

Ultrahigh-Purity Fluoropolymer Diaphragm Valves



DRP Series

- Pneumatic and quarter-turn manual 2-way and 3-way models; pneumatic and manual models with adjustable flow and bypass features
- Modified PTFE wetted parts and polypropylene actuator
- Meet SEMI Standard F57-0301 for ultrahigh-purity system components
- Fine thread flare and Nippon Pillar® Super 300 end connections standard; Flowell, space saver, and other end connections available
- Custom manifolds and subassemblies available

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Ultrahigh-Purity Fluoropolymer Diaphragm Valves

The Swagelok® DRP series valve is manufactured to meet SEMI standard F57-0301 specifications for UHP chemical distribution systems and equipment and offers solutions for:

- Aggressive chemical mechanical planarization (CMP) slurry systems
- DI water systems
- Bulk chemical delivery systems
- Aggressive acids, bases, and other chemicals.

Features

Improved Patented Fluid Flow Path

- Hemispherical valve cavity and unique diaphragm shape minimize entrapment areas.
- All wetted surfaces clean rapidly and purge free of process fluids or contaminants.
- Flow path minimizes fluid shear for reduced slurry agglomeration.

Extended Diaphragm Life

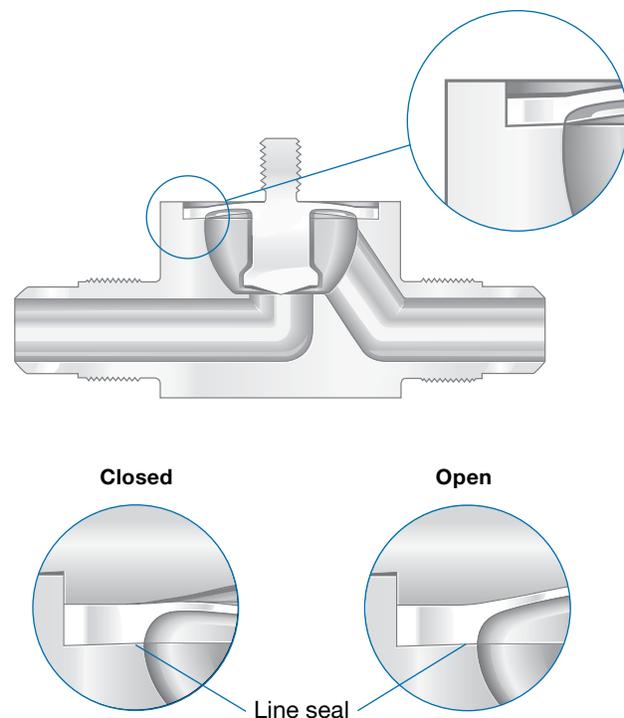
- Modified PTFE diaphragm promotes durability, seal integrity, and long cycle life.
- Patented modified PTFE diaphragm shape is optimized to minimize stress during cycling.

Enhanced Design

- Patented diaphragm rim seals off valve cavity.
- Uniformly distributed shutoff force minimizes valve seat strain.
- Web thickness of the diaphragm has been maximized to reduce the potential for acid permeation.
- Design minimizes opportunity for process fluid contamination.
- No exposed metals.
- Soft-acting spring closure helps prevent hydraulic shock, particle generation, and damage to the seat seal, as well as compensating for material creep.
- Open and closed valve status is indicated by handle position or position indicator.
- Ease of diaphragm replacement facilitates maintenance.

Reduced Entrapment

The geometry at the point of the seal between the diaphragm and the valve body creates a line seal and minimizes entrapment areas.



Line seal maintained during cycling of valve. No entrapment areas created.

Diaphragm Containment

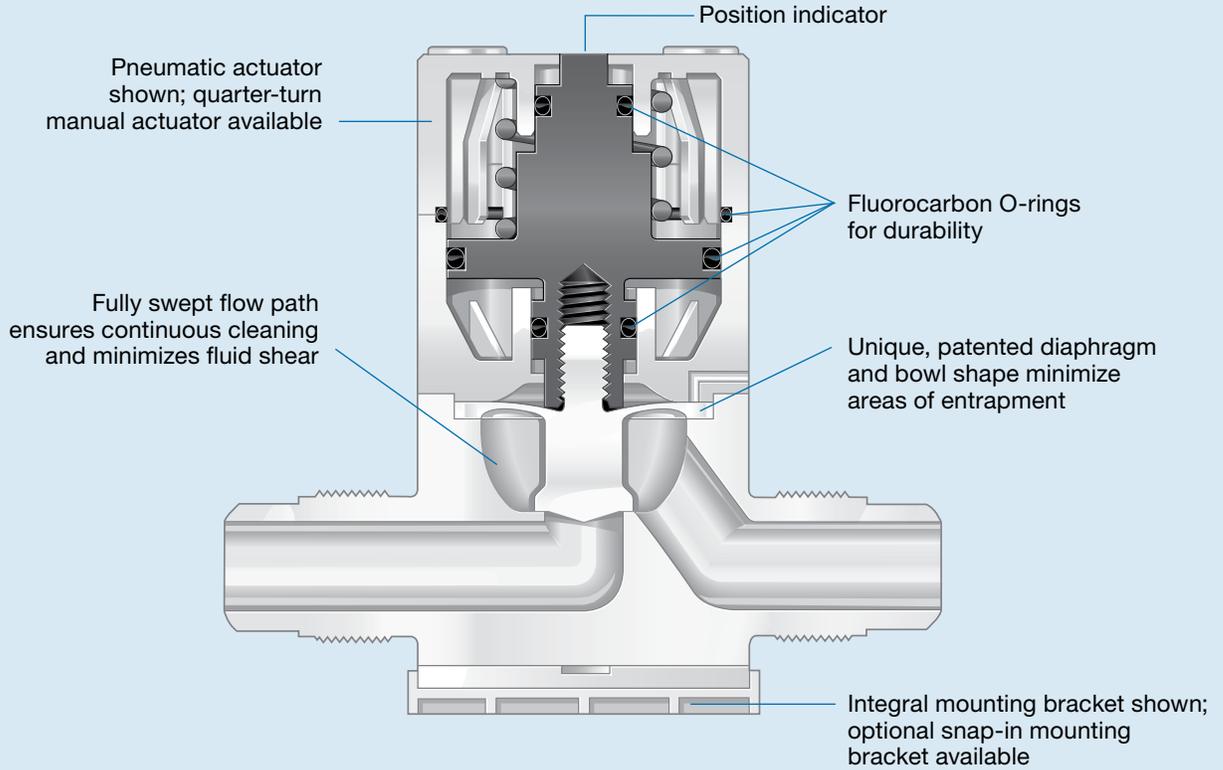
The outer diameter of the diaphragm is contained by a counterbore in the valve body. This design compensates for creep and sustains seal integrity during cycling.

