

NITROGEN CYLINDERS & COMPONENTS INDEX

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| N-27 | 09/18/23 | N92 | Nitrogen Gas Spring (Compact) |
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| N-29 | 09/18/23 | N93 | Nitrogen Gas Spring (High Tonnage) |

Guidelines for Nitrogen Gas Springs supplied to NAAMS

General Guidelines:

- Material, dimensions and design of individual parts such as the piston, cylinder body and cartridge shall be to manufacturer's choice, unless otherwise specified in the guidelines listed on the following pages.
- Gas springs shall be designed, manufactured and tested in accordance with applicable pressure vessel regulations.
- The manufacturer's choice of materials, dimensions, and design shall ensure a safe working product.

Piston:

- Each piston shall be permanently marked with manufacturer's name and lot number for identification and tracking purposes.
- The piston shall be manufactured with a secondary safety/security feature that will introduce a gas leakage in the event of piston rod breakage.

Cylinder Body:

- Shall be a one-piece or welded construction
- Shall be permanently marked with the following information:
Individual serial number for tracking purposes, NAAMS Code, Manufacturer's name or logo, repair kit number and maximum charging pressure.

Cartridge:

Cartridge design and material specifications are to manufacturer's choice along with the following requirements:

- Shall be designed in such a way that when assembled upside down in the cylinder body and pressurized, the nitrogen will then be exhausted rapidly from the cylinder.
- The bottom shall have a groove or chamfer feature to lock the retaining ring in place if the cartridge is installed upside down.

NITROGEN GAS SPRING

Cartridge Retainer Ring:

- Shall be one-piece construction.
- Shall be designed in such a way that it presses outward when installed in the groove.

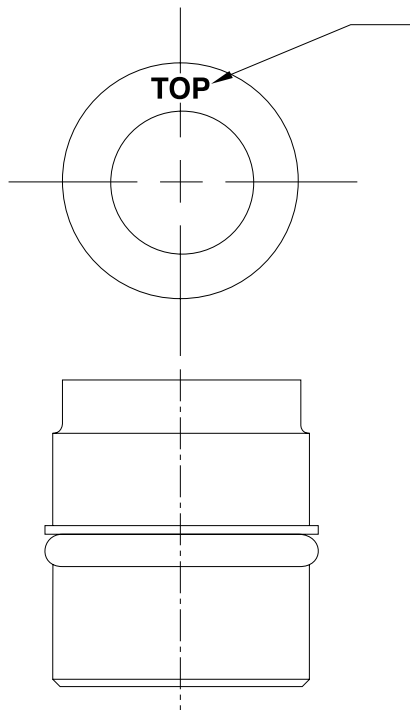
Charging Port:

- The charging port is G 1/8 BSPP
- Gas spring shall be shipped with a high pressure needle valve, port plug, and service fitting.
- Spring shall be convertible from a self contained system to a pipe system.

Labels:

- **Identification Label** shall have manufacturer's name or logo, address, telephone number and NAAMS Code number.
- **Caution/Warning Label** shall be placed directly above the charging port. This label shall contain graphics and/or instructions on proper handling procedures including a specific warning not to attempt any maintenance on the cylinder until all the nitrogen pressure has been discharged. The maximum charging pressure of 150 bar / 2150 PSI shall be on the label. Background of label shall be bright yellow with black lettering.

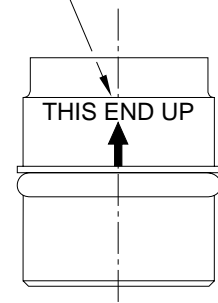
NITROGEN GAS SPRING CARTRIDGE AND REPAIR KIT PROCEDURES



TYPICAL GAS CARTRIDGE

MANUFACTURER SHALL PERMANENTLY MARK
THE WORD "TOP" OR "THIS END UP"
ON THE FACE OF THE CARTRIDGE WHEN PRACTICABLE

OPTIONAL: CARTRIDGE MAY HAVE THE WORDS
"TOP" OR "THIS END UP" PERMANENTLY MARKED
ON THE SIDE WITH AN ARROW POINTING UP



- Repair kits shall contain a set of instructions detailing the proper repair procedure. The instructions shall have illustrations along with schematics and written step-by-step repair procedures.
- Manufacturer's name shall be permanently marked on the side of the cartridge.
- The cartridge bottom shall have a machined groove / chamfer to lock the retaining ring in place if the cartridge is installed upside down.
- The cartridge shall have a fail-safe gas exhaust system built into it that, when assembled upside down and pressurized, the nitrogen will be exhausted rapidly from the cylinder.

NITROGEN GAS SPRING

(N03 SERIES)

GLOBAL STANDARD COMPONENTS



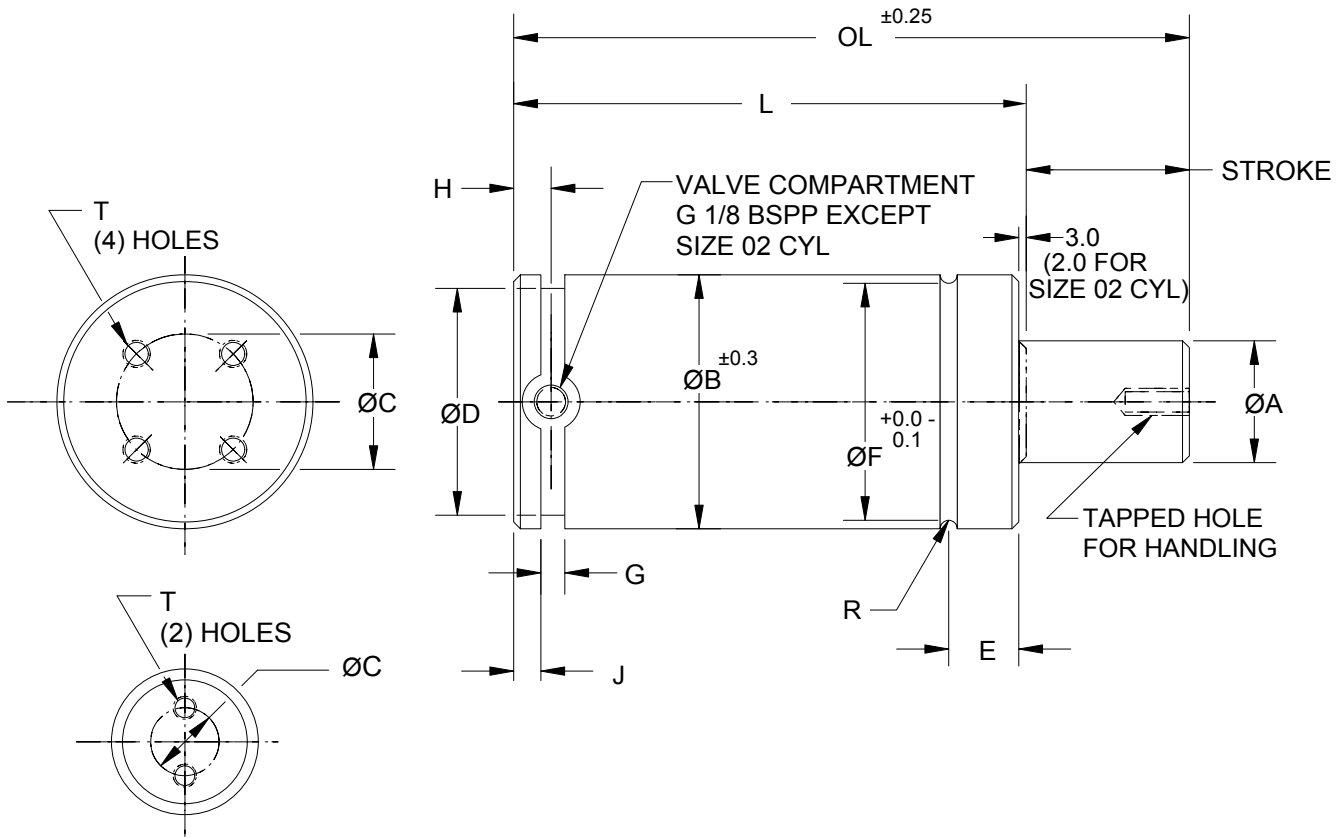
Stamping

06/27/07

E
A
F
I
L
J
B
G
M
C
H

D
K

CONFORMS TO ISO SPECIFICATION 11901-1



SIZE 02, 07 CYL ONLY

| SIZE | SPRING FORCE (kN) | $\varnothing A$ | $\varnothing B$ | T | $\varnothing C$ | $\varnothing D$ | E | $\varnothing F$ | G MIN | H | J +0.15/-0.00 | R |
|------|-------------------|-----------------|-----------------|----------|-----------------|-----------------|------|-----------------|----------|-----------|------------------|-----|
| 02 | 2.5 | 15 | 38 | M6 X 6 | 25 | 33 | 12.5 | 36 | 3.5 | 5.0/6.0 | 4.0 | 1.0 |
| 07 | 7.5 | 25 | 50 | M8 X 13 | 20 | 43 | 14.5 | 46 | 5.0 | 10.0/12.0 | 8.0 | 2.0 |
| 15 | 15.0 | 36 | 75 | M8 X 13 | 40 | 67 | 18.0 | 70 | 5.0 | 10.0/12.0 | 8.0 | 2.5 |
| 30 | 30.0 | 50 | 95 | M8 X 13 | 60 | 87 | 21.0 | 90 | 5.0 | 10.0/12.0 | 8.0 | 2.5 |
| 50 | 50.0 | 65 | 120 | M10 X 16 | 80 | 112 | 22.5 | 115 | 5.0 | 10.0/12.0 | 8.0 | 2.5 |
| 75 | 75.0 | 80 | 150 | M10 X 16 | 100 | 142 | 24.5 | 145 | 5.0 | 10.0/12.0 | 8.0 | 2.5 |
| 99 | 100.0 | 95 | 195 | M12 X 16 | 120 | 187 | 30.9 | 190 | 8.0 | 10.0/12.0 | 8.0 | 2.5 |

CODING ON FOLLOWING PAGE

NITROGEN GAS SPRING CODING

(N03 SERIES)

GLOBAL STANDARD COMPONENTS



Stamping

06/27/07

E

A

| NAAMS CODE | SPRING FORCE (kN) | STROKE | L | OL |
|------------|-------------------|--------|-----|-----|
| N030202 | 2.5 | 25 | 75 | 100 |
| N030205 | | 50 | 100 | 150 |
| N030206 | | 63 | 113 | 176 |
| N030208 | | 80 | 130 | 210 |
| N030702 | 7.5 | 25 | 120 | 145 |
| N030703 | | 38 | 133 | 171 |
| N030705 | | 50 | 145 | 195 |
| N030708 | | 80 | 175 | 255 |
| N030710 | | 100 | 195 | 295 |
| N030712 | | 125 | 220 | 345 |
| N030716 | | 160 | 255 | 415 |
| N030720 | | 200 | 295 | 495 |
| N031502 | 15 | 25 | 135 | 160 |
| N031503 | | 38 | 148 | 186 |
| N031505 | | 50 | 160 | 210 |
| N031508 | | 80 | 190 | 270 |
| N031510 | | 100 | 210 | 310 |
| N031512 | | 125 | 235 | 360 |
| N031516 | | 160 | 270 | 430 |
| N031520 | | 200 | 310 | 510 |
| N033002 | 30 | 25 | 145 | 170 |
| N033003 | | 38 | 158 | 196 |
| N033005 | | 50 | 170 | 220 |
| N033008 | | 80 | 200 | 280 |
| N033010 | | 100 | 220 | 320 |
| N033012 | | 125 | 245 | 370 |
| N033016 | | 160 | 280 | 440 |
| N033020 | | 200 | 320 | 520 |
| N035002 | 50 | 25 | 165 | 190 |
| N035003 | | 38 | 178 | 216 |
| N035005 | | 50 | 190 | 240 |
| N035008 | | 80 | 220 | 300 |
| N035010 | | 100 | 240 | 340 |
| N035012 | | 125 | 265 | 390 |
| N035016 | | 160 | 300 | 460 |
| N035020 | | 200 | 340 | 540 |
| N037502 | 75 | 25 | 180 | 205 |
| N037503 | | 38 | 193 | 231 |
| N037505 | | 50 | 205 | 255 |
| N037508 | | 80 | 235 | 315 |
| N037510 | | 100 | 255 | 355 |
| N037512 | | 125 | 280 | 405 |
| N037516 | | 160 | 315 | 475 |
| N037520 | | 200 | 355 | 555 |

| NAAMS CODE | SPRING FORCE (kN) | STROKE | L | OL |
|------------|-------------------|--------|-----|-----|
| N039905 | 100 | 50 | 210 | 260 |
| N039908 | | 80 | 240 | 320 |
| N039910 | | 100 | 260 | 360 |
| N039912 | | 125 | 285 | 410 |
| N039916 | | 160 | 320 | 480 |
| N039920 | | 200 | 360 | 560 |

