

PNEUMATIC ACCESSORIES



PHILVIN ENGINEERS

AN ISO 9001: 2015 CERTIFIED COMPANY



TRANSFORMING THE INDUSTRIALS SPACES **WITH INNOVATIONS**

PHILVIN ENGINEERS, AN ISO 9001-2015 COMPANY, PIONEERS IN THE MANUFACTURE AND SUPPLY OF VARIOUS ACCESSORIES LIKE AIR FILTER REGULATOR, AIR LOCK RELAYS, VOLUME BOOSTER ETC. AND CONTROL VALVE INTERNALS VIZ. PLUG, STEM, SEATRING, CAGE COMPONENTS ETC. HAVE A WELL ESTABLISHED FACTORY AT ALUVA NEAR COCHIN INTERNATIONAL AIRPORT, KERALA STATE, INDIA.



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SPECIFICATION

Model PR 10S | PR 10SS | PR 20S

Service Air

Max Input Pressure 270 psig

Output Pressure Ranges (0-40 psig)/(0-100psig)

End Connections 1/4" NPT 9f)/1/2" NPT (F)

Drip Well Capacity 135 CC (approximate)

Ambient Temperature -40° to 80° C

Body LM 6 Aluminium Alloy / SS

Filters Sintered bronze 5 microns

Trim Neoprene moulded with SS stem

Diaphragm Neoprene | Viton | EPDM with nylon insert

Dran Cock SS

Springs Spring Steel zinc chromated

Handle Screw SS

Mounting Surface or Panel

SALIENT FEATURES

Accuracy • Quick Response • High Stability Longer Life • Excellent Characteristics • Negligible Pressure Drop • Can be mounted both vertically & horizontally • Custom Made Units Available • Most Economically Priced

PRODUCT DESCRIPTION

The Philair filter regulator prevents moisture and dust in the compressed air line while maintaining output pressure at a stable level, in spite of variations of both inlet pressure and air consumption.

PRODUCT OPERATION

The Primary air through the inlet passes through the filter element which removes particles as small as 5 microns. When the adjusting knob is adjusted downwards, adjusting spring is compressed resulting in closing of relief valve and opening of inlet valve thereby allowing air flow to outlet. When the outlet pressure reaches required set pressure value, it balances against diaphragm and adjusting spring and both inlet valve and relief valves are closed.



SPECIFICATION

Model PS 10S /PS 10SS

Service Air

Max. input pressure 10 kg / Cm 2

Ambient temperature -40°C to 80° C

Signal Range 20-100 PSI (1.4 to 7 kg /cm2)

Pneumatic Connection 1/4" NPT / BSP

Flow Capacities > 600 L /min. For each port.

Dead Band 0.025/kg/cm2

Diaphragm Neoprene /EPDM /VITON with Nylon insert

Body LM- 6/SS

Internals Brass / SS with Neoprene/ EDPM seat

Mounting on the actuator by a bracket

SALIENT FEATURES

Compact Design • Quick Response • High Sensibility and Reliability • Long Life • Easy to install
Trouble free service • Low cost • Soft seating to ensure Zero leak

PRODUCT DESCRIPTION

Philair makes single acting air lock relay is used in conjunction with pneumatic actuators for locking air in the actuator whenever the main supply pressure falls below a pre-set value

PRODUCT OPERATION

The unit has 3 ports marked IN, OUT and SIG- Actuator operating pressure is connected to IN port and OUT port is connected to actuator. SIG Port is connected to line pressure. The supply Pressure connected to SIG Port is sensed by a spring loaded upper diaphragm, subassembly causing closing of exhaust port and opening of pilot valve. The output from the pilot valve acts on lower diaphragm and the thrust developed by it acts upon a piston, which opens main valve and allows air to the actuator. Reduction of supply pressure causes downward movement of upper diaphragm subassembly, resulting in reduction of pressure above lower diaphragm. The piston move upwards and the valve is closed to block this air in the actuator.



