

KD

Diaphragm Valve

The KD series realizes a high Cv value for compactly designed direct diaphragm valves. These valves are of the quality that they can handle the high-purity gases used in semiconductor production facilities, and they also have high durability and high corrosion resistance performance.

■ Features

- Excellent purge characteristic is realized by minimizing the internal volume to 1.2cm³ (1/4" Male CVC, Open) through reduction of vertical flow paths.
- Original wetted area seal mechanism enables highest sealing performance, durability, purge performance, and corrosion resistance.
- High corrosion resistance performance by carefully selected diaphragm materials and ultimately smallest individual differences based on KITZ SCT's original molding method realized high durability performance.
- Handles high-purity gases used with semiconductors and pursues particle performance to the ultimate degree by means of the highest-level production environment and polished inner surfaces.

■ Specifications

Size			KD2 (1/8")	KD4 (1/4")	KD8 (1/2")	KD12 (3/4")
Cv			0.04	0.27	0.7	1.7
Maximum Operating Pressure			142psig (0.98MPa(G))			
Wetted Area Volume			0.013in³ (0.22cm³)	0.083in³ (1.36cm³)	0.447in³ (7.3cm³)	2.11in³ (34.6cm³)
			Straight flow, CVC male, OPEN state			
Fluid Temperature	PCTFE		-10°C~80°C			
	PFA	Manual Valve	-10°C~150°C			
		Pneumatic Valve	-10°C~120°C (150°C actual results 500,000 cycles)			
	PI		-10°C~150°C			
	Metal (body material)		-10°C~200°C			N/A
Atmospheric Temperature			-10°C~60°C			
Leak Rates	Across the Seat He Leak Test Rates	PCTFE,PI,PFA	≤ 1×10 ⁻⁹ sccs (≤ 1×10 ⁻¹⁰ Pa·m³/sec)			
		Metal	≤ 1×10 ⁻⁹ sccs (≤ 1×10 ⁻¹⁰ Pa·m³/sec)			N/A
	Inbord He Leak Test Rates		≤ 1×10 ⁻⁹ sccs (≤ 1×10 ⁻¹⁰ Pa·m³/sec)			
Actuation Pressure			58~101psig (0.4~0.7MPa(G))			
Cycle Life (N2 Charged, Own Test)	Manual Valve		100,000 cycles			30,000 cycles
	Pneumatic Valve		2 million cycles	4 million cycles		-

※ Test Condition / Seat material : PCTFE Gas : N2 Pressure : 0.98MPa

■ Product grade

Grade	STD	EP	SEP
Body Material	SUS316L		SUS316LE (Double melt material)
Surface Roughness	$\leq R_z 3.2 \mu\text{m}$		$\leq R_z 0.7 \mu\text{m}$
Polish	Mechanical Polished		Electro Polished
Cleaning	Degreasing + Precision cleaning		
Clean Room Environment	Class 10 (some products, Class 100)		
Packaging	Single bagged package		Double bagged package

*SEP-316LE:1/8", 1/4", 3/8", 1/2" are available

■ Wetted area material

Body	SUS316L, SUS316LE (Double melt material)
Seat	PCTFE, PFA, PI, metal (body material)
Diaphragm	Cobalt alloy (3/4" size is SUS316L)

■ 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.

Straight Type



Product Code Table

Model	Size	Operation	Valve Shape	Connection	Seat Material	Options	Grade + Body Material
KD	4	M	S	VF	C	RD	EP-316L
KD-type diaphragm valve	2:1/8" 4:1/4" 6:3/8" 8:1/2" 12:3/4"	270° manual	S: Straight A: Angle L: L-shape	V: CVC male VF: CVC female S: Compression W: Butt weld	C: PCTFE A: PFA P: PI M: Metal (body material) *1	Not shown: Blue (standard) RD: Red GR: Green SL: Silver YE: Yellow BR: Brown BK: Black WH: White PK: Pink YG: Yellow-green OR: Orange PU: Purple	STD-316L : Mechanical Polished+SUS316L EP-316L : Electro Polished+316L SEP-316L : Electro Polished+316LE *2

*1 For a metal seat, we can handle only 1/8" and 1/4" sizes. For details please ask to the sales representative.

