

True Union Diaphragm Valve Type 14 (Manual Type)

Features

- Near-linear flow characteristics.
- Newly equipped with bottom stand with insert hole to ensure easy and secure installation.
- The valve body can be removed from the line.



Basic specifications

- Valve Type : True Union Diaphragm Valve Type 14
- Size : 15 mm - 50 mm (1/2 inch – 2 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)
C-PVC (Conforming to ASTM D1784 Cell Classification 23567-A)
PP (Conforming to ASTM D4101 Cell Classification PP0110B67272)
PVDF (Conforming to ASTM D3222 Cell Classification Type II)
- Seal Material / Diaphragm : EPDM, PTFE
O-RING : EPDM, FKM
- Connection / Socket : JIS, DIN, ASTM D2466 SCH80, BS 4346
* For BS, contact us.
Threaded : Rc, Rp, NPT
Spigot : DIN

Body Material	Ambient Temperature °C { °F }	Fluid Temperature °C { °F }	Maximum working pressure (Normal temperature) MPa { psi }	Connection method		
				SOCKET	SPIGOT	THREADED
U-PVC	-10 ~ 50 { 14 ~ 122 }	0 ~ 50 { 32~122 }	1.0 { 150 }	○	○	○
C-PVC	-10 ~ 50 { 14 ~ 122 }	0 ~ 90 { 30~195 }	1.0 { 150 }	○	-	○
PP	-10 ~ 50 { 14 ~ 122 }	-20 ~ 80 { -5~175 }	1.0 { 150 }	○	○	○
PVDF	-10 ~ 50 { 14 ~ 122 }	-20 ~ 100 { -68~210 }	1.0 { 150 }	○	○	○

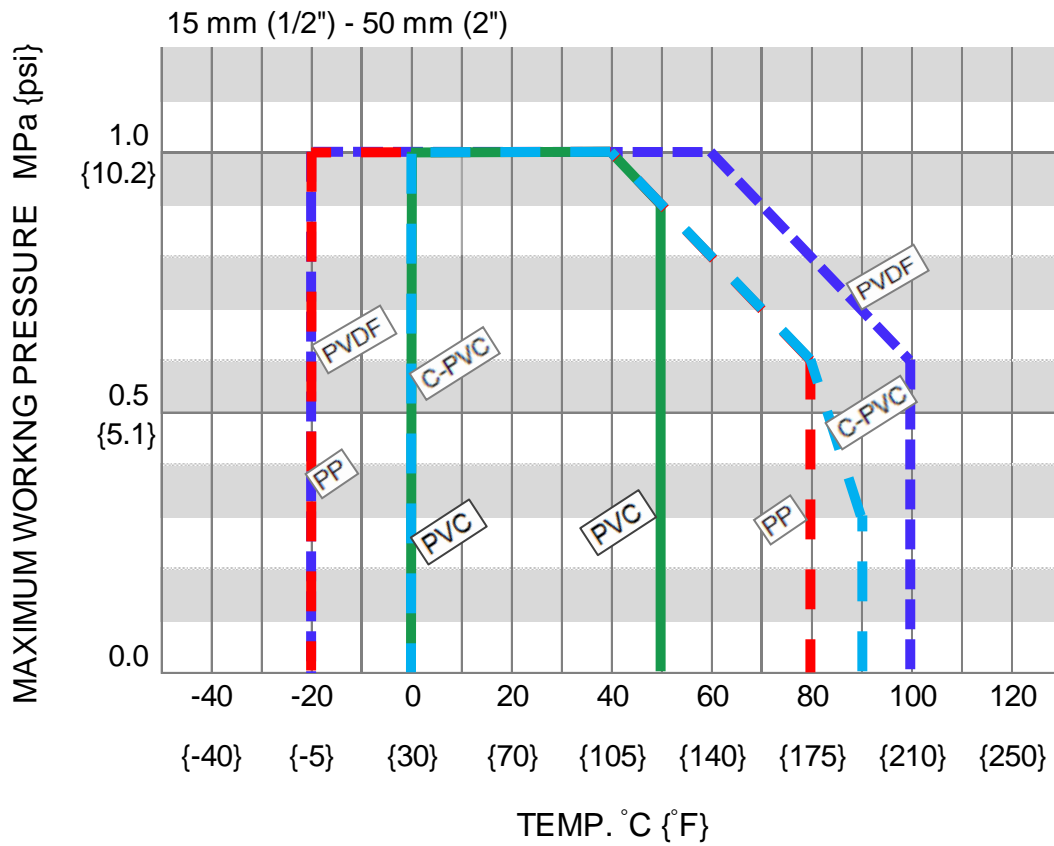
Note: The maximum working pressure is the value including the water hammer pressure. Be careful that the maximum working pressure is not exceeded during use.

