

Chemical Liquid Valves

DV 310 Pneumatic DV 311 Manual



KOSCN Control Valves DV is a miniaturized and compact control valve with excellent corrosion resistance, heat resistance, and a wide range of applications. The inner wall is smooth and the ion extraction is low, which is especially suitable for occasions with high cleanliness requirements. Different material options are closer to application scenarios and application costs, making them more cost-effective.

Easy installation and maintenance

- * All-plastic appearance structure, beautiful and corrosion-resistant
- * Miniaturized design, easy installation, no maintenance
- * UNF standard FlareLINK interface thread, higher adaptability and interchangeability
- * Mounting plate dimensions conform to SEMI standard F65-1101

High safety performance

- * Complies with FDA 177-1520 / 177-1550 dissolution testing requirements
- * Triple-sealed valve cavity diaphragm structure can effectively cut off leakage
- * The drive mechanism is molded with fluororesin, and the pressure bearing redundancy is high
- * Curved PTFE diaphragm is more ductile and has a longer life

High Flexibility

- * Wetted material PP-Natural, PVDF, PFA
- * Diaphragm material PTFE
- * Mechanism material PVDF
- * Seal kit FKM/EPDM optional
- * Structure material PVDF

Technical characteristics

Size	1/4", 3/8", 1/2", 3/4", 1"
Pressure	PN 5
Body material	PTFE PFA
Diaphragm	PTFE
Actuator	PVDF / PPS / PP-Natural
Structure	PVDF / PPS / PEEK / PP-Natural
Connector	UNF : Flare LINK Insert Bushing
Floor	SEMI F65-1101

Flow capacity

All data are for 20°C water with 1 bar pressure difference

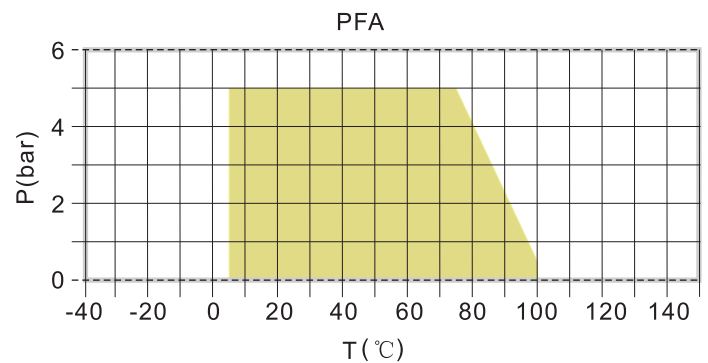
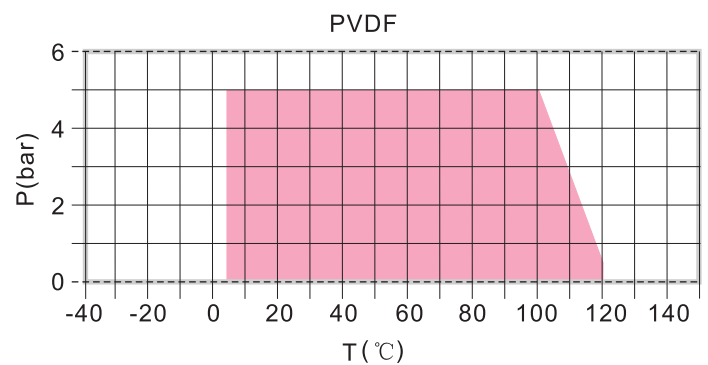
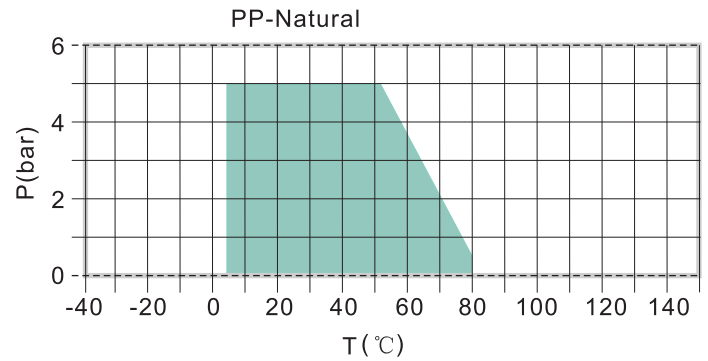
Inch	φ Mm	Kv 100	
		l/min	m ³ /h
1/4"	4	4,70	0,28
3/8"	6	10,00	0,60
1/2"	9	22,00	1,32
3/4"	16	62,00	3,72
1"	22	120,00	7,20

$$Cv = kv \times 0,07 ; Fv = kv \times 0,0585$$

Kv (l/min) ; Cv (gal/min) US ; Fv (gal/min) GB

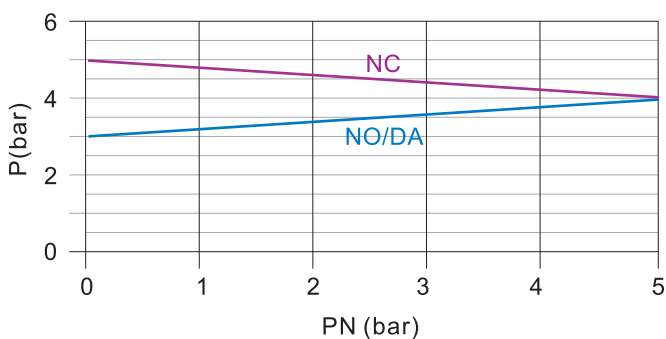
Pressure & temperature curve

All data based on water for considering 25 years safe life time



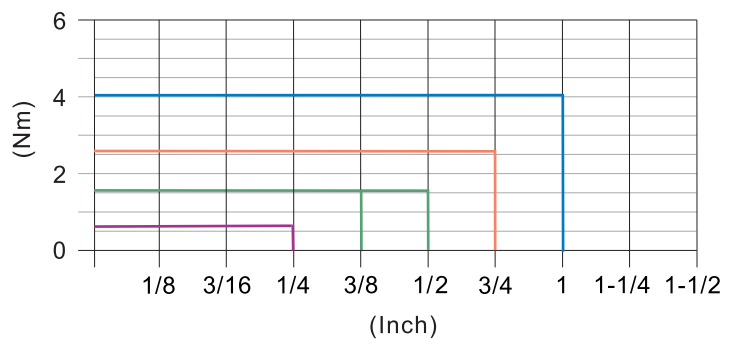
DV310 Control pressure

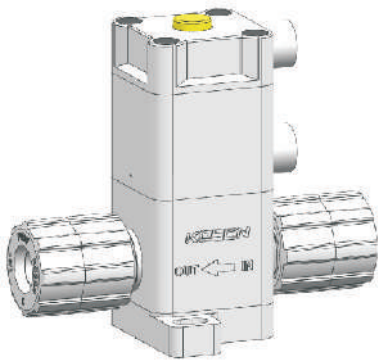
The maximum input value for pressurized air is 5 bar



