

DV-5A Automatic Water Control Valve Deluge Fire Protection Systems 1-1/2 Inch to 8 Inch (DN40 to DN200)

General Description

The TYCO DV-5A Automatic Water Control Valves are diaphragm type valves that can be used in deluge fire protection systems. When properly trimmed, the double seat design of the DV-5A Valve also provides actuation of fire alarms upon system operation.

The diaphragm style design of the DV-5A Valve allows external resetting, providing for easy resetting of a deluge system without having to open a valve handhole cover to manually reposition a clapper and/or latch mechanism. Simply re-pressurizing the diaphragm chamber resets the valve.

The DV-5A features internal and external coating of the valve to provide corrosion resistance. The external corrosion resistance of the epoxy coating permits the use of the DV-5A in corrosive atmospheres associated with many types of industrial processing plants and outdoor installations.

The DV-5A Valves are offered with the DV-5A Valve and separately ordered semi-assembled trim shown in Figures 7, 8, and 9, or, for ease of installation, with the DV-5A Valve completely trimmed with or without a System Main Control Valve.

NOTICE

The DV-5A Valves described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.



Available End Connections and Weights — lb/(kg)

End Connection		Nominal Valve Size ANSI Inches (DN)					
		1-1/2 (40)	2 (50)	3 (80)	4 (100)	6 (150)	8 (200)
Inlet	Outlet	26 (11,8)	25 (11,3)	N/A	N/A	N/A	N/A
Thread	Thread	25 (11,3)	25 (11,3)	60 (27,2)	95 (43,1)	177 (80,3)	327 (148,3)
Groove	Groove	N/A	N/A	66 (30,0)	106 (48,1)	190 (86,2)	346 (157,0)
Flange	Groove	N/A	N/A	72 (32,7)	116 (52,6)	204 (92,5)	365 (165,6)
Flange	Flange	N/A	N/A				

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Item	Description	Qty.	Nominal Valve Size ANSI Inch (DN)					
			1-1/2 (DN40)	2 (DN50)	3 (DN80)	4 (DN100)	6 (DN150)	8 (DN200)
			P/N	P/N	P/N	P/N	P/N	P/N
1	Valve Body	1	N/R	N/R	N/R	N/R	N/R	N/R
2	Diaphragm	1	545000020	545000020	545000030	545000040	545000060	545000080
3	Diaphragm Cover	1	N/R	N/R	N/R	N/R	N/R	N/R
4	Hex Bolt, Short	2 ^a	545100001	545100001	545100002	545100003	545100004	545100003
5	Hex Bolt, Long	2	545100011	545100011	545100012	545100013	545100014	545100015
6	Lift Washer	2 ^b	N/A	N/A	545100021	545100022	545100023	545100022
7	Hex Nut	2	545100031	545100031	545100032	545100033	545100034	545100033
8	Hoist Ring	2	545100041	545100041	545100041	545100041	545100041	545100041
9	Flat Washer	2	N/A	N/A	545100024	545100025	545100026	545100025

NOTES:
a. Hex Bolt, Short, Qty. 6 in 6 and 8 inch (DN150 and DN200) assemblies
b. Lift Washer not used in 1-1/2 and 2 inch (DN40 and DN50) assemblies
c. N/R = Not Replaceable
d. Order replacements parts only via Part Numbers given, do not replace Hex Bolt, Hex Nut, Lift Washer or Hoist Ring with common hardware parts

FIGURE 1
DV-5a VALVE ASSEMBLY AND REPLACEMENT PARTS

Nominal Valve Size ANSI Inches (DN)	Flange Drilling Specification											
	Nominal Dimensions in Inches and (mm)											
	ANSI B16.1 ^a (Class 125)			ISO 7005-2 (PN16) ^b			JIS B 2210 (10K)			AS 2129 (Table E)		
	A	B	N	A	B	N	A	B	N	A	B	N
3 (80)	6.00 (152,4)	0.75 (19,0)	4	6.30 (160,0)	0.75 (19,0)	8	5.90 (150,0)	0.59 (15,0)	8	5.75 (146,0)	0.71 (18,0)	4
4 (100)	7.50 (190,5)	0.75 (19,0)	8	7.09 (180,0)	0.75 (19,0)	8	6.89 (175,0)	0.60 (15,0)	8	7.00 (178,0)	0.71 (18,0)	8
6 (150)	9.50 (241,3)	0.88 (22,2)	8	9.45 (240,0)	0.91 (23,0)	8	9.45 (240,0)	0.75 (19,0)	8	9.25 (235,0)	0.87 (22,0)	8
8 (200)	11.75 (298,5)	0.88 (22,2)	8	11.61 (295,0)	0.91 (23,0)	12	11.42 (290,0)	0.75 (19,0)	12	11.50 (292,0)	0.87 (22,0)	8

NOTES:
a. Same drilling as for ANSI B16.5 (Class 150) and ANSI B16.42 (Class 150)
b. Same drilling as for BS 4504 Section 3.2 (PN16) and DIN 2532 (PN16)

TABLE A
FLANGE DRILLING SPECIFICATIONS

Port	Port Description	Port Sizes, NPT Inch per ANSI B1.20.1					
		1-1/2 (DN40)	2 (DN50)	3 (DN80)	4 (DN100)	6 (DN150)	8 (DN200)
P1	Diaphragm Chamber Supply	1/2	1/2	1/2	1/2	1/2	1/2
P2	Water Supply Pressure & Alarm Test	1/2	1/2	1/2	1/2	1/2	1/2
P3	Alarm Actuation	3/4	3/4	3/4	3/4	3/4	3/4
P4	Automatic Drain Valve	1/2	1/2	1/2	1/2	1/2	1/2
P5	System Drain	3/4	3/4	3/4	3/4	3/4	3/4
P6	Main Drain	3/4	3/4	1-1/4	2	2	2
P7	System Air Supply Not Used for Deluge	1/2	1/2	1/2	1/2	1/2	1/2

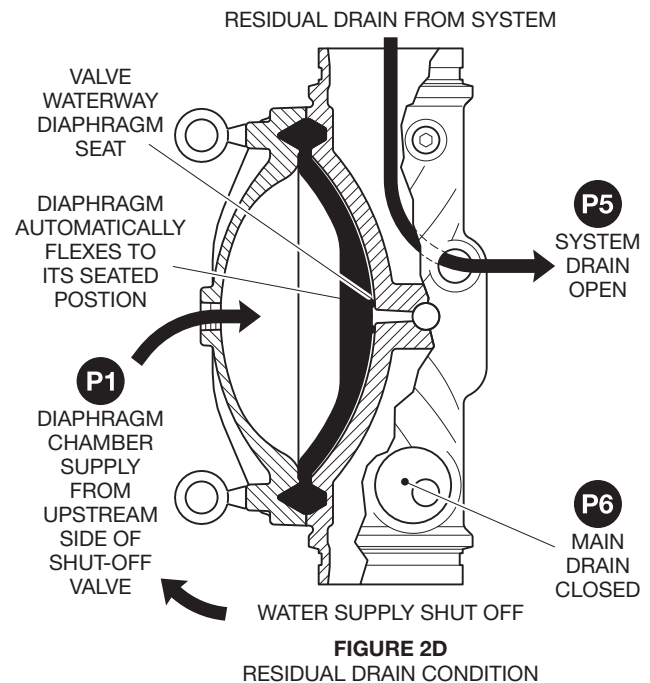
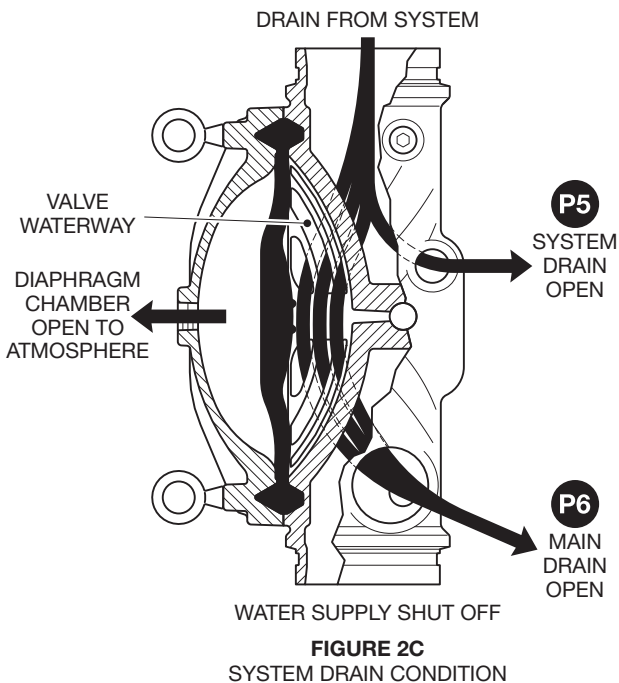
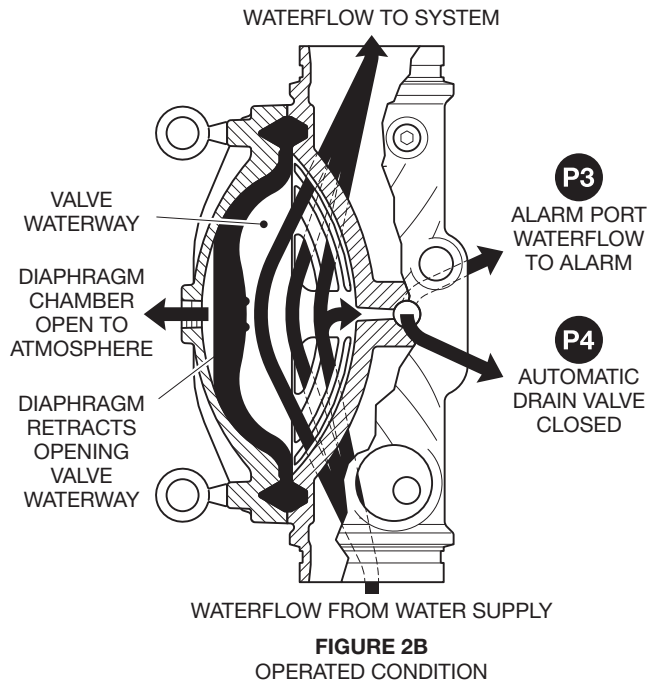
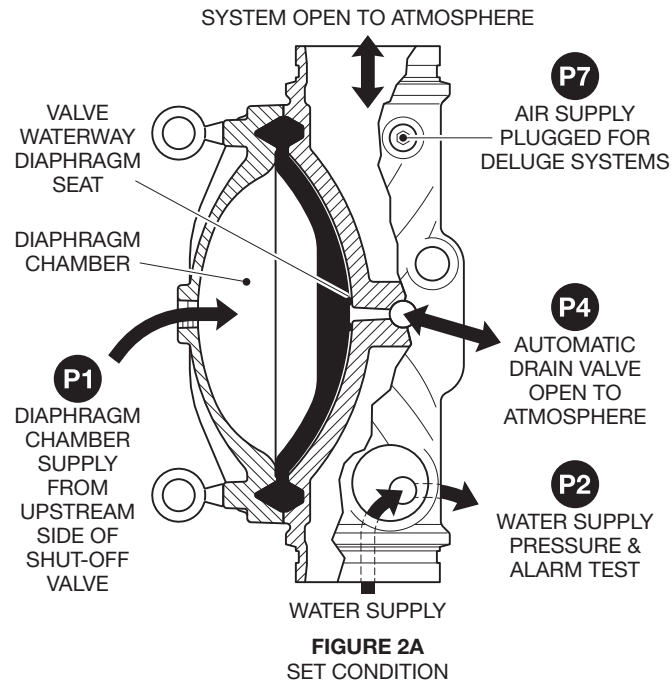


FIGURE 2
DV-5a VALVE OPERATION, DELUGE SYSTEMS

DIMENSIONS SHOWN
ARE APPLICABLE TO
ALL END CONNECTION
CONFIGURATIONS
AVAILABLE PER
VALVE SIZE

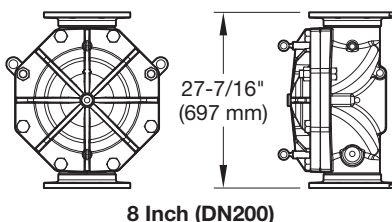
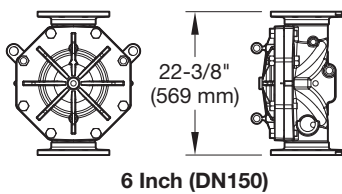
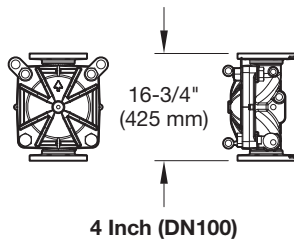
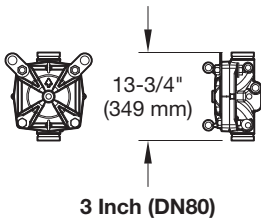
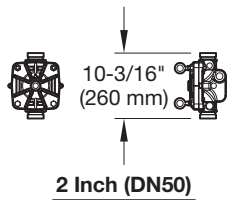
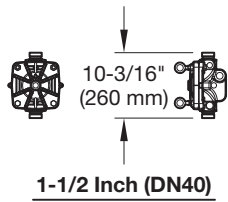


FIGURE 3
DV-5A VALVE
TAKE-OUT DIMENSIONS

Technical Data

Approvals

UL and C-UL Listed
FM Approved
VdS Approved*
LPCB Approved

Listings and Approvals are based on DV-5A Valve being trimmed as described in Figures 7, 8, and 9 (i.e., Wet Pilot, Dry Pilot, and Electric Actuation).

For local EMEA regional approvals, consult with your local distributor.

* VdS approval is additionally based on installing the VdS required column prevention drain components provided with assemblies per Table J in the Ordering Procedure section.

DV-5A Valve

Components for the 1-1/2 in. to 8 in. (DN40 to DN200) DV-5A Valves are shown in Figure 1. The DV-5A Valves are for vertical installations. They are rated for use at a service pressures of 20 psi to 300 psi (1,4 bar to 20,7 bar).

The take-out dimensions are shown in Figure 3, and the flanged connections are available drilled per ANSI, ISO, AS, and JIS specifications (Ref. Table A). Threaded inlet and port connections are available in NPT or ISO 7/1. Threaded port connections are NPT threaded.

NOTE: PN16 flanges are pressure rated to 16 bar.

Valve Trim

The maximum pressure rating is as follows:

- Wet Pilot Actuation Trim is 300 psi (20,7 bar)
- Dry Pilot Actuation Trim is 250 psi (17,2 bar)
- Electric Actuation Trim is dependent on separately ordered solenoid valve per Technical Data Sheet TFP2180

When the system pressure is greater than 175 psi (12,1 bar), provision is to be made to replace the standard order 300 psi (20,7 bar) Water Pressure Gauges with separately ordered 600 psi (41,4 bar) Water Pressure Gauges.

If the addition of an Alarm Control Valve is desired or required by the local AHJ, the Alarm Control Valve noted as Item H in Figures 16, 17, and 18 is to be a separately ordered electronically supervised normally open valve.

External trim connections are NPT threaded. EMEA trim is provided with NPT x ISO 7/1 thread adapters.

Pressure Loss

Refer to Graph A

Detection System

Refer to subsections Wet Pilot Actuation, Dry Pilot Actuation, or Electric Actuation, as necessary.

Materials of Construction

Valve Body

Epoxy coated ductile iron per ASTM A536-77, Grade 65-45-12

Diaphragm Cover

Epoxy coated ductile iron per ASTM A536-77, Grade 65-45-12

Diaphragm

Polyester fabric reinforced, TEFLON coated, EPDM rubber per ASTM D2000

Diaphragm Cover Fasteners

Aluminum zinc coated steel

Common Hardware Trim

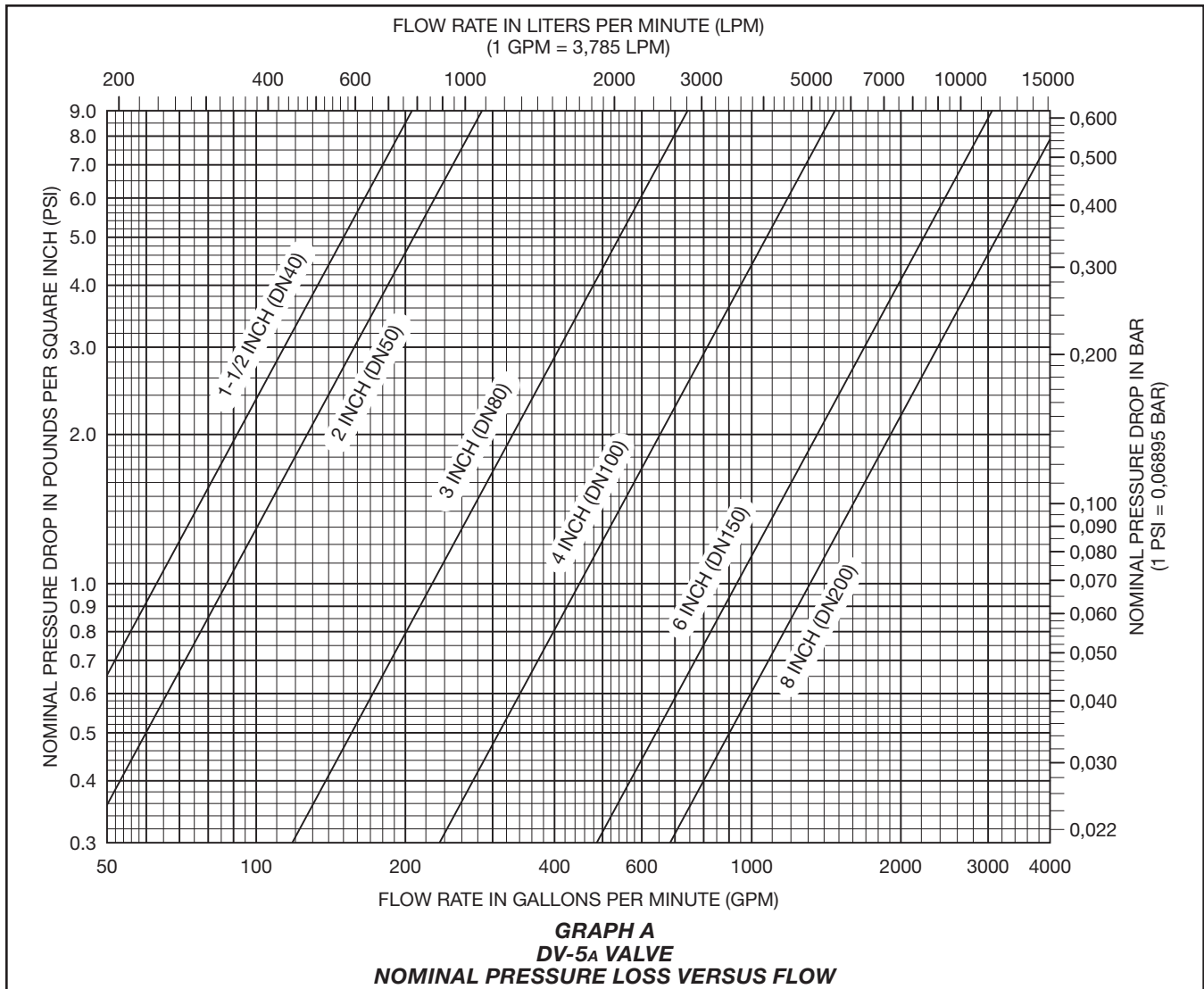
- Common hardware pipe fittings are galvanized or black as required and are malleable per ASME B16.3.
- Common hardware pipe nipples are galvanized or black as required and are Schedule 40 per ASTM A53 or A135.
- Common hardware compression fittings are brass per ASTM B16.
- Common hardware tubing is Type L copper per ASTM B88.

