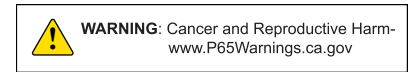


Technical Data Sheet: Commercial Riser Manifold Assemblies



1. DESCRIPTION

The Commercial Riser Manifold Assemblies are available in sizes 1-1/2", 2", 2-1/2", 3", and 4" for commercial systems. They are available with an AGF TESTanDRAIN valve, and/or pressure relief valve (PRV) to meet NFPA 13 requirements for gridded systems and any system requiring a pressure relief valve. This configuration eliminates the need to drain the system before installing the relief valve, while a built in test port allows hydrostatic testing without draining the system.

Commercial Assemblies are designed with all required equipment and standard components that can be replaced in the field, including pressure gauges, Potter flow switches, 3-way gauge control valve and appropriate drain valve. All assemblies are available in grooved inlet and outlet connections 1-1/2" - 4" using Schedule 10 steel pipe.

2. LISTINGS AND APPROVALS

Pressure Gauges: UL Listed, FM Approved

Waterflow Alarm Switch: UL Listed - Category USQT, cUL Listed, FM Approved - Waterflow Detectors, Vane Type, CSFM Listed

AGF TestanDrain Model 1000: UL Listed - Category VEHZ, FM Approved - Sprinkler System Alarm Testers

AGF TestanDrain Model 1011 with Pressure Relief Valve: UL Listed - Category VEHZ, FM Approved - Sprinkler System Alarm Testers

3. TECHNICAL DATA

Specifications and Material Standards:

- Pressure Rating: 250 PSI (17.2 bar) maximum water working pressure.
- Fabricated steel pipe.
- Available in grooved inlet and outlet connections 1-1/2" to 4" using Schedule 10 steel pipe.
- Riser bodies coated with black Ecoat.
- Flow Switch: Two single-pole double-throw switches with Form C contacts rated at 15 Amps 125/250 V. AC, 2.5 Amp 0-30 V. DC. Each switch can be wired for open or closed circuit operation. See Figure 1.

Ordering Information:

There are 2 different options are available for the commercial line:

Commercial Assemblies with TESTanDRAIN Valve (See Figure 2)

Commercial Assemblies with TESTanDRAIN and Pressure Relief Valve (PRV) (See Figure 3)

See Table 1 for Part Numbers.

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

NOTE: Commercial Riser Manifold Assemblies can be installed horizontally with flow switch on top, or vertically with flow upward.

Minimax Commercial Riser Assemblies use Potter VSR flow switches. The literature that accompanies the VSR states that the switch should not be installed within 6" of a change of direction of pipe or within 24" of a valve. This is merely a recommendation to reduce the possibility of the switch not operating while minimal waterflow is occurring. This is a recommendation only, not a requirement.

5. OPERATION

1. To Test: Turn valve handle counterclockwise from "Off" to "Test". The handle will stop automatically. After test is completed, return handle to "Off".
2. To Drain: Turn handle counterclockwise from "Off" to "Test". The handle will stop automatically. Depress "Push" button and turn handle to "Drain". When system is empty, return handle clockwise to "Off" position.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Commercial Riser Assemblies are available through a network of domestic and international distributors. See The Minimax Fire Protection web site for the closest distributor or contact Minimax Fire Protection.

8. GUARANTEE

For details of warranty, contact Minimax Fire Protection directly.

**TABLE 1 - ORDERING INFORMATION
COMMERCIAL ASSEMBLIES**

PIPE SIZE	INLET / OUTLET CONNECTIONS	OPTION (See descriptions below)	PIPE SIZE	PART NUMBER
1-1/2"	Groove / Groove	TESTanDRAIN	Schedule 40	61469
		TESTanDRAIN and PRV		61463
2"	Groove / Groove	TESTanDRAIN	Schedule 40	61403
		TESTanDRAIN and PRV		61470
2-1/2"	Groove / Groove	TESTanDRAIN	Schedule 40	61471
		TESTanDRAIN and PRV		61472
3"	Groove / Groove	TESTanDRAIN	Schedule 40	61473
		TESTanDRAIN and PRV		61474
4"	Groove / Groove	TESTanDRAIN	Schedule 40	61475
		TESTanDRAIN and PRV		61476

TESTanDRAIN Option:

Includes a test orifice with size specified from 3/8" (K2.8) to 25K ESFR*, depending on the smallest sprinkler installed on the system. Must add suffix to the part number for the desired orifice size.

