



TECHNICAL DATA

MAINTENANCE AIR COMPRESSOR MODEL F-1

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 Model F-1 Maintenance Air Compressor is an electric motor-driven, air-cooled, single-stage, oil-less compressor. The unit is equipped with a check valve and provides a regulated (by pressure switch setting) and restricted [60 Cycle - 2.1 SCFM at 0 PSI gauge to 1.5 SCFM at 50 PSI gauge) or (50 Cycle - 1.6 SCFM at 0 PSI gauge to 1.2 at 50 PSI (3.5 bar) gauge] air supply. A pressure relief valve is factory installed to prevent pressurizing the system piping above 65 PSI (4.5 bar). The Model F-1 is for use when system pressures are required to be over 20 PSI (1.0 bar).

The Viking Model F-1 Maintenance Air Compressor may be used to automatically maintain air pressure in a dry system after the system has been filled from a non-continuous air supply. It may be used as a basic air supply for dry systems of 150 gallons capacity or smaller.

1-A FEATURES

- A. Carbon steel mounting bracket with stainless steel adjustable straps. One size bracket fits pipe sizes of 2"-10".
- B. Adjustable pressure switch.
- C. Check valve factory installed at the compressor outlet.
- D. A pressure relief valve is factory installed at the compressor outlet to prevent pressurizing the system piping above 65 PSI (4.5 bar).



2. LISTINGS AND APPROVALS

 **cULus Listed:** Classes VDUR and VDUR7 - Part No. 11497 only

 **FM Approved:** Class 1032 - Part Nos. 11497, 11498, 12629 and 12630

3. TECHNICAL DATA

Specifications:

Part No. 11497: 115V single phase, 60 Cycle AC - Service Factor Amperage: 6.4, Factory Wired 115 V

Part No. 11498: 220V single phase, 50 Cycle AC - Service Factor Amperage: 2.6, Factory Wired 220 V

Part No. 12629: 230V single phase, 60 Cycle AC - Service Factor Amperage: 3.5, Factory Wired 230 V

Part No. 12630: 110V single phase, 50 Cycle AC - Service Factor Amperage: 5.2, Factory Wired 110 V

Pressure Range: 20-60 PSI (1.4 to 4.5 bar)

Pressure Differential: 10-20 PSI (1.0 to 1.4 bar)

Motor Compressor Unit:

- 1/4 Horsepower, direct drive
- Permanently lubricated bearings
- Self-lubricating pistons
- Stainless Steel valves
- Automatically resetting thermal protection
- 60 cycle compressor produces 1.5 SCFM at 50 PSI (3.5 bar) continuous operating pressure
- 50 cycle compressor produces 1.2 SCFM at 50 PSI (3.5 bar) continuous operating pressure
- Safety Relief Valve set at 65 PSI (4.5 bar).
- Shipping weight of complete assembly: 30 pounds (13.6 kg).
- Recommended ambient temperature range: 35 °F to 95 °F (2 °C to 35 °C).
- Switch Manufactured by: Condor

CAUTION: COMPRESSOR PRESSURE RELIEF VALVE IS SET TO OPEN AT 65 PSI (4.5 BAR). COMPRESSOR WILL RUN CONTINUOUSLY WHEN THE SWITCH IS SET AT OR ABOVE 65 PSI (4.5 BAR).

CAUTION: CYCLE SWITCH TO DETERMINE ACTUAL SETTING BEFORE PROCEEDING WITH RE-ADJUSTMENT.

- Proof-tested to maintain accuracy and withstand occasional maximum pressure of 250 PSI (17.2 bar), to allow hydrostatic testing after installation.

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



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4. INSTALLATION

This unit is intended for installation indoors for use on dry sprinkler systems in accordance with the Standard for Installation of Sprinkler Systems (NFPA 13) and the National Electrical Code (NFPA 70). The compressor must be installed in an area not exposed to the weather, freezing temperatures, or physical damage.

The air compressor should be sized to restore and maintain the air pressure in the sprinkler system in accordance with the requirements of NFPA 13.

When corrosive atmospheres and/or contaminated water supplies are present, it is the owner's responsibility to verify compatibility with the air maintenance compressor and associated equipment.

