Bulletin No. B13105

DADCO®

Compact Nitrogen Gas Booster System

DGB.100

New!

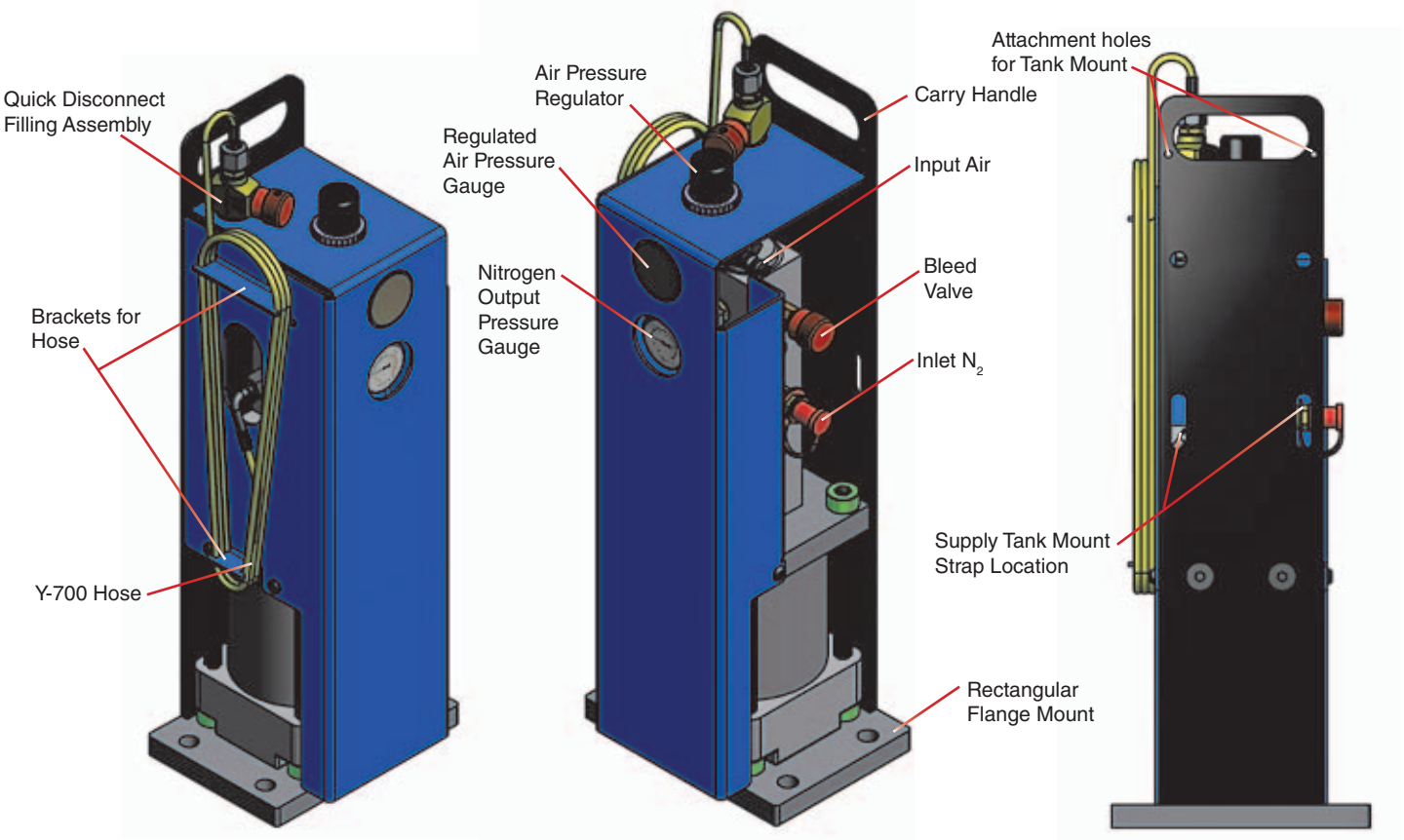
Supply Tank Mount

A Lightweight, Cost-Effective Solution for Boosting Low Pressure Nitrogen Supply Tanks

Compact Nitrogen Gas Booster

DADCO's Compact Nitrogen Gas Booster System (DGB.100) is a cost-effective way to extend the life of your nitrogen supply tanks. Nitrogen in tanks with low pressure can be boosted to a higher pressure suitable for gas spring charging. The DGB.100 may also be used in conjunction with a DADCO Surge Tank to enable greater portability of charging equipment. Mounting and charging system accessories are shown on page 3. Contact DADCO for additional accessory options.

DGB.100 Features



Nitrogen Gas Output Calculation:

To determine desired nitrogen output pressure from the DGB.100 use the formula below.

