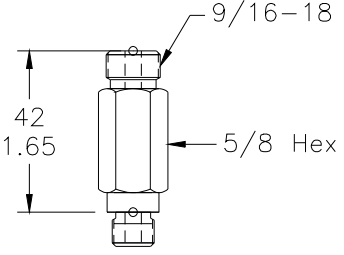
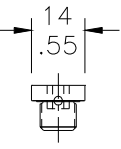


Hose	OD	ID	Working Pressure	Burst Pressure
510A-4	12 0.47	6.3 0.25	190 bar 2750 psi	758 bar 11000 psi

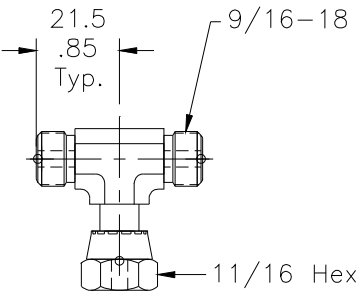
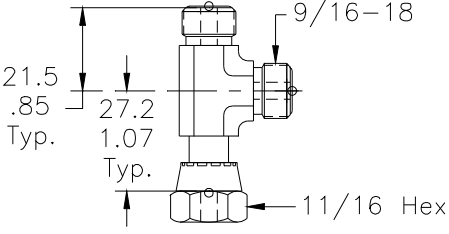
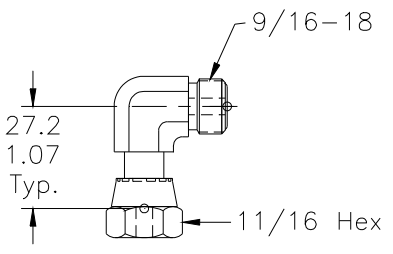


# N-FORCER<sup>®</sup> Service Fittings

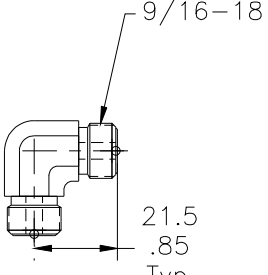
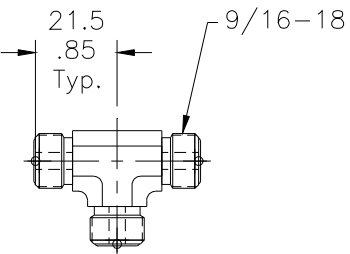
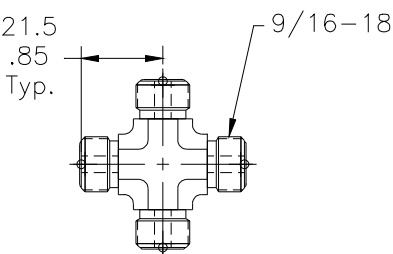
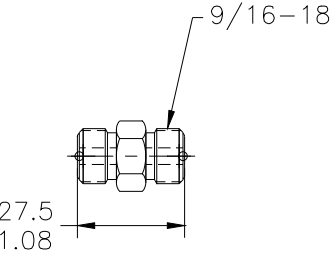
## G 1/8 ( BSPP ) Port Adapters For Hosed Systems

<p><b>4-SFBSPP</b></p>  <p>21.3 .84 Typ.</p> <p>9/16-18</p> <p>5/8 Hex</p> <p style="text-align: center;">Straight ( o-ring face seal )</p>	<p><b>4-SFLBSPP</b></p>  <p>9/16-18</p> <p>42 1.65</p> <p>5/8 Hex</p> <p style="text-align: center;">Long Straight ( o-ring face seal )</p>	<p><b>VSTIR-ED</b></p>  <p>14 .55</p> <p style="text-align: center;">Hollow Hex Port Plug</p>
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## Swivel Nut Fittings

<p><b>4-S6LO</b></p>  <p>21.5 .85 Typ.</p> <p>9/16-18</p> <p>11/16 Hex</p> <p style="text-align: center;">Swivel Nut Branch Tee ( o-ring face seal )</p>	<p><b>4-R6LO</b></p>  <p>21.5 .85 Typ.</p> <p>27.2 1.07 Typ.</p> <p>9/16-18</p> <p>11/16 Hex</p> <p style="text-align: center;">Swivel Nut Run Tee ( o-ring face seal )</p>	<p><b>4-C6LO</b></p>  <p>9/16-18</p> <p>27.2 1.07 Typ.</p> <p>11/16 Hex</p> <p style="text-align: center;">90° Swivel Nut Elbow ( o-ring face seal )</p>
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## Union Fittings

<p><b>4-ELO</b></p>  <p>9/16-18</p> <p>21.5 .85 Typ.</p> <p style="text-align: center;">90° Union Elbow ( o-ring face seal )</p>	<p><b>4-JLO</b></p>  <p>21.5 .85 Typ.</p> <p>9/16-18</p> <p style="text-align: center;">Union Tee ( o-ring face seal )</p>	<p><b>4-KLO</b></p>  <p>21.5 .85 Typ.</p> <p>9/16-18</p> <p style="text-align: center;">Union Cross ( o-ring face seal )</p>
<p><b>4-HLO</b></p>  <p>9/16-18</p> <p>27.5 1.08</p> <p style="text-align: center;">Straight Union ( o-ring face seal )</p>		