DV311 Handwheel torque

Maximum torque required for complete closure





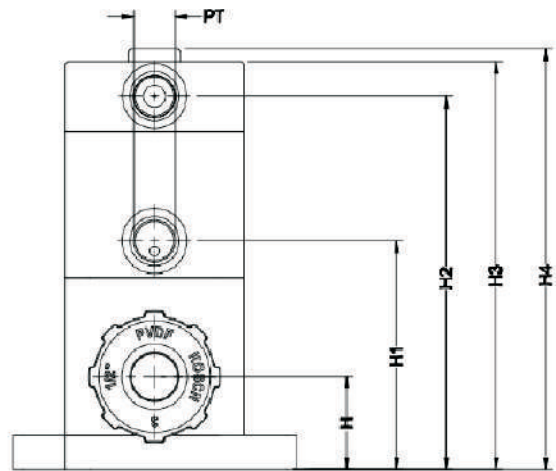
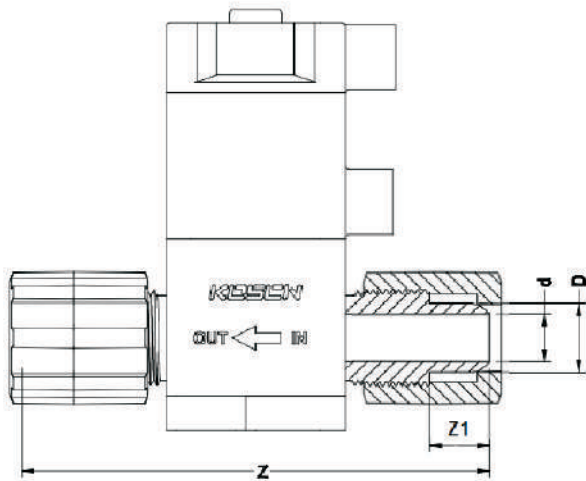
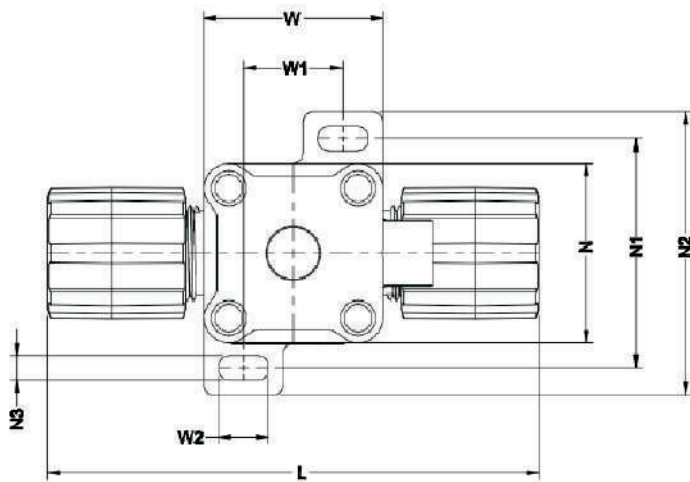
Performance data

Item	Unit	Data
Service pressure	bar	0...5,0
Backpressure	bar	0...5,0
Leakage rate	cm ³ /min	0 (Based on water pressure)
Operating temperature	°C	5...120 (Excluding HF)
Ambient temperature	°C	0...60
Material	Valve body	PFA
	Diaphragm	PTFE
	Actuating element	PVDF
	Baseplate	PVDF
	Bolt	SS Coating

Product code

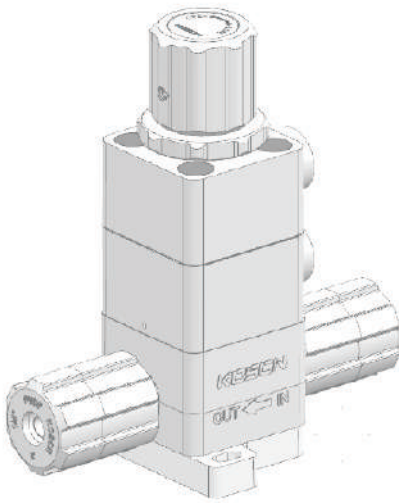
Size (Inch)	Insert Bushing		Flare LINK	
	PFA-UHP	PFA	PFA-UHP	PFA
NC				
1/8				
3/16				
1/4	310.762.2406	310.762.2406C	310.762.0406	310.762.0406C
3/8	310.762.2410	310.762.2410C	310.762.0410	310.762.0410C
1/2	310.762.2412	310.762.2412C	310.762.0412	310.762.0412C
3/4	310.762.2419	310.762.2419C	310.762.0419	310.762.0419C
1	310.762.2426	310.762.2426C	310.762.0426	310.762.0426C
1-1/4				
1-1/2				
NO				
1/8				
3/16				
1/4	310.764.2406	310.764.2406C	310.764.0406	310.764.0406C
3/8	310.764.2410	310.764.2410C	310.764.0410	310.764.0410C
1/2	310.764.2412	310.764.2412C	310.764.0412	310.764.0412C
3/4	310.764.2419	310.764.2419C	310.764.0419	310.764.0419C
1	310.764.2426	310.764.2426C	310.764.0426	310.764.0426C
1-1/4				
1-1/2				
DA				
1/8				
3/16				
1/4	310.766.2406	310.766.2406C	310.766.0406	310.766.0406C
3/8	310.766.2410	310.766.2410C	310.766.0410	310.766.0410C
1/2	310.766.2412	310.766.2412C	310.766.0412	310.766.0412C
3/4	310.766.2419	310.766.2419C	310.766.0419	310.766.0419C
1	310.766.2426	310.766.2426C	310.766.0426	310.766.0426C
1-1/4				
1-1/2				

