



Cleanness by Purpose

D

Diaphragm Valve

*Ultra Light Weight · Compact Type
Diaphragm Valve Internal Tube Fittings (1MPa)*

DVF series



KAIHEI-KUN

IHARA SCIENCE CORPORATION

KAIHEI-KUN Metal Diaphragm Valve (1MPa)

[Features]

The KAIHEI-KUN Series features pipe joints with internal metal diaphragms offering lighter weights, compact size and outstanding cost-performance in comparison with conventional metal diaphragm valves. Thanks to a new concept featuring pipe joints as the key element, valve functions are on the same level as the existing metal diaphragm valve DVE Series while realizing outstanding light weight.

- Mounted Ni-Co alloy diaphragm which achieves high air-tightness, high durability and actuation longevity.
- Valve open/close possible with approximately 90 degree [quarter-turn] rotation (Round handle as standard).
- Oil-free treatment by precision cleaning for all wetted parts & detailed electropolishing procedure for outstanding finish.
- Assembled, tested and packaged in ISO5 (class 100) cleanroom, double-bagged with UHP Nitrogen purge.
- Optional material specifications: Available in 316LSS VAR, 316LSS VIM-VAR and Hastelloy C22.

Specifications

Nominal Size	1/4"	3/8" & 1/2"
Working Pressure	Vac.~1MPa (150psi)	
Working Temperature Range	-10~+80°C	
Cv Value ^(※1)	0.3	0.7
Connection Fittings ^(※2)	VTF (Metal Gasket Face Seal Type) BI-LOK (Double Pressure Ring) Tube Weld	

(※1) VTF (male) connection. Varies according to connection and size.

(※2) Can also be used with other connections. Please contact our Sales Division.

(※3) VTF (male) connection: Value in valve-open state.

(※4) 1MPa: Our company's test values in N₂ gas insertion test.

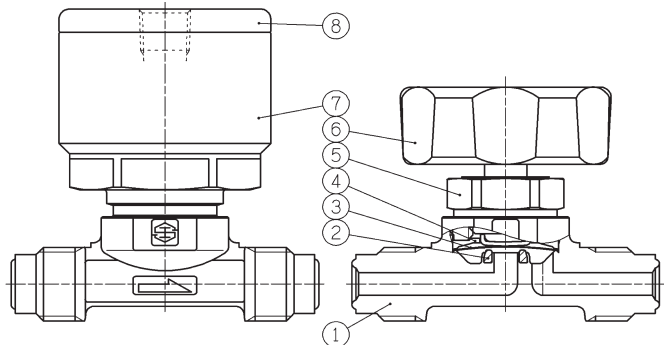
(※5) PVDF, Polyimide, PEEK and other seats available

Nominal Size	1/4"	3/8" & 1/2"
Weight ^(※1)	(Manual Valve)	(Manual Valve)
	130g	290g
	(Automatic Valve)	(Automatic Valve)
Inner Volume ^(※3)	250g	505g
	1.3c	4.9cc
Operation Durability ^(※4)	(Manual Valve)	More than 10,000 times
	(Auto Valve 1/4")	≥ 5,000,000 cycles
	(Auto Valve 3/8", 1/2")	≥ 5,000,000 cycles

*Inboard & Across-the-seat helium leak tested to $\leq 1 \times 10^{-10}$ Pa · m³/sec.

Materials of Construction

	Part Name	Material
①	Body	316LSS or 316LSS VAR
②	Disk Seat (Seal)	PCTFE
③	Diaphragm	SUS631 or Co-Ni Alloy
④	Diaphragm Retainer	SUS304
⑤	Bonnet	SUS304
⑥	Handle	Resin Treatment
⑦	Bonnet	SCS13A
⑧	Cover	A5056



Model Number Notation

DVF - ① - ② - ③ - ④ - ⑤ - ⑥ -

Example: DVF-4VM-NC-EP-C-B [1/4"VTF Face-Seal Male connections, Normal Close, Electrolytic treatment, Co-Ni diaphragm, With Bracket, 316LSS]

