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Ball/Plug Valve



V81 Series Ball Valve

Pressures rating of 68.9 bar (1000 psig) and 137bar (2000psig)

Catalog No. V81-5
May 2008



Valve with lever handle
Working pressure
● PTFE seats: 68.9 bar (1000 psig)
● TFM seats: 137 bar (2000 psig)



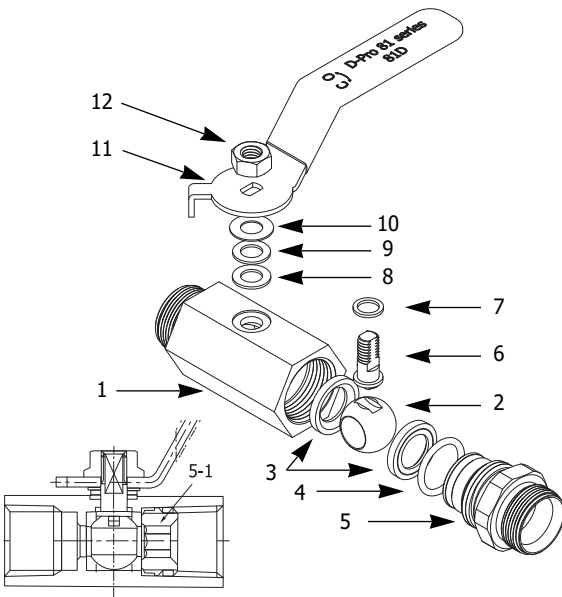
Valve with butterfly handle
Working pressure
● PTFE seats: 68.9 bar (1000 psig)
● TFM seats not applicable

Design Features

- Compact barstock construction for high integrity
- Blow-out proof design with internally loaded stem
- Floating Ball design providing seat wear compensation
- Micro-finished ball ensures a leak-tight shut-off on pressure
- Standard lever handle, optional butterfly handle.

Applications

V81 series ball valve offers a safe and reliable performance for a wide range of onshore and offshore applications: water, oil, gas, petrochemical and general duty applications.

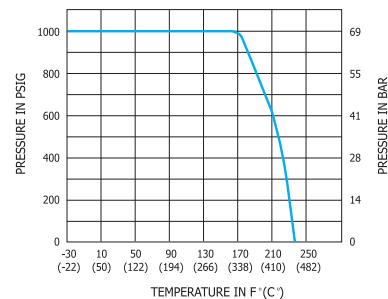
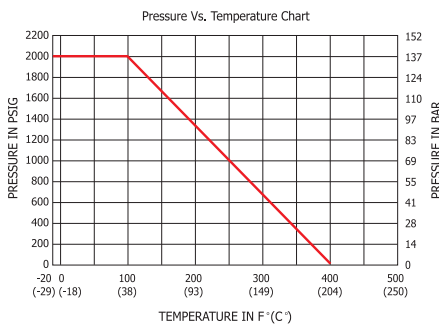


Materials of Construction

Component	Valve Body Materials	
	Stainless Steel	Brass
1. Body	SS316/ASTM A276 or A479	ASTM B16 or JIS H3250
2. Ball	SS316 / ASTM A276	
3. Seat (2)	PTFE / D1710 for pressure 68.9 bar (1000 psig) TFM 1600 for pressure 137 bar (2000 psig)	
4. O-Ring (2)	FKM	NBR
5. End Connector (2)	SS316/ ASTM A276 or A479	ASTM B16 or JIS H3250
5-1. Insert		
6. Ball Valve Stem	SS316/ ASTM A276 or A479	
7. Lower Packing	PTFE / D1710	
8. Upper Packing	PTFE / D1710	
9. Grand Washer	SS304 /ASTM A276 or A479	
10. Spring Washer	Stainless Steel	
11. Handle	SS304 Lever handle with vinyl sleeve ZINC/ ASTM B240 Butterfly handle, Nickel-plated	
12. Lock Nut	SS304	SS304

4. O-Ring is applicable to DK-LOK end connection
5. End Connector is for DK-LOK end connection
5-1. Insert is for Pipe Thread end connection

Pressure – Temperature Curves



Quality System Approvals

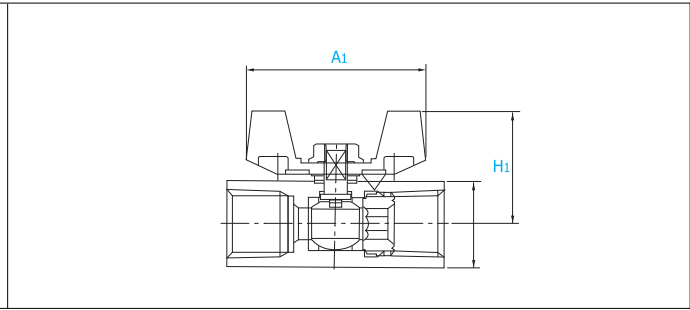
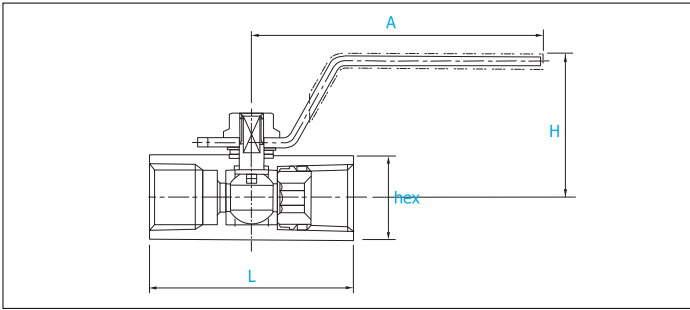


DK-Lok Tube Fitting Certification Listing



D-Pro Valve Certification Listing





Ordering Information and Table of Dimensions

Basic Ordering Number	End Connection Inlet / Outlet	Cv	Orifice mm (in.)	Dimensions, mm (in.)						
				L	H	hex	A	A1	H1	
V81A-	D-6M	6mm DK-LOK	1.25	5 (0.20)	79 (3.11)	31 (1.22)	17 (11/16)	59.5 (2.34)	30.50 (1.20)	23.50 (0.93)
	D-4T	1/4 in. DK-LOK	1.25		79 (3.11)					
	F-4N	1/4 in. Female NPT	1.35		41.9 (1.65)					
V81B-	D-10M	10mm DK-LOK	2.6	7.50 (0.30)	90 (3.54)	40 (1.57)	20.64 (13/16)	81 (3.19)	42.00 (1.65)	30.00 (1.18)
	D-6T	3/8 in. DK-LOK	2.5		90 (3.54)					
	F-6N	3/8 in. Female NPT	2.6		45 (1.77)					
V81C-	D-12M	12mm DK-LOK	9.25	9.00 (0.35)	98 (3.86)	42 (1.65)	27 (1-1/16)	81 (3.19)	46.00 (1.81)	35.70 (1.41)
	D-8T	1/2 in. DK-LOK	9.25		98 (3.86)					
	F-8N	1/2 in. Female NPT	9.25		56.15 (2.21)					
V81D-	D-16M	16mm DK-LOK	10.6	12.50 (0.49)	108 (4.25)	51 (2.00)	32 (1-1/4)	102.5 (4.04)	49.50 (1.95)	38.10 (1.50)
	D-10T	5/8 in. DK-LOK	10.6		108 (4.25)					
	F-12N	3/4 in. Female NPT	12.65		60 (2.36)					
	D-12T	3/4 in. DK-LOK	12.65		109 (4.29)					
V81E-	D-16T	1 in. DK-LOK	17.35	16.00 (0.63)	133 (5.23)	55 (2.16)	38 (1-1/2)	102.5 (4.04)	68.00 (2.68)	45.00 (1.77)
	F-16N	1 in. Female NPT	17.35		78.1 (3.07)					

Dimensions shown are for reference only, subject to change. Dimensions with DK-LOK nuts are in finger-tight position

Factory Test

Every valve is factory tested with nitrogen gas @41 bar (600 psig) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM. The packing is tested with nitrogen for no detectable leakage.

How to order

Select valve ordering number, applicable option(s) from designator tables listed below.

Examples

V81A-D-6M-

V81A-D-6M-



O-ring	Seat Material	Handle	Body material
<ul style="list-style-type: none"> ● Nil: FKM O-ring is standard for SS316 body. ● Nil: NBR O-ring is standard for Brass body. ● VT: FKM O-ring for Brass body ● BN: NBR O-ring for SS316 <p>NOTE: O-ring is required for DK-LOK end connection.</p>	<ul style="list-style-type: none"> ● Nil: Standard PTFE seats for 68.9 bar (1000 psig) working pressure. ● TF: Optional TFM1600 for 137 bar (2000 psig) working pressure. <p>NOTE: TFM1600 seat is not applicable to Brass valve.</p>	<ul style="list-style-type: none"> ● Nil: Standard lever handle ● BF: Optional butterfly handle <p>NOTE: BF option is not applicable to the valve with TF seats.</p>	<ul style="list-style-type: none"> ● S: S316 ● B: Brass

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance.

Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.



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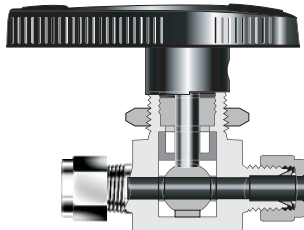
V82 Series Ball Valves

Pressure Rating up to 3000psig

Catalog No. V82-3
April 2008

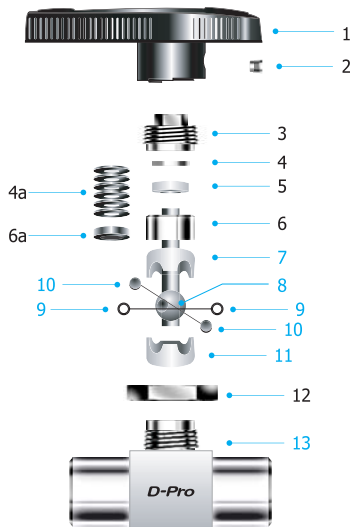
Features of V82 Series

- Sealing is achieved without system pressure
- Pressure up to 3000 psig (206 bar)
- Bi-directional flow
- Lowest dead space design



- **Nylon Directional handle** - indicates the flow through the valve.
- **Panel mounting nut** - is standard and permits valve to panel or actuator.
- **Top-loaded packing** - allows packing adjustment with the valve in-line.
- **Capsule packing** - fills voids in the valve body and prevents fluid entrapment. - allows lowest dead space.
- **Support rings and discs** - retains the capsule packing and prevent cold flow.
- **Integral ball stem** - machined from single piece bar stock. - eliminates the backlash during handle actuation.
- **One-piece body** - reduces the number of potential leak points.

Materials of Construction



Component	Valve Body Materials	
	Stainless Steel	Brass
	Grade/ASTM Specification	
1. Handle	Nylon with brass insert	
2. Set Screw	17-4PH/A564	
3. Packing bolt ①	SS316/A276 or A479	Brass B16
4. Upper Gland	SS316/A276 or A479	
4a. Packing Spring (VL82 series)	17-4PH/A693	
5. Bushing	PTFE/D1710 type 1, Grade 1, Class B	
6. Lower gland	SS316/A276	Brass B16
6a. Packing Gland (VL82 series)	SS316/A276	
7 & 11. Upper & Lower Packing	PTFE/D1710 type 1	
8. Ball stem	SS316/A276	
9. Support rings	SS316 powered metal/B783	
10. Side discs	(fluorocarbon coating)	
12. Panel nut	SS316/A276	Brass B16
13. Body	SS316/A276 or A479	

- ① Molybdenum disulfide with hydrocarbon coating.
- Note: 1. Wetted parts and lubricants are listed in blue.
 - 2. Lubricant is Fluorinated-based. Lubricants are available for a specific application.

Operation & Packing Adjustment

- V82 valves are designed to control fluid in full open and closed position; using V82 valves to throttle the flow may reduce the valve life.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.
- Every valve working pressure is adjusted for factory test at 1000 psig (68.9 bar) @ 21°C (70°F). For use in higher pressure, the valve packing may be required for re-adjustment.
- Packing adjustment may be required during the valve in service.

Application

- Analytical market requiring a valve with lowest dead volume to prevent fluid entrapment which can cause contamination.
- Control Sampling Systems, and Process Instrumentation market requiring a valve with compact size, high flow capacity and directional indication of flow.

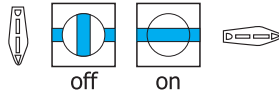
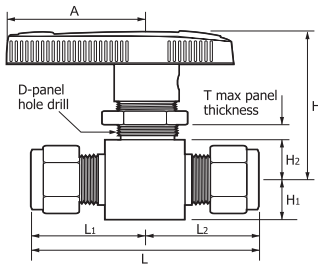
Factory Test and Packaging

- Every valve is factory tested with nitrogen gas at 1000 psig (68.9 bar) for leakage at seat to a maximum allowable leak rate of 0.1 SCCM. The packing is tested with nitrogen gas for no detectable leakage.
- Every valve is cleaned and packaged in accordance with DK cleaning standard DC-01



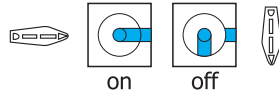
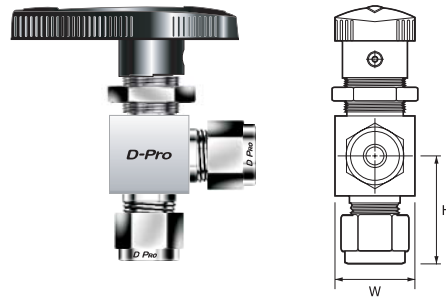
2-way On-off Valves

In-line pattern



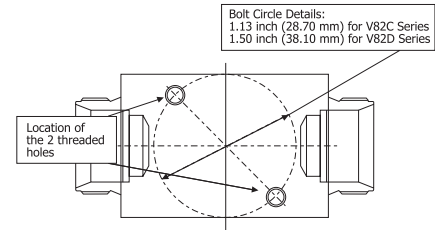
① T panel: 3.2 mm (1/8 inch) minimum panel thickness.

Angle pattern



Ordering designator: -A

Top mounting option



Hole details:
M5 x 0.8 pitch threads,
0.20 inch (5.0 mm) deep

Ordering designator: -TM

Technical Data for V82 series with standard PTFE seat

Valve Series		Pressure Rating		Temp. Range
In-Line pattern	Angle pattern	psig	bar	PTFE seat
V82A	V82A-A, V82B-A	2500	172	10°C to 65°C (50°F to 150°F)
V82B	-	3000	206	
V82C, V82D	-	2500	172	
-	V82C-A, V82D-A	1500	103	

Technical Data for VL82 series with PTFE seat

Valve Series	Pressure Rating		Temperature Rating
	In-line pattern		
	psig	bar	
VL82A series	2500	172	-54 °C to 65 °C (-65 °F to 150 °F)
VL82B series	3000	206	

To improve thermal cycle performance VL82 series has packing springs in the place of V82 series upper gland & bushing.

