

Reliable®

- Model B and Model C Air Compressor Panels
- Model C Pressure Maintenance Device

Supervisory Pressure Maintenance Equipment General

Reliable supervisory pressure maintenance devices provide low pressure air or nitrogen gas to the sprinkler piping of single interlock preaction systems. Leakage caused by damage to the piping or sprinklers will cause the supervisory pressure to drop, thereby activating an annunciating device.

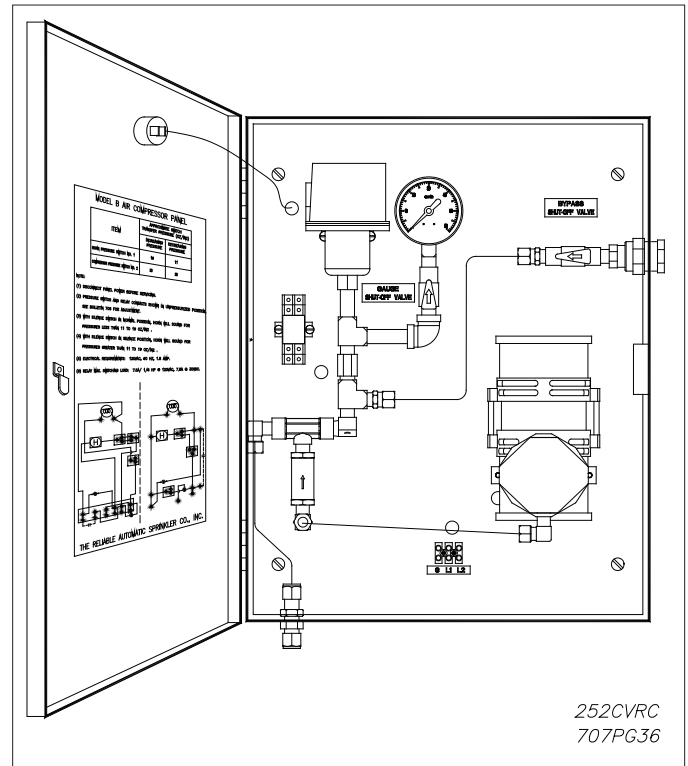
Model B and Model C Air Compressor Panels

Reliable air compressor panels provide self-contained supervisory air supplies for single interlock preaction systems. Each panel includes a separate assembly (not shown) consisting of a check valve, copper tubing and a tubing connector. This ¼" NPT check valve must be installed at the sprinkler piping and above the riser check valve priming water elevation where required. The Reliable Model G Right-Check™ Riser Valve, which does not require priming water, has a convenient ½" NPT port that may be used for this connection (Ref. Figure 5). The copper tubing connects the ¼" NPT check valve to the panel air outlet.

The Model B or Model C Air Compressor Panel is designed with keyhole slots for ease of wall mounting and provides approximately 30 oz/in² (0,12 bar) air pressure. A low pressure signal will activate for pressures less than approximately 11 oz/in² (0,05 bar). A relay provides dry contacts for remote signaling of low air pressure and/or loss of 120 VAC (Model B) or 220 VAC (Model C) power. A quick-fill bypass connection (" pipe) outside the enclosure was added to reduce setup time after installation. 120/220 VAC supply power connections are terminals L1 and L2 on each panel (10 AWG max. wire size).

The Model B is UL Listed; FM and NYC Approved (MEA 258-93-E).

Caution: The pressure gauge shut-off valve must be closed before operation of quick-fill bypass. The by-pass pressure must not exceed 25 psi static.



Model B Air Compressor Panel
(Model C is similar)

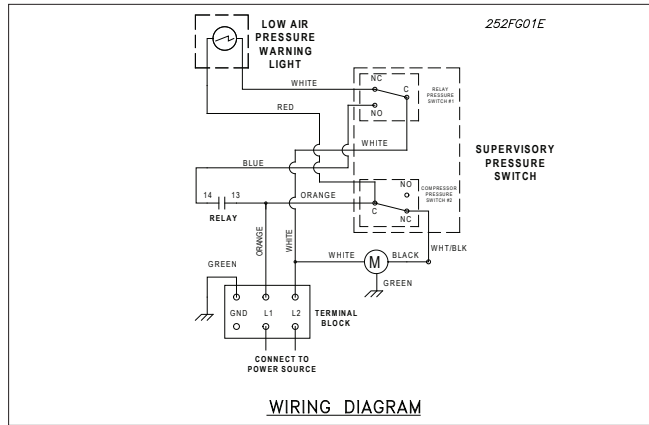


Figure 1 – Air Compressor Panel Wiring Diagram

Model B Air Compressor Panel (P/N 6702010002)
 Model C Air Compressor Panel (P/N 6702020002)

