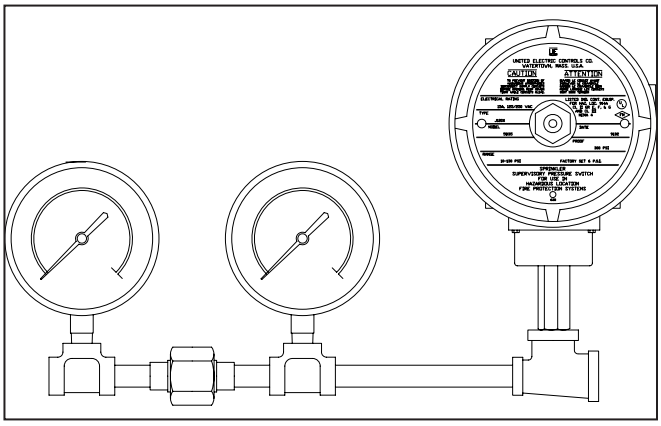
TECHNICAL DATA

RELEASE LINE AIR SUPPLY ASSEMBLY
(EXPLOSION-PROOF/WATERTIGHT)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

The Viking Explosion-Proof/Watertight Release Line Air Supply Assembly is for use in areas exposed to weather or explosive atmospheres. The factory assembled unit consists of galvanized pipe and fittings, a restricted orifice with a pressure gauge located on either side, and an explosion-proof/watertight air supervisory switch downstream of the orifice. The restricted orifice limits flow into the release system. This prevents system air or nitrogen from being replaced faster than it can escape from an open detector after it operates. The pressure gauges indicate supply pressure and release system pressure status. The explosion-proof/watertight supervisory switch monitors the release system pressure. When properly wired and energized, a drop in system pressure will cause the switch to send the electrical signal necessary to operate an alarm to indicate a critically low pressure condition in the release system.



Features

- Factory assembled.
- One pressure switch is preset to actuate at 30 psi (2.05 bar) on pressure drop, while a second pressure switch is pre-set to actuate at 50 psi (3.42 bar) with pressure increase.
- Switch actuation settings are field adjustable.
- General service model available.

2. LISTINGS AND APPROVALS

Restricted Orifice Plug:
Required component of cULus and FM recognized trim.
Air Pressure Gauges:
cULus Listed and FM Approved
Pressure Supervisory Switch:
(Explosion-Proof/Watertight)
cULus Listed and FM, CSFM, and NYC/MEA Approved.

3. TECHNICAL DATA

Specifications:
Fittings: 1/4” (8 mm) NPT (F) inlet, 1/2” (15 mm) NPT (F) outlet
Restricted Orifice Plug: The standard 0.031” (0.79 mm) orifice (marked “C” on wrench flat) is for use with the Viking Model C-1 or C-2 Thermostatic Release, Model M Fixed-Temperature Release, and Pilot Head release systems.
Air Pressure Gauges:
Range: 0 to 80 psi, retard to 250 psi (air) [0 to 5.5 bar, retard to 17 bar (air)]
3-1/2” (89 mm) diameter dial
Pressure Supervisory Switch: (Explosion-Proof/Watertight)
Maximum System Pressure: 250 psi (17 bar)
Enclosure Classification:
Class I: Groups B, C, D, Div. 1
Class II: Groups E, F, G, Div. 1
Class III: Div. 1
NEMA 4 Rated Enclosure
Electrical Connection: 1/2” (15 mm) NPT male brass fitting
Adjustable Pressure Range: 10 to 175 psi (.7 to 12 bar)
Maximum Differential: Approx. 2 lbs. at 20 psi (1.38 bar); 5 lbs. at 175 psi (12 bar)
Switches: Two field adjustable (SPDT), snap-action. Switches can be wired for normally open or normally closed circuit.
Switch Contacts:
Two sets of SPDT (Form C)
15.0 Amps at 125/250 VAC
2.5 Amps at 0 - 30 VDC

Viking Technical Data may be found on The Viking Corporation’s Web site at http://www.vikingcorp.com.
The Web site may include a more recent edition of this Technical Data Page.

