



TECHNICAL DATA

AIR PRESSURE MAINTENANCE DEVICE MODEL D-2

1. DESCRIPTION

The Viking Model D-2 Air Pressure Maintenance Device is a pressure regulator that automatically reduces the supply air pressure to a preset requirement when connected to a constantly maintained air supply. The preassembled device comes standard with all necessary valves, unions, and trim to allow isolation and bypass.

2. LISTINGS AND APPROVALS



New York City Board of Standards and Appeals:
Calendar No. 219-7.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

3. TECHNICAL DATA

Specifications:

- Replaceable air filter.
- Ball check to prevent backflow.
- 1/16" (1.59 mm) to prevent rapid repressurization of a system.
- 1/4" (8 mm) tapped inlet and outlet.
- Minimum Recommended Ambient Temperature: 40 °F (4 °C)

Material Standards: Refer to Figure 2.

Ordering Information:

07459: Model D-2 Air Maintenance Device pre-assembled with valves, unions, and trim.

02280C: Model D-2 Air Maintenance Device (no trim).

4. INSTALLATION

NOTICE

The Viking Model D-2 Air Pressure Maintenance Device regulates and restricts air flow. The Air Pressure Maintenance Device must be located in an area where the minimum ambient temperature is 40°F (4°C) or higher, and not subject to mechanical damage.

1. The air or nitrogen supply provided to the Viking Model D-2 Air Pressure Maintenance Device must be continuous, clean, dry, and oil free.
2. Install the Viking Model D-2 Air Pressure Maintenance Device in the air or nitrogen supply piping between two valves to allow isolation of the device for maintenance and adjustment. A union should be installed between the outlet of the air pressure maintenance device and the downstream isolation valve for servicing.

3. Bypass piping may be provided to allow initial pressurization of system piping more rapidly than the restricted airflow through the air pressure maintenance device will allow. Bypass trim must include a valve which must be closed for the air pressure maintenance device to function. See Product Note above.
4. The air pressure maintenance device must be located in an area where the minimum ambient temperature is 40 °F (4 °C) or higher, and not subject to mechanical damage.
5. Determine the appropriate pressure to be maintained in the system. Refer to System Data and Technical Data for the system and components used.
6. If adjustment is necessary, refer to paragraph 6.1 ADJUSTING THE SETTING.

5. OPERATION

Air pressure setting is factory set at 40 psi (2.8 bar) [inlet pressure to 175 psi (12 bar)]. Outlet pressure setting range is 5 to 75 psi (0.34 to 5.2 bar) ±2 psi (0.14 bar). Air pressure setting may be readjusted after installation. See paragraph 6-A, RESETTING. Refer to System Data and Technical Data for the system and components used.

6. INSPECTION, TESTS AND MAINTENANCE

The Viking Model D-2 Air Pressure Maintenance Device should be checked for correct pressure regulation after installation or repair by noting the air pressure reading within the system. If adjustment is necessary, refer to paragraph 6.1 ADJUSTING THE SETTING. The filter should also be inspected and replaced or cleaned as required.

6.1 ADJUSTING THE SETTING (Refer to Figure 2.)

Adjustment may be necessary when installing or repairing.

1. Turn the air supply on and check the downstream pressure for desired reading. If adjustment of the downstream pressure is necessary.
2. Turn off the air supply. Relieve air pressure on the system side of the air pressure maintenance device.
3. Loosen the lock nut (3).
4. Turn the adjusting screw (1) clockwise to increase pressure or counter-clockwise to decrease pressure.
5. Tighten the lock nut (3).

6.2 DISASSEMBLY (Refer to Figure 2.)

⚠ WARNING

Do not disconnect or disassemble the Air Pressure Maintenance Device without closing the inlet and outlet isolation valves. (Refer to Figure 1.)

⚠ CAUTION

System air pressure will be trapped between the outlet of the Air Pressure Maintenance Device and the downstream control valve. Relieve pressure before proceeding with disassembly.

