

Cleanness by Purpose

# Diaphragm Valve

*Compact Designed  
Diaphragm Valve (2MPa-300psi)*

***DVE series***



***IHARA SCIENCE CORPORATION***

# DVE series Metal diaphragm seal valve (2MPa)

## 【Features】

**DVE series are metal diaphragm valves that** are lightweight, compact and cost effective developed with the aim of contributing to energy saving and resource saving, which have been regarded as major issues in recent years. While maintaining the basic function as the conventional series, we succeeded in making it compact following reviewing each part. The open/close indicator has been improved to make it easier to see the valve positions at a glance.

- Mounted Ni-Co alloy diaphragm and achieves high airtightness and high durability.
- Equipped with an open/close indicator that allows to check the valve positions at a glance.
- Oil-free treatment by precisin cleaning for wetted parts
- Assembly and packaging in a clean room

## Specifications

Nominal size <sup>(※3)</sup>	1/4"	3/8" & 1/2"	3/4"	Nominal size	1/4"	3/8" & 1/2"	3/4"
Design pressure	Vac. ~ 2MPa(300psi)			Weight <sup>(※2)</sup>	(Manual valve)	(Manual valve)	(Manual valve)
					225g	440g	700g
					(Air Operated valve)	(Air Operated valve)	(Air Operated valve)
Design temp <sup>(※1)</sup>	-10 ~ +80°C				550g	850g	1250g
				Innner volume <sup>(※4)</sup>	1.3cc	7.3cc	18cc
Cv value <sup>(※2)</sup>	0.3	0.75	1.2	He leak test	(External)		(External)
Connecting <sup>(※3)</sup>	VTF (Metal Gasket Seal Fitting)				$1 \times 10^{-11} \text{ Pa} \cdot \text{m}^3/\text{s}$		$1 \times 10^{-10} \text{ Pa} \cdot \text{m}^3/\text{s}$
	BI-Lok (Double Ferrules Fitting)				(Seat)		(Seat)
	Tube Welded				$3 \times 10^{-10} \text{ Pa} \cdot \text{m}^3/\text{s}$		$1 \times 10^{-9} \text{ Pa} \cdot \text{m}^3/\text{s}$

(※1) Contact us for other temperature range

(※4) For VTF(male) connection, and at valve full-open position

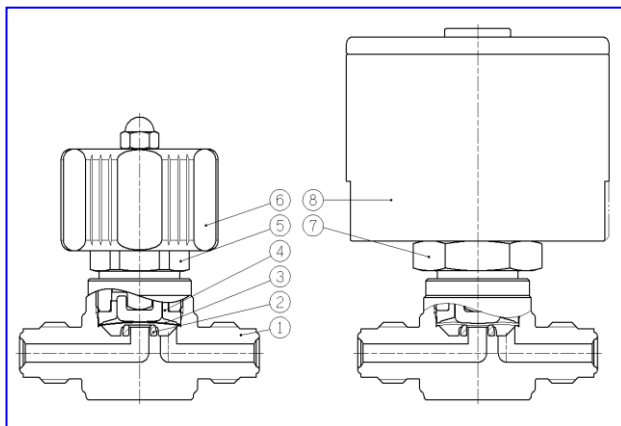
(※2) For VTF(male) connection, differs depending on connection type and size.

(※3) Other types of connections are available.

**(※) Contact us for Lock Out Tag Out (LOTO) options.**

## Main materials

	Parts Name	Material
①	Body	316L SS
②	Disk	PCTFE
③	Diaphragm	Co-Ni alloy
④	Diaphragm Retainer	304 SS
⑤	Bonnet	304 SS
⑥	Handle	Aluminum Alloy
⑦	Bonnet	304 SS
⑧	Actuator	-



## Model Number Notation

**DVE - ① ② - ③ - ④ - 2MPA**

Ex.) DVE - 4VM - NC - EP - OPP - GD4 2MPA [1/4"VTF male connection, Pneumatic Normal close, Electro polished ]

