

PROPORTION

PRODUCT CATALOG

 PRESSURE

 FLOW

 FORCE

 TENSION

 VACUUM



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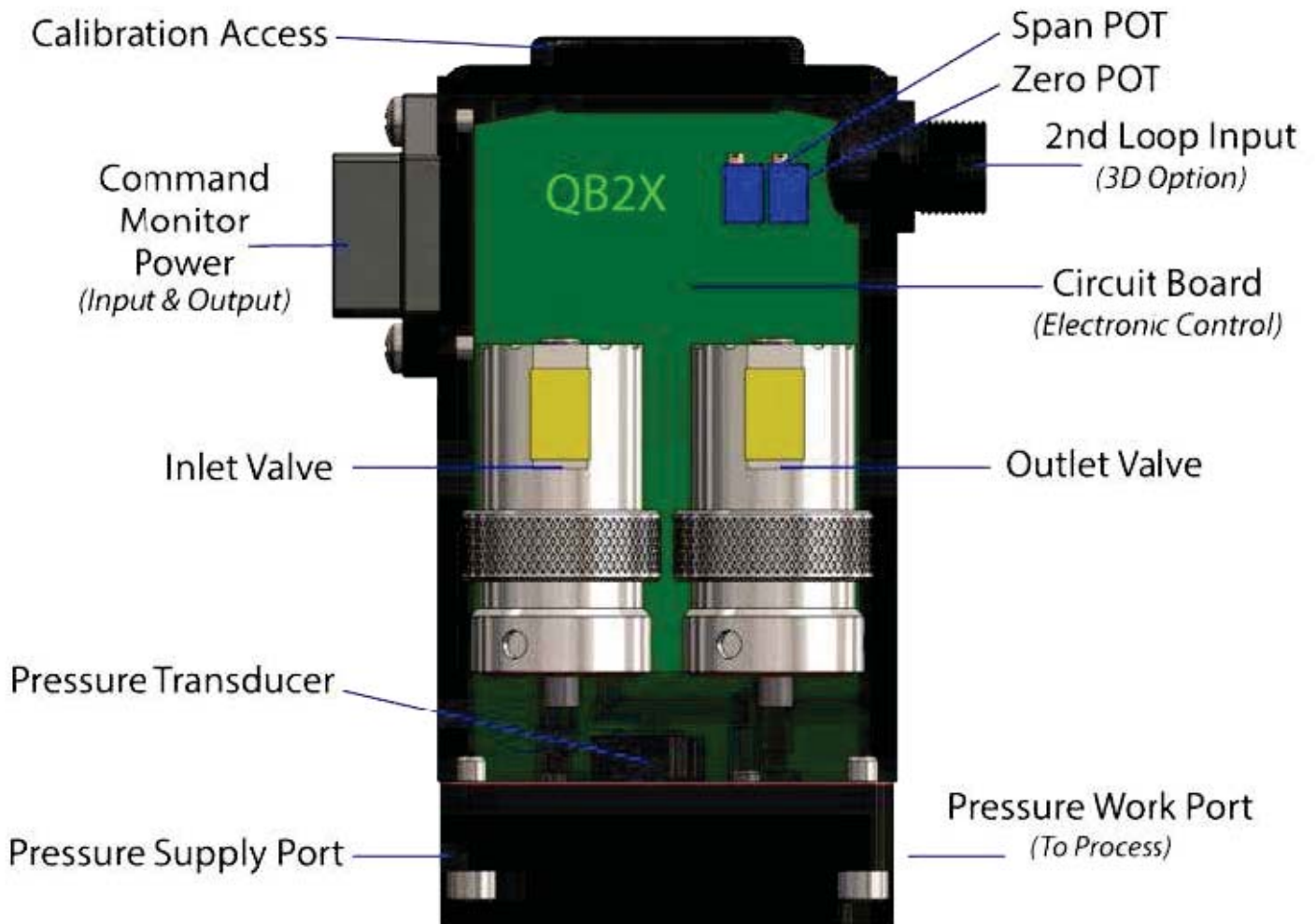
PRODUCT CATALOG

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INSIDE A PROPORTION-AIR UNIT

Internal Components of a QB2X Pressure Regulator



PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves



QB1X | QB2X

The QBX & QBS Series are electro-pneumatic closed loop pressure control valves enclosed in compact housings. The dual loop units (QB2X, QB2S, & MM2) accept a feedback signal from a wide range of external sensors.