Patented Bowl Geometry

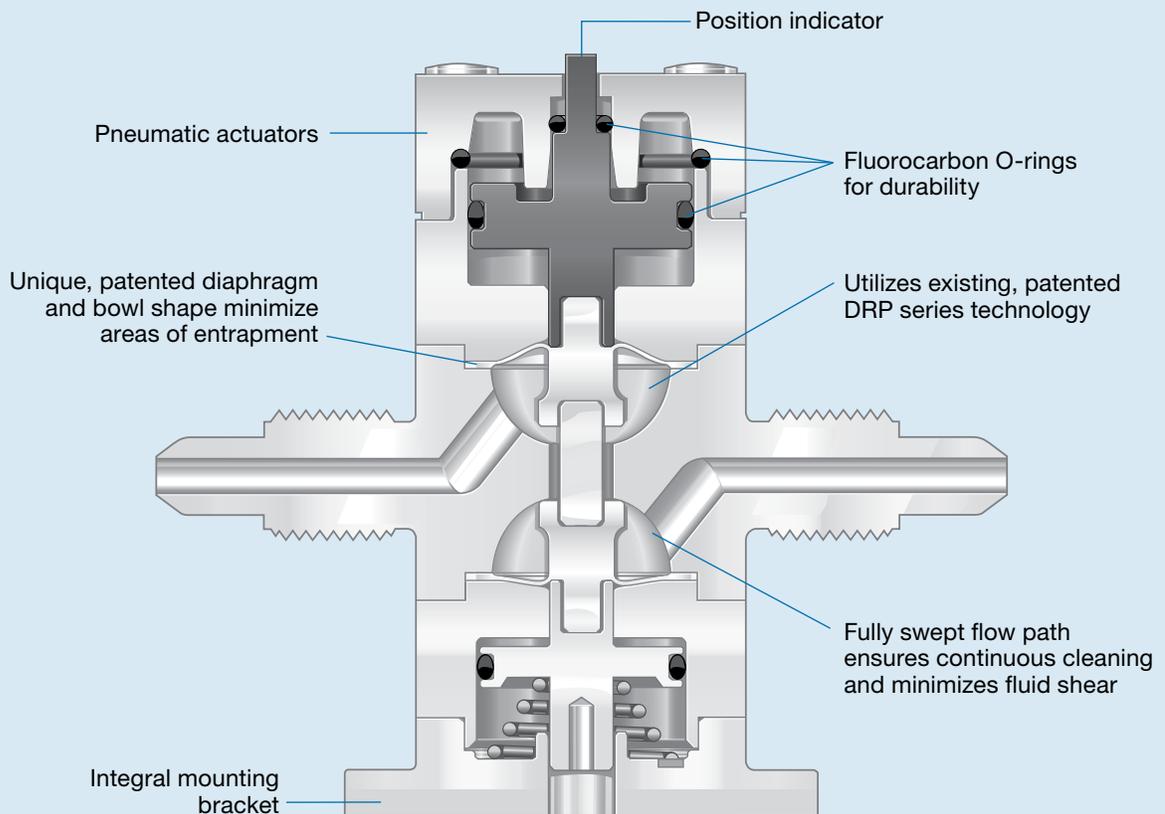
The rounded, open bowl enhances flow and cleaning.