N = Nitrogen Output Pressure
A = Air Pressure
P = Pump Ratio (39)
Formula: N = A x P

Example: Using the Formula shown, the DGB.100 will yield 150 bar with 3.8 bar air input.
A = 3.8 bar
P = 39
3.8 x 39 = 150 (rounded)

Air Pressure	Nitrogen Output Pressure
3.8 bar *(56 psi)*	150 bar *(2175 psi)*
4.6 bar *(67 psi)*	180 bar *(2600 psi)*
6.9 bar *(100 psi)*	270 bar *(3900 psi)*

Operating Specifications:

Weight:	< 14 kg. *(< 33 lbs.)*	Maximum Input Air:	7 bar *(100 psi)*
Pump Ratio:	39:1	Width x Length x Height:	180 mm x 150 mm x 495 mm *4.75˝ x 5.85˝ x 20.13˝*
Maximum Nitrogen Output to Cylinder:	180 bar *(2600 psi)*	Maximum Nitrogen Output:	270 bar *(3900 psi)*

Ordering Information:

Compact Nitrogen Gas Booster with Rectangular Flange Mount:	DGB.100
Supply Tank Mount:	DGB.STM

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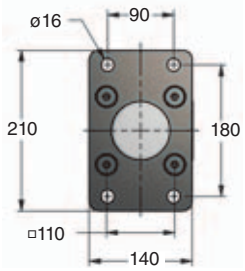
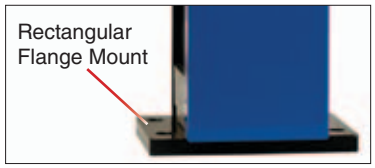
Compact Nitrogen Gas Booster

Mount Options

A Rectangular Flange Mount comes attached to the bottom of the Nitrogen Gas Booster System for fixed installation. DADCO also offers a Supply Tank Mount sold separately. The Supply Tank Mount may be attached to a nitrogen gas supply tank for portable use.

Rectangular Flange Mount Detail





Supply Tank Mount
Part No. DGB.STM

Note: Supply Tank Mount comes with tank straps and assembly screws.

Accessories

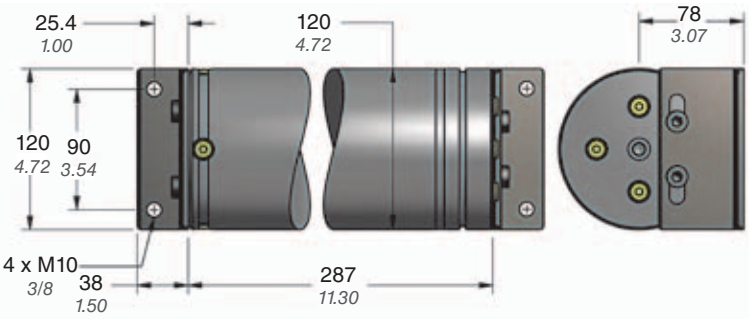
High Pressure Quick Disconnect Charging Assembly
90.310.041 *(CA-41)*

Use the DADCO High Pressure Quick Disconnect Charging Assembly, 90.310.041 for pressure above 152 bar *(2200 psi)* and up to 310 bar *(4500 psi)*. The 90.310.041 includes the 90.310.205 Pressure Regulator, 90.310.252 Hose Assembly and the 90.310.338 Quick Disconnect Filling Assembly.

DADCO offers several Charging Assemblies to suit various tank connections. For more information see bulletin B01122C.

DADCO Surge Tank
ST.50.150.B29

Use the DADCO Surge Tank ST.50.150.B29 to store nitrogen gas for filling gas springs or nitrogen gas systems.



Note: Volume of Tank L (in³) = 1.83 (1.12)

Shown: DADCO Surge Tank ST.50.150.B29.FA with attached Filling Assembly and Pressure Regulator as an auxiliary nitrogen filling station.

DADCO Pressure Analyzer
90.315.5

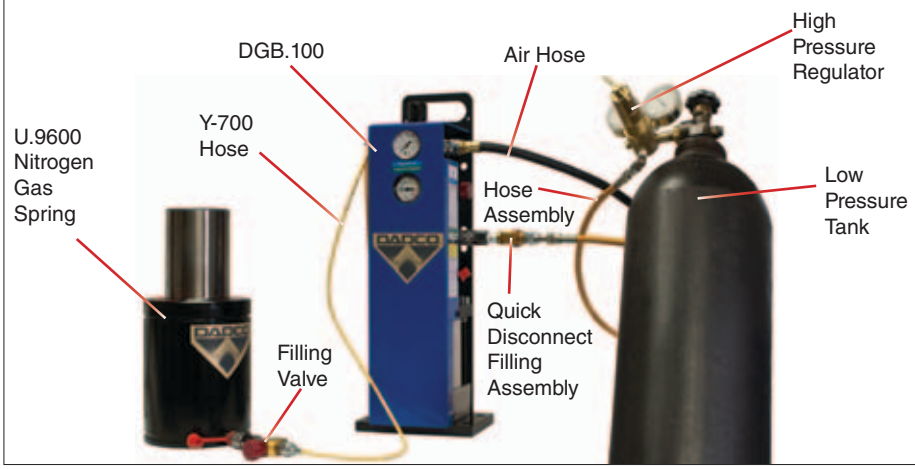
Use the DADCO Pressure Analyzer to easily charge, discharge and gauge the pressure in any DADCO Nitrogen Gas Spring. For more information request bulletin B01133D.

