

# Diaphragm Valve Type 72 (Manual Type)

## Features

- Near-linear flow characteristics.
- Transparent gauge cover (made of polycarbonate) protects the internal and external parts from corrosive chemical solutions and gases.
- The gauge cover also serves as an indicator, allowing easy check of opening degree.



## Basic specifications

- Valve Type : Diaphragm Valve Type 72
- Size : 200 mm - 250 mm (8 inch – 10 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)  
PP (Conforming to ASTM D4101 Cell Classification PP0110B67272)  
PVDF /EL-PVDF (Conforming to ASTM D3222 Cell Classification Type II)
- Seal Material / Diaphragm : EPDM, PTFE, FKM etc.
- Connection / Flanged : JIS B2220 5K, JIS B2220 10K, DIN/EN1092-1 PN10, ANSI B16.5 CLASS150

MODEL A	FLUID TEMPERATURE °C {°F}	Working pressure (Normal Temperature) MPa {psi}				Connection Method
		Diaphragm : Rubber		Diaphragm : PTFE		
		200mm	250mm	200mm	250mm	Flanged
PVC	0 ~ 60 { 30~140 }	0.3 {40}	0.3 {40}	0.2 {30}	0.2 {30}	○
PP	-20 ~ 90 { -5~195 }	0.5 {70}	0.45 {65}	0.4 {55}	0.4 {55}	○
PVDF /EL-PVDF	-40 ~ 120 { -40~250 }	0.5 {70}	0.45 {65}	0.4 {55}	0.4 {55}	○

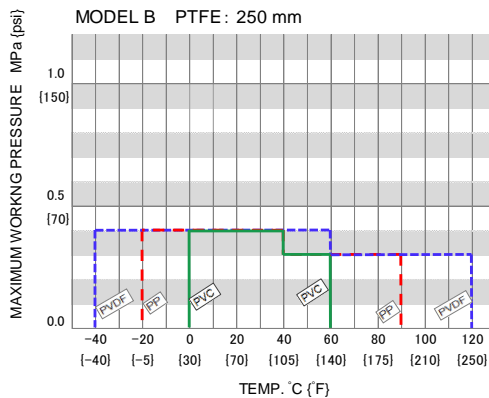
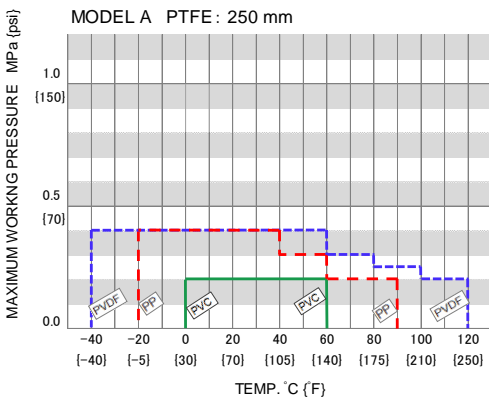
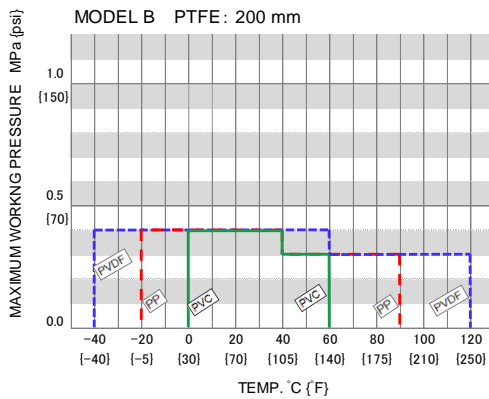
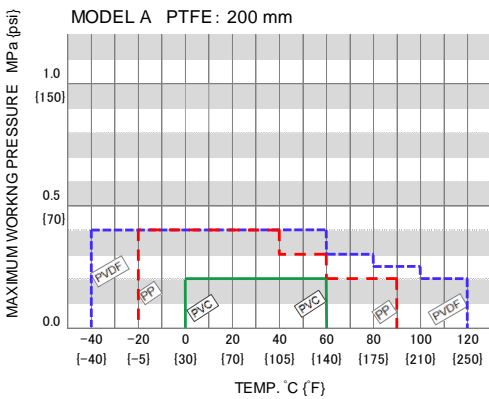
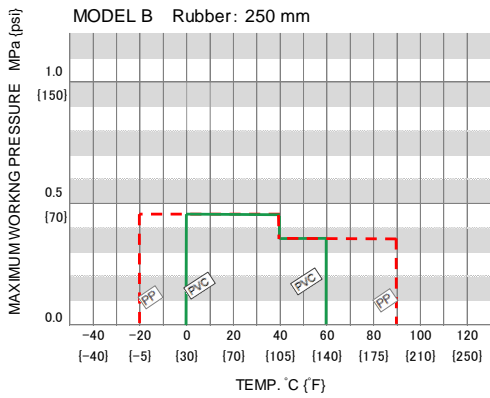
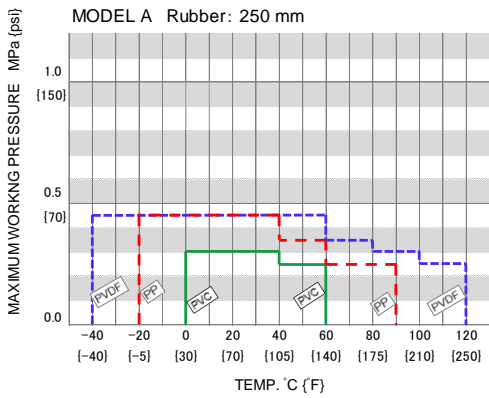
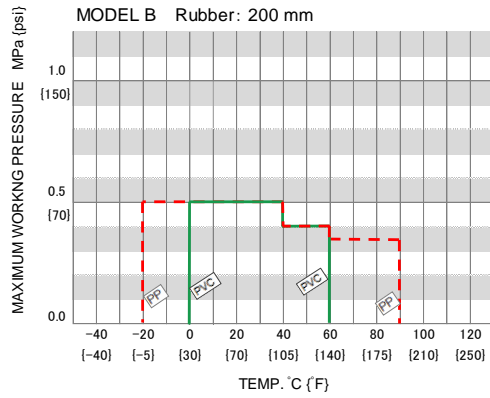
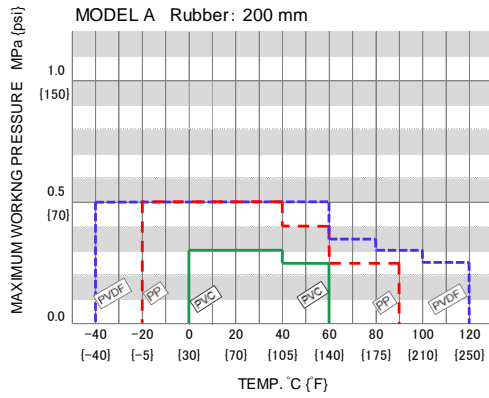
MODEL B (OPTION) <small>*Made-to-order product.</small>	FLUID TEMPERATURE °C {°F}	Working pressure (Normal Temperature) MPa {psi}				Connection Method
		Diaphragm : Rubber		Diaphragm : PTFE		
		200mm	250mm	200mm	250mm	Flanged
PVC	0 ~ 60 { 30~140 }	0.5 {70}	0.45 {65}	0.4 {55}	0.4 {55}	○
PP	-20 ~ 90 { -5~195 }	0.5 {70}	0.45 {65}	0.4 {55}	0.4 {55}	○
PVDF /EL-PVDF	-40 ~ 120 { -40~250 }	-	-	0.4 {55}	0.4 {55}	○