Features

2-Way Valve



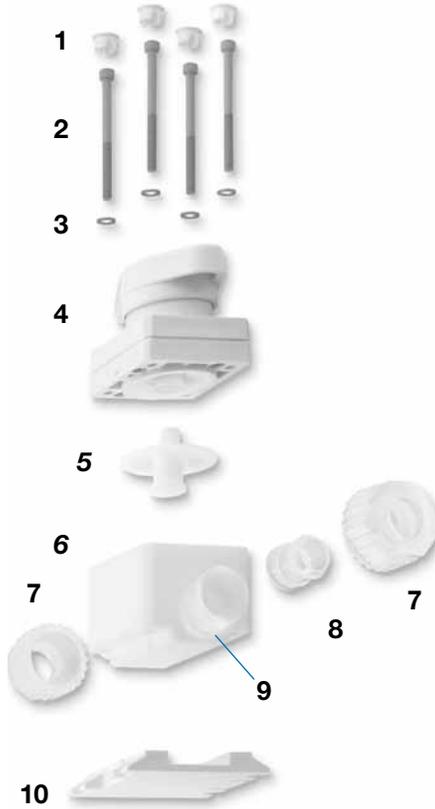
3-Way Valve



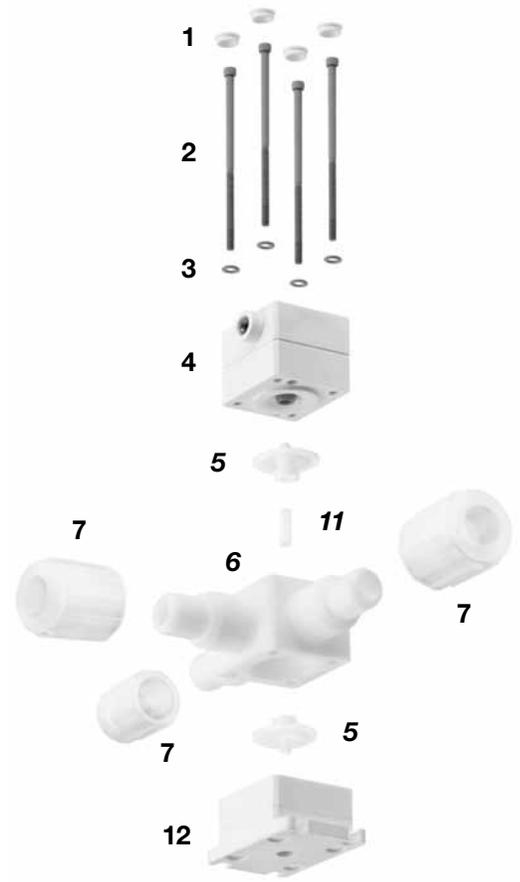
Materials of Construction



Pneumatic 2-Way Model
Shown with
Fine Thread Flare
End Connections



Manual 2-Way Model
Shown with
Nippon Pillar
Super 300 End Connections



Pneumatic 3-Way Model
Shown with
Fine Thread Flare
End Connections

Component	End Connections	
	Fine Thread Flare	Nippon Pillar Super 300
	Material	
1 Hole plugs	Polypropylene	
2 Cap screws	PTFE-coated stainless steel	
3 Washers		
4 Actuator housing	20 % glass-filled polypropylene	
5 <i>Diaphragm</i>	<i>Modified PTFE</i>	
6 <i>Body</i>		
7 Nuts	PVDF	PFA
8 <i>Sleeve</i>	—	<i>PFA</i>
9 Gauge ring		ETFE
10 Mounting bracket	20 % glass-filled polypropylene	
11 <i>Connection rod</i>	<i>Modified PTFE</i>	
12 Actuator housing	Polypropylene	

Wetted components listed in *italics*.

Pressure-Temperature Ratings

Based on an ambient room temperature of $77 \pm 9^\circ\text{F}$ ($25 \pm 5^\circ\text{C}$).

Valve Body Size	End Connection Size	Media Temperature °F (°C)	2-Way Valves	3-Way Valves
			Pressure Rating ^① (forward and reverse) psig (bar)	
Small	6, 8, 10, and 12 mm; 1/4, 3/8, and 1/2 in.	73 to 149 (23 to 65)	80 (5.5)	80 (5.5)
		212 (100)	40 (2.7)	40 (2.7)
Medium	12, 19, and 25 mm; 1/2, 3/4, and 1 in.	73 to 149 (23 to 65)	100 (6.8)	80 (5.5)
		212 (100)	40 (2.7)	40 (2.7)
Large	19 and 25 mm; 3/4 and 1 in.	73 to 149 (23 to 65)	80 (5.5)	—
		212 (100)	40 (2.7)	—
	1 1/4 in.	73 (23)	80 (5.5)	—

① Minimum actuator pressure required at rated system pressures—60 psig (4.2 bar); maximum actuator pressure—100 psig (6.8 bar).

Flow Data

Flow Coefficients

For more information about flow coefficients, see the Swagelok *Valve Sizing* technical bulletin, MS-06-84.

Fine Thread Flare End Connections

Valve Body Size	Fine Thread Flare End Connection Size	2-Way Valves	3-Way Valves
		Flow Coefficient (C_v)	
Small	1/4 in.	0.4	0.32
	3/8 in.	0.8	0.48
	1/2 in.	0.8	0.65
Medium	1/2 in.	2.6	2.61
	3/4 in.	4.1	2.55
	1 in.	3.6	2.51
Large	3/4 in.	6.9	—
	1 and 1 1/4 in.	10.2	—

Nippon Pillar Super 300 End Connections

Valve Body Size	Nippon Pillar Super 300 End Connection Size	2-Way Valves	3-Way Valves
		Flow Coefficient (C_v)	
Small	1/4 in. / 6 mm	0.5	0.41
	8 mm	0.8	—
	3/8 in. / 10 mm	0.7	0.48
	1/2 in. / 12 mm	0.9	—
Medium	1/2 in. / 12 mm	2.9	—
	3/4 in. / 19 mm	4.5	—
	1 in. / 25 mm	3.6	—
Large	3/4 in. / 19 mm	7.2	—
	1 in. / 25 mm	10.0	—

Traceability and Material Certification

- Diaphragm and valve body are permanently laser marked for traceability.
- All wetted components are FDA compliant in accordance with 21CFR Part 177.
- The Swagelok DRP series valve meets the requirements of SEMI Standard F57-0301. See the *Swagelok DRP Series Ultrahigh-Purity Fluoropolymer Diaphragm Valve Technical Report Abstracts*, MS-06-102, and the *Swagelok DRP Series Ultrahigh-Purity Fluoropolymer 3-Way Diaphragm Valve Technical Report Abstracts*, MS-06-107.

Testing

Every Swagelok DRP series valve is factory leak tested at the seat and shell.

Cleaning and Packaging

Every Swagelok DRP series valve is cleaned and packaged in accordance with SEMI Standard F57-0301 for ultrahigh-purity fluid system components.

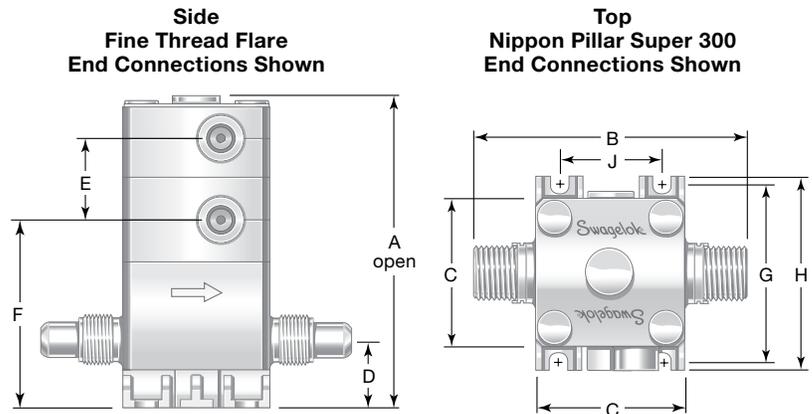
Ordering Information and Dimensions

Dimensions are for reference only and are subject to change.

Pneumatic 2-Way Valves

To order, add an actuation mode designator to a basic ordering number.

