

Series 756 FireLock® Dry System Check Valve

Grooved X Grooved
and Flanged X Grooved

PRODUCT DESCRIPTION



See Victaulic
publication 10.01
for details.

The Victaulic® Series 756 Dry Valve is a low differential, latched clapper valve that separates system water supplies from dry-pipe sprinkler systems. The positive latching mechanism uses the supply's water pressure from upstream (city side) of the control valve to hold the clapper shut. The supply water pressure on the latch is controlled by a relatively low system air pressure. When the system air pressure is released, such as an open sprinkler, the decreasing air pressure activates the dry actuator and releases the latch mechanism, which allows the clapper to open.

The low differential, unique latch, and actuator design of the valve allows the valve to be reset without opening the valve. The low differential design is not subject to water columns.

The valve allows the water to operate a water motor alarm and/or electric pressure alarms, which continue until the flow of water stops.

With the optional accelerator, the valve can be configured to respond faster for use in larger systems, or where faster response times are required.

The valve is rated to 300 psi (2065 kPa) water working pressure for sizes 1½ - 6" (40 - 150 mm) and 225 psi (1550 kPa) water working pressure for size 8" (200 mm). The valve is factory tested hydrostatically to 600 psi (4135 kPa) for sizes 1½ - 6" (40 - 150 mm) and 450 psi (3105 kPa) for size 8" (200 mm). Air pressure to water pressure ratio is approximately 1 to 8.

The Series 756 is available grooved X grooved (all sizes) or flanged X grooved (4 - 8"/100 - 200 mm).

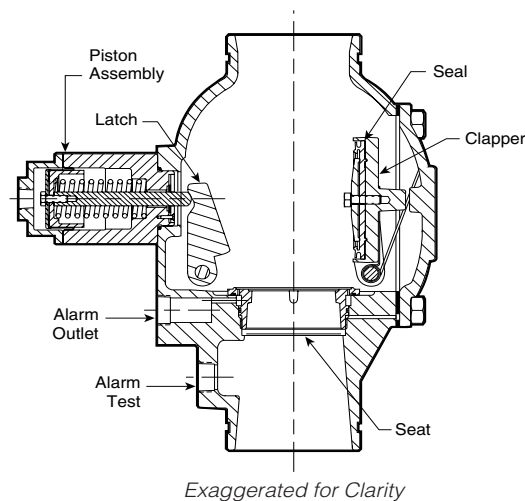
The valve can be installed vertically or horizontally.

Standard grooved dimensions conform to ANSI/AWWA C606, and standard flanged dimensions conform to ANSI B16.5, Class 150.

