

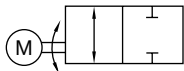
Motorized 2-port ball valve

MXB1/MXB1F Series

● Port size: Rc3/8 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1 (standard bore)/MXB1F (full bore)						
Working fluid		Water, air, oil (500 mm ² /s or less)						
Working pressure MPa		0 to 1.0 (refer to the working pressure in the individual specifications.)						
Proof pressure (water pressure) MPa		2.0 (≈290 psi, 20 bar)						
Fluid temperature °C		0 (32°F) to 80 (176°F) (no freezing)						
Ambient temperature °C		-10 (14°F) to 50 (122°F)						
Ambient humidity %		95 or less						
Mounting orientation		From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)						
Pressurization direction		Arbitrary						
Degree of protection		IPX3 “rainproof” (standard and option T only)						
Electrical specifications		MXB1-10	MXB1-15	MXB1-20	MXB1-25	MXB1-32	MXB1-40	MXB1-50
		MXB1F-15		MXB1F-20		MXB1F-25	MXB1F-32	MXB1F-40
Rated voltage *1		100 VAC(50/60 Hz), 200 VAC(50/60 Hz), 12 VDC, 24 VDC						
Apparent power VA	Operating	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)		
		200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)		
	Starting	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)		
		200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)		
Average current value A	12 VDC	1.1			1.5			
	*2 24 VDC	0.7			1.0			
Starting current A	12 VDC	1.8 or less			3 or less			
	*2 24 VDC	1.2 or less			2 or less			
Power consumption W	AC	7			15			
	12 VDC	13			18			
	24 VDC	17			24			

MXB1 (standard bore) individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1-10 ^{*3}	MXB1-15	MXB1-20	MXB1-25	MXB1-32	MXB1-40	MXB1-50
Port size		Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂	Rc2
Orifice size mm		10	10	15	20	25	32	40
Cv		10	6	16	29	50	98	125
Working pressure MPa		0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)						0 to 0.5
Response time sec	AC	10/8(50/60 Hz)				13/11(50/60 Hz)		
	DC	8				10.5		
Frequency	AC	2 times/min. or less				1 time/min. or less		
	*4 DC	1 time/min. or less				1 time/2 mins. or less		
Weight kg	Bronze body	1.2	1.2	1.4	1.5	2.5	3.0	3.7
	Stainless steel body	1.2	1.2	1.4	1.5	2.6	3.1	3.8

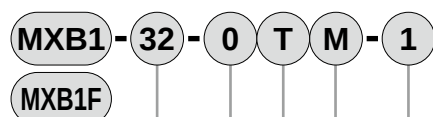
MXB1F (full bore) individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1F-15	MXB1F-20	MXB1F-25	MXB1F-32	MXB1F-40
Port size		Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂
Orifice size mm		15	20	25	32	40
Cv		23	51	66	114	176
Working pressure MPa		0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)				0 to 0.5
Response time sec	AC	10/8(50/60 Hz)		13/11(50/60 Hz)		
	DC	8		10.5		
Frequency	AC	2 times/min. or less		1 time/min. or less		
	*4 DC	1 time/min. or less		1 time/2 mins. or less		
Weight kg		1.4	1.5	2.5	3.0	3.7

*1 : Use the product within ±10% of the rated voltage.
 *2 : Current values at the rated voltage.
 *3 : MXB1-10 is a full bore.
 *4 : Be sure to observe the specified frequency of use.
 *5 : Consult with CKD for specifications not indicated above.

How to order



A Port size

B Body/seal material

C Other options

*1
*2

D Manual override
*3

E Voltage

				Model No.	
Code	Description			MXB1 (Standard bore)	MXB1F (Full bore)
A Port size					
10	Rc3/8	*4		●	
15	Rc1/2			●	●
20	Rc3/4			●	●
25	Rc1			●	●
32	Rc1 1/4			●	●
40	Rc1 1/2			●	●
50	Rc2			●	
B Body/seal material					
0	Body - bronze/seal - PTFE			●	●
H	Body - bronze/seal - reinforced PTFE			●	●
E	Body - stainless steel/seal - PTFE			●	
W	Body - stainless steel/seal - reinforced PTFE			●	
C Other options					
	Description	Applications	Remarks		
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-	●	●
T	3-conductor cable 0.75 mm ² (without signal output)	When output lead wire is not required	3-conductor cable used	●	●
B	With round terminal box (5 terminals)	When the lead wires are different in length	-	●	●
L	Round terminal box with lamp (Lit when open, 3 terminals)	Fully open confirmation by lamp	Lit only when fully open	●	●
R	Round terminal box with lamp (Lit when closed, 3 terminals)	Fully closed confirmation by lamp	Lit only when fully closed	●	●
D Manual override					
Blank	None			●	●
M	Manual override			●	●
E Voltage					
1	100 VAC(50/60 Hz)			●	●
2	200 VAC(50/60 Hz)			●	●
3	24 VDC			●	●
4	12 VDC			●	●

*1 : When selecting both without signal output (Item **C** T) and round terminal box (Item **C** B) as options, designate Item **C** as TB. A 3-terminal round terminal box will be provided.

*2 : Combination of Item **C** LR/TL/TR/BL/BR is not available.

*3 : When the manual override (Item **D** M) is selected, available port sizes are 32, 40 and 50 for MXB1. For MXB1F, available port sizes are 25, 32 and 40. Manual override is provided as standard with other port size.

*4 : When port size is 10, the valve is full bore but the model No. is MXB1.

[Example of model No.]

MXB1F-32-0TM-1

Model: MXB1F (full bore)

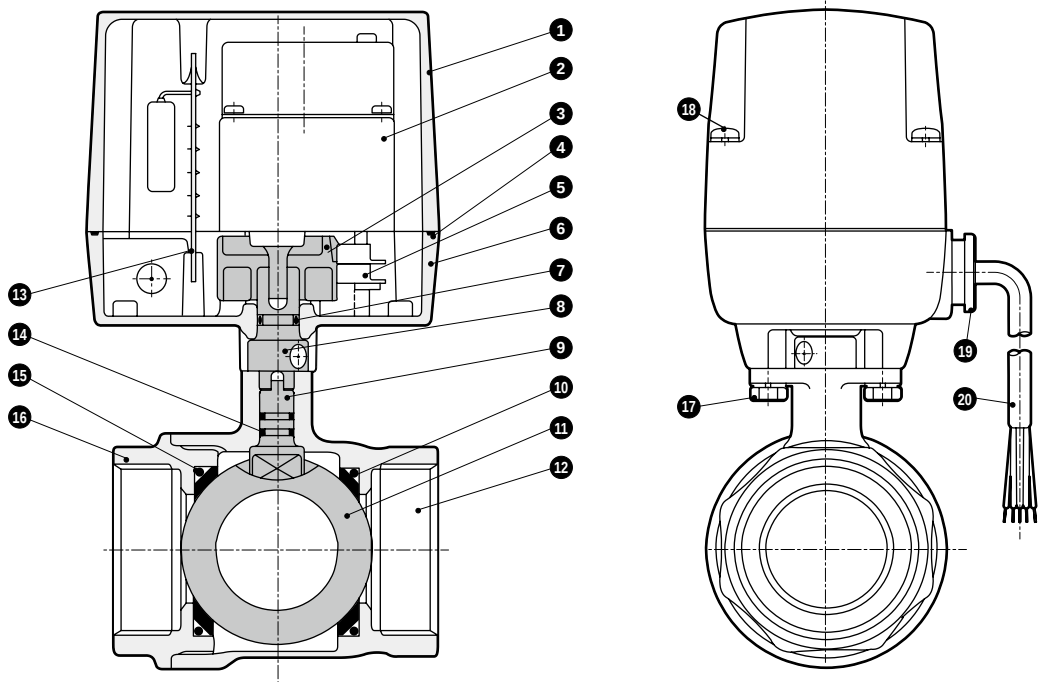
- A** Port size : Rc1 1/4
- B** Body/seal material : Body - bronze/seal - PTFE
- C** Other options : 3-conductor cable (without output lead wire)
- D** Manual override : Selected
- E** Voltage : 100 VAC (50/60 Hz)

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S ◇ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending

MXB1/MXB1F Series

Internal structure and parts list

● MXB1/MXB1F



No.	Part name	Material	No.	Part name	Material
1	Bonnet	ADC12 Aluminum die-casting	11	Valve ball	C3771(SUS304) Copper alloy *2 (stainless steel)
2	Geared motor	-	12	Body	CAC408/CAC407 (SCS13) Bronze casting (stainless steel casting)
3	Cam	PA Polyamide resin	13	P plate assembly	PF Phenolic resin
4	Gasket	NBR Nitrile rubber	14	O-ring *1	FKM/NBR Fluoro rubber/nitrile rubber
5	Micro switch	-	15	O-ring	FKM Fluoro rubber
6	Adaptor	ZDC2 Zinc alloy die-casting	16	Cap	CAC408/CAC407 (SCS13) Bronze casting (stainless steel casting)
7	O-ring	NBR Nitrile rubber	17	Hexagon head bolt	SWRM Carbon steel wire for cold rolling
8	Intermediate bush	SUS303 Stainless steel	18	Phillips pan head machine screw	SWRM Carbon steel wire for cold rolling
9	Shaft	SUS303(SUS304) Stainless steel (stainless steel)	19	Bushing	PF Phenolic resin
10	Ball seat	PTFE Tetrafluoroethylene resin	20	Cabtyre cable	0.5 mm ² , 5-conductor -

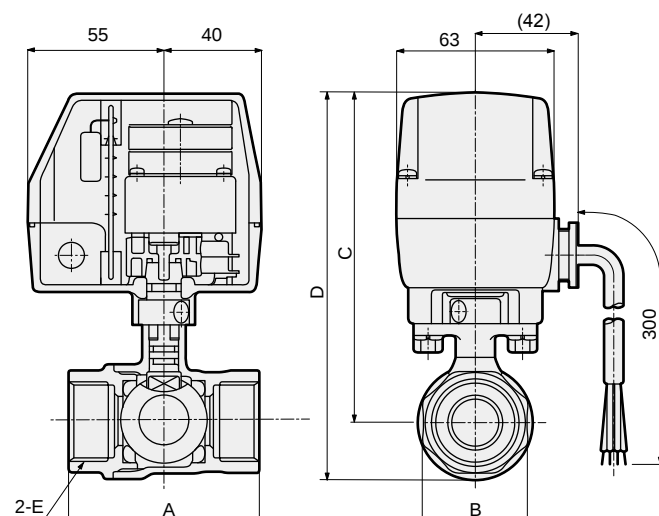
Materials shown in () are for stainless steel body.

*1 : The upper O-ring is NBR, and the lower is FKM. For stainless steel body, FKM is used for both upper and lower O rings.
*2 : Valve ball is hard chrome plated copper alloy.

Dimensions



- MXB1-10/15/20/25-*
- MXB1F-15/20-*

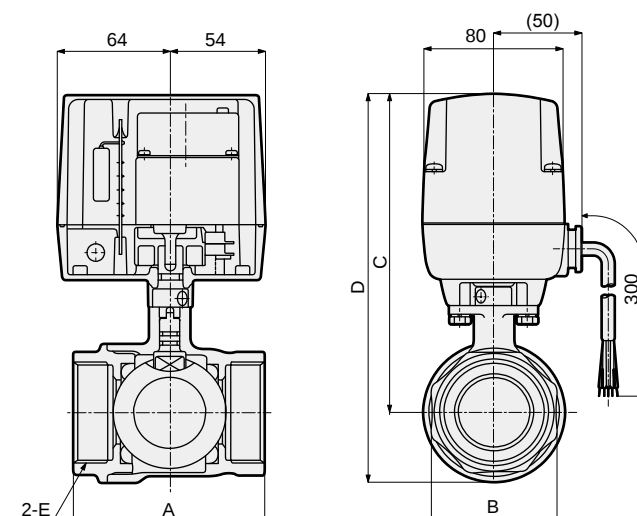


Cable length 300 mm

Model No.	A	B	C	D	E
MXB1-10-*	50(56)	24(28)	124.5	139.5(140.5)	Rc3/8
MXB1-15-*	56	28	124.5	139.5(140.5)	Rc1/2
MXB1-20-*	65	34	130.5	150(151)	Rc3/4
MXB1-25-*	76	41	133.5	156.5(157.5)	Rc1
MXB1F-15-*	65	28	130.5	150	Rc1/2
MXB1F-20-*	71	34	133.5	156.5	Rc3/4

*1 : Dimensions shown in () are for stainless steel body.