Ordering Information and Table of Dimensions

Basic Ordering Number	End Connections		Orifice		Cv		Dimensions mm (inches)										
	Inlet	Outlet	mm	inch	Inline	Angle	L	L1	L2	H3	H2	H1	A	T ①	D	H	W
V82A-	D1T-	1/16" Dk-Lok	1.3	0.052	0.1	-	42.7(1.68)	21.3(0.84)	21.3(0.84)	-	8.6(0.34)	7.1(0.28)	28.4(1.12)	6.4(1/4)	15.1(19/32)	34.5(1.36)	14.7(0.58)
	D2T-	1/8" Dk-Lok	2.4	0.093	0.2	0.15	51.1(2.01)	25.7(1.01)	25.7(1.01)	24.6(0.97)	8.6(0.34)	7.1(0.28)	28.4(1.12)	6.4(1/4)	15.1(19/32)	34.5(1.36)	14.7(0.58)
	D3M-	3mm Dk-Lok	2.4	0.093	0.2	0.15	51.1(2.01)	25.7(1.01)	25.7(1.01)	24.6(0.97)	8.6(0.34)	7.1(0.28)	28.4(1.12)	6.4(1/4)	15.1(19/32)	34.5(1.36)	14.7(0.58)
	D4T-	1/4" Dk-Lok	3.2	0.125	0.6	0.35	56.1(2.21)	27.9(1.10)	27.9(1.10)	27.2(1.07)	8.6(0.34)	7.1(0.28)	28.4(1.12)	6.4(1/4)	15.1(19/32)	34.5(1.36)	14.7(0.58)
	D6M-	6mm Dk-Lok	3.2	0.125	0.6	0.35	56.1(2.21)	27.9(1.10)	27.9(1.10)	27.2(1.07)	8.6(0.34)	7.1(0.28)	28.4(1.12)	6.4(1/4)	15.1(19/32)	34.5(1.36)	14.7(0.58)
	F2N-	1/8" Female NPT	3.2	0.125	0.5	0.3	41.1(1.62)	20.6(0.81)	20.6(0.81)	20.6(0.81)	8.6(0.34)	7.1(0.28)	28.4(1.12)	6.4(1/4)	15.1(19/32)	34.5(1.36)	14.7(0.58)
V82B-	D4T-	1/4" Dk-Lok	4.8	0.187	2.4	0.9	59.9(2.36)	30.0(1.18)	30.0(1.18)	29.7(1.17)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	D6T-	3/8" Dk-Lok	4.8	0.187	1.5	0.9	65.5(2.58)	32.8(1.29)	32.8(1.29)	32.8(1.29)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	D6M-	6mm Dk-Lok	4.8	0.187	2.4	0.9	60.7(2.39)	30.5(1.20)	30.5(1.20)	29.7(1.17)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	D8M-	8mm Dk-Lok	4.8	0.187	1.5	0.9	62.5(2.46)	31.2(1.23)	31.2(1.23)	30.5(1.20)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	F2N-	1/8" Female NPT	4.8	0.187	1.2	0.7	50.8(2.00)	25.4(1.00)	25.4(1.00)	25.4(1.00)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	F4N-	1/4" Female NPT	4.8	0.187	0.9	0.75	52.3(2.06)	26.2(1.03)	26.2(1.03)	26.2(1.03)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	M4N-	1/4" Male NPT	4.8	0.187	1.2	0.75	50.8(2.00)	25.4(1.00)	25.4(1.00)	26.2(1.03)	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	F4R-	1/4" ISO Female Tapered	4.8	0.187	0.9	-	52.3(2.06)	26.2(1.03)	26.2(1.03)	-	11.2(0.44)	9.7(0.38)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
V82C-	D6T-	3/8" Dk-Lok	7.1	0.281	6.0	2.0	77.5(3.05)	38.6(1.52)	38.6(1.52)	36.3(1.43)	14.2(0.56)	14.2(0.56)	50.8(2.00)	9.5(3/8)	28.6(1-1/8)	52.6(2.07)	28.4(1.12)
	D10M	10mm Dk-Lok	7.1	0.281	6.0	2.0	78.0(3.07)	38.9(1.53)	38.9(1.53)	36.9(1.43)	14.2(0.56)	14.2(0.56)	50.8(2.00)	9.5(3/8)	28.6(1-1/8)	52.6(2.07)	28.4(1.12)
	F4N-	1/4" Female NPT	7.1	0.281	3.0	1.7	63.5(2.50)	31.8(1.25)	31.8(1.25)	31.8(1.25)	14.2(0.56)	14.2(0.56)	50.8(2.00)	9.5(3/8)	28.6(1-1/8)	52.6(2.07)	28.4(1.12)
	F6N-	3/8" Female NPT	7.1	0.281	2.6	1.5	63.5(2.50)	31.8(1.25)	31.8(1.25)	31.8(1.25)	14.2(0.56)	14.2(0.56)	50.8(2.00)	9.5(3/8)	28.6(1-1/8)	52.6(2.07)	28.4(1.12)
	F6R-	3/8" ISO Female Tapered	7.1	0.281	2.6	-	63.5(2.50)	31.8(1.25)	31.8(1.25)	-	14.2(0.56)	14.2(0.56)	50.8(2.00)	9.5(3/8)	28.6(1-1/8)	52.6(2.07)	28.4(1.12)
V82D-	D8T-	1/2" Dk-Lok	10.3	0.406	12.0	4.6	99.6(3.92)	49.8(1.96)	49.8(1.96)	44.2(1.74)	17.5(0.69)	17.5(0.69)	76.2(3.00)	9.5(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	D12T-	3/4" Dk-Lok	10.3	0.406	6.4	3.8	99.6(3.92)	49.8(1.96)	49.8(1.96)	44.2(1.74)	17.5(0.69)	17.5(0.69)	76.2(3.00)	9.5(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	D12M-	12mm Dk-Lok	9.5	0.375	12.0	4.6	99.6(3.92)	49.8(1.96)	49.8(1.96)	44.2(1.74)	17.5(0.69)	17.5(0.69)	76.2(3.00)	9.5(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	F8N-	1/2" Female NPT	10.3	0.406	6.3	3.5	79.2(3.12)	39.6(1.56)	39.6(1.56)	39.6(1.56)	17.5(0.69)	17.5(0.69)	76.2(3.00)	9.5(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	F8R-	1/2" ISO Female Tapered	10.3	0.406	6.3	-	79.2(3.12)	39.6(1.56)	39.6(1.56)	-	17.5(0.69)	17.5(0.69)	76.2(3.00)	9.5(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)

All dimensions shown are for reference only and are subject to change. Dimensions with Dk-Lok nuts are in finger-tight position.

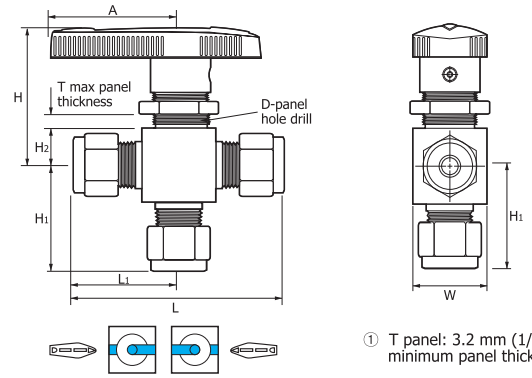
Patterns: To order angle pattern, use **-A** as a suffix to the basic ordering number. Example: V82B-D-4T-A-S

Top mounting: To order Top mounting option, use **-TM** as a suffix to the basic ordering number. Example: V82C-D-6T-TM-S

3-way Switching Valves

Technical Data for valves with standard PTFE seat

Valve Series	Pressure Rating		Temperature Range
	psig	bar	PTFE seat
V82A-3B, V82B-3B	2500	172	10 °C to 65 °C
V82C-3B, V82D-3B	1500	103	(50 °F to 150 °F)



Ordering Information and Table of Dimensions

Basic Ordering Number	End Connections	Orifice		Cv	Dimensions mm (inches)									
		mm	inch		L	L1	H1	H2	A	T ^①	D	H	W	
V823A-	D1T-	1/16" Dk-Lok	1.3	0.052	0.08	42.7(1.68)	21.3(0.84)	20.6(0.81)	8.6(0.34)	28.7(1.13)	6.4(1/4)	15.0(19/32)	34.5(1.36)	14.7(0.58)
	D2T-	1/8" Dk-Lok	2.4	0.093	0.15	51.1(2.01)	25.7(1.01)	24.6(0.97)	8.6(0.34)	28.7(1.13)	6.4(1/4)	15.0(19/32)	34.5(1.36)	14.7(0.58)
	D4T-	1/4" Dk-Lok	3.2	0.125	0.35	56.1(2.21)	27.9(1.10)	27.2(1.07)	8.6(0.34)	28.7(1.13)	6.4(1/4)	15.0(19/32)	34.5(1.36)	14.7(0.58)
	D3M-	3mm Dk-Lok	2.4	0.093	0.15	51.1(2.01)	25.7(1.01)	24.6(0.97)	8.6(0.34)	28.7(1.13)	6.4(1/4)	15.0(19/32)	34.5(1.36)	14.7(0.58)
	D6M-	6mm Dk-Lok	3.2	0.125	0.35	56.1(2.21)	27.9(1.10)	27.2(1.07)	8.6(0.34)	28.7(1.13)	6.4(1/4)	15.0(19/32)	34.5(1.36)	14.7(0.58)
	F2N-	1/8" Female NPT	3.2	0.125	0.3	41.4(1.63)	20.6(0.81)	20.6(0.81)	8.6(0.34)	28.7(1.13)	6.4(1/4)	15.0(19/32)	34.5(1.36)	14.7(0.58)
V823B-	D4T-	1/4" Dk-Lok	4.8	0.187	0.90	60.7(2.39)	30.5(1.20)	29.7(1.17)	11.2(0.44)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	D6M-	6mm Dk-Lok	4.8	0.187	0.90	60.7(2.39)	30.5(1.20)	29.7(1.17)	11.2(0.44)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	D8M-	8mm Dk-Lok	4.8	0.187	0.80	62.5(2.46)	31.2(1.23)	30.5(1.20)	11.2(0.44)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	F4N-	1/4" Female NPT	4.8	0.187	0.75	52.3(2.06)	26.2(1.03)	26.2(1.03)	11.2(0.44)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
	F4R-	1/4" ISO Female Tapered	4.8	0.187	0.75	52.3(2.06)	26.2(1.03)	26.2(1.03)	11.2(0.44)	38.9(1.53)	4.8(3/16)	19.8(25/32)	39.6(1.56)	19.8(0.78)
V823C-	D6T-	3/8" Dk-Lok	7.1	0.281	2.0	73.4(2.89)	36.8(1.45)	36.3(1.43)	14.2(0.56)	50.8(2.00)	9.7(3/8)	28.7(1-1/8)	52.6(2.07)	28.4(1.12)
	D10M-	10mm Dk-Lok	7.1	0.281	2.0	73.4(2.89)	36.8(1.45)	36.3(1.43)	14.2(0.56)	50.8(2.00)	9.7(3/8)	28.7(1-1/8)	52.6(2.07)	28.4(1.12)
	F4N-	1/4" Female NPT	7.1	0.281	1.7	63.5(2.50)	31.8(1.25)	31.8(1.25)	14.2(0.56)	50.8(2.00)	9.7(3/8)	28.7(1-1/8)	52.6(2.07)	28.4(1.12)
	F6N-	3/8" Female NPT	7.1	0.281	1.5	63.5(2.50)	31.8(1.25)	31.8(1.25)	14.2(0.56)	50.8(2.00)	9.7(3/8)	28.7(1-1/8)	52.6(2.07)	28.4(1.12)
	F6R-	3/8" ISO Female Tapered	7.1	0.281	1.5	63.5(2.50)	31.8(1.25)	31.8(1.25)	14.2(0.56)	50.8(2.00)	9.7(3/8)	28.7(1-1/8)	52.6(2.07)	28.4(1.12)
V823D-	D8T-	1/2" Dk-Lok	10.3	0.406	4.6	88.4(3.48)	44.2(1.74)	44.2(1.74)	17.5(0.69)	76.2(3.00)	9.7(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	D12T-	3/4" Dk-Lok	10.3	0.406	3.8	88.4(3.48)	44.2(1.74)	44.2(1.74)	17.5(0.69)	76.2(3.00)	9.7(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	D12M-	12mm Dk-Lok	9.5	0.375	4.6	88.4(3.48)	44.2(1.74)	44.2(1.74)	17.5(0.69)	76.2(3.00)	9.7(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	F8N-	1/2" Female NPT	10.3	0.406	3.5	79.5(3.13)	39.6(1.56)	39.6(1.56)	17.5(0.69)	76.2(3.00)	9.7(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)
	F8R-	1/2" ISO Female Tapered	10.3	0.406	3.5	79.5(3.13)	39.6(1.56)	39.6(1.56)	17.5(0.69)	76.2(3.00)	9.7(3/8)	38.1(1-1/2)	61.7(2.43)	38.1(1.50)

All dimensions shown are for reference only and are subject to change. Dimensions with Dk-Lok nuts are in finger-tight position.

Flow Data

2-way

Cv	Water US GPM (L/min.)			Air SCFM (NL/min.)		
	@21°C (70°F)			@21°C (70°F)		
	Pressure Drop to Atmosphere (Δp) psi (bar)					
	10 (0.7)	50 (3.5)	100 (7.0)	10 (0.7)	50 (3.5)	100 (7.0)
0.1	0.3(1.1)	0.7(2.6)	1.0(3.8)	1.1(31)	3.0(85)	5.3(150)
0.2	0.6(2.3)	1.4(5.3)	2.0(7.6)	2.3(76)	6.0(215)	11.0(396)
0.5	1.6(5.7)	3.5(13.2)	5.0(18.9)	5.6(195)	15.0(538)	27.0(963)
0.6	1.9(7.2)	4.2(15.9)	6.0(22.7)	6.8(235)	18.0(651)	32.0(1161)
0.9	2.8(10.6)	6.4(23.8)	9.0(34.0)	10.0(340)	27.0(963)	48.0(1720)
1.2	3.8(14.0)	8.5(31.8)	12.0(45.4)	14.0(481)	36.0(1303)	64.0(2294)
1.5	4.7(17.8)	11.0(41.6)	15.0(56.8)	17.0(595)	45.0(1614)	80.0(2832)
2.4	7.6(28.4)	17.0(64.3)	24.0(90.8)	27.0(935)	72.0(2606)	120.0(4531)
2.6	8.2(31.0)	18.0(68.1)	26.0(98.4)	29.0(1020)	78.0(2804)	140.0(5098)
3.0	9.5(35.6)	21.2(79.5)	30.0(113.6)	34.0(1189)	90.0(3115)	160.0(5664)
6.0	19.0(71.9)	42.0(159.0)	60.0(227.1)	68.0(2351)	180.0(6514)	320.0(11611)
6.3	19.9(75.5)	44.5(170.3)	63.0(237.0)	71.0(2464)	190.0(6797)	340.0(12178)
6.4	20.2(75.7)	45.3(170.3)	64.0(242.2)	72.0(2520)	190.0(6797)	340.0(12178)
12.0	37.9(143.8)	84.9(321.7)	120.0(454.2)	130.0(4814)	360.0(13027)	640.0(22939)

2-way angle pattern and 3-way

Cv	Water US GPM (L/min.)			Air SCFM (NL/min.)		
	@21°C (70°F)			@21°C (70°F)		
	Pressure Drop to Atmosphere (Δp) psi (bar)					
	10 (0.7)	50 (3.5)	100 (7.0)	10 (0.7)	50 (3.5)	100 (7.0)
0.08	0.3(1.1)	0.6(2.3)	0.8(3.0)	0.9(26)	2.4(68)	4.3(122)
0.15	0.4(1.5)	1.0(3.8)	1.5(5.7)	1.7(57)	4.5(161)	8.0(286)
0.30	0.9(3.4)	2.1(7.9)	3.0(11.4)	3.4(116)	9.0(312)	16.0(566)
0.35	1.1(4.2)	2.4(9.1)	3.5(13.2)	4.0(136)	10.0(368)	19.0(680)
0.75	2.3(8.7)	5.3(20.1)	7.5(28.4)	8.5(283)	22.0(821)	40.0(1444)
0.80	2.5(9.5)	5.6(21.2)	8.0(30.3)	9.0(312)	24.0(878)	42.0(1529)
0.90	2.8(10.6)	6.3(23.8)	9.0(34.1)	10.0(340)	27.0(963)	48.0(1728)
1.5	4.7(17.8)	11.0(41.6)	15.0(56.8)	17.0(595)	45.0(1614)	80.0(2832)
1.7	5.3(20.1)	12.0(45.4)	17.0(64.3)	19.0(680)	51.0(1841)	90.0(3115)
2.0	6.3(23.8)	14.0(53.0)	20.0(75.7)	22.0(793)	60.0(2181)	100.0(3965)
3.5	11.0(41.6)	25.0(94.6)	35.0(132.5)	39.0(1359)	100.0(3682)	180.0(6797)
3.8	12.0(45.4)	27.0(102.2)	38.0(143.8)	43.0(1501)	110.0(3965)	200.0(7363)
4.6	15.0(56.8)	33.0(124.9)	46.0(174.1)	52.0(1812)	140.0(5098)	240.0(8779)

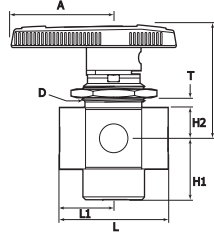
V825 Switching 5-way Ball Valves

Features

- Flow switches from a single port to multiple ports or from multiple ports to a single port.
- Spring-loaded detent ensures exact port positioning.

