

## MODEL RCW DRY SYSTEM VALVE

### GENERAL DESCRIPTION

The Globe Model RCW\* dry valve is a hydraulically operated external resetting differential latching style valve. The Model RCW dry valve is used as an automatic water control valve in dry applications. The Model RCW dry valve serves as the primary water control valve installed in the water supply to a dry sprinkler system incorporating automatic (closed) sprinklers with compressed air or nitrogen within the system piping.

Setting of the Model RCW dry valve requires water pressure in the pressure chamber being maintained on the plunger rod. The pressure on the plunger rod forces the lever arm/roller assembly against the clapper which in turn keeps the supply water from entering the sprinkler system piping. Water pressure is provided to the pressure chamber through a connection to the main water supply at a point upstream of the system main control valve. This connection also supplies water pressure up to the dry pilot actuator.

The dry pilot actuator is held closed when in the normal set condition by air pressure in the system piping. When system air pressure is relieved via one or more operated sprinklers, the dry pilot actuator will open, allowing the pressurized water to be evacuated from the pressure chamber.

In the standby condition, the valve is normally closed and will automatically activate (trip) upon the activation of an automatic sprinkler, as a result of a fire condition. The RCW valve may also be operated by means of a manual release, which is provided in the trim, to override the normal activation sequence described above.

When heat from a fire opens an automatic sprinkler, water pressure in the pressure chamber decays resulting in the movement of the push rod assembly, releasing the lever arm/roller assembly from the clapper. The system water supply pressure forces the valve clapper open resulting in water flow into the system piping. Upon system activation, fire alarm signaling is provided by means of flowing water through the alarm port/intermediate chamber and associated alarm line trim. The flow of water activates a pressure switch which in turn notifies local alarms and/or an alarm signaling monitoring service. After the main control valve has been shut, the system drained, and any operated sprinklers replaced, the RCW dry valve is easily set/reset by means of pushing the reset knob. The system is now ready for the introduction of compressed air back into the system piping.

If the speed of operation of the dry valve needs to be increased, an optional accelerator can be utilized to decrease the trip time of the valve from the operation of a sprinkler or the inspectors test connection.



### MODEL RCW DRY SYSTEM VALVE

### TECHNICAL DATA

#### Approvals

- cULus
- FM

#### Maximum System Working Pressure

- 300 psi (20.6 Bar)

#### End Connections

- Groove x Groove

#### Materials of Construction

- See Technical Datasheet H-1 for materials of construction for the Model RCW Valve

#### \*Patents Pending

## MODEL RCW DRY SYSTEM

The dry system trim is one optional trim arrangement for the Globe Model RCW valve. This arrangement is typically utilized when the system is subject to areas exposed to freezing or close to freezing temperatures. With this configuration, the detection system consists of automatic sprinklers spaced throughout the protection area. System air pressure is used to ensure the integrity of the system piping and used as the activation method for the valve.

Water pressure is maintained in the valve pressure chamber up to the dry pilot actuator through a restricted connection from the main water supply which is taken upstream of the system main control valve (The pressure chamber supply valve must remain in the open position at all times when the system is in service). The dry pilot actuator is normally held in the closed position by the system air pressure supplied through the automatic air or nitrogen maintenance device.

When an automatic sprinkler operates, the air flow rate through the open sprinkler is at a flow rate greater than that which can be supplied through the automatic air or nitrogen maintenance device. This causes a pressure drop in the system and the upper chamber of the dry pilot actuator. An optional accelerator can increase the rate at which the air decays on the dry pilot actuator, if a faster time to trip the Model RCW valve is required.

Once the pressure in the upper chamber of the dry pilot actuator drops sufficiently, the upper chamber can no longer hold the diaphragm in the closed position. The dry pilot actuator opens and allows water to flow from the pressure chamber to the drain at a flow rate greater than that which can be supplied through the restriction in the pressure chamber supply line. The opening of the dry pilot actuator results in a drop in pressure in the pressure chamber and the Model RCW valve operates (trips) allowing water to flow into the system piping. The automatic actuation of the feature of the valve can be bypassed by manually rotating the handle on the "Manual Control/ Emergency Release" valve located on the Model RCW trim to activate the Model RCW valve.

Note:

See recommended system air/nitrogen pressure and expected trip range below for the Model GDPA. More detailed information can be found about the Dry Pilot Actuator in Technical Data Sheet GFV550.

## GDPA vs GDPA-LP

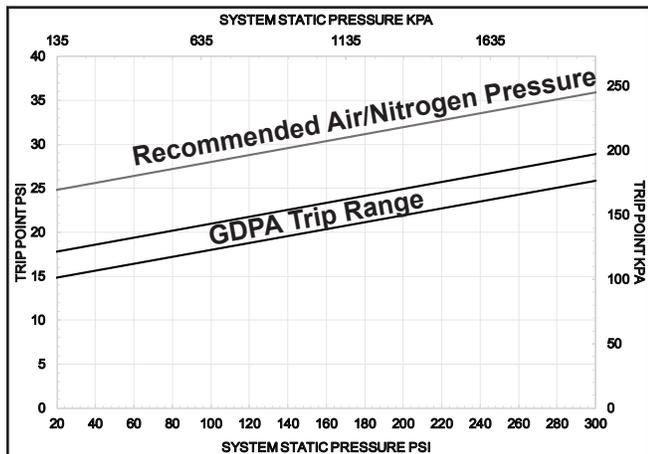


FIGURE 1: MODEL GDPA DRY PILOT TRIP RANGE

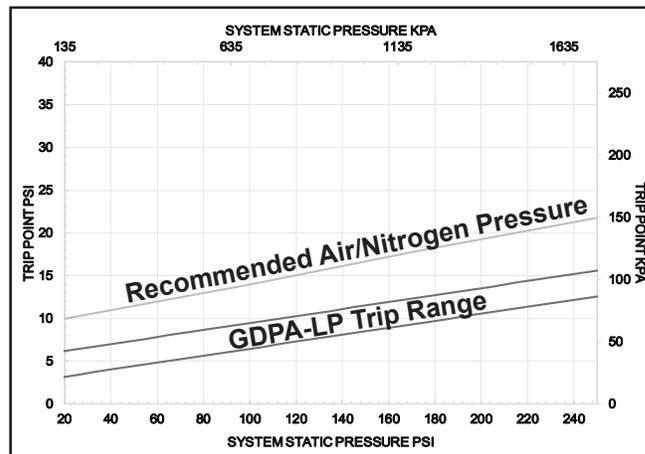


FIGURE 2: MODEL GDPA-LP DRY PILOT TRIP RANGE

When choosing the dry pilot actuator for your system there are many factors which influence the fluid delivery time. These factors range from system geometry, riser location, sprinkler orifice size, supply pressure, pump ramping time and more. In certain systems, higher system air pressure can be advantageous over lower system air pressure and the opposite can also be true. Some things to consider when choosing the GDPA vs the GDPA-LP are discussed below.