C

F

D

B

NITROGEN GAS SPRING TOP FLANGE MOUNT

(N10 SERIES)

GLOBAL STANDARD COMPONENTS

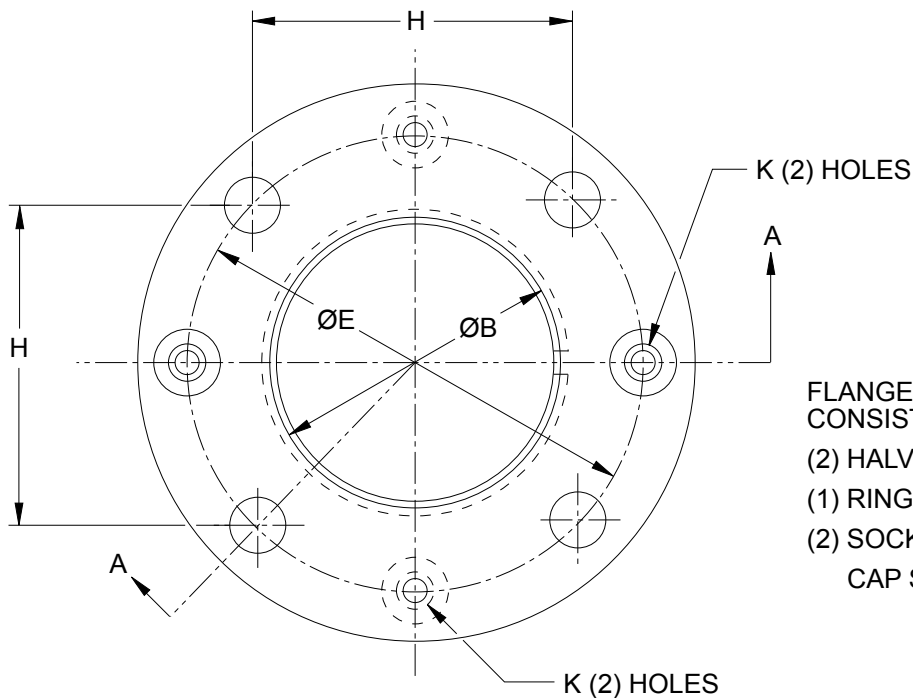


Stamping

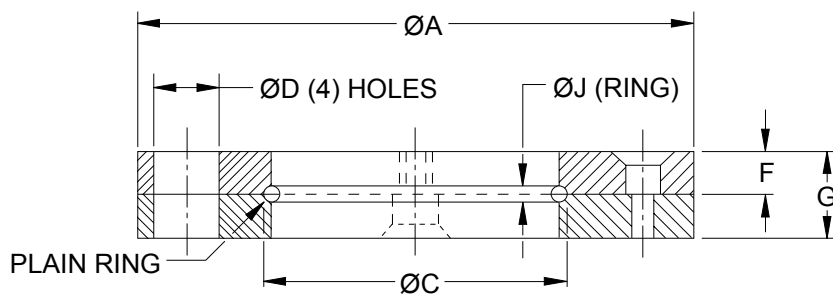
06/27/07

A

CONFORMS TO ISO SPECIFICATION 11901-2



FLANGE MOUNT ASSEMBLY
CONSISTS OF:
(2) HALVES
(1) RING SET
(2) SOCKET FLAT HEAD
CAP SCREWS



SECTION A-A

| NAAMS CODE | SPRING FORCE (kN) | ØA | $\text{ØB} \pm 0.1$ | $\text{ØC} +0.1 -0.3$ | ØD | ØE | F | G | H | $\text{ØJ} \text{ h10}$ | K |
|------------|-------------------|-------------|---------------------|-----------------------|-------------|-------------|------|----|-------|-------------------------|----|
| N100200 | 2.5 | 68 | 38.5 | 40 | 6.8 | 56 | 4.5 | 9 | 40.0 | 2.0 | M5 |
| N100700 | 7.5 | 95 | 50.5 | 54 | 9 | 80 | 6.5 | 13 | 56.5 | 4.0 | M6 |
| N101500 | 15 | 122 | 75.5 | 80 | 11 | 104 | 8.0 | 16 | 73.5 | 5.0 | M6 |
| N103000 | 30 | 150 | 95.5 | 100 | 13.5 | 130 | 9.0 | 18 | 92.0 | 5.0 | M6 |
| N105000 | 50 | 175 | 120.5 | 125 | 13.5 | 155 | 10.5 | 21 | 109.5 | 5.0 | M6 |
| N107500 | 75 | 220 | 150.5 | 155 | 17.5 | 194 | 13.5 | 27 | 138.0 | 5.0 | M6 |

NOTES & SPECIFICATIONS:

Material, steel

Tensile strength 490 MPa (71 ksi)

B

NITROGEN GAS SPRING SPLIT FLANGE MOUNT

(N11 SERIES)

GLOBAL STANDARD COMPONENTS

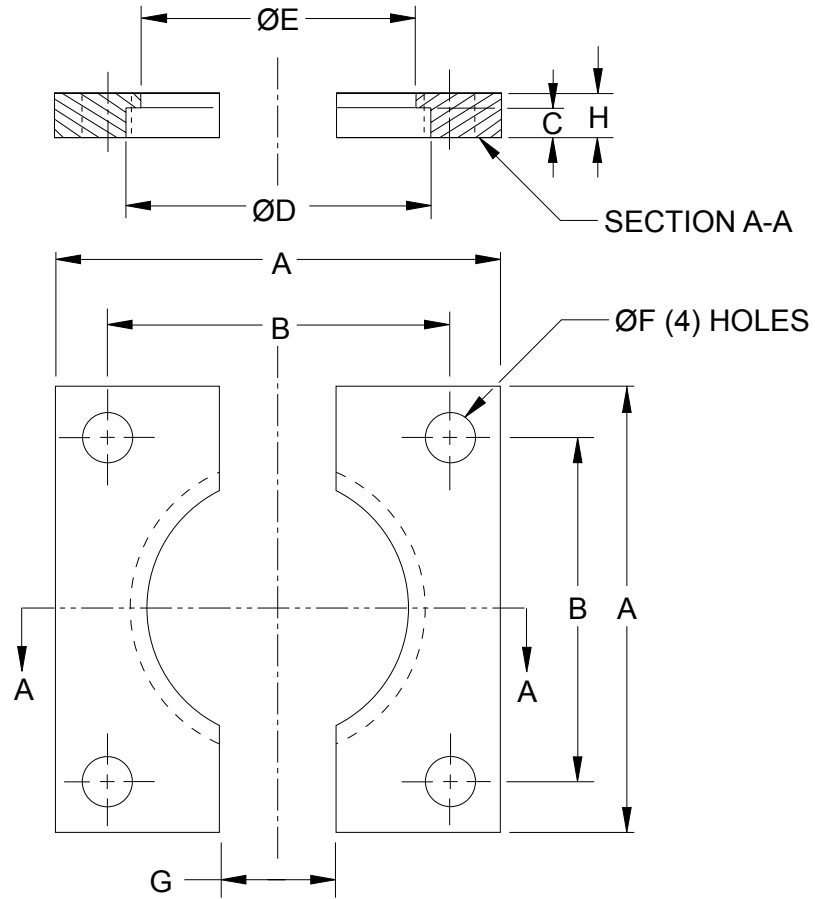


Stamping

06/27/07

A

CONFORMS TO ISO SPECIFICATION 11901-2



BREAK EDGES

D

| NAAMS CODE | SPRING FORCE (kN) | A | B | C +0.0 -0.1 | ØD | ØE | ØF | G | H |
|------------|-------------------|-----|-------|-------------------|-------|-------|------|----|----|
| N110200 | 2.5 | 55 | 40.0 | 4 | 38.5 | 34.5 | 6.8 | 5 | 7 |
| N110700 | 7.5 | 75 | 56.5 | 8 | 50.5 | 44.5 | 9.0 | 24 | 12 |
| N111500 | 15 | 100 | 73.5 | 8 | 75.5 | 68.5 | 11.0 | 24 | 12 |
| N113000 | 30 | 120 | 92.0 | 8 | 95.5 | 88.5 | 13.5 | 24 | 12 |
| N115000 | 50 | 140 | 109.5 | 8 | 120.5 | 113.5 | 13.5 | 24 | 12 |
| N117500 | 75 | 190 | 138.0 | 8 | 150.5 | 143.5 | 17.5 | 24 | 12 |
| N119900 | 100 | 210 | 170.0 | 8 | 195.5 | 188.0 | 17.5 | 24 | 13 |

B

C

NOTES & SPECIFICATIONS:

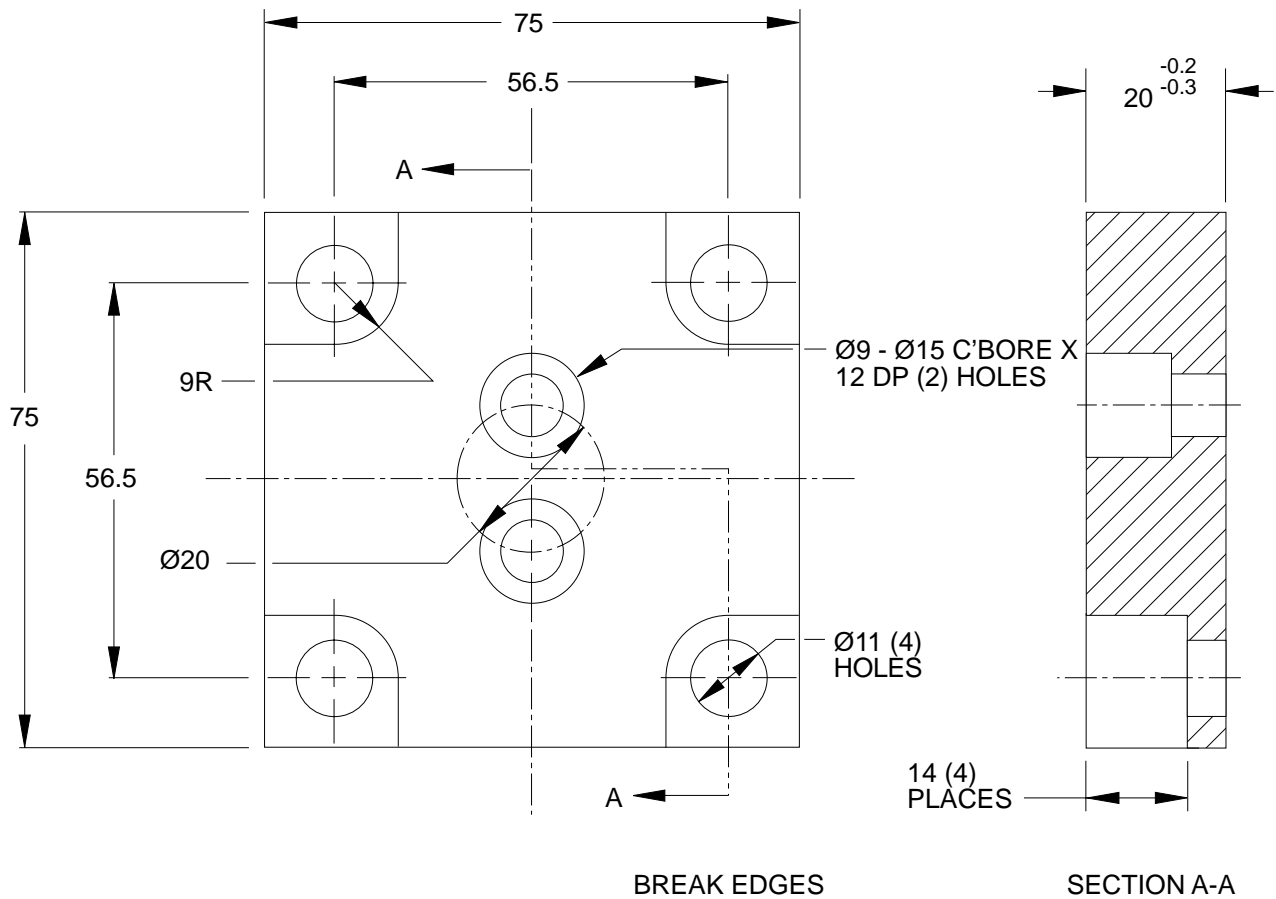
Material, steel

NITROGEN GAS SPRING BOLT-ON BASE MOUNT

(N12 SERIES)

