

# Victaulic® FireLock™ Series FL-QR

## Standard Coverage, Quick Response

### Upright, Pendent and Recessed Pendent Sprinklers

#### K2.8 (4.0), K4.2 (6.1), K5.6 (8.1), K8.0 (11.5)



41.01



## 1.0 PRODUCT DESCRIPTION

QUICK RESPONSE UPRIGHT SPRINKLERS				
SIN	V2815	V4215	V2704	V3402
ORIENTATION	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
K-FACTOR <sup>1</sup>	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi/1200 kPa	175 psi/1200 kPa	175 psi/1200 kPa cULus 250 psi/1725 kPa	175 psi/1200 kPa
GLOBE RE-DESIGNATION	GL2815	GL4215	-	-
GLOBE EQUIVALENT	-	-	GL5615	GL8118

QUICK RESPONSE PENDENT SPRINKLERS				
SIN	V2801	V4201	V2708	V3406
ORIENTATION	PENDENT	PENDENT	PENDENT	PENDENT
K-FACTOR <sup>1</sup>	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi/1200 kPa	175 psi/1200 kPa	175 psi/1200 kPa cULus 250 psi/1725 kPa	175 psi/1200 kPa
GLOBE RE-DESIGNATION	GL2801	GL4201	-	-
GLOBE EQUIVALENT	-	-	GL5601	GL8101

QUICK RESPONSE RECESSED PENDENT SPRINKLERS				
SIN	V2801	V4201	V2708	V3406
ORIENTATION	PENDENT	PENDENT	PENDENT	PENDENT
K-FACTOR <sup>1</sup>	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi/1200 kPa	175 psi/1200 kPa	175 psi/1200 kPa cULus 250 psi/1725 kPa	175 psi/1200 kPa
ESCUTCHEON	Recessed	Recessed	Recessed	Recessed
GLOBE RE-DESIGNATION	GL2801	GL4201	-	-
GLOBE EQUIVALENT	-	-	GL5601	GL8101

AVAILABLE GUARDS/SHIELDS				
SPRINKLER	V28	V42	V27	V34
Upright			■	■
Pendent			■	■

AVAILABLE WRENCHES							
SPRINKLER	V56-2 Recessed	V56 Open End	V27-2 Recessed	V27 Open End	V34-2 Recessed	V34 Open End	⅜ Hex-Bit
V2815 and V4215		■					
V2707 and V2704				■			■
V3402						■	■
V2801, and V4201	■	■					
V2706 and V2708			■	■			■
V3406					■	■	■

**Factory Hydrostatic Test:** 100% @ 500 psi/3447 kPa/34 bar

**Min. Operating Pressure:** UL/FM: 7 psi/48 kPa/.5 bar  
VdS: 5 psi/35 kPa/.35 bar (Upright only)

**Temperature Rating:** See tables in section 2.0

<sup>1</sup> For K-Factor when pressure is measured in bar, multiply S.I. units by 10.0.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.



## 2.0 CERTIFICATION/LISTINGS



UPRIGHT APPROVALS/LISTINGS				
SIN	V2815	V4215	V2704	V3402
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I. <sup>2</sup>	4.0	6.1	8.1	11.5
Orientation	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
<b>Approved Temperature Ratings F°/C°</b>				
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
FM	-	-	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
LPCB	-	-	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
CE, UKCA	-	-	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
VdS	-	-	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
CCC K-ZSTZ	-	-	155°F/68°C 175°F/79°C 286°F/141°C	155°F/68°C 286°F/141°C

<sup>2</sup> For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

PENDENT APPROVALS/LISTINGS				
SIN	V2801	V4201	V2708	V3406
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I. <sup>2</sup>	4.0	6.1	8.1	11.5
Orientation	PENDENT	PENDENT	PENDENT	PENDENT
Escutcheon	Flush/Extended	Flush/Extended	Flush/Extended	Flush/Extended
<b>Approved Temperature Ratings F°/C°</b>				
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
FM	-	-	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
CCC K-ZSTX	-	-	155°F/68°C 200°F/93°C 286°F/141°C	155°F/68°C 286°F/141°C

<sup>2</sup> For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

### NOTES

- Listings and approval as of printing.
- Where cULus Listed, Polyester and VC-250 Coatings Listed as Corrosion Resistant (V3402 with VC-250 Only)
- Where FM Approved, VC-250 Coating Approved as Corrosion Resistant
- New York City Acceptance - All UL Listed and/or FM Approved sprinklers acceptable to NYC per section 28-113 of the Administrative Code and the OTCR Rule.

**2.0 CERTIFICATION/LISTINGS (CONTINUED)**

RECESSED PENDENT APPROVALS/LISTINGS				
SIN	V2801	V4201	V2708	V3406
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I. <sup>2</sup>	4.0	6.1	8.1	11.5
Orientation	PENDENT	PENDENT	PENDENT	PENDENT
Escutcheon	Recessed	Recessed	Recessed	Recessed
Approved Temperature Ratings F°/C°				
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
FM WITH ½" ADJUSTMENT ESCUTCHEON ONLY	-	-	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
CCC K-ZSTX	-	-	155°F/68°C 200°F/93°C 286°F/141°C	155°F/68°C 286°F/141°C

<sup>2</sup> For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

**NOTES**

- Listings and approval as of printing.
- Where cULus Listed, Polyester and VC-250 Coatings Listed as Corrosion Resistant (V3402 with VC-250 Only)
- Where FM Approved, VC-250 Coating Approved as Corrosion Resistant
- New York City Acceptance - All UL Listed and/or FM Approved sprinklers acceptable to NYC per section 28-113 of the Administrative Code and the OTCR Rule.

### 3.0 SPECIFICATIONS – MATERIAL

**Deflector:** Bronze

**Bulb Nominal Diameter:** 3.0mm

**Load Screw:** Bronze

**Pip Cap:** Bronze

**Spring Seal:** PTFE coated Beryllium nickel alloy

**Frame:** Brass

**Lodgement Spring:** Stainless steel

**Installation Wrench:** Ductile iron

**Sprinkler Frame Finishes:**

- Plain brass
- Chrome plated
- White polyester painted<sup>3, 4</sup>
- Flat black polyester painted<sup>3, 4</sup>
- Custom polyester painted<sup>3, 4</sup>
- VC-250<sup>5</sup>

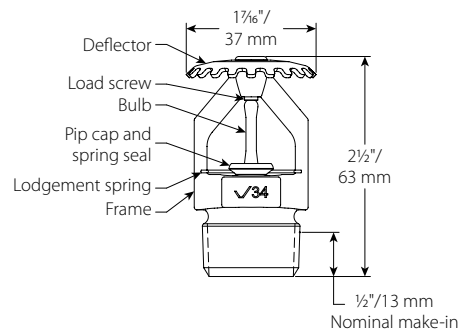
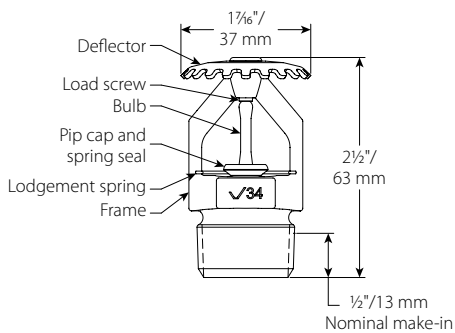
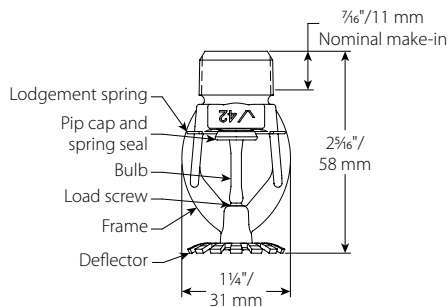
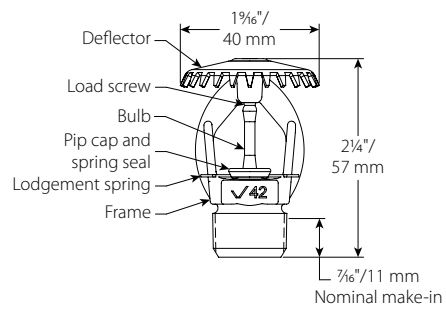
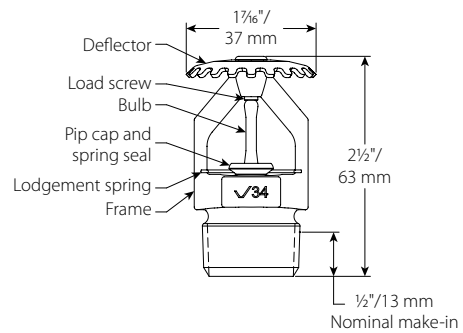
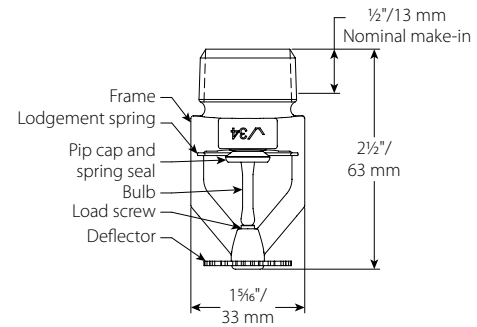
<sup>3</sup> Not available on the Intermediate Level Style Pendant.

<sup>4</sup> UL Listed for corrosion resistance.

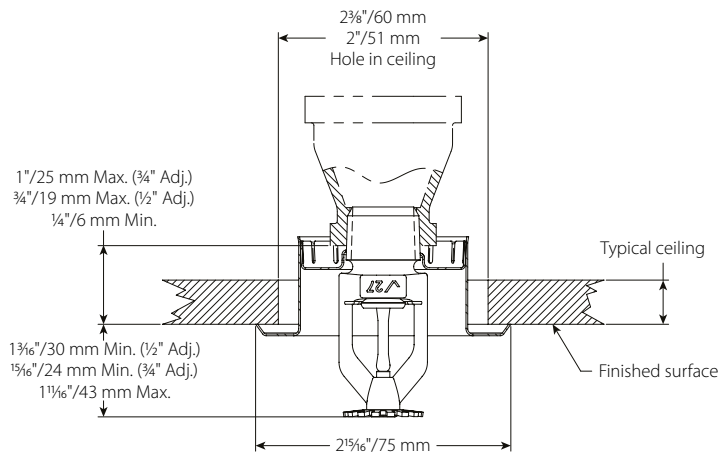
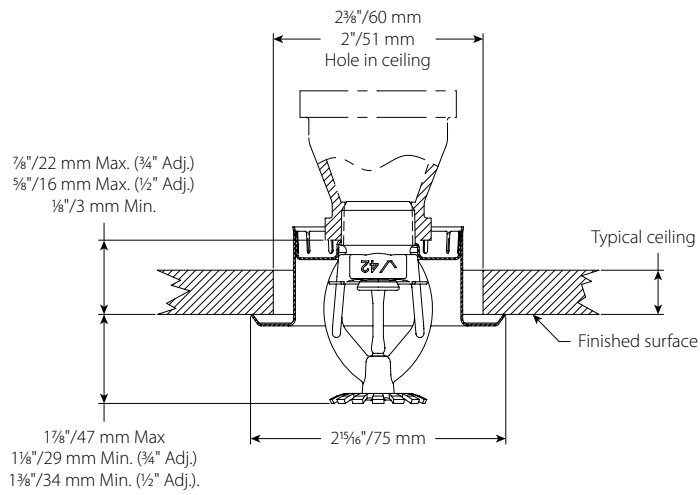
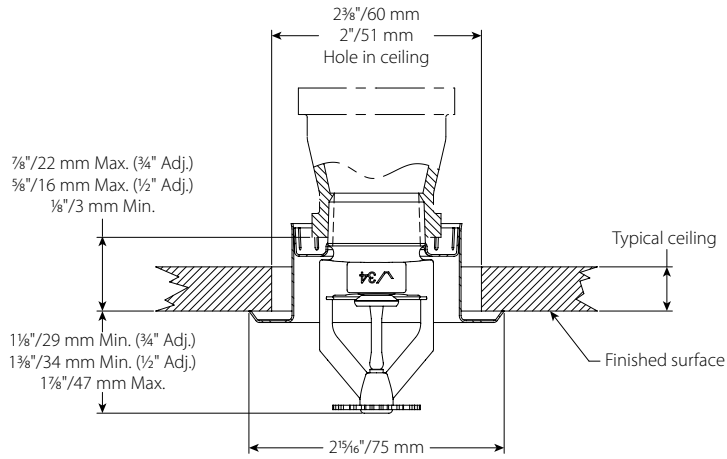
<sup>5</sup> UL Listed and FM Approved for corrosion resistance.

**NOTE**

- For cabinets and other accessories refer to separate sheet.




## 4.0 DIMENSIONS



## 5.0 PERFORMANCE

Sprinkler is to be installed and designed as per NFPA, FM Datasheets, or any local standards.

## 6.0 NOTIFICATIONS

<b>⚠ WARNING</b>	
	<ul style="list-style-type: none"> <li>• Read and understand all instructions before attempting to install any Victaulic products.</li> <li>• Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.</li> <li>• Wear safety glasses, hardhat, and foot protection.</li> </ul> <p>Failure to follow these instructions could result in death or serious personal injury and property damage.</p>
<ul style="list-style-type: none"> <li>• These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.</li> <li>• The installer shall understand the use of this product and why it was specified for the particular application.</li> <li>• The installer shall understand common industry safety standards and potential consequences of improper product installation.</li> <li>• It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment.</li> <li>• The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service.</li> </ul> <p>Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.</p>	

## 7.0 REFERENCE MATERIALS

Ratings: All glass bulbs are rated for temperatures from -67°F/-55°C to those shown in the table below.

[I-40: Victaulic FireLock™ Automatic Sprinklers Installation and Maintenance Instructions](#)

[I-V9: Style V9 Victaulic FireLock™ IGS™ Installation-Ready™ Sprinkler Coupling Installation Instructions](#)

### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

### Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

### Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

### Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at [www.victaulic.com](http://www.victaulic.com).

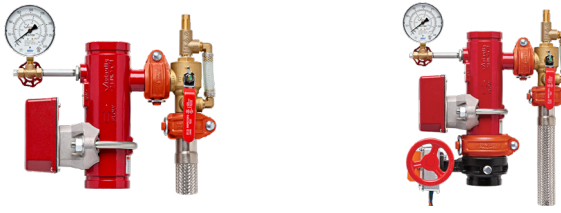
### Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

### Trademarks

*Victaulic* and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

# Victaulic® Series UM Universal Manifold Assembly



## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- 1 ¼ – 8"/DN32 – DN200

### Maximum Working Pressure

- Up to 300 psi/2068 kPa/21 Bar

### Application

- Fire protection system control module includes test and drain valve, waterflow detector, pressure gauge, flexible drain connection and adjustable pressure relief valve (175 – 310 psi/1206 – 2137 kPa adjustable set pressure).

### Configurations

- Optional control valve: Series 705 Butterfly Valve or Series 728 Ball Valve

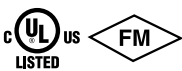
### Included Components

- Series UTD (Universal Test Drain) with integrated Series ARV (Adjustable Relief Valve)
- Quick Drain Hose
- Vane Type Flow Switch
- 1 ¼ – 2"/DN32 – DN50 UM use saddle type 2" VSR flow switch
- 2 ½" – 8"/DN80 – DN200 UM use saddle type VSR flow switch for the corresponding size
- 1 ¼ – 8"/DN32 – DN200 System-side pressure gauge 400 psi/2750 kPa/27.5 bar

### Available End Connections

- Victaulic Original Groove System (OGS) standard groove

## 2.0 CERTIFICATION/LISTINGS



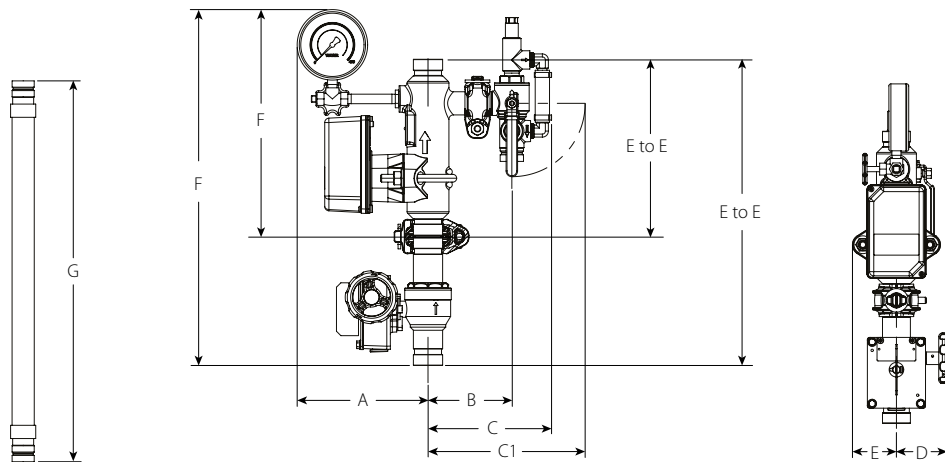
## 3.0 SPECIFICATIONS – MATERIAL

**Valve body:** Cast ductile iron conforming to ASTM A536, Grade 65-45-12.

**Waterflow Detector:** Vane type waterflow detector with sealed retard, and mechanical delay adjustment. Cover includes tamper resistant security screws and tool.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

## 4.0 DIMENSIONS



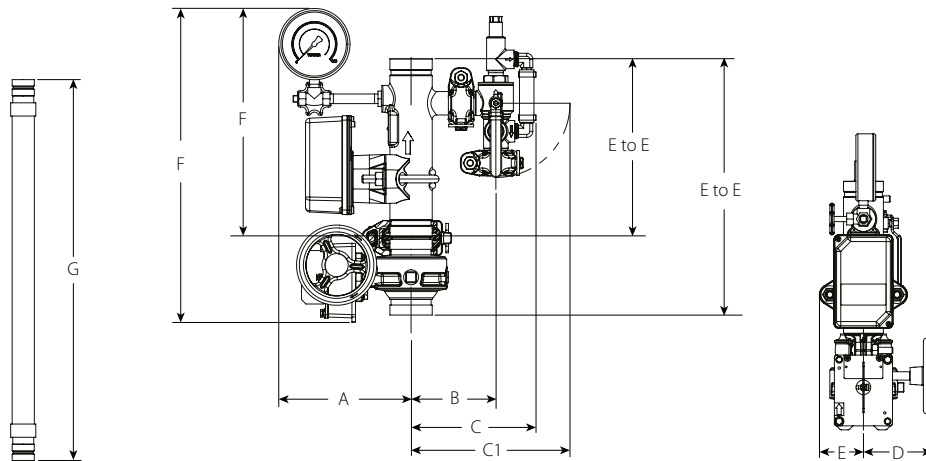
Size		Dimensions													Weight Approx. (Each)	
Nominal	Actual Outside Diameter	E to E with control valve	E to E without control valve	A	B	C	C1	D	E	F with control valve	F without control valve	G	Series UTD Valve Size (Nominal)	Series UTD Test Orifice	with control valve	without control valve
inches DN	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches DN	K-Factor S.I.	lb kg	lb kg
1 ¼ DN32	1.660 42.4	17.38 441	10.00 254	7.38 187	4.75 121	7.00 178	8.88 225	3.00 76	2.63 67	20.25 514	12.88 327	24.00 610	1.00 25	2.8 4.0	22 9.98	13 5.90
1 ½ DN40	1.900 48.3	17.38 441	10.00 254	7.38 187	4.75 121	7.00 178	8.88 225	3.00 76	2.63 67	20.25 514	12.88 327	24.00 610	1.00 25	2.8 4.0	22 9.98	13 5.90

**NOTE**

- When Series UTD Valve Size (Nominal) is 1"/25 mm, flexible drain hose connection utilizes FireLock IGS™ groove profile.



