

April 2009

PRX Series Pilots for Pilot-Operated Pressure Reducing Regulators



Figure 1. PRX Series Pressure Reducing Pilots

Introduction

Scope of the Manual

This manual provides installation, startup, maintenance, and parts ordering information for the PRX Series pilots and Type SA/2 filter used together with Pilot-Operated Pressure Reducing Regulators for high pressure applications.

For information on mounting on Pilot-operated Regulators, monitoring systems and installations, refer to full product literature:

Type EZH: D103077X012

Type EZR: D102600X012

Type FL: D103068X012

Product Description

The PRX Series pilots are mainly used in natural gas, air, or other non-corrosive gas applications. They have a double diaphragm which provides increased accuracy and sensitivity, an integral damper adjustment to allow adjustable opening and closing speeds, and a restrictor adjustment to allow adjustments to make for inlet pressure variability and loading pressure oscillations.

Furthermore, Type PRX pilots have the ability to handle a wide range of setpoints, from 7.3 to 1160 psig (0,50 to 80,0 bar).



PRX Series

Specifications

Maximum Inlet Pressures⁽¹⁾

See Table 2

Outlet (Control) Pressure Ranges

See Table 1

Accuracy Class

See Table 1

Temperature Capabilities⁽¹⁾

-4° to 140°F (-20° to 60°C)

Threaded Connections

1/4 NPT internal

Orifice Size

0.12-inch (3,0 mm)

Type SA/2 Allowable Pressure⁽¹⁾

1450 (100 bar)

Options

Type 252 Pilot Supply filter

1. The pressure/temperature limits in this Instructional Manual and any applicable standard or code limitation should not be exceeded.

Table 1. Outlet (Control) Pressure Ranges, Accuracy Class, and Pilot Spring Information

TYPES	OUTLET (CONTROL) PRESSURE RANGES, PSIG (bar)	(AC) ACCURACY CLASS	PILOT CONTROL SPRING INFORMATION			
			Part Numbers	Color Code	Wire Diameter, Inches (mm)	Free Length Inches (mm)
PRX/120 PRX/125	7.3 to 16 (0,50 to 1,1)	± 5%	GD25525X012	White	0.098 (2,49)	2.165 (55,0)
	14.5 to 26 (1,00 to 1,8)	± 2.5%	GD25524X012	Yellow	0.110 (2,79)	2.165 (55,0)
	23 to 44 (1,6 to 3,0)	± 2.5%	GD25523X012	Green	0.126 (3,20)	2.165 (55,0)
	41 to 80 (2,8 to 5,5)	± 2.5%	GD25518X012	Blue	0.138 (3,55)	2.165 (55,0)
	73 to 123 (5,0 to 8,5)	± 2.5%	GD25522X012	Black	0.157 (3,99)	2.165 (55,0)
	116 to 210 (8,0 to 14,5)	± 1%	GD25521X012	Silver	0.177 (4,50)	2.165 (55,0)
PRX/120-AP PRX/125-AP	203 to 334 (14,0 to 23,0)	± 1%	GD25520X012	Gold	0.197 (5,00)	2.008 (51,0)
	319 to 435 (22,0 to 30,0)	± 1%	GD25586X012	Aluminum	0.236 (5,99)	2.008 (51,0)
	435 to 1160 (30,0 to 80,0)	± 1%	GD27379X012	Clear	0.335 (8,51)	3.937 (100)

1. Accuracy includes outlet pressure drop plus hysteresis (friction), but does not include lockup.
2. Restrictor screw is one turn counterclockwise from fully seated.

Table 2. PRX Series Pilot Pressure Ratings

MAXIMUM INLET PRESSURE, PSIG (bar)	MAXIMUM EMERGENCY OUTLET PRESSURE OR MAXIMUM EMERGENCY SENSE PRESSURE ⁽¹⁾ , PSIG (bar)	MAXIMUM OUTLET PRESSURE, PSIG (bar)	MAXIMUM BLEED (EXHAUST) PRESSURE FOR MONITOR PILOTS, PSIG (bar)	MAXIMUM SENSE (CONTROL) PRESSURE FOR MONITOR PILOTS, PSIG (bar)
1480 (102)	1480 (102)	1480 (102)	1480 (102)	1480 (102)

1. Maximum pressure to prevent the castings from bursting during abnormal operation (leaking to atmosphere and internal parts damage may occur).