SPECIFICATION

Model PER 1000 / PER 2000 - PER 1000S / PER 2000S
Service Air
Max Input 10 kg/cm²
Ambient Temp -40° C to +80° C
Signal Range 20 to 100 psi
Pneumatic Connection 1/4" NPT / BSP, 1/2" NPT
Flow Capacities >600 L/min. For each Port
Diaphragm & O Rings Neoprene / EPDM / VITON
Body LM6/SS
Internals AL/Brass/SS

SALIENT FEATURES

Compact Design • Low Cost • Ease of Mode of Action Conversion • Long life • Easy to install

PRODUCT DESCRIPTION

The Trip valves are used for applications where a specific valve position is required, when the supply pressure drops below a specific point. The trip Valve can be used for setting the control valve to fail open, fail close or fail lock position, whenever the supply pressure drops below the trip point.

PRODUCT OPERATION

The Trip valve has its ports marked S, U, E and SIG. positioner output is connected to S port and u port is connected to position cylinder. E port is Connected to either volume tank or blanked depending upon the requirement of specific valve position. The supply pressure connected to 'SIG' port loads upper diaphragm subassembly resulting in closing of exhaust port and opening air path for actuation of piston. The downward movement of piston actuates both valve sub assemblies causing isolation of port 'E' and connection of port 'S' and 'U'. When the supply pressure drops below the trip point, the exhaust port opens, verting the air actuating the piston. The Piston Moves upward causing isolation of port 'S' and connecting of ports 'E' and 'U'. by changing connection of volume tank to either of 'E' ports fail open or close position and by blanking of both the 'E' ports fail lock position can be set.



SPECIFICATION

Model PL 30SF/ PL 50SF
Max. Input Pressure 7.5 Kg / cm²
Sig Range 2-7 kg / cm²
Ambient Temp -5°C -80°C
Port Size 3/4" NPT / 1" NPT
Material Aluminium

SALIENT FEATURES

- Compact Design • Quick Response • High Stability & Reliability • Longer Life • Easy to install.
- Trouble free services • Economically priced
- Soft Seating for bubble tight shut off

PRODUCT DESCRIPTION

Philair Airlock relay FLDC/FLDO is a reliable unit for achieving stay put condition of control valves on air supply failure. The air pressure is blocked inside the diaphragm chamber of the actuator, when the supply pressure fails below the set value.

PRODUCT OPERATION

The supply pressure (SIG) connected to the relay is sensed by a spring loaded diaphragm and the thrust developed enables a pilot valve to open. The out-put from the pilot valve acts on a piston and the thrust developed by it act upon the plunger, which open the inlet valve to outlet, when malfunction in the control signal circuit occurs pressure holding above the piston downwards is lost through the exhaust, inlet valve closes with the spring return and the circuit is sealed this closed condition will continue until the signal pressure is established to the original level.

A manual relief valve is provided in the unit for vent actuator pressure to fail lock drift close or fail lock drift open position of control valves within a time period, also for vent actuator pressure when control valve hand wheel is operated to avoid possible damage to the actuator diaphragm



