

Stainless Steel  
High Vacuum Angle/In-line Valve

# Series XMA, XYA

Normally Closed/Bellows Seal



## How to Order

Angle type

XMA — 16 — — — — M9N A —

In-line type

XYA — 25 — — — — M9N A —

1 2 3 4 5 6 7



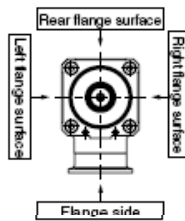
### 1. Flange size

Size	XMA	XYA
16	●	—
25	●	●
40	●	●
50	●	●
63	●	●
80	●	●

### 3. Indicator/Pilot port direction

#### XMA

Symbol	Indicator	Pilot port direction
NII	Without indicator	Flange side
A	With indicator	Flange side
F		Left flange surface
G		Rear flange surface
J		Right flange surface
K	Without indicator	Left flange surface
L	Without indicator	Rear flange surface
M	Without indicator	Right flange surface



### 2. Flange type

#### XMA

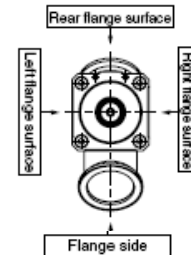
Symbol	Type	Applicable flange size
NII	KF (NW)	16, 25, 40, 50, 63, 80
D	K (DN)	63, 80
C	CF	16 (034), 40 (070), 63 (114)

#### XYA

NII	KF (NW)	25, 40, 50, 63, 80
D	K (DN)	63, 80

#### XYA

Symbol	Indicator	Pilot port direction
NII	Without indicator	Rear flange side
A	With indicator	Rear flange side
F		Left flange surface
J		Right flange surface
K		Left flange surface
M	Without indicator	Right flange surface



### 4. Temperature specifications

Symbol	Temperature range
NII	5 to 60°C
H0	5 to 150°C

### 6. No. of auto switches/Detecting position

Symbol	Quantity	Detecting position
NII	Without auto switch	—
A	2 pcs.	Valve open/closed
B	1 pc.	Valve open
C	1 pc.	Valve closed

### 5. Auto switch type

Symbol	Auto switch	Remarks
NII	—	Without auto switch (without built-in magnet)
M9N (L)	D-M9N (L)	Solid state switch
M9P (L)	D-M9P (L)	
M9B (L)	D-M9B (L)	
A90 (L)	D-A90 (L)	Reed switch (Flange size 16 is not available.)
A93 (L)	D-A93 (L)	
M9//	—	Without auto switch (with built-in magnet)

Auto switches cannot be mounted in the case of high temperature types (temperature specifications H0).  
The standard lead wire length is 0.5 m. For 3 m, 'L' is added at the end of the part number.  
Ex.) -M9NL

### 7. Seal material, part number and specification

#### Seal material

Symbol	Seal material	Compound No.
NII	FKM	1349-80*
N1	EPDM	2101-80*
P1	Barrel Perfluoro <sup>®</sup>	70W
Q1	Kalrez <sup>®</sup>	4079
R1	Chemraz <sup>®</sup>	SS592
R2		SS630
R3		SSE38
S1	VMQ	1232-70*
T1	FKM for Plasma	3310-75*
U1	ULTIC ARMOR <sup>®</sup>	UA4640

#### Part nos. for seal material replacement and leakage specification

Symbol	Replacement part <sup>Note 2)</sup>	Leakage Pa·m <sup>3</sup> /s or less <sup>Note 1)</sup>	
		Internal (2) <sup>Note 3)</sup>	External (3) <sup>Note 3)</sup>
NII	—	1.3 x 10 <sup>-10</sup> (FKM)	1.3 x 10 <sup>-11</sup> (FKM)
A	2, 3	1.3 x 10 <sup>-8</sup>	1.3 x 10 <sup>-9</sup>
B	2	1.3 x 10 <sup>-8</sup>	1.3 x 10 <sup>-11</sup> (FKM)
C	3	1.3 x 10 <sup>-10</sup> (FKM)	1.3 x 10 <sup>-9</sup>

Note 1) Values at ambient temperatures, excluding gas permeation.