- * Concerning the allowable pressure for each temperature, material and actuator type, see the technical documents at the next page of this sheet.
- * The diaphragm may become loose due to temperature changes during long storage, operation stop or while in use. Check the conditions and then retighten the bolts and nut between the bonnet and the body to the "bonnet tightening torque". (Failure to do so may cause fluid leakage.)

Certificate / Approval

PED "For details of applicable products, please consult us."

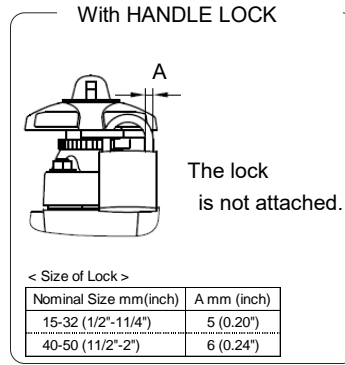
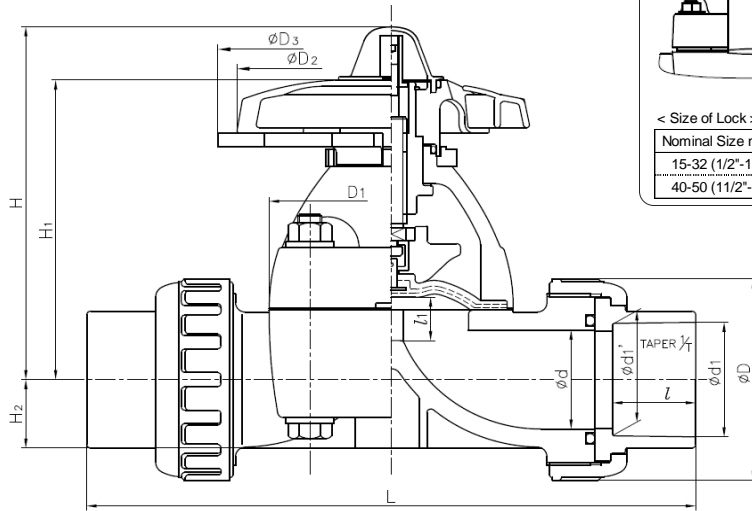
Working pressure vs. Temperature



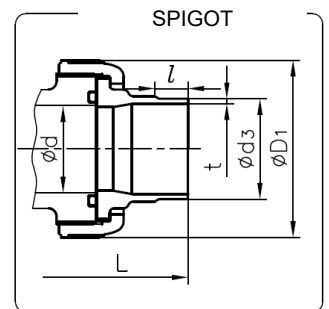
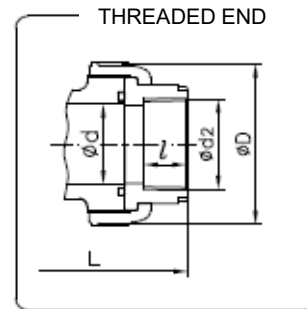
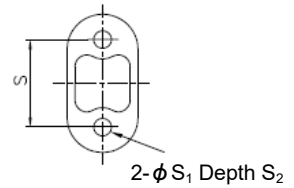
Note : Make sure that the temperature and pressure are within the working range during operation.
 (If the tolerance range is exceeded during use, the valve may be damaged.)

Product dimension

SOCKET END



(Detail of Holes for Metallic Insert.)



