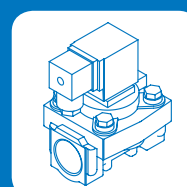
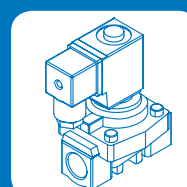
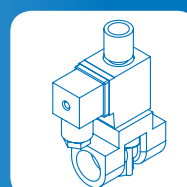
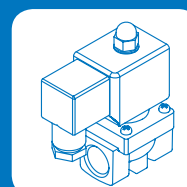
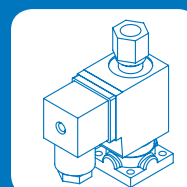
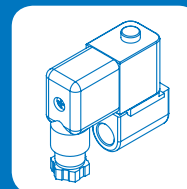
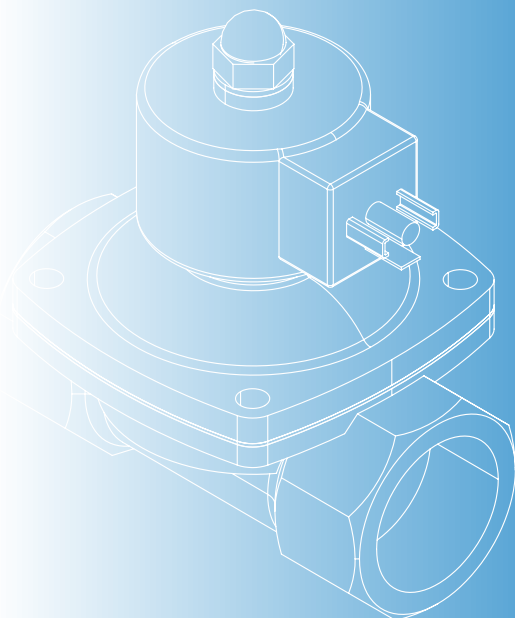


(2way) SOLENOID VALVE



Selector Table.....	2-2
MBS.....	2-3
MBD.....	2-4
MCS.....	2-5
MCT.....	2-6
MED.....	2-7
MEP.....	2-8
MGA / MGS	2-9
MGD	2-10
MJS/R/T, MRJ.....	2-11
MPD / MPK.....	2-13
MRB / MRC	2-14
MUSC	2-15
MUSD	2-16
MUST	2-17
MUT.....	2-18
MWA/S/H.....	2-19
MWD / MWK.....	2-21
MYA / MYS	2-22
MZS.....	2-23
MZT	2-24

MU* Selector Table.....	2-25
MUD / MUS	2-27
MUA.....	2-28
MUDC.....	2-29
MSUS	2-30
MUAO.....	2-32
MUW.....	2-33
MUW-NO	2-34
MUW-F	2-35
MUG / MUV	2-36
MUAW	2-37
MUS / MUS-F	2-38
MSUW / MSUW-NO	2-39
MSUW-F	2-40
MUPS	2-41
MXAD	2-42
MXAD-AF	2-43
MXBD	2-44
MXCD	2-45
MXPV	2-46

Selector table

*Seal-code N NBR, J EPDM, V VITON, P PTFE, T TEFLON, R RUBY, Z FFKM, S Silicon

2/2 WAY

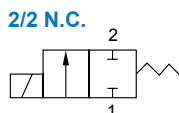
Model	Inside structure			N.C.	N.O.	Fluid							Material		Port size	CV	Page
	Piston	Diaphragm	Plunger			Water / Air	Hot water	Steam	Light oil	Heavy oil	Gas	Vaccum	Body	Seal			
MBS			○	●		●			●		●	●	Brass	N,J,V,T	1/8, 1/4	0.03~0.18	2-3
MBD			○	●		●						●	Steel	N,V	1/4~1/2	0.14~0.95	2-4
MCS			○	●		●			●		●	●	Brass	N,J,V,T,Z,R	1/4~3/4	0.12~1.30	2-5
MED		○		●		●							Forged brass	N	1/4~1/2	1.3~2.2	2-7
MEP			○	●		●							Forged brass	N	3/8, 1/2	1.8~2.2	2-8
MGA	○			●		●	●						Forged brass	N,J,V	3/8, 1/2	1.9~2.6	2-9
MGS	○			●		●	●	●					Forged brass	T	3/8, 1/2	1.9~2.6	2-9
MGD		○		●		●					●		Forged brass	N,J,V	3/8, 2	2.0~3.1	2-10
MJS			○	●		●			●		●	●	Brass	N,J,V	—	0.10~0.42	2-11
MJR			○	●		●			●		●	●	Brass	N,J,V	—	0.10~0.42	2-11
MPD		○		●		●							PA (Nylon)	N,J,V	1/2~1	4~11	2-13
MPK		○		●		●							PA (Nylon)	N,J,V	1/2~1	4~11	2-13
MRB			○		●	●			●		●		Brass	N,J,V	1/8, 1/4	0.05~0.09	2-14
MRC			○		●	●			●		●		Brass	N,J,V	1/8~3/8	0.10~0.31	2-14
MUSC			○	●		●			●		●	●	S.S.#303	N,J,V,Z,T,R	1/8~3/8	0.03~1.30	2-15
MUSD		○		●		●			●		●		S.S.#SCS14	N,J,V	1/2	2.0	2-16
MWA	○			●		●			●		●		Brass	N	3/8~2	3.0~31	2-19
MWH	○			●		●				●			Brass	V	3/8~2	3.0~31	2-19
MWS	○			●		●	●						Brass	T	3/8~2	3.0~31	2-19
MWD		○		●		●					●		Forged brass	N,J,V	3/8~2	3.0~31	2-21
MWK		○		●		●					●		Forged brass	N,J,V	3/8~2	3.0~31	2-21
MYA	○			●		●	●						Forged brass	N,J,V	3/8, 1/2	1.9~2.6	2-22
MYS	○			●		●	●	●					Forged brass	T	3/8, 1/2	1.9~2.6	2-22
MZS			○	●		●			●		●		Forged brass	N,J,V,Z	3/8~3/4	0.12~0.83	2-23
MUD			○	●	●	●			●		●		Forged brass	N,V,S,P	1/8~3/8	0.23~0.58	2-27
MUS-8/10	○			●				●					Forged brass	P	1/4, 3/8	0.23~0.58	2-27
MUDC		○		●		Hydrochloric acid, sulfuric acid							PVC / PTFE	N	1/4~1	0.28~4	2-29
MSUS	○			●	●	●		●			●	●	S.S.#316	N,V,S,P	1/8~2	0.23~48	2-30
MUAO	○			●		●				●			Brass	N	1/4~1/2	2.5	2-32
MUW		○		●		●			●				Forged brass	N,V,S	3/8~2	2.4~48	2-33
MUW-NO		○			●	●					●	●	Forged brass	N,V,S	3/8~2	4.5~48	2-34
MUW-F		○		●	●	●							FC-20	N	1 1/4~4	22~180	2-35
MUG		○		●							●		Forged brass	N	3/8~2	2.4~48	2-36
MUV		○		●								●	Forged brass	N	3/8~2	2.4~48	2-36
MUAW	○			●		●							Forged brass	N	1/2~2	4~48	2-37
MUS	○			●		●		●		●			Forged brass	P	1/2~2	17~50	2-38
MUS-F	○			●		●		●		●			FC-20	P	1 1/4~4	22~175	2-38
MSUW		○		●	●	●			●			●	S.S.#316	N,V,S	1/2~2	4.5~48	2-39
MSUW-F		○		●		●			●				S.S.#316	N,V,S	1/2~2	4.5~48	2-40
MUPS	○			●		●		●		●			Forged brass	P	1/2~1	4~12	2-41
MXAD			○	●		●			●		●	●	Forged brass	N,J,V,S	3/8~1/2	0.26~0.97	2-42
MXAD-AF		○		●		●			●		●	●	Forged brass	N,J,V,S	3/8~2	4.5~48	2-43
MXBD			○	●		●			●		●	●	Forged brass	N,J,V,S	3/8~1/2	0.23~0.79	2-44
MXCD		○		●		●			●				Forged brass	N,V	3/8~1/2	2.4~2.7	2-45
MPV		○		●		●			●				Forged brass	N,J,V,S	3/8~1/2	4.5~9.3	2-46

3/2 WAY

Model	Inside structure			N.C.	N.O.	Fluid							Material		Port size	CV	Page
	Piston	Diaphragm	Plunger			Water / Air	Hot water	Steam	Light oil	Heavy oil	Gas	Vaccum	Body	Seal			
MCT			○	●		●					●		Brass	N,V	1/4~3/4	0.10~0.80	2-6
MJT			○	●		●			●		●	●	Brass	N,J,V	—	0.10~0.42	2-11
MRJ			○		●	●			●		●	●	Brass	N,J,V	—	0.10~0.31	2-11
MUST			○	●		●			●		●	●	S.S.#303	N,V	1/8~3/8	0.02~0.80	2-17
MUT			○	●	●	●			●		●	●	Forged brass	V	1/8~3/8	0.02~0.31	2-18
MZT			○	●		●		●			●	●	Forged brass	N,J,V,Z	1/8~3/4	0.08~0.80	2-24
MUA			○	●		●						●	Forged brass	N	1/8, 3/8	0.1~0.12	2-28

MBS series

2/2 WAY N.C. PLUNGER TYPE SOLENOID VALVE



Available fluid: Air, gas, water, vacuum, oil etc.

Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED
- Ex coil is EExm II T4 or EEx ia II C T6 PTB approval.
- Ambient temp.: -15~50°C
- Voltage tolerance: ±8%
- Installing position is free. (You'd better put the coil upright)

Power consumption

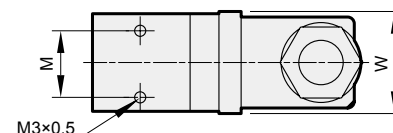
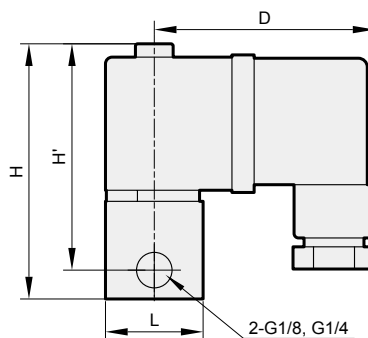
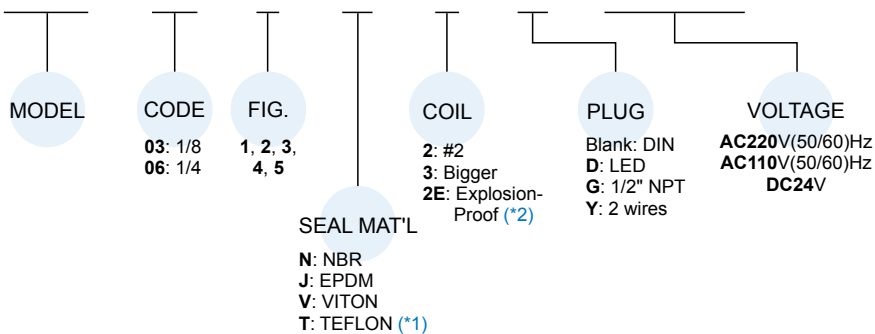
Coil power	2	3	2E
AC 50/60Hz (VA)	8.5/6/9	8/6	4.8
DC (W)	5.1	6/8	5.2

Dimensions

Model	MBS	
Code Dimension (mm)	03	06
D	50	50
H	57	61
H'	51	51
L	□22	33
M	15	11.2
W	23	
N.W. (kg)	0.15	

Order example

MBS — 03 — 2 — N — 2 — D — AC110

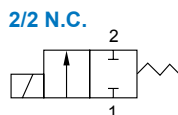
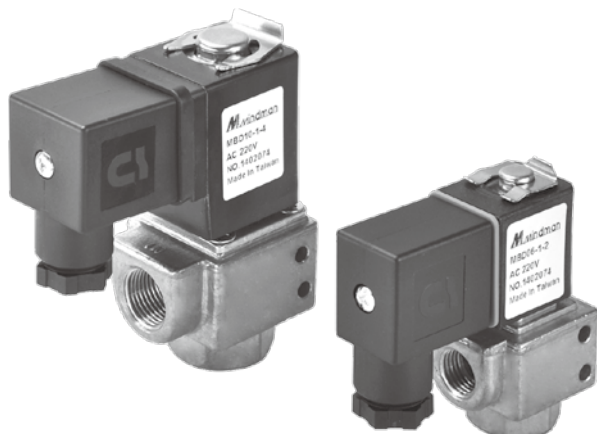


*1. When the seal material is (T) TEFLON, the valve has slight leakage.

*2. Explosion-Proof (2E) coil with LED (D) plug is not applicable.

Specification

Model MBS : Brass body, mini 2/2 way N.C.																					
Code (PIPE) G	Fig. no.	Mat'l		Coil	Orifice mm	Temp. °C								Max. O.P.D bar (Min. 0 bar)						CV	VAC. torr
		Seal	Body			Coil 2				Coil 3, 2E				Coil 2		Coil 3		Coil 2E			
						N	J	V	T	N	J	V	T	AC	DC	AC	DC	AC	DC		
03(1/8) 06(1/4)	1	N J V T	C	2 3 2E	1.0	-5 ~ 80	-10 ~ 90	-5 ~ 80	-10 ~ 120	-10 ~ 155	30	20	40	30	20		0.03	10 ⁻³			
	2				24						16	35	24	16		0.05					
	3				16						12	30	12	10		0.09					
	4				13						10	25	10	7		0.14	10 ⁻²				
	5				10						7	20	7	5		0.18					



Order example

MBD — 09 — 2 — V — 3 — D — AC110

MODEL

CODE

FIG.

COIL

PLUG

VOLTAGE

06: 1/4
09: 3/8
10: 3/8
15: 1/2

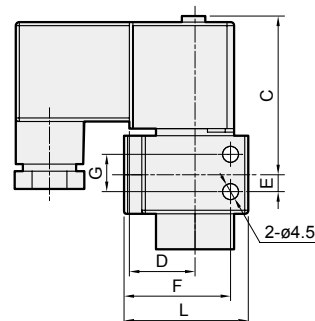
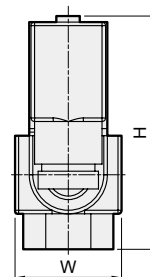
1, 2, 3,
4, 5

2, 3, 2E
4, 5, 3E
(*)

SEAL MAT'L
N: NBR
V: VITON

Blank: DIN
O: None
D: LED
G: 1/2" NPT
Y: 2 wires

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V



* Explosion-Proof (2E/3E) coil with LED (D) plug is not applicable.

Specification

Model MBD : Steel body, for water, air, gas, light oil, vacuum. 2/2 way N.C.														
Code (PIPE) G	Seal	Coil	Orifice mm	Temp. °C				Working press. bar						CV
				Coil 2, 2E		Coil 3		Coil 2		Coil 3		Coil 2E		
				N	V	N	V	AC	DC	AC	DC	AC	DC	
06(1/4) 09(3/8)	N V	2 3 2E	2.0	-10 ~ 90	-10 ~ 90	-10 ~ 145	13	5	20	10	14	8	0.14	
			7				2.5	11	6	7	4	0.18		
			5				2	9	4	5	3	0.27		
			2				0.5	4	2	3	1	0.30		

Code (PIPE) G	Seal	Coil	Orifice mm	Temp.°C		Working press. bar						CV
				Coil 4, 5, 3E		Coil 2		Coil 3		Coil 2E		
				N	V	AC	DC	AC	DC	AC	DC	
10(3/8) 15(1/2)	N V	4 5 3E	3.5	-10 ~ 90	-10 ~ 160	20	16	25	20	16	16	0.45
			4.0			16	13	20	16	10	13	0.53
			4.5			13	10	16	13	8	10	0.65
			5.0			8	5	12	10	4	5	0.83
			6.0			4.5	1.5	7	3	1.5	1.5	0.95

Specification

- IP65 100% ED coil
- PTB approval EExm II T4 coil

Dimensions

Model	MBD				
Code Dimension (mm)	06	09	10	15	
L	36		46		
H	31		37		
W	69		91		
C	49		67		
D	21		28		
E	8.5		7		
F	30		41		
G	11				
N.W. (kg)	Coil 2	0.26	0.25	—	
	Coil 3	0.30	0.29	—	
	Coil 2E	0.66	0.65	—	
	Coil 4	—		0.50	0.49
	Coil 5	—		0.59	0.58
	Coil 3E	—		0.84	0.83

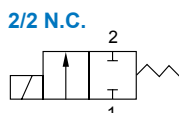
Power consumption

Coil power	2	3	2E
AC 50/60Hz (VA)	6.9	8.0	5.7
DC (W)	6.0	6.8	5.2

Coil power	4	5	3E
AC 50/60Hz (VA)	19.5	23.0	9.2
DC (W)	15.0	18.5	10.0

MCS series

2/2 WAY N.C. PLUNGER TYPE SOLENOID VALVE



Available fluid: Air, gas, water, vacuum, oil etc.

Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED
- Ex coil is EExm II T4 or EEx ia II C T6 PTB approval.
- Ambient temp.: -15~50°C
- Voltage tolerance: ±8%
- Installing position is free. (You'd better put the coil upright)
- The Max. Orifice for sea J=5.0mm, T=4.0mm, R=2.5mm, Z=5.0mm.

Order example

MCS — 06 — 2 — J — 5 — D — AC110

MODEL	CODE	FIG.	SEAL MAT'L	COIL	PLUG	VOLTAGE
	06: 1/4 10: 3/8 15: 1/2 20: 3/4	1, 2, 3, 4, 5, 6, 7, 8, 9	N: NBR J: EPDM V: VITON T: TEFLON (*1) R: RUBY (*1) Z: FFKM	4: #2 5: Bigger 3E: Explosion-Proof (*2)	Blank: DIN O: None D: LED G: 1/2" NPT	AC220V(50/60)Hz AC110V(50/60)Hz DC24V

*1. When the seal material is (T) TEFLON or (R) RUBY, the valve has slight leakage.

*2. Explosion-Proof (3E) coil with LED (D) plug is not applicable.

Weight

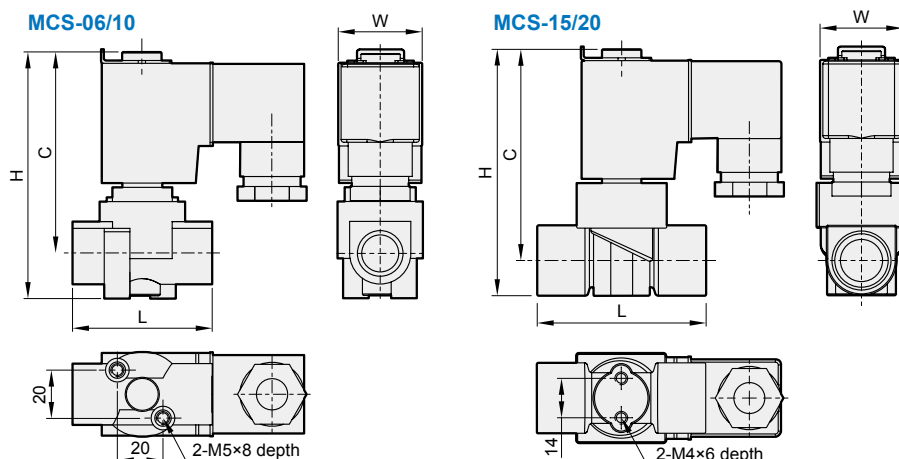
Unit: kg

Model	MCS		
Coil Code	4	5	3E
06	0.4	0.48	0.71
10	0.38	0.46	0.69
15	0.48	0.57	0.80
20	0.53	0.62	0.85
Coil power			
AC (VA)	19.5	23.0	9.2
DC (W)	15.0	18.5	10.0

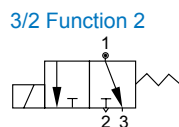
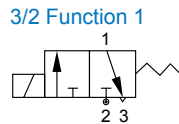
Dimensions

Code Dimension (mm)	06	10	15	20
L	49	56	60	
H	86	87.5	91	
C	71	70	73	
W	30 (36)			

(): Dimension for 5, 3E coil.



