

## Series 753-A FireLock® Dry Actuator/Anti-Flood Device

### PRODUCT DESCRIPTION



Patent Pending



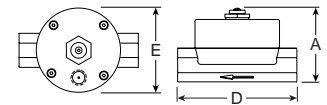
The Victaulic® Series 753-A Dry Actuator/Anti-Flood Device is a pneumatically actuated valve which must be used with pneumatically released Victaulic Series 756 Dry Check Valves or Series 758 Actuated Valves to trigger system operation.

System air pressure in the upper chamber sets the Dry Actuator in the closed position. This prevents water from escaping from the piston charge line and holds the main check valve's clapper shut. When a sprinkler head opens and system air pressure is released, the air evacuates from the upper chamber allowing the lower chamber to open. This permits water to escape from the piston and the main check valve to operate.

This valve features an integral Anti-Flood Device which prevents the main check valve from prematurely closing due to system water filling the valve's upper chamber.

The Series 753-A Dry Actuator/Anti-Flood Device is rated to 300 psi/2065 kPa working pressure and is tested and approved to be used with all sizes of Victaulic Series 756 and 758 Fire Protection Check Valves. The lower chamber is constructed of durable 85-5-5-5 cast bronze, the upper chamber and internal components are made of 360 brass, the seals are EPDM, and the fasteners are 316 stainless steel.

### DIMENSIONS



Nominal Size Inches	Dimensions Inches/mm			Aprx. Weight Each Lbs./kg
	A	D	E	
1/2	2.61 66	4.23 107	3.00 76	3.4 1.5

### MATERIAL SPECIFICATIONS

**Lower Chamber:** Sand Cast  
85-5-5-5 Bronze

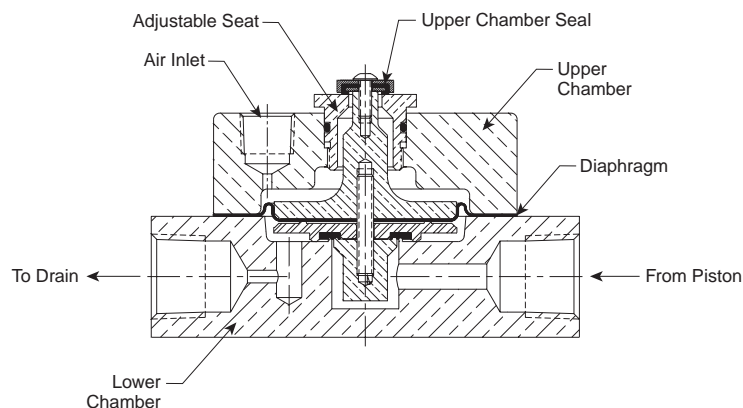
**Upper Chamber:** 360  
Machined Brass

**Internal Shafts:** 360  
Machined Brass

**Diaphragm:** Nitrile

**Seals:** EPDM

**Fasteners:** 316 Stainless  
Steel



*Exaggerated for clarity*

## OPERATION

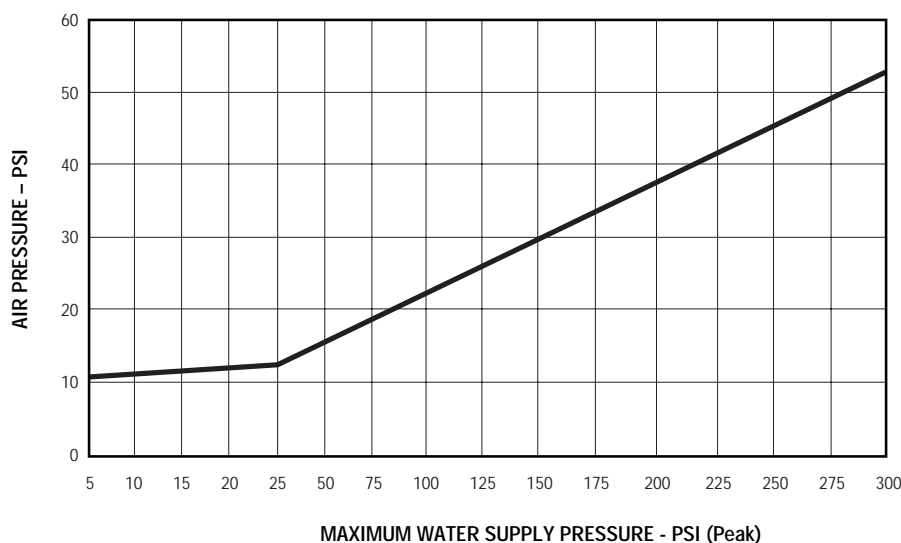
### Dry Actuator

The Series 753-A Dry Actuator/Anti-Flood Device is located in the trim of pneumatically released Series 756 and Series 758 check valves and acts as the "trigger" for these systems. It is divided into two chambers which are separated by a diaphragm. The upper chamber controls activation, while the lower acts as a water valve. During system charging, the fast fill line of the air maintenance device is opened and air begins to fill the system. At this time, the upper chamber of the Dry Actuator, which is connected to the air maintenance device by copper tubing, also fills with air. This air pressure pushes a seal which is attached to the diaphragm down against a seat in the lower chamber, closing the water valve. Water pressure can then be permitted to enter the piston on the main check valve, locking the clapper into place. When system air pressure is released due to the opening of a sprinkler head, air pressure evacuates from the upper chamber. When the air pressure in the upper chamber becomes less than approximately  $\frac{1}{8}$  the water pressure in the lower chamber, the seal lifts from its seat and water is allowed to escape from the back of the piston, forcing main check valve operation.

### Integral Anti-Flood Device

After main check valve operation, water enters the trim which initially charges the system with air. This part of the trim is connected to the Dry Actuator upper chamber which controls activation and, if flooded, could cause the system to prematurely shut. A check valve in the valve trim prevents most of this water from entering the actuator, but in case of check valve malfunction, the upper chamber includes an Anti-Flood Device. A small vent hole in the top of this chamber is covered by a seal during system charging and normal operation. During activation, a shaft connected to the diaphragm pushes this seal away from the vent hole allowing air pressure to be vented to atmosphere. This also permits any system water which passed through the check valve to be exhausted without filling the upper chamber and possibly shutting the system down.

### RECOMMENDED AIR PRESSURE FOR DRY AND PNEUMATIC ACTUATED SYSTEMS



This product shall be manufactured by Victaulic or to Victaulic specifications. 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.