Operation

The TYCO DV-5A Valve is a diaphragm style valve that depends upon water pressure in the Diaphragm Chamber (Ref. Figure 2A) to hold the Diaphragm closed against the water supply pressure.

When the DV-5A Valve is set for service, the Diaphragm Chamber is pressurized through the trim connections from the inlet side of the system's main control valve.

Opening an actuation device, for example the solenoid valve in the Electric Actuation Trim (Ref. Figure 6), trips the Model MRA-1 Manual Reset Actuator. Tripping the MRA-1 releases water from the DV-5A Diaphragm Chamber faster than it can be replenished through a 1/8 in. (3,2 mm) restriction located in the diaphragm chamber supply connection. Release of water through the MRA-1 results in a rapid pressure loss in the DV-5A Diaphragm Chamber. The force differential applied through the Diaphragm to hold the Diaphragm in the set position is then reduced below the valve trip point. The water supply pressure then forces the

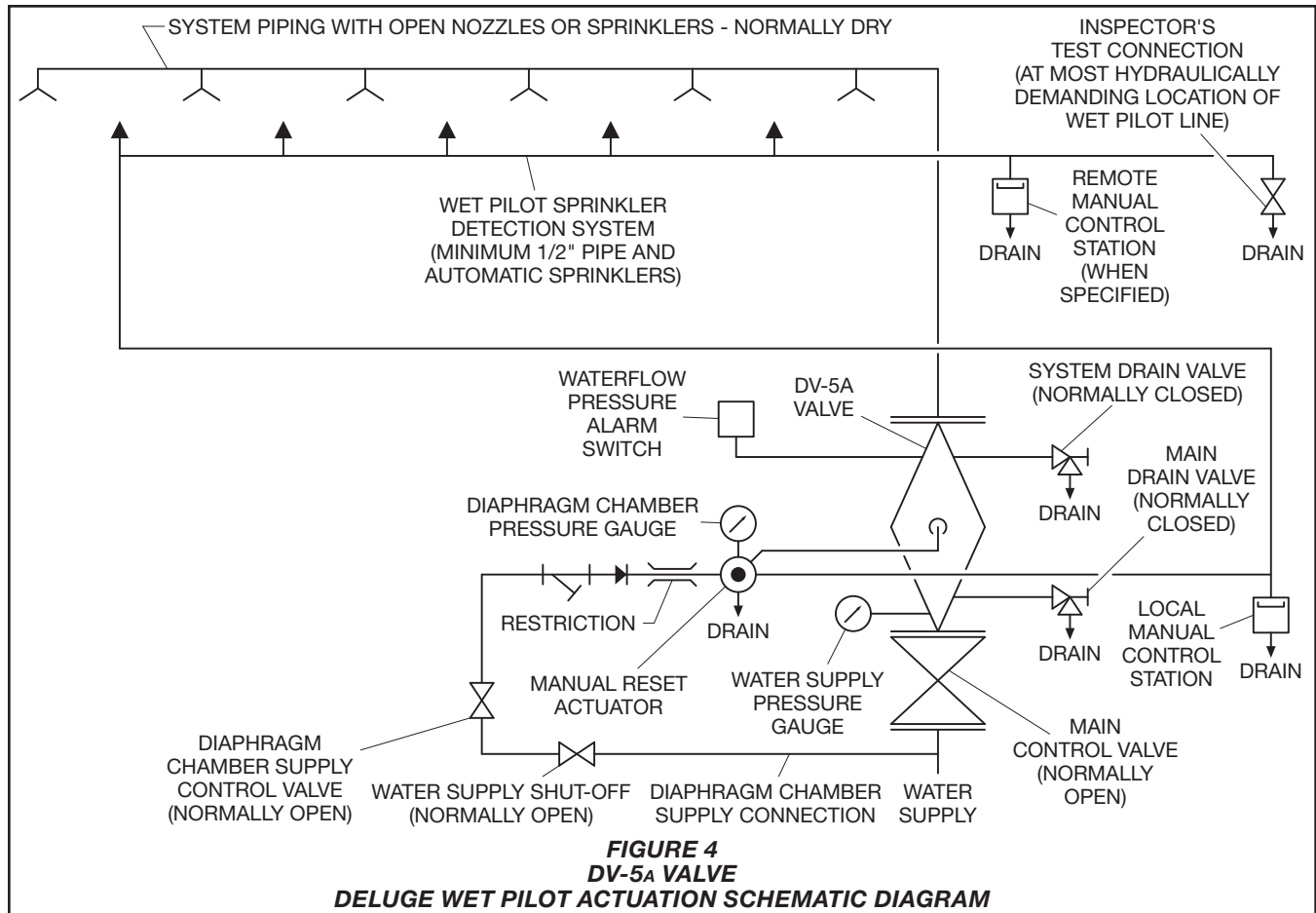


Diaphragm open permitting water to flow into the system piping, as well as through the Alarm Port to actuate the system alarms (Ref. Figure 2B).

Upon opening of the DV-5A Valve, the Model MRA-1 Manual Reset Actuator, which is described in Technical Data Sheet TFP1387, opens to constantly vent the DV-5A Diaphragm Chamber to hydraulically latch the DV-5A in the tripped position until manually reset.

Refer to the following three sections for additional information regarding actuation options:

- Wet Pilot Actuation
- Dry Pilot Actuation
- Electric Actuation



Wet Pilot Actuation

The Wet Pilot Actuation Trim forms a part of the laboratory approval of the DV-5A Valves and is necessary for their proper operation.

With Reference to Figure 4, the Wet Pilot Actuation Trim provides for connection of a detection system consisting of wet pilot line sprinklers (heat detectors) and manual control stations interconnected with minimum 1/2 in. (DN15) steel pipe. The pilot line is connected to the Wet Pilot Line Connection.

Dimensions are provided in Figure 13.

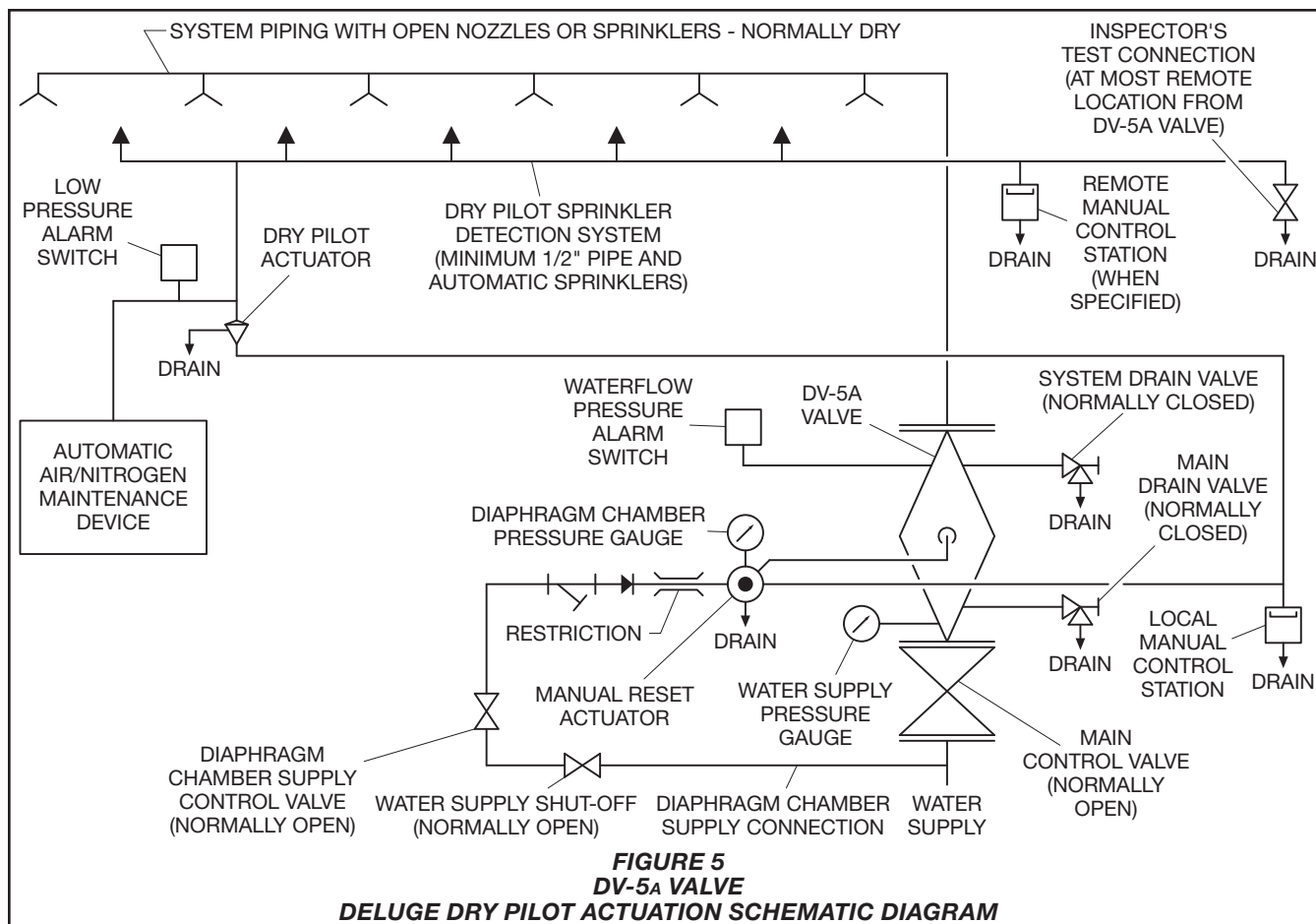
Pilot sprinklers are to be minimum 5.6 K-factor (80 K-factor) orifice approved automatic sprinklers. Manual Control Stations are to be the Model MC-1 described in Technical Data Sheet TFP1382.

The maximum height of a wet pilot line above the DV-5A Valve must not exceed the limitations shown in Table B as a function of the minimum water supply pressure to the DV-5A Valve for an equivalent length (pipe plus fittings) of the pilot line up to 500 ft (150 meters) to the most remote pilot sprinkler.

Provision must be made for installing a 5.6 K-factor (80 K-factor) orifice, Inspector's Test Connection at the most hydraulically demanding location of a wet pilot line (usually adjacent to the highest and most remote wet pilot sprinkler or manual control station).

NOTES: *Wet Pilot Lines must be maintained at a minimum temperature of 40°F (4°C).*

At a minimum, it is recommended that internally galvanized pipe and fittings be used for wet pilot lines.



Dry Pilot Actuation

The Dry Pilot Actuation Trim forms a part of the laboratory approval of the DV-5a Valves and is necessary for their proper operation.

With reference to Figure 5, the Dry Pilot Actuation Trim provides for installation of a detection system consisting of pilot sprinklers (heat detectors) and manual control stations interconnected with a minimum length of 56 ft (17,1 m) of 1/2 in. (DN15) steel pipe equivalent to 207 in.³ (3400 cm³). The dry pilot line, which is to be pressurized with air or nitrogen, is connected to the Dry Pilot Line Connection.

Dimensions are provided in Figure 14.

Pilot sprinklers are to be minimum 5.6 K-factor (80 K-factor) orifice approved automatic sprinklers. Manual Control Stations are to be the Model MC-1 described in Technical Data Sheet TFP1382.

Provision must be made for installing a 5.6 K-factor (80 K-factor) Inspector's Test Connection at the most remote location on the dry pilot line.

The Dry Pilot Actuation Trim is provided with a Model DP-1 Dry Pilot Actuator, which is described in Technical Data Sheet TFP1380. The Actuator is rated for use at a maximum pilot service pressure of 50 psi (3,4 bar) and a maximum water supply service pressure of 250 psi (17,2 bar).

Graph B shows the minimum pilot line service pressure as a function of the water supply pressure. The pressure in the dry pilot actuation system must be automatically maintained using one of the following maintenance devices, as appropriate:

- Model AMD-1 Air Maintenance Device (pressure reducing type), refer to Technical Data Sheet TFP1221
- Model AMD-2 Air Maintenance Device (compressor control type), refer to Technical Data Sheet TFP1231
- Model AMD-3 Nitrogen Maintenance Device (high pressure reducing type), refer to Technical Data Sheet TFP1241

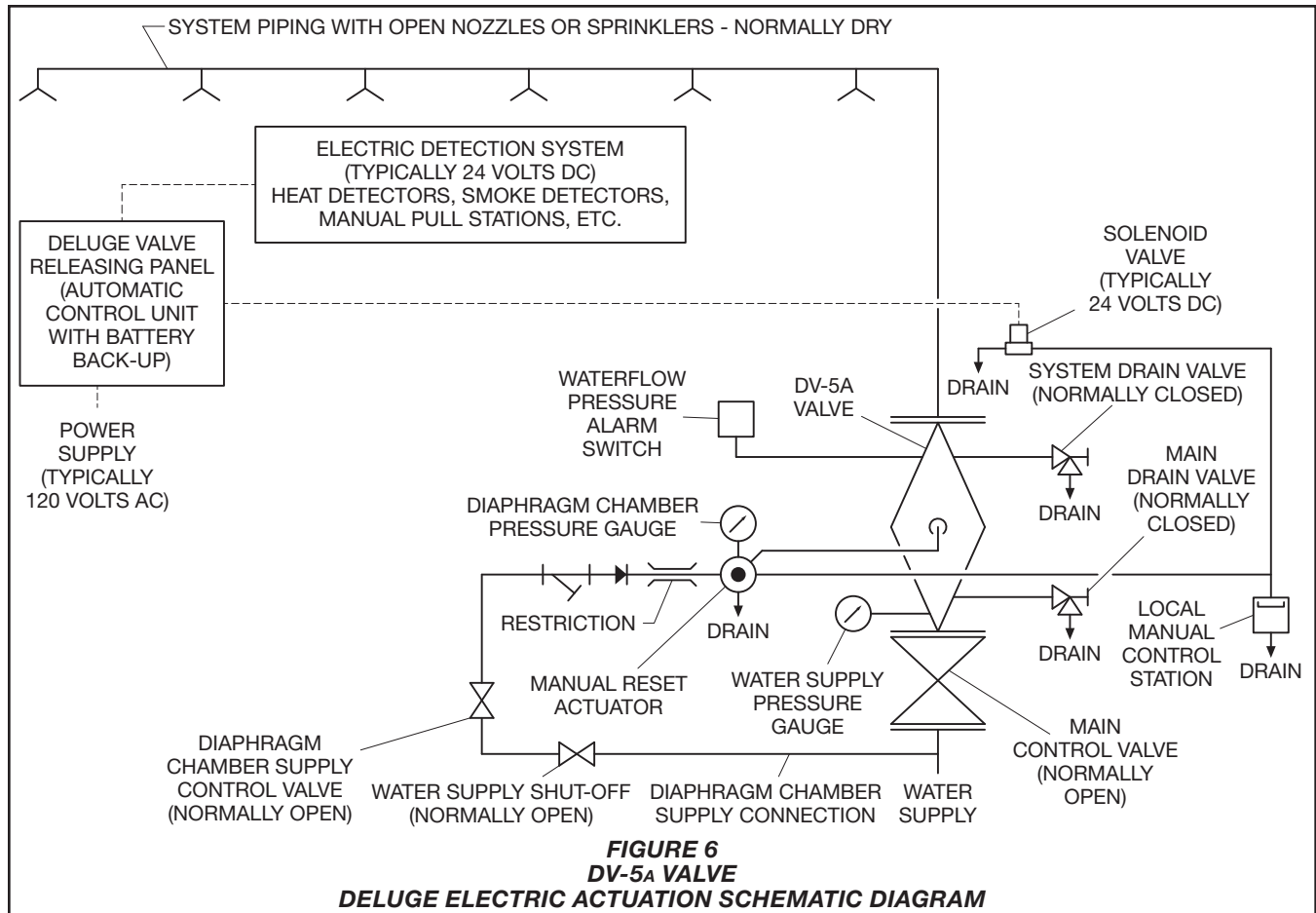
Supervision of the pressure in the dry pilot actuation system and an alarm that separately indicates operation of the detection system is provided by a low pressure alarm switch set as follows:

- Low pressure alarm setting at approximately 6 psi (0,4 bar) below the minimum pilot line service pressure requirement shown in Graph B
- Fire alarm setting at approximately 15 psi (1,0 bar) below the minimum pilot line service pressure requirement shown in Graph B

The Pressure Relief Valve provided in the trim is factory set to relieve at a pressure of approximately 45 psi (3,1 bar); however, it may be field adjusted to a lower pressure, if required.