A

7.5 kN SPRING FORCE



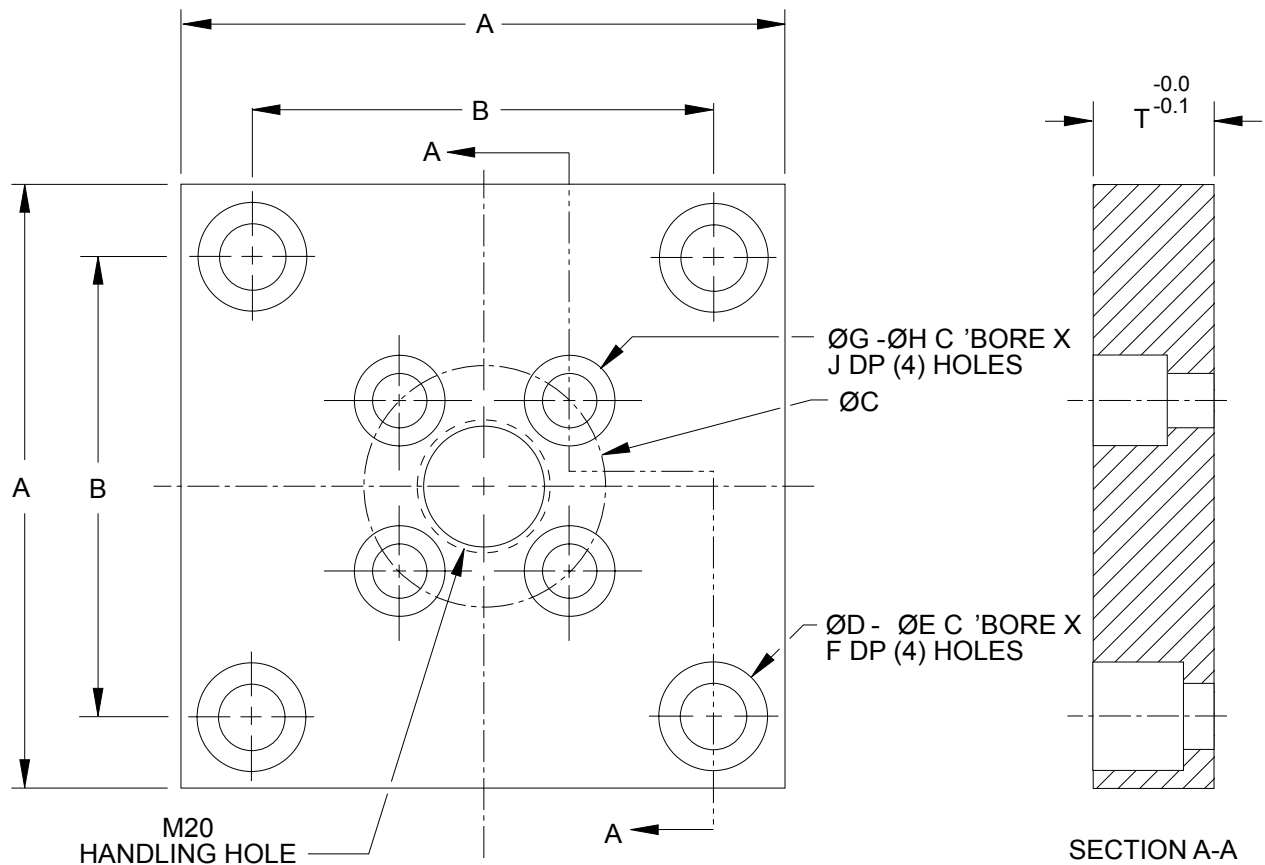
| | |
|------------|---------|
| NAAMS CODE | N120700 |
|------------|---------|

NOTES & SPECIFICATIONS:
Material, steel

NITROGEN GAS SPRING BOLT-ON BASE MOUNT

(N12 SERIES)

CONFORMS TO ISO SPECIFICATION 11901-2



| NAAMS CODE | SPRING FORCE (kN) | A | B | ØC | ØD | ØE | F | ØG | ØH | J | T |
|------------|-------------------|-----|-------|-----|------|----|----|------|----|----|----|
| N121500 | 15 | 100 | 73.5 | 40 | 11 | 18 | 15 | 9 | 15 | 12 | 20 |
| N123001 | 30 | 120 | 92 | 60 | 13.5 | 20 | 13 | 9 | 15 | 12 | 20 |
| N125001 | 50 | 140 | 109.5 | 80 | 13.5 | 20 | 13 | 11 | 18 | 15 | 20 |
| N127501 | 75 | 190 | 138 | 100 | 17.5 | 26 | 17 | 11 | 18 | 15 | 25 |
| N129901 | 100 | 210 | 170 | 120 | 17.5 | 26 | 17 | 13.5 | 20 | 13 | 25 |

NOTES & SPECIFICATIONS:
Material, steel

**NITROGEN GAS SPRING
BOLT-ON BASE MOUNT**

N127501 MOVED TO PAGE N-10

NITROGEN GAS SPRING BOLT-ON BASE MOUNT

(N12 SERIES)

GLOBAL STANDARD COMPONENTS

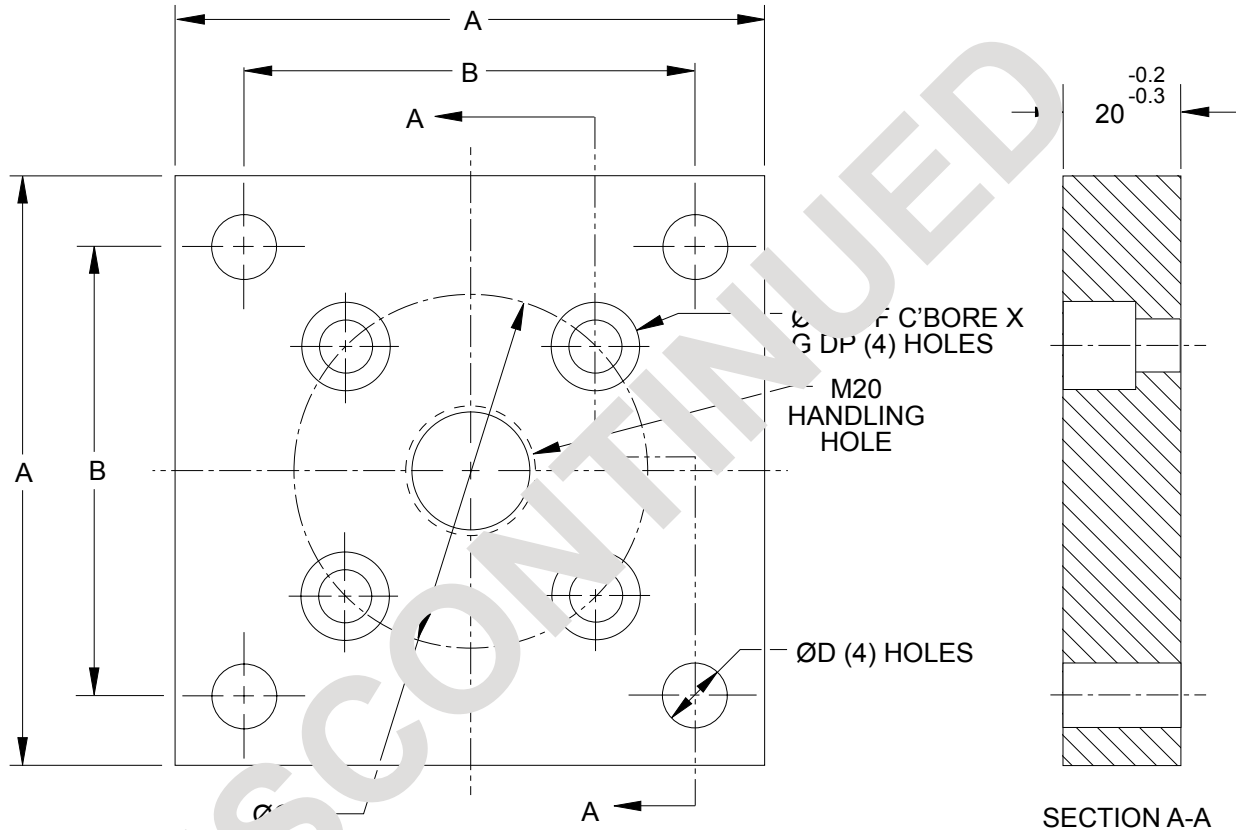


Stamping

06/27/07

A

CONFORMS TO ISO SPECIFICATION 11901-2

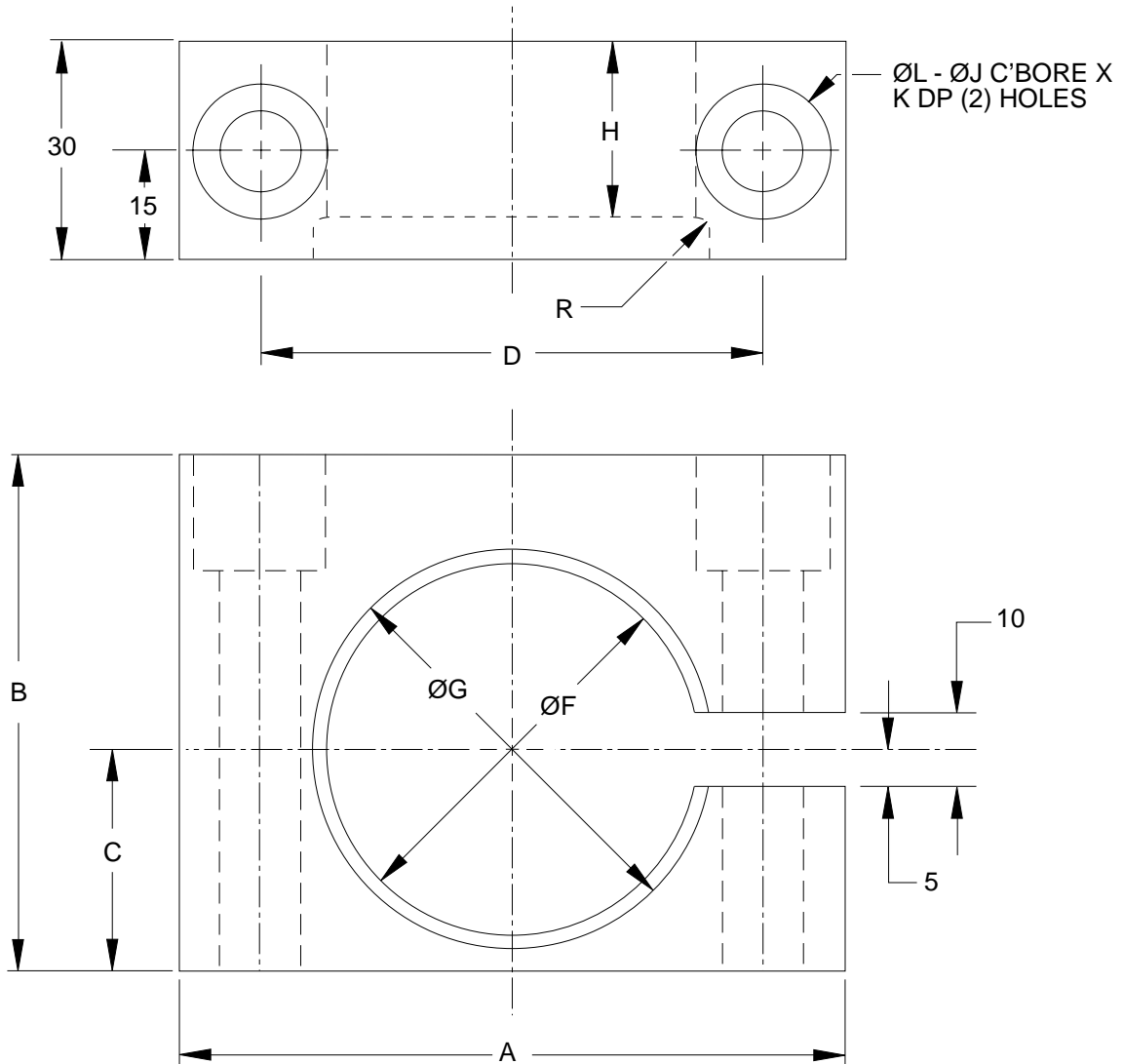


| NAAMS CODE | SPRING FORCE (kN) | A | B | ØC | ØD | ØE | ØF | G |
|------------|-------------------|-----|-------|-----|------|----|----|----|
| N123000 | 30 | 120 | 92.0 | 60 | 13.5 | 9 | 15 | 12 |
| N125000 | 50 | 140 | 109.5 | 80 | 13.5 | 11 | 18 | 15 |
| N127500 | 75 | 190 | 138.0 | 100 | 17.5 | 11 | 18 | 15 |