*2 SEP-316LE: 1/8", 1/4", 3/8", 1/2" are available

Dimensions

Unit: inch (mm)

Model	Type	Connection	L	L ₁ *	H	H ₁	H ₂	A	B	C	M	M ₁	M ₂
	KD2MS-VC	1/8" CVC Male	1.61 (41.0)	-	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MS-VC	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
	KD8MS-VC	1/2" CVC Male	3.03 (77.0)	-	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD12MS-VC	3/4" CVC Male	4.21 (107.0)	-	3.86 (98.0)	0.91 (23.0)	-	1.65 (42.0)	1.89 (48.0)	1.81 (46.0)	1.38 (35.0)	2-M5 Depth 0.31 (8.0)	-
	KD2MS-VFC	1/8" CVC Female	2.20 (56.0)	-	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MS-VFC	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
	KD8MS-VFC	1/2" CVC Female	3.27 (83.0)	-	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD12MS-VFC	3/4" CVC Female	7.06 (179.2)	-	3.86 (98.0)	0.91 (23.0)	-	1.65 (42.0)	1.89 (48.0)	1.81 (46.0)	1.38 (35.0)	2-M5 Depth 0.31 (8.0)	-
	KD2MS-SC	1/8" Compression Fitting	3.06 (77.8)	0.24 (6.1)	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MS-SC	1/4" Compression Fitting	1.89 (48.0)	0.31 (7.9)	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
	KD6MS-SC	3/8" Compression Fitting	2.52 (64.0)	0.37 (9.5)	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 5 0.20 (5.0)	M20×1.0
	KD8MS-SC	1/2" Compression Fitting	2.52 (64.0)	0.50 (12.7)	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD12MS-SC	3/4" Compression Fitting	4.96 (126.0)	0.56 (14.3)	3.86 (98.0)	0.91 (23.0)	-	1.65 (42.0)	1.89 (48.0)	1.81 (46.0)	1.38 (35.0)	2-M5 Depth 0.31 (8.0)	-
	KD2MS-WC	1/8" Butt Weld	1.65 (42.0)	-	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MS-WC	1/4" Butt Weld	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)	1.0 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD6MS-WC	3/8" Butt Weld	2.72 (69.0)	-	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8MS-WC	1/2" Butt Weld	2.72 (69.0)	-	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD12MS-WC	3/4" Butt Weld	6.14 (156.0)	-	3.86 (98.0)	0.91 (23.0)	-	1.65 (42.0)	1.89 (48.0)	1.81 (46.0)	1.38 (35.0)	2-M5 Depth 0.31 (8.0)	-

* L₁ dimension for compression fitting is the dimension of how far tube inserted from end of body.

Handle Color





Product Code Table

Model	Size	Operation	Valve shape	Connection	Seat material	Handle type	Handle color	Grade + Body material
KD	4	Q	S	VF	C		RD	EP-316L
KD-type diaphragm valve	2:1/8" 4:1/4" 6:3/8" 8:1/2"	90° manual	S: Straight A: Angle L: L-shape	V: CVC male VF: CVC female S: Compression W: Butt weld	C: PCTFE A: PFA P: PI M.: Metal (body material) *1	Not shown: Standard POC: Push-lock type	Not shown: Blue (standard) BK: Black GR: Green RD: Red SL: Silver WH: White YE: Yellow	STD-316L: Mechanical Polished +SUS316L EP-316L: Electro Polished + SUS316L SEP-316LE: Electro Polished +SUS316LE

*1 For a metal seat, we can handle only 1/8" and 1/4" sizes. For details please ask the sales and service representative.

Dimensions

Unit: inch (mm)

Model	Type	Connection	L	L*	H	H ₁	H ₂	A	B	C	M	M ₁	M ₂
	KD2QS-VC	1/8" CVC Male	1.61 (41.0)	-	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QS-VC	1/4" CVC Male	2.24 (57.0)	-	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QS-VC	1/2" CVC Male	3.03 (77.0)	-	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2QS-VFC	1/8" CVC Female	2.20 (56.0)	-	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QS-VFC	1/4" CVC Female	2.78 (70.6)	-	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QS-VFC	1/2" CVC Female	3.27 (83.0)	-	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2QS-SC	1/8" compression	3.06 (77.8)	0.24 (6.1)	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QS-SC	1/4" compression	1.89 (48.0)	0.31 (7.9)	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD6QS-SC	3/8" compression	2.52 (64.0)	0.37 (9.5)	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QS-SC	1/2" compression	2.52 (64.0)	0.50 (12.7)	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2QS-WC	1/8" Butt Weld	1.65 (42.0)	-	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QS-WC	1/4" Butt Weld	2.13 (54.0)	-	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD6QS-WC	3/8" Butt Weld	2.72 (69.0)	-	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QS-WC	1/2" Butt Weld	2.72 (69.0)	-	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0

* L₁ dimension for compression fitting is the dimension of how far tube inserted from end of body.



