Catalog No. C20100D

DADCO®

Nitrogen Gas Spring Linked System Components

Everything You Need to Construct a Linked System

Introduction

Many customers recognize the benefits of linking nitrogen gas springs; linked systems allow users to easily monitor, control and adjust pressure from outside the die. In this catalog, DADCO has brought together all of the components necessary to easily configure a linked system. DADCO recommends choosing control panels and hose type based on port style, with complementary fittings and additional piping accessories, to design a linked system best suited for your application.

Port Style

ST = Surge Tank Preferred

Control Panels
See pages 3-6

Distribution Blocks
See page 7

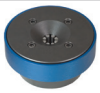
M6 Mini Port

Gas Springs with M6 Port:
Micro Series
U.0175 – U.2600
L / LJ Series
SCR Series
FCL Series
90.10.00170

G 1/8 Large Port

Gas Springs with G 1/8 Port:
U.4600 – U.20000
UT / UH / UK Series
UX Series
90.8 Series
90.10.00500 – 90.10.10000
SC Series

Surge Tanks
See pages 16-17



Tools
See pages 26-27

Compatible Fitting Styles

Preferred

DADCO *MINILink*®
(M8 x 1)

See page 14

D-24 Tapered
(M12 x 1.5)

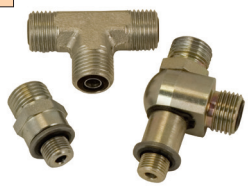
See page 13

Zip (CNOMO)
(S12.65 x 1.5)

See page 15

Preferred

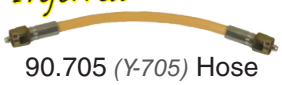
O-Ring Face Seal (ORFS)
ST (9/16-18)



See pages 9-12

Hose System

90.700 *(Y-700)* Hose
Preferred



90.705 *(Y-705)* Hose

See page 8

90.500 *(Y-500)* Hose
Preferred

See page 8

90.400 *(Y-400)* Hose
ST

See page 8

90.250 *(Y-250)* Hose
DISCONTINUED

See page 8

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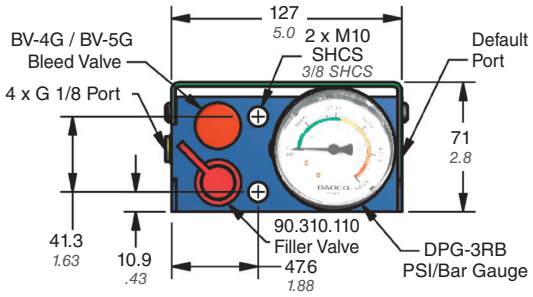
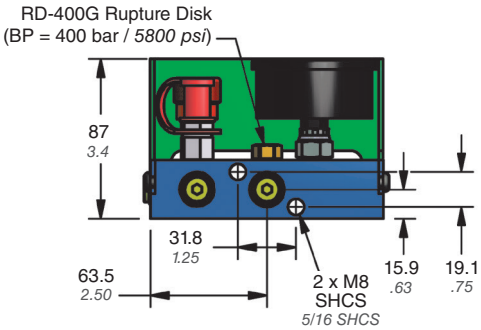
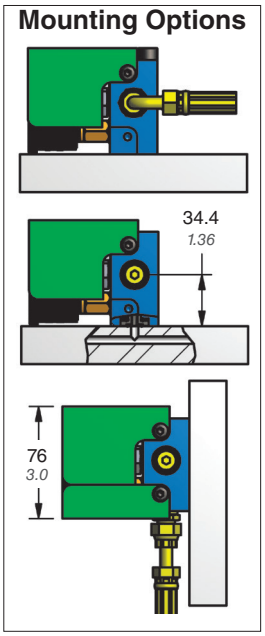
Components: Control Panels

Convertible Control Panel







The DADCO Convertible Control Panel is used to fill, drain and monitor the pressure of linked DADCO nitrogen gas springs from outside the die. The panel consists of four G 1/8 BSPP ports, a high pressure 63 mm diameter gauge, a quick disconnect fill valve, a bleed valve and a rupture disk to prevent overpressurization. For maximum versatility, the panel is available with a variety of fitting connections. See below for information on the riser blocks available for use with the control panel.

Ordering Example: 90.406. P 1 N

Convertible Control Panel *(90.406)*
Control Panel w/ Vibration Resistant Valve *(90.406V)*

Gauge Style
PSI/Bar Gauge *(DPG-3RB)* = P
Bar/MPa Gauge *(DPG-3RM)* = A
When not specified, default is P.

Guard
Top Guard = 1
Top and Bottom Guards = 2
When not specified, default is 1.

Fitting Connection
N = No Fitting Supplied,
M = Manifold Seal,
S = ORFS Fitting,
D = D-24 Fitting,
B = Zip Fitting,
L = *MINILink®* Fitting
When not specified, default is N.

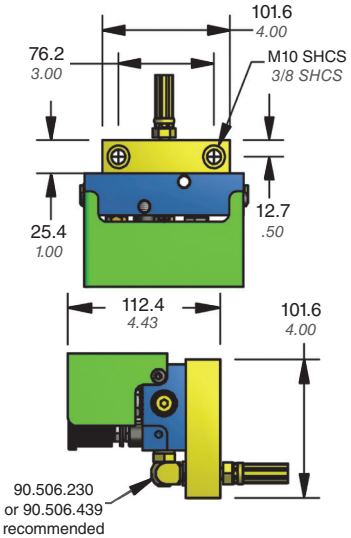
NOTE: *The 90.406.P2S is a direct replacement of DADCO's 90.406.03.*

Riser Block for Convertible Control Panel

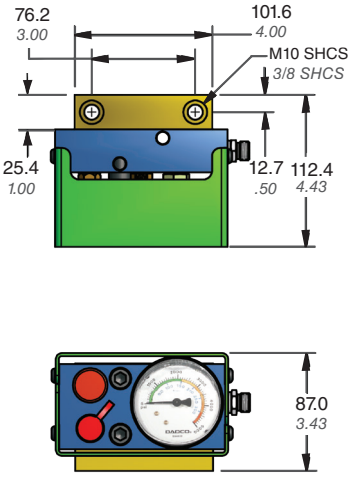
DADCO offers the 90.406.220, 90.406.555, and the 90.406.758 Riser Blocks for use with the Convertible Control Panel for maximum mounting versatility. It allows for easy mounting of the Control Panel to SMS® plates.

Shown with the 90.406.220 riser block

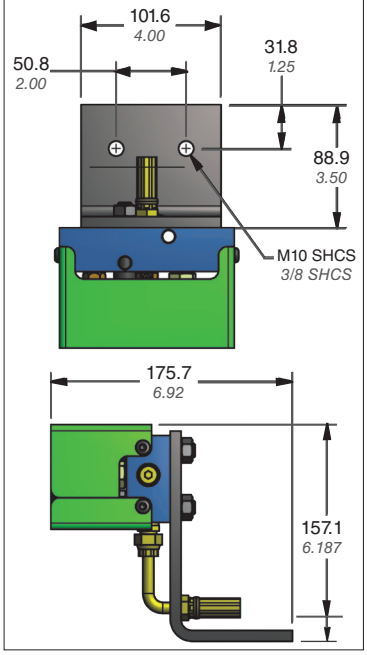
90.406.220



90.406.555

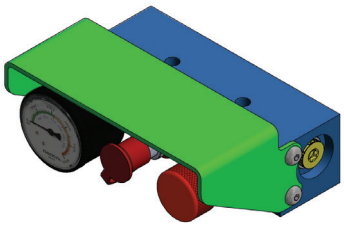


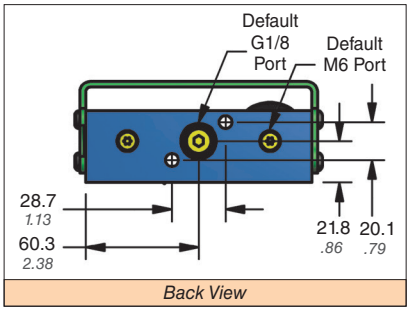
90.406.758



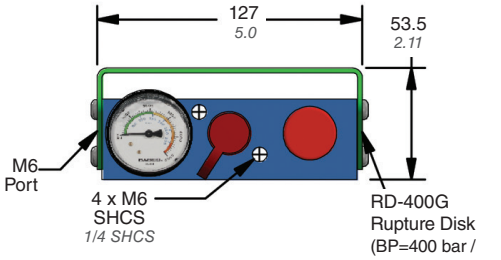
Components: Control Panels

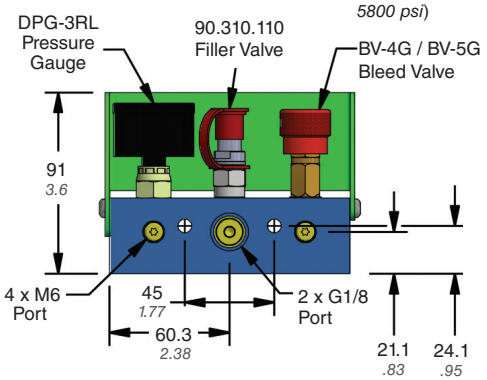
Mini Convertible Control Panel

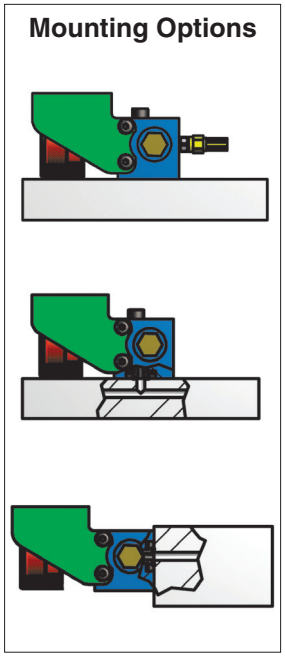




The DADCO Mini Convertible Control Panel is used to fill, drain and monitor the pressure of linked DADCO nitrogen gas springs from outside the die. The panel is compatible with SMS-i® and traditional linked systems and has five M6 ports, two G 1/8 ports, a high pressure gauge, a quick disconnect fill valve, a bleed valve and a rupture disk to prevent overpressurization. To allow for maximum versatility when linking, the panel is available with a variety of fitting connections.







Ordering Example:

90.407. P N

Mini Control Panel *(90.407)*
Min Control Panel w/ Vibration Resistant Valve *(90.407V)*

Gauge Style
PSI/Bar Gauge = P
Bar/MPA Gauge = A

Fitting Connection
N = No Fitting Supplied,
M = Manifold Seal,
S = ORFS Fitting,
D = D-24 Fitting,
B = Zip Fitting,
L = *MINILink*® Fitting
When not specified, default is N.

Vibration Resistant Bleed Valve

DADCO's new vibration resistant bleed valve (BV-5G) prevents unintended system exhaust resulting from excessive in-die vibration. Our innovative design allows the valve to remain closed when the knob is loose, preventing loss of gas due to vibratory loosening. This bleed valve may be ordered as a replacement for existing control panels, or it may be included on a newly purchased Mini Convertible (90.407V), or Standard Convertible Control Panel (90.406V). ***NOTE**: The knob will be free to spin when closed. To prevent damage to the assembly, do not over tighten or use a wrench to open or close the bleed valve.*

90.406V.P2N

Ordering Example:

90.406V. P 1 N

Control Panel with Vibration Resistant Valve (BV-5G)

Gauge Style
PSI/Bar Gauge *(DPG-3RB)* = P
Bar/MPa Gauge *(DPG-3RM)* = A

Guard
Top Guard = 1
Top and Bottom Guards = 2
When not specified, default is 1.

Fitting Connection
N = No Fitting Supplied,
M = Manifold Seal,
S = ORFS Fitting,
D = D-24 Fitting,
B = Zip Fitting,
L = *MINILink*® Fitting
When not specified, default is N.

90.407V.PN

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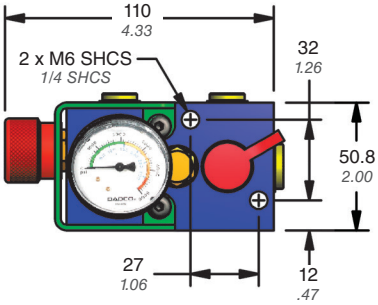
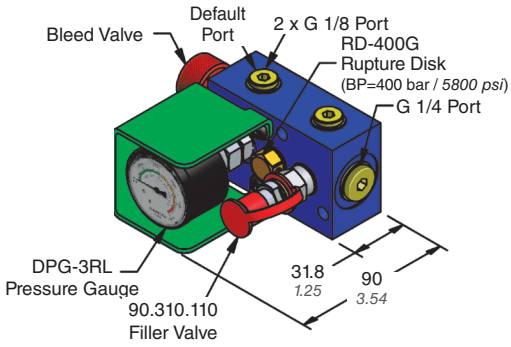
Components: Control Panels

Compact Control Panel

The smallest of our control panels, the DADCO Compact Control Panel is used to fill, drain and monitor the pressure of linked DADCO nitrogen gas springs from outside the die. The panel consists of two G 1/8 BSPP ports, a high pressure gauge, a quick disconnect fill valve, a bleed valve and a rupture disk to prevent overpressurization. To allow for connection to Electronic Pressure Monitors, the panel comes standard with a G 1/4 BSPP port.





Ordering Example:

90.405. P N.

Compact Control Panel

Gauge Style
PSI/Bar Gauge = P
Bar/MPa Gauge = A
When not specified, default is P.

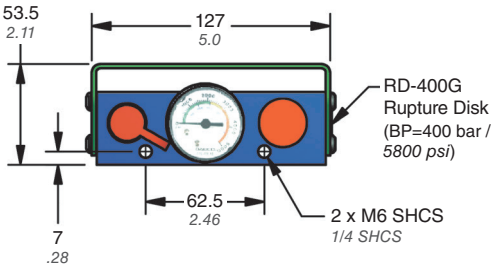
Pressure Monitor Sensor Options (optional)
EDS, DSK, DPS, DPT, SKN
More information on page 20.

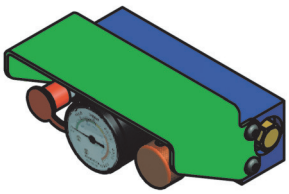
Fitting Connection
N = No Fitting Supplied, S = ORFS Fitting,
D = D-24 Fitting, B = Zip Fitting,
L = *MINILink*® Fitting
When not specified, default is N.

