



CNG/NGV Valves

VCH86 Series Alternative Fuel Service Ball Valve

Catalog No. VCH86-6
Jan. 2010



Features

- Wetted components are compatible with compressed natural gas (CNG), liquid petroleum gas, gaseous and liquid hydrogen.
- Sturdy body and end connections made out of stainless 316 barstock.
- Maximum pressure rating: 413 bar (6000 psig).
- Temperature rating: - 40 to 121°C (-40 to 250°F).

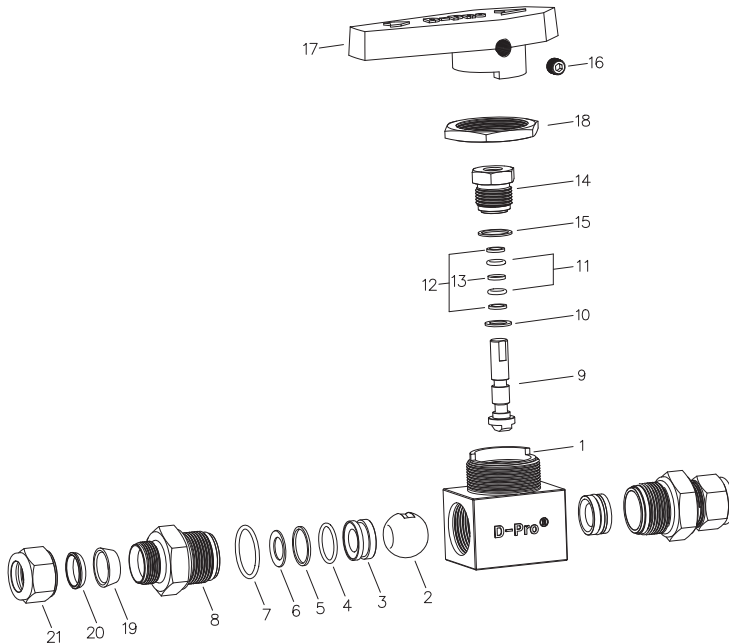
Pressure-Temperature Ratings

End Connections	DK-LOK Tube Fitting			Female Pipe	
	3/8 in. 1/2 in. 12 mm	3/4 in. 16 mm	1 in.	3/8 in. 1/2 in.	3/4 in.
Temperature °C (°F)	Working Pressure bar (psig)				
- 40 to 93 (-40 to 200)	413 (6000)	400 (5800)	323 (4680)	413 (6000)	381 (5520)
121 (250)	413 (6000)	395 (5720)	320 (4640)	413 (6000)	381 (5520)

CNG/NGV Certifications

Certificates	ECE R110	ANSI / AGA NGV 3.1-1995 CGV NGV 12.3-M95	ANSI / IAS NGV 4.6-1999 CSA 12.56-M99	ISO 15500
Certificate No.	110R-000181	2010-REPORT-008 (00)	2010-REPORT-009 (00)	2010-CERT-007 (00)
Classification	Class 0	manual valve	manual valve (Class B)	manual valve
Temperature	-40 to 120 °C (-40 to 250 °F)	-40 to 121 °C (-40 to 250 °F)	-40 to 65 °C (-40 to 150 °F)	-40 to 121 °C (-40 to 250 °F)
Working Pressure	274 bar @ 120 °C	273 bar @ 121 °C	293 bar @ 65 °C	273 bar @ 121 °C

Materials of Construction



Component	Glade / ASTM specification
1 Body	SS316/A276, A479
2 Ball	SS316/A276, A479
3 Seat (2)	PEEK
4 Seat O-ring (2)	HNBR
5 Seat Backup Ring (2)	PTFE /D1710
6 Disc Spring (2)	SS316/A240
7 Connector O-ring (2)	HNBR
8 End Connector (2)	SS316/A276, A479
9 Stem	SS316/A276, A479
10 Stem Seat Bearing	PEEK
11 Stem O-ring (2)	HNBR/D2000
12 Stem Guide Ring	PTFE /D1710
13 Stem Backup Ring (2)	PEEK
14 Packing Bolt	SS316/A276, A479
15 Packing Bolt Gasket	SS316/A240 Silver-plated
16 Set Screw	SS316 Stainless steel
17 Handle	Nylon with brass insert
18 Panel Nut	SS316
19, 20, 21 Dk-Lok Nut and Ferrule set (2)	SS316 Stainless steel

• Wetted components are listed in BLUE.

Factory Testing

Every valve is factory tested with nitrogen @ 1000 psig (68 bar). Seats have a maximum allowable leak rate of 0.1 std cm³/min. The stem packing is tested with nitrogen @ 1000 psig (68 bar) for no detectable leakage.

Cleaning and Packaging

Valves are cleaned and packaged in accordance with DK-LOK cleaning standard DC-01. Special cleaning and packaging in accordance with DK-LOK DC-11 ensures compliance with product cleaning of ASTM G93 Level C is available on request.