Type PRX pilots are usually used together with Type SA/2 pilot supply filter regulator, that provides a constant supply pressure to the PRX Series pilots: this value is 45 psi (3,1 bar) over set pressure. The Type SA/2 has an integral 5-micron filter.

Available Configurations

Type PRX/120: Outlet pressure range of 7.3 to 435 psig (0,50 to 30,0 bar). The Type PRX/120 can be used as the pilot on single stage pressure reducing regulators or as the monitor pilot or as the working pilot in wide-open monitor systems.

Type PRX/120-AP: Outlet pressure range of 435 to 1160 psig (30,0 to 80,0 bar). The Type PRX/120-AP can be used as the pilot on single stage pressure reducing regulators or as the monitor pilot or as the working pilot in wide-open monitor systems.

Type PRX/125: Identical to the Type PRX/120 except the restriction screw is removed. The Type PRX/125 can only be used as the monitor override pilot on working monitor applications.

Type PRX/125-AP: Identical to the Type PRX/120-AP except the restriction screw is removed. The Type PRX/125-AP can only be used as the monitor override pilot on working monitor applications.

Specifications

The Specifications section lists pressure limitations and other specifications for all models of Type PRX pilots. Please note that the pilot control spring range is displayed on the pilot nameplate.

Principle of Operation

Pilot-operated regulators use inlet pressure as the operating medium, which is reduced through pilot operation to load the actuator diaphragm. Outlet or downstream pressure opposes loading pressure in the actuator and also opposes the pilot control spring.

When outlet pressure drops below the setting of the pilot control spring, pilot control spring force on the pilot diaphragm thus opens the pilot valve plug, providing additional loading pressure to the actuator diaphragm. This diaphragm loading pressure opens the main valve plug, supplying the required flow to the downstream system. Any excess loading pressure on the actuator diaphragm escapes downstream through the bleed restriction in the pilot.

When the gas demand in the downstream system has been satisfied, the outlet pressure increases. The increased pressure is transmitted through the downstream control line and acts on the pilot diaphragm. This pressure exceeds the pilot spring setting and moves the diaphragm, closing the orifice. The loading pressure acting on the main diaphragm bleeds to the downstream system through a bleed restriction in the pilot.

Adjustment

The adjustment of the regulator is performed by means of the pilot adjusting screw, which varies the compression of the control spring. Adjustment is performed while the regulator is in operation with the aid of a pressure gauge to monitor downstream pressure; loosen the locknut and turn the adjusting screw slowly to adjust outlet pressure.

Installation



WARNING

Personal injury or equipment damage, due to bursting of pressure-containing parts may result if this regulator is overpressured or is installed where service conditions could exceed the limits given in the Specification section and on the appropriate nameplate, or where conditions exceed any rating of the adjacent piping or piping connections. To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices to prevent service conditions from exceeding those limits. Also, be sure the installation is in compliance with all applicable codes and regulations.

Additionally, physical damage to the regulator could break the pilot off the main valve, causing personal injury and property damage due to bursting of pressure-containing parts. To avoid such injury and damage, install the regulator in a safe location.

1. Use qualified personnel when installing, operating and maintaining pilots. Before installing, inspect pilot and tubing, for any shipment damage or foreign material that may have collected during crating and shipment. Make certain that body is clean and the pipelines are free of foreign material.



WARNING

In hazardous or flammable gas service, vented gas may accumulate, and cause personal injury, death or property damage due to fire or explosion.

Vent a regulator in hazardous gas service to a remote, safe location away from air intakes or any hazardous location. The vent line or stack opening must be protected against condensation or clogging.

2. Type PRX pilots have a 1/4 NPT vent connection in the spring case. To remotely vent gas from the spring case, remove the screened vent, and connect 1/4-inch (6,4 mm) piping or tubing to the spring case connection. The piping or tubing should vent to a safe location, have as few elbows as possible, and have a screened vent on its exhaust. Install the regulator and any remote vent piping or tubing so that the vent is protected from condensation, freezing, or substances that may clog it.



CAUTION

To avoid freeze up because of pressure drop and moisture in the gas, use anti-freeze practices, such as heating the supply gas or adding a de-icing agent to the supply gas.

