

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 meeting ultra-high purity standards. Our valve offers exceptional cleanliness and excellent flows for gas distribution systems. Also superior containment and delivery for the most critical gas applications. Manual and automatic operations available; pneumatic Norm-Open, Norm-Closed, Double-Acting & Lock Out Tag Out "bump proof" handle

- Mounted Ni-Co alloy diaphragm which achieves high air-tightness and high durability and actuation longevity
- Equipped with open/close indicator allowing visual check of the valve position. LOTO integral safety handle available
- 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

Specifications

Nominal size	1/4"	3/8"&1/2"	3/4"	Nominal size	1/4"	3/8"&1/2"	3/4"
Design pressure	Vac.~2MPa (300psi)			Weight ^(※2)	(Manual valve) 225g	(Manual valve) 440g	(Manual valve) 700g
Design temp ^(※1)	-10~+80°C (14~176°F)				(Air Operated valve) 550g	(Air Operated valve) 850g	(Air Operated valve) 1250g
Cv value ^(※2)	0.3	0.75	1.2	Innner volume ^(※4)	1.3cc	7.3cc	18cc
Connecting ^(※3)	VTF (Metal Gasket Seal Fitting)			He leak test	(External/Inboard)		(External/Inboard)
	BI-Lok (Double Ferrule Fitting)				$1 \times 10^{-11} \text{ Pa} \cdot \text{m}^3/\text{s}$		$1 \times 10^{-10} \text{ Pa} \cdot \text{m}^3/\text{s}$
	Tube Welded				(Seat)		(Seat)
					$1 \times 10^{-10} \text{ Pa} \cdot \text{m}^3/\text{s}$		$1 \times 10^{-10} \text{ Pa} \cdot \text{m}^3/\text{s}$

(※1) Contact us for other temperature range

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

(※3) Other types of connections are available.

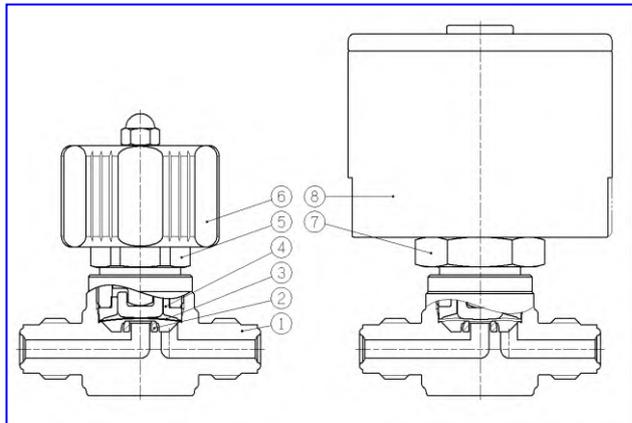
(※4) For VTF(male) connection, and at valve full-open position

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

(※6) Multiple porting options available as DVE-8TWVMVM = 3 port, etc

Materials of Construction

	Parts Name	Material
①	Body	316LSS or 316LSS VAR
②	Disk Seat (Seal)	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 - ②③ - ④ - ⑤ - ⑥ - ⑦ - 2MPA - H** - ⑧

Ex.) DVE-4VM-NC2-EP-OPP-GD4N-2MPA [1/4"VTF male face-seal connection, Normal close, Electropolished, Outlet PP capped, 316LSS]

①	
Mark	Type
(blank)	straight
A	Angle

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

③	
Mark	Conn. Fitting
VM	VTF (Male)
VF	VTF (Female)
D	BI-Lok
TW	Tube Weld

TW③	
Mark	Tube Wall
0.89	1/4" @ 0.035"
0.89	3/8" @ 0.035"
(blank)	1/2" @ 0.049"
(blank)	3/4" @ 0.065"
-	-

④	
Mark	Operation
(Blank)	Manual
NC2	Normal close
NO2	Normal open
DA	Double acting
LOH	Lock-out tag-out safety handle

⑤	
Mark	ID surface
EP	Ra 5μin (7μin max)
BA	Ra 20μin (32μin max)