DV310 , SIZE



Unit: mm

Inch	D	d	PT	H	H1	H2	H3	H4	N	N1	N2	N3	W	W1	W2	L	Z	Z1
1/8																		
3/16																		
1/4	7,7	4,0	1/8	15,5	48	55	64	67	30	37,0	44	3,7	30	18,0	6	86,0	81,5	11,0
3/8	10,5	6,4	1/8	21,0	48	78	85	88	37	49,0	61	6,5	37	21,5	10	94,5	89,5	13,5
1/2	13,9	9,5	1/8	21,0	48	78	85	88	37	49,0	61	6,5	37	21,5	10	98,5	92,5	15,0
3/4	20,5	15,9	1/8	27,0	60	92	106	110	47	63,5	82	9,0	47	24,5	14	121,0	114,2	15,0
1	29,0	22,2	1/8	35,0	75	117	126	131	60	77,5	96	9,0	60	34,5	14	150,0	139,8	16,5
1-1/4																		
1-1/2																		



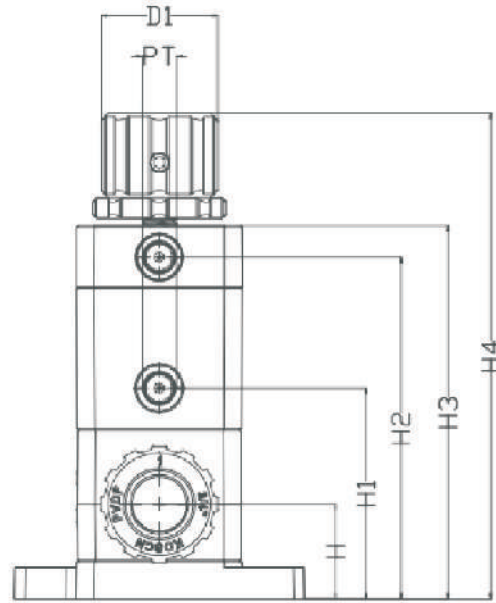
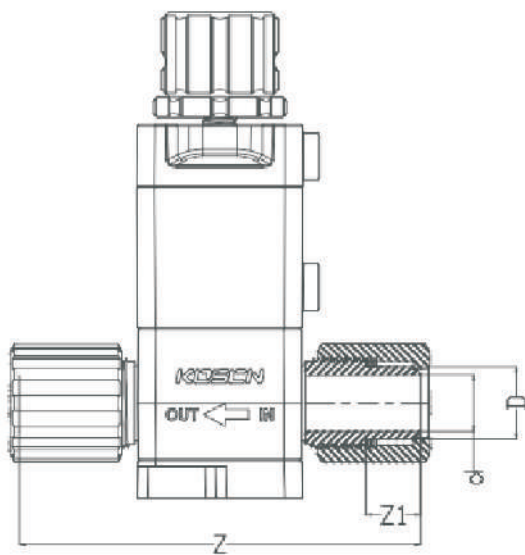
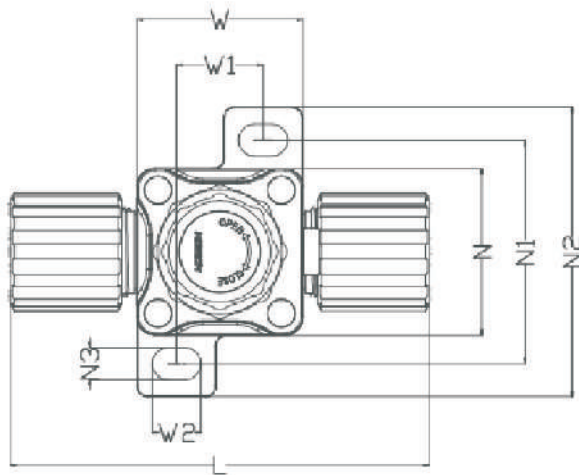
Performance data

Item	Unit	Data
Service pressure	bar	0...5,0
Backpressure	bar	0...5,0
Leakage rate	cm ³ /min	0 (Based on water pressure)
Operating temperature	°C	5...120 (Excluding HF)
Ambient temperature	°C	0...60
Material	Valve body	PFA
	Diaphragm	PTFE
	Actuating element	PVDF
	Baseplate	PVDF
	Bolt	SS Coating

Product code

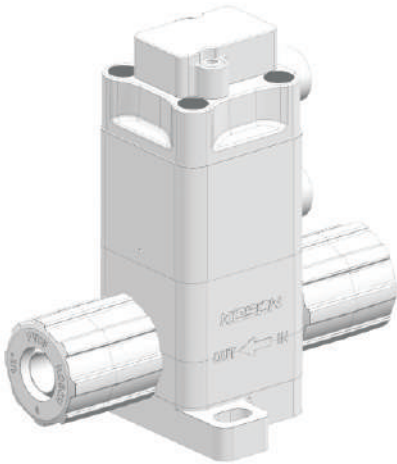
Size (Inch)	Insert Bushing		Flare LINK	
	PFA-UHP	PFA	PFA-UHP	PFA
NC				
1/8				
3/16				
1/4	310.763.2406	310.763.2406C	310.763.0406	310.763.0406C
3/8	310.763.2410	310.763.2410C	310.763.0410	310.763.0410C
1/2	310.763.2412	310.763.2412C	310.763.0412	310.763.0412C
3/4	310.763.2419	310.763.2419C	310.763.0419	310.763.0419C
1	310.763.2426	310.763.2426C	310.763.0426	310.763.0426C
1-1/4				
1-1/2				
NO				
1/8				
3/16				
1/4	310.765.2406	310.765.2406C	310.765.0406	310.765.0406C
3/8	310.765.2410	310.765.2410C	310.765.0410	310.765.0410C
1/2	310.765.2412	310.765.2412C	310.765.0412	310.765.0412C
3/4	310.765.2419	310.765.2419C	310.765.0419	310.765.0419C
1	310.765.2426	310.765.2426C	310.765.0426	310.765.0426C
1-1/4				
1-1/2				
DA				
1/8				
3/16				
1/4	310.767.2406	310.767.2406C	310.767.0406	310.767.0406C
3/8	310.767.2410	310.767.2410C	310.767.0410	310.767.0410C
1/2	310.767.2412	310.767.2412C	310.767.0412	310.767.0412C
3/4	310.767.2419	310.767.2419C	310.767.0419	310.767.0419C
1	310.767.2426	310.767.2426C	310.767.0426	310.767.0426C
1-1/4				
1-1/2				