SPECIFICATION

Model PL 30S | 50S

Max Input Pressure 7.5 kg / cm²

Sig Range 2-7kg / cm²

Ambient Temp -5°C -80°C

Port Size 3/4" NPT / 1" NPT

Material Aluminium

SALIENT FEATURES

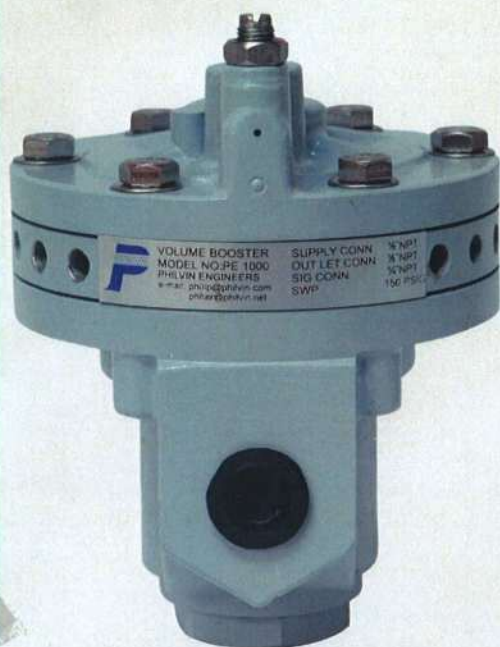
- Compact Design
- Quick Response
- High Stability and Reliability
- Longer Life
- Easy to Install
- Trouble Free Services
- Economically Priced
- Soft Seating for Bubble Tight Shut Off

PRODUCT DESCRIPTION

Philair air lock relay is a reliable unit for achieving stay put condition of control valves on air supply failure. The air pressure is blocked inside the diaphragm chamber of the actuator, when the supply pressure fails below the set value.

PRODUCT OPERATION

The supply pressure (SIG) connected to the relay is sensed by a spring loaded diaphragm and the thrust developed enables a pilot valve to open. The output from the pilot valve acts on a piston and the thrust developed by it act upon the plunger, which open the inlet valve to outlet. When malfunction in the control signal circuit occurs pressure holding above the piston downwards is lost through the exhaust, inlet valve closes with the spring return and the circuit is sealed this closed condition will continue until the signal pressure is established to the original level.



SPECIFICATION

Model PE 1000 / PE1500 / PE 1000S / PE 1500S

Max. Supply Pressure 150 psig

Signal Pressure 100 psig

Output Pressure 100 psig

Input Signal Connection 1/4" NPT

Supply & Out-Put Connections 1/2" NPT or 3/4" NPT

Flow Capacity 115 NM 3 HR at 50 psig

Pressure Ratio 1:1

Dead band +/-5%

Temperature -40°C to +80°C

Body Aluminum /SS

SALIENT FEATURES

High Accuracy • Quick Response • Greater Stability • Low Air Consumption • Large Flow Maintains Correct Actuator Position at High Stroking Speeds • Trouble free service • Economically

PRODUCT DESCRIPTION

The Philair volume booster is used to speed up the normal stroking time of actuator, when the piping between instrumentation and operational area is long or when operational area has large capacity.

PRODUCT OPERATION

The volume booster is used along with positioner for throttling operation of control valve to obtain high operating speeds. The positioner output is connected to signal port, line pressure to IN port and OUT port to the actuator. Increase of signal pressure causes movement of upper diaphragm along with lower diaphragm S/A, resulting in closing of exhaust port and opening of inlet port. When the outlet pressure equals the signal pressure, forces acting on both the diaphragm come to equilibrium and both inlet and outlet ports are closed. With the decrease of signal pressure the upward movement of diaphragm causes opening of exhaust port and closing of inlet port, thereby vending connected between signal and output ports acts as a damping device and permits adjustment of unit to obtain stability with maximum operating speed



SPECIFICATION

Model PE500/ PE500S
Max. Supply Pressure 150 psig
Signal Pressure 100 psig
Output Pressure 100 psig
Input Signal Connection 1/4" NPT
Supply & Out-Put Connections 1/2" NPT
Flow Capacity 10 SCFM
Pressure Ratio 1:1
Dead band +/-5%
Temperature -40°C to +80°C
Body Aluminum /SS