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Materials:
Fittings: Galvanized Steel
Restricted Orifice Plug: Union type with monel mesh screen on each side of orifice
Air Pressure Gauges: Case: Polished Brass; Threaded Polycarbonate Window
Enclosure: Cast Aluminum
Ordering Information:
Part Number: 01286A
Available SInce 1992.

4. INSTALLATION
1. Locate the Release Line Air Supply Assembly in a visible location.
2. Install the Release Line Air Supply Assembly as the last item before the Pneumatic Actuator in the pipe supplying air or nitrogen to the pneumatic release system.
3. Remove the plastic thread protectors. Connect the 1/4" (8 mm) inlet to the air supply and the 1/2" (15 mm) outlet to the release system piping.
4. CAUTION: De-energize all electrical supply circuits before wiring the unit. Connect the electrical conduit to the opening provided in the switch.
5. Connect alarm circuitry (see Figure 3).
6. Note: Wire devices to national and local codes and to the requirements of the Authority Having Jurisdiction.
7. Energize alarm circuitry. Alternately raise and lower release system pressure to verify proper operation of switch. Note: For adjustment and test procedure, see "Maintenance" section.
8. Perform steps 8 and 9 in "Maintenance - Annual Inspection".
9. Regulation of the air supply is recommended to maintain release system pressure at a constant level.

5. OPERATION
The Release Line Air Supply Assembly limits the rate at which air or nitrogen may enter the release system. One gauge indicates the supply pressure entering the restricted orifice; the other indicates the pressure in the release system piping. When the supervisory switch is properly wired for normally closed operation, a drop in pressure in the release system piping, below the setting of the supervisory switch, will cause the electrical contacts to change position, thus sending an electrical signal to sound an alarm (if provided). This indicates a critically low pressure condition in the release system.

6. INSPECTIONS, TESTS AND MAINTENANCE
WARNING: Any system maintenance that involves placing a control valve or detection system out of service may eliminate the fire protection capabilities of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected areas.

A. WEEKLY INSPECTION
1. Check air-pressure gauge readings. Both gauges should read the same pressure. If they differ, perform annual inspection.

B. ANNUAL INSPECTION
1. Establish a fire patrol in the area.
2. Close the main control valve, placing the system out of service.
3. Shut off air or nitrogen supply to the Release Line Air Supply Assembly.
4. Trip the release system to relieve pressure in Release Line Air Supply Assembly. Note the point at which a signal appears. [Factory setting: 30 psi (2.05 bar)].
5. Separate the restricted orifice union assembly. Remove and inspect the screened orifice restriction.
6. If necessary, clean the restricted orifice by flushing in soap and water. Rinse and dry the restricted orifice assembly completely.
7. Re-install restricted orifice assembly.
8. Reset the pneumatic release system, pressurizing the Release Line Air Supply Assembly. When air pressure stops flowing, pressure gauges should read the same. The low-air pressure alarm signal should end when the system pressure reaches the set point of the switch.
9. Open the main control valve. Place system in service. Follow procedures in technical data for system used.

C. PRESSURE SWITCH ADJUSTMENT (Refer to Figure 4.)
Consult the appropriate technical data for pressure required to be maintained in the system used. The Air Supervisory Switch unit has two switches (one actuates at a 10 psi (.7 bar) decrease from normal, while the other actuates at a 10 psi increase from normal. The operating point of the switches can be adjusted to any point between 10 and 175 psi (.7 and 12 bar). The unit is factory set for the low-pressure switch to actuate when pressure decreases to 30 psi (2.05 bar). The two switches operate com-

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pletely independently of one another, and each switch may be adjusted to actuate at any point the system requires. If adjustment of the Air Supervisory Switch operating point is necessary:

1. **WARNING:** De-energize electrical circuitry to reduce the risk of ignition of hazardous atmospheres before opening the switch cover.
2. Loosen the tamper-resistant fasteners from the switch cover with the two cover access keys supplied and remove the switch cover.
3. Remove the screw from cover sleeve and raise the cover sleeve for access to the pressure adjustment knobs.
4. To adjust the low-pressure trip point, turn the low-pressure adjustment knob clockwise to raise the actuation pressure setting, or counter-clockwise to lower the actuation point. Final adjustment should be made with a pressure gauge.
5. Replace the cover sleeve and the screw.
6. Replace the switch cover and tamper-resistant fasteners. Cover screws must be torqued to a minimum of 20 in. lbs.
7. Perform steps 7, 8, and 9 in section 4. Installation.