4.0 DIMENSIONS (CONTINUED)

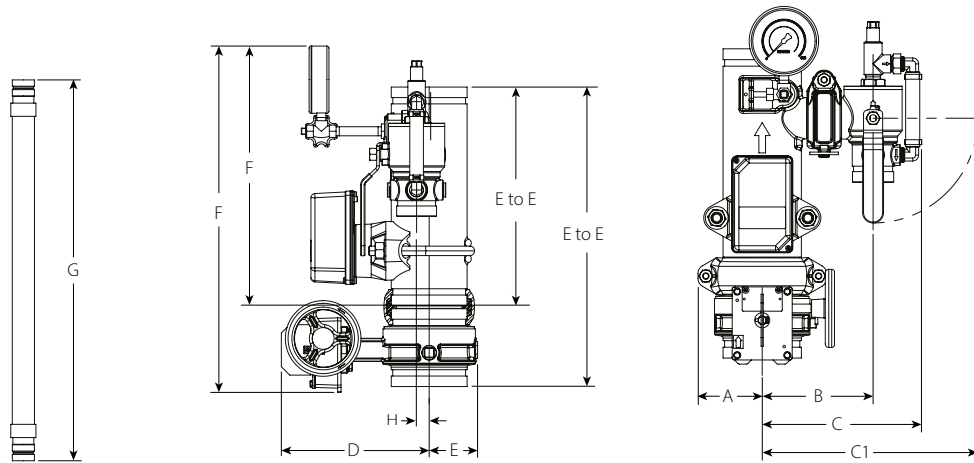


Size		Dimensions													Weight Approx. (Each)	
Nominal inches DN	Actual Outside Diameter inches mm	E to E with control valve inches mm	E to E without control valve inches mm	A inches mm	B inches mm	C inches mm	C1 inches mm	D inches mm	E inches mm	F with control valve inches mm	F without control valve inches mm	G inches mm	Series UTD Valve Size (Nominal) inches DN	Series UTD Test Orifice K-Factor S.I.	with control valve lb kg	without control valve lb kg
2 DN50	2.375 60.3	14.38 365	10.00 254	7.38 187	4.75 121	7.00 178	8.88 225	4.13 105	2.63 67	17.63 448	12.88 327	24.00 610	1.00 25	4.2 6.1	24 10.89	13 5.90
2½	2.875 73.0	13.88 352	10.00 254	7.63 194	5.88 149	8.38 213	10.75 273	4.13 105	2.63 67	17.50 445	12.88 327	24.00 610	1.25 32	4.2 6.1	29 13.15	17 7.71
DN65	3.000 76.1	13.88 352	10.00 254	7.63 194	5.88 149	8.38 213	10.75 273	4.13 105	2.63 67	17.50 445	12.88 327	24.00 610	1.25 32	4.2 6.1	29 13.15	17 7.71
3 DN80	3.500 88.9	14.88 378	11.00 279	8.00 203	6.13 156	8.63 219	11.00 279	4.13 105	2.88 73	18.50 470	13.88 352	24.00 610	1.25 32	4.2 6.1	33 14.97	20 9.07

NOTE

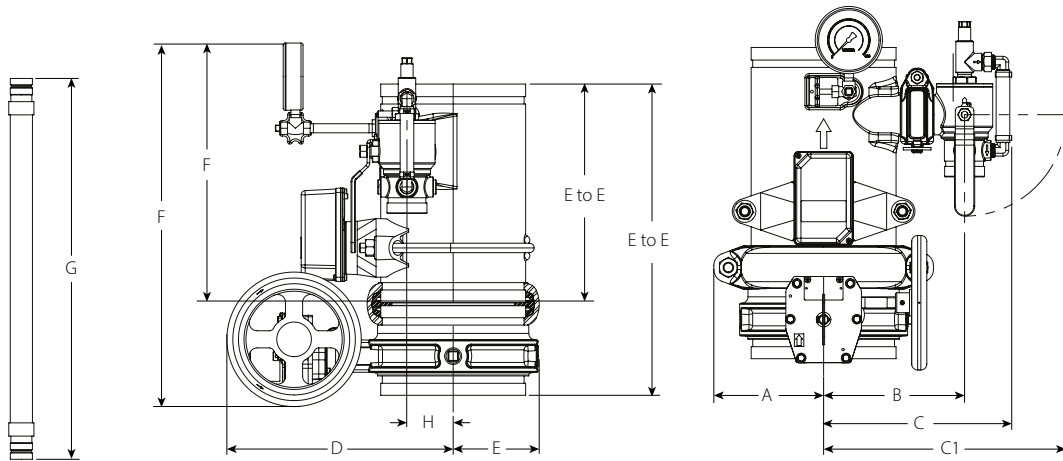
- When Series UTD Valve Size (Nominal) is 1/25 mm, flexible drain hose connection utilizes FireLock IGS™ groove profile.

4.0 DIMENSIONS (CONTINUED)



Size		Dimensions														Weight Approx. (Each)	
Nominal inches DN	Actual Outside Dia. inches mm	E to E with control valve inches mm	E to E without control valve inches mm	A inches mm	B inches mm	C inches mm	C1 inches mm	D inches mm	E inches mm	F with control valve inches mm	F without control valve inches mm	G inches mm	H inches mm	Series UTD Valve Size (Nominal) inches DN	Series UTD Test Orifice K-Factor S.I.	with control valve lb kg	without control valve lb kg
4 DN100	4.500	17.88	13.00	3.75	6.38	9.25	12.38	8.75	2.88	20.63	15.50	36.00	0.75	2.00	5.6	44	17
	114.3	454	330	95	162	235	314	222	73	524	394	914	19	51	8.1	19.96	7.71
6 DN150	6.500	19.00	13.00	5.13	7.38	10.25	13.38	11.38	4.25	21.50	15.50	36.00	1.50	2.00	5.6	66	34
	165.1	483	330	130	187	260	340	289	108	546	394	914	38	51	8.1	29.94	15.42

4.0 DIMENSIONS (CONTINUED)



Size		Dimensions														Weight Approx. (Each)	
Nominal	Actual Outside Dia.	E to E with control valve	E to E without control valve	A	B	C	C1	D	E	F with control valve	F without control valve	G	H	Series UTD Valve Size (Nominal)	Series UTD Test Orifice	with control valve	without control valve
inches DN	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches DN	K-Factor S.I.	lb kg	lb kg
8 DN200	8.625 219.1	18.50 470	13.00 330	6.50 165	8.38 213	11.25 286	14.38 365	13.50 343	5.13 130	21.63 549	15.50 394	36.00 914	2.75 70	2.00 51	5.6 8.1	91 41.28	54 24.49

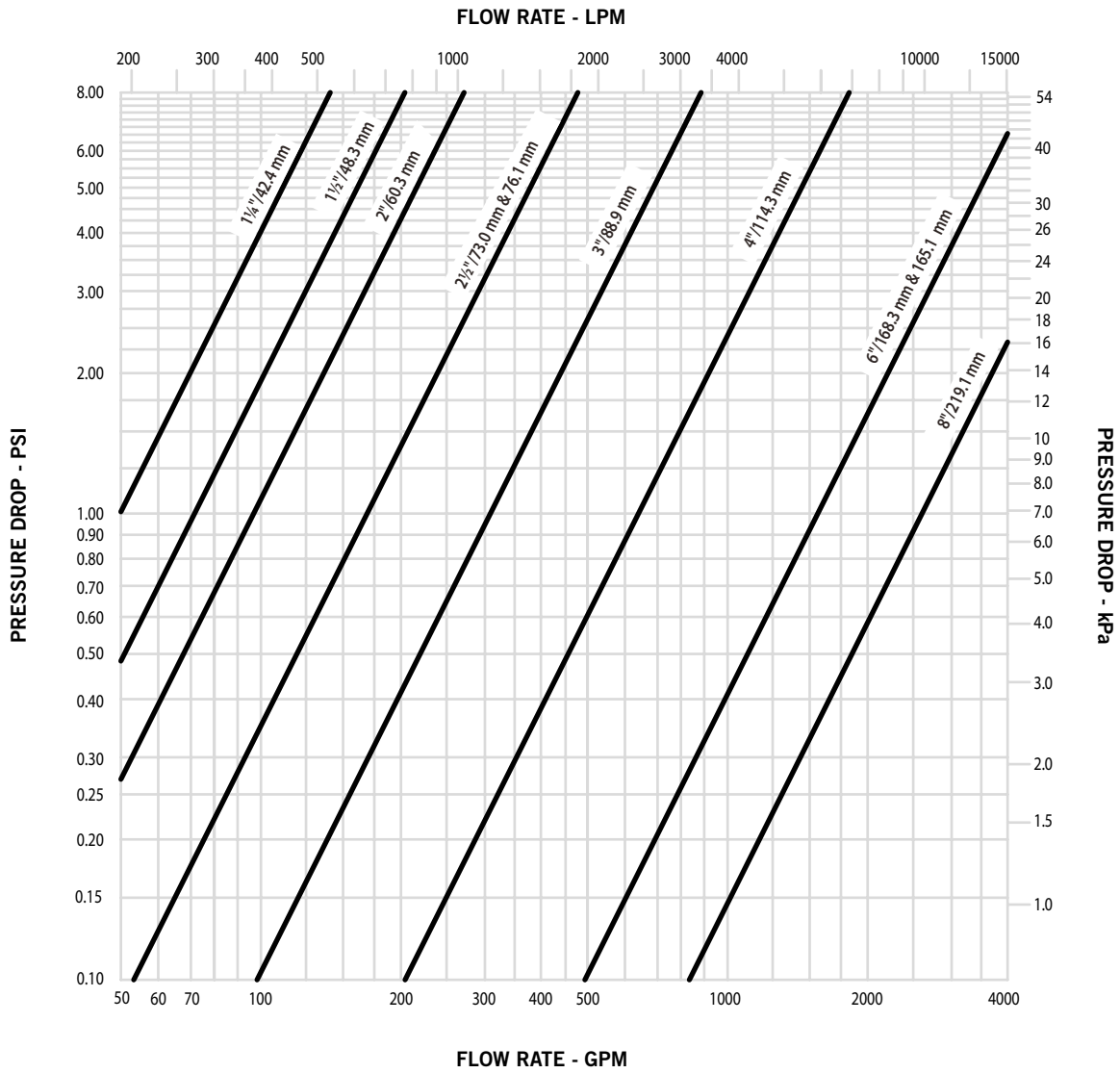
## 5.0 PERFORMANCE

Size		Equivalent Length of Sch. 40 Pipe <sup>1</sup>		Flow Characteristics		Performance
Nominal inches DN	Actual Outside Diameter inches mm	with control valve	without control valve	Cv/Kv Values with control valve	Cv/Kv Values without control valve	Maximum Working Pressure psi kPa
		feet meters	feet meters	Full Open	Full Open	
1 ¼ DN32	1.660	5.75	5.25	47.65	49.33	300
	42.4	1.8	1.6	41	43	2068
1 ½ DN40	1.900	6	5.875	70.66	72.53	300
	48.3	1.8	1.8	61	63	2068
2 DN50	2.375	12.25	6.625	95.39	130.61	300
	60.3	3.7	2.0	83	113	2068
2 ½	2.875	9.875	5.25	149.98	218.87	300
	73.0	3.0	1.6	130	189	2068
DN65	3.000	9.875	5.25	149.98	218.87	300
	76.1	3.0	1.6	130	189	2068
3 DN80	3.500	9	4.125	298	433.2	300
	88.9	2.7	1.3	258	375	2068
4 DN100	4.500	8.5	3	594.94	964.95	300
	114.3	2.6	0.9	515	835	2068
6	6.500	12	4.5	1472.2	2256.53	300
	165.1	3.7	1.4	1273	1952	2068
DN150	6.625	12	4.5	1472.2	2256.53	300
	168.3	3.7	1.4	1273	1952	2068
8 DN200	8.625	17.5	4.125	2500.92	5035.24	300
	219.1	5.3	1.3	2163	4355	2068

<sup>1</sup> Equivalent length of Sch. 40 pipe calculated using the hazen-williams formula with a roughness constant of c=120.

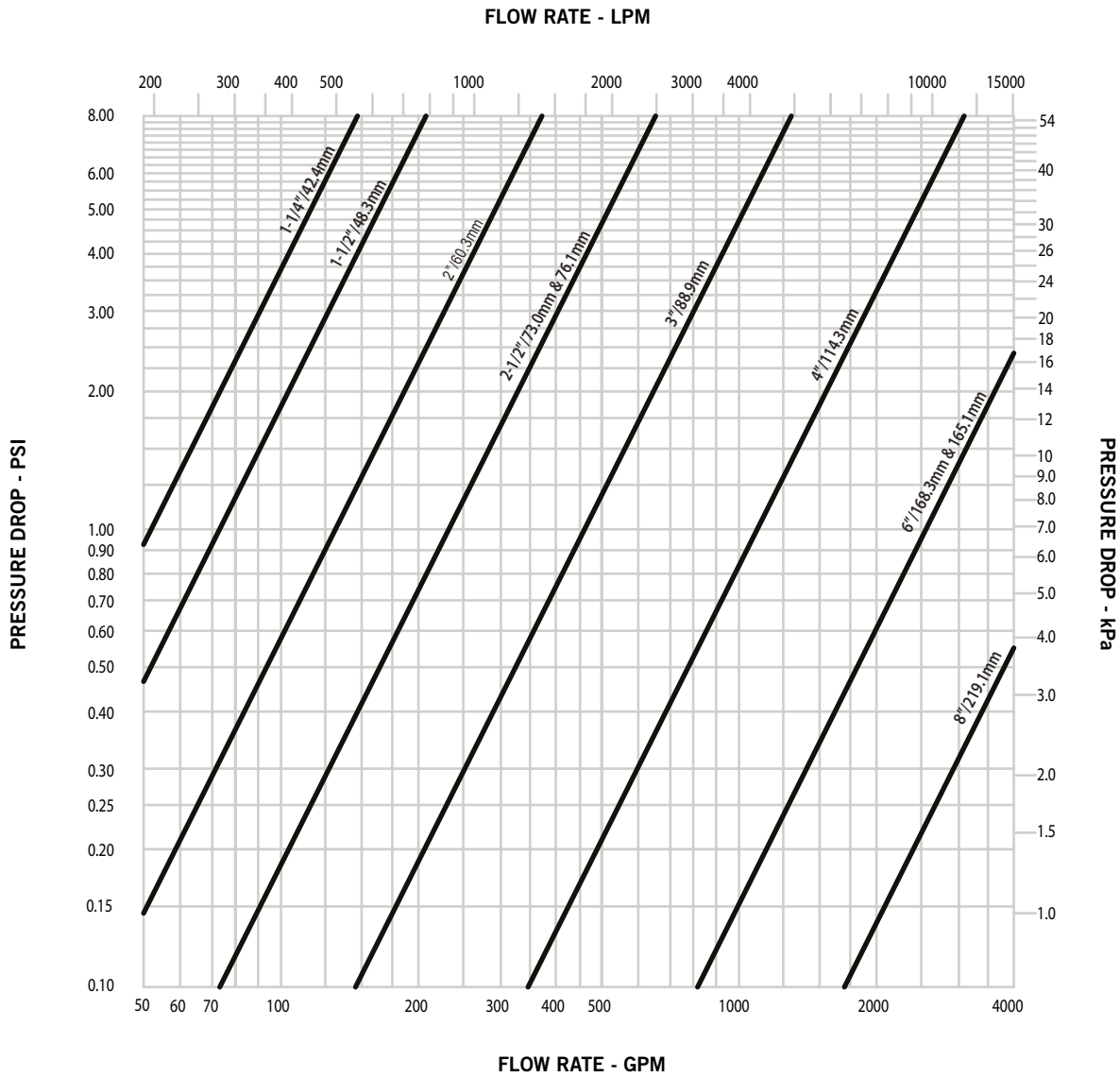
## 5.0 PERFORMANCE

### Series UM Friction Loss with Control Valve (including water flow switch)




## 5.0 PERFORMANCE (CONTINUED)

Series UM Friction Loss without Control Valve (including water flow switch)



## 6.0 NOTIFICATIONS

⚠ WARNING



- Read and understand all instructions before attempting to install any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained intermediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, and foot protection.

Failure to follow these instructions could result in death or serious personal injury and property damage.

- These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.
- The installer shall understand the use of this product and why it was specified for the particular application.
- The installer shall understand common industry safety standards and potential consequences of improper product installation.

Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.

## 7.0 REFERENCE MATERIALS

- [10.17: Series 728 FireLock™ Ball Valve](#)
- [10.54: FireLock™ Innovative Groove System IIGS™](#)
- [10.64: FireLock™ Installation-Ready™ Rigid Couplings Style 009N and Style 109](#)
- [10.80: Series 765 FireLock™ High Pressure Butterfly Valve](#)
- [10.81: Series 705 FireLock™ Butterfly Valve](#)
- [30.73: Series UTD Universal Test and Drain](#)
- [30.74: Series ARV Adjustable Relief Valve](#)
- [30.75: Series FTV Flow Test Valve](#)
- [I-UM: Series UM Universal Manifold Assembly Installation Manual](#)

### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

### Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

### Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

### Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at [www.victaulic.com](http://www.victaulic.com).

### Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

### Trademarks

*Victaulic* and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

## Model DPV-1 Dry Pipe Valve External Resetting

### IMPORTANT

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

Scan the QR code or enter the URL in a web browser to access the most up-to-date electronic version of this document. Data rates may apply.