The compressor outlet includes a check valve. Output is regulated (by pressure switch setting) and restricted [60 Cycle - 2.1 SCFM at 0 PSI gauge to 1.5 SCFM at 50 PSI (3.5 bar) gauge] or [50 Cycle - 1.6 SCFM at 0 PSI gauge to 1.2 at 50 PSI (3.5 bar) gauge].

For low volume systems, such as pneumatic release lines, it is recommended to install a receiver tank between the compressor and the system being supplied.

The Model F-1 Maintenance Air Compressor may be installed vertically or horizontally. There must be at least 12" (305 mm) of clearance from sidewalls, floors, and ceilings to ensure that the unit will operate correctly. Firmly mount the unit to a stable, rigid surface by bolting it through the slotted holes in the motor mounting base. To "riser" mount the unit, a vertical mounting kit is available. The kit is provided with stainless steel adjustable straps and hardware that make it suitable for mounting to all sizes of pipes (refer to Figure 1).

1. Place the "V" notches of the mounting bracket against the riser.
 - a. Place the mounting straps around the riser, and through the square slots provided in the mounting base.
 - b. Tighten the mounting straps.
2. Mount the compressor unit to the mounting bracket. Tighten all bolts—four mounting bolt sets are provided.
3. Install the air supply piping from the 1/4" (8 mm) NPT outlet tee of the compressor to the dry system piping.
 - a. When connecting to dry systems equipped with a Viking Model E Accelerator and Model B Anti-flood Device, refer to the appropriate Model E Accelerator trim chart. Connect the compressor outlet to the trim as indicated in the trim chart.
 - b. Apply a small amount of pipe-joint compound or tape to the external threads of all pipe connections required. Take care not to allow any compound, tape, or other foreign matter inside any of the nipples or compressor outlet.
4. Connect the electrical supply from an uninterrupted, dedicated circuit. The field wiring for the unit is made inside the pressure regulating switch. The switch is factory preset and sealed to cutout at 50 PSI (3.5 bar). DO NOT ADJUST ABOVE 50 PSI (3.5 bar).
 - a. The compressor motor and pressure switch are factory wired.
 - b. Remove the access cover shown in Figure 2 (screw driver is required).
 - c. Connect wires as shown in Figure 1 wiring diagram.

NOTE: Comply with all national and local codes and requirements of the Authority Having Jurisdiction.
 - d. Reinstall the switch access cover prior to operating the compressor.
 - e. DO NOT exceed the electrical ratings shown on the switch or motor nameplates.
5. Test the compressor pressure switch setting, noting the pressure at which the compressor starts and shuts off. Adjust the pressure switch to the required setting
6. To adjust the set point of the pressure switch:
 - a. De-energize the electrical supply and remove the switch cover (screw driver is required).
 - b. To adjust the set point of the switch, turn the screw as shown in Figure 1. To raise the set point, turn the pressure range adjustment screw clockwise (see Figure 1). To lower the set point, turn the screw counterclockwise.
 - c. Re-install the switch cover. Test the compressor pressure switch setting, noting the pressure at which the compressor starts and shuts off. If necessary, repeat steps 6 a-c.

5. INSPECTIONS, TESTS AND MAINTENANCE

NOTICE: The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC, and VdS, which describe care and maintenance of sprinkler systems. In addition, the "Authority Having Jurisdiction" may have additional maintenance, testing, and inspection requirements that must be followed.

Inspections: It is imperative that the system is inspected and tested on a regular basis. The frequency of the inspections may vary due to contaminated or corrosive water supplies and corrosive atmospheres. In addition, the alarm devices or other connected equipment may require more frequent inspections. Refer to the technical data, system description, applicable codes, and Authority Having Jurisdiction for minimum requirements.



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Maintenance: The compressor motor is equipped with thermal protectors that reset automatically. **WARNING:** Disconnect electrical power before servicing. Thermal protector can automatically start the motor when the device resets.

