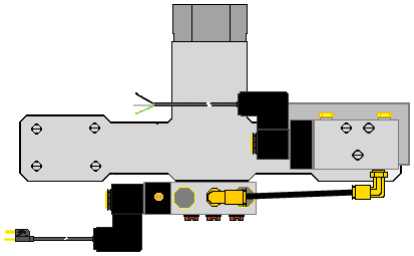
Air-Pak Low Flow Kit
Installation & Service Procedures

Regeneration Flow Cut-Off Kit

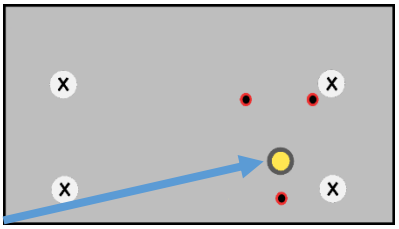
QTY	Kit includes:
1	Aluminum adapter plate
1	Four-way valve w/three (3) 90°fittings
1	Solenoid with 6" wire lead
1	¼" nylon tubing
3	8 - 32 Round head machine screws
4	10 - 32 Philips machine screws
3	O-rings (small)
2	O-rings (large)



⚠ **Relieve all air pressure from air dryer assembly before performing this procedure**

Step 1 – Preparing Manifold

- Disconnect air line from outlet port of air dryer
- Disconnect two (2) ¼" air lines from air control valve located on back of control valve
- Remove four (4) bolts fastening manifold on right side
- Place aluminum plate as illustrated and position over four holes in manifold
  Position pilot hole (Yellow) must be at bottom as shown
- Temporally secure plate to manifold using four (4) Philips screws
- Place a center punch through pilot hole and mark manifold casting



- Remove four (4) bolts fastening manifold on left side, remove (4) Philips screws, aluminum plate and remove manifold assembly from dryer
- Discard (2) large O-rings then place manifold assembly on clean work area
  Note: Clean and inspect regeneration valves and place back into valve cavities
- Remove thumb screw and MLT from air control valve
- Remove (3) screws holding four-way valve and place screws/valve aside for later installation
- Drill 3/16" hole through center punch marked in manifold
- Clean all debris left after drilling operation from manifold

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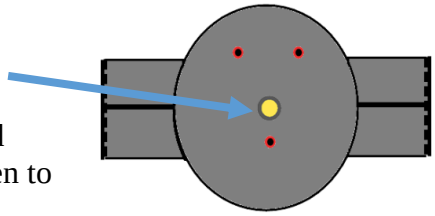
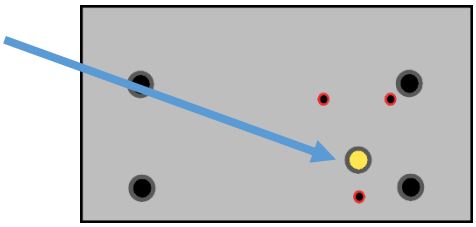
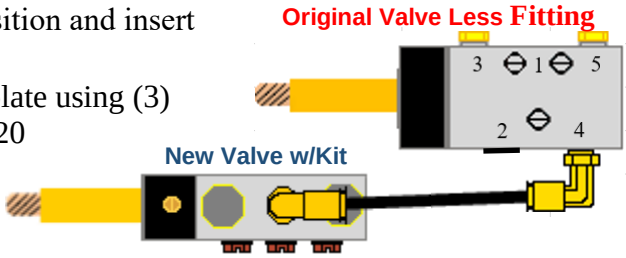
Step 2 – Installing Low Flow Components



- Lubricate (1) one small O-ring and insert into new groove of manifold.
- Position new (4) four-way valve onto bottom of manifold and secure with (3) 10 - 32 round head machine screws and tighten to 15-20 in lb.
- Install new small O-ring into grove on back side of aluminum plate (4 holes not countersunk).
- Install and lubricate (2) two new large O-rings onto shoulders of manifold.
- Reinstall manifold into dryer adapter castings.
- Install and hand tighten (4) bolts into left side.
- Place aluminum plate on right side of manifold positioning pilot hole over drilled hole and secure with (4) four Philips screws. Tighten all four bolts and machine screws to 45-65 in. lbs. torque.
- Reinstall air line outlet port of dryer.



