

**⚠ WARNING**

To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

**Introduction**

Follow these instructions when installing, operating, or servicing the product.

**Application Limits**

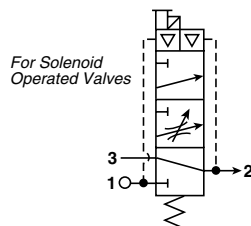
These products are intended for use in general-purpose compressed air systems only.

<b>Operating Pressure:</b>	kPa	PSIG	bar
Maximum Inlet Pressure	1035	150	4.0
Minimum Inlet Pressure	210	30	2.0

**Ambient Temperature Range:** 4°C to 54°C (40°F to 130°F)

**Voltage Range:** Rated Voltage +10%, -15%

**ANSI Symbol**



**Installation**

The Soft Start valve replaces an ordinary main valve; therefore, it is usually mounted between the air preparation unit and the system. The Soft Start valve is specifically designed to mount directly in line with the 06 / 07 Series PREP-AIR II Modular Air Preparation Units using modular body connectors.

06 or 07 valves should be installed with reasonable accessibility for service whenever possible. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe — never into the female port. Do not use PTFE tape to seal pipe joints — pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. Care should be taken to avoid undue strain on the valve.

Air applied to the valve must be filtered with a 40 micron filter to realize maximum component life.

**Factory Pre-Lubrication** - 06S valves are pre-lubricated at assembly with a petroleum based grease which has a PTFE content. 07S valves are pre-lubricated at assembly with a synthetic based grease.

**⚠ CAUTION:** Do not restrict the inlet of valves having an internal pilot supply. Pressure supply piping must be the same size as the inlet port or larger to insure that the pilot valve receives sufficient pressure supply during high flow conditions.

**Function**

The Soft Start valve is a 3-Port valve which supplies air in a controlled reliable manner to pneumatic systems and has the quick exhaust features of a dump valve. This valve replaces conventional main valves.

The Soft Start valve operates much like a standard 3-Way valve. When the valve is installed Port 2 is connected to Port 3 (downstream system is exhausted to atmosphere). When a signal is received at the pilot operator, the connection between Port 2 and 3 is closed. At the same time, supply air from Port 1 is connected to Port 2 through the adjustable throttle, (Adjustment Needle).

**⚠ WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

**EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.**

When the downstream pressure reaches a specific point, the main poppet opens and permits full air flow through the valve. The table shows the relationship between the inlet pressure and the downstream pressure at which the main valve opens.

Inlet Pressure	Downstream Pressure for Full Flow
75 psig	50 psig
100 psig	55 psig
125 psig	60 psig
150 psig	65 psig

When the pilot signal is removed, the valve returns to its initial position and the downstream air is dumped rapidly through Port 3.

**Port Connections**

1. Connect inlet air supply to Port 1.
2. Connect mufflers (or plumb exhaust) from Port 3.
3. Connect cylinder Port 2 to cylinder or other system devices to be supplied air.
4. Signal Connection - Soft Start valves may be remotely controlled electrically.
  - a. For solenoid pilot operated valves, see the instructions under "WIRING INSTRUCTIONS."

**Wiring Instructions**

**⚠ CAUTION: An interruption of 10 milliseconds or greater to the power supplied to the solenoid of a solenoid operated valve may cause the valve to shift. Provision must be made to prevent power interruption of this duration to avoid unintended, potentially hazardous, consequences.**

**NOTE:** In addition to the following instructions, follow all requirements for local and national electrical codes.

Attach an electrical cable with connector (that conforms to the DIN 43650, Form B pattern) to the terminals of the solenoid. Do not attach or remove the connectors until power is off.

**Electrical Connection**

Valves with 3-Pin male terminals should have power connected to the parallel terminals. Ground should be connected to the perpendicular terminal. Use only connectors that comply with DIN 43650, Form B (11 mm blade spacing).