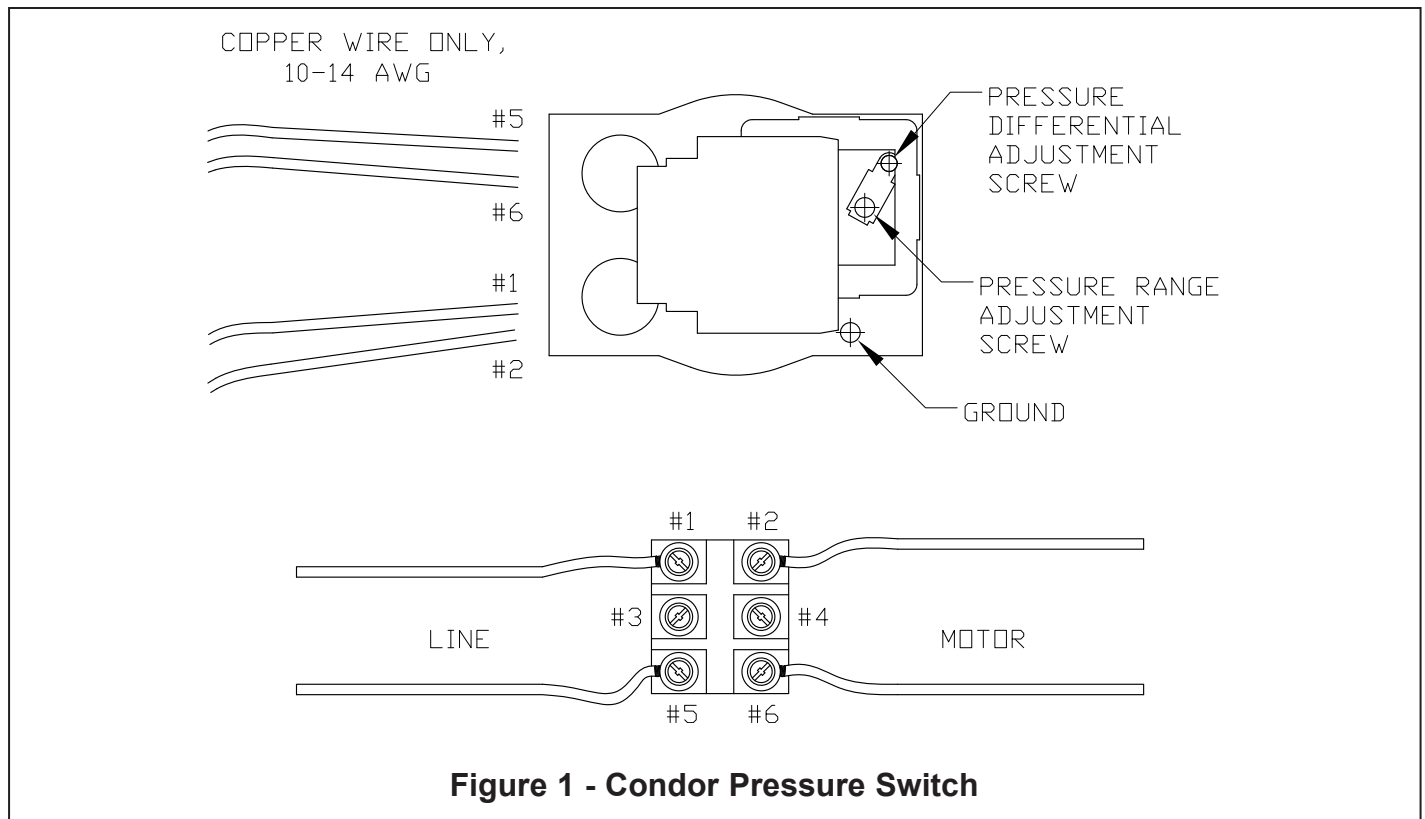
1. The motor compressor unit should be kept dirt-free.
2. The compressor inlet filter should be cleaned or replaced as required.
 - a. To inspect the inlet filter, pull the plastic cap to remove it from the filter case.
 - b. The filter can be removed for inspection. DO NOT clean filter elements with petroleum-based products.
 - c. Re-install the filter and cap. DO NOT operate the compressor without a filter.
3. DO NOT lubricate the compressor or motor. The bearings are permanently lubricated and sealed.

6. AVAILABILITY

The Viking Maintenance Air Compressor is available through a network of domestic and international distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

7. GUARANTEES

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



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