Common QBX Applications:

Industrial cleaning, stress testing, braking/throttle control, calibration, pressure and leak testing, spraying, blending, and injection molding.



Ethernet connect-able versions of the QBX are also available.

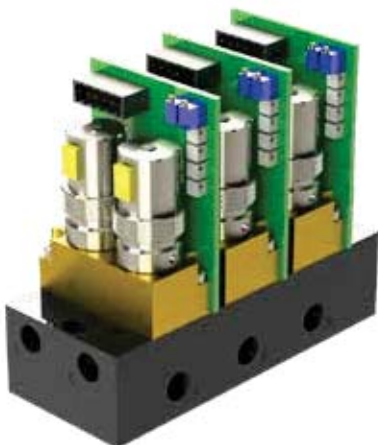


QB1S | QB2S

The QBS is outfitted with a stainless steel sensor to handle higher pressure ranges.

Common QBS Applications:

Instrument calibration, plastics, and leak and other parts testing.



MM1 | MM2

The MM is a version of the QBX unit without a housing.

Common MM Applications:

Industrial cleaning, stress testing, braking/throttle control, calibration, pressure and leak testing, spraying, blending, injection molding, and other applications where space is at a premium.

PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves

QBX

QBS

MM

DUAL LOOP	QB2X	QB2S	MM2
PRESSURE RANGES	Full Vacuum to 175 psig (12 Bar)	Full Vacuum to 500 psig (34 Bar)	Full Vacuum to 175 psig (12 Bar)
ACCURACY	±0.2% F.S.	±0.25% F.S.	±0.2% F.S.
REPEATABILITY	±0.02% F.S.	±0.05% F.S.	±0.02% F.S.
MAX FLOW	1.2 SCFM (34 <i>slpm</i>)	1.2 SCFM (34 <i>slpm</i>)	1.2 SCFM (34 <i>slpm</i>)
PORTS	1/8" NPT	1/8" NPT	1/8" NPT
ETHERNET	Available	-	-
DIGITAL DISPLAY	Available	-	-
MANIFOLD MATERIAL	Nickel-Plated Aluminum, Nickel-Plated Brass*	Nickel-Plated Aluminum, Nickel-Plated Brass*	Nickel-Plated Aluminum, Nickel-Plated Brass* **
OXYGEN SERVICE	Available*	Available*	Available*
MOUNT	Single Unit, Bracket	Single Unit, Bracket	DIN Rail, Panel, or Manifold (Up to 12)
INPUT	Analog or MODBUS RS232 & RS485	Analog or MODBUS RS232 & RS485	Jumper selectable command 0-10 VDC or 4-20 mA
OUTPUT	Standard Analog, 0-10 VDC or 4-20 mA		
ADDITIONAL NOTES	<ul style="list-style-type: none"> Unaffected by mounting position or vibrations to 20Gs. Operates with standard industrial air filtered to 40 micron while not consuming air in a steady state, reducing operating cost. Can be assembled to an air-piloted regulator (volume booster) for higher flows up to 3,000 SCFM, higher pressures to 7,000 psig and control of various gaseous and liquid media. 		<ul style="list-style-type: none"> Shares common supply and exhaust ports when manifold-mounted for easy plumbing. Adjustable dead band allows field tuning of system stability..
	* Oxygen Service available for Brass Manifolds only ** Brass Manifold is standard for MM		

PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves



QB3

Common QB3 Applications:
Brake testing or control, material coating, press roll control, extrusion, cylinder speed control, vacuum suction, glass manufacturing processes, dispensing, and force control.



QB3H

Common QB3H Applications:
Laser cutting, inflation monitoring, mold ejection, and numerous tire manufacturing processes.



QB4

Common QB4 Applications:
Altitude test chambers, filament fiber entanglement, and numerous tire manufacturing processes.



GX1 | GX2

Common GX Applications:
Burst testing, extrusion, blow molding, and high pressure instrument calibration.

PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves

QB3

QB3H

QB4

GX1 | GX2

PRESSURE RANGES	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 500 psig (34 Bar)	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 1,000 psig (69 Bar)
ACCURACY	±0.25% F.S.	±0.5% F.S.	±0.4% F.S.	±0.25% F.S. RESOLUTION: ±0.10% F.S.
REPEATABILITY	±0.2% F.S.	±0.2% F.S.	±0.3% F.S.	±0.15% F.S.
MAX FLOW	30 SCFM (850 slpm)	50 SCFM (1,416 slpm)	200 SCFM (5,663 slpm)	26 SCFM @ 1,000 psi (736 slpm)
PORTS	1/4" NPT	3/8" NPT (1/2" Optional)	1/2" NPT (3/4" Optional)	1/8" NPT
DIGITAL DISPLAY	Available	Available	Available	N/A, but features power and status indicator LED
MANIFOLD MATERIAL	Nickel-Plated Aluminum, Nickel-Plated Brass*	Nickel-Plated Aluminum, Nickel-Plated Brass*	Nickel-Plated Aluminum, Nickel-Plated Brass*	6061 Aluminum, Nickel-Plated Brass*, or Stainless Steel*
OXYGEN SERVICE	Available*	Available*	Available*	Available*
MOUNTING OPTIONS	Single Unit, Manifold Mount, Bracket	Single Unit, Manifold Mount, Bracket	Single Unit, Manifold Mount, Bracket	Single Unit, volume booster assembly available for higher flow applications.
COMMAND SIGNAL OPTIONS	Analog or MODBUS RS232 & RS485	Analog or MODBUS RS232 & RS485	Analog or MODBUS RS232 & RS485	Analog or 0-5 VDC 1-5 VDC
MONITOR OUTPUT	Standard Analog, 0-10 VDC or 4-20 mA			
NOTES	<ul style="list-style-type: none"> High flow electronic pressure regulators with two solenoid valves, control circuit, pressure transducer, and an integral volume booster. Operating Temps: 32-158°F (0-70°C) Immune to shock & vibration (up to 20-25 Gs) GX units have 40 Micron filtration and can be assembled with external volume boosters for even higher pressure applications. 			
	*Oxygen Service available for Brass and Stainless Steel Manifolds only			

PROPORTIONAL PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves



QPV1 | QPV2

Common QPV Applications:
Welding gas control, Leak testing, tire manufacturing, product coating, dispensing, and altitude simulation.



MPV1 | MPV2

Common MPV Applications:
Welding gas control, Leak testing, tire manufacturing, product coating, dispensing, and altitude simulation.



SPV1 | SPV2

Common SPV Applications:
Laser charging pressure control, low pressure leak testing, dispensing, and carrier gas applications.



QL3

Common QL3 Applications:
Flow metering and various force applications.

PROPORTIONAL PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves

	QPV	MPV	SPV	QL3
PRESSURE RANGES	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 500 psig (34 Bar)	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 1,000 psig (69 Bar)
ACCURACY	±0.25% F.S.	±0.5% F.S.	±0.4% F.S.	±0.25% F.S.
REPEATABILITY	±0.2% F.S.	±0.2% F.S.	±0.3% F.S.	±0.15% F.S.
MAX FLOW	30 SCFM (850 slpm)	50 SCFM (1,416 slpm)	200 SCFM (5,663 slpm)	26 SCFM @ 1,000 psi (736 slpm)
PORTS	1/4" NPT	3/8" NPT (1/2" Optional)	1/2" NPT (3/4" Optional)	1/8" NPT
DIGITAL DISPLAY	Available	Available	Available	N/A, but features power and status indicator LED
MANIFOLD MATERIAL	Nickel-Plated Aluminum, Nickel-Plated Brass*	Nickel-Plated Aluminum, Nickel-Plated Brass*	Nickel-Plated Aluminum, Nickel-Plated Brass*	6061 Aluminum, Nickel-Plated Brass*, or Stainless Steel*
OXYGEN SERVICE	Available*	Available*	Available*	Available*
MOUNT	Single Unit, Manifold Mount, Bracket	Single Unit, Manifold Mount, Bracket	Single Unit, Manifold Mount, Bracket	Can be assembled to a volume booster for higher flow.
COMMAND SIGNAL OPTIONS	Analog or ModBus RS232 & RS485	0-10 VDC or 4-20 mA differential command signal	0-10 VDC or 4-20 mA differential command signal	Analog or ModBus RS232 & RS485
MONITOR OUTPUT	Standard Analog, 0-10 VDC or 4-20 mA			
NOTES	<ul style="list-style-type: none"> • Ultra-high resolution electro-pneumatic closed-loop proportional pressure control with variable orifice valve which eliminate the digital steps of traditional ON/OFF solenoids. • Operating Temperature: 32-158°F (0-70°C) • Immune to shock & vibration (up to 20-25 Gs) • QL3 has 40 Micron filtration 			
	* Oxygen Service available for Brass and Stainless Steel Manifolds only.			