Model MCS : Forged brass body, 2/2 way N.C.																										
Code (PIPE) G	Fig. no.	Mat'l		Coil	Orifice mm	Temp. °C												Max. O.P.D bar (Min. 0 bar)						CV	VAC. torr	
		Seal	Body			Coil 4, 3E						Coil 5						Coil 4		Coil 5		Coil 3E				
						N	J	V	T	Z	R	N	J	V	T	Z	R	AC	DC	AC	DC	AC	DC			
06(1/4) 10(3/8) 15(1/2) 20(3/4)	1	N J V T R Z	C	4 5 3E	1.6													30	20	40	30	25	20	0.12	10 ⁻²	
	2				2.0														20	15	30	20	18	15		0.18
	3				2.5														14	7	20	15	10	10		0.24
	4				3.0	-5	-10	-10	-20	-30	-5	-10	-10	-20	-30			10	5	15	10	7	7	0.37	10 ⁻¹	
	5				4.0	~	~	~	~	~	~	~	~	~	~			7	3	10	7	5	4	0.53		
	6				5.0	80	145	160	170	170	80	145	160	185	200			5	2	7	4	3	2.5	0.83		
	7				5.5													3	1.5	5	3	2	2	0.95	1	
	8				7.5													2	1	3	2	1	1	1.10		
	9				10.0													1	0.4	2	1	0.5	0.5	1.30		10



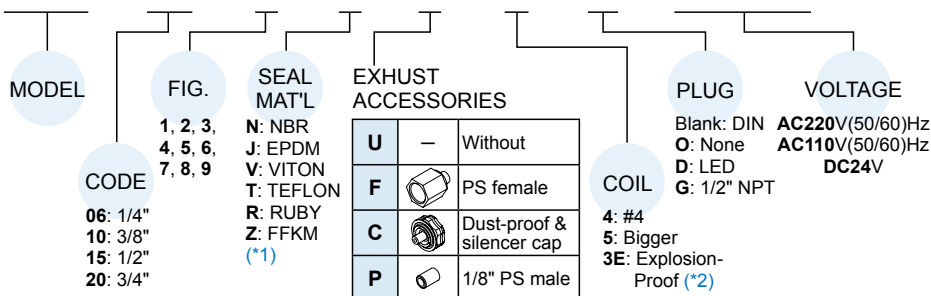
Available fluid: Air, gas, water, vacuum, oil etc.

Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED
- Ex coil is EExm II T4 or EEx ia II C T6 PTB approval.
- Ambient temp.: -15~50°C
- Voltage tolerance: ±8%
- Installing position is free. (You'd better put the coil upright)
- The Max. Orifice for sea J=5.0mm, T=4.0mm, R=2.5mm, Z=5.0mm.

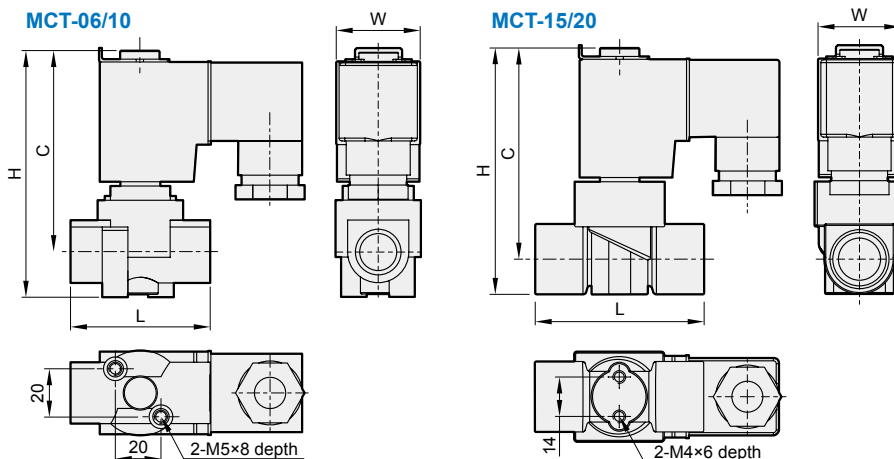
Order example

MCT — 06 — 2 — J — U — 5 — D — AC110



*1. When the seal material is (T) TEFLON or (R) RUBY, the valve has slight leakage.

*2. Explosion-Proof (3E) coil with LED (D) plug is not applicable.

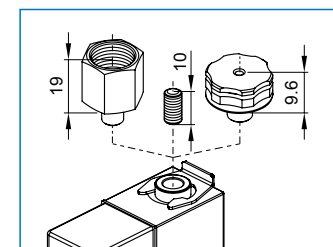


Weight

Unit: kg

Model	MCS		
Coil Code	4	5	3E
06	0.4	0.48	0.71
10	0.38	0.46	0.69
15	0.48	0.51	0.74
20	0.53	0.62	0.85
Coil power			
AC (VA)	19.5	23.0	9.2
DC (W)	15.0	18.5	10.0

Exhaust accessories



Dimensions

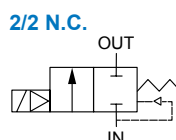
Code Dimension (mm)	06	10	15	20
L	49	56	60	
H	86	87.5	91	
C	71	70	73	
W	30 (36)			

(): Dimension for 5, 3E coil.

Model MCT : Forged brass body, 3/2 way N.C.																	
Code (PIPE) G	Fig. no.	Mat'l		Coil	Orifice mm		Temp.°C				Max. O.P.D bar (Min. 0 bar)						CV
		Seal	Body		Body	Top	Coil 4		Coil 5, 3E		Coil 4		Coil 5		Coil 3E		
							AC/DC, Funtion										
							N	V	N	V	1	2	1	2	1	2	
06(1/4) 10(3/8) 15(1/2) 20(3/4)	1	N V	C	4 5 3E	1.6	1.6	-5 ~ 80	-5 ~ 80	-10 ~ 95	30	20	40	30	25	20	0.12	
	2				2.0					20	15	30	20	18	15	0.18	
	3				2.5	2.0				14	7	20	15	10	10	0.24	
	4				3.0					10	5	15	10	7	7	0.37	
	5				4.0	2.2				7	3	10	7	5	4	0.53	
	6				5.0					5	2	7	4	3	2.5	0.83	

MED series

2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



Specification

- If the working pressure is 5 bar up for air, the operating cycle cannot 10 times/min. over.

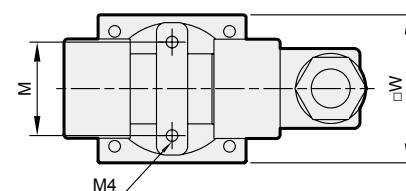
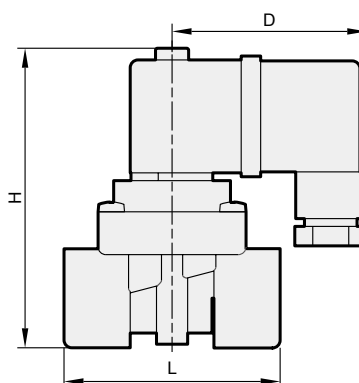
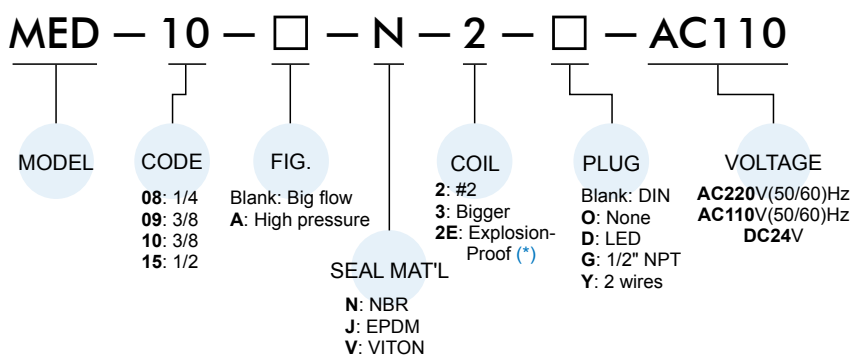
Power consumption

Coil power	2	3	2E
AC (VA)	6.9	8.0	4.8
Last temp. °C	70.0	60.0	50.0
DC (W)	6.2	6.8	5.2
Last temp. °C	78.0	73.0	62.0
Coil ambient temp.: -15~50°C (No freezing)			

Dimensions

Model	MED			
Code Dimension (mm)	06	09	10	15
D	50.0		50.0	
L	40.0		55.0	
H	72.0		76.5	
M	17.0		24.0	
W	32.0		38.0	
N.W. (kg)	Coil 2	0.25	0.24	0.37
	Coil 3	0.30	0.29	0.42
	Coil 2E	0.57	0.56	0.80

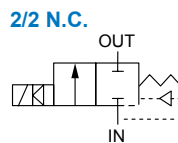
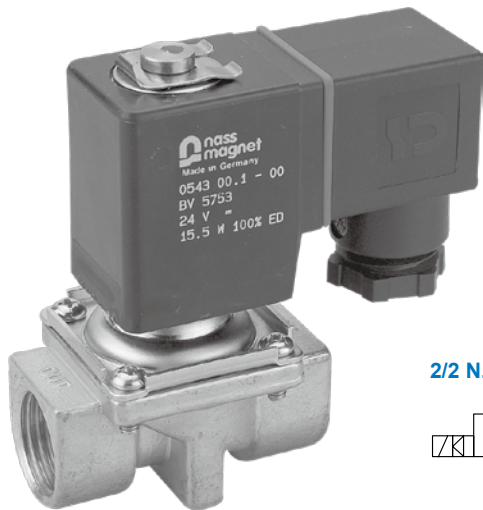
Order example



* Explosion-Proof (2E) coil with LED (D) plug is not applicable.

Specification

Model MED : Forged brass body, pressure forming S.S. plate, for water, air, gas, light oil. 2/2 way N.C.																	
PIPE G	Fig. no.	Seal Mat'l	Coil	Orifice mm	Temp.°C						Working press. (0.2~ bar)						CV
					Coil 2			Coil 3, 2E			Coil 2		Coil 3		Coil 2E		
					N	J	V	N	J	V	AC	DC	AC	DC	AC	DC	
08(1/4)	A	N J V	4 5 3E	10	-5 ~ 80	-10 ~ 80	-5 ~ 80	-10 ~ 120	7	3	10	7	7	5	1.8		
09(3/8)	B								5	1	7	5	5	3	2.2		
10(3/8)	A	V	5	15	80	80	80	120	7	3	10	7	7	5	1.8		
15(3/8)	B								5	1	7	5	5	3	2.2		



Specification

- IP65 100% ED coil

Power consumption

Coil power	4	5
AC 50/60Hz (VA)	17.6/15.4	33/23
DC (W)	15.0	18.5

Model	MEP	
Code	10	15
N.W (kg)	0.45	

Order example

MEP — 10 — N — 4 — □ — AC110

MODEL CODE SEAL MAT'L COIL PLUG VOLTAGE

10: 3/8
15: 1/2

N: NBR

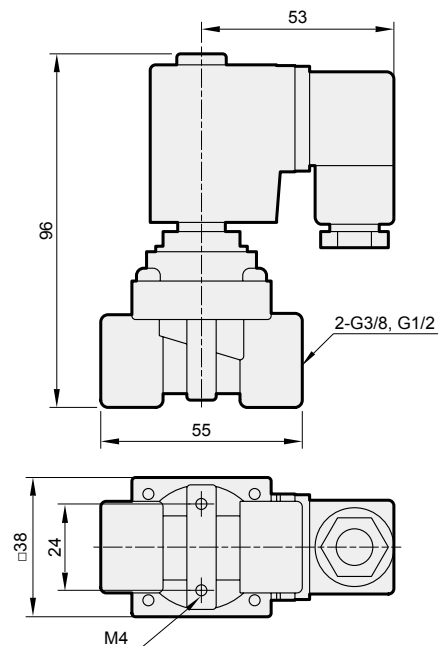
4: #4
5: Bigger

Blank: DIN
D: LED
G: 1/2" NPT

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

Dimensions

Unit: mm



Specification

Model **MEP**: Forged brass body, pressure forming S.S. plate, for water, air. 2/2 way N.C.

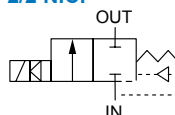
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp.°C		Working press. (0~ bar)								CV
						Coil 4				Coil 5				
				Coil 4	Coil 5	AC		DC		AC		DC		
						Air	Water	Air	Water	Air	Water	Air	Water	
10(3/8)	N	4, 5	15	-5~80	-5~120	1	0.5	0.5	—	1.5	1.0	1.0	0.5	1.8
15(1/2)														

MGA / MGS series

2/2 WAY N.C. PISTON TYPE SOLENOID VALVE



2/2 N.C.



Specification

- Forged brass body.
- IP65 100% ED coil.
- PTB approval EExm II T4 coil.

Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	17.6/15.4	33/23	9.2
DC (W)	15.0	18.5	10

Model	MGA / MGS	
Code	10	15
N.W (kg)	0.6	

Order example

MGA — 10 — N — 4 — □ — AC110

MODEL
MGA
MGS

CODE
10: 3/8
15: 1/2

SEAL MAT'L
N: NBR
J: EPDM
V: VITON
T: TEFLON (*1)

COIL
4: #4
5: Bigger
3E: Explosion-Proof (*2)

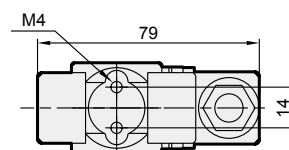
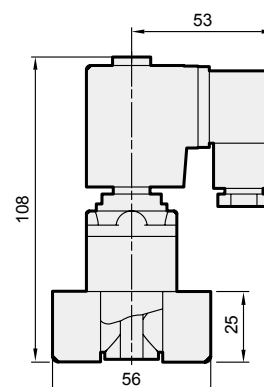
PLUG
Blank: DIN
D: LED
G: 1/2" NPT

VOLTAGE
AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

*1. When the seal material is (T) TEFLON, the valve has slight leakage.

*2. Explosion-Proof (3E) coil with LED (D) plug is not applicable.

Dimensions Unit: mm



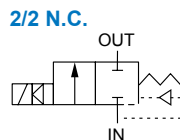
Specification

Model **MGA**: for water, air and higher temp. fluids. 2/2 way N.C.

Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. 5~°C						Working press. bar					CV
				Coil 4			Coil 5, 3E			Coil 4		Coil 5		Coil 3E	
				N	J	V	N	J	V	AC	DC	AC	DC	AC/DC	
10(3/8)	N,J,V	4,5,3E	12	95	120		95	145		0.3~10	0.3~7	0.3~16	0.3~10	0.3~5	1.9
15(1/2)															2.6

Model **MGS**: for steam and higher temp. fluids. 2/2 way N.C.

Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. 5~°C		Working press. bar		CV
				Coil 4	Coil 5	Coil 4	Coil 5	
10(3/8)	T (*1)	4, 5	12	158	185	0.3~5	0.3~10	1.6
15(1/2)								2.6



Specification

- IP65 100% ED coil
- EExm II T4 PTB approval coil

Power consumption

Coil power	2	2E	3	4	3E
AC (VA)	6.9	8.0	5.7	15.4	9.2
DC (W)	6.2	6.8	5.2	15.0	10.0

Dimensions

Model	MGD								MGD-F					
Code Dimension (mm)	10	15	20	25	32	40	45	50	25	32	40	45	50	
A	68.3		72.7	75.5	91.0		97.5		138	155	155	175	175	
B	81.3		88.7	95	119		132		125	135	140	140	155	
C	64		80	90	102		122		138	159	161	168	175	
D	42		51	61	76		95		—	—	—	—	—	
E	22		28	34	—		—		—	—	—	—	—	
N.W (kg)	Coil 2	0.47	0.45	0.70	0.90	1.98	1.67	3.50	2.86	3.22	5.33	4.93	6.76	6.98
	Coil 2E	0.78	0.75	1.00	1.20	2.29	1.98	3.80	3.17	3.52	5.64	5.24	7.06	7.29
	Coil 3	0.51	0.48	0.47	0.94	2.02	1.71	3.54	2.90	3.26	5.37	4.97	6.80	7.02
	Coil 4	0.60	0.57	0.83	1.03	2.11	1.80	3.62	2.98	3.63	5.75	5.35	7.17	7.40
	Coil 3E	0.89	0.86	0.86	1.32	2.40	2.09	3.91	3.28	3.33	5.46	5.06	6.88	7.10

Order example

MGD — 25 — N — 3 — D — F — □ — AC110

MODEL

CODE

SEAL MAT'L

COIL

PLUG

CONN.

VOLTAGE

10, 15, 20,
25, 32, 40,
45, 50

N: NBR
J: EPDM
V: VITON

2, 3, 4,
2E, 3E
(*)

Blank: DIN
O: None
D: LED
G: 1/2" NPT
Y: 2 wires

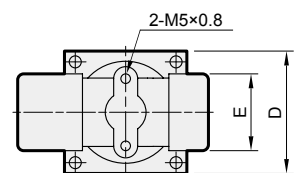
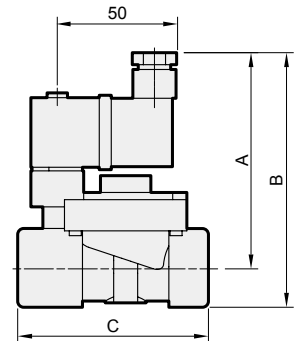
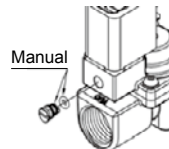
Blank: Screwed
F: Flanged
(F type no manual,
for code 25~50)

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

* Explosion-Proof (2E/3E) coil with
LED (D) plug is not applicable.

MANUAL

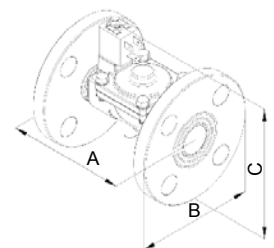
Blank: Without
M: With (for coil 2, 2E, 3)



Specification

Model MGD : Forged brass body, for water, air, gas etc. 2/2 way N.C.																				
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. °C						Max. O.P.D bar (Min. 0 bar)										CV
				Coil 2		Coil 3, 2E		Coil 4, 3E		Coil 2		Coil 2E		Coil 3		Coil 4		Coil 3E		
				N,J,V	N	J,V	N	J,V	N	AC	DC	N	AC	DC	N	AC	DC	N	AC	
10(3/8)	N J V	2 2E 3 4 3E	15	-5 ~ 60	-5 ~ 60	-5 ~ 100	-5 ~ 60	-5 ~ 145	10	10	16	15	16	16	—	—	—	16	2.0	
15(1/2)			10						10	16	15	16	16	—	—	—	16	2.5		
20(3/4)			10						10	14	13	16	16	—	—	16	16	5.2		
25(1)			10						10	12	10	16	16	—	—	16	16	8.5		
32(1 1/4)			10						9	10	8	14	13	16	16	16	16	16		
40(1 1/2)			10						9	10	8	14	13	16	16	16	16	21		
45(1 1/2)			8						5	8	8	12	10	16	16	16	16	26		
50(2)			8						5	8	8	12	10	16	16	16	16	31		

Flanged

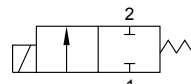


MJ* / MRJ series

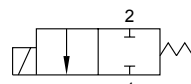
2/2 WAY N.C., N.O. PLUNGER TYPE **ACTUATOR VALVE**



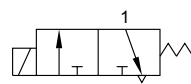
2/2 Function 1



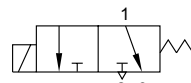
2/2 Function 2



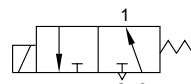
3/2 Function 1



3/2 Function 2



3/2 Function 3



Specification

- IP65 100% ED coil.
- PTB approval EExm II T4 coil.
- For air, water, gas, oil, vacuum (10^{-3} torr).

Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	17.6/15.4	33/23	9.2
DC (W)	15.0	18.5	10

Dimensions

Model	MJS / MJR	MJT / MRJ
Code Dimension (mm)	00	
H	67	86
N.W (kg)	0.31	0.32

Order example

MJS - 00 - 1 - N - S - 4 - D - □ - AC110

MODEL
MJS
MJR
MJT
MRJ

CODE
00

FIG.
1, 2, 3,
4, 5

BODY MAT'L
C: Brass
S: S. Steel

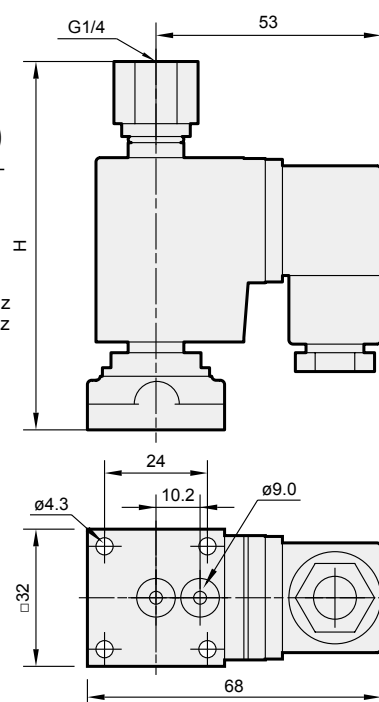
SEAL MAT'L
N: NBR
J: EPDM
V: VITON

COIL
4: #4
5: Bigger
3E: Explosion-Proof (*)

PLUG
Blank: DIN
D: LED
G: 1/2" NPT

MANUAL
Blank: Without
M: With manual

VOLTAGE
AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V



* Explosion-Proof (3E) coil with LED (D) plug is not applicable.

Specification

Model MJS : Brass body, 2/2 way N.C. actuator valve.																
Code	Fig. no.	Mat'l		Coil	Orifice mm	Temp. 5~°C				Working press. (0~ bar)						CV
		Seal	Body			Coil 4, 3E		Coil 5		Coil 4		Coil 5		Coil 3E		
						N	J,V	N	J,V	Funtion 1						
00	1	N J V	C S*	4 5 3E	1.6	80	150	90	150	30	20	40	30	20	14	0.10
	2				2.0					20	14	30	20	14	10	0.15
	3				2.2					14	10	20	14	10	7	0.20
	4				2.5					10	7	14	10	7	5	0.31
	5				3.0					7	5	10	7	5	4	0.42

Model MJR : Brass body, 2/2 way N.C. round trip actuator valve.																				
Code	Fig. no.	Mat'l		Coil	Orifice mm	Temp. 5~°C				Working press. (0~ bar)										CV
		Seal	Body			Coil 4, 3E		Coil 5		Coil 4			Coil 5			Coil 3E				
						N	J,V	N	J,V	1	2	A/DC	1	2	A/DC	1	2	A/DC		
00	1	N J V	C S*	4 5 3E	1.6	80	150	90	150	30	20	10	40	30	14	20	14	7	0.10	
	2.0				20					14	7	30	20	10	14	10	5	0.15		
	2.4				14					10	5	20	14	7	10	7	4	0.20		
	3.0				10					7	4	14	10	5	7	5	3	0.31		
	3.5				7					5	2	10	7	4	5	4	2	0.42		

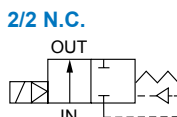
Model MJT : Brass body, 3/2 way N.C. actuator valve.																			
Code	Fig. no.	Mat'l		Coil	Orifice mm		Temp. 5~°C				Working press. (0~ bar)						CV		
		Seal	Body		Body		Top		Coil 4, 3E		Coil 5		Coil 4		Coil 5			Coil 3E	
													AC/DC, Funtion						
													N	J,V	N	J,V		1	2
00	1	N J V	C S*	4 5 3E	1.6	1.6	80	150	90	150	10	16	14	20	7	10	0.10		
	2				2.0	1.6					7	16	10	20	5	10	0.15		
	3				2.4	2.0					5	13	7	16	4	7	0.20		
	4				3.0	2.2					4	10	5	13	3	5	0.31		
	5				3.5	2.5					2	7	4	10	2	3	0.42		

Model MRJ : Brass body, 3/2 way N.O. actuator valve.														
Code	Fig. no.	Mat'l		Coil	Orifice mm		Temp. 5~°C				Working press. (0~ bar)			CV
		Seal	Body		Coil 4, 3E		Coil 5		Coil 4	Coil 5	Coil 3E			
					N	J,V	N	J,V	AC/DC, Funtion 3					
00	1	N J V	C S*	4 5 3E	2.0	1.6	80	150	90	150	7	10	3	0.10
	2				2.4	2.0					5	7	2	0.15
	3				2.4	2.2					3	5	1	0.17
	4				3.0	2.5					1	3	—	0.20
	5				3.5	3.0					—	1	—	0.31

* S.S. body is available.

MPD / MPK series

2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED.
- Ambient temperature: -5~50°C (No freezing).

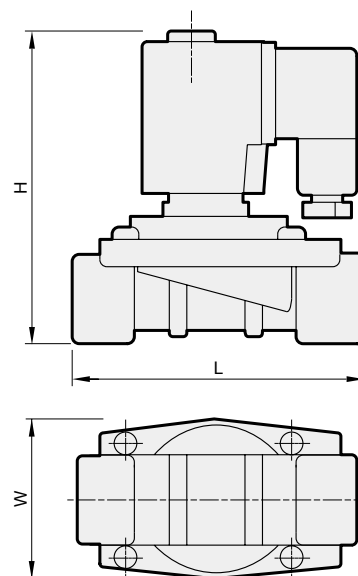
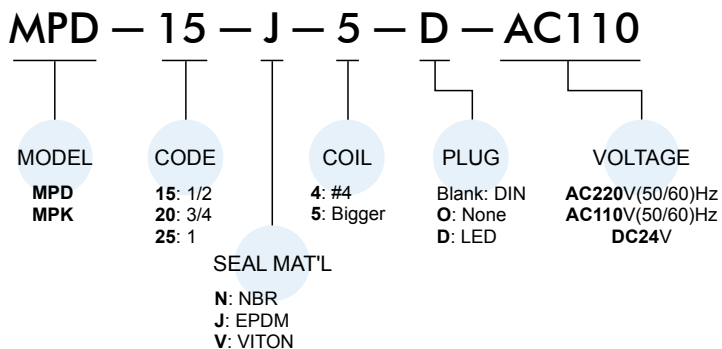
Power consumption

Coil power	4	5
AC 50/60Hz (VA)	19.5	—
DC (W)	15.0	18.5

Dimensions

Model	MPD / MPK		
Code Dimension (mm)	15	20	25
L	71	90	90
H	114	124	124
W	56	76	76
N.W (kg)	Coil 4	0.55	0.75
	Coil 5	1.1	1.2

Order example



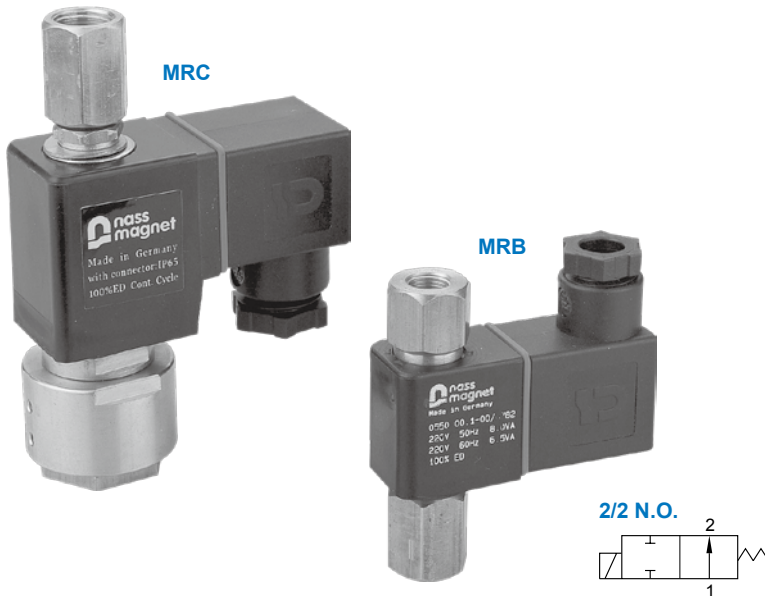
Specification

Model MPD : PA (Nylon) body, N.C., O.P.D. 0.2 bar. for water, special fluids etc.									
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp.°C		Max. O.P.D bar (0.2~ bar)			CV
				Coil 4	Coil 5	Coil 4		Coil 5	
				N,J,V		AC	DC	DC	
15(1/2)	N	4 5	18	4		7	1.5	4	4.0
20(3/4)	J		28	~		7	1.0	3	9.8
25(1)	V		28	60		7	1.0	3	11.0

Model MPK : PA (Nylon) body, N.C., O.P.D. 0 bar. for water, special fluids etc.									
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp.°C		Max. O.P.D bar (0~ bar)			CV
				Coil 4	Coil 5	Coil 4		Coil 5	
				N,J,V		AC	DC	DC	
15(1/2)	N	4 5	18	4		7	0.5	2.5	4.0
20(3/4)	J		28	~		7	—	2.5	9.8
25(1)	V		28	60		7	—	2.5	11.0

MRB / MRC series

2/2 WAY N.O. PLUNGER TYPE SOLENOID VALVE



Specification

- IP65 100% ED coil.
- PTB approval EExm II T4 coil.

Power consumption

Coil power	2	3	2E	4	5	3E
AC 50/60Hz (VA)	8.5/6.9	13/10	4.8	17.6/15.4	33/23	9.2
DC (W)	4.9	6.8	5.2	15	18.5	10

Dimensions

Model	MRB		MRC		
Code	03	06	03	06	10
Dimension (mm)					
L	68		98		
H	50		53		
W	23		34		
S	19		16		
S'	—		8		
N.W (kg)	0.20		0.45		

Order example

MRB — 06 — 2 — N — 2 — □ — AC110

MODEL CODE FIG. COIL VOLTAGE

03: 1/8 06: 1/4 10: 3/8

1, 2, 3, 4, 5

2, 3, 2E 4, 5, 3E (*)

SEAL MAT'L

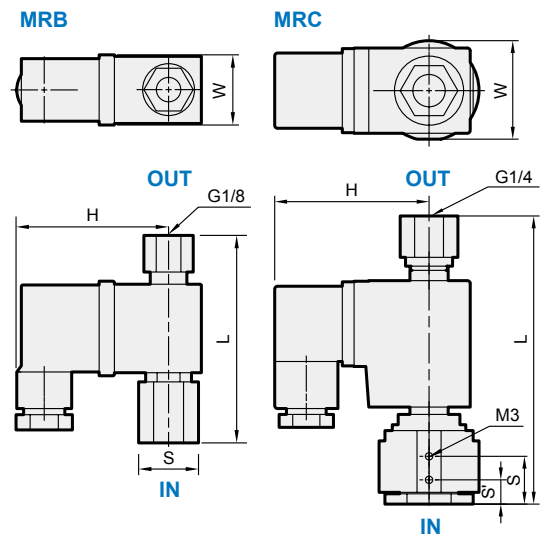
N: NBR J: EPDM V: VITON

PLUG

Blank: DIN D: LED G: 1/2" NPT Y: 2 wires

AC220V(50/60)Hz AC110V(50/60)Hz DC24V

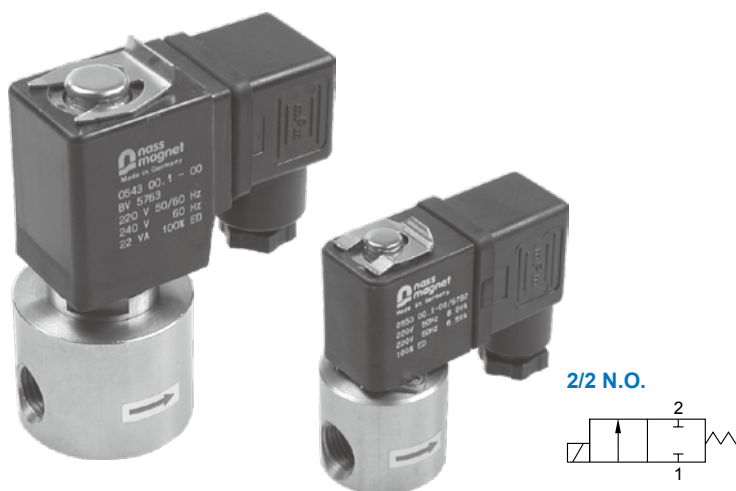
* Explosion-Proof (2E/3E) coil with LED (D) plug is not applicable.



Specification

Model MRB : Mini brass body, 2/2 way N.O., for water, air, gas, light oil.																			
Code (PIPE) G	Fig. no.	Mat'l		Coil	Orifice mm	Temp. 5~°C						Working press. bar			CV	VAC. torr			
						Coil 2, 2E			Coil 3			Coil 2	Coil 3	Coil 2E					
		N	J			V	N	J	V	AC/DC									
03(1/8) 06(1/4)	1	N,J,V	C	2,3,2E	1.3	80			90			120			0~14	0~20	0~10	0.05	10 ⁻³
	2				1.5										0~10	0~15	0~7	0.09	

Model MRC : Brass body, 2/2 way N.O., for water, air, gas, light oil.																
Code (PIPE) G	Fig. no.	Mat'l		Coil	Orifice mm	Temp. 5~°C						Working press. bar			CV	VAC. torr
						Coil 4, 3E			Coil 5			Coil 4	Coil 5	Coil 3E		
		N	J			V	N	J	V	AC/DC						
03(1/8) 06(1/4) 10(3/8)	1	N J V	C	4 5 3E	1.6	90	120	90	150	0~16	0~24	0~16	0.10	10 ⁻³		
	2				2.0					0~13	0~20	0~13	0.15			
	3				2.2					0~10	0~16	0~10	0.17			
	4				2.5					0~7	0~10	0~7	0.20	10 ⁻²		
	5				3.0					0~5	0~7	0~5	0.31			



Order example

MUSC — 06 — 2 — N — 3 — D — AC110

MODEL

CODE

FIG.

SEAL MAT'L

COIL

PLUG

VOLTAGE

03: 1/8
06: 1/4
08: 1/4
10: 3/8

1, 2, 3,
4, 5, 6,
7, 8, 9

N: NBR
J: EPDM
V: VITON
T: TEFLON (*1)
R: RUBY (*1)
Z: FFKM

2, 3, 2E
4, 5, 3E
(*2)

Blank: DIN
D: LED
G: 1/2" NPT
Y: 2 wires

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

*1. When the seal material is (T) TEFLON or (R) RUBY, the valve has slight leakage.

*2. Explosion-Proof (2E/3E) coil with LED (D) plug is not applicable.

Specification

Model **MUSC**: S.S. 303 bar body, 2/2 way N.C., for water, air, gas, oil, vacuum.

Model M333: C.C. 300 bar body, 2/2 way N.O., for water, air, gas, oil, vacuum.																		
Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm	Temp. °C						Working press. bar						CV	VAC. torr
					Coil 2, 2E			Coil 3			Coil 2		Coil 3		Coil 2E			
					N	J,V	Z	N	J,V	Z	AC	DC	AC	DC	AC	DC		
03(1/8) 06(1/4)	1	N J V Z	2 3 2E	1.0	-5 ~ 80	-10 ~ 80	-20 ~ 80	-5 ~ 80	-10 ~ 145	20	13	30	24	20	0.03	10 ⁻³		
	2			1.3						16	10	25	20	16	0.05			
	3			1.6						13	8	20	16	14	0.09			
	4			2.0						10	7	15	13	10	0.14			
	5			2.5						7	5	10	10	7	0.18	10 ⁻²		
	6			3.0						5	3	7	7	5	0.27			
	7			4.0						3	2	5	4	3	0.40			
	8			5.0						1	0.5	3	2	1	0.40			

Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm	Temp. °C						Working press. bar						CV	VAC torr
					Coil 4			Coil 5, 3E			Coil 4		Coil 5		Coil 3E			
					N	JV	TRZ	N	JV	TRZ	AC	DC	AC	DC	AC	DC		
08(1/4) 10(3/8)	1	N J V T R Z	4 5 3E	1.6	-5 ~ 80	-10 ~ 145	-10 ~ 160	-5 ~ 80	-10 ~ 145	-20 ~ 185	30	20	40	30	20	14	0.10	10 ⁻⁴
	2			2.0							20	14	30	20	14	10	0.15	
	3			2.5							14	10	20	14	10	7	0.20	
	4			3.0							10	7	14	10	7	5	0.31	
	5			4.0							7	4	10	7	5	4	0.54	10 ⁻³
	6			5.0							5	3	7	4	4	3	0.80	
	7			6.0							4	2	5	3	3	2	0.95	
	8			7.5							3	1	3	2	2	1	1.10	
	9			10.0							1	0.5	2	1	1	0.5	1.30	10 ⁻²

* The max. Orifice for sea T=4.0mm, R=3.0mm, Z=5.0mm.

* Seal T and R will have slight leakage, so it will not be suitable for vacuum. Evaporable and flammable danger fluids.

Specification

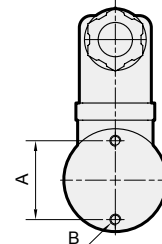
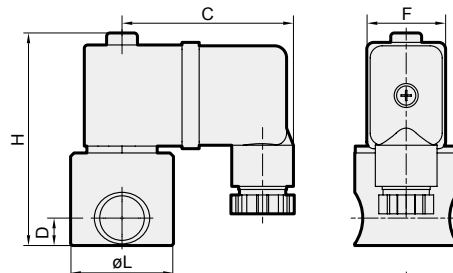
- IP65 waterproof coil.
- Continuous cycle, 100% ED.
- Ex coil is EExm II T4 or EEx ia II C T6 PTB approval.

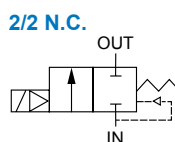
Power consumption

Coil power	2	3	2E	4	5	3E
AC 50/60Hz (VA)	6.9	8.0	4.8	15.4	23.0	9.2
DC (W)	6.2	6.8	5.2	15.0	18.5	10.0

Dimensions

Model	MUSC			
Code Dimension (mm)	03	06	08	10
A	18.0	23.0	31.0	31.0
B	M4	M4	M5	M5
C	50.0	50.0	53.0	53.0
D	7.0	10.0	11.0	12.0
F	22.0	22.0	29.0	29.0
H	56.5	63.0	86.0	87.0
L	25.0	30.0	40.0	42.0
N.W (kg)	0.23	0.28	0.52	0.60





Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED.
- Ex coil is EExm II T4 PTB approval.

Power consumption

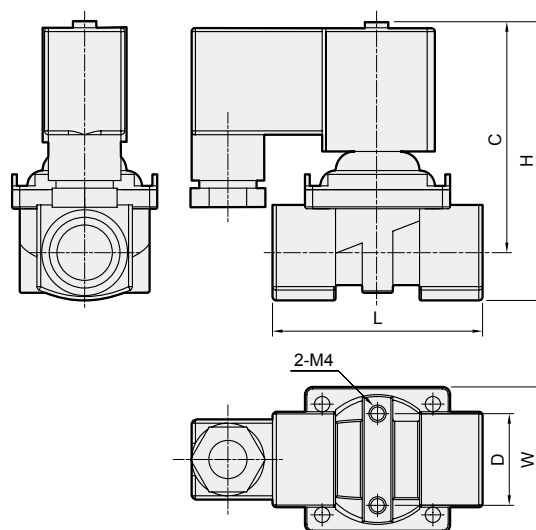
Coil power	2	3	2E
AC 50/60Hz (VA)	6.9	8.0	5.3
DC (W)	6.0	6.8	5.2

Dimensions

Model	MUSD
Code Dimension (mm)	15
L	55
H	72
W	38
C	60
D	24
Coil 2	0.26
N.W (kg) Coil 3	0.31
Coil 2E	0.54

Order example

MUSD	15	J	5	D	AC110
MODEL	CODE	COIL	PLUG	VOLTAGE	
	15: 1/2	2: #2 3: Bigger 2E: Explosion-Proof (*)	Blank: DIN O: None D: LED G: 1/2" NPT Y: 2 wires	AC220V(50/60)Hz AC110V(50/60)Hz DC24V	
		SEAL MAT'L			
		N: NBR J: EPDM V: VITON			



* Explosion-Proof (2E) coil with LED (D) plug is not applicable.