3. The Type PRX pilot connections are 1/4 NPT. Connect a downstream control (sense) line to a straight run of pipe 6 to 10 pipe diameters from the regulator outlet, using 3/8-inch (9,5 mm) or larger outside diameter tubing. If such a distance is not practical, connect the control line away from elbows, swages, nipples, or any area where abnormal flow velocities occur. Connect the other end of the control line to the "A" port on the bottom of the Type PRX pilot.
4. Connect a downstream bleed line from the "S" port on the Type PRX pilot to a straight run of pipe 6 to 10 pipe diameters from the regulator outlet, using 3/8-inch (9,5 mm) or larger outside diameter tubing.



CAUTION

To prevent damage to the pilot during startup, the sense and bleed lines should be located on the same side of the downstream block valve.

5. Install hand valves in the downstream sense and bleed lines if desired. If hand valves are installed, they should be full flow valves, such as a full port ball valve.
6. For optional remote pneumatic loading of a Type PRX pilot, make the spring case piping connections just as they would be made for remote venting.

Startup and Adjustment

Prestartup Considerations

Each regulator is factory-set for the outlet pressure specified on the order. If no setting was specified, outlet pressure was factory-set at the mid-range of the pilot control spring. Before beginning the startup procedure in this section, make sure the following conditions are in effect:

- Block valves isolate the regulator
- Vent valves are closed
- A bypass, if any, is in operation

In all cases, check the control spring setting to make sure it is correct for the application.



CAUTION

Be sure to slowly introduce pressure into the system to prevent downstream overpressure due to potential rapid pressure increase. Pressure gauges should always be used to monitor downstream pressure during startup. Procedures used in putting this regulator into operation must be planned accordingly if the downstream system is pressurized by another regulator or by a manual bypass.

Note

When using a Type SA/2 pilot supply filter regulator, the differential pressure across the regulator must be at least 45 psid (3,1 bar d) for optimum regulator performance. The Type SA/2 can be removed if differential pressure across the regulator is less than 45 psid (3,1 bar d) and inlet pressure stays at or below 200 psig (13,8 bar).

Pilot Adjustment

Loosen locknut (key 2) and turn the adjusting screw into the spring case to increase (or out of the spring case to decrease) the downstream pressure. When the required downstream pressure is maintained for several minutes, tighten the locknut to lock the adjusting screw in position.

Type PRX Pilot Restrictor and Damper Screw Adjustment

Note

Recommended initial setting of the restrictor screw is turned completely in (clockwise) and then turned out 1/2 turn. The damper screw initial setting is turned completely out (counterclockwise).

Note

The Type PRX 125 (upstream monitor pilot in working monitor installations) does not have a restrictor screw.

The Restrictor and Damper screws on the PRX Series pilot control the regulator's proportional band (droop) and speed of response. For additional tuning follow the steps outlined below:

1. Start with the restrictor screw 1 turn counterclockwise from fully seated (turn restrictor fully clockwise then 1 turn counterclockwise) and the damper screw fully counterclockwise.
2. Turn damper screw clockwise until desired performance is achieved. This reduces the flow path of the damper. If the damper becomes fully seated (no longer able to turn clockwise) and the desired performance has not been achieved, return the damper screw to the fully counterclockwise position.



WARNING

The damper screw should not be left in the fully seated position, as it will lock the regulator in last position which could cause incorrect pressure regulation.

3. Turn the restrictor screw an additional turn counterclockwise from fully seated. This increases the flow path of the restrictor. If additional tuning is required, repeat step 2. Follow this method until desired performance is achieved.

Pilot Adjustment - (For Low Flow Applications Only)

For stable, low-flow operation, other considerations besides pilot settings should also be addressed. Installation of an over-sized regulator may make

Table 3. Type PRX Pilot Adjustment Recommendations

TYPES	RECOMMENDED TYPE PRX RESTRICTOR AND DAMPER SCREW SETTINGS FOR LOW FLOW OPERATION	TYPE PRX RESTRICTOR AND DAMPER SCREW SETTINGS TO AVOID LOW-FLOW OPERATION
PRX/120 and PRX/120-AP	<p>Restrictor Screw -One turn out (counterclockwise) from fully seated for most low flows -2-1/2 turns out (for flows less than 2% of maximum)</p> <p>Damper Screw -Fully out (counterclockwise) from seated for most low flows -One turn out (for flows less than 5% of maximum)</p>	<p>Restrictor Screw -Fully seated (clockwise) or full out (counterclockwise)</p> <p>Damper Screw -Full in (clockwise)</p>
<p>Note: Counterclockwise adjustment of the Type PRX restrictor will increase proportion band. Adjustment of the restrictor screw will also cause a shift in setpoint. Setpoint should be checked and adjusted following restrictor screw adjustment.</p>		