SALIENT FEATURES

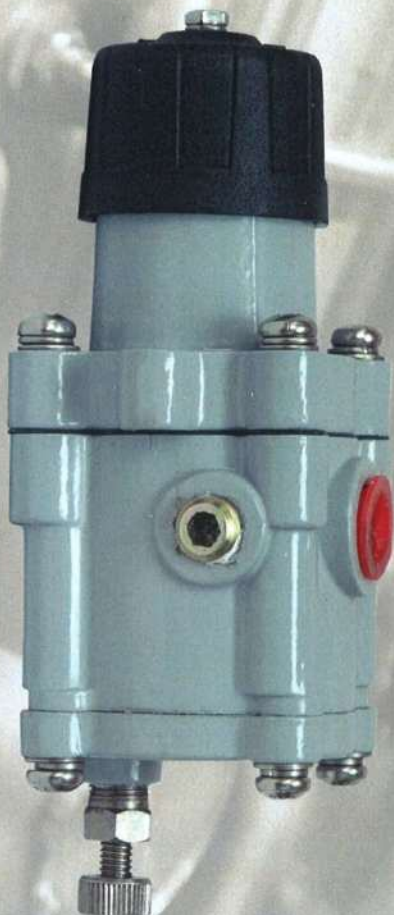
High Accuracy • Quick Response • Greater Stability • Low Air Consumption • Large Flow Maintains Correct Actuator Position at High Stroking Speeds • Trouble free service • Economically

PRODUCT DESCRIPTION

The Philair volume booster is used to speed up the normal stroking time of actuator, when the piping between instrumentation and operational area is long or when operational area has large capacity.

PRODUCT OPERATION

The volume booster is used along with positioner for throttling operation of control valve to obtain high operating speeds. The positioner output is connected to signal port, line pressure to IN port and OUT port to the actuator. Increase of signal pressure causes movement of upper diaphragm along with lower diaphragm S/A, resulting in closing of exhaust port and opening of inlet port. When the outlet pressure equals the signal pressure, forces acting on both the diaphragm come to equilibrium and both inlet and outlet ports are closed. With the decrease of signal pressure the upward movement of diaphragm causes opening of exhaust port and closing of inlet port, thereby vending connected between signal and output ports acts as a damping device and permits adjustment of unit to obtain stability with maximum operating speed



SPECIFICATION

Service Air
Max. Input Pressure 270 Psig
Output Pressure Range 0-100 psig
End Connection 1/4" NPT (F)
Gauge Port 1/8" NPT
Filter Element Sintered Bronze 5 Microns
Ambient Temperature -40°C to 80°C
Body LM6 Aluminum Alloy
Trim Neoprene moulded with ss item
Diaphragm Neoprene / EPDM / VITON with nylon insert
Drain Cock SS
Handle Screw SS

SALIENT FEATURES

Accuracy • Quick Response • Longer Life • Small Size and Light Weight • Soft Seat Plug • Stainless Steel Drain • Most Economically Priced

PRODUCT DESCRIPTION

Philair Air pressure regulator pr 100S are compact, light weight, high performance pressure reducing valves. They are used primarily for supplying a stable source of air to process control equipments

PRODUCT OPERATION

Rotation of the pressure setting knob compresses the range spring against the diaphragm plate, opening the main supply valve. As the outlet pressure increases, it flows through the aspirator and acts on the lower side of the diaphragm causing it to move upward until it balances the force of the range spring. This balanced condition maintains constant output pressure with changes in supply pressure and output load. If the output pressure rises above the set pressure the relief valves opens and bleeds the excess pressure to atmosphere



SPECIFICATION

Service Air
Max. Input Pressure 270 psig
Signal Range Model PL 4S (5-40 psig)
 Model PL 10S (5-100 psig)
End Connections 1/4" NPT /BSP
Ambient Temperature -40°C to 80°C
Body LM 6 Aluminium alloy
Diaphragm Neoprene with Nylon insert
Adjusting Screw SS
Mounting Surface or panel
Screws & Nuts SS

SALIENT FEATURES

Compact Design • Quick Response • High Stability & reliability • Longer Life • Easy to Install • Trouble free Service • Economically Priced • Soft Seating for Bubble Tight Shut Off

PRODUCT DESCRIPTION

The Air Lock up valve is used for blocking air flow in pneumatic system whenever pressure drops below a set value and to restore the air flow automatically when the pressure exceeds the set value.