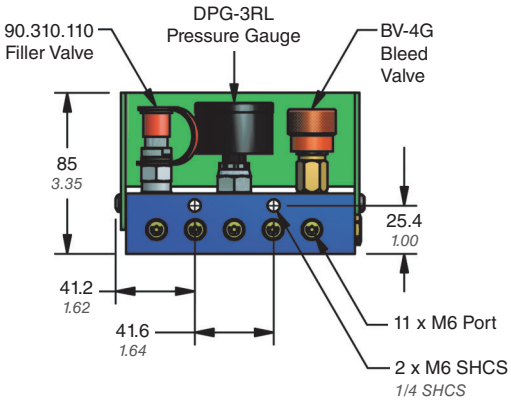
Mini Control Panel
90.407.11G

PHASING OUT

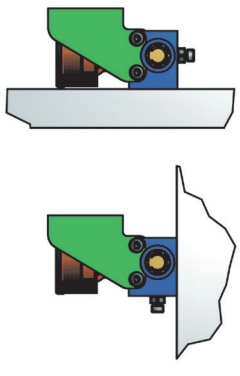
The DADCO *90.407.11G* Mini Control Panel is used to fill, drain and monitor the pressure of linked DADCO nitrogen gas springs from outside the die. The panel consists a high pressure gauge, a quick disconnect fill valve, a bleed valve and a rupture disk to prevent overpressurization. To allow for maximum versatility when linking, the panel also contains eleven different port locations.







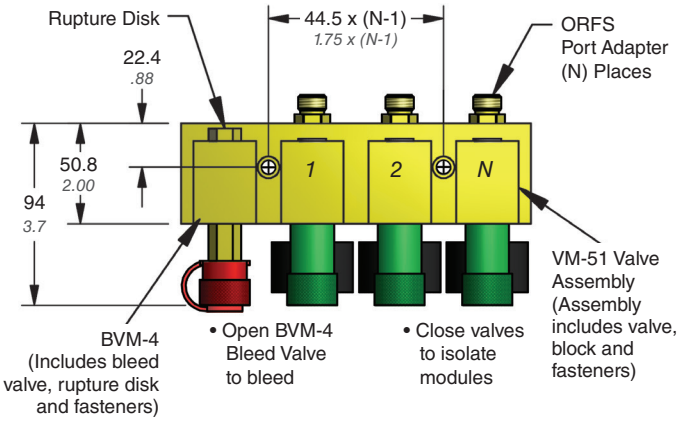
Mounting Options



Components: Control Panels

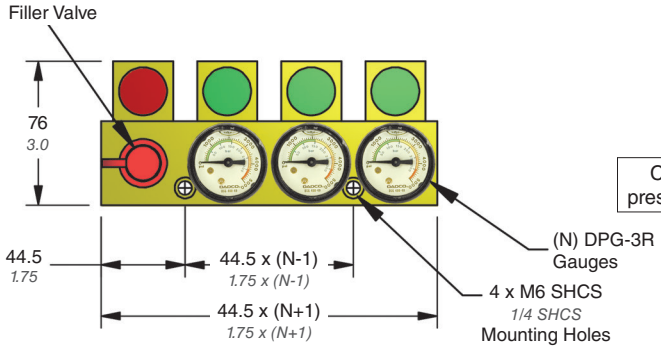
Multi Panel

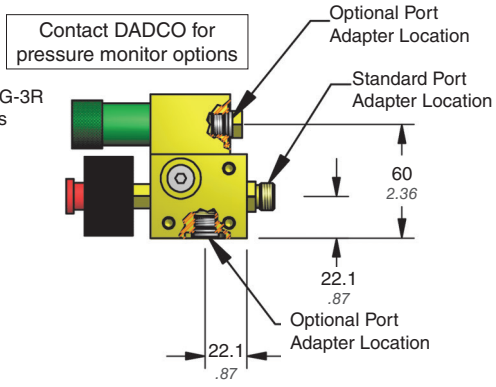
The DADCO Multi Panel features modules that may be filled, monitored, adjusted and vented from outside the die, either commonly or individually. No other control panel offers the advantages of the DADCO Multi Panel. For replacement parts refer to bulletin B04105B.



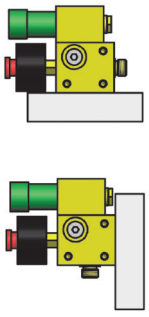
Features

- Each module features a simple two position valve for easy operation.
- Three port locations on each module give maximum piping flexibility.
- Each module is supplied with a straight service fitting. (For unused ports, DADCO recommends closing the module off before filling or using tube end caps, 90.506.112, on the unused port.)
- The panel can be flush mounted on the bottom or back.
- An optional tilt-guard protects all control valves and gauges during operation.

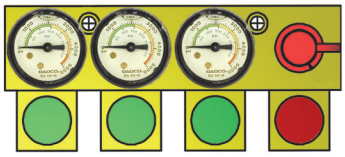


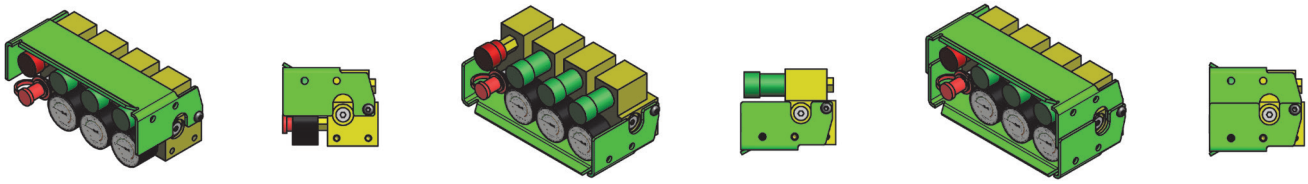


Mounting Options



Reversed Mounting





Top Guard – 90.402 | Bottom Guard – 90.403 | Both Guards – 90.404

Ordering Example:

90.401. 3.

Guard Location:
Standard (No Guard) = 401, Top = 402,
Bottom = 403, Both = 404

For optional reversed mounting, add R.

Number of Modules:
2-6, 8 or 10

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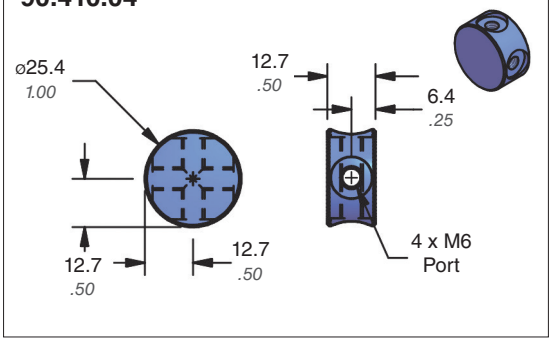
Components: Distribution Blocks

DADCO's distribution blocks are used with a control panel to simplify piping to multiple cylinders with a uniform system pressure. M6 and G 1/8 port options are available.

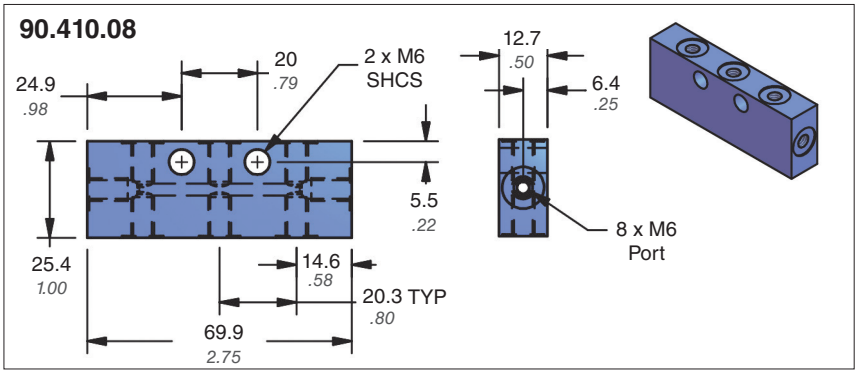
Mini M6 Distribution Blocks

The Mini Distribution Blocks feature four or eight M6 port locations. Plug unused ports with *90.607.110* Port Plug before charging the system.

90.410.04

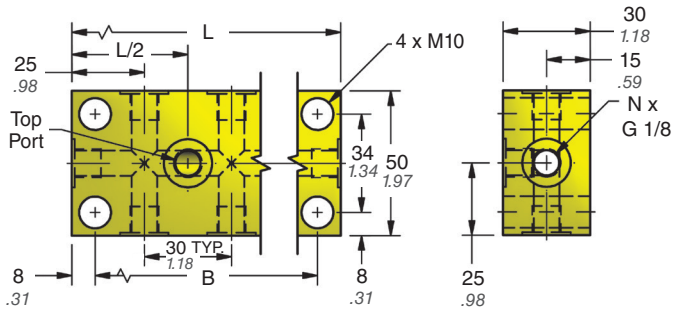


90.410.08



Compact G 1/8 Distribution Blocks

The Compact Distribution Blocks have 7-12 G 1/8 ports. Plug unused ports with *90.505.110* Port Plug before charging the system.



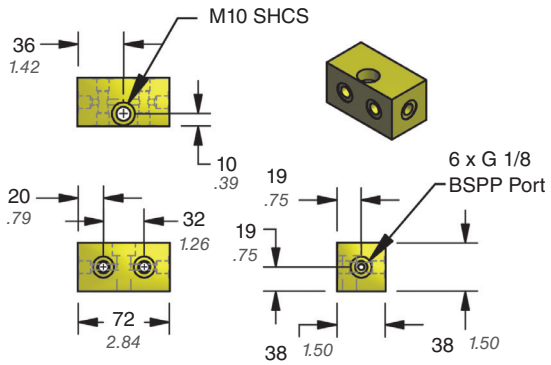
Model	N (Total Ports)	End Ports	Top Port	Side Ports	L	B
90.412.07	7	2	1	4	80 *3.15*	64 *2.52*
90.412.09	9	2	1	6	110 *4.33*	94 *3.70*
90.412.10	10	2	–	8	140 *5.51*	124 *4.88*
90.412.12	12	2	–	10	170 *6.69*	154 *6.06*

Standard G 1/8 Distribution Blocks

90.411.04 / 90.411.10 / 90.411.12

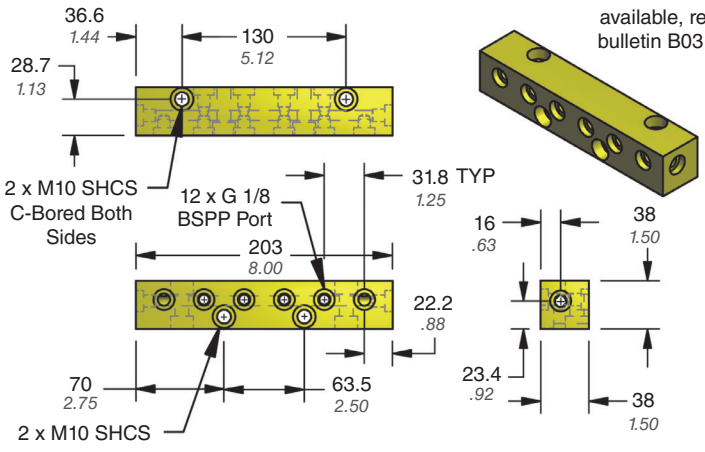
The Standard Distribution Blocks feature 4, 10 or 12 G 1/8 ports. Plug unused ports with *90.505.110* Port Plug before charging the system. Refer to bulletin B03142B for more information.

90.411.04



90.411.10

90.411.12
12-Port model also available, refer to bulletin B03142B.



Components: Hose

MINIFLEX®
90.700 *(Y-700)* Hose — *Preferred*

+ Offers the smallest possible bend radius available for flexible hose
+ Compatible with Mini, ORFS, D-24 and Zip style fittings
– Cannot be linked with a surge tank

MINIFLEX®
90.705 *(Y-705)* Hose

+ Compatible with Zip style fittings
+ Alternate to 90.700
+ Matches Toyota Standards
– Cannot be linked with a surge tank

DADCOFLEX®
90.500 *(Y-500)* Hose — *Preferred*

+ Higher working pressure than 90.250 *(Y-250)* without sacrificing bend radius or flow rate
+ Compatible with ORFS and D-24 style fittings
+ Assemble in field without additional tools using 90.504.343 non-crimped adapter

DADCOFLEX®
90.400 *(Y-400)* Hose — ST

+ Can withstand high pressures while maintaining a good flow rate
+ Can be linked with a surge tank
– Least flexible bend radius

DADCOFLEX®
90.250 *(Y-250)* Hose

DISCONTINUED

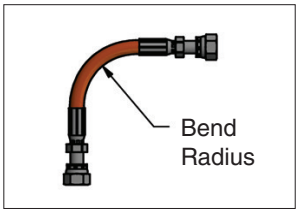
+ Assemble in field without additional tools using non-crimped adapters
– 190 bar *(2750 psi)* is maximum for surging pressure
– Difficult to assemble

DF Tubing
DF._____
Length (mm)

+ Extremely durable and compact
– Dimensions critical, no flexibility

NOTE: To order straight lengths of DF Tubing, use the part number above. For curved pieces, it is necessary to provide a drawing. Refer to Bulletin B02118B for more information.

Part No.	OD	ID	Working Pressure	Burst Pressure	Bend Radius	Crimp Die	Crimp Diameter
• 90.700 *(Y-700)*	5 *.20*	2 *.08*	630 bar *9135 psi*	1890 bar *27405 psi*	20 *.79*	Mini-Crimp 90.710.8 No Ring Required	7.00 – 7.25 *.276 – .285*
90.705 *(Y-705)*	5 *.20*	2 *.08*	630 bar *9135 psi*	1940 bar *28130 psi*	20 *.79*		
• 90.500 *(Y-500)*	11 *.43*	5 *.19*	345 bar *5000 psi*	1380 bar *20000 psi*	38 *1.50*	80C-P03 Gray Die 82C-R01 Ring	12.19 – 12.70 *.480 – .500*
90.400 *(Y-400)*	13 *.51*	6.5 *.25*	345 bar *5000 psi*	1380 bar *20000 psi*	50 *1.97*	80C-P04 Red Die 82C-R01 Ring	14.22 – 14.73 *.560 – .580*
90.250** *(Y-250)*	12 *.47*	6.4 *.25*	190 bar *2750 psi*	758 bar *11000 psi*	38 *1.50*	80C-P04J Red Die 82C-R01 Ring	13.59 – 14.10 *.535 – .555*
DF Tubing	6.4 *.25*	4.5 *.18*	260 bar *3750 psi*	1000 bar *15000 psi*	15.9 *.625*	Assembly at DADCO	Assembly at DADCO



• *Preferred Sizes* ****DISCONTINUED**

DADCO offers hydraulically or pneumatically operated crimping units, turn to page 26 for more information.

Hose Assembly

A DADCO hose assembly consists of a length of hose with a hose adapter on each end. Refer to bulletin B21102 for more information on ordering a hose assembly.

Hose Assembly Ordering Example:

90.500. S843. S854. 600. I

Hose Type
(700, 705, 500, or 400)

Hose Adapters

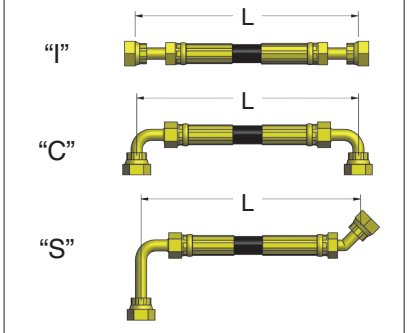
Sealing Type	Example
ORFS	S943
D-24	D843
Mini	L943
Zip	B943

Reference appropriate sealing type prefix (S, D, L or B).

