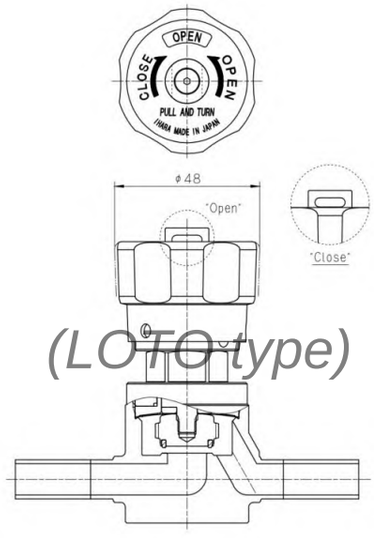
Cleanness by Purpose

Diaphragm Valves

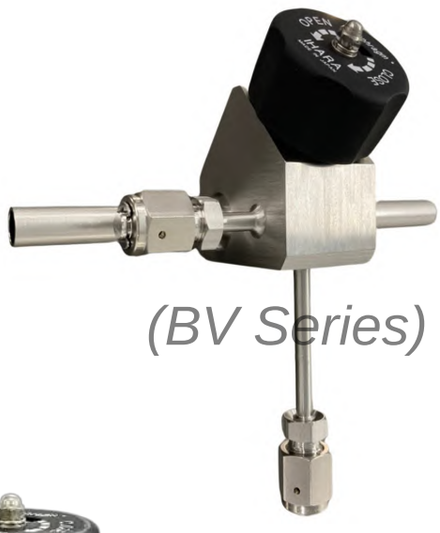
"High Flow Diaphragm Valves"

HFD series

(HV Series)



(LOTO type)



(BV Series)

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HFD "High Flow Diaphram Valve"

【Features】

HFD Series are metal diaphragm valves have realized high flow rate by expanding the flow passage to the maximum extent. 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. Body 316LSS, 316L VAR or C22

- Engineered with less dead space around wetted surfaces, providing excellent gas purging ability.
- 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	1/2″ (1/4" & 3/8")	3/4″	1″
Work press. (※1)	Vac.～1.73 MPa (250psi)		
Work temp.	−10～+80℃ (14～176 ℉)		
Cv value (※2)	2.8	4.8	9
Connection (※3)	VTF (Metal gasket fitting)		
	Tube Weld		
	BI-Lok (double ferrule fitting)		

※ size 1/4″ and 3/8″ (valve body = 1/2″)
※ other end connections available (i.e. HFD-8VMVF, etc)
※ other end connection sizes available (i.e. HFD-8VM6TW, etc)

*** Lock Out Tag Out (LOTO) options available ****

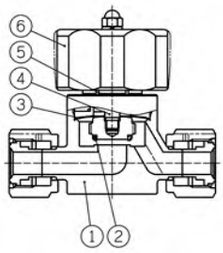
Weight (※4)	640g	880g	1550g
Inner Capacity (※5)	14cc	48cc	99cc
He leak test	(External/Inboard) 1×10−11 Pa·m3/s		(External/Inboard) 1×10−10 Pa·m3/s
	(Seat) 1×10−10 Pa·m3/s		(Seat) 1×10−9 Pa·m3/s

(※1) 1.0MPa type available.
(※2) Orifice Diameter: 13mm(1/2″), 22mm(3/4″), 28mm(1″)
(※3) Various connections/configurations available.
(※4) Weight with VTF (female face seal) connection.
(※5) VTF (female face seal) and valve open
(※6) Multiple porting options available as HFD-8TWVMVM = 3 port, etc

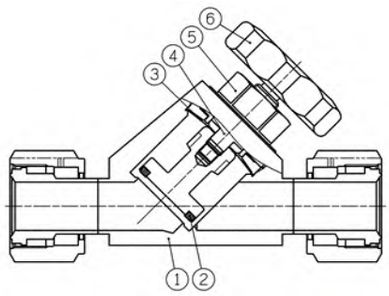
Materials of Construction

	Part Name	Material
①	Body	316LSS or 316LSS VAR
②	Disc Seat (Seal)※	PCTFE
③	Diaphragm	Co-Ni Alloy
④	Drive Stem	304 SS
⑤	Bonnet	304 SS
⑥	Handle	Plastic

※ PVDF, Polyimide, PEEK, PFA seats available



size 1/2″ (HFD-8)



size 3/4″ & 1″ (HFD-Y-12/16)

Model Number Notation

HFD − ① - ②③ - ④ - ⑤ - ⑥ - ⑦ - H - ⑧**

Ex.) HFD-8VM-EP-DM [Straight type, 1/2″VTF Male Face-Seal connection, Electropolished, No purge ports, 316LSS VAR material]

①	
Mark	Type
(blank)	straight
A	Angle
Y	1" body

②	
Mark	Size*
4	1/4″
6	3/8″
8	1/2″
12	3/4″
16	1″

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

④	
Mark	Operation
(Blank)	Manual
NC	Normal close
NO	Normal open
DA	Double acting
LOH	Lock-out tag-out safety handle

⑤	
Mark	Internal surface treatment
EP	Electropolished(Ra 5μin) 7μin max
BA	Mech polished(Ra 20μin) 32μin max

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

※ designation "831" is used specific to all HFD-8 valve designs, meaning "IOPP831", "OPP831" and "IPP831" exist strictly for HFD 1/2" body valve