Technical Data with standard PTFE seat

Valve Series	Pressure Rating @ 37 °C (100 °F)		Temperature Range
	bar	psig	
V825A	172	2500	10 to 65 °C
V825B	103	1500	50 to 150 °F



Ordering Information and Table of Dimensions

Ordering Number	End Connection	Cv	Orifice		Dimensions, mm(in.)								
			mm	inch	L	L1	H1	H2	A	T*	D	H	
V825A-	F2N-S	1/8 in. Female NPT	0.07	1.6	0.062	39.4	19.8	22.4	11.2	38.9	4.1	23.1	42.9
	F2G-S	1/8 in. ISO Parallel Threads				(1.94)	(0.78)	(0.88)	(0.44)	(1.53)	(5/32)	(29/32)	(1.69)
V825B-	F8N-S	1/2 in. Female NPT	3.5	10.3	0.406	79.5 (3.13)	39.6 (1.56)	39.6 (1.56)	17.5 (0.69)	76.2 (3.00)	9.7 (3/8)	38.1 (1 1/2)	61.7 (2.43)

T* indicates the maximum panel thickness. 3.2 mm (1/8 in.) minimum panel thickness.
 D : Panel hole

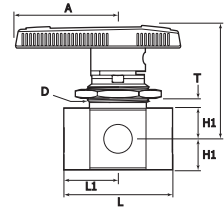
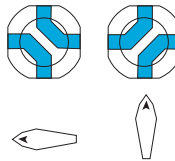
V824 Crossover 4-way Ball Valves

Features

- Crossover of two streams
- Mechanical stop ensures positive port positioning

Technical Data with standard PTFE seat

Valve Series	Pressure Rating @ 37 °C (100 °F)		Temperature Range
	bar	psig	
V824A	172	2500	10 to 65 °C
V824B	103	1500	50 to 150 °F



Ordering Information and Table of Dimensions

Ordering Number	End Connection	Cv	Orifice		Dimensions, mm(in.)							
			mm	inch	L	L1	H1	A	T*	D	H	
V824A-	F2N-S	1/8 in. Female NPT	0.08	1.6	0.062	39.4 (1.55)	19.8 (0.78)	11.2 (0.44)	38.9 (1.53)	4.8 (3/16)	23.1 (29/32)	42.7 (1.68)
V824B-	F8N-S	1/2 in. Female NPT	1.6	7.1	0.281	79.5 (3.13)	39.6 (1.56)	17.5 (0.69)	76.2 (3.00)	9.7 (3/8)	38.1 (1 1/2)	61.7 (2.43)

T* indicates maximum panel thickness
 D : Panel Hole

Handle Options

Aluminum Bar

Add-AH to the valve ordering number.

Example: V824A-F-2N-AH-S



Stainless Bar

Add-BH to the valve ordering number.

Example: V824A-F-2N-BH-S

How to Order

Select applicable valve pattern, options and body material from designators listed below.

V824A-F2N

V825B-D4T **-A**

-NL

-AH

-B





-S

2-way	Top mounting	Valve with no lubricant	Bar handle	Body material
• A: 2-way angle pattern	• TM: top mounting Note: Top mounting option is applicable only to the in-line pattern 2-way valves.	• NL: No lubricant Valve Note: Valve with no lubricant is factory tested at 200 psig (13 bar). This valve has a pressure rating of 200 psig (13 bar).	• Nil: Standard Nylon handle • AH: Aluminum bar handle • BH: Stainless bar handle	• S: SS316 • B: Brass

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance.

Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.

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	<p>Mailing Address</p> <p>826, Naesam-Ri, Juchon-Myeon, Gimhae-City, Gyeong Nam, Korea 621-841</p>			

V83 Series Swing-Out Ball Valves

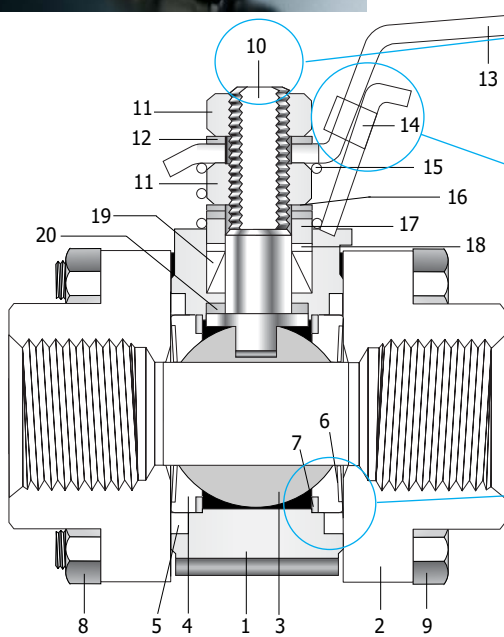
Pressure Rating up to 3000 psig (206 bar)

Catalog No. V83-2
March 2008

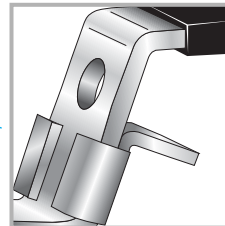


Features

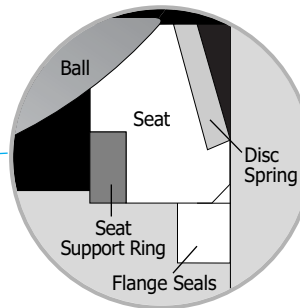
- Pressure and temperature compensation seat design
- Swing-out design for fast and easy maintenance with the valve in-line
- Chevron packing design
- 2-way (on-off) valves with quarter-turn actuation



Two flats on stem (10) and lever handle (13) indicate open or closed position of the valve.



Built-in manual locking device (14) allows locking the valve with a detent either in open or closed position. You may also apply a pad-lock to this device. Pad-lock hole: 8 mm (0.314 in.)



Compensation seat design requires no pressure to create a seal. Under high pressure, seats react on the ball movement for seals at upstream and downstream.

Table 1. Material of Construction

Component	Valve Body Materials	
	Stainless steel Grade / ASTM Specification	Carbon Steel Grade / ASTM Specification
1. Body	CF8M / A351	A216 WCB
2. Flanges (2)	CF8M / A351	A216 WCB
3. Ball	Type 316 / A276	
4. Seats (2)	See Table 2.	
5. Flange Seals (2)	PTFE, Optional FKM O-ring	
6. Disc Spring (2)	Type 631	
7. Seat support rings (2)	Type 316 / A276	
8. Body fasteners (4)	SS316 Gr. B8M/ A193	
9. Body hex nuts (4)	SS316 Gr. 8M/ A194	
10. Stem	Type 316 / A276, A479	
11. Stem Nuts (2)	SS316	
12. Tooth Washer	Stainless steel	
13. Handle	SS304 with Vinyl sleeve	
14. Locking Device	SS304	
15. Grounding spring	SS312 / A313	
16. Stem Springs (2)	Strain Hardened SS316 / A240	
17. Gland	Type 316 / A276	
18. Packing Support	PEEK (Polyetheretherketone)	
19. Upper & Lower Packing	Reinforced PTFE	
20. Stem Bearing	PEEK, Optional X750	

Wetted parts and lubricants are listed in blue.

Table 2. Seat Materials

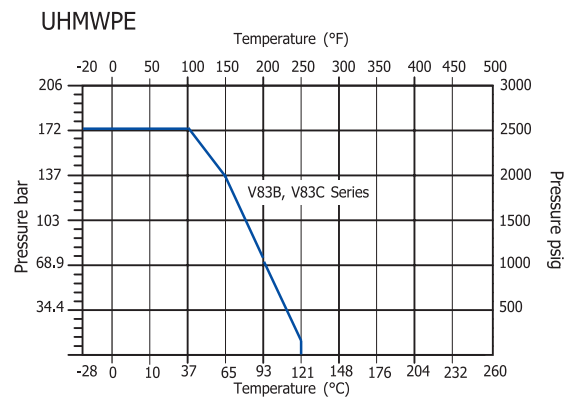
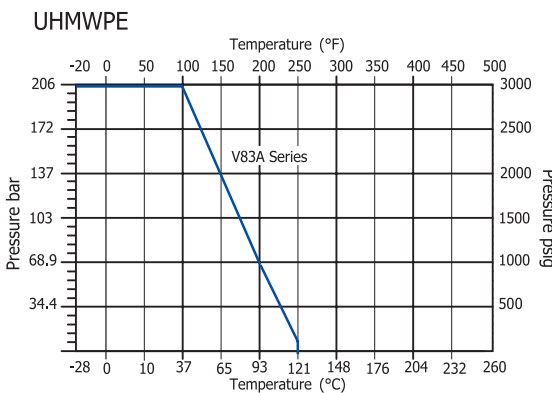
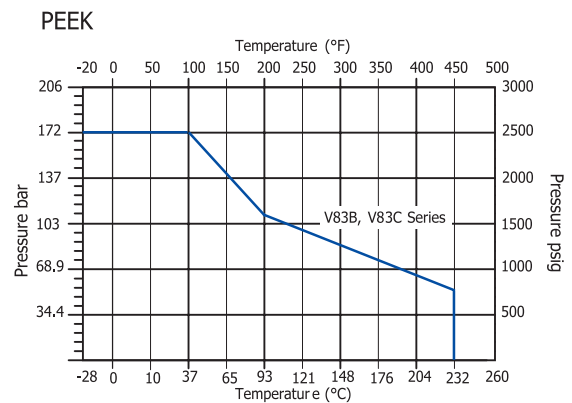
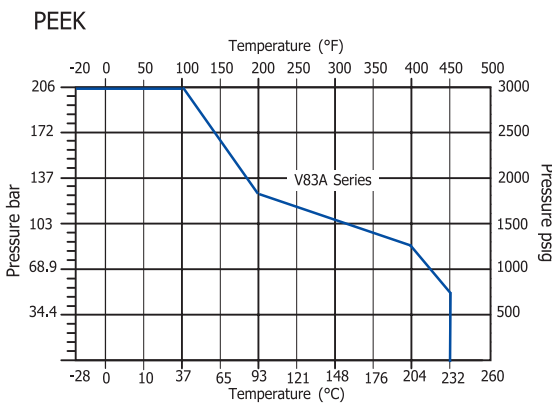
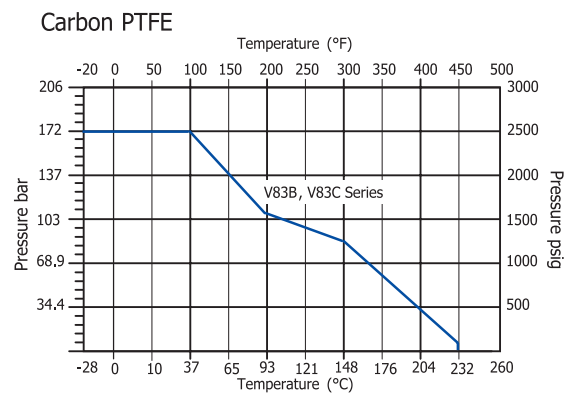
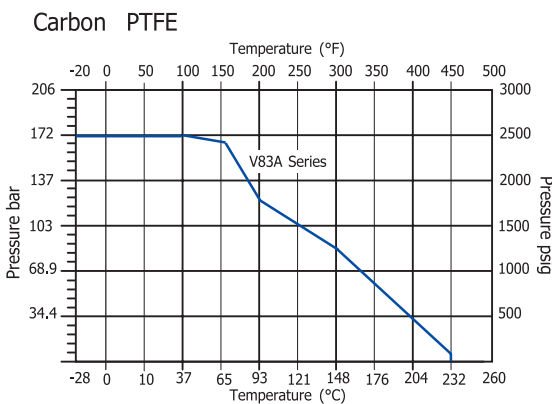
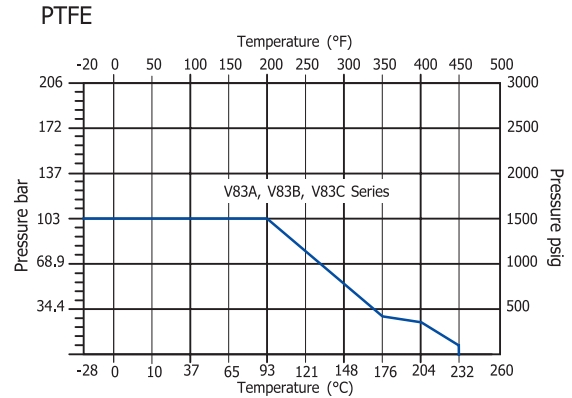
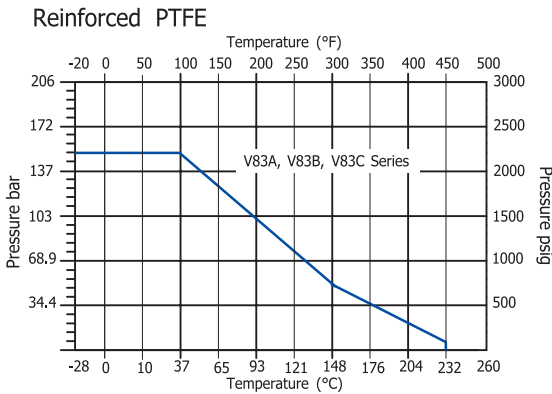
Pressure - Temperature Ratings

Seats	Valve Series	Pressure Rating @ -28 to 38 °C (-20 to 100 °F)	Pressure @ Max. Temperature	Lubricants
Standard Reinforced PTFE	V83A	151 bar (2200 psig)	7 bar @ 232 °C 100 psig @ 450 °F	Silicon based and PTFE based
	V83B			
	V83C			
Virgin PTFE	V83A	103 bar (1500 psig)	7 bar @ 232 °C 100 psig @ 450 °F	
	V83B			
	V83C			
Carbon PTFE	V83A	172 bar (2500 psig)	7 bar @ 232 °C 100 psig @ 450 °F	
	V83B			
	V83C			
PEEK	V83A	206 bar (3000 psig)	55 bar @ 232 °C 800 psig @ 450 °F	PTFE based
	V83B	172 bar (2500 psig)		
	V83C	172 bar (2500 psig)		
UHMWPE	V83A	206 bar (3000 psig)	17 bar @ 121 °C 250 psig @ 250 °F	Hydrocarbon based and PTFE based
	V83B	172 bar (2500 psig)		
	V83C	172 bar (2500 psig)		

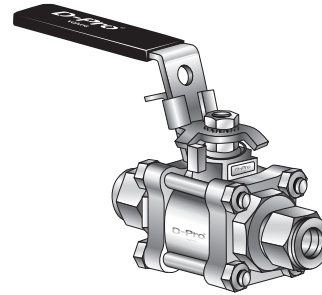
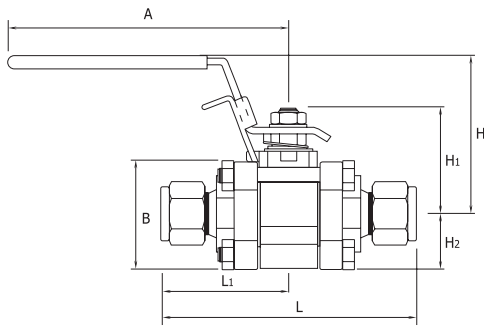
Factory Test

Every valve is tested with nitrogen @ 68.9 bar (1000 psig) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM. Shell test with nitrogen @ 68.9 bar (1000 psig) is performed to a requirement of no detectable leakage with a liquid leak detector. Shell test with water at 1.5 times the working pressure is performed on request with extra cost.