Orientation
Hose adapter orientation:
I, C or S

Length of Hose Assembly (L) in mm
Distance between sealing faces

Orientation



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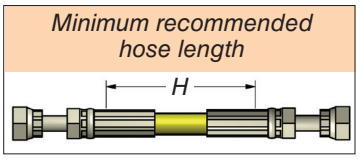
Components: ORFS Hose Adapters

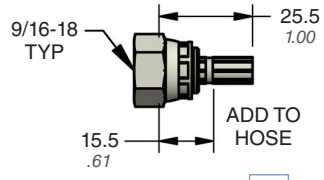
DADCO was the first gas spring manufacturer to offer 9/16-18 O-Ring Face Seals (ORFS). DADCO's ORFS fittings prevent any loss of high pressure nitrogen gas by providing elastomeric seals at every joint. DADCO recommends using DADCO brand hoses featured on page 8 with the adapters shown throughout this catalog. If the length of hose required is less than the H Value, use DF Tubing (page 8) or Solid Hose Fittings (page 11). DADCO also offers a variety of stainless steel fittings to be paired with Y-700 or Y-500 hose for linked operation in extreme condition environments.



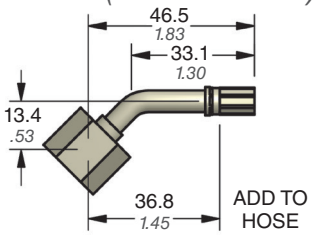
.SS = Stainless Steel Option Available

Crimped Hose Adapters for 90.700 or 90.705 *(Y-700 or Y-705)*

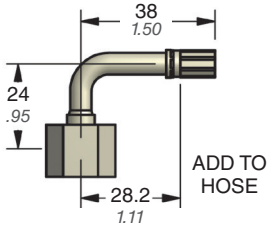
H Value = 75 (2.95)



90.504.943 .SS
(S-943)
Straight Swivel



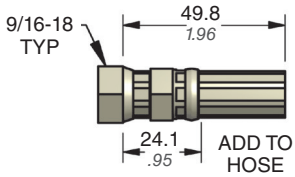
90.504.954
(S-954)
45° Swivel



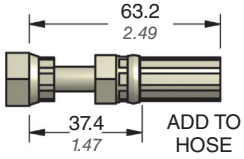
90.504.959
(S-959)
90° Swivel

Crimped Hose Adapters for 90.500 *(Y-500)*

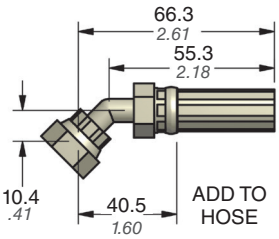
H Value = 80 (3.15)



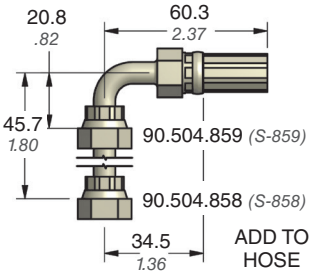
90.504.843 .SS
(S-843)
Compact Swivel



90.504.851
(S-851)
Retractable Swivel



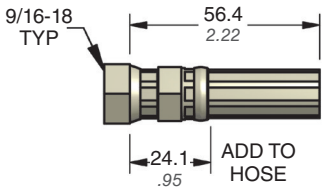
90.504.854
(S-854)
45° Female Face Seal



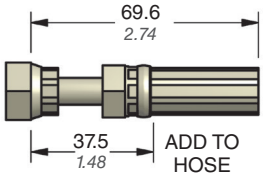
90.504.859 *(S-859)* Short Neck
90.504.858 *(S-858)* Long Neck

Crimped Hose Adapters for 90.400 or 90.250 *(Y-400 or Y-250)*

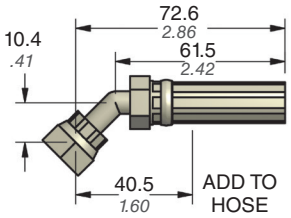
H Value = 85 (3.35)



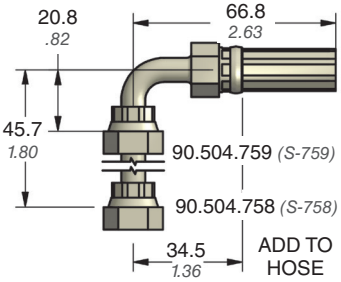
90.504.743
(S-743)
Compact Swivel



90.504.751
(S-751)
Retractable Swivel



90.504.754
(S-754)
45° Female Face Seal

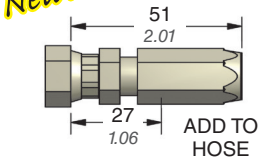


90.504.759 *(S-759)* Short Neck
90.504.758 *(S-758)* Long Neck

Non-Crimped Hose Adapters for 90.500 and 90.250 *(Y-500 and Y-250)*

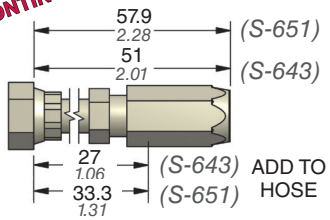
H Value = 85 (3.35)

New!



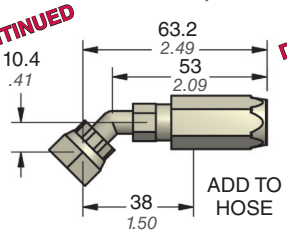
90.504.343
(S-343)
Compact Swivel
(for Y-500)

DISCONTINUED



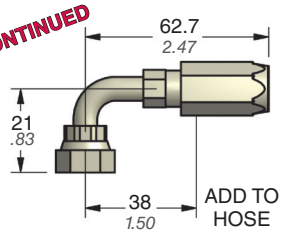
90.504.643 *(S-643)* Compact Swivel
90.504.651 *(S-651)* Retractable Swivel
(for Y-250)

DISCONTINUED



90.504.654
(S-654)
45° Female Face Seal
(for Y-250)

DISCONTINUED



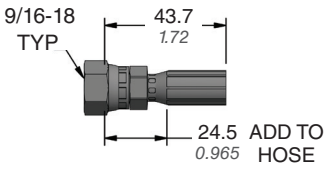
90.504.659
(S-659)
90° Female Face Seal
(for Y-250)

Compact ORFS Hose Adapters

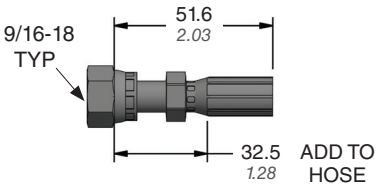
DADCO offers compact O-ring Face Seal (ORFS) hose adapters with a 9/16-18 thread and elastomeric seals at each joint to prevent loss of high pressure nitrogen gas. These hose adapters are more compact than the 90.504.700 and 90.504.800 series fittings, but are compatible with the fittings used with these series. DADCO recommends using DADCO brand hoses with the adapters shown below when linking DADCO nitrogen gas springs.

Compact Hose Adapters for 90.500 hose *(Y-500)*

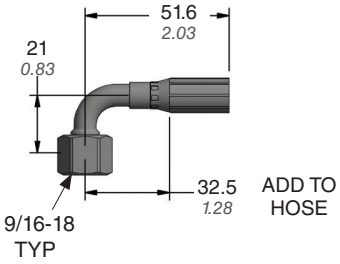
H Value = 70 (2.76)



90.504.543
(SK-543)
Compact Swivel



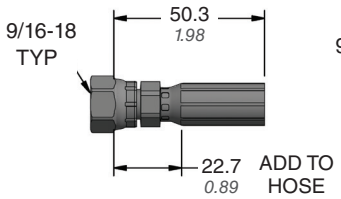
90.504.551
(SK-551)
Retractable Swivel



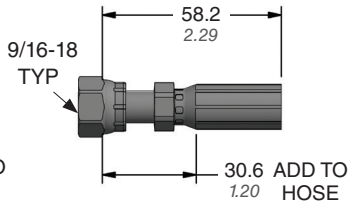
90.504.559
(SK-559)
90° Swivel

Compact Hose Adapters for 90.400 hose *(Y-400)* ST

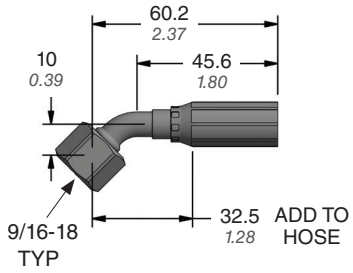
H Value = 75 (2.95)



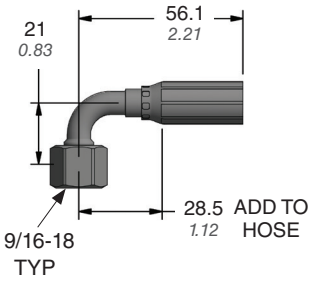
90.504.443
(SK-443)
Compact Swivel



90.504.451
(SK-451)
Retractable Swivel

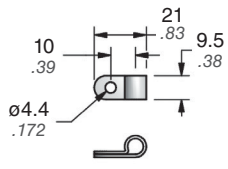


90.504.454
(SK-454)
45° Female Face Seal

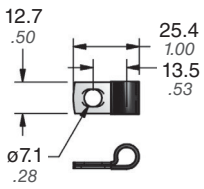


90.504.459
(SK-459)
90° Swivel

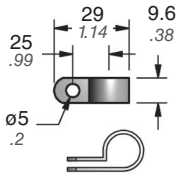
Hose Straps



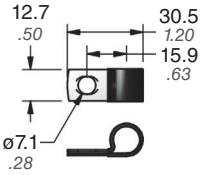
90.504.701 *(HS-701)*
for use with 90.700 and 90.705 hose types



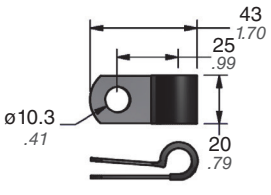
90.504.700 *(HS-700)*
for use with 90.700 and 90.705 hose types



90.504.250 *(HS-250)*
for use with 90.500, 90.400 and 90.250 hose types



90.504.500 *(HS-500)*
for use with 90.500 and 90.250 hose types



90.504.400 *(HS-400)*
for use with 90.500, 90.400 and 90.250 hose types

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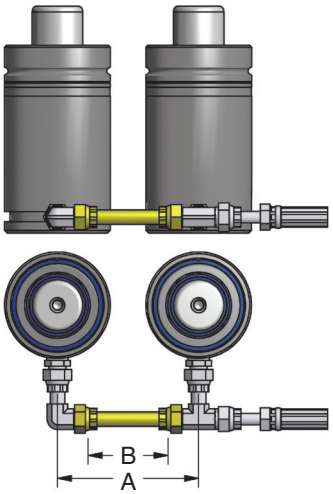
Components: ORFS Fittings

Solid Hose Fittings

Solid hose fittings come in predetermined lengths and are ideal for limited space applications. They can replace traditional hose assemblies, particularly when the length of hose required is shorter than DADCO's recommended minimum hose length (see H Values on page 9-10). For custom lengths of solid hose, see DF Tubing on page 8.



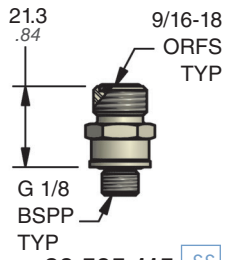
Metric

Part No.	A	B
90.503.xxxx *(S-9xxx)*	mm	A – 43.2
9075	75	31.8
9100	100	56.8
9120	120	76.8
9125	125	81.8
9130	130	86.8
9140	140	96.8
9150	150	106.8

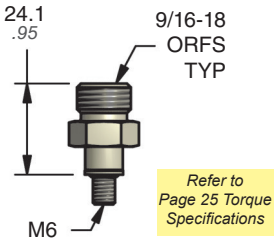
English

Part No.	A	B
90.503.xxx *(S-8xx)*	in.	A – 1.70
830	3.00	1.30
832	3.25	1.55
835	3.50	1.80
837	3.75	2.05
840	4.00	2.30
845	4.50	2.80
850	5.00	3.30
855	5.50	3.80
860	6.00	4.30

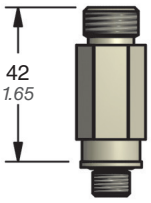
Port Adapters



90.505.115 .SS
(S-115)
Straight



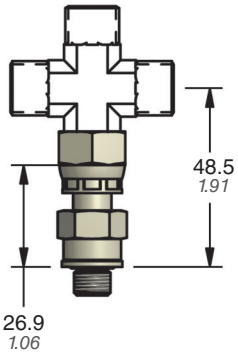
90.505.116
(S-116)
M6 → 9/16-18



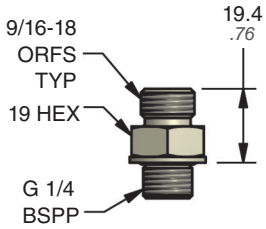
90.505.117
(S-117)
Extended Straight

DADCO's O-Ring Face Seal (ORFS) Fittings have elastomeric seals at every joint.

