ASTRA - DRY PIPE VALVES

FLANGE/FLANGE

3" / DN80

Document includes technical information for :

ASTRA Dry Pipe Valves model A
Trim configuration UL/cUL/FM
Trim configuration UL/cUL/FM/LPCB

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RESETTING THE ASTRA DRY PIPE VALVE

1. Close main controlling valve or post indicator to shut off water supply to sprinkler system.
2. Open valve 1 to drain sprinkler system.
3. Gong and electric valve may be shut off by closing valve 2.
4. Vent sprinkler system by opening 3/4" (19.05mm) inspector's test valve which is normally located at the top.
5. After system is thoroughly drained, remove cover plate 3 for resetting dry valve.
6. Raise clapper off seat and scoop out any scale or solid particles found in intermediate chamber, in the bottom of the valve air and water seats. Using a clean piece of cloth wipe the surface of the rubber seats on the swinging clapper, also the tin seats in the valve. Never apply grease, tallow, or any other substance to water or air seat.
7. Let bronze clapper down on its seat making sure that the rubber air ring presses evenly all around the air seat.
8. Put on cover plate 3 making sure that gasket is in good condition. Replace nuts and tighten evenly, all around.
9. Drip valves are found at low points (if any) on sprinkler piping. They would not be drained by previous operation - open these valves for draining after removing plugs and close when water stops running
10. Close 3/4" (19.05mm) inspector's test valve, previously opened to vent system.
11. Replace sprinklers fused by fire.
12. Prime by opening valve 4 and slowly pour water into priming cup 5 until priming level is even with the cup. remove plug 7 in valve 6 which is normally open; after water stops running replace plug 7 and close valve 4 tightly. Water must not be allowed to stand above the priming water level.
13. Open valve 8 and pump air pressure into the system. When ten pounds (4.536 kg) pressure has been built up, open drip valve again to force water from low points of system. Close drip valves tightly and plug.
14. Pump the correct air pressure into the sprinkler system, then close valve 8 tightly. Make sure these is no leakage of priming water by the rubber air seat into drip cut 10 by observing automatic drain valve 9.

Note: *Never allow air pressure to drop below minimum limit, to safeguard against accidental tripping of dry valve. Air pressure required for sprinkler system should be calculated at approximately one (1) PSI of air for every six (6) PSI of water pressure. The air pressure should be maintained at approximately twenty (20) PSI above calculated air pressure, per NFPA-13.*

15. Partly close valve 1- then open main controlling valve slowly, until water is heard flowing through drain valve 1, then close tightly and open controlling valve fully and seal.
16. To check water seat inside the dry pipe valve, look at the automatic drain valve 9, and make sure that no water is leaking into the drip cup 10.
17. Open automatic drain valve 9 to be sure no water remains in pipe to alarm devices, then close.
18. Valve 2 should now be opened.

INSPECTION AND MAINTENANCE

A minimum of two people should be familiar with the sprinkler system but at least one should be held responsible for its proper maintenance

1. Test main riser for water to make sure dry pipe valve is not water columned. Water should be up to but not above the level of valve 6.
2. Close main control valve. Open main drain valve 1.
3. Close valve 6 and remove plug 7. Open 6 to drain water which is above the level of this valve. Replace plug 7 and open valve 6. Check air pressure according to NFPA-13. Close drain valve 1 and the open main control valve.
4. Air pressure must be maintained and checked weekly under normal conditions. During freezing weather it should be checked daily. Check valve 8 in the fall before freezing weather sets in to assure a tight seat.
5. Alarm devices may be tested occasionally without tripping the dry pipe valve by opening valve 11 if weather allows.
6. Drip valves or drum drips should be drained before freezing weather sets in and occasionally during winter.

