



Cleanness by Purpose

Diaphragm Valves

"High Flow Diaphragm Valves"

HFD series



IHARA SCIENCE CORPORATION

HFD Large Flow Metal Diaphragm Seal Valve

【Features】

HFD Series Large Flow Metal Diaphragm Seal Valve is a valve that can handle a large flow rate with excellent cleanliness. While ensuring the same level of airtightness as conventional metal diaphragm valves, an increase in the amount of open/close lift and optimization have resulted in a smooth flow path and a large flow rate. The open/close status can be checked at a glance with the open/close display function.

- Large flow rate is achieved by increasing the flow path to the maximum
- Less dead space in the gas contact area and excellent gas substitution and cleanliness
- High airtightness due to diaphragm seal
- Oil-proof Treatment through Precise Cleaning of Gas-contact Parts

Specifications

Body	1/2" Base		1" Base	
	Connection size	1/2"	3/4"	3/4"
Working pressure ^(※1)	Vac. ~ 1MPa			
Working temperature	-10 ~ +80°C			
Cv ^(※2)	2.8	2.8	5	9

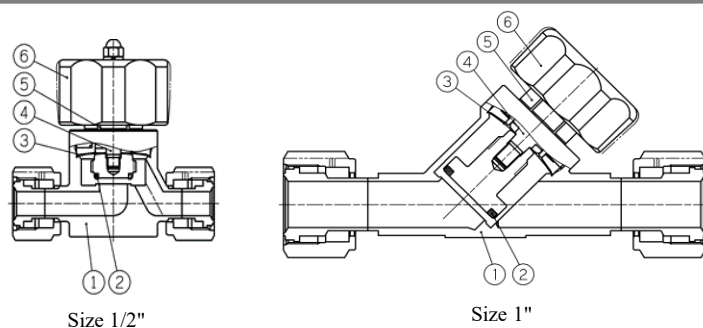
- (※1) Special specs that can be used up to 1.7MPa are also available.
 (※2) The actual flow rate depends on the connection piping.

Connecting joint (※3)	VTF (metal gasket joint)			
	Tube			
Weight (※4)	640g	880g	1350g	1500g
He leak testing	(external) 1 × 10 ⁻¹¹ Pa·m ³ /s			
	(internal) 3 × 10 ⁻¹⁰ Pa·m ³ /s			

- (※3) Other connections are also available.
 (※4) Value for VTF (female) connections

Main materials

	Part name	Material
①	Body (1/2")	316L SS
	Body (3/4" to 1")	SCS16A/CF3M
②	Sheet	PCTFE
③	Diaphragm	Co-Ni Alloy
④	Drive stem	304 SS
⑤	Bonnet	304 SS
⑥	Handle	PA66



[1] Indication of model number (size 1/2")

HFD 1/2" **HFD - 8 ① - ②**

e.g. HFD-8VF-EP
[3/8" & 1/2" VTF female connection Electropolished]

HFD 1/2"
With purge port

HFD - 8 ① - ② - ③ 831 - ④

e.g. HFD-8VM-EP-IOPP831-GD4
[1/2" tube X 3/8" & 1/2" VTF male-connected electro-polished IN/OUT purge port 1/4" VTF male connection]

HFD 3/4" **HFD - 12 ①(8) - ②**

e.g. HFD - 12VFVM(8) - EP
[3/4" VTF female connection X VTF male connection EP]

①	
Symbol	Connection
VF	VTF (female)
VM	VTF (male)
TW	Tube

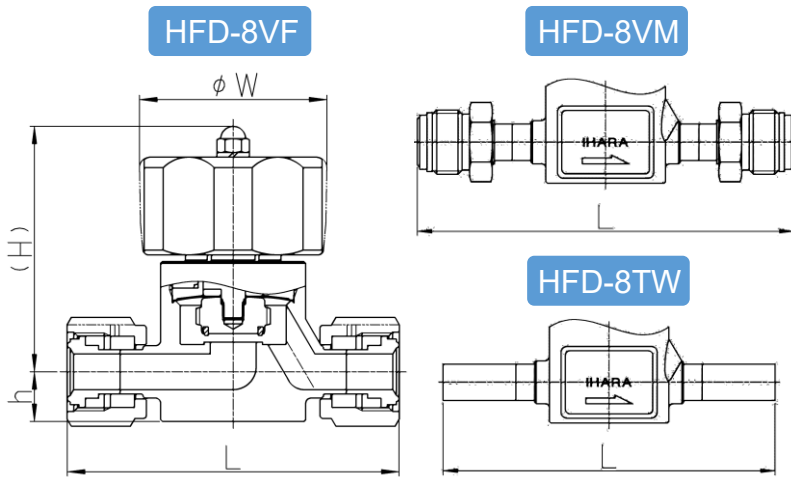
②	
Symbol	Inner surface treatment
EP	Electropolished ($\leq Ra0.18\mu m$)
BA	Machine processing ($\leq Ra0.8\mu m$)