■ JIS, DIN (Unit :mm)

mm	JIS												SOCKET						THREADED					
	d	D	D ₁	D ₂	D ₃	l ₁	H	H ₁	H ₂	S	S ₁	S ₂	d ₁	l	1/T	L	d ₁	d ₁ '	l	L	d ₂	l	L	
	PVC, C-PVC			PP, PVDF									PVC, C-PVC			PP, PVDF					PVC C-PVC	PP PVDF		
																					PVC C-PVC	PP PVDF		
15	16	48	54x66	100	120	10	104	86	19.5	25	7	13	22.11	20	1/34	134	21.2	20.2	20	134	Rc 1/2	15	128	128
20	20	60	54x66	100	120	10	106	88	17.5	25	7	13	26.13	24	1/34	156	26.2	25.2	23	154	Rc 3/4	17	148	148
25	25	70	67x80	100	120	12	111	93	18.5	25	7	13	32.16	27	1/34	186	33.0	32.0	25	182	Rc 1	20	172	172
32	32	82	67x80	100	120	12	116	97	22.5	25	7	13	38.19	30	1/34	200	-	-	-	-	Rc 1 1/4	22	188	188
40	40	100	108x108	156	187	21	177	144	27.5	45	9	15	48.21	37	1/37	271	47.0	46.0	28	253	Rc 1 1/2	25	245	245
50	52	106	123x123	156	187	25	191	158	36	45	9	15	60.25	42	1/37	303	59.0	58.0	28	275	Rc 2	28	281	278

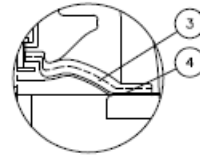
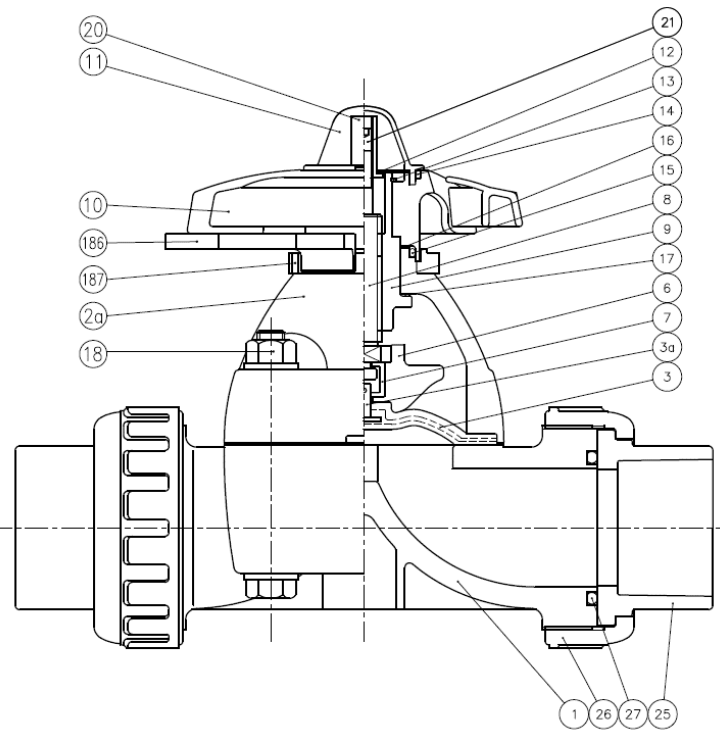
mm	DIN																		
	SOCKET							THREADED						SPIGOT					
	d ₁	l	L	d ₁	d ₁ '	l	L	d ₂	l	L		d ₃	l	L	d ₃	l	L	t	
	PVC, C-PVC			PP, PVDF						PVC C-PVC	PP PVDF	PVC, C-PVC			PP, PVDF			PP	PVDF
15	20	16	128	19.5	19.3	14.5	125	Rp 1/2	15	128	128	20	18.5	150	20	18.5	150	2.5	1.9
20	25	19	147	24.5	24.3	16	141	Rp 3/4	17	148	148	25	24.0	172	25	22.0	172	2.7	1.9
25	32	22	172	31.5	31.3	18	164	Rp 1	20	172	172	32	24.5	195	32	22.5	195	3.0	2.4
32	40	26	188	39.45	39.2	20.5	177	Rp 1 1/4	22	188	188	40	28.0	212	40	26.0	212	3.7	2.4
40	50	31	246	49.45	49.2	23.5	231	Rp 1 1/2	25	245	245	50	34.0	276	50	32.0	276	4.6	3.0
50	63	38	294	62.5	62.1	27.5	274	Rp 2	28	284	278	63	38.5	308	63	36.0	307	5.8	3.0

■ ANSI (Unit :inch)