The dry pilot line is to be provided with low point drains to enable draining of condensate.

NOTE: At a minimum, it is recommended that internally galvanized pipe and cast iron fittings be used for dry pilot lines.



Electric Actuation

The Electric Actuation Trim forms a part of the laboratory approval of the DV-5A Valves and is necessary for their proper operation.

The Electric Actuation Trim is required for electric operation of the DV-5A Valve by a detection system consisting of electrical devices such as heat sensitive thermostats, smoke detectors, and/or electric manual pull stations as shown in Figure 6.

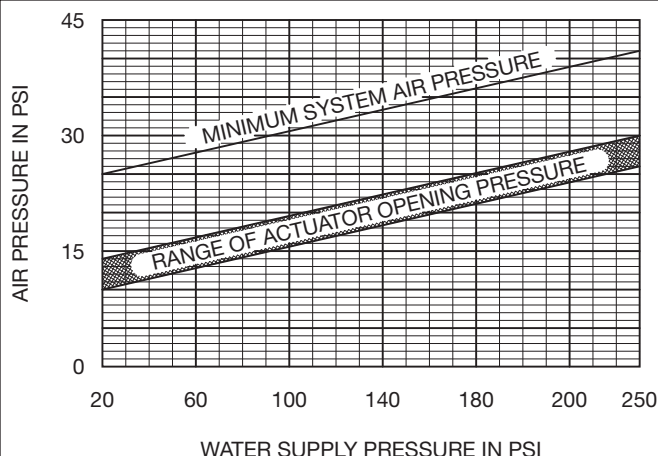
Dimensions are provided in Figure 15.

NOTES: The normally closed, de-energized, Solenoid Valve is separately ordered and selected based on the required laboratory approval acceptable to the authority having jurisdiction. Refer to Technical Data Sheet TFP2180 for specific laboratory approvals.

Consult with the applicable standards of the Approval agency regarding installation criteria pertaining to electric actuation circuitry.

Due to the functionality of the Model MRA-1 Manual Reset Actuator, the release circuit of the releasing panel need only provide the typical ten minutes of alarm condition intended

to energize the Solenoid Valve to open. After the ten minute duration, at which point should the Solenoid Valve become de-energized and close (especially while operating under battery back-up), the MRA-1 will have already automatically opened, thereby preventing the DV-5A Diaphragm Chamber from becoming re-pressurized, and preventing an inadvertent closing of the DV-5A during a fire event.



NOTES:

The dew point of the pilot line air pressure must be maintained below the lowest ambient temperature to which the dry pilot actuation system will be exposed. Accumulation of water in the pilot line connection to the Actuator will lower the air pressure at which the actuator will open and possibly prevent proper operation. Also, introduction of moisture into the pilot lines exposed to freezing temperatures can create an ice buildup that could prevent proper operation of the Actuator.

An air dryer must be installed where the moisture content of the air supply is not properly controlled at less than the required value.

It is recommended that an AMD-3 Nitrogen Maintenance Device be utilized in dry pilot actuation system applications where the dew point must be maintained below -20°F (-29°C). Refer to Technical Data Sheet TFP1241.

GRAPH B
DV-5A VALVE
DRY PILOT LINE AIR PRESSURE REQUIREMENTS

Supply Pressure psi (bar) ¹	Maximum Pilot Height ² Feet (Meters)					
	1-1/2 (DN40)	2 (DN50)	3 (DN80)	4 (DN100)	6 (DN150)	8 (DN200)
20 (1,4)	13 (4)	13 (4)	4 (1)	9 (3)	12 (4)	15 (5)
40 (2,8)	34 (10)	34 (10)	29 (9)	33 (10)	27 (8)	23 (7)
60 (4,1)	55 (17)	55 (17)	54 (16)	57 (17)	42 (13)	31 (9)
80 (5,5)	76 (23)	76 (23)	79 (24)	81 (25)	57 (17)	39 (12)
100 (6,9)	97 (30)	97 (30)	103 (31)	105 (32)	73 (22)	46 (14)
120 (8,3)	118 (36)	118 (36)	128 (39)	129 (39)	88 (27)	54 (16)
140 (9,7)	139 (42)	139 (42)	153 (47)	153 (47)	103 (31)	62 (19)
160 (11,0)	160 (49)	160 (49)	178 (54)	177 (54)	118 (36)	70 (21)
175 (12,1)	172 (52)	172 (52)	188 (57)	195 (59)	131 (40)	75 (23)
200 (13,8)	201 (61)	201 (61)	203 (62)	224 (68)	152 (48)	84 (26)
225 (15,5)	226 (69)	226 (69)	219 (67)	254 (77)	173 (53)	92 (28)
250 (17,2)	252 (77)	252 (77)	235 (72)	284 (87)	195 (59)	100 (30)
275 (19,0)	277 (84)	277 (84)	247 (75)	308 (94)	212 (65)	107 (33)
300 (20,7)	303 (92)	303 (92)	266 (81)	347 (106)	237 (72)	124 (38)

Notes:

1. If supply pressure is variable, assume minimum expected value.
2. Maximum pilot height for up to 500 ft (150 m) of equivalent length of pilot line (pipe plus fittings).
3. Interpolation between data points is permitted.

TABLE B
DV-5A VALVE
WET PILOT DESIGN CRITERIA FOR UP TO
500 FEET (150 METERS) OF EQUIVALENT LENGTH OF 1/2 INCH (DN15) PILOT LINE
(PIPE PLUS FITTINGS)

Installation

The TYCO DV-5A Valve is to be installed in accordance with this section.

NOTICE

DV-5A Automatic Water Control Valves are designed to be used in freshwater systems. When supplying from different sources such as brackish water, saltwater, foam additives or others, the limited warranty is reduced to one year from the time of installation. An increase in frequency of inspections is required when the valve is exposed to such supplies and other corrosive conditions or chemicals that could impact valve materials or the operation of the assembly. All components must be designed accordingly for the increased demand.

Proper operation of the DV-5A Valves depends upon their trim being installed in accordance with the instructions given in this technical data sheet. Failure to follow the appropriate trim diagram may prevent the DV-5A Valve from functioning properly, as well as void approvals and the manufacturer's warranties.

The DV-5A Valve must be installed in a readily visible and accessible location.

The DV-5A Valve, associated trim, and wet pilot lines must be maintained at a minimum temperature of 40°F (4°C).

Heat tracing of the DV-5A Valve or its associated trim is not permitted. Heat tracing can result in the formation of hardened mineral deposits that are capable of preventing proper operation.

Always open the system control valves slowly to avoid a sudden rush of water entering the system.

The DV-5A Valve is to be installed in accordance with the following criteria:

Step 1. All nipples, fittings, and devices must be clean and free of scale and burrs before installation. Use pipe thread sealant sparingly on male pipe threads only.

Step 2. The DV-5A Valve must be trimmed in accordance with one of the trim illustrations shown in Figures 7, 8, and 9, as applicable.

Note: *If the addition of an Alarm Control Valve is desired or required by the local AHJ, the Alarm Control Valve noted as Item H in Figures 16, 17, and 18 is to be a separately ordered electronically supervised normally open valve.*

Step 3. Care must be taken to ensure that check valves, strainers, globe valves, etc. are installed with the flow arrows in the proper direction.

Step 4. Drain tubing to the Drip Funnel must be installed with smooth bends that will not restrict flow.

Step 5. The Main Drain and Drip Funnel Drain may be interconnected provided a check valve is located at least 12 in. (300 mm) below the Drip Funnel.

Step 6. Suitable provision must be made for disposal of drain water. Drainage water must be directed such that it will not cause accidental damage to property or danger to persons.

Step 7. Connect the Diaphragm Supply Valve to the inlet side of the System Main Control Valve in order to facilitate setting of the DV-5A Valve. Refer to Figures 16, 17, and 18 as applicable.

Step 8. An Inspector's Test Connection, as described in the Wet Pilot Actuation and Dry Pilot Actuation sections, must be provided for Wet or Dry Pilot Actuation systems.

Step 9. An Air Maintenance Device, as described in the Dry Pilot Actuation section, must be provided for Dry Pilot Actuation.

Step 10. A desiccant dryer, when specified for Dry Pilot Actuation, is to be installed between a drip leg and the Air Maintenance Device.

Step 11. The Low Pressure Alarm Switch for Dry Pilot Actuation is to be adjusted as follows:

- Low pressure alarm setting at approximately 6 psi (0,4 bar) below the minimum pilot line service pressure requirement shown in Graph B
- Fire alarm setting at approximately 15 psi (1,0 bar) below the minimum pilot line service pressure requirement shown in Graph B

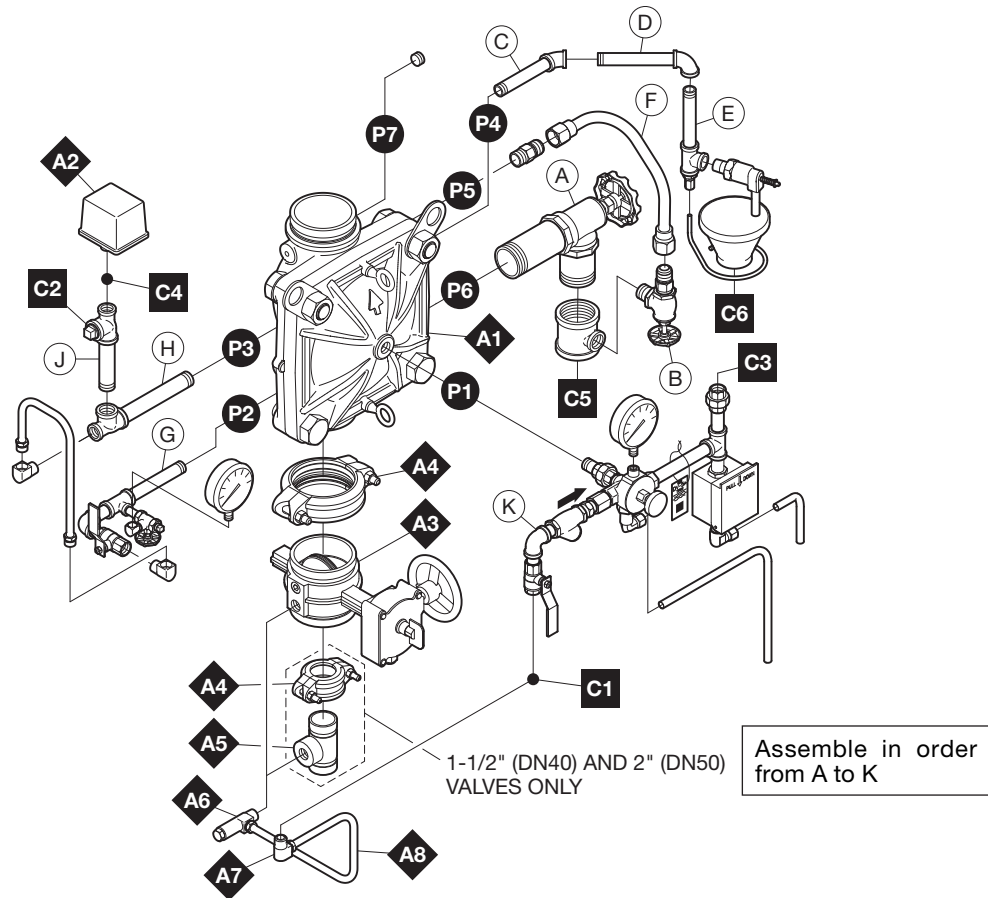
Step 12. Unused Pressure Alarm Switch connections must be plugged.

Step 13. The Pressure Relief Valve provided with the Dry Pilot Actuation Trim is factory set to relieve at a pressure of approximately 45 psi (3,1 bar), which can typically be used for a maximum dry pilot actuation system pressure of 40 psi (2,8 bar). The Pressure Relief Valve may be reset; however, it must be reset to relieve at a pressure which is in accordance with the requirements of the authority having jurisdiction.

To reset the Pressure Relief Valve, first loosen the jam nut and then adjust the cap accordingly, clockwise for a higher pressure setting or counter clockwise for a lower pressure setting. After verifying the desired pressure setting, tighten the jam nut.

Step 14. Conduit and electrical connections are to be made in accordance with the applicable standards of the approval agency.

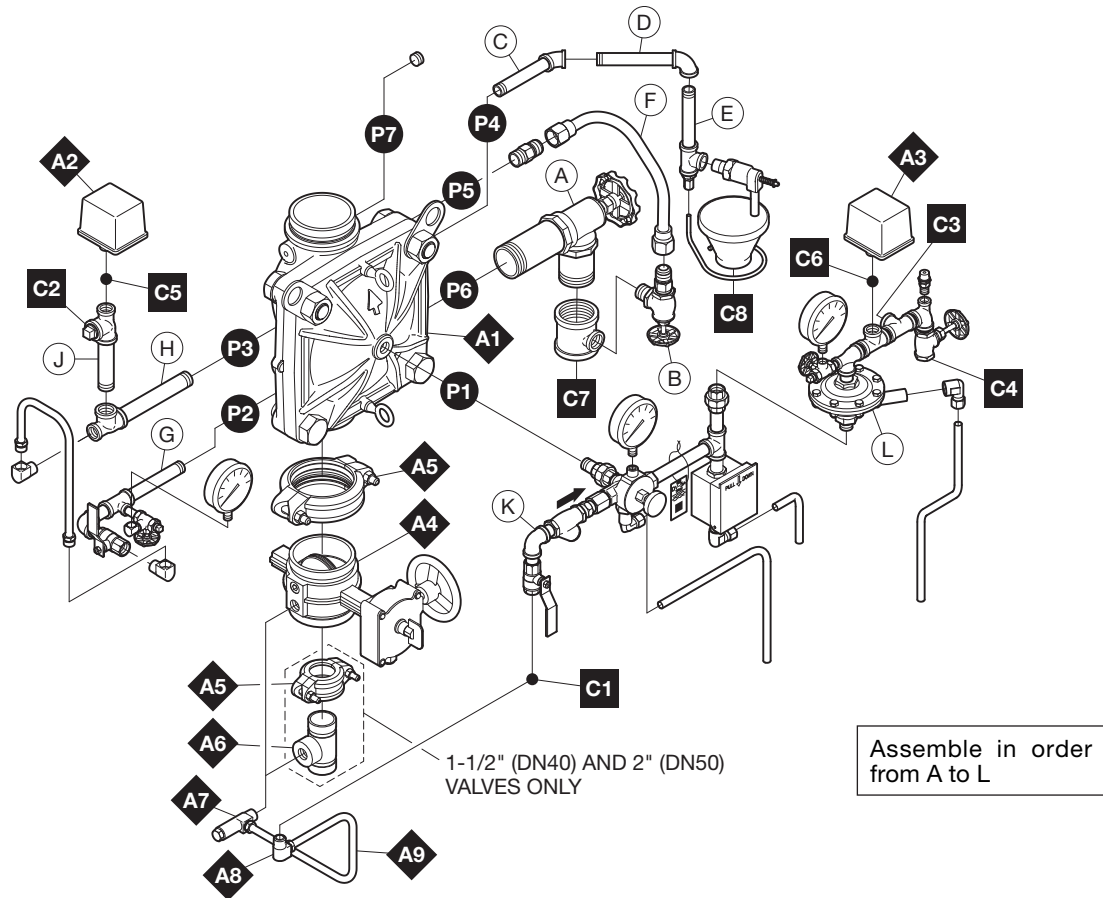
Step 15. Before a system hydrostatic test is performed, the DV-5A Diaphragm Chamber is to be depressurized, the Automatic Drain Valve is to be temporarily replaced with a plug, and the Diaphragm Cover Bolts must be uniformly and securely tightened using a cross-draw sequence. After tightening, double-check to make certain that all of the Diaphragm Cover Bolts are securely tightened. Refer to Table C in the Care and Maintenance section for torque specifications.



Notes:

1. Port Connections P1 through P7 are described in Figure 2.
2. External Trim Connections C1 through C6 are described in Figure 16.
3. When ordering pre-assembled "DV-5_A Valve with Galvanized Valve Trim and Butterfly Valve", Items A1 through A8 are provided, as applicably related to valve size.
4. When ordering DV-5_A Trim separately from the DV-5_A Valve, Items A1 through A8 are separately ordered, as applicably related to valve size. Water Pressure Gauges for EMEA valve trim are also separately ordered.