③	
Symbol	Purge port position
IOPP	IN/OUT end
IPP	IN side
OPP	OUT end

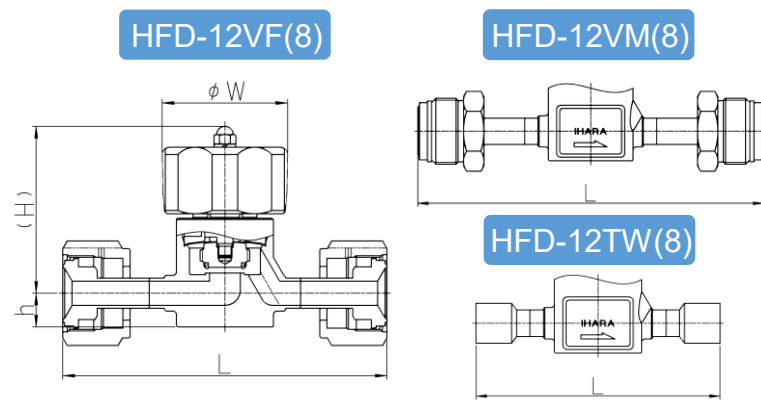
④		
Symbol	Purge Port Connection	Closure Cap
(blank)	-	-
GD4	1/4" (male)	-
GD4N		VTCA4

*1/4" and 3/8" connections are also available. (Body = 1/2")
*Inquire for further details.

[1] Dimension table (1/2" base)

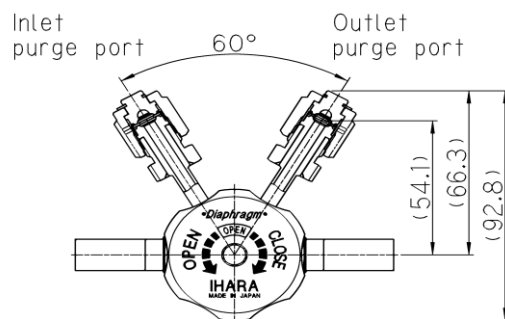


HFD-8 (mm)					
Model	Size	L	H	h	W
HFD-8VF	1/2"	94	70	14.2	53
HFD-8VM	1/2"	129	70	14.2	53
HFD-8TW	1/2"	114	70	14.2	53



HFD-12(8) (mm)					
Model	Size	L	H	h	W
HFD-12VF(8)	3/4"	137	70	14.2	53
HFD-12VM(8)	3/4"	167.4	70	14.2	53
HFD-12TW(8)	3/4"	114.5	70	14.2	53

HFD-IOPP831



Purge port position and dimensions

*If you wish to have a closing cap on the purge port, Add "N" to the end of the model.

e.g. HFD-8 TW-EP-IOPP 831-GD 4 N

[2] Indication of model number (size 1")

HFD 1" HFD - Y - 16 ① - ②

e.g. HFD - Y - 16VF - EP
[1"VTF female connection Electropolished]

HFD 1"
パージポート付

HFD - Y - 16 ① - ② - ③ - ④

e.g. HFD - Y - 16TWVM - BA - IOPP - GD4
[1" tube × 1"VTF c Machine processing IN&OUT purge port (1/4"VTF male)]

HFD 3/4" HFD - Y - 12 ①(16) - ②

e.g. HFD - Y - 12VFVM(16) - EP
[3/4"VTF female connection × VTF male connection Electropolished]

①	
Symbol	Connection
VF	VTF (female)
VM	VTF (male)
TW	Tube

②	
Symbol	Inner surface treatment
EP	Electropolished ($\leq Ra0.18\mu m$)
BA	Machine processing ($\leq Ra0.8\mu m$)