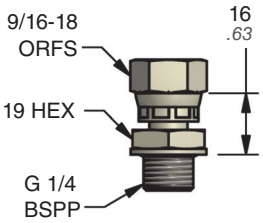
.SS = Stainless Steel Option Available



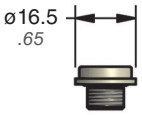
90.505.121
(S-121)
Swivel Straight



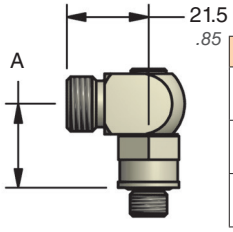
90.505.122
(S-122)
Straight



90.505.123
(S-123)
Swivel Straight

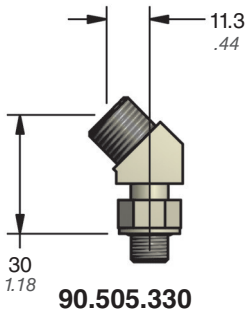


90.505.110
(G-109)
Flush Plug

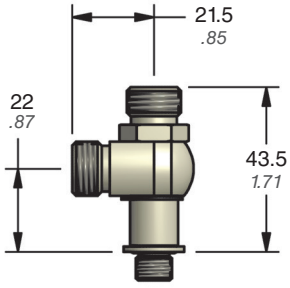


Part No.	A
230 .SS	22 .87
240	36 1.42
250	43 1.69

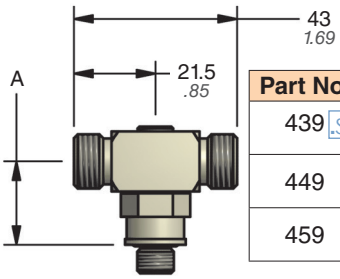
90.506. 230
(S-230)
90° Elbow



90.505.330
(S-330)
45° Elbow



90.505.438
(S-438)
Run Tee



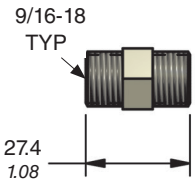
Part No.	A
439 .SS	22 .87
449	36 1.42
459	43 1.69

90.506. 439
(S-439)
Branch Tee

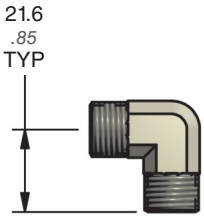
Components: ORFS Fittings

Fittings

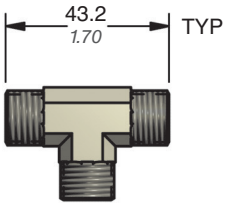
90.506.112
(S-112)
Tube End Cap



90.506.303
(S-303)
Union



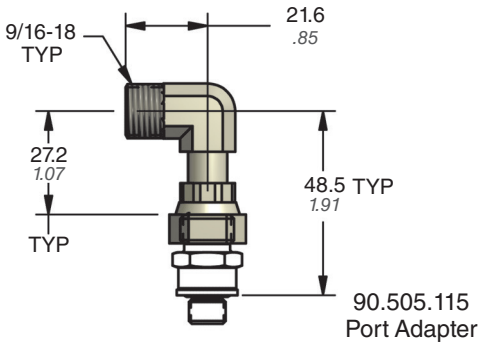
90.506.201
(S-201)
Elbow



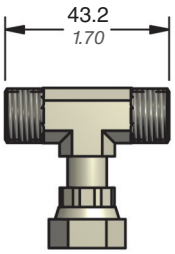
90.506.401
(S-401)
Tee

90.506.501
(S-501)
Cross

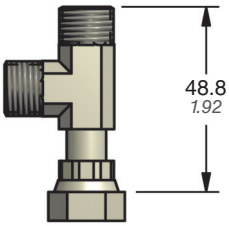
Standard Swivel Nut Fittings



90.506.221
(S-221)
90° Elbow

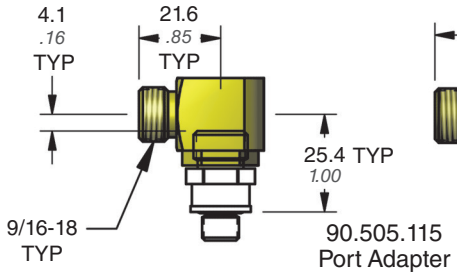


90.506.433
(S-433)
Branch Tee

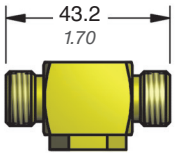


90.506.432
(S-432)
Run Tee

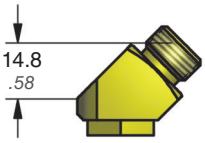
Compact Swivel Nut Fittings



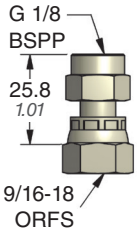
90.507.221
(SJ-221)
90° Elbow



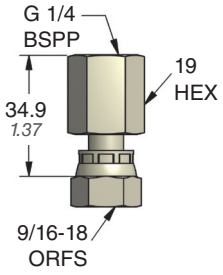
90.507.433
(SJ-433)
Branch Tee



90.507.321
(SJ-321)
45° Elbow

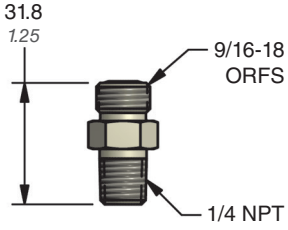


90.505.052
(S-52)
Swivel Adapter

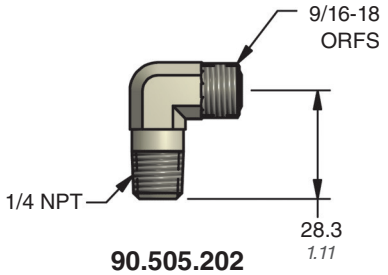


90.505.054
(S-54)
Swivel Adapter

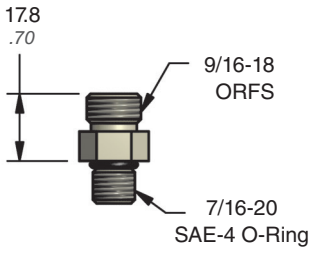
Retrofit Port Adapters



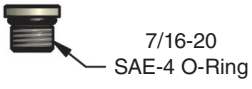
90.505.102
(S-102)
Straight Port Adapter



90.505.202
(S-202)
90° Port Adapter



90.505.120
(S-120)
Straight Port Adapter



90.505.104
(D-104)
Flush Plug

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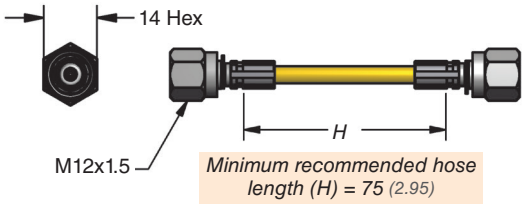
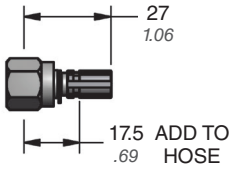
Components: D-24 Tapered Fittings

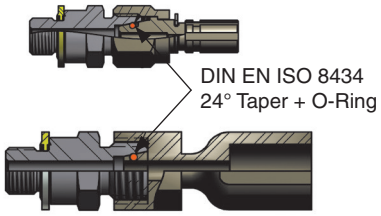
D-24 Hose System with 90.700 or 90.705 *(Y-700 or Y-705)*



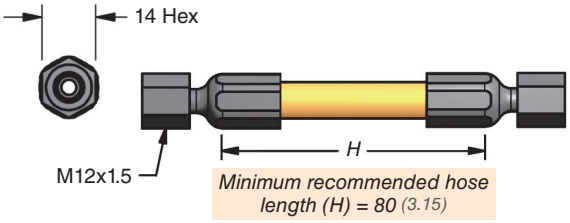


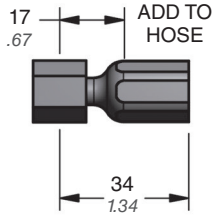
90.508.943 *(D-943)*
Compact Hose Adapter

DADCO's D-24 Fittings have a 24° taper and o-ring.

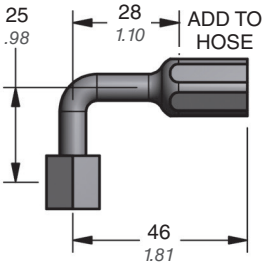


D-24 Hose System with 90.500 *(Y-500)*



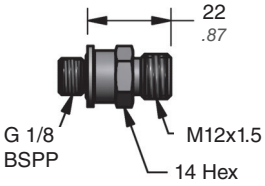


90.508.843 *(D-843)*
Compact Hose Adapter

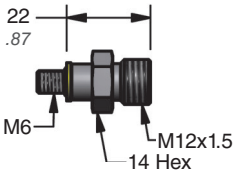


90.508.858 *(D-858)*
90° Hose Adapter

Port Adapters



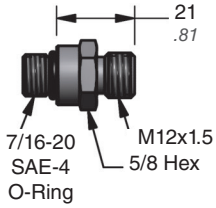
90.508.115
(D-115)
Straight



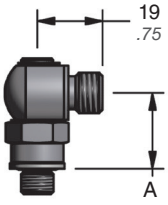
Refer to Page 25 Torque Specifications

90.508.116
(D-116)
Straight

Retrofit Only

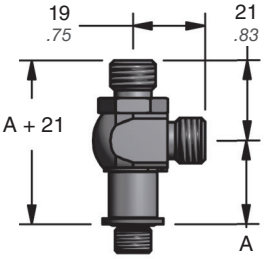


90.508.120
(D-120)
Straight



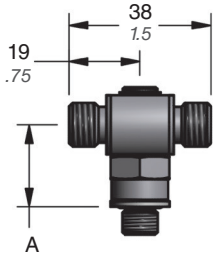
Part No.	A
230	22 .87
240	36 1.42
250	43 1.69

90.508. 230
(D-230)
90° Elbow



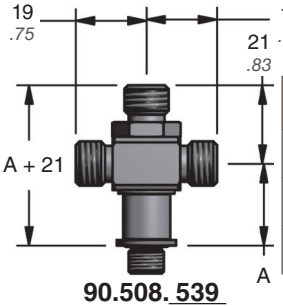
Part No.	A
438	22 .87
448	36 1.42
458	43 1.69

90.508. 438
(D-438)
Run Tee



Part No.	A
439	22 .87
449	36 1.42
459	43 1.69

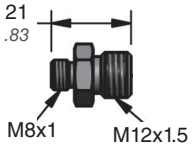
90.508. 439
(D-439)
Branch Tee



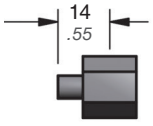
Part No.	A
539	22 .87
549	36 1.42
559	43 1.69

90.508. 539
(D-539)
Cross Tee

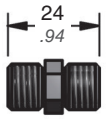
Fittings



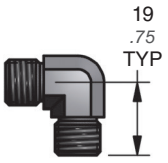
90.508.607
(D-607)
Reducing Union



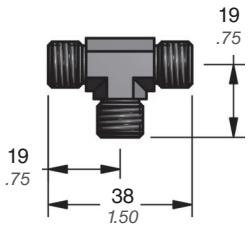
90.508.112
(D-112)
Tube End Cap



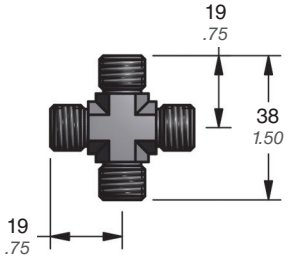
90.508.303
(D-303)
Union



90.508.201
(D-201)
Elbow



90.508.401
(D-401)
Tee

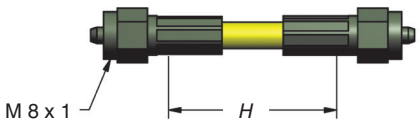


90.508.501
(D-501)
Cross

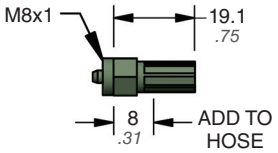
Components: *MINILink*® Fittings

MINIFLEX® Hose System with 90.700 or 90.705 *(Y-700 or Y-705)*

.SS = Stainless Steel Option Available



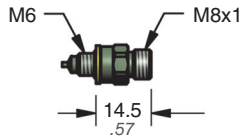
Minimum recommended Hose Length (H) = 45 (1.77)



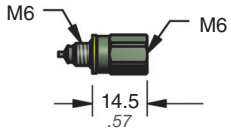
90.601.943 .SS
(L-943)
Permanent Hose Adapter

MINILink® Fittings

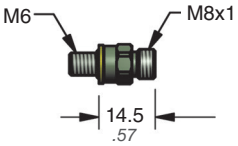
Micro Series (C.045 – C.250) and Ultra Force® Series (U.0175/U.0325) Port Adapters



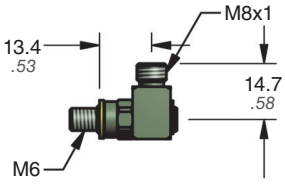
90.607.122
(L-122)
Micro Service Fitting



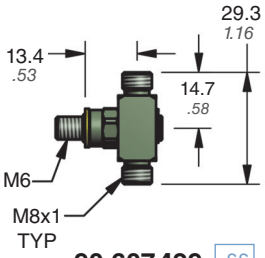
90.607.038
(L-38)
Micro Port Adapter Extension



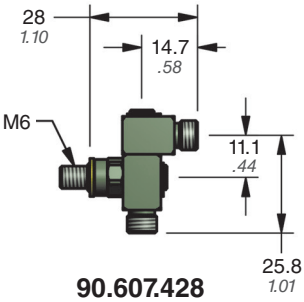
90.607.120 .SS
(L-120)
Straight Port Adapter



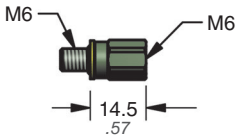
90.607.220 .SS
(L-220)
90˚ Port Adapter



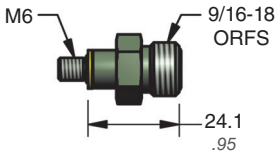
90.607.429 .SS
(L-429)
Branch Tee Port Adapter



90.607.428
(L-428)
Run Tee Port Adapter

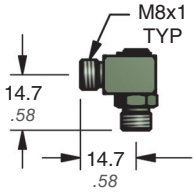


90.607.035
(L-35)
Port Adapter Extension

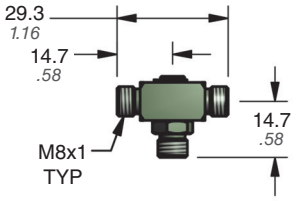


Refer to Page 25 Torque Specifications

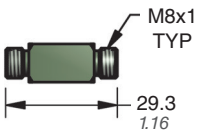
90.505.116
(S-116)
Reducer M6 → 9/16-18



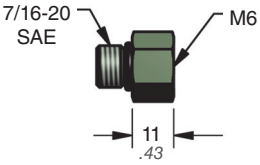
90.607.201
(L-201)
Elbow



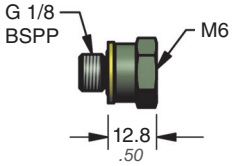
90.607.401
(L-401)
Union Tee



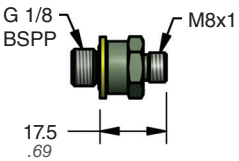
90.606.303
(L-303)
Union



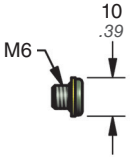
90.607.055
(L-55)
Reducer 7/16-20 → M6



90.607.065
(L-65)
Reducer G 1/8 → M6



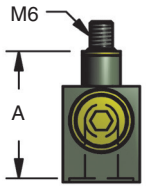
90.607.115
(L-115)
Reducer G 1/8 → M8x1

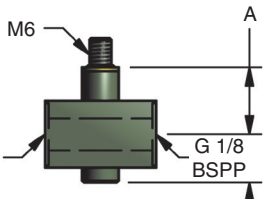


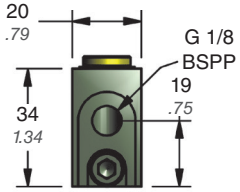
90.607.110
(L-110)
Port Plug

90.605.109
(L-109)
Fitting Plug

M6 → G 1/8 Port Adapters

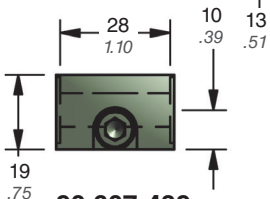






90.607. 116
Straight

Part No.	A
116	33 *1.30*
126	46 *1.81*



90.607. 439
Branch Tee

Part No.	A
439	18 *.71*
449	31 *1.22*

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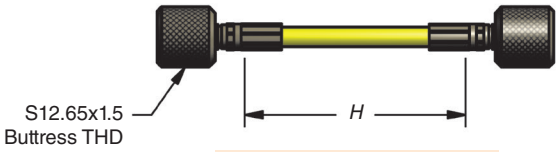
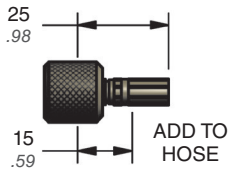
Components: Zip (CNOMO) Fittings