[docs.jci.com/tycofire/tfp1020](http://docs.jci.com/tycofire/tfp1020)



### Available Sizes and End Connections

End Connection	Nominal Valve Size			
	2-1/2 in. (DN65)	3 in. (DN80)	4 in. (DN100)	6 in. (DN150)
Flange x Flange	N/A	N/A	•	•
Flange x Groove	N/A	N/A	•	•
Groove x Groove	•	•	•	•

• = Available  
N/A = Not Available

## General Description

The TYCO Model DPV-1 Dry Pipe Valves are differential valves used to automatically control the flow of water into dry pipe fire protection sprinkler systems upon operation of one or more automatic sprinklers. The DPV-1 also provides for actuation of fire alarms upon system operation. The Model DPV-1 features are as follows:

- External reset.
- 250 psi (17,2 bar) pressure rating.
- Unique offset single clapper design enabling a simple compact valve to minimize installation labor.
- Ductile iron construction to ensure a lightweight valve to minimize shipping cost.
- A variety of inlet and outlet connections.
- Compact, Pre-Trimmed, and Semi-Assembled, easy to operate valve trim.
- Simple reset procedure through the elimination of priming water.

Dry pipe sprinkler systems are used in unheated warehouses, parking garages, store windows, attic spaces, loading docks, and other areas exposed to freezing temperatures, where water filled pipe cannot be utilized. When set for service, the dry pipe sprinkler system is pressurized with air (or nitrogen). The loss of pressure through an operated automatic sprinkler in response to heat from a fire permits the DPV-1 Dry Pipe Valve to open and allow a flow of water into the sprinkler system piping. Table B establishes the minimum required system air pressure that includes a safety factor to help prevent false operations that might occur due to water supply fluctuations.

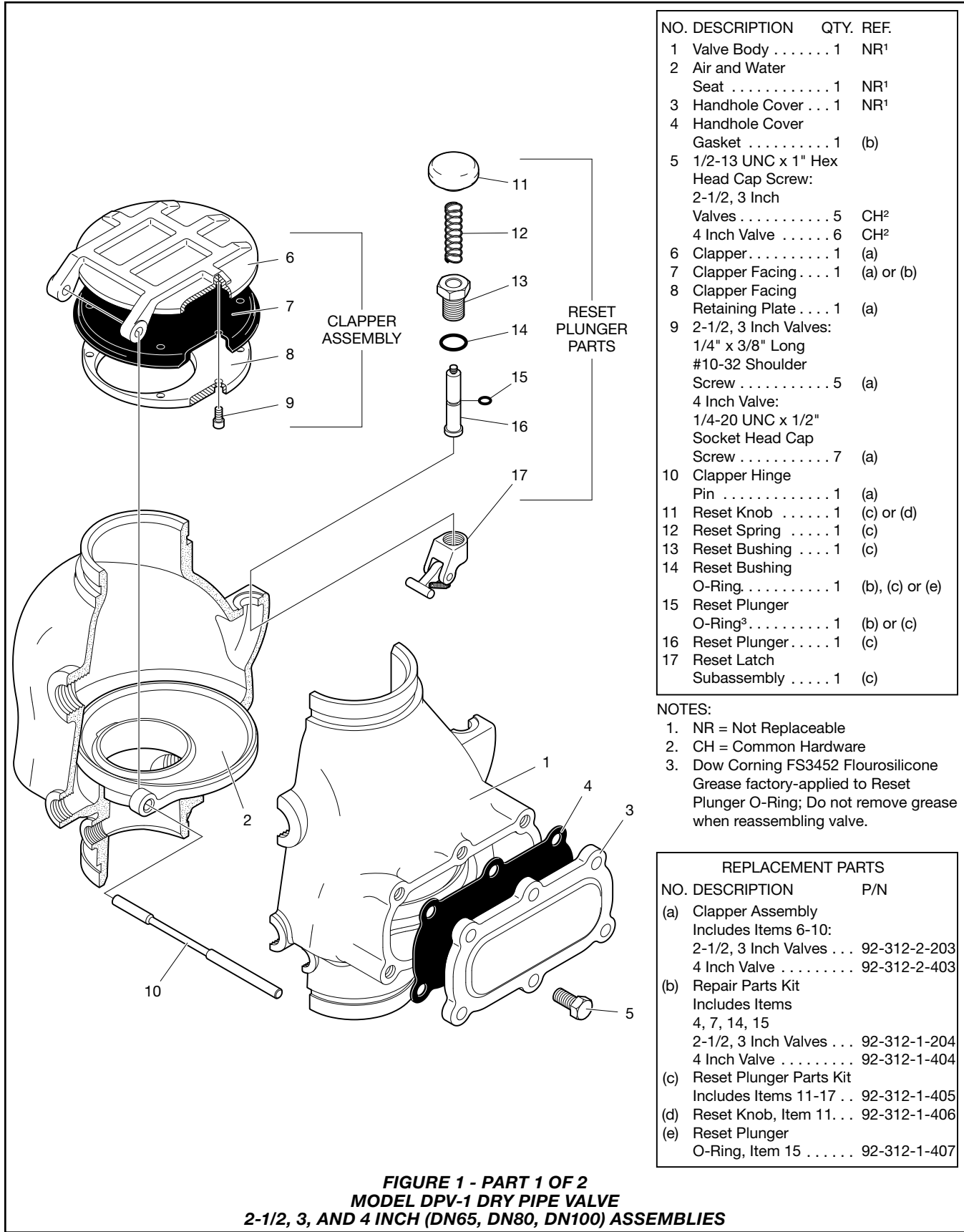
### NOTICE

The Model DPV-1 Dry Pipe 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 authorities having jurisdiction, such as FM Global. Failure to do so may impair the performance of these devices.

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.

In all cases, the appropriate NFPA or FM Global installation standard, or other applicable standard, must be referenced to ensure applicability and to obtain complete installation guidelines. The general guidelines in this data sheet are not intended to provide complete installation criteria.





NO.	DESCRIPTION	QTY.	REF.
1	Valve Body . . . . .	1	NR <sup>1</sup>
2	Air and Water Seat . . . . .	1	NR <sup>1</sup>
3	Handhole Cover . . . . .	1	NR <sup>1</sup>
4	Handhole Cover Gasket . . . . .	1	(b)
5	1/2-13 UNC x 1" Hex Head Cap Screw: 2-1/2, 3 Inch Valves . . . . .	5	CH <sup>2</sup>
	4 Inch Valve . . . . .	6	CH <sup>2</sup>
6	Clapper . . . . .	1	(a)
7	Clapper Facing . . . . .	1	(a) or (b)
8	Clapper Facing Retaining Plate . . . . .	1	(a)
9	2-1/2, 3 Inch Valves: 1/4" x 3/8" Long #10-32 Shoulder Screw . . . . .	5	(a)
	4 Inch Valve: 1/4-20 UNC x 1/2" Socket Head Cap Screw . . . . .	7	(a)
10	Clapper Hinge Pin . . . . .	1	(a)
11	Reset Knob . . . . .	1	(c) or (d)
12	Reset Spring . . . . .	1	(c)
13	Reset Bushing . . . . .	1	(c)
14	Reset Bushing O-Ring . . . . .	1	(b), (c) or (e)
15	Reset Plunger O-Ring <sup>3</sup> . . . . .	1	(b) or (c)
16	Reset Plunger . . . . .	1	(c)
17	Reset Latch Subassembly . . . . .	1	(c)

**NOTES:**

- NR = Not Replaceable
- CH = Common Hardware
- Dow Corning FS3452 Fluorosilicone Grease factory-applied to Reset Plunger O-Ring; Do not remove grease when reassembling valve.

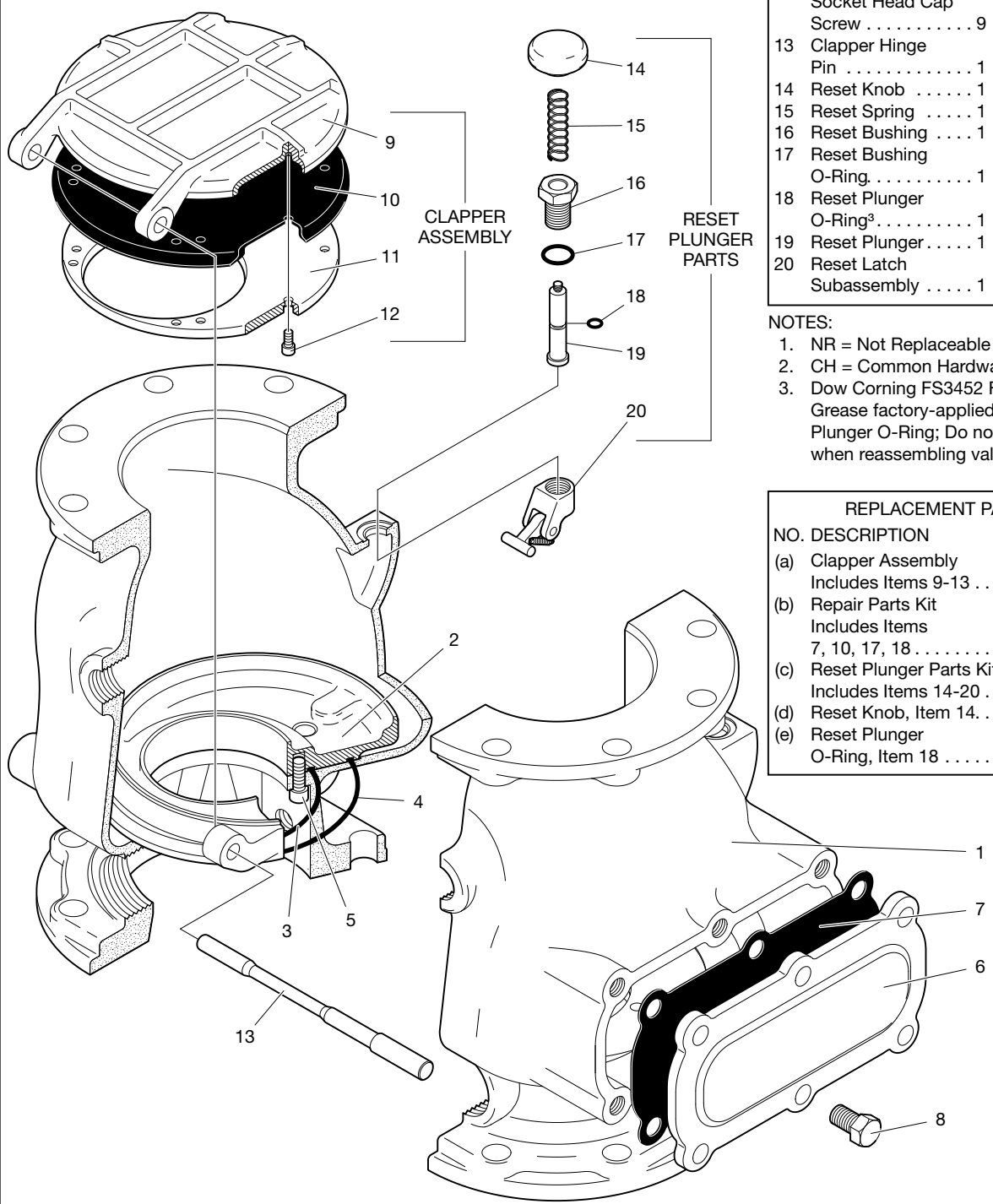
REPLACEMENT PARTS		
NO.	DESCRIPTION	P/N
(a)	Clapper Assembly Includes Items 6-10: 2-1/2, 3 Inch Valves . . . . .	92-312-2-203
	4 Inch Valve . . . . .	92-312-2-403
(b)	Repair Parts Kit Includes Items 4, 7, 14, 15 2-1/2, 3 Inch Valves . . . . .	92-312-1-204
	4 Inch Valve . . . . .	92-312-1-404
(c)	Reset Plunger Parts Kit Includes Items 11-17 . . . . .	92-312-1-405
(d)	Reset Knob, Item 11 . . . . .	92-312-1-406
(e)	Reset Plunger O-Ring, Item 15 . . . . .	92-312-1-407

**FIGURE 1 - PART 1 OF 2**  
**MODEL DPV-1 DRY PIPE VALVE**  
**2-1/2, 3, AND 4 INCH (DN65, DN80, DN100) ASSEMBLIES**

NO.	DESCRIPTION	QTY.	REF.
1	Valve Body	1	NR <sup>1</sup>
2	Air and Water Seat	1	NR <sup>1</sup>
3	Water Seal O-Ring	1	NR <sup>1</sup>
4	Air Seal O-Ring	1	NR <sup>1</sup>

NO.	DESCRIPTION	QTY.	REF.
5	3/8-16 UNC x 1" Socket Head Cap Screw	8	NR <sup>1</sup>
6	Handhole Cover	1	NR <sup>1</sup>
7	Handhole Cover Gasket	1	(b)

NO.	DESCRIPTION	QTY.	REF.
8	5/8-11 UNC x 1" Hex Head Cap Screw	6	CH <sup>2</sup>
9	Clapper	1	(a)
10	Clapper Facing	1	(a) or (b)
11	Clapper Facing Retaining Plate	1	(a)
12	1/4-20 UNC x 1/2" Socket Head Cap Screw	9	(a)
13	Clapper Hinge Pin	1	(a)
14	Reset Knob	1	(c) or (d)
15	Reset Spring	1	(c)
16	Reset Bushing	1	(c)
17	Reset Bushing O-Ring	1	(b), (c) or (e)
18	Reset Plunger O-Ring <sup>3</sup>	1	(b) or (c)
19	Reset Plunger	1	(c)
20	Reset Latch Subassembly	1	(c)



**NOTES:**

- NR = Not Replaceable
- CH = Common Hardware
- Dow Corning FS3452 Fluorosilicone Grease factory-applied to Reset Plunger O-Ring; Do not remove grease when reassembling valve.

REPLACEMENT PARTS		
NO.	DESCRIPTION	P/N
(a)	Clapper Assembly Includes Items 9-13	92-312-2-603
(b)	Repair Parts Kit Includes Items 7, 10, 17, 18	92-312-1-604
(c)	Reset Plunger Parts Kit Includes Items 14-20	92-312-1-405
(d)	Reset Knob, Item 14	92-312-1-406
(e)	Reset Plunger O-Ring, Item 18	92-312-1-407

**FIGURE 1 - PART 2 OF 2**  
**MODEL DPV-1 DRY PIPE VALVE**  
**6 INCH (DN150) ASSEMBLY**

# Technical Data

## Approvals

UL and C-UL Listed  
 FM Approved  
 NYC Approved

## Dry Pipe Valve

The TYCO Model DPV-1 Dry Pipe Valves shall be installed in the vertical orientation only (supply at bottom flowing upward) and are rated for use at a maximum service pressure of 250 psi (17,2 bar). Valve and trim dimensions are shown in Figure 6.

Flanged connections are available and drilled per ANSI, ISO, AS, and JIS specifications as shown in Table A. The grooved outlet connections, as applicable, are cut in accordance with standard groove specifications for steel pipe. They are suitable for use with grooved end pipe couplings that are listed or approved for fire protection system service. Available combinations of inlet and outlet connections are described in the Ordering Procedure section and in the Available End Connection and Sizes table on page 1.

Trim port connections of valves having flanges drilled to ANSI, AS, or JIS specifications are NPT threaded per ANSI Standard B1.20.1. Trim port connections of valves having flanges drilled to ISO are available either threaded per ISO 7-1 or NPT threaded per ANSI Standard B1.20.1. Valves with NPT threaded ports will readily accept the trim arrangements shown in Parts 2 and 3 of Figures 3, 4, and 5.

Model DPV-1 Valve assemblies are shown in Figure 1. The body and hand-hole cover are ductile iron. The hand-hole cover gasket is neoprene, and the clapper facing is EPDM. The air/water seat ring is brass, the clapper is bronze or aluminum bronze, and both the clapper retaining plate and latch are bronze. The hinge pin is aluminum bronze, and the fasteners for the hand-hole cover are carbon steel.

## Valve Trim

Installation dimensions are provided in Figure 6, and valve trim and pre-trimmed valve assemblies are shown in Figures 3, 4, and 5.

The valve trim, ordered separately or as a pre-trimmed valve assembly, forms a part of the laboratory listings and approvals of the DPV-1 valve and is necessary for the proper operation of the DPV-1 valve.

Trim packages or pre-trimmed valve assemblies include the following equipment:

- Water Supply Pressure Gauge
- System Air Pressure Gauge
- Air Supply Connections
- Main Drain Valve
- Low Body Drain Valve
- Alarm Test Valve
- Automatic Drain Valve
- Drip Funnel
- Connections For Optional Quick Opening Device (Accelerator)

Pre-trimmed valve assemblies also include the following equipment:

- Model BFV-300 Butterfly Valve
- Figure 577 Grooved Coupling
- PS10-2 Waterflow Alarm Switch
- PS40-2 Low Air Pressure Alarm Switch

Order the above equipment separately when ordering trim packages separately.

**Note:** When the system pressure is greater than 175 psi (12,1 bar), provision shall be made to replace the standard order 300 psi (20,7 bar) water pressure gauge with a separately ordered 600 psi (41,4 bar) water pressure gauge.

## Weights

The following are the nominal weights for pre-trimmed valve assemblies, semi-assembled trim, and DPV-1 valves without trim.

### Pre-Trimmed DPV-1 Valve

#### Assemblies:

2-1/2 in. (DN65) G x G	87 lb (40 kg)
3 in. (DN80) G x G	90 lb (42 kg)
4 in. (DN100) G x G	121 lb (56 kg)
4 in. (DN100) F x G	135 lb (64 kg)
4 in. (DN100) F x F	145 lb (69 kg)
6 in. (DN150) G x G	175 lb (81 kg)
6 in. (DN150) F x G	195 lb (90 kg)
6 in. (DN150) F x F	208 lb (96 kg)

### Standard Galvanized

#### Semi-Assembled DPV-1 Trim:

2-1/2 in. (DN65)	23 lb (11 kg)
3 in. (DN80)	23 lb (11 kg)
4 in. (DN100)	30 lb (14 kg)
6 in. (DN150)	30 lb (14 kg)

#### DPV-1 Valve (Without Trim):

2-1/2 in. (DN65) G x G	37 lb (17 kg)
3 in. (DN80) G x G	38 lb (18 kg)
4 in. (DN100) G x G	57 lb (26 kg)
4 in. (DN100) F x G	67 lb (31 kg)
4 in. (DN100) F x F	77 lb (36 kg)
6 in. (DN150) G x G	95 lb (44 kg)
6 in. (DN150) F x G	108 lb (50 kg)
6 in. (DN150) F x F	121 lb (56 kg)

## Air Supply

Table B shows the system air pressure requirements as a function of the water supply pressure. The air (or nitrogen) pressure in the sprinkler system is recommended to be automatically maintained by using one of the following pressure maintenance devices, as appropriate:

- Model AMD-1 Air Maintenance Device (pressure reducing type)
- Model AMD-2 Air Maintenance Device (compressor control type)
- Model AMD-3 Nitrogen Maintenance Device (high pressure reducing type)

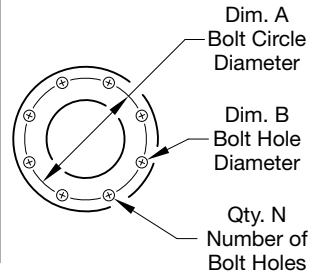
The pressure relief valve provided with the valve trim is factory set to relieve at a pressure of approximately 45 psi (3,1 bar). If the normal system air pressure is less than or exceeds 40 psi (2,8 bar), then the pressure relief valve must be reset to relieve at a pressure that is in accordance with the authority having jurisdiction.