Actuator Thread	Actuation Mode	Designator
10-32 (small valve body); 1/8 in. NPT (medium and large valve body)	Normally closed	C
	Normally open	O
M5 × 0.8 (small valve body); JIS Rc-1/8 (ISO 7) (medium and large valve body)	Normally closed	EC
	Normally open	EO



Example: NXT-DRP41AFCFC-C

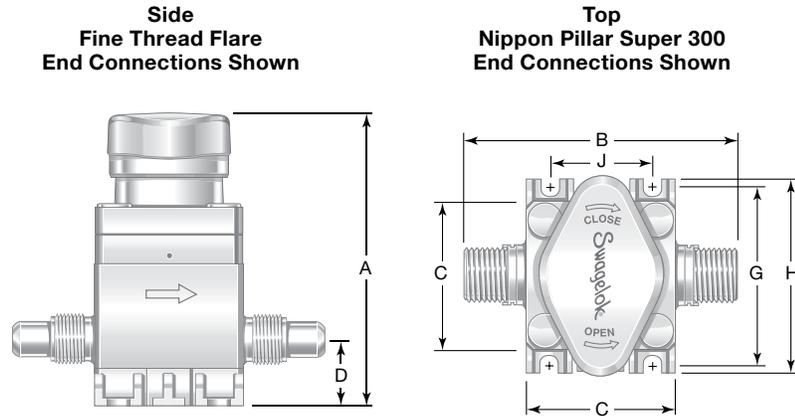
Valve Body Size	End Connection Size	Basic Ordering Number	Dimensions									Weight
			A	B	C	D	E	F	G	H	J	
Fine Thread Flare End Connections												
Dimensions, in. (mm)												lb (kg)
Small	1/4	NXT-DRP41AFCFC-	2.43 (61.7)	3.28 (83.3)	1.29 (32.8)	0.64 (16.3)	0.68 (17.3)	1.46 (37.1)	1.61 (40.9)	1.83 (46.5)	0.86 (21.8)	0.23 (0.10)
	3/8	NXT-DRP41AFDFD-		3.48 (88.4)		0.59 (15.0)		1.71 (43.4)		0.28 (0.13)		
	1/2	NXT-DRP41AFEFE-		3.78 (96.0)		0.77 (19.6)		0.28 (0.13)				
Medium	1/2	NXT-DRP81AFEFE-	4.56 (116)	4.80 (122)	2.30 (58.4)	0.84 (21.3)	1.25 (31.8)	2.67 (67.8)	2.76 (70.1)	3.05 (77.5)	1.57 (39.9)	1.2 (0.54)
	3/4	NXT-DRP81AFGFG-		5.06 (129)		1.14 (29.0)		3.17 (80.5)		1.5 (0.68)		
	1	NXT-DRP81AFJFJ-		5.70 (145)		1.14 (29.0)		3.17 (80.5)		1.5 (0.68)		
Large	3/4	NXT-DRP161AFGFG-	6.42 (163)	6.26 (159)	3.52 (89.4)	1.08 (27.4)	2.21 (56.1)	3.40 (86.4)	3.86 (98.0)	4.52 (115)	2.55 (64.8)	3.5 (1.6)
	1	NXT-DRP161AFJFJ-		6.90 (175)		1.08 (27.4)		3.40 (86.4)		2.55 (64.8)		
	1 1/4	NXT-DRP161AFKFK-		6.50 (165)		1.21 (30.7)		3.53 (89.7)		2.55 (64.8)		
Nippon Pillar Super 300 End Connections												
Dimensions, in. (mm)												lb (kg)
Small	1/4	NXT-DRP41ANCNC-	2.43 (61.7)	2.40 (61.0)	1.29 (32.8)	0.64 (16.3)	0.68 (17.3)	1.46 (37.1)	1.61 (40.9)	1.83 (46.5)	0.86 (21.8)	0.23 (0.10)
	3/8	NXT-DRP41ANDND-		2.71 (68.8)		0.83 (21.1)		1.71 (43.4)		0.28 (0.13)		
	1/2	NXT-DRP41ANENE-		3.29 (83.6)		0.77 (19.6)		0.28 (0.13)				
Medium	1/2	NXT-DRP81ANENE-	4.56 (116)	3.93 (99.8)	2.30 (58.4)	0.84 (21.3)	1.25 (31.8)	2.67 (67.8)	2.76 (70.1)	3.05 (77.5)	1.57 (39.9)	1.2 (0.54)
	3/4	NXT-DRP81ANGNG-		4.28 (109)		1.21 (30.7)		3.17 (80.5)		1.5 (0.68)		
	1	NXT-DRP81ANJNJ-		4.68 (119)		1.21 (30.7)		3.17 (80.5)		1.5 (0.68)		
Large	3/4	NXT-DRP161ANGNG-	6.42 (163)	5.48 (139)	3.52 (89.4)	1.08 (27.4)	2.21 (56.1)	3.40 (86.4)	3.86 (98.0)	4.52 (115)	2.55 (64.8)	3.5 (1.6)
	1	NXT-DRP161ANJNJ-		5.88 (149)		1.08 (27.4)		3.40 (86.4)		2.55 (64.8)		
Dimensions, mm (in.)												kg (lb)
Small	6	NXT-DRP41ANBNB-	61.7 (2.43)	61.0 (2.40)	32.8 (1.29)	16.3 (0.64)	17.3 (0.68)	37.1 (1.46)	40.9 (1.61)	46.5 (1.83)	21.8 (0.86)	0.10 (0.23)
	8	NXT-DRP41ANFNF-		63.8 (2.51)		15.0 (0.59)		43.4 (1.71)		0.13 (0.28)		
	10	NXT-DRP41ANHNNH-		68.1 (2.68)		68.8 (2.71)		21.1 (0.83)		0.13 (0.28)		
	12	NXT-DRP41ANINI-		83.6 (3.29)		19.6 (0.77)		0.13 (0.28)				
Medium	12	NXT-DRP81ANINI-	116 (4.56)	99.8 (3.93)	58.4 (2.30)	21.3 (0.84)	31.8 (1.25)	67.8 (2.67)	70.1 (2.76)	77.5 (3.05)	39.9 (1.57)	0.54 (1.2)
	19	NXT-DRP81ANONO-		109 (4.28)		30.7 (1.21)		80.5 (3.17)		0.68 (1.5)		
	25	NXT-DRP81ANQNQ-		129 (5.06)		119 (4.68)		30.7 (1.21)		80.5 (3.17)	0.68 (1.5)	
Large	19	NXT-DRP161ANONO-	163 (6.42)	139 (5.48)	89.4 (3.52)	27.4 (1.08)	56.1 (2.21)	86.4 (3.40)	98.0 (3.86)	115 (4.52)	64.8 (2.55)	1.6 (3.5)
	25	NXT-DRP161ANQNQ-		149 (5.88)		27.4 (1.08)		86.4 (3.40)		64.8 (2.55)		

Ordering Information and Dimensions

Dimensions are for reference only and are subject to change.