DV310 , SIZE



Unit: mm

Inch	D	d	PT	H	H1	H2	H3	H4	N	N1	N2	N3	W	W1	W2	L	Z	D1
1/8																		
3/16																		
1/4	7,7	4,0	1/8	15,5	48	55	64	91	30	37,0	44	3,7	30	18,0	6	86,0	81,5	21
3/8	10,5	6,4	1/8	21,0	48	78	85	109	37	49,0	61	6,5	37	21,5	10	94,5	89,5	25
1/2	13,9	9,5	1/8	21,0	48	78	85	109	37	49,0	61	6,5	37	21,5	10	98,5	92,5	25
3/4	20,5	15,9	1/8	27,0	60	92	106	138	47	63,5	82	9,0	47	24,5	14	121,0	114,2	33
1	29,0	22,2	1/8	35,0	75	117	126	157	60	77,5	96	9,0	60	34,5	14	150,0	139,8	57
1-1/4																		
1-1/2																		



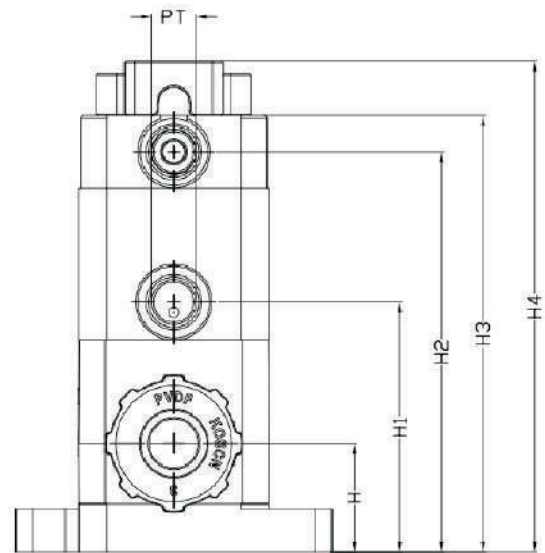
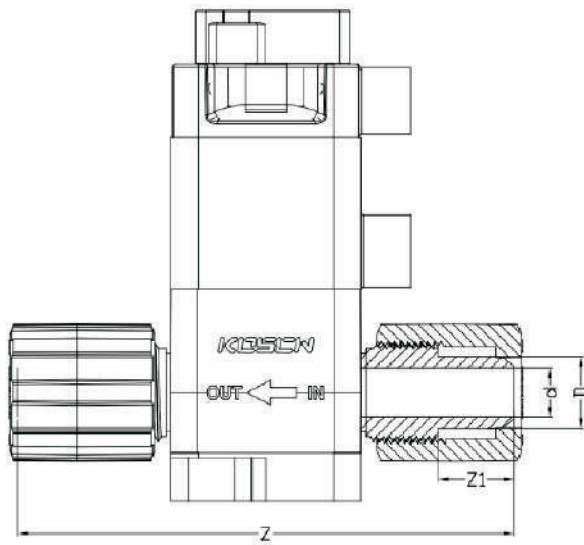
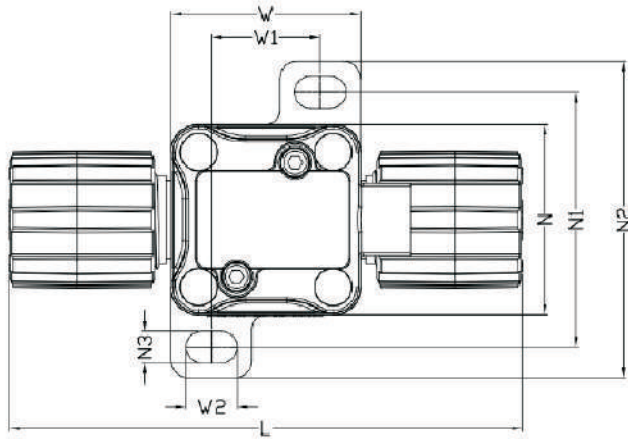
Performance data

Item	Unit	Data	
Service pressure	bar	0...5,0	
Backpressure	bar	0...5,0	
Leakage rate	cm ³ /min	0 (Based on water pressure)	
Operating temperature	°C	5...120 (Excluding HF)	
Ambient temperature	°C	0...50	
Switch	Rated voltage	VDC	24
	Model		NPN
	Cable length	M	1,0

规格料号 Product code

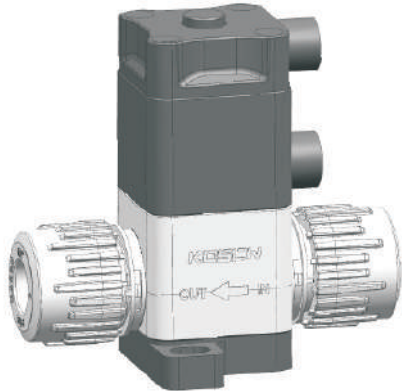
Size (Inch)	Insert Bushing		Flare LINK	
	PFA-UHP	PFA	PFA-UHP	PFA
NC Limit Switch				
1/8				
3/16				
1/4	310.762.2406A1	310.762.2406CA1	310.762.0406A1	310.762.0406CA1
3/8	310.762.2410A1	310.762.2410CA1	310.762.0410A1	310.762.0410CA1
1/2	310.762.2412A1	310.762.2412CA1	310.762.0412A1	310.762.0412CA1
3/4	310.762.2419A1	310.762.2419CA1	310.762.0419A1	310.762.0419CA1
1	310.762.2426A1	310.762.2426CA1	310.762.0426A1	310.762.0426CA1
1-1/4				
1-1/2				
NO Limit Switch				
1/8				
3/16				
1/4	310.764.2406A1	310.764.2406CA1	310.764.0406A1	310.764.0406CA1
3/8	310.764.2410A1	310.764.2410CA1	310.764.0410A1	310.764.0410CA1
1/2	310.764.2412A1	310.764.2412CA1	310.764.0412A1	310.764.0412CA1
3/4	310.764.2419A1	310.764.2419CA1	310.764.0419A1	310.764.0419CA1
1	310.764.2426A1	310.764.2426CA1	310.764.0426A1	310.764.0426CA1
1-1/4				
1-1/2				
DA Limit Switch				
1/8				
3/16				
1/4	310.766.2406A1	310.766.2406CA1	310.766.0406A1	310.766.0406CA1
3/8	310.766.2410A1	310.766.2410CA1	310.766.0410A1	310.766.0410CA1
1/2	310.766.2412A1	310.766.2412CA1	310.766.0412A1	310.766.0412CA1
3/4	310.766.2419A1	310.766.2419CA1	310.766.0419A1	310.766.0419CA1
1	310.766.2426A1	310.766.2426CA1	310.766.0426A1	310.766.0426CA1
1-1/4				
1-1/2				

