

Series 746 FireLock® Dry Accelerator

PRODUCT DESCRIPTION



The Victaulic Series 746 Dry Accelerator is a pneumatically actuated valve that can be added to the Victaulic Series 756 Dry Valves or the Series 758 Preaction Valves in order to speed response time and/or accommodate larger systems.

The Series 746 Dry Accelerator is compatible with the Victaulic Series 756 Dry Valves or the Series 758 Preaction Valves that utilize a 753-A Dry Actuator, 776 Low Pressure Actuator, or the 798 Double Pneumatic Actuator. The dry accelerator attaches to the air supply's trim at the inlet of the dry actuator.

The Series 746 Dry Accelerator speeds the operation of the sprinkler's control valves by sensing the rapid decay of system pressure and exhausting air from the upper chamber of the actuating device.

System air pressure in the upper and lower chambers sets the dry accelerator in the closed position, which holds pressure in the air chamber of the actuating device. When a sprinkler head opens and system air pressure releases, the air evacuates from the lower chamber faster than it does from the upper air chamber. As the air pressure in the lower chamber decreases, the pressure in the upper air chamber remains relatively higher. When a 3 to 5 psi (21 to 34 kPa) differential occurs, the Series 746 Dry Accelerator opens and vents the lower chamber's air into the atmosphere. This action also exhausts the air quickly from the actuator, which causes the sprinkler valve to operate.

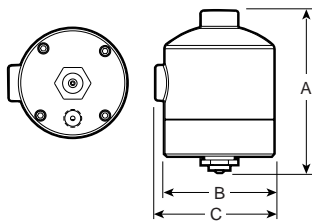
The Series 746 features a unique, built-in check valve that allows rapid pressure equalization of the dry accelerator during system charging, and fast response to variations in system air pressure.

The Series 746 Dry Accelerator is equipped with all required parts, and it is easily attached to the valve trim without additional modification.

The Series 746 Dry Accelerator is rated to 300-psi (2065 kPa) working pressure, and is tested and UL Listed/FM Approved for use with all sizes of Victaulic Series 756 and Series 758 Fire Safety Valves.

The housings are durable, corrosion-resistant 85-5-5 bronze. Internal components and fasteners are 360 brass and 300 series stainless steel.

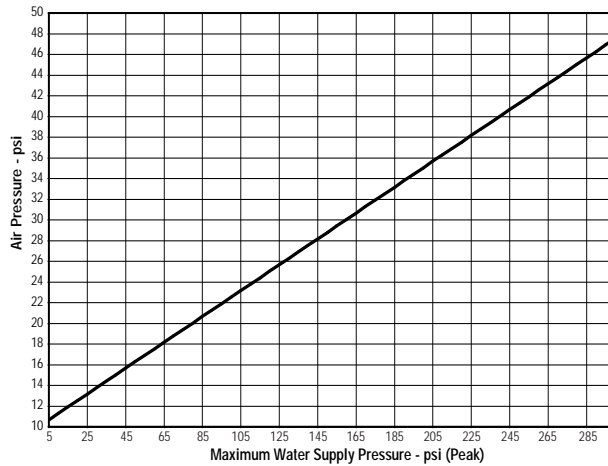
DIMENSIONS



	Dimensions – Inches/millimeters			Aprx. Wgt. Ea. Lbs./kg
	A	B	C	
Series 746	4.45 113	3.00 76	3.25 83	5.0 2.2

RECOMMENDED AIR PRESSURES

For Systems Containing Series 753-A Dry Actuators and Series 746 Dry Accelerators



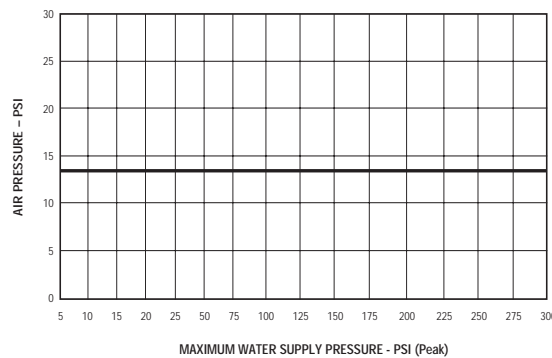
NOTES FOR ABOVE CHART:

- 1 The Victaulic air regulator is a relief-type design. Any pressure in the system that is above the set point of the regulator will be released. Therefore, charging the regulator above the set point could cause premature operation of a valve installed with a Series 746 Dry Accelerator.
- 2 For base or riser-mounted compressors, the recommended air pressures are the "on" or "low" pressure settings for the compressor.
- 3 For tank-mounted compressors, the recommended air pressures are the set point for the air regulator. The "on" pressure of the compressor should be at least 5 psi (34 kPa) above the set point of the regulator.
- 4 These pressures involve an 8-to-1 water-to-air ratio, plus a 10-pound safety factor.

EXAMPLE: For a system with an underground pressure of 80 psi (552 kPa):

Per the chart above, the pressure should be set at 20. In addition, this pressure could be calculated by dividing the system's maximum water pressure by 8 and then adding 10 psi (69 kPa).

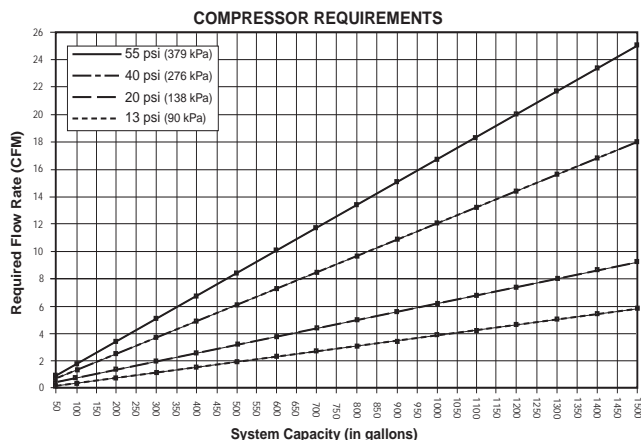
For Systems Containing Series 776 Low-Pressure Actuators or Series 798 Double-Pneumatic Actuators with Series 746 Dry Accelerators



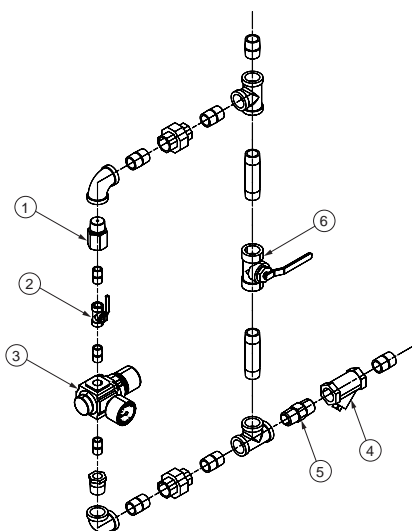
NOTES:

- 1 The recommended air pressures, shown in the chart above, apply to preaction valves that use a Series 776 Low-Pressure Actuator at 13-psi (90-kPa) minimum and 18-psi (124-kPa) maximum. If the air pressure is higher than 18-psi (124-kPa), a Series 746 Dry Accelerator should be installed.
- 2 For base or riser-mounted compressors, the recommended air pressures are the "on" or "low" pressure settings for the compressor.
- 3 For tank-mounted compressors, the recommended air pressures are the set point for the air regulator. The "on" pressure of the compressor should be at least 5 psi (34 kPa) above the set point of the regulator.
- 4 The recommended air pressures, shown in the chart above, apply to systems that use a Series 776 Low-Pressure Actuator or Series 798 Double-Pneumatic Actuator at 13-psi (90-kPa) minimum and 18-psi (124-kPa) maximum. If the air pressure is higher than 18 psi (124 kPa), a Series 746 Dry Accelerator should be installed.