Specification

Model MUSD : SCS14 body, 2/2 way N.C., for water, air, gas, light oil.																
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. °C						Working press. (0.3~ bar)						CV
				Coil 2, 2E			Coil 3			Coil 2		Coil 3		Coil 2E		
				N	J	V	N	J	V	AC	DC	AC	DC	AC	DC	
15(1/2)	N J V	2 3 2E	15	-5 ~ 80	-10 ~ 80	-5 ~ 60	-5 ~ 120			5	1	10	3	5	1	2.0

MUST series

3/2 WAY N.C. PLUNGER TYPE SOLENOID VALVE



Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED.
- Ex coil is EExm II T4 or EEx ia II C T6 PTB approval.

Power consumption

Coil power	2	3	2E	4	5	3E
AC 50/60Hz (VA)	6.9	8.0	4.8	15.4	23.0	9.2
DC (W)	6.2	6.8	5.2	15.0	18.5	10.0

Dimensions

Model	MUST			
Code Dimension (mm)	03	06	08	10
A	18.0	23.0	31.0	31.0
B	M4	M4	M5	M5
C	50.0	50.0	53.0	53.0
D	7.0	8.0	11.5	11.5
F	22.0	22.0	29.0	29.0
H	56.5	62.0	85.0	85.0
L	25.0	30.0	40.0	40.0
N.W (kg)	0.23	0.28	0.52	0.60

Order example

MUST — 06 — 2 — N — C — 5 — D — AC110

MODEL

CODE

FIG.

SEAL MAT'L

COIL

PLUG

VOLTAGE

03: 1/8
06: 1/4
08: 1/4
10: 3/8

1, 2, 3,
4, 5, 6, 7

N: NBR
V: VITON

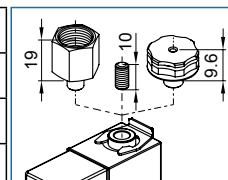
2, 3, 2E
4, 5, 3E
(*)

Blank: DIN
D: LED
G: 1/2" NPT
Y: 2 wires

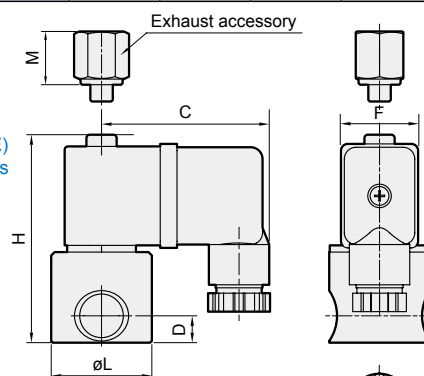
AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

EXHAUST ACCESSORIES

U	—	Without
F		PS female
C		Dust-proof & silencer cap
P		1/8" PS male



* Explosion-Proof (2E/3E) coil with LED (D) plug is not applicable.



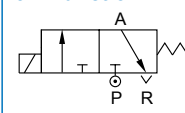
Specification

Model **MUST**: S.S. 303 bar body, 3/2 way N.C., N.O., for water, air, gas, light oil, vacuum (10^{-1} torr Max).

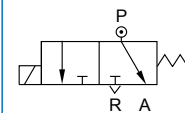
Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm		Temp.°C				Max. O.P.D. bar (Min. 0 bar)						CV
						Coil 2		Coil 3, 2E		Coil 2		Coil 3		Coil 2E		
				Body	Top	N	V	N	V	1	2	1	2	1	2	
03(1/8) 06(1/4)	1	N V	2 3 2E	0.8	1.0	-5 ~ 80	-10 ~ 90	-5 ~ 80	-10 ~ 120	10	10	14	13	10	10	0.02
	2			1.0	1.0					7	10	10	13	7	10	0.03
	3			1.2	1.0					6	10	7	13	6	10	0.05
	4			1.6	1.2					4	7	5	10	4	7	0.09
	5			2.0	1.2					3	7	4	10	3	7	0.14
	6			2.4	1.5					2	5	3	7	2	5	0.18
	7			3.0	1.5					1	5	2	7	1	5	0.23

Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm		Temp. °C				Max. O.P.D. bar (Min. 0 bar)						CV
						Coil 4		Coil 5, 3E		Coil 4		Coil 5		Coil 3E		
				Body	Top	N	JV	N	JV	1	2	1	2	1	2	
08(1/4) 10(3/8)	1	N V	4 5 3E	1.3	1.6	-5 ~ 80	-10 ~ 145	-5 ~ 80	-10 ~ 145	10	13	16	16	10	13	0.07
	2			1.6	1.6					7	13	13	16	7	13	0.10
	3			2.0	1.6					5	13	10	16	5	13	0.15
	4			2.5	2.0					4	10	7	13	4	10	0.20
	5			3.0	2.0					3	10	5	13	3	10	0.31
	6			4.0	2.5					2	7	3	10	2	7	0.54
	7			5.0	3.0					1	5	2	7	1	5	0.80

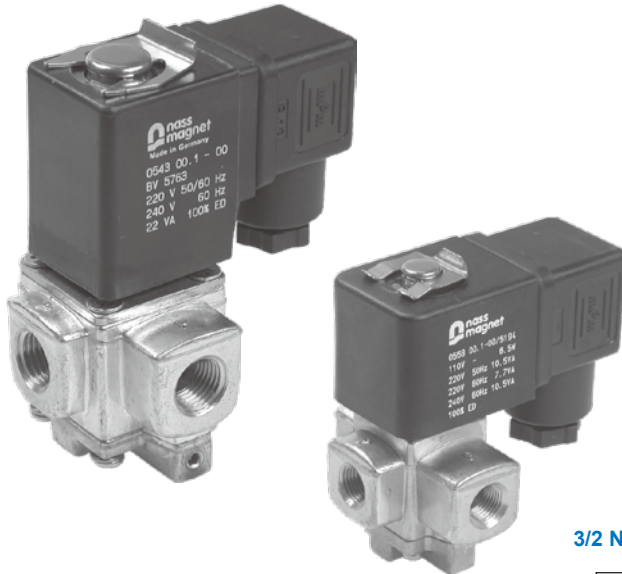
3/2 Function 1



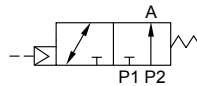
3/2 Function 2



* O.P.D. of function 1, 2 refer to specification table.



3/2 N.C., N.O.



Order example

MUT – 10 – 2 – 3 – □ – AC110

MODEL

CODE

FIG.

COIL

PLUG

VOLTAGE

03: 1/8
06: 1/4
08: 1/4
10: 3/8

1, 2, 3,
4, 5

2, 3, 2E
4, 5, 3E
(*)

Blank: DIN
O: None
D: LED
G: 1/2" NPT

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

* Explosion-Proof (2E/3E) coil with LED (D) plug is not applicable.

Specification

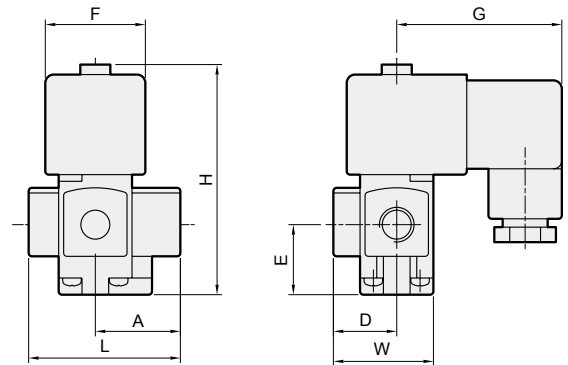
- IP65 waterproof coil.
- Continuous cycle, 100% ED.
- Ex coil is EExm II T4 or EEx ia II C T6 PTB approval.

Power consumption

Coil power	3	2E	4	3E
AC 50/60Hz (VA)	8.0	4.8	15.4	9.2
DC (W)	6.8	5.2	15.0	10.0

Dimensions

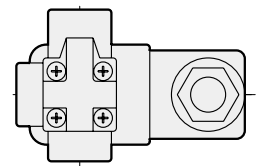
Model	MUT			
Code Dimension (mm)	03	06	08	10
A	25.5		28.5	
D	19.0		22.5	
E	21.0		23.0	
F	30.0		30.0	
G	50.0		53.0	
H	69.0		87.0	
L	45.5		51.0	
W	30.5		39.0	
N.W (kg)	#2 (0.34), #3 (0.31), #2E (0.58)		#4 (0.5), #5 (0.6), #3E (0.8)	



Specification

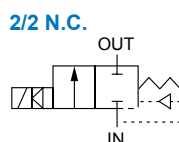
Model MUT : Forged brass body, 3/2 way N.C., N.O., for water, air, gas, light oil, vacuum.										
Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm	Temp.°C	Max O.P.D. bar (Min. 0 bar)				VAC torr
					Coil	Coil 2	Coil 3	Coil 2E		
					V	AC	DC	AC	DC	
03(1/8) 06(1/4)	1	V	2 3 2E	1.0	-5~95	6	6	6	4	10 ⁻²
	2			1.3		5	5	5	3	
	3			1.6		3	3	2.5	1.5	
	4			2.0		2	2	1.5	1	10 ⁻¹

Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm	Temp.°C	Max O.P.D. bar (Min. 0 bar)				VAC. torr
					Coil	Coil 2	Coil 3	Coil 2E		
					V	AC	DC	AC	DC	
08(1/4) 10(3/8)	1	V	4 5 3E	1.3	-5~95	10	15	10	7	10 ⁻²
	2			1.6		7	12	7	5	
	3			2.0		6	10	6	3	
	4			2.4		5	8	5	2	10 ⁻¹
	5			3.0		3	5	3	1	



MWA / MWH / MWS series

2/2 WAY N.C. PISTON TYPE SOLENOID VALVE



Specification

- IP65 waterproof coil.
- Ex coil is EExm II T4 PTB approval.
- Ambient temp.: -15~50°C
- Voltage tolerance: ±8%
- Installing position is free.
(You'd better put the coil upright)
- Pilot piston series.

Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	17.6/15.4	33/23	9.2
DC (W)	15	18.5	10

Dimensions

Model	MWA / H / S				
Code Dimension (mm)	10/15	20	25	32/40	45/50
L	71	80	90	97	118
H	136	141	148	171	191
H'	122	114	127	142	156
W	51	61	71	76	95
N.W (kg)	1.3	1.5	1.9	2.9	4.5

Order example

MWA - 10 - N - 4 - □ - F - AC110

MODEL

MWA
MWH
MWS

CODE

10, 15, 20, 25,
32, 40, 45, 50

COIL

4: #2
5: Bigger
3E: Explosion-
Proof (*2)

SEAL MAT'L

N: NBR
V: VITON
T: TEFLON (*1)

PLUG

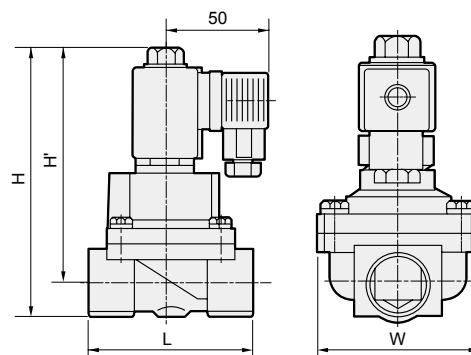
Blank: DIN
D: LED
G: 1/2" NPT
Y: Single frequency

CONN.

Blank: Screwed
F: Flanged
RF: Raised face
flanged
(Custom order)

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V



*1. When the seal material is (T) TEFLON, the valve has slight leakage.

*2. Explosion-Proof (3E) coil with LED (D) plug is not applicable.

Specification

Model **MWA**: Forged brass body, 2/2 way N.C. for air, water, light oil, gas etc.

Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp.°C	Max. O.P.D. bar (min. 0.5 bar)						CV
				Coil 4, 5, 3E	Coil 4		Coil 5		Coil 3E		
				N	AC	DC	AC	DC	AC	DC	
10(3/8)	N	4 5 3E	15	-5 ~ 80	12	6	16	10	7	4	3.0
15(1/2)			12		6	16	10	7	4	4.0	
20(3/4)			12		6	16	10	7	4	6.8	
25(1)			9		3	13	7	5	3	11.0	
32(1 1/4)			9		3	13	7	5	3	16.0	
40(1 1/2)			9		3	13	7	5	3	21.0	
45(1 1/2)			6		2	10	5	3	1	26.0	
50(2)			6		2	10	5	3	1	31.0	

Model **MWH**: Forged brass body, 2/2 way N.C. for heavy oil, high viscosity fluids (Max. 120 cst) etc.

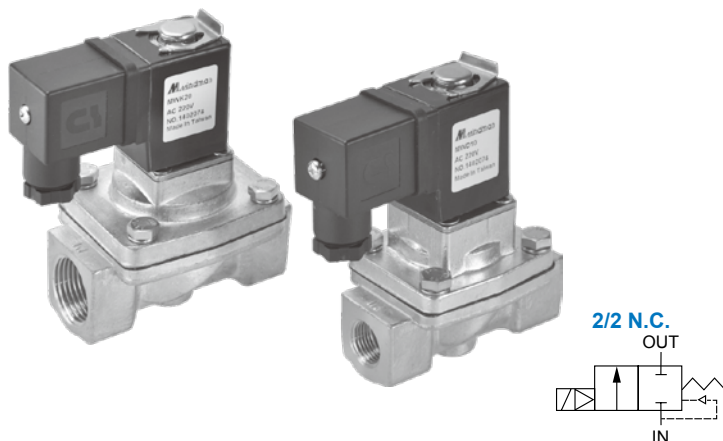
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. °C	Max. O.P.D. bar (min. 0.5 bar)						CV
				Coil 4, 5, 3E	Coil 4		Coil 5		Coil 3E		
				V	AC	DC	AC	DC	AC	DC	
10(3/8)	V	4 5 3E	15	-10 ~ 145	7	3	15	10	5	3	3.0
15(1/2)			7		3	15	10	5	3	4.0	
20(3/4)			7		3	15	10	5	3	6.8	
25(1)			5		2	13	7	4	2	11.0	
32(1 1/4)			5		2	13	7	4	2	16.0	
40(1 1/2)			5		2	13	7	4	2	21.0	
45(1 1/2)			3		1	10	5	3	1	26.0	
50(2)			3		1	10	5	3	1	31.0	

Model **MWS**: Forged brass body, 2/2 way N.C. for steam, high temp. fluids etc.

Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp.°C		Max. O.P.D. bar (min. 0.5 bar)						CV
				Coil 4	Coil 5,3E	Coil 4		Coil 5		Coil 3E		
				T	T	AC	DC	AC	DC	AC	DC	
10(3/8)	T	4 5 3E	15	-10 ~ 155	-10 ~ 185	5	3	10	7	5	3	3.0
15(1/2)			5			3	10	7	5	3	4.0	
20(3/4)			5			3	10	7	5	3	6.8	
25(1)			4			2	10	5	4	2	11.0	
32(1 1/4)			4			2	10	5	4	2	16.0	
40(1 1/2)			4			2	10	5	4	2	21.0	
45(1 1/2)			3			1	10	3	3	1	26.0	
50(2)			3			1	10	3	3	1	31.0	

MWD / MWK series

2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



Specification

- IP65 waterproof coil.
- Continuous cycle, 100% ED.
- Ex coil is EExm II T4 PTB approval.

Dimensions

Model	MWD / MWK							
Code Dimension (mm)	10	15	20	25	32	40	45	50
L	77	82	93	101	101	123	123	
H	107	111	119	135	135	150	150	
W	51	61	72	76	76	95	95	
Coil 4	0.83	1.0	1.4	2.0	1.9	3.7	3.2	
N.W (kg) Coil 5	0.9	1.1	1.5	2.1	2.0	3.8	3.3	
Coil 3E	1.2	1.4	1.8	2.4	2.3	4.1	3.6	

Order example

MWD - 15 - J - M - 5 - G - □ - AC110

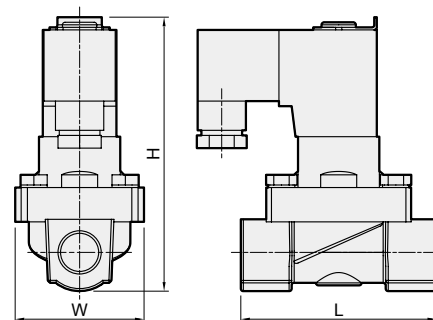
MODEL: MWD, MWK
 CODE: 10, 15, 20, 25, 32, 40, 45, 50
 MANUAL: Blank: Without, M: With
 SEAL MAT'L: N: NBR, J: EPDM, V: VITON
 COIL: 4: #2, 5: Bigger, 3E: Explosion-Proof (*)
 PLUG: Blank: DIN, O: None, D: LED, G: 1/2" NPT
 CONN.: Blank: Screwed
 VOLTAGE: AC220V(50/60)Hz, AC110V(50/60)Hz, DC24V

Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	19.5	23.0	9.2
DC (W)	15.0	18.5	10.0

Specification

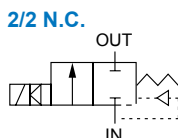
Model MWD : Forged brass body, 2/2 way N.C., O.P.D. 0.2 bar, for water, air, gas.													
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. °C			Working press. (0.2~ bar)						CV
				Coil 4, 5, 3E			Coil 4		Coil 5		Coil 3E		
				N	J	V	AC	DC	AC	DC	AC	DC	
10(3/8)	N J V	4 5 3E	18	-10 ~ 80	-10 ~ 145	10	1.5	16	4.0	2.5	1.5	3.0	
15(1/2)			10			1.5	16	4.0	2.5	1.5	4.0		
20(3/4)			10			1.5	16	3.5	1.5	1.5	6.8		
25(1)			10			1.5	13	3.0	1.5	1.5	11.0		
32(1 1/4)			10			1.0	13	3.0	1.2	1.5	16.0		
40(1 1/2)			10			1.0	13	3.0	1.2	1.5	21.0		
45(1 1/2)			7.0			0.5	10	1.0	0.5	0.5	26.0		
50(2)			7.0			0.5	10	1.0	0.5	0.5	31.0		



Model MWK : Forged brass body, 2/2 way N.C., O.P.D. 0 bar, for water, air, gas, light oil, vacuum.												
Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. °C			Working press. (0~ bar)				CV	
				Coil 4, 5, 3E			Coil 4		Coil 5			Coil 3E
				N	J	V	AC	AC	DC	AC		
10(3/8)	N J V	4 5 3E	18	-10 ~ 80	-10 ~ 145	10	16	4.0	2.5	3.0		
15(1/2)			10			16	4.0	2.5	4.0			
20(3/4)			10			15	3.5	1.5	6.8			
25(1)			10			12	3.0	1.5	11.0			
32(1 1/4)			10			12	1.5	1.5	16.0			
40(1 1/2)			10			12	1.5	1.5	21.0			
45(1 1/2)			6.0			10	1.0	1.0	26.0			
50(2)			6.0			10	1.0	1.0	31.0			

MYA / MYS series

2/2 WAY N.C. PISTON TYPE SOLENOID VALVE



Specification

- Y type forged brass body.
- IP65 100% ED coil.
- PTB approval EExm II T4 coil.

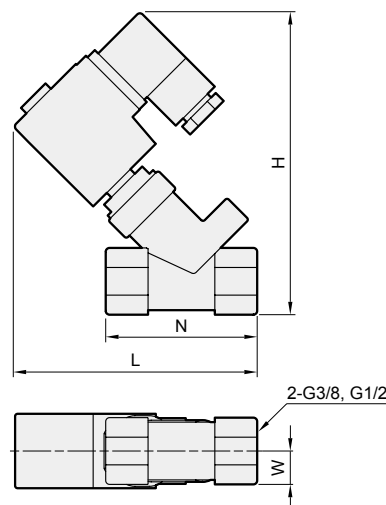
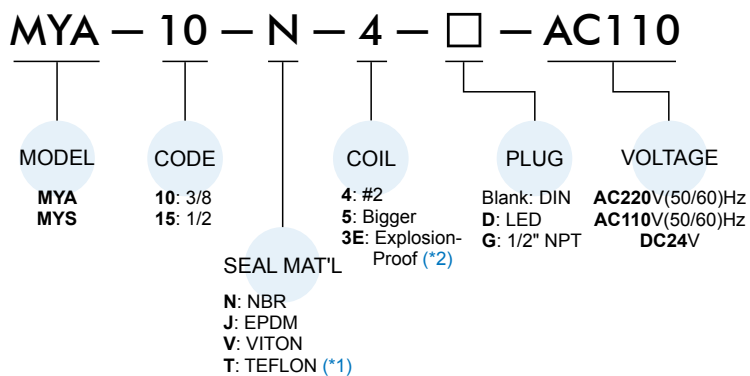
Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	17.6/15.4	33/23	9.2
DC (W)	15	18.5	10

Dimensions

Model	MYA / MYS	
Code Dimension (mm)	10	15
H	118.0	
L	95.0	
N	59.0	
W	13.0	
N.W (kg)	0.55	

Order example



*1. When the seal material is (T) TEFLON, the valve has slight leakage.