**Override Operation**

The flush non-locking manual override is located on the body of the solenoid pilot. To operate the override, push in on the override until the solenoid pilot actuates. The solenoid pilot will remain actuated until the override is released. When released, the solenoid pilot de-actuates.

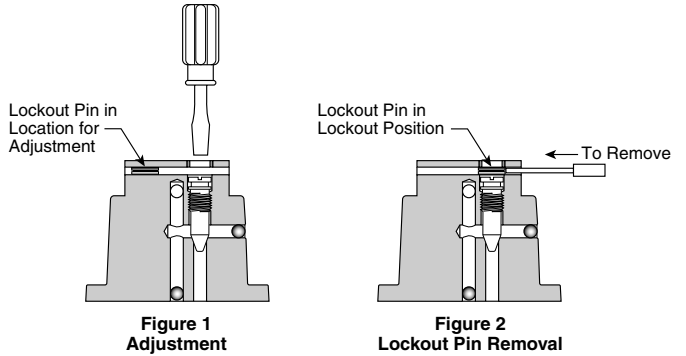
**Adjustment**

The filling speed and pressurization of downstream circuit is accomplished by a Needle Valve located in the Cover (See Figure 1). Adjustment is performed using a standard flat blade screwdriver as indicated in Figure 1. Adjustments can be made by performing start-up test and adjusting the Needle Valve from zero to a maximum of 4 turns open until desired equipment speed is reached.

**⚠ Caution: Do not turn needle valve more than 4 turns out from closed position as it is a pressure circuit and could blow out with force.**

The adjustment of the initial airflow rate into the downstream side of the soft-start valve is done with the Needle Valve. Turning Needle Valve counterclockwise will decrease amount of time to fill downstream circuit. Turning Needle Valve clockwise will increase amount of time to fill downstream circuit.

Once the desired start-up speed of the downstream circuit has been reached, the adjustment area can be blocked off to prevent tampering by inserting the Lockout Pin provided in the package. Any further adjustments will require the removal of the Lockout Pin as shown in Figure 2.



**Solenoid Replacement**

To replace the solenoid, remove the solenoid nut and pull solenoid off and replace with the correct voltage solenoid. Replace solenoid nut and tighten finger tight. See Figure 3.

Voltage	Coil No.
24VDC	2EV103
110VAC	2EV105

**Service**

**⚠ Caution: Disconnect or shut off air supply and exhaust pressure before servicing unit.**

**⚠ Caution: Grease packets are supplied with kits for lubrication of seals. See Factory Pre-lube on Sheet 1. Do not use silicones.**

**Note:** After servicing unit, turn on air supply and check for leaks. If leakage occurs, do not operate – conduct repairs and retest.

**Note:** Items marked with an \* are included in the service kit.

1. Remove the four Screws that retain the Cover and remove Cover. Next remove Plunger with Seals from Body.
2. Remove Bottom Plug by unscrewing it from the Body. Next remove Bottom Spring, Disc Holder Assembly and Gasket.
3. Clean, and carefully inspect parts for wear and / or damage. If replacement is necessary, use parts from service kit.
4. Lubricate O-rings and U-cup with grease (supplied with kit).
5. Install Gasket into Body. Then install Disc Holder, Bottom Spring and Bottom Plug in to Body. See Figure 3 for torque value.
6. Install Plunger with Seals into the Body. Install two O-rings between Body and Cover (make sure air passages are aligned properly), install four Screws and tighten per Figure 3.