Note 2) Refer to parts number of "Construction" on the page 39 for changed part.  
Number indicates parts number of "Construction" accordingly.

To order something else "NI" (standard), list the symbols starting with "X", followed by each symbol for "seal material" and then "changed parts" at last.

Ex.) XMA-16-M9NA-XN1A

Produced by Mitsubishi Cable Industries, Ltd.

## Stainless Steel High Vacuum Angle/In-line Valve *Series XMA, XYA*

### Specifications

Model	XMA-16	XMA-25 XYA-25	XMA-40 XYA-40	XMA-50 XYA-50	XMA-63 XYA-63	XMA-80 XYA-80	
Flange (valve) size	16, CF034	25	40, CF070	50	63, CF114	80	
Valve type	Normally closed (Pressurize to open, spring seal)						
Fluid	Inactive gas under vacuum						
Operating temperature °C	5 to 60 (High temperature type: 5 to 150)						
Operating pressure Pa	Atmospheric pressure to $1 \times 10^{-6}$						
Conductance $l/s$ <small>Note 1)</small>	5	14	45	80	160	200	
Leakage $Pa \cdot m^3/s$	Internal	$1.3 \times 10^{-10}$ ( $1 \times 10^{-10}$ ) at ambient temperature, excluding gas permeation					
	External	$1.3 \times 10^{-11}$ ( $1 \times 10^{-11}$ ) at ambient temperature, excluding gas permeation					
Operating time s	0.05	0.1	0.21	0.24	0.26	0.28	
Flange type	KF (NW), CF	KF (NW)	KF (NW), CF	KF (NW)	KF (NW), K (DN), CF	KF (NW), K (DN)	
Principle materials	Body: SCS13 (Conforms to Stainless steel SUS304) Bellows: Stainless steel SUS316L Bellows holder: Stainless steel SUS304, FKM (Standard seal material)						
Pilot pressure MPa	0.4 to 0.7						
Pilot port size	M5			Rc 1/8			
Service life (million cycles)	2 (FKM seal material)						
Weight kg <small>Note 2)</small>	XMA	0.33 (0.37)	0.61	1.40 (1.76)	2.00	3.60 (4.96)	6.20
	XYA	—	0.66	1.42	2.40	4.30	7.70

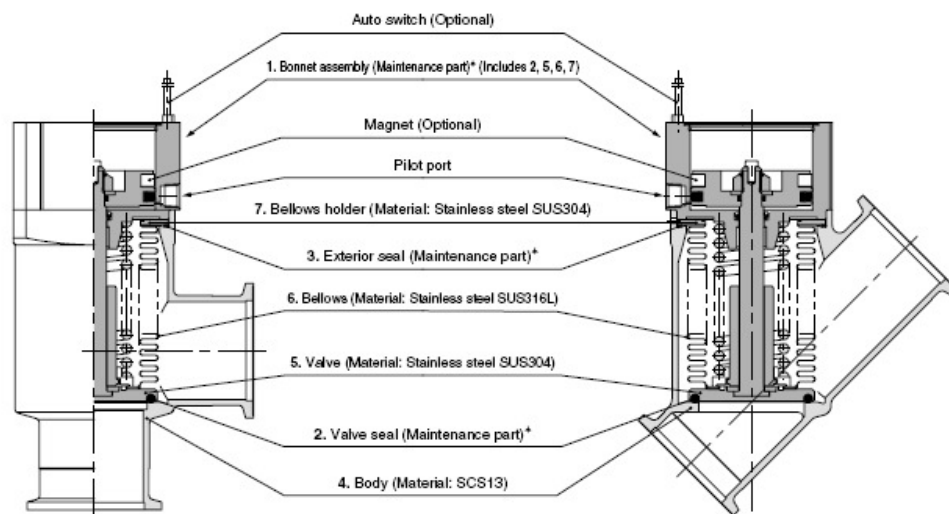
Note 1) Conductance is the value for the molecular flow of an elbow having the same dimensions.

