UHP Valves, Fittings & System Integrate

KITZ SCT

KD-E Series

Replaceable Seat Valves

KITZ Group

UHP Gas Series

The KD-E series (replaceable seat valves) are KD series-based diaphragm valves the seat and diaphragm of which are structurally detachable and replaceable, realizing reduction in running costs.

Features

Minimized internal volume

Excellent gas displacement ability by minimized internal dead volume. (75% reduction from the WD series)

WD series　　RSV

Reduction in running costs

The valve body and actuator can be reused while seat and diaphragms are replaced. The RSV is ideal for precursor containers and other uses where valves are frequently replaced or maintained.

Easy replacement of the seat and diaphragm

The seat and diaphragm can be replaced with ease and accuracy by using the dedicated set of replacement tools.

Component name	Type
RSV-seat & diaphragm PCTFE	VPKD-0007
RSV-seat & diaphragm PFA	VPKD-0008

Component name		Type	
		For single valve	For block valve
Set of replacement tools		VPKD-0032	VPKD-0036
1	Push rod	VPKD-0034	VPKD-0038
2	Bonnet	VPKD-0033	VPKD-0037
3	Extraction jig ASSY	VPKD-0035	

Watch the video and check out the features of the products. (Communication charge required)

Precautions
1) When removing and installing the seat, dedicated tools are required. (Optionally available)
For details, see the components replacement procedure.
2) The diaphragm and seat should always be replaced at the same time. A used seat and diaphragm cannot be reused.

Specifications

Size		KD4-E (1/4″)
Cv *1		0.27
Maximum Operating Pressure		142 psig (0.98 MPa(G))
Wetted Area Volume *2		0.083in^3 (1.36cm^3)
Fluid Temperature		PCTFE　−10℃～80℃ PFA　−10℃～150℃
Atmospheric Temperature		−10℃～60℃
Leak Rates *3	Across the Seat He Leak Rates	≤ 1×10^{-9} sccs (≤ 1×10^{-10}Pa·m^3/s)
	Inboard He Leak Rates	≤ 1×10^{-9} sccs (≤ 1×10^{-10}Pa·m^3/s)
Actuation pressure (Pneumatic valve)		58～102 psig (0.4～0.7MPa(G))
Cycle Life *4	Manual Valve	1,000 cycles
	Pneumatic Valve	100,000 cycles

Grade	STD	EP	SEP
Body Material	SUS316L		SUS316LE (Double melt material)
Surface Roughness	≤ Rz 126μin (3.2 μm) ≤ Ra 20μin (0.5μm)		≤ Rz 28μin (0.7 μm) ≤ Ra 5μin (0.13μm)
Polish	Mechanical polished		Electro polished
Cleaning	Degreasing + Precision cleaning		
Packaging	Single bagged package		Double bagged package

Seat	PCTFE、PFA
Diaphragm	Cobalt alloy

Precautions
1) The valves are designed to be used under atmospheric pressure. Usage such as under vacuum vessels are not guaranteed.
2) For high temperature applications, please select appropriate material for air-fittings and tubes to assure proper performance.

*1 The minimum value is stated by Cv value measurement (room temperature) based on SEMASPEC-90120394B-STD.
*2 Calculated value from the CVC male drawing dimensions (standard value)
*3 Value when sprayed in 5S and confirmed in 15S by the vacuum spray method
*4 Durability performance with nitrogen gas filled + PCTFE: 80°C, PFA: 150°C

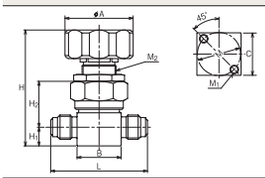
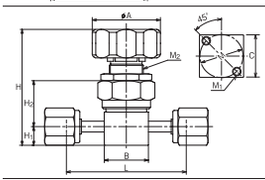
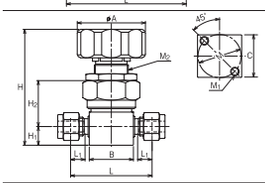
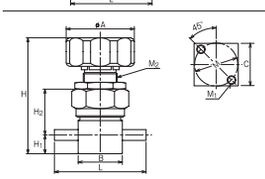
Type

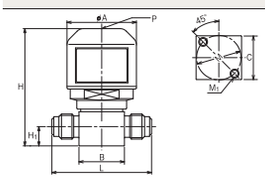
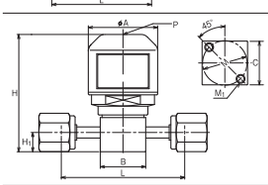
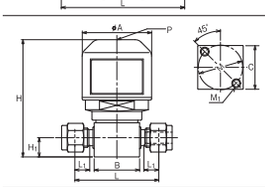
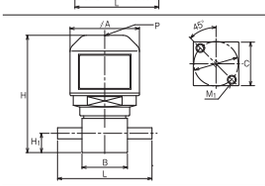
Model	Size	Operation	Valve Shape		Connection	Seat Shape	Seat Material		Flow		Grade + Body Material
KD	4	C	S	-	V	E	C	-		-	EP-316L
KD:KD-type Diaphragm valve	4 : 1/4″	M:270-degree turn manual valve C: Normally closed	S:Straight B:Branch A:Angle L:L-type		V:CVC male VF:CVC female S:Compression fitting W:Butt welding	E:Seat replaceable type	C:PCTFE A:PFA		A:A flow B:B flow C:C flow		STD-316L:Mechanical polished + SUS316L EP-316L:Electro polished + SUS316L SEP-316LE:Electro polished + SUS316LE

The VLD series simplified by minimizing the number of driving components and eliminating the panel mount mechanism is also available. Contact our sales representative.

Dimensions

inch (mm)

Model	Type	Connection	L	L1	H	H 1	H 2	A	B	C	M	M 1	M 2
	KD4MS-VEC	1/4″ CVC male	2.24 (57.0)	-	2.68 (68.0)	0.43 (11.0)	1.06 (27.0)	1.65 (42.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD4MS-VFEC	1/4″ CVC female	2.78 (70.6)	-	2.68 (68.0)	0.43 (11.0)	1.06 (27.0)	1.65 (42.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD4MS-SEC	1/4″ Compression	1.89 (48.0)	0.31 (7.90)	2.68 (68.0)	0.43 (11.0)	1.06 (27.0)	1.65 (42.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD4MS-WEC	1/4″ Butt welding	2.13 (54.0)	-	2.68 (68.0)	0.43 (11.0)	1.06 (27.0)	1.65 (42.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0

Model	Type	Connection	L	L1	H	H 1	A	B	C	P	M	M 1
	KD4CS-VEC	1/4″ CVC male	2.24 (57.0)	-	2.64 (67.0)	0.43 (11.0)	1.56 (39.7)	1.02 (26.0)	0.98 (25.0)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)
	KD4CS-VFEC	1/4″ CVC female	2.78 (70.6)	-	2.64 (67.0)	0.43 (11.0)	1.56 (39.7)	1.02 (26.0)	0.98 (25.0)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)
	KD4CS-SEC	1/4″ Compression	1.89 (48.0)	0.31 (7.90)	2.64 (67.0)	0.43 (11.0)	1.56 (39.7)	1.02 (26.0)	0.98 (25.0)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)
	KD4CS-WEC	1/4″ Butt welding	2.13 (54.0)	-	2.64 (67.0)	0.43 (11.0)	1.56 (39.7)	1.02 (26.0)	0.98 (25.0)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)

*The L1 dimension is the tube insertion dimension of the compression fitting.

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⚠ Caution

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