## Quick Opening Device

The Model DPV-1 Dry Pipe Valve may optionally be equipped with an electronic or mechanical dry pipe valve accelerator. Select the VIZOR Electronic Dry Pipe Valve Accelerator (4 and 6 in. sizes only) as described in Technical Data Sheet TFP1105, or the Model ACC-1 Mechanical Dry Pipe Valve Accelerator (2-1/2 through 6 in. sizes) as described in Technical Data Sheet TFP1112.

The VIZOR or the ACC-1 is used to reduce the time to valve actuation following the operation of one or more automatic sprinklers. In some cases the use of a quick opening device such as the VIZOR or the ACC-1 may be required to meet the requirements of the NFPA to meet water delivery times.

Nominal Valve Size	Flange Drilling Specification											
	Nominal Dimensions in Inches and (mm)											
	ANSI B16.1 <sup>1</sup> (Class 125)			ISO 7005-2 (PN16) <sup>2</sup>			JIS B 2210 (10K)			AS 2129 (Table E)		
	Dim. A	Dim. B	Qty. N	Dim. A	Dim. B	Qty. N	Dim. A	Dim. B	Qty. N	Dim. A	Dim. B	Qty. N
4 in. (DN100)	7.50 (190,5)	0.75 (19,0)	8	7.09 (180,0)	0.75 (19,0)	8	6.89 (175,0)	0.59 (15,0)	8	7.00 (178,0)	0.71 (18,0)	8
6 in. (DN150)	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



Dim. A  
Bolt Circle Diameter

Dim. B  
Bolt Hole Diameter

Qty. N  
Number of Bolt Holes

1. Drilling same as ANSI B16.5 (Class 150) and ANSI B16.42 (Class 150).  
2. Drilling same as BS 4504 Section 3.2 (PN16) and DIN 2532 (PN16).

**TABLE A**  
**SELECTION OF FLANGE DRILLING SPECIFICATIONS**

Maximum Water Supply Pressure psi	System Air Pressure Range psi
20	10
60	15 - 23
80	20 - 28
100	25 - 33
120	30 - 38
145	35 - 43
165	40 - 48
185	45 - 53
205	50 - 58
225	55 - 63
250	60 - 68

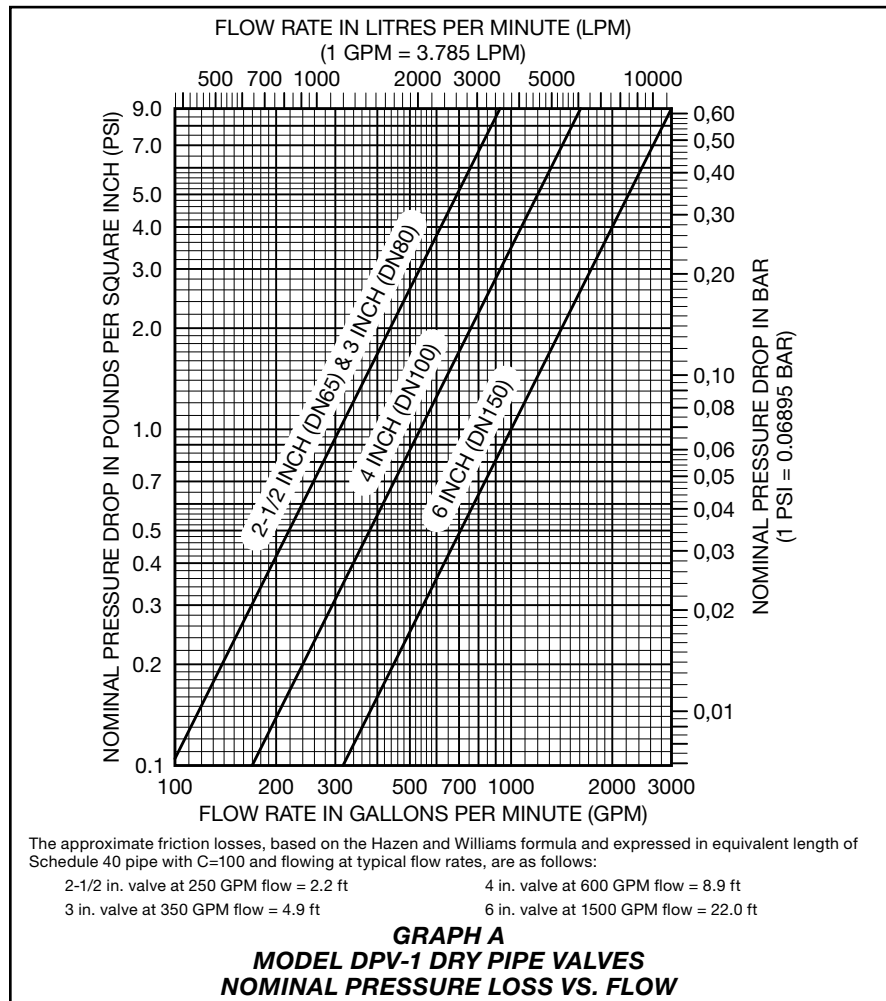
**TABLE B**  
**SYSTEM AIR PRESSURE REQUIREMENTS**

## Operation

The TYCO Model DPV-1 Dry Pipe Valve is a differential type valve that utilizes a substantially lower system (air or nitrogen) pressure than the supply (water) pressure, to maintain the set position shown in Figure 2A. The differential nature of the DPV-1 is based on the area difference between the air seat and the water seat in combination with the ratio of the radial difference from the hinge pin to the center of the water seat and the hinge pin to the center of the air seat. The difference is such that 1 psi (0,07 bar) of system air pressure can hold approximately 5.5 psi (0,38 bar) of water supply pressure.

Table B establishes the minimum required system air pressure that includes a safety factor to help prevent false operations that occur due to water supply fluctuations.

The intermediate chamber of the DPV-1 is formed by the area between the air seat and water seat as shown in Figure 2B. The intermediate chamber normally remains at atmospheric pressure through the alarm port connection and the valve trim to the normally open



automatic drain valve, see Fig. 3, 4, or 5. Having the intermediate chamber, as shown in Figure 2B, open to atmosphere is critical to the DPV-1 valve remaining set, otherwise the full resulting pressure of the system air pressure on top of the clapper assembly cannot be realized.

For example, and assuming a water supply pressure of 100 psi (6,9 bar), if the system air pressure is 25 psi (1,7 bar) and there was 15 psi (1,0 bar) pressure trapped in the intermediate

chamber, the resulting pressure across the top of the clapper would only be 10 psi (0,7 bar). This pressure would be insufficient to hold the clapper assembly closed against a water supply pressure of 100 psi (6,9 bar). It is for this reason that the plunger of the automatic drain valve must be depressed during several of the resetting steps, as well as during inspections, making certain that the automatic drain valve is open.

When one or more automatic sprinklers operate in response to a fire, air pressure within the system piping is relieved through the open sprinklers. When the air pressure is sufficiently reduced, the water pressure overcomes the differential holding the clapper assembly closed and the clapper assembly swings clear of the water seat, as shown in Figure 2C. This action permits water flow into the system piping and subsequently to be discharged from any open sprinklers. Also, with the clapper assembly open, the intermediate chamber is pressurized and water flows through the alarm port as shown in Figure 2B at the rear of the DPV-1 valve to actuate system water flow alarms. The flow from the alarm port is also sufficient to close the otherwise normally open automatic drain valve in the valve trim.

After a valve actuation and upon subsequent closing of a system main control valve to stop water flow, the clapper assembly will latch open as shown in Figure 3D. Latching open of the DPV-1 will permit complete draining of the system (including any loose scale) through the main drain port.

During the valve resetting procedure and after the system is completely drained, the external reset knob can be easily depressed to externally unlatch the clapper assembly as shown in Figure 2E. As such, the clapper assembly is returned to its normal set position to facilitate setting of the dry pipe sprinkler system, without having to remove the handhole cover.

## **Installation**

### **General Instructions**

Proper operation of the Model DPV-1 Dry Pipe Valve depends upon its trim being installed in accordance with the instructions given in this Technical Data Sheet. Failure to follow the appropriate trim diagram may prevent the DPV-1 valve from functioning properly, as well as void listings, approvals, and the manufacturer warranties.

*Failure to latch open the clapper assembly prior to a system hydrostatic test may result in damage to the clapper assembly.*

*The DPV-1 valve must be installed in a readily visible and accessible location.*

*The DPV-1 valve and associated trim must be maintained at a minimum temperature of 40°F (4°C).*

*Heat tracing of the DPV-1 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.*

The Model DPV-1 Dry Pipe Valve is to be installed in accordance with the following criteria:

- 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.
- The DPV-1 valve must be trimmed in accordance with Figures 3, 4, or 5, as applicable. If the DPV-1 is to be equipped with a dry pipe valve accelerator, refer to the Technical Data Sheet TFP1105 for the VIZOR Electronic Dry Pipe Valve Accelerator or TFP1112 for the Model ACC-1 Mechanical Dry Pipe Valve Accelerator.
- Care must be taken to make sure that components such as check valves, strainers, and globe valves are installed with the flow arrows in the proper direction.
- Drain tubing to the drip funnel must be installed with smooth bends that will not restrict flow.
- 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. The low body drain valve, as shown in Fig. 3, 4, or 5, may be piped so as to discharge into the Drip Funnel or to a separate drain.
- 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.
- Unused pressure alarm switch and/or water motor alarm connections must be plugged.
- The pressure relief valve provided with the valve trim is factory set to relieve at a pressure of approximately 45 psi (3,1 bar), which can typically be used for a maximum normal system air pressure of 40 psi (2,8 bar). The pressure relief valve may be reset to a lower or higher pressure; 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.
- It is best practice to install an appropriately rated and listed relief valve upstream of the Model DPV-1 Dry Pipe Valve, between the inlet of the DPV-1 valve and any check valves or back flow preventers, to ensure transient increases in water pressure do not cause unintended operation of the DPV-1 valve.
- Installation of an air maintenance device, as described in the Technical Data Section, is recommended.
- An inspector's test connection as required By NFPA 13 must be provided on the system piping at the most remote location from the Model DPV-1 Valve.
- Conduit and electrical connections are to be made in accordance with the requirements of the authority having jurisdiction and/or the National Electric Code.
- Before a system hydrostatic test is performed in accordance with NFPA 13 system acceptance test requirements, the clapper assembly is to be manually latched open as shown in Figure 2D; the automatic drain valve as shown in Figures 3, 4, or 5 is to be temporarily replaced with a 1/2 in. NPT plug, the 3/32 in. vent fitting (Item 13, Figure 3; Item 15, Figure 4; or Item 15, Figure 5) is to be temporarily replaced with a 1/4 in. NPT plug, and the handhole cover bolts are to be tightened using a cross-draw sequence.

## Valve Setting Procedure

Steps 1 through 11 are to be performed when initially setting the Model DPV-1 Dry Pipe Valve; after an operational test of the fire protection system; or, after system operation due to a fire.

**NOTES:** *If the DPV-1 is equipped with a dry pipe valve accelerator, refer to its resetting instructions before resetting the DPV-1. Refer to TFP1105 for the VIZOR or TFP1112 for the ACC-1.*

*Based on the instructions provided, reset the Accelerator at the appropriate time during the resetting of the DPV-1.*

*Unless otherwise noted, see Figure 3, 4, or 5 to identify functional trim components.*

**Step 1.** Close the main control valve, and close the air supply control valve. If the DPV-1 is equipped with a dry pipe valve accelerator, remove the dry pipe valve accelerator from service in accordance with the Technical Data Sheet (TDS) instructions, refer to TDS TFP1105 for the VIZOR or TDS TFP1112 for the ACC-1.

**Step 2.** Open the main drain valve and all auxiliary drains in the system. Close the auxiliary drain valves after water ceases to discharge. Leave the main drain valve open.

**Step 3.** Depress the plunger of the automatic drain valve to verify that it is open and that the DPV-1 valve is completely drained.

**Step 4.** Open the optional alarm control valve, as applicable, if it was closed to silence local alarms.

**Step 5.** As necessary, replace all sprinklers that have operated. Replacement sprinklers must be of the same type and temperature rating as those which have operated.

### NOTICE

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

**Step 6.** Push down on the reset knob as shown in Figure 2E to allow the clapper assembly to re-seat.

**Step 7.** Pressurize the system with air (or nitrogen) to 10 psi (0,7 bar), and then individually open all auxiliary drain valves in the system piping to drain any remaining water in trapped sections. Close each drain valve as soon as water ceases to discharge.

Also partially open the low body drain valve to assure that the riser is completely drained. Close the low body drain valve as soon as water ceases to discharge.

**Step 8.** Refer to Table B and then restore the system to the normal system air pressure as necessary to hold the DPV-1 valve closed.

**Step 9.** Depress the plunger on the automatic drain valve to make sure it is open and that there is no air discharging.

The absence of air discharging from the automatic drain valve is an indication of a properly set air seat within the DPV-1 valve. If air is discharging, refer to the Care and Maintenance section under Automatic Drain Valve Inspection to determine/correct the cause of the leakage problem.

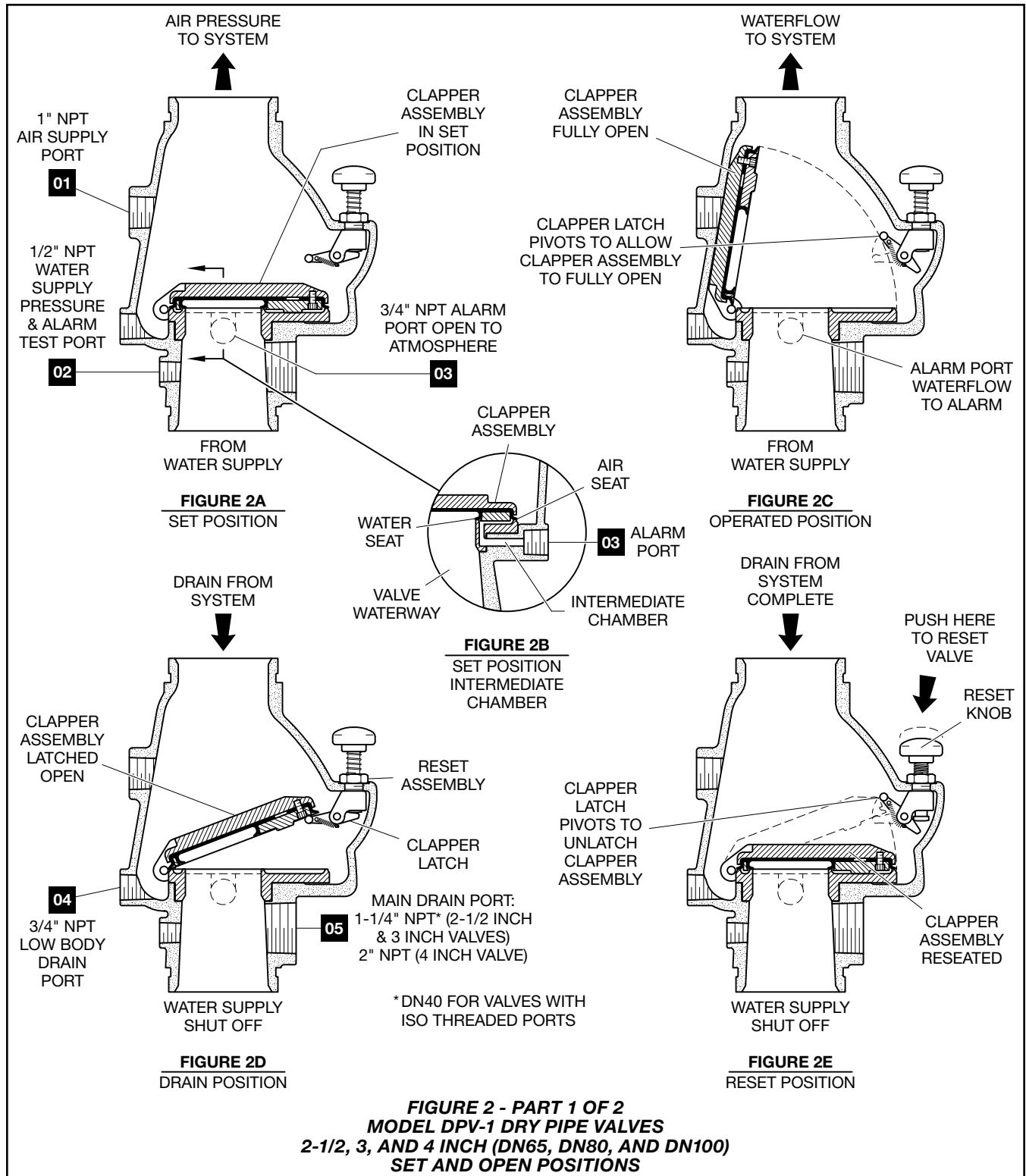
**Step 10.** Partially open the main control valve. Slowly close the main drain valve as soon as water discharges from the drain connection.