Product Code Table

Model	Size	Operation	Valve shape	Connection	Seat material	Options	Grade + Body material
KD	4	C	S	VF	C		EP-316L
KD-type diaphragm valve	2:1/8" 4:1/4" 6:3/8" 8:1/2" 12:3/4"	C: Normally closed O: Normally open	S: Straight A: Angle L: L-shape	V: CVC male VF: CVC female S: Compression W: Butt weld	C: PCTFE A: PFA P: PI M: Metal (body material)	Not shown: Standard S: With open/close sensor	STD-316L: Mechanical Polished + SUS316L EP-316L: Electro Polished + SUS316L SEP-316LE: Electro Polished + SUS316LE *2

*1 For a metal seat, we can handle only 1/8" and 1/4" sizes. For details please ask to the sales representative.

*2 SEP-316LE: 1/8", 1/4", 3/8", 1/2" are available

Dimensions

Unit: inch (mm)

Model	Type	Connection	L	L [*]	H	H ₁	A	B	C	P	M	M ₁
	KD2□S-VC	1/8" CVC Male	1.61 (41.0)	-	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□S-VC	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)
	KD8CS-VC	1/2" CVC Male	3.03 (77.0)	-	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OS-VC		3.03 (77.0)	-	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD12CS-VC	3/4" CVC Male	4.21 (107.0)	-	5.83 (148.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD12OS-VC		4.21 (107.0)	-	5.63 (143.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD2□S-VFC	1/8" CVC Female	2.20 (56.0)	-	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□S-VFC	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)
	KD8CS-VFC	1/2" CVC Female	3.27 (83.0)	-	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OS-VFC		3.27 (83.0)	-	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD12CS-VFC	3/4" CVC Female	7.06 (179.2)	-	5.83 (148.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD12OS-VFC		7.06 (179.2)	-	5.63 (143.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD2□S-SC	1/8" compression	3.06 (77.8)	0.24 (6.1)	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□S-SC	1/4" compression	1.89 (48.0)	0.31 (7.9)	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)
	KD6CS-SC	3/8" compression	2.52 (64.0)	0.37 (9.5)	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD6OS-SC		2.52 (64.0)	0.37 (9.5)	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8CS-SC	1/2" compression	2.52 (64.0)	0.50 (12.7)	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OS-SC		2.52 (64.0)	0.50 (12.7)	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD12CS-SC	3/4" compression	4.96 (126.0)	0.56 (14.3)	5.83 (148.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD12OS-SC		4.96 (126.0)	0.56 (14.3)	5.63 (143.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD2□S-WC	1/8" Butt Weld	1.65 (42.0)	-	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□S-WC	1/4" Butt Weld	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)
	KD6CS-WC	3/8" Butt Weld	2.72 (69.0)	-	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD6OS-WC		2.72 (69.0)	-	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8CS-WC	1/2" Butt Weld	2.72 (69.0)	-	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OS-WC		2.72 (69.0)	-	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD12CS-WC	3/4" Butt Weld	6.14 (156.0)	-	5.83 (148.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)
	KD12OS-WC		6.14 (156.0)	-	5.63 (143.0)	0.91 (23.0)	3.35 (85.0)	1.89 (48.0)	1.81 (46.0)	Rc1/8	1.38 (35.0)	2-M5 Depth 0.31 (8.0)

* L₁ dimension for compression fitting is the dimension of how far tube inserted from end of body.