Panel Dim. W x H x D	Mounting Dim. W x H	Shipping Weight	Approvals Model B Only
16" x 20" x 6" (406mm x 508mm x 152mm)	14 1/4" x 18 1/4" ø 1/4" Holes (4) (362mm x 464mm)	27lbs. (12.2 kg.)	UL Listed FM Approved NYC MEA 258-93-E

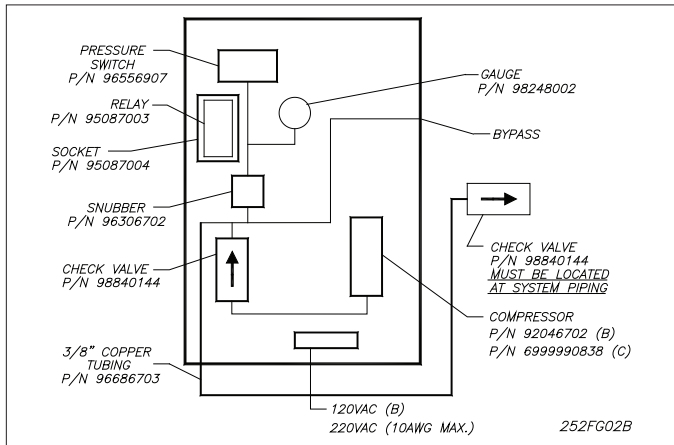


Figure 2 - Air Compressor Panel Schematic

Electrical Requirements

Compressor: 1.5 A, 120 VAC, 60 Hz. (B)
 0.75 A, 220 VAC, 50 Hz. (C)
 Relay - max. switching load: 7.5 A 1/6 HP at 120 VAC
 7.0 A 1/3 HP at 240 VAC
 7.5 A at 30 VDC

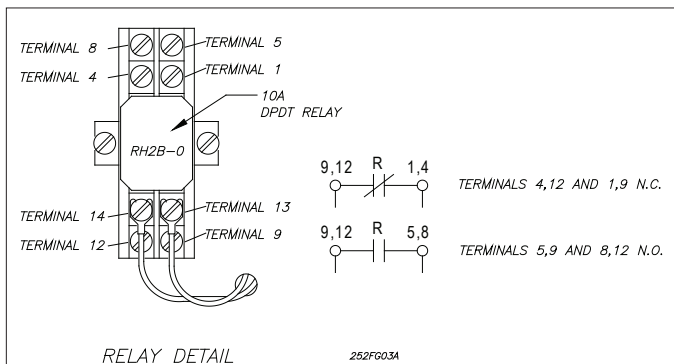


Figure 3. Relay Detail

System Operation

1. Disconnect the panel power before servicing.
2. The pressure switch and relay contacts are shown in unpressurized position.
3. The relay will transfer for pressures less than 11 oz/in².
4. The relay will transfer for pressures greater than 19 oz/in².
5. Adjustments to the low pressure switch may be made using a 1/4" open-end wrench. To adjust the compressor setting, turn the "high set" hex screw counterclockwise to lower the set point, or clockwise to raise the set point. To adjust the low pressure setting, turn the "low set" hex screw counterclockwise to lower the set point, or clockwise to raise the set point. These adjustments affect the high-end valves for both the compressor and the low pressure settling as shown in Table 1. The lower valves automatically follow the high-end valve adjustments.
6. Small capacity compressor (0.52cm ambient pressure) requires long initial fill time. Use quick-fill bypass for shorter fill time.
7. Special wrench P/N 6917000000 for pressure switch cover screws is located on top of the switch.

Table 1

Factory Settings	Approximate Switch Transfer Pressure oz/in ² (bar)	
	Increasing Pressure	Decreasing Pressure
Low Pressure Switch No. 1	19 (0,08)	11 (0,05)
Compressor Pressure Switch No. 2	33 (0,14)	25 (0,11)

Note: 1 bar=100 kPa

Maintenance

The following table provides a simplified trouble shooting guide which indicates the corrective maintenance for the more common problems which may occur.