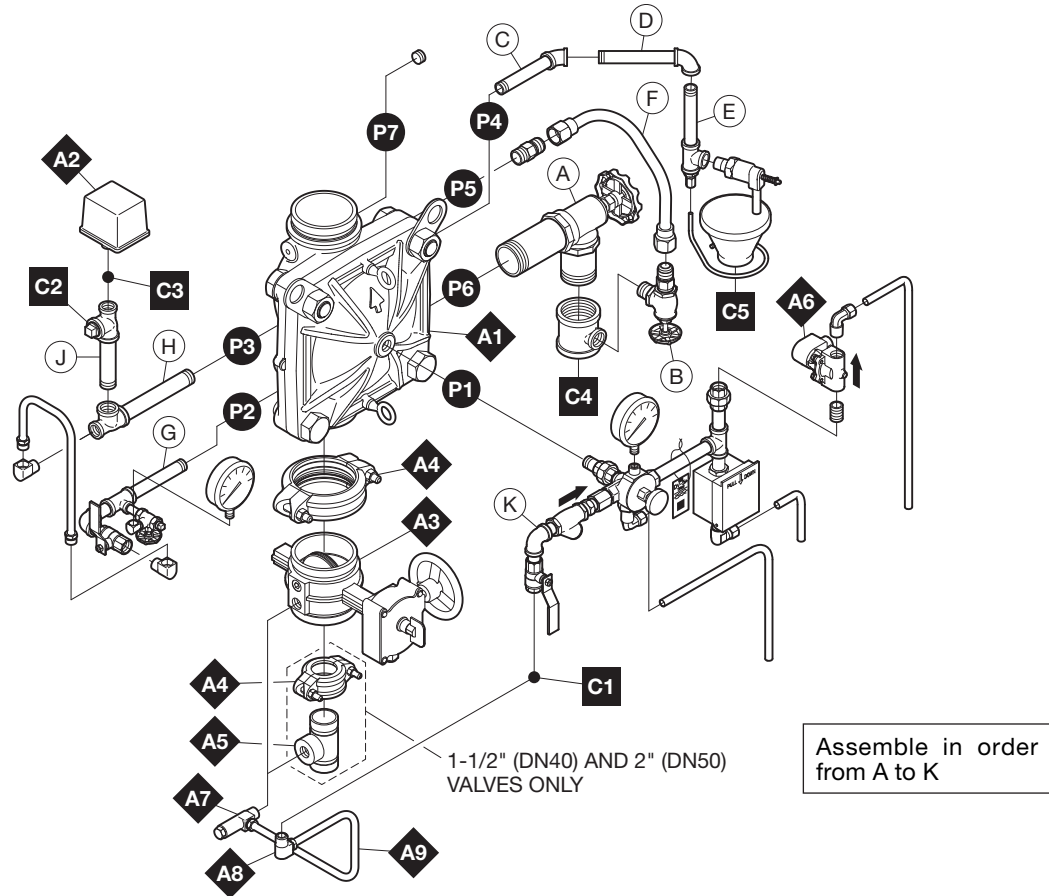
FIGURE 7
DV-5_A VALVE
DELUGE WET PILOT ACTUATION TRIM
SEMI-ASSEMBLED



Notes:

1. Port Connections P1 through P7 are described in Figure 2.
2. External Trim Connections C1 through C8 are described in Figure 17.
3. When ordering pre-assembled "DV-5_A Valve with Galvanized Valve Trim and Butterfly Valve", Items A1 through A9 are provided, as applicably related to valve size.
4. When ordering DV-5_A Trim separately from the DV-5_A Valve, Items A1 through A9 are separately ordered, as applicably related to valve size. Water Pressure Gauges for EMEA valve trim are also separately ordered.

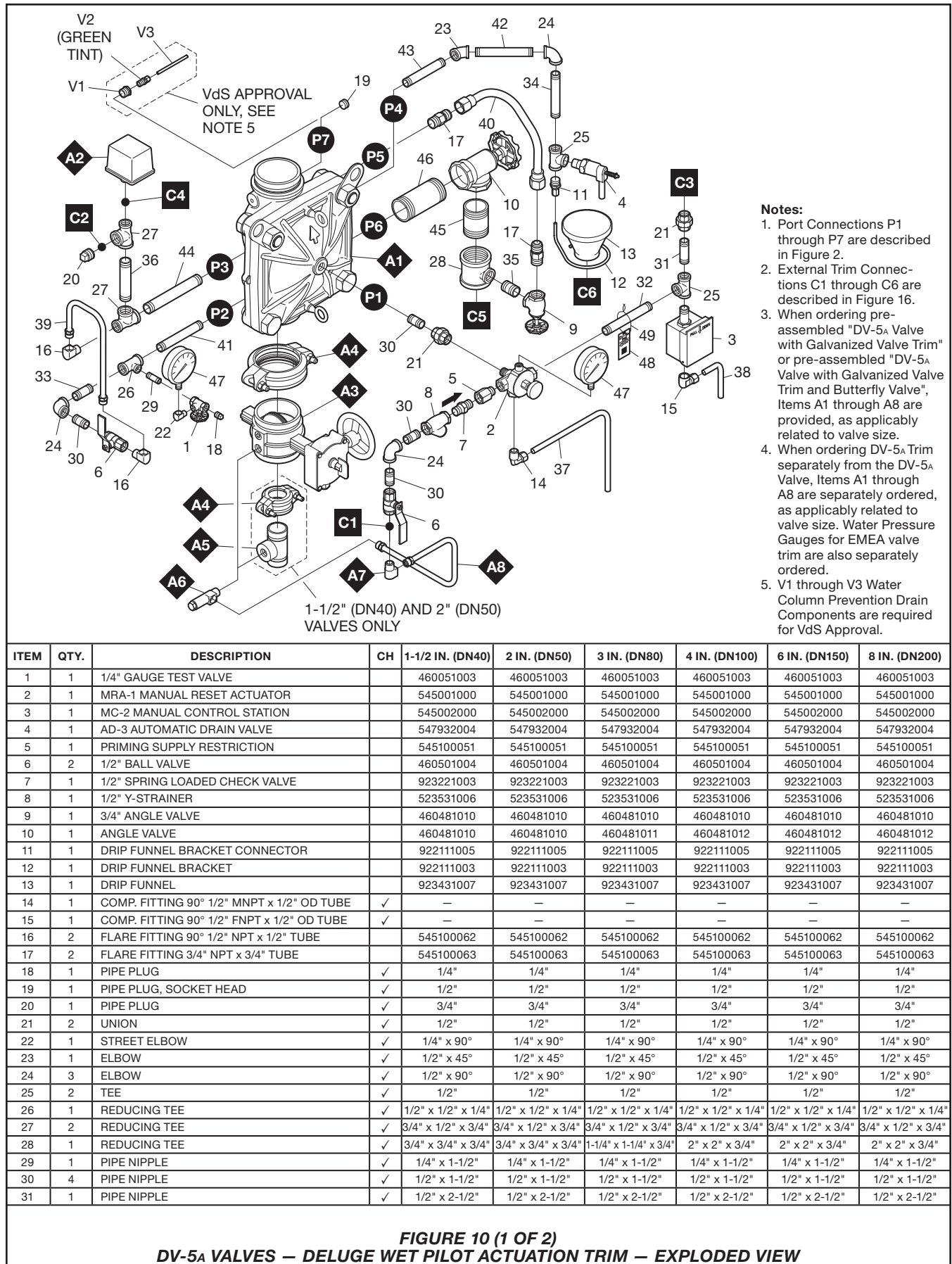
FIGURE 8
DV-5_A VALVE
DELUGE DRY PILOT ACTUATION TRIM
SEMI-ASSEMBLED



Notes:

1. Port Connections P1 through P7 are described in Figure 2.
2. External Trim Connections C1 through C5 are described in Figure 18.
3. When ordering pre-assembled "DV-5_A Valve with Galvanized Valve Trim" or pre-assembled "DV-5_A Valve with Galvanized Valve Trim and Butterfly Valve", Items A1 through A9 are provided, as applicably related to valve size, and Item A9 is provided as P/N 52-287-1-124 described in Technical Data Sheet TFP2180.
4. When ordering DV-5_A Trim separately from the DV-5_A Valve, Items A1 through A9 are separately ordered. Water Pressure Gauges for EMEA valve trim are also separately ordered.

FIGURE 9
DV-5_A VALVE
DELUGE ELECTRIC ACTUATION TRIM
SEMI-ASSEMBLED



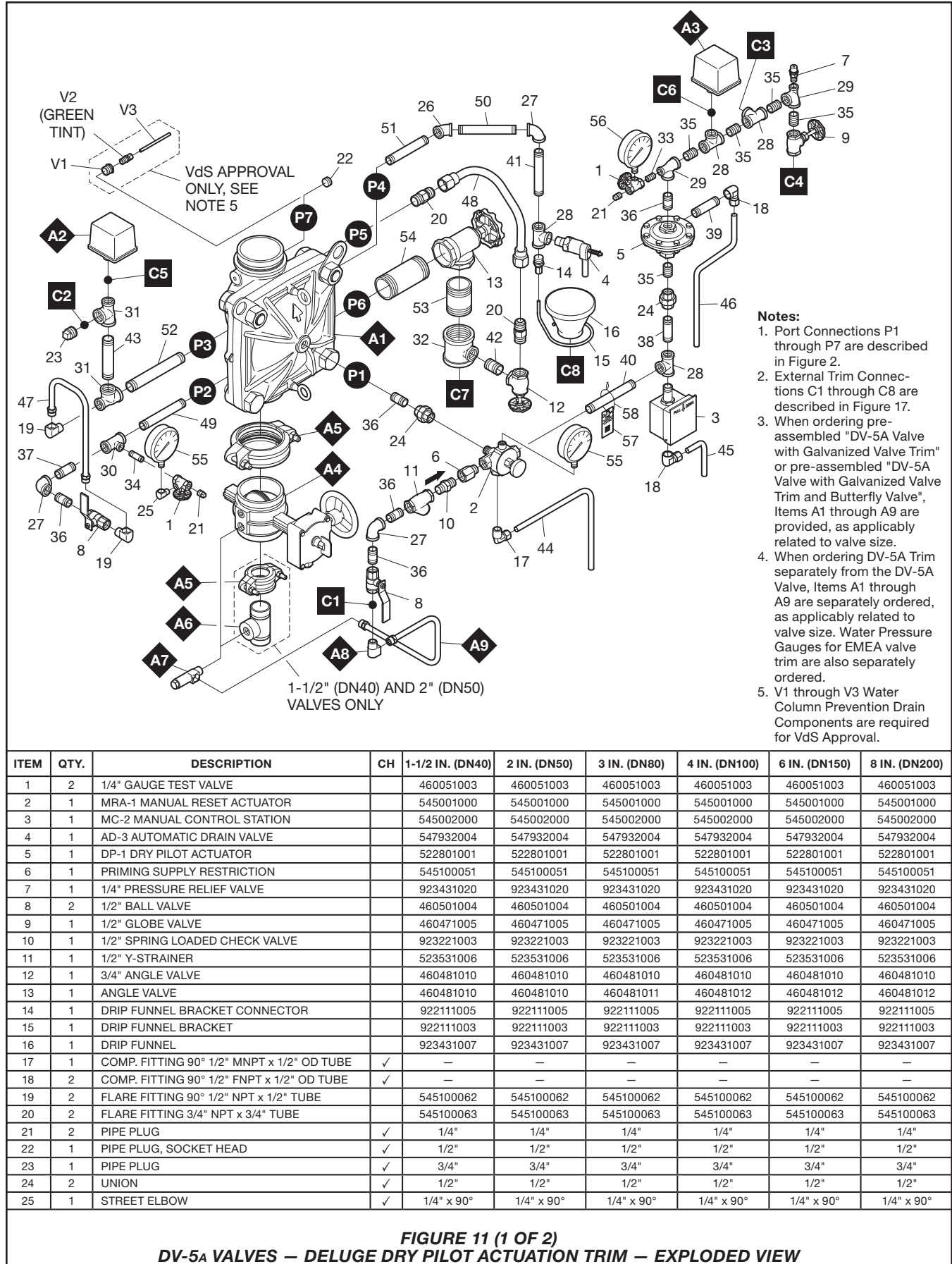
ITEM	QTY.	DESCRIPTION	CH	1-1/2 IN. (DN40)	2 IN. (DN50)	3 IN. (DN80)	4 IN. (DN100)	6 IN. (DN150)	8 IN. (DN200)
32	1	PIPE NIPPLE	✓	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"
33	1	PIPE NIPPLE	✓	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"
34	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"
35	1	PIPE NIPPLE	✓	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"
36	1	PIPE NIPPLE	✓	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"
37	1	TUBING, MRA-1 DRAIN		545100065	545100065	545100066	535002140	535002160	535002180
38	1	TUBING, MC-2 DRAIN		535000220	535000220	535000230	535000240	535000260	535000280
39	1	TUBING ASSY, ALARM TEST INTERCONNECT		535000320	535000320	535000330	535000340	535000360	535000380
40	1	TUBING ASSY, SYSTEM DRAIN		535000420	535000420	535000430	535000440	535000460	535000480
41	1	PIPE NIPPLE	✓	1/2" x 3-1/2"	1/2" x 3-1/2"	1/2" x 4-1/2"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 6-3/4"
42	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 6-1/2"
43	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 4-1/2"	1/2" x 5"	1/2" x 7-1/2"	1/2" x 9-1/2"
44	1	PIPE NIPPLE	✓	3/4" x 5"	3/4" x 5"	3/4" x 6"	3/4" x 7"	3/4" x 9"	3/4" x 11-1/2"
45	1	PIPE NIPPLE	✓	3/4" x 4-1/2"	3/4" x 4-1/2"	1-1/4" x 3-1/4"	2" x 3"	2" x 3"	2" x 3"
46	1	PIPE NIPPLE	✓	3/4" x 6-1/2"	3/4" x 6-1/2"	1-1/4" x 5-1/2"	2" x 5"	2" x 6"	2" x 8"
47	2	WATER PRESSURE GAUGE, 300 PSI / 2000 kPa (AMER/APAC)		923431005	923431005	923431005	923431005	923431005	923431005
	2	WATER PRESSURE GAUGE, 20 bar / 2000 kPa (EMEA)		025500013	025500013	025500013	025500013	025500013	025500013
48	1	LABEL		545003001	545003001	545003001	545003001	545003001	545003001
49	1	LABEL WIRE		—	—	—	—	—	—
A1	1	DV-5A Valve		REFER TO TABLE F FOR DV-5A VALVE PART NUMBERS					
A2	1	WATERFLOW PRESSURE ALARM SWITCH, PS10-2 (AMER/APAC)		25710	25710	25710	25710	25710	25710
	1	WATERFLOW PRESSURE ALARM SWITCH, PS10-1 (EMEA)		0260	0260	0260	0260	0260	0260
A3	1	BUTTERFLY VALVE, 1-1/2" G x G		51024A	51021A	—	—	—	—
	1	BFV-300 BUTTERFLY VALVE, G x G		—	—	59300G030WS	59300G040WS	59300G060WS	59300G080WS
A4	2	FIGURE 577 RIGID GROOVED COUPLING		57715ACP	57720ACP	—	—	—	—
	1	FIGURE 577 RIGID GROOVED COUPLING		—	—	57730ACP	57740ACP	57760ACP	57780ACP
A5	1	GROOVE x THREADED OUTLET WELDED TEE		545004000	545004001	—	—	—	—
A6	1	INVERTED FLARE SHUT-OFF VALVE ^a		545100100	545100100	545100099	545100100	545100100	545100100
A7	1	FLARE FITTING 90° 1/2" NPT x 1/2" TUBE		545100062	545100062	545100062	545100062	545100062	545100062
A8	1	TUBING ASSY, DIAPHRAGM CHAMBER SUPPLY		540000015	540000020	540000030	540000040	540000060	540000080
V1	1	REDUCING BUSHING	✓	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"
V2	1	3/32" VENT FITTING		920321002	920321002	920321002	920321002	920321002	920321002
V3	1	TUBING, VENT TRIM DRAIN		923041035	923041035	923041035	923041035	923041035	923041035

NOTE:

a. Not VdS Approved

CH - Common Hardware - Refer to Materials of Construction section for specifications.