NOTES & SPECIFICATIONS:
Material, steel

NITROGEN GAS SPRING HORIZONTAL FOOT MOUNT - FRONT

(N13 SERIES)

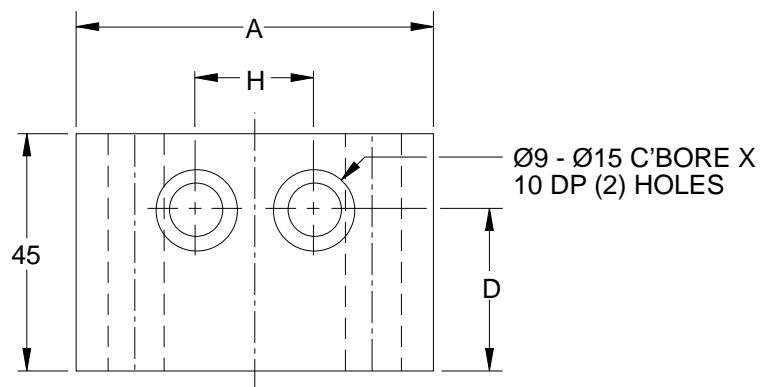
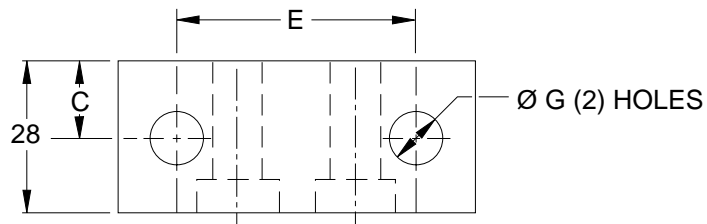


| NAAMS CODE | SPRING FORCE (kN) | A | B | C | D | ØF | ØG +0.2 +0.1 | H +0.2 +0.1 | ØJ +0.1 | K | ØL | R |
|------------|-------------------|-----|-----|------|-----|------|--------------|-------------|---------|----|------|-----|
| N130700 | 7.5 | 90 | 70 | 30 | 68 | 50.3 | 54.1 | 24 | 18 | 25 | 11 | 2.0 |
| N131500 | 15 | 125 | 94 | 42 | 100 | 75.3 | 80.0 | 20.5 | 20 | 19 | 13.5 | 2.5 |
| N133000 | 30 | 140 | 115 | 52.5 | 115 | 95.3 | 100.1 | 20.5 | 20 | 40 | 13.5 | 2.5 |

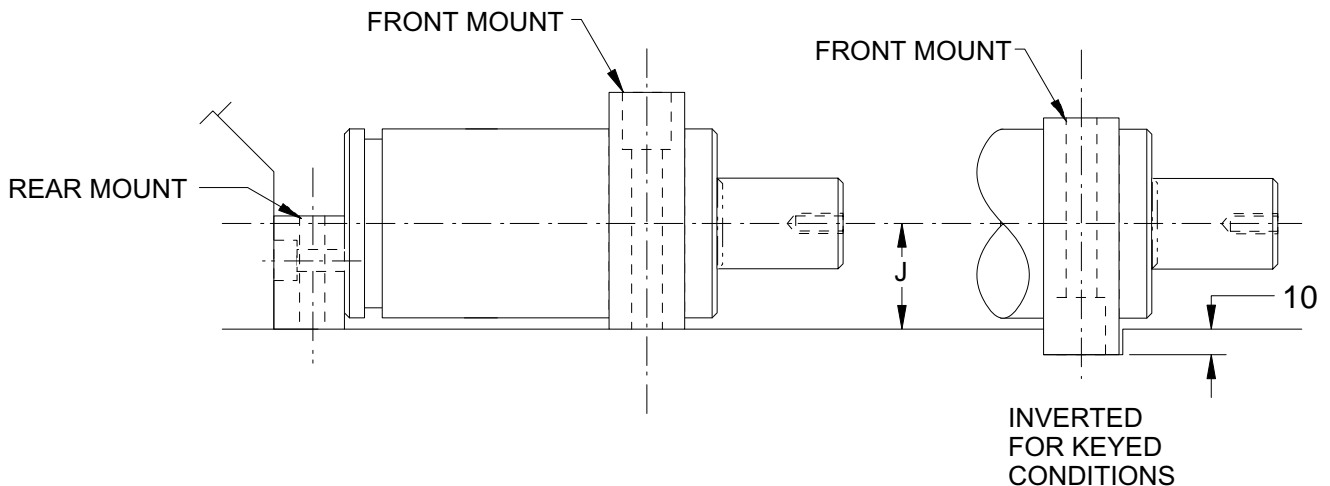
NOTES & SPECIFICATIONS:
Material, steel

NITROGEN GAS SPRING HORIZONTAL FOOT MOUNT - REAR

(N14 SERIES)



| NAAMS CODE | SPRING FORCE (kN) | A | C | D | E | ØG | H | J |
|------------|-------------------|----|----|------|----|----|------|------|
| N140700 | 7.5 | 65 | 13 | 30 | 44 | 11 | 20.0 | 30 |
| N141500 | 15 | 80 | 12 | 27.8 | 57 | 14 | 28.3 | 42 |
| N143000 | 30 | 95 | 15 | 31.2 | 70 | 14 | 42.4 | 52.2 |



NOTES & SPECIFICATIONS:
Material, steel

**NITROGEN GAS SPRING
HORIZONTAL FOOT
MOUNT - REAR (KEYED)**

(N15 SERIES)



TM
Stamping

02/16/01

DISCONTINUED

MISCELLANEOUS STRIPPER - GAS SPRING (N80 & N81 SERIES)

GLOBAL STANDARD COMPONENTS



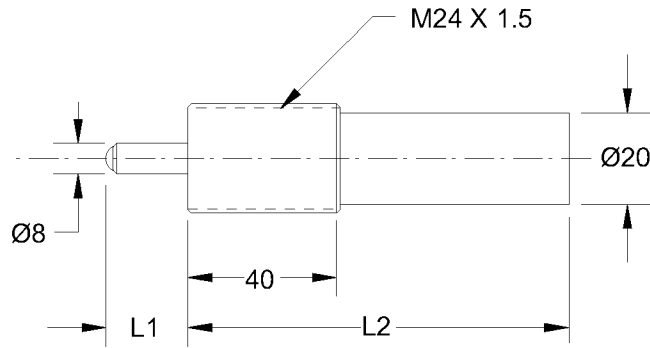
Stamping

09/10/04

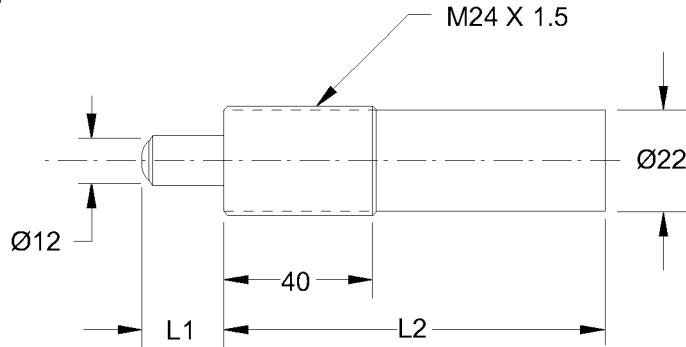
(N80 SERIES)

SHAPE OF THE ROD
END IS AT
MANUFACTURER'S
DISCRETION

PROVIDE MECHANICAL
MEANS FOR INSTALLATION
AND REMOVAL



(N81 SERIES)



(N80 SERIES)

Min. Force 100N @ 20 BAR

| NAAMS CODE | L1 | L2 |
|------------|----|-----|
| N802407 | 07 | 49 |
| N802415 | 15 | 57 |
| N802425 | 25 | 67 |
| N802438 | 38 | 80 |
| N802450 | 50 | 92 |
| N802480 | 80 | 125 |

(N81 SERIES)

Min. Force 225N @ 20 BAR

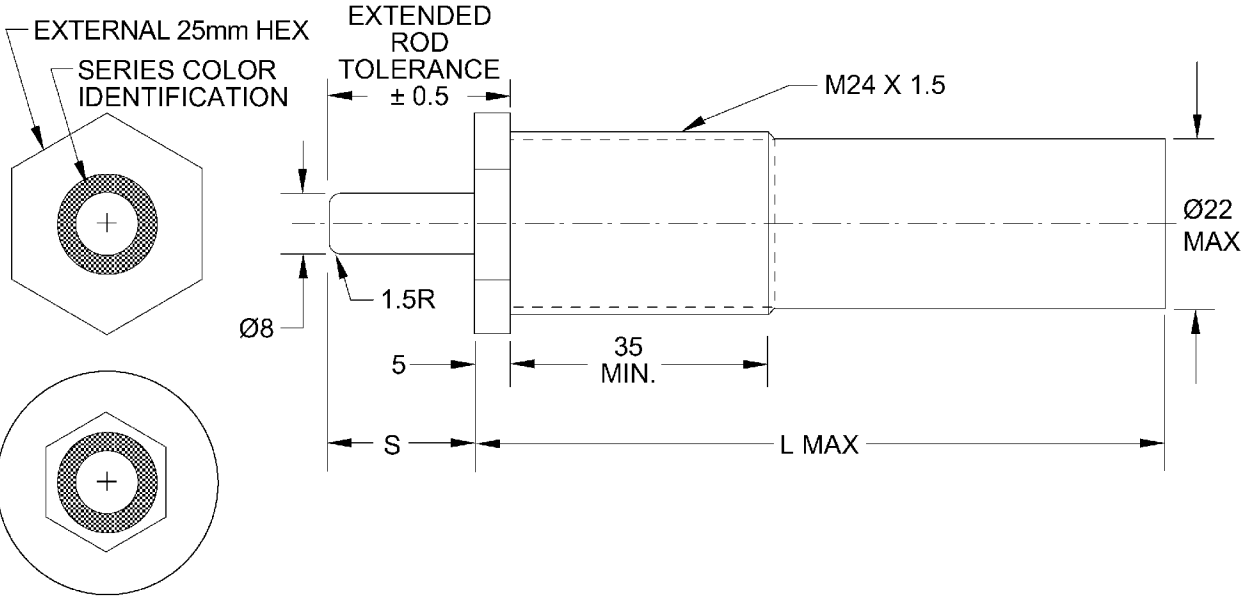
| NAAMS CODE | L1 | L2 |
|------------|----|-----|
| N812407 | 07 | 47 |
| N812415 | 15 | 55 |
| N812425 | 25 | 65 |
| N812438 | 38 | 78 |
| N812450 | 50 | 90 |
| N812480 | 80 | 123 |

A

MISCELLANEOUS STRIPPER - GAS SPRING

(N82 THRU N88 SERIES)

(N8X08XX UNITS)



OPTIONAL INTERNAL
16mm HEX AND
ROUND COLLAR

| SERIES | COLOR | INITIAL FORCE, N | ROD DIA. | NAAMS CODES | | | | | |
|--------|--------|------------------|----------|-------------|---------|---------|---------|---------|---------|
| | | | | | | | | | |
| N82 | Orange | 45-65 | 8 | N820810 | N820816 | N820825 | N820838 | N820850 | N820880 |
| | | | 12 | N821210 | N821216 | N821225 | N821238 | N821250 | N821280 |
| N83 | Purple | 90-110 | 8 | N830810 | N830816 | N830825 | N830838 | N830850 | N830880 |
| | | | 12 | N831210 | N831216 | N831225 | N831238 | N831250 | N831280 |
| N84 | Green | 225-290 | 8 | N840810 | N840816 | N840825 | N840838 | N840850 | N840880 |
| | | | 12 | N841210 | N841216 | N841225 | N841238 | N841250 | N841280 |
| N85 | Blue | 445-510 | 8 | N850810 | N850816 | N850825 | N850838 | N850850 | N850880 |
| | | | 12 | N851210 | N851216 | N851225 | N851238 | N851250 | N851280 |
| N86 | Red | 665-735 | 8 | N860810 | N860816 | N860825 | N860838 | N860850 | N860880 |
| | | | 12 | N861210 | N861216 | N861225 | N861238 | N861250 | N861280 |
| N87 | Yellow | 890-955 | 8 | N870810 | N870816 | N870825 | N870838 | N870850 | N870880 |
| | | | 12 | N871210 | N871216 | N871225 | N871238 | N871250 | N871280 |
| N88 | Black | Adjustable | 8 | N880810 | N880816 | N880825 | N880838 | N880850 | N880880 |
| | | | 12 | N881210 | N881216 | N881225 | N881238 | N881250 | N881280 |
| All | S | | 10 | 16 | 25 | 38 | 50 | 80 | |
| | LMAX | | 70 | 76 | 85 | 98 | 110 | 140 | |