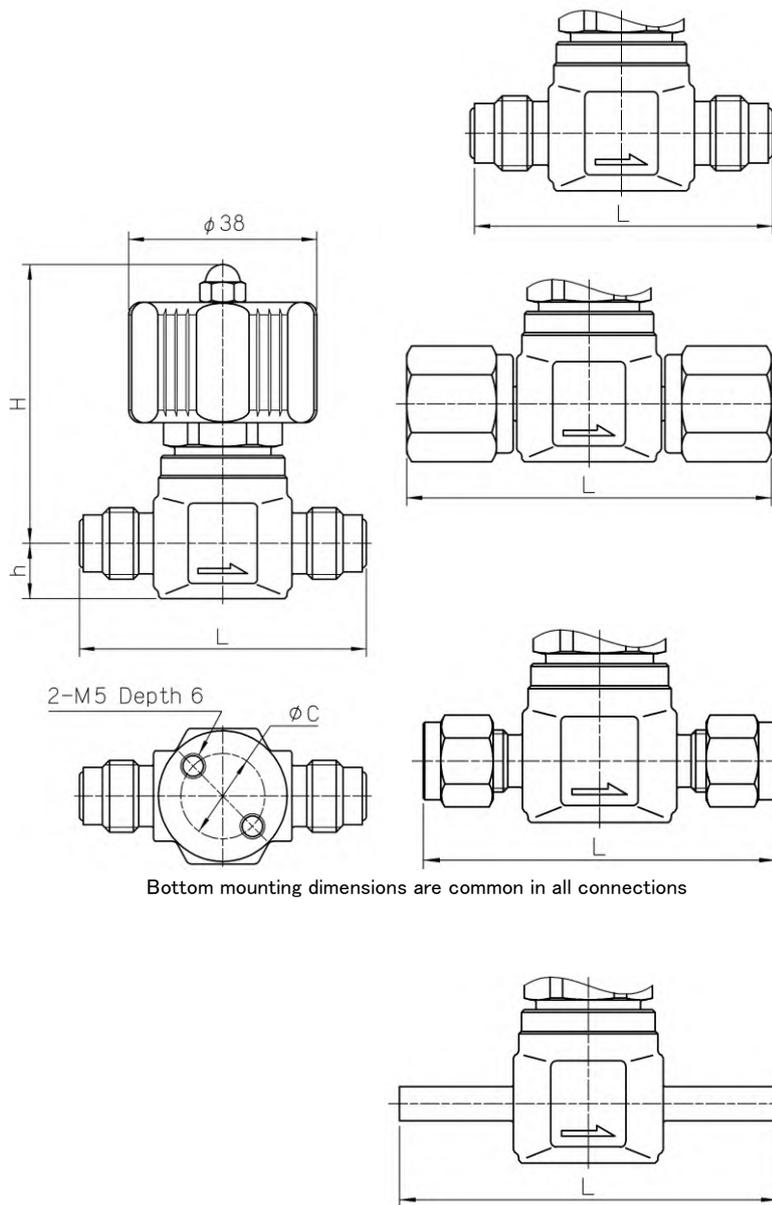
⑥	
Mark	Purge Port
(blank)	None
IOPP	Inlet & Outlet
OPP	Outlet
IPP	Inlet

⑦	
Mark	Purge Port Size
(blank)	No Purge Port
GD4	VTF Gland 1/4"
GD4N	VTF Gland 1/4", CAP

⑧	
Mark	material
(Blank)	316LSS
DM	316LSS VAR
HC	Hastelloy C22

** standard handle color "HBK" = BLACK (numerous handle colors available, config. as "HBU" = BLUE, "HRD" = RED, "HGR" = GREEN, "HWH" = WHITE, etc)

Dimensions (Manual)