The initial air pressure in a system may vary. For example in one system the initial air pressure may be set for 15 psi (1 Bar) and 45 psi (3.1 Bar) for the other. The system air pressure will decay at a faster rate with the higher initial system pressure. For a fixed pressure drop (i.e. 5 psi drop) will be reached more quickly with the higher initial air pressure than lower initial air pressure.

Unfortunately fluid delivery time is not just dependent on tripping the control valve but also dependent on the fluid moving through the system. As the water fills the system piping it can create a high pressure pocket of air at the inspectors test connection. This higher air pressure can slow the progress of the water progressing towards the inspectors test connection. This phenomenon typically happens with smaller K-factor sprinklers. This scenario may lend itself to choosing to utilize lower system air pressure and the GDPA-LP actuator.

In other circumstances, systems are center fed, meaning roughly half of the volume of piping is on one side of the riser and half on the other. In these scenarios, higher system air pressure can be beneficial to system delivery time as the higher air pressure will actually impede or stop the propagation of water in the direction opposite the inspectors test connection (ITC) and force the majority of the available water flow towards the ITC.

It would be impossible to run through every scenario possible but there are a few generalities which can be used as guidance. Generally end fed systems will achieve faster fluid delivery times with lower air pressure. Generally center fed systems with moderate to better than moderate water supplies will have faster

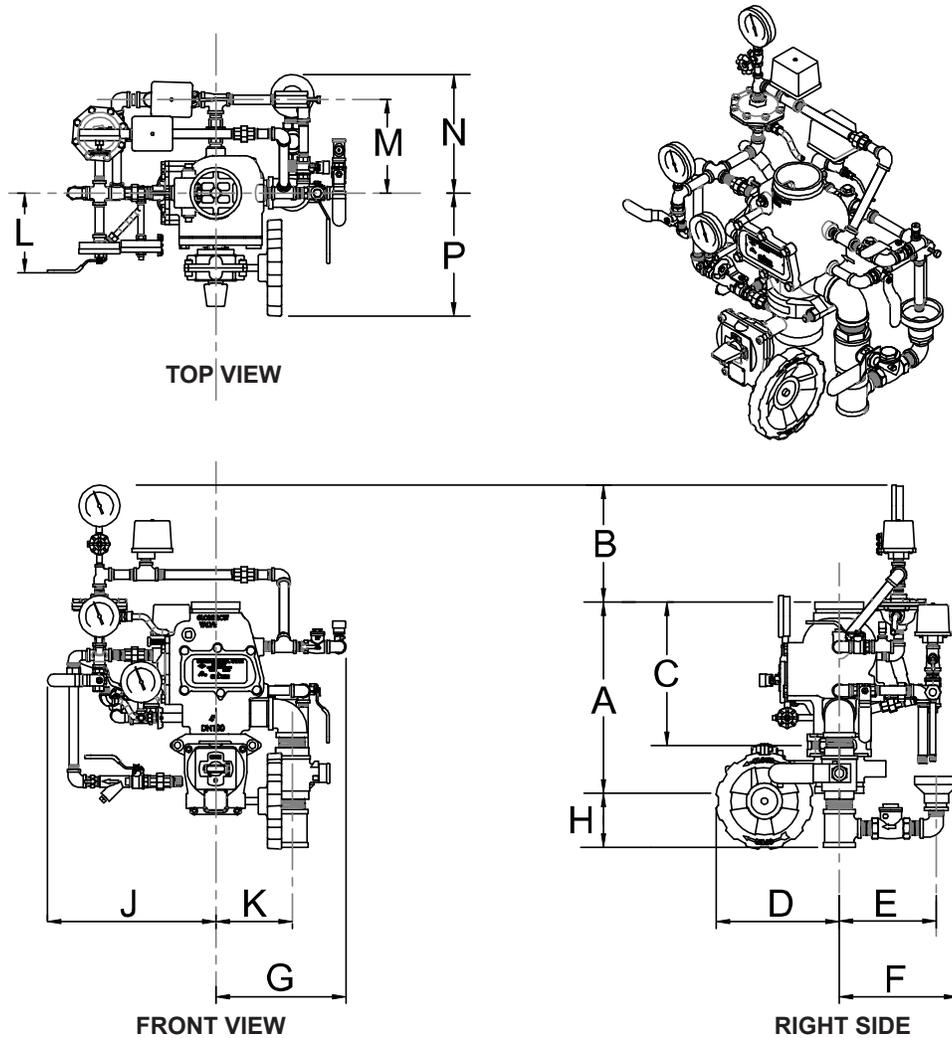
fluid delivery times with higher air pressure. This is meant to be general guidance, and should be in no way taken as a guarantee of fluid delivery time. All systems and configurations are different and there are always exceptions to the rule.

## GDPA-LP

The Model GDPA-LP is only recommended for system supply pressures up to 250 psi (17.2 Bar). The GDPA-LP is factory painted green to identify the low pressure version. The Model GDPA is the standard pressure actuator, while the GDPA-LP can be utilized for low system air pressures. The types of systems where the