A

**MISCELLANEOUS STRIPPER -
GAS SPRING**
(N82 THRU N88 SERIES)

GLOBAL STANDARD COMPONENTS

NAAMS



TM

Stamping

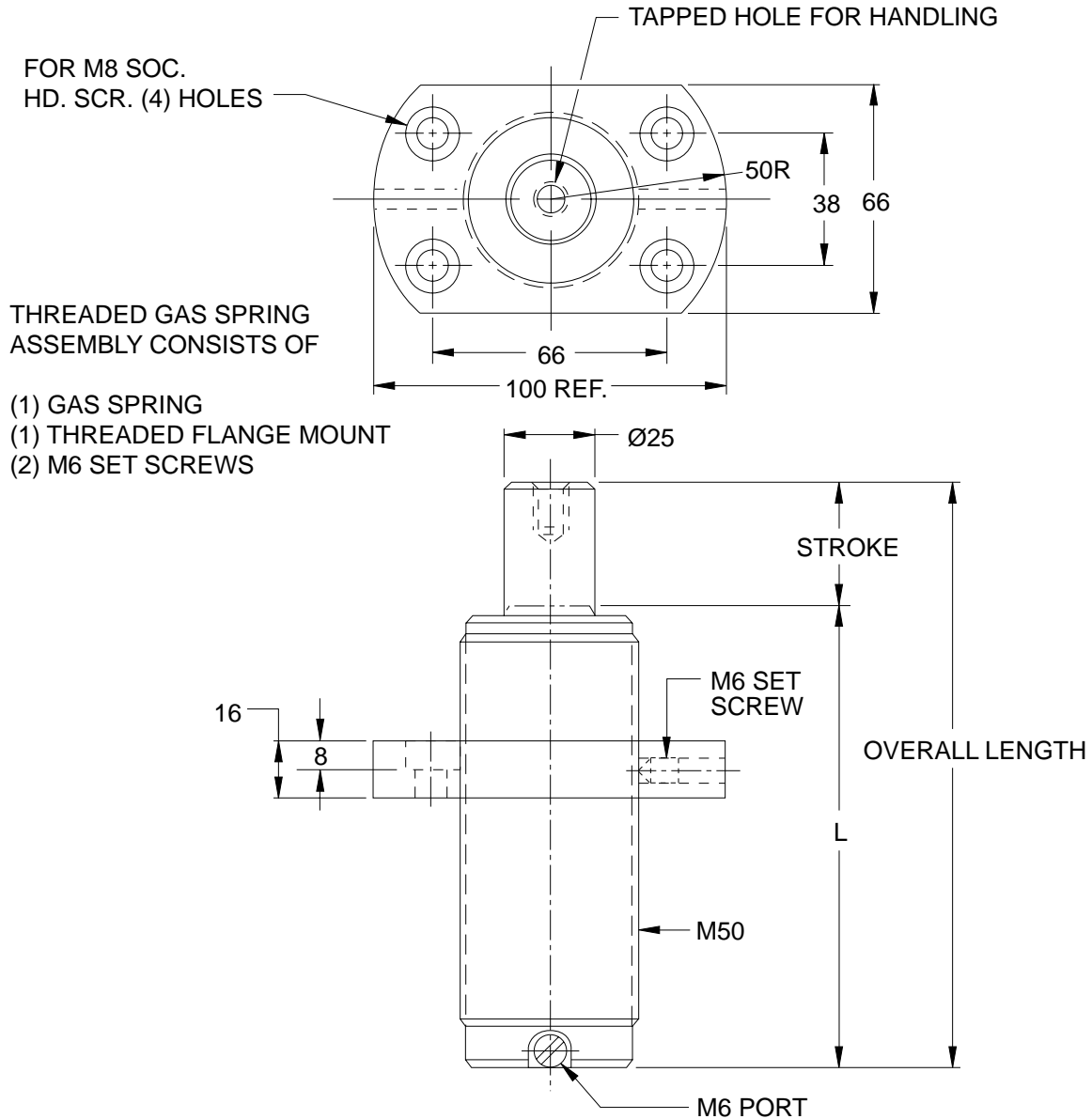
09/10/04

NAAMS CODES MOVED TO PRECEDING PAGE

NITROGEN GAS SPRING M50 THREADED BODY AND FLANGE MOUNT

(N90 SERIES)

7.5 kN SPRING FORCE



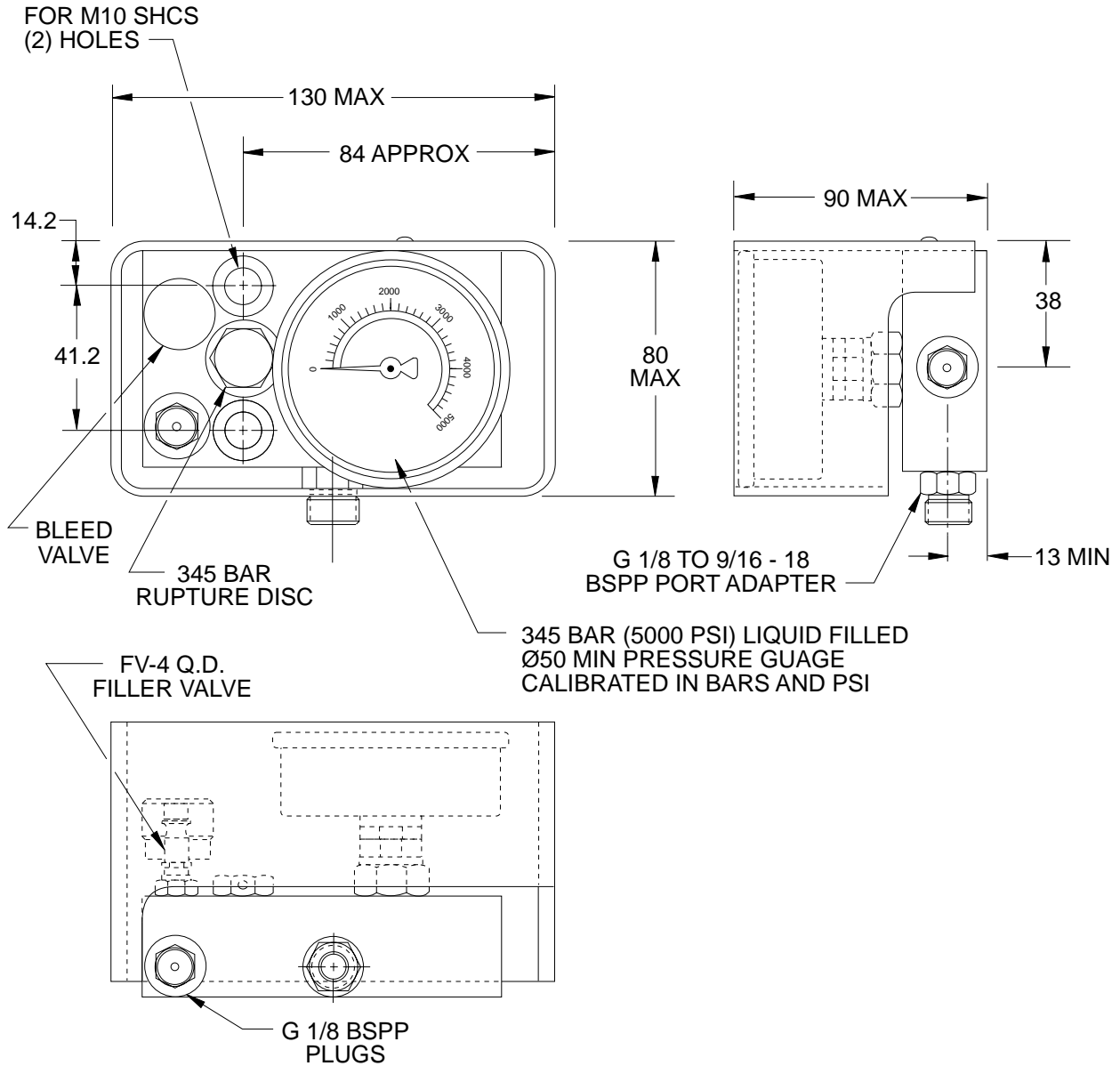
| NAAMS CODE | STROKE | L | OVERALL LENGTH |
|------------|--------|-----|----------------|
| N905002 | 25 | 75 | 100 |
| N905003 | 38 | 88 | 126 |
| N905005 | 50 | 100 | 150 |
| N905006 | 63 | 113 | 176 |
| N905008 | 80 | 130 | 210 |
| N905010 | 100 | 100 | 250 |
| N905012 | 125 | 175 | 300 |

B

A

345 bar NITROGEN CONTROL PANEL

(N76 SERIES)



PROTECTIVE HOUSING SHALL BE PAINTED
 PER US CAR PAINT SPECIFICATIONS.
 COLOR: MUNSELL NO. 7.5G 4/8 SAFETY GREEN

| | |
|-------------------|---------|
| NAAMS CODE | N761380 |
|-------------------|---------|

A

O-RING FACE STYLE CLAMP HOSE FITTINGS

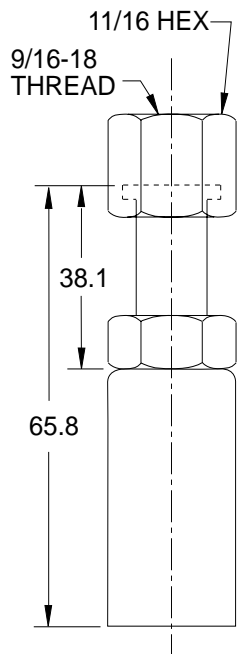
(N51 SERIES)