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low-flow operation difficult. When possible, a smaller-sized regulator should be installed. During design of a regulator installation, the downstream piping volume should be maximized. Control lines should not be located in or near piping sections that may experience turbulent flow, such as elbows or swages. Larger diameter control lines are also recommended in low-flow conditions. The larger control lines are less restrictive and will reduce pilot exhaust bleed backpressure to the pilot that may cause instability. Separate sense and exhaust lines may also help at low-flow conditions. This feature is provided on the PRX Series. Control line taps should be located in straight pipe; several pipeline diameters (8 to 10 of largest piping on outlet) downstream of the regulator. These guidelines are not mandatory but have been used to improve station stability at low-flow in some systems.

Shutdown

CAUTION

If the pilot bleed control line pressure is shutdown first, the downstream system may be subjected to full inlet pressure.

1. If the pilot setting must be disturbed, be sure to keep some tension on the spring. This will prevent trapping inlet pressure during blow down.
2. Slowly close the valves in the following order:
 - a. Inlet block valve
 - b. Outlet block valve
 - c. Control line valve(s), if used.
3. Open the vent valves to depressurize the system.

Maintenance

Pilot parts are subject to normal wear and must be inspected and replaced as necessary. The frequency of inspection and replacement of parts depends upon the severity of service conditions or the requirements of local, state, and federal regulations. Due to the care Fisher® takes in meeting all manufacturing requirements (heat treating, dimensional tolerances, etc.), use only replacement parts manufactured or furnished by Fisher.

All O-rings, gaskets, and seals should be lubricated with a good grade of general-purpose grease and installed gently rather than forced into position. Be

certain that the nameplates are updated to accurately indicate any field changes in equipment, materials, service conditions, or pressure settings.

WARNING

To avoid personal injury resulting from sudden release of pressure, isolate the pilot from all pressure and cautiously release trapped pressure from the pilot before attempting disassembly.

CAUTION

Always remove spring (key 7) tension before performing maintenance on this unit. To remove spring tension, loosen locknut (key 2) and back out adjusting screw (key 1) until compression is removed from the spring.

Lower Case Maintenance

1. Disconnect pilot and remove from the line.
2. Remove machine screws (key 10) from lower cover (key 21) and the separate lower cover from the body (key 16).
3. Use a wrench to hold the stem (key 23) and break loose the stem nut (key 20). Remove the stem nut and washer (key 11).
4. Remove the diaphragm plate (key 13), diaphragm (key 14), pad holder (key 22) and O-ring (key 18). Inspect parts for damage or wear, replace if necessary.
5. Remove orifice (key 19) and O-ring (key 17). Inspect the parts for damage or wear, and replace if necessary. Lightly lubricate the O-ring and place in the body (key 16). Install the orifice.
6. Set the pad holder (key 22) in the body (key 16).
7. Lightly lubricate the rims of the diaphragm (key 14) and place it on top of the pad holder (key 22). Set the diaphragm plate (key 13) on the diaphragm (key 14).
8. Lightly lubricate the O-ring (key 18) and place it in the lower case (key 21).
9. Place the washer key (key 11) and stem nut (key 20) on the stem (key 23) and tighten. *If also performing Upper Case Maintenance, skip to step 2 of the Upper Case Maintenance section.*