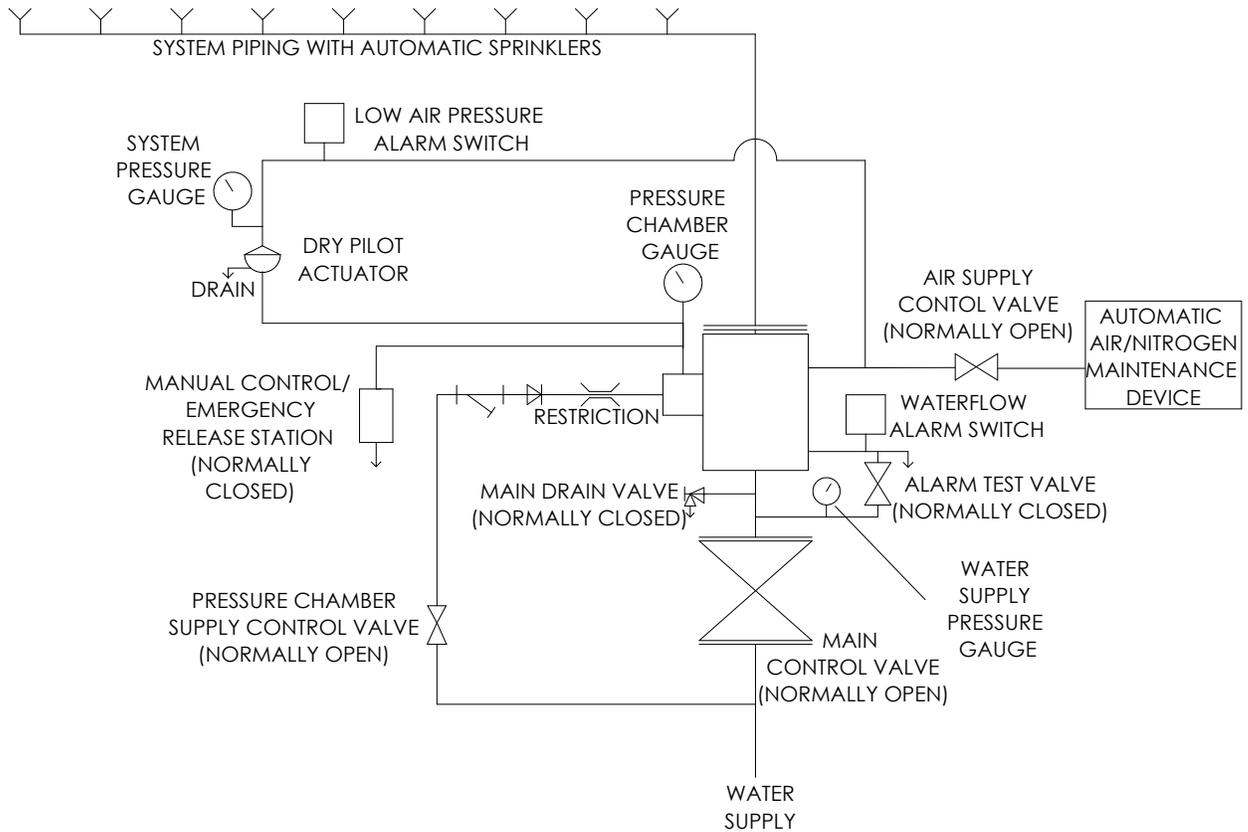
use of the GDPA-LP has the potential to be beneficial to system performance are: Dry Systems, and Double Interlock Electric/Pneumatic Systems. There is little to no advantage to utilizing the GDPA-LP in Single Interlock Dry Pilot, or Deluge Dry Pilot Systems, as the pilot lines generally have a very small volume and the valve trips very quickly no matter the pilot line pressure.

If you have any questions on the application of the GDPA vs the GDPA-LP contact Globe Sprinkler Technical Services.

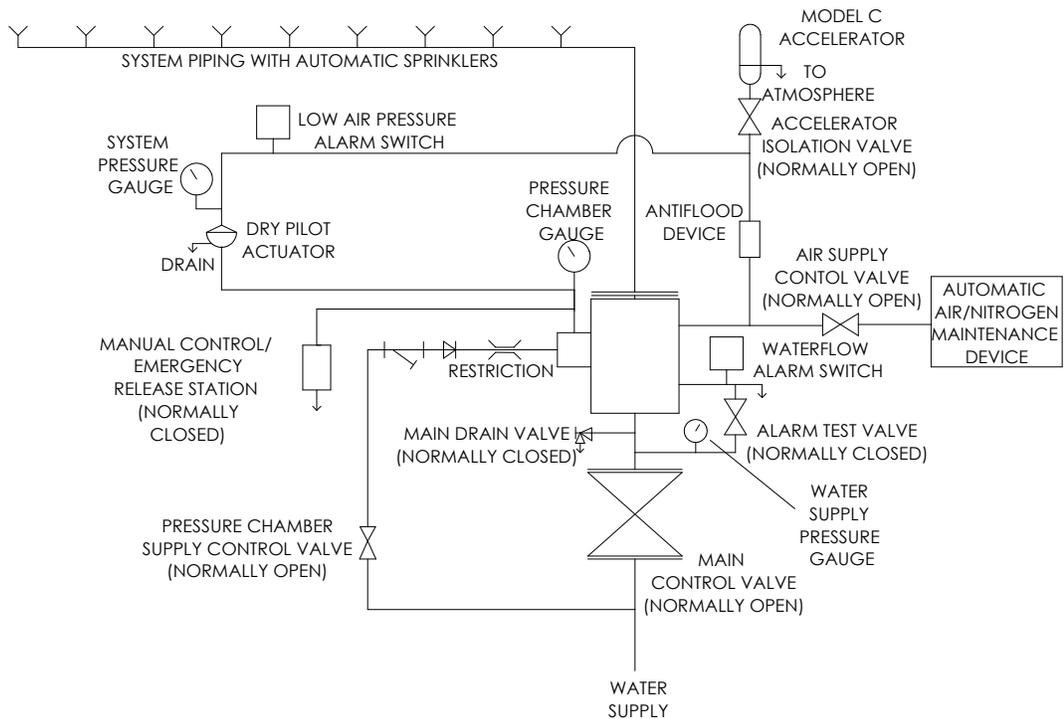


Valve Size	Nominal Installation Dimensions Inches (mm)													
	A END TO END	B	C	D	E	F	G	H	J	K	L	M	N	P
4" (DN100)	17.6 (447.7)	11 (279)	13.25 (336.5)	12 (304)	9.0 (228.6)	11.0 (279.4)	12.0 (304.8)	5 (127)	16 (406)	7.125 (181)	8 (203)	8.625 (219)	11.0 (279.4)	12 (304)
6" (DN150)	19.75 (501.6)	10 (254)	14.5 (368.3)	13 (330)	9.0 (228.6)	12 (304)	13 (330)	4.4 (111)	16 (406)	8.5 (216)	8 (203)	9.75 (247.6)	11.0 (279.4)	13 (330)