GLOBAL STANDARD COMPONENTS



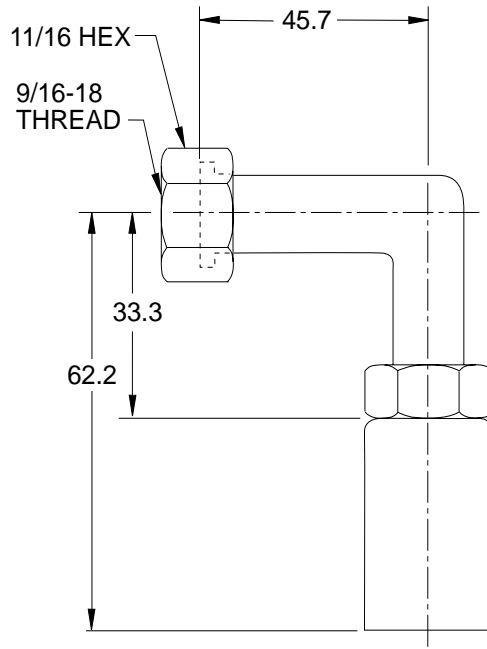
Stamping

12/15/00



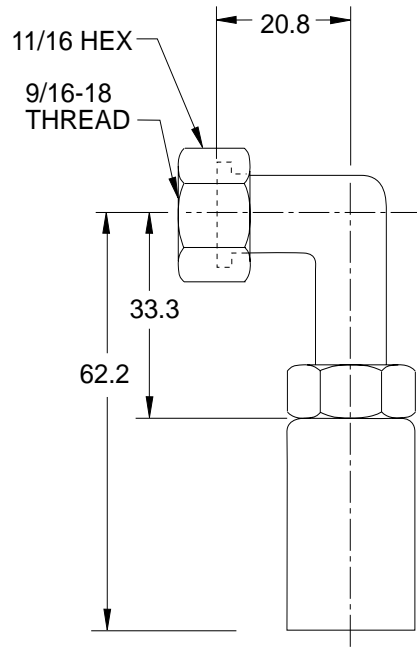
**STRAIGHT
FOR 1/4" HOSE**

NAAMS CODE N514400



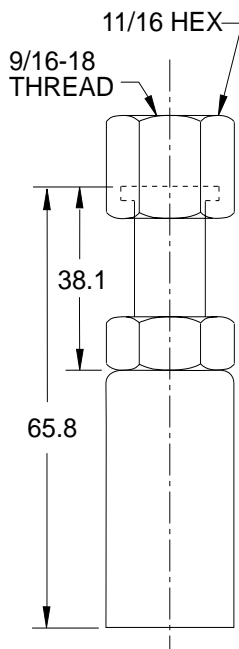
**90° LONG ELBOW
FOR 1/4" HOSE**

NAAMS CODE N514490



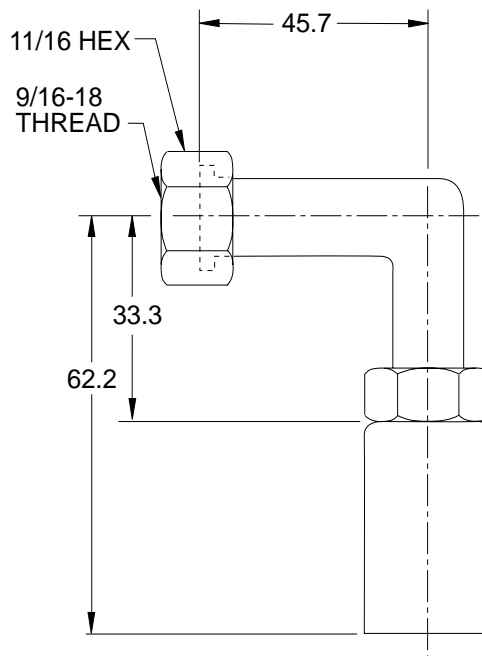
**90° SHORT ELBOW
FOR 1/4" HOSE**

NAAMS CODE N514491



**STRAIGHT
FOR 3/16" HOSE**

NAAMS CODE N514300



**90° ELBOW
FOR 3/16" HOSE**

NAAMS CODE N514390

B

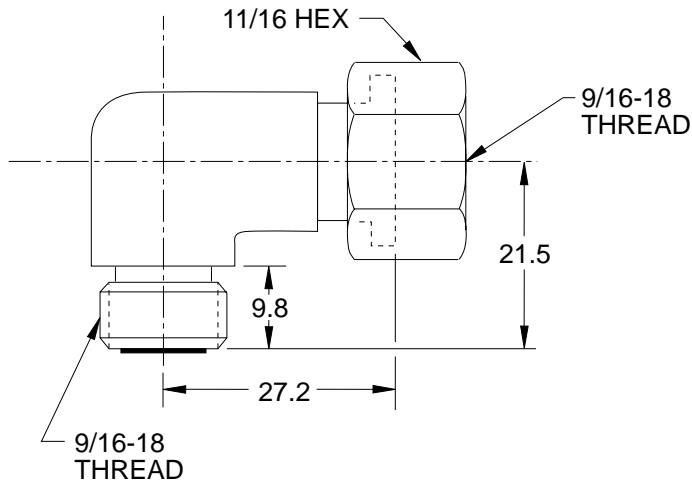
A

O-RING FACE FITTINGS

(N52 SERIES)

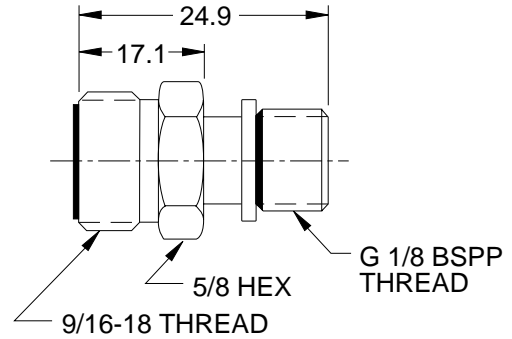
Stamping

12/15/00



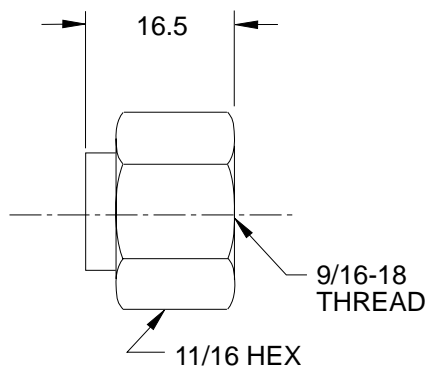
SWIVEL NUT ELBOW
SAE NO. 4-4 520221-S

| | |
|-------------------|---------|
| NAAMS CODE | N520221 |
|-------------------|---------|



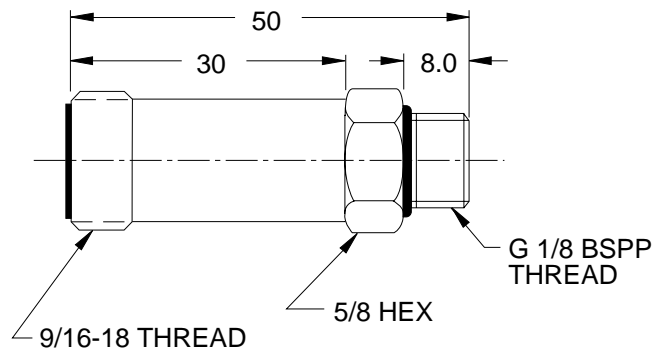
STRAIGHT THREAD CONNECTOR

| | |
|-------------------|---------|
| NAAMS CODE | N520121 |
|-------------------|---------|



END CAP
SAE NO. 4-520112-S

| | |
|-------------------|---------|
| NAAMS CODE | N520112 |
|-------------------|---------|



LONG STRAIGHT THREAD CONNECTOR

| | |
|-------------------|---------|
| NAAMS CODE | N520122 |
|-------------------|---------|

B

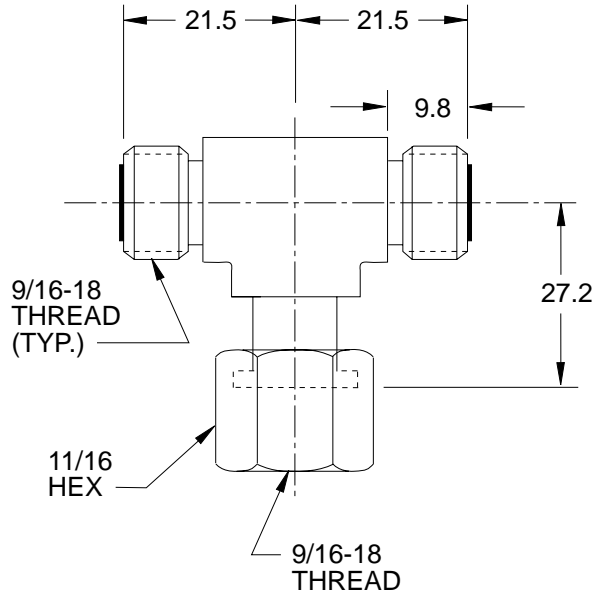
A

O-RING FACE FITTINGS

(N52 SERIES)

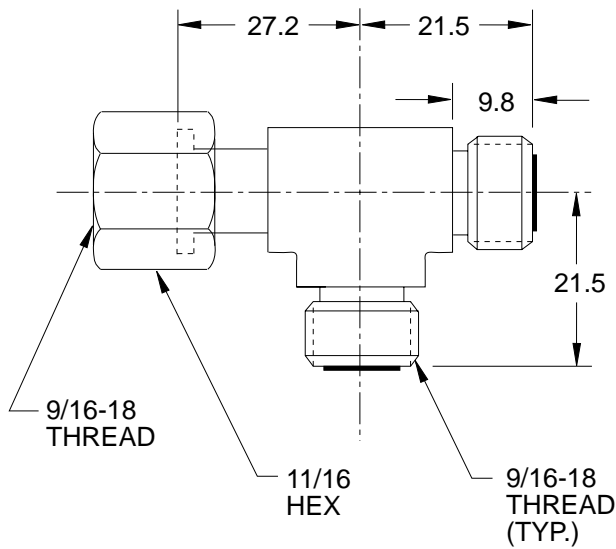
Stamping

12/15/00



SWIVEL NUT BRANCH TEE
SAE. NO. 4-4 520433-S

| | |
|-------------------|---------|
| NAAMS CODE | N520433 |
|-------------------|---------|



SWIVEL NUT RUN TEE
SAE. NO. 4-4 520432-S

| | |
|-------------------|---------|
| NAAMS CODE | N520432 |
|-------------------|---------|

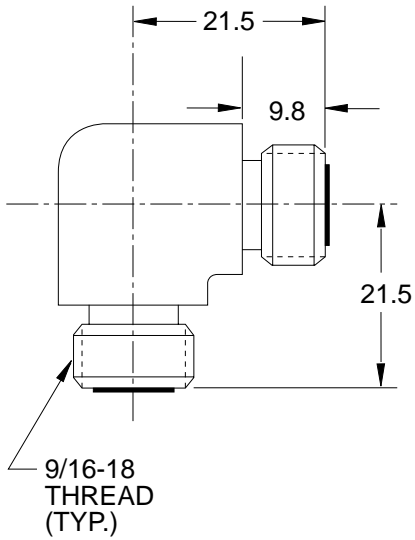
A

O-RING FACE FITTINGS

(N52 SERIES)

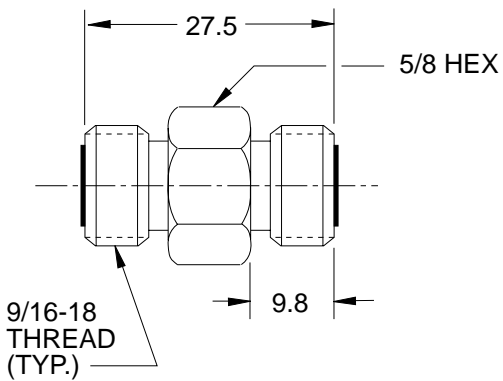
Stamping

12/15/00



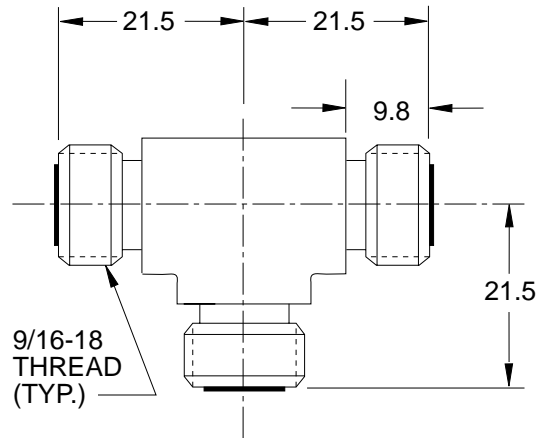
90° UNION ELBOW
SAE NO. 4-520201-S

| | |
|-------------------|---------|
| NAAMS CODE | N520201 |
|-------------------|---------|



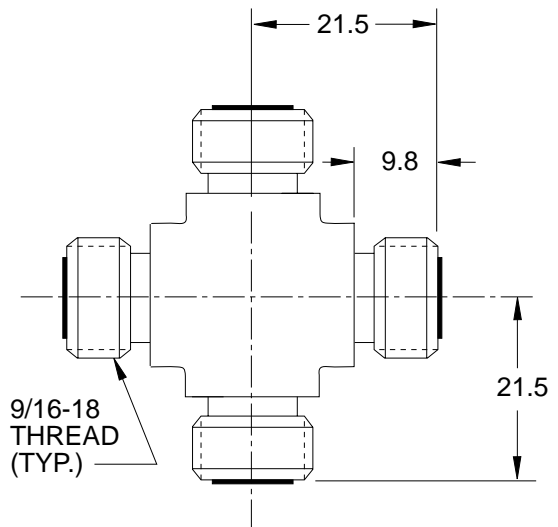
UNION
SAE NO. 4-520101-S

| | |
|-------------------|---------|
| NAAMS CODE | N520101 |
|-------------------|---------|



UNION TEE
SAE NO. 4-520401-S

| | |
|-------------------|---------|
| NAAMS CODE | N520401 |
|-------------------|---------|



UNION CROSS
SAE NO. 4-520501-S

| | |
|-------------------|---------|
| NAAMS CODE | N520501 |
|-------------------|---------|

NITROGEN GAS SYSTEM

HOSE AND CLAMPS

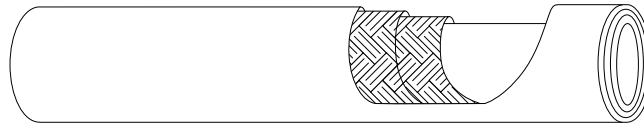
(N91 SERIES)