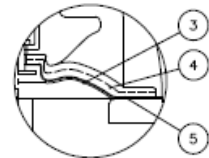
inch	mm	ANSI																						
		SOCKET															THREADED							
		ASTM SCH80																						
		d ₁	d ₁ '	l	L	d ₁	l	L	d ₂	l	L	d ₃	l	L	d ₃	l	L	d ₂	l	L	PVC C-PVC	PP PVDF		
1/2	15	0.63	1.89	2.13x2.60	3.94	4.72	0.39	4.09	3.39	0.77	0.98	0.28	0.51	0.848	0.836	0.875	5.47	0.83	0.87	5.43	1/2-14NPT	0.59	5.04	5.04
3/4	20	0.79	2.36	2.13x2.60	3.94	4.72	0.39	4.17	3.46	0.69	0.98	0.28	0.51	0.058	1.046	1.000	6.18	1.03	1.00	6.09	3/4-14NPT	0.67	5.83	5.83
1	25	0.98	2.76	2.64x3.15	3.94	4.72	0.47	4.37	3.66	0.73	0.98	0.28	0.51	1.325	1.310	1.125	7.32	1.30	1.13	7.24	1-11 1/2NPT	0.79	6.77	6.77
1 1/4	32	1.26	3.23	2.64x3.15	3.94	4.72	0.47	4.57	3.82	0.89	0.98	0.28	0.51	1.670	1.655	1.250	7.95	1.65	1.25	7.80	1 1/4-11 1/2NPT	0.87	7.40	7.40
1 1/2	40	1.57	3.94	4.25x4.25	6.14	7.36	0.83	6.97	5.67	1.08	1.77	0.35	0.59	1.912	1.894	1.375	10.47	1.89	1.37	10.28	1 1/2-11 1/2NPT	0.98	9.65	9.65
2	50	2.05	4.17	4.84x4.84	6.14	7.36	0.98	7.52	6.22	1.42	1.77	0.35	0.59	2.387	2.369	1.500	11.54	2.36	1.50	11.54	2-11 1/2NPT	1.10	11.06	10.95

Parts list

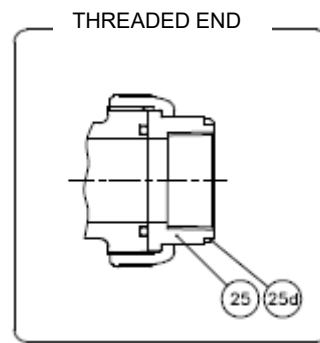
SOCKET END



In case material of Diaphragm is PTFE.



In case material of Diaphragm is PTFE with cushion cover.



THREADED END

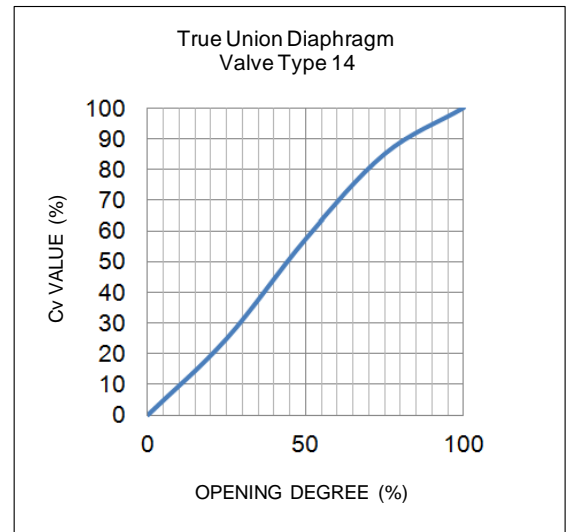
PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	BODY-UNION NUT / BONNET PVC / PVC	5 CUSHION COVER ⁽¹⁾	1	Nothing, PVDF	16 THRUST RING(A)	1	UHMWPE
2a BONNET		C-PVC / PP PP / PP	6 COMPRESSOR	1	PVDF	17 THRUST RING(B)	1	UHMWPE
25 END CONNECTOR	2	PVDF / PPG	7 JOINT	1	STAINLESS STEEL	18 BOLT · NUT (A)	4Sets	STAINLESS STEEL
26 UNION NUT		PVDF / PVDF	8 STEM	1	COPPER ALLOY	20 STOPPER	1	COPPER ALLOY
3 DIAPHRAGM	1	EPDM, PTFE, Others()	9 SLEEVE	1	COPPER ALLOY	21 SCREW	1	Cr.Mo.STEEL
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	10 HANDLE WHELL	1	PP	25d RING ⁽²⁾		STAINLESS STEEL
4 CUSHION ⁽¹⁾	1	EPDM	11 GAUGE COVER	1	PC	27 O-RING(C)		EPDM, Others()
			12 NAME PLATE	1	U-PVC	186 LOCKING LEVER	1	ABS Used for with handle lock
			13 RETAINING RING-C TYPE	1	STAINLESS STEEL	187 LOCKING PLATE	1	ABS Used for with handle lock
			14 O-RING (A)	1	EPDM			
			15 O-RING (B)	1	EPDM			