**FIGURE 3: DRY ACTUATION TRIM DIMENSIONS**

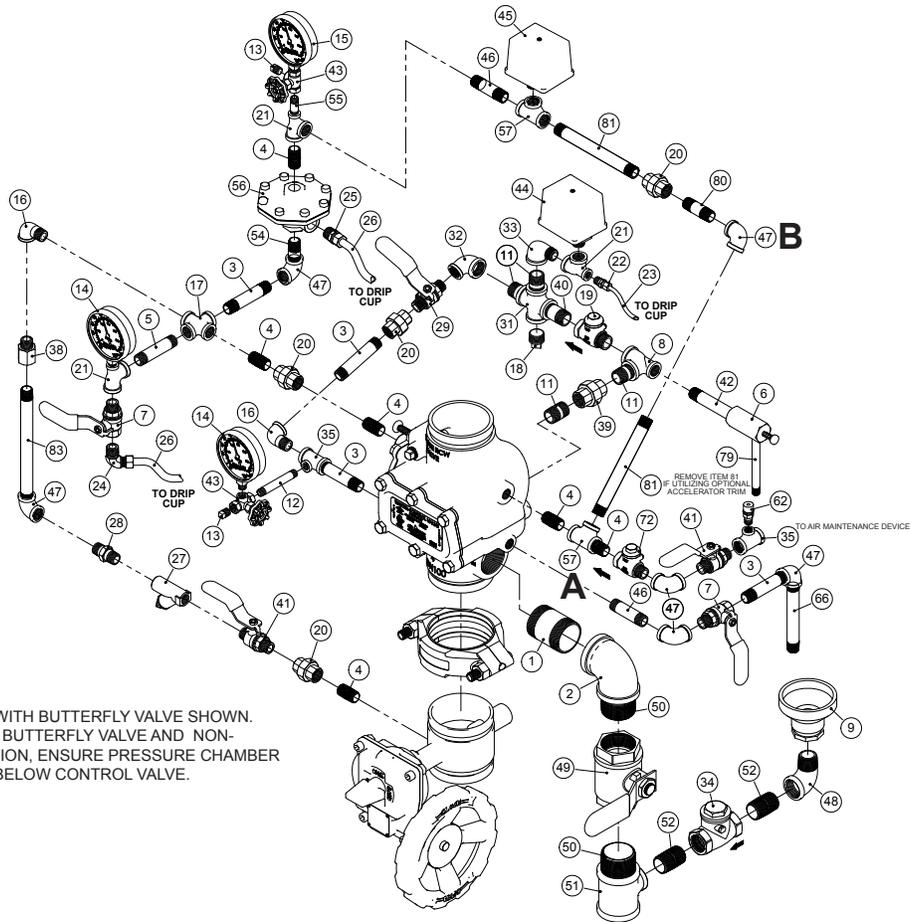


**FIGURE 4: DRY SCHEMATIC (NO ACCELERATOR)**



**FIGURE 5: DRY SCHEMATIC WITH ACCELERATOR**

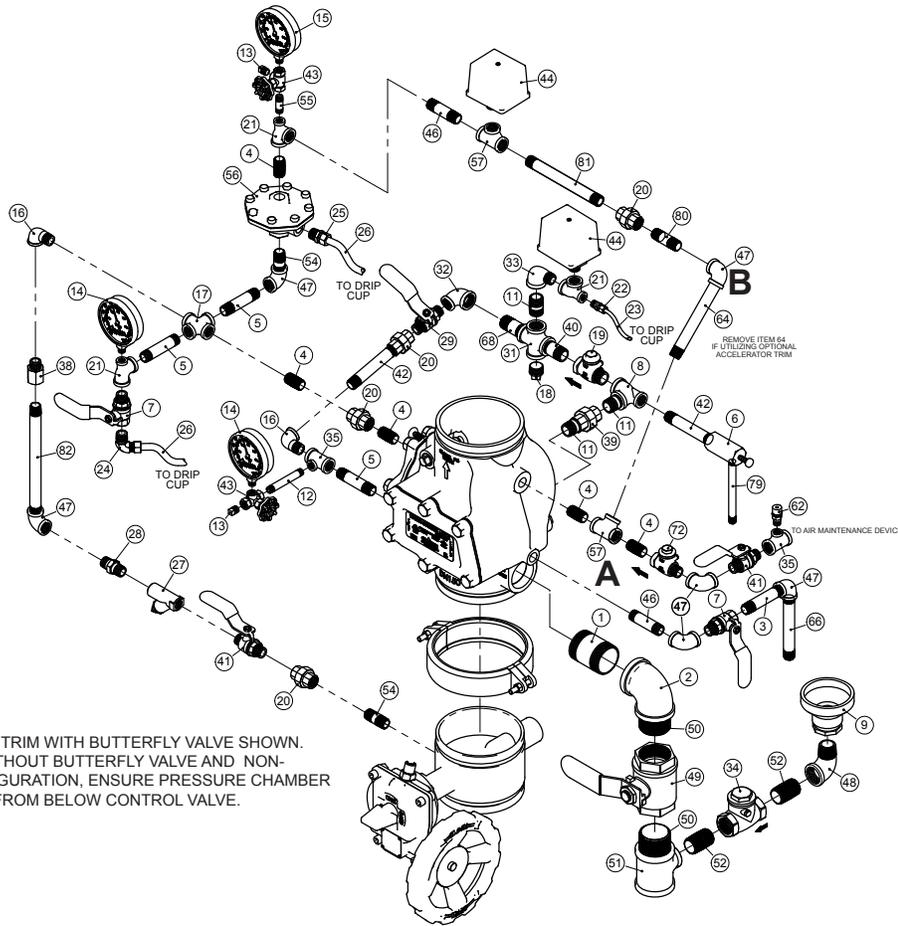
# FIGURE 6: 4" RCW DRY TRIM ARRANGEMENT



• **NOTE:** PREASSEMBLED TRIM WITH BUTTERFLY VALVE SHOWN. FOR PREASSEMBLED WITHOUT BUTTERFLY VALVE AND NON-ASSEMBLED TRIM CONFIGURATION, ENSURE PRESSURE CHAMBER SUPPLY IS CONNECTED FROM BELOW CONTROL VALVE.