Note: *We also recommend at least an annual inspection by qualified inspectors of the complete fire protection system. Many times defects may be detected during inspection and repairs made before they develop into major troubles might mean the protection would be off in your plant for several days.*

3" ASTRA DRY VALVE - FL/FL

RATED 175 PSI WORKING PRESSURE

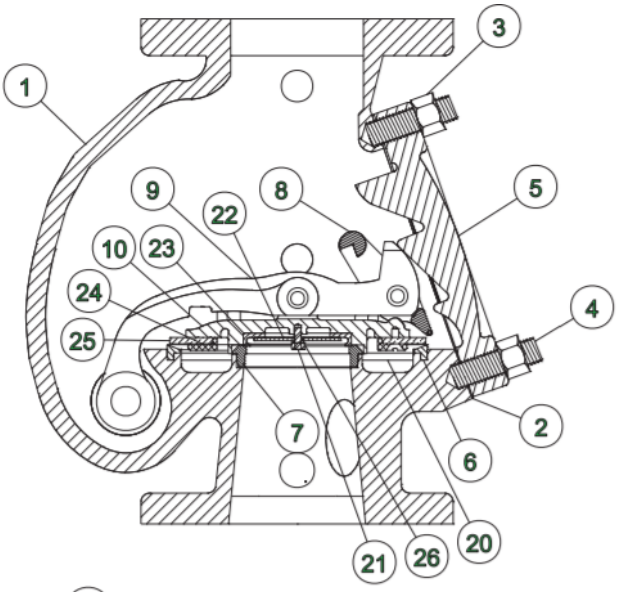
DESCRIPTION AND OPERATION

The **ASTRA** 3" Dry Pipe Valve model A is essentially a differential check valve. The bronze clapper carries two rubber gaskets. The larger (air) gasket is rubber and seats against pure tin. The smaller (water) gasket is a specially designed rubber disc, which also seats on pure tin. These seats are proportioned so that 1 pound (.454 kg) of air pressure will hold back approximately 6 pounds (2.72kg) of water pressure.

When the air pressure on the surface of the priming water is relieved by the opening of a sprinkler, the upward pressure of the water underneath the water gasket causes the clapper to lift, the chamber instantly fills and sounds the alarm. The water pressure acting on the entire surface of the clapper pushes it over to the wide open position and thus leaves a passage for the water to the sprinkler system.

Parts List

ITEM	Part No.	DWG No.	DESCRIPTION
1	D-	DPVA 3004	Body
2	D-2	DPV 3031	Cover gasket
3	ON-12A	DPV 3033	Heavy Hex. nut
4	D-268	DPV 3032	Cover plate stud 3/4"
5	D-47	DPV 3007	Cover
6		DPV 3012	Air seat
7		DPV 3040	Water seat
8	D-34	DPV 3024	Latch
9	D-29	DPV 3009	Clapper arm assem.
10	D-2274	DPV 3019	Clapper assem.
11	D-33	DPV 3021	Arm hinge pin plug
12		DPV 3022	Asbestos gasket
13		DPV 3025	Arm pin bushing
14	D-30	DPV 3020	Arm hinge pin
15	OPC-3-10A	DPV 3030	Cotter pin brass
16		DPV 3026	Clapper pin bushing
17		DPV 3027	Latch pin bushing
18	D-31	DPV 3029	Latch pin
19	D-32	DPV 3028	Clapper hinge pin
20	OMS-16-10A	DPV 3018	Machine screw
21		DPV 3016	Hex. cap screw
22	D-2272	DPV 3013	Water seat disc
23	D-2273	DPV 3015	Water seat gasket
24	D-38	DPV 3034	Air seat retainer
25	D-40	DPV 3014	Air seat gasket
26		DPV 3017	Lock washer