Quarter-Turn Manual 2-Way Valves

To order a DRP series valve assembled with a manual actuator, select an ordering number.



Valve Body Size	End Connection Size	Ordering Number	Dimensions							Weight
			A	B	C	D	G	H	J	
Fine Thread Flare End Connections										
Dimensions, in. (mm)										lb (kg)
Small	1/4	NXT-DRP41AFCFC-WH	2.80 (71.1)	3.28 (83.3)	1.29 (32.8)	0.64 (16.3)	1.61 (40.9)	1.83 (46.5)	0.86 (21.8)	0.23 (0.10)
	3/8	NXT-DRP41AFDFD-WH		3.48 (88.4)		0.59 (15.0)				
	1/2	NXT-DRP41AFEFE-WH	3.06 (77.7)	3.78 (96.0)		0.77 (19.6)				0.28 (0.13)
Medium	1/2	NXT-DRP81AFEFE-WH	4.38 (111)	4.80 (122)	2.30 (58.4)	0.84 (21.3)	2.76 (70.1)	3.05 (77.5)	1.57 (39.9)	1.2 (0.54)
	3/4	NXT-DRP81AFGFG-WH		5.06 (129)						
	1	NXT-DRP81AFJFJ-WH	4.88 (124)	5.70 (145)		1.5 (0.68)				
Large	3/4	NXT-DRP161AFGFG-WH	7.60 (193)	6.26 (159)	3.52 (89.4)	1.08 (27.4)	3.86 (98.0)	4.52 (115)	2.55 (64.8)	3.5 (1.6)
	1	NXT-DRP161AFJFJ-WH		6.90 (175)						
	1 1/4	NXT-DRP161AFKFK-WH	7.73 (196)	6.50 (165)		1.21 (30.7)				
Nippon Pillar Super 300 End Connections										
Dimensions, in. (mm)										lb (kg)
Small	1/4	NXT-DRP41ANCNC-WH	2.80 (71.1)	2.40 (61.0)	1.29 (32.8)	0.64 (16.3)	1.61 (40.9)	1.83 (46.5)	0.86 (21.8)	0.23 (0.10)
	3/8	NXT-DRP41ANDND-WH		2.71 (68.8)		0.83 (21.1)				
	1/2	NXT-DRP41ANENE-WH	3.06 (77.7)	3.29 (83.6)		0.77 (19.6)				0.28 (0.13)
Medium	1/2	NXT-DRP81ANENE-WH	4.38 (111)	3.93 (99.8)	2.30 (58.4)	0.84 (21.3)	2.76 (70.1)	3.05 (77.5)	1.57 (39.9)	1.2 (0.54)
	3/4	NXT-DRP81ANGNG-WH		4.28 (109)						
	1	NXT-DRP81ANJNJ-WH	4.88 (124)	4.68 (119)		1.5 (0.68)				
Large	3/4	NXT-DRP161ANGNG-WH	7.60 (193)	5.48 (139)	3.52 (89.4)	1.08 (27.4)	3.86 (98.0)	4.52 (115)	2.55 (64.8)	3.5 (1.6)
	1	NXT-DRP161ANJNJ-WH		5.88 (149)						
Dimensions, mm (in.)										kg (lb)
Small	6	NXT-DRP41ANBNB-WH	71.1 (2.80)	61.0 (2.40)	32.8 (1.29)	16.3 (0.64)	40.9 (1.61)	46.5 (1.83)	21.8 (0.86)	0.10 (0.23)
	8	NXT-DRP41ANFNF-WH		63.8 (2.51)		15.0 (0.59)				
	10	NXT-DRP41ANHNH-WH	77.7 (3.06)	68.8 (2.71)		21.1 (0.83)				
	12	NXT-DRP41ANINI-WH		83.6 (3.29)		19.6 (0.77)				0.13 (0.28)
Medium	12	NXT-DRP81ANINI-WH	111 (4.38)	99.8 (3.93)	58.4 (2.30)	21.3 (0.84)	70.1 (2.76)	77.5 (3.05)	39.9 (1.57)	0.54 (1.2)
	19	NXT-DRP81ANONO-WH		109 (4.28)						
	25	NXT-DRP81ANQNQ-WH	124 (4.88)	119 (4.68)		0.68 (1.5)				
Large	19	NXT-DRP161ANONO-WH	193 (7.60)	139 (5.48)	89.4 (3.52)	27.4 (1.08)	98.0 (3.86)	115 (4.52)	64.8 (2.55)	1.6 (3.5)
	25	NXT-DRP161ANQNQ-WH		149 (5.88)						

Ordering Information and Dimensions

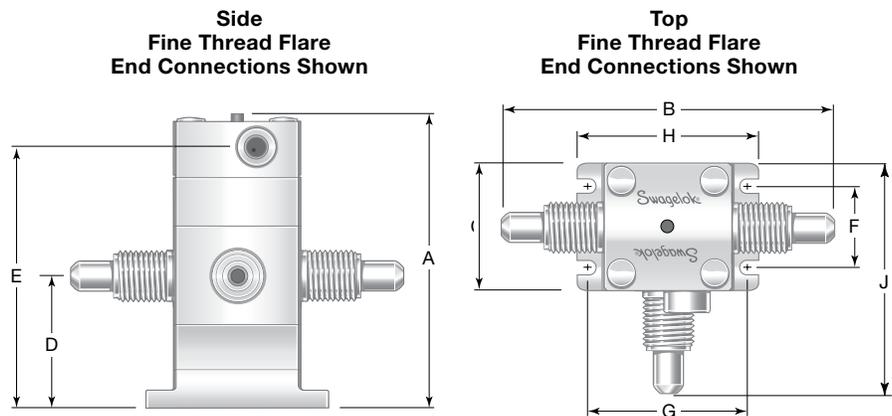
Dimensions are for reference only and are subject to change.