ITEM NO.	PART NO.	DESCRIPTION	QTY.	ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	310802-G	2" x 3" GALV. NIPPLE	1	33	311224-G	3/4" x 1/2" GALV. STREET ELBOW	1
2	311208-G	2" GALV. ELBOW	1	34	311801	1" CHECK VALVE (FxF)	1
3	310306-G	1/2" x 4" GALV. NIPPLE	4	35	311314-G	1/2" x 1/2" x 1/4" GALV. TEE	2
4	310301-G	1/2" x 1 1/2" GALV. NIPPLE	6	38	317395	1/2" RESTRICTOR	1
5	310305-G	1/2" x 3 1/2" GALV. NIPPLE	1	39	311404-G	3/4" GALV. UNION	1
6	323300	VELOCITY CHECK VALVE	1	40	310401-G	3/4" x 2" GALV. NIPPLE	1
7	311696-R	1/2" BALL VALVE (MxF) - RED HANDLE	2	41	311794-R	1/2" BALL VALVE (MxM) - GREEN HANDLE	2
8	311313-G	3/4" x 1/2" x 3/4" GALV. TEE	1	42	310308-G	1/2" x 5" GALV. NIPPLE	1
9	317398	DRIP CUP ASSEMBLY	1	43	311683	1/4" 3-WAY VALVE	2
11	310413-G	3/4" x 1 1/2" GALV. NIPPLE	4	44	1340104	PS-10-2 ALARM SWITCH	1
12	310105-G	1/4" x 3 1/2" GALV. NIPPLE	1	45	1340404	PS-40-2 ALARM SWITCH	1
13	311001-G	1/4" GALV. PLUG	2	46	310304-G	1/2" x 3" GALV. NIPPLE	2
14	300119-D	3 1/2" WATER GAUGE (300PSI)	2	47	311203-G	1/2" GALV. ELBOW	6
15	300120-D	3 1/2" AIR GAUGE (250PSI)	1	48	311207-G	1" GALV. STREET ELBOW	1
16	311210-G	1/2" GALV. STREET ELBOW	2	49	311799-R	2" BALL VALVE (FxF) - RED HANDLE	1
17	300111-G	1/2" GALV. CROSS	1	50	310800-G	2" CLOSE GALV. NIPPLE	2
18	311004-G	3/4" GALV. PLUG	1	51	311338-G	2" x 2" x 1" GALV. TEE	1
19	311786	3/4" CHECK VALVE (MxF)	1	52	310501-G	1" x 2" GALV. NIPPLE	2
20	311403-G	1/2" GALV. UNION	4	54	310302-G	1/2" x 2" GALV. NIPPLE	1
21	311305-G	1/2" x 1/4" x 1/2" GALV. TEE	3	55	310101-G	1/4" x 1 1/2" GALV. NIPPLE	1
22	310161	1/4" TUBE CONNECTOR	1	56	317554	DRY PILOT ACTUATOR	1
23	M-320604	1/4" COPPER TUBE	-	57	311303-G	1/2" GALV. TEE	2
24	310346	1/2" ELBOW TUBE CONNECTOR	1	62	317445	1/4" PRESSURE RELIEF VALVE (ADJ. PSI) FACTORY SET @ 45PSI	1
25	310164	1/2" TUBE CONNECTOR	1	66	310310-G	1/2" x 6" GALV. NIPPLE	1
26	M-320591	1/2" COPPER TUBE	-	72	311802	1/2" CHECK VALVE (MxF)	1
27	317397	1/2" Y-STRAINER	1	79	310110-G	1/4" x 6" GALV. NIPPLE	1
28	317396	1/2" SPRING LOADED CHECK VALVE	1	80	310303-G	1/2" x 2 1/2" GALV. NIPPLE	1
29	311794-R	1/2" BALL VALVE (MxM) - RED HANDLE	1	81	310313-G	1/2" x 7 1/2" GALV. NIPPLE	2
31	300112-G	3/4" GALV. CROSS	1	83	310337-G	1/2" x 9 1/2" GALV. NIPPLE	1
32	311212-G	3/4" x 1/2" GALV. REDUCING ELBOW	1				

# FIGURE 7: 6" RCW DRY TRIM ARRANGEMENT

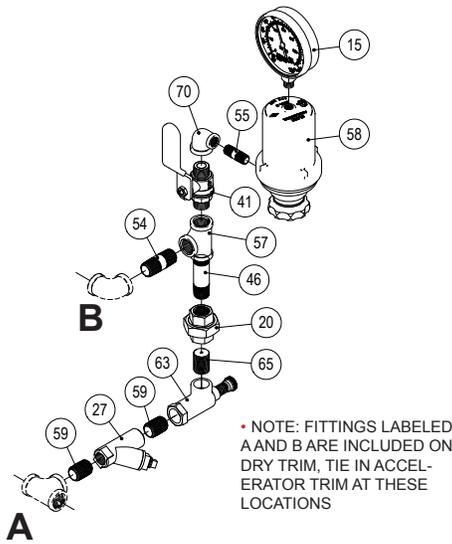


• NOTE: PREASSEMBLED TRIM WITH BUTTERFLY VALVE SHOWN. FOR PREASSEMBLED WITHOUT BUTTERFLY VALVE AND NON-ASSEMBLED TRIM CONFIGURATION, ENSURE PRESSURE CHAMBER SUPPLY IS CONNECTED FROM BELOW CONTROL VALVE.

