

VFF1/ VFF2 VFF3/ VFF6

Two/Three-way Butterfly valve (Canada)
버터플라이 2방향/3방향 밸브



개요

버터플라이 2방향 밸브 VFF1/VFF2와 3방향 밸브인 VFF3/VFF6은 HVAC 시스템에 적용되는 플랜지 타입의 밸브입니다. On-Off 제어와 비례제어 방식으로 생산되며, 견고한 내구성을 자랑합니다. 밸브사이즈는 2인치부터 20인치까지 생산되며, 175psi 차압까지 사용 가능합니다. 또한, 이 버터플라이밸브는 고객의 요청에 따라 공장에서 전기식 조작기 또는 공기식 조작기와 일체형으로 생산되어 배송되며, 다양한 컨트롤 입력을 선택하실 수 있습니다. VFF2모델의 경우 원하실 경우 조작기 없이 수동레버 또는 기어를 장착하여 Shut-off 기능으로도 사용가능합니다.

- VFF1 : 2-way butterfly valve, Normal-Open
- VFF2 : 2-way butterfly valve, Normal-Closed
- VFF3 : 3-way butterfly valve, A-B-AB porting
- VFF6 : 3-way butterfly valve, A-AB-B porting

특징

All Models

- Sizes from 2 to 20 inches with ANSI Class 125/150 lug pipe connections.
- Bi-directional flow.
- Modified equal percentages flow characteristic.
- Extended neck for 2 inches of pipe insulation.
- Nylon 11-coated, cast iron disks for corrosion resistance, reduced friction and use of lower-torque actuators with larger valves body sizes.
- Cast iron valve body polyester-coated for weather, chemical, ultra-violet, abrasion, and impact protection.
- Stainless steel valve stem with close-tolerance internal double-D disk connection with no points for corrosion access.
- Peroxide-cured EPDM resilient valve seat doubles as flange gasket.
- Bubble-tight seat leakage at rated close-off.
- Close-off rating of 175 psid in sizes 2 in. to 12 in. with full-cut disks.
- Close-off rating of 150 psid in sizes 14 in. to 20 in. with full-cut disks.
- 250 psi end-of-line close-off pressure rating with nonautomated valves.
- 50 psid close-off rating, lower operating torque with undercut disks.
- ISO 5211 actuator mounting flange.
- Available with four, factory-installed electric actuation interfaces in 24V and 120V power: 2-position spring return, Floating ("tri-state"), Modulating (2-10 Vdc), Modulating/Floating Spring Return.
- Actuators available in NEMA 2 (general purpose), NEMA 4X (watertight/corrosion-resistant), and NEMA 4(watertight) enclosures.
- Anti-condensate heaters standard with NEMA 4X and NEMA 4 actuators.
- Dec clutchable override handwheel standard with NEMA 4X actuators.
- Non-declutchable, override handwheel standard with NEMA 4 actuators.
- Available with six, factory-installed pneumatic actuation interfaces in low or high air pressure: 2-position spring return, 2-position bidirectional, proportional spring return, proportional bidirectional, positioner spring return, and positioner bidirectional.
- Available with three, factory-installed high pressure electro-pneumatic interfaces in spring return and bidirectional configurations: 24 Vac solenoid, 120 Vac solenoid, and modulating input.

Two-Way Valves (VFF1/VFF2)

- Normally-open configuration (VFF1 spring return).
- Normally-closed configuration (VFF2 spring return).
- Non-automated valves available with choice of manual lever or gear operators.

Three-Way Valve Assemblies (VFF3/VFF6)

- Mixing or diverting control.
- Standard right-angle cast-iron pipe T.
- Globe valve A-B-AB flow pattern (side B port) through VFF3.
- Ball valve A-AB-B flow pattern (end B port) through VFF3.
- A-port configured to closed position at factory.
- Porting pattern field-configurable with valve linkage adjustment.

특성 및 규격

Mounting | Bolt holes conform to ANSI B16.1, Class 125/150.

Body Style |

- Two-way lugged butterfly valve, straight-through flow, full or undercut disk.
- Three-way ball valve, A-B-AB or A-AB-B flow pattern, full or undercut disks.
- ANSI 125/150 flanged connections.

Body Size | 2 to 20 inch.

Body Size | 2 in. to 20 in.

Flow Characteristics | Modified equal percentage up to 60° stem rotation.

Body Static Pressure Rating (maximum) |

- Automated valves : 175 psid (1206 kPa) at 250 F (121 C).
- Manual valves, 2 in. to 20 in.: 250 psid (1725 kPa) at 250 F (121 C).

Close-Off Pressure Rating (maximum differential pressure) |

- Automated Valves
2 in. to 12 in. : 175 psid (1206 kPa) at 250 F (121 C). End-of-line service without downstream flange: 75 psid (517 kPa).
14 in. to 20 in. : 150 psid (1034 kPa) at 250 F (121 C). End-of-line service without downstream flange: 50 psid (345 kPa).
High pressure, bi-directional pneumatic: 175 psid (1206 kPa) at 250 F (121 C).
- 4 in. to 20 in., undercut disk : 50 psid (345 kPa) at 250F (121 C).
NOTE: undercut models are not suitable for dead end service without mating downstream flange.
- Manual Valves (over size disc)
2 in. to 20 in.: 250 psid (1725 kPa) at 250 F (121 C) without downstream flange.

Controlled Media | Water or Glycol solutions up to 50% concentration. Not suitable for combustible gases.

Temperature range | -40 F to 250 F (-40 C to 121C).

Velocity limits for on-off service |

- Fluids: 30 fps (9 m/s),
- Gases: 175 fps (54 m/s)

Materials |

- Body: Cast iron, polyester-coated ASTM A126 Class B.
- Disk: Ductile iron, Nylon™ 111 coated, ASTM A536 Grade 65-45-12.
- Stem: 416 Stainless steel, ASTM 582 Type 416.
- Seat: EPDM, food-grade.
- Stem Seals: heavy duty acetal bushing, double-U cup seal, and thrust washer.