Orifice Suffix:

- A = 3/8" (K 2.8)
- B = 7/16" (K 4.2)
- C = 1/2" (K 5.6)
- D = 17/32" (K 8.0)
- E = K 11.2 ELO
- F = K14 ESFR
- G = K25 ESFR

TESTanDRAIN with PRV Option:

Includes test orifice and pressure relief valve. The test orifice must be specified based on the smallest sprinkler installed on the system for 3/8" (K2.8) to K25 ESFR*. The pressure relief valve is not factory assembled to the TestanDrain. Must add suffix to the part number for the desired orifice size and pressure setting of the pressure relief valve.

Orifice Suffix:

- A = 3/8" (K 2.8)
- B = 7/16" (K 4.2)
- C = 1/2" (K 5.6)
- D = 17/32" (K 8.0)
- E = K 11.2 ELO
- F = K14 ESFR
- G = K25 ESFR

PRV Suffix:

- 175
- 205
- 250

NOTE: It is important to note that the pressure rating of the relief valve indicates an operating range of pressure for both opening and closing of the valve. Standard relief valves are required to OPEN in a range of pressure between 90% and 105% of their rating. The valves are required to CLOSE at a pressure above 80% of that rating.

* ESFR TESTanDRAIN not available in 1-1/2" or 2" Risers.

TABLE 2 - PIPE DIAMETERS

	1-1/2"	2"	2-1/2"	3"	4"
PIPE OD	1.900" (48 mm)	2.375" (60 mm)	2.875" (73 mm)	3.5" (89 mm)	4.5" (114 mm)
SCHEDULE 10 PIPE ID	1.69" (42.7 mm)	2.16" (54.8 mm)	2.64" (66.9 mm)	3.26" (82.8 mm)	4.26" (108.2 mm)

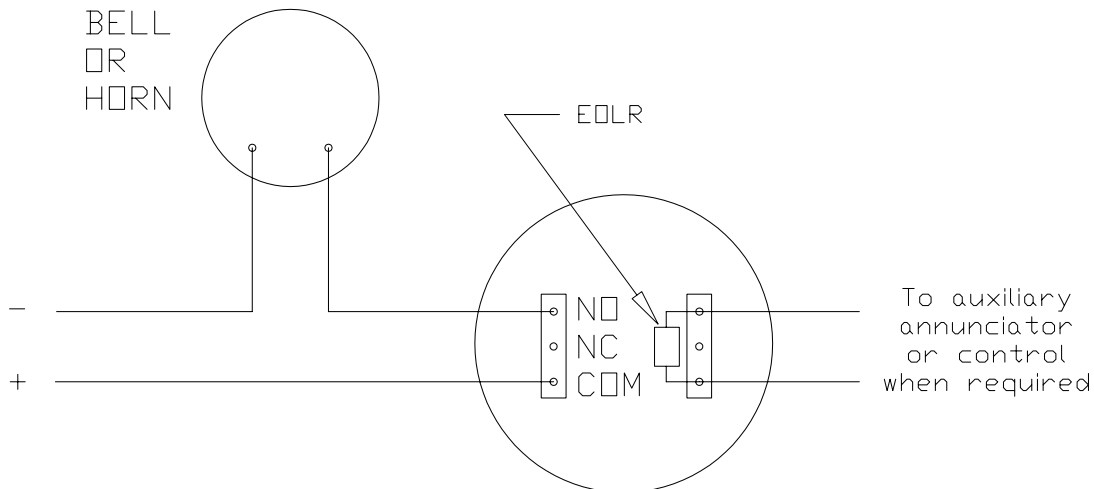
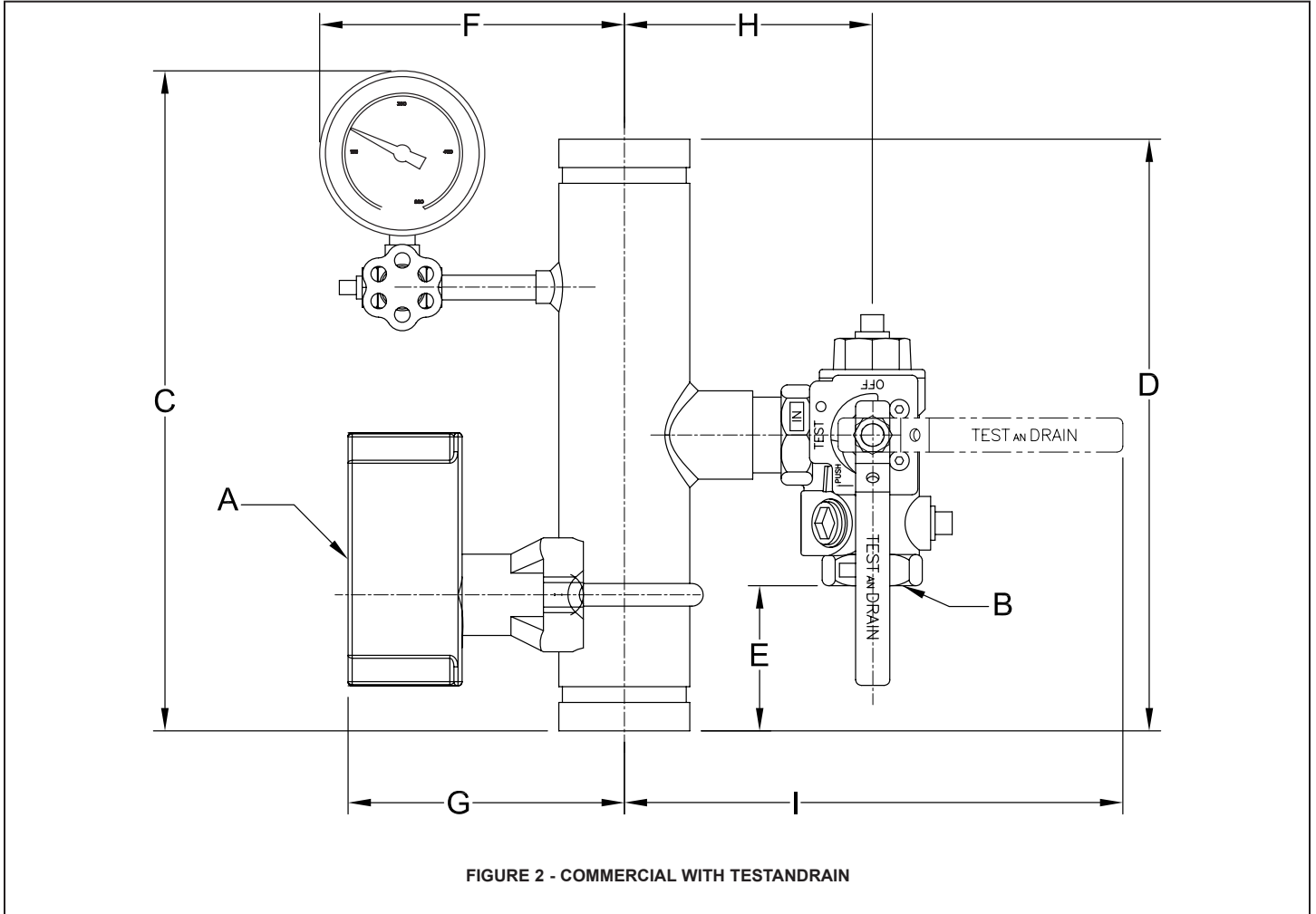