- MXB1-32/40/50-*
- MXB1F-25/32/40-*



Cable length 300 mm

Model No.	A	B	C	D	E
MXB1-32-*	84	50	166	193.5(195.5)	Rc1 1/4
MXB1-40-*	94	57	172	205.5(207.5)	Rc1 1/2
MXB1-50-*	108	70	181	220.5(221.5)	Rc2
MXB1F-25-*	84	41	166	193.5	Rc1
MXB1F-32-*	95	50	172	205.5	Rc1 1/4
MXB1F-40-*	107	57	181	220.5	Rc1 1/2

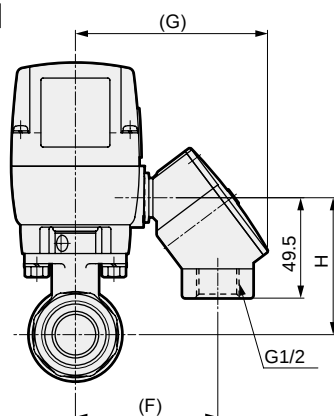
*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions C and D 22 mm longer.

*2 : Dimensions shown in () are for stainless steel body.

Optional dimensions



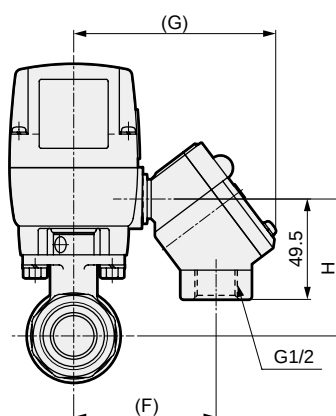
- With round terminal box
MXB1/MXB1F-[bore size]-***B**



Bore size		F	G	H
MXB1	MXB1F			
10	-	74	98	58.5
15	-	74	98	58.5
20	15	74	98	64.5
25	20	74	98	67.5
32	25	82	106	77.5 (*1)
40	32	82	106	83.5 (*1)
50	40	82	106	92.5 (*1)

*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions 22 mm longer.

- Round terminal box with lamp
MXB1/MXB1F-[bore size]-***L**
R



Bore size		F	G	H
MXB1	MXB1F			
10	-	74	102	58.5
15	-	74	102	58.5
20	15	74	102	64.5
25	20	74	102	67.5
32	25	82	110	77.5 (*1)
40	32	82	110	83.5 (*1)
50	40	82	110	92.5 (*1)

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S $\diamond$ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combust
Auto- Water
Outdoor
SpecFld
Custom
Ending



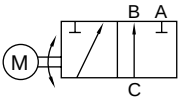
Motorized 3-port ball valve

MXG1 Series

● Port size: Rc1/2 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXG1					
Working fluid		Water, air, oil (500 mm ² /s or less)					
Working pressure MPa		0 to 1.0 (refer to the working pressure in the individual specifications.)					
Proof pressure (water pressure) MPa		2.0 (≈290 psi, 20 bar)					
Fluid temperature °C		0 (32°F) to 80 (176°F) (no freezing)					
Ambient temperature °C		-10 (14°F) to 50 (122°F)					
Ambient humidity %		95 or less					
Mounting orientation		From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)					
Pressurization direction		Port C pressurization only					
Degree of protection		IPX3 “rainproof” (standard and option T only)					
Electrical specifications		MXG1-15	MXG1-20	MXG1-25	MXG1-32	MXG1-40	MXG1-50
Rated voltage *1		100 VAC(50/60 Hz), 200 VAC(50/60 Hz), 12 VDC, 24 VDC					
Apparent power	VA	Operating	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)
			200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)
	Starting	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)	
		200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)	
Average current value	A	12 VDC	1.1			1.5	
		24 VDC	0.7			1.0	
Starting current	A	12 VDC	1.8 or less			3 or less	
		24 VDC	1.2 or less			2 or less	
Power consumption	W	AC	7			15	
		12 VDC	13			18	
		24 VDC	17			24	

Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXG1-15	MXG1-20	MXG1-25	MXG1-32	MXG1-40	MXG1-50
Port size		Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂	Rc2
Orifice size mm		10	14	19	23	30	38
Cv		3	6	11	16	28	47
Working pressure MPa		0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)					0 to 0.5
Response time sec	AC	20/16(50/60 Hz)			26/22(50/60 Hz)		
	DC	16			21		
Frequency *3	AC	1 time/min. or less			1 time/2 mins. or less		
	DC	1 time/2 mins. or less			1 time/5 mins. or less		
Weight kg	Bronze body	1.3	1.4	1.7	2.7	3.2	4.1
	S.S. body	1.3	1.4	1.7	2.8	3.3	4.2

*1 : Use the product within ±10% of the rated voltage.
*2 : Current values at the rated voltage.
*3 : Be sure to observe the specified frequency of use.
*4 : For specifications other than above, contact CKD separately.

How to order

MXG1-20-0-K-2

Model No.

A Port size

B Body/seal material

C Other options

*1

*2

D Voltage

Code	Description		
A Port size			
15	Rc1/2		
20	Rc3/4		
25	Rc1		
32	Rc1 ¹ / ₄		
40	Rc1 ¹ / ₂		
50	Rc2		
B Body/seal material			
0	Body - bronze/seal - PTFE		
H	Body - bronze/seal - reinforced PTFE		
E	Body - stainless steel/seal - PTFE		
W	Body - stainless steel/seal - reinforced PTFE		
C Other options			
	Description	Applications	Remarks
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-
T	3-conductor cable 0.75 mm ² (no sig output)	When output lead wire is not required	3-conductor cabtyre cable used
B	Round terminal box (5 terminals)	When lead wires have varied lengths	-
L	Round term box, lamp (Lit when A-C in operation, 3 term)	A-C path completion confirmation by lamp	Lit only when A-C path operation is complete
R	Round term box, lamp (Lit when B-C in operation, 3 term)	B-C path completion confirmation by lamp	Lit only when B-C path operation is complete
K	Multi-fluid (90° rotation switching) (Response time 1/2)	To remove load to pump	Fluids may mix somewhat during switching
D Voltage			
1	100 VAC(50/60 Hz)		
2	200 VAC(50/60 Hz)		
3	24 VDC		
4	12 VDC		

*1 : If several options of Item **C** are necessary, select from the following combinations. TB, TK, BK, LK, RK, TBK
TB means a 3-terminal round terminal box.

*2 : Combination of Item **C** LR/TL/TR/BL/BR is not available.

[Example of model No.]

MXG1-20-0K-2

Model: MXG1

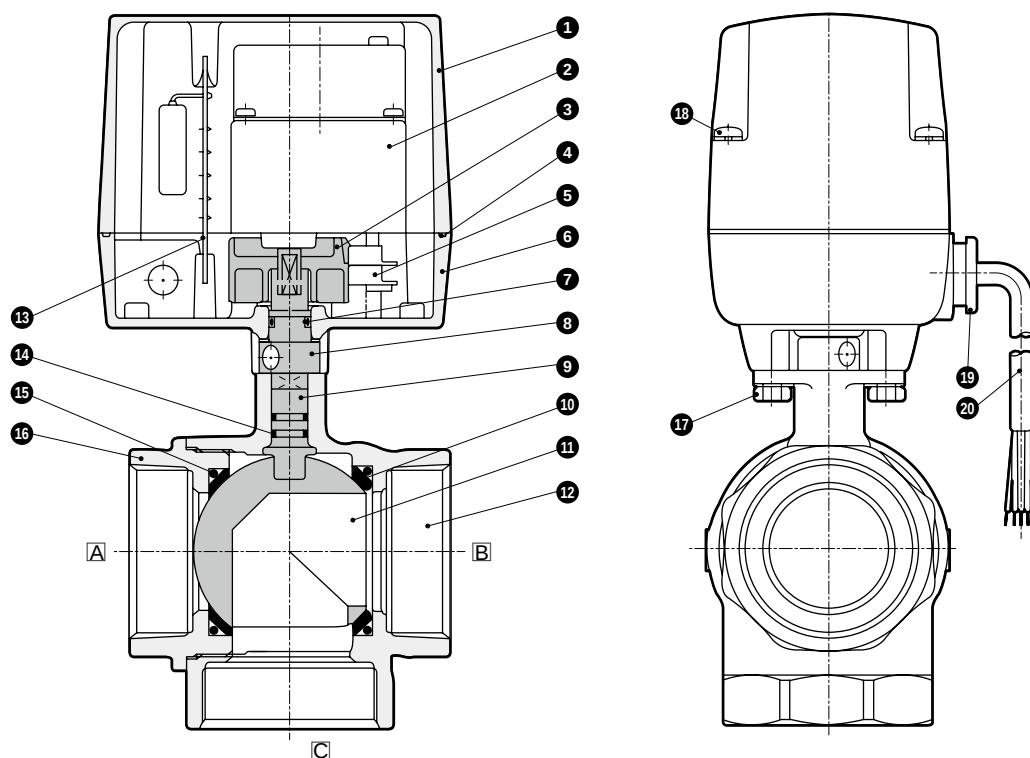
- A** Port size : Rc3/4
- B** Body/seal material : Body - bronze/seal - PTFE
- C** Other options : Multi-fluid (90° rotation switching, response time 1/2)
- D** Voltage : 200 VAC (50/60 Hz)

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S ◇ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S ◇ B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other
valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● MXG1



No.	Part name	Material	No.	Part name	Material
1	Bonnet	ADC12 Aluminum die-casting	11	Valve ball	C3771(SUS304) Copper alloy *2 (stainless steel)
2	Geared motor	-	12	Body	CAC408(SCS13) Bronze casting (stainless steel casting)
3	Cam	PA Polyamide resin	13	P plate assembly	PF Phenolic resin
4	Gasket	NBR Nitrile rubber	14	O-ring *1	FKM/NBR Fluoro rubber/nitrile rubber
5	Micro switch	-	15	O-ring	FKM Fluoro rubber
6	Adaptor	ZDC2 Zinc alloy die-casting	16	Cap	CAC408(SCS13) Bronze casting (stainless steel casting)
7	O-ring	NBR Nitrile rubber	17	Hexagon head bolt	SWCH Carbon steel wire for cold rolling
8	Intermediate bush	SUS303 Stainless steel	18	Phillips pan head machine screw	SWCH Carbon steel wire for cold rolling
9	Shaft	SUS303(SUS304) Stainless steel (stainless steel)	19	Bushing	PF Phenolic resin
10	Ball seat	PTFE Tetrafluoroethylene resin	20	Cabtyre cable	0.5 mm ² , 5-conductor -

Materials shown in () are for stainless steel body.

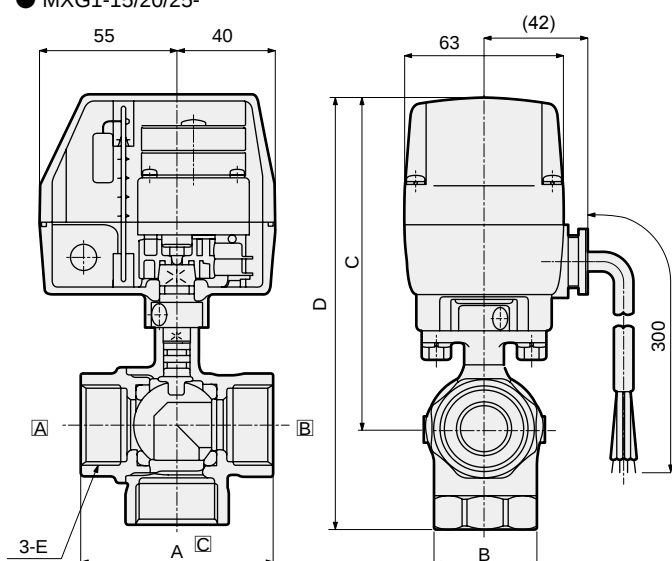
*1 : The upper O-ring is NBR, and the lower is FKM. For stainless steel body, FKM is used for both upper and lower O rings.

*2 : Valve ball is hard chrome plated copper alloy.