PRODUCT OPERATION

It is a spring and diaphragm operated equipment. Line pressure is connected to signal port. Control instrument pressure is connected to "IN" port and "OUT" port is connected to actuator. The signal pressure causes upward movement of diaphragm sub assembly against the adjusting spring. The valve coupled to the diaphragm, opens and allows flow of air to actuator. When the pressure drops below the set value the spring force exceeds the diaphragm pressure and closes the valve thereby blocking the air path. When the air pressure is restored to set value the valve opens automatically.



SPECIFICATION

Model PD S10S

Supply Pressure 7 Kg/cm²

Set Pressure 2~6.5 Kg/cm²

Flow Rate > 600 NI/Min at 5 kg / Cm²

Air Consumption Less than 0.5 NI/Min

Hysteresis Within 1%

Ambient Temp -5°C~60°C

Port Size 1/4" NPT(F)

Material SS

SALIENT FEATURES

Compact Design • Quick response • High Stability & Reliability • Longer life • Easy to Install • Trouble Free Services • Economically Priced • Soft Seating for Bubble Tight Shut Off

PRODUCT DESCRIPTION

Philair make Double Acting Air Lock up relay is used in conjunction with double acting power cylinders for locking the air in both chambers of cylinder whenever the main supply pressure falls below a pre-set value

PRODUCT OPERATION

The unit is mounted between output lines of double acting positioned and chambers of power cylinder. The supply pressure (signal) connected to the relay is sensed by a spring loaded diaphragm and the thrust developed enables a pilot valve to open. The output from the pilot valve acts on a piston and the thrust developed by it acts upon the plunger, which opens both the ports simultaneously. When malfunction in the control signal circuit occurs pressure holding above the piston. Downwards is lost through the exhaust valve inlet valves closes with spring return and the circuit is sealed. This closed condition will continue until the signal pressure is established to the original level.



SPECIFICATION

Model PL 20S
Service Air
Max. Input Pressure 270 psig
Signal range 5-100 psig
Body Connection 1/2" NPT and 1/4" NPT
Ambient Temperature -40°C to + 80° C
Body LM6 Aluminium Alloy
Diaphragm Neoprene / VITON / EPDM with Nylon Insert
Internals Brass + Neoprene
Adjusting Screw SS
Mounting Surface or Panel
Weight 1 KG

SALIENT FEATURES

Salient Features ● Compact Design ● Quick Response ● High Stability and Reliability ● Longer Life Easy to install ● Trouble Free Service ● Economically Priced ● Soft Seating for Bubble Tight Shut Off

PRODUCT DESCRIPTION

The Air Lock up valve is used for blocking air flow in a pneumatic system whenever pressure drops below a set value and to restore the air flow automatically when the pressure exceeds the set value

PRODUCT OPERATION

It is a spring and diaphragm operated equipment. Line pressure is connected to signal port. Control Instrument pressure is connected to 'IN' port and 'OUT' is connected to actuator. The signal pressure causes upward movement of diaphragm sub assembly against the adjusting spring. The valve coupled to the diaphragm, opens and allows flow of air to actuator. When the pressure drops below the set value the spring force exceeds the diaphragm pressure and closes the valve thereby blocking the air path. When the air pressure is restored to set value the valve opens automatically.



SPECIFICATION

Model PE 10 | PE20

Service Air

Air Connection Inlet 1/4" NPT,
Outlet 3/8" NPT
Exhaust 1/2" NPT

CV 0.80

Operating Pressure 10 Psig -140 Psig

Operation Temperature -40° C to 80° C

Body LM6 Aluminium alloy

Seat Neoprene | VITON | EPDM

SALIENT FEATURES

Compact Design • High Stability & Reliability

• Enable High Cylinder Speeds to be Achieve
Large Flow • Easy Installation • Most Economic
price

PRODUCT DESCRIPTION

The Philair Dump valve provide the way of Exhausting air quickly from air reservoirs, Pneumatic Actuators or pneumatic cylinders.