PRESSURE-TEMPERATURE GRAPH

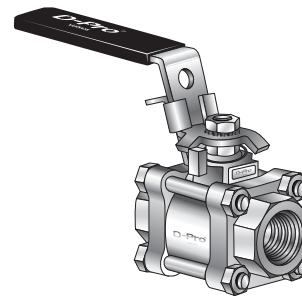
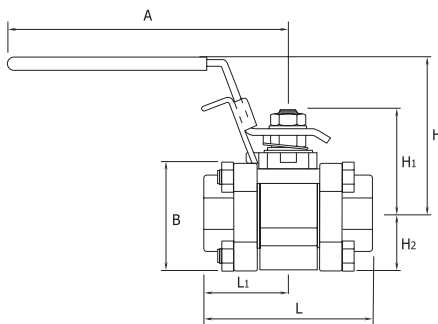


DK-LOK Tube Fitting End Connections



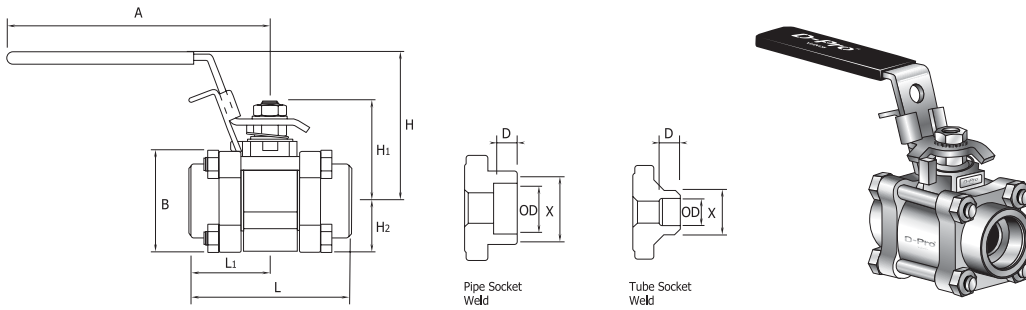
Basic Ordering number	End Connection	Orifice		Cv	Dimension mm (in.)							
		mm	in.		L	L1	H	H1	H2	A	B	
Fractional DK-LOK												
V83A-D4T-	1/4 in.	4.8	0.188	1.2	80.8 (3.18)	40.40 (1.59)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83A-D6T-	3/8 in.	7.1	0.281	3.8	103.8 (4.09)	51.90 (2.04)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83B-D8T-	1/2 in.	10.4	0.411	7.5								
V83B-D12T-	3/4 in.	13.1	0.516	13.6	136.7 (5.38)	68.35 (2.69)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	
V83C-D16T-	1 in.	22.2	0.875	40.0								
Metric DK-LOK												
V83A-D6M-	6 mm	4.8	0.188	1.2	80.8 (3.18)	40.40 (1.59)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83A-D8M-	8 mm	6.4	0.250	2.5	103.8 (4.09)	51.90 (2.04)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83A-D10M-	10 mm	7.1	0.281	3.8								
V83B-D12M-	12 mm	10.4	0.411	7.5	136.7 (5.38)	68.35 (2.69)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	
V83C-D25M-	25 mm	22.2	0.875	40.0								

Female Pipe Thread End Connections



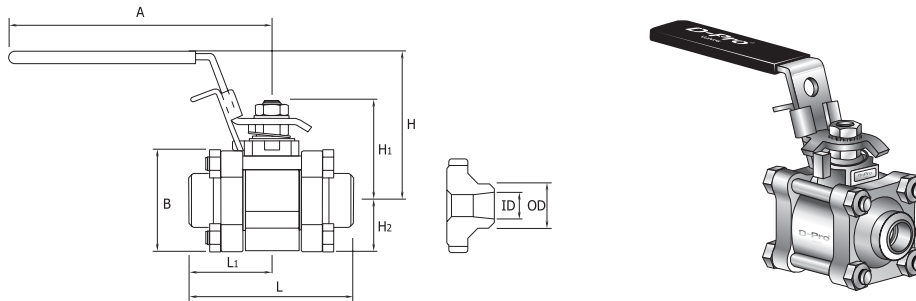
Basic Ordering number	End Connection	Orifice		Cv	Dimension mm (in.)							
		mm	in.		L	L1	H	H1	H2	A	B	
Female NPT Ends												
V83A-F2N-	1/8 in.	7.1	0.281	3.8	55.4 (2.18)	27.70 (1.09)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83A-F4N-	1/4 in.											
V83B-F6N-	3/8 in.	13.1	0.516	12.0	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83B-F8N-	1/2 in.											
V83C-F12N-	3/4 in.	22.2	0.875	31.0	92.0 (3.62)	46.00 (1.81)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	
V83C-F16N-	1 in.			38.0								
Female ISO Tapered Ends												
V83A-F4R-	1/4 in.	7.1	0.281	3.8	55.4 (2.18)	27.70 (1.09)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83B-F8R-	1/2 in.	13.1	0.516	12.0	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83C-F12R-	3/4 in.	22.2	0.875	31.0	92.0 (3.62)	46.00 (1.81)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	
V83C-F16R-	1 in.			38.0								114.3 (4.50)

■ Tube and Pipe Socket Weld End Connections



Basic Ordering number	End Connection	Orifice		Cv	Dimension mm (in.)									
		mm	in.		OD	X	D	L	L1	H	H1	H2	A	B
Tube Socket Weld														
V83A-SW4T-	1/4 in.	4.8	0.188	1.2	6.50 (0.26)	13.70 (0.54)	7.1 (0.28)	55.4 (2.18)	27.70 (1.09)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)
V83A-SW6T-	3/8 in.	7.1	0.281	3.8	9.70 (0.38)	17.10 (0.67)	7.9 (0.31)							
V83B-SW8T-	1/2 in.	10.4	0.411	7.5	12.90 (0.51)	21.30 (0.84)	9.7 (0.38)	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)
V83B-SW12T-	3/4 in.	13.1	0.516	13.6	19.20 (0.76)	26.70 (1.05)	11.2 (0.44)							
V83C-SW16T-	1 in.	22.2	0.875	40.0	25.65 (1.01)	33.40 (1.31)	16.0 (0.63)	92.0 (3.62)	46.00 (1.81)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)
Pipe Socket Weld														
V83B-SW8P-	1/2 in.	13.1	0.516	15.0	21.80 (0.86)	31.20 (1.23)	9.7 (0.38)	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)
V83C-SW12P-	3/4 in.	22.2	0.875	36.0	27.20 (1.07)	42.16 (1.66)	12.7 (0.50)	92.0 (3.62)	46.00 (1.81)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)
V83C-SW16P-	1 in.			42.0	33.90 (1.33)	45.30 (1.78)								

■ Pipe Butt Weld End Connections



Basic Ordering number	End Connection	Orifice		Cv	Dimension mm (in.)									
		mm	in.		OD	ID	L	L1	H	H1	H2	A	B	
Schedule 10														
V83A-W4P10-	1/4 in.	4.8	0.188	1.2	13.70 (0.54)	10.40 (0.41)	52.4 (2.06)	26.20 (1.03)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83B-W8P10-	1/2 in.	13.1	0.516	15.0	21.30 (0.84)	17.10 (0.67)	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83C-W12P10-	3/4 in.	22.2	0.875	36.0	26.67 (1.05)	22.45 (0.88)	92.0 (3.62)	46.00 (1.81)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	
V83C-W16P10-	1 in.			40.0	33.40 (1.31)	27.90 (1.10)	88.9 (3.50)	44.45 (1.75)						
Schedule 40														
V83A-W4P40-	1/4 in.	4.8	0.188	1.2	13.70 (0.54)	9.20 (0.36)	52.4 (2.06)	26.20 (1.03)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83B-W8P40-	1/2 in.	13.1	0.516	15.0	21.30 (0.84)	15.80 (0.62)	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83C-W12P40-	3/4 in.	22.2	0.875	36.0	26.67 (1.05)	20.93 (0.82)	92.0 (3.62)	46.00 (1.81)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	
V83C-W16P40-	1 in.			40.0	33.40 (1.31)	26.60 (1.05)	88.9 (3.50)	44.45 (1.75)						
Schedule 80														
V83A-W4P80-	1/4 in.	4.8	0.188	1.2	13.70 (0.54)	7.70 (0.30)	52.4 (2.06)	26.20 (1.03)	47.7 (1.88)	31.8 (1.25)	16.75 (0.66)	57.2 (2.25)	33.0 (1.30)	
V83A-W6P80-	3/8 in.	7.1	0.281	3.8	17.10 (0.67)	10.70 (0.42)								
V83B-W8P80-	1/2 in.	10.4	0.411	7.5	21.30 (0.84)	13.90 (0.55)	68.9 (2.71)	34.45 (1.36)	64.8 (2.55)	44.2 (1.74)	22.25 (0.88)	111.0 (4.37)	44.5 (1.75)	
V83B-W12P80-	3/4 in.	13.1	0.516	13.6	26.70 (1.05)	18.80 (0.74)								
V83C-W16P80-	1 in.	22.2	0.875	40.0	33.40 (1.31)	23.90 (0.94)	88.9 (3.50)	44.45 (1.75)	79.0 (3.11)	61.9 (2.44)	31.00 (1.22)	149.4 (5.88)	62.0 (2.44)	

How To Order

Select the desired basic ordering number, and options from the designators listed below.

V83C-SW16P

-7

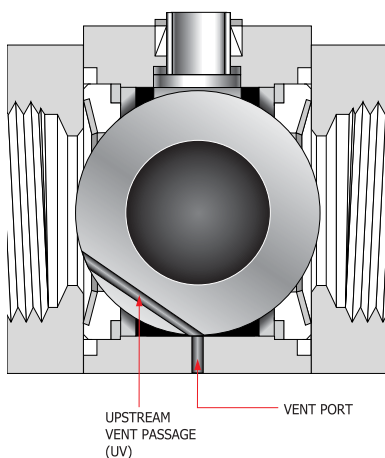
-VT

-OH

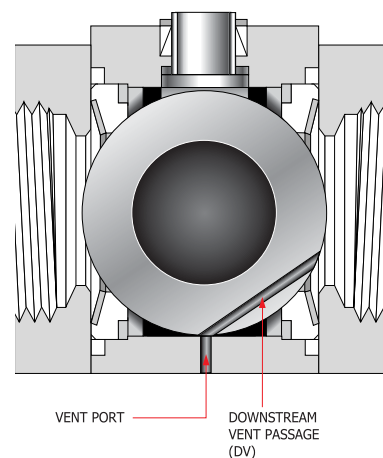
-S

Seat Material	Stem Bearing	Flange Seals	External Vent	Handle	Body & Flange Material
<ul style="list-style-type: none"> Nil: Reinforced PTFE VP: Virgin PTFE CP: Carbon PTFE PK: PEEK UH: UHMWPE 	<ul style="list-style-type: none"> Nil: PEEK 7: X750 	<ul style="list-style-type: none"> Nil: PTFE VT: FKM O-ring 	<ul style="list-style-type: none"> UV: External Upstream vent DV: External Downstream vent 	<ul style="list-style-type: none"> Nil : Lever Handle OH: Oval Handle 	<ul style="list-style-type: none"> S: A351 CF8M L: A351 CF3M C: A216 Gr. WCB

External Vent Options



Valves in closed position



The vent passage is isolated from the ball bore. When the valve is closed, system fluids vent through vent passage to the vent port. When the valve is open, no venting occurs, system fluids flow through the valve.

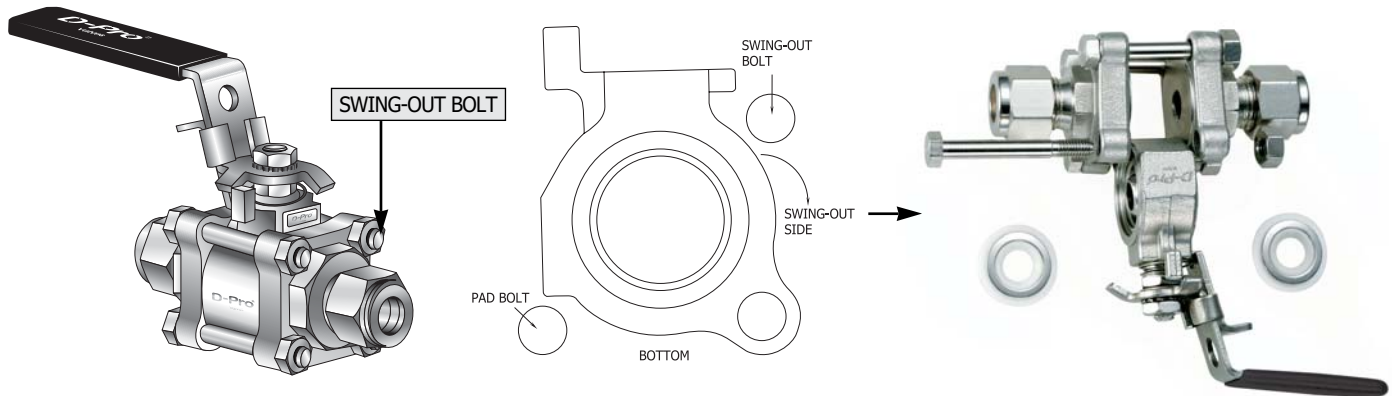
Choose either the Downstream Vent (DV) or Upstream Vent (UP) option.

External Vented Valve Rating

Upstream and downstream

Seat Material	Valve Series	Pressure @ -28 to 37°C (-20 to 100°F)	Pressure @ Max. Temp.
Reinforced PTFE	V83A	68.9 bar (1000 psig)	68.9 bar @ 232 °C (100 psig @ 450 °F)
	V83B		
	V83C		
Virgin PTFE	V83A	68.9 bar (1000 psig)	68.9 bar @ 232 °C (100 psig @ 450 °F)
	V83B		
	V83C		
Carbon PTFE	V83A	68.9 bar (1000 psig)	68.9 bar @ 232 °C (100 psig @ 450 °F)
	V83B		
	V83C		
PEEK	V83A	68.9 bar (1000 psig)	68.9 bar @ 232 °C (100 psig @ 450 °F)
	V83B		55 bar @ 232 °C (800 psig @ 450 °F)
	V83C		
UHMWPE	V83A	68.9 bar (1000 psig)	17 bar @ 121 °C (250 psig @ 250 °F)
	V83B		
	V83C		

Maintenance Kits



For maintenance, unscrew the swing-out bolt and loosen other three bolts. This allows users to swing-out the body, keeping the valve in-line.

Seat Seal Kits

Kit contains each two pieces of seats, seat support rings, disc springs and flange seals.

Valve Series	Seat Material Designator	Flange Seal Designator
V83A-	Nil: Reinforced PTFE VP: Virgin PTFE	Nil: Reinforced PTFE VT: FKM O-ring
V83B-	CP: Carbon PTFE PK: PEEK	
V83C-	UH: UHMWPE	

To order, add - SEAT as a suffix to the ordering number.
i.e., V83B-PK-VT-SEAT

Packing Seal Kits

Kit contains each one piece of upper & lower packing, packing gland, packing support and stem bearing.

Valve Series	Packing Material Designator	Stem Bearing Designator
V83A-	Nil: Reinforced PTFE	PK: PEEK 7: X750
V83B-		
V83C-		

To order, add - PKG as a suffix to the ordering number.
i.e., V83B-PK-PKG

Flange Seal Kits

Kit contains two flange seals.

Valve Series	Flange Seal Designator
V83A-	Nil: Reinforced PTFE VT: FKM O-ring
V83B-	
V83C-	

To order, add - FL as a suffix to the ordering number.
i.e., V83A-VT-FL

Fastener Kits

Kit contains each four pieces of body fasteners, body hex nuts and one stem nut.

Valve Series	Fastener Material
V83A-	Gr. B8M
V83B-	
V83C-	

To order, add - BOLT as a suffix to the ordering number.
i.e., V83A-BOLT

- All dimensions shown in this catalog are for reference only and are subject to change.
- Dimensions with DK-LOK nuts are in finger-tight position.
- We reserve the right to change specifications stated in this catalog for our continuing program of improvement.

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.