10. Insert machine screws (key 10) in the lower cover (key 21) and tighten uniformly to ensure proper seal.

Upper Case Maintenance

1. Disconnect pilot and remove it from the line.
2. Loosen locknut (key 2) and back out adjusting screw (key 1) until compression is removed from the spring. Remove cap (key 3).
3. Lift the spring carrier (key 6), spring (key 7), and O-ring (key 4) out of the upper cover (key 8). Inspect O-ring and replace if necessary.
4. Remove machine screws (key 10) from lower cover (key 21) and the separate lower cover from the body (key 16), unless removed during lower diaphragm maintenance. Use a wrench to hold stem (key 23) securely while removing the stem nut (key 26).
5. Remove remaining loose components: washer, upper diaphragm plate, diaphragm, lower diaphragm plate, and O-rings (keys 11, 13, 14, 15, 18, and 25). Inspect diaphragm and O-rings for damage or wear, and replace if necessary.
6. Lightly lubricate the O-ring (key 25). Place O-ring over the stem (key 23) and press it down into the body (key 16).
7. Set the lower diaphragm plate (key 15) into the body (key 16).
8. Lightly lubricate the rims of the diaphragm (key 14) and place it in the body (key 16) on top of the lower diaphragm plate (key 15).
9. Set the upper diaphragm plate (key 13) on top of the diaphragm (key 14).
10. Place washer (key 11) and stem nut (key 26) on the stem (key 23) and tighten using a wrench to hold the stem.
11. Set the spring carrier (key 6).

Damper and Restrictor Maintenance

1. Remove screw (key 31) and plate (key 29).
2. Remove ring nuts (key 30).
3. Remove damper adjusting screw (key 27). Remove and inspect O-ring (key 28) for damage or wear, and replace if necessary. Lightly lubricate O-ring before placing on the adjusting screw. Insert damper adjusting screw into the body (key 16) and tighten. Insert ring nut (key 30) and tighten. Back out damper adjusting screw until it stops.

4. Remove restrictor adjusting screw with hole (key 32). Remove and inspect O-ring (key 28) for damage or wear, and replace if necessary. Lightly lubricate O-ring before placing on the adjusting screw. Insert restrictor adjusting screw into the body (key 16) and completely tighten. Insert ring nut (key 30) and completely tighten. Back out restrictor adjusting screw 1/2 turn.

Note

When using a Type PRX/120 pilot with a Type PRX/125 pilot as a monitor, use the following settings:

- **Restrictor - completely tighten and then back out three full turns.**
- **Damper - back out until it stops.**

5. Install plate (key 29) and screw (key 31).

Type SA/2 (Figure 3)

1. Disconnect pilot supply filter regulator and remove it from the line.
2. Remove cap screws, washers, and nuts (keys 2, 9, and 10) from body (key 7) and separate upper and lower covers (keys 11 and 19) from the body (key 7). When separating the covers from the body, be aware of loose components: (keys 1, 3, 4, 8, 12, 18, 20, and 21).
3. Remove and inspect O-ring (key 13) for damage or wear, and replace if necessary. Lightly lubricate the O-ring before placing it back in the filter cover (key 11).
4. Clean filter nets (key 8). Replace filter pad (key 12).
5. Inspect diaphragm (key 18) for damage or wear, and replace if necessary. Check the seating surface of the screw unit (key 17) for erosion, scratches, spurs, or other damage, and replace if necessary.
6. Unscrew and remove the regulator seat (key 5). Inspect O-ring (key 6) for damage or wear, and replace if necessary. Lightly lubricate the O-ring and place it on the regulator seat.
7. Pull pad holder unit (key 15) out of the body (key 7). Inspect the seat for damage, replace if necessary.
8. Set the pad holder unit (key 15) on the spring (key 14) and insert the regulator seat (key 5). Tighten the regulator seat until it stops.

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9. Lightly lubricate the outer and inner rims of the diaphragm (key 18). Place the diaphragm assembly on top of the regulator seat (key 5). The screw unit (key 17) will slide into regulator seat (key 5). Use care to avoid damage to parts when reassembling.
10. Set the spring (key 1) on top of the nut (key 21).
11. Align the regulator cover (key 19) over the body (key 7) with the sense port (V) opposite the pilot supply port (R).
12. Place the filter pad (key 12) and filter nets (key 8), one on each side of the filter pad, on the filter cover (key 11).
13. Pick up the body (key 7) and place it on the filter cover (key 11) with the inlet port (M) aligned vertically with the sense port (V).
14. Insert cap screws (key 2). Place washers (key 9) and nuts (key 10) on the end of the cap screws. Tighten the nuts.

Parts Ordering

Each Type PRX pilot is assigned a serial number, which can be found on the nameplate. Refer to the number when contacting your local Sales Office for technical information or when ordering parts. When ordering parts, also be sure to include the complete 11-character part number.