Dimensions



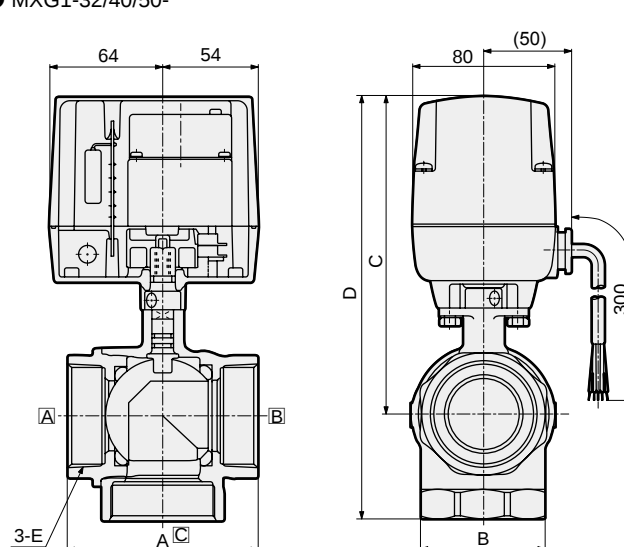
● MXG1-15/20/25-*



Cable length 300 mm

Model No.	A	B	C	D	E
MXG1-15-*	56	28	124.5	154.5	Rc1/2
MXG1-20-*	65	34	130.5	166.5	Rc3/4
MXG1-25-*	76	41	133.5	175.5	Rc1

● MXG1-32/40/50-*



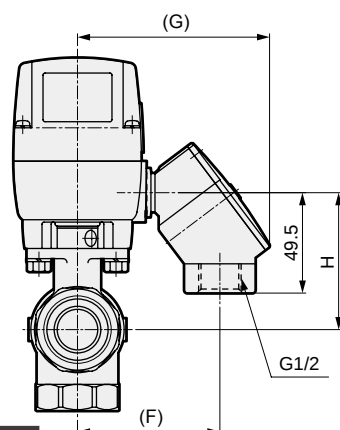
Cable length 300 mm

Model No.	A	B	C	D	E
MXG1-32-*	84	50	166	213	Rc1 1/4
MXG1-40-*	94	57	172	225	Rc1 1/2
MXG1-50-*	108	70	181	242	Rc2

Optional dimensions

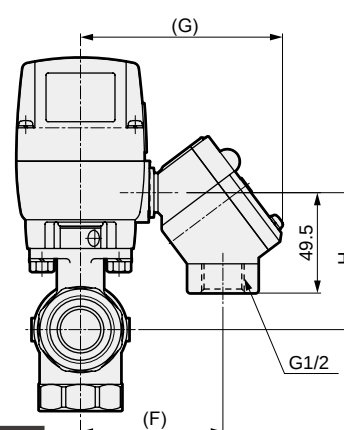


● With round terminal box MXG1-[bore size]-* [B]



Bore size	F	G	H
15	74	98	58.5
20	74	98	64.5
25	74	98	67.5
32	82	106	77.5
40	82	106	83.5
50	82	106	92.5

● Round terminal box with lamp MXG1-[bore size]-* [L/R]



Bore size	F	G	H
15	74	102	58.5
20	74	102	64.5
25	74	102	67.5
32	82	110	77.5
40	82	110	83.5
50	82	110	92.5

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending



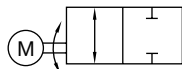
Motorized 2-port ball valve with relay

MXB1D/MXB1DF Series

● Port size: Rc3/8 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1D (standard bore)/MXB1DF (full bore)						
Working fluid		Water, air, oil (500 mm ² /s or less)						
Working pressure MPa		0 to 1.0 (refer to the working pressure in the individual specifications.)						
Proof pressure (water pressure) MPa		2.0 (≈290 psi, 20 bar)						
Fluid temperature °C		0 (32°F) to 80 (176°F) (no freezing)						
Ambient temperature °C		-10 (14°F) to 50 (122°F)						
Ambient humidity %		95 or less						
Mounting orientation		From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)						
Pressurization direction		Arbitrary						
Degree of protection		IPX3 “rainproof” (standard and option T only)						
Electrical specifications		MXB1D-10	MXB1D-15	MXB1D-20	MXB1D-25	MXB1D-32	MXB1D-40	MXB1D-50
		MXB1DF-15		MXB1DF-20		MXB1DF-25	MXB1DF-32	MXB1DF-40
Rated voltage		*1 100 VAC(50/60 Hz), 200 VAC(50/60 Hz)						
Apparent power	VA	Operating When starting	100 VAC	6.0/6.8(50/60 Hz)			14/16(50/60 Hz)	
			200 VAC	6.6/7.2(50/60 Hz)			14/16(50/60 Hz)	
			100 VAC	6.0/6.8(50/60 Hz)			14/16(50/60 Hz)	
			200 VAC	6.6/7.2(50/60 Hz)			14/16(50/60 Hz)	
Power consumption		W	8			16		

MXB1D (standard bore) individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1D-10 ^{*2}	MXB1D-15	MXB1D-20	MXB1D-25	MXB1D-32	MXB1D-40	MXB1D-50
Port size		Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂	Rc2
Orifice size mm		10	10	15	20	25	32	40
Cv		10	6	16	29	50	98	125
Working pressure MPa		0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)						0 to 0.5
Response time sec	50 Hz	10			13			
	60 Hz	8			11			
Frequency		2 times/min. or less			1 time/min. or less			
Weight kg	Bronze body	1.2	1.3	1.4	1.6	2.6	3.0	3.8
	Stainless steel body	1.2	1.3	1.4	1.6	2.7	3.1	3.9

MXB1DF (full bore) individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1DF-15	MXB1DF-20	MXB1DF-25	MXB1DF-32	MXB1DF-40
Port size		Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂
Orifice size mm		15	20	25	32	40
Cv		23	51	66	114	176
Working pressure MPa		0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)				0 to 0.5
Response time sec	50 Hz	10			13	
	60 Hz	8			11	
Frequency		2 times/min. or less			1 time/min. or less	
Weight kg		1.4	1.6	2.6	3.0	3.8

*1 : Use the product within ±10% of the rated voltage.

*2 : MXB1D-10 is a full bore.

*3 : Be sure to observe the specified frequency of use.

*4 : Consult with CKD for specifications not indicated above.

How to order

MXB1D - 32 - 0 T M - 1
MXB1DF

Model No.

A Port size

B Body/seal material

C Other options

*1

*2

D Manual override

*3

E Voltage

		Model No.			
Code	Description	MXB1D (Standard bore)	MXB1DF (Full bore)		
A Port size					
10	Rc3/8	*4	●		
15	Rc1/2		●		
20	Rc3/4		●		
25	Rc1		●		
32	Rc1 ^{1/4}		●		
40	Rc1 ^{1/2}		●		
50	Rc2		●		
B Body/seal material					
0	Body - bronze/seal - PTFE	●	●		
H	Body - bronze/seal - reinforced PTFE	●	●		
E	Body - stainless steel/seal - PTFE	●			
W	Body - stainless steel/seal - reinforced PTFE	●			
C Other options					
	Description	Applications	Remarks		
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-	●	●
T	3-conductor cable 0.75 mm ² (without signal output)	When output lead wire is not required	3-conductor cabtyre cable used	●	●
B	Round terminal box (5 terminals)	When the lead wires are different in length	-	●	●
L	Round terminal box with lamp (lit when open, 3 terminals)	Fully open confirmation by lamp	Lit only when fully open	●	●
R	Round terminal box with lamp (lit when closed, 3 terminals)	Fully closed confirmation by lamp	Lit only when fully closed	●	●
D Manual override					
Blank	None			●	●
M	Manual override			●	●
E Voltage					
1	100 VAC(50/60 Hz)			●	●
2	200 VAC(50/60 Hz)			●	●

*1 : When selecting both without signal output (Item C T) and round terminal box (Item C B) as options, designate Item C as TB. A 3-terminal round terminal box will be provided.

*2 : Combination of Item C LR/TL/TR/BL/BR is not available.

*3 : When the manual override (Item D M) is selected, available port sizes are 32, 40 and 50 for MXB1D. For MXB1DF, available port sizes are 25, 32 and 40. Manual override is provided as standard with other port size.

*4 : When port size is 10, the valve is full bore but the model No. is MXB1D.

[Example of model No.]

MXB1DF-32-0TM-1

Model: MXB1DF (full bore)

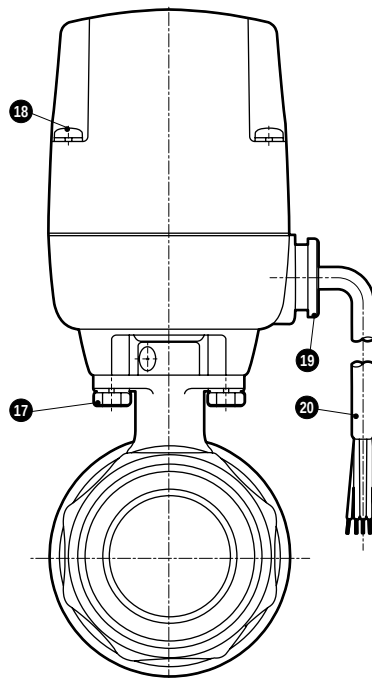
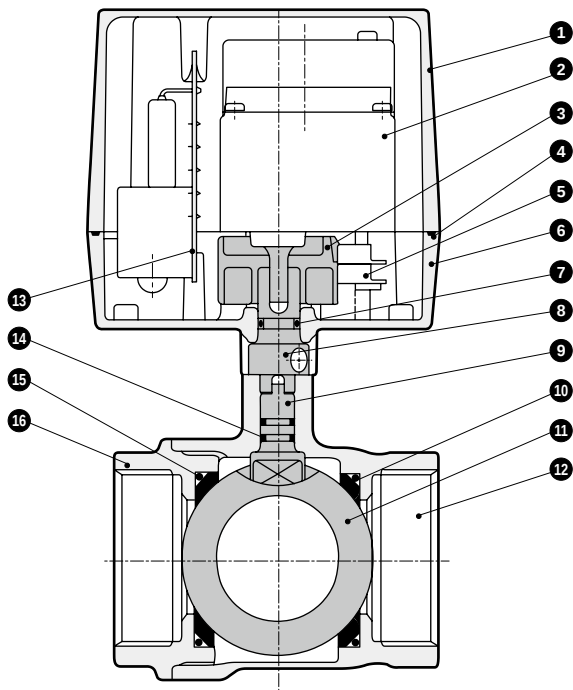
- A Port size : Rc1^{1/4}
- B Body/seal material : Body - bronze/seal - reinforced PTFE
- C Other options : 3-conductor cable (without output lead wire)
- D Manual override : Selected
- E Voltage : 100 VAC (50/60 Hz)

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other
valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

MXB1D/MXB1DF Series

Internal structure and parts list

● MXB1D/MXB1DF



No.	Part name	Material	No.	Part name	Material
1	Bonnet	ADC12 Aluminum die-casting	11	Valve ball	C3771(SUS304) Copper alloy *2 (stainless steel)
2	Geared motor	-	12	Body	CAC408/CAC407 (SCS13) Bronze casting (stainless steel casting)
3	Cam	PA Polyamide resin	13	P plate assembly	PF Phenolic resin
4	Gasket	NBR Nitrile rubber	14	O-ring *1	FKM/NBR Fluoro rubber/nitrile rubber
5	Micro switch	-	15	O-ring	FKM Fluoro rubber
6	Adaptor	ZDC2 Zinc alloy die-casting	16	Cap	CAC408/CAC407 (SCS13) Bronze casting (stainless steel casting)
7	O-ring	NBR Nitrile rubber	17	Hexagon head bolt	SWCH Carbon steel wire for cold rolling
8	Intermediate bush	SUS303 Stainless steel	18	Phillips pan head machine screw	SWCH Carbon steel wire for cold rolling
9	Shaft	SUS303(SUS304) Stainless steel (stainless steel)	19	Bushing	PF Phenolic resin
10	Ball seat	PTFE Tetrafluoroethylene resin	20	Cable	0.5 mm ² , 5-conductor

Materials shown in () are for stainless steel body.

*1 : The upper O-ring is NBR, and the lower is FKM. For stainless steel body, FKM is used for both upper and lower O rings.

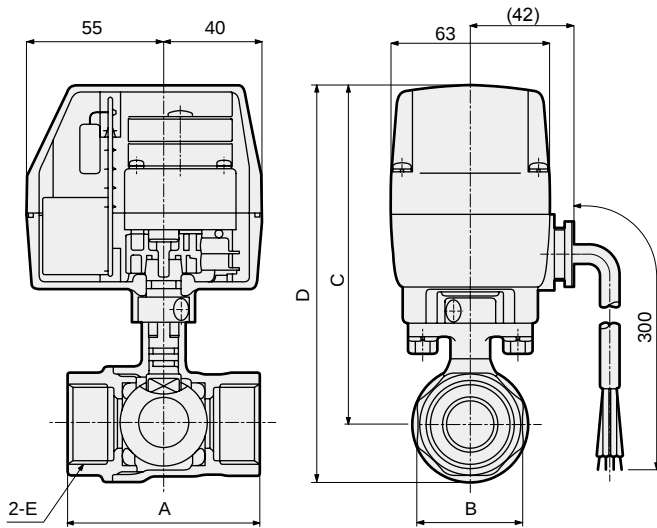
*2 : Valve ball is hard chrome plated copper alloy.