7. AVAILABILITY AND SERVICE

The Viking Release Line Air Assemblies are available through a network of Domestic, Canadian, and International Distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

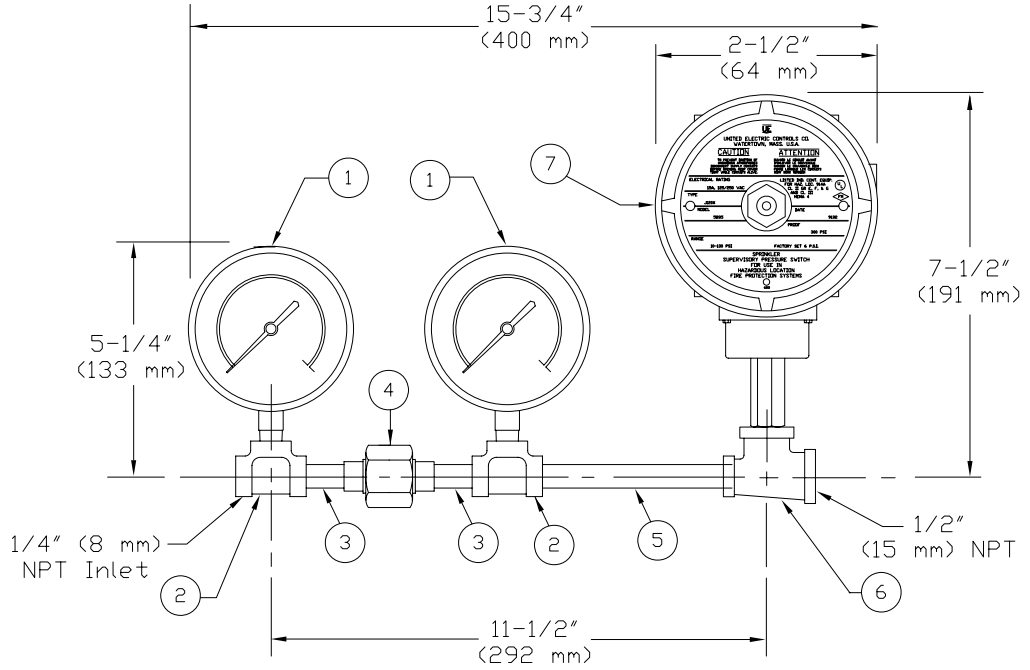

Figure 1: Replacement Parts

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. REQ'D
1	01124A	Air Gauge	2
2	--	Tee, 1/4" (6.3 mm), Galvanized	2
3	--	Nipple, 1/4" x 1-1/2", Galvanized	2
4	02902B	Restriction Assembly, 0.031" (0.79 mm)	1
5	--	Nipple, 1/4" x 5", Galvanized	1
6	--	Tee, 1/2" x 1/4" x 1/2", Galvanized	1
7	10380	Explosion-Proof Pressure Supervisory Switch	1
8	10600	Cover Access Hex Key (included, not shown)	2