Note 2) Figures in ( ) indicates the weight of CF, conflate fittings.

### Construction

XMA/Angle type

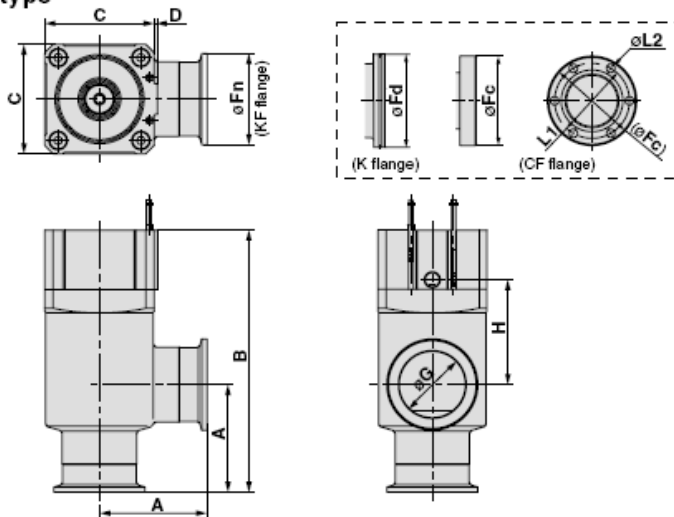
XYA/In-line type



# Series XMA, XYA

## Dimensions

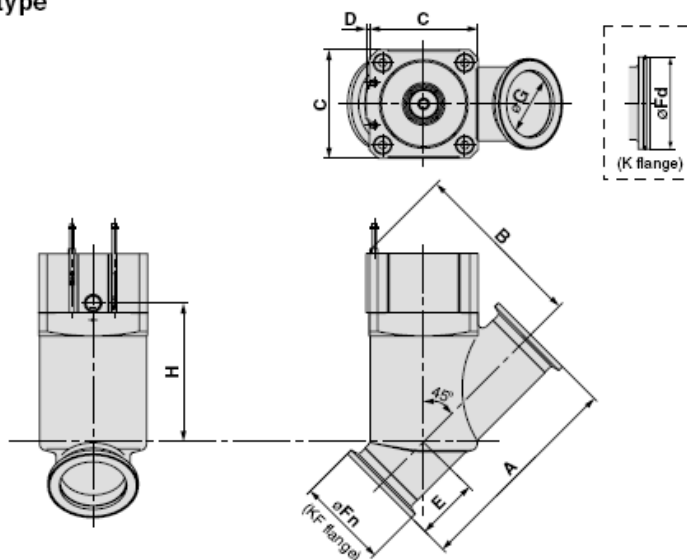
### XMA/Angle type



(mm)

Model	A	B	C	D	F <sub>n</sub>	F <sub>d</sub>	F <sub>c</sub>	G	H	P.C.D L1	L2
XMA-16	40	103	38	1	30	—	34	17	40	P.C.D 27	6-ø4.4
XMA-25	50	113	48	1	40	—	—	26	39	—	—
XMA-40	65	158	66	2	55	—	70	41	63	P.C.D 58.7	6-ø6.6
XMA-50	70	170	79	2	75	—	—	52	68	—	—
XMA-63	88	196	100	3	87	95	114	70	69	P.C.D 92.1	8-ø8.4
XMA-80	90	235	117	3	114	110	—	83	96	—	—

### XYA/In-line type



(mm)

Model	A	B	C	D	E	F <sub>n</sub>	F <sub>d</sub>	G	H
XYA-25	100.2	79.5	48	1	23.5	40	—	26	64
XYA-40	130	106	66	2	38	55	—	41	84
XYA-50	178	119	79	2	53	75	—	52	95
XYA-63	209	149	100	3	61	87	95	70	118
XYA-80	268	178	117	3	80	114	110	83	142