*2. Explosion-Proof (3E) coil with LED (D) plug is not applicable.

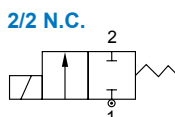
Model **MYA**: for water, air and high temp. fluids.

Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. 5~°C				Working press. bar					CV
				Coil 4		Coil 5, 3E		Coil 4		Coil 5		Coil 3E	
				N	J, V	N	J, V	AC	DC	AC	DC	AC/DC	
10(3/8)	N, J, V	4, 5, 3E	12	95	120	95	145	0.3~16	0.3~10	0.3~20	0.3~12	0.3~5	1.9
15(1/2)			12					0.3~16	0.3~10	0.3~20	0.3~12	0.3~5	2.6

Model **MYS**: for steam and high temp. fluids.

Code (PIPE) G	Seal Mat'l	Coil	Orifice mm	Temp. 5~°C		Working press. bar					CV
				Coil 4, 3E	Coil 5	Coil 4		Coil 5		Coil 3E	
				T	T	AC	DC	AC	DC	AC/DC	
10(3/8)	T*	4, 5, 3E	12	158	185	0.3~5	0.3~2	0.3~10	0.3~7	0.3~5	1.9
15(1/2)			12			0.3~5	0.3~2	0.3~10	0.3~7	0.3~5	2.6

* Teflon seal will have 400 cc/min. down gas leakage.



Specification

- IP65 100% ED coil.
- PTB approval EExm II T4 coil.

Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	15.4	23.0	9.2
DC (W)	15.0	18.5	10.0

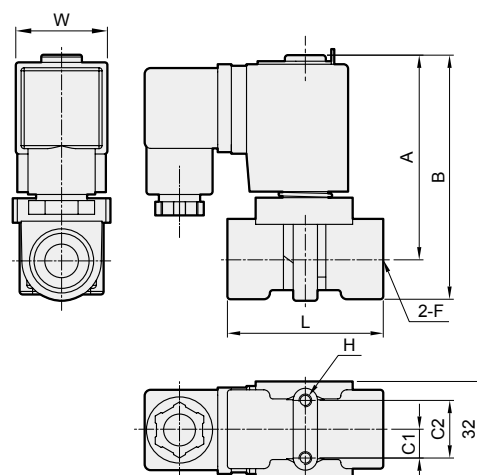
Dimensions

Model		MZS			
Code Dimension (mm)		03	06	08	10
A		66		68	
B		74.5		80.5	
C1		8		9.5	
C2		16		19	
F		G1/8	G1/4	G3/8	G1/2
H		M3×0.5		M4×0.7	
L		41		51.5	
W	Coil 4	32			
	Coil 5	36			
	Coil 3E	32			
N.W (kg)	Coil 4	370	360	450	40
	Coil 5	450	450	530	510
	Coil 3E	670	670	750	730

Order example

MZS – 06 – 2 – N – 5 – □ – AC110

MODEL	CODE	FIG.	SEAL MAT'L	PLUG	VOLTAGE
	03: 1/8" 06: 1/4" 10: 3/8" 15: 1/2"	1, 2, 3, 4, 5, 6	N: NBR J: EPDM V: VITON T: TEFLON (*1) R: RUBY (*1) Z: FFKM	Blank: DIN O: None D: LED G: 1/2" NPT	AC220V(50/60)Hz AC110V(50/60)Hz DC24V
				COIL	
				4: #2 5: Bigger 3E: Explosion-Proof (*2)	



*1. When the seal material is (T) TEFLON or (R) RUBY, the valve has slight leakage.

*2. Explosion-Proof (3E) coil with LED (D) plug is not applicable.

Model **MZS**: Forged brass body, 2/2 way N.C., for water, air, steam, gas, light oil.

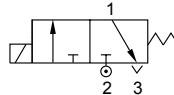
Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm	Temp. °C								Max. O.P.D. bar (Min. 0 bar)						CV	VAC. torr
													Coil 4		Coil 5		Coil 3E			
					Seal mat'l	N	J	T	R	V	Z	AC	DC	AC	DC	AC	DC			
03(1/8) 06(1/4) 10(3/8) 15(1/2)	1	N J V T R Z	4 5 3E	1.6	Coil 4	-5 ~ 80	-10 ~ 145	-20~160		-10~145		30	20	40	30	20	20	0.12	10 ⁻²	
	2			2.0								20	15	30	20	15	15	0.18		
	3			2.5	Coil 5			-20~185		-10 ~ 145	-20 ~ 160	14	7	20	15	10	10	0.20		
	4			3.0								10	5	15	10	5	5	0.37		
	5			4.0	Coil 3E			-20~160		145 ~ 160	7	3	10	7	3	3	0.53	10 ⁻²		
	6			5.0							5	1	7	4	1	1	0.83			

* The max. orifice for seal T = 4.0mm, R = 3.0mm, Z = 5.0mm.

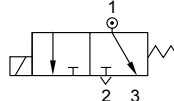
* Seal T and R will have slight leakage, so it will not be suitable for vacuum.



3/2 Function 1



3/2 Function 2



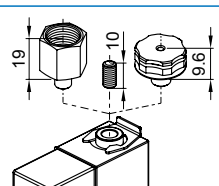
Order example

MZT-06-2-N-C-5-D-AC110

MODEL	CODE	FIG.	SEAL MAT'L	COIL	PLUG	VOLTAGE
	03: 1/8 06: 1/4 10: 3/8 15: 1/2	1, 2, 3, 4, 5, 6	N: NBR V: VITON Z: FFKM	4, 5, 3E (*)	Blank: DIN O: None D: LED G: 1/2" NPT	AC220V(50/60)Hz AC110V(50/60)Hz DC24V

EXHAUST ACCESSORIES

U	Without
F	PS female
C	Dust-proof & silencer cap
P	1/8" PS male



* Explosion-Proof (3E) coil with LED (D) plug is not applicable.

Specification

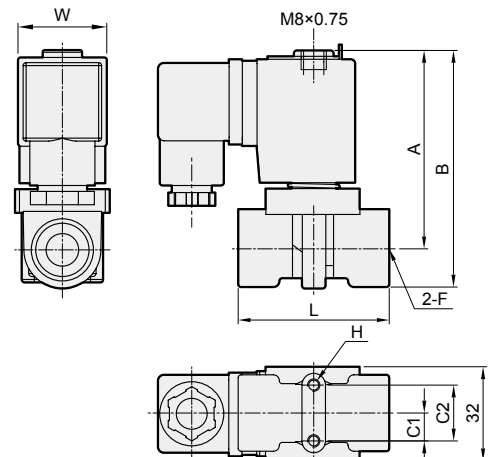
- IP65 100% ED coil.
- PTB approval EExm II T4 coil.

Power consumption

Coil power	4	5	3E
AC 50/60Hz (VA)	19.5	23.0	9.2
DC (W)	15	18.5	10.0

Dimensions

Model	MZT				
Code Dimension (mm)	03	06	08	10	
A	66		68		
B	74.5		80.5		
C1	8		9.5		
C2	16		19		
F	G1/8	G1/4	G3/8	G1/2	
H	M3×0.5		M4×0.7		
L	41		51.5		
W	Coil 4	32			
	Coil 5	36			
	Coil 3E	32			
N.W (kg)	Coil 4	370	360	450	40
	Coil 5	450	450	530	510
	Coil 3E	670	670	750	730



Model **MZT**: Forged brass body, 3/2 way N.C., for water, air steam, gas, light oil.

Code (PIPE) G	Fig. no.	Seal Mat'l	Coil	Orifice mm		Temp.°C									Max. O.P.D bar (Min. 0 bar)						CV	VAC. torr
															Coil 4		Coil 5		Coil 3E			
				Body	Top	N	V	Z	N	V	Z	N	V	Z	1	2	1	2	1	2		
03(1/8) 06(1/4) 10(3/8) 15(1/2)	1	N V Z	4 5 3E	1.3	1.6	-5 ~ 80	-10 ~ 145	-5 ~ 80	-10 ~ 145	-20 ~ 160	-5 ~ 80	-10 ~ 145	-20 ~ 160	10	13	13	16	10	13	0.08	10 ⁻²	
	2			1.6										7	13	10	16	7	13	0.10		
	3			2.0	2.0									5	13	7	16	5	13	0.15		
	4			2.5										4	10	5	13	4	10	0.20		
	5			3.0	2.4									3	10	4	13	3	10	0.31		
	6			4.0										2	7	3	10	2	7	0.54		
	7			5.0	2.8									1	5	2	7	1	7	0.80		

MU* series

SOLENOID VALVE (PIPELINE TYPE)



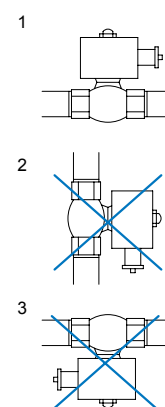
Quick reference chart normally closed & normally open

The spot indicated on the effective area present the more the better, ●●● the best, ●● better, good.

Model	MUD / MUS	MUA	MUDC	MSUS	MUAO	MUW	MUW-NO	MUW-F
Photograph								
Pipe size	1/8"~3/8"	1/4"~3/8"	1/4"~1"	1/8"~2"	1/4"~1/2"	3/8"~2"	3/8"~2"	1 1/4"~4"
Operating pressure (MPa)	0~2	0~1	0~0.1	0.05~1	0.05~1.5	0~0.7	0~0.7	0.02~0.8
Fluid temp. °C	-5~+130°C	-5~+80°C	-5~+80°C	-5~+185°C	-5~+80°C	-5~+80°C	-5~+80°C	-5~+80°C
Steam	●●			●●●				
Water	●●●	●●●	●●●	●●●	●●	●●●	●●●	●●●
Air	●●●	●●●	●●	●●●	●●●	●●●	●●●	●●●
Oil	●●			●●	●●●	●●		
Gas	●●						●●	
Vacuum	●●	●●					●●	

Model	MUG / MUV	MUAW	MUS / MUS-F	MSUW	MSUW-F	MUPS
Photograph						
Pipe size	3/8"~2"	1/2"~2"	1/2"~4"	1/2"~2"	1/2"~2"	1/2"~1"
Operating pressure (MPa)	0~0.7	0.2~1.5	0.05~1	0~0.7	0~0.7	0.05~1
Fluid temp. °C	-5~+80°C	-5~+80°C	-5~+185°C	-5~+80°C	-5~+80°C	-5~+185°C
Steam			●●●			●●●
Water	●●	●●●	●●●	●●●	●●●	●●●
Air	●●	●●●	●●●	●●●	●●●	●●●
Oil			●●	●●	●●	●●
Gas	●●●					
Vacuum	●●●					

Prohibition vertical operation !



Caution

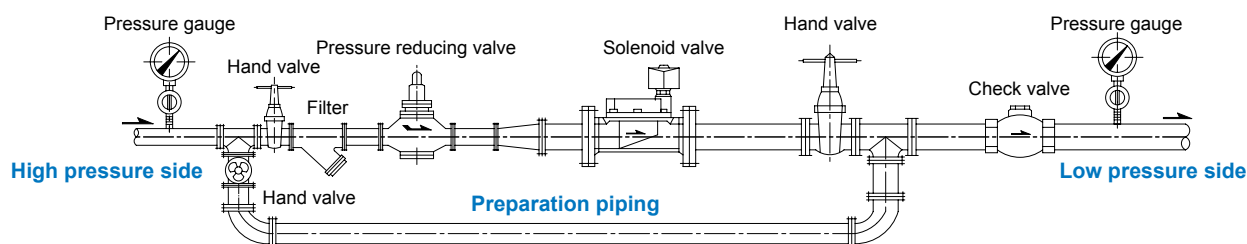
1. Pipes must be washed neat and clean before fitted.
2. A Y-strainer has to installed in the front of solenoid valve, that is best for long life.
3. Before installation, be sure what type of fluid, voltage, pressure and fluid temperature used.

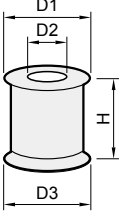
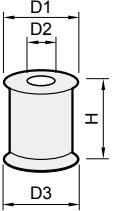
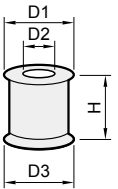
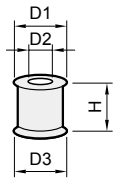
Remark Wire color of outlet coil

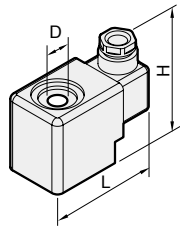
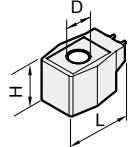
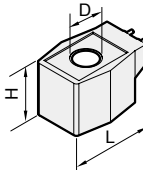
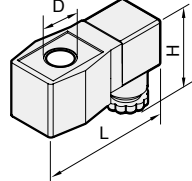
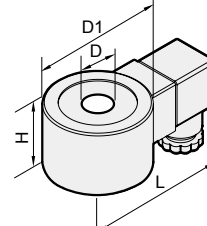
Voltage	AC110V	AC220V	Other
Color	Blure	Red	Blue+Red

Standard voltage: AC 110V/220V (50/60)Hz

Detailed description of diagram



Type	XL type				L type				M type				S type			
Dimension (mm)																
	D1	D2	D3	H	D1	D2	D3	H	D1	D2	D3	H	D1	D2	D3	H
	ø60.7	ø20.8	ø63.2	53.1	ø42.3	ø11.6	ø44.4	42.1	ø42.5	ø16.5	ø44.4	34.4	ø37.3	ø14.2	ø37.5	29.2
Model	MUS-15~50 MUW-35~50(+NO) MSUW-35~50 MUW-35~100F MUS-35~100F MUSF-NO				MUW-25 MUD-10~15 MSUW-25				MUS-10(+NO) MUD-10(+NO) MUD-10H MUW-10~20(+NO) MSUW-15~25(+NO) MUA-10 MUW35-1~50-1 MUPS-15~25(+NO) MSUS-15~50(+NO) MSUS-10(+NO)				MUD-6(H)~8(H) MUD-6-NO MUA-8-NO MUS-6~8(+NO) MSUS-6~8(+NO)			

Type	Waterproof coil						DIN								NASS (EEx II T4)		
Dimension (mm)	S type			M type			AC			DC							
																	
	D	L	H	D	L	H	D	L	H	D	D1	L	H				
	ø14.1	50.5	32.4	ø16.6	56.6	38	ø16.3	82	49.3	ø16.3	ø55.8	97	38	ø14.6	71.1	47.2	
Model	MUD-6(H)~8(H) MUA-8 MUS-8			MUW-10~25(+NO) MUA-10 MUPS-15~25 MUW-35-1~50-1 MSUW-15~25(+NO) MSUS-15~50			MUS-10 MUD-10(H) MUW-10~25(+NO) MSUW-15~25(+NO) MUW-35-1~50-1(+NO) MUA-10			MUPS-15~25 MSUS-15~50 MUAO-8~15 MUDC-8~15 MUDC-TF-8~15					MUW-10~25 MSUW-15~25 MUPS-15~25 MSUS-15~25		

MUD / MUS series

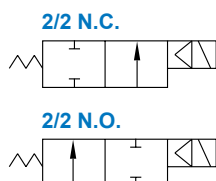


2/2 WAY N.C., N.O. PLUNGER / PISTON TYPE SOLENOID VALVE

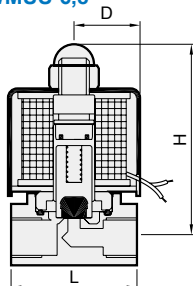
mindman

2 way normally closed / normally open solenoid valve.

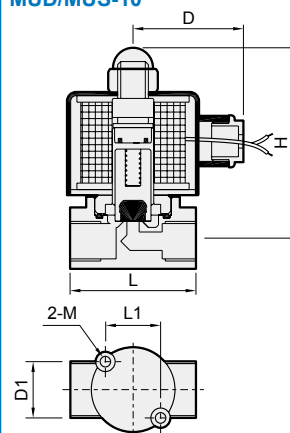
Available fluid: Water, air, steam, light oil, gas & vacuum.



MUD/MUS-6,8



MUD/MUS-10



Specification

- Small size & easy assembly.
- Other voltage of AC/DC available when required.
- Installation: Mountable in any position without affecting operation.
- Viton(130°C), Silicon(130°C), PTFE (185°C)
- AC voltage tolerance: $\pm 10\%$
- DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Forge brass
Coil	Special copper wire (H)
Tube	Stainless steel
Spring	Stainless steel
Fixed steel	Special st. steel
Plug	NBR, Viton, Silicon, PTFE
Disc	NBR, PTFE

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.
- Prohibition vertical operation.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.

Order example

MUD - 6 H - NO - □ - G - □ - AC110 - G

MODEL
MUD
MUS

PIPE SIZE
6: 1/8"
8: 1/4"
10: 3/8"

Blank: Normally closed
NO: Normally open

OPERATING
PRESSURE

Blank: Standard type
H: High pressure type

COIL

Blank: Special copper wire
D: DIN

FLUID

Blank: Water, air
G: Gas
O: Light oil (*2)
VA: Vacuum
T: Steam (*1)

SEAL MAT'L

Blank: NBR
V: VITON
S: Silicon
P: PTFE (*1)

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

PORT THREAD

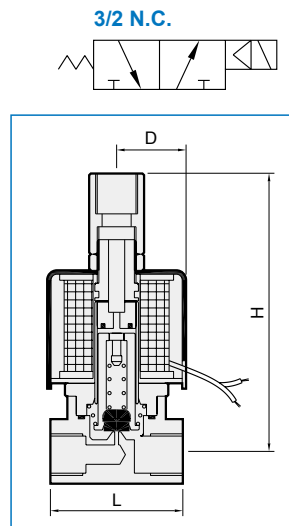
Blank: Rc thread
G: G thread
NPT: NPT thread

*1. Only for MUS type.
*2. Note, if diesel fuel or gasoline.

	Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa					Dimensions (mm)						Weight (kg)
							Water	Air	Steam	Light oil / Gas	Vacuum	L	H	D	L1	D1	M	
NC	MUD-6		Rc1/8"	0.23	2.5	-5~+80	0~0.7	0~0.7	—	—	0~10 ⁻³ Torr	41	63	21	23	19.3	M4×0.7	0.3
	MUD-8		Rc1/4"	0.23	2.5	-5~+80	0~0.7	0~0.7	—	—	0~10 ⁻³ Torr	41	63	21	23	19.3	M4×0.7	0.3
	MUD-8		Rc1/4"	0.58	4.0	-5~+80	0~0.3	0~0.3	—	—	0~10 ⁻³ Torr	41	63	21	23	19.3	M4×0.7	0.3
	MUD-8		Rc1/4"	0.79	6.0	-5~+80	0~0.1	0~0.1	—	—	0~10 ⁻³ Torr	41	63	21	23	19.3	M4×0.7	0.3
	MUD-8H		Rc1/4"	0.18	1.2	-5~+130	0~2	0~2	—	—	0~10 ⁻³ Torr	41	63	21	23	19.3	M4×0.7	0.3
	MUS-8		Rc1/4"	0.23	2.5	-5~+185	—	—	0~0.7	—	—	41	63	21	23	19.3	M4×0.7	0.3
	MUD-10	●	Rc3/8"	0.58	4.0	-5~+80	0~1	0~1	—	—	0~10 ⁻³ Torr	53	75	48	20	21.0	M5×0.8	0.6
	MUD-10		Rc3/8"	0.79	8.0	-5~+80	0~0.3	0~0.5	—	—	0~10 ⁻³ Torr	53	90	48	20	21.0	M5×0.8	0.8
	MUD-10H		Rc3/8"	0.45	2.0	-5~+130	0~2	0~2	—	—	0~10 ⁻³ Torr	53	75	48	20	21.0	M5×0.8	0.6
	MUS-10	●	Rc3/8"	0.58	4.0	-5~+185	—	—	0~1	—	—	53	75	48	20	21.0	M5×0.8	0.6
NO	MUD-6-NO		Rc1/8"	0.23	2.5	-5~+80	0~0.7	0~0.7	—	0~0.7	0~10 ⁻³ Torr	41	81	21	23	19.3	M4×0.7	0.4
	MUD-8-NO		Rc1/4"	0.23	2.5	-5~+80	0~0.7	0~0.7	—	0~0.7	0~10 ⁻³ Torr	41	81	21	23	19.3	M4×0.7	0.4
	MUD-8-NO		Rc1/4"	0.58	4.0	-5~+80	0~0.3	0~0.3	—	0~0.7	0~10 ⁻³ Torr	41	81	21	23	19.3	M4×0.7	0.4
	MUD-8-NO		Rc1/4"	0.79	6.0	-5~+80	0~0.1	0~0.1	—	0~0.7	0~10 ⁻³ Torr	41	81	21	23	19.3	M4×0.7	0.4
	MUD-8H-NO		Rc1/4"	0.18	1.2	-5~+130	0~2	0~2	—	0~2	0~10 ⁻³ Torr	41	81	21	23	19.3	M4×0.7	0.4
	MUD-10-NO		Rc3/8"	0.58	4.0	-5~+80	0~1	0~1	—	0~0.7	0~10 ⁻³ Torr	54	106	48	20	21.0	M5×0.8	0.7

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case of DC/AC24V.

Available fluid: Water, air, vacuum.



Specification

- MUA series is direct-drive, conductive normal close.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- Installation: Mountable in any position without affecting operation.
- Applicable for exhausting facility needed as power off, such as pneumatic control valve.
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Forge brass
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR
Diaphragm	NBR

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example

MUA — 8 — □ — □ — AC110 — G

MODEL	PIPE SIZE	FLUID	VOLTAGE	PORT THREAD
MUD MUS	8: 1/4" 10: 3/8"	Blank: Water, air VA: Vacuum	AC220V(50/60)Hz AC110V(50/60)Hz DC24V	Blank: Rc thread G: G thread NPT: NPT thread
	COIL			
	Blank: Special copper wire D: DIN			

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa			Dimensions (mm)			Weight (kg)
						Water	Air	Vacuum	L	H	D	
MUA-8		Rc1/4"	0.10	1.2	-5~+80	0~1	0~1	0~10 ⁻³ Torr	42	88	21	0.39
MUA-10	●	Rc3/8"	0.12	1.5	-5~+80	0~1	0~1	0~10 ⁻³ Torr	53	105	49	0.70

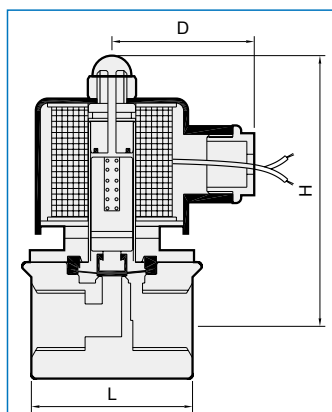
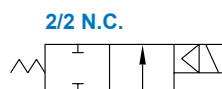
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MUDC series

2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



Available fluid: Hydrochloric acid, sulfuric acid.



Specification

- MUDC series is direct-drive, conductive to diaphragm, normal closed.
- Small size & easy assembly.
- MUDC can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Model Parts name	MUDC	MUDC-TF
Body	PVC	PTFE
Coil	Special copper wire (H)	
Core	Stainless steel	
Tube	Stainless steel	
Spring	Stainless steel	
Washer	Synthetic rubber	
Diaphragm	PTFE	

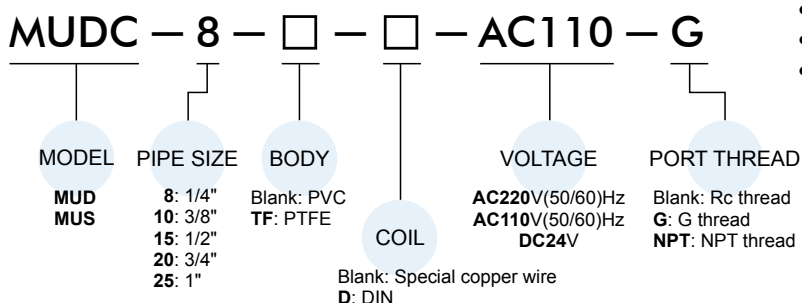
Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Prohibition applicable for high frequency movement.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example



Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa		Dimensions (mm)			Weight (kg)
						Water	Air	L	H	D	
MUDC-8	•	Rc1/4"	0.28	6.5	-5~+80	0~0.1	0~0.1	54	103	48	0.6
MUDC-10	•	Rc3/8"	0.28	6.5	-5~+80	0~0.1	0~0.1	54	103	48	0.6
MUDC-15	•	Rc1/2"	0.28	6.5	-5~+80	0~0.1	0~0.1	54	103	48	0.6
MUDC-8-TF	•	Rc1/4"	0.28	6.5	-5~+80	0~0.1	0~0.1	51	90	48	0.576
MUDC-10-TF	•	Rc3/8"	0.28	6.5	-5~+80	0~0.1	0~0.1	51	90	48	0.567
MUDC-15-TF	•	Rc1/2"	0.28	6.5	-5~+80	0~0.1	0~0.1	54	103	48	0.65
MUDC-20-TF		Rc3/4"	4	13.0	-5~+80	0~0.05	0~0.05	71	115	54	1.8
MUDC-25-TF		Rc1"	4	13.0	-5~+80	0~0.05	0~0.05	71	115	54	1.8

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case of DC/AC24V.

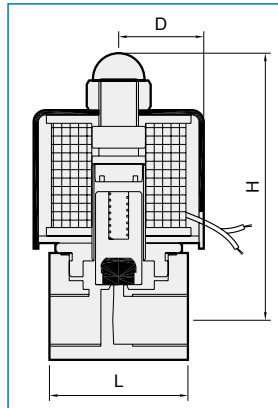
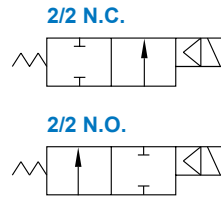
MSUS series Low flow



2/2 WAY N.C., N.O. PISTON TYPE SOLENOID VALVE

mindman

2 way normally closed / normally open solenoid valve.
Available fluid: Water, air, steam, gas & vacuum.



Specification

- MSUS series is direct-drive, conductive normal close.
- Valve body made of investment casting S/S 316.
- Small size & easy assembly.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- Viton(130°C), Silicon(130°C), PTFE(185°C), NBR(80°C).
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Stainless steel
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR, Viton, Silicon, PTFE
Washer	NBR, PTFE

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.

Order example

MSUS — 8 — NO — □ — G — □ — AC110 — G

MODEL

PIPE SIZE

6: 1/8"
8: 1/4"
10: 3/8"

Blank: Normally closed
NO: Normally open

COIL

Blank: Special copper wire
D: DIN

FLUID

Blank: Water, air
G: Gas
VA: Vacuum
T: Steam

SEAL MAT'L

Blank: NBR
V: VITON
S: Silicon
P: PTFE

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

	Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa					Dimensions (mm)			Weight (kg)
							Water	Air	Steam	Gas	Vacuum	L	H	D	
NC	MSUS-6	•	Rc1/8"	0.23	2.5	-5~+80	0~0.7	0~0.7	0~0.7	—	—	41	63	21	0.3
	MSUS-8	•	Rc1/4"	0.23	2.5	-5~+80	0~0.7	0~0.7	0~0.7	—	—	41	63	21	0.3
	MSUS-10	•	Rc3/8"	0.58	4.0	-5~+80	0~1	0~1	0~1	—	—	54	75	48	0.6
NO	MSUS-6-NO	•	Rc1/8"	0.23	2.5	-5~+80	0~0.7	0~0.7	—	0~0.7	0~10 ⁻³ Torr	41	90	21	0.4
	MSUS-8-NO	•	Rc1/4"	0.23	2.5	-5~+80	0~0.7	0~0.7	—	0~0.7	0~10 ⁻³ Torr	41	90	21	0.4
	MSUS-10-NO	•	Rc3/8"	0.58	4.0	-5~+80	0~1	0~1	—	0~1	0~10 ⁻³ Torr	54	116	48	0.7

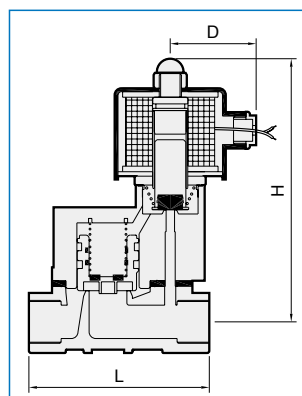
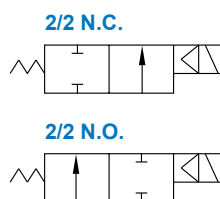
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case of DC/AC24V.

MSUS series High flow

2/2 WAY N.C., N.O. PISTON TYPE SOLENOID VALVE



2 way normally closed / normally open solenoid valve.
Available fluid: Water, air, steam & light oil.



Specification

- MSUS series is multiplex-drive, piston guide, conductive normal close / normal open.
- Valve body made of investment casting S/S 316.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- The standard product fluid temp. is 185°C(PTFE).
- Applicable for working in high frequency movement location.
- AC voltage tolerance: $\pm 10\%$,
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Stainless steel
Coil	Special copper wire (H)
Core	Stainless steel
Piston	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	PTFE
Bonne / Nut	PTFE

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 185°C.

Order example

MSUS — 35 — NO — □ — T — AC110 — G

MODEL

PIPE SIZE

Blank: Normally closed
NO: Normally open

FLUID

VOLTAGE

PORT THREAD

15: 1/2"
20: 3/4"
25: 1"
35: 1 1/4"
40: 1 1/2"
50: 2"

COIL

Blank: Special copper wire
D: DIN

Blank: Water, air
LO: Vacuum (*1)
T: Steam (*2)

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

Blank: Rc thread
G: G thread
NPT: NPT thread

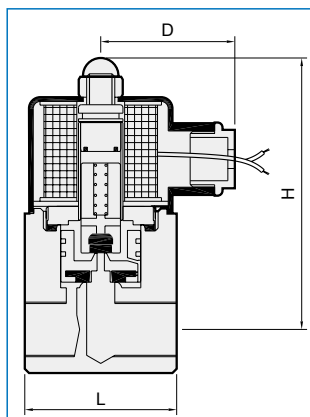
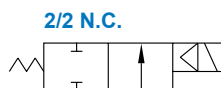
*1. Note, if diesel fuel or gasoline.
*2. D coil not apply.

	Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa				Dimensions (mm)			Weight (kg)
							Water	Air	Steam	Light oil	L	H	D	
NC	MSUS-15	•	Rc1/2"	4	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	84	115	48	1.4
	MSUS-20	•	Rc3/4"	6	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	82	120	48	1.5
	MSUS-25	•	Rc1"	12	22	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	100	134	48	1.8
	MSUS-35	•	Rc1 1/4"	18	30	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	125	138	48	2.8
	MSUS-40	•	Rc1 1/2"	22	30	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	125	146	48	2.9
	MSUS-50	•	Rc2"	48	50	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	168	173	48	5.8
NO	MSUS-15-NO		Rc1/2"	4	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~0.8	84	120	48	1.4
	MSUS-20-NO		Rc3/4"	6	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~0.8	82	120	48	1.5
	MSUS-25-NO		Rc1"	12	22	-5~+185	0.05~1	0.05~1	0.05~1	0.05~0.8	100	134	48	1.8
	MSUS-35-NO		Rc1 1/4"	18	30	-5~+185	0.05~1	0.05~1	0.05~1	0.05~0.8	125	138	48	2.8
	MSUS-40-NO		Rc1 1/2"	22	30	-5~+185	0.05~1	0.05~1	0.05~1	0.05~0.8	125	146	48	2.9
	MSUS-50-NO		Rc2"	48	50	-5~+185	0.05~0.8	0.05~0.8	0.05~0.8	0.05~0.8	168	173	48	5.8

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

2/2 WAY N.C. PISTON TYPE SOLENOID VALVE

2 way normally closed solenoid valve.
Available fluid: Water, air, & oil.



Specification

- Multiplex-drive, piston guide, conductive normal close.
- SUS can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- The standard product fluid temp. is 185°C (PTFE).
- Applicable for working in high frequency movement location.
- MUAO series is most applicable for sand blasting machine and high pressure air/oil spray system.
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Brass
Coil	Special copper wire (H)
Core	Stainless steel
Piston	Brass
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example

MUAO — 8 — □ — O — AC110 — G

MODEL	PIPE SIZE	COIL	FLUID	VOLTAGE	PORT THREAD
	8: 1/4" 10: 3/8" 15: 1/2"	Blank: Special copper wire D: DIN	Blank: Water, air O: Heavy oil (*)	AC220V(50/60)Hz AC110V(50/60)Hz DC24V	Blank: Rc thread G: G thread NPT: NPT thread

* Please indicate the kind.

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa			Dimensions (mm)			Weight (kg)
						Water	Air	Heavy oil	L	H	D	
MUAO-8	•	Rc1/4"	2.5	10	-5~+80	0.05~1.5	0.05~1.5	0.05~1.5	49	110	49	1.1
MUAO-10	•	Rc3/8"	2.5	10	-5~+80	0.05~1.5	0.05~1.5	0.05~1.5	49	110	49	1.1
MUAO-15	•	Rc1/2"	2.5	10	-5~+80	0.05~1.5	0.05~1.5	0.05~1.5	49	110	49	1.1

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MUW series

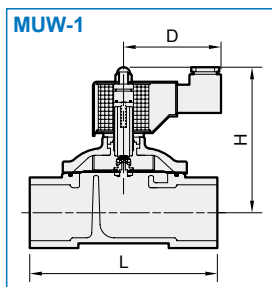
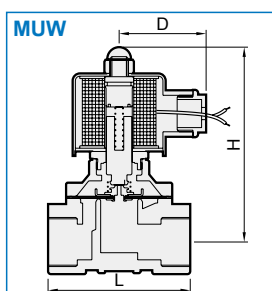
2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



2 way normally closed solenoid valve.
Available fluid: Water, air & light oil.



2/2 N.C.



Specification

- MUW series is pilot diaphragm, normal close.
- Valve body made of 3/8"~brass or 1 1/4"~2" cast bronze.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- Viton(130°C), Silicon(130°C), NBR(80°C).
- AC voltage tolerance: $\pm 10\%$,
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Forge brass / Cast bronze
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR, Viton, Silicon

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example

MUW — 20 — □ — LO — □ — AC110 — G

MODEL

PIPE SIZE

FLUID

SEAL MAT'L

VOLTAGE

PORT THREAD

10: 3/8"
15: 1/2"
20: 3/4"
25: 1"
35-1: 1 1/4"
40-1: 1 1/2"
50-1: 2"

COIL

Blank: Special copper wire
D: DIN

Blank: Water, air
LO: Light oil (*)

Blank: NBR
V: VITON
S: Silicon

* Note, if diesel fuel or gasoline.

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

Blank: Rc thread
G: G thread
NPT: NPT thread

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa			Dimensions (mm)			Weight (kg)
						Water	Air	Light oil	L	H	D	
MUW-10	•	Rc3/8"	2.4	15	-5~+80	0~0.5	0~0.7	0~0.5	70	100	50	0.9
MUW-15	•	Rc1/2"	4.5	15	-5~+80	0~0.5	0~0.7	0~0.5	70	100	50	0.9
MUW-20	•	Rc3/4"	8.6	20	-5~+80	0~0.5	0~0.7	0~0.5	73	102	50	1.0
MUW-25	•	Rc1"	12.0	25	-5~+80	0~0.5	0~0.7	0~0.5	93	106	50	1.8
MUW-35-1	•	Rc1 1/4"	24.0	35	-5~+80	0~0.5	0~0.7	0~0.5	125	140	58	3.2
MUW-40-1	•	Rc1 1/2"	28.0	40	-5~+80	0~0.5	0~0.7	0~0.5	125	140	58	3.5
MUW-50-1	•	Rc2"	48.0	50	-5~+80	0~0.5	0~0.7	0~0.5	167	170	58	5.4

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

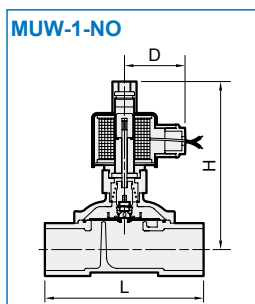
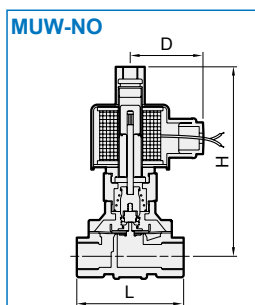
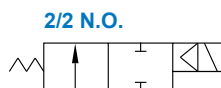
MUW-NO series



2/2 WAY N.O. DIAPHRAGM TYPE SOLENOID VALVE

mindman

2 way normally closed solenoid valve.
Available fluid: Water, air, gas & vacuum.



Specification

- MUW-NO series is pilot diaphragm drive, normal open.
- Valve body made of 3/8" ~ brass or 1 1/4"~2" cast bronze.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- Viton(130°C), Silicon(130°C), NBR(80°C).
- AC voltage tolerance: ±10%
DC voltage tolerance: ±1%

Material

Parts name	Material
Body	Forge brass / Cast bronze
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR, Viton, Silicon
Diaphragm	NBR, Viton, Silicon

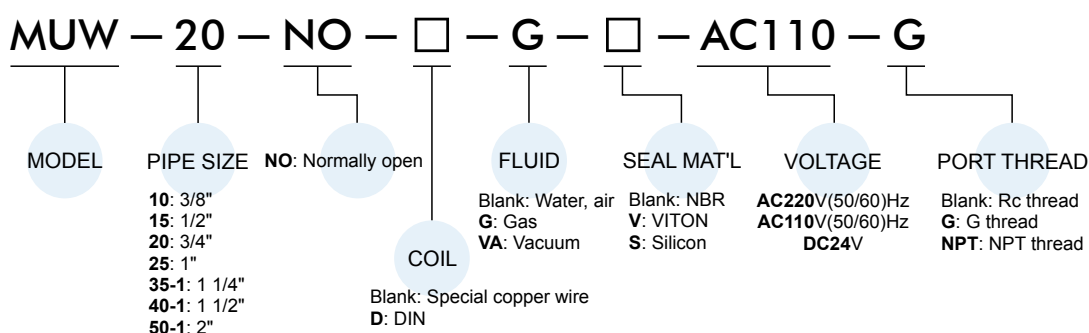
Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example



Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa				Dimensions (mm)			Weight (kg)
						Water	Air	Gas	Vacuum	L	H	D	
MUW-10-NO	•	Rc3/8"	4.5	15	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	70	100	50	1.1
MUW-15-NO	•	Rc1/2"	4.5	15	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	70	100	50	1.1
MUW-20-NO	•	Rc3/4"	8.6	20	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	73	102	50	1.2
MUW-25-NO	•	Rc1"	12.0	25	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	93	106	50	2.0
MUW-35-1-NO	•	Rc1 1/4"	24.0	35	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	125	158	58	3.5
MUW-40-1-NO	•	Rc1 1/2"	28.0	40	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	125	158	58	3.8
MUW-50-1-NO	•	Rc2"	48.0	50	-5~+80	0~0.5	0~0.7	0~0.7	0~10 ⁻³ Torr	167	158	58	5.7

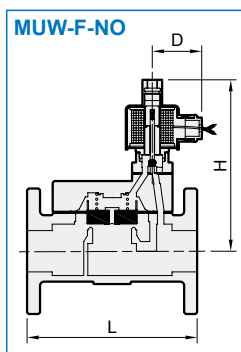
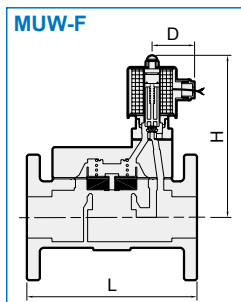
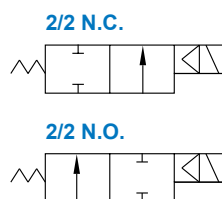
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MUW-F series

2/2 WAY N.C., N.O. DIAPHRAGM TYPE SOLENOID VALVE



2 way normally closed solenoid valve.
Available fluid: Water, air.