Symptom	Probable Cause	Correction
Pressure too low 1. Compressor runs continuously.	Leak	Isolate system from compressor panel and test as follows: 1. Remove 3/8" tubing from 1/4" check valve at system riser and cap with finger to seal tubing. 2. Run compressor until gauge indicates pressure. 3. With compressor off, relieve pressure to bring gauge into readable range, then re-seal. 4. Steady gauge indicates no leak at panel; therefore, leak is in system. 5. Dropping gauge indicates leak at panel. Repair or replace leaking component.
2. Compressor doesn't run.	No power at panel.	Provide power panel.
	Pressure switch out of adjustment.	Adjustment as follows: 1. Remove cover, using special wrench taped to pressure switch. 2. Adjust hex screw at center using 1/4" open end wrench. 3. Raise set point by turning wrench clockwise. 4. Lower set point by turning wrench counterclockwise. 5. Adjust switch to turn compressor on at 25 ± 1 oz/in ² on decreasing pressure.
B. Compressor cycles excessively.	Leak upstream of 1/4" valve at system riser.	Repair, see A.1 above.
C. Low pressure warning lights before compressor starts as pressure decreases (low pressure warning lights).	Pressure switch out of adjustment.	Adjust as follows: 1. Remove cover, using special wrench taped to pressure switch. 2. Adjust hex screw at left, using 1/4" open end wrench. 3. Raise set point by turning wrench clockwise. 4. Lower set point by turning wrench counterclockwise. 5. Adjust switch to turn low pressure warning light on at 11 ± 1 oz/in ² on decreasing pressure.

Model C Pressure Maintenance Device

The Model C Pressure Maintenance Device (Figure 4) is a supervisory supply for use in a single interlock preaction system where a clean, dependable and continuous air or dry nitrogen source is available. The 1/4" NPT check valve is to be installed near the sprinkler piping with its flow arrow pointing towards the sprinkler piping. The Reliable Model G Right-Check™ Riser valve has a convenient 1/2" NPT port that may be used for this connection (Figure 5). The Model C Pressure Maintenance Device reduces the supply pressure from 40 psi -to- 100 psi (2,8 bar -to- 6,9 bar) to approximately 30 oz/in² (0,12 bar) outlet pressure. A separate annunciating device (not included) must be connected to the low pressure switch. This switch is factory set to transfer contacts when the supervisory pressure falls below approximately 11 oz/in² (0,05 bar).

A bypass quick fill allows larger systems to be filled by a larger air compressor (mobile) through the 1/2" NPT connector. To operate the bypass function, simply turn off the 1/4" shut-off valve (outlet) and open the bypass shut-off valve. When the system pressure has been satisfied, close the bypass shut-off valve and open the 1/4" shut-off valve (outlet).

Dimensions W x H x D	Shipping Weight	Approvals
26" x 15" x 6" (660mm x 381mm x 152mm)	9 lbs. (4.1 kg.)	UL Listed FM Approved NYC BS&A 587-75-SA

Model	Part No.	Description	Low Pressure Alarm Switch (Elect. Rating)
C	6704030020	Supervisory Pressure - Owners Air or Nitrogen Gas	Single Pole, Double Throw, 15 Amp. 125/250 Vac 10 Amp, 12 Vdc 0.50 Amp. 125 Vdc