DADCO Tank Analyzer
90.316.1 *(use with CGA-580 thread)*
90.316.2 *(use with CGA-680 thread)*

Use the DADCO Tank Analyzer, which easily threads onto a pressure nitrogen tank, to verify available pressure. The Tank Analyzer includes a gauge and a bleed valve. Contact DADCO for more information.

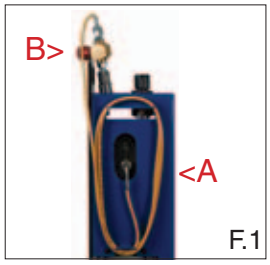
DGB.100

Application Example

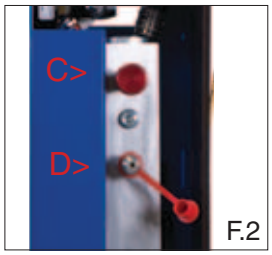


DADCO's Compact Nitrogen Gas Booster System (DGB.100) is used to boost nitrogen from low pressure tanks to suitable nitrogen gas spring filling pressure. The DGB.100 is shown connected to a low pressure tank with the Quick Disconnect Charging Assembly. The integrated Y-700 hose with Filling Valve is connected to a U.9600 to fill the gas spring. The DGB.100 can quickly boost pressure and fill multiple gas springs to desired pressure. Optionally, a surge tank may be used for storing high pressure nitrogen gas for future use.

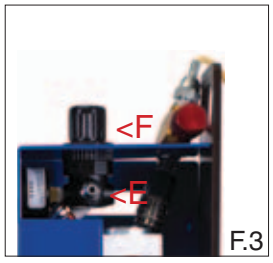
Compact Booster Operation



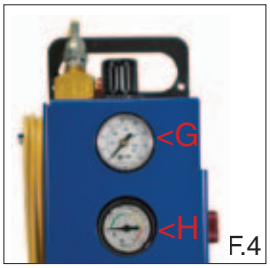
F.1



F.2



F.3



F.4

CAUTION!

Use nitrogen gas only; use dry, filtered air only. Gas spring max charging pressure is 180 bar *(2600 psi)*; surge tank max charging pressure is 270 bar *(3900 psi)*. Always wear safety goggles when working with high pressure nitrogen gas.

- Completely uncoil Y-700 hose that is attached to the DGB.100 (A). Verify the Filling Valve (B) at the end of the hose is turned to the closed position, shown in F.1.
- Verify the Bleed Valve Knob (C), shown in F.2, is turned to the closed position.
- Using a DADCO Quick Disconnect Charging Assembly, connect low pressure nitrogen tank to the booster N_2 inlet (D), shown in F.2.
  Note: For more information on DADCO's Quick Disconnect Charging Assemblies refer to page 3.
- Attach shop air line to air input (E), shown in F.3. The pump will begin to cycle when air is supplied.
- Pull up on the Air Adjustment Regulator Knob (F), shown in F.3, located on the top of the DGB.100 and turn to your desired pressure. Regulated air pressure is indicated on gauge (G), shown in F.4. (Refer to page 2 of bulletin for air pressure to nitrogen output pressure examples). Once you have set the regulator to your desired air pressure push knob down to lock in place.
- Read the Air Pressure (G), and Output Nitrogen Gas (H) gauges, shown in F.4, located on the front of the booster to determine if your desired pressure has been met.
- Connect the Filling Valve (B), shown in F.1, at the end of Y-700 hose to desired nitrogen gas spring, surge tank or control panel then turn to the open position. For more detailed charging information refer to bulletin B00135B.
- Once desired nitrogen pressure has been reached turn Filling Valve (B), shown in F.1, to the closed position and disconnect from the charged nitrogen gas receptacle.
- Disconnect air line from air inlet (E) on booster, shown in F.3.
  Note: Booster will continue to run when supply nitrogen tank is empty; disconnect air when not in use.
- Remove Quick Disconnect Charging Assembly connected to the booster N_2 inlet (D), shown in F.2.
- Re-coil Y-700 hose on the side of booster (A), shown in F.1.

DADCO®
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