ITEM NO.	PART NO.	DESCRIPTION	QTY.	ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	310802-G	2" x 3" GALV. NIPPLE	1	33	311224-G	3/4" x 1/2" GALV. STREET ELBOW	1
2	311208-G	2" 90° GALV. ELBOW	1	34	311801	1" CHECK VALVE (FxF)	1
3	310306-G	1/2" x 4" GALV. NIPPLE	1	35	311314-G	1/2" x 1/2" x 1/4" GALV. TEE	2
4	310301-G	1/2" x 1 1/2" GALV. NIPPLE	5	38	317395	1/2" RESTRICTOR	1
5	310305-G	1/2" x 3 1/2" GALV. NIPPLE	3	39	311404-G	3/4" GALV. UNION	1
6	323300	VELOCITY CHECK VALVE	1	40	310401-G	3/4" x 2" GALV. NIPPLE	1
7	311696-R	1/2" BALL VALVE MXF - RED HANDLE	2	41	311794-GR	1/2" BALL VALVE MxM - GREEN HANDLE	2
8	311313-G	3/4" x 1/2" x 3/4" GALV. TEE	1	42	310308-G	1/2" x 5" GALV. NIPPLE	2
9	317398	DRIP CUP ASSEMBLY	1	43	311683	1/4" 3-WAY VALVE	2
11	310413-G	3/4" x 1 1/2" GALV. NIPPLE	3	44	1340104	PS-10-2 ALARM SWITCH	1
12	310105-G	1/4" x 3 1/2" GALV. NIPPLE	1	45	1340404	PS-40-2 ALARM SWITCH	1
13	311001-G	1/4" GALV. PLUG	2	46	310304-G	1/2" x 3" GALV. NIPPLE	2
14	300119-D	3-1/2" WATER GAUGE (300PSI)	2	47	311203-G	1/2" GALV. ELBOW	5
15	300120-D	3-1/2" AIR GAUGE (250PSI)	1	48	311207-G	1" GALV. STREET ELBOW	1
16	311210-G	1/2" GALV. STREET ELBOW	4	49	311799-R	2" BALL VALVE (FxF) - RED HANDLE	1
17	300111-G	1/2" GALV. CROSS	1	50	310800-G	2" CLOSE GALV. NIPPLE	2
18	311004-G	3/4" GALV. PLUG	1	51	311338-G	2" x 2" x 1" GALV. TEE	1
19	311786	3/4" CHECK VALVE MxF	1	52	310501-G	1" x 2" GALV. NIPPLE	2
20	311403-G	1/2" GALV. UNION	4	54	310302-G	1/2" x 2" GALV. NIPPLE	1
21	311305-G	1/2" x 1/4" x 1/2" GALV. TEE	3	55	310101-G	1/4" x 1 1/2" GALV. NIPPLE	1
22	310161	1/4" TUBE CONNECTOR	1	56	317554	DRY PILOT ACTUATOR	1
23	M-320604	1/4" COPPER TUBE	-	57	311303-G	1/2" GALV. TEE	2
24	310346	1/2" ELBOW TUBE CONNECTOR	1	62	317445	1/4" PRESSURE RELIEF VALVE (ADJ. PSI) FACTORY SET @ 45PSI	1
25	310164	1/2" TUBE CONNECTOR	1	66	310310-G	1/2" x 6" GALV. NIPPLE	1
26	M-320591	1/2" COPPER TUBE	-	68	310402-G	3/4" x 2 1/2" GALV. NIPPLE	1
27	317397	1/2" Y-STRAINER	1	64	310336-G	1/2" x 7" GALV. NIPPLE	1
28	317396	1/2" SPRING LOADED CHECK VALVE	1	72	311802	1/2" CHECK VALVE MxF	1
29	311794-R	1/2" BALL VALVE MxM - RED HANDLE	1	79	310110-G	1/4" x 6" GALV. NIPPLE	1
31	300112-G	3/4" GALV. CROSS	1	80	310303-G	1/2" x 2 1/2" GALV. NIPPLE	1
32	311212-G	3/4" x 1/2" GALV. REDUCING ELBOW	1	81	310313-G	1/2" x 7 1/2" GALV. NIPPLE	1

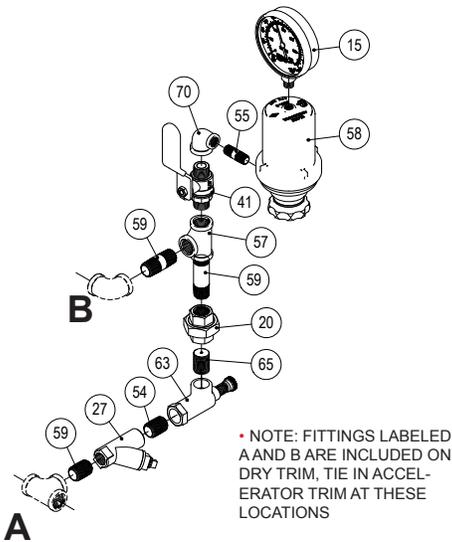
## FIGURE 8: OPTIONAL ACCELERATOR TRIM ARRANGEMENT

### 4" ACCELERATOR TRIM ARRANGEMENT



ITEM NO.	PART NO.	DESCRIPTION	QTY.
15	300120-D	3 1/2" AIR GAUGE (250PSI)	1
20	311403-G	1/2" GALV. UNION	1
27	317397	1/2" Y-STRAINER	1
41	311794-R	"1/2"" BALL VALVE MxM - RED	1
46	310304-G	1/2" x 3" GALV. NIPPLE	1
54	310302-G	1/2" x 2" GALV. NIPPLE	1
55	310101-G	1/4" x 1 1/2" GALV. NIPPLE	1
57	311303-G	1/2" GALV. TEE	1
58	300400	GLOBE MODEL "C" ACCELERATOR	1
59	310300-G	1/2" CLOSE GALV. NIPPLE	2
63	323340	MODEL "D" ANTI-FLOODING DEVICE	1
65	320506	ø.125 RESTRICTED ORIFICE	1
70	311213-G	1/2" x 1/4" GALV. ELBOW	1

### 6" ACCELERATOR TRIM ARRANGEMENT



ITEM NO.	PART NO.	DESCRIPTION	QTY.
15	300120-D	3 1/2" AIR GAUGE (250PSI)	1
20	311403-G	1/2" GALV. UNION	1
27	317397	1/2" Y-STRAINER	1
41	311794-R	1/2" BALL VALVE MxM - RED	1
54	310302-G	1/2" x 2" GALV. NIPPLE	1
55	310101-G	1/4" x 1 1/2" GALV. NIPPLE	1
57	311303-G	1/2" GALV. TEE	1
58	300400	GLOBE MODEL "C" ACCELERATOR	1
59	310300-G	1/2" CLOSE GALV. NIPPLE	3
63	323340	MODEL "D" ANTI-FLOODING DEVICE	1
65	320506	ø.125 RESTRICTED ORIFICE	1
70	311213-G	1/2" x 1/4" GALV. ELBOW	1

## ACCELERATOR TRIM

The accelerator trim comes in three different options. If the valve is ordered pre-assembled the appropriate trim configuration will be added to the dry valve trim according to Figure 4 or Figure 5 respectively. If the accelerator trim is ordered as a separate trim kit, the kit will include all of the necessary parts and pieces to construct either the 4" or 6" arrangement. Therefore there is only one part number for the 4" and 6" accelerator assembly trim kit.