Note : (1) Used for PTFE Diaphragm.
 (2) Used for C-PVC Body. Threaded End: 15-25mm(1/2"-1")

Cv value for each opening degree

mm	15	20	25	32	40	50
inch	1/2	3/4	1	1 1/4	1 1/2	2
FULL-OPEN Cv VALUE	4.8	5.3	8.5	11	26	43

The values shown are reference values, not guaranteed values.



Handle rotation [Full open (rotation/lift) Full close]

SIZE		ROTATION
mm	inch	
15	1/2	3.3
20	3/4	3.3
25	1	4.0
32	1 1/4	4.0
40	1 1/2	5.0
50	2	6.0

Operating torque at maximum working pressure

Unit:N-m { ib-inch }

mm	15	20	25	32	40	50
inch	1/2	3/4	1	1 1/4	1 1/2	2
Operating torque(O→S)	3.0 { 26.5 }	3.0 { 26.5 }	4.0 { 35.5 }	4.0 { 35.5 }	10 { 88.5 }	10 { 88.5 }

Bonnet tightening torque

Unit:N-m { ib-inch }

mm	15	20	25	32	40	50
inch	1/2	3/4	1	1 1/4	1 1/2	2
RUBBER DIAPHRAGM	3.0 { 26.5 }	3.0 { 26.5 }	5.0 { 44.5 }	5.0 { 44.5 }	12.0 { 106 }	15.0 { 133 }
PTFE DIAPHRAGM	5.0 { 44.5 }	5.0 { 44.5 }	8.0 { 71 }	8.0 { 71 }	15.0 { 133 }	20.0 { 177 }

Product weight

Unit : kg

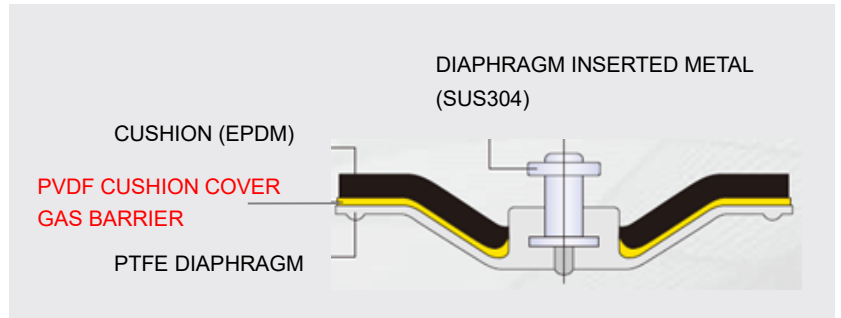
mm	inch	Body material				
		PVC	C-PVC	PP	PVDF	PVDF
		Bonnet material				
		PVC	PP	PP	PPG	PVDF
15	1/2	0.5	0.5	0.4	0.6	0.6
20	3/4	0.6	0.6	0.5	0.7	0.7
25	1	0.9	0.9	0.7	1.0	1.1
32	1 1/4	1.1	1.1	0.8	1.2	1.3
40	1 1/2	2.6	2.5	2.0	2.7	2.9
50	2	2.9	2.8	2.3	3.1	3.3

Options

In addition to the standard product, the following options are also available according to your requirements.

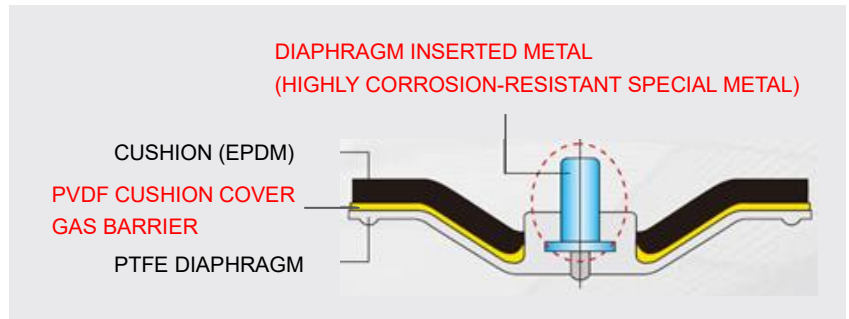
① PVDF Cushion Cover Model

For corrosive fluid transport lines, we offer PVDF cushion cover accessories having excellent gas barrier performance to prevent deterioration due to permeation of gas from the diaphragm.