Approvals/Standards |

- Close-off: Bubble-tight close-off.
- Honeywell NEMA 2 Direct-Coupled Actuators: UL C/US: UL873 Plenum Rating, File N,E4436; Guide No. XAPX; CE: C-TICK.
- Industrial-grade NEMA 4X Electric/Electronic Actuators: UL Listed, CSA Certified, CE.
- Industrial-grade electro-pneumatic solenoids and transducers: UL Listed, CSA Certified, CE.
- CRN: special order. Contact Honeywell product management.
- RoHS/WEEE Compliance: not applicable

Actuator Ambient Temperature Ratings |

- Low pressure pneumatic actuators: -20 F to 150 F (-29 C to 66 C)
- High pressure pneumatic actuators: -40 F to 200 F (-40 C to 95 C).

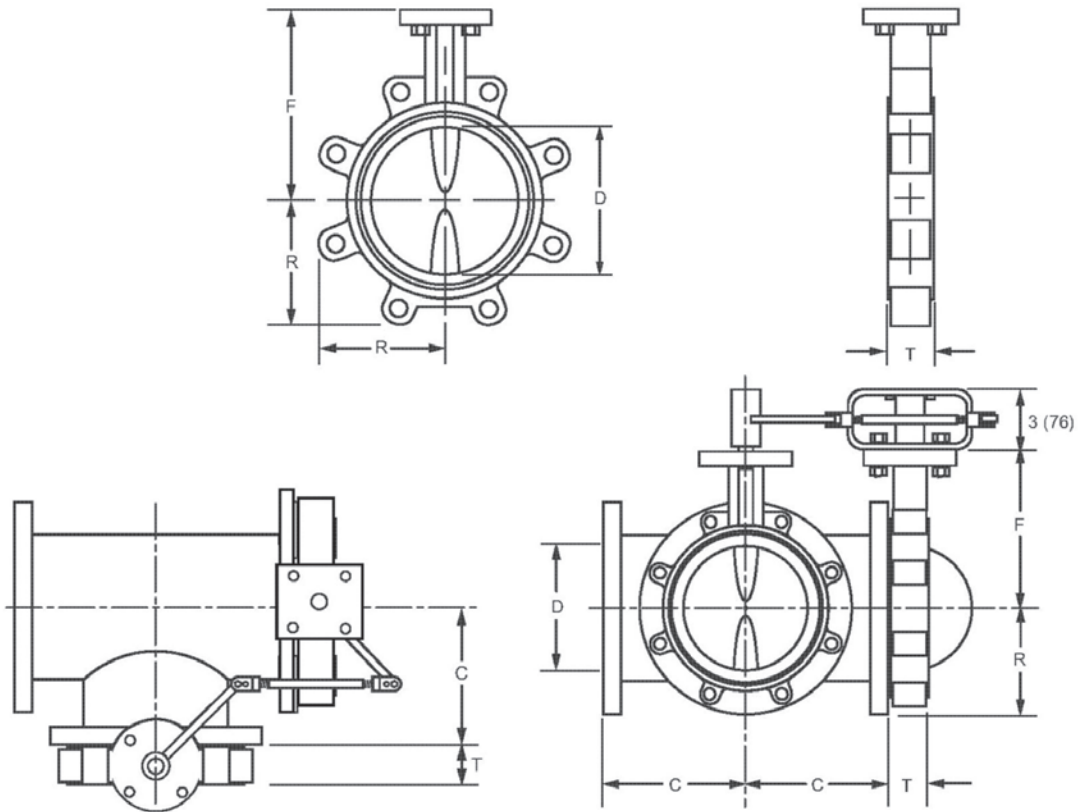
VFF resilient seat butterfly valves model selection

Butterfly Valves	Fitting	Body Pattern	Size	Disk Size (close-off)	Pressure Rating	Valve Trim	Actuator Secondary Spec.	Actuator Primary	Description	Actuator Type
VF	Butterfly Valve, resilient seat									
	F	Flanged fitting								
		1	2-way (spring return normally open)							
		2	2-way (non-spring return: Spring return normally closed or field-convertible)							
		3	3-way A-B-AB (mixing/diverting)							
		6	3-way A-AB-B (diverting/mixing)							
		F	2 inch (DN50)							
		G	2-1/2 inch (DN65)							
		H	3 inch (DN80)							
		J	4 inch (DN100)							
		K	5 inch (DN125)							
		L	6 inch (DN150)							
		M	8 inch (DN200)							
		N	10 inch (DN250)							
		P	12 inch (DN300)							
		R	14 inch (DN350)							
		S	16 inch (DN400)							
		T	18 inch (DN450)							
		U	20 inch (DN500)							
		V	Undercut disk (lower actuator torque; 50 psid close-off)							
		W	Full diameter disk (high close-off)							
			1	Maximum 175 psi close-off pressure						
			2	Maximum 250 psi close-off pressure (manual valves only)						
			Y	Nylon-coated disk, EPDM seat						
			2	NEMA 2 actuator housing (Honeywell DCA)					Electric	
			4	NEMA 4 actuator housing with manual operator and heater						
			X	NEMA 4X actuator housing with manual operator and heater						
			8	Spring Range 8-13 psi for 20 psi pneumatic actuator					Pneumatic	
			C	24 Vac solenoid for 80 psi pneumatic actuator						
			D	Electro-pneumatic positioner for 80 psi actuator						
			E	120 Vac solenoid for 80 psi pneumatic actuator						
			P	Pneumatic positioner for modulating applications						
			X	Standard, two-position control only						
			L	Lever operator for dead end service					Manual	
			G	Geared operator for dead end service						
			A	Floating actuator					Electric	
			B	Modulating actuator						
			C	Two-position 24 Vac spring return actuator						
			D	Modulating spring return actuator						
			E	Two-position 120 Vac spring return actuator						
			P	Pneumatic actuator, spring return 20 psi					Pneumatic	
			R	Pneumatic actuator, double-acting 80 psi						
			S	Pneumatic actuator, spring return 80 psi						
			X	Valve body only, for dead end service					Manual	

VF F 2 J V 1 Y 2 D Example: 2-way, 4 inch flanged resilient-seat butterfly valve, undercut disk (50 psid close-off) modulating/floating control, spring return normally closed.

