



RG4918 Low Pressure Volume Booster

The RG4918 volume booster is a precision pneumatic valve designed for demanding applications requiring the ultimate in sensitivity, accuracy and flow capacity. The booster is designed with very low dead-band between the operation of the supply valve and exhaust valve allowing the RG4918 to achieve superb pressure control characteristics between forward flow and exhaust flow conditions. The high capacity exhaust valve is very useful in dynamic dual flow direction applications producing high reverse flow conditions.

- Very low dead-band between the operation of the supply valve and exhaust valve.
- High capacity exhaust valve provides efficient dynamic reverse flow.
- Large area diaphragms provide high accuracy, sensitivity and excellent low pressure performance.
- Soft seat supply and exhaust valves provide efficient leak free operation.
- Pressure balanced supply valve prevents changes in control characteristics.
- Damped diaphragm control chamber provides stable operation and protects valves from damaging oscillation under high flow conditions.
- Two accessory ports connected to the outlet chamber
- Tapped exhaust port for exhaust or for incorporation of a silencer.

SPECIFICATIONS

Maximum inlet pressure	250 psig/17 bar
Maximum outlet pressure	150 psig/10 bar
Forward flow	500 SCFM
Exhaust flow	100 SCFM
Accuracy	±.5% FS
Supply pressure effect	0.10 psi (0.007 bar)
Temperature range	-40-200°F/40-93.3°C

Materials

Body and housing	Aluminum
Trim	Zinc-plated steel
Diaphragm	Nitrile on Dacron

Port sizes

Signal.....	1/4" NPT
Inlet and Outlet	1" NPT
Exhaust.....	3/4" FNPT
Accessory.....	1/4" FNPT

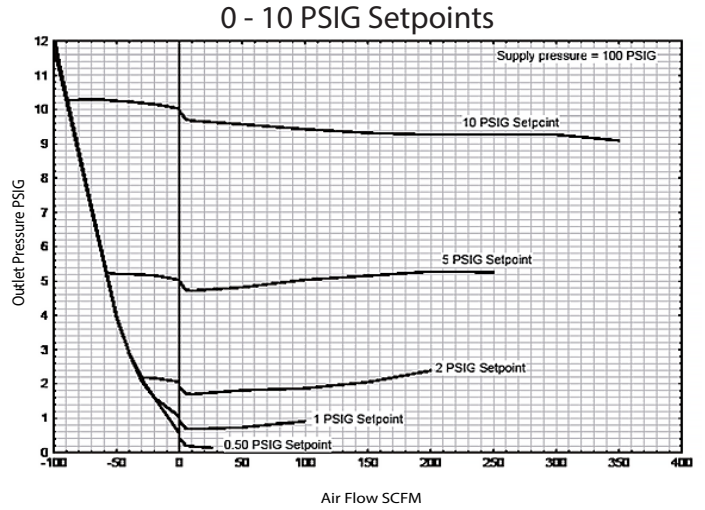
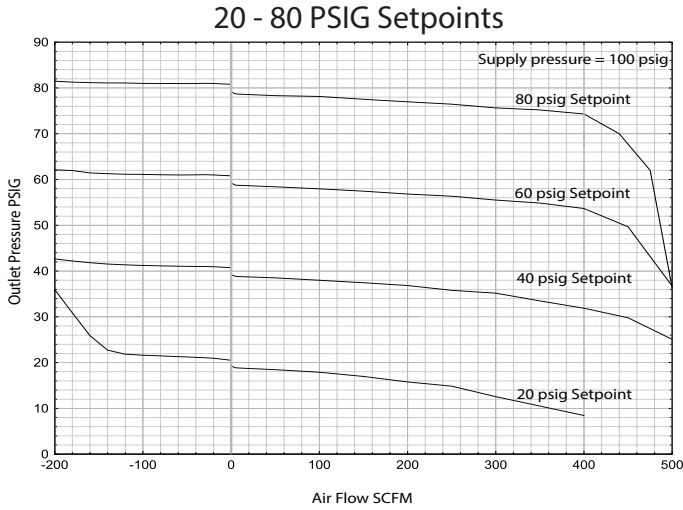
Connection thread