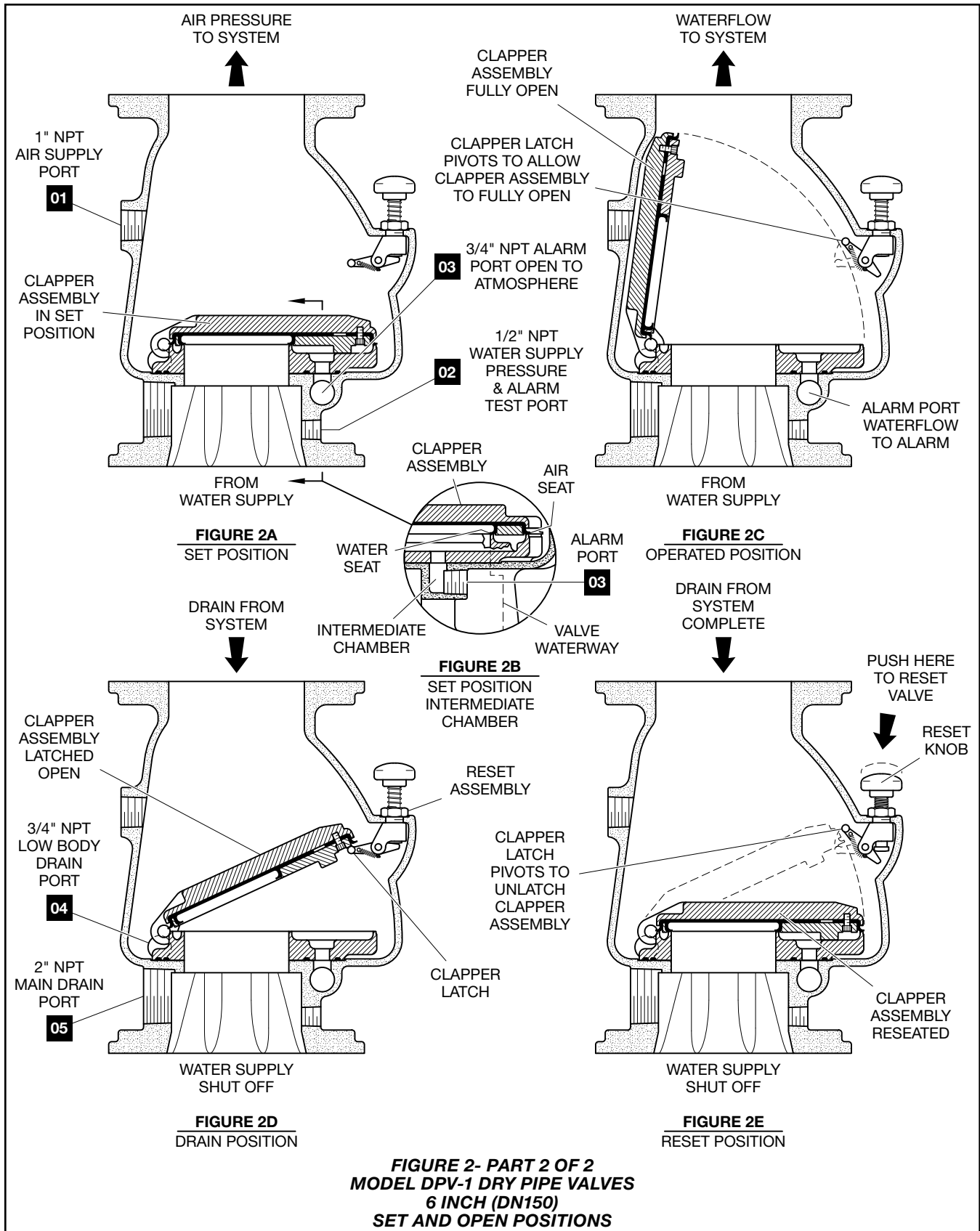
Depress the plunger on the automatic drain valve to make sure that it is open and that there is no water discharging. The absence of water discharging from the automatic drain valve is an indication of a properly set water seat within the DPV-1 valve. If water is discharging, refer to the Care and Maintenance section under the Automatic Drain Valve Inspection to determine/correct the cause of the leakage problem.

If there are no leaks, the DPV-1 valve is ready to be placed in service and the main control valve must then be fully opened.

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

**Step 11.** Once a week after a valve is reset following an operational test or system operation, the low body drain valve (and any low point drain valves) should be partially opened (and then subsequently closed) to relieve drain-back water. Continue this procedure until drain-back water is no longer present.

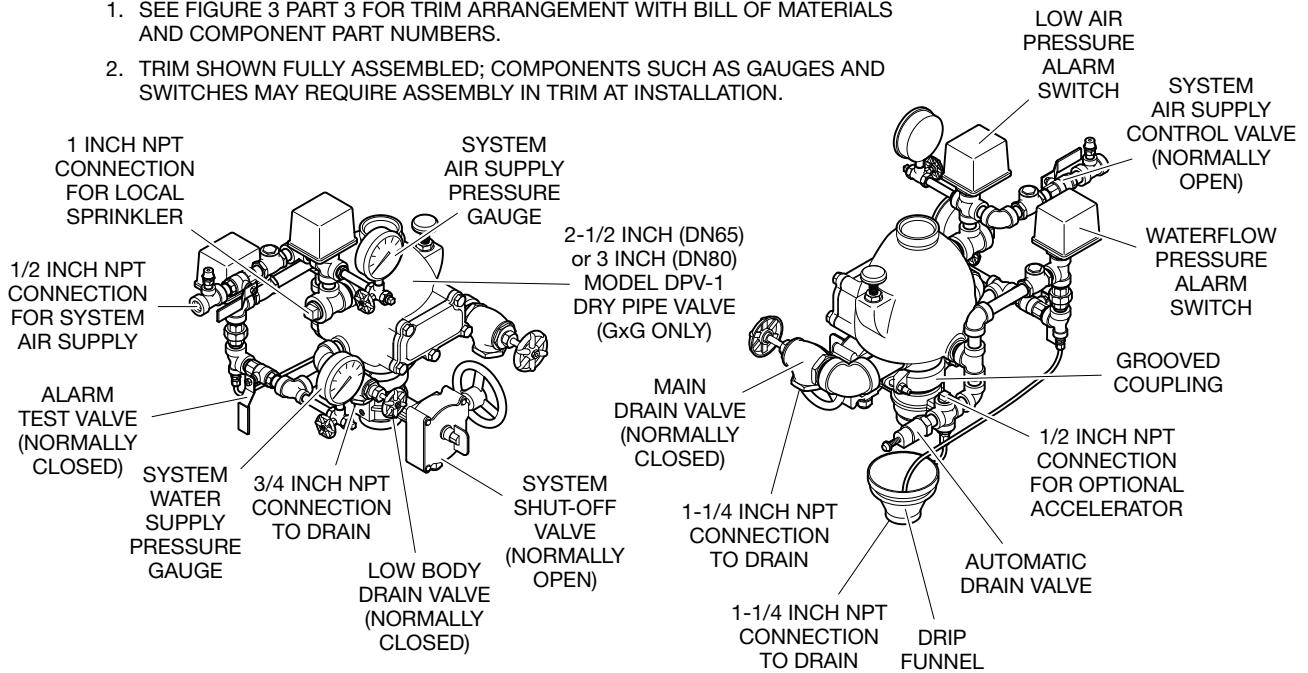




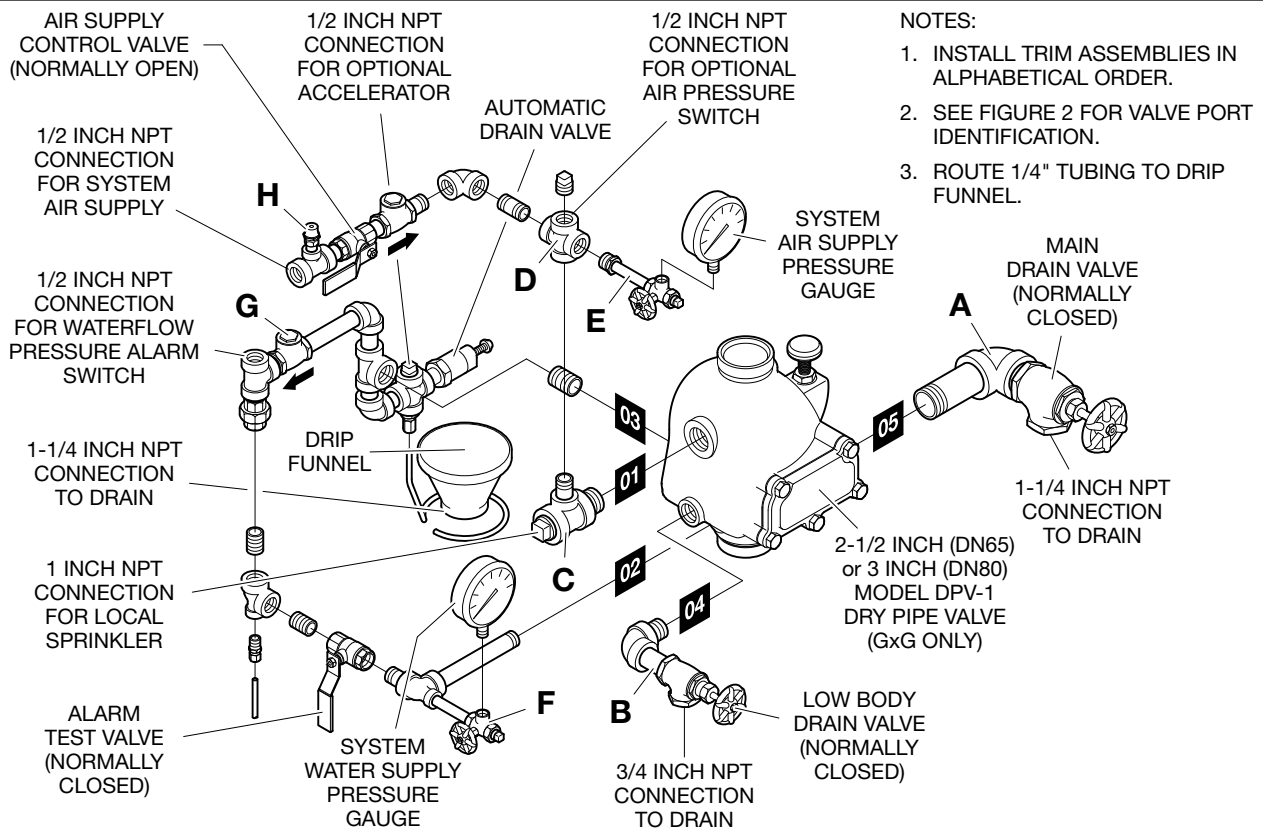


**NOTES:**

1. SEE FIGURE 3 PART 3 FOR TRIM ARRANGEMENT WITH BILL OF MATERIALS AND COMPONENT PART NUMBERS.
2. TRIM SHOWN FULLY ASSEMBLED; COMPONENTS SUCH AS GAUGES AND SWITCHES MAY REQUIRE ASSEMBLY IN TRIM AT INSTALLATION.



**FIGURE 3 - PART 1 OF 3**  
**2-1/2 AND 3 INCH (DN65 AND DN80) MODEL DPV-1 DRY PIPE VALVE**  
**PRE-TRIMMED ASSEMBLY**



**NOTES:**

1. INSTALL TRIM ASSEMBLIES IN ALPHABETICAL ORDER.
2. SEE FIGURE 2 FOR VALVE PORT IDENTIFICATION.
3. ROUTE 1/4" TUBING TO DRIP FUNNEL.

**FIGURE 3 - PART 2 OF 3**  
**2-1/2 AND 3 INCH (DN65 AND DN80) MODEL DPV-1 DRY PIPE VALVE**  
**EXPLODED ARRANGEMENT OF SEMI-ASSEMBLED TRIM**

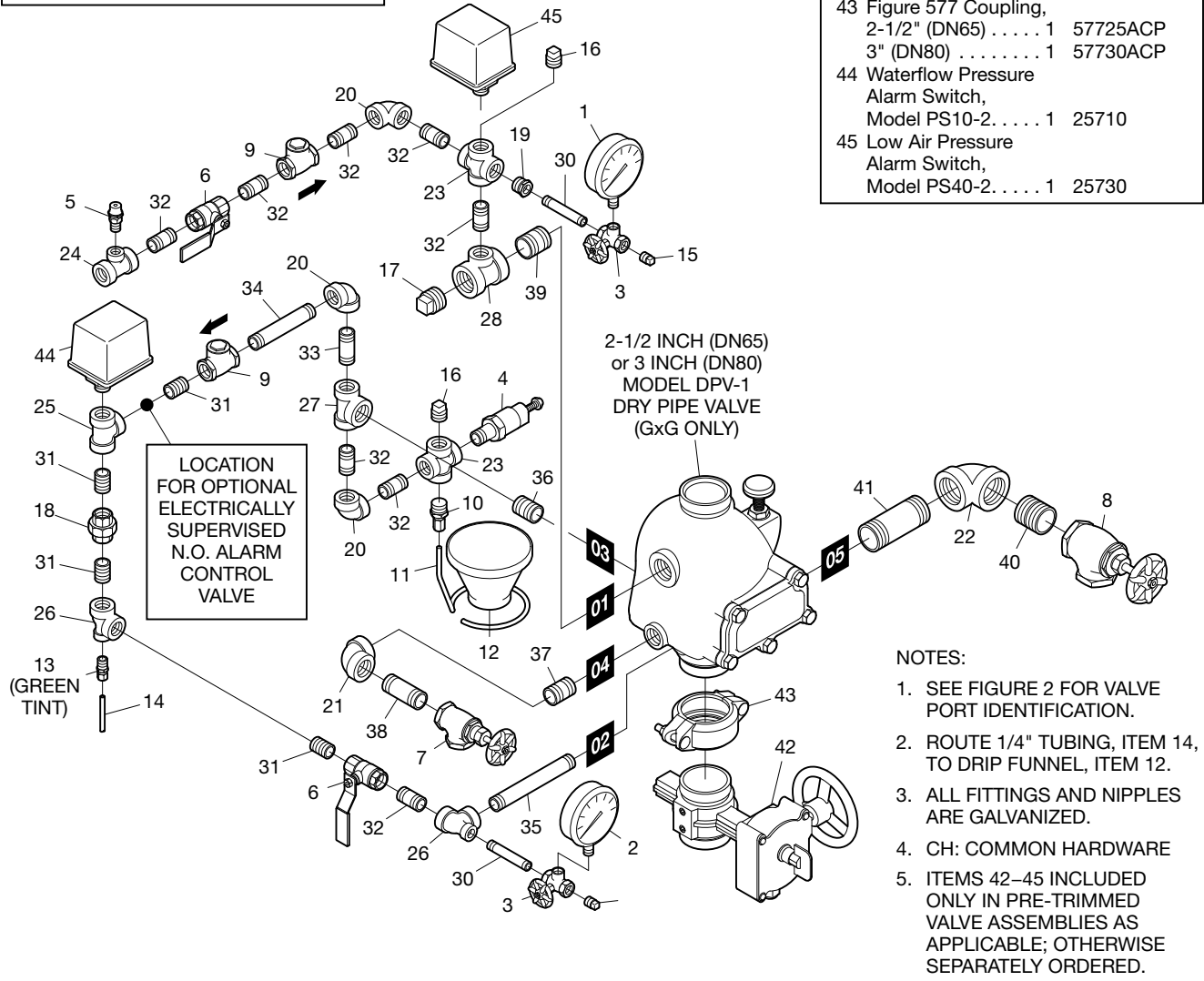
NO.	DESCRIPTION	QTY	P/N
1	250 psi/ 1750 kPa Air Pressure Gauge	1	92-343-1-012
2	300 psi/ 2000 kPa Water Pressure Gauge	1	92-343-1-005
3	1/4" Gauge Test Valve	2	46-005-1-002
4	Model AD-1 Automatic Drain Valve	1	52-793-2-004
5	1/4" Pressure Relief Valve	1	92-343-1-020
6	1/2" Ball Valve	2	46-050-1-004
7	3/4" Angle Valve	1	46-048-1-005
8	1-1/4" Angle Valve	1	46-048-1-007
9	1/2" Swing Check Valve	2	46-049-1-004
10	Drip Funnel Connector	1	92-211-1-005
11	Drip Funnel Bracket	1	92-211-1-003
12	Drip Funnel	1	92-343-1-007

NO.	DESCRIPTION	QTY	P/N
13	3/32" Vent Fitting	1	92-032-1-002
14	1/4" Tube, 18" Long	1	CH
15	1/4" Plug	2	CH
16	1/2" Plug	2	CH
17	1" Plug	1	CH
18	1/2" Union	1	CH
19	1/2" x 1/4" Reducing Bushing	1	CH
20	1/2" 90° Elbow	3	CH
21	3/4" 90° Elbow	1	CH
22	1-1/4" 90° Elbow	1	CH
23	1/2" Cross	2	CH
24	1/2" x 1/2" x 1/4" Reducing Tee	1	CH
25	1/2" Tee	1	CH
26	1/2" x 1/4" x 1/2" Reducing Tee	2	CH
27	1/2" x 1/2" x 3/4" Reducing Tee	1	CH

NO.	DESCRIPTION	QTY	P/N
28	1" x 1" x 1/2" Reducing Tee	1	CH
29	Not Used		
PIPE NIPPLES:			
30	1/4" x 3"	2	CH
31	1/2" x Close	4	CH
32	1/2" x 1-1/2"	8	CH
33	1/2" x 2"	1	CH
34	1/2" x 4-1/2"	1	CH
35	1/2" x 6"	1	CH
36	3/4" x Close	1	CH
37	3/4" x 1-1/2"	1	CH
38	3/4" x 2-1/2"	1	CH
39	1" x Close	1	CH
40	1-1/4" x Close	1	CH
41	1-1/4" x 4"	1	CH

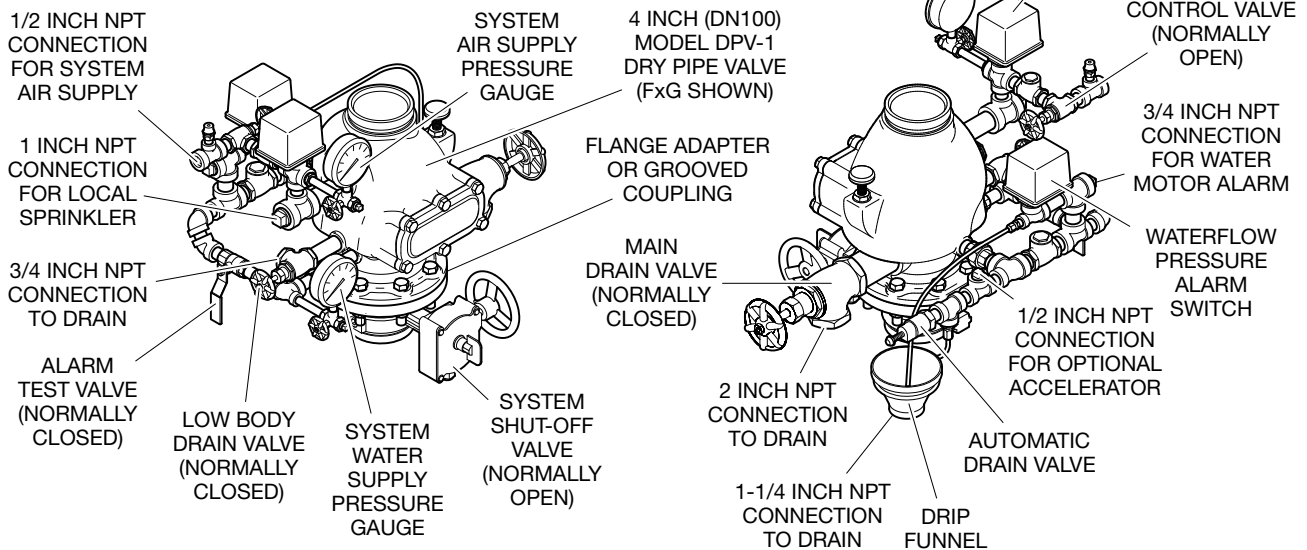
COMPONENTS INCLUDED ONLY IN PRE-TRIMMED VALVE ASSEMBLIES:

42	Model BFV-300 Butterfly Valve, 2-1/2" (DN65) . . . . .	1	59300G025WS
	3" (DN80) . . . . .	1	59300G030WS
43	Figure 577 Coupling, 2-1/2" (DN65) . . . . .	1	57725ACP
	3" (DN80) . . . . .	1	57730ACP
44	Waterflow Pressure Alarm Switch, Model PS10-2. . . . .	1	25710
45	Low Air Pressure Alarm Switch, Model PS40-2. . . . .	1	25730

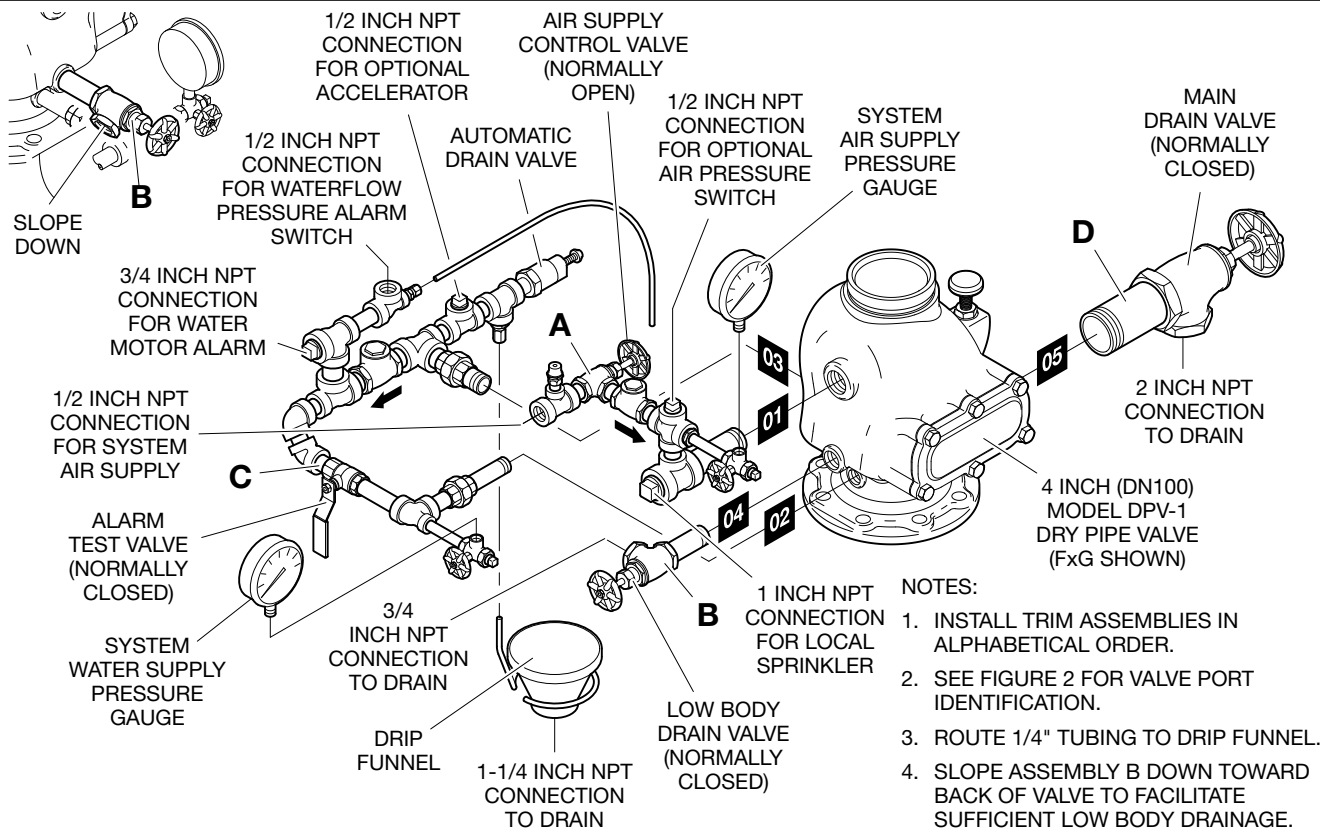


**FIGURE 3 - PART 3 OF 3**  
**2-1/2 AND 3 INCH (DN65 AND DN80) MODEL DPV-1 DRY PIPE VALVE**  
**EXPLODED ARRANGEMENT OF VALVE TRIM**

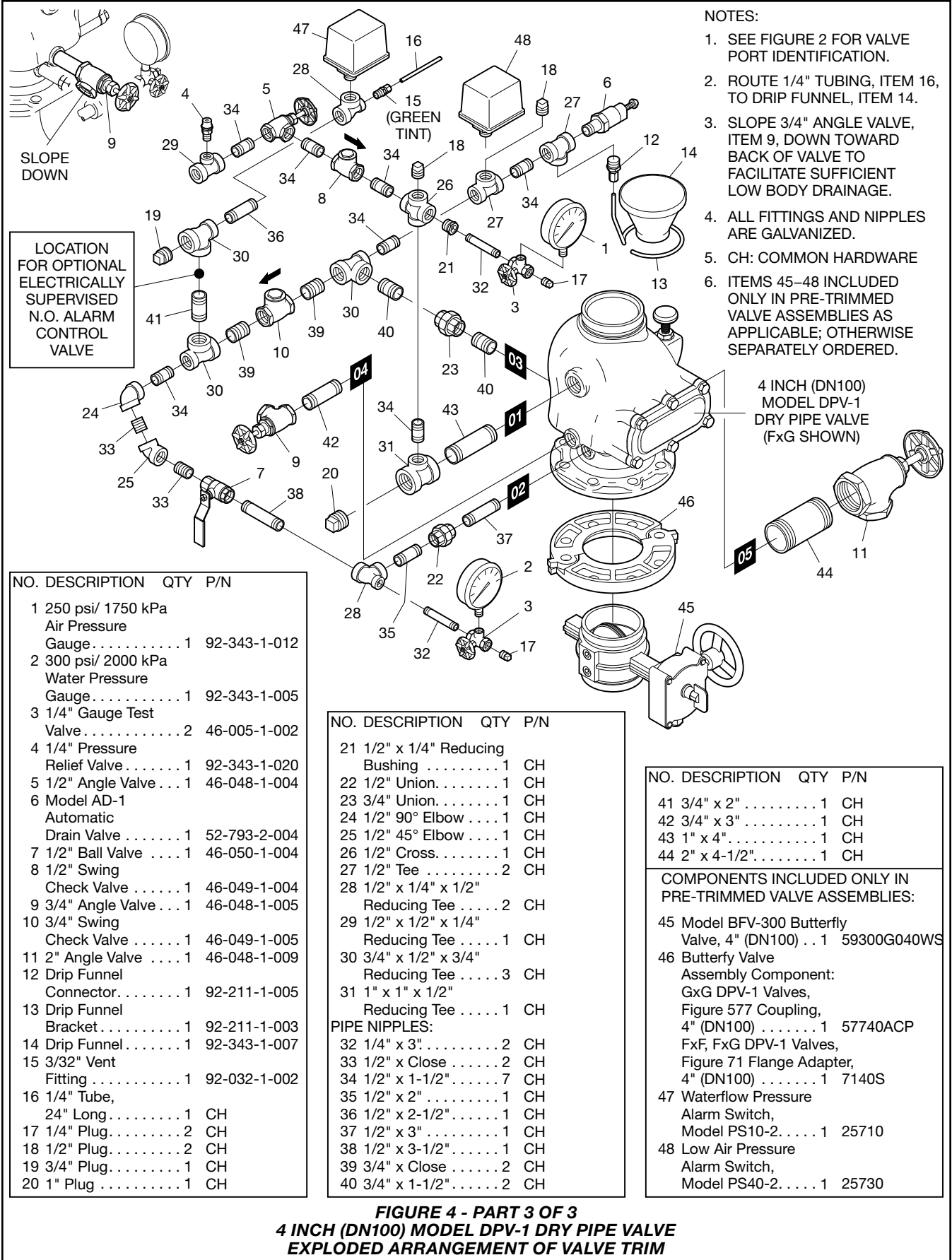
1. SEE FIGURE 4 PART 3 FOR TRIM ARRANGEMENT WITH BILL OF MATERIALS AND COMPONENT PART NUMBERS.
2. TRIM SHOWN FULLY ASSEMBLED; COMPONENTS SUCH AS GAUGES AND SWITCHES MAY REQUIRE ASSEMBLY IN TRIM AT INSTALLATION.



**FIGURE 4 - PART 1 OF 3**  
**4 INCH (DN100) MODEL DPV-1 DRY PIPE VALVE**  
**PRE-TRIMMED ASSEMBLY**



**FIGURE 4 - PART 2 OF 3**  
**4 INCH (DN100) MODEL DPV-1 DRY PIPE VALVE**  
**EXPLODED ARRANGEMENT OF SEMI-ASSEMBLED TRIM**



- NOTES:**
1. SEE FIGURE 2 FOR VALVE PORT IDENTIFICATION.
  2. ROUTE 1/4" TUBING, ITEM 16, TO DRIP FUNNEL, ITEM 14.
  3. SLOPE 3/4" ANGLE VALVE, ITEM 9, DOWN TOWARD BACK OF VALVE TO FACILITATE SUFFICIENT LOW BODY DRAINAGE.
  4. ALL FITTINGS AND NIPPLES ARE GALVANIZED.
  5. CH: COMMON HARDWARE
  6. ITEMS 45-48 INCLUDED ONLY IN PRE-TRIMMED VALVE ASSEMBLIES AS APPLICABLE; OTHERWISE SEPARATELY ORDERED.

NO.	DESCRIPTION	QTY	P/N
1	250 psi/ 1750 kPa Air Pressure Gauge	1	92-343-1-012
2	300 psi/ 2000 kPa Water Pressure Gauge	1	92-343-1-005
3	1/4" Gauge Test Valve	2	46-005-1-002
4	1/4" Pressure Relief Valve	1	92-343-1-020
5	1/2" Angle Valve	1	46-048-1-004
6	Model AD-1 Automatic Drain Valve	1	52-793-2-004
7	1/2" Ball Valve	1	46-050-1-004
8	1/2" Swing Check Valve	1	46-049-1-004
9	3/4" Angle Valve	1	46-048-1-005
10	3/4" Swing Check Valve	1	46-049-1-005
11	2" Angle Valve	1	46-048-1-009
12	Drip Funnel Connector	1	92-211-1-005
13	Drip Funnel Bracket	1	92-211-1-003
14	Drip Funnel	1	92-343-1-007
15	3/32" Vent Fitting	1	92-032-1-002
16	1/4" Tube, 24" Long	1	CH
17	1/4" Plug	2	CH
18	1/2" Plug	2	CH
19	3/4" Plug	1	CH
20	1" Plug	1	CH

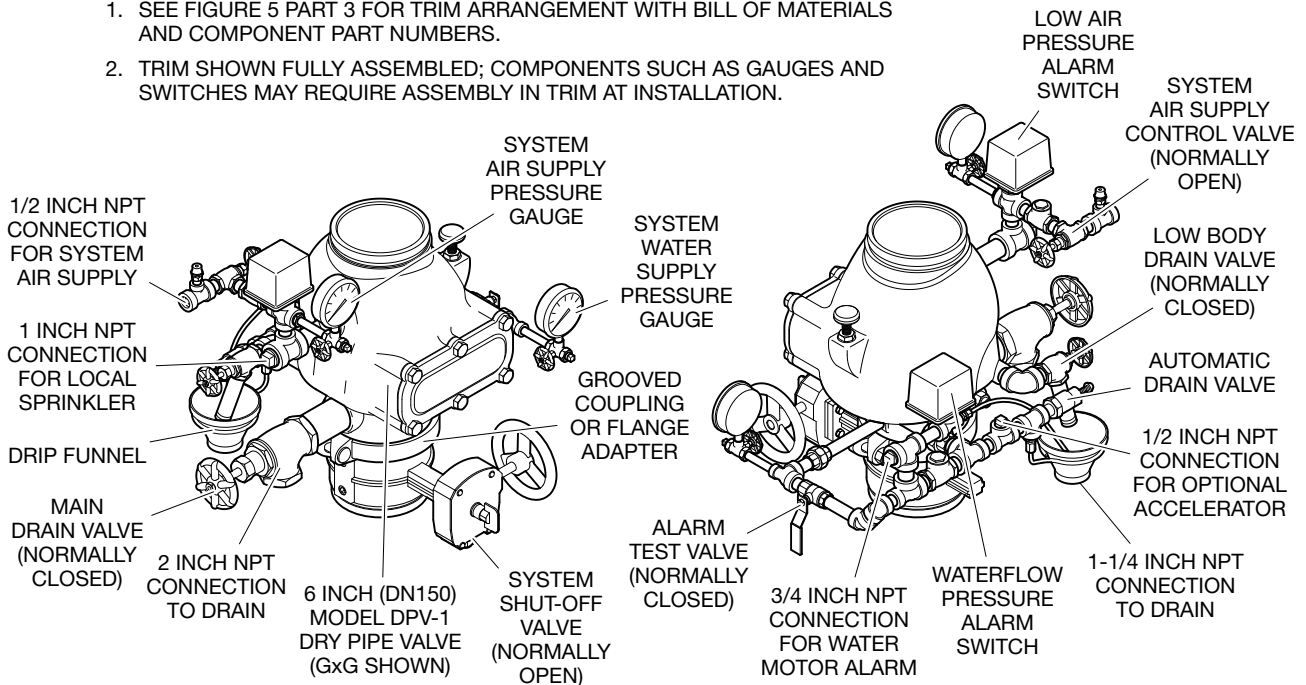
NO.	DESCRIPTION	QTY	P/N
21	1/2" x 1/4" Reducing Bushing	1	CH
22	1/2" Union	1	CH
23	3/4" Union	1	CH
24	1/2" 90° Elbow	1	CH
25	1/2" 45° Elbow	1	CH
26	1/2" Cross	1	CH
27	1/2" Tee	2	CH
28	1/2" x 1/4" x 1/2" Reducing Tee	2	CH
29	1/2" x 1/2" x 1/4" Reducing Tee	1	CH
30	3/4" x 1/2" x 3/4" Reducing Tee	3	CH
31	1" x 1" x 1/2" Reducing Tee	1	CH
<b>PIPE NIPPLES:</b>			
32	1/4" x 3"	2	CH
33	1/2" x Close	2	CH
34	1/2" x 1-1/2"	7	CH
35	1/2" x 2"	1	CH
36	1/2" x 2-1/2"	1	CH
37	1/2" x 3"	1	CH
38	1/2" x 3-1/2"	1	CH
39	3/4" x Close	2	CH
40	3/4" x 1-1/2"	2	CH

NO.	DESCRIPTION	QTY	P/N
41	3/4" x 2"	1	CH
42	3/4" x 3"	1	CH
43	1" x 4"	1	CH
44	2" x 4-1/2"	1	CH
<b>COMPONENTS INCLUDED ONLY IN PRE-TRIMMED VALVE ASSEMBLIES:</b>			
45	Model BFV-300 Butterfly Valve, 4" (DN100)	1	59300G040WS
46	Butterfly Valve Assembly Component: GxG DPV-1 Valves, Figure 577 Coupling, 4" (DN100)	1	57740ACP
	FxF, FxG DPV-1 Valves, Figure 71 Flange Adapter, 4" (DN100)	1	7140S
47	Waterflow Pressure Alarm Switch, Model PS10-2	1	25710
48	Low Air Pressure Alarm Switch, Model PS40-2	1	25730

**FIGURE 4 - PART 3 OF 3**  
**4 INCH (DN100) MODEL DPV-1 DRY PIPE VALVE**  
**EXPLODED ARRANGEMENT OF VALVE TRIM**

**NOTES:**

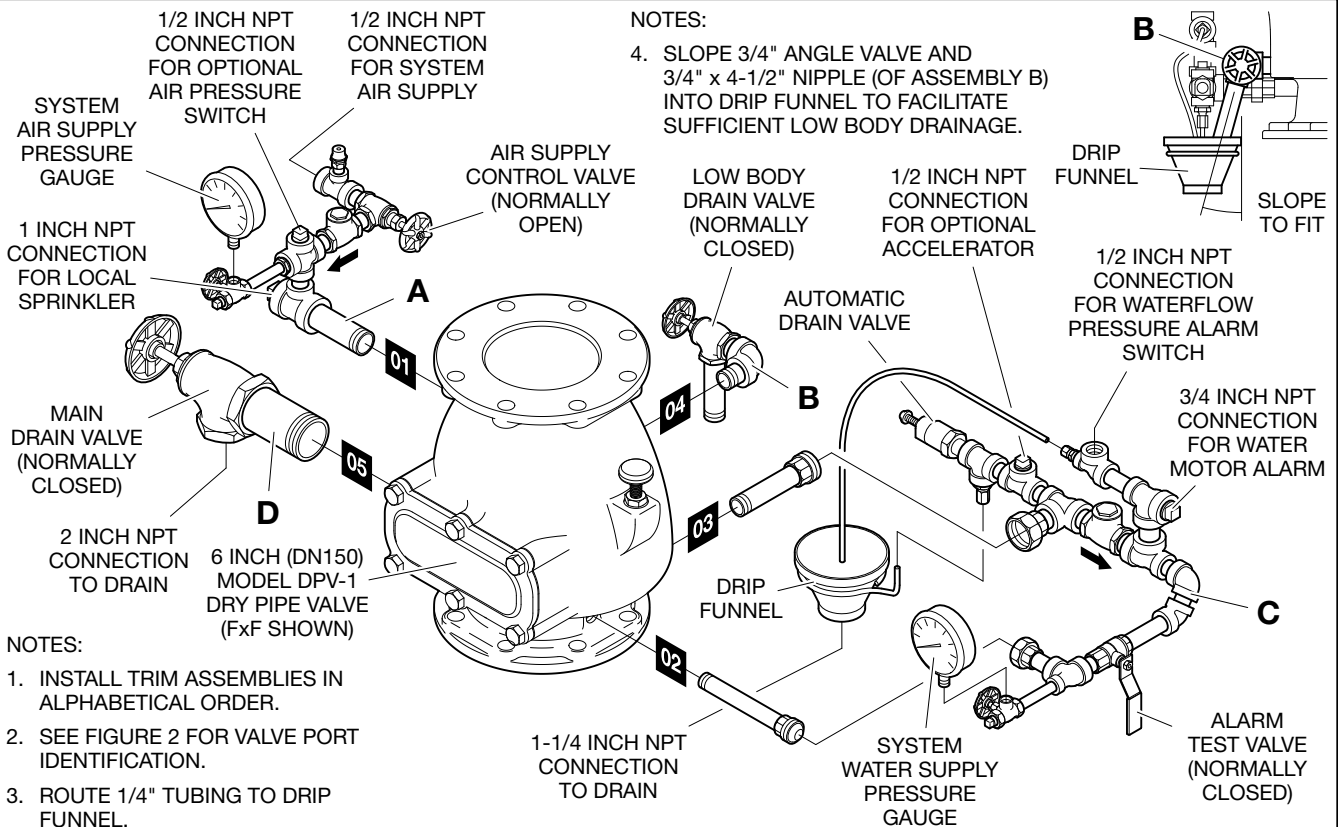
1. SEE FIGURE 5 PART 3 FOR TRIM ARRANGEMENT WITH BILL OF MATERIALS AND COMPONENT PART NUMBERS.
2. TRIM SHOWN FULLY ASSEMBLED; COMPONENTS SUCH AS GAUGES AND SWITCHES MAY REQUIRE ASSEMBLY IN TRIM AT INSTALLATION.