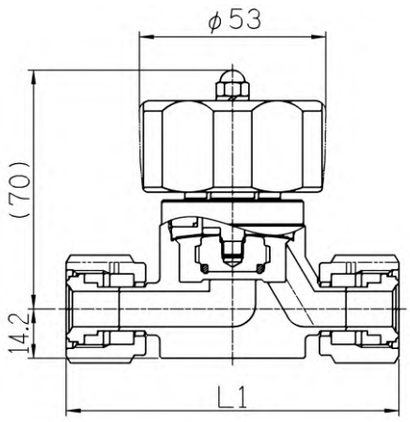
⑦	
Mark	Purge Port Size
(blank)	No Purge Port
GD4N	VTF Gland 1/4", CAP

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

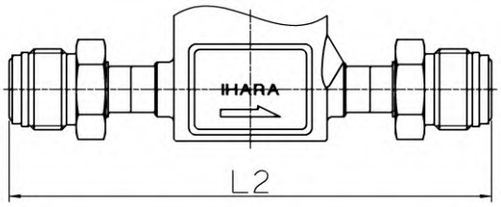
Dimensional Figures

HFD-8VF-EP/BA (mm)

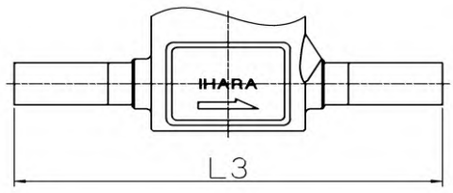


Size	L1	L2	L3
1/2"	94	129	114

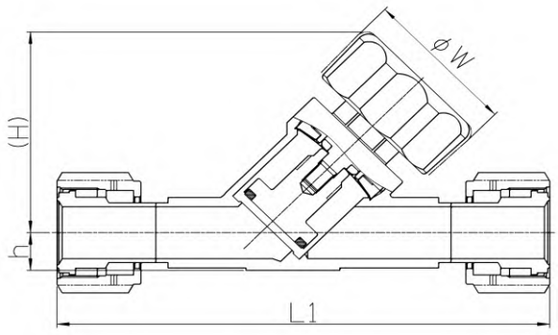
HFD-8VM-EP/BA (mm)



HFD-8TW-EP/BA (mm)

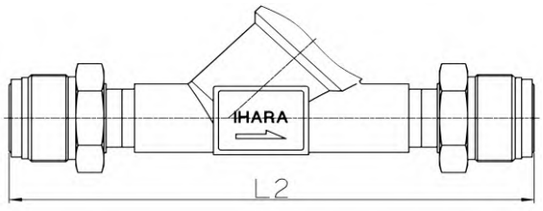


HFD-Y-12/16VF-EP/BA (mm)

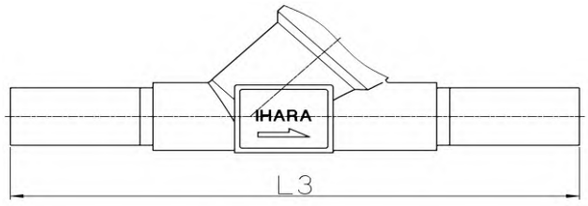


Size	H	h	L1	L2	L3	W
3/4"	71	12.5	168.5	177.5	179	53
1"	85	16	199	209	219.5	63

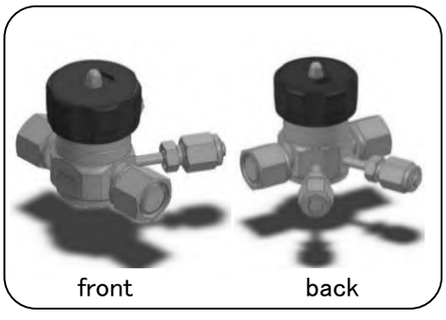
HFD-Y-12/16VM-EP/BA (mm)



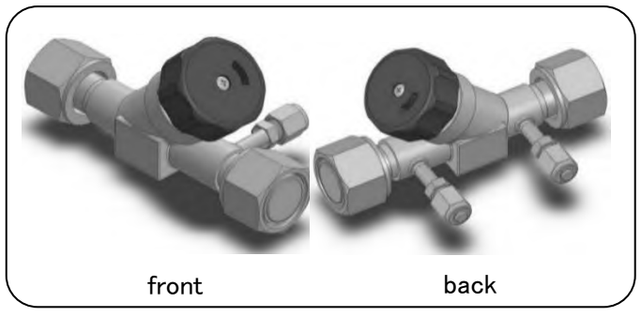
HFD-Y-12/16TW-EP/BA (mm)



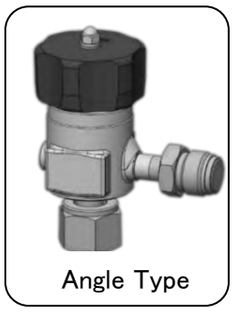
Options



HFD-8 Inlet/Outlet Purge Port = IOPP831



HFD-Y-12/16 Inlet/Outlet Purge Port = IOPP



HFD-A type

Related Products

DVF Compact Diaphragm Valve (1MPa – 150psi)

DVE Compact Designed Diaphragm Valve (2MPa–300psi)

CVY Y-Type Bellows Seal Valve (1MPa～2MPa)

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 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

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