NPT, BSPT, BSPP

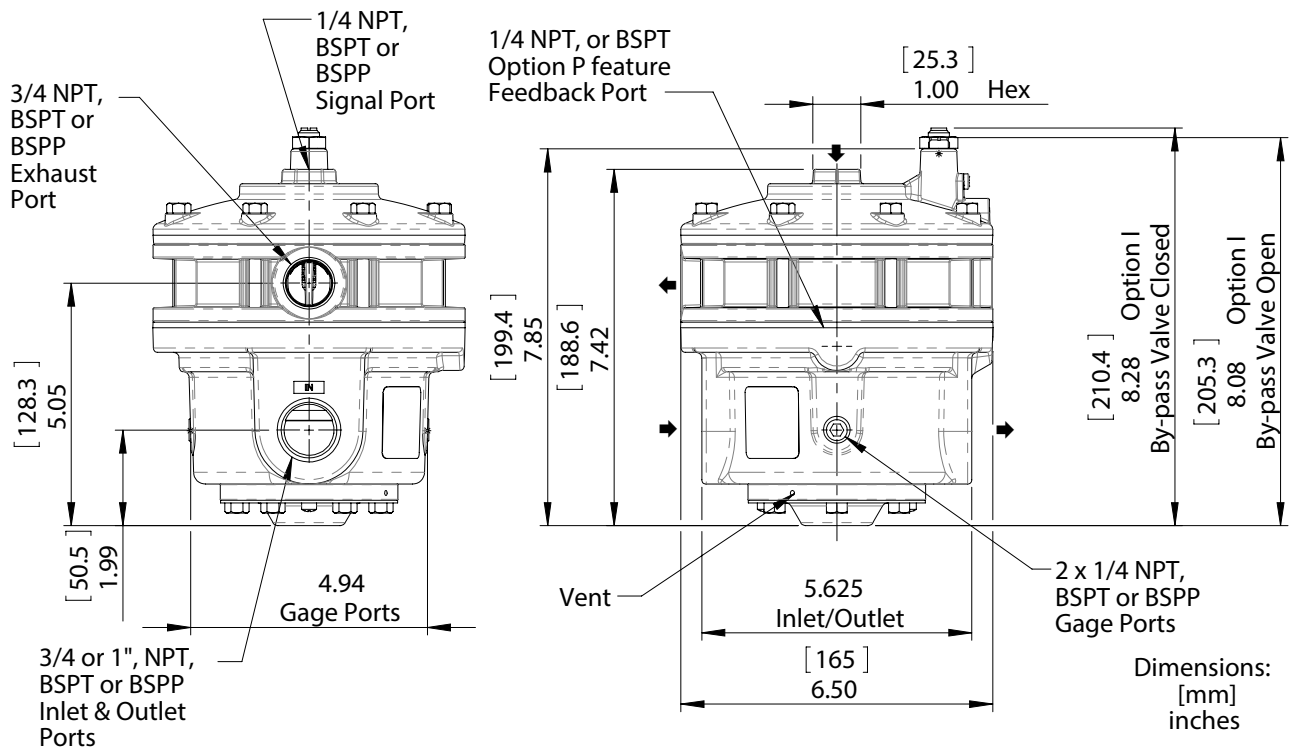
Weight

9.55 lbs/4.35 kg

FLOW CHARACTERISTICS



DIMENSIONS



CONFIGURATION

RG4918	1	Thread Options
		NPT (leave blank)
	-BSPP	BSPP
	-BSPT	BSPT

INSTALLATION, OPERATION AND MAINTENANCE

INSTALLATION

You can mount the booster in any position without affecting its operation.

Clean all pipelines to remove dirt and scale before installation.

Apply a minimum amount of pipe compound to the male threads of the fitting only. Do Not use Teflon tape as a sealant. Start with the third thread back and work away from the end of the fitting to avoid contaminating the booster. Install the booster in the air line.