DV310 SIZE



Unit: mm

Inch	D	d	PT	H	H1	H2	H3	H4	N	N1	N2	N3	W	W1	W2	L	Z
1/8																	
3/16																	
1/4	7,7	4,0	1/8	15,5	48	55	64	76	30	37,0	44	3,7	30	18,0	6	86,0	81,5
3/8	10,5	6,4	1/8	21,0	48	78	85	95	37	49,0	61	6,5	37	21,5	10	94,5	89,5
1/2	13,9	9,5	1/8	21,0	48	78	85	95	37	49,0	61	6,5	37	21,5	10	98,5	92,5
3/4	20,5	15,9	1/8	27,0	60	92	106	117	47	63,5	82	9,0	47	24,5	14	121,0	114,2
1	29,0	22,2	1/8	35,0	75	117	126	137	60	77,5	96	9,0	60	34,5	14	150,0	139,8
1-1/4																	
1-1/2																	



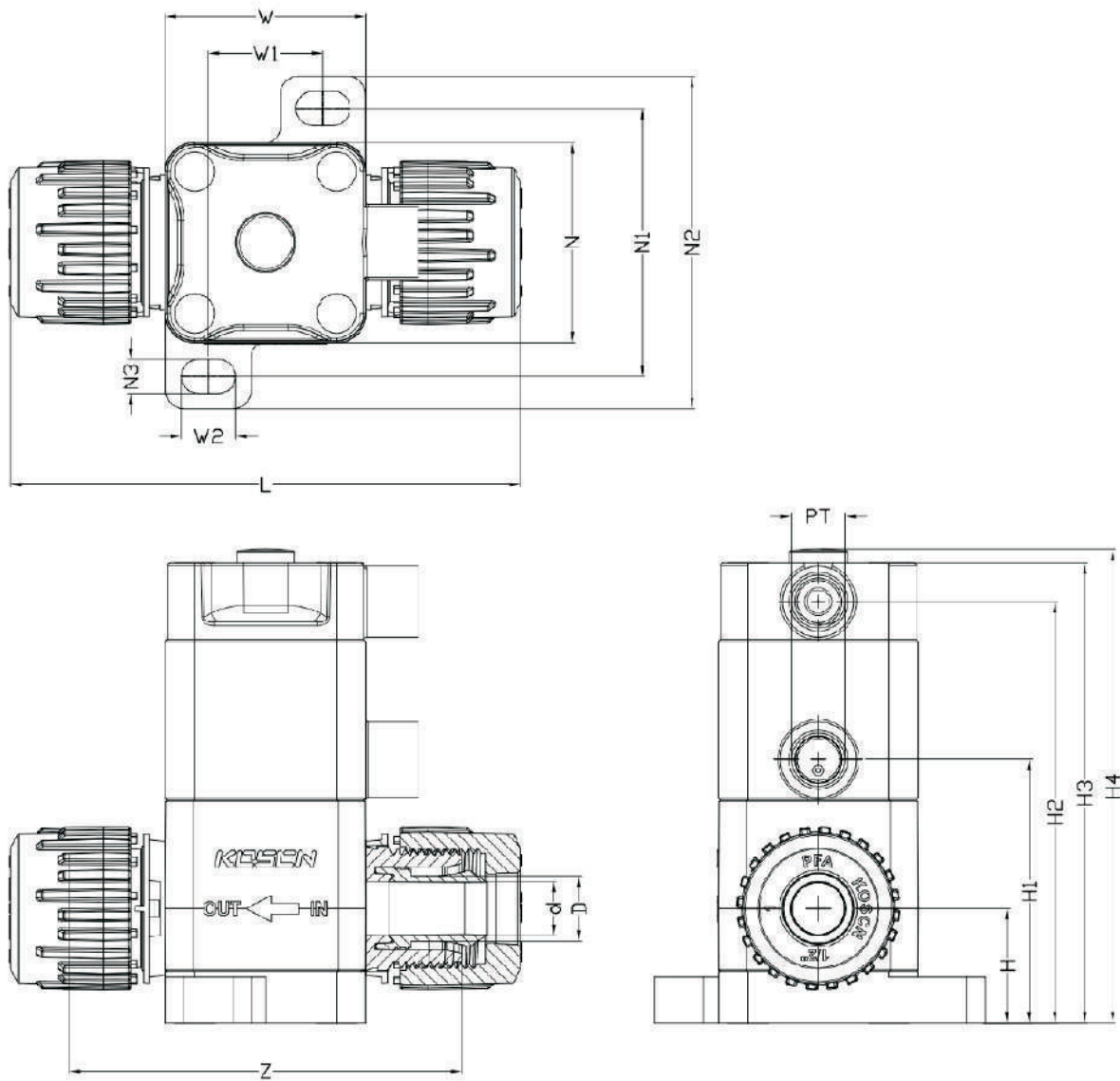
Performance data

Item	Unit	Data
Service pressure	bar	0...3,0
Backpressure	bar	0...1,0
Leakage rate	cm ³ /min	0 (Based on water pressure)
Operating temperature	°C	5...160 (Excluding HF)
Ambient temperature	°C	0...60
Material	Valve body	PFA
	Diaphragm	PTFE
	Actuating element	PPS
	Baseplate	PPS
	Bolt	SS Coating

Product code

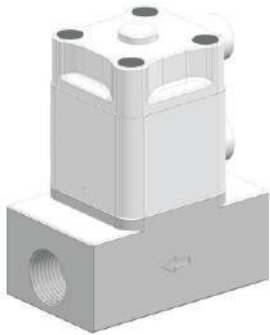
Size (Inch)	Insert Bushing	
	PFA-UHP	
NC		
1/8		
3/16		
1/4	310.762.2406 H	
3/8	310.762.2410 H	
1/2	310.762.2412 H	
3/4	310.762.2419 H	
1	310.762.2426 H	
1-1/4		
1-1/2		
NO		
1/8		
3/16		
1/4	310.764.2406 H	
3/8	310.764.2410 H	
1/2	310.764.2412 H	
3/4	310.764.2419 H	
1	310.764.2426 H	
1-1/4		
1-1/2		
DA		
1/8		
3/16		
1/4	310.766.2406 H	
3/8	310.766.2410 H	
1/2	310.766.2412 H	
3/4	310.766.2419 H	
1	310.766.2426 H	
1-1/4		
1-1/2		