MXB1D/MXB1DF Series

Dimensions



- MXB1D-10/15/20/25-*
- MXB1DF-15/20-*

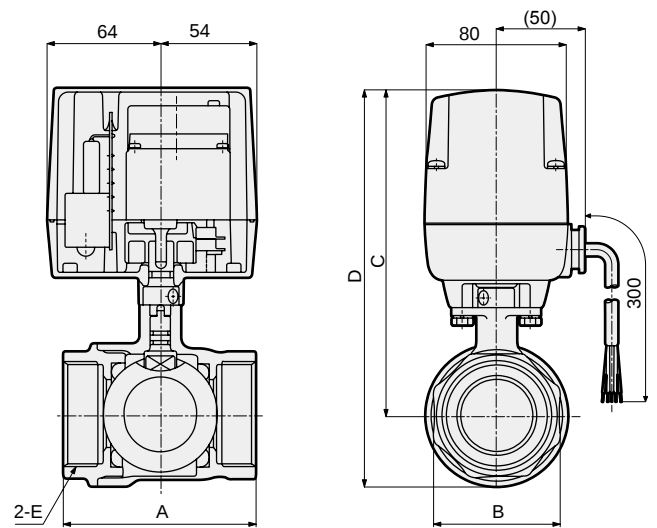


Cable length 300 mm

Model No.	A	B	C	D	E
MXB1D-10-*	50(56)	24(28)	124.5	139.5(140.5)	Rc3/8
MXB1D-15-*	56	28	124.5	139.5(140.5)	Rc1/2
MXB1D-20-*	65	34	130.5	150(151)	Rc3/4
MXB1D-25-*	76	41	133.5	156.5(157.5)	Rc1
MXB1DF-15-*	65	28	130.5	150	Rc1/2
MXB1DF-20-*	71	34	133.5	156.5	Rc3/4

*1 : Dimensions shown in () are for stainless steel body.

- MXB1D-32/40/50-*
- MXB1DF-25/32/40-*



Cable length 300 mm

Model No.	A	B	C	D	E
MXB1D-32-*	84	50	166	193.5(195.5)	Rc1¼
MXB1D-40-*	94	57	172	205.5(207.5)	Rc1½
MXB1D-50-*	108	70	181	220.5(221.5)	Rc2
MXB1DF-25-*	84	41	166	193.5	Rc1
MXB1DF-32-*	95	50	172	205.5	Rc1¼
MXB1DF-40-*	107	57	181	220.5	Rc1½

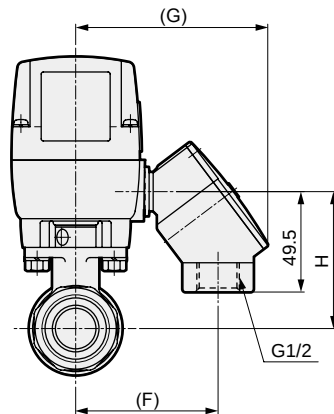
*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions C and D 22 mm longer.

*2 : Dimensions shown in () are for stainless steel body.

Optional dimensions



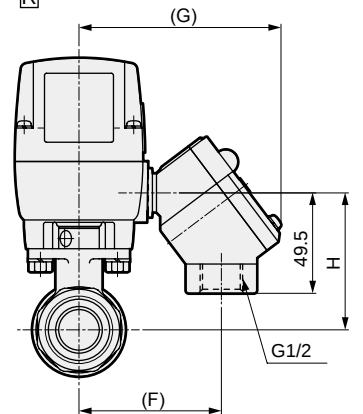
- With round terminal box
MXB1D/MXB1DF-[bore size]-* [B]



Bore size		F	G	H
MXB1D	MXB1DF			
10	-	74	98	58.5
15	-	74	98	58.5
20	15	74	98	64.5
25	20	74	98	67.5
32	25	82	106	77.5 (*1)
40	32	82	106	83.5 (*1)
50	40	82	106	92.5 (*1)

*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions 22 mm longer.

- Round terminal box with lamp
MXB1D/MXB1DF-[bore size]-* [L/R]



Bore size		F	G	H
MXB1D	MXB1DF			
10	-	74	102	58.5
15	-	74	102	58.5
20	15	74	102	64.5
25	20	74	102	67.5
32	25	82	110	77.5 (*1)
40	32	82	110	83.5 (*1)
50	40	82	110	92.5 (*1)

*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions 22 mm longer.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending



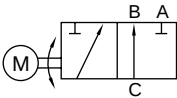
Motorized 3-port ball valve with relay

MXG1D Series

● Port size: Rc1/2 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXG1D						
Working fluid		Water, air, oil (500 mm ² /s or less)						
Working pressure MPa		0 to 1.0 (refer to the working pressure in the individual specifications.)						
Proof pressure (water pressure) MPa		2.0 (≈290 psi, 20 bar)						
Fluid temperature °C		0 (32°F) to 80 (176°F) (no freezing)						
Ambient temperature °C		-10 (14°F) to 50 (122°F)						
Ambient humidity %		95 or less						
Mounting orientation		From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)						
Pressurization direction		Port C pressurization only						
Degree of protection		IPX3 “rainproof” (standard and option T only)						
Electrical specifications		MXG1D-15	MXG1D-20	MXG1D-25	MXG1D-32	MXG1D-40	MXG1D-50	
Rated voltage *1		100 VAC(50/60 Hz), 200 VAC(50/60 Hz)						
Apparent power	VA	Operating	100 VAC		6.0/6.8(50/60 Hz)		14/16(50/60 Hz)	
			200 VAC		6.6/7.2(50/60 Hz)		14/16(50/60 Hz)	
		When starting	100 VAC		6.0/6.8(50/60 Hz)		14/16(50/60 Hz)	
			200 VAC		6.6/7.2(50/60 Hz)		14/16(50/60 Hz)	
Power consumption W		8			16			

Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXG1D-15	MXG1D-20	MXG1D-25	MXG1D-32	MXG1D-40	MXG1D-50
Port size		Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂	Rc2
Orifice size mm		10	14	19	23	30	38
Cv		3	6	11	16	28	47
Working pressure MPa		0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)					0 to 0.5
Response time sec	50 Hz	20			26		
	60 Hz	16			22		
Frequency		*2 1 time/min. or less			1 time/2 mins. or less		
Weight kg	Bronze body	1.3	1.5	1.7	2.7	3.3	4.2
	Stainless steel body	1.3	1.5	1.7	2.8	3.4	4.3

*1 : Use the product within ±10% of the rated voltage.

*2 : Be sure to observe the specified frequency of use.

*3 : For specifications other than above, contact CKD separately.

How to order

MXG1D - 20 - 0 - K - 2

Model No.

A Port size

B Body/seal material

C Other options

*1

*2

D Voltage

Code	Description		
A Port size			
15	Rc1/2		
20	Rc3/4		
25	Rc1		
32	Rc1 ¹ / ₄		
40	Rc1 ¹ / ₂		
50	Rc2		
B Body/seat material			
0	Body - bronze/seat - PTFE		
H	Body - bronze/seat - reinforced PTFE		
E	Body - stainless steel/seat - PTFE		
W	Body - stainless steel/seat - reinforced PTFE		
C Other options			
	Description	Applications	Remarks
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-
T	3-conductor cable 0.75 mm ² (no sig output)	When output lead wire is not required	3-conductor cabtyre cable used
B	Round terminal box (5 terminals)	When lead wires have varied lengths	-
L	Round term box, lamp (Lit when A-C in operation, 3 term)	A-C path completion confirmation by lamp	Lit only when A-C path operation is complete
R	Round term box, lamp (Lit when B-C in operation, 3 term)	B-C path completion confirmation by lamp	Lit only when B-C path operation is complete
K	Multi-fluid (90° rotation switching) (Response time 1/2)	To remove load to pump	Fluids may mix somewhat during switching
D Voltage			
1	100 VAC(50/60 Hz)		
2	200 VAC(50/60 Hz)		

*1 : If several options of Item **C** are necessary, select from the following combinations
TB, TK, BK, LK, RK, TBK

TB means a 3-terminal round terminal box.

*2 : Combination of Item **C** LR/TL/TR/BL/BR is not available.

[Example of model No.]

MXG1D-20-0K-2

Model: MXG1D

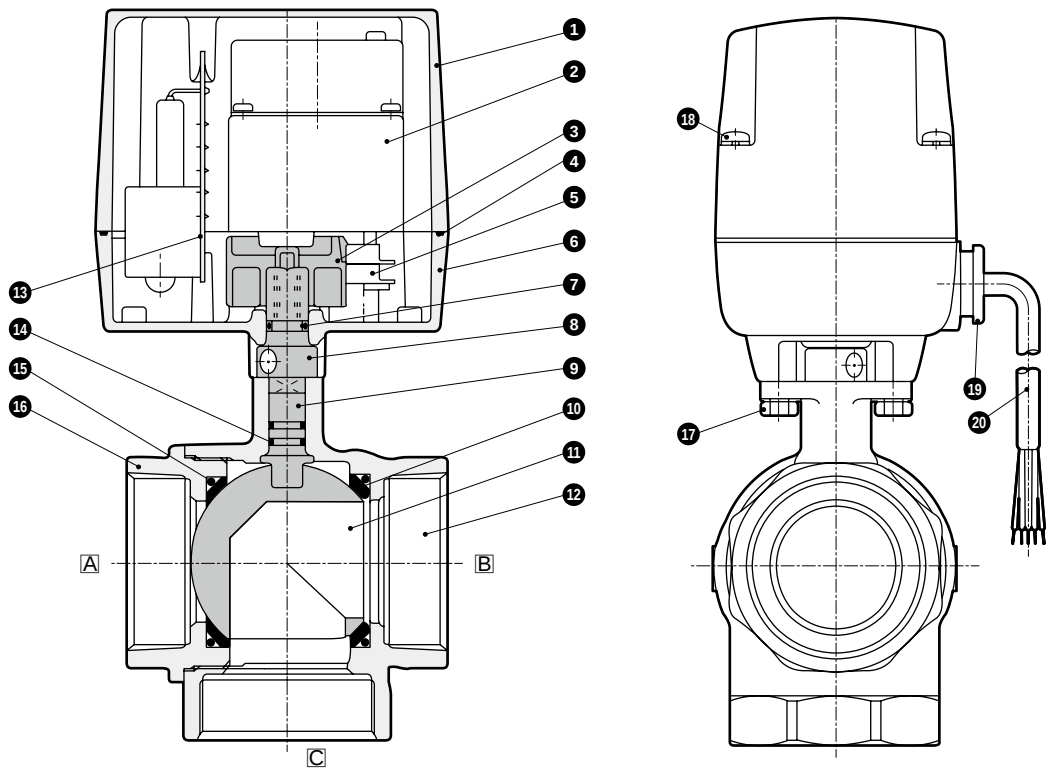
- A** Port size : Rc3/4
- B** Body/seal material: Body - bronze/seal - PTFE
- C** Other options : Multi-fluid (90° rotation switching, response time 1/2)
- D** Voltage : 200 VAC (50/60 Hz)

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S ◇ B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

MXG1D Series

Internal structure and parts list

● MXG1D



No.	Part name	Material	No.	Part name	Material
1	Bonnet	ADC12 Aluminum die-casting	11	Valve ball	C3771(SUS304) Copper alloy *2 (stainless steel)
2	Geared motor	-	12	Body	CAC408(SCS13) Bronze casting (stainless steel casting)
3	Cam	PA Polyamide resin	13	P plate assembly	PF Phenolic resin
4	Gasket	NBR Nitrile rubber	14	O-ring *1	FKM/NBR Fluoro rubber/nitrile rubber
5	Micro switch	-	15	O-ring	FKM Fluoro rubber
6	Adaptor	ZDC2 Zinc alloy die-casting	16	Cap	CAC408(SCS13) Bronze casting (stainless steel casting)
7	O-ring	NBR Nitrile rubber	17	Hexagon head bolt	SWCH Carbon steel wire for cold rolling
8	Intermediate bush	SUS303 Stainless steel	18	Phillips pan head machine screw	SWCH Carbon steel wire for cold rolling
9	Shaft	SUS303(SUS304) Stainless steel (stainless steel)	19	Bushing	PF Phenolic resin
10	Ball seat	PTFE Tetrafluoroethylene resin	20	Cabtyre cable	0.5 mm ² , 5-conductor

Materials shown in () are for stainless steel body.