**FIGURE 5 - PART 1 OF 3**  
**6 INCH (DN150) MODEL DPV-1 DRY PIPE VALVE**  
**PRE-TRIMMED ASSEMBLY**

**NOTES:**

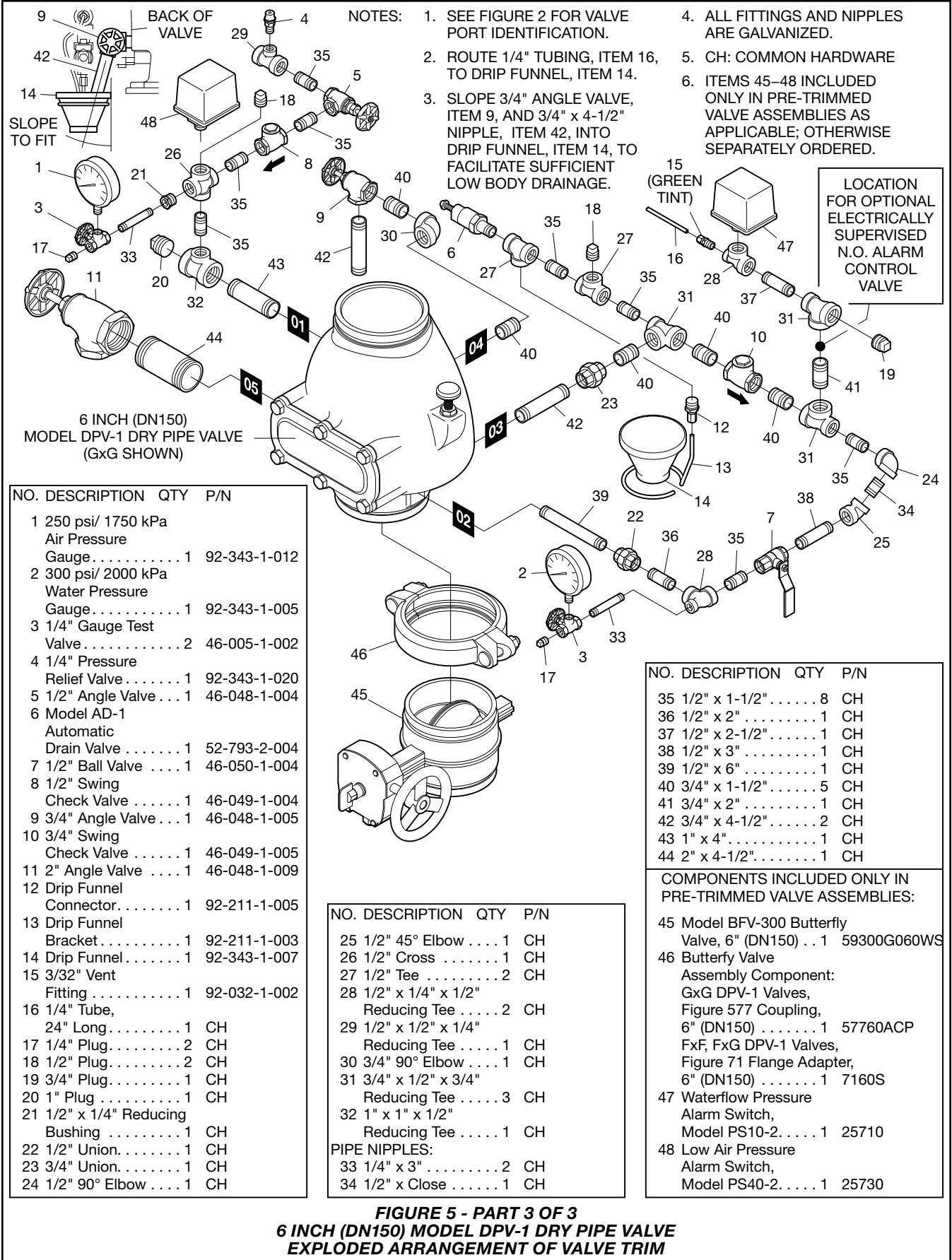
4. SLOPE 3/4" ANGLE VALVE AND 3/4" x 4-1/2" NIPPLE (OF ASSEMBLY B) INTO DRIP FUNNEL TO FACILITATE SUFFICIENT LOW BODY DRAINAGE.



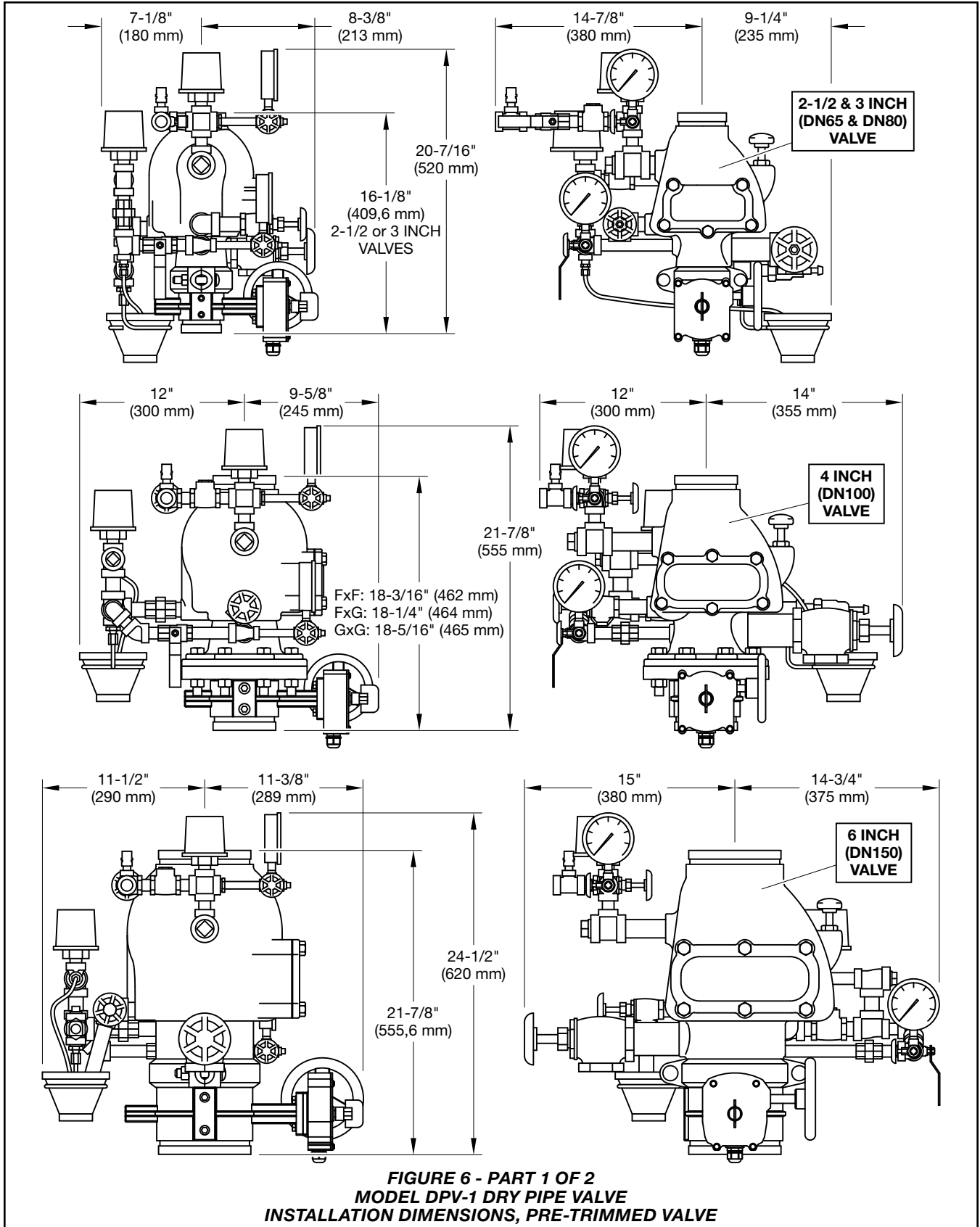
**NOTES:**

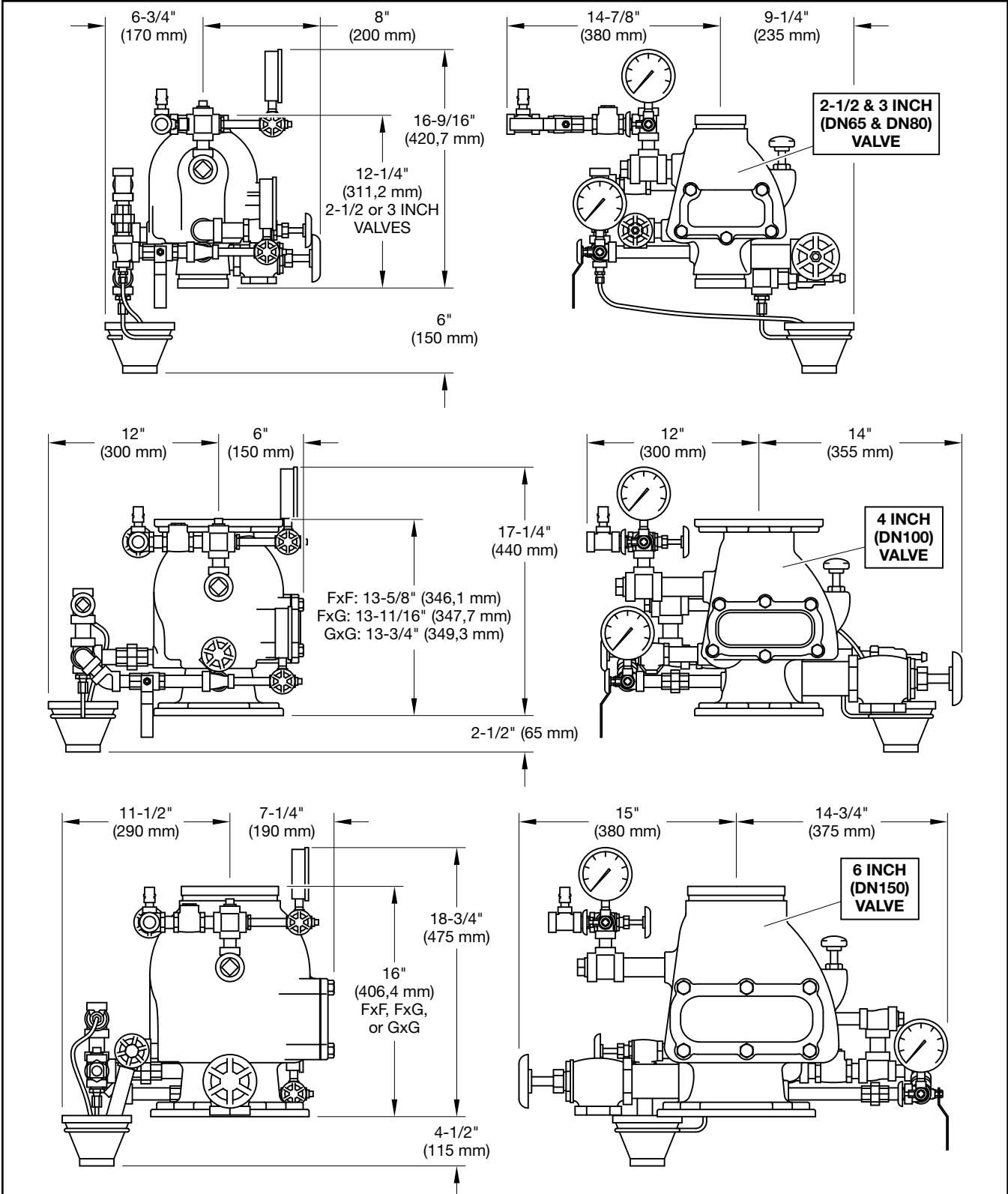
1. INSTALL TRIM ASSEMBLIES IN ALPHABETICAL ORDER.
2. SEE FIGURE 2 FOR VALVE PORT IDENTIFICATION.
3. ROUTE 1/4" TUBING TO DRIP FUNNEL.

**FIGURE 5 - PART 2 OF 3**  
**6 INCH (DN150) MODEL DPV-1 DRY PIPE VALVE**  
**EXPLODED ARRANGEMENT OF SEMI-ASSEMBLED TRIM**



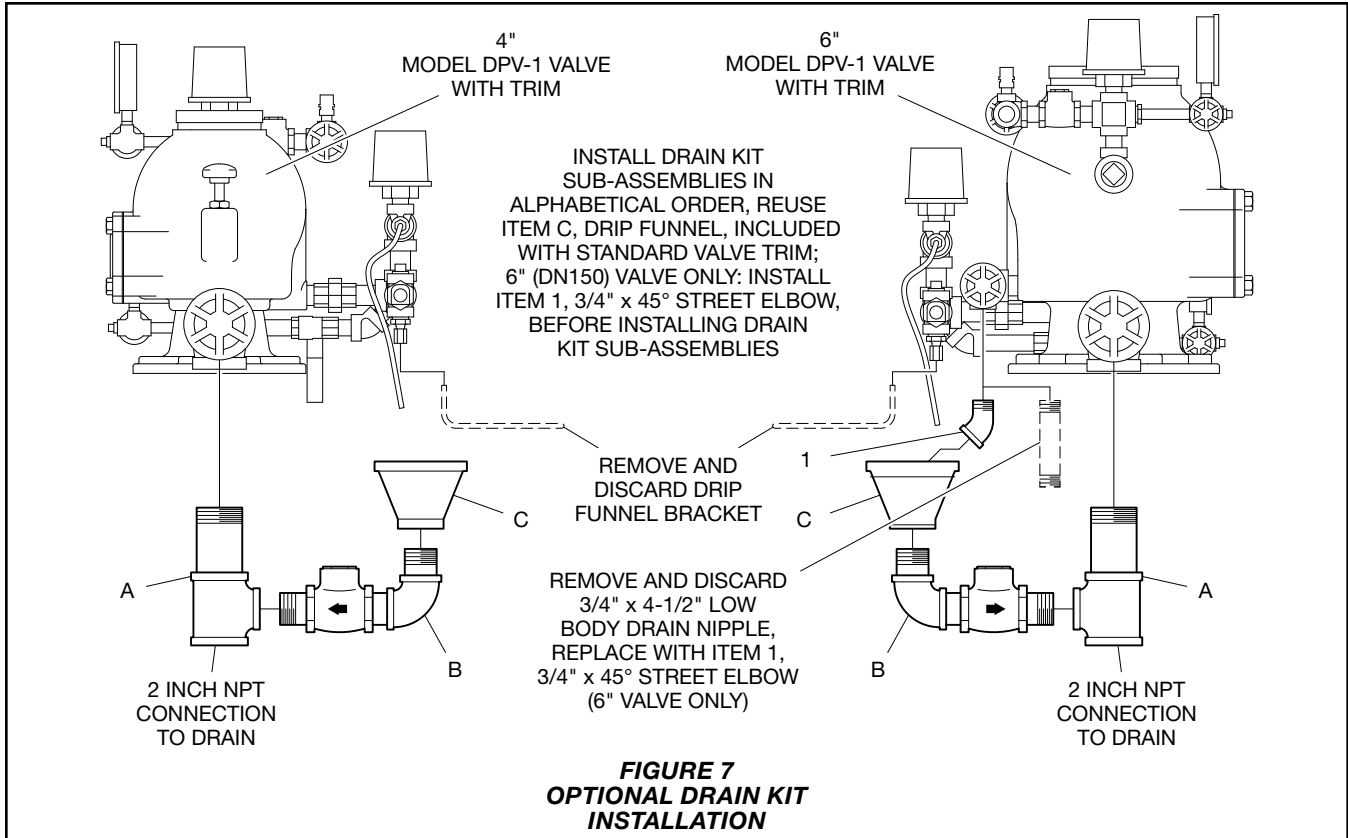
**FIGURE 5 - PART 3 OF 3  
6 INCH (DN150) MODEL DPV-1 DRY PIPE VALVE  
EXPLODED ARRANGEMENT OF VALVE TRIM**





**FIGURE 6 - PART 2 OF 2  
MODEL DPV-1 DRY PIPE VALVE  
INSTALLATION DIMENSIONS, VALVE AND SEMI-ASSEMBLED TRIM**





## Care and Maintenance

The following procedures and inspections should be performed as indicated, in addition to any specific requirements of the NFPA, and any impairment must be immediately corrected.

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 system must be obtained from the proper authorities and notify all personnel who may be affected by action.

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 applicable standards of the NFPA such as NFPA 25, in addition to the standards of any authority having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified inspection service in accordance with local requirements and/or national codes.

The operational test procedure and waterflow pressure alarm test procedure will result in operation of the associated alarms. Consequently, notification must first be given to the owner and the fire department, central station, or other signal station to which the alarms are connected.

### Annual Operation Test Procedure

**Note:** Unless otherwise noted, see Figure 3, 4, or 5 to identify functional trim components.

Proper operation of the DPV-1 valve — for example, opening of the DPV-1 valve during a fire condition — should be verified at least once a year as follows:

**Step 1.** If necessary, prevent water from flowing beyond the riser by performing the following steps:

- a. Close the main control valve.
- b. Open the main drain valve.
- c. Open the main control valve one turn beyond the position at which water just begins to flow from the main drain valve.
- d. Close the main drain valve.