Pneumatic 3-Way Valves, Small Body Size

To order, add an actuator thread designator to the basic ordering number.

Actuator Thread	Designator
10-32	S
M5 × 0.8	ES

Example: NXT-DRP41YFCFCFC-S



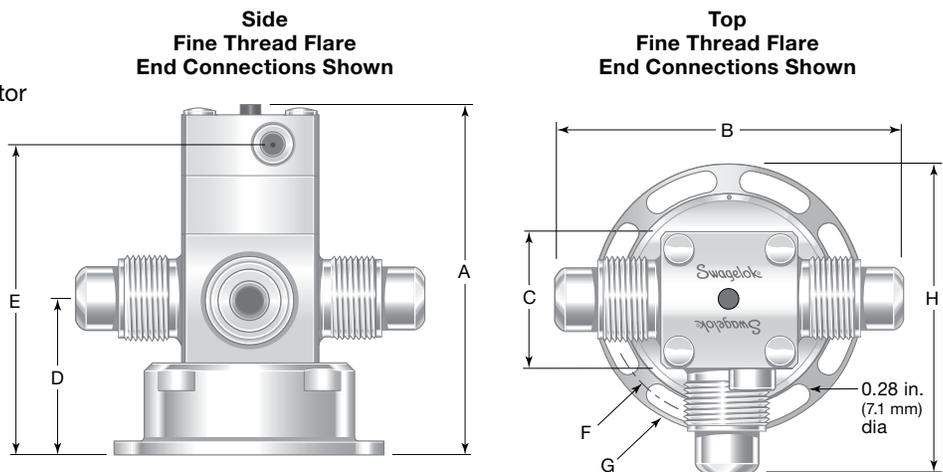
End Connection Size	Basic Ordering Number	Dimensions									Weight
		A	B	C	D	E	F	G	H	J	
Fine Thread Flare End Fittings											
Dimensions, in. (mm)											lb (kg)
1/4	NXT-DRP41YFCFCFC-	2.97 (75.4)	3.28 (83.3)	1.29 (32.8)	1.23 (31.2)	2.56 (65.0)	0.86 (21.8)	1.61 (40.9)	1.83 (46.5)	2.28 (57.9)	0.27 (0.12)
3/8	NXT-DRP41YDFDFD-		3.48 (88.4)							2.38 (60.5)	0.29 (0.13)
1/2	NXT-DRP41YFEFEFE-		3.78 (96.0)							2.63 (66.8)	0.31 (0.14)
Nippon Pillar Super 300 End Connections											
Dimensions, in. (mm)											lb (kg)
1/4	NXT-DRP41YNCNCNC-	2.97 (75.4)	2.40 (61.0)	1.29 (32.8)	1.23 (31.2)	2.56 (65.0)	0.86 (21.8)	1.61 (40.9)	1.83 (46.5)	1.84 (46.7)	0.27 (0.12)
3/8	NXT-DRP41YNDNDND-		2.72 (69.1)							2.00 (50.8)	0.29 (0.13)

Pneumatic 3-Way Valves, Medium Body Size

To order, add an actuator thread designator to the basic ordering number.

Actuator Thread	Designator
1/8 in. NPT	S
JIS Rc-1/8 (ISO7)	ES

Example: NXT-DRP81YFEFEFE-S



End Connection Size	Ordering Number	Dimensions								Weight
		A	B	C	D	E	F	G	H	
Fine Thread Flare End Connections										
Dimensions, in. (mm)										lb (kg)
1/2	NXT-DRP81YFEFEFE-	5.77 (147)	4.80 (122)	2.28 (57.9)	2.55 (64.8)	5.14 (131)	3.91 (99.3)	4.50 (114)	4.68 (119)	1.60 (0.73)
3/4	NXT-DRP81YFGFGFG-		5.06 (129)						4.81 (122)	1.78 (0.81)
1	NXT-DRP81YFJFJFJ-		5.70 (145)						5.13 (130)	1.80 (0.82)

Valves with Adjustable Flow and Bypass Features

See page 2 through 5 for additional features, materials of construction, pressure-temperature ratings, traceability, testing, and cleaning and packaging information.

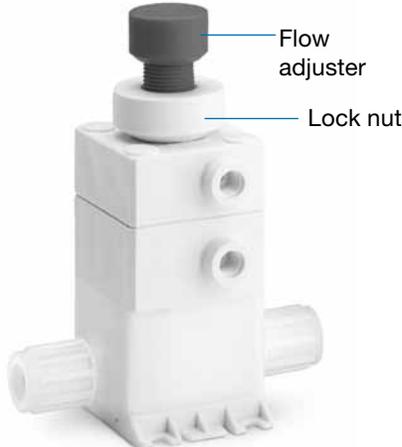
Models

Adjustable-Flow Manual Valves



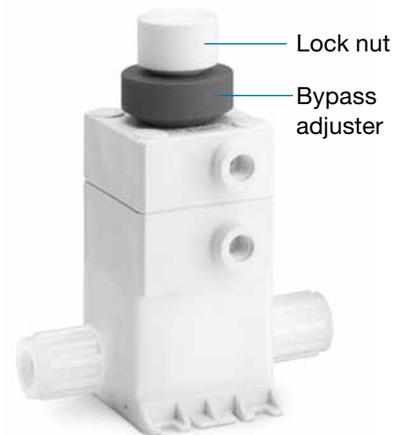
- Provide flow adjustment
- Open fully in about one turn
- Panel-mount option available for small and medium body size valves

Adjustable-Flow (Stroke-Limiter) Pneumatic Valves



- Normally closed valve
- Flow adjuster limits up stroke on actuation to provide flow control
- Open fully in about one and a half (small body), two (medium body), or four (large body) turns
- Lock nut ensures fixed and repeatable position