FIGURE 10 (2 OF 2)
DV-5A VALVES — DELUGE WET PILOT ACTUATION TRIM — EXPLODED VIEW



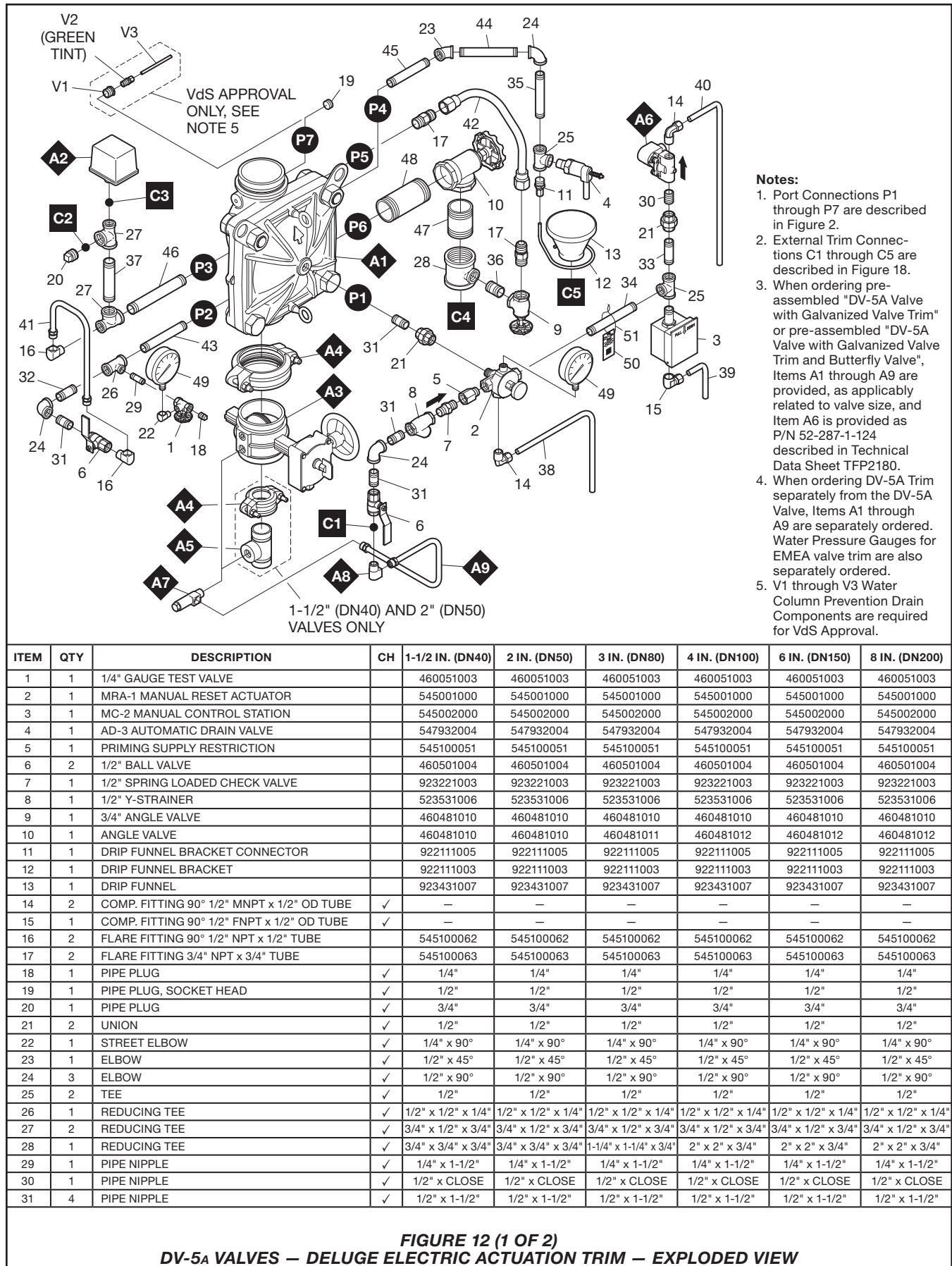
ITEM	QTY.	DESCRIPTION	CH	1-1/2 IN. (DN40)	2 IN. (DN50)	3 IN. (DN80)	4 IN. (DN100)	6 IN. (DN150)	8 IN. (DN200)
26	1	ELBOW	✓	1/2" x 45°	1/2" x 45°	1/2" x 45°	1/2" x 45°	1/2" x 45°	1/2" x 45°
27	3	ELBOW	✓	1/2" x 90°	1/2" x 90°	1/2" x 90°	1/2" x 90°	1/2" x 90°	1/2" x 90°
28	4	TEE	✓	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
29	2	REDUCING TEE	✓	1/2" x 1/4" x 1/2"	1/2" x 1/4" x 1/2"	1/2" x 1/4" x 1/2"	1/2" x 1/4" x 1/2"	1/2" x 1/4" x 1/2"	1/2" x 1/4" x 1/2"
30	1	REDUCING TEE	✓	1/2" x 1/2" x 1/4"	1/2" x 1/2" x 1/4"	1/2" x 1/2" x 1/4"	1/2" x 1/2" x 1/4"	1/2" x 1/2" x 1/4"	1/2" x 1/2" x 1/4"
31	2	REDUCING TEE	✓	3/4" x 1/2" x 3/4"	3/4" x 1/2" x 3/4"	3/4" x 1/2" x 3/4"	3/4" x 1/2" x 3/4"	3/4" x 1/2" x 3/4"	3/4" x 1/2" x 3/4"
32	1	REDUCING TEE	✓	3/4" x 3/4" x 3/4"	3/4" x 3/4" x 3/4"	1-1/4" x 1-1/4" x 3/4"	2" x 2" x 3/4"	2" x 2" x 3/4"	2" x 2" x 3/4"
33	1	PIPE NIPPLE	✓	1/4" x CLOSE	1/4" x CLOSE	1/4" x CLOSE	1/4" x CLOSE	1/4" x CLOSE	1/4" x CLOSE
34	1	PIPE NIPPLE	✓	1/4" x 1-1/2"	1/4" x 1-1/2"	1/4" x 1-1/2"	1/4" x 1-1/2"	1/4" x 1-1/2"	1/4" x 1-1/2"
35	5	PIPE NIPPLE	✓	1/2" x CLOSE	1/2" x CLOSE	1/2" x CLOSE	1/2" x CLOSE	1/2" x CLOSE	1/2" x CLOSE
36	5	PIPE NIPPLE	✓	1/2" x 1-1/2"	1/2" x 1-1/2"	1/2" x 1-1/2"	1/2" x 1-1/2"	1/2" x 1-1/2"	1/2" x 1-1/2"
37	1	PIPE NIPPLE	✓	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"
38	1	PIPE NIPPLE	✓	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"
39	1	PIPE NIPPLE	✓	1/2" x 3"	1/2" x 3"	1/2" x 3"	1/2" x 3"	1/2" x 3"	1/2" x 3"
40	1	PIPE NIPPLE	✓	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"
41	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"
42	1	PIPE NIPPLE	✓	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"
43	1	PIPE NIPPLE	✓	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"
44	1	TUBING, MRA-1 DRAIN		545100065	545100065	545100066	535002140	535002160	535002180
45	1	TUBING, MC-2 DRAIN		535000220	535000220	535000230	535000240	535000260	535000280
46	1	TUBING, DP-1 DRAIN		535000520	535000520	535000530	535000540	535000560	535000580
47	1	TUBING ASSY, ALARM TEST INTERCONNECT		535000320	535000320	535000330	535000340	535000360	535000380
48	1	TUBING ASSY, SYSTEM DRAIN		535000420	535000420	535000430	535000440	535000460	535000480
49	1	PIPE NIPPLE	✓	1/2" x 3-1/2"	1/2" x 3-1/2"	1/2" x 4-1/2"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 6-3/4"
50	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 6-1/2"
51	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 4-1/2"	1/2" x 5"	1/2" x 7-1/2"	1/2" x 9-1/2"
52	1	PIPE NIPPLE	✓	3/4" x 5"	3/4" x 5"	3/4" x 6"	3/4" x 7"	3/4" x 9"	3/4" x 11-1/2"
53	1	PIPE NIPPLE	✓	3/4" x 4-1/2"	3/4" x 4-1/2"	1-1/4" x 3-1/4"	2" x 3"	2" x 3"	2" x 3"
54	1	PIPE NIPPLE	✓	3/4" x 6-1/2"	3/4" x 6-1/2"	1-1/4" x 5-1/2"	2" x 5"	2" x 6"	2" x 8"
55	2	WATER PRESSURE GAUGE, 300 PSI / 2000 kPa (AMER/APAC)		923431005	923431005	923431005	923431005	923431005	923431005
	2	WATER PRESSURE GAUGE, 20 bar / 2000 kPa (EMEA)		025500013	025500013	025500013	025500013	025500013	025500013
56	1	AIR PRESSURE GAUGE, 80 PSI / 550 kPa RETARDED TO 250PSI / 1750 kPa		923431012	923431012	923431012	923431012	923431012	923431012
57	1	LABEL		545003001	545003001	545003001	545003001	545003001	545003001
58	1	LABEL WIRE		—	—	—	—	—	—
A1	1	DV-5A Valve		REFER TO TABLE F FOR DV-5a VALVE PART NUMBERS					
A2	1	WATERFLOW PRESSURE ALARM SWITCH, PS10-2 (AMER/APAC)		25710	25710	25710	25710	25710	25710
	1	WATERFLOW PRESSURE ALARM SWITCH, PS10-1 (EMEA)		0260	0260	0260	0260	0260	0260
A3	1	LOW AIR PRESSURE ALARM SWITCH, PS40-2 (AMER/APAC)		25730	25730	25730	25730	25730	25730
	1	LOW AIR PRESSURE ALARM SWITCH, PS40-1 (EMEA)		0262	0262	0262	0262	0262	0262
A4	1	BUTTERFLY VALVE, G x G		51024A	51021A	—	—	—	—
	1	BFV-300 BUTTERFLY VALVE, G x G		—	—	59300G030WS	59300G040WS	59300G060WS	59300G080WS
A5	2	FIGURE 577 RIGID GROOVED COUPLING		57715ACP	57720ACP	—	—	—	—
	1	FIGURE 577 RIGID GROOVED COUPLING		—	—	57730ACP	57740ACP	57760ACP	57780ACP
A6	1	GROOVE x THREADED OUTLET WELDED TEE		545004000	545004001	—	—	—	—
A7	1	INVERTED FLARE SHUT-OFF VALVE ^a		545100100	545100100	545100099	545100100	545100100	545100100
A8	1	FLARE FITTING 90° 1/2" NPT x 1/2" TUBE		545100062	545100062	545100062	545100062	545100062	545100062
A9	1	TUBING ASSY, DIAPHRAGM CHAMBER SUPPLY		540000015	540000020	540000030	540000040	540000060	540000080
V1	1	REDUCING BUSHING	✓	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"
V2	1	3/32" VENT FITTING		920321002	920321002	920321002	920321002	920321002	920321002
V3	1	TUBING, VENT TRIM DRAIN		923041035	923041035	923041035	923041035	923041035	923041035

NOTE:

a. Not VdS Approved

CH - Common Hardware - Refer to Materials of Construction section for specifications.

FIGURE 11 (2 OF 2)
DV-5A VALVES — DELUGE DRY PILOT ACTUATION TRIM — EXPLODED VIEW



ITEM	QTY	DESCRIPTION	CH	1-1/2 IN. (DN40)	2 IN. (DN50)	3 IN. (DN80)	4 IN. (DN100)	6 IN. (DN150)	8 IN. (DN200)
32	1	PIPE NIPPLE	✓	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"
33	1	PIPE NIPPLE	✓	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"	1/2" x 2-1/2"
34	1	PIPE NIPPLE	✓	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"	1/2" x 4-1/2"
35	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"	1/2" x 5"
36	1	PIPE NIPPLE	✓	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"	3/4" x 1-1/2"
37	1	PIPE NIPPLE	✓	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"	3/4" x 4-1/2"
38	1	TUBING, MRA-1 DRAIN		545100065	545100065	545100066	535002140	535002160	535002180
39	1	TUBING, MC-2 DRAIN		535000220	535000220	535000230	535000240	535000260	535000280
40	1	TUBING, SOLENOID DRAIN		535001020	535001020	535000630	535000640	535000660	535000680
41	1	TUBING ASSY, ALARM TEST INTERCONNECT		535000320	535000320	535000330	535000340	535000360	535000380
42	1	TUBING ASSY, SYSTEM DRAIN		535000420	535000420	535000430	535000440	535000460	535000480
43	1	PIPE NIPPLE	✓	1/2" x 3-1/2"	1/2" x 3-1/2"	1/2" x 4-1/2"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 6-3/4"
44	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 5-1/2"	1/2" x 6-1/2"
45	1	PIPE NIPPLE	✓	1/2" x 5"	1/2" x 5"	1/2" x 4-1/2"	1/2" x 5"	1/2" x 7-1/2"	1/2" x 9-1/2"
46	1	PIPE NIPPLE	✓	3/4" x 5"	3/4" x 5"	3/4" x 6"	3/4" x 7"	3/4" x 9"	3/4" x 11-1/2"
47	1	PIPE NIPPLE	✓	3/4" x 4-1/2"	3/4" x 4-1/2"	1-1/4" x 3-1/4"	2" x 3"	2" x 3"	2" x 3"
48	1	PIPE NIPPLE	✓	3/4" x 6-1/2"	3/4" x 6-1/2"	1-1/4" x 5-1/2"	2" x 5"	2" x 6"	2" x 8"
49	2	WATER PRESSURE GAUGE, 300 PSI / 2000 kPa (AMER/APAC)		923431005	923431005	923431005	923431005	923431005	923431005
	2	WATER PRESSURE GAUGE, 20 bar / 2000 kPa (EMEA)		025500013	025500013	025500013	025500013	025500013	025500013
50	1	LABEL		545003001	545003001	545003001	545003001	545003001	545003001
51	1	LABEL WIRE		—	—	—	—	—	—
A1	1	DV-5A Valve		REFER TO TABLE F FOR DV-5A VALVE PART NUMBERS					
A2	1	WATERFLOW PRESSURE ALARM SWITCH, PS10-2 (AMER/APAC)		25710	25710	25710	25710	25710	25710
A2	1	WATERFLOW PRESSURE ALARM SWITCH, PS10-1 (EMEA)		0260	0260	0260	0260	0260	0260
A3	1	BUTTERFLY VALVE, G x G		51024A	51021A	—	—	—	—
A3	1	BFV-300 BUTTERFLY VALVE, G x G		—	—	59300G030WS	59300G040WS	59300G060WS	59300G080WS
A4	2	FIGURE 577 RIGID GROOVED COUPLING		57715ACP	57720ACP	—	—	—	—
A4	1	FIGURE 577 RIGID GROOVED COUPLING		—	—	57730ACP	57740ACP	57760ACP	57780ACP
A5	1	GROOVE x THREADED OUTLET WELDED TEE		545004000	545004001	—	—	—	—
A6	1	SOLENOID VALVE, NORMALLY CLOSED		SEE TFP2180	SEE TFP2180	SEE TFP2180	SEE TFP2180	SEE TFP2180	SEE TFP2180
A7	1	INVERTED FLARE SHUT-OFF VALVE ^a		545100100	545100100	5545100099	545100100	545100100	545100100
A8	1	FLARE FITTING 90° 1/2" NPT x 1/2" TUBE		545100062	545100062	545100062	545100062	545100062	545100062
A9	1	TUBING ASSY, DIAPHRAGM CHAMBER SUPPLY		540000015	540000020	540000030	540000040	540000060	540000080
V1	1	REDUCING BUSHING	✓	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"	1/2" x 1/4"
V2	1	3/32" VENT FITTING		920321002	920321002	920321002	920321002	920321002	920321002
V3	1	TUBING, VENT TRIM DRAIN		923041035	923041035	923041035	923041035	923041035	923041035

NOTE:

a. Not VdS Approved

CH - Common Hardware - Refer to Materials of Construction section for specifications.

FIGURE 12 (2 OF 2)
DV-5A VALVES — DELUGE ELECTRIC ACTUATION TRIM — EXPLODED VIEW

Nominal Valve Size ANSI Inches (DN)	Inches (mm)								
	A	B	C	D	E	F	G	H	J
1-1/2 (40)	2.8 (71)	9.7 (246)	10.4 (264)	12.7 (323)	16.2 (411)	7.3 (185)	10.2 (259)	8.0 (203)	1.2 (31)
2 (50)	2.8 (71)	9.7 (246)	10.4 (264)	12.7 (323)	16.2 (411)	7.3 (185)	10.2 (259)	3.8 (97)	2.9 (74)
3 (80)	3.0 (76)	10.9 (277)	12.0 (305)	12.6 (320)	17.9 (455)	5.8 (147)	13.8 (351)	3.9 (99)	3.6 (91)
4 (100)	3.0 (76)	12.2 (310)	13.1 (333)	14.1 (358)	19.6 (498)	5.1 (130)	16.8 (427)	4.5 (114)	4.3 (109)
6 (150)	4.5 (114)	13.6 (345)	15.0 (381)	16.4 (417)	22.3 (566)	3.4 (86)	22.4 (569)	5.9 (150)	5.7 (145)
8 (200)	5.3 (135)	16.3 (414)	17.2 (437)	19.5 (495)	27.5 (699)	2.9 (74)	27.5 (699)	5.2 (132)	6.7 (170)

- Notes:**
1. Dimensions based on drain valves being open.
 2. Dimensions do not provide installation clearance.

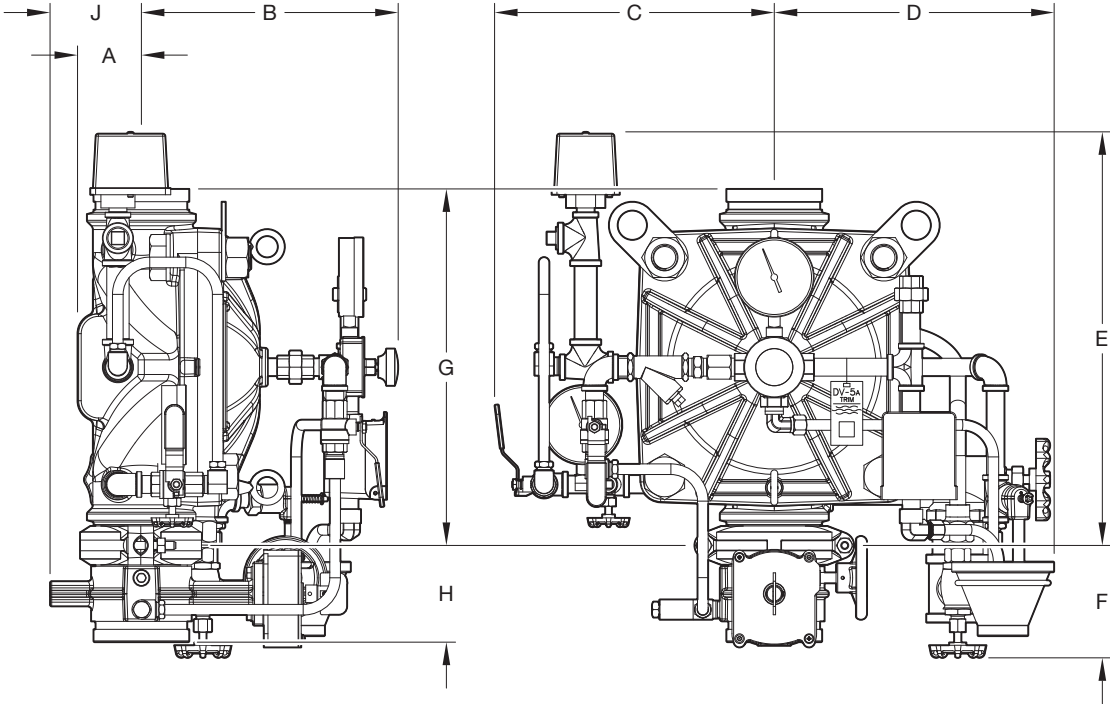


FIGURE 13
DV-5A VALVE
DELUGE WET PILOT ACTUATION TRIM ASSEMBLY
NOMINAL DIMENSIONS

Nominal Valve Size ANSI Inches (DN)	Inches (mm)								
	A	B	C	D	E	F	G	H	J
1-1/2 (40)	2.8 (71)	9.7 (246)	10.4 (264)	16.5 (419)	19.3 (490)	7.3 (185)	10.2 (259)	8.0 (203)	1.2 (31)
2 (50)	2.8 (71)	9.7 (246)	10.4 (264)	16.5 (419)	19.3 (490)	7.3 (185)	10.2 (259)	3.8 (97)	2.9 (74)
3 (80)	3.0 (76)	11.4 (290)	12.0 (305)	16.5 (419)	21.2 (539)	5.8 (147)	13.8 (350)	3.9 (99)	3.6 (91)
4 (100)	3.0 (76)	12.7 (323)	13.1 (333)	16.5 (419)	22.7 (577)	5.1 (130)	16.8 (427)	4.5 (114)	4.3 (109)
6 (150)	4.5 (114)	14.0 (356)	15.0 (381)	16.5 (419)	25.4 (645)	3.4 (86)	22.4 (568,96)	5.9 (150)	5.7 (145)
8 (200)	5.3 (135)	16.8 (427)	17.2 (437)	19.5 (495)	28.0 (711)	2.9 (74)	27.5 (699)	5.2 (132)	6.7 (170)

Notes:
1. Dimensions based on drain valves being open.
2. Dimensions do not provide installation clearance.