HAZARDOUS AREA PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves



ISQBF

The ISQBF is an electronic pressure control regulator that is FM Approved Nonincendive*.

Supply Voltage Options:
P1 = 12 VDC / 11 to 14.5 VDC (MAX)
P2 = 15-24 VDC / 13.5 to 29 VDC (MAX)



ISQBX

The ISQBX is an electronic pressure control regulator that is FM Approved Intrinsically Safe**.



ISQB3

The ISQB3 is an electronic pressure control regulator that is FM Approved Intrinsically Safe**. It can also handle flows up to 30 SCFM.



ISQB4

The ISQB4 is an electronic pressure control regulator that is FM Approved Intrinsically Safe**. It can also handle flows up to 200 SCFM.

HAZARDOUS AREA PRESSURE CONTROL

Electro-Pneumatic Closed-Loop Pressure Control Valves

ISQBF ISQBX ISQB3 ISQB4

HAZARDOUS AREA CLASSIFICATIONS	Nonincendive*	Intrinsically Safe**	Intrinsically Safe**	Intrinsically Safe**
PRESSURE RANGES	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 150 psig (10 Bar)	Full Vacuum to 150 psig (10 Bar)
ACCURACY	±0.5% F.S.	±0.5% F.S.	±0.5% F.S.	±0.5% F.S.
REPEATABILITY	±0.5% F.S.	±0.5% F.S.	-	-
FLOW RATE	.80 SCFM @ 80 psig (23 L/min)	.80 SCFM @ 80 psig (23 L/min)	30 SCFM @ 110 psig (850 L/min @ 5.5 Bar)	200 SCFM @ 120 psig (5,667 L/min @ 4.1 Bar)
PORTS	1/8" NPT	1/8" NPT	3/8" NPT	1/2" NPT
MIN CLOSED END VOLUME	1 in ³	1 in ³	3 in ³	5 in ³
SUPPLY VOLTAGE / CURRENT	Specify 12 or 15-24 VDC/<80 mA	15-24 VDC Standard/<80 mA	15-24 VDC Standard/<80 mA	15-24 VDC Standard/<80 mA
COMMAND SIGNAL / IMPEDANCE	4-20 mA differential / 100Ω	4-20 mA differential / 100Ω	4-20 mA differential / 100Ω	4-20 mA differential / 100Ω
FILTRATION RECOMMENDED	40 Micron (Included)	40 Micron (Included)	100 Micron	100 Micron
ADDITIONAL NOTES	<ul style="list-style-type: none"> Operating temperature: 23-104° F (0-40° C) (T4) Housing: Blue Anodized Aluminum 			
HAZARDOUS AREA CLASSIFICATIONS	<p>* Nonincendive for Class I, II, Division 2, Groups C, D, E, F and G with an Intrinsically Safe process connection for Class I, II, III Division 1, Groups C, D, E, F, and G hazardous (classified) locations with an ambient temperature rating of -25°C to +40°C. May be used with any non-corrosive compressible media compatible with the wetted materials.</p> <p>Special Condition for Use: <i>With Intrinsically Safe Process Connections</i> Intrinsically safe process connections refers to process connections that under any condition of installation or operation will not change the nature of the hazardous (classified) area from a division 2 to a division 1 location.</p> <p>** Intrinsically Safe for Class I, II, III Division 1, Groups C, D, E, F, and G hazardous (classified) locations in accordance with drawing ISQB-96026-2 with an ambient temperature rating of -25°C to +40°C.</p> <p>Entity Parameters: V Max=29 VDC I Max=150 mA Ci=0.26uF Li=0</p>			