Adjustable-Bypass (Trickle-Flow) Pneumatic Valves

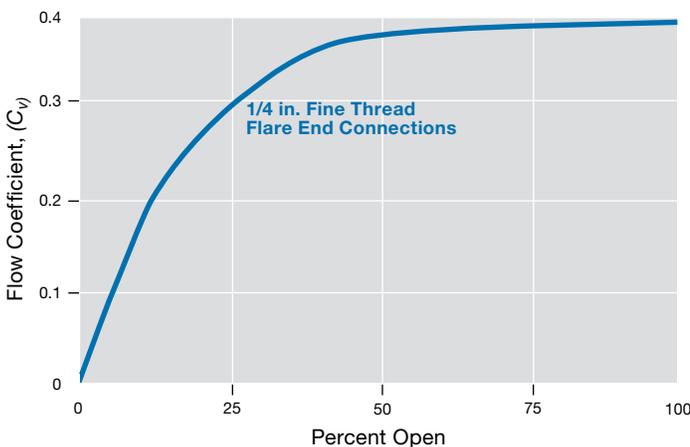


- Normally closed valve
- Bypass adjuster limits down stroke in closed position to provide flow control
- Close fully in about one and a half (small body), two (medium body), or four (large body) turns
- Can be used to switch between full open and a lower flow rate
- Lock nut ensures fixed and repeatable position

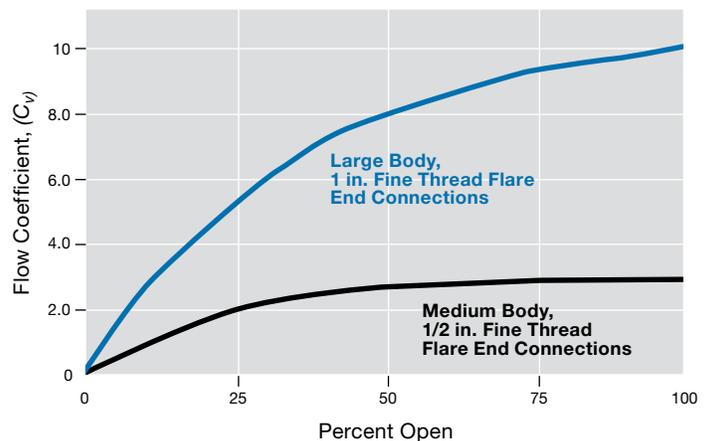
Flow Data at 70°F (20°C)

Flow Coefficient at Percent Open

Small Body Size



Medium and Large Body Sizes



Valves with Adjustable Flow and Bypass Features

Ordering Information and Dimensions

Dimensions are for reference only and are subject to change. For additional valve dimensions, see page 6 for pneumatic valves and page 7 for manual valves.

Adjustable-Flow Manual Valves

To order an adjustable-flow manual valve, add an actuator type designator to a basic ordering number.

Actuator Type	Designator
Standard	AWH
Panel mount	APM ^①

① Not available with large valve bodies.

Example: NXT-DRP41AFCFC-**AWH**

Normally Closed Pneumatic Valves

Adjustable-Flow

To order, add an *adjustable-flow designator* to a basic ordering number.

Example: NXT-DRP41AFCFC-**CL**

Adjustable-Bypass

To order, add an *adjustable-bypass designator* to a basic ordering number.

Example: NXT-DRP41AFCFC-**CB**

Pneumatic Actuator Thread	Adjustable-Flow Designator	Adjustable-Bypass Designator
10-32 (small valve body); 1/8 in. NPT (medium and large valve body)	CL	CB
M5 × 0.8 (small valve body); JIS Rc-1/8 (ISO 7) (medium and large valve body)	ECL	ECB

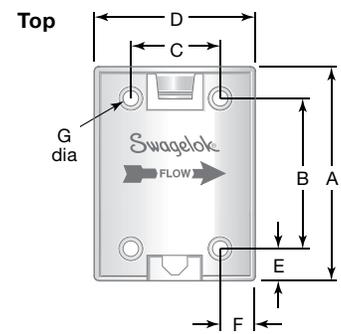
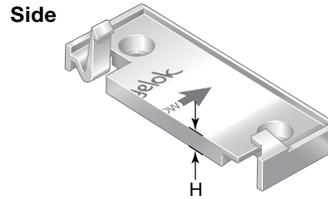
Valve Body Size	End Connection Size	Basic Ordering Number	Max C _v	Adjustable-Flow Manual Valve		Adjustable-Flow Pneumatic Valves		Adjustable-Bypass Pneumatic Valves	
				Height in. (mm)	Weight lb (kg)	Height in. (mm)	Weight lb (kg)	Height in. (mm)	Weight lb (kg)
Fine Thread Flare End Connections									
Small	1/4 in.	NXT-DRP41AFCFC-	0.4	3.38 (85.9)	0.20 (0.09)	3.27 (83.1)	0.30 (0.14)	3.39 (86.1)	0.30 (0.14)
	3/8 in.	NXT-DRP41AFDFD-	0.8						
	1/2 in.	NXT-DRP41AFEFE-							
Medium	1/2 in.	NXT-DRP81AFEFE-	2.6	5.43 (138)	1.1 (0.50)	6.50 (165)	1.3 (0.59)	6.17 (157)	1.3 (0.59)
	3/4 in.	NXT-DRP81AFGFG-	4.1						
	1 in.	NXT-DRP81AFJFJ-	3.6						
Large	3/4 in.	NXT-DRP161AFGFG-	6.9	7.74 (197)	3.4 (1.5)	8.05 (204)	3.6 (1.6)	7.99 (203)	3.5 (1.6)
	1 in.	NXT-DRP161AFJFJ-	10.2						
	1 1/4 in.	NXT-DRP161AFKFK-							
Nippon Pillar Super 300 End Connections									
Small	1/4 in.	NXT-DRP41ANCNC-	0.5	3.38 (85.9)	0.20 (0.09)	3.27 (83.1)	0.30 (0.14)	3.39 (86.1)	0.30 (0.14)
	3/8 in.	NXT-DRP41ANDND-	0.7						
	1/2 in.	NXT-DRP41ANENE-	0.9						
Medium	1/2 in.	NXT-DRP81ANENE-	2.9	5.43 (138)	1.1 (0.50)	6.50 (165)	1.3 (0.59)	6.17 (157)	1.3 (0.59)
	3/4 in.	NXT-DRP81ANGNG-	4.5						
	1 in.	NXT-DRP81ANJNJ-	3.6						
Large	3/4 in.	NXT-DRP161ANGNG-	7.2	7.74 (197)	3.4 (1.5)	8.05 (204)	3.6 (1.6)	7.99 (203)	3.5 (1.6)
	1 in.	NXT-DRP161ANJNJ-	10.0						
				mm (in.)	kg (lb)	mm (in.)	kg (lb)	mm (in.)	kg (lb)
Small	6 mm	NXT-DRP41ANBNB-	0.5	85.9 (3.38)	0.09 (0.20)	83.1 (3.27)	0.14 (0.30)	86.1 (3.39)	0.14 (0.30)
	8 mm	NXT-DRP41ANFNF-	0.8						
	10 mm	NXT-DRP41ANHNNH-	0.7						
	12 mm	NXT-DRP41ANINI-	0.9						
Medium	12 mm	NXT-DRP81ANINI-	2.9	138 (5.43)	0.50 (1.1)	165 (6.50)	0.59 (1.3)	157 (6.17)	0.59 (1.3)
	19 mm	NXT-DRP81ANONO-	4.5						
	25 mm	NXT-DRP81ANQNQ-	3.6						
Large	19 mm	NXT-DRP161ANONO-	7.2	197 (7.74)	1.5 (3.4)	204 (8.05)	1.6 (3.6)	203 (7.99)	1.6 (3.5)
	25 mm	NXT-DRP161ANQNQ-	10.0						