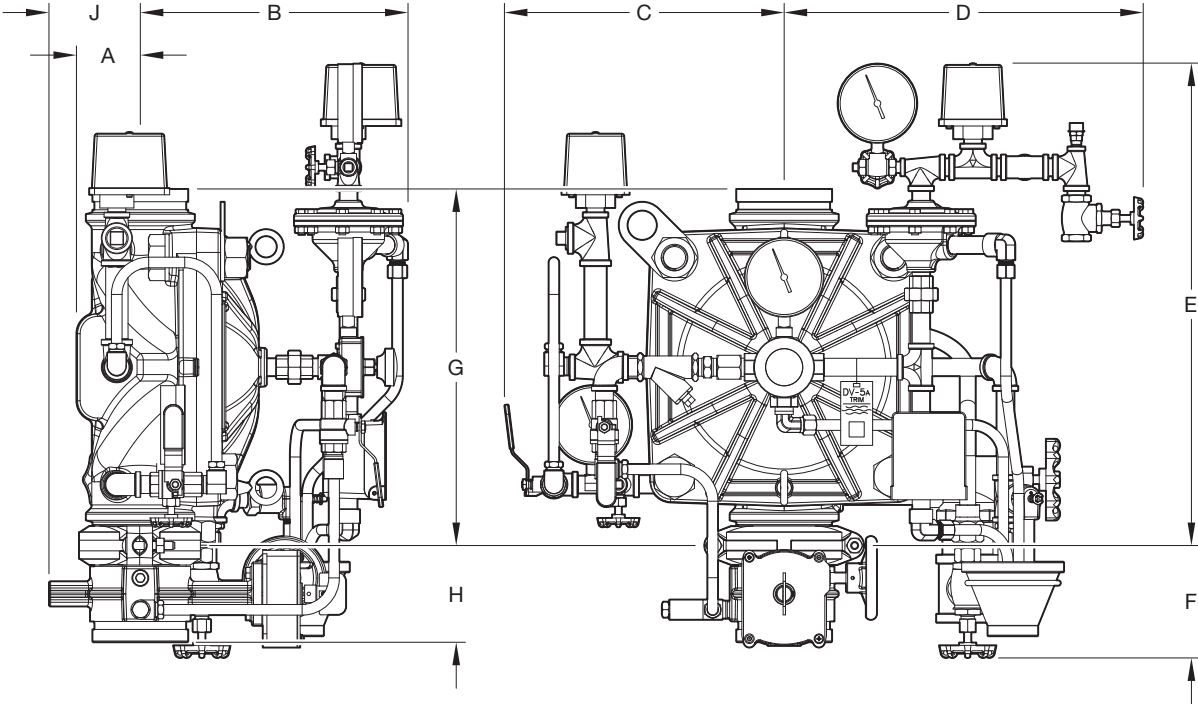


FIGURE 14
DV-5A VALVE
DELUGE DRY PILOT ACTUATION TRIM ASSEMBLY
NOMINAL DIMENSIONS

Nominal Valve Size ANSI Inches (DN)	Inches (mm)								
	A	B	C	D	E	F	G	H	J
1-1/2 (40)	2.8 (71)	9.7 (246)	10.4 (264)	12.7 (323)	16.2 (412)	7.3 (185)	10.2 (259)	8.0 (203)	1.2 (31)
2 (50)	2.8 (71)	9.7 (246)	10.4 (264)	12.7 (323)	16.2 (412)	7.3 (185)	10.2 (259)	3.8 (97)	2.9 (74)
3 (80)	3.0 (76)	10.9 (277)	12.0 (305)	12.6 (320)	17.9 (455)	5.8 (147)	13.8 (351)	3.9 (99)	3.6 (91)
4 (100)	3.0 (76)	12.2 (310)	13.1 (333)	14.1 (358)	19.6 (498)	5.1 (129)	16.8 (427)	4.5 (114)	4.3 (109)
6 (150)	4.5 (114)	13.6 (345)	15.0 (381)	16.4 (417)	22.3 (566)	3.4 (86)	22.4 (569)	5.9 (150)	5.7 (145)
8 (200)	5.3 (135)	16.3 (414)	17.2 (437)	19.5 (495)	27.5 (699)	2.9 (74)	27.5 (699)	5.2 (132)	6.7 (170)

- Notes:**
1. Dimensions based on drain valves being open.
2. Dimensions do not provide installation clearance.

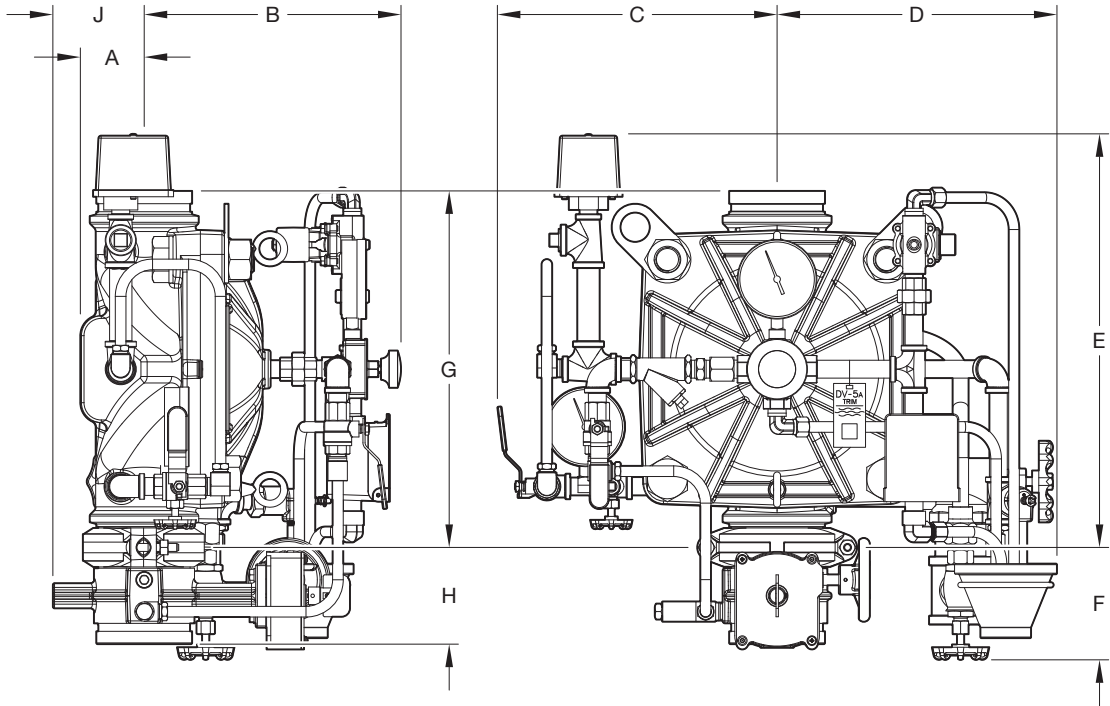


FIGURE 15
DV-5A VALVE
DELUGE ELECTRIC ACTUATION TRIM ASSEMBLY
NOMINAL DIMENSIONS

Valve Setting Procedure

Perform Steps 1 through 13 when initially setting the TYCO DV-5A Valve, after an operational test of the fire protection system, or after system operation due to a fire. Refer to Figures 16, 17, or 18, as applicable.

Step 1. Close the System Main Control Valve (B).

Step 2. Close the Diaphragm Supply Valve (P). For Dry Pilot Actuation, close the Dry Pilot Air Supply Valve (U).

Step 3. Open the Main Drain Valve (D), System Drain Valve (E), and all auxiliary drains in the system. Close the auxiliary drain valves and the System Drain Valve (E) after water ceases to discharge. Leave the Main Drain Valve (D) open.

At this time make certain that the Pressure Gauge Valves and the Alarm Control Valve (H), as applicable, are open.

Step 4. Depress the plunger of the Automatic Drain Valve (F) to verify that it is open.

Step 5. Clean the Diaphragm Supply Strainer (Q) by removing the clean-out plug and strainer basket. The Diaphragm Supply Strainer (Q) may be flushed out by momentarily opening the Diaphragm Supply Valve (P).

Step 6. Reset the automatic actuation system.

- Wet Pilot Actuation — Replace operated pilot sprinklers and/or reset the remote manual control stations.
- Dry Pilot Actuation — Replace operated pilot sprinklers and/or reset the remote manual control stations. Re-establish dry pilot pneumatic pressure.
- Electric Actuation — Reset the electric detection system in accordance with the manufacturer's instructions to de-energize the solenoid valve.

NOTICE

In order to prevent the possibility of a subsequent operation of an overheated solder type pilot sprinkler, any solder type pilot sprinklers that were possibly exposed to a temperature greater than their maximum rated ambient must be replaced.

Step 7. Operate (open) the Manual Control Station (M) and then open the Diaphragm Supply Valve (P). After unaerated water ceases to discharge from the Manual Control Station (M) drain tube, slowly close the operating lever by pushing it up. Do not close the hinged cover at this time.

Step 8. After allowing water to flow out of the Manual Reset Actuator (N) drain tube until aerated water ceases to discharge, reset the Manual Reset Actuator (N) by pressing the Reset Knob and hold until water stops flowing from its drain tube and the pressure builds and reaches approximately 15 psi (1,0 bar) on the Diaphragm Gauge (K). Pressure will then build up in the DV-5A Diaphragm Chamber.

For Wet Pilot Actuation, crack open the Inspector's Test Connection and any other vent valves on the wet pilot line to relieve trapped air. After the discharge of air has stopped, close the vent valves and the Inspector's Test Connection.

Note: After relieving trapped air, check the Manual Reset Actuator (N) to make sure there is no water draining from its drain tube. If water is draining, reset the Manual Reset Actuator (N) as previously instructed.

Step 9. Verify the ability for the DV-5A Diaphragm to hold pressure as follows:

- With the diaphragm chamber pressurized per Step 8, temporarily close the Diaphragm Supply Valve (P), and then observe the Diaphragm Gauge (K) for a drop in pressure.
- If a drop in pressure is noted, the DV-5A Diaphragm is to be replaced and/or any leaks must be corrected before proceeding to the next step.

- If the Diaphragm Gauge (K) indicates no drop in pressure, re-open the Diaphragm Supply Valve (P) and proceed to the next step.

Step 10. Partially open the System Main Control Valve (B). Slowly close the Main Drain Valve (D) as soon as water discharges from the Main Drain Valve (D). Observe the Automatic Drain Valve (F) for leaks. If there are leaks, determine/correct the cause of the leakage problem before proceeding.

NOTICE

When the System Main Control Valve (B) is partially opened, the pressure on the DV-5A Diaphragm Chamber may increase. This increase in pressure is normal, and if the pressure is greater than the valve trim maximum pressure rating provided in the Technical Data section, the pressure is to be relieved to at least the valve trim pressure rating by partially and temporarily opening the Manual Control Station (M); however, do not allow the pressure as indicated on the Diaphragm Gauge (K) to drop below the supply pressure shown on the Water Supply Gauge (J), since this action may result in tripping of the DV-5A Valve.

Step 11. Close the hinged cover of the Manual Control Station (M), and insert a new break rod in the small hole through the top of the enclosing box.

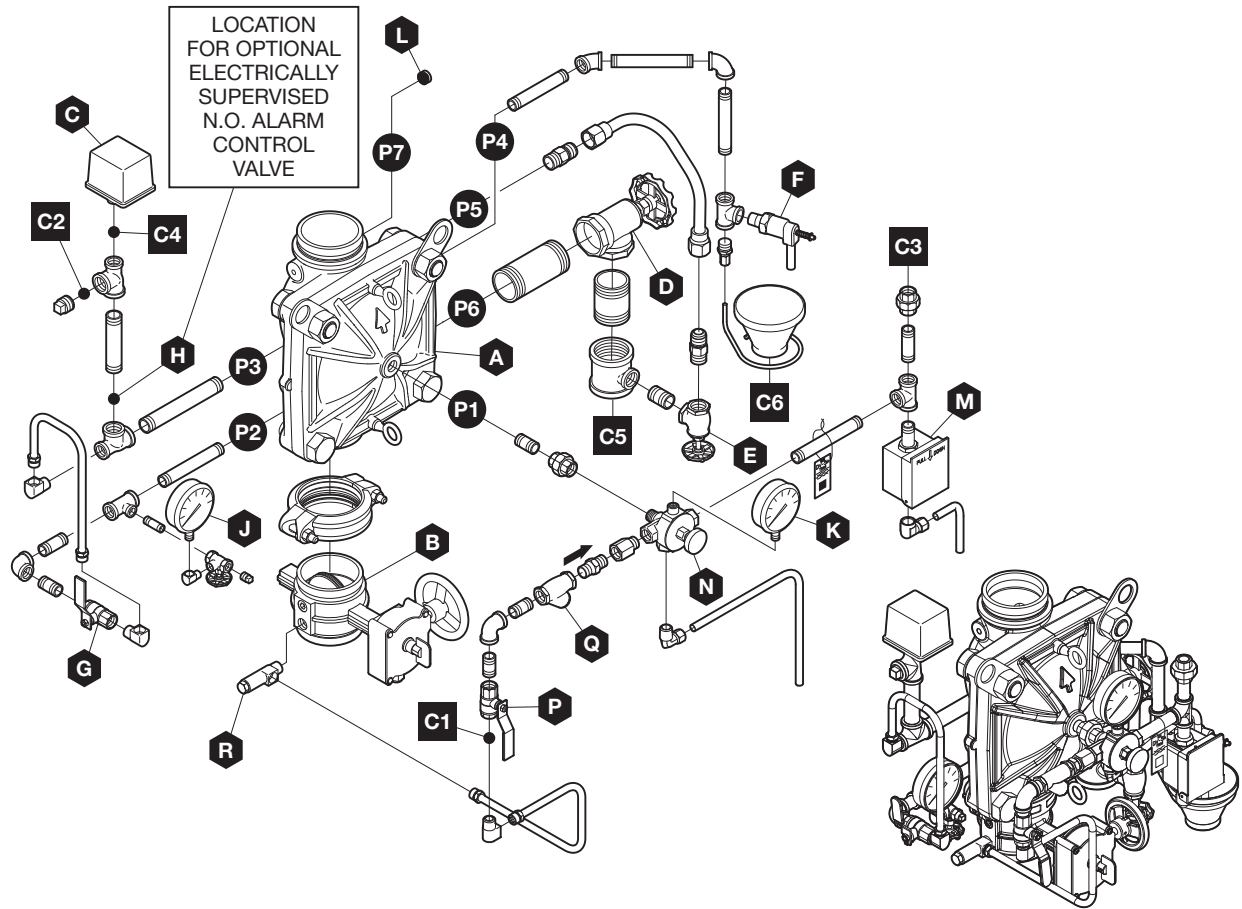
Step 12. Fully open the System Main Control Valve (B).

Step 13. After setting a fire protection system, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.

