

Cleanness by Purpose

# Diaphragm Valve

*For High Pressure Service  
(21MPa-3000psi)*

## ***DVKA series***



***IHARA SCIENCE CORPORATION***

# DVKA High Flow Metal Diaphragm Seal Valve (21MPa - 3000psi)

**DVKA Series 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	1/4"	3/8"	1/2"	3/4"
Work Pressure	Cv 0.7 & 1.0 = Vac. ~ 21MPa (3000psi) Cv 1.0 & 1.3 = Vac. ~ 9MPa (1300psi)			
Work Temp.	-10~+65°C (Manual) -10~+65°C (Pneumatic)			
Cv Value	0.40 <small>Orifice 9.5mm</small>	0.70 <small>Orifice 9.5mm</small>	1.0 <small>Orifice 11mm</small>	1.3 <small>Orifice 11mm</small>

Inspected Leak (※1)	Across-seat	$\leq 1 \times 10^{-10} \text{Pa} \cdot \text{m}^3 / \text{sec.}$	
	Inboard	$\leq 1 \times 10^{-11} \text{Pa} \cdot \text{m}^3 / \text{sec.}$	
Weight (※2)	(Manual)	270g	560g
	(Automatic)	350g	930g
Internal Volume (※3)	(Manual)	6.0cc	
	(Automatic)	12.0cc	
Work Durability (※4) (cycle count test)	(Manual)	Over 50,000	
	(Automatic)	Over 100,000	

(※1) In the case of PCTFE seat.

(※2) In the case of VTF Male connection.

(※3) In the case of VTF Male connection under valve Open.

(※4) In-house Test: 21MPa N2 gas sealed.

(※5) Multiple porting options available as "DVKA-8TWVMVM" = 3 port  
or "DVKA-8TWTWVFV" = 4 port

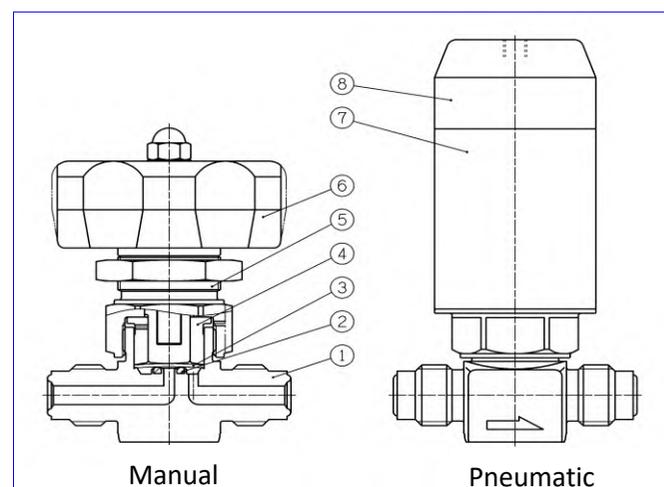
**\*\* Lock Out Tag Out (LOTO) options available \*\***

## Materials of Construction

Parts Name	Material
① Body	316LSS or 316LSS VAR
② Disc Seat (Seal)	PCTFE(※1)
③ Diaphragm	Co-Ni Alloy
④ Diaphragm Retainer	630 SS
⑤ Bonnet	304 SS
⑥ Handle(※2)	Aluminum Alloy
⑦ Cylinder	
⑧ Cylinder Cover	

(※1) Polyimide, PEEK, PFA, PVDF seats are available

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



## Model Number Notation

**DVKA - ① ② - ③ - ④ - ⑤ - ⑥ - ⑦ - H\*\* - ⑧ -**

Example: DVKA-4VM-NC-EP-CV0.7-3000-DM [1/4" VTF Male Face-Seal connection, Normal Close, EP treatment, Cv 0.70, 316LSS VAR material]

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

②	
Mark	Connection
VM	VTF (Male)
VF	VTF (Fem'l)
D	BI-Lok
TW	Tube weld

TW②	
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"
(blank)	1" @ 0.065"

③	
Mark	Operation
Blank	Manual
NC	Normal Close
NO	Normal Open
DA	Double Acting
LOH	Lock-Out, Tag-Out Safety Handle

④	
Mark	Internal Finishing
EP	Electropolish Ra 5µin (7µin max)
BA	Mech Polish Ra 20µin (32µin max)

⑤	
Mark	Purge Port
(blank)	None
IOPP	Inlet & Outlet
OPP	Outlet
IPP	Inlet

⑥	
Mark	Cv
-	-
CV0.7	0.70
CV1.0	1.0
CV1.3	1.3

⑦	
Mark	pressure
3000	3000psi
1300	1300psi
-	-

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

Mark	temperature
(Blank)	standard
LT	low-temp design

\*multiple options

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

## Dimensions (Manual)

	VTF (Male VCR®) (mm)		
	Type	Size	L
	DVKA-8VM	1/2"	129
	VTF (Female VCR®) (mm)		
	Type	Size	L
	DVKA-8VF	1/2"	94
	BI-Lok® (mm)		
	Type	Size	L
	DVKA-8D	1/2"	129

## Dimensions (Pneumatic)

	VTF (Male VCR®) (mm)		
	Type	Size	L
	DVKA-8VM-NC	1/2"	129
	VTF (Female VCR®) (mm)		
	Type	Size	L
	DVKA-8VF-NC	1/2"	94
	BI-Lok® (mm)		
	Type	Size	L
	DVKA-8D-NC	1/2"	129



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You can get more information at Home Page.

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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, assembled, used and maintained based on the applicable conditions and product conformity to the system to be applied.

Please read carefully our operation manual and feel free to contact with Ihara if you have any question or request.

## [Product Warranty]

### 1) Warranty Period

The warranty period of our products is one (1) year from putting into service or one and half (1.5) years after delivery whichever comes earlier.

However, the products of special specification and/or the cases used under deviating from the specification shall be exempted.

Please inquire us for the products that specify the service life or replacing parts.

### 2) Scope of Warranty

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

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