COMPRESSOR AND AIR MAINTENANCE TRIM REQUIREMENTS



Series 757 Regulated Air Maintenance Trim Assembly



BILL OF MATERIALS

Item	Description
1	1/8-inch (3,2-mm) Restrictor
2	Slow-Fill Ball Valve (Normally Open)
3	Air Regulator
4	Strainer (100 Mesh)
5	Spring-Loaded, Soft-Seated Ball Check Valve
6	Fast-Fill Ball Valve (Normally Closed)

1 When a Series 746 Dry Accelerator is used with a Series 753-A Actuator, a Series 776 Low-Pressure Actuator, or a Series 798 Double-Pneumatic Actuator, the air maintenance trim assembly **MUST** be used with the air regulator.

2 In the event that a compressor becomes inoperative, a properly sized tank-mounted compressor provides the greatest protection for systems that contain a Series 746 Dry Accelerator. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.

3 If multiple valves are installed with a common air supply, isolate the system by using a spring-loaded, soft-seat check valve to ensure air integrity for each system.

4 Victaulic recommends using no more than two dry valves per air maintenance trim assembly.

NOTE: The Series 757P Air Maintenance Trim Assembly with Pressure Switch MUST NOT BE USED in any system installed with a Series 746 Dry Accelerator.

OPERATION

The Series 746 Dry Accelerator exhausts air from the actuator to speed the operation of the valve.

A diaphragm separates the Series 746 Dry Accelerator into two chambers. The closing chamber contains a compression spring, which maintains this chamber in the closed position. This closed position is maintained as long as the pressure differential between the opening and closing chambers is less than 3 psi (21 kPa).

When the system introduces air pressure into the dry accelerator, the air goes into the closing chamber and passes through a built-in check valve to the opening chamber. The built-in check valve, which allows flow into the opening chamber, prevents pressure from escaping the opening chamber. Therefore, air can escape only through the restrictor.

When a rapid loss of system air pressure occurs, such as an open sprinkler, air escapes from the closing chamber faster than it does from the opening chamber. As the sprinkler system's pressure continues to decay, a differential pressure develops across the diaphragm. When this differential pressure reaches 3 – 5 psi (21 – 34 kPa), the opening chamber's pressure overcomes the compression spring's closing force, causing the closing chamber to open to the atmosphere. The closing chamber opens immediately and releases pressure from the actuator, resulting in valve operation.

MATERIAL SPECIFICATIONS

Body: Bronze per CDA-836 (85-5-5-5)

Diaphragm: EPDM

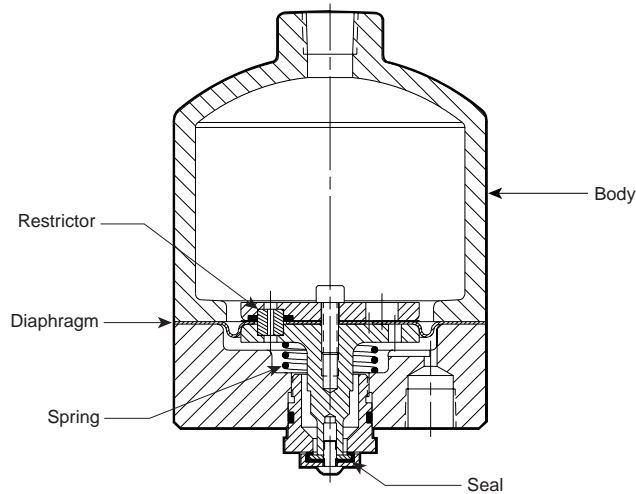
Seal: EPDM

Spring: Type 316 Stainless Steel

Restrictor: Porous Stainless Steel

Bolts: Type 316 Stainless Steel

O-ring: EPDM



This product shall be manufactured by Victaulic Company. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.