DK

THE SYMBOL OF QUALITY

Dk-Lok® Tube Fittings

D-Pro® Valves

Green® Pipe & Weld Fittings

THE POWER OF RELIABILITY

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Check/Relief valves

Quality System Approvals

Dk-Lok Tube Fitting Certification Listing

D-Pro Valve Certification Listing

D-Pro® Check Valves

V33, VP33, VA33, VH36 and VL36 Series
Fixed and Adjustable cracking pressure
Pressures up to 3000 psig (206 bar) and 6000 psig (413 bar)

Catalog No V336-6.
May 2008

Features

- Fixed and adjustable cracking pressure.
- Reliable DK-LOK Tube Fitting, NPT and ISO pipe end connections.
- Stainless and Brass material construction.

Technical Information

Valve Series	V33 Series		VP33 Series	VA33 Series	VH36 Series	
	V33A, V33B, V33C and V33D	V33E and V33F	VA33A and VP33B	VA33A and VA33B	VH36A and VH36B	VH36C
Maximum Operating Pressure @21℃ (70˚F)	SS316 & Brass 3000 psi (206 bar)	SS316: 2000 psig (137 bar) Brass: 1500 psig (103 bar)	SS316 & Brass 3000 psi (206 bar)	SS316 & Brass 3000 psi (206 bar)	SS316 6000 psi (413 bar)	SS316 5000 psi (344 bar)
Operating Temperature Ratings	FKM O-ring: - 18˚F to 400˚F (- 28˚C to 204˚C) NBR O-ring: - 4˚F to 221˚F (-20˚C to 105˚C)					
Cracking Pressure	Refer to spring table of each valve sereis					

Cracking, Reseal and Back Pressure @ 70˚F (21℃)

- Cracking Pressure : Valve poppet is actuated when the pressure difference between the inlet and the outlet reaches the range of cracking pressure.
- Reseal Pressure : Valves that have higher cracking pressure can be resealed to bubble-tight by the spring force. The reseal pressure is the pressure at the same flow direction, but lower than the cracking pressure.
- Back Pressure : Valves that have cracking pressure of 5 psig (0.34 bar) and lower may not be able to return to the bubble-tight seal. This may require back pressure to press the seal to form a bubble-tight contact in addition to the spring force.

Class Ratings

- Ratings are based on FKM O-rings of SS316 valves and NBR O-rings of Brass valves

Valve Series	V33A, V33B, V33C, V33D, VA33A, VA33B, VP33A, and VP33B Series		V33E and V33F Series		SS316 VH36A, VH36B, and VH36C Series	
Temperature	Working Pressure, psig (bar)					
	SS316	Brass	SS316	Brass	VH36A & VH36B	VH36C
-18 to 100˚F (-28 to 38˚C)	3000 (206)	3000 (206)	2000 (137)	1500 (103)	6000 (413)	5000 (344)
200˚F (93˚C)	2575 (177)	2600 (179)	1715 (118)	1300 (89)	5160 (355)	4290 (295)
225˚F (175˚C)	2510 (172)	2500 (172)	1670 (115)	1250 (86)	5030 (346)	4180 (288)
250˚F (121˚C)	2450 (168)		1630 (112)		4910 (338)	4080 (281)
300˚F (148˚C)	2325 (160)		1545 (106)		4660 (321)	3875 (267)
350˚F (176˚C)	2255 (155)		1490(102)		4470(308)	3720 (256)
375˚F (190˚C)	2185(150)		1450(99)		4375(301)	3640(250)
400˚F (204˚C)					4280(294)	3560(245)

Operation

- When the valve is not actuated for a period of time, it may require a higher cracking pressure than the set cracking pressure.
- D-Pro check valves prevent reverse flow in circuits. Do not use them as relief valves.
- D-Pro check valves are designed to prevent loss of media caused by failed connections and for uni-directional flow control of fluids in chemical processing, power generation, oil and gas industries.

Valve Cleaning and Factory Test

Every valve is cleaned, and packed in a plastic sealing bag to keep them from dust in the air, and then boxed for protection from damage during transportation and storage. Every valve is factory tested for cracking and reseals performance.

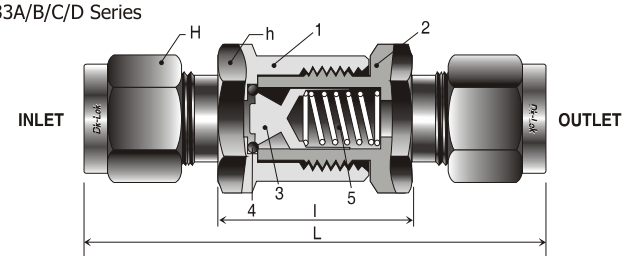
V33 series

- Working pressure up to 3000 psig (206 bar)

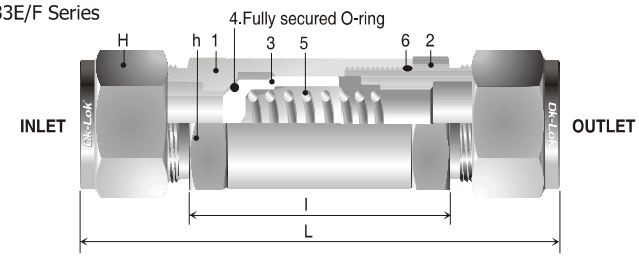
D-Pro V33 Series Check Valves

- Feature: Working pressure up to 3000 psig (206 bar)

V33A/B/C/D Series



V33E/F Series



Materials of Construction

Component	Valve Body Materials	
	Material Grade/ASTM	
1. Body	SS316 /A276, A479	Brass 360 /B16
2. Connector		
3. Poppet		
4. O-ring*	FKM, optional EPDM, Kalrez.	NBR
5. Spring	SS302/A313	SS302/A313
6. O-ring seal	FKM, optional EPDM, Kalrez.	NBR

- Wetted parts are listed in blue.
  *4. O-ring is secured in V33E, V33F series.

Lubrication:
- Silicon-based Lubricant for Poppet
- Molybdenum Dry Film Lubricant for SS316 Body Threads

V33 Series Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet	Outlet	Orifice mm (in.)	Cv	Dimensions mm (inch) h-Hex	H-Hex	L	l
V33A-	D-2T-	1/8 in. Dk-Lok		4.8 (0.19)	0.16	15.88 (5/8)	11.11 (7/16)	55.60 (2.19)	25.00 (0.98)
	M-2N-	1/8 in. Male NPT			0.47		-	44.40 (1.75)	-
	F-2N-	1/8 in. Female NPT					-	46.50 (1.83)	25.00 (0.98)
	D-4T-	1/4 in. Dk-Lok					14.29 (9/16)	60.00 (2.36)	
	D-6M-	6 mm Dk-Lok					14.00		
	MD-4N4T-	1/4 in. Male NPT	1/4 in. Dk-Lok				14.29 (9/16)	56.40 (2.22)	
	M-4N-	1/4 in. Male NPT					-	53.40 (2.10)	
V33B-	F-4N-	1/4 in. Female NPT		7.1 (0.28)	1.48	19.05 (3/4)	-	56.80 (2.24)	-
	D-6T-	3/8 in. Dk-Lok					17.46 (11/16)	65.50 (2.58)	27.10 (1.07)
	D-10M-	10 mm Dk-Lok					19.00		
	M-6N-	3/8 in. Male NPT					-	55.50 (2.19)	
V33C-	F-6N-	3/8 in. Female NPT		10.0 (0.39)	1.7	22.22 (7/8)	-	63.80 (2.51)	-
	D-8T-	1/2 in. Dk-Lok					22.22 (7/8)	80.20 (3.16)	36.20 (1.43)
	D-12M-	12 mm Dk-Lok					22.00		
	M-8N-	1/2 in. Male NPT					-	74.40 (2.93)	
V33D-	F-8N-	1/2 in. Female NPT		13.5 (0.53)	2.6	28.58 (1-1/8)	-	84.70 (3.33)	-
	D-10T-	5/8 in. Dk-Lok					25.40 (1)	91.80 (3.61)	48.10 (1.89)
V33E-	D-12T-	3/4 in. Dk-Lok		16.0 (0.63)	5.2	31.75 (1-1/4)	28.58(1-1/8)	110.70 (4.35)	67.00 (2.64)
	M-12N-	3/4 in. Male NPT					-	105.30 (4.15)	
	F-12N-	3/4 in. Female NPT					-	103.00 (4.06)	-
V33F-	D-16T-	1 in. Dk-Lok		18.0 (0.71)	8.0	34.93 (1-3/8)	38.1 (1-1/2)	121.10 (4.77)	68.40 (2.69)
	M-16N-	1 in. Male NPT					-	116.20 (4.57)	
	F-16N-	1 in. Female NPT				41.28 (1-5/8)	-	111.40 (4.39)	

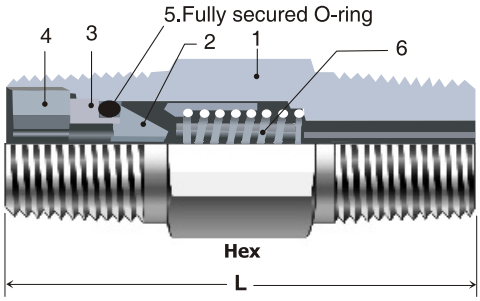
All dimensions shown are for reference only and subject to change. Dimensions with DK-LOK are in finger-tight position.

Table 1. Spring Cracking, Reseal and Back Pressure @ 70°F (21℃)

Spring Nominal Cracking Pressure Designator		Cracking Pressure Ranges Min. Pressure		Max. Pressure		Reseal Pressures	
psi	bar	psig	bar	psig	bar	psig	bar
1/3	0.02	0	0	3	0.21	Up to 6	0.41
						Back Pressure	
1	0.07	0	0	4	0.28	Up to 5	0.34
						Back Pressure	
3	0.21	2	0.14	7	0.48	Up to 4	0.28
						Back Pressure	
10	0.69	7	0.48	15	1.03	3	0.21
25	1.72	20	1.38	30	2.07	17	1.17
50	3.45	40	2.76	60	4.14	35	2.41
75	5.17	60	4.14	90	6.20	53	3.65
100	6.89	80	5.51	120	8.27	70	4.82

D-Pro VP33 Series Check Valves

- Features:
  - O-ring seal blow-out proof design
  - One piece body construction.
  - Working pressure up to 3000 psig (206 bar)



Materials of Construction

Component	Valve Body Materials	
	Material Grade/ASTM	
1. Body	SS316 /A276, A479	Brass 360 /B16
2. Poppet		
3. O-ring Holder		
4. Locking Screw		
5. O-ring	FKM, optional EPDM, Kalrez	NBR
6. Spring	SS302/A313	SS302/A313

Wetted parts are listed in blue.

Lubrication:
- Silicon-based Lubricant on Poppet
- Molybdenum Dry Film Lubricant on SS316 Locking Screw.

VP33 Series Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet	End Connections Outlet	Cv	Dimensions mm (inch) L	Dimensions mm (inch) Hex.
VP33A-	M-4N-	1/4 in. Male NPT		0.35	41 (1.62)	14.28 (9/16)
	M-4R-	1/4 in. ISO Male Tapered				
	F-4N-	1/4 in. Female NPT			61 (2.41)	19.05 (3/4)
	F-4R-	1/4 in. ISO Female Tapered			64 (2.54)	
	MF-4N-	1/4 in. Male NPT	1/4 in. Female NPT		44 (1.75)	
	FM-4N-	1/4 in. Female NPT	1/4 in. Male NPT		58 (2.28)	
VP33B-	M-8N-	1/2 in. Male NPT		1.20	58 (2.28)	22.22 (7/8)
	F-8N-	1/2 in. Female NPT			94 (3.71)	26.98 (1-1/16)
	MF-8N-	1/2 in. Male NPT	1/2 in. Male NPT		72 (2.83)	

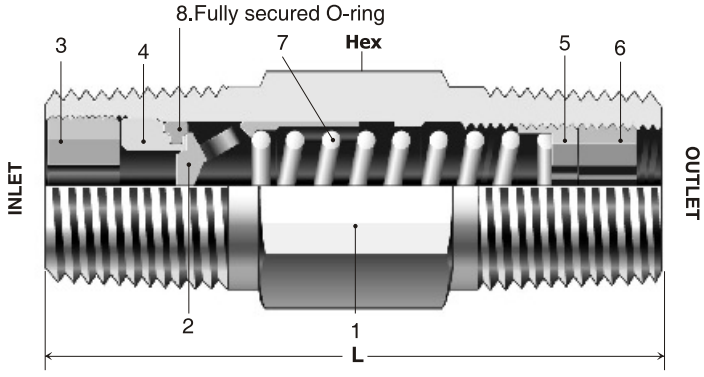
All dimensions shown are for reference only and subject to change.

Table 2. Spring Cracking, Reseal and Back Pressure @ 70°F (21°C)

Spring Nominal Cracking Pressure Designator		Cracking Pressure Ranges Min. Pressure		Cracking Pressure Ranges Max. Pressure		Reseal Pressures	
Psi	bar	Psig	bar	Psig	bar	Psig	bar
1/3	0.02	0	0	3	0.21	Up to 6	0.41
						Back Pressure	
1	0.07	0	0	4	0.28	Up to 5	0.34
						Back Pressure	
10	0.69	7	0.48	15	1.03	3	0.21
25	1.72	20	1.38	30	2.07	17	1.17

VA33 Series Adjustable Check Valves

- Features
  - Working pressure up to 3000 psig (206 bar)
  - Cracking pressure adjustable from 3 to 600 psig (0.2 to 41.3 bar)



Materials of Construction

Component	Valve Body Materials	
	Material Grade/ASTM	
1. Body	SS316 /A276, A479	Brass 360 / B16
2. Poppet		
3. Insert locking screw		
4. Insert		
5. Adjustable screw		
6. Locking screw		
7. Spring	SS302/A313	
8. O-ring	FKM, optional EPDM, Kalrez	NBR

Wetted parts are listed in blue.

Lubrication:
- Silicon-based Lubricant on Poppet
- Molybdenum Dry Film Lubricant on SS316 Locking Screw and Insert Locking Screw.

VA33 Series Ordering Information and Dimensions

Basic Ordering Number		End Connections	Cv	L		Hex
				mm	inch	
VA33A-	F-4N-	1/4 in. Female NPT	0.35	75.7	2.98	3/4
	M-4N-	1/4 in. Male NPT		41.1	1.62	9/16
	M-4R-	1/4 in. ISO Male Tappered		41.1	1.62	9/16
VA33B-	M-8N-	1/2 in. Male NPT	1.2	65.0	2.56	7/8
	M-8R-	1/2 in. ISO Male Tappered		65.0	2.56	7/8

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

Table 3. Spring Cracking Pressure Range Desingntor

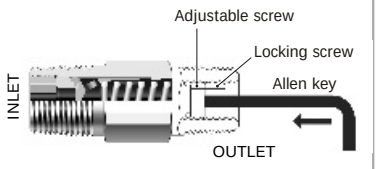
Cracking Pressure Range @21˚C (70˚F)		Designator
psig	Bar	
3 to 50	0.2 to 3.4	3
50 to 150	3.4 to 10.3	50
150 to 350	10.3 to 24.1	150
350 to 600	24.1 to 41.3	350

How to Order

To complete ordering number, add adjustable spring designator to the basic ordering number and then specify valve material designator.
Body material designators: S for SS316, B for Brass. Example: VA33A-F-4N-3-S

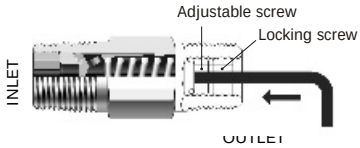
How to adjust cracking pressure

Step 1



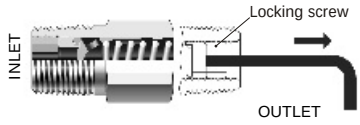
SIlghtly unscrew the locking screw counter-clockwise.

Step 2



1. Gently slide the allen key up to adjustable screw position.
2. Adjust cracking pressure.
- To increase cracking pressure, turn adjustable screw clockwise.
- To decrease cracking pressure, turn adjustable screw counter-clockwise.

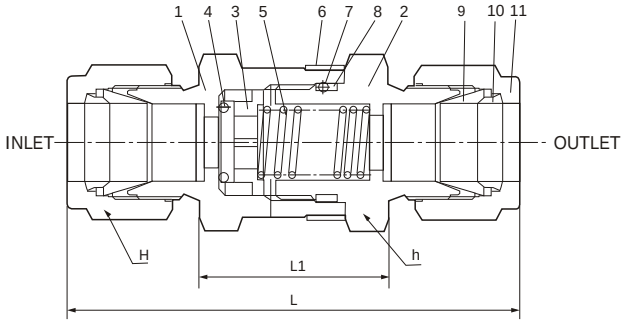
Step 3



1. Move out the allen key up to the locking screw position.
2. To lock out the locking screw, turn the allen key clockwise.

VH36 Series Check Valves

- Features
  - ●High pressure 6000 psig (206 bar)
  - ●Seal blow-out proof design with the bonded seal on poppet.



Materials of Construction

Component	Valve Body Materials
	Material Grade/ASTM
1. Body	SS316 /A479, A276
2. Connector	
3. Poppet stop	
4. Poppet with bonded seal	FKM, optional EPDM
5. Spring	SS302 /A313
6. Indicator ring*	SS316 /A276
7. O-ring	FKM
8. Backup ring	PTFE /D1710
9. 10. 11. Dk-Lok Front & Back ferrule, Nut	SS316 /A479, A276

Wetted parts are listed in blue.
*Indicator ring bears the information of spring designator.

Lubrication:
- ●Silicon-based Lubricant on Poppet
- ●Molybdenum Dry Film Lubricant on SS316 Connector threads

Table 4. Spring Cracking, Reseal and Back Pressure @ 70 ˚F(21 ˚C)

Spring Nominal Cracking Pressure Designator		Cracking Pressure Ranges				Reseal Pressure	
		Min. Pressure		Max. Pressure			
Psi	bar	psig	bar	Psig	bar	psig	bar
1/3	0.02	0	0	3	0.21	Up to 6	0.41
						Back Pressure	
1	0.07	0	0	4	0.28	Up to 5	0.34
						Back Pressure	
5	0.34	3	0.21	9	0.62	Up to 2	0.14
						Back Pressure	
10	0.69	7	0.48	15	1.03	3	0.21
25	1.72	20	1.38	30	2.07	17	1.17

VH36 Series Ordering Information and Dimensions

Basic Ordering Number		End Connections	Cv	Dimensions mm (inch)				Pressure Rating psig (bar)
				L	L1	H	h	
VH36A-	D-2T-	1/8 in. Dk-Lok	0.67	57.7 (2.27)	26.4 (1.04)	7/16	11/16	6000 (413)
	D-4T-	1/4 in. Dk-Lok		61.7 (2.43)	26.4 (1.04)	9/16		
	D-6M-	6 mm Dk-Lok		61.7 (2.43)	26.4 (1.04)	14		
	F-4N-	1/4 in. Female NPT		54.1 (2.13)	-	-		
	M-2N-	1/8 in. Male NPT		45.5 (1.79)	26.4 (1.04)	-		
	M-4N-	1/4 in. Male NPT		55.1 (2.17)	26.4 (1.04)	-		
	F-4R-	1/4 in. ISO Female Tapered		57.9 (2.28)	-	-		
	M-4R-	1/4 in. ISO Male Tapered		55.1 (2.17)	26.4 (1.04)	-		
VH36B-	D-6T-	3/8 in. Dk-Lok	1.8	69.9 (2.75)	31.2 (1.23)	11/16	1	6000 (413)
	D-8T-	1/2 in. Dk-Lok		75.2 (2.96)	31.2 (1.23)	7/8	1	
	D-8M-	8 mm Dk-Lok		68.6 (2.70)	31.2 (1.23)	16	1	
	D-10M-	10 mm Dk-Lok		71.1 (2.80)	31.2 (1.23)	19	1	
	D-12M-	12 mm Dk-Lok		75.2 (2.96)	31.2 (1.23)	22	1	
	F-6N-	3/8 in. Female NPT		64.8 (2.55)	-	-	1	
	F-8N-	1/2 in. Female NPT		77.0 (3.03)	-	-	1-1/16	
	M-6N-	3/8 in. Male NPT		59.9 (2.36)	31.2 (1.23)	-	1	
	M-8N-	1/2 in. Male NPT		69.3 (2.73)	31.2 (1.23)	-	1	
	F-8R-	1/2 in. ISO Female Tapered		83.6 (3.29)	-	-	1-1/16	
	M-8R-	1/2 in. ISO Male Tapered		69.3 (2.73)	1.23 (31.2)	-	1	
VH36C-	D-12T-	3/4 in. Dk-Lok	4.7	89.4 (3.52)	45.2 (1.78)	1-1/8	1-5/8	5000 (344)
	D-16T-	1 in. Dk-Lok		98.6 (3.88)	45.5 (1.79)	1-1/2		
	D-22M-	22 mm Dk-Lok		88.4 (3.48)	45.5 (1.79)	32		
	D-25M-	25 mm Dk-Lok		98.6 (3.88)	45.5 (1.79)	40		
	F-12N-	3/4 in. Female NPT		82.0 (3.23)	82.0 (3.23)	-		
	F-16N-	1 in. Female NPT		97.3 (3.83)	97.3 (3.83)	-		
	M-12N-	3/4" Male NPT		83.6 (3.29)	45.5 (1.79)	-		
	M-16N-	1 in. Male NPT		93.2 (3.67)	45.7 (1.80)	-		
	F-12R-	3/4 in. ISO Female Tapered		90.2 (3.55)	90.2 (3.55)	-		
	F-16R-	1 in. ISO Female Tapered		97.3 (3.83)	97.3 (3.83)	-		
	M-12R-	3/4 in. ISO Male Tapered		85.1 (3.35)	45.5 (1.79)	-		
	M-16R-	1 in. ISO Male Tapered		93.2 (3.67)	45.7 (1.80)	-		

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

Optional Features

■ Seal Materials

O-ring Seal Material	Designator	Temperature Rating
NBR	BN	- 4 to 221 °F (-20 to 105 °C)
FKM	VT	-18 to 400 °F (-28 to 204 °C)
EPDM	EP	-49 to 275 °F (-45 to 135 °C)
Kalrez*	KZ	-22 to 599 °F (-20 to 315 °C)

- FKM is standard for SS316 valves
- NBR is standard for Brass valves

*Kalrez: TM Dupont

How to Order

Select valve basic ordering number, applicable seal, spring nominal cracking pressure, and body material.

V33A-D-4T-
VP33B-F-8N-
VH36C-D-16T-

BN- / VT- / EP- | 1/3- / 1- / 3- | S / B / S

Seal Material Designator	Spring Nominal Cracking Pressure Designator	Valve Body Material Designator
• NBR: Nil for Brass Valve • NBR: BN • FKM: Nil for S316 Valve • FKM: VT • EPDM: EP • Kalrez: KZ	• 1/3: 1/3 psi • 1: 1 psi • 3: 3 psi • 10: 10 psi • 25: 25 psi Note: Select the spring designator from Table 1, 2, 3 and 4 of each valve series.	• S: 316 stainless steel • B: Brass

D-Pro® Check Valves

Spare Parts for Field Assembly

Spring Kit

To order spring kit, prefix “9SPR”,select check valve series and spring nominal cracking pressure designator.

Examples;
9SPR-V33A-1/3: 1/3 psig spring for V33A series
9SPR-VP33B-1: 1 psig spring for VP33B series
9SPR-VH36A-5: 5 psig spring for VH36A series

Seal Kit

To order seal kit, prefix “CVO”,select valve series and seal designator.

Examples;
CVO-V33A-BN: NBR O-ring for V33A series
CVO-VP33B-VT: FKM O-ring for VP33B series.
CVO-VH36A-VT: FKM bonded seal for VH36A series

Note: Seal kit for V33E/F series and VH36A/B/C series are supplied with the poppet.

VL36 Series Lift Check Valves

Operation

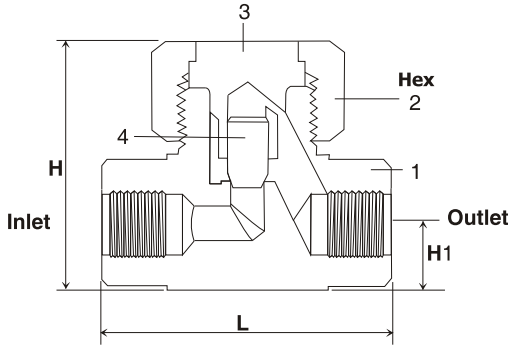
- Operation of this valve heavily depends on gravity assistance. Thus mounting horizontally with bonnet nut upward.
- Reverse flow closes the valve by keeping poppet in the orifice.
- Forward flow opens the valve by lifting the poppet.

Features

- Working pressure up to 6000 psig (413 bar)
- Temperature up to 900 F (482 C)
- Metal to metal seat

Material of Construction

Component	Grade/ASTM Specification
1 Body	SS316/A276 or A479
2 Bonnet Nut	SS316/A276 or A479
3 Bonnet	SS17400/A564
4 Poppet	SS316/A276 or A479



Complete Ordering Number and Dimensions

Complete Ordering Number		End Connection	Orifice mm	Orifice inch	Cv	Dimensions mm (in.) L	H	H1	Hex
VL36A-	D-4T-S	1/4 in. DK-LOK	4.0	0.156	0.30	61.0 (2.40)	37.3 (1.47)	9.9 (.39)	7/8
	D-6M-S	6 mm DK-LOK							
	F-2N-S	1/8 in. Female NPT				50.8 (2.00)			
	F-4N-S	1/4 in. Female NPT				46.0 (1.81)			
	SW-4T-S	1/4 in. tube socket weld							
VL36B-	D-6T-S	3/8 in. DK-LOK	6.4	0.250	0.64	71.9(2.83)	47.0 (1.85)	12.7 (.50)	1 1/4
	F-4N-S	1/4 in. Female NPT				57.2 (2.25)			
	SW-6T-S	3/8 in. Tube Socket Weld							
	SW-8T-S	1/2 in. Tube Socket Weld							
VL36C-	D-8T-S	1/2 in. DK-LOK	11.1	0.437	2.20	99.6 (3.92)	62.0 (2.44)	15.7 (.62)	1 1/2
	D-12T-S	3/4 in. DK-LOK							
	F-6N-S	3/8 in. Female NPT				79.2(3.12)			
	F-8N-S	1/2 in. Female NPT							
	SW-8T-S	1/2 in. Tube Socket Weld				79.5 (3.13)			

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

Pressure-Temperature Ratings

ASME Class	2500
Material Group	2.2
Material Name	SS316
Temp. F (C)	Working Pressure psig (bar)
-65 to 100 (-53 to 37)	6000 (413)
200 (93)	5160 (355)
300 (148)	4660 (321)
400 (204)	4280 (294)
500 (260)	3980 (274)
600 (315)	3760 (259)
700 (371)	3600 (248)
800 (426)	3460 (238)
900 (482)	3280 (225)

How to order: Select complete ordering number. i.e., VL36A-D-4T-S.

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 responsibillty of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.

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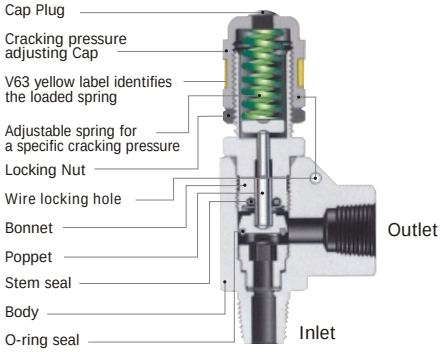
V63/V66 Series Relief Valves

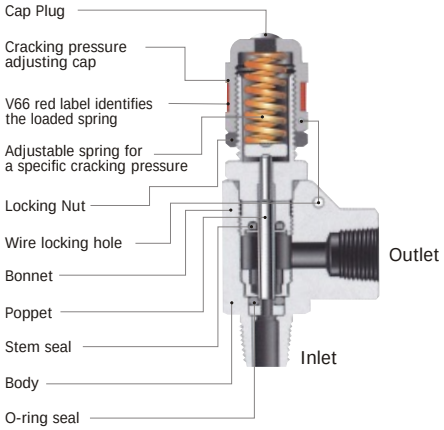
Working pressure 3000 psig (206 bar) and 6000 psig (413 bar)

Catalog No. V63/V66-5
Jan.2007

V63 Series for working pressure 3000 psig (206 bar)



V66 Series for working pressure 6000 psig (413 bar)



Technical Data

V63 Series Technical Data

- Maximum working pressure: 3000 psig (206 bar)
- Cracking pressure range: 10 to 250 psig (0.68 to 17.2 bar)

Table 1. V63 Series Spring Designator

Spring Designator	Cracking Pressure		Color Code
	psig	bar	
RVS-L	10 to 250	0.68 to 17.2	Red

- Orifice: 4.8 mm (0.19 in.)
- Cv =0.60

V63/66 Series Temperature Rating

Seal Material	Temperature Rating ℃ (°F)
Viton (Standard)	-28 ~ 204 (-20 ~ 400)
Buna N	-20 ~ 105 (-68 ~ 221)
Ethylene Propylene (EPDM)	-45 ~ 135 (-49 ~ 275)

V66 Series Technical Data

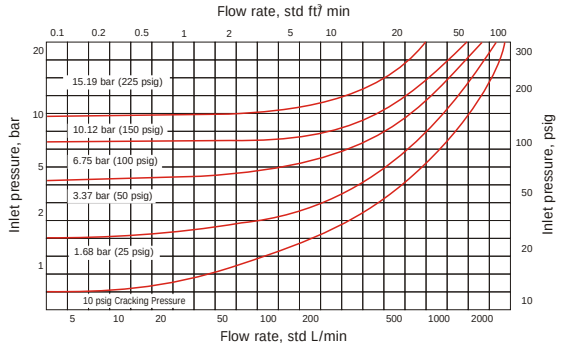
- Maximum working pressure : 6000psig (413bar)
- Orifice size: 4.8 mm (0.19 in.)
- Cv =0.41
- Cracking pressure range : 50 to 6000psig (3.4 to 413bar)

Table 2. V66 Series Spring Designator

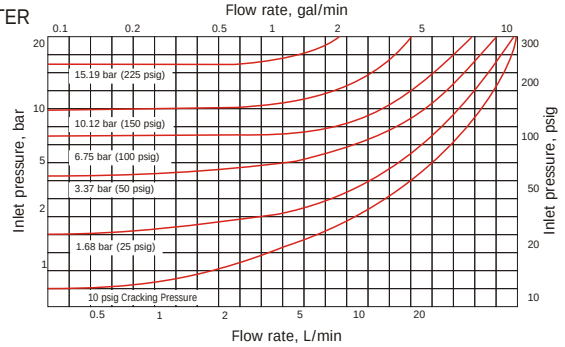
Spring Designator	Cracking Pressure		Color Code	Spring Designator	Cracking Pressure		Color Code
	psig	bar			psig	bar	
RVS-A	50 to 350	3.4 to 24	White	RVS-E	2250 to 3000	155 to 206	Green
RVS-B	350 to 750	24 to 51.6	Blue	RVS-F	3000 to 4000	206 to 275	Yellow
RVS-C	750 to 1500	51.6 to 103	Clear	RVS-G	4000 to 5000	275 to 344	Brown
RVS-D	1500 to 2250	103 to 155	Black	RVS-H	5000 to 6000	344 to 413	Orange

V63 Series Flow Rate

AIR

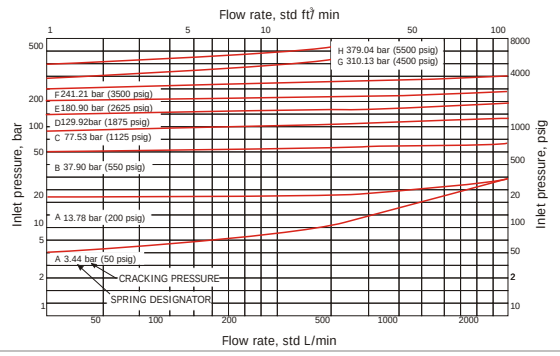


WATER

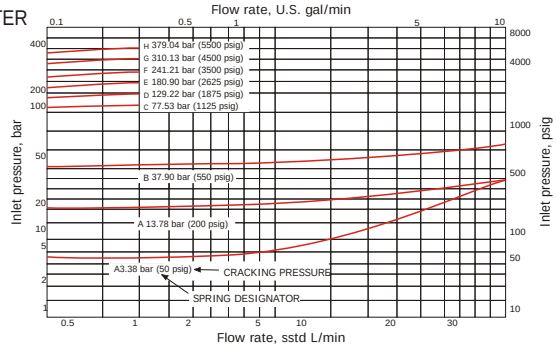


V66 Series Flow Rate

AIR



WATER



Factory Test

- Every valve is factory tested for cracking and reseal performance.

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D-Pro® Relief Valves V63/V66 Series

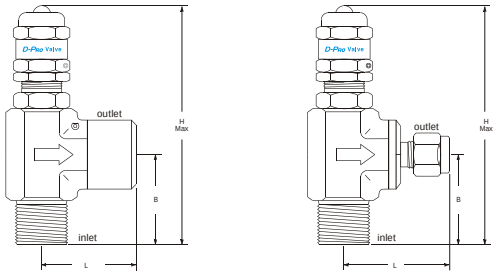
How To Adjust Valve Cracking Pressure

The valve user shall set a specific cracking pressure of the valve supplied.

1. To increase the cracking pressure of the valve, turn the adjusting cap clockwise to compress the spring.
2. To reduce the pressure, turn counterclockwise.
3. Start the pump with the spring relaxed (eight threads showing with the Locking Nut at bottom), with the discharging port open, check the gauge pressure as you turn the adjusting cap clockwise to increase the pressure to the desired operating range.
4. If the system has more than one outlet, set the valve pressure with one outlet open, and then check again with all outlets open to make sure that the set pressure is within the desired operating range.
5. Set the Locking Nut and the wire to maintain the set cracking pressure.

Operation

- Install the valve between the pump outlet as close as possible, and any shut-off device in the discharge line. The preferable mounting position is vertical with the adjusting cap at the top.
- D-Pro relief valve bypasses the system fluid to prevent instrument or sensitive gauge in the system from excess pressure.
- When the inlet pressure overcomes the set spring pressure on the poppet, the poppet lifts off the valve seat, allowing flow to bypass and thereby balance the system pressure.
- If the valve has not been actuated for a long time, it may initially crack above the set cracking pressure.
- Cracking pressure is only sensitive to inlet pressure, and is not affected by outlet pressure.
- Cv reduction: Valve flow may be reduced by the restriction of pipe and tubing connected.



Materials of Construction

Cap Plug	Polypropylene
Adjusting Cap	S316/ ASTM A276, A479
Spring	17-7 PH SS/ AMS 5678 D
Locking Nut	S316/ ASTM A479, A276
Bonnet	
Poppet	
Stem & O-ring seal	Standard Viton*, optional EPDM and Buna N
Body	F316/ ASTM A182

*Viton: TM of DUPONT

Ordering Information and Table of Dimensions

Basic Ordering Number		End Connections Inlet	End Connections Outlet	Orifice mm (in.)	Dimensions mm (in.) H	B	L
V63- and V66-	D-4T-	1/4 Dk-Lok		4.8 (0.19)	100 (3.93)	37 (1.45)	39 (1.53)
	D-6M-	6 mm Dk-Lok				38 (1.49)	40 (1.57)
	D-8M-	8 mm Dk-Lok			105 (4.13)	44 (1.73)	42 (1.65)
	D-8T-	1/2 Dk-Lok					
	D-12M-	12 mm Dk-Lok			98 (3.85)	36 (1.41)	42 (1.65)
	MD-8N8T-	1/2 Male NPT	1/2 Dk-Lok				
	MD-8N12M-	1/2 Male NPT	12 mm Dk-Lok		94 (3.70)	32 (1.25)	30 (1.18)
	MF-4N-	1/4 Male NPT	1/4 Female NPT				35 (1.37)
	MF-4R-	1/4 Male ISO 7/1	1/4 Female ISO 7/1				
	MF-6N-	3/8 Male NPT	3/8 Female NPT		98 (3.85)	36 (1.41)	38 (1.49)
	MF-6R-	3/8 Male ISO 7/1	3/8 Female ISO 7/1				
	MF-8N-	1/2 Male NPT	1/2 Female NPT				
	MF-8R-	1/2 Male ISO 7/1	1/2 Female ISO				

Model Shown: V66-D-8T-B-S

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

Please select the desired valve basic ordering number, the applicable seal, spring designator and CE certified option from the table below.

Example: V66-D-4T- BN - B - S - CE

Seal Material Designator	Spring Designator	Body Material	CE certified
• Nil: Standard "Viton*" • BN: Buna N • EP: EPDM	Refer to Table 1, Table 2 for spring designator	• S: S316 • Ti: Titanium	• CE: valve to 97/23/EC

Factory pressure set valve

To order, specify the set pressure on the valve ordering number.
Example: V66-D-4T-60 bar-S, or V66-D-4T-870 psi-S

Factory Pressure Set Relief Valve Note : This label is on the adjusting cap

Valve without spring installed

To order, do not specify spring designator on the ordering number.
Example: V66-D-4T-S.

CAUTION : NO SPRING INSTALLED Note : This label is on the adjusting cap

Spring for field assembly

To order, select an applicable spring from the spring designator table 1 & 2. Example : RVS-A

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