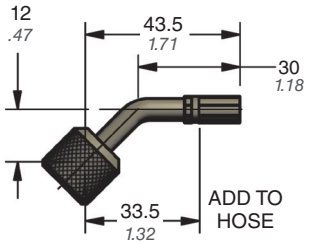
Zip Hose System with 90.700 or 90.705 *(Y-700 or Y-705)*



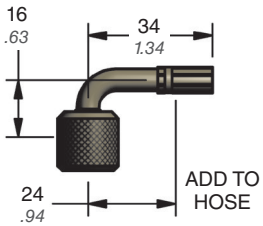
Minimum recommended hose length (H) = 75 (2.95)



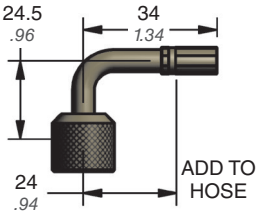
90.804.943
(B-943)
Straight Hose Adapter



90.804.954
(B-954)
45° Hose Adapter

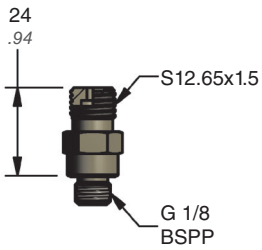


90.804.958
(B-958)
90° Short Neck
Hose Adapter

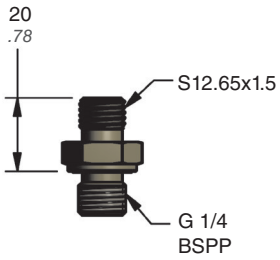


90.804.959
(B-959)
90° Long Neck
Hose Adapter

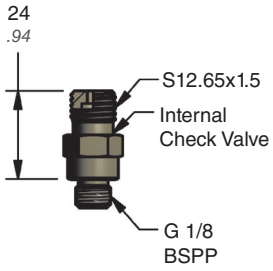
Fittings



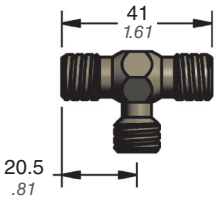
90.805.115
Straight Port Adapter



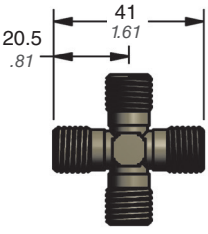
90.805.122
Straight Port Adapter



90.805.190
Port Adapter with Valve

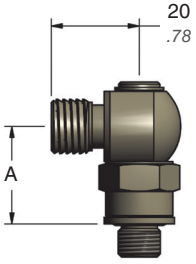


90.806.401
Tee



90.806.501
Cross

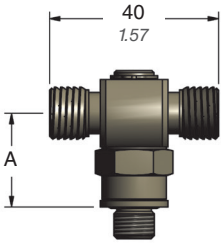
New!



Part No.	A
230	22 .87
240	36 1.42
250	43 1.69

90.807. 230
90° Port Adapter

New!

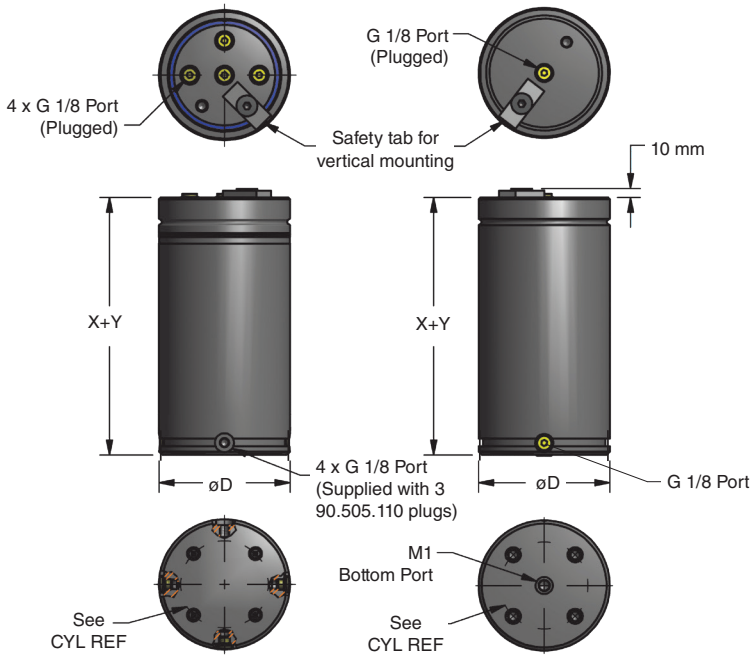


Part No.	A
439	22 .87
449	36 1.42
459	43 1.69

90.807. 439
Branch Tee Port Adapter

Surge Tanks

DADCO surge tanks are used with open-flow systems to increase the volume in the system thereby reducing the pressure rise when cylinders are stroked. The Surge Tank is offered in two Models: F – Free Flow Model has multiple open ports supplied as standard for maximum flexibility when piping; M1– SMS-i® Model has a bottom port to attach to a base plate. Gauges and shut-off ball valves are available upon request. For assistance in determining appropriate surge tank size for your system, see B14102 or use the DADCO Force Calculator from our website, www.dadco.net. *90.400 (Y-400) hose is the preferred hose to use with surge tanks. 90.700 (Y-700)/ 90.705 (Y-705) hose is not recommended for use with surge tanks due to restricted flow capability.*

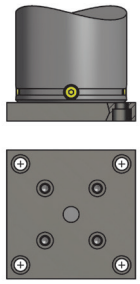


F – Free Flow Model **M1 – SMS-i® Model**

ST	30	50	75	100
D	95 *3.74*	120 *4.72*	150 *5.91*	195 *7.67*
X	117 *4.61*	137 *5.39*	152 *5.98*	157 *6.18*
Y	Volume of Tank L *(in³)*			
50 *1.97*	0.59 *36*	1.05 *64*	1.71 *105*	2.92 *178*
100 *3.94*	0.85 *52*	1.44 *88*	2.33 *142*	3.99 *244*
150 *5.91*	1.10 *67*	1.83 *112*	2.94 *180*	5.06 *309*
200 *7.87*	1.35 *82*	2.22 *136*	3.56 *217*	6.13 *374*
250 *9.84*	1.60 *98*	2.62 *160*	4.17 *254*	7.20 *439*
300 *11.81*	1.85 *113*	3.01 *184*	4.78 *292*	8.27 *505*
350 *13.78*	2.10 *128*	3.40 *208*	5.40 *329*	9.34 *570*
400 *15.74*	2.35 *144*	3.79 *232*	6.01 *367*	10.41 *635*

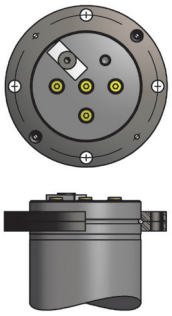
ST.50.150.B29

B11 **90.11._____** CYL REF

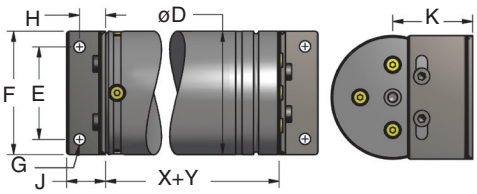


NOTE: B11 mount available with ST.30-ST.75 models only

B21 **90.21._____** CYL REF



B29 **90.29._____** CYL REF



Surge Tank	CYL REF	D	E	F	G	H	J	K
30	3000	95 *3.74*	50 *1.97*	75 *2.95*	4 x M10 *3/8*	25.4 *1.00*	38 *1.50*	50.5 *1.99*
50	5000	120 *4.72*	90 *3.54*	120 *4.72*	4 x M10 *3/8*	25.4 *1.00*	38 *1.50*	78 *3.07*
75	7500	150 *5.91*	90 *3.54*	120 *4.72*	4 x M10 *3/8*	25.4 *1.00*	38 *1.50*	85 *3.35*
100	10000	195 *7.67*	100 *3.94*	150 *5.91*	4 x M12 *1/2*	31.8 *1.25*	50.8 *2.00*	98.5 *3.88*

Preferred Mounts for Surge Tanks. See the 90.10 / 90.8 Series Catalog for mount details.

Ordering Example: **ST.30. 150. TO. F**

Size:
30, 50, 75, 100

Length (Y):
50, 100, 150, 200, 250, 300, 350, 400

Operating System:
F = Free Flow Fitting, M1 = SMS-i® *(Bottom port + sealing component)*

Mount Option:
TO = Basic Model. *When not specified, default is TO.* Mount ordered with cylinder will be attached at factory.

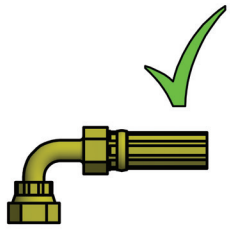
Surge Tank Recommendations

When piping to a Surge Tank, it is important to have a direct route from the gas spring port to a dedicated port on the Surge Tank. DADCO recommends using the Y-400 hose to maximize flow between gas spring and Surge Tank. When selecting fittings, it's important to select fittings with the least amount of flow restriction. Follow the guildlines below to avoid an increase in the system's operating temperature and pressure rise. For any questions, contact DADCO.

Surge Tank Hose Selection

Hose Type	Inner Diameter mm *inch*	Working Pressure bar *psi*
90.400 *(Y-400)*	6.5 *.25*	345 *5000*

Fitting Recommendations



90.504.758
90.504.759
90.504.459

90.506.221

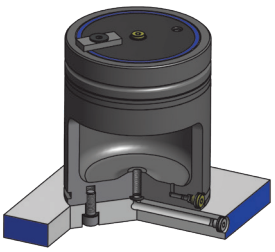
90.506.230

90.507.221

90.507.321

SMS-i® Surge Tank Connection

DADCO surge tanks ordered with the M1 operating system are used in a SMS-i® and have a bottom port. These tanks are attached to the base plate with a sealing washer and standard mounting hardware.

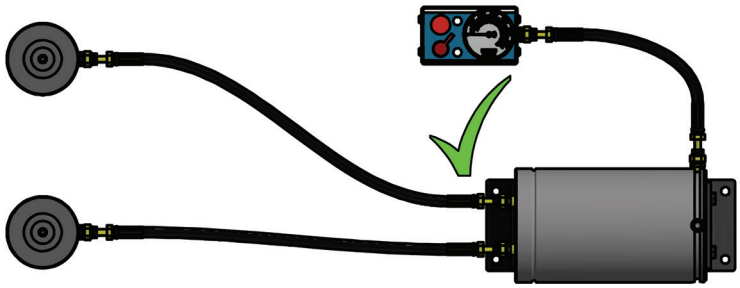


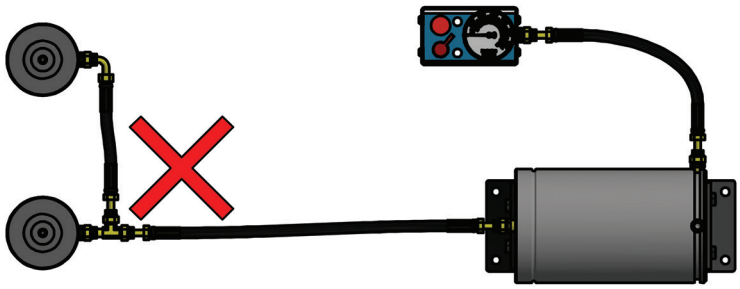
Operating Specifications

Charging Medium: Nitrogen Gas
Charging Pressure Range: 15 – 150 bar (*220 – 2175 psi*)
Operating Temperature: 4°C – 71°C (*40°F – 160°F*)*

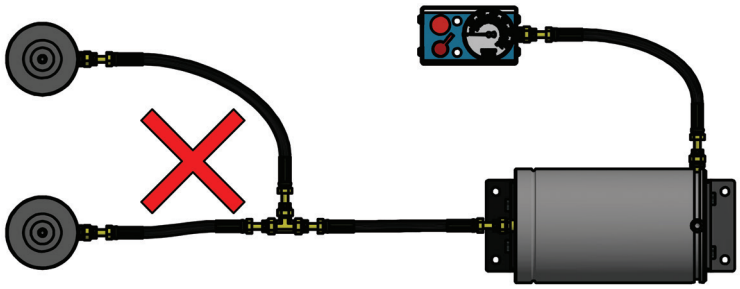
**Note: Surge Tank pressure should not exceed 264 bar (3828 psi) at maximum temperature.*

Piping Recommendations

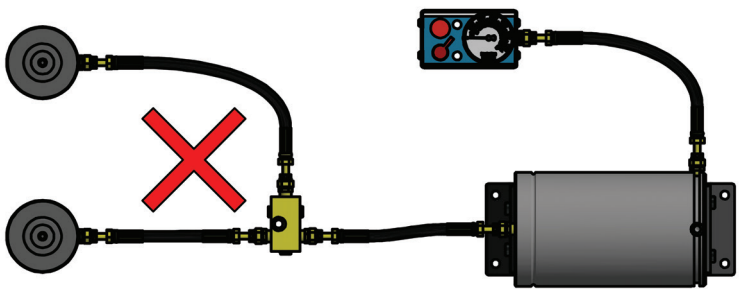




Do not split routes using tees.



Do not split routes using tees.



Do not split routes using distribution blocks.

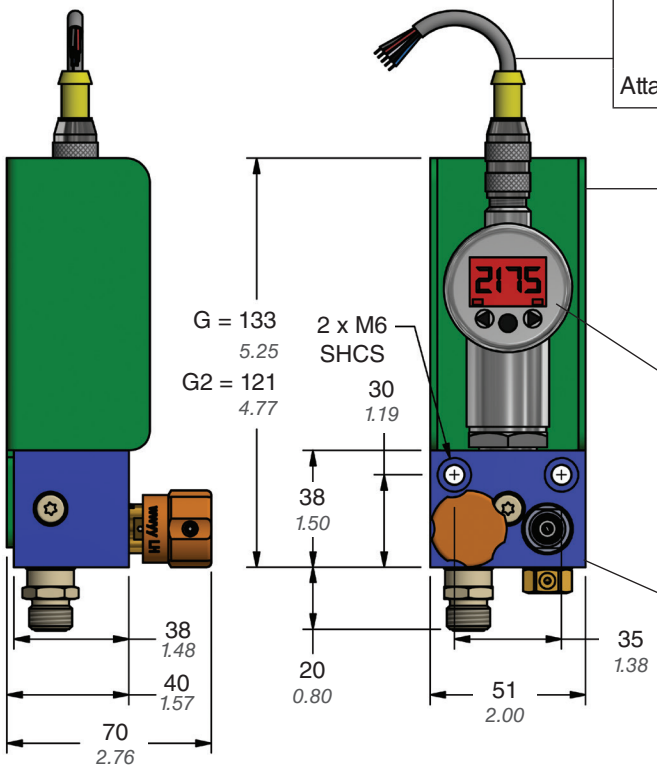
Components: Pressure Monitors

Electronic Pressure Monitors

DADCO offers two types of Electronic Pressure Monitors to monitor nitrogen gas pressure during operation: An Electronic Pressure Monitor or a Control Panel with Pressure Monitor. For maximum versatility both types have multiple configurations to best suit your application. DADCO offers a variety of pressure sensor options to alert press controllers to changes in system pressure. Pressure sensor options are detailed on pages 20 – 21.