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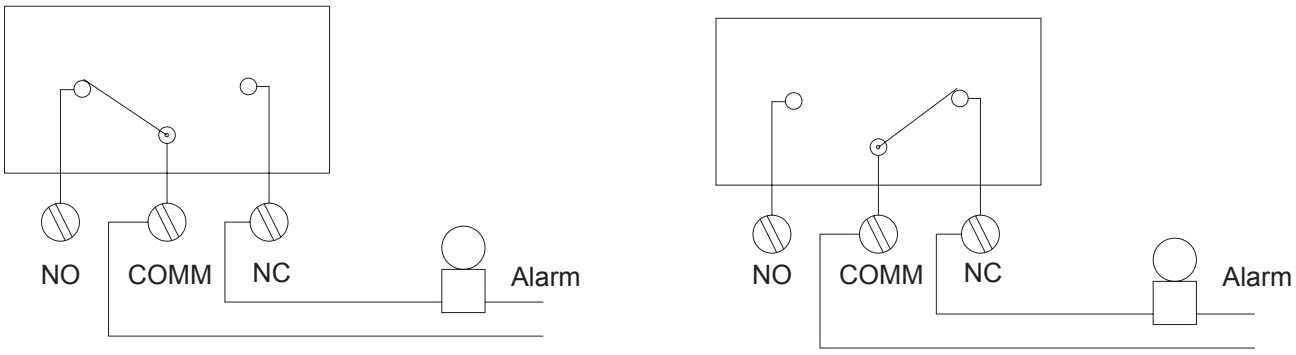
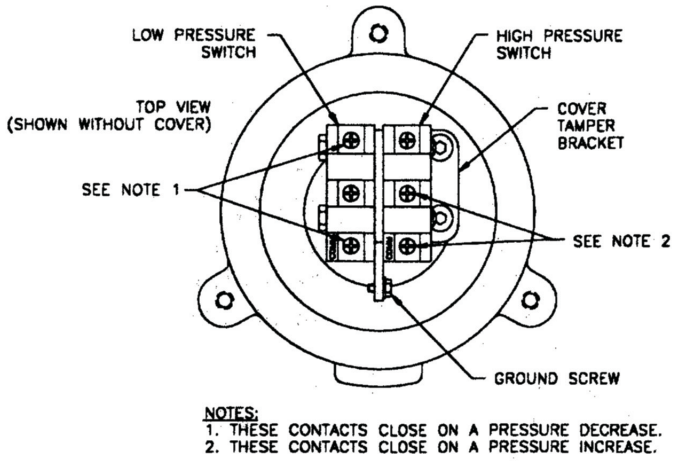
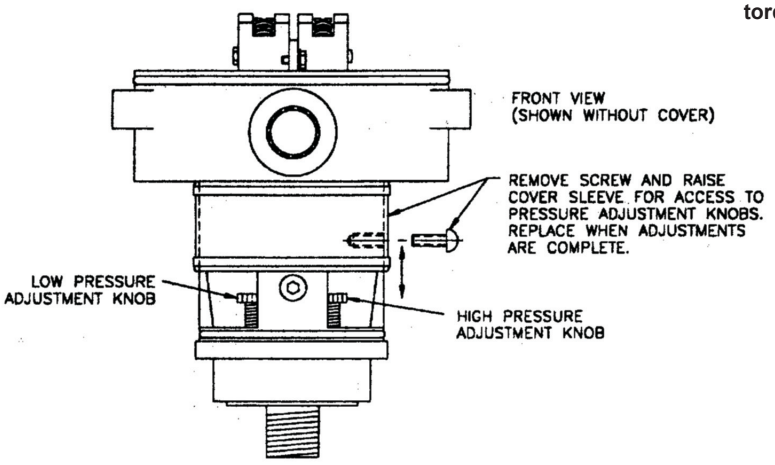


1. System Pressurized
When properly wired and energized through the "normally closed" circuit, and the system is pressurized with "normal" pressure, contacts remain open--no alarm is sent.

2. Loss of System Pressure
When properly wired and energized through the "normally closed" circuit, and system pressure drops below the set point of the switch, contacts close--alarm is sent.

Figure 2: Wiring Diagrams





CAUTION:
When this device is to be installed in an area that is classified as "hazardous", the person responsible for safety in the area should be contacted to determine if the tools and operations required for the installation of the device and associated components are permitted in the area.

To reduce the risk of ignition of hazardous atmospheres, disconnect supply circuits before opening cover. Keep cover tight while circuits are live. Cover screws must be torqued to a minimum of 20 in. lbs.

Figure 3: Switch Adjustment