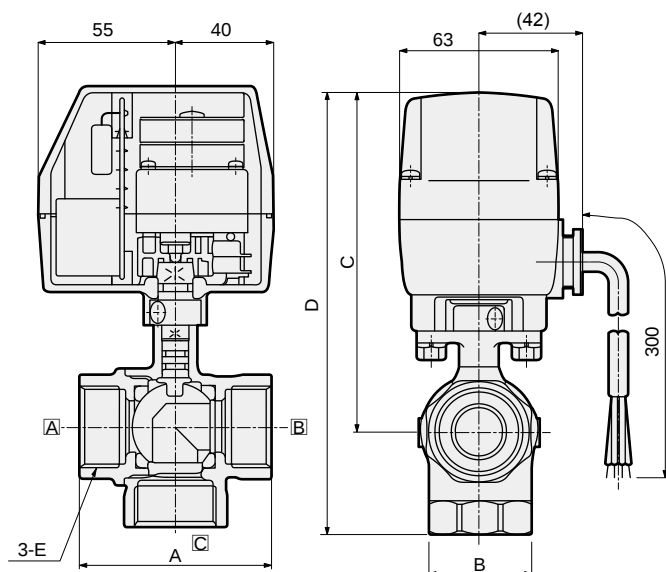
*1 : The upper O-ring is NBR, and the lower is FKM. For stainless steel body, FKM is used for both upper and lower O rings.

*2 : Valve ball is hard chrome plated copper alloy.

Dimensions



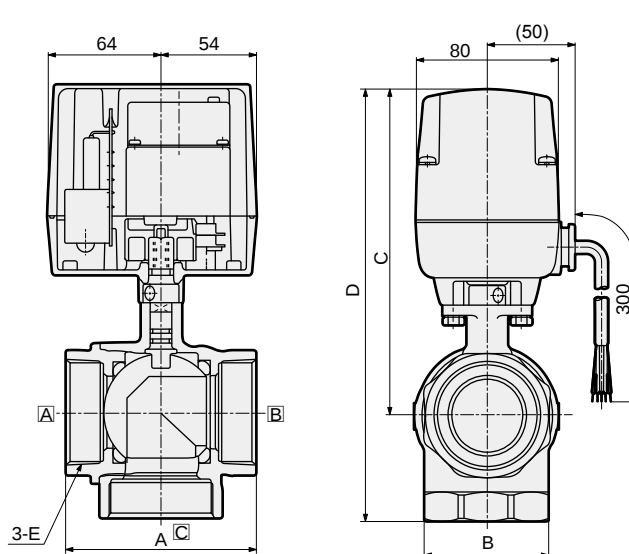
● MXG1D-15/20/25-*



Cable length 300 mm

Model No.	A	B	C	D	E
MXG1D-15-*	56	28	124.5	154.5	Rc1/2
MXG1D-20-*	65	34	130.5	166.5	Rc3/4
MXG1D-25-*	76	41	133.5	175.5	Rc1

● MXG1D-32/40/50-*



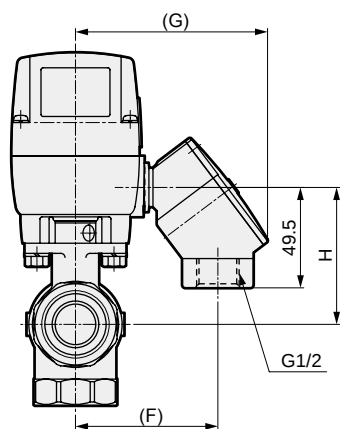
Cable length 300 mm

Model No.	A	B	C	D	E
MXG1D-32-*	84	50	166	213	Rc1 1/4
MXG1D-40-*	94	57	172	225	Rc1 1/2
MXG1D-50-*	108	70	181	242	Rc2

Optional dimensions

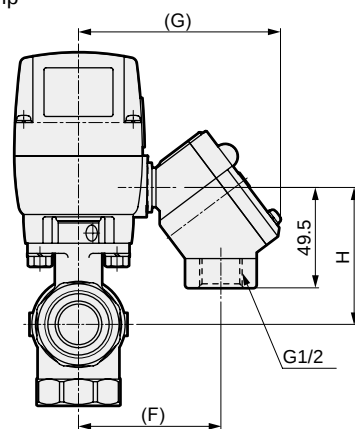


● With round terminal box MXG1D-[bore size]-* [B]



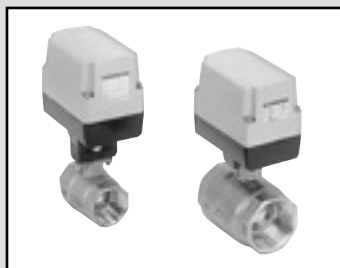
Bore size	F	G	H
15	74	98	58.5
20	74	98	64.5
25	74	98	67.5
32	82	106	77.5
40	82	106	83.5
50	82	106	92.5

● Round terminal box with lamp MXG1D-[bore size]-* [L/R]



Bore size	F	G	H
15	74	102	58.5
20	74	102	64.5
25	74	102	67.5
32	82	110	77.5
40	82	110	83.5
50	82	110	92.5

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S $\diamond$ B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending



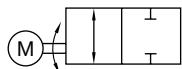
Oil-prohibited motorized 2-port ball valve

MXB1-N/MXB1D-N Series

● Port size: Rc3/8 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	MXB1 (standard)/MXB1D (with relay)
Working fluid	Water, air
Working pressure MPa	0 to 1.0 (refer to the working pressure in the individual specifications.)
Proof pressure (water pressure) MPa	2.0 (≈290 psi, 20 bar)
Fluid temperature °C	0 (32°F) to 80 (176°F) (no freezing)
Ambient temperature °C	-10 (14°F) to 50 (122°F)
Ambient humidity %	95 or less
Mounting orientation	From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)
Pressurization direction	Arbitrary
Degree of protection	IPX3 "rainproof" (standard and option T only)

Electrical specifications

Item			MXB1-10	MXB1-15	MXB1-20	MXB1-25	MXB1-32	MXB1-40	MXB1-50
Rated voltage			*1 100 VAC(50/60 Hz), 200 VAC(50/60 Hz), 12 VDC, 24 VDC						
Apparent power	VA	Operating	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)		
			200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)		
		Starting	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)		
			200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)		
Average current value	A	*1 12 VDC	1.1			1.5			
		*2 24 VDC	0.7			1.0			
Starting current	A	*1 12 VDC	1.8 or less			3 or less			
		*2 24 VDC	1.2 or less			2 or less			
Power consumption	W	AC	7			15			
		12 VDC	13			18			
		24 VDC	17			24			
Item			MXB1D-10	MXB1D-15	MXB1D-20	MXB1D-25	MXB1D-32	MXB1D-40	MXB1D-50
Rated voltage			*1 100 VAC(50/60 Hz), 200 VAC(50/60 Hz)						
Apparent power	VA	Operating	100 VAC	6.0/6.8(50/60 Hz)			14/16(50/60 Hz)		
			200 VAC	6.6/7.2(50/60 Hz)			14/16(50/60 Hz)		
		Starting	100 VAC	6.0/6.8(50/60 Hz)			14/16(50/60 Hz)		
			200 VAC	6.6/7.2(50/60 Hz)			14/16(50/60 Hz)		
Power consumption		W	8			16			

Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXB1-10	MXB1-15	MXB1-20	MXB1-25	MXB1-32	MXB1-40	MXB1-50
		MXB1D-10	MXB1D-15	MXB1D-20	MXB1D-25	MXB1D-32	MXB1D-40	MXB1D-50
Port size		Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 ^{1/4}	Rc1 ^{1/2}	Rc2
Orifice size	mm	10	10	15	20	25	32	40
Cv		10	6	16	29	50	98	125
Working pressure	MPa	0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)						0 to 0.5
Response time	sec	AC			10/8(50/60 Hz)			13/11(50/60 Hz)
					8			10.5
Frequency		AC			2 times/min. or less			1 time/min. or less
	*3				DC			1 time/2 mins. or less
Weight	kg	MXB1	1.2	1.2	1.4	1.5	2.6	3.1
		MXB1D	1.2	1.3	1.4	1.6	2.7	3.1

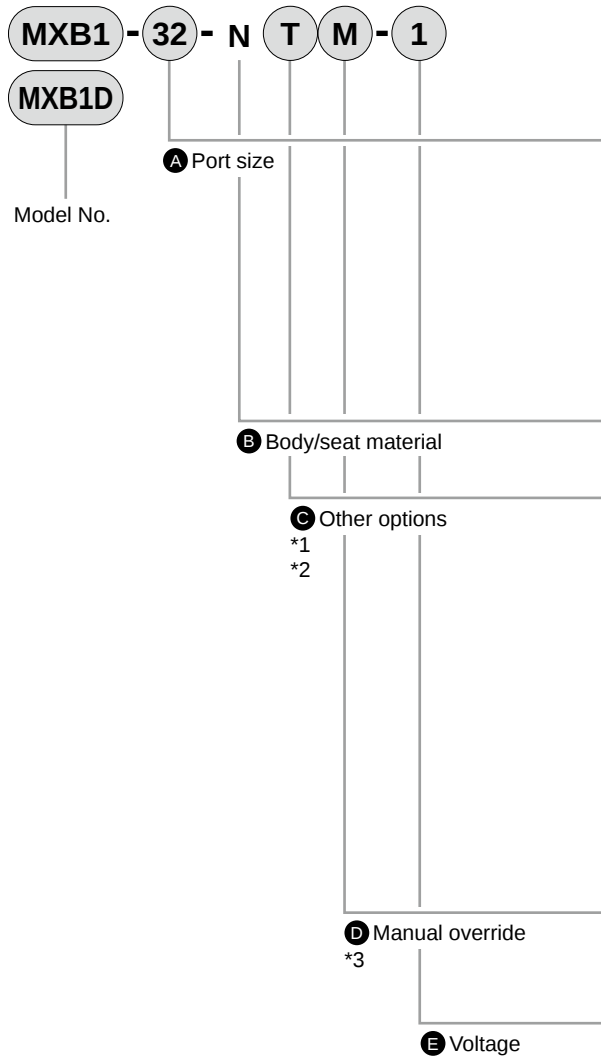
*1 : Use the product within ±10% of the rated voltage.

*2 : Current values at the rated voltage.

*3 : Be sure to observe the specified frequency of use.

*4 : Consult with CKD for specifications not indicated above.

How to order



		Model No.			
Code	Description	MXB1	MXB1D		
A Port size					
10	Rc3/8	●	●		
15	Rc1/2	●	●		
20	Rc3/4	●	●		
25	Rc1	●	●		
32	Rc1 ¹ / ₄	●	●		
40	Rc1 ¹ / ₂	●	●		
50	Rc2	●	●		
B Body/seal material					
N	Body - stainless steel/seal - PTFE/oil-prohibited specifications	●	●		
C Other options					
	Description	Applications	Remarks		
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-	●	●
T	3-conductor cable 0.75 mm ² (without signal output)	When output lead wire is not required	3-conductor cabtyre cable used	●	●
B	With round terminal box (5 terminals)	When the lead wires are different in length	-	●	●
L	Round terminal box with lamp (lit when open, 3 terminals)	Fully open confirmation by lamp	Lit only when fully open	●	●
R	Round terminal box with lamp (lit when closed, 3 terminals)	Fully closed confirmation by lamp	Lit only when fully closed	●	●
D Manual override					
Blank	None			●	●
M	Manual override			●	●
E Voltage					
1	100 VAC(50/60 Hz)			●	●
2	200 VAC(50/60 Hz)			●	●
3	24 VDC			●	
4	12 VDC			●	

*1 : When selecting both without signal output (Item **C** T) and round terminal box (Item **C** B) as options, designate Item **C** as TB. A 3-terminal round terminal box will be provided.

*2 : Combination of Item **D** LR/TL/TR/BL/BR is not available.

*3 : When the manual override (Item **C** M) is selected, available port sizes are 32, 40 and 50. Manual override is provided as standard with other port size.

[Example of model No.]