The Inlet and Outlet are labeled "IN" and "OUT."

Tighten all connections securely. Avoid undersized fittings that will limit the flow through the booster.

For more information, see Figure 1.

CAUTION - Exhaust Port Restriction

Excessive exhaust restriction can damage the diaphragms and valves within the volume booster.

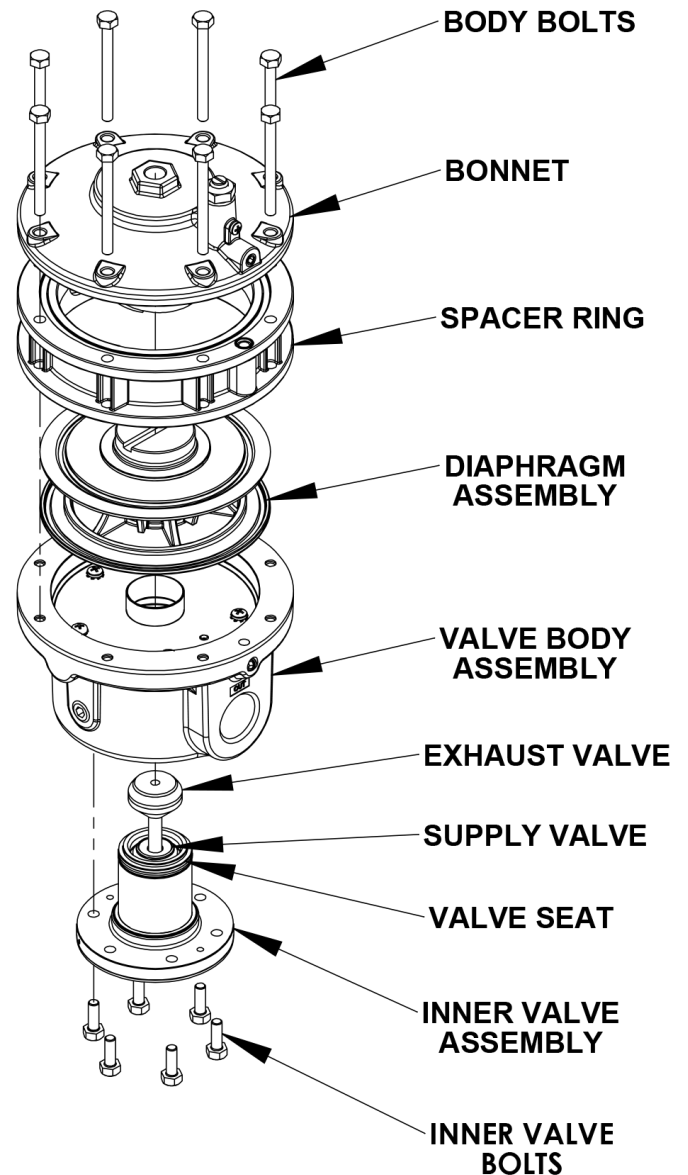
High flow capacity exhaust silencers and full size exhaust piping must be used to limit back pressure during the exhaust cycle operation.

MAINTENANCE

WARNING Shutting off air supply to the volume booster and adjacent equipment can create dangerous system conditions.

To clean the RG4918, use the following steps:

1. Shut off system pressure to the booster and carefully relieve the pressure in all connected lines. It is not necessary to remove the booster from the air line.
2. Remove the six Bolts from the bottom of the unit. For more information, see Figure 4.
3. Remove the Inner Valve Assembly. The Valve Assembly will extract freely for about 1". The Assembly must then be pulled out of the Valve Body to unseat the Valve Seat. For more information, see Figure 4.
4. Wash the Inner Valve Assembly with a solvent. Exercise care to prevent damage to diaphragms and valve facings. Avoid solvents such as acetone, carbon tetrachloride and trichloroethylene.
5. Lubricate the o-rings and replace the Valve Assembly carefully. Ensure that the Vent in the exterior part of the Inner Valve Assembly is clear. For more information, see below.



