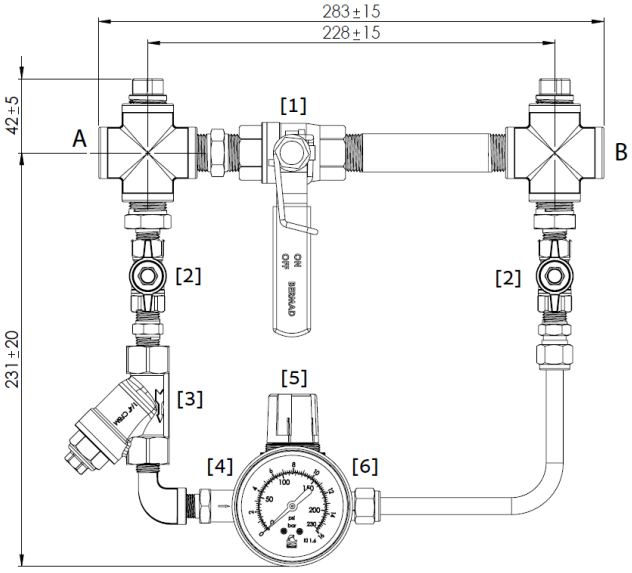
AIR MAINTENANCE DEVICE

Model AMD-74

The BERMAD Air Maintenance Device (AMD) is a pressure control unit that automatically regulates the supplied air pressure to a constant preset value. It is suited for use with dry pilot actuated Deluge systems as well as Dry Pipe and Pre-Action systems.
The AMD includes a field-adjustable pressure regulator, through which the air/nitrogen pressure supply can be reduced, a check valve to maintain system pressure in the event of pressure source failure, a filter to ensure a clean air supply, and a bypass valve for a quick initial air pressure filling of the system.
The supply system should include an air tank (provided separately).

Construction Materials

Pressure Regulator: Aluminum
Accessories: Brass
Fittings: Stainless steel
Pressure Gauge: Brass socket, Stainless steel case, glycerin filled



Pressure Range and Settings

Maximum Inlet supply Pressure Air (or Nitrogen): 12 bar / 175 psi
Field-Adjustable Outlet Pressure Range: 1.0 to 7.0 bar / 15 to 100 psi

Connections

Inlet & Outlet 1/2" NPT

Pinciple of Operation

The AMD Air Pressure Maintenance Device regulates and restricts airflow supplied to the inlet [A] and exiting from the outlet [B]. The Spring Return N.C. By-Pass Valve [1] should be opened to quickly fill the system during initial pressurization. Once the required system pressure has been reached, allow the spring loaded by-pass valve to close, then there will be a restricted air passage through the fixed orifice [6]. The Air Supply Isolating Valves [2] must be in the open position placing the AMD in the automatic operation mode. The AMD has a Y strainer [3] to guard the pressure regulator and restriction orifice from dirt particles.
If a small leak in the system occurs, the Pressure Regulator [5] will automatically maintain system pressure at the preset level. The Restriction orifice in the tube fitting limits the flow of air from the Pressure Regulator into the system to a rate that is significantly lower than will be exhausted by the activation of a release device. In the event of an interrupted air supply the AMD will maintain air pressure in the system for a limited period of time by way of the check valve [4].

Code	Description	Cat No.
AMD-74	1/2" REGULATOR FOR EXTERNAL PESSURE SUPPLY, MODEL AMD-74-BASIC-STD	TEX0000003

Maintenance

In addition to any specific requirements of the NFPA 25 and also to any requirements of the authorities having jurisdiction.
The 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 the “Adjustment” paragraph. Any malfunction must be immediately corrected. The installing contractor or product supplier should be contacted in relation to any questions. It is recommended that the AMD be inspected, tested, and maintained by a qualified Inspection Service.

Notes:
1. Prior to any maintenance work on the fire protection system permission to shut down the affected fire protection systems must first be obtained from the proper authorities and all personnel who may be affected must be notified.
2. After placing a fire protection system in service, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.
3. It is also recommended that accumulated moisture be removed from air supply moisture filtration equipment, at least quarterly. More frequent inspections may be necessary in particularly humid environments.

Adjustment

While observing the outlet pressure gauge, adjust the outlet pressure of the pressure regulator. Slowly turn the adjusting screw clockwise to increase pressure or counter-clockwise to decrease pressure.
After the pressure regulator is set, lock the adjusting screw in that position with its fastening nut. Any installed instrumentation shall be calibrated according to manufacturer instructions.
1. The Air System Pressure should be set at the minimum required value, in order to minimize the system response time, the recommended setting is approx. 0.4 bar / 5.5 psi above the release device trip point.
2. If the system was over-pressurized, the system pressure must be released and reduced to the desired value.
3. The AMD will then maintain the preset system pressure. The Check Valve prevents bleeding down of the system pressure.

Inspection and Testing

The Model AMD must be inspected at least quarterly.
1. Verify that the By-Pass Valve is closed.
2. Verify that the Air Supply Isolating Valve is Open and verify that any control valve in the air supply is open.
3. Check for correct system pressure.
4. Release any moisture from the air tank by opening the drain valve.

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