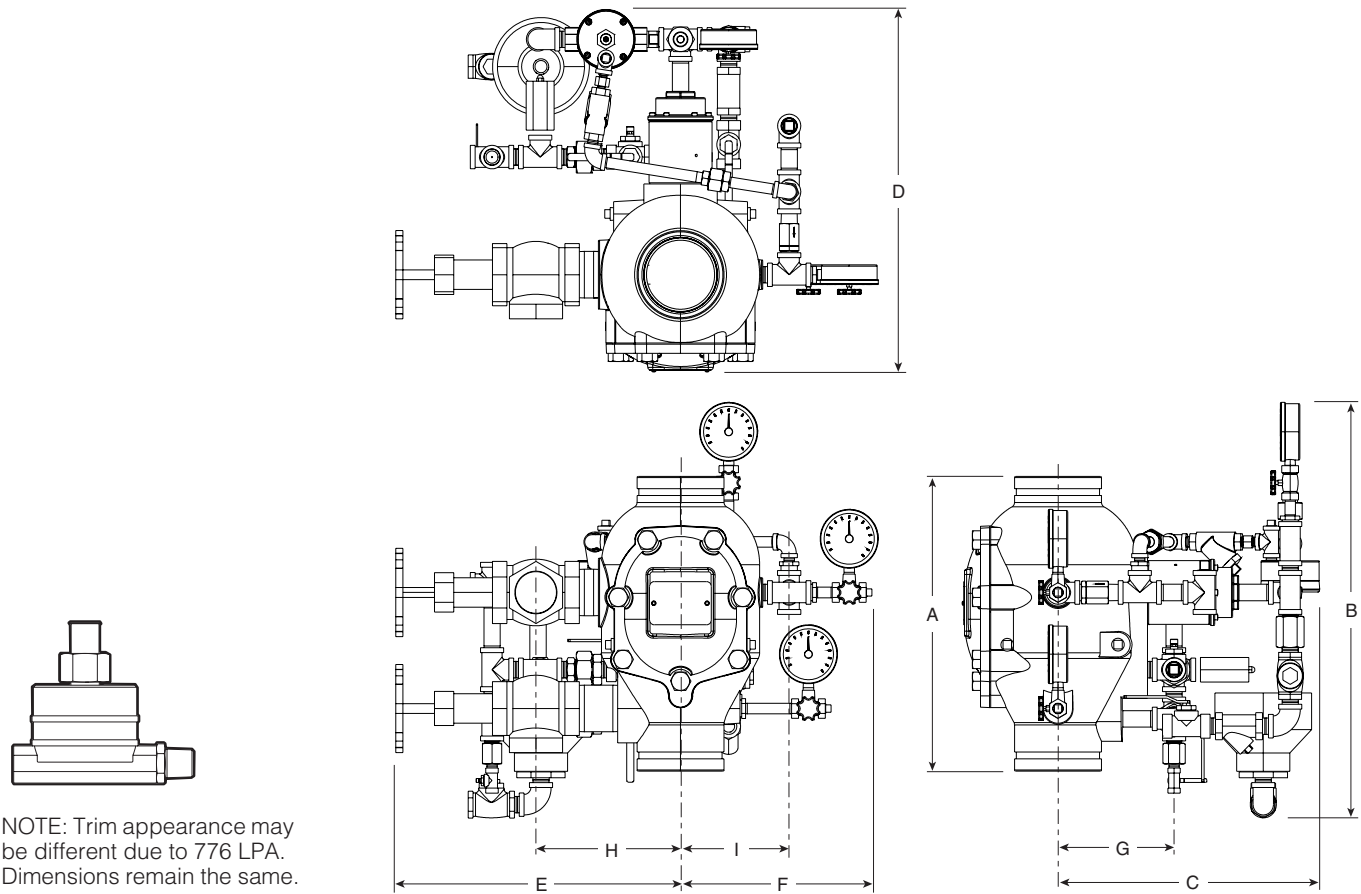
The Victaulic Series 756 Dry Check Valve is made of high-strength, low-weight ductile iron, and it offers easy access to all internal parts. All internal parts are replaceable. Maintenance and service can be performed without removing the valve from its installed position. The rubber clapper seal is replaced easily without removing the clapper from the valve. The valve is painted inside and out to increase corrosion resistance.

The body is tapped for main drain and all available trim configurations. Trim includes an alarm test valve, which allows testing of the alarm system without reducing the system's pressure. The valve is available with separate trim kits, or it can be pre-trimmed for installation.

Series 756 Dry Check Valves are available bare, pre-trimmed, as a quick-riser (request publication 30.20) or in a Fire-Pac cabinet (request publication 30.23).



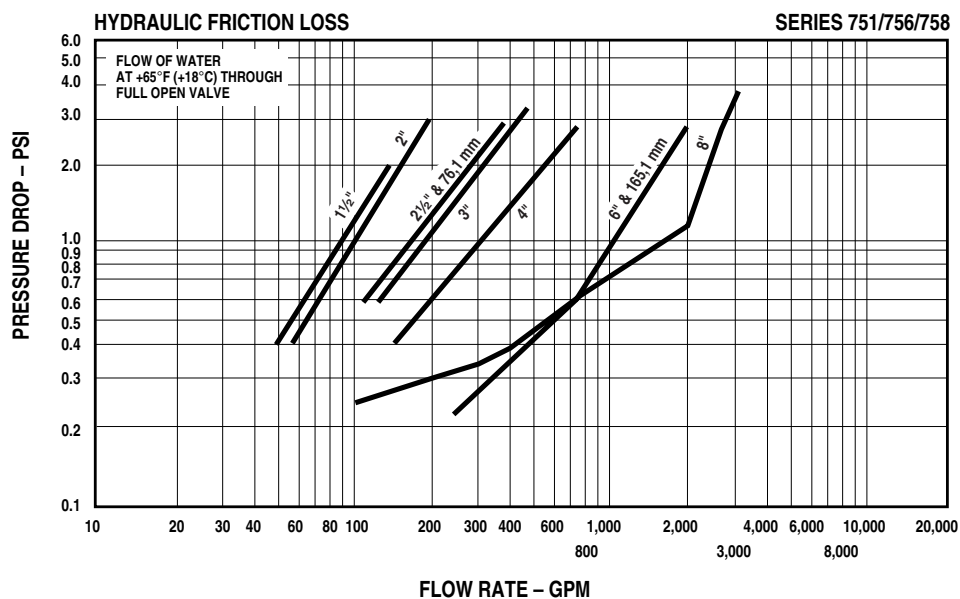
DIMENSIONS



NOTE: Trim appearance may be different due to 776 LPA. Dimensions remain the same.