Item	Description
A	DV-5A Valve
B	System Main Control Valve
C	Waterflow Pressure Switch
D	Main Drain Valve
E	System Drain Valve
F	Automatic Drain Valve
G	Alarm Test Valve
H	Alarm Control Valve (Optional)

Item	Description
J	Water Supply Gauge
K	Diaphragm Gauge
L	System Gauge (Optional)
M	Manual Control Station
N	Manual Reset Actuator
P	Diaphragm Supply Valve
Q	Diaphragm Supply Strainer
R	Inverted Flare Shut-Off Valve

External Trim Connections	
C1	Diaphragm Supply Connection
C2	Water Motor Alarm Connection
C3	Wet Pilot Line Connection
C4	Waterflow Pressure Alarm Switch Connection
C5	Main Drain Connection
C6	Drip Funnel Drain Connection



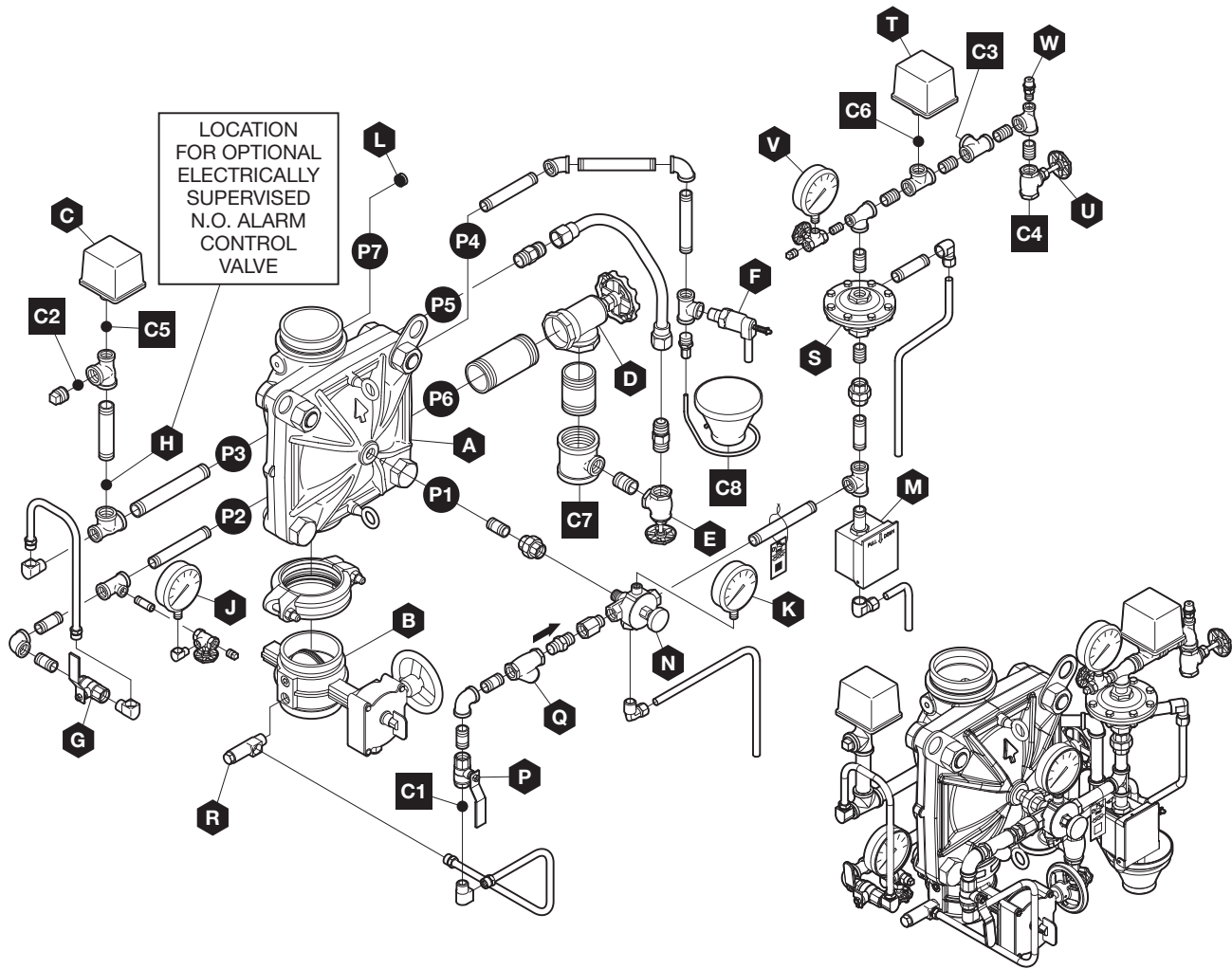
Note:
Port Connections P1 through P7 are described in Figure 2.

FIGURE 16
DV-5A VALVE
DELUGE WET PILOT ACTUATION TRIM
(Refer To Figure 10 For Specific Bills Of Materials)

Item	Description
A	DV-5A Valve
B	System Main Control Valve
C	Waterflow Pressure Switch
D	Main Drain Valve
E	System Drain Valve
F	Automatic Drain Valve
G	Alarm Test Valve
H	Alarm Control Valve (Optional)
J	Water Supply Gauge
K	Diaphragm Gauge
L	System Gauge (Optional)

Item	Description
M	Manual Control Station
N	Manual Reset Actuator
P	Diaphragm Supply Valve
Q	Diaphragm Supply Strainer
R	Inverted Flare Shut-Off Valve
S	Dry Pilot Actuator
T	Low Air Pressure Alarm Switch
U	Dry Pilot Air Supply Valve
V	Dry Pilot Line Gauge
W	Pressure Relief Valve

External Trim Connections	
C1	Diaphragm Supply Connection
C2	Water Motor Alarm Connection
C3	Dry Pilot Line Connection
C4	Dry Pilot Air Supply Connection
C5	Waterflow Pressure Alarm Switch Connection
C6	Low Air Pressure Switch Connection
C7	Main Drain Connection
C8	Drip Funnel Drain Connection



Note:
 Port Connections P1 through P7 are described in Figure 2.

FIGURE 17
DELUGE DRY PILOT ACTUATION TRIM
(Refer To Figure 11 For Specific Bills Of Materials)

Item	Description
A	DV-5A Valve
B	System Main Control Valve
C	Waterflow Pressure Switch
D	Main Drain Valve
E	System Drain Valve
F	Automatic Drain Valve
G	Alarm Test Valve
H	Alarm Control Valve (Optional)
J	Water Supply Gauge

Item	Description
K	Diaphragm Gauge
L	System Gauge (Optional)
M	Manual Control Station
N	Manual Reset Actuator
P	Diaphragm Supply Valve
Q	Diaphragm Supply Strainer
R	Inverted Flare Shut-Off Valve
S	Solenoid Valve

External Trim Connections	
C1	Diaphragm Supply Connection
C2	Water Motor Alarm Connection
C3	Waterflow Pressure Alarm Switch Connection
C4	Main Drain Connection
C5	Drip Funnel Drain Connection

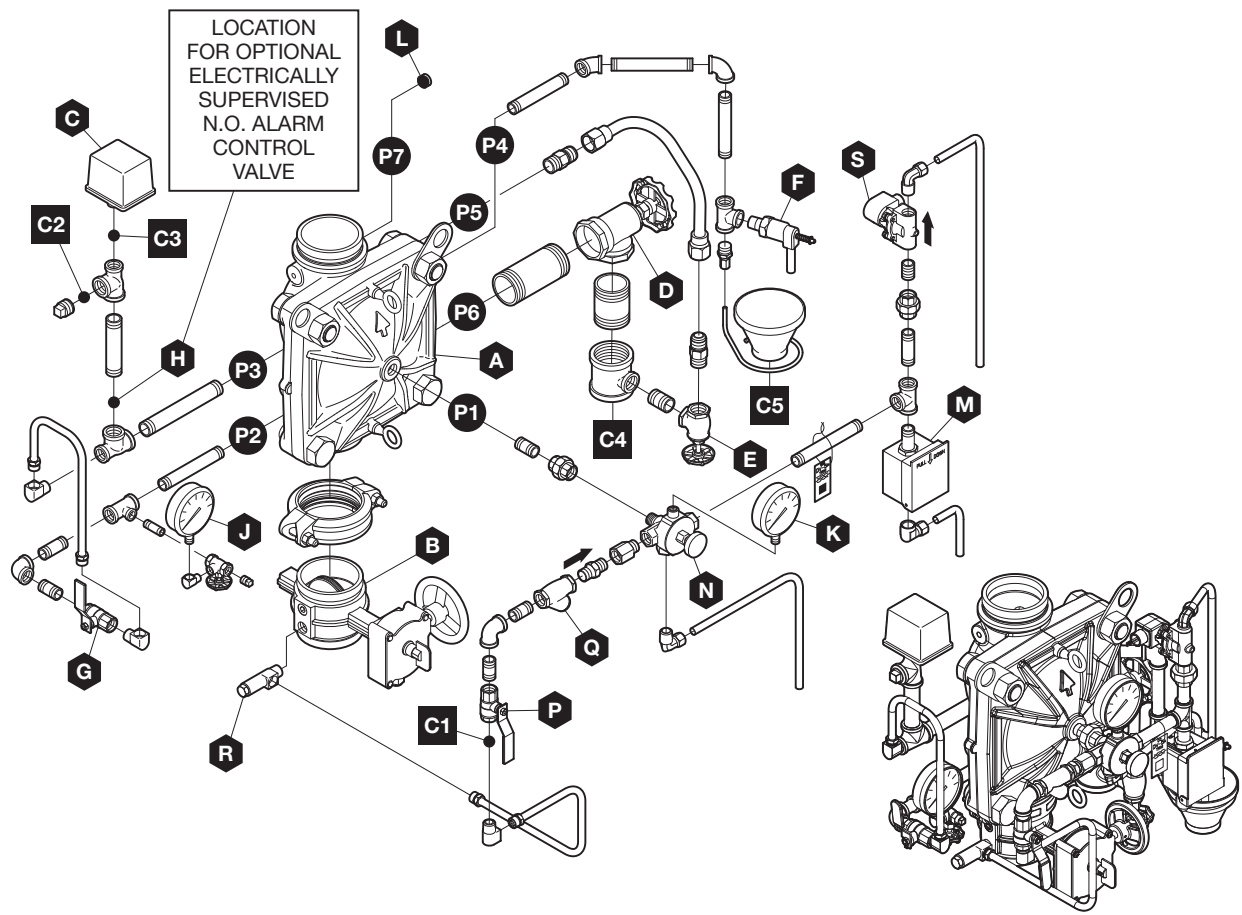


FIGURE 18
DV-5A VALVE
DELUGE ELECTRIC ACTUATION TRIM
(Refer To Figure 12 For Specific Bills Of Materials)

Care and Maintenance

The following procedures and inspections must be performed as indicated, in addition to any specific requirements of the NFPA and any applicable standards recognized by the Approval agency. Any impairment must be immediately corrected. Refer to Figure 16, 17, or 18, as applicable.

NOTICE

If the water supply needs to be shut off to the DV-5A valve and trim and cannot be shut off upstream of the system, close the System Main Control Valve (B), the Diaphragm Supply Valve (P), and the Inverted Flare Shut-Off Valve (R). This will allow any trim above the System Main Control Valve (B) to be taken apart for service if necessary.

The frequency at which the following procedures and inspections are to be performed are to be in accordance with the NFPA and any applicable specific requirements of the standards recognized by the Approval agency.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection systems must first be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the NFPA and any applicable standards recognized by the Approval agency. Contact the installing contractor or product manufacturer with any questions.

Some procedures in this section result in the operation of the associated alarms. Notify the owner and the fire department, central station, or other signal station to which the alarms are connected before performing the tests.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service in accordance with the NFPA and any applicable standards recognized by the Approval agency.

Drop in Water Supply Pressure Below Normal Range

NOTICE

If the water supply pressure is significantly reduced below the normally expected static pressure range (as could occur in the case of a water main

break or repair), and there is a subsequent drop in the diaphragm chamber water pressure below its normal range (for example, due to a leak in a piping connection to or from the diaphragm chamber or, a leak in the diaphragm chamber check valve caused by dirt or debris in the check valve seal area), a deluge valve such as the DV-5A could inadvertently trip, if its water supply pressure is quickly restored.

A drop in the water supply pressure to below its normal range (as in the case of an interrupted water supply condition) constitutes an emergency impairment.

Should this condition occur, immediately close the System Main Control Valve (B) and use the following procedure to reset the system:

Step 1. Prior to the water supply pressure being restored to the closed System Main Control Valve (B), note the pressure indicated by the Diaphragm Gauge (K) and determine if the pressure is within the normally expected range.

Step 2. If the diaphragm chamber pressure is below the normal range, check for and correct any source of leakage from the diaphragm chamber prior to resetting the system.

Step 3. After the water supply pressure is restored to the System Main Control Valve (B), reset the DV-5A Valve in accordance with the Valve Setting Procedure section.

NOTICE

For fire protection systems subject to an emergency impairment caused by an interrupted water supply condition, it is recommended that consideration be given to installing a low water supply pressure switch with the appropriate alarm/indications to monitor the water supply pressure.

Waterflow Alarm Test Procedure

To test the waterflow alarm, open the Alarm Test Valve (G), which will allow a flow of water to the Waterflow Pressure Switch (C) and/or Water Motor Alarm. Upon satisfactory completion of the test, close the Alarm Test Valve (G).

To ensure drainage of the alarm line, depress the plunger on the Automatic Drain Valve (F).

Wet Pilot Actuation

Operation Test Procedure

Proper operation of the DV-5A Valve (i.e., opening of the DV-5A Valve as during a fire condition) must be verified as follows:

Step 1. If water must be prevented from flowing beyond the riser, perform the following steps:

- Close System Main Control Valve (B). Open Main Drain Valve (D).
- Open System Main Control Valve (B) one turn beyond position at which water just begins to flow from Main Drain Valve (D).
- Slowly close the Main Drain Valve (D).

Step 2. Open the Inspector's Test Connection.

Note: Be prepared to quickly perform Steps 3, 4, and 5 if water must be prevented from flowing beyond the riser.

Step 3. Verify that the DV-5A Valve has tripped, as indicated by the flow of water into the system.

Step 4. Close the System Main Control Valve (B).

Step 5. Close the Diaphragm Supply Valve (P).

Step 6. Reset the DV-5A Valve in accordance with the Valve Setting Procedure.

Dry Pilot Actuation

Operation Test Procedure

Proper operation of the DV-5A Valve (i.e., opening of the DV-5A Valve as during a fire condition) must be verified as follows:

Step 1. If water must be prevented from flowing beyond the riser, perform the following steps:

- Close System Main Control Valve (B). Open Main Drain Valve (D).
- Open System Main Control Valve (B) one turn beyond position at which water just begins to flow from Main Drain Valve (D).
- Slowly close the Main Drain Valve (D).

Step 2. Open the Inspector's Test Connection.

Note: Be prepared to quickly perform Steps 3, 4, and 5 if water must be prevented from flowing beyond the riser.

Step 3. Verify that the DV-5A Valve has tripped, as indicated by the flow of water into the system.

Step 4. Close the System Main Control Valve (B).

Step 5. Close the Diaphragm Supply Valve (P).

Step 6. Reset the DV-5A Valve in accordance with the Valve Setting Procedure.

Electric Actuation

Operation Test Procedure

Proper operation of the DV-5A Valve (i.e., opening of the DV-5A Valve as during a fire condition) must be verified as follows:

Step 1. If water must be prevented from flowing beyond the riser, perform the following steps.

- Close System Main Control Valve (B). Open Main Drain Valve (D).
- Open System Main Control Valve (B) one turn beyond position at which water just begins to flow from Main Drain Valve (D).
- Slowly close the Main Drain Valve (D).

Step 2. Test the deluge releasing panel in accordance with the manufacturer's instructions to energize the solenoid valve.

Note: Be prepared to quickly perform Steps 3, 4, and 5 if water must be prevented from flowing beyond the riser.

Step 3. Verify that the DV-5A Valve has tripped, as indicated by the flow of water into the system.

Step 4. Close the System Main Control Valve (B).

Step 5. Close the Diaphragm Supply Valve (P).

Step 6. Reset the DV-5A Valve in accordance with the Valve Setting Procedure.

Dry Pilot Actuator Test Procedure

Proper operation of the Dry Pilot Actuator for dry pilot actuation must be verified as follows:

Step 1. Close the System Main Control Valve (B).

Step 2. Open the Main Drain Valve (D).

Step 3. Open the Inspector's Test Connection on the Dry Pilot Line.

Step 4. Verify that there is a flow of water from the Dry Pilot Actuator (S) drain connection.

Step 5. Verify that the Diaphragm Chamber pressure has decreased to below 25% of the water supply pressure.

Step 6. Close the Inspector's Test Connection and allow the dry pilot line pressure to re-establish, and proceed as follows:

- Water should cease draining from the Dry Pilot Actuator (S) but remain draining from the Manual Reset Actuator (N).
- Press the Reset Knob on the Manual Reset Actuator (N) and hold it a few seconds until water stops flowing from its drain valve.
- Pressure will then build up in the DV-5A Diaphragm Chamber.
- After system pressure is restored in the DV-5A Diaphragm Chamber, inspect the Dry Pilot Actuator (S) and Manual Reset Actuator (N) for leaks at the drain tubes. Any leaks must be corrected before proceeding to the next step.

Step 7. Partially open the System Main Control Valve (B). Slowly close the Main Drain Valve (D) as soon as water discharges from the Main Drain Valve (D) and then close the Main Drain Valve (D). Observe the Automatic Drain Valve (F) for leaks. If there are leaks, determine/correct the cause of the leakage problem. If there are no leaks, the DV-5A Valve is ready to be placed in service and the System Main Control Valve (B) must then be fully opened.

Low Pressure Alarm and Condensate Drain for Dry Pilot Actuation Test Procedures

For Dry Pilot Actuation, testing of the Dry Pilot Low Pressure Switch (T) and drainage of the pilot line condensate must be performed as follows:

Step 1. Close the System Main Control Valve (B).

Step 2. Close the Diaphragm Supply Valve (P).

Step 3. Open the Main Drain Valve (D).

Step 4. Open the Inspector's Test Connection, and slowly relieve pneumatic pressure. Verify that the Dry Pilot Low Pressure Switch (T) is operational and that the low pressure set points are as follows:

- Low pressure alarm setting at approximately 6 psi (0,4 bar) below the minimum pilot line service pressure requirement shown in Graph B
- Fire alarm setting at approximately 14.5 psi (1,0 bar) below the minimum pilot line service pressure requirement shown in Graph B.

Step 5. Close the Inspector's Test Connection and allow the Dry Pilot Line to automatically repressurize.

Step 6. Individually open each low point drain and then close after discharge of any trapped condensate.