The dry system trim is approved with the Model C mechanical accelerator. See Technical Datasheet H-8 for more information on the antiflood device and mechanical accelerator.

# INSTALLATION AND MAINTENANCE

## INSTALLATION

Proper operation of the RCW Valve (i.e., opening of the RCW Valve as during a fire condition) is highly dependent on the correct installation of the trim. It is necessary to install the trim components as described in the figures above for the valve to function properly. Failure to do so may prevent the valve from functioning and could void Listings, Approvals, and/or the manufacturer's warranty. All tubing directed to the "drip cup" must have smooth bends. Abrupt changes in direction or kinks in the tubing could result in a restriction of flow and an adverse effect on the functionality of the valve.

The Model RCW Valve must be installed in an accessible and visible location, which is maintained at or above a minimum temperature of 40°F (4°C). The RCW Valve must be installed in the vertical orientation.

All valves must be installed in accordance with the appropriate installation standard (i.e. NFPA 13, NFPA 15 or other). All electrical connections must be made per the applicable installation standard and/or the National Electric Code (i.e. NFPA 70, NFPA 72 or other).

Proper hydrostatic test procedure must be followed per NFPA 13. The velocity check valve must be replaced with a plug temporarily, the pressure chamber must be vented during the hydrostatic test procedure by opening the manual release valve and the clapper must be latched in the open position.

## DRY VALVE SETTING PROCEDURE

The following steps are to be followed for initial setting of the Model RCW dry system valve, after a trip test of the fire protection system or, after any system operation.

- STEP 1.** Close the main control valve.
- STEP 2.** Close the pressure chamber supply control valve and the system air supply valve.
- STEP 3.** Open the main drain valve, lower body (Aux) drain valve, all low point drain valves and auxiliary drain valves on the system. Open the manual emergency release control valve. Depress the plunger of the velocity check valve to verify that it is not under pressure and that the system piping is completely drained. After system is completely drained, close all low point and auxiliary drain valves that are open. The manual emergency release control valve and main drain valve should remain open until directed in the following steps.
- STEP 4.** Depress the reset plunger located at the top of the pressure chamber to reset the clapper of the RCW valve (the sound of the clapper falling into position should be heard). Close the manual emergency release control valve.
- STEP 5.** Replace any operated automatic sprinklers with the same type, i.e. orientation, orifice, temperature, and thermal sensitivity. Open the air supply valve to re-establish normal system pressure. Open the manual emergency release control valve and then the pressure chamber supply control valve. Slowly close the manual emergency release control valve and allow pressure to increase in the pressure chamber and also up to the dry pilot actuator.

**STEP 6.** Observe all drain tubing at the drip cup. If any leakage is observed, the source of the leakage must be identified and corrected.

**STEP 7.** Partially open the main control valve. Slowly close the main drain valve when water discharges from the drain connection. Observe the supply pressure gauge and the pressure chamber gauge. They should indicate the same pressure reading. Depress the plunger on the velocity check valve. If leakage is apparent, the cause of the leakage must be identified and corrected. If there are no leaks, open the system control valve fully and the system is set for service.

## MODEL C ACCELERATOR SETTING PROCEDURE

- STEP 1.** Close the accelerator shutoff valve
- STEP 2.** Follow the Dry Valve Setting Procedure
- STEP 3.** Upon completion of the Dry Valve Setting Procedure. Open the accelerator shutoff valve slowly. Watch the pressure gauge on the upper chamber of the Model C Accelerator for 30 seconds. The pressure should start to increase. If the pressure increases and the accelerator sets (no air coming from the discharge of the accelerator), wait for the upper chamber of the accelerator to reach the system air pressure and the system is set for service. If the pressure does not increase in 30 seconds continue to step 4.
- STEP 4.** Close the accelerator shutoff valve. Remove the lower hand wheel plug. The accelerator interior valve assembly should be removed. This complete assembly can be pulled out by hand (if it does not come out with the lower hand wheel plug when it is unscrewed). This will allow any water, that may have accumulated in the upper chamber, to drain out and permit thorough cleaning of the valve disc, seat assembly, and the orifice pin.
- STEP 5.** The valve assembly can then be replaced and the lower hand wheel plug screwed back into position. Open the accelerator shutoff valve slowly. The accelerator is set for service when the air pressure gauge on the top of the accelerator reads normal system air pressure. If air pressure does not rise in the upper chamber of the accelerator after 1 minute call Globe Technical Support for more detailed instruction.

## TESTING

Reference NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

Before proceeding with any tests involving water flow, the following precautions need to be taken:

- STEP 1.** Check the location where the test connection discharges to make sure that all is clear and that there is no possibility of the water flow causing damage or injury.
- STEP 2.** Check the end of the test connection to make sure that it is unobstructed. To achieve a satisfactory test, there must be an unrestricted flow of water when the test valve is wide open.
- STEP 3.** Check for alarm connections to a central sta-

tion or fire department. If such connections are found, give proper notice to the signal receiving station before proceeding with the test.

*Note: A main drain test may also operate local fire alarms unless they are temporarily disabled.*

## **DRY SYSTEM TRIP TEST PROCEDURE**

Proper operation of the RCW Valve (i.e., opening of the RCW Valve as during a fire condition) must be verified, as described by the applicable Inspection Testing and Maintenance Standard (i.e. NFPA 25) or by the Local Authority Having Jurisdiction. Globe Sprinkler Corporation recommends performing a trip test annually. The steps to perform a trip test are as follows:

**STEP 1.** If a partial flow trip test is necessary, perform the following additional steps. If a normal flow test is being performed continue to Step 2:

1. Close the main control valve.
2. Open the main drain valve.
3. Open the main control valve one turn beyond the position at which water just begins to flow from the main drain valve.
4. Close the main drain valve.

*Note: Be sure to close the main control valve quickly after the trip of the valve has been verified.*

- STEP 2.** Open the inspectors test valve at the end of the system.
- STEP 3.** Verify that the RCW Valve has tripped, as indicated by the flow of water into the system and activation of the water flow alarm.
- STEP 4.** Close the system's Main Control Valve.
- STEP 5.** Close the Diaphragm Chamber Supply Control Valve.
- STEP 6.** Reset the RCW Dry Valve in accordance with the Dry Valve Setting Procedure.