PRODUCT OPERATION

Supply pressure is connected to inlet and output pressure to the actuator, During the normal operation the inlet pressure acts at the bottom of diaphragm causing blocking of exhaust port and allowing flow to actuator. On disconnection of inlet pressure differential pressure of actuator side and inlet side causes downward movement of diaphragm and exhaust of actuator pressure at atmosphere.



SPECIFICATION

Model PD 20S / PD 30S / PD 50S / PD S20S / PD S30S / PD S50S

Supply Pressure 7 kg / Cm²

Set Pressure 2~6.5 Kg / Cm²

Flow Rate 600 NI / Min at 5 Kg / Cm² /
2500 NI / Min / 3200 NI/Min

Air Consumption Less than 0.5 NI/Min

Hysteresis Within 1%

Ambient Temp -5° C ~ 60° C

Port Size 1/2" NPT (F)/3/4" NPT /1"NPT

Material Aluminium / SS

SALIENT FEATURES

Compact Design • Quick Response • High Stability & Reliability • Longer life • Easy to Install • Trouble Free Services • Economically Priced • Soft Seating for Bubble Tight Shut Off

PRODUCT DESCRIPTION

Philair make double acting air lock up relay is used in conjunction with double acting power cylinders for locking air in both the chambers of cylinder whenever the main supply pressure falls below a pre-set value.

PRODUCT OPERATION

The units is mounted between output lines of double acting positioner and chambers of power cylinder. The supply pressure (signal) connected to the relay is sensed by a spring loaded diaphragm and the thrust developed enables a pilot valve to open. the output from the pilot valve acts on a piston and the thrust developed by it acts upon the plunger, which opens both ports simultaneously. When malfunction in the control signal circuit occurs pressure holding above the piston. Downwards is lost through the exhaust valve, inlet valves is closes with spring return and the circuit is sealed. This closed condition will continue until the signal pressure is established to the original level



SPECIFICATION

Model PD 10 S

Service Air

Max. input Pressure 10 Kg/cm²

Ambient Temperature -40°C to 80°C

Signal range 20-100 PSI (1.4~7 kg/cm²)

Pneumatic Connection 1/4" NPT /BSP

Flow Capacities > 600 L / min. for each Port

Dead band 0.025/kg/cm²

Diaphragm Neoprene /EPDM /VITON with nylon insert

Body LM-6

Internals Brass / SS with Neoprene/EPDM seat

Mounting On the actuator by a bracket

SALIENT FEATURES

Quick Response • High Sensibility and Reliability
 • Longer Life • Easy to Install • Trouble Free Service
 • Low cost • Soft Seating to Ensure zero Leak

PRODUCT DESCRIPTION

Philair make double acting air lock up relay is used in conjunction with double acting power cylinders for locking air in both the chambers of cylinders when ever the main supply pressure falls below a pre-set valve.

PRODUCT OPERATION

The unit is mounted between output lines of double acting positioner and chambers of power cylinder. The supply pressure ("Signal") connected to the relay is sensed by a spring loaded diaphragm and the thrust developed enables a pilot valve to open. The Out put From the pilot Valve acts on another Diaphragm and the thrust developed by it acts upon a piston, which opens both the ports simultaneously. Reduction of supply pressure causes downward movement of upper diaphragm subassembly, resulting in reduction of pressure above lower diaphragm. The Piston moves upward and the valve is closed to block this air in power cylinder.