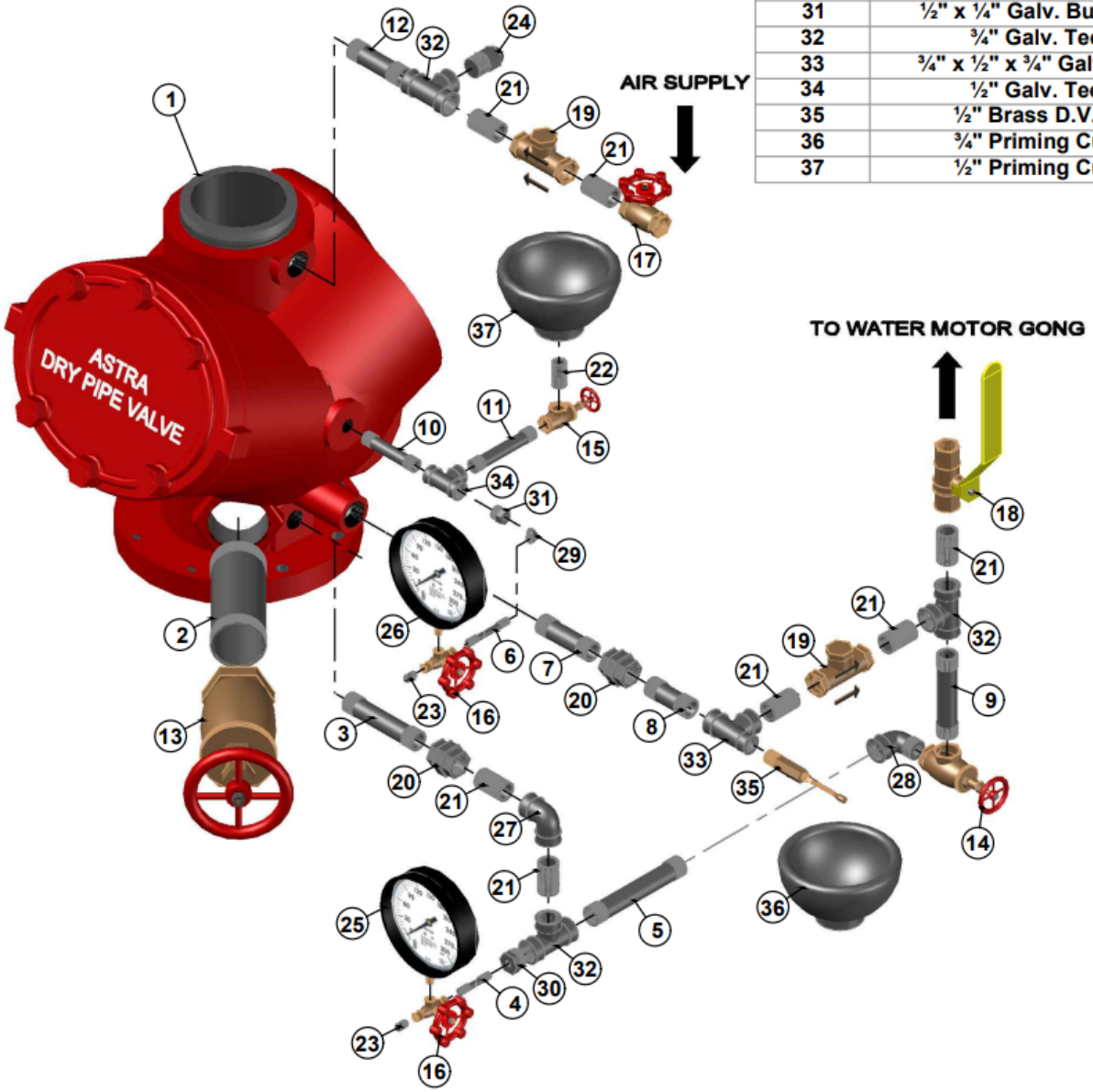


3" (DN80) Dry Valve Model "A" (FLANGE/FLANGE)	
Approvals : UL, FM, LPCB	
Face to face : 14- 3/4"	Weight : 125 lbs
Working Pressure : 175 PSI	
Bolt Circle : PN-16 / ANSI-125	

3" - 4" - 6" ASTRA DRY VALVE TRIM "UL/FM"