② Electrolytic Model

For chlorine gas lines in electrolysis plants, we offer electrolytic options using highly corrosion resistant special metal to prevent corrosion of inserted diaphragm fittings.

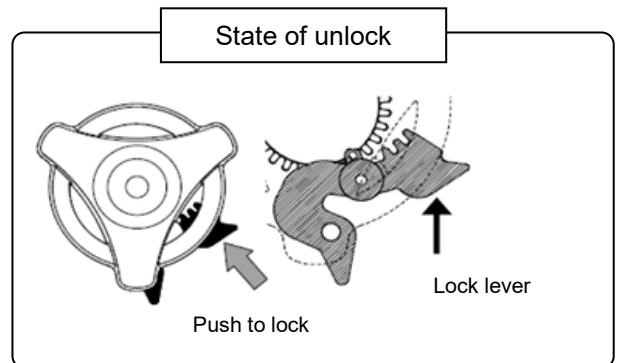
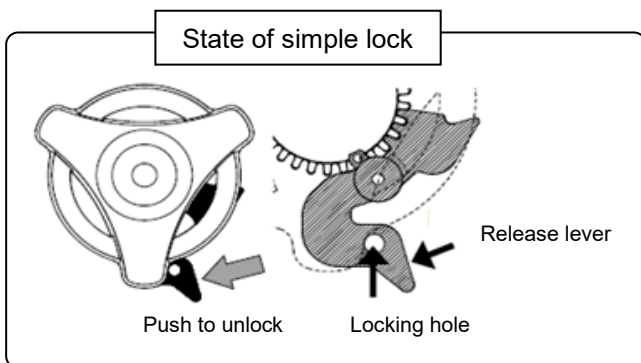
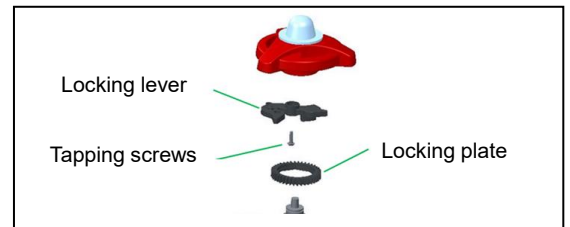


Locking Device

Operating Procedure

- Do not exert excessive force in turning the handle.(It can be deformed, or destroyed.)
- Please lock using a padlock for miss operation prevention.
- The valve is simple locked at the time of shipment.
- Please operate valve after release simple lock.
- Do not disassemble the LOCKING DEVICE. (Injury may occur.)

- 1- Push the release lever with the locking hole to release the simple lock.
- 2- Operate the valve to the desired valve lift.
- 3- Push the lock lever without the locking hole to lock the simple lock.
- 4- The location hole for the lock is already installed in the handle.
Please lock using padlock as necessary. (Refer to Table 1 for the size of lock.)



Note: The lock is not attached.

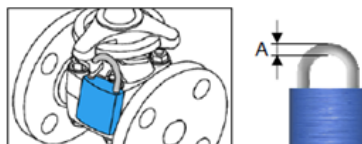


Table 1 <Size of Lock>

Nominal Size mm (inch)	A mm (inch)
15 ~ 32 (1/2" - 1 1/4")	5 (0.20")
40 ~ 50 (1 1/2" - 2")	6 (0.24")

Product model code list

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
V	14	**	*	*	*	*	***
V MANUAL VALVE	T1 TRUE UNION TYPE 14	MH ROUND HANDLE HL WITH HANDLE LOCK	U PVC C C-PVC P PP F PVDF G PVDF+PPG	E EPDM T PTFE 1 PTFE+EPDM 2 PTFE+FKM	F FLANGED S SOCKET N THREADED P SPIGOT	J JIS 1 10K D DIN A ANSI	015 15mm 50 050 50mm

Installation, Operation and Maintenance Manual

For details of Installation, Operation and Maintenance, please contact our nearest distribution agent or sales office.