SPECIFICATION

Model PI 10 SF / PL 20 SF

Service Air

Max. Input Pressure 270 Psig

Signal Range 5-100 Psig

End Connections 1/4" NPT / 1/2" NPT

Ambient Temperature 40°C to 80° C

Body LM6 Aluminium Alloy

Diaphragm Neoprene / EPDM / VITON with nylon insert

Adjusting Screw SS

Mounting Surface or Panel

Screws & Nuts SS

SALIENT FEATURES

Compact Design • Quick Response • High Stability & Reliability • Longer Life • Easy to Install • Trouble Free Service • Economically Priced • Soft Seating for Bubble Tight Shut Off

PRODUCT DESCRIPTION

Philair Air lock relay FLDC/ FLDO is a reliable unit for achieving stay put condition of control valves on air supply failure. The air pressure is blocked inside the Diaphragm chamber of the actuator, when the supply pressure fails below the set value.

PRODUCT OPERATION

It is a spring and diaphragm operated equipment. Line pressure is connected to signal port. Control instrument pressure is connected to IN port and OUT port is connected to actuator. The signal pressure causes to upward movement of diaphragm S/A against the adjusting spring. The valve coupled to the diaphragm opens and allows flow of air to actuator. When the pressure drops below the set value., the spring forces exceeds the diaphragm pressure and close the valve thereby blocking the air path. When the air pressure is Restored above the set value, the vale opened automatically.

A manual relief valve is provided in the unit for vent actuator pressure to fail lock drift close or fail lock drift open position of control valve within a time period, also for vent actuator pressure when control valve hand wheel is operated to avoid possible damage to the actuator diaphragm.

AIR FILTER REGULATOR

MODEL NO	CONNECTION	MATERIAL
PR 10S	1/4"NPT	ALUMINIUM
PR 20S	1/2"NPT	ALUMINIUM
PR 100S	1/4"NPT, 1/8"NPT	ALUMINIUM
PR 10SS	1/4"NPT	SS

SINGLE ACTING AIR LOCK RELAY

MODEL NO	CONNECTION	MATERIAL
PL 10S	1/4"NPT	ALUMINIUM
PS 10S	1/4"NPT	ALUMINIUM
PL 20S	1/2"NPT	ALUMINIUM
PL 30S	3/4" NPT	ALUMINIUM
PL 50S	1" NPT	ALUMINIUM
PS 10SS	1/4"NPT	SS

DOUBLE ACTING AIR LOCK RELAY

MODEL NO	CONNECTION	MATERIAL
PD 10S	1/4"NPT	ALUMINIUM
PD 20S	1/2"NPT	ALUMINIUM
PD 30S	3/4"NPT	ALUMINIUM
PD 50S	1"NPT	ALUMINIUM
PD S 10S	1/4"NPT	SS
PD S 20S	1/2"NPT	SS
PD S 30S	3/4"NPT	SS
PD S 50S	1"NPT	SS

VOLUME BOOSTER

MODEL NO	CONNECTION	MATERIAL
PE 500	1/4"NPT	ALUMINIUM
PE 1000	1/2"NPT	ALUMINIUM
PE 700	3/8"NPT	ALUMINIUM
PE 1500	3/4"NPT	ALUMINIUM
PE 500 S	1/4"NPT	SS
PE 1000 S	1/2"NPT	SS
PE 700S	3/8"NPT	SS
PE 1500 S	3/4"NPT	SS

TRIP VALVE

MODEL NO	CONNECTION	MATERIAL
PER 1000	1/4"NPT	ALUMINIUM
PER 2000	1/2"NPT	ALUMINIUM
PER 1000S	1/4"NPT	SS
PER 2000S	1/2"NPT	SS

AIR LOCK RELAY FLDC / FLDO

MODEL NO	CONNECTION	MATERIAL
PL 10SF	1/4"NPT	ALUMINIUM
PL 20SF	1/2"NPT	ALUMINIUM
PL 30SF	3/4"NPT	ALUMINIUM
PL 50SF	1"NPT	ALUMINIUM

QUICK EXHAUST VALVE

MODEL NO	CONNECTION	MATERIAL
PE 10	1/4"NPT	ALUMINIUM
PE 20	1/2"NPT	ALUMINIUM

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