

# **Check Valves**

: 6, 7 page

: 8 page

V33, VP33, VA33, VDA33, VH36 and VL36 Series for VCH36 Series for CNG/NGV applications Pressures up to 3,000 psig (206 bar) and 6,000 psig (413 bar)

## **Features**

- Fixed cracking pressure valves : V33, VP33, VH36, VCH36 Series
- Adjustable cracking pressure valves : VA33, VDA33 Series
- Lift Check valves : VL36 Series

#### **Technical Information**

Valve Series	V	33 Series		VP33 Series	VA33 & VDA33 Series	VH36 Series	
	V33A, V33B, V33C, V33D	V33E, V33F		VP33A, VP33B	VA33A, VA33B, VDA33	VH36A, VH36B	VH36C
Materials	SS316 & Brass	SS316 Brass		SS316 & Brass	SS316 & Brass	SS316	SS316
Working Pressure @70°F (21°C) Unit : psig (bar)	3000 (206)	2000 1500 (137) (103)		3000 (206)	3000 (206)	6000 (413)	5000 (344)
	Seal Material	Designator		Rating	Seal Material	Designator	Rating
_	FKM O-ring	VT		-10 to 375 (-23 to 190) <sup>(a)</sup>	EPDM O-ring	EP	-50 to 300 (-45 to 148)
Ratings	NBR O-ring	В	N	-10 to 250 (-23 to 121)	FFKM O-ring	KZ	-10 to 600 (-23 to 315)
F ( C)	(a)VH36 Series with FKM O-ring : -10 to 400 °F (-23 · FKM is standard for SS316 valves. · NBR is standard for Brass valves.			to 204 °C)			
Cracking Pressure	Refer to spring table	of each valve se	eries				
Poppet Check Valves, V33 Series			: 2, 3 page	CNG/NGV Check Valves, VCH36 Series			: 6, 7 page

Poppet Check Valves, V33 Series

- One-Piece Check Valves, VP33 Series : 3 page
- CNG/NGV Check Valves, VCH36 Series • High Pressure Check Valves, VH36 Series Lift Check Valves, VL36 Series
- One-Piece Adjustable Check Valves, VA33 Series : 4, 5 page

#### • In-Line Adjustable Check Valves, VDA33 Series :4,5 page

# Cracking, Reseal and Back Pressure @ 70°F(21°C)

Cracking Pressure	: Valve poppet is actuated when the pressure difference between the inlet (upstream) and the outlet (downstream) 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**

		V33 9	Series		VP33, VA33, VDA33 Series		VH36 Series	
Valve Series	V33A, V33B, V33C, V33D		V33E, V33F		VP33A, VP33B, VA33A, VA33B, VDA33		VH36A, VH36B	VH36C
				Working Press	sure, psig ( <mark>bar</mark> )			
Temperature, F(C)	SS316	Brass	SS316	Brass	SS316	Brass	SS316	Brass
-18 to 100 (-28 to 38)	3000 (206)	3000 (206)	2000 (137)	1500 (103)	3000 (206)	3000 (206)	6000 (413)	5000 ( <mark>344</mark> )
200 (93)	2575 (177)	2600 (179)	1715 (118)	1300 ( <mark>89</mark> )	2575 (177)	2600 (179)	5160 ( <mark>355</mark> )	4290 ( <mark>295</mark> )
225 (175)	2510 (172)	2500 (172)	1670 (115)	1250 ( <mark>86</mark> )	2510 (172)	2500 (172)	5030 ( <mark>346</mark> )	4180 (288)
250 (121)	2450 (168)	2405 (165)	1630 (112)	1200 ( <mark>82</mark> )	2450 (168)	2405 (165)	4910 ( <mark>338</mark> )	4080 (281)
300 (148)	2325 (160)	-	1545 (106)	-	2325 (160)	-	4660 (321)	3875 ( <mark>267</mark> )
350 (176)	2255 (1 <mark>55</mark> )	-	1490 (102)	-	2255 (155)	-	4470 ( <mark>308</mark> )	3720 ( <mark>256</mark> )
375 (190)	2185 ( <b>150</b> )	-	1450 ( <mark>99</mark> )	-	2185 (150)	-	4375 ( <mark>301</mark> )	3640 (250)
400 (204)	-	-	-	-	-	-	4280 ( <mark>294</mark> )	3560 ( <mark>245</mark> )

\* VH36 & VCH36 Series is Pressure ratings may be limited by the end connection. See Page 7, Dimensions Table.



# V33 series

### Features

• Working pressure up to 3,000 psig (206 bar)



### **Material of Construction**

	Valve Body	/ Materials				
Component	Stainless Steel	Brass	Wetted parts are listed in blue.			
	Material G	ade/ASTM	4. O-ring* on V33E & V33F Seri			
1. Body			is secured in poppet groove.			
2. Connector	SS316 /A276_A479	Brass 360 /B16	Lubrication :			
3. Poppet	71127 0711175	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<ul> <li>Silicon-based Lubricant for Poppet.</li> </ul>			
4. O-ring*	FKM	NBR	Molybdenum Dry Film			
5. Spring	SS302	/A313	Lubricant for SS316 Body			
6. O-ring seal	FKM	NBR	inicado.			
7. Washer	SS316 With	PTFE Coting				

### Operation

- Valves that have not been actuated for a period of time may require a higher cracking pressure than the set cracking pressure.
- DK-Lok check valves prevent reverse flow in circuits. Do not use them as relief valves.
- DK-Lok 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.

### Factory Test, Cleaning and Packaging

- Every valve is factory tested for cracking and reseals performance.
- Every valve is cleaned, and packaged in accordance with DK-Lok cleaning standard of DC-01.
- Special cleaning and packaging in accordance with DK-Lok DC-11 in compliance with ASTM G93 Level C is available on request.

Basic (	Ordering	End Con	nections	Orifice	<b>C</b> 11	Dimensions mm (in.)				
Nu	mber	Inlet	Outlet	mm ( <mark>in.</mark> )	CV	h-Hex	H-Hex	L	I	
	D-2T-	1/8 in.	DK-Lok		0.16		11.11 (7/16)	55.60 (2.19)	25.00 ( <mark>0.98</mark> )	
	M-2N-	1/8 in.	1/8 in. Male NPT				-	44.40 (1.75)	-	
	F-2N-	1/8 in.	Female NPT				-	46.50 (1.83)		
V33A-	D-4T-	1/4 in. DK-Lok		4.8	0.47	15.88 ( <mark>5/8</mark> )	14.29 ( <mark>9/16</mark> )	60.00 (2.26)		
	D-6M- MD-4N4T-	6 mm [	OK-Lok	(0.19)	0.47		14.00	60.00 (2.36)	25.00 ( <mark>0.98</mark> )	
		1/4 in. Male NPT	1/4 in. DK-Lok				14.29 ( <mark>9/16</mark> )	56.40 (2.22)		
	M-4N-	1/4 in.	Male NPT				-	53.40 ( <b>2</b> .10)		
	F-4N-	1/4 in.	Female NPT				-	56.80 ( <mark>2.24</mark> )	-	
\/22P	D-6T-	3/8 in.	DK-Lok	7.1	1 / 8	10.05 (3/4)	17.46 (11/16)	65 50 (2 59)		
v220-	D-10M-	10 mm DK-Lok		(0.28)	1.40	19.05 (5/4)	19.00	05.50 (2.58)	27.10 (1 <mark>.07</mark> )	
	M-6N-	3/8 in.	Male NPT				-	55.50 ( <mark>2.19</mark> )		
	F-6N-	3/8 in.	Female NPT			2 22 22 (7/9)	-	63.80 ( <mark>2.5</mark> 1)	-	
Vaac	D-8T-	1/2 in.	in. DK-Lok 10.0	10.0	17		22.22 ( <mark>7/8</mark> )	90.20 (2.16)		
V35C-	D-12M-	12 mm	12 mm DK-Lok		1.7	22.22 (7/8)	22.00	80.20 (5.10)	36.20 (1.43)	
	M-8N-	1/2 in.	Male NPT				-	74.40 ( <mark>2.93</mark> )		
	F-8N-	1/2 in.	Female NPT	13.5	26	29 59 (1 1 /9)	-	84.70 (3.33)	-	
V33D-	D-10T-	5/8 in.	DK-Lok	(0.53)	2.0	28.58 (1-1/8)	25.40 (1)	91.80 (3.61)	48.10 (1.89)	
	D-12T-	3/4 in.	DK-Lok	16.0			28.58(1-1/8)	110.70 (4.35)	((1))	
V33E-	M-12N-	3/4 in.	Male NPT	16.0	5.2	31.75 ( <mark>1-1/4</mark> )	-	105.30 ( <b>4.15</b> )	00.1 (2.0)	
	F-12N-	3/4 in. Female NPT		(0.05)			-	103.00 (4.06)	-	
	D-16T-	1 in. Dł	(-Lok	10.0		24.02 (1.2/0)	38.1 (1-1/2)	120.8 (4.75)		
V33F-	M-16N-	1 in. M	ale NPT	18.0	8.0	34.93 (1-3/8)	-	115.8 (4.56)	68 ( <mark>2.68</mark> )	
	F-16N-	1 in. Fe	male NPT	(0.71)		41.28 (1-5/8)	-	111 (4.37)		

# **Ordering Information and Dimensions**

# Table 1. Spring Cracking, Reseal and Back Pressure @ 70 °F (21 °C) (for V33)

Spring Nominal Cracking Pressure Designator			Cracking Pre	D I D		
		Min. Pressure		Max. Pressure		Reseal Pressures
psig	bar	psig	bar	psig	bar	psig (bai)
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 6 (0.41) 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	Minimum 3 (0.21) Reseal pressure
25	1.72	20	1.38	30	2.07	Minimum 17 (1.17) Reseal pressure
50	3.45	40	2.76	60	4.14	Minimum 35 (2.41) Reseal pressure
75	5.17	60	4.14	90	6.20	Minimum 53 (3.65) Reseal pressure
100	6.89	80	5.51	120	8.27	Minimum 70 (4.82) Reseal pressure

# **VP33 Series One-Piece Check Valves**





#### Features

• O-ring seal blow-out proof design

• O ne piece body construction.

• Working pressure up to 3,000 psig (206 bar)

# **Materials of Construction**

Valve Body	/ Materials			
Stainless Steel	Brass			
Material Grade/ASTM				
SS316	Brass 360			
/ A276, A479	/ B16			
FKM	NBR			
SS302	/A313			
	Valve Body Stainless Steel Material Gr SS316 / A276, A479 FKM SS302			

Wetted parts are listed in blue.

Lubrication :

Silicon-based Lubricant on Poppet

Molybdenum Dry Film Lubricant on SS316 Locking Screw.

#### **Ordering Information and Dimensions**

Basic Ordering		End Con	nections	<i>C</i> 14	Dimensions mm (in.)		
Nun	Number		Inlet Outlet		L	Hex.	
	M-4N-	1/4 in. Male NPT			41 (1 (2))	14 28 (0/16)	
	M-4R-	1/4 in. ISO	Male Tapered		41 (1.02)	14.28 (9/10)	
	F-4N-	1/4 in. Fen	nale NPT	0.25	61 (2.41)		
VP35A-	F-4R-	1/4 in. ISO	Female Tapered	0.35	64 ( <mark>2.54</mark> )	10 OF (2/4)	
	MF-4N-	1/4 in. Male NPT 1/4 in. Female NPT			44 (1.75)	19.03 (3/4)	
	FM-4N-	1/4 in. Female NPT 1/4 in. Male NPT			58 (2.28)		
	M-8N-	1/2 in. Mal	e NPT		58 (2.28)	22.22 (7/8)	
VP33B-	F-8N-	1/2 in. Fen	nale NPT	1.20	94 ( <b>3.71</b> )	26.98 (1-1/16)	
	MF-8N-	1/2 in. Male NPT	1/2 in. Female NPT		72 (2.83)		

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

Spring Nominal			Cracking Pre	ssure Ranges	Reseal Pressures	
Cracking Press	sure Designator	Min. Pressure		Max. Pressure		nsig (bar)
psig	bar	psig	bar	psig	bar	psig (sur)
1/3	0.02	0	0	3	0.21	6 to 20 (0.41 to 1.38) back pressure
1	0.07	0	0	4	0.28	5 to 20 (0.34 to 1.38) back pressure
10	0.69	7	0.48	13	0.90	3 to 10 (0.21 to 0.69) back pressure
25	1.72	21	1.45	29	2.00	Minimum 5 (0.34) Reseal pressure

# VA33 Series One-Piece Adjustable Check Valves / VDA33 Series In-Line Adjustable Check Valves

# Features

- Cracking pressure adjustable from 3 to 600 psig (0.2 to 41.3 bar)
- Temperature up to 190°C (375°F) with FKM O-ring

- Working pressure up to 3,000 psig (206 bar)
- Standard materials : 316 stainless steel and brass.

# VA33 Series



### **VDA33 Series**



### **Materials of Construction**

		Valve Body	y Materials		
Com	ponent	Stainless Steel	Brass		
		Material Grade/ASTM			
VA33 Series	VDA33 Series				
1. Body	1. Inlet body 2. Center body 3. Outlet body				
2. Poppet 360 / B16	4. Poppet	SS316	Brass		
3. Insert locking screw	-	/A2/6, A4/9	360 / 816		
4. Insert	11. Insert				
5. Adjustable screw	5. Adjustable screw				
6. Locking screw	6. Locking screw	_			
7. Spring	Spring 7. Spring		S302/A313		
8. O-ring 9. Inlet gasket 10. Outlet gasket		FKM, Optional FFKM	NBR		
		TFE coated SS316			

Wetted parts are listed in blue.

#### Lubrication :

• Silicon-based Lubricant on Poppet

• Molybdenum Dry Film Lubricant on SS316 Locking Screw and Insert Locking Screw.

Basic Ordering Number		End Connections	<u></u>	I	Hoy	
		End Connections	CV	mm	in.	пех
	F-4N	1/4 in. Female NPT		75.7	2.98	3/4
VA33A-	M-4N-	1/4 in. Male NPT 1/4 in. ISO Male Tappered		41.1	1.62	9/16
	M-4R-			41.1	1.62	9/16
1/4 220	M-8N-	1/2 in. Male NPT	1.2	65.0	2.56	7/8
VA33B-	M-8R-	1/2 in. ISO Male Tappered	1.2	65.0	2.56	7/8

#### VA33 Series Ordering Information and Dimensions

#### **VDA33 Series Ordering Information and Dimensions**

Basic Ordering Number		End Con	nections	<i>C</i> 14	Dimensions mm(in.)			
		Inlet Outlet		CV	L	Н	h	
	D-4T-S	1/4 in.		82.0(3.23)	9/16 in.			
	D-6M-S	6mm [	0.27	82.0(3.23)	14mm	E /0 im		
VDA33	D-8M-S	8mm [	0.57	84.3(3.32)	16mm	5/8 111.		
	MD-4N4T-S	1/4 in. Male NPT	1/4 in. DK-Lok	]	79.2(3.12)	9/16 in.	]	





#### Table 3. Spring Cracking Pressure Range Designator

Cracking Pre @21 °C	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

#### **Cracking Pressure vs. Reseal pressure**

VA33 and VDA33 Series valves set to crack at 20 psig(1.3 bar) or lower may require back pressure(downstream pressure) to reseal the valve bubble tight.



Example shown : For a valve set to crack at 31 bar (450 psig), the minimum reseal pressure would be 27 bar (390psig).

#### How to adjust cracking pressure



# VH36 Series High Pressure Check Valves / VCH36 Series CNG/NGV Check Valves

### Features

- High pressure 6,000 psig (413 bar)
- Seal blow-out proof design with the bonded seal on poppet.





# **Materials of Construction**

	Valve Body Material				
Component	Stainless Steel				
	Material Grade/ASTM				
1. Body					
2. Connector	SS316 /A479, A276				
3. Poppet stop		Wetted parts are listed in blue.			
4. Poppet with bonded seal	Poppet: SS316 /A479, A276 Bonded Seal : FKM, optional EPDM & Kalrez HNBR standard for VCH36 Series	Lubrication :     Silicon-based Lubricant on Poppet     Molybdenum Dry Film Lubricant on SS316 Connector			
5. Spring	SS302 /A313	threads			
6. Indicator ring*	SS316 /A276				
7. O-ring	FKM / HNBR standard for VCH36 Series				
8. Backup ring	PTFE /D1710				
9. 10, 11. DK-Lok Front & Back Ferrule and Nut	SS316 /A479, A276				

# **CNG Certifications**

VCH36 Series check valve with CNG compatible HNBR O-ring are available with CNG certifications.

Certificates	ECE R110	ANSI / AGA NGV 3.1-1995 CGV NGV 12.3-M95	ISO 15500		
Certificate No.	110R-000186	2010-REPORT-014 (00)	2010-REPORT-013 (00)		
Classification	Class 0	Check valve	Check valve		
Temperature	-40 to 120 °C (-40 to 250 °F)	-40 to 121 °C (-40 to 250 °F)	-40 to 121 °C (-40 to 250 °F)		
Working Pressure	274 bar @ 120 °C	273 bar @ 121 °C	273 bar @ 121 °C		

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

Spring Nominal Cracking Pressure Designator		Crack	ing Pre	ssure Ra	anges		Sour Coo Somios			
		Min. Pressure		Max. Pressure		Reseal Pressures	Sour Gas Service			
psig	bar	psig	bar	psig	bar	psig (bai)	are selected in accordance with			
1/3	0.02	0	0	3	0.21	1 Up to 6 (0.41) back pressure the requirements of NACE MR0175 • Spring : alloy X-750/AMS5699				
1	0.07	0	0	4	0.28	Up to 5 (0.35) back pressure	Nominal Cracking Pressure : 1/3, 1, and 5 psig			
5	0.34	3	0.21	9	0.62	Up to 2 (0.14) back pressure (0.03, 0.07 and 0.035 bar) • Seal : ethylene propylene.				
10	0.69	7	0.48	15	1.03	Minimum 3 (0.21) Reseal pressure	To order, insert-SG in the ordering number.			
25	1.72	20	1.38	30	2.07	Mini mum 17 (1.2) Reseal pressure	נ-טכרו א-שטכחע וואין			



Basic Ordering		End Connections	<i>C</i> 14		Pressure Rating			
Num	nber	End Connections	CV	L	L1	Н	h	psig (bar)
VH36A-	D-2T-	1/8 in. DK-Lok	ĺ	57.7 ( <mark>2.27</mark> )	26.4 (1.04)	11.11 (7/16)		6000 (413)
	D-4T-	1/4 in. DK-Lok	]	61.7 (2.43)	26.4 (1.04)	14.29 (9/16)	]	
	D-6M-	6 mm DK-Lok	0.67	61.7 (2.43)	26.4 (1.04)	14	11/10	
VCH36A-	F-4N-	1/4 in. Female NPT	0.67	54.1 (2.13)	-	-	11/10	
	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)	-		
	D-6T-	3/8 in. DK-Lok		69.9 ( <b>2.75</b> )	31.2 (1.23)	17.46 (11/16)	1	
	D-8T-	1/2 in. DK-Lok	]	75.2 ( <mark>2.96</mark> )	31.2 (1.23)	22.22 (7/8)	1	6000 (413)
VH36B- VCH36B-	D-8M-	8 mm DK-Lok	]	68.6 ( <mark>2.70</mark> )	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	1.8	75.2 ( <mark>2.96</mark> )	31.2 (1.23)	22	1	
	F-6N-	3/8 in. Female NPT	]	64.8 ( <b>2.55</b> )	-	-	1	5300 ( <mark>365</mark> )
	F-8N-	1/2 in. Female NPT	]	77.0 (3.03)	-	-	1-1/16	4900 (337)
	M-6N-	3/8 in. Male NPT	]	59.9 ( <mark>2.36</mark> )	31.2 (1.23)	-	1	6000 (413)
	M-8N-	1/2 in. Male NPT		69.3 ( <mark>2.73</mark> )	31.2 (1.23)	-	1	
	D-12T-	3/4 in. DK-Lok		89.4 ( <mark>3.52</mark> )	45.2 (1.78)	28.58 (1-1/8)		5000 ( <mark>344</mark> )
	D-16T-	1 in. DK-Lok	]	98.6 ( <mark>3.88</mark> )	45.5 (1.79)	38.1 (1-1/2)	]	4700 (323)
	D-22M-	22 mm DK-Lok	]	88.4 ( <mark>3.48</mark> )	45.5 (1.79)	32		4900 (337)
VH36C-	D-25M-	25 mm Dk-Lok	47	98.6 ( <mark>3.88</mark> )	45.5 (1.79)	40	1 5/0	4600 (316)
VCH36C-	F-12N-	3/4 in. Female NPT	4./	82.0 (3.23)	82.0 (3.23)	-	1-5/0	4600 (316)
	F-16N-	1 in. Female NPT	]	97.3 ( <mark>3.83</mark> )	97.3 ( <mark>3.83</mark> )	-		4400 (303)
	M-12N-	3/4 in. Male NPT	]	83.6 (3.29)	45.5 (1.79)	-	]	E000 (244)
	M-16N-	1 in. Male NPT		93.2 (3.67)	45.7 (1.80)	-	1	5000 (344)

#### **Ordering Information and Dimensions**

### 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 S V V V
Seal Material Des	ignator	Spring Nominal Cracking Pressure Designator	Valve Body Material Designator
FKM : Nil for SS316 Valve NBR : Nil for Brass Valve HNBR : Nil for VCH36 CNG v FKM : VT NBR : BN EPDM : EP FFKM : KZ	alves	<ul> <li>1/3 : 1/3 psig</li> <li>1 : 1 psig</li> <li>3 : 3 psig</li> <li>10 : 10 psig</li> <li>25 : 25 psig</li> <li>Note :</li> <li>Select the spring designator from Table 1, 2, 3 and 4 of each valve Series.</li> </ul>	<b>S</b> : 316 stainless steel <b>B</b> : Brass

# Spare Kits for Field Assembly

# Spring

Prefix "9SPR" and select an applicable valve series and the designator of the spring nominal cracking pressure. 9SPR-(Valve series)-(spring designator)-2 Example : 9SPR-V33A-1/3-2

## How to order VH36 Series spring kit.

VH36 spring kit contains a spring and an indicator ring. Select an applicable valve series and the designator of the spring nominal cracking pressure. (Valve series)-RINGSPR-(spring designator)-SA Example : VH36A-RINGSPR-5-SA

# O-ring

Prefix "9ORG", select an applicable valve series and seal material designator. Example : 9ORG-V33A-BN

#### How to order VH36 Series seal kit.

VH36 seal kit contains (Refer to VH36 Materials of Construction) #4. Poppet with bonded seal, #7. O-ring and #8. Backup ring. Select an applicable valve series and seal material designator SK-(valve series)-(seal material designator) Examples : SK-VH36A-VT, SK-VH36B-BN.

# VL36 Series Lift Check Valves

#### Features

- Working pressure up to 6,000 psig (413 bar)
- Temperature up to 900 °F (482 °C)
- Metal to metal seat



#### Operation

- Operation of this valve heavily depends on gravity assistance. Thus mounting horizontally with bonnet nut upward to allow poppet to operate vertically.
- Reverse flow closes the valve, keeping poppet in the orifice.
- Forward flow opens the valve, lifting the poppet
- Lift check valve is primarily for use in liquid systems. If a slight amount of leakage can be tolerated it can be used with heavy gases.
- Reverse flow Cv is limited to less than 0.1% of forward Cv.

### **Materials of Construction**

	Valve Body Material
Component	Stainless Steel
	Material Grade/ASTM
1. Body	SS316/A276 or A479
2. Bonnet Nut	SS316/A276 or A479
3. Bonnet	TYPE630/A564
4. Poppet	SS316/A276 or A479

**Pressure-Temperature Ratings** 

#### **Complete Ordering Number and Dimensions**

Complete End Ordering Number Connection		Orifice		<b>C</b> 11	Dimensions mm (in.)			)	ASME Class	2500	
		Connection	mm	inch	CV	L	Н	H1	Hex	Material Group	2.2
D4T- D6M VL36A- F2N- F4N- SW4	D4T-S	1/4 in. DK-Lok		0.156	0.30	61.0 (2.40)	37.3 (1.47)	9.9 (.39)	7/8	Material Name	SS316
	D6M-S	6 mm DK-Lok								Temp. °F ( °C)	Working
	F2N-S	1/8 in. Female NPT	4.0			50.8 (2.00)					Pressure
	F4N-S	1/4 in. Female NPT				46.0 (1.81)					psig (bar)
	SW4T-S	1/4 in. Tube Socket Weld								-65 to 100	(112)
	D6T-S	3/8 in. DK-Lok	6.4	0.250	0.64	71.9(2.83)			1 1/4	(-53 to 37)	6000 (413)
VI 26D	F4N-S	1/4 in. Female NPT				57.2 (2.25)	47.0 (1.85)	12.7 (.50)		200 (93)	5160 (355)
VLSOD-	SW6T-S	3/8 in. Tube Socket Weld								300 (148)	4660 (321)
	SW8T-S	1/2 in. Tube Socket Weld								400 (204)	4280 (294)
	D8T-S	1/2 in. DK-Lok			2.20	99.6 (3.92)	62.0	15.7 (.62)	1 1/2	500 (260)	3980 (274)
	D12T-S	3/4 in. DK-Lok	11.1							600 (315)	3760 (259)
VL36C-	F6N-S	3/8 in. Female NPT		0.437		79.2(3.12)				700 (371)	3600 (248)
	F8N-S	1/2 in. Female NPT					(2.11)			800 (426)	3460 (238)
	SW8T-S	1/2 in. Tube Socket Weld				79.5 (3.13)				900 (482)	3280 (225)

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

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

### 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-Lok accepts no liability for any improper selection, installation, operation or maintenance.

# **DK-LOK**® USA

3350 SpringHill Ave., Mobile, AL 36607 - T: (251) 472-9580 - F: (251) 450-0962 - Toll Free: (800) 328-5803

www.dklokusa.com