MXB1-32-NTM-1

Model: MXB1 (standard)

- A** Port size : Rc1¹/₄
- B** Body material : Body - stainless steel/seal - PTFE/oil-prohibited specifications
- C** Other options : 3-conductor cable (without output lead wire)
- D** Manual override : Selected
- E** Voltage : 100 VAC (50/60 Hz)

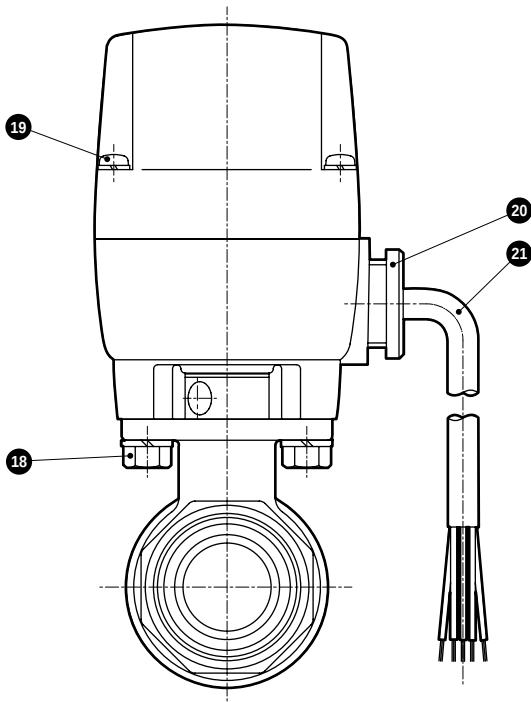
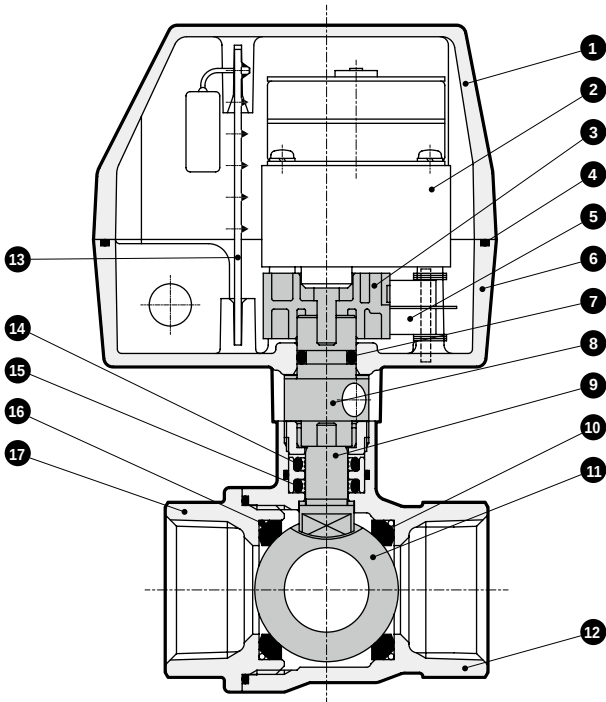
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S [◇] B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

MXB1-N/MXB1D-N Series

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S ◇ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● MXB1/MXB1D



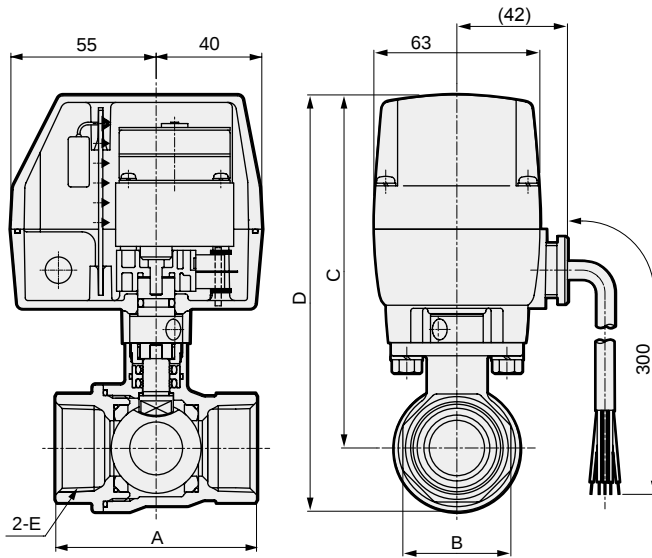
No.	Part name	Material		No.	Part name	Material	
1	Bonnet	ADC12	Aluminum die-casting	11	Valve ball	SUS304	Stainless steel
2	Geared motor	-	-	12	Body	SCS13	Stainless steel casting
3	Cam	PA	Polyamide resin	13	P plate assembly	PF	Phenolic resin
4	Gasket	NBR	Nitrile rubber	14	O-ring	FKM	Fluoro rubber
5	Micro switch	-	-	15	Seal ring	UHMW-PE	Ultra-high molecular weight polyethylene
6	Adaptor	ZDC2	Zinc alloy die-casting	16	O-ring	FKM	Fluoro rubber
7	O-ring	NBR	Nitrile rubber	17	Cap	SCS13	Stainless steel casting
8	Intermediate bush	SUS303	Stainless steel	18	Hexagon head bolt	SWCH	Carbon steel wire for cold rolling
9	Shaft	SUS304	Stainless steel	19	Phillips pan head machine screw	SWCH	Carbon steel wire for cold rolling
10	Ball seat	PTFE	Tetrafluoroethylene resin	20	Bushing	PF	Phenolic resin
				21	Cabtyre cable	0.5 mm ² , 5-conductor	-

MXB1-N/MXB1D-N Series

Dimensions



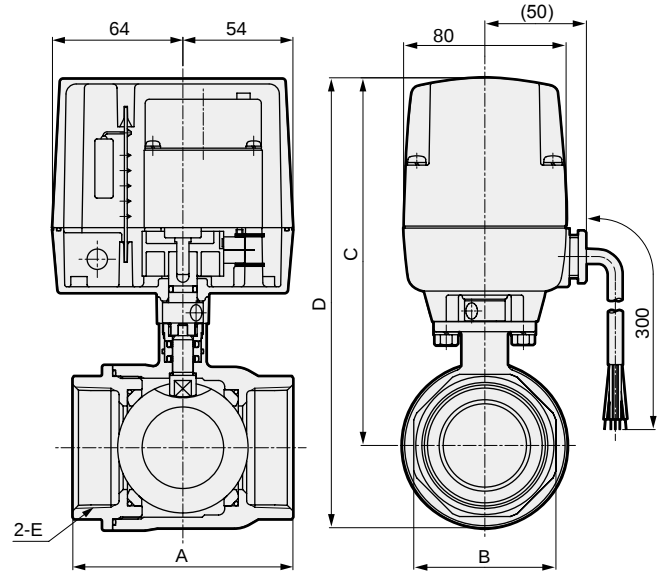
● MXB1/MXB1D-10/15/20/25-N



Cable length 300 mm

Model No.	A	B	C	D	E
MXB1(D)-10-N	56	28	124.5	140.5	Rc3/8
MXB1(D)-15-N	56	28	124.5	140.5	Rc1/2
MXB1(D)-20-N	65	34	130.5	151	Rc3/4
MXB1(D)-25-N	76	41	133.5	157.5	Rc1

● MXB1/MXB1D-32/40/50-N



Cable length 300 mm

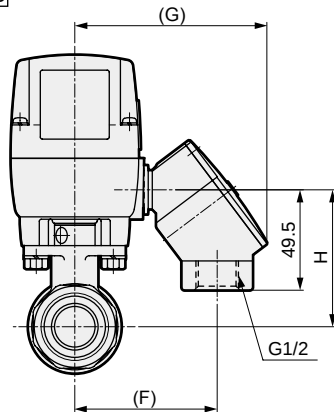
Model No.	A	B	C	D	E
MXB1(D)-32-N	84	50	166	195.5	Rc1 1/4
MXB1(D)-40-N	94	57	172	207.5	Rc1 1/2
MXB1(D)-50-N	108	70	181	221.5	Rc2

*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions C and D 22 mm longer.

Optional dimensions

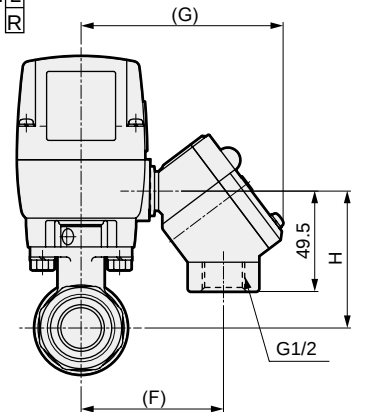


● With round terminal box MXB1/MXB1D-[bore size]-N[B]



Bore size	F	G	H
10	74	98	58.5
15	74	98	58.5
20	74	98	64.5
25	74	98	67.5
32	82	106	77.5 (*1)
40	82	106	83.5 (*1)
50	82	106	92.5 (*1)

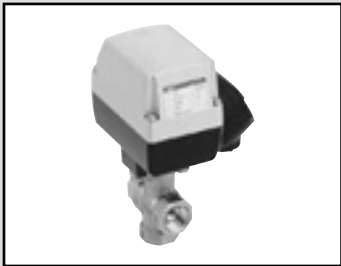
● Round terminal box with lamp MXB1/MXB1D-[bore size]-N[L/R]



Bore size	F	G	H
10	74	102	58.5
15	74	102	58.5
20	74	102	64.5
25	74	102	67.5
32	82	110	77.5 (*1)
40	82	110	83.5 (*1)
50	82	110	92.5 (*1)

*1 : For valves with manual override "M", the MSB1 Series yoke is inserted between the valve body and actuator, making dimensions 22 mm longer.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S-B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending



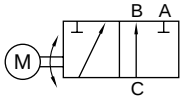
Oil-prohibited motorized 3-port ball valve

MXG1-N/MXG1D-N Series

● Port size: Rc1/2 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	MXG1 (standard)/MXG1D (with relay)
Working fluid	Water, air
Working pressure MPa	0 to 1.0 (refer to the working pressure in the individual specifications.)
Proof pressure (water pressure) MPa	2.0 (≈290 psi, 20 bar)
Fluid temperature °C	0 (32°F) to 80 (176°F) (no freezing)
Ambient temperature °C	-10 (14°F) to 50 (122°F)
Ambient humidity %	95 or less
Mounting orientation	From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)
Pressurization direction	Port C pressurization only
Degree of protection	IPX3 "rainproof" (standard and option T only)

Electrical specifications

Item			MXG1-15	MXG1-20	MXG1-25	MXG1-32	MXG1-40	MXG1-50
Rated voltage			*1100 VAC(50/60 Hz), 200 VAC(50/60 Hz), 12 VDC, 24 VDC					
Apparent power	VA	Operating	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)	
			200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)	
	Starting	100 VAC	4.9/5.9(50/60 Hz)			13/15(50/60 Hz)		
		200 VAC	5.4/6.2(50/60 Hz)			13/15(50/60 Hz)		
Average current value	A	12 VDC	1.1			1.5		
		*224 VDC	0.7			1.0		
Starting current	A	12 VDC	1.8 or less			3 or less		
		*224 VDC	1.2 or less			2 or less		
Power consumption	W	AC	7			15		
		12 VDC	13			18		
		24 VDC	17			24		
Item			MXG1D-15	MXG1D-20	MXG1D-25	MXG1D-32	MXG1D-40	MXG1D-50
Rated voltage			*1100 VAC(50/60 Hz), 200 VAC(50/60 Hz)					
Apparent power	VA	Operating	100 VAC	6.0/6.8(50/60 Hz)			14/16(50/60 Hz)	
			200 VAC	6.6/7.2(50/60 Hz)			14/16(50/60 Hz)	
	Starting	100 VAC	6.0/6.8(50/60 Hz)			14/16(50/60 Hz)		
		200 VAC	6.6/7.2(50/60 Hz)			14/16(50/60 Hz)		
Power consumption		W	8			16		

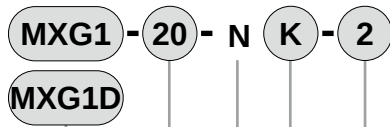
Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MXG1-15	MXG1-20	MXG1-25	MXG1-32	MXG1-40	MXG1-50
		MXG1D-15	MXG1D-20	MXG1D-25	MXG1D-32	MXG1D-40	MXG1D-50
Port size		Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂	Rc2
Orifice size	mm	10	14	19	23	30	38
Cv		3	6	11	16	28	47
Working pressure	MPa	0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)					0 to 0.5
Response time	sec	AC			20/16(50/60 Hz)		
		DC			26/22(50/60 Hz)		
Frequency		16			21		
		AC			1 time/min. or less		
*3		DC			1 time/2 mins. or less		
		1 time/2 mins. or less			1 time/5 mins. or less		
Weight	kg	MXG1	1.3	1.4	1.7	2.7	3.2
		MXG1D	1.3	1.5	1.7	2.7	3.3

*1 : Use the product within ±10% of the rated voltage.
 *2 : Current values at the rated voltage.
 *3 : Be sure to observe the specified frequency of use.
 *4 : Consult with CKD for specifications not indicated above.

How to order



A Port size

B Body/seat material

C Other options
*1
*2

D Voltage

				Model No.	
Code	Description			MXG1	MXG1D
A Port size					
15	Rc1/2			●	●
20	Rc3/4			●	●
25	Rc1			●	●
32	Rc1 ¹ / ₄			●	●
40	Rc1 ¹ / ₂			●	●
50	Rc2			●	●
B Body/seat material					
N	Body - stainless steel/seat - PTFE/oil-prohibited specifications			●	●
C Other options					
	Description	Applications	Remarks		
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-	●	●
T	3-conductor cable 0.75 mm ² (without signal output)	When output lead wire is not required	3-conductor cabtyre cable used	●	●
B	Round terminal box (5 terminals)	When the lead wires are different in length	-	●	●
L	Round term box, lamp (lit when A-C operates, 3 term)	A-C path completion confirmation by lamp	Lit when A-C path completed	●	●
R	Round term box, lamp (lit when B-C in operation, 3 term)	B-C path completion confirmation by lamp	Lit when B-C path completed	●	●
K	Multi-fluid (90° rotation switching) Response time 1/2	To remove load to pump	Fluids may mix somewhat during switching	●	●
D Voltage					
1	100 VAC(50/60 Hz)			●	●
2	200 VAC(50/60 Hz)			●	●
3	24 VDC			●	
4	12 VDC			●	

*1 : If several options of Item **C** are necessary, select from the following combinations.
TB, TK, BK, LK, RK, TBK. A 3-terminal round terminal box will be provided.