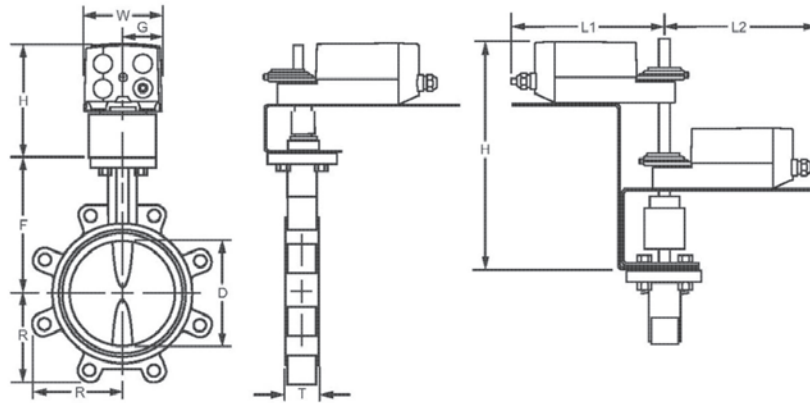
Note: This table is intended to explain the significance of the VFF butterfly valve part numbering system, and is not a product configuration tool. Only part numbers printed in Honeywell price books may be ordered.

VFF1, VFF2, VFF3 & VFF6 butterfly valve body dimensions



FLANGED RESILIENT SEAT BUTTERFLY VALVE BODY DIMENSIONS, INCHES [mm].										
PIPE SIZE IN. [mm]	MODEL NO. 2-WAY/3-WAY	D I.D.	R RADIUS	F NECK	T THICKNESS	C (3-WAY) FACE-C/L	FLANGE BOLTS			
							NO.	C/L DIA.	THREAD	
2 [DN50]	1, 2... 3, 6... F...	2 [51]	2-1/4 [58]	5-1/2 [140]	1-5/8 [41]	4-1/2 [114]	4	4-3/4 [121]	5/8-11	
2-1/2 [DN65]	1, 2... 3, 6... G...	2-1/2 [64]	2-9/16 [65]	6 [152]	1-3/4	5 [127]		5-1/2 [140]		
3 [DN80]	1, 2... 3, 6... H...	3 [76]	2-3/4 [71]	6-1/4 [159]		5-1/2 [140]		6 [152]		
4 [DN100]	1, 2... 3, 6... J...	4 [102]	4-3/32 [104]	7 [178]	2 [51]	6-1/2 [165]		7-1/2 [191]		
5 [DN125]	1, 2... 3, 6... K...	5 [127]	4-39/64 [117]	7-1/2 [191]	2-1/8 [54]	7-1/2 [191]	8	8-1/2 [216]	3/4-10	
6 [DN150]	1, 2... 3, 6... L...	5-3/4 [146]	5 [129]	8 [203]		5-3/4 [147]		9-1/2 [241]		
8 [DN200]	1, 2... 3, 6... M...	7-3/4 [198]	6 [154]	9-1/2 [241]	2-1/2 [64]	7-3/4 [198]	11	11-3/4 [298]		
10 [DN250]	1, 2... 3, 6... N...	9-3/4 [248]	7-3/4 [195]	10-3/4 [273]		11 [279]		14-1/4 [362]		12
12 [DN300]	1, 2... 3, 6... P...	11-3/4 [298]	9 [229]	12-1/4 [311]	3 [76]	12 [305]	16	18-3/4 [476]	7/8-9	
14 [DN350]	1, 2... 3, 6... R...	13-1/4 [337]	9-15/16 [252]	13-5/8 [346]		14 [356]		21-1/4 [540]		
16 [DN400]	1, 2... 3, 6... S...	15-1/4 [387]	11-1/4 [287]	14-3/4 [375]	4 [102]	15 [381]	16	22-3/4 [578]	1-8	
18 [DN450]	1, 2... 3, 6... T...	17-1/4 [438]	12-5/32 [309]	16 [406]	4-1/4 [108]	16-1/2 [419]		25 [635]		
20 [DN500]	1, 2... 3, 6... U...	19-1/4 [489]	14 [356]	17-1/4 [438]	5 [127]	18 [457]	20		1 1/8-7	

2-Way VFF dimensions with NEMA 2 (Honeywell DCA) actuators



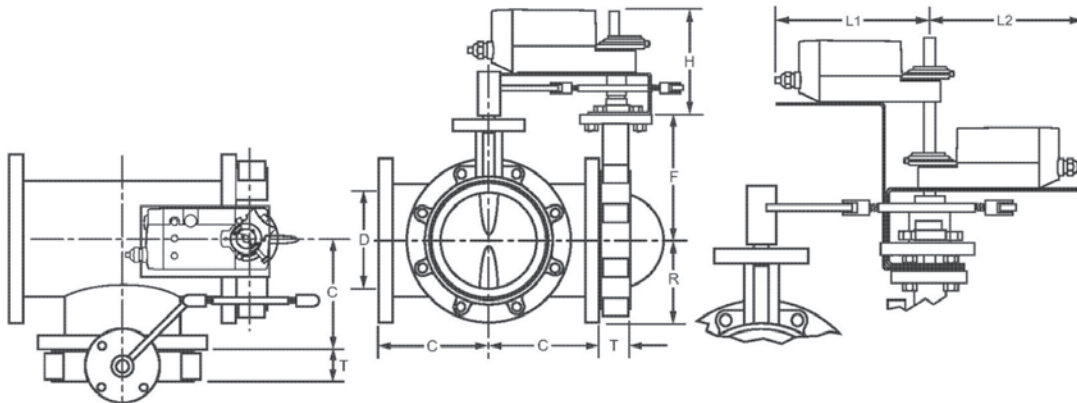
PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF								UNDER CUT DISK, 50 PSI CLOSE-OFF**							
	PROPORTIONAL (VFF2...2A/2B)				SPRING RETURN (VFF2...2C/2D/2E)				PROPORTIONAL (VFF2...2A/2B)				SPRING RETURN (VFF2...2C/2D/2E)			
	W	H	L1	L2	W	H	L1	L2	W	H	L1	L2	W	H	L1	L2
2 [DN50]																
2-1/2 [DN65]		3 [76]		3 [76]	4 [100]	6 [152]	8-1/8 [207]	3 [76]								
3 [DN80]	3-5/8 [92]		6-7/8 [175]													
4 [DN100]					4* [100]	11-3/4* [300]	8-1/8* [207]	8-1/8* [207]		3 [76]		3 [76]	4 [100]	6 [152]	8-1/8 [207]	3 [76]
5 [DN125]		11-3/4 [300]		6-7/8 [175]					3-5/8 [92]		6-7/8 [175]			11-3/4 [300]		8-1/8 [207]
6 [DN150]										11-3/4 [300]		6-7/8 [175]				
8 [DN200]	DIRECT COUPLED ACTUATORS NOT AVAILABLE IN THESE, AND LARGER BODY SIZES. USE INDUSTRIAL-GRADE ACTUATORS.															
10 [DN250]	DIRECT COUPLED ACTUATORS NOT AVAILABLE IN THESE, AND LARGER BODY SIZES. USE INDUSTRIAL-GRADE ACTUATORS.															

