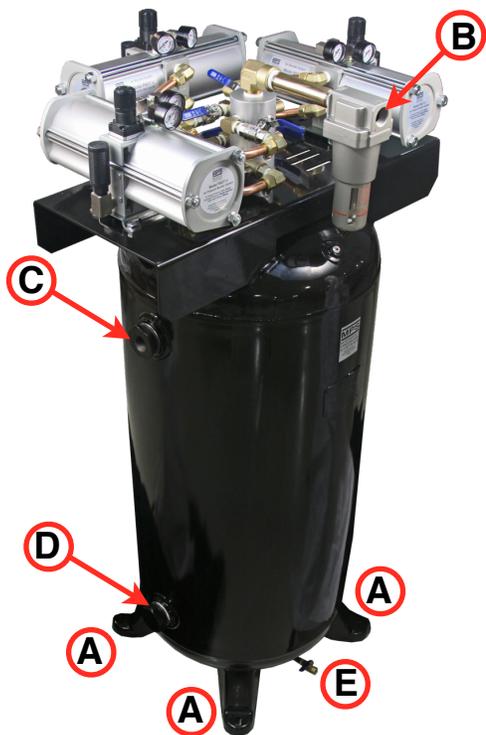


# Model Number R60T-V

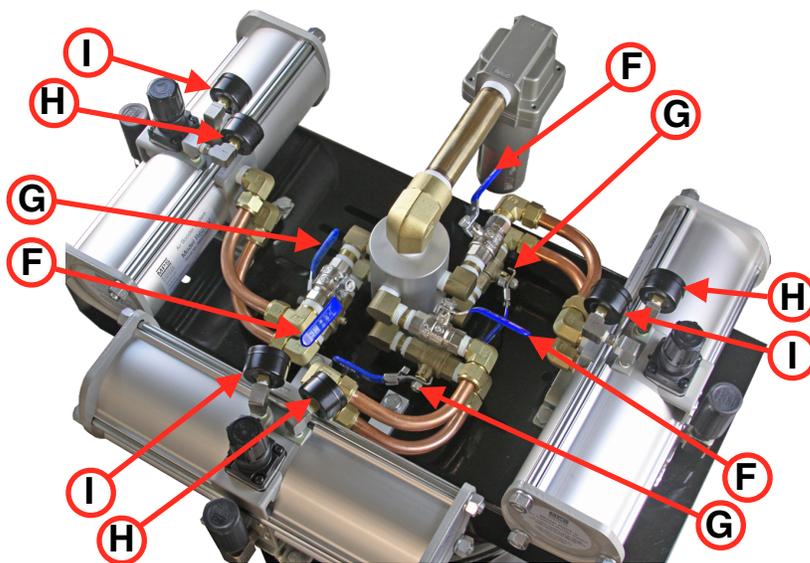
Air Pressure Booster System • Installation and Operating Instructions



## Installation

1. Bolt the tank to the floor using the 1/2 inch diameter mounting holes (A).
2. Connect the drive air supply to the 1 inch NPT inlet filter (B). The air supply piping should be 1 inch pipe diameter or larger.
3. Connect the discharge line to the 1 inch NPT pipe port (C). NOTE: There is a secondary discharge port that can be used to connect the discharge line if it is in a more convenient location (D).
4. Attach the condensate drain line to the 1/4 inch NPT valve underneath the tank (E).

**Make sure that the discharge piping components are rated for 200 psi.**



## Operation

1. This system can be operated with one, two, or three boosters operating simultaneously. To operate all three boosters, fully open all of the inlet valves (F) and discharge valves (G). To operate with only one or two boosters, select the booster(s) you want to isolate and close the inlet valves (F) and discharge valves (G). Please note that the discharge valves used on the R60T-V are safety vent valves. These valves will need to be kept in a fully closed or fully open position. Also, when changing the position of this valve a loud hiss will be heard.
2. There is a built in discharge pressure regulator for each booster. Pull up on the black knob on the top of the booster to unlock it. An arrow on top of the black knob indicates which direction to turn for higher or lower operating pressures. If all of the boosters are operating, set the regulators for the same pressure. The regulators are self relieving, so if one is set for a higher pressure, the other regulators will try to vent the pressure. The pressure gauges (H) indicate inlet pressure and pressure gauges (I) indicate discharge pressure. During startup, do not turn the regulators to their highness setting, but slowly increase the regulator settings until the desired pressure is reached.
3. The system is fully automatic. When the desired discharge pressure is reached, and no flow is required, the booster will stop automatically. They will restart when the discharge pressure drops about 5 psi. The maximum recommended discharge pressure is 190 psi. The relief valve is set for 200 psi. If the supply pressure is higher than 95 psi, it is possible to set the regulators so that the maximum discharge pressure exceeds the maximum discharge pressure of 190 psi.