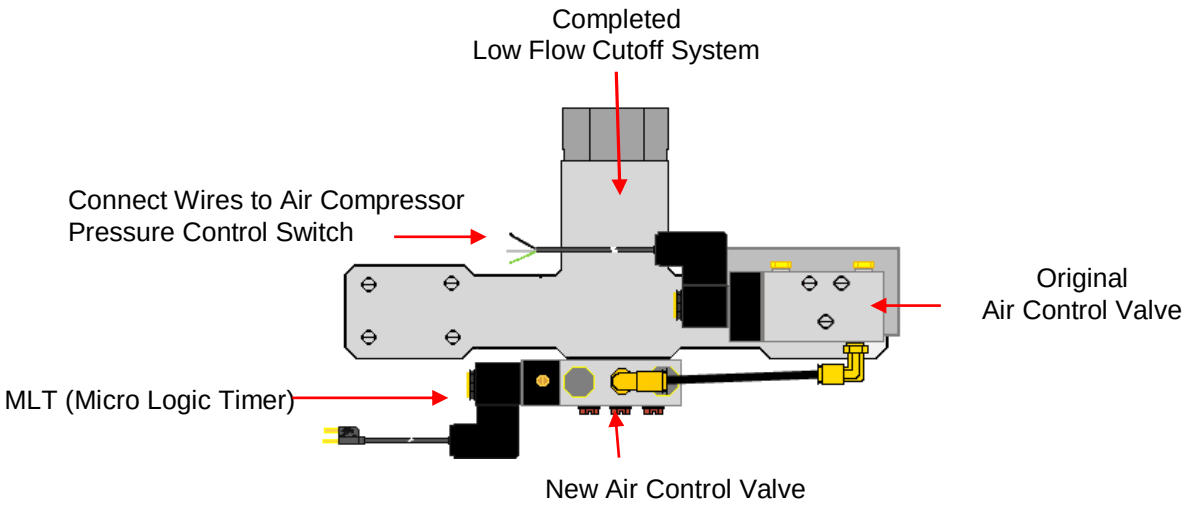
Step 3 – Preparing Original Four-Way Valve



- Remove one (1) 90° brass fitting from "2" position and insert ⅛" pipe plug.
- Install original four-way valve on aluminum plate using (3) screws removed previously and tighten to 15-20 in lb.
- Connect ¼"air line (cut to fit) supplied from original valve to new four-way valve
- Reconnect two (2) ¼" air lines from dryer previously disconnected to back side of new air control valve (not illustrated)

Step 4 - Electrical

- Re-connect original MLT onto new valve, secure with thumb screw and connect to 110 - 120 Volt AC surge protected outlet
- Install new solenoid with 6" lead onto original four-way valve, secure with thumb screw.
- Connect power (3) three leads to proper power source controlling compressor motors' low pressure "On" and high pressure "Off" cycles

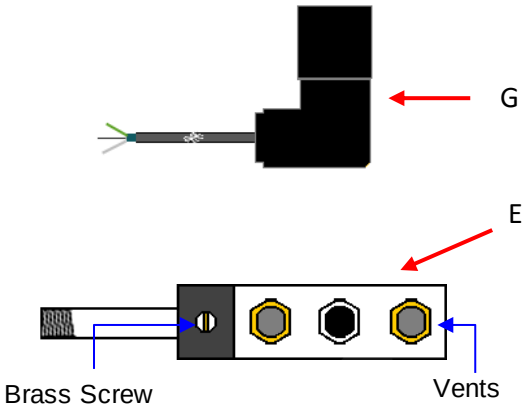


Troubleshooting Regeneration Cutoff Solenoid (RCS)

Regeneration Cutoff Solenoid (RCS) manages regeneration purge cut off by energizing and de-energizing the air control valve in unison with compressor's pressure control switch. When air compressor electric motor runs (pumping), the RCS allows pilot air to flow to air control valve located under manifold. During compressor "on" time, the air dryer pneumatically cycles every two minutes with Micro Logic Timer (MLT).

When air compressor reaches cut off pressure, electrical power to RCS is shut off, which allows air control valve to switch, blocking off pilot signal to air control valve located under manifold. The MLT continues to cycle electrically, however, with pilot air blocked from air control valve, dryer no longer cycles pneumatically thereby eliminating purge flow during compressor "off" or non-pumping cycle.

When an AIR-PAK dryer cycles, there is a momentary burst of air from one AIR-PAK exhaust port (muffler). This is normal and will occur each time dryer cycles. Four cartridge MLT systems will have two cartridges regenerating one from each dryer unit, e.g., cartridges 1, 3 charge cycle, cartridges 2, 4 regeneration cycle

<table>
<tr><th colspan="3">RCS (Regeneration Cutoff Solenoid)</th></tr>
<tr><td>Possible Cause</td><td colspan="2">Remedy</td></tr>
<tr><td>Regen air does not stop when compressor pump is off</td><td colspan="2">Check ekectrical connection on compressor pressure switch</td></tr>
<tr><td>Cracked or broken pilot signal hose #1 to air control #2</td><td colspan="2">Replace ¼" hose</td></tr>
<tr><td>Plug vents</td><td colspan="2">Remove vents, clean and reinstall</td></tr>
<tr><td>Defective coil and/or air control valve</td><td>RCS and Air Control valve test procedures</td><td></td></tr>
<tr><td rowspan="3"> 
</td><td rowspan="3">Step 1: Disconnect coil from air compressor pressure control switch.

Step 2: <u>With compressor pumping</u> , manually cycle air control valve by turning brass screw in air control valve to 2 o'clock (1/4 turn right) and back to 12 o'clock position. If regen stops flowing, replace coil assembly "G". If regen does not stop flowing, proceed next step

Step 3: Replace air control valve "E", reinstall RCS onto air contol vlave and reconnect electrical connections to pressure control switch. Note: make sure brass screw is in 12 - 6 o'clock position for normal operation</td><td>G</td></tr>
<tr><td></td></tr>
<tr><td>E</td></tr>
<tr><td>Dryer does not cycle every two minutes when compressor is on</td><td colspan="2">Refer to Micro Logic Timer (MLT) section: Dryer will not cycle (switch) every two minutes w/Micro Logic Timer on pg. 15</td></tr>
</table>

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