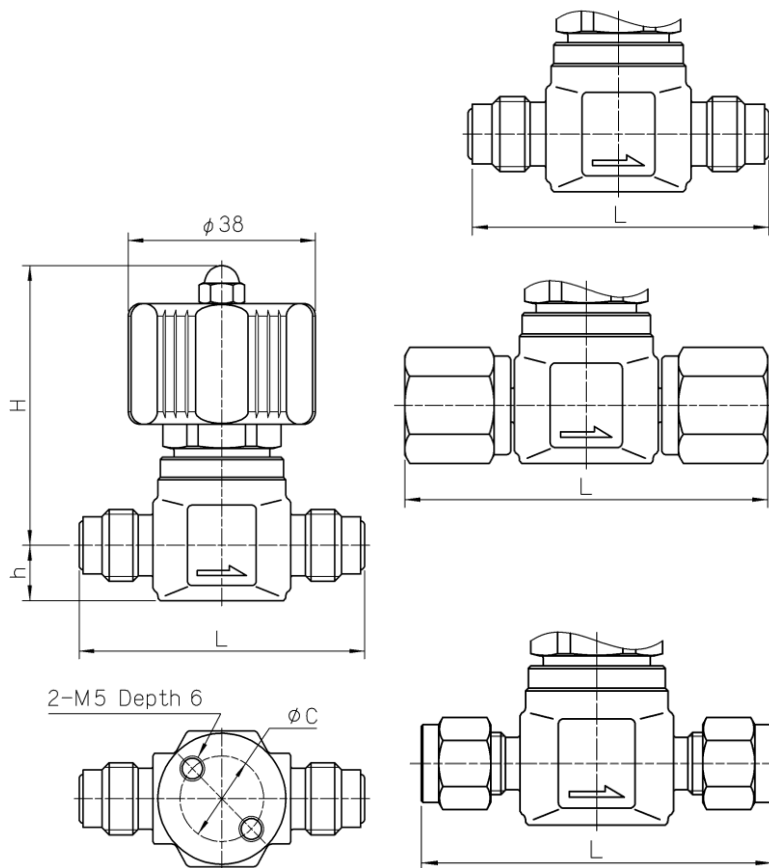
①	
Mark	Size
4	1/4"
6	3/8"
8	1/2"
12	3/4"

②	
Mark	Conn. Fitting
VM	VTF (Male)
VF	VTF (Female)
D	BI-Lok
TW	Tube

③	
Mark	Operation
Blank	Manual
NC	Normal close
NO	Normal open

④	
Mark	Internal surface treated
EP	Electropolished (Ra 5μin)
BA	Machining (Ra 10μin)

## Dimensions (Manual)



Bottom mounting dimensions are common in all connections

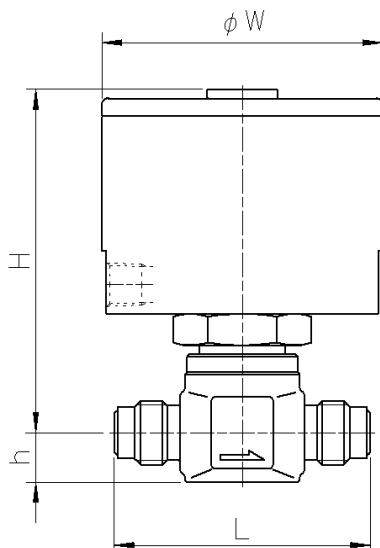
VTF –Metal Gasket Seal (Male)						(mm)
Model	Size	L	H	h	C	
DVE-4VM	1/4"	58	55.5	11	17	
DVE-8VM	1/2"	76	59	16	28	
DVE-12VM	3/4"	82	70.6	20	32	

VTF –Metal Gasket Seal (Female)						(mm)
Model	Size	L	H	h	C	
DVE-4VF	1/4"	70.6	55.5	11	17	
DVE-8VF	1/2"	90	59	16	28	
DVE-12VF	3/4"	120	70.6	20	32	