FLOW CONTROL

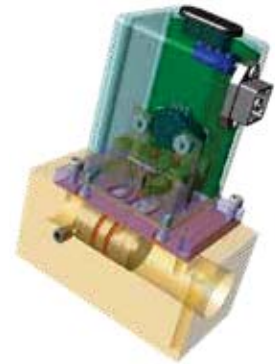
Flow Monitors & Controllers



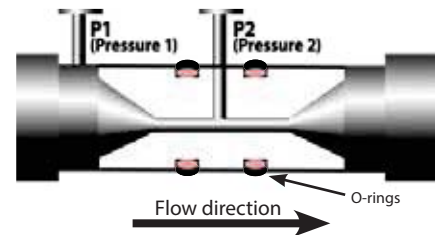
F-SERIES Flow Monitors

The F-Series is a pressure-regulated mass flow monitor with a built-in transducer and manifold-mounted venturi. It is an ideal flow monitoring device where real time measurement is critical to a process.

It can be combined with a flow controller for closed loop flow control. The FR flow monitor requires consistent inlet pressure and can be calibrated for a variety of inert gases. Pressure compensated (FP) and atmospheric (FA) models are also available.



F-Series flow monitors sense differential pressure across a calibrated venturi. Its output is virtually instantaneous (<10ms) and is continuous.



FLOW CONTROLLERS



FQPV2

For lower flow applications



FQB3

For medium flow applications



FQB2 | PSR | F-Series

For high flow, closed loop applications where "real time" active flow control is necessary the FQB2/PSR/F-Series assembly is a great choice. It can be also used to control the velocity of pneumatic cylinders with great repeatability. The pressure compensated model controls flow regardless of input pressure fluctuation (up to 50% fluctuation).

FLOW CONTROL

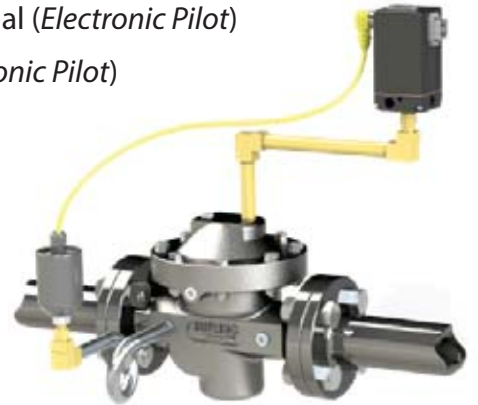
Flow Monitors & Controllers

	FR FLOW MONITOR	FQPV2	FQB3	FQB2/PSR
PRESSURE RANGE	Up to 150 psig (10 Bar)	Up to 150 psig (10 Bar)	Up to 150 psig (10 Bar)	Up to 150 psig (10 Bar)
ACCURACY	±4% F.S.	±4% F.S.	±4% F.S.	±4% F.S.
REPEATABILITY	±0.25% F.S.	±0.25% F.S.	±0.25% F.S.	±0.25% F.S.
MIN FLOW	1 scfm (28.32 <i>slpm</i>)	1 scfm (28.32 <i>slpm</i>)	1 scfm (28.32 <i>slpm</i>)	1 scfm (28.32 <i>slpm</i>)
MAX FLOW	250 scfm (7,080 <i>slpm</i>)	1 scfm (28 <i>slpm</i>)	25 scfm (708 <i>slpm</i>)	250 scfm (7,080 <i>slpm</i>)
PORTS	1/4 to 1½" NPT	1/4" NPT	1/4" NPT	1/4 to 1½" NPT
DIGITAL DISPLAY	Available	Available	Available	Available
RESPONSE TIME	<10ms	<10ms	<10ms	<10ms
COMMAND SIGNAL	-	0-10 VDC or 4-20 mA differential	0-10 VDC or 4-20 mA differential	4-20 mA or 0-10 VDC differential
IMPEDANCE	100 Ω	10k Ω	10k Ω	4.7k Ω
ANALOG OUTPUT	0-10 VDC or 4-20 mA	0-10 VDC or 4-20 mA	0-10 VDC or 4-20 mA	0-10 VDC or 4-20 mA
FILTRATION RECOMMENDED	100 Micron	100 Micron	100 Micron	100 Micron
ADDITIONAL NOTES	<ul style="list-style-type: none"> • Can be used with air and a variety of inert gases. • Minimum inlet pressure is 15 psig. • Unaffected by mounting position or vibration up to 20Gs. • Operates with standard industrial air filtered to 40 micron. • Saturated and lubed air will affect performance. 			

SATURATED STEAM CONTROL

BD Series

- Closed loop device with 4-20 mA command, analog, Modbus, or serial (*Electronic Pilot*)
- Works with standard industrial air, no instrument air required (*Electronic Pilot*)
- Available in single or dual loop configuration (*Electronic Pilot*)
- Fails closed at loss of power to maintain pressure (*Electronic Pilot*)
- No dithering of the command is required
- Automatically maintains correct pressure (*temperature*) at all times
- No dithering extends diaphragm life even further
- Carbon steel, flange mount body



Why replace your process valve with the BD Series?

The Temperature of Saturated Steam is Directly Proportional to the Pressure

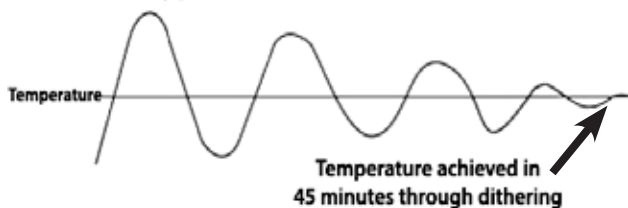


PROCESS VALVES

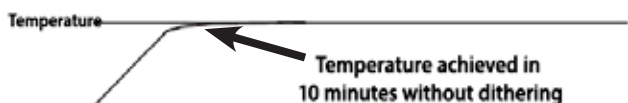
- Complicated & expensive assembly
- Many parts in total system
- Time-consuming to repair
- Requires trained operator



Typical Process Valve Performance



Burling Valve Performance



REPAIR & REPLACE INTERNAL COMPONENTS WITHOUT REMOVING FROM LINE

PRESSURE REGULATORS

Volume Boosters & Ratio Regulators



PSR



R000B & R000C



RM SERIES



**RM SERIES
(Vacuum)**

MAX OUTLET PRESSURE	Up to 200 psig (14 Bar)	Up to 300 psig (21 Bar)	Up to 300 psig (21 Bar)	0-29.9" Hg Vacuum (0-759 mmHg)
MAX FORWARD FLOW	700 SCFM (19,822 slpm)	2,000 SCFM (56,633 slpm)	550 SCFM (15,574 slpm)	45 SCFM (1,274 slpm)
MAX RELIEF FLOW	12 SCFM (340 slpm)	200 SCFM (5,663 slpm)	200 SCFM (5,663 slpm)	-
PORTS	1/4 to 1½" NPT	1½" and 2" NPT	1/4 to 1½" NPT	1/4 to 1½" NPT

Our pilot-operated regulators are dome-loaded, self-venting volume boosters that function as a commanded regulator when paired with our QB Series electronic pressure regulators. They provide a controlled pressure with much higher flow rates than can be achieved through the QB products alone. They can handle any inert gas or many can be adapted for use with natural gas, propane or oxygen. The RM Series can also used in vacuum applications.

Three distinct components for most QB2 Volume Air Booster Assemblies



1 – QB2X Electronic Pressure Regulator provides an air pilot signal to the dome of the volume air booster. By controlling pressure to the top of the diaphragm, we control pressure out of the volume booster.

2 – Volume Air Booster, also known as a dome-loaded or pilot-operated pressure regulator. This can be a pressure reducing valve or a back pressure valve. We have many volume boosters available that can handle different pressures, medias and flow rates.