## Maintenance

The air supply filter and condensate drain should be checked periodically. If a booster needs to be removed for service, close the booster's inlet valve (F) and discharge valve (G). The discharge valve will vent the pressure inside the booster. Make sure both pressure gauges (H & I) read zero. The booster can be safely removed and repaired while the system continues to operate.

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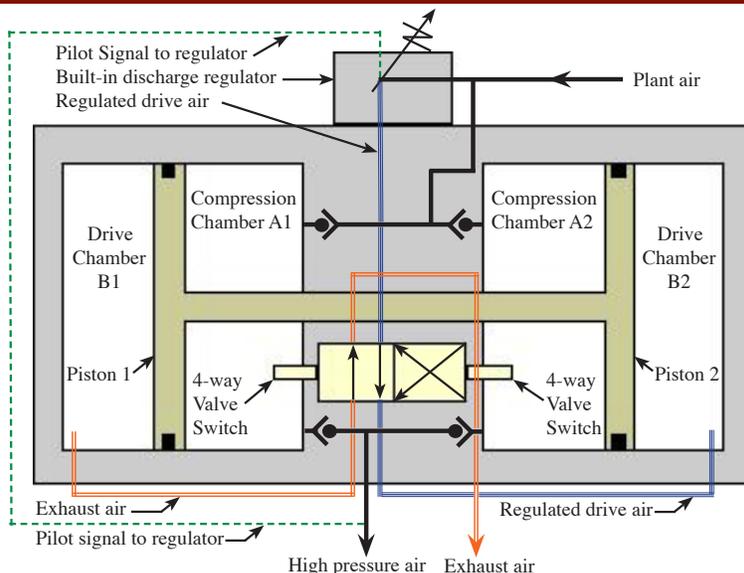
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# Model Number R60T-V

## Bootstrap Compressor • Operation and Warranty



### General Concerns

Please refer to the operating description on the right, and the schematic above to gain an understanding of the design principles and mechanical function of the R60T-V Model Booster System. The moving parts of each Bootstrap Compressor are permanently lubricated with a multipurpose grease (except for the check valves). Operation with a lubricator upstream voids the warranty. If a lubricator is required, it should be installed on the downstream (discharge) side. A well-maintained 5 micron inlet air filter is required to maintain the warranty by ensuring that no dust particles enter the units and foul the seals, or cause premature wear of the highly-polished seal surfaces. The wear parts in the boosters consist of check valves, springs and dynamic seals. These parts are designed for 1800 miles of piston travel. The four-way valve, which controls movement of the pistons, is a lapped, stainless steel valve with no elastomeric seals subject to wear. Under normal conditions, this valve will provide many years of operation. The discharge regulator built into the center of the unit sees very little wear, and is designed to provide many years of service under normal conditions. The wear parts are typically replaced 2 to 3 times before a valve or regulator kit is required.

#KRW • Wear parts kit

#KRV • Valve kit

#KRR • Regulator kit

### Operating Description

The plant air stream always fills Compression Chambers A1 and A2 directly, through a set of check valves. These two chambers are always pressurized to the maximum initial air pressure available (the R60T-V Model Booster System is not designed for inlet air pressures higher than 150 psig). A branch of the plant air stream flows through a pilot-activated regulator, which reduces the pressure to the level required to attain the desired Bootstrap Compressor discharge pressure (the discharge pressure is set manually by adjusting the regulator handle). This regulated air stream flows through a four-way valve which directs it to Drive Chamber B2. At the same time, the four-way valve opens Drive Chamber B1 to exhaust. The pressure force exerted on the interconnected pistons by the pressures in Drive Chamber B2 and Compression Chamber A1, is sufficient to compress the air in Chamber A2 to a higher pressure (the maximum discharge pressure attainable is two times the plant air pressure). At the end of its travel, Piston 2 switches the four way valve, which opens Drive Chamber B2 to exhaust, and pressurizes Drive Chamber B1 with regulated drive air, thus reversing the direction of the interconnected pistons, until Piston 1 switches the valve back to its original position. The interconnected pistons shuttle back and forth continuously, producing a high pressure air stream, determined by the discharge pressure set on the built-in regulator. The R60T-V Model is designed to operate at a maximum discharge pressure of 190 psig. Higher discharge pressures, though possible, can result in catastrophic failure of the booster.

## WARRANTY

Midwest Pressure Systems, Inc. warrants the R60T-V Model Booster System to be free of defects in material and workmanship for a period of one year after purchase, except piston seals, rod seals, and check valves which are warranted for six months after purchase. We will either repair or replace a failed unit returned by the customer. No other warranty is expressed or implied. Proof of the purchase date is required. This warranty does not apply to equipment which has been abused, and is voided by use of a lubricator, or failure to use a well-maintained inlet filter. Customer must obtain a return authorization number before shipping the unit to the factory.

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