DK TECH Trademarks

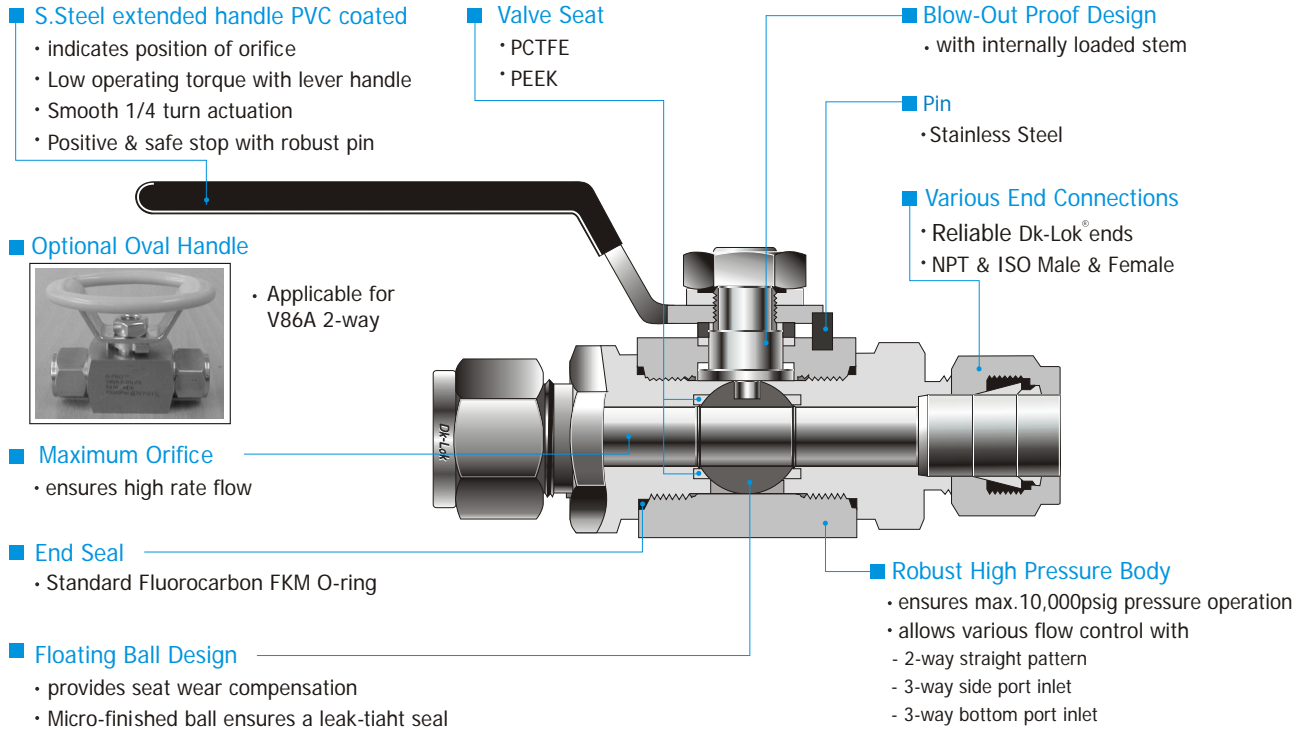


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2-way Ball Valve



Design

- 2-way positive shut off and 3-way directional control of fluids in process, power and instrument application.
- All ports are suitable as inlets in full operation pressure of the valve.
- When 2-way handle perpendicular to the valve body, it indicates the shut off position.

Operation

- D-Pro[®] 86 Series Ball valves are designed to control fluids in full open or closed position, using V86 Series ball valves to throttle the flow may reduce the valve service life.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.
- If the valve system needs to be tested at higher pressure than the valve maximum pressure, the valve must be in open position during the test so as not to damage the valve seat.
- Optional Sour Gas Service to NACE MR0175-2001

Factory Test

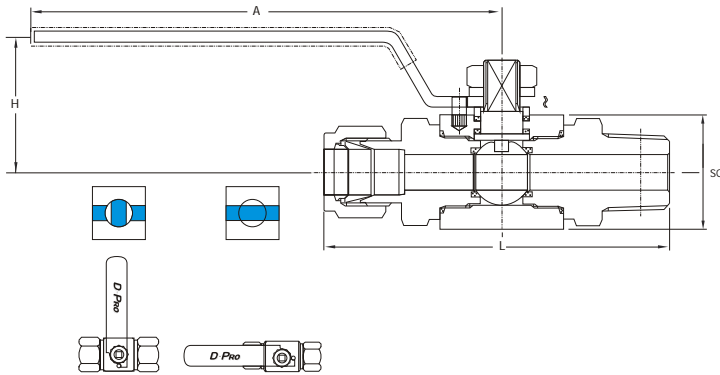
Every valve is factory tested with nitrogen gas @1000 psig (68 bar) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.

The stem packing is tested with nitrogen gas @1000 psig for no detectable leakage.

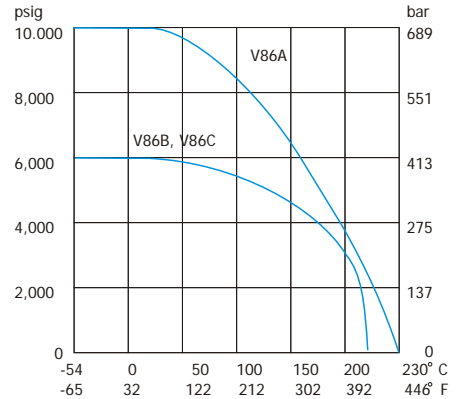
Materials of Construction

Component	Material / ASTM	Component	Material / ASTM
Body	SS316 / A479, A276	Ball	F316 / A351 CF8M
Handle	SS304	Seat	PCTFE, PEEK
Stem	Ss316 / A479, A276	End Connector	SS316 / A479, A276
Stem Packing	PTFE / D1710	End Seal	FKM O-ring

2-way on-off



V86 2-way Pressure-Temperature Curves for valves with PEEK seat



2-way Valve Ordering Information and Dimensions

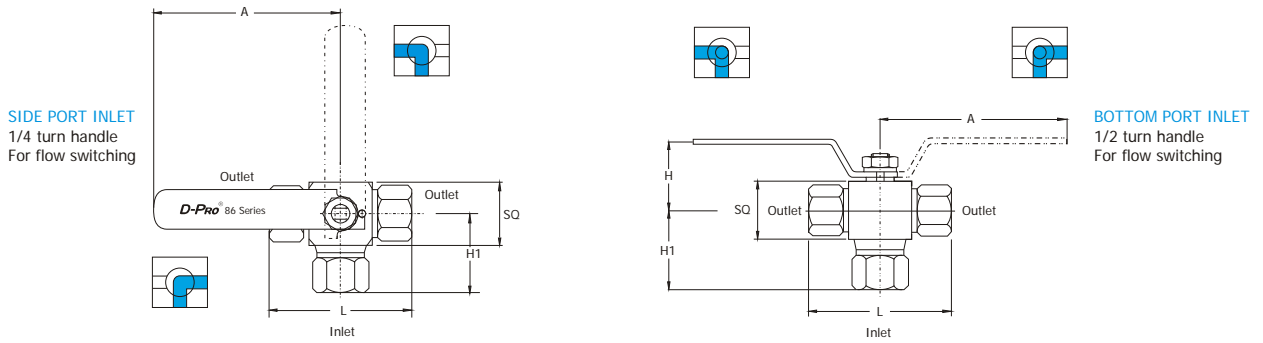
Basic Ordering Number	End Connections Inlet & Outlet	Orifice mm (in.)	Cv	Dimensions mm (in.)				
				A	H	L	SQ	
V86A-	D-4T	1/4 in. Dk-Lok	4.8 (0.19)	107.0 (4.21)	39.0 (1.53)	92 (3.62)	32.0 (1.26)	
	D-6T	3/8 in. Dk-Lok	7.1 (0.28)			95 (3.74)		
	D-8T	1/2 in. Dk-Lok	10.0 (0.39)			7.5		106 (4.17)
	F-4N	1/4 in. Female NPT						72 (2.83)
	F-6N	3/8 in. Female NPT	75 (2.95)					
	F-8N	1/2 in. Female NPT	89 (3.50)					
	M-4N	1/4 in. Male NPT	7.1 (0.28)			3.7		84 (3.30)
	M-6N	3/8 in. Male NPT	9.7 (0.38)			7.2		84 (3.30)
M-8N	1/2 in. Male NPT	10.0 (0.39)	7.5	100 (3.93)				
V86B-	F-8N	1/2 in. Female NPT	12.7 (0.50)	10.1	149.0 (5.86)	51.0 (2.00)	93 (3.66)	40.0 (1.57)
	F-12N	3/4 in. Female NPT					102 (4.01)	
	M-12N	3/4 in. Male NPT					110 (4.33)	
	D-10T	5/8 in. Dk-Lok					116 (4.56)	
	D-12T	3/4 in. Dk-Lok					115 (4.52)	
V86C-	F-12N	3/4 in. Female NPT	20.0 (0.78)	30.0	149.0 (5.86)	56.0 (2.20)	108 (4.25)	50.0 (1.97)
	F-16N	1 in. Female NPT					127 (5.00)	
	D-12T	3/4" Dk-Lok	15.8 (0.62)	19.0			125 (4.92)	
	D-16T	1" Dk-Lok	20.0 (0.79)	30.0			134 (5.27)	
	M-12N	3/4" Male NPT	15.8 (0.62)	19.0			119 (4.68)	
	M-16N	1" Male NPT	20.0 (0.79)	30.0			129 (5.07)	

All dimensions shown are for reference only and are subject to change. Dimensions with Dk-Lok nuts are in finger-tight position.

2-way Valve Torque

Valve Series	System Pressures, bar (psig)						
	0 (0)	68.9 (1000)	137 (2000)	206 (3000)	275 (4000)	344 (5000)	413 (6000)
Torque Unit: Nm (lb-ft)							
V86A	0.30 (0.22)	0.35 (0.25)	0.40 (0.29)	0.40 (0.29)	0.40 (0.29)	0.40 (0.29)	0.45 (0.33)
V86B	1.20 (0.88)	1.50 (1.10)	1.70 (1.25)	1.70 (1.25)	1.80 (1.32)	1.90 (1.40)	2.00 (1.47)
V86C	1.70 (1.25)	1.80 (1.32)	1.90 (1.40)	2.00 (1.47)	2.10 (1.55)	2.20 (1.62)	2.30 (1.69)

3-way switching



3-way Valve Ordering Information and Dimensions

Basic Ordering Number	End Connections Inlet & Outlet	Orifice mm (in.)	Dimensions mm (in.)				SQ
			A	H	H1	L	
V86A-	3* - D-4T- 1/4 in. Dk-Lok	4.8 (0.19)	107 (4.21)	39 (1.53)	53.5 (2.10)	92 (3.62)	32.0 (1.26)
	3* - D-6T- 3/8 in. Dk-Lok	7.1 (0.28)			55.0 (2.16)	95 (3.74)	
	3* - D-8T- 1/2 in. Dk-Lok	10.0 (0.39)			57.5 (2.26)	106 (4.17)	
	3* - F-4N - 1/4 in. Female NPT				36.7 (1.44)	72 (2.83)	
	3* - F-6N- 3/8 in. Female NPT				40.2 (1.58)	75 (2.95)	
3* - F-8N- 1/2 in. Female NPT	44.2 (1.74)	89 (3.50)					
V86B-	3* - F-8N- 1/2 in. Female NPT	12.7 (0.50)	149 (5.86)	51 (2.00)	49.7 (1.95)	93 (3.66)	40.0 (1.57)
	3* - F-12N- 3/4 in. Female NPT				55.2 (2.17)	102 (4.01)	
	3* - D-10T- 5/8 in. Dk-Lok				65.5 (2.57)	116 (4.56)	
	3* - D-12T- 3/4 in. Dk-Lok				65.5 (2.57)	115 (4.52)	
V86C-	3* - D-12T- 3/4 in. Dk-Lok	15.8 (0.62)	149 (5.86)	56 (2.20)	70.0 (2.75)	125 (4.92)	50.0 (1.97)
	3* - D-16T- 1 in. Dk-Lok	20.0 (0.79)			76.6 (3.01)	134 (5.27)	
	3* - F-12N- 3/4 in. Female NPT				56.7 (2.23)	119 (4.68)	
	3* - F-16N- 1 in. Female NPT				60.8 (2.39)	129 (5.07)	

All dimensions shown are for reference only and are subject to change. Dimensions with Dk-Lok nuts are in finger-tight position.

How to Order

Select desired basic ordering number, to order side port entry, replace * with S, to order bottom port entry, replace * with B. i.e., V86A-3S-D-4T-, V86A-3B-D-4T-. To complete the ordering number, select valve body material designator. i.e., V86A-3B-D-4T-S.

3-way Valve Torque

Valve Series	System Pressures, bar (psig)						
	0 (0)	68.9 (1000)	137 (2000)	206 (3000)	275 (4000)	344 (5000)	413 (6000)
	Torque Unit: Nm (lbs-ft)						
V86A	0.27 (0.20)	0.31 (0.23)	0.36 (0.26)	0.36 (0.26)	0.36 (0.26)	0.36 (0.26)	0.40 (0.29)
V86B	1.08 (0.79)	1.35 (0.99)	1.53 (1.13)	1.53 (1.13)	1.62 (1.19)	-	-
V86C	1.53 (1.13)	1.62 (1.19)	1.71 (1.26)	1.80 (1.32)	1.90 (1.40)	-	-

Table 1. 2-way Valve Pressure and Temperature Rating

Valve Series	Sealing Materials			Pressure Rating @ -54 to 21 °C (-65 to 70 °F)	Temperature Rating
	Seat	Stem Packing	End Seal		
V86A	PVDF	PTFE	FKM	6,000 psig (413 bar)	-30 to 130 °C (-22 to 265 °F)
	PCTFE				-30 to 180 °C (-22 to 355 °F)
	PEEK				10,000 psig (689 bar)
V86B	PVDF	PTFE	FKM	5,000 psig (344 bar)	-23 to 110 °C (-9 to 230 °F)
	PCTFE				-23 to 160 °C (-9 to 320 °F)
V86C	PEEK			6,000 psig (413 bar)	-35 to 210 °C (-54 to 410 °F)

Table 2. 3-way Valve Pressure and Temperature Rating

Valve Series	Sealing Materials			Pressure Rating @ -54 to 21 °C (-65 to 70 °F)	Temperature Rating
	Seat	Stem Packing	End Seal		
V86A	PVDF	PTFE	FKM	4,000 psig (275 bar)	-30 to 130 °C (-22 to 265 °F)
	PCTFE				-30 to 180 °C (-22 to 355 °F)
	PEEK				6,000 psig (413 bar)
V86B	PVDF	PTFE	FKM	3,000 psig (206 bar)	-23 to 110 °C (-9 to 230 °F)
	PCTFE				-23 to 160 °C (-9 to 320 °F)
V86C	PEEK			4,000 psig (275 bar)	-35 to 210 °C (-54 to 410 °F)

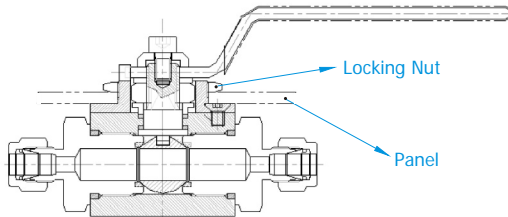
Note : Pressure ratings of valves are limited to the maximum working pressure of pipe ends and the tubing connected. Please refer to Dk-Lok catalog for details.

Optional Panel Mounting

Select suitable panel mounting from the two options below;

Locking nut panel mounting

Ordering designator : P1



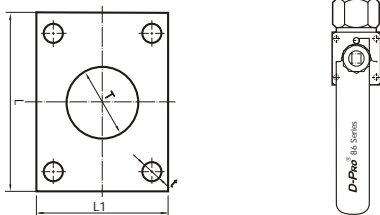
P1 - Panel Mount Information

Unit: mm (in.)

Valve Series	Panel Hole Drill	Panel
V86A	30.0 (1.18)	Max. 4.0 (0.157)
V86B	38.0 (1.50)	Max. 4.0 (0.157)
V86C	38.0 (1.50)	Max. 4.0 (0.157)

Screw hole panel mounting

Ordering designator : P2



P2 - Panel Mount Information

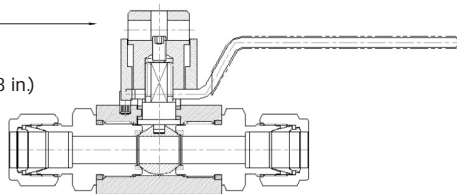
Unit : mm (in.)

Valve Series	L	L1	t	T
V86A	34.0 (1.33)	26.0 (1.02)	4.0 (0.15)	30.0 (1.18)
V86B	36.0 (1.42)	29.0 (1.14)	5.0 (0.20)	38.0 (1.50)
V86C	40.0 (1.57)	35.0 (1.37)	6.0 (0.23)	38.0 (1.50)

Optional "Lift-Turn" Locking Device

Ordering designator: LD

- Pad-Lock Mounting
You may also apply a pad-lock to this unique locking device.
Pad-lock Hole Dia. 7.2 mm (0.28 in)



Dk patented "Lift-Turn" safety locking device allows you to manually lock the valve in either an opened or closed position. The Lock Device is made with study stainless steel upper and lower locking detents.