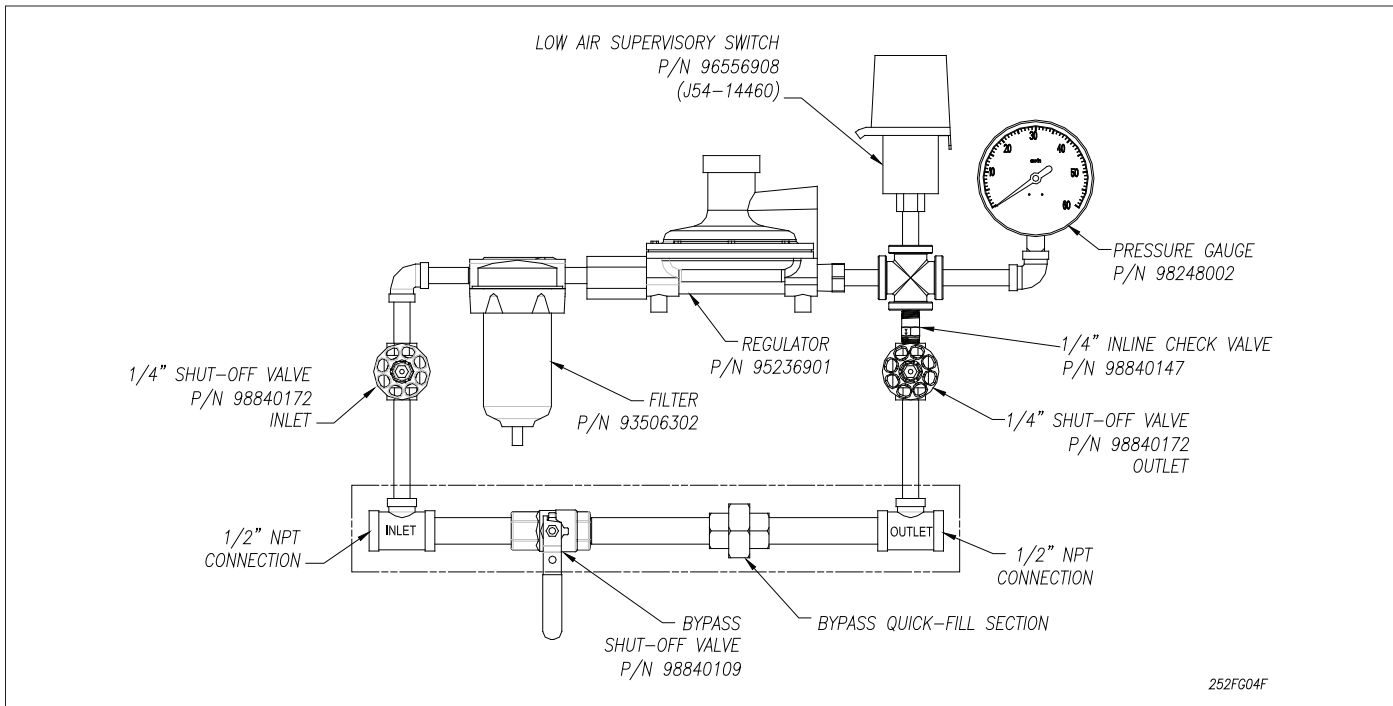


Figure 4 - Model C Pressure Maintenance Device

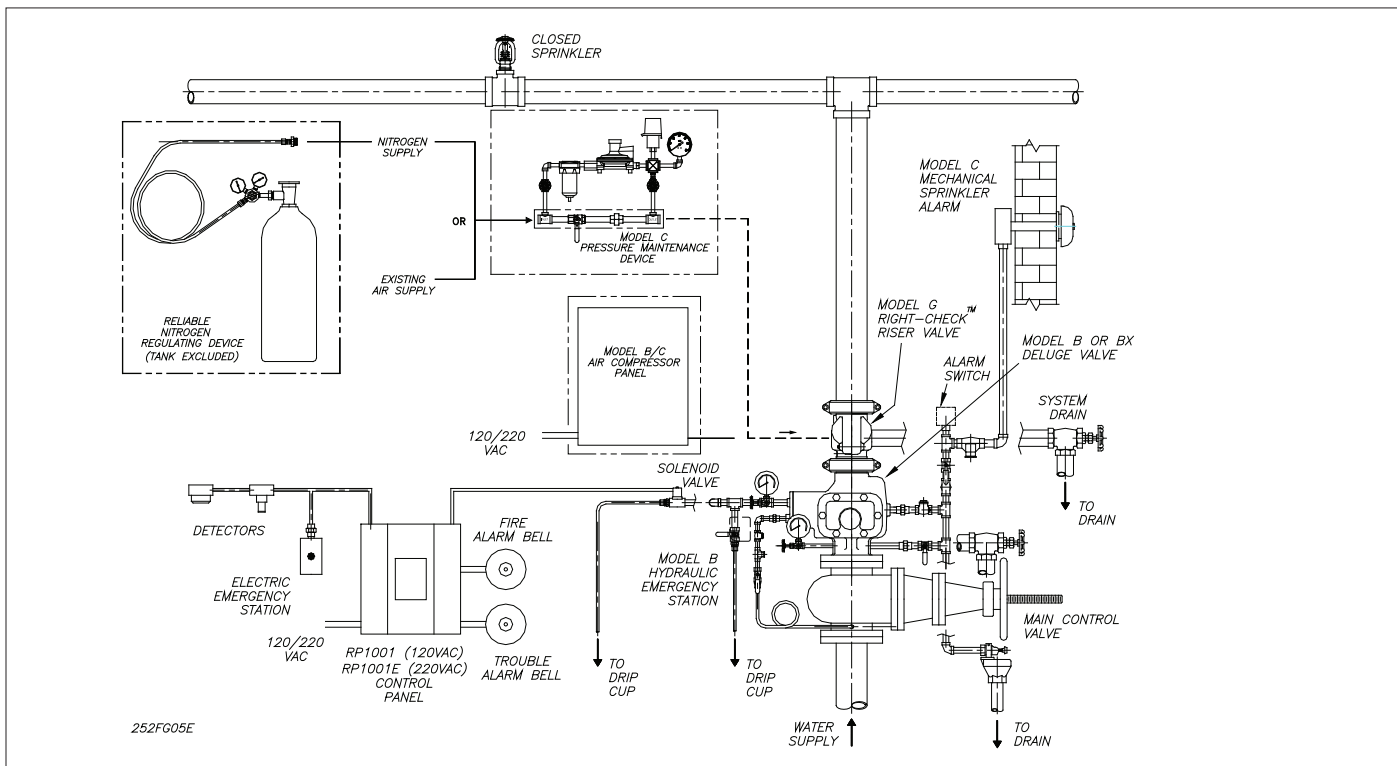


Figure 5—Single Interlock Preaction System

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

Manufactured by



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EG. Printed in U.S.A 08/10 P/N 9999970120