Branch

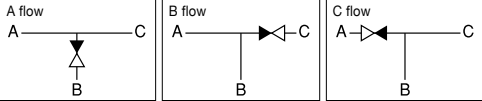


Product Code Table

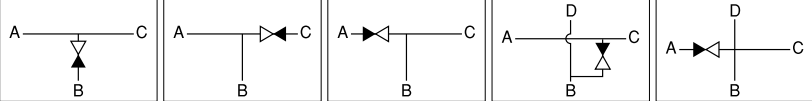
Model	Size	Operation	Valve shape	Connection	Seat material	Flow	Handle color	Grade + Body material
KD	4	M	B	VF	C	A	RD	EP-316L
KD-type diaphragm valve	2:1/8" 4:1/4" 6:3/8" 8:1/2"	270° manual	B: Branch *4	V: CVC male VF: CVC female W: Butt weld *3	C: PCTFE A: PFA P: PI M: Metal (body material) *1	A: A flow B: B flow C: C flow *2	Not shown: Blue (standard) RD: Red WH: White GR: Green PK: Pink SL: Silver YG: Yellow-green BK: Black OR: Orange YE: Yellow PU: Purple BR: Brown	STD-316L : Mechanical Polished+SUS316L EP-316L : Electro Polished + SUS316L SEP-316LE : Electro Polished +SUS316LE

*1 For a metal seat, we can handle only the 1/8" and 1/4" sizes. For details please speak with the sales representative.
*2 The branched flow type is to the right of the diagram.
*3 In cases where there are different types of fittings, please note them in the order of Port A, B, and C of the internal flow in the diagram to the right.
Example) In the case where A port = CVC female, B port = CVC female, C port = CVC male, the model will be "VFVFV."
*4 We also can produce non-standard branched flow and four-way valves as options.

Flow direction (standard)



Flow direction (examples of options)



Dimension

Unit: inch (mm)

Model	Type	Connection	L	H	H ₁	H ₂	A	B	C	F	M	M ₁	M ₂
	KD2MB-VC	1/8" CVC Male	1.61 (41.0)	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	0.81 (20.5)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MB-VC	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)	1.10 (28.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8MB-VC	1/2" CVC Male	3.03 (77.0)	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.52 (38.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2MB-VFC	1/8" CVC Female	2.20 (56.0)	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	1.10 (28.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MB-VFC	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)	1.37 (34.8)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8MB-VFC	1/2" CVC Female	3.27 (83.0)	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.63 (41.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2MB-WC	1/8" Butt Weld	1.65 (42.0)	2.24 (57.0)	0.28 (7.0)	0.85 (21.5)	0.94 (24.0)	0.75 (19.0)	0.75 (19.0)	0.83 (21.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4MB-WC	1/4" Butt Weld	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)	1.04 (26.5)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD6MB-WC	3/8" Butt Weld	2.72 (69.0)	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8MB-WC	1/2" Butt Weld	2.72 (69.0)	3.19 (81.0)	0.63 (16.0)	1.42 (36.0)	1.65 (42.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0

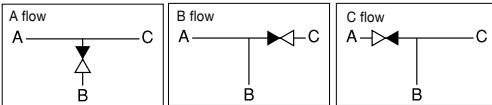


Product Code Table

Model	Size	Operation	Valve shape	Connection	Seat material	Flow	Handle type	Handle color	Grade + Body material
KD	4	Q	B	VF	C	A		RD	EP-316L
KD-type diaphragm valve	2:1/8" 4:1/4" 6:3/8" 8:1/2"	90° manual	B: Branch	V: CVC male VF: CVC female W: Butt weld *3	C: PCTFE A: PFA P: PI M: Metal (body material) *1	A: A flow B: B flow C: C flow *2	Not shown: Standard POC: Push-lock type	Not shown: Blue (standard) BK: Black SL: Silver GR: Green WH: White RD: Red YE: Yellow	STD-316L : Mechanical Polished+SUS316L EP-316L : Electro Polished + SUS316L SEP-316LE : Electro Polished + SUS316LE

*1 For a metal seat, we can handle only the 1/4" size. For details please ask to the sales representative.
*2 The branched flow type is to the right of the diagram.
*3 In cases where there are different types of fittings, please note them in the order of Port A, B, and C of the internal flow in the diagram to the right.
Example) In the case where A port = CVC female, B port = CVC female, C port = CVC male, the model will be "VFVFV."