SAFETY PRECAUTIONS

Please read the following safety information before installing or operating any Proportion-Air, Inc. equipment or accessories. To confirm safety, observe 'ISO 4414: Pneumatic Fluid Power - General rules relating to systems' and other safety practices.

WARNING

Improper operation could result in serious injury or loss of life!

1. PRODUCT COMPATIBILITY

Proportion-Air, Inc. products and accessories are for use in industrial pneumatic applications with compressed air media. The compatibility of the equipment is the responsibility of the end user. Product performance and safety are the responsibility of the person who determined the compatibility of the system. Also, this person is responsible for continuously reviewing the suitability of the products specified for the system, referencing the latest catalog, installation manual, Safety Precautions and all materials related to the product.

2. EMERGENCY SHUTOFF

Proportion, Inc. products cannot be used as an emergency shutoff. A redundant safety system should be installed in the system to prevent serious injury or loss of life.

3. EXPLOSIVE ATMOSPHERES

Products and equipment should not be used where harmful, corrosive or explosive materials or gases are present. Unless certified, Proportion-Air, Inc. products cannot be used with flammable gases or in hazardous environments.

4. AIR QUALITY

Clean, dry air is not required for Proportion-Air, Inc. products. However, a 40 micron particulate filter is recommended to prevent solid contamination from entering the product.

5. TEMPERATURE

Products should be used with a media and ambient environment inside of the specified temperature range of 32°F to 158°F. Consult factory for expanded temperature ranges.

6. OPERATION

Only trained and certified personnel should operate electronic and pneumatic machinery and equipment. Electronics and pneumatics are very dangerous when handled incorrectly. All industry standard safety guidelines should be observed.

7. SERVICE AND MAINTENANCE

Service and maintenance of machinery and equipment should only be handled by trained and experienced operators. Inspection should only be performed after safety has been confirmed. Ensure all supply pressure has been exhausted and residual energy (compressed gas, springs, gravity, etc.) has been released in the entire system prior to removing equipment for service or maintenance.

CAUTION

Improper operation could result in serious injury to people or damage to equipment!

1. PNEUMATIC CONNECTION

All pipes, pneumatic hose and tubing should be free of all contamination, debris and chips prior to installation. Flush pipes with compressed air to remove any loose particles.

2. THREAD SEALANT

To prevent product contamination, thread tape is not recommended. Instead, a non-migrating thread sealant is recommended for installation. Apply sealant a couple threads from the end of the pipe thread to prevent contamination.

3. ELECTRICAL CONNECTION

To prevent electronic damage, all electrical specifications should be reviewed and all electrical connections should be verified prior to operation.

EXEMPTION FROM LIABILITY

1. Proportion-Air, Inc. is exempted from any damages resulting from any operations not contained within the catalogs and/or instruction manuals and operations outside the range of its product specifications.

2. Proportion-Air, Inc. is exempted from any damage or loss whatsoever caused by malfunctions of its products when combined with other devices or software.

3. Proportion-Air, Inc. and its employees shall be exempted from any damage or loss resulting from earthquakes, fire, third person actions, accidents, intentional or unintentional operator error, product misapplication or irregular operating conditions.

4. Proportion-Air, Inc. and its employees shall be exempted from any damage or loss, either direct or indirect, including consequential damage or loss, claims, proceedings, demands, costs, expenses, judgments, awards, loss of profits or loss of chance and any other liability whatsoever including legal expenses and costs, which may be suffered or incurred, whether in tort (including negligence), contract, breach of statutory duty, equity or otherwise.

WARRANTY

Proportion-Air, Inc. products are warranted to the original purchaser only against defects in material or workmanship for eighteen (18) months from the date of manufacture. The extent of Proportion-Air's liability under this warranty is limited to repair or replacement of the defective unit at Proportion-Air's option. Proportion-Air shall have no liability under this warranty where improper installation or filtration occurred.

PROPORTION

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Handcrafted in the USA
ISO 9001-2015 Certified