Electronic Pressure Monitor Configuration

To customize your Electronic Pressure Monitor, select the base, sensor and cable accessory that best suits your application.



Example shown:
90.421.C2.S.EDS.G
With 90.454.M12.S Cable

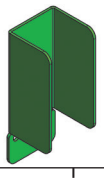
1) Cable Accessory


90.454.M12.S.___
Attachment Orientation: S = Straight


90.454.M12.L.___
Attachment Orientation: L = Elbow

2) Guard Option


G


G2

3) Pressure Sensor Options


EDS


DSK

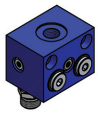

DPS


DPT


SKN

See pages 20-21 for details.

4) Base Options


JB

C2

GM specific option available, reference bulletin B16106. See page 22 for C2 details.

Ordering Example:

90.421. C2. S. EDS. G

Model Number

Base Option
JB = Block only *(Bleed Valve, Filler Valve and Rupture Disk not included),*
C2 = Block with Vibration Resistant Bleed Valve, Filler Valve and Rupture Disk

Guard Option
G, G2

Pressure Sensor Options
EDS = Electronic Pressure Switch, DSK = Piston Pressure Switch, DPS = Dial Pressure Switch, DPT = Electronic Pressure Transmitter, SKN = Electronic Pressure Switch

Fitting Connection
N = No Fitting Supplied, S = 90.505.115 *(ORFS)*, D = 90.508.115 *(D-24)*, B = 90.805.115 *(Zip)*, L = *MINILink*® Fitting. *Default is N.*

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Components: Pressure Monitors

Electronic Pressure Monitor Components

Follow this step by step guide and choose the components that are applicable for your application needs.

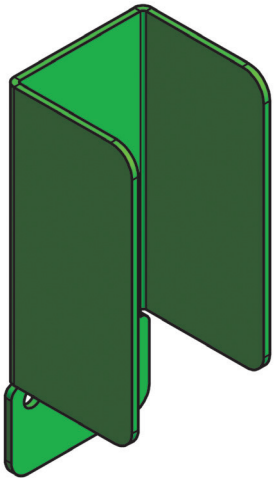
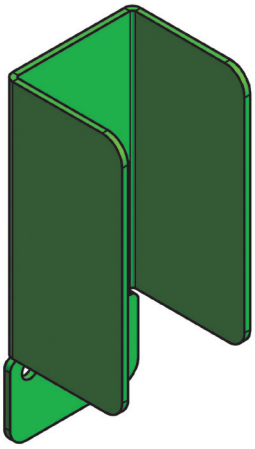
1) Cable Accessories

DADCO's Electric Pressure Monitors have two cabel accesory options to choose from: the S, straight, or L, elbow. Review the details provided below to select the correct option for your application.

 90.454.M12.S.___ Attachment Orientation: S = Straight	 90.454.M12.L.___ Attachment Orientation: L = Elbow
Cable Length: 02 = 2 m, 05 = 5 m, 10 = 10 m	
Applicable for EDS, DPS, DPT & SKN sensor options	

2) Guard Options

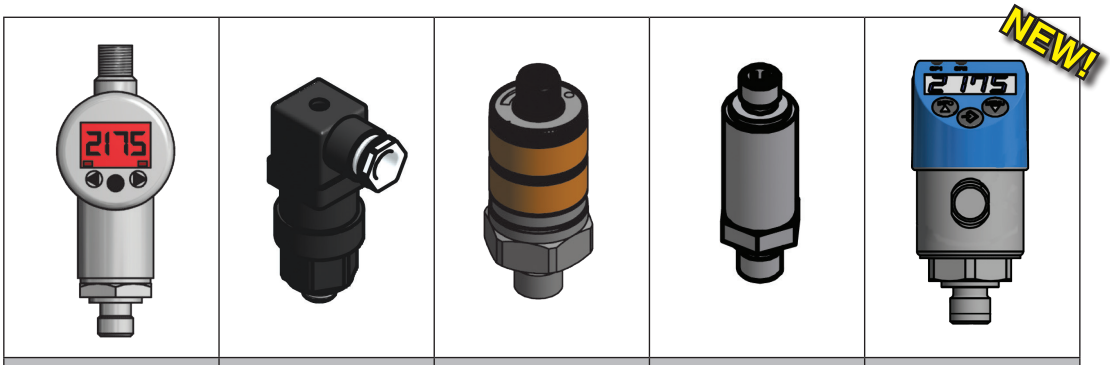
DADCO's Electric Pressure Monitors have two guard options available: G and G2. The G option is recommended to be used with our EDS and DSK Pressure Sensor Options. The G2 option is recommended to be used with our DPS, DPT and new SKN Pressure Sensor Options. Review the details provided below to select the correct option for your application.

G	G2
	
Guard Length: 95 mm	**Guard Length**: 83.1 mm
Width: 51 mm	**Width**: 51 mm
Recommended Electronic Pressure Sensors:	**Recommended Electronic Pressure Sensors:**
 **EDS**  **DSK**	 **DPS**  **DPT**  **SKN**

Components: Pressure Monitors

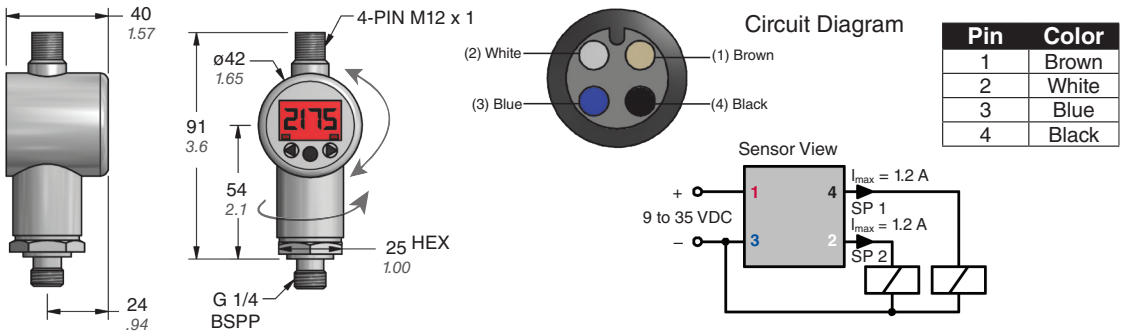
3) Pressure Sensor Options

DADCO's Electric Pressure Monitors have five sensor options available: EDS, DSK, DPS, DPT and SKN. Review the details provided below to select the correct option for your application.



EDS – Electronic Pressure Switch

The EDS switch features an LED digital display that reads pressure value in bar, psi or MPa. The EDS models display face rotates 270° while the body rotates 340° for added versatility, the sensor also features two switching outputs that can be easily set with face mounted push buttons. *Note: EDS uses 90.454.M12 style cable accessory.*



Pin	Color
1	Brown
2	White
3	Blue
4	Black

Features:

- Measuring Range: 0 – 400 bar *(0 – 5800 psi)*
- Supply Voltage: 9 – 35 VDC
- Switch Rating: 1.2 A max
- Output: (2) PNP Pin 2, 4
- Electrical Connection: 4 – Pole M12 x 1
- Current Consumption: 35 mA max

DSK – Piston Pressure Switch

The DSK switch uses a pressure input to operate a SPDT switch as the pressure rises or falls across a set value. The manually adjusted switch monitors a preset pressure. This switch can be manually adjusted and wired to shut down a press operation or activate an alarm once pressure is above or below the set-point. *Note: DSK includes a DIN 43650 field-attachable connector.*

Features:

- Max Pressure Rating: 600 bar *(8700 psi)*
- Output: SPDT Switch
- Electrical Connection: DIN 43650
- Range Tolerance: ± 5 bar *(± 72.5 psi)*
- Switch Adjustment Range: 50–200 bar *(725–2900 psi)*
- Switch Rating: 1 AMP at 250 VAC, 4 AMP at 24 VDC

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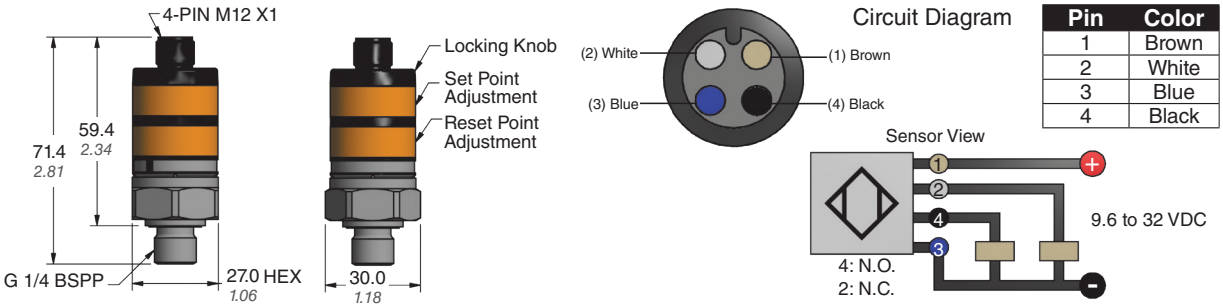
Components: Pressure Monitors

DPS – Dial Pressure Switch

The DPS switch features two manually adjustable dials. The upper dial is the set pressure and the lower dial is the reset pressure. When the system pressure increases to the set value, Output 1 (pin 4) turns on, and Output 2 (pin 2) turns off. When the system pressure decreases to the Reset Pressure, Output 1 turns off and Output 2 turns on. *Note: DPS uses 90.454.M12 style cable accessory.*



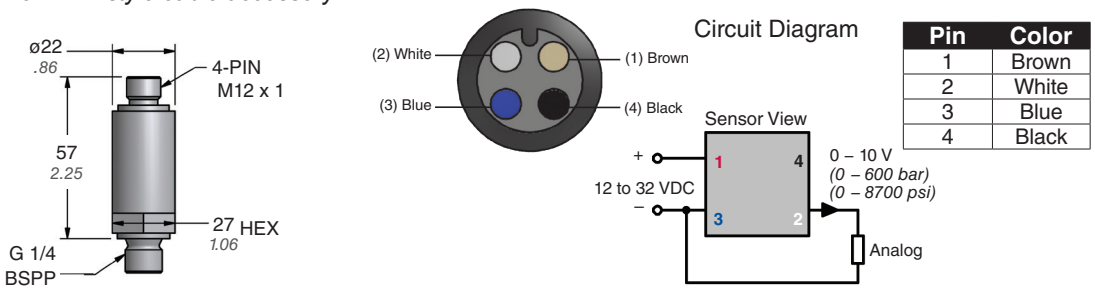
Pin	Color
1	Brown
2	White
3	Blue
4	Black

Features:

- Measuring Range: 0 – 400 bar *(0 – 5800 psi)*
- Operating Voltage: 9.6 – 32 VDC
- Setting Point Range: 20–400 bar *(290–5800 psi)*
- Reset Point Range: 12–392 bar *(175–5685 psi)*
- Switch Rating: 500 mA
- Electrical Connection: 4 – Pole M12 x 1
- Current Consumption: < 25 mA
- Switch Output: PnP (1 N.O. & 1 N.C. Complementary)
- Switch Point Accuracy: < ± 2.5%

DPT – Electronic Pressure Transducer

DADCO's DPT unit is a pressure transducer, producing an analog signal that provides a range of voltage. The DPT converts pressure input to a 0–10 V output, the voltage output can then be scaled by a press controller to read the pressure value.
Note: DPT uses 90.454.M12 style cable accessory.



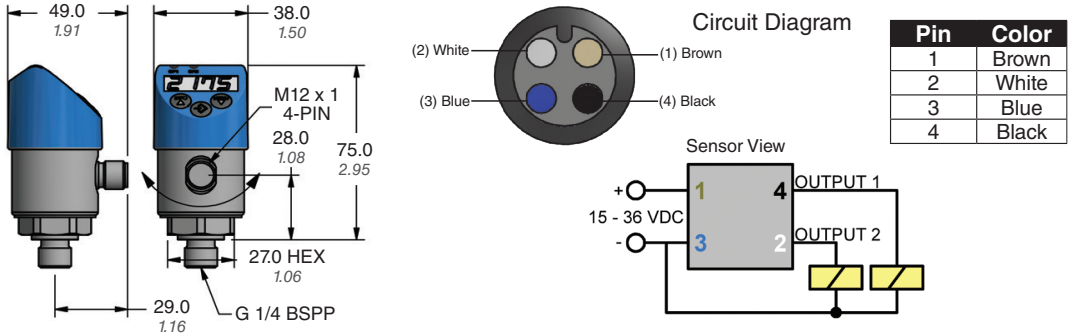
Pin	Color
1	Brown
2	White
3	Blue
4	Black

Features:

- Supply Voltage: 12 – 32 VDC
- Accuracy: 0.5% Full Scale
- Output Signal: Analog (0-10 Volts)
- Max Pressure Rating: 600 bar *(8700 psi)*
- Electrical Connection: 4 – Pin M12 x 1
- Current Consumption: < 15 mA

NEW! SKN / SKP – Electronic Pressure Switch

The SKN / SKP pressure switch features an LED digital display that reads pressure value in bar, psi or MPa. The SKN / SKP models blue LED display is highly visable and is easily configured to control press operations when set pressure limits are exceeded. *Note: SKN uses 90.454.M12 style cable accessory.*



Pin	Color
1	Brown
2	White
3	Blue
4	Black

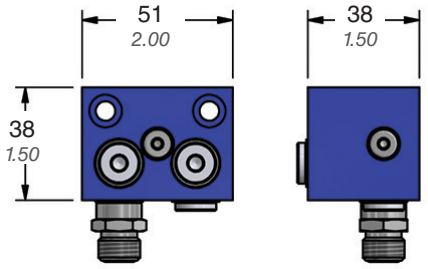
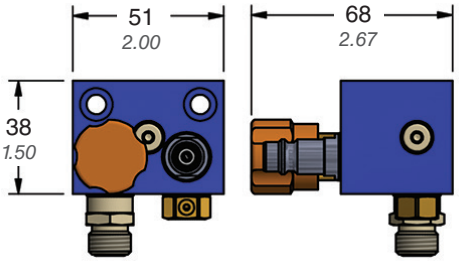
Features:

- Measuring Range: 0 – 400 bar *(0 – 5800 psi)*
- Voltage: 9 – 35 VDC
- Output Signal: SKN – (2) NPN Pin 2, 4; SKP – (2) PNP Pin 2, 4
- Accuracy: ≤ ± 1% Full Scale
- Electrical Connection: 4 – pin M12 x 1
- Current Consumption: 45 mA

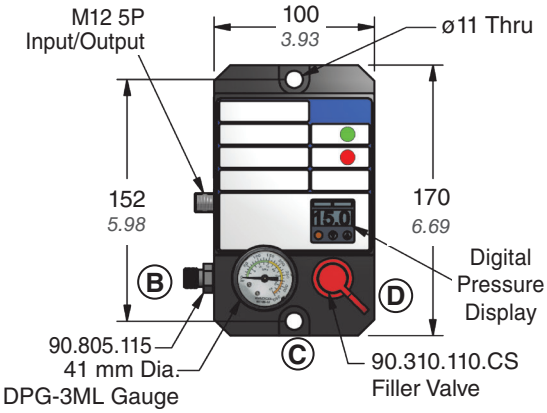
Components: Pressure Monitors

4) Base Options

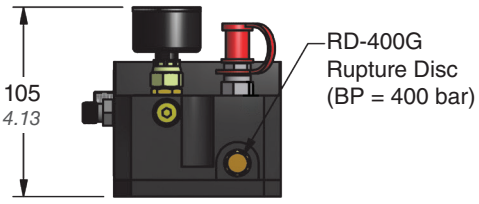
DADCO's Electric Pressure Monitors have two base options to choose from: JB = block only and C2 = Block with Vibration Resistant Bleed Valve, Filler Valve and Rupture Disk. DADCO recommends using the C2 Base Option with the SKN Pressure Monitor Sensor Option. Review the details provided below to select the correct option for your application.