Specification

- MUW-F series is multiplex-drive, diaphragm guide, conductive normal close / normal open.
- Valve body made of FC-20.
- Other voltage of AC/DC available when required.
- Flange end: JIS 10K, ANSI 150LB or PN-16.
- AC voltage tolerance: $\pm 10\%$,
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	FC-20
Coil	Special copper wire (H)
Core	Stainless steel
Piston	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR
Diaphragm	NBR

Caution

- Pipes must be washed heat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example

MUW — 40F — NO — AC110

MODEL

PIPE SIZE

Blank: Normally closed
NO: Normally open

VOLTAGE

35: 1 1/4"
40: 1 1/2"
50: 2"
65: 2 1/2"
80: 3"
100: 4"

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

	Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa		Dimensions (mm)			Weight (kg)
							Water	Air	L	H	D	
NC	MUW-35F		Rc1 1/4"	22	35	-5~+80	0.02~0.8	0.02~0.8	200	185	58	8.7
	MUW-40F		Rc1 1/2"	30	40	-5~+80	0.02~0.8	0.02~0.8	200	185	58	8.8
	MUW-50F		Rc2"	40	50	-5~+80	0.02~0.8	0.02~0.8	210	203	58	11.2
	MUW-65F		Rc2 1/2"	68	65	-5~+80	0.02~0.8	0.02~0.8	240	198	58	15.2
	MUW-80F		Rc3"	102	80	-5~+80	0.02~0.8	0.02~0.8	300	212	58	20.6
	MUW-100F		Rc4"	180	100	-5~+80	0.02~0.8	0.02~0.8	340	228	58	31.5
NO	MUW-35F-NO		Rc1 1/4"	22	35	-5~+80	0.02~0.8	0.02~0.8	200	205	58	8.9
	MUW-40F-NO		Rc1 1/2"	30	40	-5~+80	0.02~0.8	0.02~0.8	200	205	58	9.0
	MUW-50F-NO		Rc2"	40	50	-5~+80	0.02~0.8	0.02~0.8	210	223	58	11.4
	MUW-65F-NO		Rc2 1/2"	68	65	-5~+80	0.02~0.8	0.02~0.8	240	218	58	15.4
	MUW-80F-NO		Rc3"	102	80	-5~+80	0.02~0.8	0.02~0.8	300	232	58	20.8
	MUW-100F-NO		Rc4"	180	100	-5~+80	0.02~0.8	0.02~0.8	340	248	58	31.7

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

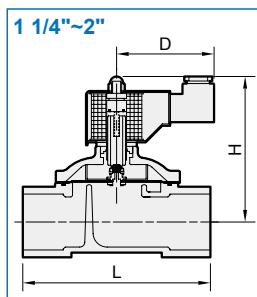
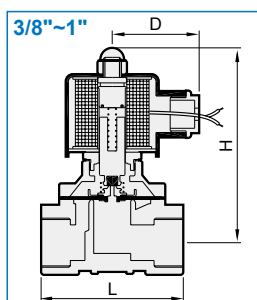
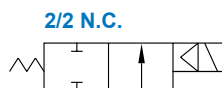
MUG / MUV series



2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE

mindman

2 way normally closed solenoid valve.
Available fluid: Gas, vacuum.



Specification

- MUG/V series is pilot diaphragm drive, connected to diaphragm, normal close.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Forge brass / Cast bronze
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR
Diaphragm	NBR for gas use

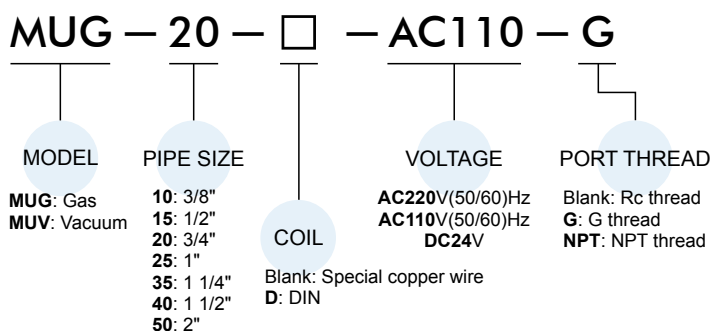
Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example



Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa		Dimensions (mm)			Weight (kg)
						Gas	Vacuum	L	H	D	
MUG/V-10	•	Rc3/8"	2.4	15	-5~+80	0~0.7	0~10 ⁻³ Torr	70	100	50	0.9
MUG/V-15	•	Rc1/2"	4.5	15	-5~+80	0~0.7	0~10 ⁻³ Torr	70	100	50	0.9
MUG/V-20	•	Rc3/4"	8.6	20	-5~+80	0~0.7	0~10 ⁻³ Torr	73	102	50	1.0
MUG/V-25	•	Rc1"	12.0	25	-5~+80	0~0.7	0~10 ⁻³ Torr	93	106	50	1.8
MUG/V-35		Rc1 1/4"	24.0	35	-5~+80	0~0.7	0~10 ⁻³ Torr	125	140	58	3.2
MUG/V-40		Rc1 1/2"	28.0	40	-5~+80	0~0.7	0~10 ⁻³ Torr	125	140	58	3.5
MUG/V-50		Rc2"	48.0	50	-5~+80	0~0.7	0~10 ⁻³ Torr	167	170	58	5.4

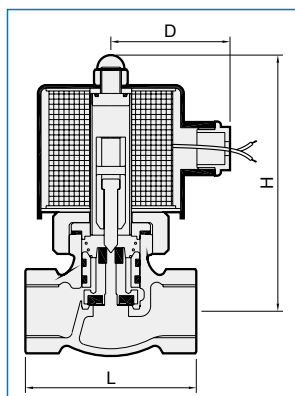
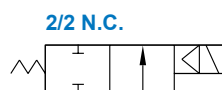
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MUAW series

2/2 WAY N.C. PISTON TYPE SOLENOID VALVE



2 way normally closed solenoid valve.
Available fluid: Water, air.



Specification

- MUAW series is multiplex-drive, piston guide, conductive normal close.
- Other voltage of AC/DC available when required.
- In case the pressure range is more than 1.5 MPa (with in 2.0 MPa), please state the type of fluid with your order.
- AC voltage tolerance: $\pm 10\%$,
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Cast bronze
Coil	Special copper wire (H)
Core	Stainless steel
Piston	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	PTFE+15%GF
Bonne / Nut	NBR

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 80°C.

Order example

MUAW — 25 — AC110 — G

MODEL

PIPE SIZE

VOLTAGE

PORT THREAD

15: 1/2"
20: 3/4"
25: 1"
35: 1 1/4"
40: 1 1/2"
50: 2"

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

Blank: Rc thread
G: G thread
NPT: NPT thread

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa		Dimensions (mm)			Weight (kg)
						Gas	Air	L	H	D	
MUAW-15		Rc1/2"	4.0	17	-5~+80	0.2~1	0.2~1.5	82	120	58	1.7
MUAW-20		Rc3/4"	6.0	17	-5~+80	0.2~1	0.2~1.5	82	123	58	1.7
MUAW-25		Rc1"	12.0	22	-5~+80	0.2~1	0.2~1.5	91	130	58	2.0
MUAW-35		Rc1 1/4"	18.0	30	-5~+80	0.2~1	0.2~1.5	110	141	58	3.1
MUAW-40		Rc1 1/2"	22.0	32	-5~+80	0.2~1	0.2~1.5	110	144	58	3.3
MUAW-50		Rc2"	48.0	50	-5~+80	0.2~1	0.2~1.5	163	173	58	7.2

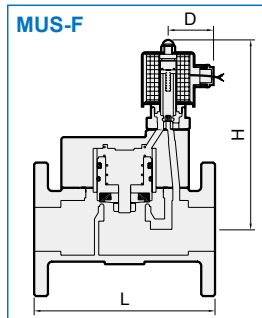
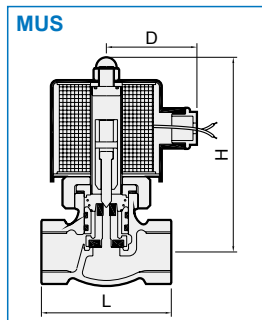
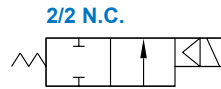
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MUS / MUS-F series



2/2 WAY N.C. PISTON TYPE SOLENOID VALVE

2 way normally closed solenoid valve.
Available fluid: Water, air, steam & heavy oil.



Specification

- MUS/MUS-F series is multiplex-drive, piston guide, connected normal close.
- Other voltage of AC/DC available when required.
- The standard product fluid temp. is 185°C (PTFE).
- Flange end: JIS 10K, ANSI 150LB or PN-16.
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Model Parts name	MUS	MUS-F
Body	Cast bronze	FC-20
Coil	Special copper wire (H)	
Core needle	Stainless steel	
Piston	Brass	
Tube	Stainless steel	
Spring	Stainless steel	
Plug	PTFE+15%GF	PTFE
Bonne / Nut	PTFE	

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 185°C.

Order example

MUS — 35 F — ☐ — AC110 — G

MODEL

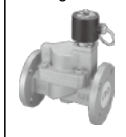
PIPE SIZE

15: 1/2"
20: 3/4"
25: 1"
35: 1 1/4"
40: 1 1/2"
50: 2"
65: 2 1/2"
80: 3"
100: 4"

TYPE

Blank: Standard

F: Flange



FLUID

Blank: Water, air
O: Light oil (*)
T: Steam

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread
(Only for standard type)

* Please indicate the kind.

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa				Dimensions (mm)			Weight (kg)
						Water	Air	Steam	Heavy oil	L	H	D	
MUS-15		Rc1/2"	4.0	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	82	120	58	1.7
MUS-20		Rc3/4"	6.0	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	82	123	58	1.7
MUS-25		Rc1"	12.0	22	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	91	130	58	2.0
MUS-35		Rc1 1/4"	18.0	30	-5~+185	0.1~1	0.1~1	0.1~1	0.1~1	110	141	58	3.1
MUS-40		Rc1 1/2"	22.0	30	-5~+185	0.1~1	0.1~1	0.1~1	0.1~1	110	144	58	3.3
MUS-50		Rc2"	48.0	50	-5~+185	0.1~1	0.1~1	0.1~1	0.1~1	163	173	58	7.2
MUS-35F		1 1/4"	22	35	-5~+185	0.05~1	0.05~1	0.05~1	—	200	206	58	10.5
MUS-40F		1 1/2"	30	40	-5~+185	0.05~1	0.05~1	0.05~1	—	200	206	58	11.7
MUS-50F		2"	40	50	-5~+185	0.05~1	0.05~1	0.05~1	—	210	223	58	13.5
MUS-65F		2 1/2"	68	65	-5~+185	0.05~1	0.05~1	0.05~1	—	240	230	58	19.1
MUS-80F		3"	100	80	-5~+185	0.05~1	0.05~1	0.05~1	—	300	249	58	27.0
MUS-100F		4"	175	100	-5~+185	0.05~1	0.05~1	0.05~1	—	340	264	58	39.0

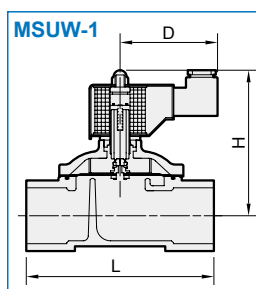
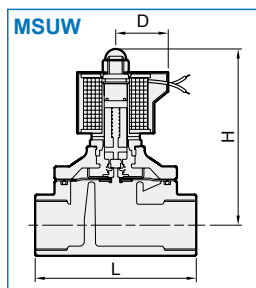
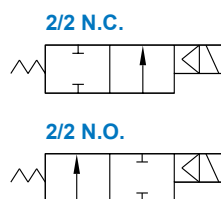
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MSUW / MSUW-NO series



2/2 WAY N.C., N.O. DIAPHRAGM TYPE SOLENOID VALVE

2 way normally closed / normally open solenoid valve.
Available fluid: Water, air & light oil.



Specification

- MSUW / MSUW-NO series is pilot diaphragm drive, normal close / normal open.
- Valve body made of investment casting S/S 316(CF8M).
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- Viton(130°C), Silicon(130°C), NBR(80°C).
- AC voltage tolerance: $\pm 10\%$,
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Cast 316 SS (CF8M)
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR, Viton, Silicon
Diaphragm	NBR, Viton, Silicon
Ambient temp.	-5~+40°C (No freezing)

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.

Order example

MSUW — 20 — NO — □ — □ — □ — AC110 — G

MODEL

PIPE SIZE

Blank: Normally closed
NO: Normally open

COIL

FLUID

SEAL MAT'L

VOLTAGE

PORT THREAD

15: 1/2"
20: 3/4"
25: 1"
35-1: 1 1/4"
40-1: 1 1/2"
50-1: 2"

Blank: Special copper wire
D: DIN

Blank: Water, air
G: Gas
LO: Light oil (*)
VA: Vacuum

Blank: NBR
V: VITON
S: Silicon

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

Blank: Rc thread
G: G thread
NPT: NPT thread

* Note, if diesel fuel or gasoline.

	Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa					Dimensions (mm)			Weight (kg)
							Water	Air	Light oil	Gas	Vacuum	L	H	D	
NC	MSUW-15	●	Rc1/2"	4.5	15	-5~+80	0~0.5	0~0.7	0~0.5	—	0~10 ⁻³ Torr	70	100	50	0.9
	MSUW-20	●	Rc3/4"	8.6	20	-5~+80	0~0.5	0~0.7	0~0.5	—	0~10 ⁻³ Torr	73	102	50	1.0
	MSUW-25	●	Rc1"	12.0	25	-5~+80	0~0.5	0~0.7	0~0.5	—	0~10 ⁻³ Torr	93	106	50	1.6
	MSUW-35-1	●	Rc1 1/4"	24.0	35	-5~+80	0~0.5	0~0.7	0~0.5	—	0~10 ⁻³ Torr	125	140	58	3.2
	MSUW-40-1	●	Rc1 1/2"	28.0	40	-5~+80	0~0.5	0~0.7	0~0.5	—	0~10 ⁻³ Torr	125	140	58	3.4
	MSUW-50-1	●	Rc2"	48.0	50	-5~+80	0~0.5	0~0.7	0~0.5	—	0~10 ⁻³ Torr	167	170	58	5.8
NO	MSUW-15-NO	●	Rc1/2"	4.5	15	-5~+80	0~0.5	0~0.7	—	0~0.7	0~10 ⁻³ Torr	70	126	50	1.0
	MSUW-20-NO	●	Rc3/4"	8.6	20	-5~+80	0~0.5	0~0.7	—	0~0.7	0~10 ⁻³ Torr	73	132	50	1.1
	MSUW-25-NO	●	Rc1"	12.0	25	-5~+80	0~0.5	0~0.7	—	0~0.7	0~10 ⁻³ Torr	93	139	50	1.7
	MSUW-35-1-NO	●	Rc1 1/4"	24.0	35	-5~+80	0~0.5	0~0.7	—	0~0.7	0~10 ⁻³ Torr	125	154	58	3.5
	MSUW-40-1-NO	●	Rc1 1/2"	28.0	40	-5~+80	0~0.5	0~0.7	—	0~0.7	0~10 ⁻³ Torr	125	156	58	3.7
	MSUW-50-1-NO	●	Rc2"	48.0	50	-5~+80	0~0.5	0~0.7	—	0~0.7	0~10 ⁻³ Torr	167	175	58	6.1

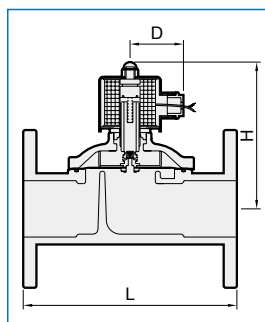
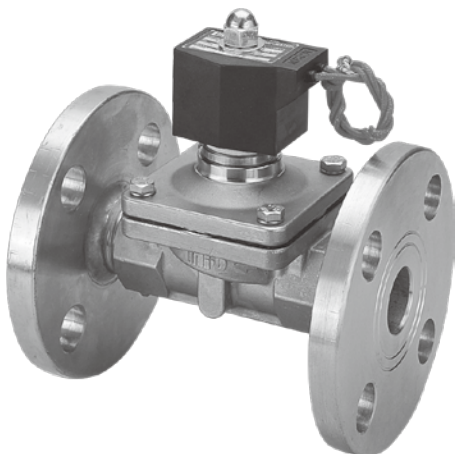
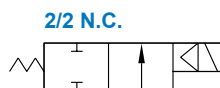
* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

MSUW-F series

2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



2 way normally closed solenoid valve.
Available fluid: Water, air & light oil.



Specification

- MSUW-F series is direct multiplex-drive, connected to diaphragm, normal close.
- Valve body made of investment casting S/S 316.
- Can be operated directly without pressure.
- Other voltage of AC/DC available when required.
- Flange end: JIS 10K, ANSI 150LB or PN-16.
- Viton(130°C), Silicon(130°C), NBR(80°C).
- AC voltage tolerance: $\pm 10\%$
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Stainless steel
Coil	Special copper wire (H)
Core	Stainless steel
Tube	Stainless steel
Spring	Stainless steel
Plug	NBR, Viton, Silicon
Diaphragm	NBR, Viton, Silicon

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.

Order example

MSUW — 20F — ☐ — ☐ — V — AC110

MODEL

PIPE SIZE

15: 1/2"
20: 3/4"
25: 1"
35: 1 1/4"
40: 1 1/2"
50: 2"

COIL

Blank: Special copper wire
D: DIN

* Note, if diesel fuel or gasoline.

Blank: Water, air
LO: Light oil (*)

SEAL MAT'L

Blank: NBR
V: VITON
S: Silicon

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa			Dimensions (mm)			Weight (kg)
						Water	Air	Light oil	L	H	D	
MSUW-15F	•	1/2"	4.5	15	-5~+80	0~0.5	0~0.7	0~0.5	110	100	36	1.9
MSUW-20F	•	3/4"	8.6	20	-5~+80	0~0.5	0~0.7	0~0.5	120	102	36	2.4
MSUW-25F	•	1"	12.0	25	-5~+80	0~0.5	0~0.7	0~0.5	150	106	36	3.6
MSUW-35F		1 1/4"	24.0	35	-5~+80	0~0.5	0~0.7	0~0.5	170	140	58	6.1
MSUW-40F		1 1/2"	28.0	40	-5~+80	0~0.5	0~0.7	0~0.5	170	140	58	6.4
MSUW-50F		2"	48.0	50	-5~+80	0~0.5	0~0.7	0~0.5	210	170	58	9.3

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.

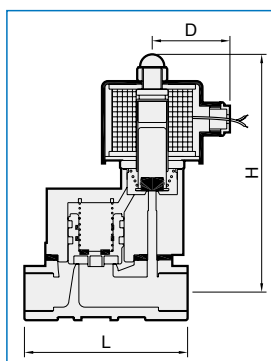
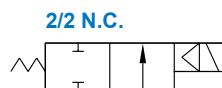
MUPS series

2/2 WAY N.C. PISTON TYPE SOLENOID VALVE



2 way normally closed solenoid valve.

Available fluid: Water, air, steam & light oil.



Specification

- MUPS series is multiplex-drive, piston guide, conductive normal close.
- Other voltage of AC/DC available when required.
- The standard product fluid temp. is 185°C (PTFE).
- Applicable for working in high frequency movement location.
- AC voltage tolerance: $\pm 10\%$,
DC voltage tolerance: $\pm 1\%$

Material

Parts name	Material
Body	Forge brass
Coil	Special copper wire (H)
Core	Stainless steel
Piston	Brass
Tube	Stainless steel
Spring	Stainless steel
Plug	PTFE
Bonne / Nut	PTFE

Caution

- Pipes must be washed neat and clean before fitted.
- A Y-strainer has to be installed in the front of solenoid valve, that is best for long life.