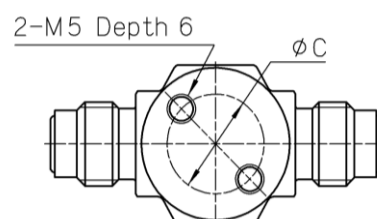
BI-Lok (Double Ferrule)						(mm)
Model	Size	L	H	h	C	
DVE-4D	1/4"	64	55.5	11	17	
DVE-6D	3/8"	77	59	16	28	
DVE-8D	1/2"	82.6	59	16	28	
DVE-12D	3/4"	92.6	70.6	20	32	

Tube Welded						(mm)
Model	Size	L	H	h	C	
DVE-4TW	1/4"	100	55.5	11	17	
DVE-6TW	3/8"	110	59	16	28	
DVE-8TW	1/2"	110	59	16	28	
DVE-12TW	3/4"	150	70.6	20	32	

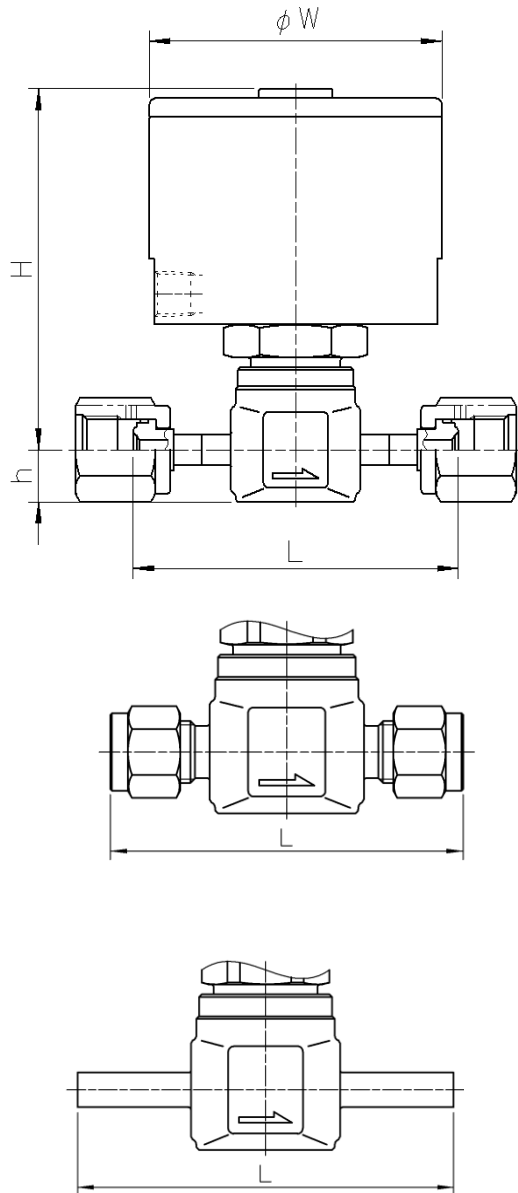
## Dimensions (Pneumatic)



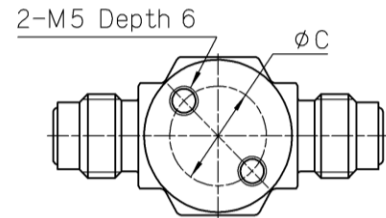
VTF –Metal Gasket Seal (Male)							(mm)
Model	Size	L	H	h	W	C	
DVE-4VM-NC	1/4"	58	76.5	11	63.5	17	
DVE-8VM-NC	1/2"	76	99.5	16	59	28	
DVE-12VM-NC	3/4"	82	111	20	59	32	



