HIGH VOLUME BOOSTER (MODEL – PVB 300)
USER'S MANUAL

High Volume Booster with a fixed minimum deadband is designed to substantially increase stroking speeds of large actuators. Actuators retain their normal slow and stable responses as long as their signal fluctuations remain within the deadband limits that can be set on the booster.

PRODUCT CHARACTERISTIC

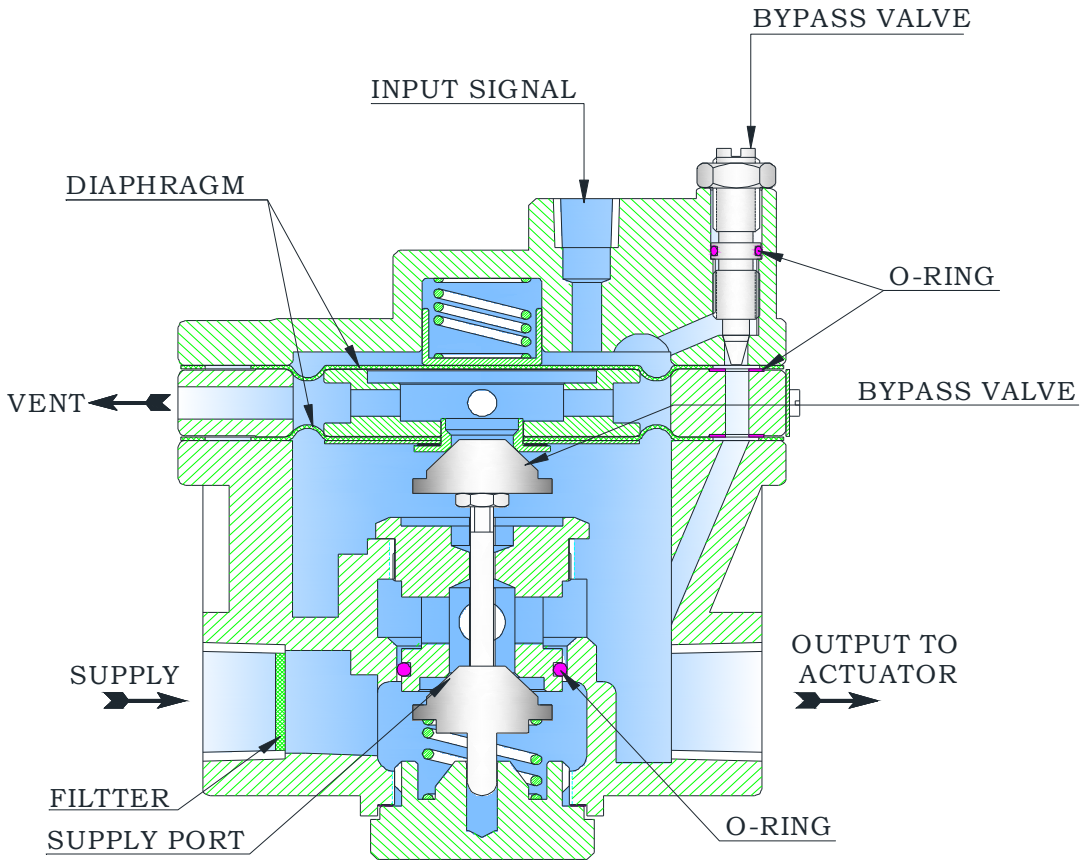
- Supplies constant air pressure at the rate of 1:1.
- By-passing control enhance safety of Control Valve.
- Responses to slight change in input signal, Which increases accuracy of output of air pressure to actuator.

SPECIFICATION

Max Supply Pressure	10 Kg/cm² (150 Psig)	
Max Signal/Output Pressure	7 Kg/cm² (100 Psig)	
Signal/Output Pressure	1:1	
Flow Capacity	115 scfm (195.4m³/hr)	
Maximum Cv	3	
In/Output Connection	1/2" or 3/4" NPT	
Signal Connection	1/4" NPT	
Linearity	±1% (F.S.)	
Hysteresis	1%	
Ambient Temp	-20~70°C (-4~158°F)	
Material	Aluminum Diecasting	Stainless Steel 316

OPERATION

As supply pressure form regulator is connected to supply port and signal pressure is connected to supply port. The upper diaphragm is being pushed down to lower diaphragm and push main disk. The air pressure then will be supplied to actuator through exhaust port. Balanced output and signal pressure will move upper diaphragm and would maintain the rate 1:1 constantly. If output is higher than signal pressure, then diaphragm assembly will be raised which would result exhaustion of output through exhaust ring. Output pressure's sensitivity to signal can be adjusted by rotating adjust bolt; and safety of closed loop system can be enhanced.