Bottom mounting dimensions are common in all connections

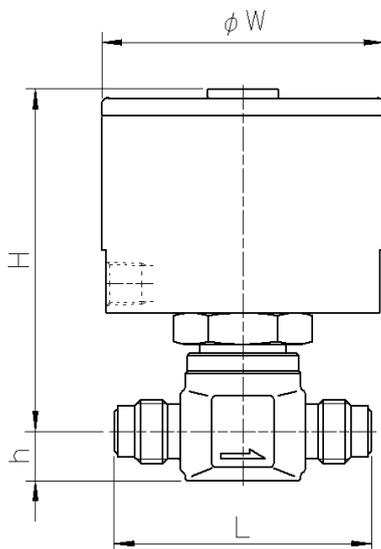
VTF -Metal Gasket Seal (Male)						(mm)
Model	Size	L	H	h	C	
DVE-4VM	1/4"	58	55.5	11	17	
DVE-8VM	1/2"	76	59	16	28	
DVE-12VM	3/4"	82	70.6	20	32	

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	

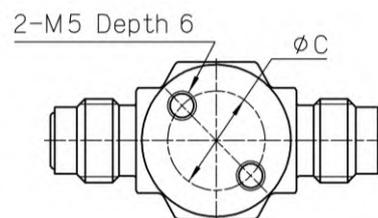
BI-Lok (Double Ferrule)						(mm)
Model	Size	L	H	h	C	
DVE-4D	1/4"	64	55.5	11	17	
DVE-6D	3/8"	77	59	16	28	
DVE-8D	1/2"	82.6	59	16	28	
DVE-12D	3/4"	92.6	70.6	20	32	

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	

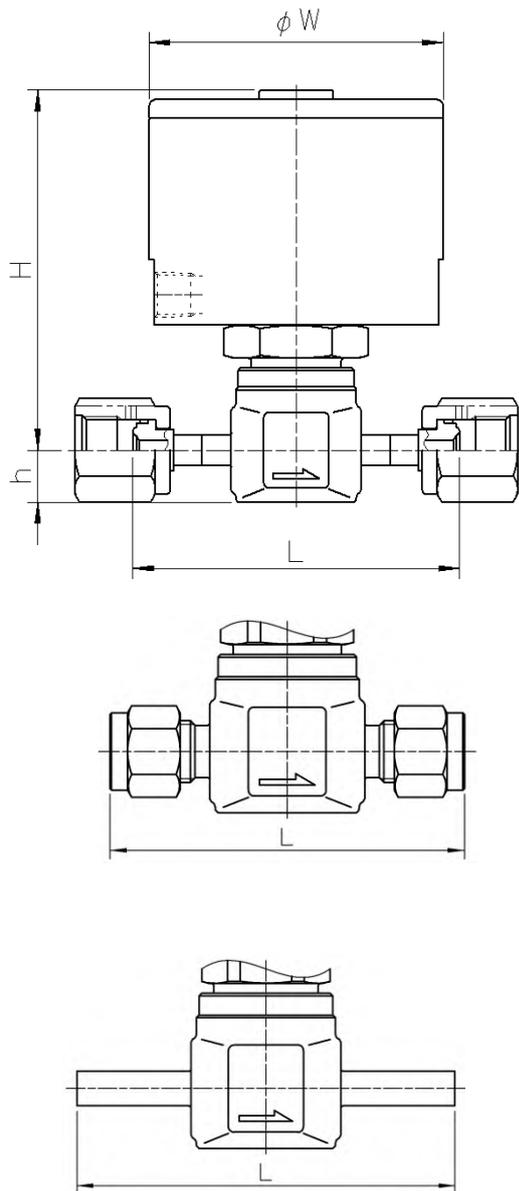
Dimensions (Pneumatic)



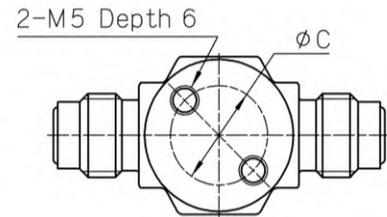
VTF -Metal Gasket Seal (Male)							(mm)
Model	Size	L	H	h	W	C	
DVE-4VM-NC	1/4"	58	76.5	11	63.5	17	
DVE-8VM-NC	1/2"	76	99.5	16	59	28	
DVE-12VM-NC	3/4"	82	111	20	59	32	



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	

Options



*Outlet Purge Port



*Angle type is available upon request.

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

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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 liquidated damages.

■ URL: <http://www.ihara-sc.co.jp/>

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