*2 : Combination of Item **C** LR/TL/TR/BL/BR is not available.

[Example of model No.]

MXG1-20-NK-2

Model: MXG1

- A** Port size : Rc3/4
- B** Body/seat material : Body - stainless steel/seat - PTFE/oil-prohibited specifications
- C** Other options : Multi-fluid (90° rotation switching, response time 1/2)
- D** Voltage : 200 VAC (50/60 Hz)

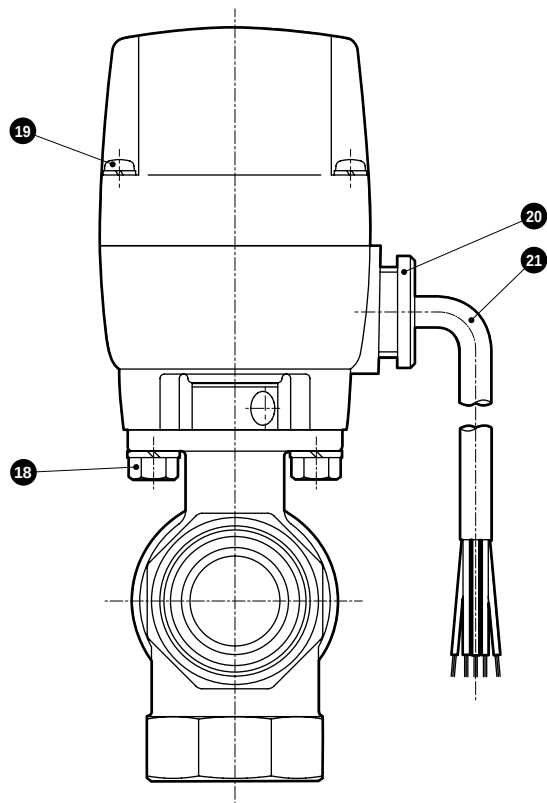
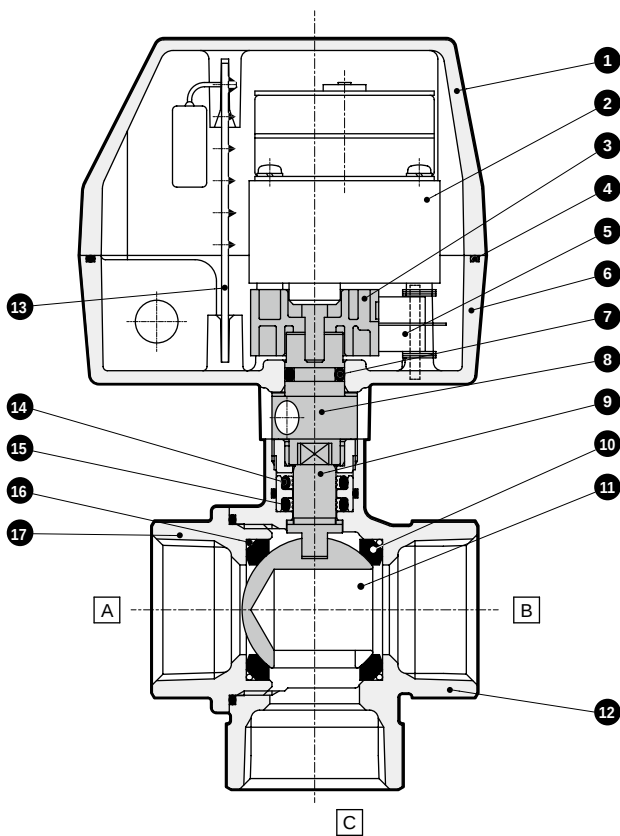
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S ◇ B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

MXG1-N/MXG1D-N Series

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S ⬆ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● MXG1/MXG1D



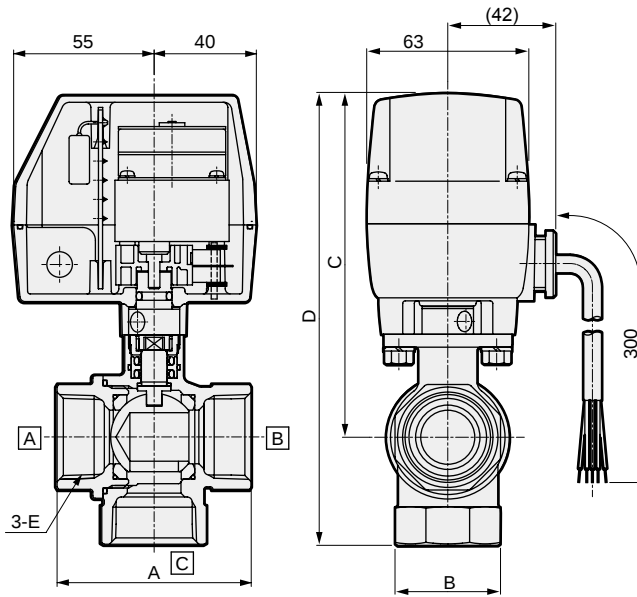
No.	Part name	Material	No.	Part name	Material
1	Bonnet	ADC12 Aluminum die-casting	11	Valve ball	SUS304 Stainless steel
2	Geared motor	-	12	Body	SCS13 Stainless steel casting
3	Cam	PA Polyamide resin	13	P plate assembly	PF Phenolic resin
4	Gasket	NBR Nitrile rubber	14	O-ring	FKM Fluoro rubber
5	Micro switch	-	15	Seal ring	UHMW-PE Ultra-high molecular weight polyethylene
6	Adaptor	ZDC2 Zinc alloy die-casting	16	O-ring	FKM Fluoro rubber
7	O-ring	NBR Nitrile rubber	17	Cap	SCS13 Stainless steel casting
8	Intermediate bush	SUS303 Stainless steel	18	Hexagon head bolt	SWCH Carbon steel wire for cold rolling
9	Shaft	SUS304 Stainless steel	19	Phillips pan head machine screw	SWCH Carbon steel wire for cold rolling
10	Ball seat	PTFE Tetrafluoroethylene resin	20	Bushing	PF Phenolic resin
			21	Cabtyre cable	0.5 mm ² , 5-conductor

MXG1-N/MXG1D-N Series

Dimensions



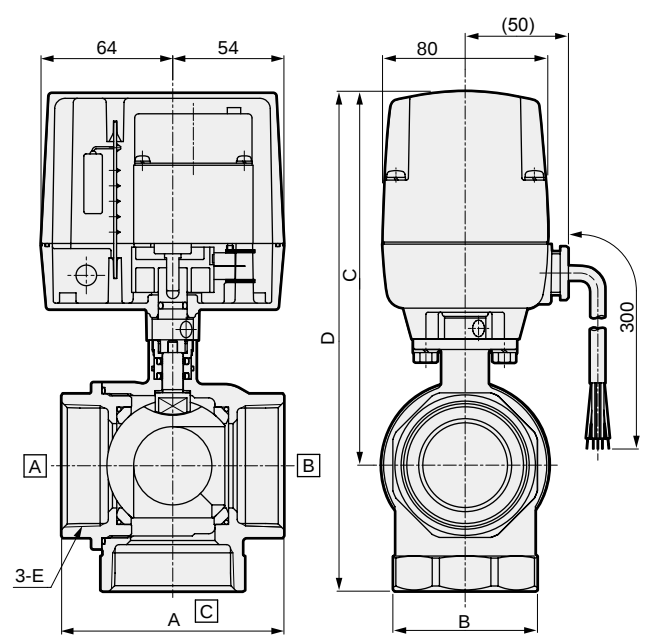
● MXG1/MXG1D-15/20/25-N



Cable cable length 300 mm

Model No.	A	B	C	D	E
MXG1(D)-15-N	56	28	124.5	154.5	Rc1/2
MXG1(D)-20-N	65	34	130.5	166.5	Rc3/4
MXG1(D)-25-N	76	41	133.5	175.5	Rc1

● MXG1/MXG1D-32/40/50-N



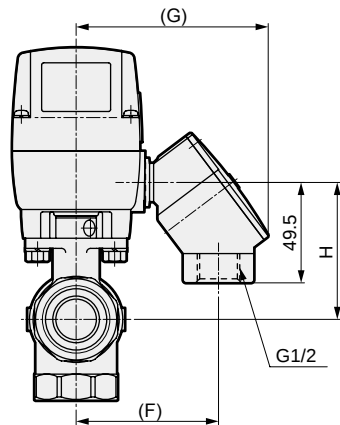
Cable cable length 300 mm

Model No.	A	B	C	D	E
MXG1(D)-32-N	84	50	166	213	Rc1 1/4
MXG1(D)-40-N	94	57	172	225	Rc1 1/2
MXG1(D)-50-N	108	70	181	242	Rc2

Optional dimensions

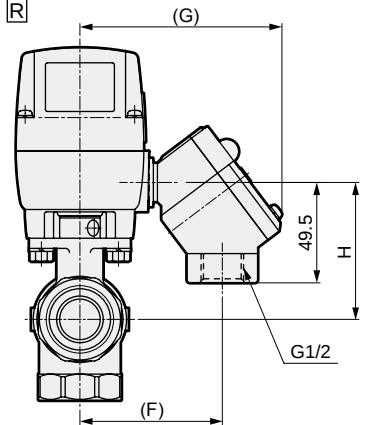


● With round terminal box MXG1/MXG1D-[bore size]-N[B]



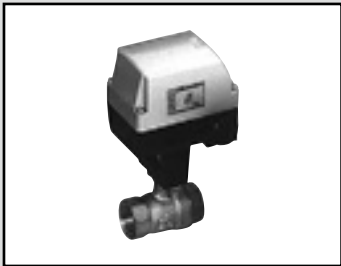
Bore size	F	G	H
15	74	98	58.5
20	74	98	64.5
25	74	98	67.5
32	82	106	77.5
40	82	106	83.5
50	82	106	92.5

● Round terminal box with lamp MXG1/MXG1D-[bore size]-N[L] R



Bore size	F	G	H
15	74	102	58.5
20	74	102	64.5
25	74	102	67.5
32	82	110	77.5
40	82	110	83.5
50	82	110	92.5

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S ◇ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending



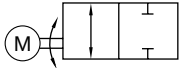
Motorized 2-port ball valve for steam

MSB1/MSB1F Series

● Port size: Rc3/8 to Rc2



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		MSB1 (standard bore)/MSB1F (full bore)						
Working fluid		Steam, water						
Working pressure MPa		0 to 0.6 (refer to the working pressure in the individual specifications.)						
Proof pressure (water pressure) MPa		2.0 (≈290 psi, 20 bar)						
Ambient temperature °C		-10 (14°F) to 50 (122°F)						
Ambient humidity %		95 or less						
Mounting orientation		From vertical direction with the actuator on the top to horizontal direction. (Refer to page 784.)						
Pressurization direction		Arbitrary						
Degree of protection		IPX3 "rainproof" (standard and option T only)						
Electrical specifications		MSB1-10	MSB1-15	MSB1-20	MSB1-25	MSB1-32	MSB1-40	MSB1-50
		MSB1F-15		MSB1F-20		MSB1F-25	MSB1F-32	MSB1F-40
Rated voltage *1		100 VAC(50/60 Hz), 200 VAC(50/60 Hz)						
Apparent power	VA	Operating	100 VAC		4.9/5.9(50/60 Hz)		13/15(50/60 Hz)	
		200 VAC	5.4/6.2(50/60 Hz)		13/15(50/60 Hz)			
	Starting	100 VAC	4.9/5.9(50/60 Hz)		13/15(50/60 Hz)			
		200 VAC	5.4/6.2(50/60 Hz)		13/15(50/60 Hz)			
Power consumption W		AC	7		15			

MSB1 (standard bore) individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar, °F = 9/5°C + 32

Item		MSB1-10 ^{*2}	MSB1-15	MSB1-20	MSB1-25	MSB1-32	MSB1-40	MSB1-50
Port size		Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 ¹ / ₄	Rc1 ¹ / ₂	Rc2
Orifice size mm		10	10	15	20	25	32	40
Cv		10	6	16	29	50	98	125
Working pressure MPa		0 (≈0 psi, 0 bar) to 0.6 (≈87 psi, 6 bar)						0 to 0.5
Fluid temperature °C		0 (32°F) to 164 (327.2°F) (no freezing)						0 to 158
Response time sec	50 Hz	10				13		
	60 Hz	8				11		
Frequency *3		1 time/min. or less						
Weight kg	Bronze body	1.3	1.3	1.4	1.6	2.6	3.1	3.8
	Stainless steel body	1.5	1.5	1.6	1.8	2.8	3.3	4.0

MSB1F (full bore) individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar, °F = 9/5°C + 32

Item		MSB1F-15	MSB1F-20	MSB1F-25	MSB1F-32	MSB1F-40
Port size		Rc1/2	Rc3/4	Rc1	Rc1¼	Rc1½
Orifice size mm		15	20	25	32	40
Cv		23	51	66	114	176
Working pressure MPa		0 (≈0 psi, 0 bar) to 0.6 (≈87 psi, 6 bar)				0 to 0.5
Fluid temperature °C		0 (32°F) to 164 (327.2°F) (no freezing)				0 to 158
Response timesec	50 Hz	10		13		
	60 Hz	8		11		
Frequency *3		1 time/min. or less				
Weight kg		1.4	1.6	2.6	3.1	3.8

*1 : Use the product within ±10% of the rated voltage.