## **DRY SYSTEM WATERFLOW ALARM TEST PROCEDURE**

Testing of the system water flow alarms must be performed as described by the applicable inspection testing and maintenance standard (i.e. NFPA 25) or as described by the local AHJ. To test the water flow alarm, open the alarm test valve, which will allow a flow of water to the pressure alarm switch and/or water motor alarm. Upon satisfactory completion of the test, close the alarm test valve.

## **MAINTENANCE**

### **Note:**

- All valves should be carefully inspected, tested, and maintained in accordance with NFPA 25 or other applicable Standard.
- It is important to ensure a clean water supply free of debris and solid particles such as sand, gravel, or mud.
- If, during an inspection of a water control valve, sediment or free particles of matter are noted, a further examination of internal valve parts is necessary.
- All deposits should be removed from all operating parts and ports. Vent holes through intermediate chamber should be thoroughly cleaned and flushed with clean water.

- Where difficulty in performance is experienced, the manufacturer or its authorized representative shall be contacted before any field adjustment is to be made.

**Clapper Facing.** The rubber clapper facing should be checked for wear or damage to determine that it is free of dirt and other foreign substances. If found to be worn or damaged (e.g., foreign matter embedded in the surface), the facing should be replaced. If it is dirty, it should be cleaned. Compounds which could damage the rubber facing must never be used.

**Seat Ring.** The seat ring should be checked for nicks and for stones, dirt or other foreign matter lodged in the grooves or holes. It should be cleaned thoroughly. If the seat ring is found to be damaged, valve should be replaced.

**Alarm Line Check Valve.** The  $\frac{3}{4}$ " check valve connected to the intermediate chamber should be checked for clapper and seat condition.

**RCW Valve.** Main Drain Valve and all controlling valves which are normally closed when the deluge valve is in the set position should be checked to be sure that they are fully closed and not leaking.

# ORDERING INFORMATION

The RCW Valve, Dry System configuration or Dry System with accelerator configuration can be ordered pre-trimmed or non-assembled as separate items. All trim comes standard with galvanized nipples and fittings (Standard galvanized trim is not domestic). For non-assembled the following items must be ordered separately:

- RCW Water Control Valve
- Dry System Trim Kit
- Optional Accelerator Trim Kit
- Automatic Air Supply (Air Maintenance Device)
- Accessories (as needed)

## PRE-TRIMMED WITH MODEL GLR300G CONTROL VALVE

### RCW Dry Pre-Trimmed (No Accelerator)

Specify: RCW Dry Pre-trimmed w/BFV Control Valve (specify valve size),

4 inch GxG. ....	317448-B
4 inch GxG. ....	317448-B-LP
6 inch GxG. ....	317493-B
6 inch GxG. ....	317493-B-LP
DN 150 (165,1 mm) GXG .....	317493-D-B
DN 150 (165,1 mm) GXG .....	317493-D-B-LP

### RCW Dry Pre-Trimmed with Accelerator

Specify: RCW Dry Pre-trimmed (specify valve size), PN (see Part Number Below)

4 inch GxG. ....	317449-B
4 inch GxG. ....	317449-B-LP
6 inch GxG. ....	317494-B
6 inch GxG. ....	317494-B-LP
DN 150 (165,1 mm) GXG .....	317494-D-B
DN 150 (165,1 mm) GXG .....	317494-D-B-LP

Note:

-LP denotes version with GDPA-LP actuator (Lower System Pressure)

## PRE-TRIMMED WITHOUT BFV CONTROL VALVE

### RCW Dry Pre-Trimmed (No Accelerator)

Specify: RCW Dry Pre-trimmed (specify valve size)

4 inch GxG. ....	317448
4 inch GxG. ....	317448-LP
6 inch GxG. ....	317493
6 inch GxG. ....	317493-LP
DN 150 (165,1 mm) GXG.....	317493-D
DN 150 (165,1 mm) GXG.....	317493-D-LP

### RCW Dry Pre-Trimmed with Accelerator

Specify: RCW Dry Pre-trimmed (specify valve size), PN (see Part Number Below)

4 inch GxG. ....	317449
4 inch GxG. ....	317449-LP

6 inch GxG. ....	317494
6 inch GxG. ....	317494-LP
DN 150 (165,1 mm) GXG .....	317494-D
DN 150 (165,1 mm) GXG .....	317494-D-LP

Note:

-LP denotes version with GDPA-LP actuator (Lower System Pressure)

## NON-ASSEMBLED

- Valve body ordered separately
- Accelerator Trim Kit ordered separately
- Trim Kit includes extra pieces to accommodate different size valves

### RCW Water Control Valve

Specify: RCW Valve Only (specify valve size),

4 inch RCW-2 GxG .....	317400
6 inch RCW-2 GxG .....	317550
DN 150 (165,1 mm) RCW-2 GXG.....	317550-D

### RCW Dry Trim 4 inch or 6 inch or DN 150

Specify: RCW Dry Trim Kit,

Dry Trim Kit .....	317340
Dry Trim Kit .....	317340-LP

Note:

-LP denotes version with GDPA-LP actuator (Lower System Pressure)

### Model C Accelerator Trim Kit 4 inch or 6 inch

Specify: RCW Dry Model C Accelerator Trim Kit, PN .....

PN .....	317341
----------	--------

Note:

Trim Kit includes extra pieces to accommodate different size valves

See Technical Data Sheet H-8 for more information on the Model C Accelerator and Antiflood Device

### Model H-1, H-2 or H-3 Air Maintenance Device

Specify: Model (Specify Model) Air Maintenance Device (see Part Number below)

H-1. ....	320585
H-2. ....	320595
H-3. ....	320600

See Technical Literature G-1 and G-2 for more information on Air Maintenance Devices

Note:

300 psi (20.6 Bars) Pressure Gauges Standard (600 psi (41.2 Bars) Ordered Separately

PN .....

See trim drawings for trim replacement part numbers

See Technical Data Sheet GFV200 for RCW Valve replacement part numbers

# **GLOBE® PRODUCT WARRANTY**

Globe agrees to repair or replace any of its own manufactured products found to be defective in material or workmanship for a period of one year from date of shipment.

For specific details of our warranty please refer to Price List Terms and Conditions of Sale (Our Price List).

---

4077 Airpark Dr.  
Standish, MI 48658  
Ph. 989-846-4583

Technical Support  
1-800-248-0278  
techservice@globesprinkler.com

[www.globesprinkler.com](http://www.globesprinkler.com)