* CHILLED WATER APPLICATION ONLY.

**NOTE: VALVE SIZES 2 TO 3 INCHES HAVE 175 PSI [1206 KPA] CLOSE-OFF AND ARE AVAILABLE ONLY WITH FULL CUT DISKS.

M27005

3-Way VFF dimensions with NEMA 2 (Honeywell DCA) actuators



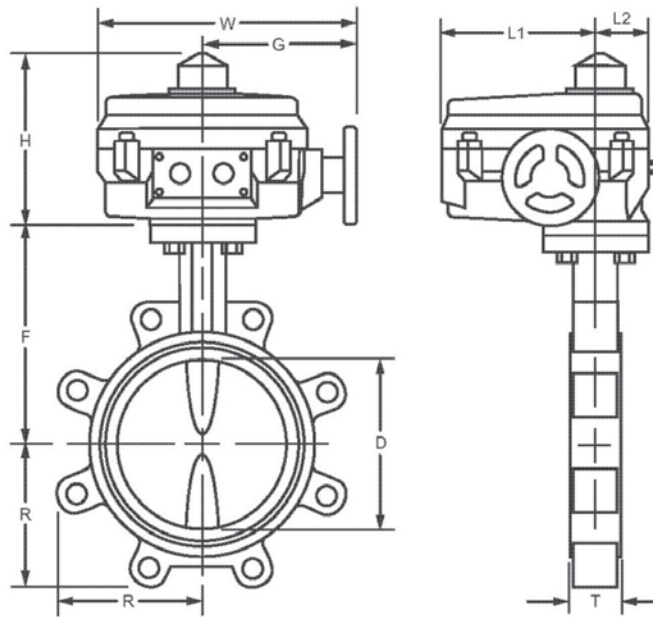
PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF								UNDER CUT DISK, 50 PSI CLOSE-OFF**							
	PROPORTIONAL (VFF3/6...2A/2B)				SPRING RETURN (VFF3/6...2C/2D/2E)				PROPORTIONAL (VFF3/6...2A/2B)				SPRING RETURN (VFF3/6...2C/2D/2E)			
	W	H	L1	L2	W	H	L1	L2	W	H	L1	L2	W	H	L1	L2
2 [DN50]						6 [152]		3 [76]								
2-1/2 [DN65]		3 [76]		3 [76]	4 [100]		8-1/8 [207]									
3 [DN80]	3-5/8 [92]		6-8/9 [175]			11-3/4 [300]		8-1/8 [207]								
4 [DN100]										3 [76]		3 [76]	4 [100]	11-3/4 [300]	8-1/8 [207]	8-1/8 [207]
5 [DN125]		11-3/4 [300]		6-7/8 [175]					3-5/8 [92]		6-7/8 [175]			11-3/4 [300]		8-1/8 [207]
6 [DN150]										11-3/4 [300]		6-7/8 [175]				
8 [DN200]	DIRECT COUPLED ACTUATORS NOT AVAILABLE IN THESE, AND LARGER BODY SIZES. USE INDUSTRIAL-GRADE ACTUATORS.															
10 [DN250]	DIRECT COUPLED ACTUATORS NOT AVAILABLE IN THESE, AND LARGER BODY SIZES. USE INDUSTRIAL-GRADE ACTUATORS.															

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**NOTE: VALVE SIZES 2 TO 3 INCHES HAVE 175 PSI [1206 KPA] CLOSE-OFF AND ARE AVAILABLE ONLY WITH FULL CUT DISKS.

M27019

2-Way VFF dimensions with NEMA 4/4X (industrial-grade) actuators



PIPE SIZE IN. [mm]	FULL CUT DISK, HIGH CLOSE-OFF* NEMA 4X (VFF2_W1YXA/B)					UNDER CUT DISK, 50 PSI CLOSE-OFF** NEMA 4X (VFF2_V1YXA/B)				
	W	H1	L1	L2	G	W	H1	L1	L2	G
2 [DN50]										
2-1/2 [DN65]	7-1/2 [191]	6-3/4 [170]	5-1/2 [141]	2 [51]	5-3/4 [147]					
3 [DN80]										
4 [DN100]						7-1/2 [191]	6-3/4 [170]	5-1/2 [141]	2 [51]	5-3/4 [147]
5 [DN125]										
6 [DN150]	10-1/8 [257]	8-1/8 [206]	7-3/8 [188]	2-3/4 [68]	7-3/4 [198]					
8 [DN200]						10-1/8 [257]	8-1/8 [206]	7-3/8 [188]	2-3/4 [68]	7-3/4 [198]
10 [DN250]										
12 [DN300]	12-1/8 [307]	8-3/4 [224]	8-7/8 [226]	3-1/4 [81]	9-1/2 [241]					
14 [DN350]										
16 [DN400]	NEMA 4 (VFF2_W1Y4A/4B)					12-1/8 [307]	8-3/4 [224]	8-7/8 [226]	3-1/4 [81]	9-1/2 [241]
18 [DN450]	8-1/2 [217]	16 [406]	8-3/4 [221]	4-1/2 [115]	12-1/2 [320]					
20 [DN500]						NEMA 4 (VFF2_V1Y4A/4B)				
						8-1/2 [217]	16 [406]	8-3/4 [221]	4-1/2 [115]	12-1/2 [320]