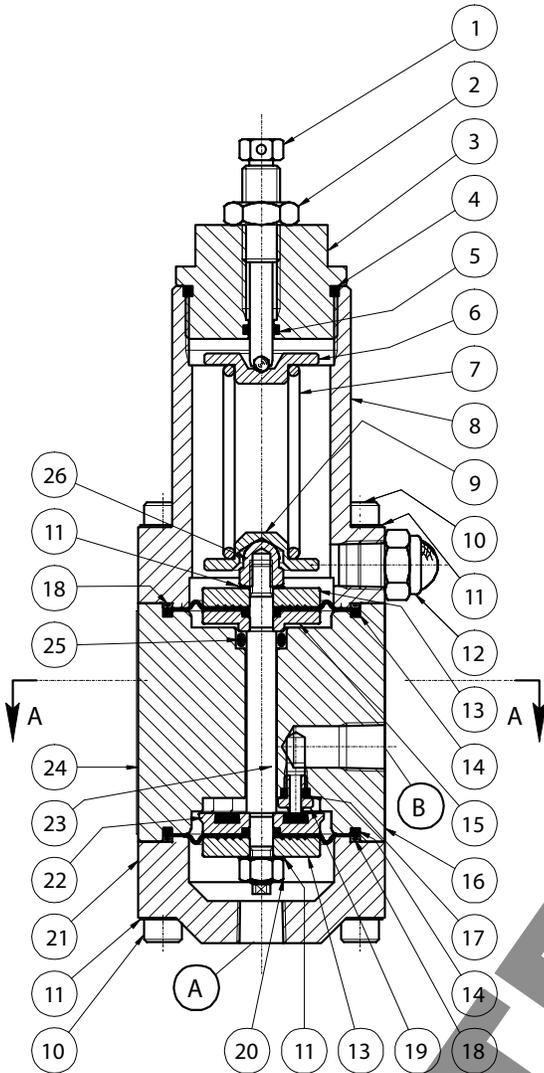
Type SA/2 parts can also be ordered. Please provide the 11-character part number and the technical information stamped on the nameplate when contacting your local Sales Office.

Parts List

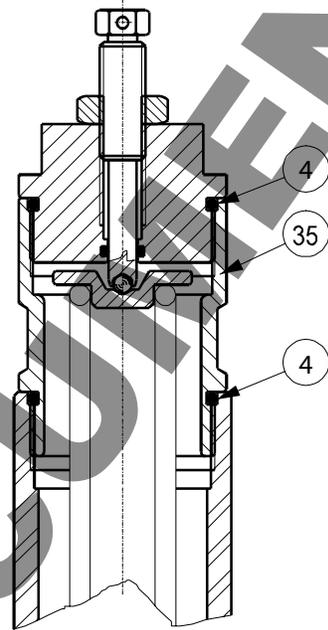
PRX Series Pilots (Figure 2)

Key	Description	Part Number
	Parts Kits	
	Elastomer Parts Kits (includes keys: 4, 5, 14, 17, 18, 25, and 28)	
	Types PRX/120 and PRX/125	
	Nitrile (NBR)	RPRX00X0N12
	Fluorocarbon (FKM)	RPRX00X0F12
	Types PRX/120-AP and PRX/125-AP	
	Nitrile (NBR)	RPRXAPX0N12
	Fluorocarbon (FKM)	RPRXAPX0F12
1	Adjusting Screw	GD25334X012
2	Locknut	GD03600X012
3	Cap	GD25335X012
4*	Upper Cover O-ring	See Parts Kits
5*	O-ring	See Parts Kits
6	Spring Carrier Plate	GD25336X012
7	Spring	See Table 1
8	Upper Cover	GD29854X012
9	Spring Carrier Plate	GD25338X012
10	Machine Screw	GD06100X012
11	Washer	GD05500X012
12	Filter	GD50036X012
13	Diaphragm Plate	GD25339X012
14*	Diaphragm	See Parts Kits
15	Diaphragm Plate	
16	Body	GD25331X012
17*	Orifice O-ring	See Parts Kits
18*	Lower Cover O-ring	See Parts Kits
19	Orifice	GD25344X012
20	Nut	GD00200X012
21	Lower Cover	GD29860X012
22*	Pad Holder	
	Nitrile (NBR)	GD25340X012
	Fluorocarbon (FKM)	M0279950X12
23	Stem	GD25343X012
24	Nameplate	
25*	Stem O-ring	See Parts Kits
26	Upper Diaphragm Nut	GD02800X012
27	Damper Adjusting Screw with Hole	GD25348X012
28*	Restrictor/Damper O-ring	See Parts Kits
29	Damper/Restrictor Plate	
	Types PRX/120 and PRX/120-AP	GD25440X012
	Types PRX/125 and PRX/125-AP	GD25793X012
30	Ring Nut	GD25349X012
31	Nameplate Screw	GD06100X012
32	Restrictor Adjusting Screw with Hole	GD25348X012
33	Plug (Types PRX/125 and PRX/125-AP Only)	GD25792X012
34	Plug (Types PRX/125 and PRX/125-AP Only)	GD50032X012
35	Spring Barrel Extension for AP	GD27410X012