1. Carefully loosen the union between the outlet of the air pressure maintenance device (AMD) and the downstream control valve to relieve pressure.
2. To prevent accidental tripping of the system, manually maintain system air pressure at a constant level while the AMD is out of service.
3. Place the AMD in the upright position and remove the six cover screws (6) using a Phillips head screwdriver.
4. Separate the cover (4) from the body (9).
5. Remove the spring (11), the spring retainer (5), and diaphragm assembly (7) from the body (9).
6. The Schrader valve assembly (8) is now visible inside the body (9).

6.3 INSTALLATION OF NEW PARTS AND REASSEMBLY (Refer to Figure 2.)

To Replace the Schrader Valve Assembly (8) only:

Use a socket wrench with a 7/16" socket to unthread it from the body (9). Install the new Schrader valve assembly (8) and tighten with a 7/16" socket. If this is the only part to be replaced, the AMD can now be reassembled.

- a. Install the diaphragm assembly (7).
- b. Place the spring retainer (5) in the center of the diaphragm assembly (7).
- c. Remove the adjustment screw (1) from the cover (4).
- d. Place the cover (4) onto the body (9).
- e. Install the six cover screws (6) using a Phillips head screwdriver.
- f. Place the spring (11) in the center of the cover (4).
- g. Reinstall the adjustment screw (1).

The AMD is now ready to be tested and installed into the valve trim.

NOTE: When placing system in operation, open the INLET globe valve first!

To Replace the Parts Included in the Repair Kit:

- a. Remove the six cover screws (6) from the cover (4) of the AMD using a Phillips head screwdriver.
- b. Separate the cover (4) from the body (9).
- c. Remove the spring (2), the spring retainer (5), and the diaphragm assembly (7).
- d. Rotate the AMD upside down to access the filter cap (18). Remove the filter cap (18) from the valve housing (10) using a socket wrench with a 1-1/4" socket.
- e. With the filter (17) exposed, remove the filter seal (16) using a small flathead screwdriver. The filter (17) should now fall easily out of the filter cap (18).
- f. Remove the valve housing (10) from the body (9) using a socket wrench with a 1-1/4" socket.
- g. Install the new valve housing (10) into the body (9).
- h. While holding the filter cap (18), insert the new filter (17) and new filter cap (18) onto the body (9) and tighten with the 1-1/4" socket.
- i. Rotate the AMD back into the upright position. Place the new diaphragm assembly (7) into the body (9).
- j. Set the spring retainer (5) in the center of the diaphragm assembly (7).
- k. Unthread the adjustment screw (1) from the cover (4) by hand.
- l. Place the cover (4) onto the body (9).
- m. Install the six cover screws (6) using a Phillips head screwdriver.
- n. Place the spring (11) in the center of the cover (4).
- o. Reinstall the adjustment screw (1).

The AMD is now ready to be tested and installed into the valve trim.

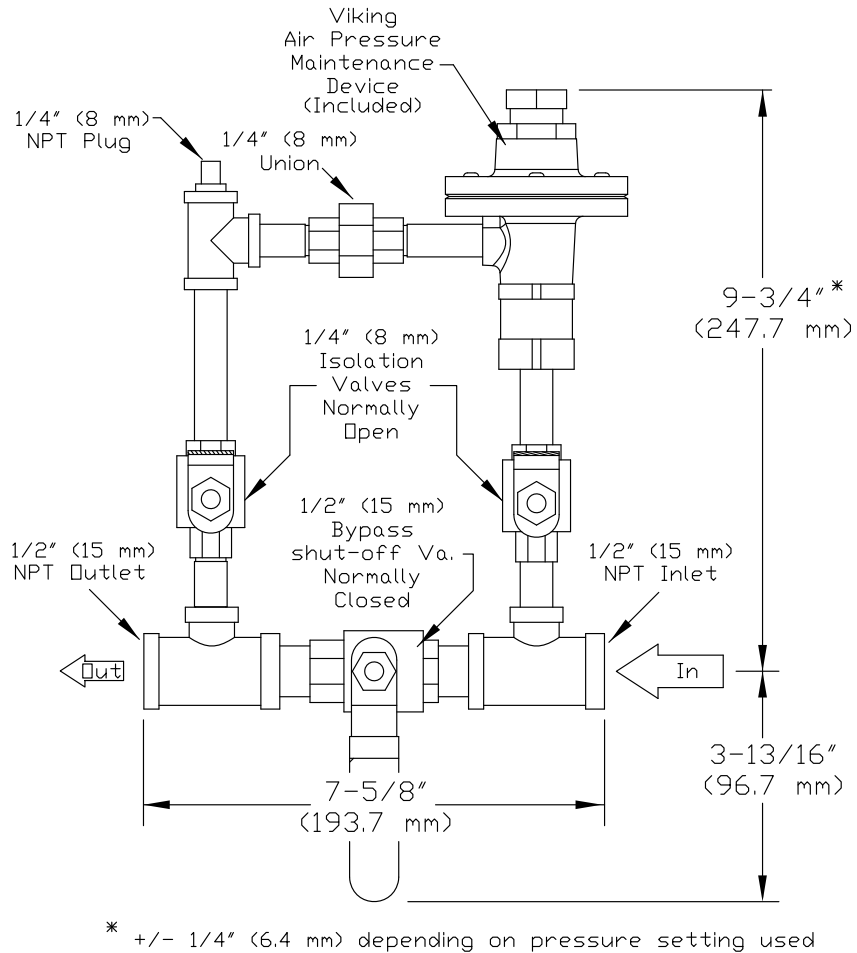
NOTE: When placing system in operation, open the INLET globe valve first!