VALVE SIZE		Dimensions Inches/mm										Aprx. Weight Each Lbs./kg			
Nominal Dia. In./mm	Actual Outside Dia. In./mm	A	B	C	D	E	F	G	H	I	Without Trim		With Trim		
											Flanged	Grooved	Flanged	Grooved	
GROOVED X GROOVED															
1 1/2 40	1.900 48,3	9.00 228,60	21.00 533	13.00 330	18.00 457	13.00 330	10.00 254	7.00 178	4.00 102	4.00 102	4.00 102	-	16.7 7,6	-	43.0 19,5
2 50	2.375 60,3	9.00 228,60	21.00 533	13.00 330	18.00 457	13.00 330	10.00 254	7.00 178	4.00 102	4.00 102	4.00 102	-	17.0 7,7	-	43.0 19,5
2 1/2 65	2.875 73,0	12.61 320,29	21.00 533	14.00 356	20.00 508	15.50 394	11.50 292	7.50 191	5.00 127	5.00 127	5.00 127	-	41.2 18,7	-	65.0 29,5
76,1 mm	3.000 76,1	12.61 320,29	21.00 533	14.00 356	20.00 508	15.50 394	11.50 292	7.50 191	5.00 127	5.00 127	5.00 127	-	41.2 18,7	-	65.0 29,5
3 80	3.500 88,9	12.61 320,29	21.00 533	14.00 356	20.00 508	15.50 394	11.50 292	7.50 191	5.00 127	5.00 127	5.00 127	-	42.1 19,1	-	65.0 29,5
4 100	4.500 114,3	15.03 381,76	20.00 508	15.00 381	21.00 533	14.00 356	12.00 305	8.00 203	9.00 229	6.00 152	6.00 152	-	55.0 24,9	-	95.0 43,1
6 150	6.625 168,3	16.00 406,40	21.10 536	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	7.00 178	-	73.0 33,1	-	115.0 52,2
165,1 mm	6.500 165,1	16.00 406,40	21.10 536	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	7.00 178	-	73.0 33,1	-	115.0 52,2
8 200	8.625 219,1	17.50 444,50	17.50 445	16.00 406	23.00 584	16.00 406	12.00 305	14.00 356	9.50 241	7.00 178	7.00 178	-	142.0 64,4	-	182.0 82,6
GROOVED X FLANGED															
4 100	4.500 114,3	15.64 397,26	20.00 508	15.00 356	21.00 533	14.00 356	12.00 305	8.00 203	9.00 229	6.00 152	6.00 152	65.0 29,5	-	105.0 47,6	-
6 150	6.625 168,3	16.94 430,28	21.10 536	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	7.00 178	83.0 37,6	-	125.0 56,7	-
165,1 mm	6.500 165,1	16.94 430,28	21.10 536	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	7.00 178	83.0 37,6	-	125.0 56,7	-
8 200	8.625 219,1	19.27 489,46	18.00 457	16.00 406	23.00 584	16.00 406	12.00 305	14.00 356	9.50 241	7.00 178	7.00 178	155.0 70,3	-	195.0 88,5	-

PERFORMANCE



The chart below expresses the frictional resistance of Victaulic Series 756 Dry Check Valve in equivalent feet of straight pipe.

FRICTIONAL RESISTANCE

Nominal Size Inches/ Actual mm	Equivalent Length of Pipe Feet	Nominal Size Inches/ Actual mm	Equivalent Length of Pipe Feet
1 1/2	3	4	21
2	9	6	22
2 1/2	8	165,1 mm	22
76,1 mm	8	8	50
3	17		

MATERIAL SPECIFICATIONS

Body: Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

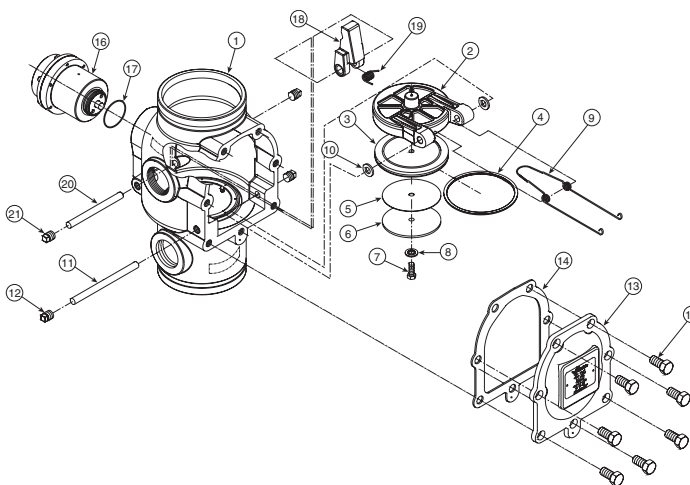
Clapper: Aluminum bronze UNS-C95500 or UNS-C36000

Shaft: Stainless 17-4

Seat Seal: EPDM, ASTM D2000

Clapper: Nitrile

Seat O-rings: Stainless steel (300 Series)



BILL OF MATERIALS

1 Valve Body	8 Bolt Seal	15 Cover Plate Bolts (Qty. 7)
2 Clapper	9 Clapper Spring	16 Piston
3 Clapper Seal	10 Spacers (Qty. 2)	17 Piston O-ring
4 Seal Ring	11 Clapper Shaft	18 Latch
5 Seal Washer	12 Clapper Shaft Retaining Plug (Qty. 2)	19 Latch Spring
6 Seal Retaining Ring	13 Cover Plate	20 Latch Shaft
7 Seal Assembly Bolt	14 Cover Plate Gasket	21 Latch Shaft Retaining Plug (Qty. 2)

TRIM PACKAGES

Trim packages available:

Vertical trim for the Series 756 dry check valve installed vertically. Trim components are galvanized.

Optional:

- Black trim for use on foam systems

Trim packages include:

- **Series 753-A Dry Actuator/Anti-Flood Device** - Allows decreasing air pressure to release the latch mechanism, allowing the clapper to open. Request 30.60 for submittal.
 1. All required pipe and fittings.
 2. All standard trim accessories.
 3. All required gauges.

OR

- **Series 776 Low Pressure Actuator** - Features a single trip point that allows the sprinkler system to operate with a low air or gas pressure. Request 30.46 for submittal.
 1. All required pipe and fittings.
 2. All standard trim accessories.
 3. All required gauges.

Optional accessories:

- **Series 746 Dry Accelerator** - Required when the Series 756 dry check valve is installed in large systems where response time of the system needs to be improved. Includes accelerator/anti-flood device and required trim. Request 30.45 for submittal.
- **Series 760 Water Motor Alarm** - The Series 756 dry check valve is designed to activate a mechanical water motor alarm when a sustained flow of water (such as with an open sprinkler) causes the clapper to lift from its seat. Request submittal 30.32.
- **Alarm and supervisory pressure switch** - The Series 756 dry check valve is designed to allow the installation of pressure switches to activate electric alarms and control panels when a sustained flow of water (such as with an open sprinkler) causes the clapper to lift from its seat.
- **Series 75D Water Column Device**
- **Series 75B Supplemental Alarm Kit**
- **Air Maintenance Trim Assembly** - See page 6.

For Air Compressors and Accessories, contact Victaulic.

NOTE: If valve is to be used in foam system, black trim must be ordered per NFPA requirements. Please specify choice on order.

NOTE: Valve is available pre-trimmed as a Vic-Quick Riser or in a Fire-Pac configuration.

RECOMMENDED AIR PRESSURES FOR SERIES 756 DRY VALVES WITH SERIES 753-A DRY ACTUATORS (INSTALLED WITH OR WITHOUT SERIES 746 DRY ACCELERATORS)

NOTES:

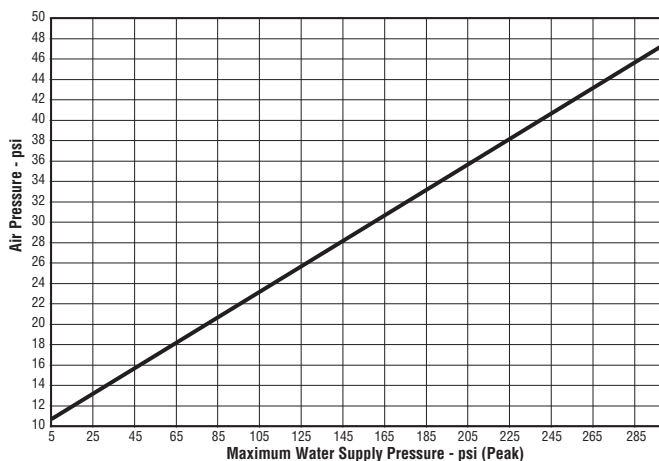
1 The Victaulic air regulator is a relief-type design. Any pressure in the system that is above the set point of the regulator will be released. Therefore, charging the regulator above the set point could cause premature operation of a valve installed with a Series 746 Dry Accelerator.

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).



Proper Air Supplies for Series 756 Dry Valves Used with Series 753-A Dry Actuators Only:

1 When a riser or base-mounted air compressor supplies air to a system using a Series 753-A Dry Actuator, it is not necessary to use the air maintenance trim assembly with an air regulator. In this case, the airline of the compressor connects to the trim at the fitting where the air maintenance trim is normally installed.

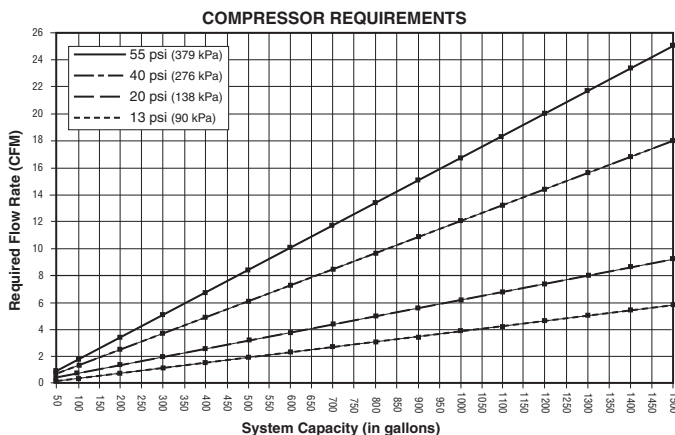
2 Due to the large on/off differential available for pressure switches that control base-mounted compressors, adjust the compressor's pressure switch so that the "ON" contact is at the recommended air supply for the valve.

Proper Air Supplies for Series 756 Dry Valves Used with Series 753-A Dry Actuators and Series 746 Dry Accelerators:

1 When a Series 746 Dry Accelerator is used with the Series 753-A Dry 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 air compressor provides the greatest protection for systems that use a Series 746 Dry Accelerator. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.

Compressor Requirements



NOTICE

- In the event that a compressor becomes inoperative, a properly sized tank-mounted air compressor provides the greatest protection for systems that use a Series 746 Dry Accelerator. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.
- If multiple dry valves are installed with a common air supply, isolate the systems by using a spring-loaded, soft seat-check valve to ensure air integrity for each system.
- Good practice is to include a control valve for isolation and service of each individual system.

RECOMMENDED AIR PRESSURES FOR SERIES 756 DRY VALVES WITH SERIES 776 LOW-PRESSURE ACTUATORS

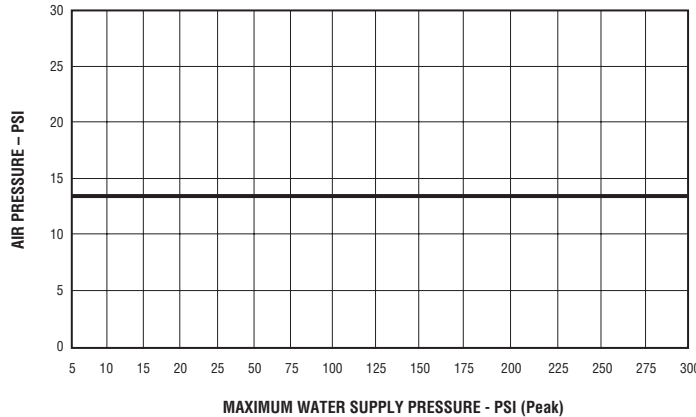
NOTES:

1 The recommended air pressures, shown in the chart above, apply to a dry valve that uses 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.

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.



Proper Air Supplies for Series 756 Dry Valves Used with Series 776 Low-Pressure Actuators

1 When a riser or base-mounted air compressor supplies air to a system using a Series 776 Low-Pressure Actuator, it is not necessary to use the air maintenance trim assembly with the air regulator. In this case, the airline of the compressor connects to the trim at the fitting where the air maintenance trim is normally installed (refer to the trim drawing). **NOTE:** The use of an air regulator with a base or riser-mounted compressor could cause short cycling, resulting in premature wear of the compressor.

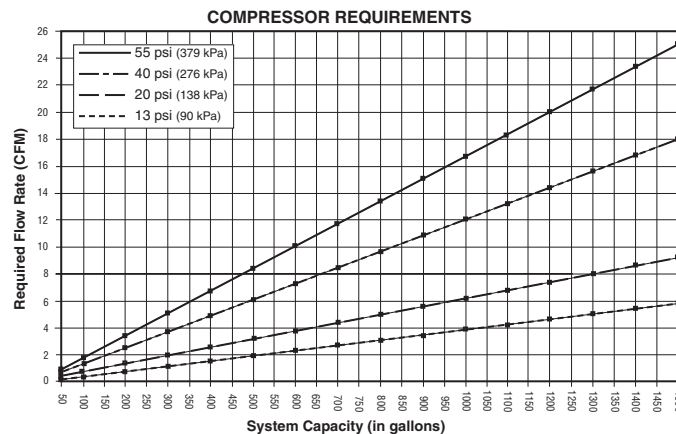
2 Due to the large on/off differential available for pressure switches that control base-mounted compressors, adjust the compressor's pressure switch so that the "ON" contact is set at 13 psi (90 kPa).

Proper Air Supplies for Series 756 Dry Valves Used with Series 776 Low-Pressure Actuators and Series 746 Dry Accelerators

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

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

Compressor Requirements

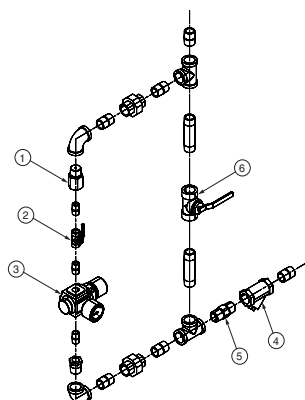


NOTICE

- In the event that a compressor becomes inoperative, a properly sized tank-mounted air compressor provides the greatest protection for systems that use a Series 746 Dry Accelerator. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.
- If multiple dry valves are installed with a common air supply, isolate the systems by using a spring-loaded, soft seat-check valve to ensure air integrity for each system.
- Good practice is to include a control valve for isolation and service of each individual system.

AIR MAINTENANCE TRIM

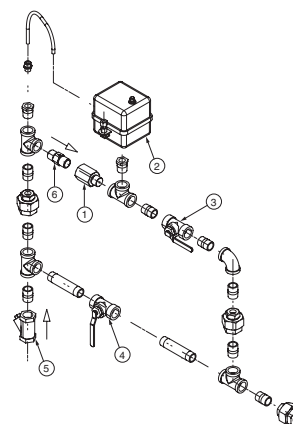
Series 757 Regulated Air Maintenance Trim Assembly



BILL OF MATERIALS

Item	Description
1	1/16-inch (3,2-mm) Restrictor
2	Slow Fill Ball Valve (Normally Open)
3	Air Regulator
4	Strainer (100 Mesh)
5	Spring-Loaded, Soft-Seated Check Valve
6	Fast Fill Ball Valve (Normally Closed)

Series 757P Air Maintenance Trim Assembly with Pressure Switch



BILL OF MATERIALS

Item	Description
1	1/16-inch (3,2-mm) Restrictor
2	Pressure Switch
3	Slow Fill Ball Valve (Normally Open)
4	Fast Fill Ball Valve (Normally Closed)
5	Strainer (100 Mesh)
6	Spring Loaded, Soft Seated Check Valve

NOTES:

- 1** Victaulic recommends using no more than two dry valves per air maintenance trim assembly.
- 2** A Series 757 regulated air maintenance trim assembly must be used with Series 756 Dry Valves that are installed with Series 746 Dry Accelerators. **NOTE:** If the valve contains a Series 746 Dry Accelerator, the air maintenance device should be used with a tank-mounted compressor.
- 3** The Series 757P Air Maintenance Trim Assembly with Pressure Switch is not acceptable for any system installed with a Series 746 Dry Accelerator.
- 4** When shop air or a tank-mounted air compressor is installed, the Series 757 regulated air maintenance trim assembly must be used, instead of the Series 757P Air Maintenance Trim Assembly with Pressure Switch. The Series 757 regulated air maintenance trim assembly provides proper air regulation to the sprinkler system.
- 5** When a riser or base-mounted air compressor supplies air to a dry valve, it is not necessary to use the air maintenance trim assembly with the air regulator. In this case, the airline of the compressor connects to the trim at the fitting where the air maintenance trim is normally installed (refer to the trim drawing).
- 6** Refer to the chart on the previous page for the recommended cut-in contact air pressure for systems installed with a Series 753-A Dry Actuator. These pressures involve an 8-to-1 water-to-air ratio, plus a 10-psi (60-kPa) safety factor.
- 7** For systems installed with a Series 776 Low-Pressure Actuator, the recommended minimum cut-in air pressure should be set at 13 psi (90 kPa), regardless of the system supply pressure.
- 8** The engineer/system designer is responsible for sizing the compressor so that it brings the entire system to the required pressure within 30 minutes. **DO NOT** oversize the compressor to provide more airflow, since it will slow down or possibly prevent valve operation.
- 9** Continuous service (24 hours per day, 7 days per week) is required to prevent the valve from false tripping due to a loss of air pressure.
- 10** In the event a compressor becomes inoperative, a properly sized tank-mounted air compressor provides the greatest protection. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.

OPERATION

The Series 756 Dry Check Valve contains a clapper, which has a replaceable rubber seal. The clapper makes contact with the valve's seat ring, which has access holes leading into an intermediate chamber in the valve. The piston contacts the latch, and the latch holds the clapper closed.

In the closed position, the valve piston is maintained in the extended position by the water supply pressure from upstream of the water supply control valve. The valve piston holds the clapper in the closed position. The Series 753-A Dry Actuator/Anti-Flood Device maintains the water, and the system's air pressure controls the dry actuator. The air-to-water ratio is approximately 1 to 8.

Once the system's air pressure reduces to the trip point, the dry actuator opens and allows the water supply pressure in the piston to release (i.e. an open sprinkler). This release causes the piston rod to retract, and it permits the clapper to pivot freely, thus allowing water into the system.

Water enters the intermediate chamber of the valve through the holes in the seat ring. The water flows from the intermediate chamber to the alarm line, which activates the system's alarms. The alarms continue to sound until the flow of water stops.

When the flow of water stops, the spring-assisted valve clapper returns to the closed position. The valve acts as an alarm check valve until the system is back in service as a dry system, according to the proper procedure.

WARNING



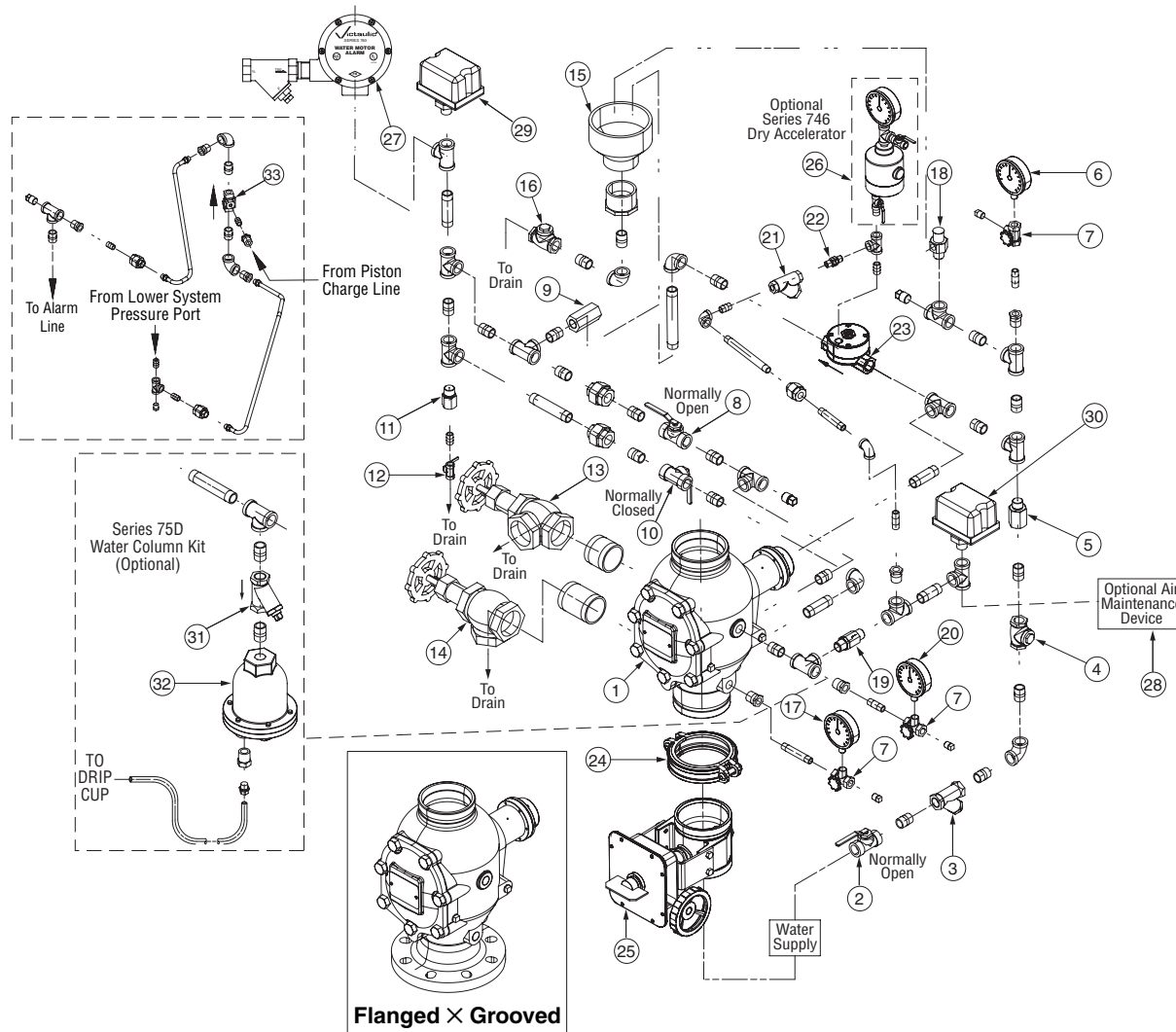
- This product must be installed by an experienced, trained installer, in accordance with the instructions provided with each valve. These instructions contain important information.