Flow direction



Dimensions

Unit: inch (mm)

Model	Type	Connection	L	H	H ₁	H ₂	A	B	C	F	M	M ₁	M ₂
	KD2QB-VC	1/8" CVC Male	1.61 (41.0)	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	0.81 (20.5)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QB-VC	1/4" CVC Male	2.24 (57.0)	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.10 (28.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QB-VC	1/2" CVC Male	3.03 (77.0)	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.52 (38.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2QB-VFC	1/8" CVC Female	2.20 (56.0)	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	1.10 (28.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QB-VFC	1/4" CVC Female	2.78 (70.6)	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.37 (34.8)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QB-VFC	1/2" CVC Female	3.27 (83.0)	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.63 (41.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD2QB-WC	1/8" Butt Weld	1.65 (42.0)	2.28 (58.0)	0.28 (7.0)	0.85 (21.5)	1.46 (37.0)	0.75 (19.0)	0.75 (19.0)	0.83 (21.0)	0.67 (17.0)	2-M4 Depth 0.20 (5.0)	M14×1.0
	KD4QB-WC	1/4" Butt Weld	2.13 (54.0)	2.87 (73.0)	0.43 (11.0)	1.06 (27.0)	1.93 (49.0)	1.02 (26.0)	0.98 (25.0)	1.06 (27.0)	1.00 (25.4)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD6QB-WC	3/8" Butt Weld	2.72 (69.0)	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0
	KD8QB-WC	1/2" Butt Weld	2.72 (69.0)	3.39 (86.0)	0.63 (16.0)	1.32 (33.5)	1.93 (49.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	1.10 (28.0)	2-M5 Depth 0.20 (5.0)	M20×1.0



Product Code Table

Model	Size	Operation	Valve shape	Connection	Seat material	Flow	Options	Grade + Body material
KD	4	C	B	VF	C	A		EP-316L
KD-type diaphragm valve	2:1/8" 4:1/4" 6:3/8" 8:1/2"	C: Normally closed O: Normally open	B: Branched flow	V: CVC male VF: CVC female W: Butt weld *3	C: PCTFE A: PFA P: PI M: Metal (body material)	A: A flow B: B flow C: C flow *2	Not shown: Standard S: With open/close sensor	STD-316L : Mechanical Polished + SUS316L EP-316L : Electro Polished + SUS316L SEP-316LE : Electro Polished + SUS316LE

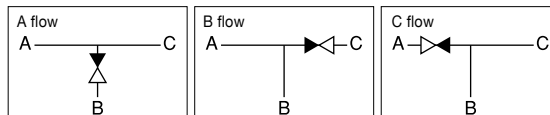
*1 For a metal seat, we can handle only the 1/8" and the 1/4" size. For details please speak with the sales representative.

*2 The branched flow type is to the right of the diagram.

*3 In cases where there are different types of fittings, please note them in the order of Port A, B, and C of the internal flow in the diagram to the right.

Example) In the case where A port = CVC female, B port = CVC female, C port = CVC male, the model will be "VFVFV."

Flow direction



Dimensions

Unit: inch (mm)

Model	Type	Connection	L	H	H ₁	A	B	C	F	P	M	M ₁
	KD2□B-VC	1/8" CVC Male	1.61 (41.0)	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	0.81 (20.5)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□B-VC	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)	1.10 (28.0)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)
	KD8CB-VC	1/2" CVC Male	3.03 (77.0)	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.52 (38.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OB-VC		3.03 (77.0)	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.52 (38.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD2□B-VFC	1/8" CVC Female	2.20 (56.0)	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	1.10 (28.0)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□B-VFC	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)	1.37 (34.8)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)
	KD8CB-VFC	1/2" CVC Female	3.27 (83.0)	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.63 (41.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OB-VFC		3.27 (83.0)	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.63 (41.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD2□B-WC	1/8" Butt Weld	1.65 (42.0)	2.09 (53.0)	0.28 (7.0)	1.10 (28.0)	0.75 (19.0)	0.75 (19.0)	0.83 (21.0)	Rc1/8	0.67 (17.0)	2-M4 Depth 0.20 (5.0)
	KD4□B-WC	1/4" Butt Weld	2.13 (54.0)	2.64 (67.0)	0.43 (11.0)	1.56 (39.7)	1.02 (26.0)	0.98 (25.0)	1.06 (27.0)	Rc1/8	1.00 (25.4)	2-M5 Depth 0.20 (5.0)
	KD6CB-WC	3/8" Butt Weld	2.72 (69.0)	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD6OB-WC		2.72 (69.0)	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8CB-WC	1/2" Butt Weld	2.72 (69.0)	3.31 (84.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)
	KD8OB-WC		2.72 (69.0)	3.03 (77.0)	0.63 (16.0)	2.17 (55.0)	1.42 (36.0)	1.42 (36.0)	1.36 (34.5)	Rc1/8	1.10 (28.0)	2-M5 Depth 0.20 (5.0)