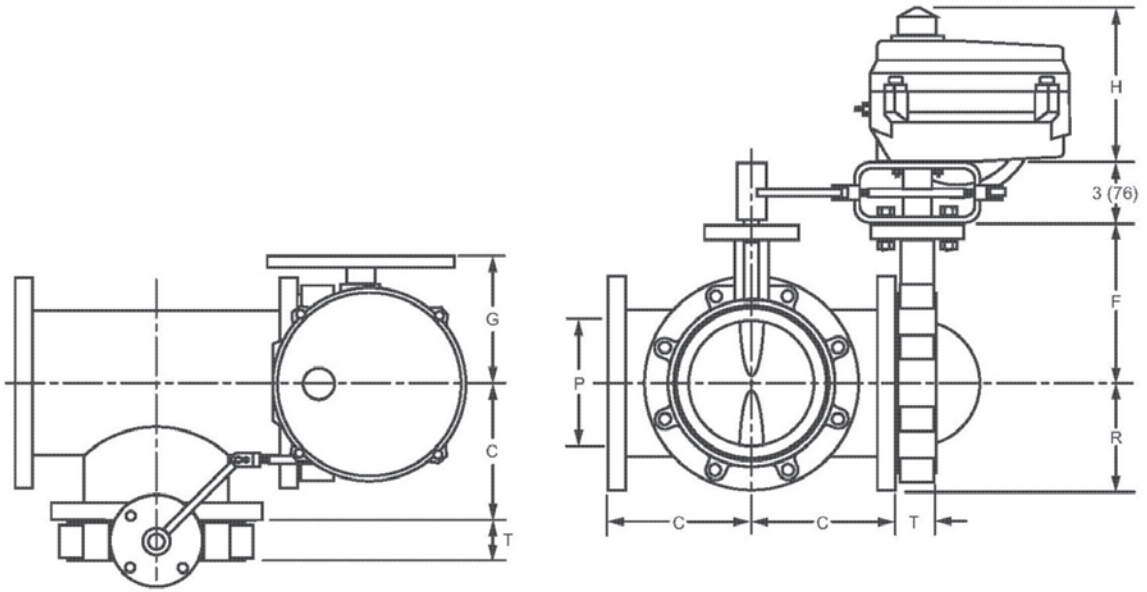
* 175 PSI [1206 KPA] CLOSE-OFF UP TO 12 INCHES [DN 300], 150 PSI [1034 KPA] OTHERWISE

**NOTE: VALVE SIZES 2 TO 3 INCHES HAVE 175 PSI [1206 KPA] CLOSE-OFF AND ARE AVAILABLE ONLY WITH FULL CUT DISKS.

NEMA 4X ACTUATORS ARE WATERPROOF AND CORROSION-RESISTANT.

M27011

3-Way VFF3, VFF6 dimensions with NEMA 4/4X (industrial-grade) actuators



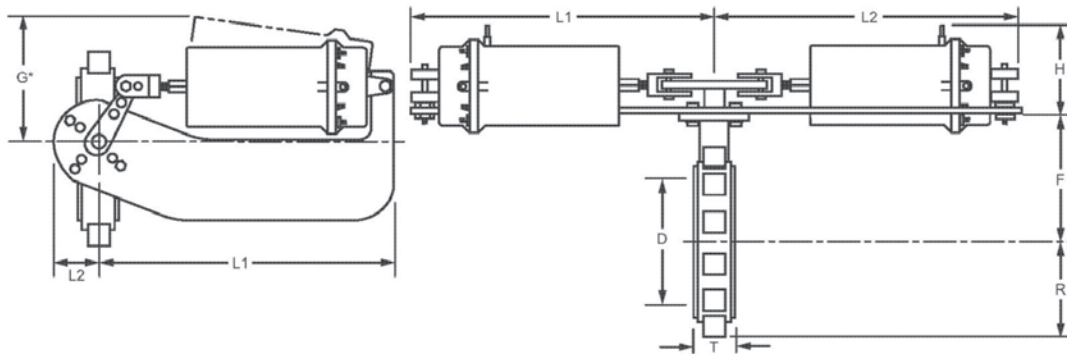
PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF NEMA 4X (VFF3/6_W1YXA/B)					UNDER CUT DISK, 50 PSI CLOSE-OFF** NEMA 4X (VFF3/6_V1YXA/B)				
	W	H	L1	L2	G	W	H	L1	L2	G
2 [DN50]										
2-1/2 [DN65]	7-1/2 [191]	6-3/4 [170]	5-1/2 [141]	2 [49]	5-3/4 [147]					
3 [DN80]										
4 [DN100]						7-1/2 [191]	6-3/4 [170]	5-1/2 [141]	2 [49]	5-3/4 [147]
5 [DN125]	10-1/8 [257]	8-1/8 [206]	7-3/8 [188]	2-3/4 [68]	7-3/4 [198]					
6 [DN150]										
8 [DN200]						10-1/8 [257]	8-1/8 [206]	7-3/8 [188]	2-3/4 [68]	7-3/4 [198]
10 [DN250]	12-1/8 [307]	8-3/4 [224]	8-7/8 [226]	3-1/4 [81]	9-1/2 [241]					
12 [DN300]										
14 [DN350]	NEMA 4 (VFF3/6_W1Y4A/4B)					12-1/8 [307]	8-3/4 [224]	8-7/8 [226]	3-1/4 [81]	9-1/2 [241]
16 [DN400]										
18 [DN450]	8-1/2 [217]	16 [406]	8-3/4 [221]	4-1/2 [115]	12-1/2 [320]	NEMA 4 (VFF3/6_V1Y4A/4B)				
20 [DN500]						8-1/2 [217]	16 [406]	8-3/4 [221]	4-1/2 [115]	12-1/2 [320]