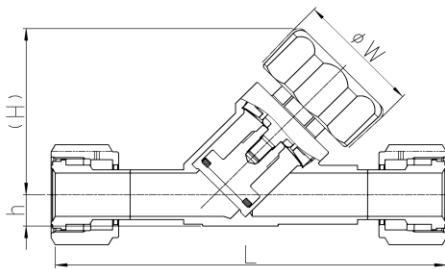
③	
Symbol	Purge port
(blank)	none
IOPP	IN/OUT end
IPP	IN side
OPP	OUT side

④		
Symbol	Purge Port Connection	Closure Cap
(blank)	-	-
GD4	1/4" (male)	-
GD4N		VTCA4

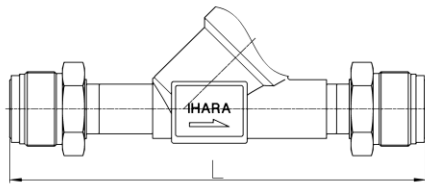
*Inquire for further details.

[2] Dimension table (1" base)

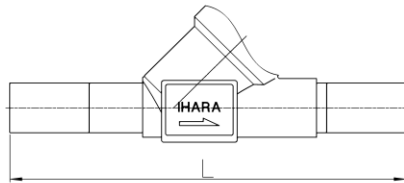
HFD-Y-VF



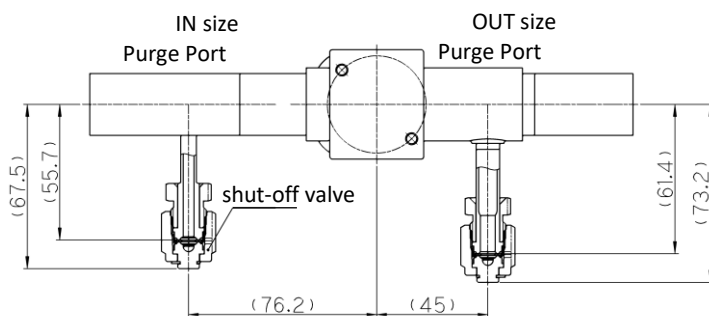
HFD-Y-VM



HFD-Y-TW



HFD-Y-IOPP



Purge port position and dimensions

HFD-Y-16 (mm)					
Model	Size	L	H	h	W
HFD-Y-16VF	1"	199	85	16	63
HFD-Y-16VM	1"	209	85	16	63
HFD-Y-16TW	1"	199.5	85	16	63

HFD-Y-12(16) (mm)					
Model	Size	L	H	h	W
HFD-Y-12VF(16)	3/4"	230	85	16	63
HFD-Y-12VM(16)	3/4"	239	85	16	63
HFD-Y-12TW(16)	3/4"	209.5	85	16	63

**If you wish to have a closing cap on the purge port, Add "N" to the end of the model.

E.g. HFD-Y-16TW-EP-IOPP-GD4N



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[Overseas Sales Bases]

Taiwan: Taichung, China: Nantong, Korea: Seoul, USA: California



Note

Improper selection or handling of joints, valves, and related accessories can result in personal injury or damage to the system.

Based on the responsibility and authority of the system designer and user, select fittings, valves, and related accessories, and perform appropriate installation, operation, and maintenance in consideration of the compatibility with the system used and the operating conditions.

Before using the product, read the instruction manual and understand the contents thoroughly. If you do not have the instruction manual available, or if you have any questions, please contact the nearest business department or sales department.

Warranty Period

1. Warranty Period

The warranty period for our products shall be within one year from the start of use or 1.5 years from the date of delivery, whichever comes first. Provided, however, that this provision shall not apply when the product is a special specification or is used in a state that deviates from our design specifications. Also, the number of durability and replacement parts may be specified for some products. Please consult our nearest sales office.

2. Scope of warranty

For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided without charge. The warranty herein shall mean the warranty of our products alone, and any damage caused by the failure or damage to our products shall be deemed to be caused by such damage.

We will exclude you from the scope of the warranty.

■ URL: <https://www.ihara-sc.co.jp>

■ Please note that the contents of this catalog are subject to change without prior notice due to product improvements.