*2 : MSB1-10 is a full bore.

*3 : Be sure to observe the specified frequency of use.

*4 : Consult with CKD for specifications not indicated above.

How to order

MSB1 - 32 - H T M - 1
MSB1F

Model No.

A Port size

B Body/seal material

C Other options

*1

*2

D Manual override

*3

E Voltage

		Model No.			
Code	Description	MSB1 (standard bore)	MSB1F (Full bore)		
A Port size					
10	Rc3/8	*4	●		
15	Rc1/2		●		
20	Rc3/4		●		
25	Rc1		●		
32	Rc1 ¹ / ₄		●		
40	Rc1 ¹ / ₂		●		
50	Rc2		●		
B Body/seat material					
H	Body - bronze/seat - reinforced PTFE	●	●		
W	Stainless steel - reinforced PTFE	●			
C Other options					
	Description	Applications	Remarks		
Blank	5-conductor cable 0.5 mm ² (with output lead wire)	-	-	●	●
T	3-conductor cable 0.75 mm ² (without signal output)	When output lead wire is not required	3-conductor cabtyre cable used	●	●
B	Round terminal box (5 terminals)	When the lead wires are different in length	-	●	●
L	Round terminal box with lamp (Lit when open, 3 terminals)	Fully open confirmation by lamp	Lit only when fully open	●	●
R	Round terminal box with lamp (Lit when closed, 3 terminals)	Fully closed confirmation by lamp	Lit only when fully closed	●	●
D Manual override					
Blank	None			●	●
M	Manual override			●	●
E Voltage					
1	100 VAC(50/60 Hz)			●	●
2	200 VAC(50/60 Hz)			●	●

*1 : When selecting both without signal output (Item C T) and round terminal box (Item C B) as options, designate Item C as TB. A 3-terminal round terminal box will be provided.

*2 : Combination of Item C LR/TL/TR/BL/BR is not available.

*3 : When the manual override (Item D M) is selected, available port sizes are 32, 40 and 50 for MSB1. For MSB1F, available port sizes are 25, 32 and 40. Manual override is provided as standard with other port size.

*4 : When port size is 10, the valve is full bore but the model No. is MSB1.

[Example of model No.]

MSB1-32-HTM-1

Model: MSB1 (standard bore)

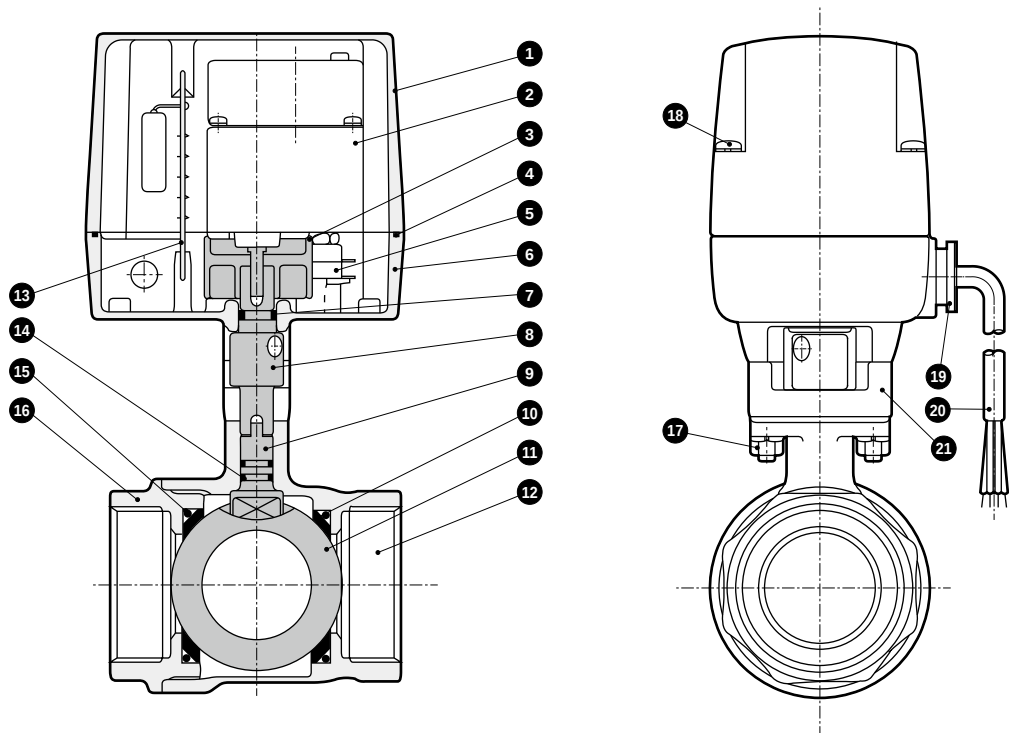
- A Port size : Rc1¹/₄
- B Body/seal material : Body - bronze/seal - reinforced PTFE
- C Other options : 3-conductor cable (without output lead wire)
- D Manual override : Selected
- E Voltage : 100 VAC (50/60 Hz)

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

MSB1/MSB1F Series

Internal structure and parts list

● MSB1/MSB1F



No.	Part name	Material	No.	Part name	Material
1	Bonnet	ADC12 Aluminum die-casting	11	Valve ball	C3771(SUS304) Copper alloy *1 (stainless steel)
2	Geared motor	-	12	Body	CAC408 Bronze casting (stainless steel casting)
3	Cam	PA Polyamide resin	13	P plate assembly	PF Phenolic resin
4	Gasket	NBR Nitrile rubber	14	O-ring	FKM Fluoro rubber
5	Micro switch	-	15	O-ring	FKM Fluoro rubber
6	Adaptor	ZDC2 Zinc alloy die-casting	16	Cap	CAC408 Bronze casting (stainless steel casting)
7	O-ring	NBR Nitrile rubber	17	Hexagon nut	SWCH Carbon steel wire for cold rolling
8	Intermediate bush	SUS303 Stainless steel	18	Phillips pan head machine screw	SWCH Carbon steel wire for cold rolling
9	Shaft	SUS303(SUS304) Stainless steel (stainless steel)	19	Bushing	PF Phenolic resin
10	Ball seat	Reinforced PTFE	20	Cabtyre cable	0.5 mm ² , 5-conductor
			21	Yoke	PM-HH Phenolic resin

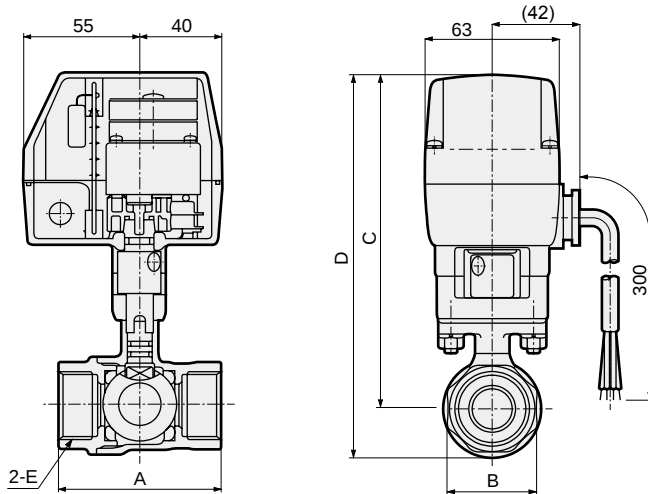
Materials shown in () are for stainless steel body.

*1 : Valve ball is hard chrome plated copper alloy.

Dimensions



- MSB1-10/15/20/25-*
- MSB1F-15/20-H

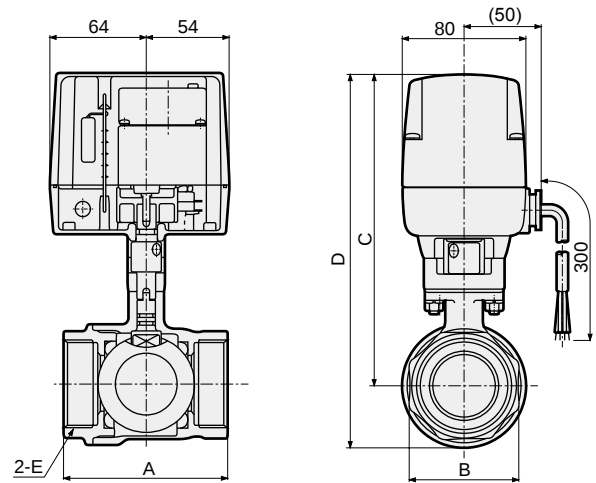


Cable length 300 mm

Model No.	A	B	C	D	E
MSB1-10-*	50(56)	24(28)	146.5	161.5(162.5)	Rc3/8
MSB1-15-*	56	28	146.5	161.5(162.5)	Rc1/2
MSB1-20-*	65	34	152.5	172(173)	Rc3/4
MSB1-25-*	76	41	155.5	178.5(179.5)	Rc1
MSB1F-15-H	65	28	152.5	172	Rc1/2
MSB1F-20-H	71	34	155.5	178.5	Rc3/4

*1 : Dimensions shown in () are for stainless steel body.

- MSB1-32/40/50-*
- MSB1F-25/32/40-H



Cable length 300 mm

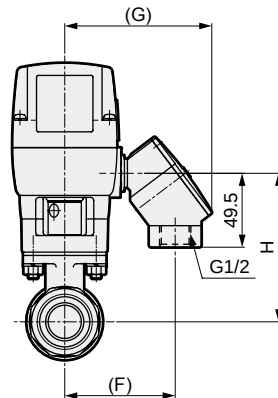
Model No.	A	B	C	D	E
MSB1-32-*	84	50	188	215.5(217.5)	Rc1 1/4
MSB1-40-*	94	57	194	227.5(229.5)	Rc1 1/2
MSB1-50-*	108	70	203	242.5(243.5)	Rc2
MSB1F-25-H	84	41	188	215.5	Rc1
MSB1F-32-H	95	50	194	227.5	Rc1 1/4
MSB1F-40-H	107	57	203	242.5	Rc1 1/2

*1 : Dimensions are the same even with manual override "M".

*2 : Dimensions shown in () are for stainless steel body.

Optional dimensions

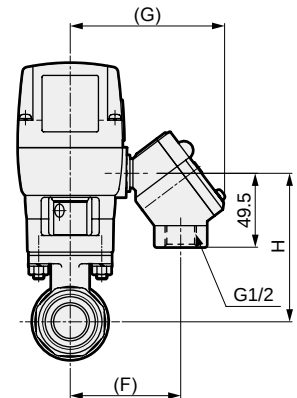
- With round terminal box
MSB1-[bore size]-***B**
MSB1F-[bore size]-H**B**



Bore size		F	G	H
MSB1	MSB1F			
10	-	74	98	80.5
15	-	74	98	80.5
20	15	74	98	86.5
25	20	74	98	89.5
32	25	82	106	99.5
40	32	82	106	105.5
50	40	82	106	114.5

*1 : Dimensions of the large bore size (32 to 50) are the same even with manual override "M".

- Round terminal box with lamp
MSB1-[bore size]-***L**
MSB1F-[bore size]-H**L**



Bore size		F	G	H
MSB1	MSB1F			
10	-	74	102	80.5
15	-	74	102	80.5
20	15	74	102	86.5
25	20	74	102	89.5
32	25	82	110	99.5
40	32	82	110	105.5
50	40	82	110	114.5

*1 : Dimensions of the large bore size (32 to 50) are the same even with manual override "M".

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending