

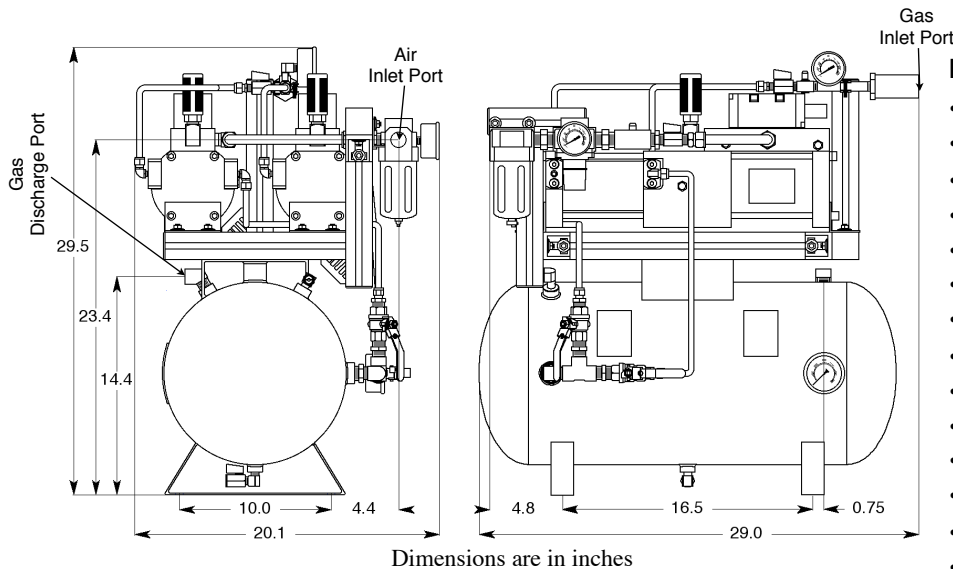
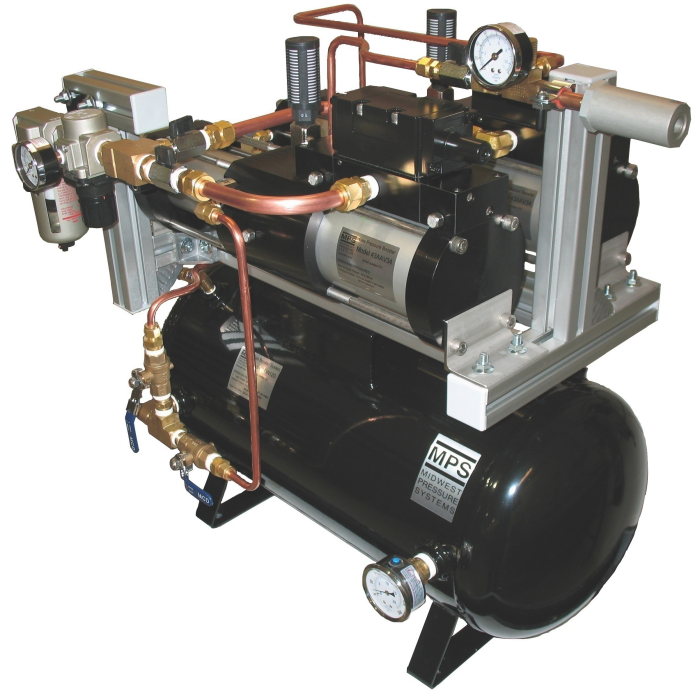
Model Number S43N12D

2.8/1 Dual Gas Pressure Booster System on a 12 Gallon Tank

This system uses shop air to boost gas pressure. The drive air piston reciprocates automatically and drives the gas compressor piston. The booster is unlubricated, and uses filled Teflon® piston rings and rod seals. It requires no electricity, cooling water, or lubricator and is explosionproof.

The boosted gas flowrate and discharge pressure can be controlled by throttling the drive air flowrate and/or regulating the drive air pressure. When there is no demand for high pressure gas, the booster stalls when it reaches the maximum discharge pressure. When there is a need for high pressure gas the pressure in the discharge line drops which causes the booster to restart automatically.

The S43N12D can be operated using a single booster or both boosters in unison. During single booster operation the idle booster is completely isolated and depressurized allowing it to be removed from the system for maintenance.



MODEL S43N12D FEATURES

- 3/4 NPT female air inlet port
- 3/8 NPT female gas inlet port
- 1/2 NPT female gas discharge port
- 12 gallon, 235 psi ASME tank
- 235 psi safety relief valve
- 1/4 NPT drain valve
- 3/4 NPT shop air supply filter
- 3/8 NPT gas supply filter
- Shop air pressure regulator
- Regulated air pressure gauge
- Gas supply pressure gauge
- Discharge air pressure gauge
- Exhaust muffler
- Dual or single booster operation

MODEL S43N12D SPECIFICATIONS

- Capable of 100% duty cycle
- Shop air pressure range of 30-150 psig
- Discharge pressure range of 30-230 psig
- Gas Temperature range of -15°F to 300°F
- Approximate weight of 130 pounds

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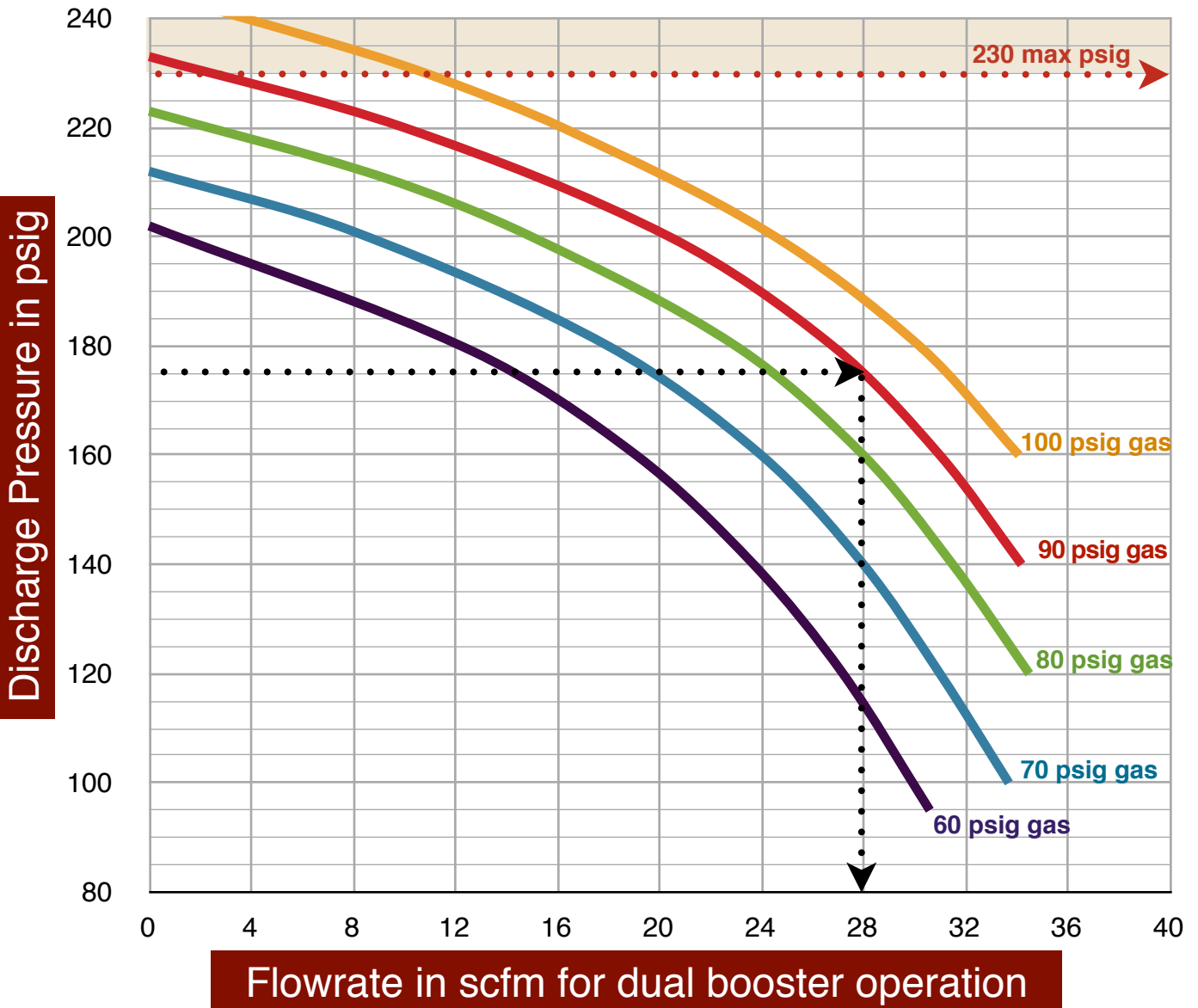
Midwest Pressure Systems, Inc.

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Model S43N12D Flowrate vs Supply and Discharge Pressure



The maximum discharge pressure (MDP) is calculated by the equation below, where (RDP) is the regulated drive air pressure and (GSP) is the gas supply pressure.

$$(1.78 \times \text{RDP}) + \text{GSP} = \text{MDP}$$

Use the curves above to determine the Model S43N12D gas pressure booster maximum discharge flowrate for a regulated drive air pressure of 80 psig

and various gas supply pressures. In the example shown above, a maximum discharge pressure of 175 psig is desired and 90 psig supply gas is available. Follow the 175 psig line until it intersects with the 90 psig supply gas curve. Draw a vertical line from the intersection down to the bottom line to determine the maximum flowrate of 28 scfm. The booster can operate at any flowrate from zero to the maximum flowrate. It will automatically adjust its operating speed as long as the required flowrate is in this range.



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