



VCH86 Series

Alternative Fuel Service Ball Valve

Rev. 01-02
Oct. 2023



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 / CSA NGV 3.1:20	ANSI /CSA NGV 4.6:20	ISO 15500 – 4:2020
Certificate No.	E24 110R05/00*0083*00	72160895-NGV 3.1	72160895-NGV 4.6	72160895-ISO 15500-4
Classification	Class 6	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 120 C (-40 to 250 F)
Working Pressure	W.P 274 bar @ 120 C	S.P 273 bar @ 21 C	S.P 293 bar @ 21 C	W.P 274 bar @ 120 C

Materials of Construction

No.	Component	Grade / 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
7	Connector Oring (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	Dk-Lok Nut and Ferrule set (2)	SS316 Stainless steel
20,21		

• 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.

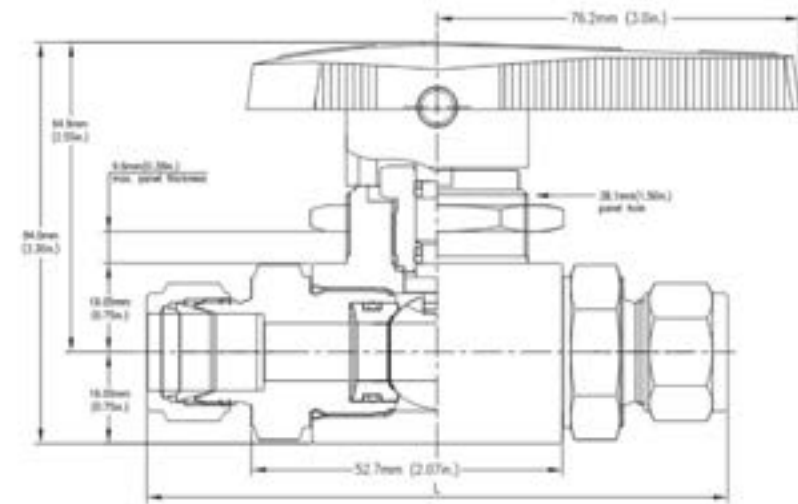
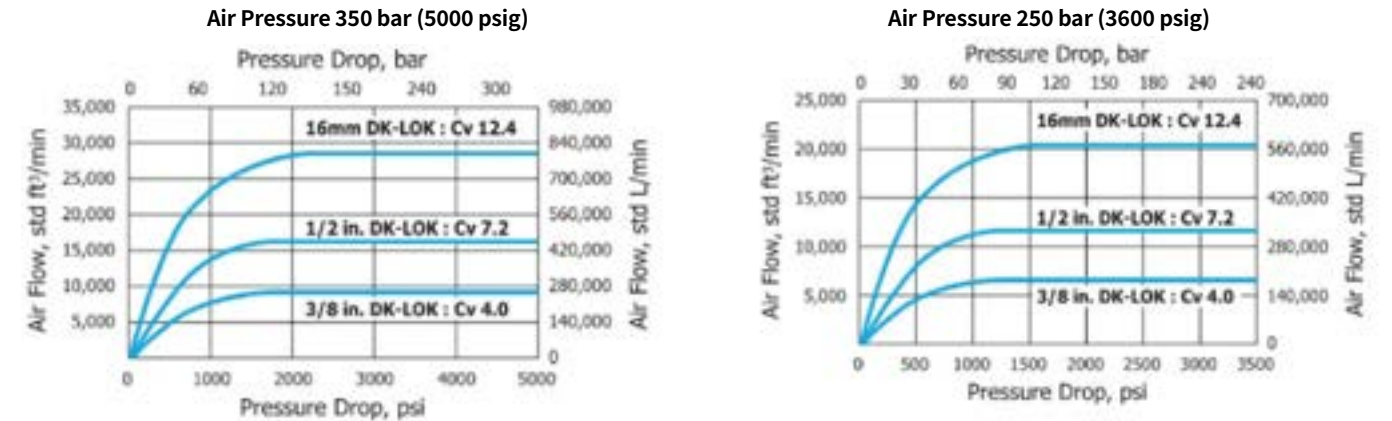
Cleaning and Packaging

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.

Flow Data @ 21°C (70°F)



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	
	D-16T-S	1 in. DK-LOK (1)	12.0	0.472	6.5	130 mm (5.10 in.)
	D-10M-S	10 mm DK-LOK	7.1	0.281	4.0	116 mm (4.57 in.)
	D-12M-S	12 mm DK-LOK	10.3	0.406	5.2	112 mm (4.40 in.)
	D-16M-S	16 mm DK-LOK	12.0	0.472	12.4	122 mm (4.80 in.)
	F-6N-S	3/8 in. Female pipe	12.0	0.472	11.0	102 mm (4.00 in.)
	F-8N-S	1/2 in. Female NPT	12.0	0.472	13.8	
	F-8R-S	1/2 in. Female PT	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.

Maintenance Kits

The seat seal kit includes a seat, seat o-ring, seat back-up ring, and disc spring, two each.

Seat seal kit ordering number : SK-VCH86

* It is recommended to replace it with a seat spare kit if leakage occurs after prolonged use of the product.



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