Note:
LD option is not applicable to 3-way bottom port inlet valves.

Ordering Information

Select the desired basic ordering number, and options from designators listed below.

V86A-D-4T-PC
V86B-D-12T-

-P1

-LD

-S

-S

Seat	Panel Mounting	Locking Device	Handle	Valve Body
PC: PCTFE PK: PEEK	P1: Locking nut panel mounting P2: Screw hole panel mounting	LD: Locking device	Nil: Standard lever handle OH: Oval handle	●S: S316 ●HC: Hastelloy C-276
	Note: Panel mounting and Locking device option are not applicable to the same valve.		Note: OH option is applicable to 2-way V86A series valves.	

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.



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For International customers

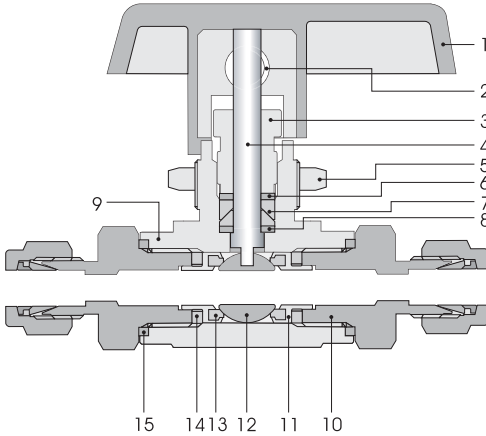
Tel. (82) 55-338-0031/2
Fax (82) 55-338-6746
E-mail: dklok@dklok.com

Features

- High flow in a compact design.
- High pressure capacity designed for blow-out proof with internally loaded ball stem.
- Micro-finished ball provides a positive seal.
- 90 degree actuation for 2-way and 180 degree actuation for 3-way ball valves.
- Panel mounting as standard.
- Chevron stem seal, adjustable with the handle disassembled.
- Handle indicates flow direction.
- Low operating torques and positive handle stops.
- Optional pneumatic actuation.
- Various ends: Reliable DK-LOK[®], ISO, NPT, BSP male & female pipe threads.



Material of Construction



Components	Valve Body Material Stainless Steel Grade/ASTM Specification
1. Handle	Nylon with brass insert
2. Set Screw	17-4PH/A564
3. Packing bolt*	
4. Stem	SS316/A276
5. Panel Nut	
6. Upper Gland	
7. Stem Chevron Packing	PTFE/D1710 type 1, Grade 1, Class B
8. Lower Gland	SS316/A276
9. Body	SS316/A182 Type F316
10. End Connector	
11. Retainer	SS316/A276 or A479
12. Ball	
13. Seat	Standard PCTFE (Kel-F), optional PTFE, PEEK
14. Retainer Seal	
15. End Connector Seal	PTFE/D1710 type 1, Grade 1, Class B

- * Molybdenum disulfide with hydrocarbon coating
 • Wetted parts and lubricants are listed in blue.
 • Lubricant is Fluorinated-based.

Operation and Packing Adjustment

- VH86 valves are designed to control fluid in full open and closed position, using VH86 valves to throttle the flow may reduce the valve life.
- Stem packing can be adjustable with the handle disassembled. Tighten packing bolt clockwise to tighten the stem packing.
- Service in high pressure may reduce the seat sealing performance in low pressure service.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.
- If the valve system needs to be tested at higher pressure than the valve maximum pressure, the valve must be in open position during the test so as not to damage the valve seat.
- Optional Sour Gas Service with NACE standard latest version.
- Optional Pneumatic Actuator is available. See Pneumatic Actuator on page 4.

Application

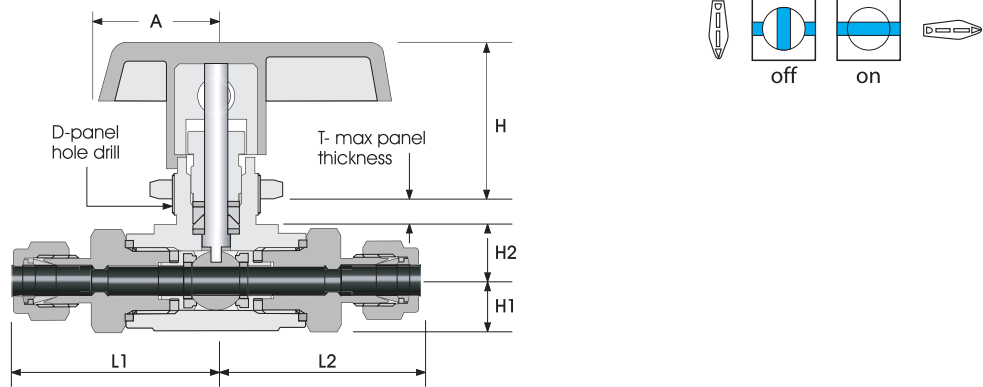
- VH86 series ball valve offers a safe and reliable performance in a wide range of onshore and offshore applications: Water, oil, gas, petrochemical in heavy duty applications.

Factory Test, Cleaning and Packaging

- Every valve is factory tested with nitrogen gas at 1000 psig (68.9 bar) for leakage at seat to a maximum allowable leak rate of 0.1 SCCM. The packing is tested with nitrogen gas for no detectable leakage.
- Every valve is cleaned and packaged in accordance with DK cleaning standard DC-01.

Bi-directional 2-way Ball Valves

In-line pattern



Technical Data

Valve Series	Sealing Materials			Pressure Rating @-27 to 37 °C (-20 to 100 °F)	Temperature Rating
	Seat	Stem Packing	Retainer Seal		
VH86B	PCTFE	PTFE	PTFE	6000 psig (413 bar)	-30 to 180 °C (-22 to 355 °F)
	PEEK	PTFE	PTFE	6000 psig (413 bar)	-54 to 230 °C (-65 to 446 °F)
	PTFE	PTFE	PTFE	1500 psig (103 bar)	-30 to 176 °C (-22 to 349 °F)
VH86C	PCTFE	PTFE	PTFE	6000 psig (413 bar)	-30 to 180 °C (-22 to 355 °F)
	PEEK	PTFE	PTFE	6000 psig (413 bar)	-54 to 230 °C (-65 to 446 °F)
	PTFE	PTFE	PTFE	1500 psig (103 bar)	-30 to 176 °C (-22 to 349 °F)

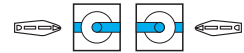
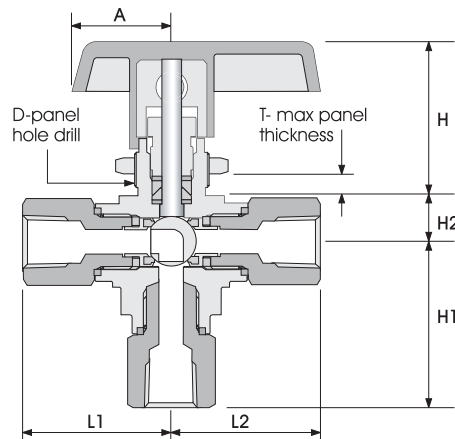
• PCTFE is standard seat material.

Ordering Information and Table of Dimensions

Basic Ordering Number	End Connections		Orifice		Cv	Dimensions mm (in.)										
	Inlet	Outlet	mm	inch		L1	L2	H1	H2	H	A	D	T			
VH86B-	D-2T-	1/8 in. Dk-Lok		2.4	0.093	0.26	83.8 (3.30)									
	D-4T-	1/4 in. Dk-Lok														
	MD-4N4T-	1/4 in. Male NPT	1/4 in. Dk-Lok	4.7	0.187	1.04	44.2 (1.74)	37.6 (1.48)								
	FD-4F4T-	1/4 in. Female NPT	1/4 in. Dk-Lok				41.1 (1.62)									
	F-4N-	1/4 in. Female NPT					76.8 (3.02)									
	M-4N-	1/4 in. Male NPT					41.1 (1.62)									
	MF-4N-	1/4 in. Male NPT	1/4 in. Female NPT				38.4 (1.51)	41.1 (1.62)	10.7 (.42)	11.9 (.47)	38.9 (1.53)	25.4 (1.00)	19.6 (.77)	6.4 (.25)		
	MD-4N6T-	1/4 in. Male NPT	3/8 in. Dk-Lok	6.4	0.25	2.34										
	FD-4N6T-	1/4 in. Female NPT	3/8 in. Dk-Lok				45.7 (1.8)	38.4 (1.51)								
	D-6T-	3/8 in. Dk-Lok						45.7 (1.8)								
	M-6N-	3/8 in. Male NPT					82.2 (3.24)									
	D-6M-	6 mm Dk-Lok		4.7	0.187	1.04	89.0 (3.50)									
	D-8M-	8 mm Dk-Lok					90.4 (3.56)									
	D-10M-	10 mm Dk-Lok		6.4	0.25	2.34	92.0 (3.62)									
VH86C-	F-6N-	3/8 in. Female NPT					99.0 (3.90)									
	F-8N-	1/2 in. Female NPT					109.20 (4.30)									
	D-8T-	1/2 in. Dk-Lok		10.3	0.406	6.42	118.8 (4.68)									
	M-8N-	1/2 in. Male NPT					112.8 (4.44)	17.5 (.69)	17.8 (.70)	44.2 (1.74)	38.1 (1.50)	22.9 (.90)	9.7 (.38)			
	D-12T-	3/4 in. Dk-Lok														
	D-12M-	12 mm Dk-Lok		9.5	0.375	5.57	118.4 (4.66)									
	D-16M-	16 mm Dk-Lok		10.3	0.406	6.42										

• All dimensions shown are for reference only and are subject to change.
 • Dimensions with DK-LOK nuts are in finger-tight position.

3-way Diverter Valves



3-way ball valve

D-Pro® VH86 3-way Ball Valve is designed to switch media through the bottom port and direct it to out of two outlet ports.

Technical Data

Valve Series	Sealing Materials			Pressure Rating @-27 to 37 °C (-20 to 100 °F)	Temperature Rating
	Seat	Stem Packing	End Seal		
VH86B-3B	PCTFE	PTFE	PTFE	4000 psig (275 bar)	-50 to 180 °C (-58 to 355 °F)
	PEEK	PTFE	PTFE	6000 psig (413 bar)	-54 to 230 °C (-65 to 446 °F)
	PTFE	PTFE	PTFE	1500 psig (103 bar)	-30 to 176 °C (-22 to 349 °F)
VH86C-3B	PCTFE	PTFE	PTFE	4000 psig (275 bar)	-50 to 180 °C (-58 to 355 °F)
	PEEK	PTFE	PTFE	6000 psig (413 bar)	-54 to 230 °C (-65 to 446 °F)
	PTFE	PTFE	PTFE	1500 psig (103 bar)	-30 to 176 °C (-22 to 349 °F)

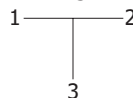
• PCTFE is standard seat material.

Ordering Information and Table of Dimensions

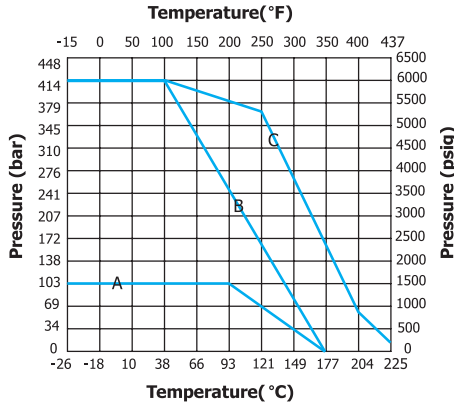
Basic Ordering Number	End Connections	Orifice		Cv	Dimensions mm (in.)											
		mm	Inch		L1	L2	H1	H2	H	A	D	T				
VH86B-3B-	D-2T-	1/8" Dk-Lok	2.4	0.093	0.21	41.9 (1.65)	41.9 (1.65)	45.5 (1.79)	11.9 (.47)	38.9 (1.53)	25.4 (1.00)	19.6 (.77)	6.4 (.25)			
	D-4T-	1/4" Dk-Lok	4.7	0.187	0.70	44.2 (1.74)	44.2 (1.74)	47.8 (1.88)								
	F-4N-	1/4" Female NPT	5.0	0.196	0.87	38.4 (1.51)	38.4 (1.51)	41.9 (1.65)								
	DDM-4T4N-*	1/4" Dk-Lok, 1/4" Male NPT	4.7	0.187	0.70	44.2 (1.74)	44.2 (1.74)	47.8 (1.88)								
	M-4N-	1/4" Male NPT	5.0	0.196	0.87	41.1 (1.62)	41.1 (1.62)	44.7 (1.76)								
	D-6T-	3/8" Dk-Lok				45.7 (1.8)	45.7 (1.8)	49.3 (1.94)								
	M-6N-	3/8" Male NPT	41.1 (1.62)	41.1 (1.62)	44.7 (1.76)											
	D-6M-	6 mm Dk-Lok	4.7	0.187	0.70	44.5 (1.75)	44.5 (1.75)	47.8 (1.88)								
	D-8M-	8 mm Dk-Lok	5.0	0.196	0.87	45.2 (1.78)	45.2 (1.78)	48.5 (1.91)								
	D-10M-	10 mm Dk-Lok				46.0 (1.81)	46.0 (1.81)	49.5 (1.95)								
VH86C-3B-	F-6N-	3/8" Female NPT	10.3	0.406	3.62	49.5 (1.95)	49.5 (1.95)	58.2 (2.29)	17.8 (.70)	44.2 (1.74)	38.1 (1.50)	22.9 (.90)	9.7 (.38)			
	F-8N-	1/2" Female NPT				54.6 (2.15)	54.6 (2.15)	63.2 (2.49)								
	D-8T-	1/2" Dk-Lok				59.4 (2.34)	59.4 (2.34)	68.1 (2.68)								
	DDF-8T8F-*	1/2" Dk-Lok, 1/2" Female NPT				59.4 (2.34)	59.4 (2.34)	63.2 (2.49)								
	M-8N-	1/2" Male NPT				56.4 (2.22)	56.4 (2.22)	65.8 (2.59)								
	D-12T-	3/4" Dk-Lok				59.2 (2.33)	59.2 (2.33)	68.1 (2.68)								
	D-12M-	12 mm Dk-Lok				9.5	0.375	3.46						59.2 (2.33)	59.2 (2.33)	67.8 (2.67)
	D-16M-	16 mm Dk-Lok				10.3	0.406	3.62						56.9 (2.23)	56.9 (2.23)	65.5 (2.67)

• All dimensions shown are for reference only and are subject to change.

• Dimensions with DK-LOK nuts are in finger-tight position.



* VH86 3-way ball valves are described by first the outlet ports (1),(2) and next the bottom inlet port (3).