\*Refer to Page 4.

**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.

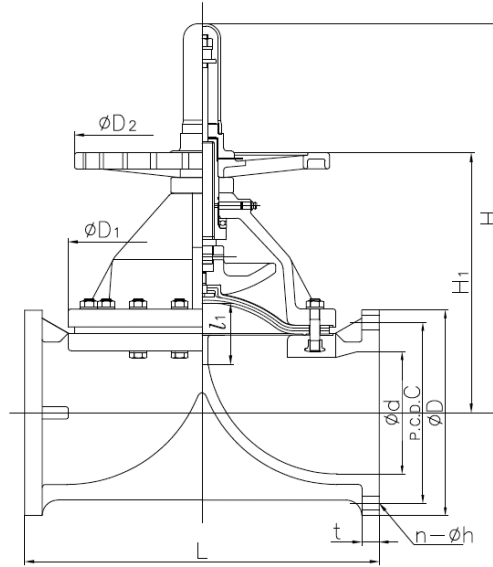
- \* Concerning the allowable pressure for each temperature, material and actuator type, see the technical documents at the next page of this sheet.
- \* The diaphragm may become loose due to temperature changes during long storage, operation stop or while in use. Check the conditions and then retighten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

## 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



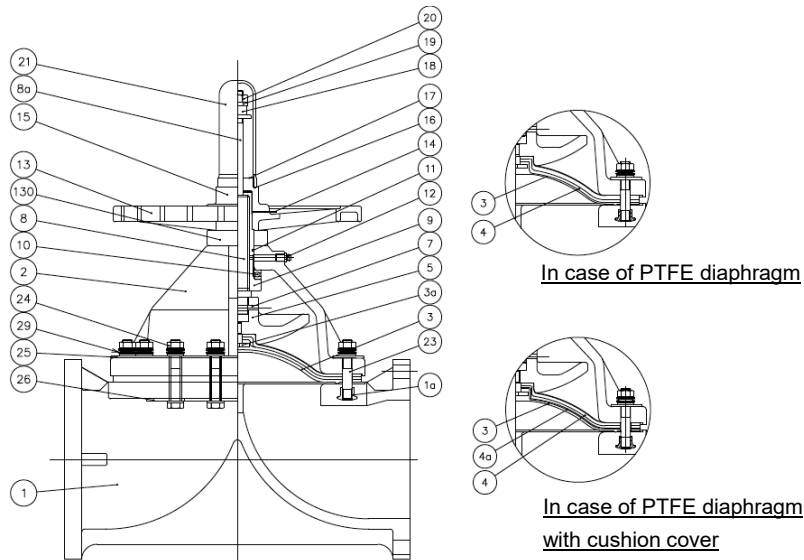
■ JIS, DIN (Unit: mm)

		JIS															DIN PN10									
		JIS5K				JIS10K				T										T						
mm	d	D <sub>1</sub>	D <sub>2</sub>	ℓ	H <sub>1</sub>	H	D	C	n	h	D	C	n	h	L	PVC	PP	PVDF	D	C	n	h	L	PVC	PP	PVDF
200	196	430	410	95	419	627	320	280	8	23	330	290	12	23	570	28	32		295	340	8	22	600	30	34	
250	247	540	560	128	510	778	385	345	12	23	400	355	12	25	680	30	37		350	395	12	22	730	34	36	

■ ANSI (Unit: inch)

		ANSI CLASS 150											
inch	mm	d	D <sub>1</sub>	D <sub>2</sub>	ℓ	H	H <sub>1</sub>	D	C	n	h	L	t
8	200	7.72	16.93	16.14	3.74	16.50	24.69	13.50	11.75	8	0.88	22.44	1.26
10	250	9.72	21.26	22.05	5.04	20.08	30.63	16.00	14.25	12	1.00	26.77	1.46

Parts list



PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	BODY / BONNET	8 STEM	1	COPPER ALLOY	18 STOPPER	1	Chromized STEEL
		PVC / PVC	8a INDICATOR ROD	1	STAINLESS STEEL	19 SPRING WASHER	1	STAINLESS STEEL
2 BONNET	1	PP / PP	9 SLEEVE (A)	1	COPPER ALLOY	20 NUT	1	STAINLESS STEEL
		PVDF / PPG	10 THRUST BEARING (A)	1	HIGH CARBON	21 GAUGE COVER	1	PC
3 DIAPHRAGM	1	EPDM, PTFE, Others( )	11 O-RING (A)	1	NBR	23 STUD BOLT&NUT	-	STAINLESS STEEL
			12 GREASE NIPPLE	1	COPPER ALLOY	24 BOLT&NUT (A)	8Sets	STAINLESS STEEL
3a INSERTED METAL OF DIAPHRAGM (A)	1	STAINLESS STEEL	13 HAND WHEEL	1	PP	25 UPPER BONNET LINER (2)	1Sets	STAINLESS STEEL
4 CUSHION (1)	1	EPDM, Others( )	14 NAMEPLATE	1	PVC	26 BODY LINER (2)	1Sets	STAINLESS STEEL
4a CUSHION COVER (1)		Nothing, PVDF	15 CAP	1	PP	29 CONICAL SPRING WASHER (3)	-	STAINLESS STEEL
5 COMPRESSOR	1	Chromized CAST IRON	16 SHEET GASKET (A)	1	EPDM	130 THRUST RING (B)	1	PP
7 COMPRESSOR PIN	1	STAINLESS STEEL	17 SHEET RING	1	STAINLESS STEEL	1a INSERTED NUT	-	COPPER ALLOY (4)
								STAINLESS STEEL (3)

NOTE: (1) is used when the diaphragm material is PTFE. (2) is used when the body material is PP or PVDF.

(3) is used when the body material is PVDF. (4) is used when the body material is PVC or PP.