①	
Mark	Size
4	1/4"
6	3/8"
8	1/2"

②	
Mark	Connection Fittings
VM	VTF (male)
VF	VTF (female)
D	BI-LOK
TW	Tube Weld

③	
Mark	Operation
(Blank)	Manual
NC	Normal Close
NO	Normal Open
DA	Double Acting

④	
Mark	Internal Surface Processing
EP	Electropolishing 5Ra μ in (7Ra max)
BA	Machining 20Ra μ in (32Ra max)

⑤	
Mark	Diaphragm Material
SS	SUS631
C	Co-Ni Alloy

⑥	
Mark	Bracket
B	Existence
(Blank)	Nothing

⑦	
Mark	material
(Blank)	316LSS
DM	316LSS VAR
HC	Hastelloy C22

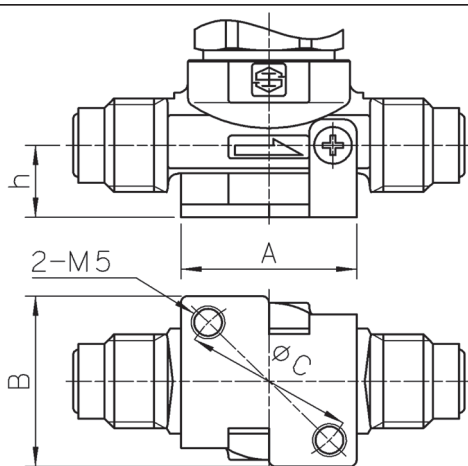
Dimensions (manual)

		VTF (Male) (mm)				
		Model	Size	L	H	W
		DVF-4VM	1/4"	58	38.2	40
		DVF-8VM	1/2"	76	41.3	40
		VTF (Female) (mm)				
		Model	Size	L	H	W
		DVF-4VF	1/4"	70.6	38.2	40
		DVF-8VF	1/2"	90	41.3	40
		BI-LOK (mm)				
		Model	Size	L	H	W
		DVF-4D	1/4"	64	38.2	40
		DVF-6D	3/8"	77	41.3	40
		DVF-8D	1/2"	82.6	41.3	40

Dimensions (automatic)

		VTF (Male) (mm)				
		Model	Size	L	H	W
		DVF-4VM-NC/NO	1/4"	58	53.3	40
		DVF-8VM-NC/NO	1/2"	76	59.3	54
		VTF (Female) (mm)				
		Model	Size	L	H	W
		DVF-4VF-NC/NO	1/4"	70.6	53.3	40
		DVF-8VF-NC/NO	1/2"	90	59.3	54
		BI-LOK (mm)				
		Model	Size	L	H	W
		DVF-4D-NC/NO	1/4"	64	53.3	40
		DVF-6D-NC/NO	3/8"	77	59.3	54
		DVF-8D-NC/NO	1/2"	82.6	59.3	54

Dimensions (bracket)



Optional Specifications: with a Bracket (mm)

Size	h	A	B	C
1/4"	11	26	26	25.4
3/8"	16	34	32	28
1/2"	16	34	32	28

*Bracket board thickness: 2mm

A plant with ISO 9001/14001 certifications.

Authorized division by the high pressure gas safety institute of japan (N valve type, N-II joint type).

TÜV rheinland certification.



IHARA SCIENCE CORPORATION

• Caution

Inappropriate selection and improper handling of fittings, valves and related accessories can result in physical injuries and damaged to the system. Fittings, valves and related accessories should be under the responsibility and authority of the system engineers and the users with due consideration to their compatibility to the systems to which they are applied and the condition of their use, and must be proper installed, operated and maintained. Please read the Instructions prior to use for a thorough understanding of contents. If you do not have Instructions or if there are unclear matters, please contact the Sales Department of our Operations Division.

Head Office

• 11-3 Takanawa 3-chome Minato-ku, Tokyo 108-0074 Japan

TEL: +81(0)3-6721-6981

FAX: +81(0)3-6721-6991

■ URL: <http://www.ihara-sc.co.jp>

■ The contents of this catalogue are subject to change without prior notice due to product improvement, etc.