The gauge test valve to which the Dry Pilot Line Gauge (V) is connected must be used as a low point drain. Close the gauge test valve, remove the plug, and partially open the gauge test valve (as necessary, collect water in a cup). After condensate water ceases to drain, close the gauge test valve, replace the plug, and then completely open the gauge test valve.

Step 7. Allow the Dry Pilot Line to automatically repressurize.

Step 8. Open the Diaphragm Supply Valve (P).

Step 9. Partially open the System Main Control Valve (B). slowly close the Main Drain Valve (D) as soon as water discharges from the Main Drain Valve (D). Observe the Automatic Drain Valve (F) for leaks. If there are leaks, determine/correct the cause of the leakage problem. If there are no leaks, the DV-5A Valve is ready to be placed in service and the System Main Control Valve (B) must then be fully opened.

Electric Actuation Solenoid Valve Test Procedure

Proper operation of the Solenoid Valve for electric actuation must be verified at as follows:

Step 1. Close the System Main Control Valve (B).

Step 2. Open the Main Drain Valve (D).

Step 3. Test the deluge releasing panel in accordance with the manufacturer's instructions to energize the solenoid valve.

Step 4. Verify that there is a flow of water from the Solenoid Valve drain connection.

Step 5. Verify that the Diaphragm Chamber pressure has decreased to below 25% of the water supply pressure.

Step 6. Reset the electric detection system in accordance with the manufacturer's instructions to de-energize the Solenoid Valve (S), and proceed as follows:

- Water should cease draining from the Solenoid Valve (S) but remain draining from the Manual Reset Actuator (N).
- Press the Reset Knob on the Manual Reset Actuator (N) and hold it a few seconds until water stops flowing from its drain tube.
- Pressure will then build up in the DV-5A Diaphragm Chamber.
- After system pressure is restored in the DV-5A Diaphragm Chamber, inspect the Solenoid Valve (S) and Manual Reset Actuator (N) for leaks at the drain tube. Any leaks must be corrected before proceeding to the next step.

Step 7. Partially open the System Main Control Valve (B). Slowly close the Main Drain Valve (D) as soon as water discharges from the Main Drain Valve (D). Observe the Automatic Drain Valve (F) for leaks. If there are leaks, determine/correct the cause of the leakage problem. If there are no leaks, the DV-5A Valve is ready to be placed in service and the System Main Control Valve (B) must then be fully opened.

Internal Valve Inspection

Once every five years during the annual operational test procedure, and prior to the DV-5A Valve being reset and the DV-5A Valve de-pressurized, the interior of the DV-5A Valve must be cleaned and inspected for wear and damage. Damaged or worn parts must be replaced. Replacement of the Diaphragm every ten years is recommended, or more frequently if inspections and/or wear and tear of the Diaphragm warrants more frequent replacement.

NOTICE

The Diaphragm Cover may be removed between Steps 4 and 5 of the Valve Setting Procedure instructions, since at that point the DV-5A Valve should be de-pressurized as evident by a zero gauge reading on the Diaphragm Gauge (K) and Water Supply Gauge (J), as well as no water discharging from the Automatic Drain Valve (F).

To perform internal valve inspection between Steps 4 and 5 of the Valve Setting Procedure, remove the Diaphragm cover as follows:

Step 1. Close the Inverted Flare Shut-Off Valve (R).

Step 2. Remove the Copper Tube Fitting between the Diaphragm Supply Valve (P) and the Inverted Flare Shut-Off Valve (R).

Step 3. Loosen the union securing the Actuation Trim (Wet, Dry, or Electric) and remove the Actuation Trim.

Step 4. Loosen and remove the union between the Diaphragm Cover and the MRA-1 Manual Reset Actuator (N) and remove the MRA-1 Manual Reset Actuator (N) subassembly.

Step 5. Remove the Diaphragm Valve Cover hardware, then slowly remove the Diaphragm Cover and perform internal valve inspection. Clean the valve interior and replace parts as necessary.

After cleaning and inspecting valve interior, and replacing parts as necessary, reinstall the Diaphragm Cover

by completing the following steps to assure the Diaphragm Cover Fasteners are uniformly and securely tightened.

Step 1. With reference to Figure 1, ensure that the Diaphragm is properly oriented and that the proper hardware arrangement is utilized when assembling the Diaphragm Covers. The hardware arrangements differ depending on the size of the DV-5A Valve.

Step 2. By first using the Long Hex Bolts, support of the Diaphragm Cover will be provided before installing the Short Hex Bolts. Align Diaphragm in proper orientation with Valve Body, and then align Diaphragm Cover in proper orientation with Valve Body. Hand-tighten all fasteners.

Step 3. Using crossdraw sequence to assure uniformity, wrench-tighten Long Hex Bolts and Short Hex Bolts to appropriate torque values. Repeat crossdraw sequence two to three times at incremental torque values until reaching the torque values found in Table C.

Step 4. Inspect to assure all Hex Bolts are securely tightened.

Step 5. Using the union, secure the MRA-1 Manual Reset Actuator to the Diaphragm Cover.

Step 6. Using the union, secure the Actuation Trim (Wet, Dry, or Electric).

Step 7. Replace the Copper Tube Fitting between the Diaphragm Supply Valve (P) and the Inverted Flare Shut-Off Valve (R).

Step 8. Ensure that the unions and flare fittings are securely tightened.

Step 9. With the Diaphragm Supply Valve (P) closed, fully open the Inverted Flare Shut-Off Valve (R) stainless steel screw (approximately 1/2 in.) until resistance is met so as not to break the internal roll-pin. The internal roll-pin stops the removal of the Inverted Flare Shut-Off Valve (R) stainless steel screw.

Step 10. Proceed with Step 5 of the Valve Setting Procedures section in this data sheet.

NOTICE

If the water supply contains chemicals which tend to attack a polyester fabric-reinforced, EPDM rubber or the five year inspection indicates a build-up of debris within the DV-5A Valve that could affect its proper operation, then the frequency of the internal valve inspection procedure must be appropriately increased.

Nominal Valve Sizes ANSI Inches (DN)	Torque lb-ft (N-m)	
	Nuts	Short Hex Bolts
1-1/2 (40)	44 (59,7)	35 (47,5)
2 (50)	44 (59,7)	35 (47,5)
3 (80)	188 (254,9)	150 (203,4)
4 (100)	396 (536,9)	316 (428,4)
6 (150)	265 (359,3)	212 (287,4)
8 (200)	545 (738,9)	436 (591,1)

**TABLE C
DIAPHRAGM COVER BOLTS
MINIMUM TORQUE**

With reference to Figure 1, make certain that the Diaphragm is correctly oriented; otherwise, the DV-5A Deluge Valve cannot be properly set.

Under-tightening the Diaphragm Cover Bolts can result in internal and external leakage.

Use only TYCO replacement fasteners as specified in Figure 1.

Do not apply adhesives, lubricants, or other substances to the Diaphragm or Valve Body.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

The TYCO DV-5A Automatic Water Control Valves may be ordered as follows:

Pre-Assembled Ordering

DV-5A Valves with Galvanized Valve Trim and Butterfly Valve

Specify: Size (specify), DV-5A Automatic Water Control Valve, G x G connections with assembled galvanized Americas (Wet Dry, or Electric) Actuation Valve Trim, complete with assembled Model BFV-300 Butterfly Valve, P/N (Ref. Table D)

Note: This arrangement is available for EMEA and APAC upon request. Contact your local distributor.

DV-5A Valves with Galvanized Valve Trim

Specify: Size (specify), DV-5A Automatic Water Control Valve, (specify) end connection with assembled galvanized (Americas, EMEA, or APAC), (Wet, Dry, or Electric) Actuation Valve Trim, P/N (Ref. Table E)

VdS Approved DV-5A Valves with Galvanized Valve Trim

Specify: VdS Approved, Size (specify), DV-5A Automatic Water Control Valve, (specify) end connection with assembled galvanized (Wet, Dry, or Electric) Actuation Trim, P/N (Ref. Table J)

Separate Parts Ordering

DV-5A Valves

Refer to Table A for flange drilling specifications.

Specify: Size (specify), DV-5A Automatic Water Control Valve, (specify) end connection, P/N (Ref. Table F)

G x G Valve Size	AMERICAS ¹		
	Wet	Dry	Electric
1-1/2 in. (DN40)	551010115	551010215	551010315
2 in. (DN50)	551010120	551010220	551010320
3 in. (DN80)	551010130	551010230	551010330
4 in. (DN100)	551010140	551010240	551010340
6 in. (DN150)	551010160	551010260	551010360
8 in. (DN200)	551010180	551010280	551010380
Notes; 1. AMERICAS DV-5A Valve with Trim and Butterfly Valve: Americas pressure switches, P/N 52-287-1-124 Solenoid Valve, and psi/kPa water pressure gauges are provided.			
TABLE D DV-5A VALVES WITH GALVANIZED VALVE TRIM AND BUTTERFLY VALVE PART NUMBER SELECTION — DELUGE SYSTEM —			

DV-5A Valve Trim

Specify: Size (specify), finish (specify), (Wet Dry, or Electric) Actuation Valve Trim for DV-5A Automatic Water Control Valves used in Deluge Fire Protection System, P/N (Ref. Table G)

DV-5A Valve Trim Accessories

(for separately ordered valve trim)

Refer to Table H for separately ordered accessories not included with the Valve Trim.

DV-5A Valve Replacement Parts

Specify: (Description) for use with (specify size) DV-5A Automatic Water Control Valve, P/N (Ref. Figure 1)

DV-5A Valve Trim Replacement Parts

Specify: (Description) for use with DV-5A Valve Trim, P/N (Refer to Figures 10, 11, and 12 as applicable)

G x G Valve Size	AMERICAS1			EMEA2			APAC3		
	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
1-1/2 (DN40)	550010115	550010215	550010315	550110115	550110215	550110315	550010115	550010215	550010315
2 in. (DN50)	550010120	550010220	550010320	550110120	550110220	550110320	550010120	550010220	550010320
3 in. (DN80)	550010130	550010230	550010330	550110130	550110230	550110330	550010130	550010230	550010330
4 in. (DN100)	550010140	550010240	550010340	550110140	550110240	550110340	550010140	550010240	550010340
6 in. (DN150)	550010160	550010260	550010360	550110160	550110260	550110360	550010160	550010260	550010360
8 in. (DN200)	550010180	550010280	550010380	550110180	550110280	550110380	550010180	550010280	550010380
F x F ANSI Valve Size	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
3 in. (DN80)	550020130	550020230	550020330	550120130	550120230	550120330	550020130	550020230	550020330
4 in. (DN100)	550020140	550020240	550020340	550120140	550120240	550120340	550020140	550020240	550020340
6 in. (DN150)	550020160	550020260	550020360	550120160	550120260	550120360	550020160	550020260	550020360
8 in. (DN200)	550020180	550020280	550020380	550120180	550120280	550120380	550020180	550020280	550020380
F x G ANSI Valve Size	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
3 in. (DN80)	550030130	550030230	550030330	550130130	550130230	550130330	550030130	550030230	550030330
4 in. (DN100)	550030140	550030240	550030340	550130140	550130240	550130340	550030140	550030240	550030340
6 in. (DN150)	550030160	550030260	550030360	550130160	550130260	550130360	550030160	550030260	550030360
8 in. (DN200)	550030180	550030280	550030380	550130180	550130280	550130380	550030180	550030280	550030380
T x T NPT Valve Size	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
1-1/2 in. (DN40)	550060115	550060215	550060315	—	—	—	550060115	550060215	550060315
2 in. (DN50)	550060120	550060220	550060320	—	—	—	550060120	550060220	550060320
F x F ISO Valve Size	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
3 in. (DN80)	—	—	—	550140130	550140230	550140330	550040130	550040230	550040330
4 in. (DN100)	—	—	—	550140140	550140240	550140340	550040140	550040240	550040340
6 in. (DN150)	—	—	—	550140160	550140260	550140360	550040160	550040260	550040360
8 in. (DN200)	—	—	—	550140180	550140280	550140380	550040180	550040280	550040380
F x G ISO Valve Size	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
3 in. (DN80)	—	—	—	550150130	550150230	550150330	550050130	550050230	550050330
4 in. (DN100)	—	—	—	550150140	550150240	550150340	550050140	550050240	550050340
6 in. (DN150)	—	—	—	550150160	550150260	550150360	550050160	550050260	550050360
8 in. (DN200)	—	—	—	550150180	550150280	550150380	550050180	550050280	550050380
T x T ISO Valve Size	Wet	Dry	Electric	Wet	Dry	Electric	Wet	Dry	Electric
1-1/2 in. (DN40)	—	—	—	550170115	550170215	550170315	—	—	—
2 in. (DN50)	—	—	—	550170120	550170220	550170320	—	—	—

Notes:

1. AMERICAS DV-5A Valve with Trim: Americas pressure switches, P/N 52-287-1-124 solenoid valve, and psi/kPa water pressure gauges are provided.
2. EMEA DV-5A Valve with Trim: EMEA pressure switches, P/N 52-287-1-124 solenoid valve, bar/psi water pressure gauges, and NPT to ISO threaded trim adaptors for external connections are provided.
3. APAC DV-5A Valve with Trim: APAC pressure switches, P/N 52-287-1-124 solenoid valve, and psi/kPa water pressure gauges are provided.

TABLE E
DV-5A VALVES WITH GALVANIZED VALVE TRIM
PART NUMBER SELECTION
— DELUGE SYSTEM —

TABLE F
DV-5A VALVES PART NUMBER SELECTION

TABLE G
DV-5A VALVE TRIM
PART NUMBER SELECTION
— DELUGE SYSTEM —

ACCESSORIES, DELUGE FIRE PROTECTION SYSTEMS	P/N	Data Sheet	CONSIDERED FOR USE WITH ACTUATION TYPE:		
			Wet Pilot	Dry Pilot	Electric
Waterflow Pressure Alarm Switch, Potter PS10-2 (America/APAC)	25720	—	✓	✓	✓
Waterflow Pressure Alarm Switch PS10-1 (EMEA)	0260	—	✓	✓	✓
Air Pressure Alarm Switch, Potter PS40-2 (America/APAC)	25710	—	—	✓	—
Air Pressure Alarm Switch PS40-1 (EMEA)	0262	—	—	✓	—
Model WMA-1 Water Motor Alarm (America/APAC)	526301001P	TFP921	✓	✓	✓
Model WMA-1 Water Motor Alarm (EMEA)	526301021R	TFP922	✓	✓	✓
Model AMD-1 Air Maintenance Device	523242002	TFP1221	—	✓	—
Model AMD-2 Air Maintenance Device	523262001	TFP1231	—	✓	—
Model AMD-3 Nitrogen Maintenance Device	523282001	TFP1241	—	✓	—
Model MC-1 Manual Control Stations	522892001	TFP1382	✓	✓	—
Water Gauges with bar/psi	025500013	—	✓	✓	✓
Solenoid Valve for Releasing Service	Refer to Technical Data Sheet	TFP2180	—	—	✓
600 psi Water Gauge psi/kPa (service pressure over 300 psi)	923431004	—	✓	✓	✓
TABLE H DV-5A VALVES ACCESSORIES PART NUMBER SELECTION — DELUGE SYSTEM —					

G x G Valve Size	VdS Approved ¹		
	Wet	Dry	Electric
1-1/2 (DN40)	550110115VDS	550110215VDS	550110315VDS
2 in. (DN50)	550110120VDS	550110220VDS	550110320VDS
3 in. (DN80)	550110130VDS	550110230VDS	550110330VDS
4 in. (DN100)	550110140VDS	550110240VDS	550110340VDS
6 in. (DN150)	550110160VDS	550110260VDS	550110360VDS
8 in. (DN200)	550110180VDS	550110280VDS	550110380VDS
F x F ANSI Valve Size	Wet	Dry	Electric
3 in. (DN80)	550120130VDS	550120230VDS	550120330VDS
4 in. (DN100)	550120140VDS	550120240VDS	550120340VDS
6 in. (DN150)	550120160VDS	550120260VDS	550120360VDS
8 in. (DN200)	550120180VDS	550120280VDS	550120380VDS
F x G ANSI Valve Size	Wet	Dry	Electric
3 in. (DN80)	550130130VDS	550130230VDS	550130330VDS
4 in. (DN100)	550130140VDS	550130240VDS	550130340VDS
6 in. (DN150)	550130160VDS	550130260VDS	550130360VDS
8 in. (DN200)	550130180VDS	550130280VDS	550130380VDS
F x F ISO Valve Size	Wet	Dry	Electric
3 in. (DN80)	550140130VDS	550140230VDS	550140330VDS
4 in. (DN100)	550140140VDS	550140240VDS	550140340VDS
6 in. (DN150)	550140160VDS	550140260VDS	550140360VDS
8 in. (DN200)	550140180VDS	550140280VDS	550140380VDS
F x G ISO Valve Size	Wet	Dry	Electric
3 in. (DN80)	550150130VDS	550150230VDS	550150330VDS
4 in. (DN100)	550150140VDS	550150240VDS	550150340VDS
6 in. (DN150)	550150160VDS	550150260VDS	550150360VDS
8 in. (DN200)	550150180VDS	550150280VDS	550150380VDS
T x T ISO Valve Size	Wet	Dry	Electric
1-1/2 in. (DN40)	550170115VDS	550170215VDS	550170315VDS
2 in. (DN50)	550170120VDS	550170220VDS	550170320VDS

Notes:
1. VdS Approved DV-5A Valve with Trim: EMEA pressure switches, P/N 52-287-1-124 solenoid valve, bar/psi water pressure gauges, NPT to ISO threaded trim adaptors for external connections, and VdS required water column prevention drain components are provided.

TABLE J
VDS APPROVED DV-5A VALVES WITH GALVANIZED VALVE TRIM
PART NUMBER SELECTION
— DELUGE SYSTEM —