NO. ITEM	DESCRIPTION	QTY
1	3", 4" Or 6" Dry Pipe Valve	1
2	3" Valve: 1-½" x 5" Galv. Nipple 4" & 6" Valve: 2" x 5" Galv. Nipple	1
3	3" & 6" Valve: ¾" x 4" Galv. Nipple 4" Valve: ¾" x 3-½" Galv. Nipple	1
4	¼" x 1-½" Galv. Nipple	1
5	¾" x 4-½" Galv. Nipple	1
6	¼" x 2" Galv. Nipple	1
7	¾" x 2-½" Galv. Nipple	1
8	¾" x 2" Galv. Nipple	1
9	¾" x 3-½" Galv. Nipple	1
10	½" x 2-½" Galv. Nipple	1
11	½" x 3" Galv. Nipple	1
12	3" Valve: ¾" x 4" Galv. Nipple 4" & 6" Valve: ¾" x 2-½" Galv. Nipple	1
13	3" Valve: 1-½" Brass Angle Valve 4" & 6" Valve: 2" Brass Angle Valve	1

NO. ITEM	DESCRIPTION	QTY
14	¾" Brass Angle Valve	1
15	½" Brass Angle Valve	1
16	¼" Brass 3 Way Valve	2
17	¾" Brass Globe Valve	1
18	¾" Brass Ball Valve	1
19	¾" Brass Check Valve	2
20	¾" Galv. Union	2
21	¾" Galv. Close	7
22	½" Galv. Close	1
23	¼" Steel Plug	2
24	¾" Steel Plug	1
25	Water Gauge	1
26	Air Gauge	1
27	¾" Galv. Elbow	1
28	¾" Galv. Street Elbow	1
29	¼" Galv. Street Elbow	1
30	¾" x ¼" Galv. Bushing	1
31	½" x ¼" Galv. Bushing	1
32	¾" Galv. Tee	3
33	¾" x ½" x ¾" Galv. Tee	1
34	½" Galv. Tee	1
35	½" Brass D.V.D.	1
36	¾" Priming Cup	1
37	½" Priming Cup	1