JB Block	C2 Block
	
Height: 38 mm	Height: 38 mm
Width: 51 mm	Width: 51 mm

90.406.421 Control Panel with Pressure Monitor



The 90.406.421 Control Panel with Pressure Monitor is used to fill and monitor the pressure of linked nitrogen gas springs from outside the die. The panel is adjustable to read pressure in bar or MPa and includes a digital pressure sensor with programmable output to signal if pressure drops below a preset level. This panel conforms to Toyota standard number D-PACPS-B. Reference B10143B for additional information.



Cable Accessory	
 90.454.M12B.S.___ Attachment Orientation: S = Straight	 90.454.M12B.L.___ Attachment Orientation: L = Elbow
Cable Length: 02 = 2 m, 05 = 5 m, 10 = 10 m	

This product is Listed to applicable UL Standards and requirements by UL.

Ordering Example: 90.406.421. B.

- **Plate Style**: B = English plate style; A = Japanese plate style
- **Fitting Location**: B, C, D, BD

• **Output:**	SPST N.O. (Normally Open)	• **Max Pressure Rating:**	350 bar *(5076 psi)*
• **Supply Voltage:**	12 – 24 VDC, 80 – 130 VAC (50 – 60 Hz)	• **Electrical Connection:**	M12 (B – Code), 5 Wire, Reverse Key

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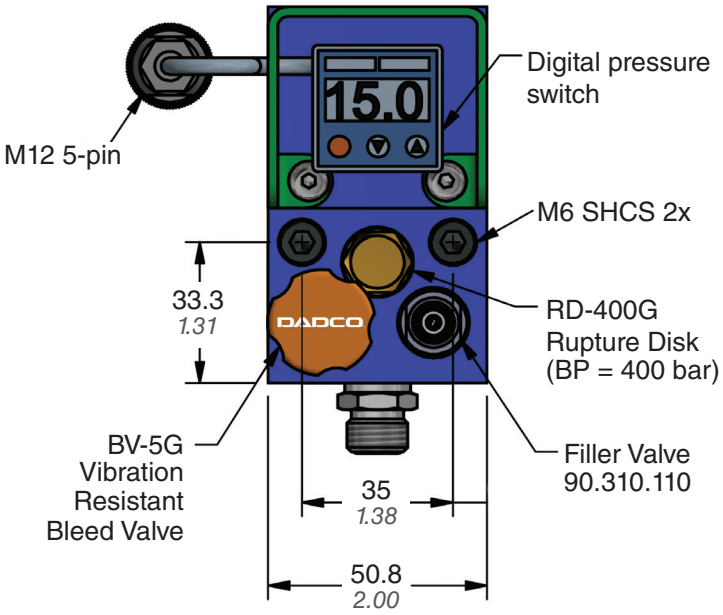
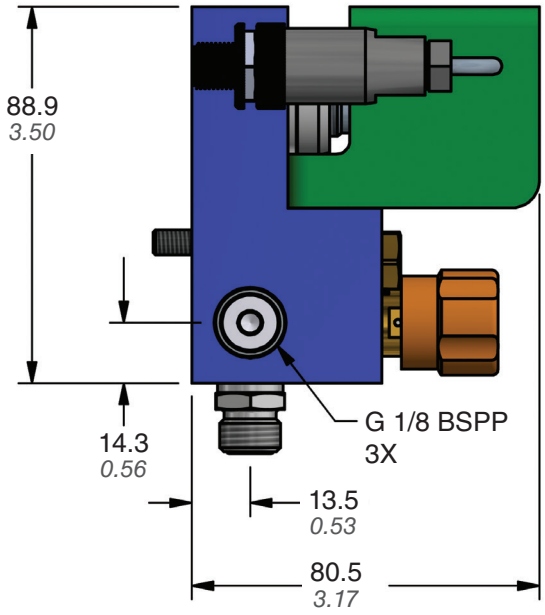
Compact Digital Pressure Sensor

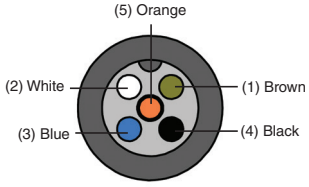
NEW!

The new 90.422.D is our smallest digital pressure monitor. The 90.422.D offers an even more compact sensor option for challenging space constraints. The 90.422.D is available with a digital sensor display output in either Bar or MPa or with an analog gauge display. Fully integrated fill and bleed valves on the same face of the panel allow for easy access. DADCO's patent pending vibration resistant BV-5G comes standard on the 90.422.D, ensuring reliable performance in demanding press environments.

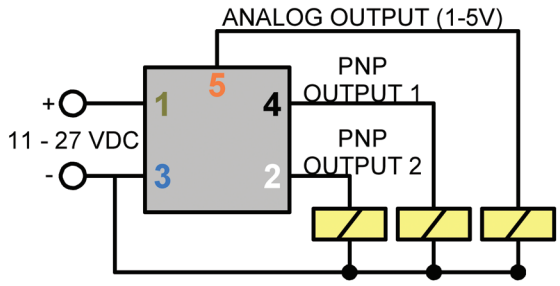




M12 Circuit Diagram



Pin	Color
1	Brown
2	White
3	Blue
4	Black
5	Orange



Performance Specifications:

ANALOG OUTPUT (1-5Vdc):

- Analog Scaling: User may configure analog output scaling to any range within Full Scale of sensor
- Accuracy: ± 1.0% Full Scale (includes effects of linearity, hystersis and repeatability)
- Full Scale: 0 – 35 MPa / 0 – 350 bar
- Ouput Resolution: 25 mV
- Response time: 50 m/sec

PRESSURE SWITCH OUTPUT:

- Type: PNP open collector up to 30 Vdc/ 80mA
- Switch Setting: User may adjust switch actuation & deadband to any points within Full Scale sensor range
- Setting Accuracy: ± 1.0% Full Scale
- Response Time: 5 – 20 m/sec
- Number of Contacts: 2
- Hysteresis: Variable

Ordering Code:

90.422. D. S. G. M12

Model Number

Pressure Monitor Sensor Options: D = Digital, P = PSI Analog Gauge, A = Metric Analog Gauge.

Fitting Connection: N = No Fitting Supplied, S = 90.505.115 *(ORFS)*, D = 90.508.115 *(D-24)*, B = 90.805.115 *(Zip)*, L = *MINILink*® Fitting *(90.607.115)*.

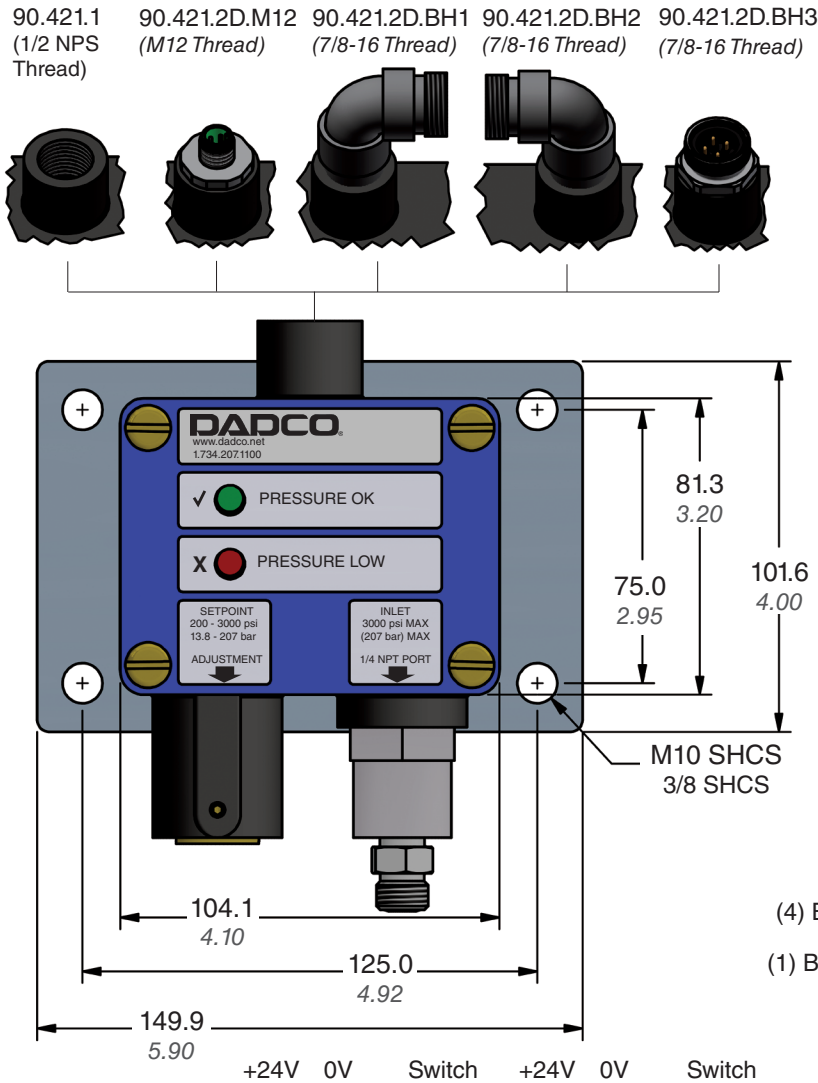
Electrical Connection: M12 = 5 pin M12, PT = pigtail

Guard Option

Components: Pressure Monitors

Pressure Monitors

The *90.421.1* and *90.421.2D* models visually alert the user to whether the pressure is at good standing or low pressure. The *90.421.2D* model is capable of shutting the press down if it drops below the minimum operating pressure, with a dry-contact switch.



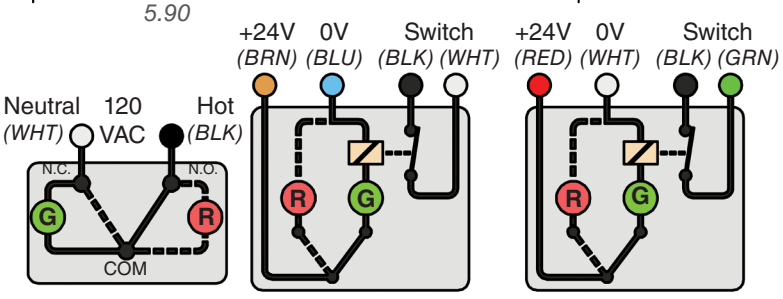
Model No.	Supply Voltage	Switch Rating	Pressure Range
90.421.1 *(DPM-1)*	120 VAC	–	15 – 200 bar *220 – 3000 psi*
90.421.2D *(DPM-2D)*	24 VDC	0.4 A	15 – 200 bar *220 – 3000 psi*

M12 Connector

Cable Part Number	Length
90.454.M12.S.02	2m Straight
90.454.M12.S.05	5m Straight
90.454.M12.S.10	10m Straight
90.454.M12.L.02	2m 90°
90.454.M12.L.05	5m 90°
90.454.M.12.L.10	10m 90°

BH Connector

Cable Part Number	Length
AZ54MC4PM02	6ft Straight
AZ54MC4PM03	12ft Straight



90.421.1 (DPM-1) Circuit | *90.421.2D (DPM-2D) Circuit - M12 Connector* | *90.421.2D (DPM-2D) Circuit - BH Connector*

90.421.1 *(DPM-1)*
When pressure is OK, green lights up.
When pressure is LOW, red lights up.

90.421.2D *(DPM-2D)*
When pressure is OK, green lights up, switch is CLOSED
When pressure is LOW, red lights up, switch is OPEN

-------- : Pressure < Set Point
——— : Pressure > Set Point

Ordering Example:

90.421.2D. *BH1. BP. 102

Model Number
90.421.1 or 90.421.2D
(90.421.2D replaces former 90.421.2)

Connector
BH1 – Right ↱, BH2 – Left ↰
BH3 – Straight Connector,
M12: 4-Pin M12-A Straight
*(*Connector options are for 90.421.2D Model only.)*

Fitting
90.505.102–Straight
90.505.202–90˚

Backing Plate
(optional)

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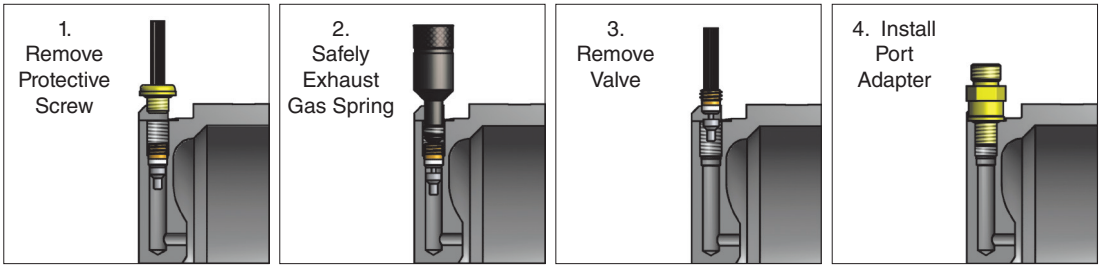
Piping Specifications

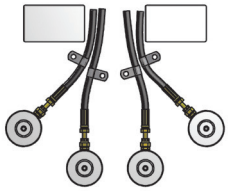
Converting from Self-Contained to Linked Mode

The following basic steps show how to easily convert DADCO gas springs from self-contained to linked mode. For more detailed instructions, refer to the relevant product catalog. *(Mini series gas spring with M6 port shown below.)*

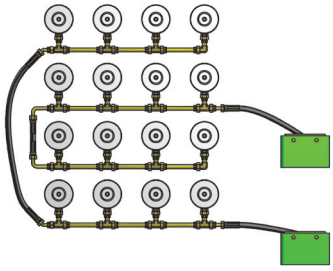
CAUTION
Always wear safety goggles when performing maintenance on nitrogen gas springs.