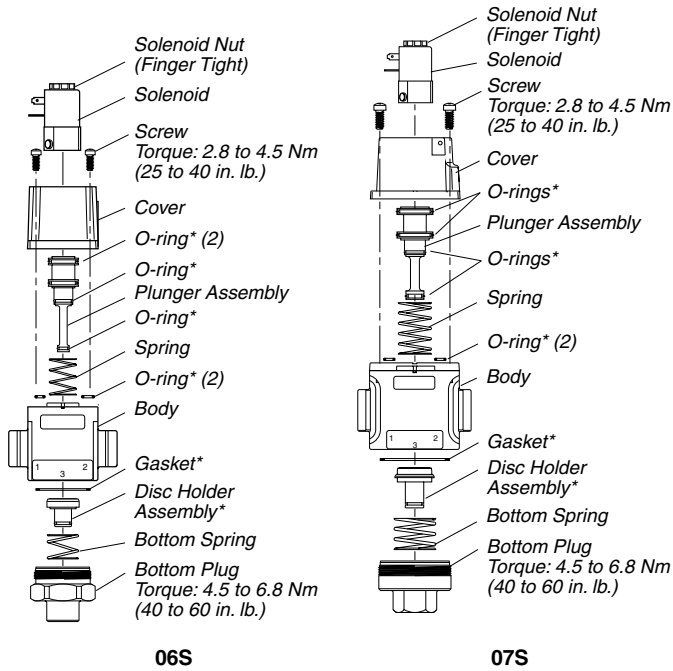
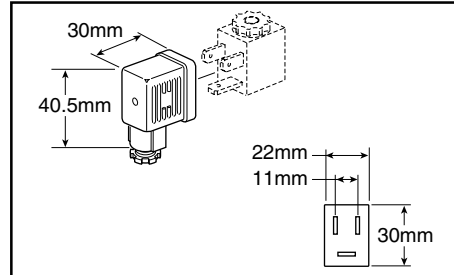


Figure 3

**Accessories**

Kit No.	Description
PS754P	06 Series Modular Body Connectors
PS854P	07 Series Modular Body Connectors
ES50MB	1/2" Exhaust Muffler
ES75MB	3/4" Exhaust Muffler

**22mm Rectangular 3-Pin**



Connector	Connector with 6' (2m) Cord	Description
PS2429P	PS2429JP	Unlighted
PS243079P	PS2430J79P*	Light – 24VDC
PS243083P	PS2430J83P*	Light – 120V/60Hz

**Service Kits Available:**

Description	06P	07P
Service Kit	PHRKSS75	PHRKSS105

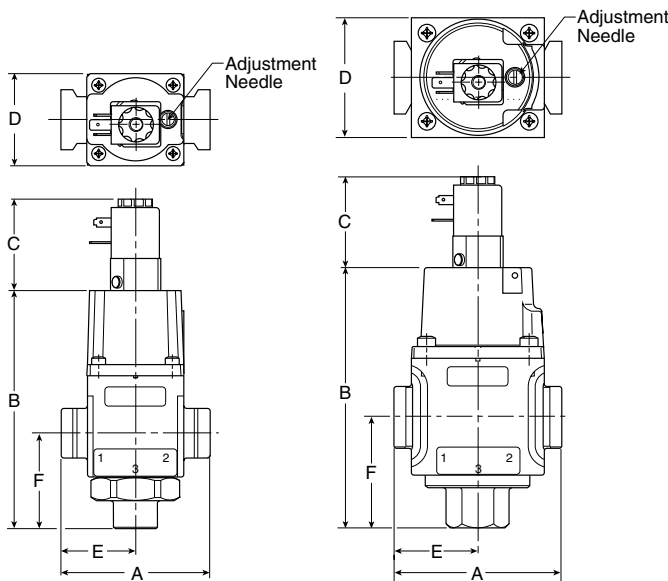
There may be extra parts in the kit.

\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering Data:**

Conductors: 2 Poles Plus Ground; Cable Range (Connector Only): 6 to 8mm (0.24 to 0.31 Inch); Contact Spacing: 11mm



**Dimensions:**

Model	Port Size	A	B	C	D	E	F
06S	3/8"	3.36 85 mm	5.40 137 mm	2.07 53 mm	2.08 53 mm	1.68 43 mm	2.17 55 mm
07S	1/2"	3.81 96 mm	5.96 151 mm	2.07 53 mm	2.74 70 mm	1.91 48 mm	2.54 65 mm