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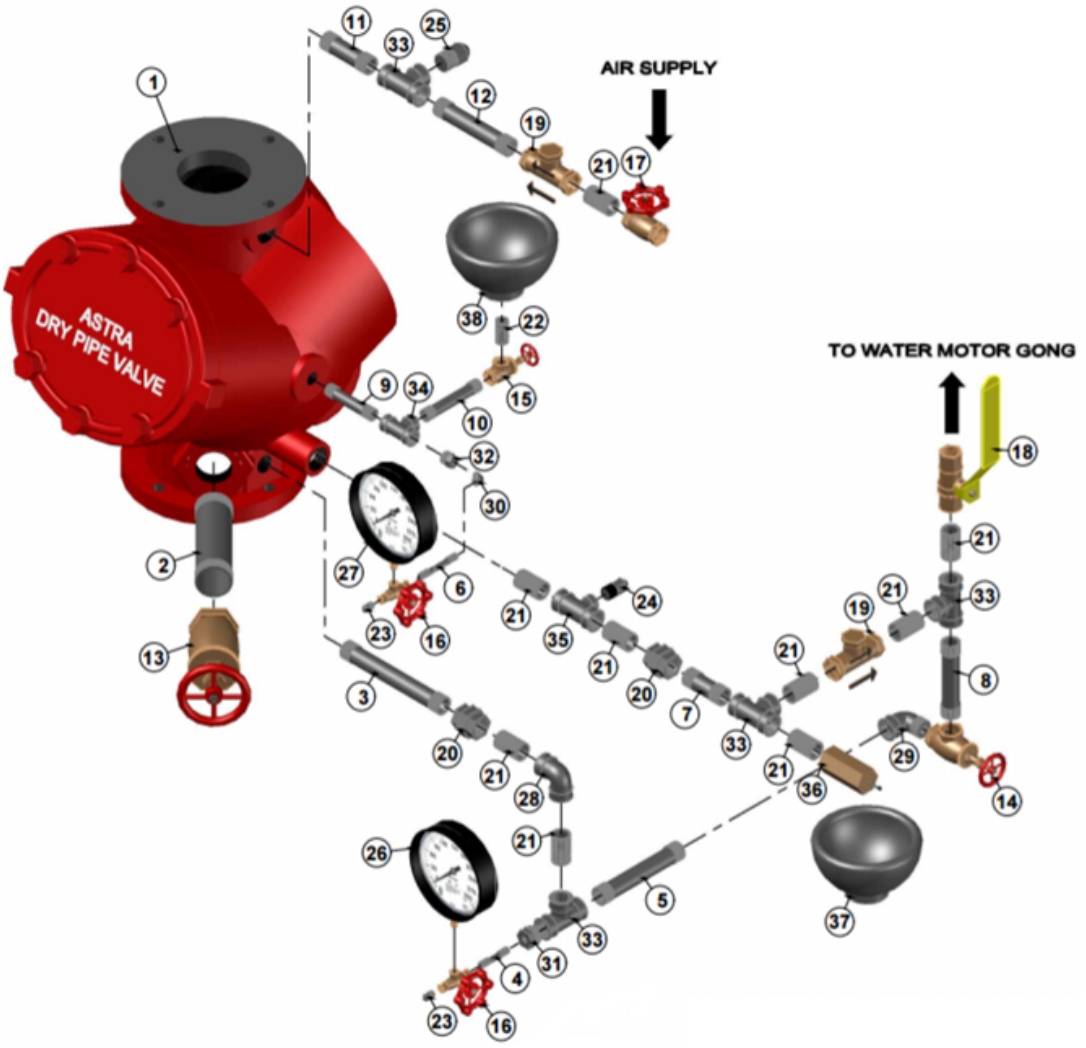
3" ASTRA DRY VALVE TRIM "LPCB"

NO. ITEM	DESCRIPTION	QTY
1	3" DRY PIPE VALVE	1
2	1-1/2" x 5" Galv. Nipple	1
3	3/4" x 5-1/2" Galv. Nipple	1
4	1/4" x 1-1/2" Galv. Nipple	1
5	3/4" x 4-1/2" Galv. Nipple	1
6	1/4" x 2" Galv. Nipple	1
7	3/4" x 2" Galv. Nipple	1
8	3/4" x 3-1/2" Galv. Nipple	1
9	1/2" x 2-1/2" Galv. Nipple	1
10	1/2" x 3" Galv. Nipple	1
11	3/4" x 2-1/2" Galv. Nipple	1
12	3/4" x 4" Galv. Nipple	1
13	1-1/2" Brass Angle Valve	1
14	3/4" Brass Angle Valve	1
15	1/2" Brass Angle Valve	1
16	1/4" Brass 3-Way Valve	2
17	3/4" Brass Globe Valve	1
18	3/4" Brass Ball Valve	1
19	3/4" Brass Check Valve	2

NO. ITEM	DESCRIPTION	QTY
20	3/4" Galv. Union	2
21	3/4" Galv. Close	9
22	1/2" Galv. Close	1
23	1/4" Steel Plug	2
24	1/2" Steel Plug	1
25	3/4" Steel Plug	1
26	Water Gauge	1
27	Air Gauge	1
28	3/4" Galv. Elbow	1
29	3/4" Galv. Street Elbow	1
30	1/4" Galv. Street Elbow	1
31	3/4" x 1/4" Galv. Bushing	1
32	1/2" x 1/4" Galv. Bushing	1
33	3/4" Galv. Tee	4
34	1/2" Galv. Tee	1
35	3/4" x 3/4" x 1/2" Galv. Tee	1
36	Brass D.V.D LPCB	1
37	3/4" Galv. Priming Cup	1
38	1/2" Galv. Priming Cup	1



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UL, ULc, FM, LPCB and CE marked