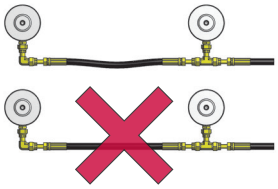
Recommendations for Linked Systems



Allow ample space to secure hoses to plate. It is preferred that hoses rest side by side.



Arrange gas springs to provide uniformity and balance within the die. Use multiple panels for large systems to allow faster filling and discharging.



When linking cylinders allow for ample hose to avoid taut connections.

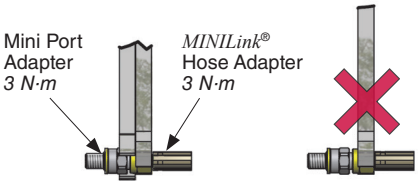
Torque Specifications

Tighten fittings to the following torque specifications to prevent damage and loosening from vibration during operation.

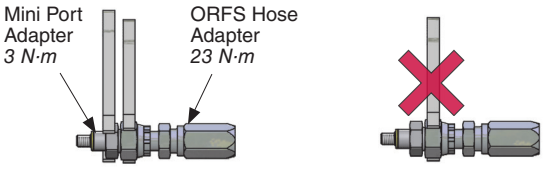
Type	Thread	lb·in	lb·ft	N·m
M6 Port Adapter	M6 x 1	25	2.1	3
MINILink® Hose Adapter	M8 x 1	25	2.1	3
G 1/8 Port Adapter	BSPP	168	14	19
ORFS Hose Adapter	9/16-18	204	17	23
D-24 Hose Adapter	M12 x 1.5	Hand-tight then ¼ turn with wrench		
Zip Hose Adapter	S12.65 x 1.5	Hand-tight		

NOTE: It is important to adhere to these guidelines for the following fittings: 90.505.116 and 90.508.116.

Use two wrenches, one on the port adapter and one on the hose adapter, to avoid over-tightening. The drawings below depict the importance of torque specifications in common port and hose adapter combinations.



Mini Port Adapter + *MINILink*® Hose Adapter
Mini fittings and hose adapters have low torque values. Refer to the chart above to avoid possible damage from over-tightening.



Mini Port Adapter + 9/16-18 ORFS Hose Adapter
The torque requirement for the Mini Port Adapter is smaller than the ORFS Hose Adapter. Refer to the chart above. Do not torque port fitting with larger hose adapter nut.

Tools & Accessories

Tools for Hose Assembly Construction

DADCO carries a variety of tools for Hose Assembly Construction, please refer to bulletin B11110A for more information on the selection shown below.

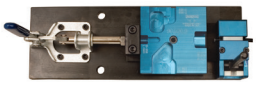
Mini Hose Cutter
90.320.7

Used to cut hose to appropriate length. The 90.320.7 works with all hose sizes.

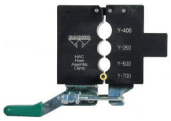
Mini Hose Cutter
90.320.7

Hose Assembly Clamp

Used to secure hose while installing hose adapters. The *90.320.9* is for use with the 90.700 / 90.705 *(Y-700 / Y-705)* hoses, and the *90.320.6* is compatible with all hose sizes.



Mini Hose Assembly Clamp
90.320.9



Hose Assembly Clamp
90.320.6 *(HAC)*

Portable Crimping Unit
90.720

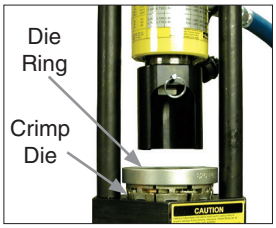
Used with appropriate die ring to create permanent hose assemblies. For more information, request bulletin B04112B.

Mini-Crimp
90.710.8

Used in a crimping machine to construct hose assemblies using 90.700 / 90.705 *(Y-700 / Y-705)* hose.

Crimp Dies

Used in Portable Crimping Unit to construct hose assemblies. For information on constructing hose assemblies, refer to bulletin B00120D.



Part No.	Crimp Die	Crimp Diameter mm / *inch*
90.700 / 90.705 *(Y-700 / Y-705)*	Mini-Crimp 90.710.8 No Ring Required	7.00 – 7.25 *.276 – .285*
90.500 *(Y-500)*	80C-P03 Gray Die 82C-R01 Ring	12.19 – 12.70 *.480 – .500*
90.400 *(Y-400)*	80C-P04 Red Die 82C-R01 Ring	14.22 – 14.73 *.560 – .580*
90.250** *(Y-250)*	80C-P04J Red Die 82C-R01 Ring	13.59 – 14.10 *.535 – .555*

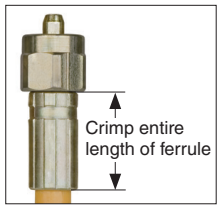
** DISCONTINUED

Using DADCO's Mini-Crimp

1. Place the Mini-Crimp *90.710.8* into the crimping machine. No die ring is required.

2. Insert the hose assembly from below through the center of the Mini-Crimp (F.1). For instructions on constructing a Mini Hose Assembly request bulletin B11110A.

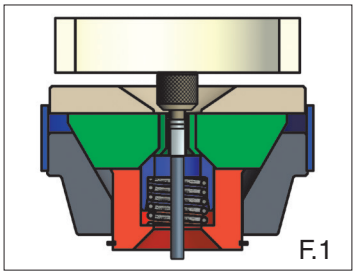
3. Activate the hydraulic or pneumatic crimping machine to permanently crimp fitting to the hose (F.1).

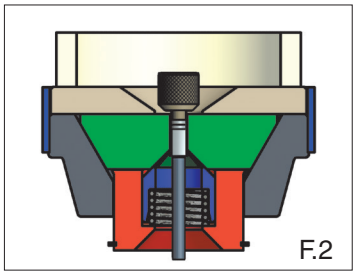


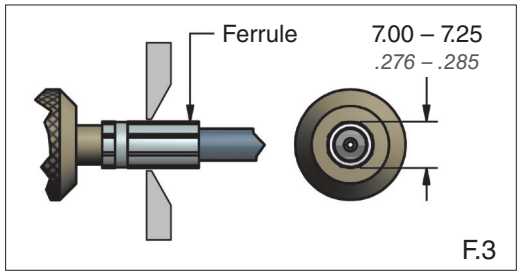
4. As the DADCO Mini-Crimp begins to close, position the fitting to ensure the entire length of the ferrule is crimped (F.2).

5. Remove completed hose assembly from the Mini-Crimp.

6. Measure the crimped ferrule diameter across the flats to verify it is within the crimp dimension range (F.3).


F.1


F.2



F.3

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Charging Accessories

Quick Disconnect Charging Hardware

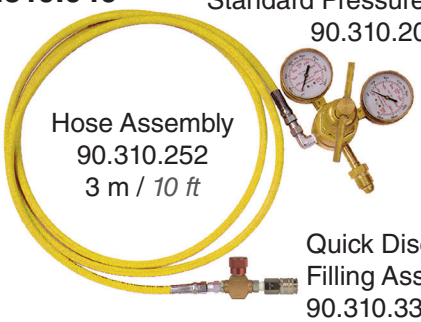
Use the DADCO Quick Disconnect Charging Assembly, *90.310.040*, with the *90.310.143* or *90.310.111* Charging Nipple or the *90.315.5* Pressure Analyzer to charge self-contained gas springs. The *90.310.040* can also be used with a DADCO control panel to charge linked systems.

The *90.310.044* Quick Disconnect Filling Assembly with self-venting capabilities releases residual pressure after charging self-contained or linked nitrogen gas spring systems for easy decoupling between the filling assembly and charging nipple or filler valve.

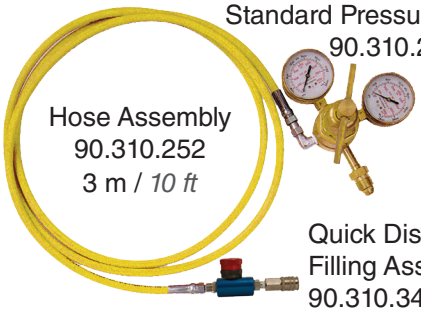
DADCO also offers the *90.310.041* High Pressure Charging Assembly to charge Micro Series, SCR Series and U.0175 – U.0400 nitrogen gas springs to maximum pressure. For more information, reference B16118B.

Quick Disconnect Filling Assembly with Gauge, 90.310.339, is also available.

90.310.040



90.310.044 (Self-Venting)



**Not recommended with 90.416.A2B or 90.406.421*

Quick Disconnect Charging Nipple
90.310.143 (M6 Port)
90.310.111 (G 1/8 Port)

90.310.143

90.310.111

Use the appropriate Quick Disconnect Charging Nipple to charge DADCO Nitrogen Gas Springs.

Safety Plates

DADCO recommends customers identify tools containing high pressure nitrogen gas springs to ensure proper handling of the cylinders. DADCO offers several caution tags to meet specific application needs. For more information request bulletin B01130D.

Compact Nitrogen Gas Booster DGB.100

DADCO's Compact Nitrogen Gas Booster System, DGB.100, is a lightweight, cost-effective way to extend the life of your nitrogen supply tanks. Using the DGB.100, tanks with low pressure can be boosted to a higher pressure that is suitable for charging the gas spring. For more information refer to bulletin B13105.

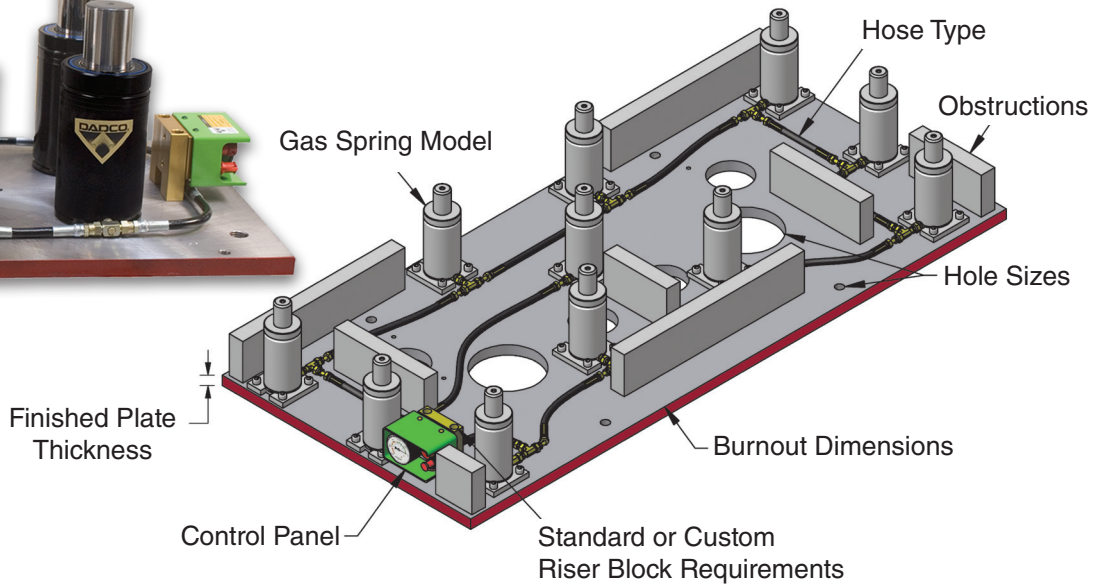
Nitrogen Gas Booster System DGB.150

DADCO's Nitrogen Gas Booster System, DGB-150, is an all-in-one solution to the problems of low pressure supply tanks and lost nitrogen gas during discharge. For more information on the booster, refer to bulletin B07101.

Complete Linked System Solutions

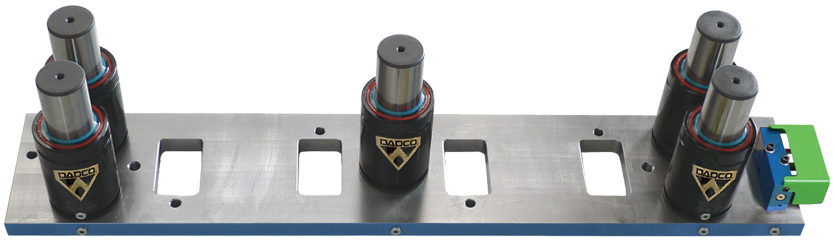
SMS®

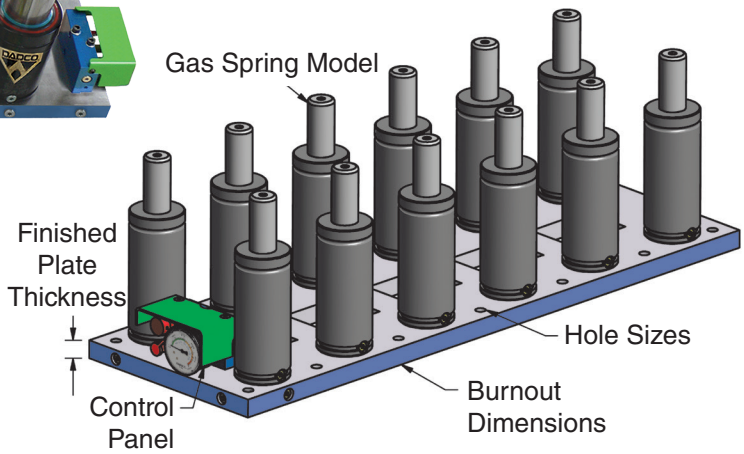
For those instances where a customer prefers to have DADCO provide a ready-to-install finished system, DADCO offers several options. DADCO's Sectional Mounting System (SMS®) includes a custom plate manufactured to customer's specifications with a custom arrangement of DADCO nitrogen gas springs, control panel, hose and fittings. Systems are delivered completely assembled, tested and ready to install. For more information on DADCO's SMS® request catalog C13106D.



SMS-i®

DADCO's Sectional Mounting System – Internal (SMS-i®) is a potentially space saving custom system with internal piping allowing for tight configurations of DADCO nitrogen gas springs. The internal piping design eliminates the external hose and fittings allowing for a robust alternative to traditional manifold systems. For more information on DADCO's SMS-i® request catalog C13106D.





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