INSTALLING

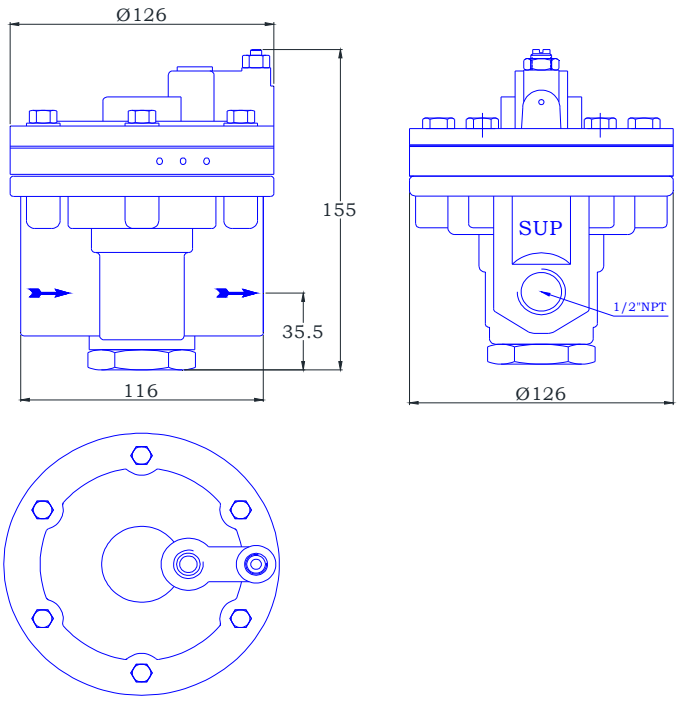
please follow below procedures.

- Always wear safety equipments and follow safety procedures.
- Compressed gas can be exploded and damage the body/parts or surrounding structure, if the products maximum specification exceeds. Also ,in order to minimize the damage, in case of accident, please make sure all of the compressed/pressurized input lines by-passed.
- For maintenance, please stop volume booster operation timely basis.
- Air must be clean, dry, and not corrosive gas.
- Inflow air will be exhausted through the exhaust port which is located on the side of the volume booster.
- Please check exhausted port for substances or obstacle. Also, make sure not to leave volume booster in sealed places.
- It is recommended to use appropriate capacity of air filter regulator.

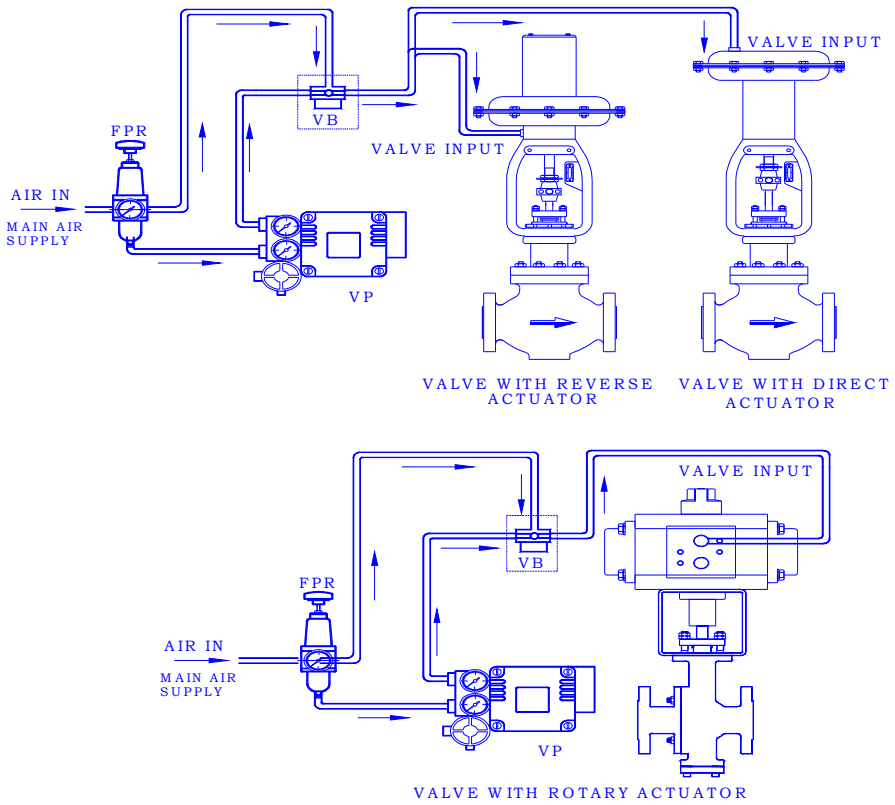
INSTALL LAYOUT

Volume booster should be installed between actuator, positioner, and supply pipes, and can be installed without a bracket which can be supported only by air pressure pipes. Before connecting pipes, please make sure the inside of pipes are clear, and the size of the pipe are relevant to the capacity.

DIMENSION (OUTER)



SHEMATIC LINE DIAGRAM



MAINTENANCE :-

Please refer to below table (repair kit) and parts name (pg 2). Before replacing any parts, please make sure to follow fields safety instruction and manual to avoid any accidents and damages to the product.

REPAIR KIT :-

Part Name	Qty
Lower & Upper Diaphragm	2 Nos.
O-Ring	4 Nos.

When using Repair Kit, all of the parts must be replaced at the same time. Partial replacing part may result shortening products life cycle.

TROUBESHOOTING :-

- **No valve operation response to signal to positioner**
- Please check if air pressure supplied is constant and normal from regulator to positioner and/or volume booster.
- Please check if air pressure is being exhausted from positioner's exhaust port.
- Please check if supply and exhaust port are being not blocked.
- **Unstable valve operation when signal has been sent to positioner**
- Please reduce valve packing and/or valve friction level.
- Please increase size of the actuator.
- **Hunting occurs when signal has been sent to positioner**
- Please reduce valve packing and/or valve friction level.
- Please increase size of the actuator.
- Please rotate control screw counter-clockwise on top of the booster to reduce sensitivity.
- **Slow valve operation when signal has been sent to positioner**
- Please check if regulator control pressure is too low.
- Please check if supply pipe to actuator is blocked.
- Please check if there is any leakage.
- Please rotate control screw clockwise on top of the booster to enhance sensitivity.

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