Failure to follow these instructions may result in serious personal injury, property damage, or valve leakage.

If you need additional copies of this product literature or the valve installation instructions, or if you have any questions about the safe installation and use of this device, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031 USA, Telephone: 001-610-559-3300.

TRIM

Series 756 Dry System Valve
(Pressure Switch, Accelerator and Air Maintenance Trim OPTIONAL)
Grooved X Grooved



BILL OF MATERIALS

- | | | | |
|----|--|----|--|
| 1 | Series 756 FireLock Dry Valve | 18 | Series 749 AutoDrain |
| 2 | Piston Charge Line Ball Valve (NO) | 19 | Series 748 Ball Check Valve |
| 3 | Piston Charge Line Strainer (100 Mesh) | 20 | System Pressure Gauge (0-80 psi/0-552 kPa with retard) |
| 4 | Piston Charge Line Swing Check Valve | 21 | Air Line Strainer (100 Mesh) |
| 5 | Piston Charge Line Restrictor (1/16") | 22 | Air Line Restrictor (1/16") |
| 6 | Piston Charge Line Pressure Gauge (0-300 psi/0-2068 kPa) | 23 | Series 753A Dry Actuator |
| 7 | Gauge Valve | 24 | Style 005 FireLock Rigid Coupling (Optional) |
| 8 | Alarm Line Ball Valve (NO) | 25 | Series 705W Butterfly Valve (Optional) |
| 9 | Series 729 Drip Check Valve | 26 | Series 746 Dry Accelerator Assembly |
| 10 | Alarm Test Line Ball Valve (NC) | 27 | Series 760 Water Motor Alarm (Optional) |
| 11 | Alarm Line Drain Restrictor (1/16") | 28 | Series 757 Air Maintenance Device (Optional) |
| 12 | Alarm Line Drain Ball Valve (NC) | 29 | EPS-10 Alarm Pressure Switch (Optional) |
| 13 | Main System Drain Valve | 30 | EPS-40 Supervisory Switch (Optional) |
| 14 | Main Drain Valve - Flow Test | 31 | Strainer (100 Mesh) |
| 15 | Drip Cup | 32 | Series 75D Water Column Kit (Optional) |
| 16 | Drain Swing Check Valve | 33 | Series 75B Supplemental Alarm Device (Optional) |
| 17 | Water Supply Pressure Gauge (0-300 psi/0-2068 kPa) | | |

NO = Normally Open; NC = Normally Closed

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.