* 175 PSI [1206 KPA] CLOSE-OFF UP TO 12 INCHES [DN 300], 150 PSI [1034 KPA] OTHERWISE

**NOTE: VALVE SIZES 2 TO 3 INCHES HAVE 175 PSI [1206 KPA] CLOSE-OFF AND ARE AVAILABLE ONLY WITH FULL CUT DISKS.

M27020

2-Way VFF1, VFF2 dimensions with 20 psi (low pressure) spring return pneumatic actuators

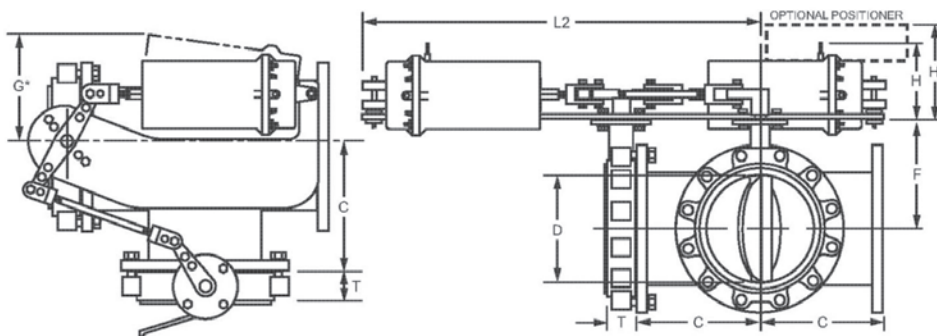


PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF (VFF1/2_W1Y8P/PP)					UNDER CUT DISK, 50 PSI CLOSE-OFF** (VFF1/2_V1Y8P/PP)				
	G	H	HP	L1	L2	G	H	HP	L1	L2*
2 [DN50]										
2-1/2 [DN65]	5-5/8 [144]	3-1/8 [79]	6-1/4 [160]	16 [406]						
3 [DN80]					3 [76]					
4 [DN100]	7-1/4 [186]		10 [254]	20 [506]		5-5/8 [144]	3-1/8 [79]	6-1/4 [160]	16 [406]	
5 [DN125]						7-1/4 [186]		10 [254]	20 [506]	3 [76]
6 [DN150]	9 [227]	6-7/8 [175]	10-1/8 [257]	22-3/4 [578]						
8 [DN200]					22-3/4 [578]	9 [227]	6-7/8 [175]	10-1/8 [257]	22-3/4 [578]	
10 [DN250]	LOW PRESSURE ACTUATORS NOT AVAILABLE IN THESE, AND LARGER BODY SIZES.									22-3/4 [578]
12 [DN300]										

**NOTE: VALVE SIZES 2 TO 3 INCHES ARE AVAILABLE ONLY WITH FULL CUT DISKS. VALVE STROKE IS LIMITED TO 70 DEGREES.

M27012

3-way VFF3 dimensions with 20 psi (low pressure) pneumatic actuators

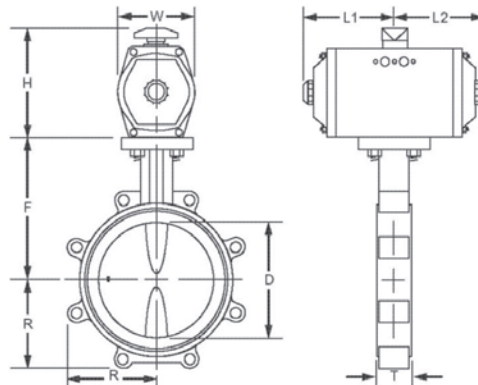


PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF (VFF3_W1Y8P/PP)					UNDER CUT DISK, 50 PSI CLOSE-OFF** (VFF3_V1Y8P/PP)				
	G	H	HP	L1	L2	G	H	HP	L1	L2
2 [DN50]	5-5/8 [144]	3 [79]	6-1/4 [160]	16 [406]						
2-1/2 [DN65]	7-1/4 [186]		10 [254]	20 [506]						
3 [DN80]					3 [76]					
4 [DN100]	9 [227]	6-7/8 [175]	10-1/8 [257]	22-3/4 [578]		7-1/4 [186]		10 [254]	20 [506]	
5 [DN125]							6-7/8 [175]			3 [76]
6 [DN150]					22-3/4 [578]	9 [227]		10-1/8 [257]	22-3/4 [578]	
8 [DN200]	LOW PRESSURE ACTUATORS NOT AVAILABLE IN THESE, AND LARGER BODY SIZES.									22-3/4 [578]
10 [DN250]										
12 [DN300]										

**NOTE: VALVE SIZES 2 TO 3 INCHES HAVE 175 PSI [1206 KPA] CLOSE-OFF ARE AVAILABLE ONLY WITH FULL CUT DISKS. VALVE STROKE IS LIMITED TO 70 DEGREES.

M27021

2-way VFF2 dimensions with 80 psi (high pressure) pneumatic bi-directional actuators



PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF (VFF2_W1YCR/DR/ER/PR/XR)					UNDER CUT DISK, 50 PSI CLOSE-OFF** (VFF2_V1YCR/DR/ER/PR/XR)				
	W	H	HP	L1	L2	W	H	HP	L1	L2
2 [DN50]										
2-1/2 [DN65]	2-3/4 [70]	4-1/4 [109]	10-1/4 [262]	3 [76]	3 [76]					
3 [DN80]										
4 [DN100]	3-5/8 [91]	5-2/8 [132]	11-2/8 [284]	4 [100]	4 [100]					
5 [DN125]										
6 [DN150]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]	3-5/8 [91]	5-1/4 [132]	11-1/4 [284]	4 [100]	4 [100]
8 [DN200]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]
10 [DN250]	5-3/8 [137]	7-3/4 [196]	13-3/4 [349]	6-1/8 [157]	6-1/8 [157]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]
12 [DN300]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]					
14 [DN350]						6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]
16 [DN400]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]					
18 [DN450]						8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]
20 [DN500]	10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]					