FIGURE 1 - FLOW SWITCH WITH TWO SINGLE POLE, DOUBLE THROW MICRO SWITCHES



SIZE	A	B	C	D	E	F	G	H	I
1-1/2" (DN40)	VSR-S Flow Switch	1" NPT	16-1/2" (419)	15" (381)	5-1/8" (131)	7-19/32" (193)	6-15/16" (164)	4-3/4" (121)	9-7/32" (234)
2" (DN50)	VSR Flow Switch	1" NPT	14-1/2" (369)	13" (330)	3-1/16" (78)	6-7/16" (164)	5-51/64" (148")	4-49/64" (121)	9-35/64" (242)
2-1/2" (DN65)	VSR Flow Switch	1-1/4" NPT	14-1/2" (369)	13" (330)	3-1/4" (83)	6-11/16" (170)	6-3/64" (154)	6-1/4" (159)	10-61/64" (278)
3" (DN80)	VSR Flow Switch	1-1/4" NPT	14-1/2" (369)	13" (330)	3-1/4" (83)	7" (178)	6-23/64" (162)	5-5/8" (143)	11-17/64" (286)
4" (DN100)	VSR Flow Switch	2" NPT	14-1/2" (369)	13" (330)	2-5/8" (66)	7-1/2" (191)	6-25/32" (173)	8-3/16" (208)	16-3/8" (416)