7. AVAILABILITY

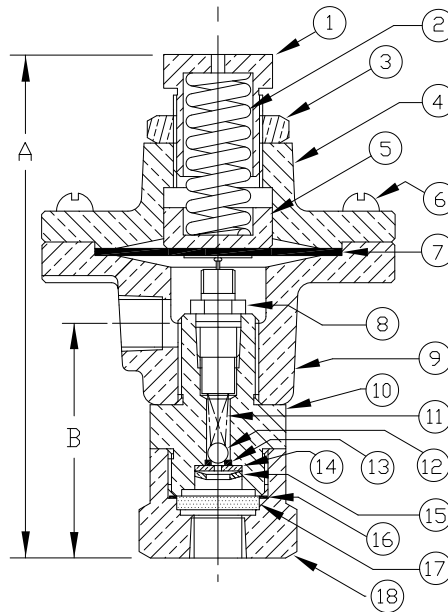
The Viking Air Pressure Maintenance Device is available through a network of domestic and international distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

8. GUARANTEES

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



**Figure – 1: Air Maintenance Device and Preassembled Trim with Bypass
(Viking Part Number 07459)**



A = 4-13/16" (122 mm) ± 1/4" (6.4 mm)
depending on pressure setting

B = 2-5/32" (54.8 mm)

**Figure – 2: Air Maintenance Device
(Viking Part Number 02280C)**

Item Number	Part Number	Description	Material	Qty Required
1	02273A	Adjustment Screw	Brass UNS-C36000	1
2	01791A	Spring	Stainless Steel UNS-S30200	1
3	02275A	Lock Nut	Brass UNS-C36000	1
4	--	Cover	Brass UNS-C83600	1
5	02276A	Spring Retainer	Brass UNS-C36000	1
6	04505A	Screw, R.H.P.D. #10-24 x 5/8 Lg.	Stainless Steel UNS-S30200	6
7	01792A	Diaphragm Assembly	Neoprene ASTM D2000	1
8	06418A	Schrader Valve Assembly	Brass UNS-C26000, Brass UNS-C36000, Stainless Steel UNS-30200	1
9	--	Body	Brass UNS-C83600	1
10	06425B	Valve Housing	Brass UNS-C36000	1
11	02509A	Spring	Stainless Steel UNS-S30200	1
12	01803A	Ball	Stainless Steel UNS-S30200	1
13	01802A	O-Ring	Nitrile (Buna-N)	1
14	01801A	Retainer Plate	Brass UNS-C26000	1
15	01307A	Retainer, Orifice Plate	Brass UNS-C26000	1
16	02181A	Filter Seal	Copper UNS-C11000	1
17	02257A	Filter	Sintered Bronze	1
18	02271B	Filter Cap	Brass UNS-C36000	1
Subassembly				
6-8, 10-17	12504	Repair kit		