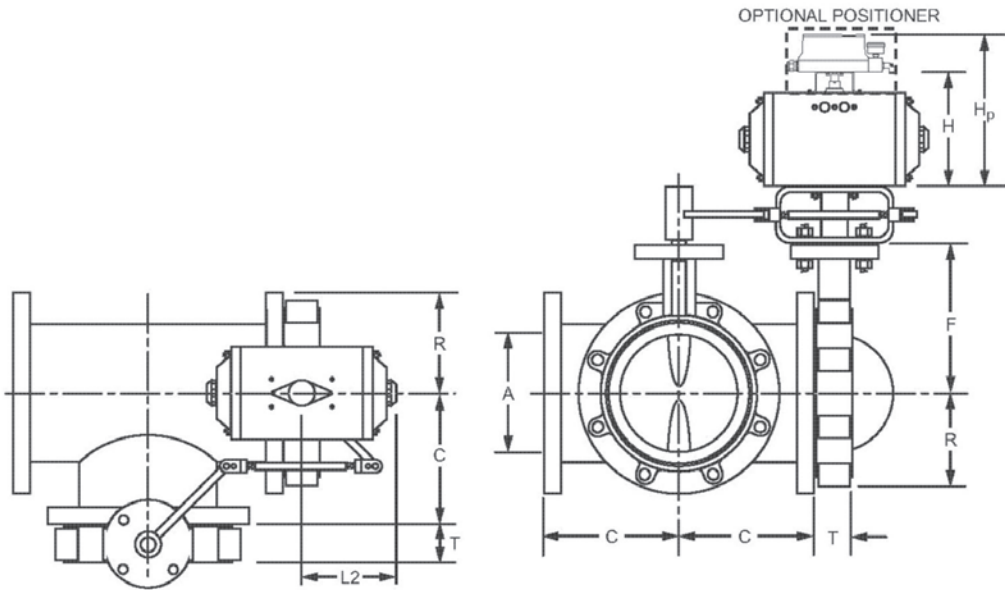
**NOTE: VALVE SIZES 2 TO 5 INCHES ARE AVAILABLE ONLY WITH FULL CUT DISKS.

M27013

Electric Actuators

Actuator Style	Torque	Control Inputs	Fail Safe	Power Supply Voltage	Current/Power	Ambient Temp.	Stroke Timing	Valve Sizes	
								2-way	3-way
NEMA 2 (Honeywell DCA)	300 in.-lb. [34 Nm]	0-10/2-10 Vdc, Floating, SPDT, SPST	Non-spring return	24 Vac/dc, 50/60 Hz	8 VA	-5 to 140 F [-20 to 60 C]	90 sec.	2 in. to 5 in. 4 in. to 8 in. (double)	2 in. to 4 in. 4 in. to 6 in. (double)
	175 in.-lb. [20 Nm]							Spring return N.C/ N.O.	24vac, 50/60Hz 120vac, 50/60Hz
NEMA 4X (Water-proof, Corrosion-Resistant)	500 in.-lb. [57 Nm]	4-20 mAdc, 0-10/2-10 Vdc --- SP3T, SPDT	Non-spring return	120Vac, 50/60Hz	1.4 ALR	-40 to 149 F [-40 to 65 C]	30 sec. modulating	2 in. to 5 in.	
	800 in.-lb. [90 Nm]							5 in. to 10 in.	4 in. to 10 in.
	1,200 in.-lb. [136 Nm]								
	2,000 in.-lb. [136 Nm]								
	3,000 in.-lb. [339 Nm]								
5,000 in.-lb. [565 Nm]									
6,500 in.-lb. [735 Nm]									
NEMA 4 (Water-proof)	8,850 in.-lb. [1000 Nm]	4-20 mAdc, 2-10 Vdc --- SP3T, SPDT			3.2 AFL 10.0 ALR	-21 to 149 F [-30 to 65 C]	46 sec.	10 in. to 18 in.	10 in. to 16 in.
	13,275 in.-lb. [1500 Nm]							16 in. to 20 in.	14 in. to 20 in.
E-P Solenoid (pneumatic)	up to 29,000 in.-lb. [3277 Nm]	SPST Series 80 SPST Series 40	N.S.R., N.O., and N.C.	24vac, 50/60Hz 120vac, 50/60Hz	6.3 W	-13 to 140 F [-25 to 60 C]	1/4 sec. to 2-3/4 sec.	2 in. to 20 in.	

3-way VFF3, VFF6 dimensions with 80 psi (high pressure) pneumatic bi-directional actuators

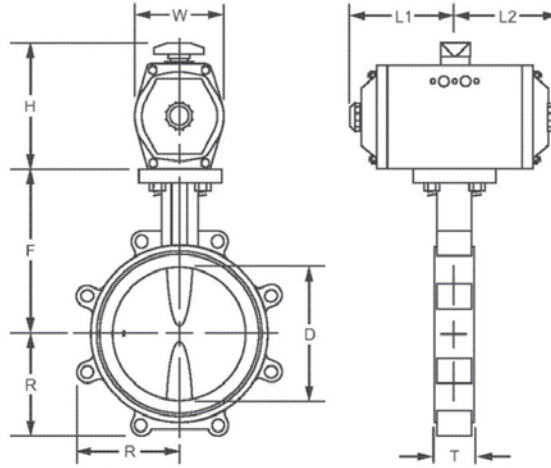


PIPE SIZE IN. [mm]	FULL CUT DISK, 175 PSI CLOSE-OFF (VFF3/6_W1YCR/DR/ER/PR/XR)					UNDER CUT DISK, 50 PSI CLOSE-OFF** (VFF3/6_V1YCR/DR/ER/PR/XR)				
	W	H	HP	L1	L2	W	H	HP	L1	L2
2 [DN50]	2-3/4 [70]	4-1/4 [109]	10-1/4 [262]	3 [76]	3 [76]					
2-1/2 [DN65]										
3 [DN80]	3-5/8 [91]	5-1/4 [132]	11-1/4 [284]	4 [100]	4 [100]					
4 [DN100]										
5 [DN125]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]
6 [DN150]										
8 [DN200]	5-3/8 [137]	7-3/4 [196]	13-3/4 [349]	6-1/8 [157]	6-1/8 [157]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]
10 [DN250]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]					
12 [DN300]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]
14 [DN350]										
16 [DN400]	10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]
18 [DN450]										
20 [DN500]										