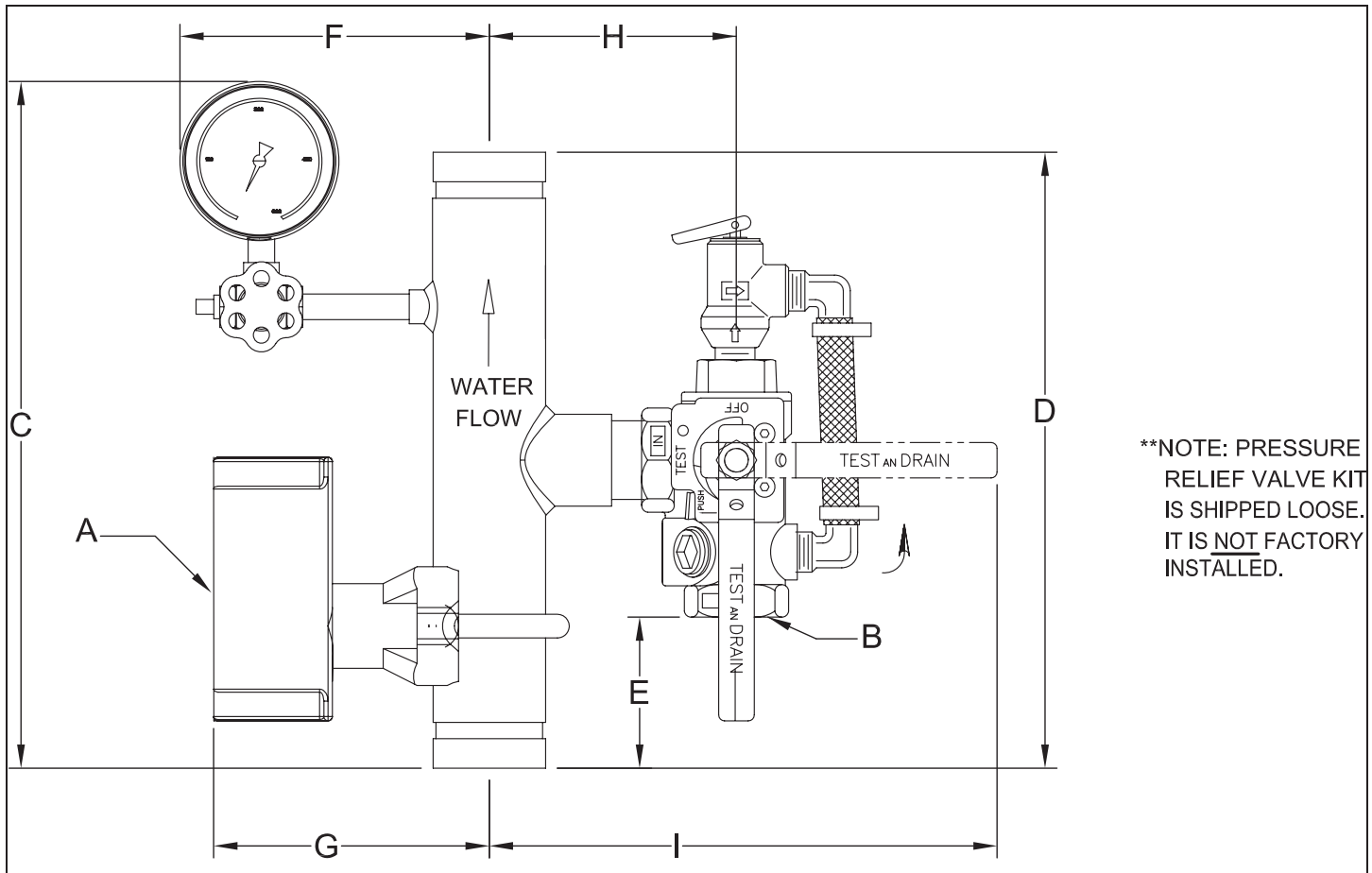


FIGURE 3 - COMMERCIAL WITH TEST AND DRAIN AND PRV

SIZE	A	B	C	D	E	F	G	H	I
1-1/2" (DN40)	VSR-S Flow Switch	1" NPT	16-1/2" (419)	15" (381)	5-1/8" (131)	7-19/32" (193)	6-15/16" (164)	4-3/4" (121)	9-7/32" (234)
2" (DN50)	VSR Flow Switch	1" NPT	14-1/2" (369)	13" (330)	3-3/16" (81)	6-7/16" (164)	5-51/64" (148")	5-13/64" (132)	10-45/64" (272)
2-1/2" (DN65)	VSR Flow Switch	1-1/4" NPT	14-1/2" (369)	13" (330)	3-1/4" (83)	6-11/16" (170)	6-3/64" (154)	6-1/4" (159)	10-61/64" (278)
3" (DN80)	VSR Flow Switch	1-1/4" NPT	14-1/2" (369)	13" (330)	3-1/4" (83)	7" (178)	6-23/64" (162)	5-5/8" (143)	11-17/64" (286)
4" (DN100)	VSR Flow Switch	2" NPT	14-1/2" (369)	13" (330)	2-5/8" (66)	7-1/2" (191)	6-25/32" (173)	8-3/16" (208)	16-3/8" (416)

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