DV310 , HIGH TEMPERATURE , SIZE



Unit: mm

Inch	D	d	PT	H	H1	H2	H3	H4	N	N1	N2	N3	W	W1	W2	L	Z
1/8																	
3/16																	
1/4	7,7	4,0	1/8	15,5	48	55	64	67	30	37,0	44	3,7	30	18,0	6	69	53,0
3/8	10,5	6,4	1/8	21,0	48	78	85	88	37	49,0	61	6,5	37	21,5	10	87	68,5
1/2	13,9	9,5	1/8	21,0	48	78	85	88	37	49,0	61	6,5	37	21,5	10	94	72,0
3/4	20,5	15,9	1/8	27,0	60	92	106	110	47	63,5	82	9,0	47	24,5	14	117	89,0
1	29,0	22,2	1/8	35,0	75	117	126	131	60	77,5	96	9,0	60	34,5	14	146	115,0
1-1/4																	
1-1/2																	

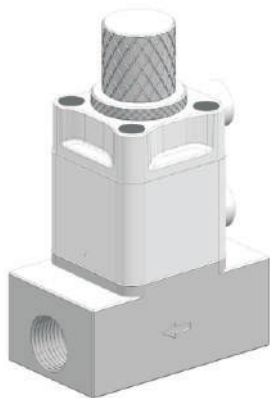


Performance data

Item	Unit	Data
Service pressure	bar	0...5,0
Backpressure	bar	0...5,0
Leakage rate	cm ³ /min	0 (Based on water pressure)
Operating temperature	°C	5...120
Ambient temperature	°C	0...60
Material	Valve body	SUS316L
	Diaphragm	PTFE
	Actuating element	PVDF
	Bolt	SS Coating

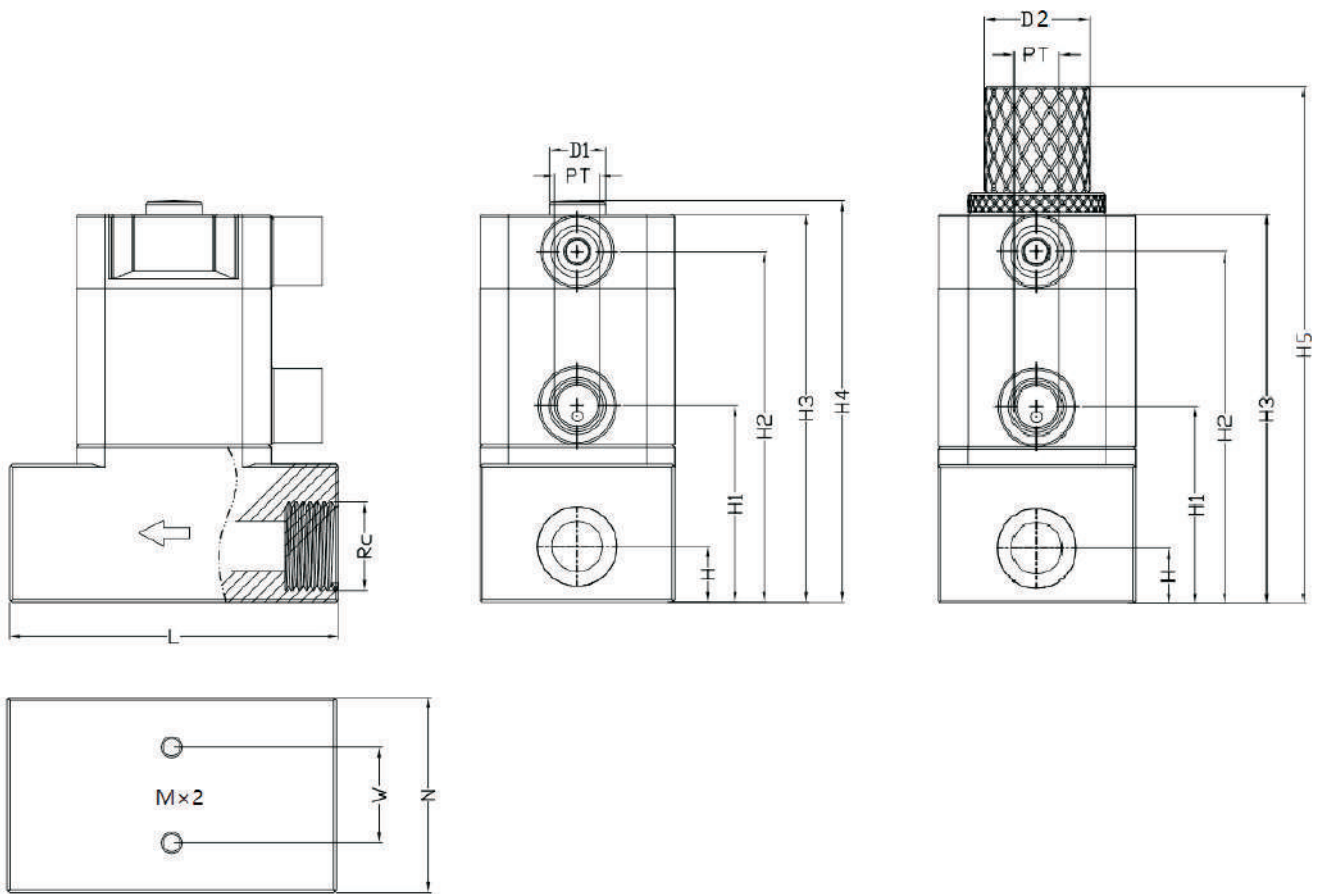
Product code

Size (Inch)	Adaptor Thread Rc	Card sleeve ANSI	Butt Welding ANSI
NC			
1/4	310.972.9906	310.972.6406	310.972.5406
3/8	310.972.9910	310.972.6410	310.972.5410
NO			
1/4	310.974.9906	310.974.6406	310.974.5406
3/8	310.974.9910	310.974.6410	310.974.5410
DA			
1/4	310.976.9906	310.976.6406	310.976.5406
3/8	310.976.9910	310.976.6410	310.976.5410



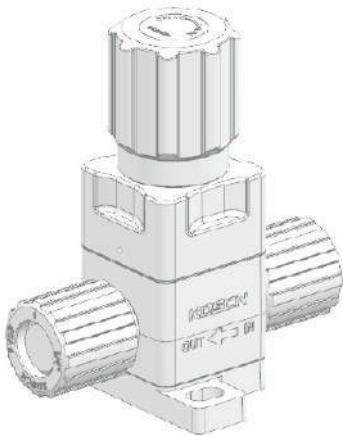
Product code

Size (Inch)	Adaptor Thread Rc	Card sleeve ANSI	Butt Welding ANSI
NC Manual Limit-DOWN			
1/4	310.973.9906X		
3/8	310.973.9910X		
NO Manual Limit-DOWN			
1/4	310.975.9906X		
3/8	310.975.9910X		
DA Manual Limit-DOWN			
1/4	310.977.9906X		
3/8	310.977.9910X		