**NOTE: VALVE SIZES 2 TO 4 INCHES ARE AVAILABLE ONLY WITH FULL CUT DISKS.

M27022

2-Way VFF1, VFF2 dimensions with high pressure, spring return pneumatic actuators



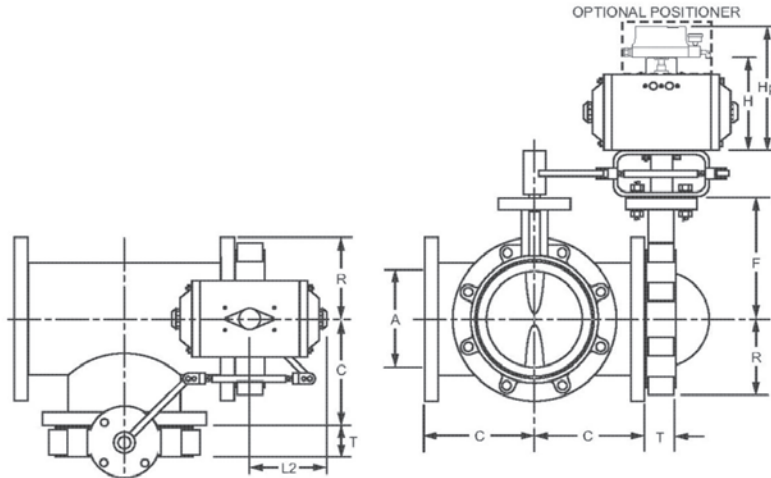
PIPE SIZE IN. [mm]	FULL CUT DISK, HIGH CLOSE-OFF*										UNDER CUT DISK, 50 PSI CLOSE-OFF**									
	N.O. (VFF1 V1YCS/DS/ES/PS/XS)					N.C. (VFF2 V1YCS/DS/ES/PS/XS)					N.O. (VFF1 V1YCS/DS/ES/PS/XS)					N.C. (VFF2 V1YCS/DS/ES/PS/XS)				
	W	H	HP	L1	L2	W	H	HP	L1	L2	W	H	HP	L1	L2	W	H	HP	L1	L2
2 [DN50]																				
2-1/2 [DN65]	3-5/8 [91]	5-1/4 [132]	11-1/4 [284]	4 [100]	4 [100]	3-5/8 [91]	5-1/4 [132]	11-1/4 [284]	4 [100]	4 [100]										
3 [DN80]																				
4 [DN100]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]	3-5/8 [91]	5-2/8 [132]	11-2/8 [284]	4 [100]	4 [100]	3-5/8 [91]	5-2/8 [132]	11-2/8 [284]	4 [100]	4 [100]
5 [DN125]																4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]
6 [DN150]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]
8 [DN200]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]
10 [DN250]											5-3/8 [137]	7-3/4 [196]	13-3/4 [349]	6-1/8 [157]	6-1/8 [157]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]
12 [DN300]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]
14 [DN350]																				
16 [DN400]											8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]
18 [DN450]						10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]										
20 [DN500]											10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]	10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]

* 175 PSI [1206 KPA] CLOSE-OFF UP TO 12 INCHES [DN 300], 150 PSI [1034 KPA] OTHERWISE.

**NOTE: VALVE SIZES 2 TO 3 INCHES ARE AVAILABLE ONLY WITH FULL CUT DISKS.

M27014

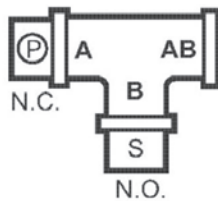
3-way VFF3, VFF6 dimensions with 80 psi (high pressure) pneumatic spring return actuators



PIPE SIZE IN. [mm]	FULL CUT DISK, HIGH CLOSE-OFF* (VFF3/6_W1YCS/DS/ES/PS/XS)					UNDER CUT DISK, 50 PSI CLOSE-OFF** (VFF3/6_V1YCS/DS/ES/PS/XS)				
	W	H	HP	L1	L2	W	H	HP	L1	L2
2 [DN50]	2-3/4 [70]	4-1/4 [109]	10-1/4 [262]	3 [76]	3 [76]					
2-1/2 [DN65]	3-5/8 [91]	5-2/8 [132]	11-2/8 [284]	4 [100]	4 [100]					
3 [DN80]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]					
4 [DN100]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]	4 [100]	5-1/2 [141]	11-1/2 [293]	4-1/2 [113]	4-1/2 [113]
5 [DN125]	5-3/8 [137]	7-3/4 [196]	13-3/4 [349]	6-1/8 [157]	6-1/8 [157]	4-3/4 [120]	6-7/8 [176]	12-7/8 [328]	6 [154]	6 [154]
6 [DN150]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]					
8 [DN200]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]	6-3/4 [172]	9-3/8 [238]	15-3/8 [391]	7-3/4 [196]	7-3/4 [196]
10 [DN250]										
12 [DN300]	10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]	8-7/8 [224]	11-5/8 [295]	17-5/8 [447]	9-1/2 [240]	9-1/2 [240]
14 [DN350]										
16 [DN400]										
18 [DN450]						10-3/4 [273]	13-1/2 [342]	19-1/2 [495]	13-3/8 [339]	13-3/8 [339]
20 [DN500]										

* 175 PSI [1206 KPA] CLOSE-OFF UP TO 12 INCHES [DN 300], 150 PSI [1034 KPA] AT 14 INCHES AND NO PRODUCT AVAILABLE GREATER THAN 14 INCHES.
 **NOTE: VALVE SIZES 2 TO 3 INCHES ARE AVAILABLE ONLY WITH FULL CUT DISKS. M27023

VFF3 DEFAULT CONFIGURATION



VFF6 DEFAULT CONFIGURATION
 (NOT AVAILABLE WITH LOW PRESSURE
 PNEUMATIC ACTUATORS)