**Step 2.** Open the system inspector's test connection.

**Step 3.** Verify that the DPV-1 valve has operated, as indicated by the flow of water into the system and that all waterflow alarms operate properly.

**Step 4.** Close the system main control valve.

**Step 5.** Reset the DPV-1 valve in accordance with the Valve Setting Procedure.

**Note:** It is recommended that the requirement of NFPA 25 to annually inspect the inside of the valve be performed at this time and prior to resetting the DPV-1 valve. Refer to the Automatic Drain Valve Inspection subsection Steps 2 through 5 for instructions with regard to the inspection of the clapper facing.

### Quarterly Waterflow Alarm Test Procedure

Testing of the system waterflow alarms should be performed quarterly. To test the waterflow alarm, open the alarm test valve, which will allow a flow of water to the waterflow pressure alarm switch and/or water motor alarm. Upon satisfactory completion of the test, close the alarm test valve.

Nominal Valve Sizes in. (DN)	Handhole Cover Bolt Torque lb-ft (N·m)
2-1/2 (DN65)	20 (27)
3 (DN80)	20 (27)
4 (DN100)	20 (27)
6 (DN150)	45 (61)

**TABLE C**  
**HANDHOLE COVER BOLTS**  
**RECOMMENDED TORQUE**

**Water Pressure Inspection**

The water pressure gauge is to be inspected monthly (per NFPA 25) to ensure that normal system water pressure is being maintained.

**Air Pressure Inspection**

The air pressure gauge is to be inspected monthly (per NFPA 25) to ensure that normal system air pressure is being maintained.

**Automatic Drain Valve Inspection**

The automatic drain valve should be inspected monthly (per NFPA 25) by depressing the plunger and checking to ensure that the automatic drain valve is not discharging water and/or air. A discharge of water and/or air is an indication that the air and/or water seats are leaking, which could subsequently cause a false operation should the intermediate chamber become inadvertently pressurized.

If leakage is present, take the DPV-1 valve out of service (for example, close the main control valve, open the main drain valve, close the air supply control valve, remove the dry pipe valve accelerator from service, as applicable, in accordance with the Technical Data Sheet (TDS) instructions, (refer to TDS TFP1105 for the VIZOR or TDS TFP1112 for the ACC-1), and open the inspector's test connection to relieve the system air pressure to 0 psi (0 bar) as indicated on the system air pressure gauge), and then after removing the handhole cover, perform the following steps:

**Step 1.** Make sure that the seat ring is clean and free of any nicks or significant scratches.

**Step 2.** Remove the clapper assembly from the valve by first pulling out the hinge pin.

**Step 3.** Disassemble the clapper facing retainer from the clapper so that the clapper facing can be removed and inspected. Make sure that the clapper facing does not show signs of compression set, damage, etc. Replace the clapper facing if there is any signs of wear.

**Step 4.** Clean the clapper facing, clapper, and clapper facing retainer, and then reassemble the clapper assembly.

**Step 5.** Reinstall the clapper assembly with its hinge pin.

**Step 6.** Install the handhole cover:

- a. Align the handhole cover gasket and handhole cover in the proper orientation with the valve body as shown in Figure 1, and hold in place.
- b. Apply LOCTITE No. 242 or equivalent to the Hex Bolt threads.
- c. Insert the Hex Bolts through the handhole cover gasket and handhole cover, and hand-tighten into the valve body.
- d. Using a crossdraw sequence to assure uniformity, wrench-tighten the hex bolts to the recommended torque values as shown in Table C.
- e. Inspect to assure all the hex bolts are securely tightened.

## Limited Warranty

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

## Ordering Procedure

Contact your local distributor for availability. When placing an order indicate the full product name and Part Number (P/N).

### Standard DPV-1 Dry Pipe Valve

ANSI standard outside diameter (O.D.) pipe size with grooved or ANSI drilled flange end connections and NPT threaded ports.

Specify: (specify size) Model DPV-1 Dry Pipe Valve with (specify) End Connections, P/N (specify):

Groove x Groove, ANSI 2.88 in. (73,1 mm) O.D. Grooves:	
2-1/2 in. (DN65) G x G	52-312-1-925
Groove x Groove, ANSI 3.50 in. (88,9 mm) O.D. Grooves:	
3 in. (DN80) G x G	52-312-1-930
Groove x Groove, ANSI 4.50 in. (114,3 mm) O.D. Grooves:	
4 in. (DN100) G x G	52-312-1-940
Flange x Groove, ANSI Flange x ANSI 4.50 in. (114,3 mm) O.D. Groove:	
4 in. (DN100) F x G	52-312-1-440
Flange x Flange, ANSI Flanges:	
4 in. (DN100) F x F	52-312-1-040
Groove x Groove, ANSI 6.62 in. (168,3 mm) O.D. Grooves:	
6 in. (DN150) G x G	52-312-1-960
Flange x Groove, ANSI Flange x ANSI 6.62 in. (168,3 mm) O.D. Groove:	
6 in. (DN150) F x G	52-312-1-460
Flange x Flange, ANSI Flanges:	
6 in. (DN150) F x F	52-312-1-060

### Pre-Trimmed DPV-1 Assemblies with Butterfly Valve

Specify: 2-1/2 in. DPV-1 Pre-Trimmed Valve Assembly, Grooved End Connections, P/N 52-310-3-925

Specify: 3 in. DPV-1 Pre-Trimmed Valve Assembly, Grooved End Connections, P/N 52-310-3-930

Specify: 4 in. DPV-1 Pre-Trimmed Valve Assembly, (specify) End Connection, P/N (specify):

Flange x Flange	52-310-3-040
Flange x Groove	52-310-3-440
Groove x Groove	52-310-3-940

Specify: 6 in. DPV-1 Pre-Trimmed Valve Assembly, (specify) End Connection, P/N (specify):

Flange x Flange	52-310-3-060
Flange x Groove	52-310-3-460
Groove x Groove	52-310-3-960

### Pre-Trimmed DPV-1 Assemblies without Butterfly Valve

Specify: 4 in. DPV-1 Pre-Trimmed Valve Assembly without Butterfly, (specify) End Connection, P/N (specify):

Flange x Flange	52-310-4-040
Flange x Groove	52-310-4-440

Specify: 6 in. DPV-1 Pre-Trimmed Valve Assembly without Butterfly, (specify) End Connection, P/N (specify):

Flange x Flange	52-310-4-060
Flange x Groove	52-310-4-460

### Standard Galvanized Semi-Assembled DPV-1 Trim

**Note:** Valves with NPT threaded ports are intended for use with the Standard Galvanized Semi-Assembled DPV-1 Valve Trim as described in Figures 3, 4 and 5 of this document.

Specify: 2-1/2 and 3 in. DPV-1 Semi-Assembled Galvanized Trim, P/N 52-309-2-005

Specify: 4 in. DPV-1 Semi-Assembled Galvanized Trim, P/N 52-309-2-001

Specify: 6 in. DPV-1 Semi-Assembled Galvanized Trim, P/N 52-309-2-002

### Optional Drain Kit

Includes swing check valve, fittings and pipe nipples to connect the drip funnel directly to the main drain in 4 and 6 in. valve trim assemblies as shown in Figure 7.

Specify: Universal Model DPV-1 Dry Pipe Valve Drain Kit, 4 in. and 6 in. Valves, P/N 52-309-2-106

### Drain Kit Replacement Check Valve

Specify: Swing Check Valve, 1-1/4 in., P/N 46-049-1-006

### Optional Electronic Accelerator:

#### VIZOR Electronic Dry Pipe Accelerator (with Trim)

Refer to Technical Data Sheet TFP1105.

Specify: VIZOR Electronic Dry Pipe Accelerator for use with the 4 or 6 in. TYCO Model DPV-1 Dry Pipe Valve Trim, P/N 52-312-3-001

### Optional Mechanical Accelerator:

#### Model ACC-1 Dry Pipe Accelerator

Refer to Technical Data Sheet TFP1112.

Specify: Model ACC-1 Dry Pipe Accelerator, P/N 52-311-1-001, and Galvanized Accelerator Trim for Model DPV-1 Dry Pipe Valve, P/N 52-311-2-010

### Optional 600 PSI Water Pressure Gauge:

Specify: 600 PSI Water Pressure Gauge, P/N 92-343-1-004

### Accessories

Refer to Technical data Sheets describing the following accessories, as applicable.

Specify: Description, P/N (specify):

Model PS10-2 Potter Electric Waterflow Pressure Alarm Switch	25710
(Refer to Potter Electric Technical Data Sheet)	
Model PS40-2 Potter Electric Low Air Pressure Alarm Switch	25730
(Refer to Potter Electric Technical Data Sheet)	
Model WMA-1 Water Motor Alarm	52-630-1-001
(Refer to Technical Data Sheet TFP921)	
Model AMD-1 Air Maintenance Device	52-324-2-002
(Refer to Technical Data Sheet TFP1221)	
Model AMD-2 Air Maintenance Device	52-326-2-001
(Refer to Technical Data Sheet TFP1231)	
Model AMD-3 Nitrogen Maintenance Device	52-328-2-001
(Refer to Technical Data Sheet TFP1241)	

### Replacement Valve Parts

Specify: (description) for use with (specify size) Model DPV-1 Dry Pipe Valve, P/N, see Figure 1.

### Replacement Trim Parts

Specify: (description) for use with (specify size) Model DPV-1 Dry Pipe Valve, P/N, see Figures 3, 4, or 5.

### Other DPV-1 Dry Pipe Valves

**Notes:** Other DPV-1 Dry Pipe Valves are valves ordered with any combination of flange drilling, pipe groove outside diameter (O.D.), or port thread specification not offered as Standard DPV-1 Dry Pipe Valves.

Valves with NPT threaded ports are intended for use with the Standard Galvanized Semi-Assembled DPV-1 Valve Trim described in Figures 3, 4 and 5. Valves with ISO threaded ports are intended for use with special order trim that is provided by local distributors to meet the specific needs of certain localities. Please contact your local distributor regarding valves and valve trim for specific localities.

Specify: (specify size) Model DPV-1 Dry Pipe Valve with (specify) End Connections and (specify NPT or ISO) threaded ports



## TFP1020 Change History Appendix

ISSUE DATE	NOTES
08-22	Page 1, updated QR code and URL; Page 20, changed corporate address and telephone number to 1467 Elmwood Avenue, Cranston, RI 02910   Telephone +1-401-781-8220, formerly 1400 Pennbrook Parkway, Lansdale, PA 19446   Telephone +1-215-362-0700.
03-22	Page 1, added QR code and URL to allow convenient access to electronic version from printed document; Page 20, Drain Kit Replacement Check Valve sub-section, change part number for 1 1/4 in. Swing Check Valve to P/N 46-049-1-006, formerly shown as P/N 46-049-1-007.
06-21	Clarified Figure 1, Parts 1 and 2, Dow Corning FS3452 Fluorosilicone Grease is factory-applied to Reset Plunger and must not be removed when reassembling valve, grease was formerly listed as separate Items 18 and 21 in Bills of Materials.
02-21	Consolidated separately ordered Optional Drain Kit as single Optional Universal Drain Kit fitting 4 in. and 6 in. (DN100 and DN150) valves; Clarified Optional Universal Drain Kit installation.
12-20	Updated recommended handhole cover bolt torque specifications.
05-20	Added optional drip funnel drain trim kit; Added recommendation for installation of pressure relief valve in upstream water supply; Updated part numbers for valves and valve replacement parts; Removed part numbers for valves featuring drilling variations no longer offered.
10-18	Updated Reset Plunger part description and designation.
08-18	Updated Tyco® branding and document format; Added Johnson Controls copyright; Added disclaimer stating specifications and information subject to change without notice; Added reference to Regulatory and Health Warning Technical Data Sheet TFP2300.
05-18	Corrected instances of DVP-1 to DPV-1 in Ordering Procedure.
12-16	Added handhole cover installation procedure with bolt torque values.
08-16	Updated Model BFV-300 Butterfly Valve part numbers, changing NS suffix to WS; Relocated product weights to Technical Data section, formerly in Ordering Procedure; Changed Nominal Pressure Loss vs. Flow graph to Graph A; Update Figure number sequence.
07-16	Clarified FM and NYC Approved.
01-16	Replaced Model BFV-N with Model BFV-300 butterfly valve.
04-15	Clarified end-to-end dimensions of 4 in. (DN100) Flange x Flange, Flange x Groove and Groove x Groove pre-trimmed valve assemblies.
03-13	Added option for pre-trimmed valve assemblies without supply shut-off butterfly valve; Clarified use of Figure 71 flange adapters in 4 in. and 6 in. (DN100 and DN150) Flange x Flange and Flange x Groove pre-trimmed assemblies without supply shut-off butterfly valve.
09-12	Added pre-trimmed valve assemblies with supply shut-off butterfly valve, grooved coupling and low air pressure and waterflow pressure alarm switches.

**TFP1020 CHANGE HISTORY APPENDIX, CONTINUED**

Page 2 of 2

ISSUE DATE	NOTES
08-07	Relocated Pressure Relief Valve in 2-1/2 and 3 Inch trim; Fig 4 Pt 1 BOM List rev: Replaced Item 24, 1/4" Tee, with 1/2" x 1/2" x 1/4" Reducing Tee; Discontinued Item 29, 1/4" x 1" Nipple; Increased quantity of Item 30, 1/4" x 3" Nipple, from 1 to 2; Increased quantity of Item 32, 1/2" x 1-1/2" Nipple, from 7 to 8. Fig 4 Pt 1 Arr rev: Reoriented Item 6, 1/2" Ball Valve; Added Item 32, 1/2" x 1-1/2" Nipple, and Item 24, 1/2" x 1/2" x 1/4" Reducing Tee, to upstream end of Item 6, 1/2" Ball Valve; Relocated Item 5, 1/4" Pressure Relief Valve, to 1/4" branch outlet of Item 24, 1/2" x 1/2" x 1/4" Reducing Tee; Replaced discontinued Items 29, 1/4" x 1" Nipple, and 24, 1/4" Tee, with Item 30, 1/4" x 3" Nipple. Fig 4 Pt 2 rev: Revised installation order of Trim Assemblies; Trim Assembly H (formerly E) has been revised to consist of 1 each of Items 5, 6, 9, and 24, and 3 of Item 32 (Item 20 is no longer included); Trim Assembly E (formerly F) has been revised to consist of 1 each of Items 3, 15, 19, and 30. Figure 7, 2-1/2 & 3 Inch (DN65 & DN80) Valve, rev: Reoriented air supply control valve (ball valve); Relocated pressure relief valve to upstream side of air supply check valve; Changed center-to-left dimension from 12" (305 mm) to 14-7/8" (380 mm); Changed valve end-to-end dimension from 12" (304,8 mm) to 12-1/4" (311,2 mm).
03-07	Technical Data Sheet TFP1020 describes Model DPV-1 Dry Pipe Valves.



**WHISPER QUIET  
SERIES**

## Digital Air Maintenance Device (AMD) GEN-3 with Leak Detection™

(See reverse)

PRODUCT NUMBERING SYSTEM

# S281R-LD1-115PD

**MOUNTING OPTIONS**

**R:** Riser Mount

**PHASE**

**1:** Single Phase

**VOLTAGE**

**115**

**ADDITIONAL OPTIONS**

**P:** Prewired Power Cord  
**D:** Digital AMD Gen-3



- ✓ Digital AMD GEN-3 with Leak Detection™
- ✓ Appropriate for single-valve systems
- ✓ Whisper quiet
- ✓ Compact design
- ✓ 12-month warranty
- ✓ Oil-free and low maintenance

- ✓ Low vibration
- ✓ 5-minute installation
- ✓ Versatile mounting to riser, wall, or floor
- ✓ 2D & 3D CAD files available
- ✓ ETL Listed: Conforms to UL 1450 & CSA C22.2 NO. 68-92

SYSTEM SIZE	PSI	GAL.	TECHNICAL SPECIFICATIONS			INCLUDED
Pre-Action	10	1,386	HP	1		Mounting bracket w/hose clamps and mounting hardware 1/2" x 30" flexible hose Power cord for installation and testing purposes. Refer to the authority having jurisdiction regarding hard wiring requirements.
Low Pressure	18	715	PRESSURE SWITCH	Digital AMD GEN-3 Adjustable 5-55 PSI Factory Set at 10-20 PSI Minimum Differential: 5 PSI		
Standard Pressure	40	280	CFM	3.8 @ 10 PSI		
			PUMP	2 Cylinder, Oil Free		<b>ACCESSORIES AVAILABLE</b> <b>Floor Mounting Kit</b> Part: INSTALL-S28 1/2" x 30" stainless steel flexible hose Part: DT 3005 H-1PK Pack of 5: PART DT 3005 H-5PK 1/2" x 36" flexible hose Part: DT 3605 H Pack of 5: PART DT 3605 H-5PK 1/2" x 48" flexible hose Part: DT 4805 H Pack of 5: PART DT 4805 H-5PK 1/2" x 72" flexible hose Part: DT 7205 H Pack of 5: PART DT 7205 H-5PK <b>Riser Mount Hose Clamps</b> (for 5" to 7" risers) Part: HS HC6-8-K <b>Riser Mount Hose Clamps</b> (for 7" to 9" risers) Part: HS HC8-10-K
			CYLINDERS	Ceramic Composite		
			NOISE LEVEL	56 dB		
			OUTLET	1/2" NPT		
			DIMENSIONS (LxDxH)	14" x 13" x 14"		
			WEIGHT	41 lbs.		
			PHASE/ VOLTS	RUNNING AMPS	BREAKER SIZE	
			1/115	8.5	15	

**IDEAL FOR QUIET SETTINGS**





## Digital Air Maintenance Device (AMD) GEN-3 with Leak Detection™

### FEATURES

- Digitally set system pressure in seconds
- For use on single valve systems
- IP65 water resistance rated (NEW!)
- Flash memory
- Measures system air leaks (NEW!)
- Tamper proof lock-out setting
- Ceramic digital pressure sensor (NEW!)
- 304 stainless steel housing (NEW!)

### Digital Air Maintenance Device (AMD) GEN-3 with Leak Detection™

Leak Detection™ quantifies the amount of air leaking from the system by tracking the total number of starts during two trailing periods. On site users can quickly access the total number of starts during the past 24 hours and 7 days to determine leak severity and identify trends. Additionally, if repairs to leaks have been made, Leak Detection™ can be used to measure what percent of total leaks have been sealed.

Data can be entered on our website for a detailed assessment of leaks, as well as determine if the leaks are within compliance of NFPA standards.

Listings:  
Air Maintenance Device  
USA: UL 508  
Canada: C22.2 No. 14  
Patent Pending