Options and Accessories

Dimensions are for reference only and are subject to change.

Snap-In Mounting Brackets (Two-Way and Adjustable Flow and Bypass Models)

- Facilitates installation
- Polarized to ensure proper valve orientation



Valve Body Size	Ordering Number	Dimensions								Weight
		A	B	C	D	E	F	G	H	
Dimensions, in. (mm)										
Small	PP-MP2-DRP4	2.01 (51.1)	0.77 (19.6)	0.77 (19.6)	1.46 (37.1)	0.61 (15.5)	0.34 (8.6)	0.20 (5.1)	0.25 (6.4)	0.02 (0.01)
Medium	PP-MP2-DRP8	3.25 (82.6)	2.28 (57.9)	1.34 (34.0)	2.45 (62.2)	0.49 (12.4)	0.56 (14.2)	0.22 (5.6)	0.25 (6.4)	0.04 (0.02)
Large	PP-MP2-DRP16	4.77 (121)	3.30 (83.8)	2.20 (55.9)	3.78 (96.0)	0.73 (18.5)	0.79 (20.1)	0.22 (5.6)	0.37 (9.4)	0.11 (0.05)

Integral Lockout Handles



Valve Body Size	Maximum Padlock Shank Size
Small	0.12 in. (3.0 mm) dia, 1 in. (25.4 mm) long
Medium	0.28 in. dia (7.1 mm), 2 in. (50.8 mm) long
Large	0.31 in. (7.9 mm) dia, 2.5 in. (63.5 mm) long

- Standard padlock or lockout device secures handle in open or closed position.
- Handle orientation provides visual indication of open and closed positions.
- Assists compliance with OSHA Lockout/Tagout, Standard 29 CFR Part 1910.147, *Control of Hazardous Energy*.

To order a valve with an integral handle that locks the valve in the *open* position, add **LO** to a quarter-turn manual valve ordering number.

Example: NXT-DRP41AFCFC-**LOWH**

To order a valve with an integral handle that locks the valve in the *closed* position, add **LC** to a quarter-turn manual valve ordering number.

Example: NXT-DRP41AFCFC-**LCWH**

PFA Fine Thread Flare Nuts

PFA fine thread flare nuts are available in place of standard PVDF nuts. To order, insert **P** into the valve ordering number.

Examples: NXT-DRP4**P**1AFCFC-C
NXT-DRP16**P**1AFKFK-O

Additional End Connections and Configurations

For Flowell, ISO, NPT, space saver or other end connections; custom manifolds; or configurations not shown, contact your authorized Swagelok representative.

Diaphragm Kits (Two-Way and Adjustable Flow and Bypass Models)

The design of the DRP series allows fast and easy maintenance with the valve inline.

Kit contains:

- hole plugs
- diaphragm
- cap screws
- washers
- instructions.

Valve Body Size	End Connections		Diaphragm Kit Basic Ordering Number
	Size	Style	
Small	1/4 and 3/8 in.	Flare	NXT-3DK-DRP4-
	1/4 in. 6 and 8 mm	Super 300	
	1/2 in.	Flare	
Medium	3/8 and 1/2 in. 10 and 12 mm	Super 300	NXT-3DK-DRP4-6
	1/2 and 3/4 in.	Flare	
Large	1/2 and 3/4 in. 12 and 19 mm	Super 300	NXT-3DK-DRP8-
	3/4 and 1 in.	Flare	
Large	3/4 and 1 in. 19 and 25 mm	Super 300	NXT-3DK-DRP16-
	1 1/4 in.	Flare	

To order, add **A** for pneumatic actuation or **H** for manual actuation to the basic kit ordering number.

Examples: NXT-3DK-DRP4-**A**
NXT-3DK-DRP4-6**H**

Ultra-high-Purity Fluoropolymer Products

The Swagelok family of UHP fluoropolymer products includes O-ring-free check valves, fine thread flare and weld fittings, and tubing. Also available is the Swagelok Model FTF 1000 plastic tube flaring system for precision flaring of 1/4 to 1 in. plastic tubing.

See these Swagelok catalogs for more information:

- *Ultra-high-Purity Fluoropolymer O-Ring-Free Poppet Check Valves—CHP Series, MS-02-320*
- *High-Purity PFA Fine Thread Flare Fittings, MS-02-195*
- *Ultra-high-Purity Fluoropolymer Tubing, MS-02-196*
- *Plastic Tube Flaring System—Model FTF 1000, MS-02-319*



Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.

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