*Recommended Spare Part



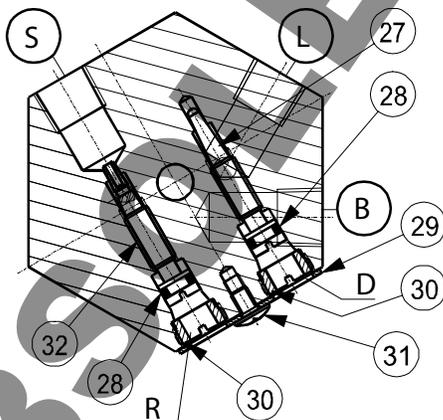
TYPES PRX/120 AND PRX/125 PILOT ASSEMBLY



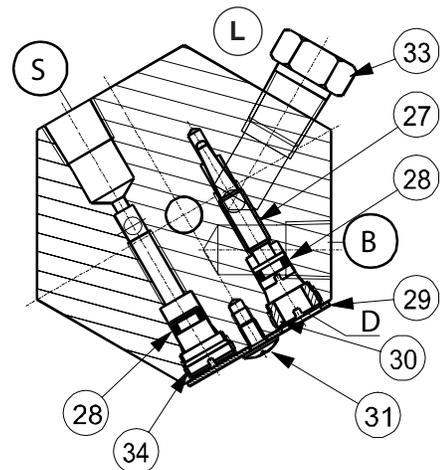
AP VERSION

Table 4. Type PRX/120 Connections

CODE	BOOT TRIM	TUBE AND HARD TRIM
A	Downstream impulse	Downstream impulse
B	Outlet discharge	Pilot feed
S	Pilot feed	Outlet discharge
L	To regulator loading pressure chamber	To regulator loading pressure chamber