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 20 cst.
- Temperature over 185°C.

Order example

MUPS — 15 — □ — T — AC110 — G

MODEL

PIPE SIZE

15: 1/2"
20: 3/4"
25: 1"

COIL

Blank: Special copper wire
D: DIN

FLUID

Blank: Water, air
LO: Light oil (*)
T: Steam

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

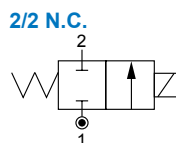
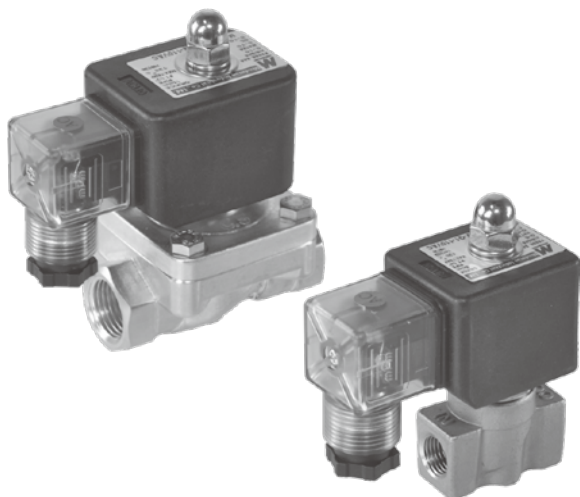
PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

* Note, if diesel fuel or gasoline.

Model	DIN	Pipe size	CV	Orifice (mm)	Fluid temp. °C	Max. operating pressuer diff. MPa				Dimensions (mm)			Weight (kg)
						Water	Air	Steam	Light oil	L	H	D	
MUPS-15	•	Rc1/2"	4	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	82	120	48	1.4
MUPS-20	•	Rc3/4"	6	17	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	82	120	48	1.5
MUPS-25	•	Rc1"	12	22	-5~+185	0.05~1	0.05~1	0.05~1	0.05~1	100	134	48	1.8

* The pressure ratings indicated above are based on AC110V/220V. The maximum pressure may vary in case on DC/AC24V.



Caution

- Direct-acting valves are ideally suited to allocate at any angle.
- Voltage drop range is within $\pm 10\%$.
- Pressure of voltage DC is 70% of voltage AC only.
- Fluid temp.: $-10\sim+80^{\circ}\text{C}$ (Naphtha 120°C)

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 50 cst.

Dimensions

Model	MXAD			
Code Dimension (mm)	6A/B/C	8A/B/C	10A/B/C	12A/B
A	41	50	55	
B	19	25	27	
C	90	94	98	
D	78	87	87	
E	37	42	42	
F	58	64.5	64.5	
G	15	15	—	
H	10.5	11.7	13	
N.W (kg)	0.49	0.47	0.73	0.78

Order example

MXAD — 6A — V — G — V — AC110 — G

MODEL

BODY
MAT'L

Blank: Brass
S: S. Steel (*)

PIPE SIZE

6A, 6B, 6C,
8A, 8B, 8C,
10A, 10B, 10C,
12A, 12B

SEAL
MAT'L

N: NBR
V: VITON
S: Silicon
J: EPDM

COIL

G: Square DIN

FLUID

Blank: Water
A: Air
G: Gas
N: Naphtha
V: Vacuum

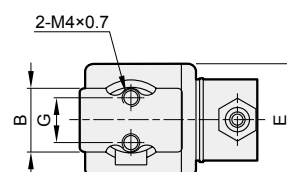
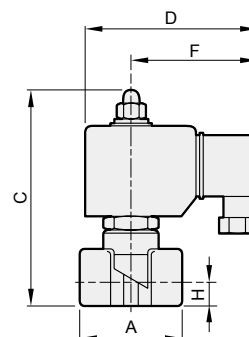
VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

* Stainless steel material is custom made.

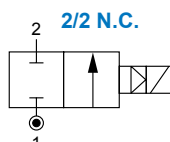
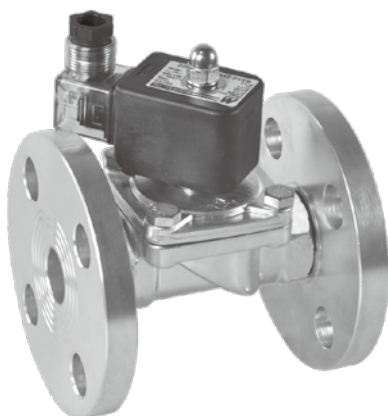


Specification

Model MXAD: Forged brass body, for water, air, gas, naphtha, vacuum.									
Code (Port size)	Seal Mat'l	Orifice mm	Max. operating pressure diff. (0~bar)						CV
			Water	Air	Gas	Naphtha	Vacuum	acid & alkali(S.Steel)	
6A(1/8")	N S J V	3	0~10	0~10	0~10	0~7	0~10 ⁻⁶ Torr	0~10	0.26
6B(1/8")		4	0~7	0~7	0~7	0~5	0~10 ⁻⁶ Torr	0~7	0.58
6C(1/8")		5	0~5	0~5	0~5	0~3	0~10 ⁻⁶ Torr	0~5	0.64
8A(1/4")		3	0~10	0~10	0~10	0~7	0~10 ⁻⁶ Torr	0~10	0.26
8B(1/4")		4	0~7	0~7	0~7	0~5	0~10 ⁻⁶ Torr	0~7	0.58
8C(1/4")		5	0~5	0~5	0~5	0~3	0~10 ⁻⁶ Torr	0~5	0.64
10A(3/8")		4	0~10	0~10	0~10	0~7	0~10 ⁻⁶ Torr	0~10	0.58
10B(3/8")		6	0~5	0~5	0~5	0~3	0~10 ⁻⁶ Torr	0~5	0.79
10C(3/8")		8	0~2	0~2	0~2	0~1	0~10 ⁻⁶ Torr	0~2	0.97
12A(1/2")		6	0~5	0~5	0~5	0~3	0~10 ⁻⁶ Torr	0~5	0.79
12B(1/2")		8	0~2	0~2	0~2	0~1	0~10 ⁻⁶ Torr	0~2	0.97

MXAD-AF series

2/2 WAY N.C. DIAPHRAGM TYPE DIRECT ACTING SOLENOID VALVE



Caution

- Direct-acting valves are ideally suited to allocate at any angle.
- Voltage drop range is within $\pm 10\%$.
- Pressure of voltage DC is 70% of voltage AC only.
- Fluid temp.: $-10\sim+80^{\circ}\text{C}$ (Naphtha 120°C)

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 50 cst.

Dimensions

Model	MXAD						
Code Dimension (mm)	14	15	20	25	35	40	50
A	75	75	85	100	120	120	150
B	52	52	60	70	90	90	120
C	107	107	116	122	142.5	142.5	160
G	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
H	14.5	14.5	18	23	33	33	40.5
N.W (kg)	1.03	1.06	1.24	1.51	2.87	2.77	4.81

Order example

MXAD — 35 — V — G — V — AC110 — G

MODEL

BODY MAT'L

Blank: Brass
S: S.Steel (*)

SEAL MAT'L

N: NBR
V: VITON
S: Silicon
J: EPDM

FLUID

Blank: Water
A: Air
G: Gas
N: Naphtha
V: Vacuum

COIL
G: Square DIN

VOLTAGE

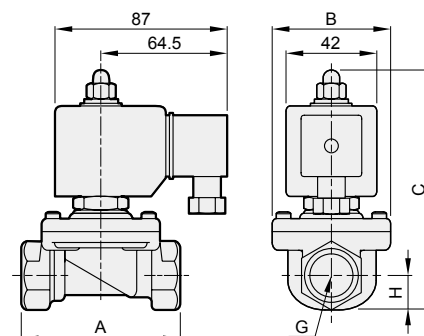
AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

PIPE SIZE	CODE
14 3/8"	—
15 1/2"	
20 3/4"	
25 1"	Blank: Standard AF: Flange end (JIS 10K)
35 1 1/4"	
40 1 1/2"	
50 2"	

* Stainless steel material is custom made.



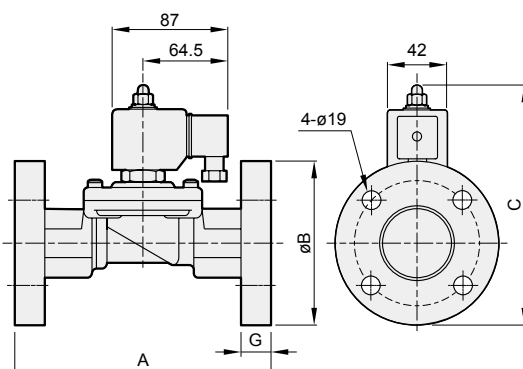
Dimensions

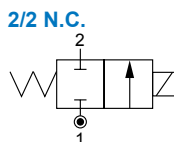
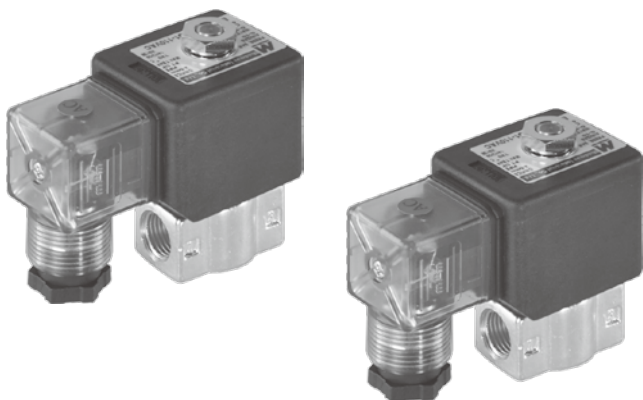
Model	MXAD-**AF			
Code Dimension (mm)	25AF	35AF	40AF	50AF
A	130	160	160	200
B	125	135	140	155
C	165	177	180	195
G	14	16	16	16
N.W (kg)	5.35	7.75	8.0	11.0

Specification

Model MXAD: Forged brass body, for water, air, gas, naphtha, Vacuum.

Code (Port size)	Seal Mat'l	Orifice mm	Max. operating pressure diff. (0~bar)						CV
			Water	Air	Gas	Naphtha	Vacuum (Torr)	acid & alkali (S.Steel)	
14(3/8")	N S J V	15	0~10	0~10	0~10	0~10	0~10 ⁻⁶	0~10	0.26
15(1/2")		15	0~10	0~10	0~10	0~10	0~10 ⁻⁶	0~7	0.58
20(3/4")		20	0~10	0~10	0~10	0~10	0~10 ⁻⁶	0~5	0.64
25(1")		25	0~10	0~10	0~10	0~10	0~10 ⁻⁶	0~10	0.26
35(1 1/4")		35	0~10	0~10	0~10	0~10	0~10 ⁻⁶	0~7	0.58
40(1 1/2")		35	0~10	0~10	0~10	0~10	0~10 ⁻⁶	0~5	0.64
50(2")		50	0~7	0~7	0~7	0~5	0~10 ⁻⁶	0~10	0.58





Caution

- Direct-acting valves are ideally suited to allocate at any angle.
- Voltage drop range is within $\pm 10\%$.
- Pressure of voltage DC is 70% of voltage AC only.
- Fluid temp.: $-10\sim+80^{\circ}\text{C}$ (Naphtha 120°C)

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 50 cst.

Dimensions

Model	MXBD		
Code Dimension (mm)	8A/B/C	10A/B	12A
A	36	50	55
B	25	25	27
C	67.5	91.3	94.8
D	78	87	87
E	37	37	37
F	58	64.5	64.5
G	15	15	—
H	10.5	11.7	13
I	1/4"	3/8"	1/2"
N.W (kg)	0.35	0.5	0.55

Order example

MXBD— 8A — N — G — A — AC110 — G

MODEL

PIPE SIZE

8A, 8B, 8C,
10A, 10B, 12A

SEAL
MAT'L

N: NBR
V: VITON
S: Silicon
J: EPDM

COIL

G: Square DIN

FLUID

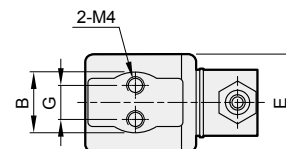
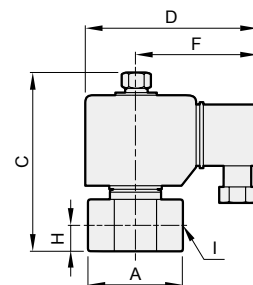
Blank: Water
A: Air
G: Gas
N: Naphtha
V: Vacuum

VOLTAGE

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

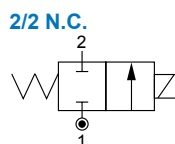


Specification

Model MXBD: Forged brass body, for water, air, gas, naphtha, vacuum.								
Code (Port size)	Seal Mat'l	Orifice mm	Max. operating pressure diff. (0~bar)					CV
			Water	Air	Gas	Naphtha	Vacuum	
8A(1/4")	N S J V	2.5	0~10	0~10	0~10	0~7	0~10 ⁻⁴ Torr	0.23
8B(1/4")		3.5	0~7	0~7	0~7	0~5	0~10 ⁻⁴ Torr	0.42
8C(1/4")		4.5	0~5	0~5	0~5	0~3	0~10 ⁻⁴ Torr	0.61
10A(3/8")		4.0	0~7	0~7	0~7	0~5	0~10 ⁻⁴ Torr	0.58
10B(3/8")		6.0	0~3	0~3	0~3	0~2	0~10 ⁻⁴ Torr	0.79
12A(1/2")		6.0	0~3	0~3	0~3	0~2	0~10 ⁻⁴ Torr	0.79

MXCD series

2/2 WAY N.C. DIAPHRAGM TYPE SOLENOID VALVE



Caution

- In order to prolong operating life, it is better to allocate pipe horizontally and coil to face upward.
- Voltage drop range is within $\pm 10\%$.
- Pressure of voltage DC is 70% of voltage AC only.
- Combined diaphragm design assures no breaking.
- Fluid temp.: $-10\sim+80^{\circ}\text{C}$ (Naphtha 120°C)

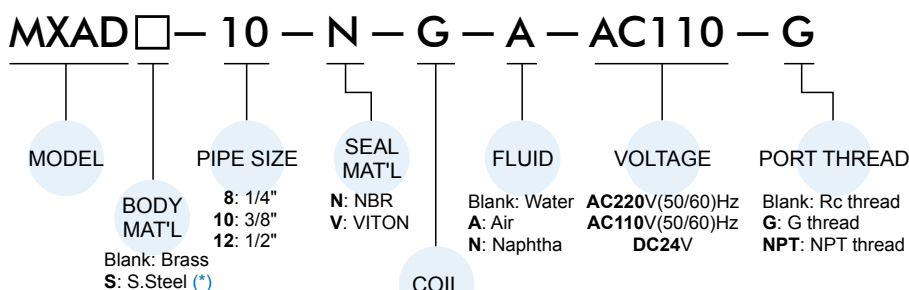
Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 50 cst.

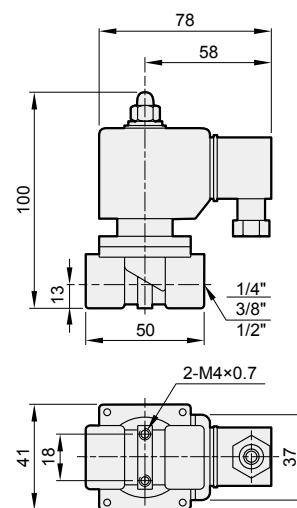
Weight

Model	MXCD		
Code Dimension (mm)	8	10	12
N.W (kg)	0.61	0.6	0.59

Order example

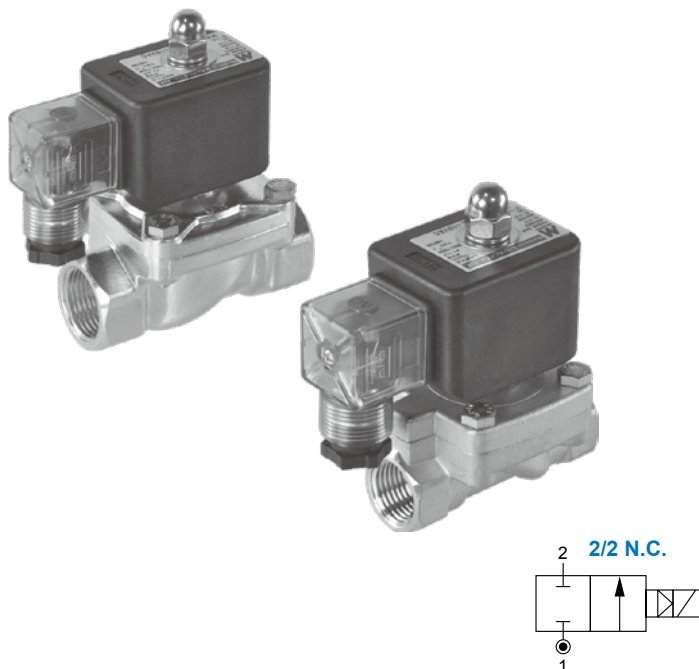


* Stainless steel material is custom made. G: Square DIN



Specification

Model MXCD: Forged brass body, for water, air, naphtha.								
Code (Port size)	Seal Mat'l	Orifice mm	Max. operating pressure diff. (0~bar)					CV
			Water	Air	Gas	Naphtha	acid & alkali (S.Steel)	
8(1/4")	N V	11	0.3~20	0.3~20	0.3~20	0.3~20	0.2~20	2.4
10(3/8")		12	0.3~20	0.3~20	0.3~20	0.3~20	0.2~20	2.7
12(1/2")		12	0.3~20	0.3~20	0.3~20	0.3~20	0.2~20	2.7



Caution

- Direct-acting valves are ideally suited to allocate at any angle.
- Voltage drop range is within $\pm 10\%$.
- Pressure of voltage DC is 70% of voltage AC only.
- Fluid temp.: $-10\sim+80^{\circ}\text{C}$ (Naphtha 120°C)

Not for fluid of

- Liquid when heat, solid when cool.
- Corrosive fluid.
- Viscosity over 50 cst.

Dimensions

Model	MXPV		
Code Dimension (mm)	14	15	20
A	75		85
B	52		60
C	104		113
H	14.5		18
G	3/8"	1/2"	3/4"
N.W (kg)	0.85	0.88	1.06

Order example

MXPV — 20 — V — G — V — AC110 — G

MODEL

PIPE SIZE

SEAL MAT'L

FLUID

VOLTAGE

COIL

PORT THREAD

BODY MAT'L
14: 3/8"
15: 1/2"
20: 3/4"
Blank: Brass
S: S.Steel (*)

N: NBR
S: Silicon
J: EPDM
V: VITON

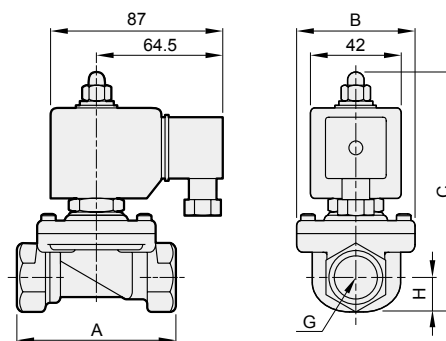
Blank: Water
A: Air
N: Naphtha

AC220V(50/60)Hz
AC110V(50/60)Hz
DC24V

G: Square DIN

Blank: Rc thread
G: G thread
NPT: NPT thread

* Stainless steel material is custom made.



Specification

Model MXPV: Forged brass body, for water, air, naphtha.								
Code (Port size)	Seal Mat'l	Orifice mm	Max. operating pressure diff. (0~bar)					CV
			Water	Air	Gas	Naphtha	acid & alkali (S.Steel)	
14(3/8")	N, S J, V	15	0.5~10	0.5~10	0.5~10	0.5~10	0.2~20	4.5
15(1/2")		15	0.5~10	0.5~10	0.5~10	0.5~10	0.2~20	4.5
20(3/4")		20	0.5~10	0.5~10	0.5~10	0.5~10	0.2~20	9.3

MEMO

NOTE