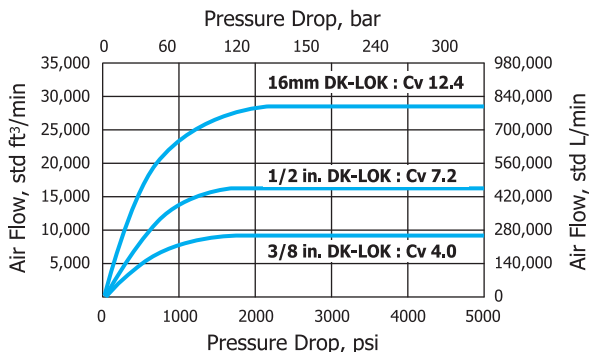
Operation

- VCH86 ball valves are designed for fully open and close operation.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.

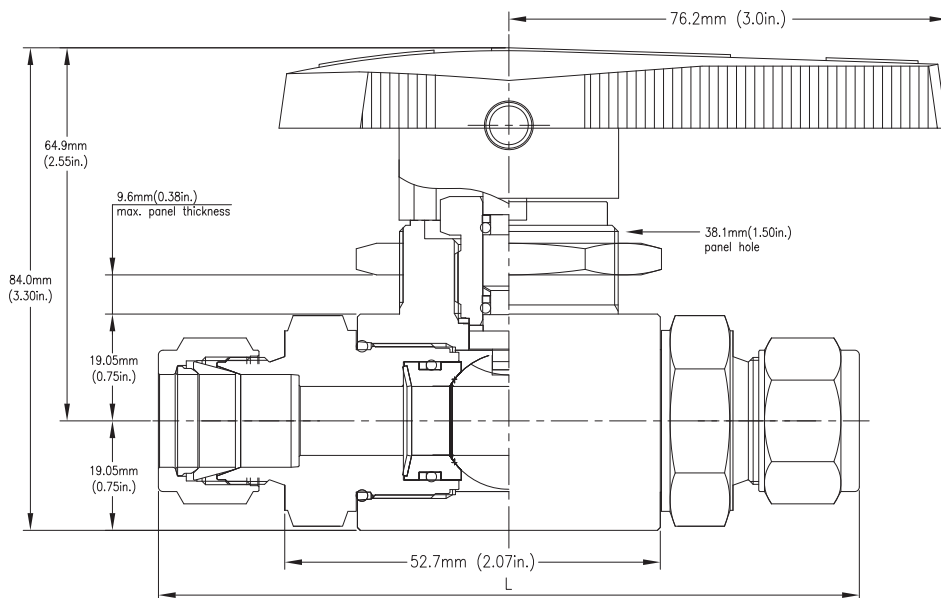
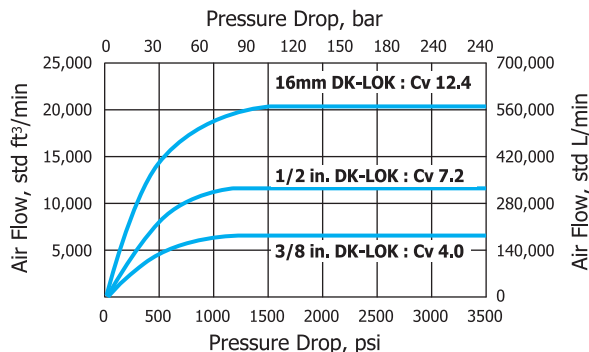
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Flow Data @ 21°C (70°F)

Air Pressure 350 bar (5000 psig)



Air Pressure 250 bar (3600 psig)



Ordering information and Table of Dimensions

Ordering Number	End Connections	Orifice		Cv	Dimensions	
		mm	in.		L	
VCH86-	D-6T-S	3/8 in. DK-LOK	7.1	0.281	4.0	116 mm (4.57 in.)
	D-8T-S	1/2 in. DK-LOK	10.3	0.406	7.2	122 mm (4.8 in.)
	D-12T-S	3/4 in. DK-LOK	12.0	0.472	7.1	130 mm (5.10 in.)
	D-16T-S	1 in. DK-LOK (1)	12.0	0.472	6.5	116 mm (4.57 in.)
	D-10M-S	10 mm DK-LOK	7.1	0.281	4.0	112 mm (4.40 in.)
	D-12M-S	12 mm DK-LOK	10.3	0.406	5.2	122 mm (4.80 in.)
	D-16M-S	16 mm DK-LOK	12.0	0.472	12.4	102 mm (4.00 in.)
	F-6N-S	3/8 in. Female pipe	12.0	0.472	11.0	
	F-8N-S	1/2 in. Female NPT	12.0	0.472	13.8	
	F-12N-S	3/4 in. Female NPT (1)	12.0	0.472	7.8	

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

(1) Not recommended for panel mounting.

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.