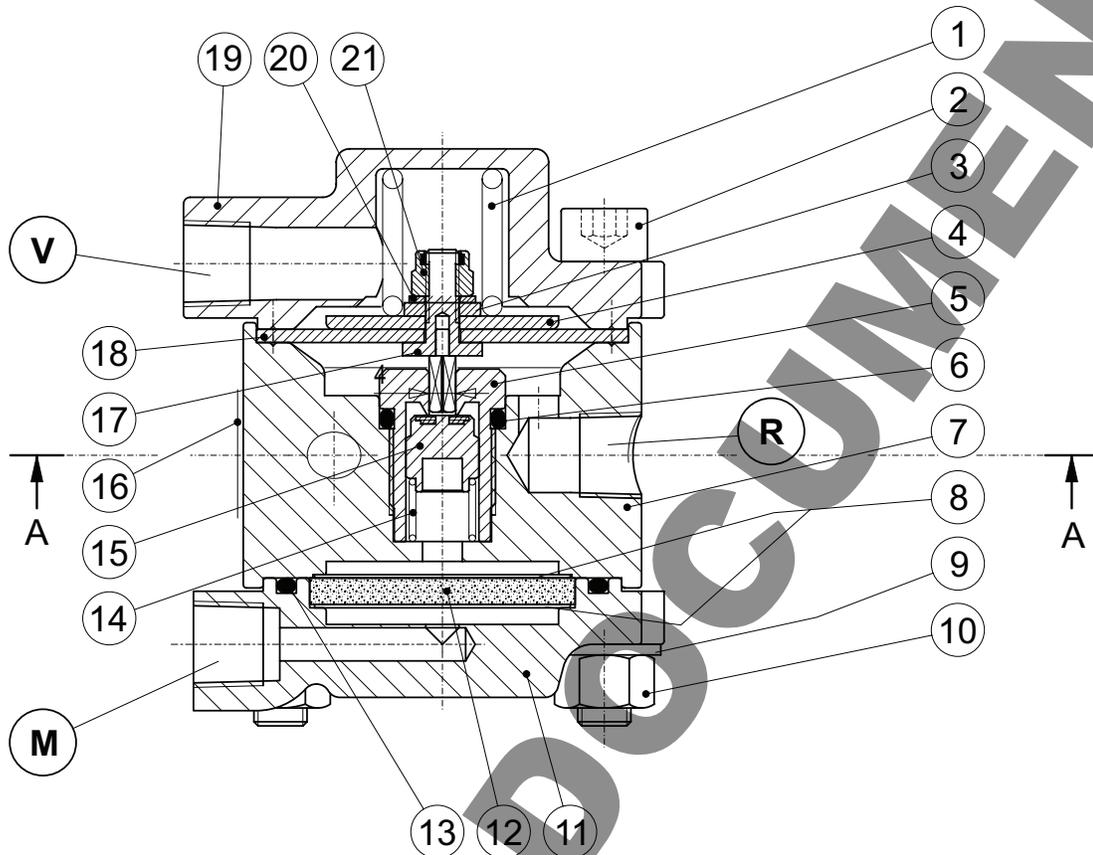
TYPE PRX/120 VERSION - SECTION A-A



TYPE PRX/125 VERSION - SECTION A-A

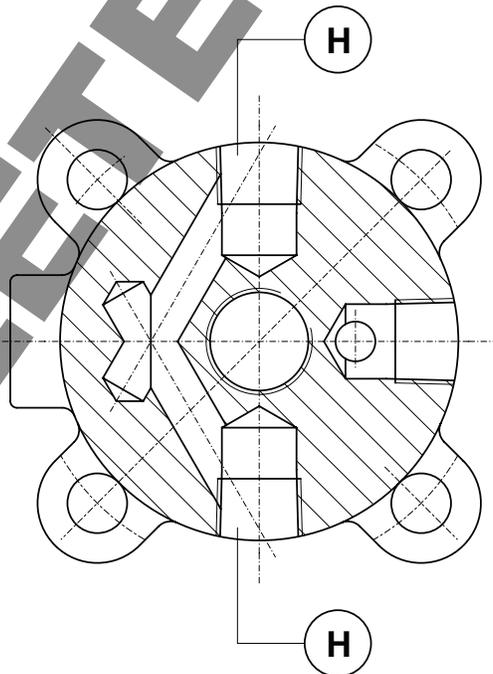
Figure 2. PRX/120 and PRX/125 Series Pilot Assemblies

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H - WATER INLET/OUTLET
M - UPSTREAM OF THE REGULATOR
R - TO THE FEEDING OF THE PILOT
V - DOWNSTREAM OF THE REGULATOR

LM/1162



SECTION A-A

Figure 3. Type SA/2 Assembly

Type SA/2 Pilot Supply Filter Regulator (Figure 3)

Key	Description	Part Number	Key	Description	Part Number
	Parts Kits		9	Washer	M5057002X12
	Elastomer Parts Kits (includes keys: 6, 12, 13, 15, and 18)		10	Nut	M5060005X12
	Nitrile (NBR)	GD89995X012	11	Filter Cover	M0174411X12
	Fluorocarbon (FKM)	GD89995X022	12*	Felt	See Parts Kits
1	Spring	M0192560X12	13*	O-ring	See Parts Kits
2	Socket Head Cap Screw	M5058003X12	14	Spring	M0105970X12
3	Washer	M0248490X12	15*	Pad Holder Unit	See Parts Kits
4	Plate	M0174470X12	16	Nameplate	M0300470X12
5	Regulator Seat	M0200830X12	17	Screw Unit	M0200790X12
6*	O-ring	See Parts Kits	18*	Diaphragm	See Parts Kits
7	Body	M0297920X12	19	Regulator Cover	M0239890X12
8	Filter Net	M0102200X12	20	Spring Washer	M5001003X12
			21	Nut	M5006012X12

*Recommended Spare Part

OBSOLETE DOCUMENT

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Industrial Regulators

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