VH86 2-way, 3-way Pressure - Temperature Curves

Legend:

A: PTFE seats
V86B, V86C, V86B-3B, V86C-3B series

B: PCTFE seats
V86B, V86C series

C: PEEK seats
V86B, V86C, V86B-3B, V86C-3B series

P series rack and pinion pneumatic actuator

Pneumatic Single and Double acting actuator

Material of Construction

Body Material	Extruded Aluminum with hard anodized or Cast Aluminum with epoxy painted
Rack	Cast Aluminum
Pinion	Steel or stainless steel
Gasket	Buna-N
Bearings	Easy sliding hard plastic

Technical Information

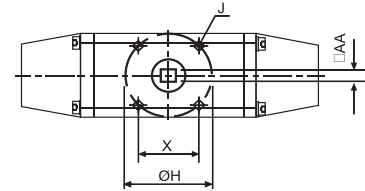
- Ambient temperature: - 20 ~ 80°C
- Recommended supply pressure: 6 bar
- Max. supply pressure: 10 bar
- End connection: Female BSPT 1/8 inch, BSPT 1/4 inch



90 Deg. Actuation Spring Return Pneumatic Actuators

Table 1. Technical Information

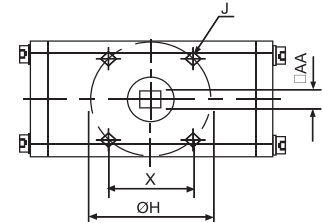
Ordering #		Dimensions	Weight Kg	Moment Values P=6 bar		Air Consumption Liter	Bracket Mounting Dimensions Unit: mm			
Normal close	Normal open	L x H x W unit: mm		Nm	kgf.m		OH	X	AA	J
PCS1	POS1	143x70x50	0.90	4	0.40	0.31	42	29.70	9	M5 x 8mmL
PCS2	POS2	180x80x65	1.75	7	0.71	0.70	50	35.35	11	M6 x 9mmL
PCS3	POS3	243x90x70	2.35	13	1.32	1.00	50	35.35	11	M6 x 9mmL



90 & 180 Deg. Actuation Double Acting Pneumatic Actuators

Table 2. Technical Information

90 Deg. Actuation		180 Deg. Actuation		Dimensions L x H x W unit: mm	Air Consumption Liter		Bracket Mounting Dimensions Unit: mm			
Ordering#	Weight Kg	Ordering#	Weight Kg		open	close	OH	X	AA	J
PD1	0.75	PDH-1	1.5	100 x 90 x 50	0.30	0.30	42	29.70	9	M5 x 8mmL
PD2	1.25	PDH-2	2.3	125 x 100 x 65	0.70	0.50	50	35.35	11	M6 x 9mmL
PD3	1.85	PDH-3	2.65	145 x 110 x 70	1.00	0.90	50	35.35	11	M6 x 9mmL



How to Order

Select applicable valve pattern, options and body material from designator listed below.

VH86B-D-6T-
VH86C-D-12T

- PK

- SG

- PCS1

- S

- S

Seat Material	Sour Gas Designator	Factory Assembled Pneumatic Actuator	Valve Material
<ul style="list-style-type: none"> • Nil: PCTFE • PK: PEEK • PE: PTFE 	<ul style="list-style-type: none"> • SG: Sour Gas 	Select applicable actuator from table 1 & 2. i.e., PCS1	<ul style="list-style-type: none"> • S: S316

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.

<p>THE POWER OF RELIABILITY DK TECH CORPORATION www.dklok.com</p>	<p>DK TECH Trademarks</p>		<p>DK TECH contact information</p> <p>Tel. (82) 55-338-0114 Fax (82) 55-338-6745 E-mail: sales@dklok.com</p>		<p>For International customers</p> <p>Tel. (82) 55-338-0031/2 Fax (82) 55-338-6746 E-mail: dklok@dklok.com</p>	
	<p>Mailing Address</p> <p>826, Naesam-Ri, Juchon-Myeon, Gimhae-City, Gyeong Nam, Korea 621-841</p>					



VT86 Series Trunnion Ball Valves

VT86 Series Pressure Rating up to 413bar (6000 psig)
 VTH86 Series pressure Rating up to 689bar (10 000psig)

Catalog No VT86-2
 April 2008



Features

- The Trunnion ball design is featured by cylindrical extensions at the top and bottom of the ball.
- The trunnion prevents the ball from shifting and permits the ball to rotate on a vertical axis.
- Integral ball stem machined from single piece of bar stock eliminates the backlash during handle actuation.
- Blowout-proof, bottom-loaded trunnion ball
- Panel mounting nut is standard permitting valve to panel or actuator.

Technical Data

Valve Series	Seat Material	Temperature Rating	Pressure Rating at 37 °C (100 °F)
VT86	PCTFE	-17 to 121 °C 0 to 250 °F	413bar (6000psig)
	PEEK	- 17 to 204 °C 0 to 399 °F	413bar (6000psig)
	PTFE	0 to 399 °F	103bar (1500psig)
VTH86	PEEK	-17 to 204 °C 0 to 399 °F	413 to 689bar (6000 to 10 000psig)

- Valves that have not been actuated for a period of time may have a higher initial actuation torque.
- VT86 Series ball valves are designed to control fluid in full open and full closed position.

VT86 Series Pressure- Temperature Ratings

Body material		316 Stainless steel					
Seat material		PCTFE		PTFE		PEEK	
Temperature		bar	psig	bar	psig	bar	psig
°C	°F	Working Pressure					
-17 to 37	0 to 100	413	6000	103	1500	413	6000
65	150	206	3000	77.5	1125	399	5800
93	200	137	2000	51.6	750	344	5000
121	250	69	1000	43	625	282	4100
148	300			34.4	500	220	3200
176	350			25.8	375	158	2300
204	399			17.2	250	96.4	1400

VTH86 Series Pressure-Temperature Ratings

Body material		316 Stainless steel											
End connection	DK-LOK	6M, 1/4 in.	8M	12M	3/8 in.	1/2 in.	10M						
	Female NPT	1/8, 1/4 in.	-	-	-	-	-						
Seat Material		PEEK											
Temperature		Working Pressure											
°C	°F	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig
-17 to 37	0 to 100	689	10000	516	7500	454	6600	447	6500	461	6700	413	6000
65	150	516	7500	516	7500	454	6600	447	6500	461	6700	406	5900
93	200	344	5000	344	5000	344	5000	344	5000	344	5000	344	5000
121	250	282	4100	282	4100	282	4100	282	4100	282	4100	282	4100
148	300	220	3200	220	3200	220	3200	220	3200	220	3200	220	3200
176	350	158	2300	158	2300	158	2300	158	2300	158	2300	158	2300
204	400	96.4	1400	96.4	1400	96.4	1400	96.4	1400	96.4	1400	96.4	1400

Factory Test

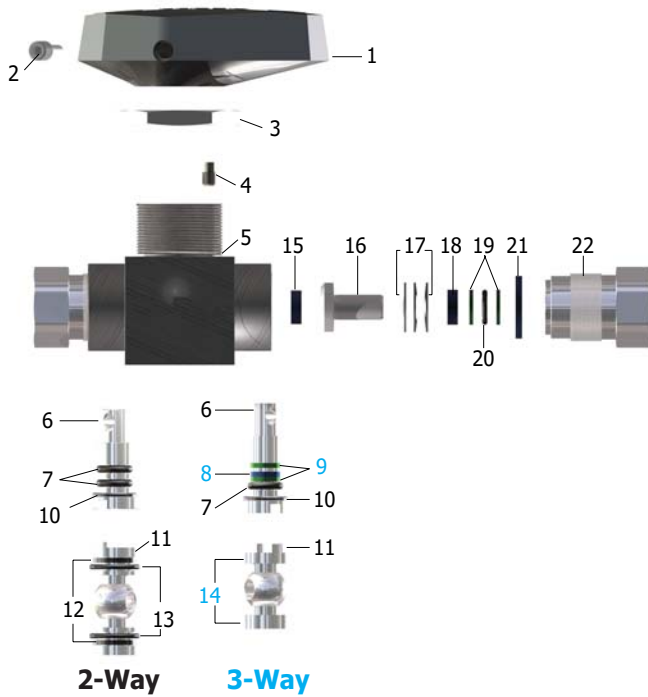
Every valve is factory tested with nitrogen gas at 68.9bar (1000psig) for leakage to a maximum allowable leak rate of 0.1 SCCM at seat. Hydraulic shell test is optionally performed at 1.5 times the working pressure to a requirement of no detectable leakage with a liquid leak detector

Cleaning and packaging

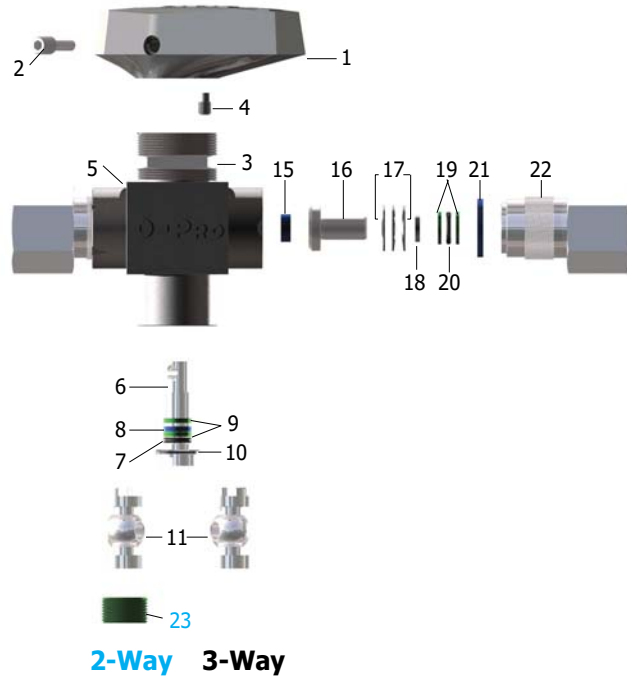
Every valve is cleaned and packaged in accordance with DK cleaning standard DC-01.

<p>Quality System Approvals</p>	<p>Dk-Lok Tube Fitting Certification Listing</p>	<p>D-Pro Valve Certification Listing</p>	
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VT86 Series



VTH86 Series



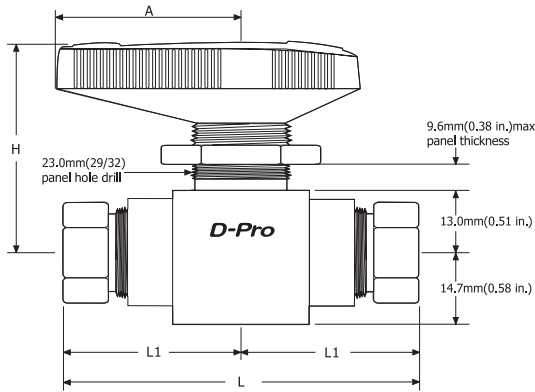
6. Stem:

A flow direction on top of the stem helps set a direction of the valve when handle is removed for panel mounting.

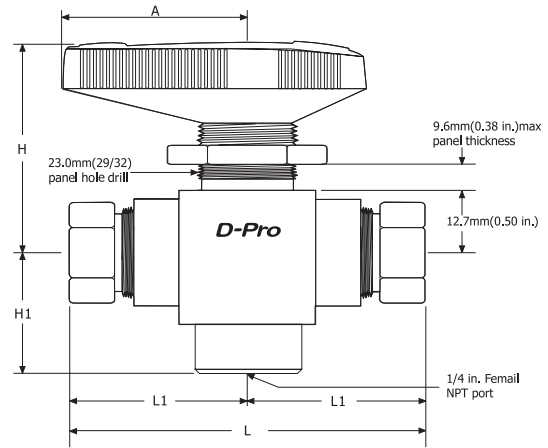
Materials of Construction

Component	VT86		VTH86	
	2-Way	3-Way	2-Way	3-Way
	Grade/ASTM Specification			
1. Handle	Nylon with brass insert			
2. Set screw	SS316/A276			
3. Panel nut	SS316/A276 or A479			
4. Stop pin (2-Way: 2, 3-Way: 1)	Stainless steel			
5. Body	SS316/A276 or A479			
6. Stem	SS316/A276 or A479			
7. Stem O-rings (2-Way: 2, 3-Way: 1)	FKM O-ring			
8. Stem backup ring	PEEK			
9. Secondary Stem backup ring	PTFE/D1710, type 1			
10. Stem bearing	Reinforced PTFE	PEEK		
11. Trunnion Ball	SS316/A276,A479			
12. Trunnion backup rings (2)	Reinforced PTFE	-	-	-
13. Trunnion O-rings (2)	FKM O-ring	-	-	-
14. Trunnion bearings	-	PEEK	-	-
15. Seats (2)	PCTFE/PEEK/PTFE		PEEK	
16. Seat carriers (2)	SS316/A276 or A479			
17. Seat springs (6 with PTFE, 12 with all others)	Alloy X-750/AMS 5542			
18. Seat carrier guides (2)	SS316/A276 or A479			
19. Seat carrier backup rings (4)	Reinforced PTFE			
20. Seat carrier O-rings (2)	FKM O-ring			
21. End screw seals (2)	PTFE/D1710,type 1			
22. End connectors (2)	SS316/A276 or A479			
23. Plug	-	-	SS316/A276	-

- Wetted components and lubricants are listed in **BLUE**.
- Lubricants: Molybdenum disulfide and fluorinated based.



2-Way



3-Way

Ordering Information and Table of Dimensions

VT86 Series Basic Ordering Number	Cv	Orifice mm (in.)	VT86 Series Basic Ordering Number	Cv	Orifice mm (in.)	End Connection	Dimensions, mm (in.)						
							L	L1	H	H1	A		
2-Way													
VT86-	F2N-	1.2	VTH86-	F2N-	1.2	1/8 in. Female NPT	74.7 (2.94)	37.3 (1.47)	48.0 (1.89)	-	38.0 (1.50)		
	F4N-	1		F4N-	1	1/4 in. Female NPT	99.8 (3.93)	50.0 (1.97)		-			
	D4T-	1.6		D4T-	1.6	1/4 in. DK-LOK	105 (4.14)	52.6 (2.07)		-			
	D6T-	1.4		D6T-	1.4	3/8 in. DK-LOK	112 (4.39)	55.6 (2.19)		-			
	D8T-	1		D8T-	1	1/2 in. DK-LOK	117 (4.60)	58.4 (2.30)		-			
	D6M-	1.6		D6M-	1.6	6mm DK-LOK	105 (4.14)	52.6 (2.07)		-			
	D8M-	1.5		D8M-	1.5	8mm DK-LOK	105 (4.15)	52.6 (2.07)		-			
	D10M-	1.3		D10M-	1.3	10mm DK-LOK	112 (4.41)	55.9 (2.20)		-			
	D12M-	1		D12M-	1	12mm DK-LOK	117 (4.60)	58.4 (2.30)		-			
3-Way													
VT863-	F2N-	0.75	VTH863-	F2N-	0.75	1/8 in. Female NPT	74.7 (2.94)	37.3 (1.47)	48.0 (1.89)	26.9 (1.06)	38.0 (1.50)		
	F4N-			F4N-		1/4 in. Female NPT	99.8 (3.93)	50.0 (1.97)					
	D4T-			D4T-		1/4 in. DK-LOK	105 (4.14)	52.6 (2.07)					
	D6T-			D6T-		3/8 in. DK-LOK	112 (4.39)	55.6 (2.19)					
	D8T-			D8T-		1/2 in. DK-LOK	117 (4.60)	58.4 (2.30)					
	D6M-			D6M-		6mm DK-LOK	105 (4.14)	52.6 (2.07)					
	D8M-			D8M-		8mm DK-LOK	105 (4.15)	52.6 (2.07)					
	D10M-			D10M-		10mm DK-LOK	112 (4.41)	55.9 (2.20)					
	D12M-			D12M-		12mm DK-LOK	117 (4.60)	58.4 (2.30)					

All dimensions shown are for reference only and are subject to change. Dimension with DK-LOK nuts are in finger-tight position.

Flow Rate

VT86 series Flow Data @21 °C (70 °F)

Pressure Drop to Atmosphere (P) in bar (psig)	3-Way			2-Way				
	Cv 0.75	Cv 1	Cv 1.2	Cv 1.3	Cv 1.4	Cv 1.5	Cv 1.6	
Water U.S.GPM (std L/min)	0.68 (10)	9.0(2.4)	12.1 (3.2)	14.3 (3.8)	15.5 (4.1)	17.8 (4.4)	17.8 (4.7)	19.3 (5.1)
	3.4 (50)	20.0 (5.3)	26.8 (7.1)	32.1 (8.5)	34.8 (9.2)	37.4 (9.9)	40.1 (10.6)	42.7 (11.3)
	6.8 (100)	28.3 (7.5)	37.8 (10.0)	45.4 (12.0)	49.2 (13.0)	53.0 (14.0)	56.7 (15.0)	60.5 (16.0)
Air SCFM (std L/min)	0.68 (10)	226 (8.0)	311 (11.0)	396 (14.0)	424 (15.0)	453 (16.0)	481 (17.0)	509 (18.0)
	3.4 (50)	651 (23.0)	849 (30.0)	1019 (36.0)	1104 (39.0)	1189 (42.0)	1274 (45.0)	1359 (48.0)
	6.8 (100)	1132 (40.0)	1500 (53.0)	1812 (64.0)	1953 (69.0)	2095 (74.0)	2265 (80.0)	2406 (85.0)

VTH86 series Flow Data @21 °C (70 °F)

Pressure Drop to Atmosphere (P) in bar (psig)	3-Way			2-Way				
	Cv 0.75	Cv 1	Cv 1.2	Cv 1.3	Cv 1.4	Cv 1.5	Cv 1.6	
Water U.S.GPM (std L/min)	10.3 (150)	34.8 (9.2)	45.4 (12)	56.7 (15)	60.5 (16)	64.3 (17)	68.1 (18)	74.1 (19.6)
	41.3 (600)	69.1 (18)	94 (25)	109 (29)	121 (32)	128 (34)	140 (37)	147 (39)
	68.9 (1000)	90.8 (24)	143 (38)	143 (38)	155 (41)	166 (44)	178 (47)	189 (50)
Air SCFM (std L/min)	10.3 (150)	1614 (57)	2152 (76)	2805 (92)	2803 (99)	3029 (107)	3256 (115)	3454 (122)
	41.3 (600)	5946 (210)	8070 (285)	9627 (340)	10 505 (371)	11 298 (399)	12 119 (428)	12 912 (456)
	68.9 (1000)	9912 (350)	13 308(470)	16 140 (570)	17 272 (610)	18 688 (660)	19 821 (700)	21 321 (750)

Options

VT86 Series 2-Way External Vent Options

A downstream or upstream vent option on VT86 series 2-Way ball is available. The external vent port is constructed on the trunnion ball. The vent does not activate when the valve is in open position. But the pressure rating with the vent port is reduced to 34.4bar (500 psig).

Downstream Vent (Ordering designator - DV)



When a downstream vent valve is closed, full shutoff at the upstream seat occurs. Downstream system media flows through the vent hole in the trunnion ball and vents to atmosphere through the bottom of the trunnion ball.

Upstream Vent (Ordering designator - UV)



When an upstream vent valve is closed, full shut-off at the downstream seat occurs. Upstream system media flows through the vent hole in the trunnion ball and vents to atmosphere through the bottom of the trunnion ball.

Low Temperature Service Ball Valves

VT86 and VTH86 series ball valves are applicable to a temperature rating of -40 to 93 °C (-40 to 200 °F). Low-temperature valves have low-temperature O-rings. All other materials remain same as those of standard valves. To order low-temperature service valve, insert designator **L** in the applicable valve ordering number.

Examples: VTL86-D4T-S, VTHL86-D4T-S.

VTL86 Series Pressure-Temperature Ratings

Body Material	SS316	
	PCTFE, PEEK	PTFE
Temperature	Working Pressure	
-40 to -17 °C (-40 to 0 °F)	413bar 6000psig	103bar 1500psig

VTHL86 Series Pressure-Temperature Ratings

Body Material		SS316					
End Connection	DK-LOK Female NPT	6M, 1/4 in. 1/8 in, 1/4 in.	8M -	12M -	3/8 in. -	1/2 in. -	10M -
Temperature		Working Pressure					
-40 to -17 °C (-40 to 0 °F)		689bar 10 000psig	516bar 7500psig	454bar 6600psig	447bar 6500psig	461bar 6700psig	413bar 6000psig

How to Order

Select applicable valve basic ordering number, options and body material designator listed below.





Seat Materials	External Vent Options	Body Material	Complete Ordering Number Examples
Nil: Standard PCTFE for VT86 Series Nil: Standard PEEK for VTH86 Series ● PC: PCTFE ● PK: PEEK ● PE: PTFE	● DV: Downstream Vent ● UV: Upstream Vent Note: 1. Vent option available only on VT86 series 2-Way ball valves. 2. Vent option is not applicable to Low Temperature service valve.	● S: 316 Stainless steel	VT86-D4T-PE-DV-S VTH863-D4T-PC-S

We reserve the right to change specifications stated in this catalog for our continuing program of improvement.

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance.

Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.

 THE POWER OF RELIABILITY DK TECH CORPORATION www.dklok.com	DK TECH Trademarks   		DK TECH contact information Tel. (82) 55-338-0114 Fax (82) 55-338-6745 E-mail: sales@dklok.com	For International customers Tel. (82) 55-338-0031/2 Fax (82) 55-338-6746 E-mail: dklok@dklok.com
	Mailing Address 826, Naesam-Ri, Juchon-Myeon, Gimhae-City, Gyeong Nam, Korea 621-841			



V23 Series Plug Valves

Pressure Rating up to 3000 psig (206 bar)

Catalog No. V23-2
June 2008

Features

- Quarter-turn operation
- Unique forward flow throttling
- Low torque operation
- Unidirectional flow



Materials of Construction

Component	Valve Body Materials	
	Stainless Steel	Brass
	Grade/ASTM Specification	
1. Body	SS316/ A479 or A276	Brass / B16
2. Plug	PTFE-coated SS316/ A479 or A276	PTFE-coated Brass / B16
3. O-ring	PTFE-coated FKM	
4. Handle	Nylon	
5. Pin	SS316/A276	
6. Snap ring	Stainless Steel	

- Wetted parts and lubricants listed in blue
- Lubricant is silicone-based

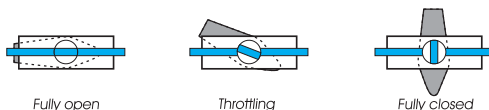
Technical Data

Series	Valve Material	Pressure Rating		Temperature Rating	Plug Orifice mm (in.)
		psig	bar		
V23A	SS316	3000	206	-10 to 400 °F (-23 to 204 °C)	4.4 (.17)
	Brass				
V23B	SS316	2000	137		7.2 (.28)
	Brass				

- Differential pressure is limited to maximum 150 psig (10.3bar) when reverse flow occurs.
- Throttling reverse flow may damage O-ring.

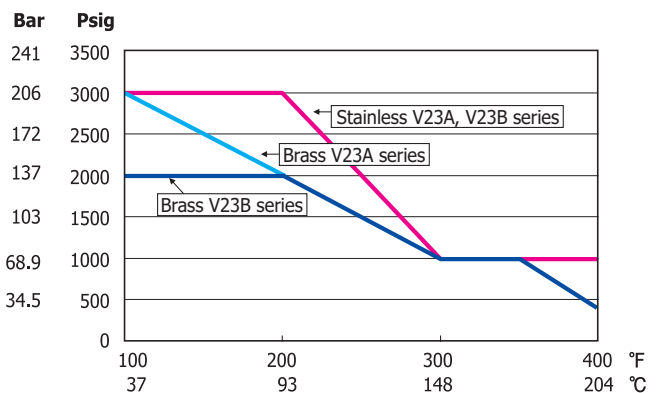
Operation

- D-pro plug valves provide positive shut-off, high flow capacity, and quick quarter-turn operation.
- D-pro plug valve provides flow throttling capability.

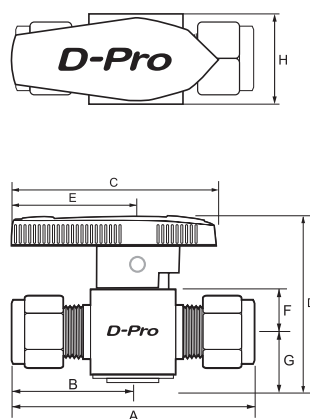


Pressure - Temperature Curves

with standard FKM O-ring



Ordering Information and Dimensions



Basic Ordering Number	End Connections		Dimensions mm (inches)								
	Inlet	Outlet	A	B	C	D	E	F	G	H	
V23A	D-2T-	1/8 in. Dk-Lok	50.5 (1.99)								
	D-4T-	1/4 in. Dk-Lok	55.1 (2.17)								
	D-6T-	3/8 in. Dk-Lok	58.2 (2.29)								
	D-6M-	6mm Dk-Lok	55.1 (2.17)								
	M-2N-	1/8 in. Male NPT	38.9 (1.53)	19.8 (0.78)	47.8 (1.88)	38.6 (1.52)	29.0 (1.14)	9.4 (0.37)	11.7 (0.46)	19.1 (0.75)	
	M-4N-	1/4 in. Male NPT	48.3 (1.90)								
	MD-4N4T-	1/4 in. Male NPT	1/4 in. Dk-Lok	51.2 (2.03)							
	MF-4N-	1/4 in. Male NPT	1/4 in. female NPT	50.8 (2.00)							
	F-2N-	1/8 in. Female NPT		45.2 (1.78)							
	F-4N-	1/4 in. Female NPT		53.1 (2.09)							
F-4R-	1/4 in. Female ISO tapered		56.1 (2.21)								
V23B	D-6T-	3/8 in. Dk-Lok	67.6 (2.66)	29.0 (1.14)	63.2 (2.49)	54.1 (2.13)	38.1 (1.50)	14.2 (0.56)	16.8 (0.66)	28.4 (1.12)	
	D-8T-	1/2 in. Dk-Lok	73.2 (2.88)								
	D-8M-	8mm Dk-Lok	67.6 (2.66)								
	D-10M-	10mm Dk-Lok	68.1 (2.68)								
	D-12M-	12mm Dk-Lok	75.2 (2.96)								
	M-8N-	1/2 in. Male NPT	67.1 (2.64)								
	F-6N-	3/8 in. Female NPT	60.5 (2.38)								
	F-8N-	1/2 in. Female NPT	73.2 (2.88)								
F-8R-	1/2 in. ISO Female Tapered	79.8 (3.14)									

All dimensions shown are for reference only and are subject to change. Dimensions with Dk-Lok nuts are in finger-tight position.

<p>Quality System Approvals</p>	<p>Dk-Lok Tube Fitting Certification Listing</p>	<p>D-Pro Valve Certification Listing</p>	<p>THE POWER OF RELIABILITY DK TECH CORPORATION www.dklok.com</p>
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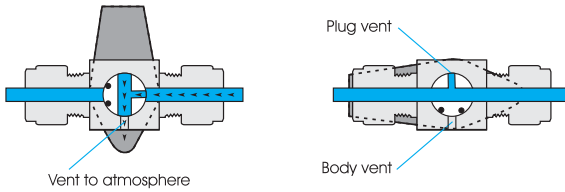
Factory Test

- Every V23 series plug valve is factory tested for shutoff at 600psig (41.3 bar).

Optional Downstream Vent

Vent to atmosphere when valve is closed

valve open



Optional vented plug and valve body provides system pressure release to atmosphere when valve is closed.

- This option reduces the maximum operation pressure to 150 psig (10.3 bar).
- To order, use designator - VH. See how to order.

Optional O-ring material

PTFE-coated FKM is standard. Choose optional O-ring material for fluid compatibility and system temperatures.

O-ring material	O-ring Designator	Temperature Range
Standard PTFE-coated FKM	EV	-20 to 400 °F (-28 to 204 °C)
PTFE-coated Buna-N	EB	-68 to 221 °F (-20 to 105 °C)
PTFE-coated EPDM	EE	-49 to 275 °F (-45 to 135 °C)

Flow Data

Basic Ordering Number	End Connections		Cv	Pressure Drop to Atmosphere, psi (bar)						
				Air Flow, std ft ³ /min (L/min)			Water Flow, US gal/min(L/min)			
	Inlet	Outlet		@70 °F (21 °C)						
				1 (0.068)	5 (0.34)	10 (0.68)	1 (0.068)	5 (0.34)	10 (0.68)	
V23A-	D-2T-	1/8 in. Dk-Lok	0.1	0.3 (8.4)	0.8 (22)	1.1 (31)	0.1 (0.37)	0.2 (0.75)	0.3 (1.1)	
	D-4T-	1/4 in. Dk-Lok	1.6	6.0 (169)	13 (368)	18 (509)	1.6 (6.0)	3.6 (13.6)	5.1 (19.3)	
	D-6T-	3/8 in. Dk-Lok	1.1	4.1 (116)	8.9 (252)	12.4 (351)	1.1 (4.1)	2.5 (9.4)	3.5 (13.2)	
	D-6M-	6mm Dk-Lok	1.6	6.0 (169)	13 (368)	18 (509)	1.6 (6.0)	3.6 (13.6)	5.1 (19.3)	
	M-2N-	1/8 in. Male NPT	1.0	3.7 (104)	8.1 (229)	11.3 (320)	1.0 (3.7)	2.2 (8.3)	3.2 (12.1)	
	M-4N-	1/4 in. Male NPT		3.7 (104)	8.1 (229)	11.3 (320)	1.0 (3.7)	2.2 (8.3)	3.2 (12.1)	
	MD-4N4T-	1/4 in. Male NPT	1/4 in. Dk-Lok	0.9	3.3 (93)	7.3 (206)	10.1 (286)	0.9 (3.4)	2.0 (7.5)	2.8 (10.8)
	MF-4N-	1/4 in. Male NPT	1/4 in. female NPT	1.0	3.7 (104)	8.1 (229)	11.3 (320)	1.0 (3.7)	2.2 (8.3)	3.2 (12.1)
	F-2N-	1/8 in. Female NPT	1.2	4.4 (124)	9.7 (274)	13.5 (382)	1.2 (4.5)	2.7 (10.2)	3.8 (14.3)	
	F-4N-	1/4 in. Female NPT		4.4 (124)	9.7 (274)	13.5 (382)	1.2 (4.5)	2.7 (10.2)	3.8 (14.3)	
F-4R-	1/4 in. Female ISO tapered	0.9	3.3 (93)	7.3 (206)	10.1 (286)	0.9 (3.4)	2.0 (7.5)	2.8 (10.8)		
V23B-	D-6T-	3/8 in. Dk-Lok	6.4	23.9 (676)	52.0 (1470)	72.3 (2040)	6.4 (24.2)	14.3 (54.1)	20.2 (76.4)	
	D-8T-	1/2 in. Dk-Lok	4.4	16.4 (464)	35.7 (1010)	49.7 (1400)	4.4 (16.6)	9.8 (37.0)	13.9 (52.6)	
	D-8M-	8mm Dk-Lok	6.4	23.9 (676)	52.0 (1470)	72.3 (2040)	6.4 (24.2)	14.3 (54.1)	20.2 (76.4)	
	D-10M-	10mm Dk-Lok		23.9 (676)	52.0 (1470)	72.3 (2040)	6.4 (24.2)	14.3 (54.1)	20.2 (76.4)	
	D-12M-	12mm Dk-Lok	4.8	17.9 (506)	39.0 (1100)	54.2 (1530)	4.8 (18.1)	10.7 (40.4)	15.2 (57.5)	
	M-8N-	1/2 in. Male NPT	2.4	9.0 (254)	19.5 (552)	27.1 (767)	2.4 (9.0)	5.4 (20.4)	7.6 (28.7)	
	F-6N-	3/8 in. Female NPT	4.3	16.0 (453)	34.9 (988)	48.6 (1370)	4.3 (16.2)	9.6 (36.3)	13.6 (51.4)	
	F-8N-	1/2 in. Female NPT	2.7	10.1 (286)	21.9 (620)	30.5 (863)	2.7 (10.2)	6.0 (22.7)	8.5 (32.1)	
F-8R-	1/2 in. ISO Female Tapered	10.1 (286)		21.9 (620)	30.5 (863)	2.7 (10.2)	6.0 (22.7)	8.5 (32.1)		

How to Order

Select the desired valve basic ordering number, options and body material.

V23A-D-4T-
V23B-F-8N-

-EB

-VH

-B

-S

O-ring Material Designator	Downstream Vent Option	Body Material Designator
<ul style="list-style-type: none"> • Nil : PTFE-coated Viton • EB : PTFE-coated Buna-N • EE : PTFE-coated EPDM 	<ul style="list-style-type: none"> • Nil : no vent • VH : Vent 	<ul style="list-style-type: none"> • S : SS316 • B : Brass

We reserve the right to change the specifications stated in this catalog for our continuing program of improvement.

Safe Valve Selection

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 <p>THE POWER OF RELIABILITY DK TECH CORPORATION www.dklok.com</p>	DK TECH Trademarks		<p>DK TECH contact information</p> <p>Tel. (82) 55-338-0114</p> <p>Fax (82) 55-338-6745</p> <p>E-mail: sales@dklok.com</p>	<p>For International customers</p> <p>Tel. (82) 55-338-0031/2</p> <p>Fax (82) 55-338-6746</p> <p>E-mail: dklok@dklok.com</p>
	  	<p>Mailing Address</p> <p>826, Naesam-Ri, Juchon-Myeon, Gimhae-City, Gyeong Nam, Korea 621-841</p>		