GLOBAL STANDARD COMPONENTS



Stamping

12/15/00



HIGH PRESSURE HOSE - ARAMID FIBER BRAIDED

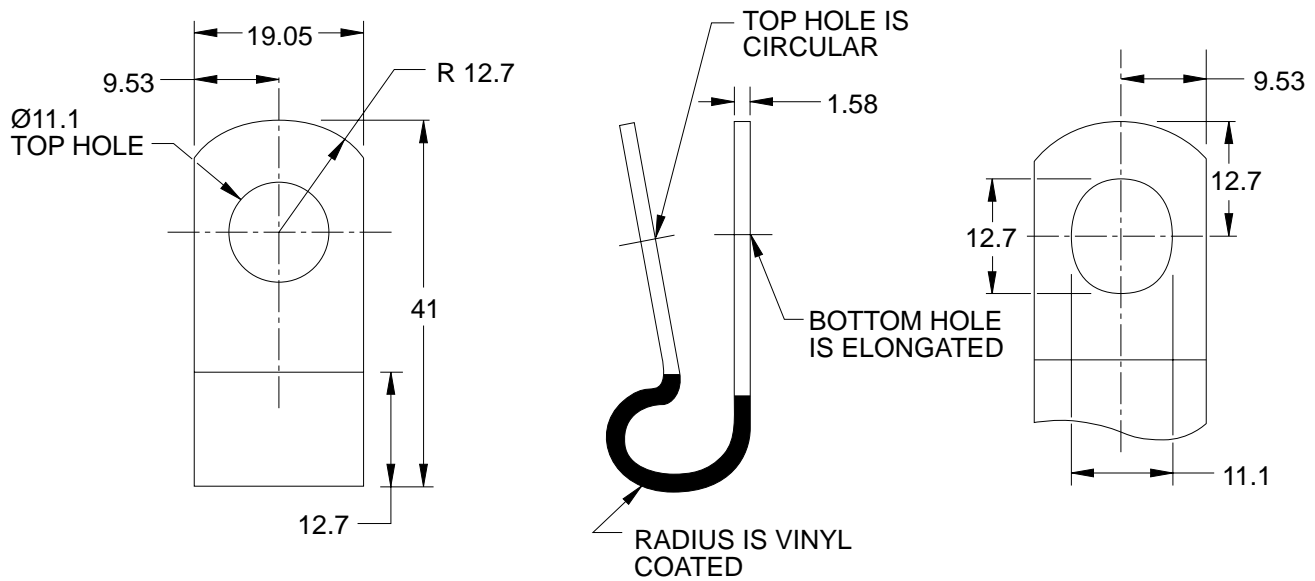
MEETS OR EXCEEDS SAE 100R8 SPECIFICATIONS

SAE 100R8 3/16 W.P. 5000 PSI

SAE 100R8 1/4 W.P. 5000 PSI

| | 3/16 | 1/4 |
|------------------------------------|---------------------|---------------------|
| HOSE I.D. mm (in) | 4.8(0.19) | 6.35(0.25) |
| HOSE O.D. mm (in) | 10.9(0.43) | 12.95(0.51) |
| MAXIMUM WORKING PRESSURE BAR (PSI) | 345(5000) | 345(5000) |
| MINIMUM BURST PRESSURE BAR (PSI) | 1380(20,000) | 1380(20,000) |
| MINIMUM BEND RADIUS mm | 38 | 50 |
| TEMPERATURE RANGE C (F) | -40(-40) TO 93(200) | -40(-40) TO 93(200) |

- NOTE:
- WHEN ORDERING HOISING, ORDER EXTRA 15 mm TO ALLOW FOR HOSE MOVEMENT DURING PRESSURE CYCLING.
 - MINIMUM HOSE LENGTH BETWEEN CRIMPED FITTINGS SHOULD BE 20 mm MINIMUM



HOSE CLAMP

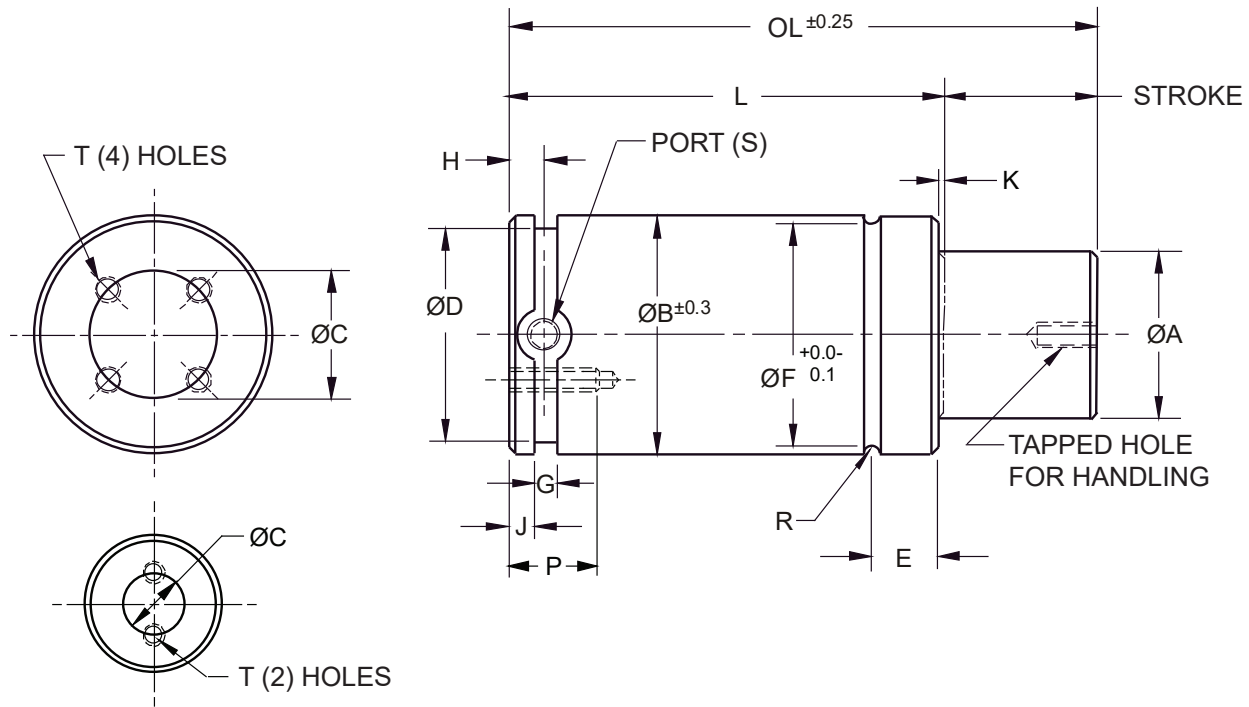
| | |
|------------|---------|
| NAAMS CODE | N910000 |
|------------|---------|

A

NITROGEN GAS SPRING (COMPACT) (N92 SERIES)

THIS SPECIFICATION CONFORMS TO ISO 11901-3.

- Nitrogen cylinders must be PED certified.



SIZE 03, 05, 07, 10 AND 15 CYL. ONLY

| SIZE | INITIAL SPRING FORCE (kN) @150 BAR | ØA MAX. | ØB ±0.3 | T | K | ØC | ØD MAX. | E | ØF | G +2 | H | J +0.15/-0.00 | R | S | P |
|-------|------------------------------------|---------|---------|-----|---|-----|---------|------|-----|------|------|---------------|-----|-------|----|
| 03 | 3.5 | 16 | 32 | M6 | 2 | 20 | 27 | 10.5 | 30 | 3.5 | 6 | 4.0 | 1.0 | M6 | 6 |
| 05 | 5.0 | 20 | 38 | M6 | 2 | 20 | 33 | 10.5 | 36 | 3.5 | 6 | 4.0 | 1.0 | M6 | 6 |
| 07 | 7.5 | 25 | 45 | M8 | 2 | 20 | 40 | 14.5 | 43 | 3.5 | 6 | 4.0 | 1.0 | M6 | 6 |
| * 07G | 7.5 | 25 | 45 | M8 | 2 | 20 | 40 | 14.5 | 43 | 3.5 | 10.5 | 4.0 | 1.0 | G1/8" | 13 |
| 10 | 10.0 | 28 | 50 | M8 | 3 | 20 | 43 | 14.5 | 46 | 5 | 6 | 8.0 | 2.0 | M6 | 6 |
| * 10G | 10.0 | 28 | 50 | M8 | 3 | 20 | 43 | 14.5 | 46 | 5 | 10.5 | 8.0 | 2.0 | G1/8" | 13 |
| 15 | 15.0 | 36 | 63 | M8 | 3 | 20 | 56 | 16 | 59 | 5 | 6 | 8.0 | 2.0 | M6 | 6 |
| * 15G | 15.0 | 36 | 63 | M8 | 3 | 20 | 56 | 16 | 59 | 5 | 10.5 | 8.0 | 2.0 | G1/8" | 13 |
| 24 | 24.0 | 45 | 75 | M8 | 3 | 40 | 67 | 18 | 70 | 5 | 6 | 8.0 | 2.5 | M6 | 6 |
| * 24G | 24.0 | 45 | 75 | M8 | 3 | 40 | 67 | 18 | 70 | 5 | 10.5 | 8.0 | 2.5 | G1/8" | 13 |
| 42 | 42.0 | 60 | 95 | M8 | 3 | 60 | 87 | 21 | 90 | 5 | 10.5 | 8.0 | 2.5 | G1/8" | 12 |
| 66 | 66.0 | 75 | 120 | M10 | 3 | 80 | 112 | 22.5 | 115 | 5 | 10.5 | 8.0 | 2.5 | G1/8" | 12 |
| 95 | 95.0 | 90 | 150 | M10 | 3 | 100 | 142 | 24.5 | 145 | 5 | 10.5 | 8.0 | 2.5 | G1/8" | 13 |
| 200 | 200.0 | 130 | 195 | M12 | 3 | 120 | 187 | 30.5 | 190 | 8 | 15.0 | 8.0 | 2.5 | G1/8" | 16 |

* OUTSIDE THE ISO 11901-3 SPECIFICATION

CODING ON FOLLOWING PAGE

NITROGEN GAS SPRING (COMPACT)

(N92 SERIES)

Stamping

09/18/23

| NAAMS CODE | INITIAL SPRING FORCE (kN) @150 BAR | STROKE | L | OL ±0.25 | |
|------------|------------------------------------|--------------------------|-----|----------|-----|
| N92003010 | 3.5 | 10 | 40 | 50 | |
| N92003016 | | 16 | 46 | 62 | |
| N92003025 | | 25 | 55 | 80 | |
| N92003050 | | 50 | 80 | 130 | |
| N92003063 | | 63 | 93 | 156 | |
| N92003080 | | 80 | 110 | 190 | |
| N92003100 | | 100 | 130 | 230 | |
| N92003125 | | 125 | 155 | 280 | |
| N92005010 | | 5.0 | 10 | 40 | 50 |
| N92005016 | | | 16 | 46 | 62 |
| N92005025 | 25 | | 55 | 80 | |
| N92005050 | 50 | | 80 | 130 | |
| N92005063 | 63 | | 93 | 156 | |
| N92005080 | 80 | | 110 | 190 | |
| N92005100 | 100 | | 130 | 230 | |
| N92005125 | 125 | | 155 | 280 | |
| N92007025 | 7.5 | | 25 | 57 | 82 |
| N92007050 | | | 50 | 82 | 132 |
| N92007063 | | 63 | 95 | 158 | |
| N92007080 | | 80 | 112 | 192 | |
| N92007100 | | 100 | 132 | 232 | |
| N92007125 | | 125 | 157 | 282 | |
| N92G07025 | | 7.5 With G 1/8" Port | 25 | 67 | 92 |
| N92G07050 | | | 50 | 92 | 142 |
| N92G07063 | | | 63 | 105 | 168 |
| N92G07080 | | | 80 | 122 | 202 |
| N92G07100 | 100 | | 142 | 242 | |
| N92G07125 | 125 | | 167 | 292 | |
| N92010025 | 10.0 | | 25 | 63 | 88 |
| N92010050 | | | 50 | 88 | 138 |
| N92010063 | | | 63 | 101 | 164 |
| N92010080 | | | 80 | 118 | 198 |
| N92010100 | | 100 | 138 | 238 | |
| N92010125 | | 125 | 163 | 288 | |
| N92G10025 | | 10.0 With G 1/8" Port | 25 | 73 | 98 |
| N92G10050 | | | 50 | 98 | 148 |
| N92G10063 | | | 63 | 111 | 174 |
| N92G10080 | | | 80 | 128 | 208 |
| N92G10100 | 100 | | 148 | 248 | |
| N92G10125 | 125 | | 173 | 298 | |
| N92015025 | 15.0 | | 25 | 69 | 94 |
| N92015050 | | | 50 | 94 | 144 |
| N92015063 | | | 63 | 107 | 170 |
| N92015080 | | | 80 | 124 | 204 |
| N92015100 | | 100 | 144 | 244 | |
| N92015125 | | 125 | 169 | 294 | |

