

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

Component	Valve Body Material
	Stainless Steel
	Material Grade/ASTM
1. Body	SS316 /A479, A276
2. Connector	
3. Poppet stop	
4. Poppet with bonded seal	Poppet: SS316 /A479, A276 Bonded Seal : FKM, optional EPDM & Kalrez HNBR standard for VCH36 Series
5. Spring	SS302 /A313
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

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

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		Cracking Pressure Ranges				Reseal Pressures psig (bar)
		Min. Pressure		Max. Pressure		
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 (0.35) 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	Minimum 3 (0.21) Reseal pressure
25	1.72	20	1.38	30	2.07	Minimum 17 (1.2) Reseal pressure

Sour Gas Service

Materials of VH36 series valves for sour gas service are selected in accordance with the requirements of NACE MR0175

- Spring : alloy X-750/AMS5699
- Nominal Cracking Pressure : 1/3, 1, and 5 psig (0.03, 0.07 and 0.035 bar)
- Seal : ethylene propylene.

To order, insert-SG in the ordering number. i.e., VH36B-D-8T-SG-S

Ordering Information and Dimensions

Basic Ordering Number	End Connections	Cv	Dimensions mm (in.)				Pressure Rating psig (bar)	
			L	L1	H	h		
VH36A-VCH36A-	D-2T-	1/8 in. DK-Lok	57.7 (2.27)	26.4 (1.04)	11.11 (7/16)	11/16	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	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)	-			
VH36B-VCH36B-	D-6T-	3/8 in. DK-Lok	69.9 (2.75)	31.2 (1.23)	17.46 (11/16)	1	6000 (413)	
	D-8T-	1/2 in. DK-Lok	75.2 (2.96)	31.2 (1.23)	22.22 (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		5300 (365)
	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 (2.36)	31.2 (1.23)	-	1		6000 (413)
M-8N-	1/2 in. Male NPT	69.3 (2.73)	31.2 (1.23)	-	1	6000 (413)		
VH36C-VCH36C-	D-12T-	3/4 in. DK-Lok	89.4 (3.52)	45.2 (1.78)	28.58 (1-1/8)	1-5/8	5000 (344)	
	D-16T-	1 in. DK-Lok	98.6 (3.88)	45.5 (1.79)	38.1 (1-1/2)		4700 (323)	
	D-22M-	22 mm DK-Lok	88.4 (3.48)	45.5 (1.79)	32		4900 (337)	
	D-25M-	25 mm Dk-Lok	98.6 (3.88)	45.5 (1.79)	40		4600 (316)	
	F-12N-	3/4 in. Female NPT	82.0 (3.23)	82.0 (3.23)	-		4600 (316)	
	F-16N-	1 in. Female NPT	97.3 (3.83)	97.3 (3.83)	-		4400 (303)	
	M-12N-	3/4 in. Male NPT	83.6 (3.29)	45.5 (1.79)	-		5000 (344)	
	M-16N-	1 in. Male NPT	93.2 (3.67)	45.7 (1.80)	-		5000 (344)	

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
FKM : Nil for SS316 Valve	1/3 : 1/3 psig	S : 316 stainless steel
NBR : Nil for Brass Valve	1 : 1 psig	B : Brass
HNBR : Nil for VCH36 CNG valves	3 : 3 psig	
FKM : VT	10 : 10 psig	
NBR : BN	25 : 25 psig	
EPDM : EP	Note :	
FFKM : KZ	Select the spring designator from Table 1, 2, 3 and 4 of each valve Series.	

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.