< MODEL A AND MODEL B >

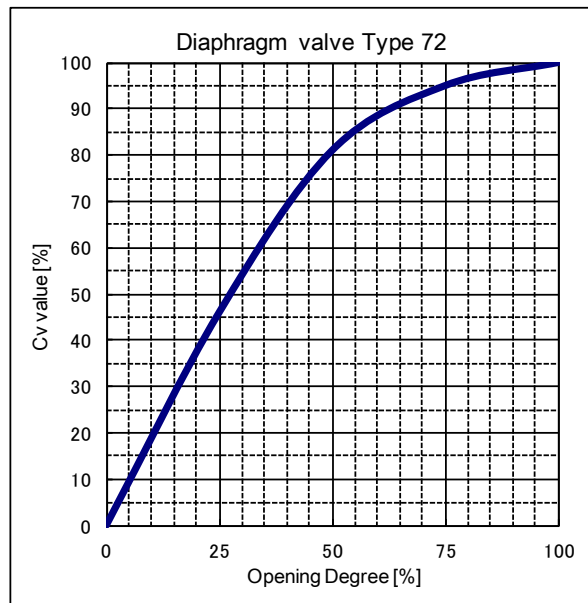
Diaphragm valve type 72 (size: 200mm, 250mm) can be divided into Model A and Model B.

Model A is the standard type. Normally, select Model A.

Select Model B when Model A cannot be used due to the relationship between the working temperature and pressure.

	MODEL A (STANDARD)	MODEL B (OPTION)
BODY MATERIAL: U-PVC	<p>DIAPHRAGM MATERIAL: RUBBER AND PTFE</p>	<p>DIAPHRAGM MATERIAL: RUBBER AND PTFE</p>
BODY MATERIAL: PP	<p>DIAPHRAGM MATERIAL: RUBBER AND PTFE</p>	<p>DIAPHRAGM MATERIAL: RUBBER AND PTFE</p>
BODY MATERIAL: PVDF	<p>DIAPHRAGM MATERIAL: RUBBER AND PTFE</p>	<p>DIAPHRAGM MATERIAL: PTFE</p>

## Cv value for each opening degree



FULL-OPEN Cv VALUE

	200	250
mm	200	250
inch	8	10
FULL-OPEN Cv VALUE	700	1000

The values shown are reference values, not guaranteed values.

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

SIZE		ROTATION
mm	inch	
200	8	19.0
250	10	25.0

## Operating torque at maximum working pressure

Operating torque(O→S) Unit:N-m { ib-inch }

mm	inch	Rubber Diaphragm		PTFE Diaphragm	
		N-m	{ ib-inch }	N-m	{ ib-inch }
200	8	55	{ 487 }	130	{ 1151 }
250	10	130	{ 1151 }	230	{ 2036 }

## Bonnet tightening torque

Bonnet tightening torque(O→S) Unit:N-m { ib-inch }

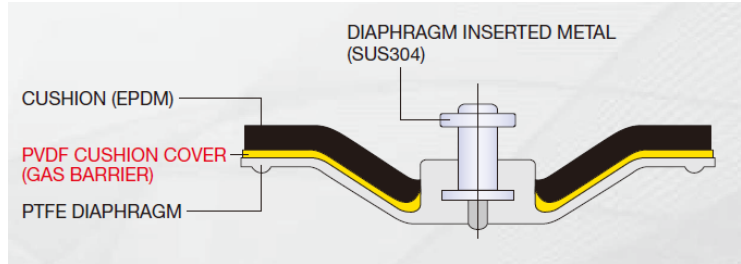
mm	inch	Rubber Diaphragm		PTFE Diaphragm	
		N-m	{ ib-inch }	N-m	{ ib-inch }
200	8	30	{ 266 }	30	{ 266 }
250	10	30	{ 266 }	30	{ 266 }

## Options

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

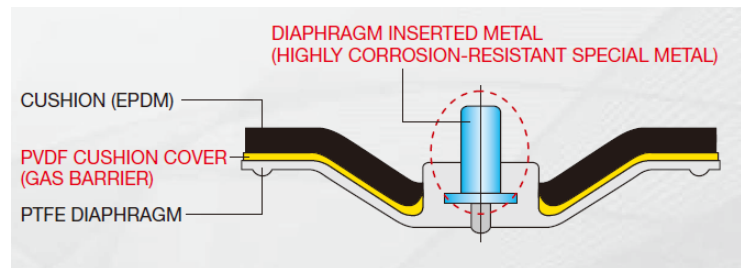
### ① PVDF Cushion Cover Model

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.



## Product weight

Unit : kg

mm	inch	Body material			
		PVC	PP	PVDF	PVDF
		Bonnet material			
		PVC	PP	PPG	PVDF
200	8	52.6	45.0	57.3	62.3
250	10	93.3	77.3	97.6	110.2

## Product model code list

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
<b>V</b>	<b>72</b>	<b>MH</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>***</b>
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
V MANUAL VALVE	72 TYPE 72	MH ROUND HANDLE	U PVC P PP F PVDF G PVDF+PPG	E EPDM T PTFE	F FLANGED	1 JIS10K 5 5K D DIN A ANSI	200 200mm · 250 250mm

## Installation, Operation and Maintenance Manual

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