* THESE CYLINDERS ARE OUTSIDE THE ISO 11901-3 SPECIFICATION

| NAAMS CODE | INITIAL SPRING FORCE (kN) @150 BAR | STROKE | L | OL ±0.25 | |
|------------|------------------------------------|--------|-----|----------|-----|
| N92G15025 | 15.0 With G 1/8" Port | 25 | 79 | 104 | |
| N92G15050 | | 50 | 104 | 154 | |
| N92G15063 | | 63 | 117 | 180 | |
| N92G15080 | | 80 | 134 | 214 | |
| N92G15100 | | 100 | 154 | 254 | |
| N92G15125 | | 125 | 179 | 304 | |
| N92024025 | | 24.0 | 25 | 70 | 95 |
| N92024050 | | | 50 | 95 | 145 |
| N92024063 | | | 63 | 108 | 171 |
| N92024080 | | | 80 | 125 | 205 |
| N92024100 | 100 | | 145 | 245 | |
| N92024125 | 125 | | 170 | 295 | |
| N92G24025 | 24.0 With G 1/8" Port | | 25 | 80 | 105 |
| N92G24050 | | | 50 | 105 | 155 |
| N92G24063 | | | 63 | 118 | 181 |
| N92G24080 | | | 80 | 135 | 215 |
| N92G24100 | | 100 | 155 | 255 | |
| N92G24125 | | 125 | 180 | 305 | |
| N92042025 | | 42.0 | 25 | 83 | 108 |
| N92042050 | | | 50 | 108 | 158 |
| N92042063 | | | 63 | 121 | 184 |
| N92042080 | | | 80 | 138 | 218 |
| N92042100 | 100 | | 158 | 258 | |
| N92042125 | 125 | | 183 | 308 | |
| N92066025 | 66.0 | | 25 | 93 | 118 |
| N92066050 | | | 50 | 118 | 168 |
| N92066063 | | | 63 | 131 | 194 |
| N92066080 | | | 80 | 148 | 228 |
| N92066100 | | 100 | 168 | 268 | |
| N92066125 | | 125 | 193 | 318 | |
| N92095025 | | 95.0 | 25 | 103 | 128 |
| N92095050 | | | 50 | 128 | 178 |
| N92095063 | | | 63 | 141 | 204 |
| N92095080 | | | 80 | 158 | 238 |
| N92095100 | 100 | | 178 | 278 | |
| N92095125 | 125 | | 203 | 328 | |
| N92199025 | 199.0 | | 25 | 135 | 160 |
| N92199050 | | | 50 | 160 | 210 |
| N92199063 | | | 63 | 173 | 236 |
| N92199080 | | | 80 | 190 | 270 |
| N92199100 | | 100 | 210 | 310 | |
| N92199125 | | 125 | 235 | 360 | |

* THESE CYLINDERS ARE OUTSIDE THE ISO 11901-3 SPECIFICATION

NITROGEN GAS SPRING (HIGH TONNAGE)

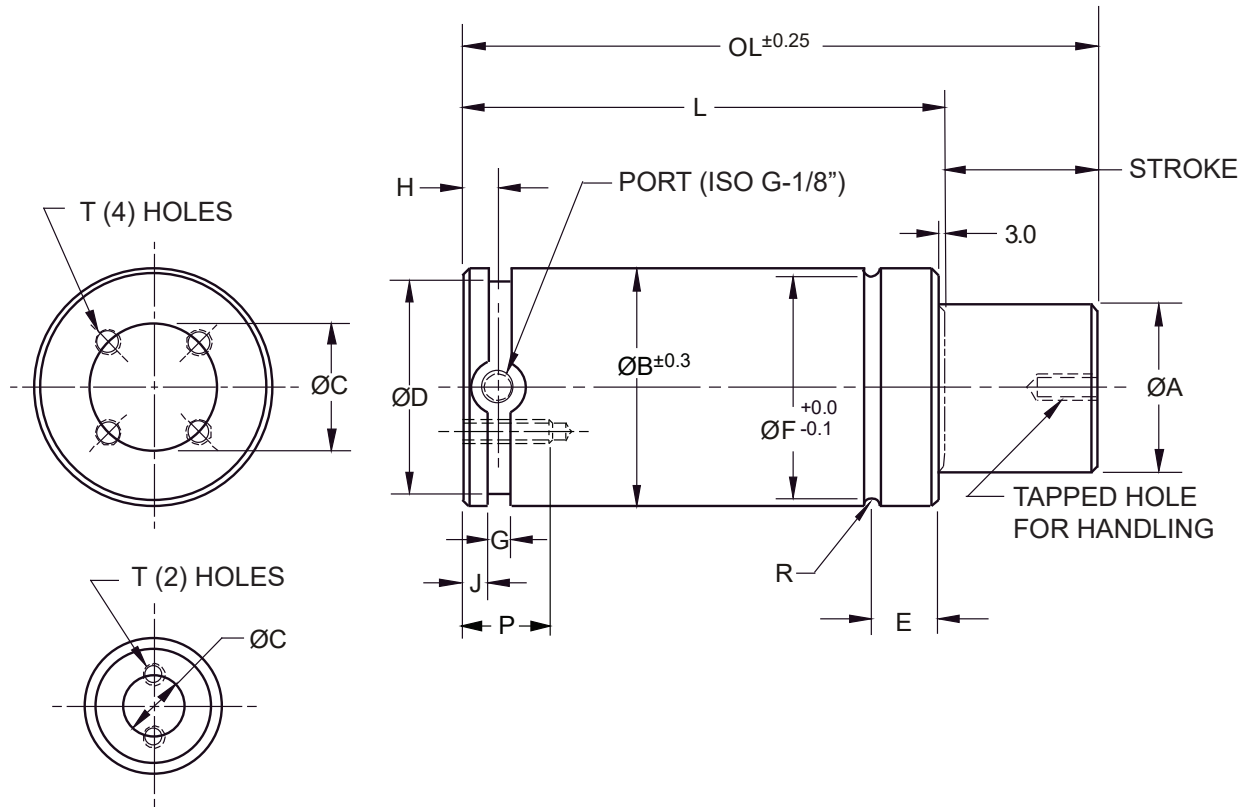
(N93 SERIES)

Stamping

09/18/23

THIS SPECIFICATION CONFORMS TO ISO 11901-3.

- Nitrogen cylinders must be PED certified.



SIZE 07.5, 10 AND 15 CYL. ONLY

| SIZE | INITIAL SPRING FORCE (kN) @150 Bar | $\varnothing A$ MAX. | $\varnothing B$ MAX. | T | $\varnothing C$ | $\varnothing D$ MAX. | E | $\varnothing F$ $+0.0$ -0.1 | $\varnothing G$ MIN. | $\varnothing H$ MIN. | P | $\varnothing J$ $+0.15$ -0.00 | R |
|------|------------------------------------|----------------------|----------------------|-----|-----------------|----------------------|------|-------------------------------|----------------------|----------------------|----|---------------------------------|-----|
| 7.5 | 7.5 | 25 | 45 | M8 | 20 | 40 | 14.5 | 43 | 3.5 | 10 | 13 | 4.0 | 1.0 |
| 10 | 10.0 | 28 | 50 | M8 | 20 | 43 | 14.5 | 46 | 5 | 10 | 13 | 8.0 | 2.0 |
| 15 | 15.0 | 36 | 63 | M8 | 20 | 56 | 16.0 | 59 | 5 | 10 | 13 | 8.0 | 2.0 |
| 24 | 24.0 | 45 | 75 | M8 | 40 | 67 | 18.0 | 70 | 5 | 10 | 13 | 8.0 | 2.5 |
| 42 | 42.0 | 60 | 95 | M8 | 60 | 87 | 21.0 | 90 | 5 | 10 | 13 | 8.0 | 2.5 |
| 66 | 66.0 | 75 | 120 | M10 | 80 | 112 | 22.5 | 115 | 5 | 10 | 16 | 8.0 | 2.5 |
| 95 | 95.0 | 90 | 150 | M10 | 100 | 142 | 24.5 | 145 | 5 | 10 | 16 | 8.0 | 2.5 |
| 200 | 200.0 | 130 | 195 | M12 | 120 | 187 | 30.5 | 190 | 8 | 10 | 16 | 8.0 | 2.5 |

CODING ON FOLLOWING PAGE

NITROGEN GAS SPRING (HIGH TONNAGE)

(N93 SERIES)

Stamping

09/18/23

| NAAMS CODE | INITIAL SPRING FORCE (kN) @150 BAR | STROKE | L | OL +0.25 |
|------------|------------------------------------|--------|-----|----------|
| N9307025 | 7.5 | 25 | 110 | 135 |
| N9307050 | | 50 | 135 | 185 |
| N9307080 | | 80 | 165 | 245 |
| N9307100 | | 100 | 185 | 285 |
| N9307125 | | 125 | 210 | 335 |
| N9307160 | | 160 | 245 | 405 |
| N9307200 | | 200 | 285 | 485 |
| N9309025 | 10.0 | 25 | 120 | 145 |
| N9309050 | | 50 | 145 | 195 |
| N9309080 | | 80 | 175 | 255 |
| N9309100 | | 100 | 195 | 295 |
| N9309125 | | 125 | 220 | 345 |
| N9309160 | | 160 | 255 | 415 |
| N9309200 | | 200 | 295 | 495 |
| N9309250 | 15.0 | 250 | 345 | 595 |
| N9309300 | | 300 | 395 | 695 |
| N9315025 | | 25 | 120 | 145 |
| N9315050 | | 50 | 145 | 195 |
| N9315080 | | 80 | 175 | 255 |
| N9315100 | | 100 | 195 | 295 |
| N9315125 | | 125 | 220 | 345 |
| N9315160 | 160 | 255 | 415 | |
| N9315200 | 24.0 | 200 | 295 | 495 |
| N9315250 | | 250 | 345 | 595 |
| N9315300 | | 300 | 395 | 695 |
| N9324025 | | 25 | 145 | 170 |
| N9324050 | | 50 | 170 | 220 |
| N9324280 | | 80 | 200 | 280 |
| N9324100 | | 100 | 220 | 320 |
| N9324125 | 125 | 245 | 370 | |
| N9324160 | 160 | 280 | 440 | |
| N9324200 | 200 | 320 | 520 | |
| N9324250 | 250 | 370 | 620 | |
| N9324300 | 300 | 420 | 720 | |

| NAAMS CODE | INITIAL SPRING FORCE (kN) @150 BAR | STROKE | L | OL +0.25 |
|------------|------------------------------------|--------|-----|----------|
| N9342025 | 42.0 | 25 | 145 | 170 |
| N9342050 | | 50 | 170 | 220 |
| N9342080 | | 80 | 200 | 280 |
| N9342100 | | 100 | 220 | 320 |
| N9342125 | | 125 | 245 | 370 |
| N9342160 | | 160 | 280 | 440 |
| N9342200 | | 200 | 320 | 520 |
| N9342250 | 66.0 | 250 | 370 | 620 |
| N9342300 | | 300 | 420 | 720 |
| N9366025 | | 25 | 165 | 190 |
| N9366050 | | 50 | 190 | 240 |
| N9366080 | | 80 | 220 | 300 |
| N9366100 | | 100 | 240 | 340 |
| N9366125 | | 125 | 265 | 390 |
| N9366160 | 95.0 | 160 | 300 | 460 |
| N9366200 | | 200 | 340 | 540 |
| N9366250 | | 250 | 390 | 640 |
| N9366300 | | 300 | 440 | 740 |
| N9395025 | | 25 | 180 | 205 |
| N9395050 | | 50 | 205 | 255 |
| N9395080 | | 80 | 235 | 315 |
| N9395100 | 100 | 255 | 355 | |
| N9395125 | 200.0 | 125 | 280 | 405 |
| N9395160 | | 160 | 315 | 475 |
| N9395200 | | 200 | 355 | 555 |
| N9395250 | | 250 | 405 | 655 |
| N9395300 | | 300 | 455 | 755 |
| N93200050 | | 50 | 210 | 260 |
| N93200080 | | 80 | 240 | 320 |
| N93200100 | 100 | 260 | 360 | |
| N93200125 | 125 | 285 | 410 | |
| N93200200 | 200 | 360 | 560 | |
| N93200250 | 250 | 410 | 660 | |
| N93200300 | 300 | 460 | 760 | |