Unit: mm

Inch	D1	D2	PT	H	H1	H2	H3	H4	H5	N	W	M	L
1/16													
1/8													
1/4	9	20	1/8	10	37	66	73	76	99	32	13	4	62
3/8	9	20	1/8	10	37	66	73	76	99	32	13	4	62

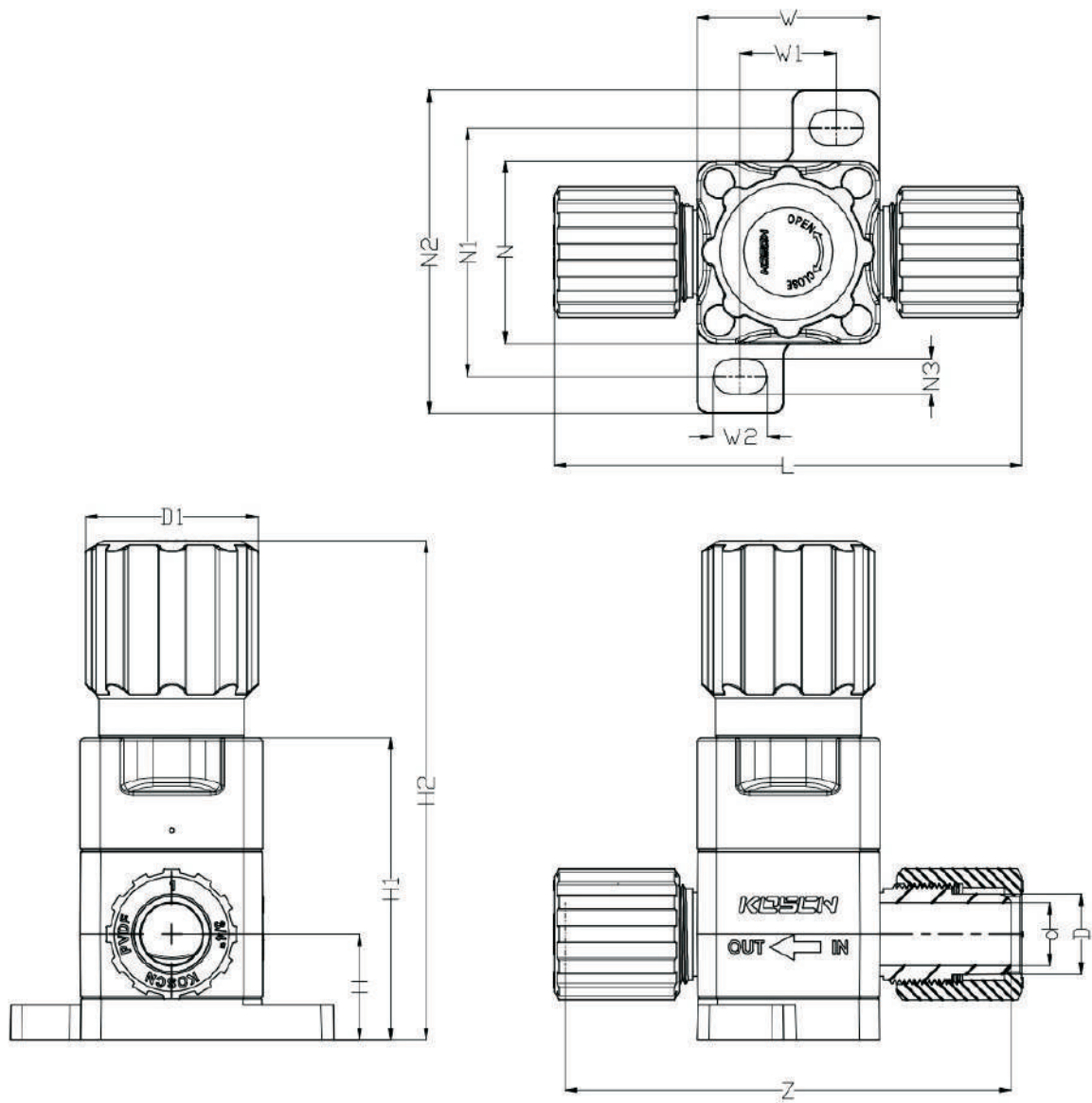


Performance data

<i>Item</i>	<i>Unit</i>	<i>Data</i>
Service pressure	bar	0...5,0
Backpressure	bar	0...5,0
Leakage rate	cm ³ /min	0 (Based on water pressure)
Operating temperature	°C	5...80
Ambient temperature	°C	0...60
Material	Valve body	PFA
	Diaphragm	PTFE
	Actuating element	PP-Natural
	Baseplate	PVDF
	Bolt	SS Coating

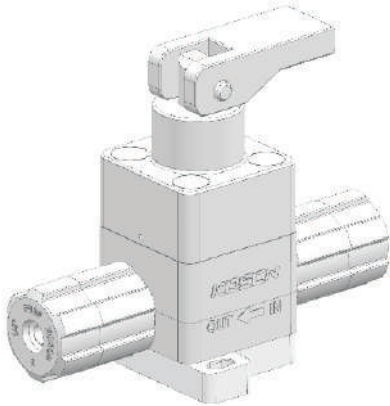
Product code

<i>Size (Inch)</i>	<i>Insert Bushing</i>		<i>Flare LINK</i>	
	<i>PFA-UHP</i>	<i>PFA</i>	<i>PFA-UHP</i>	<i>PFA</i>
Standard				
1/8				
3/16				
1/4	311.760.2406	311.760.2406C	311.760.0406	311.760.0406C
3/8	311.760.2410	311.760.2410C	311.760.0410	311.760.0410C
1/2	311.760.2412	311.760.2412C	311.760.0412	311.760.0412C
3/4	311.760.2419	311.760.2419C	311.760.0419	311.760.0419C
1	311.760.2426	311.760.2426C	311.760.0426	311.760.0426C
1-1/4				
1-1/2				