3 – DSB or DST Pressure Transducer measures output pressure of the volume booster and provides this feedback signal to the QB2. The QB2 adjusts dome pressure (based on this feedback) to achieve the commanded pressure in the process.

RATIO REGULATORS

RG1262 & RG1262-1500

MAX OUTLET PRESSURE	Up to 6,000 psig (414 Bar)
FLOW COEFFICIENT (Cv)	0.05
RATIO REGULATION	45:1 and 15:1
PORTS	1/4" NPT



RG1262 shown as an assembly paired with DST Transducer and QB2X

PRESSURE TRANSDUCERS

Vacuum, Vacuum Through Positive Pressure, & Positive Pressure

DS Series pressure transducers offer high accuracy, cost-effective pressure transducers for vacuum only, vacuum through positive pressure or positive pressure only.

The lowest calibrated positive pressure range is 0-12 inches of water column. It also has field adjustable zero and span potentiometers.

DS SERIES



DSL



The DSL is a transducer that senses gauge vacuum and positive-pressure and converts this to a 0-10 VDC analog electrical output signal. The 0-10 VDC output signal is a linear ratio to the sensed pressure. The device output signal is independent of the supply voltage.

The DSL uses piezo-resistive strain gauge sensor housed in a miniature rugged anodized aluminum canister. A strain relief protects the wiring from excessive pulling force. Multiple cable lengths available.

	DSB	DST	DSW	DSL
PRESSURE RANGES	Full Vacuum to 175 psig (12 Bar)	Full Vacuum to 7,000 psig (483 Bar)	Full Vacuum to 175 psig (12 Bar)	Full Vacuum to 30 psig (2 Bar)
ACCURACY	±0.2% F.S.	±0.5% F.S.	±0.2% F.S.	±0.2% F.S.
REPEATABILITY	Up to ±0.02% F.S.	Up to ±0.25% F.S.	Up to ±0.02% F.S.	±0.02% F.S.
PORTS	1/4 & 1/8" NPT & BSPT	1/4 & 1/8" NPT & BSPT	1/4 & 1/8" NPT & BSPT	10-32 Pneumatic Connection
MEDIA	Air and gases	Air, gases, and liquids	Air and gases	Air and inert gases
OXYGEN SERVICE	Available	Available	Available	Available
ANALOG OUTPUT	Available for either voltage or current outputs.	Available for either voltage or current outputs.	Available for either voltage or current outputs.	0-10 VDC

ACCESSORIES

Additional Add-ons for Proportion-Air Products



DC

Potentiometer

- Rotary potentiometer command signal generators
- Signal conditioned to provide a linear analog output signal
- Available as 0-10 VDC or 4-20 mA output signal
- Available in one-turn and ten-turn design
- Available with numeric indicator



FPP

In-Line Filter

- 1/8, 1/4, 3/8, and 1/2 NPT
- 40 - 100 micron filtration
- Brass construction standard
- Stainless steel version available
- Compact size
- Low pressure drop



PANEL METER

PM-3

- 3-½ digit panel meter display
- LCD display
- 100 mA maximum
- 12 to 15 VDC power standard
- Optional 24 VDC power



POWER SUPPLY

PS4515/24

- 15 VDC (PS4515) or 24 VDC (PS4524) output voltage
- 2.8 A (PS4515) or 2.0 A (PS4524) output current
- 110 to 240 VAC input power
- DIN rail mounted high efficiency & low working temperature
- CE & UL approved with built in EMI filter & low ripple noise
- For use with H338 power cable



ISO 9001-2015 Certified



PROPORTION *AIR*

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Proportion-Air 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.

All specifications are subject to change without notice. **THIS WARRANTY IS GIVEN IN LIEU OF, AND BUYER HEREBY EXPRESSLY WAIVES, WARRANTIES OR LIABILITIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY OBLIGATION OF PROPORTION-AIR WITH REGARD TO CONSEQUENTIAL DAMAGES, WARRANTIES OF MERCHANTABILITY, DESCRIPTION, AND FITNESS FOR A PARTICULAR PURPOSE**

WARNING: Installation and use of this product should be under the supervision and control of properly qualified personnel in order to avoid the risk of injury or death.