## Dimensions (Pneumatic)



VTF -Metal Gasket Seal (Female)							(mm)
Model	Size	L	H	h	W	C	
DVE-4VF-NC/NO	1/4"	70.6	76.5	11	63.5	17	
DVE-8VF-NC/NO	1/2"	90	99.5	16	59	28	
DVE-12VF-NC/NO	3/4"	120	111	20	59	32	



Bottom mounting dimensions are common in all connections

BI-Lok (Double Ferrule)							(mm)
Model	Size	L	H	h	W	C	
DVE-4D-NC/NO	1/4"	64	76.5	11	63.5	17	
DVE-6D-NC/NO	3/8"	77	99.5	16	59	28	
DVE-8D-NC/NO	1/2"	82.6	99.5	16	59	28	
DVE-12D-NC/NO	3/4"	92.6	111	20	59	32	

Tube Welded							(mm)
Model	Size	L	H	h	W	C	
DVE-4TW-NC/NO	1/4"	100	76.5	11	63.5	17	
DVE-TWD-NC/NO	3/8"	110	99.5	16	59	28	
DVE-8TW-NC/NO	1/2"	110	99.5	16	59	28	
DVE-12TW-NC/NO	3/4"	150	111	20	59	32	

## Option



\*Outlet Purge Port



\*Angle type is available upon request.

## Related Products

### **DVF** Compact Diaphragm Valve (1MPa – 150psi)



### **HFD** High Flow Diaphragm Valve



### **CVY** Y-Type Bellows Seal Valve



### **PYB** Pipe-Welded Y-Type Bellows Seal Valve (1MPa~2MPa)



ISO9001, ISO14001 Certified Office

Certified office for high-pressure gas facility testing and manufacturing.

certified office for N valves and N-II fittings

## ***IHARA SCIENCE CORPORATION***

#### ◆Head Office

11-3 Takanawa 3-chome Minato-ku, Tokyo 108-0074 Japan  
TEL: 03-6721-6981 FAX: 03-6721-6991

#### ◆IHARA SCIENCE TAIWAN Co.,Ltd

B2, 7F, No. 51, Sec. 2, Gongyi Rd., Nantun Dist., Taichung City 408330,  
Taiwan (R.O.C.)  
TEL: +886-4-2319-1116 FAX: +886-4-2319-1126

#### ◆IHARA KOREA Co.,Ltd

Digital Empire II 103-905, Sinwon-ro 88, Yeongtong-Gu, Suwon-Si  
Gyeonggi-Do, 443-734, South Korea  
TEL: +82-31-695-6800 FAX: +82-31-695-6808

#### ◆IHARA SCIENCE USA CORPORATION

17971 Sky Park Circle, Suite B, Irvine, California 92614 U.S.A.  
TEL: 949-387-3727  
FAX: 949-387-3739

#### ◆NANTONG IHARA SCIENCE Co.,Ltd

No.1692-8 Xinghu Road, Economic & Technological Development  
Zone, Nantong, Jiangsu 226010 P.R.China TEL: +86-513-89072116  
FAX: +86-513-81520182



### **WARNING**

If you don't select and handle fittings, valves and related accessories in an adequate manner, it may damage human beings and applicable systems.  
Within the responsibility and authorization of users and piping designers, fittings, valves and related accessories shall be adequately selected, used and maintained based on the applicable conditions and product conformity to the system to be applied. Please read carefully the operation manual and feel free to contact with Ihara if you have any question or request.

### **WARRANTY CLAUSE**

#### 1. Warranty Period

The warranty period of the products is one (1) year from putting into service or one and half (1.5) years after delivery whichever comes earlier. However, the products specially specified and/or the cases used under deviating from the specification shall be exempted.

#### 2. Scope of Warranty

Any failure and damage under maker's responsibility will be found during the warranty period, the substitutes and/or replacement parts shall be provided free of charge. The warranty shall not be applied to a claim for the

■ URL : <http://www.ihara-sc.co.jp/>

■ Please be advised that the contents of this catalogue may be revised without notice when improvements or modifications are made on the time.