Unit: mm

Inch	D	d	D1	H	H1	H2	N	N1	N2	N3	W	W1	W2	L	Z
1/8															
3/16															
1/4	7,7	4,0	25	15,5	47	81	30	37,0	44	3,7	30	18,0	6	86,0	81,8
3/8	10,5	6,4	33	21,0	66	105	37	49,0	61	6,5	37	21,5	10	94,5	89,5
1/2	13,9	9,5	33	21,0	66	105	37	49,0	61	6,5	37	21,5	10	98,5	92,5
3/4	20,5	15,9	44	27,0	82	136	47	63,5	82	9,0	47	24,5	14	121,0	114,2
1	29,0	22,2	57	35,0	97	159	60	77,5	96	9,0	60	34,5	14	150,0	139,8
1-1/4															
1-1/2															

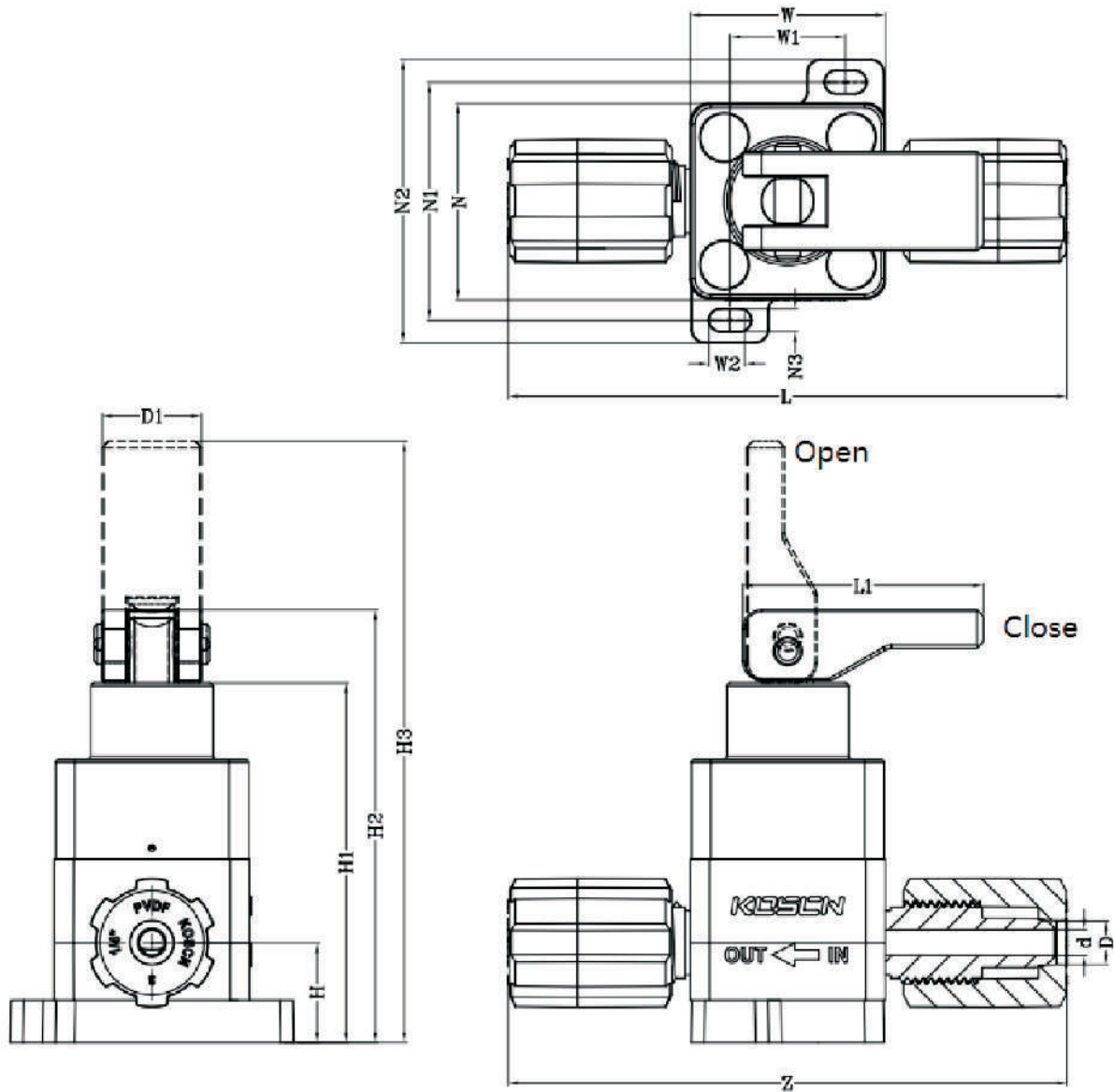


Performance data

<i>Item</i>	<i>Unit</i>	<i>Data</i>
Service pressure	bar	0...5,0
Backpressure	bar	0...3,0
Leakage rate	cm ³ /min	0 (Based on water pressure)
Operating temperature	°C	5...60
Ambient temperature	°C	0...60
Material	Valve body	PFA
	Diaphragm	PTFE
	Actuating element	PP-Natural
	Baseplate	PVDF
	Bolt	SS Coating

Product code

<i>Size (Inch)</i>	<i>Insert Bushing</i>		<i>Flare LINK</i>	
	<i>PFA-UHP</i>	<i>PFA</i>	<i>PFA-UHP</i>	<i>PFA</i>
Toggle 90°				
1/8				
3/16				
1/4	311.767.2406	311.767.2406C	311.767.0406	311.767.0406C
3/8	311.767.2410	311.767.2410C	311.767.0410	311.767.0410C
1/2	311.767.2412	311.767.2412C	311.767.0412	311.767.0412C
3/4	311.767.2419	311.767.2419C	311.767.0419	311.767.0419C
1	311.767.2426	311.767.2426C	311.767.0426	311.767.0426C
1-1/4				
1-1/2				



Unit: mm

Inch	D	d	D1	H	H2	H3	N	N1	N2	N3	W	W1	W2	L	L1
1/8															
3/16															
1/4	7,7	4,0	15,5	15,5	67	94	30	37,0	44	3,7	30	18,0	6	86,0	37,5
3/8	10,5	6,4	16,0	21,0	100	130	37	49,0	61	6,5	37	21,5	10	94,5	42,5
1/2	13,9	9,5	16,0	21,0	100	130	37	49,0	61	6,5	37	21,5	10	98,5	42,5
3/4	20,5	15,9	19,0	27,0	120	160	47	63,5	82	9,0	47	24,5	14	121,0	55,0
1	29,0	22,2	22,0	35,0	140	190	60	77,5	96	9,0	60	34,5	14	150,0	
1-1/4															
1-1/2															

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