

Discrete valve/body piping
Pilot operated explosion-proof 5-port valve pneumatic valve

4F1/3*0EX Series

NAMUR standards option

- Pressure and explosion proof construction ExdIIBT4 (group IIB/temperature class T4)
- Japan Conformity Certificate No. TC20523
- Korea Conformity Certificate No. 15-AV4B0-0389
- Taiwan Conformity Certificate No. ITRI (2015) No. 00216
- China Conformity Certificate No. (CCC) 2020322307002070
- China explosion-proof type (NEPSI) GYB20.2251X

RoHS

Common specifications

Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	1.0
Min. working pressure MPa	0.1
Proof pressure MPa	1.5
Ambient temperature °C	-10 to 60 (*1)
Fluid temperature °C	5 to 60
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)
Explosion-proof performance	ExdIIBT4 (*2)
Vibration resistance m/s ²	50 or less
Shock resistance m/s ²	300 or less
Atmosphere	Cannot be used in corrosive gas environments

*1: The ambient temperature indicates the temperature for storage and upon installation, which will differ from the fluid temperature during operation.

*2: The display of "X" for explosion-proof performance ExdIIBT4X, with "A2-70 bolt strength category (bolts used in actuator assembly only)" and "allowable cable temperature of 85°C or more" has been omitted.

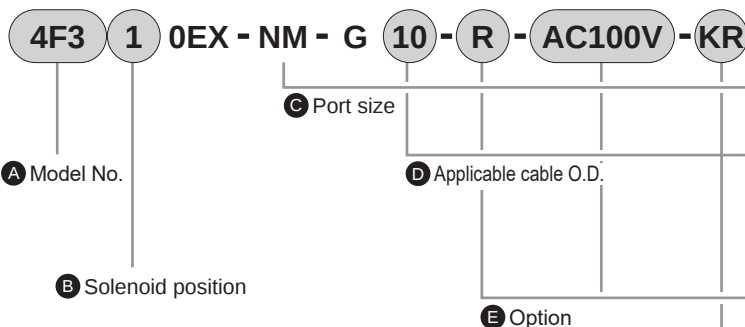
*X is not indicated on the certification by regulations.

Flow characteristics

Model No.	Solenoid position	Port size	Sonic conductance C[dm ³ /(s·bar)]
4F1	2-position	Single	1.6
		Double	
4F3	2-position	Single	3.1
		Double	

*1: Effective cross-sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

How to order



⚠ Precautions for model No. selection

*1: For 4F1, the body repair parts, etc. are 4F1 standard products, while the pilot actuator assembly uses 4F3.

*2: For 4F3, note that the repair parts of the body are dedicated parts.

*3: The only piping port is Rc1/4.

The C1/C2 ports on the NAMUR surface have not been threaded.

*4: When using 4F1 outdoors, install it so that rainwater, etc., does not enter, as the PE exhaust and breathing hole are connected to the atmosphere.

*5: When the Explosion-proof certification engine is KR or TW, the range of applicable cable O.D. 9 is ø8.5 to 9.5 and applicable cable O.D. 13 cannot be selected.

[Example of model No.]

4F310EX-NM-G10-R-AC100V-KR

- A Model No. : 4F3*0EX
- B Solenoid position : 2-position single
- C Port size : Rc1/4
- D Applicable cable O.D. : ø9.5 to ø10.5
- E Option : Position change of manual override
- F Voltage : 100 VAC
- G Organizations for explosive-proof certification : Korea certification (KOSHA)

Electrical specifications

Item	Description
Rated voltage	AC 100, 200, 110, 220(50/60Hz)
V	DC 12, 24
Rated voltage fluctuation range	±10%
Starting current	AC 100V 0.186/0.135 200V 0.093/0.068 110V 0.169/0.123 220V 0.085/0.061
Holding current	AC 12V 0.332 24V 0.166 100V 0.06/0.05 200V 0.03/0.025 110V 0.055/0.045 220V 0.027/0.023
Power consumption	AC 100V 4.5/4.0 200V 4.5/4.0 110V 4.5/4 220V 4.5/4 DC 12V 4 24V 4
Thermal class	H

Code	Description	4F1	4F3
A Model No.			
4F1	4F1 Series	●	
4F3	4F3 Series		●

B Solenoid position		4F1	4F3
1	2 position single	●	●
2	2-position double	●	●

C Port size		4F1	4F3
NM	NAMUR standards (port size Rc1/4)	●	●

D Applicable cable O.D.		4F1	4F3
9	ø7.5 to ø9.5 (*5)	●	●
10	ø9.5 to ø10.5	●	●
11	ø10.5 to ø11.5	●	●
13	ø11.5 to ø13.5 (*5)	●	●

E Option		4F1	4F3
Blank	No option	●	●
R	Position change of manual override	●	●

F Voltage		4F1	4F3
AC100V	100 VAC (50/60 Hz)	●	●
AC200V	200 VAC (50/60 Hz)	●	●
DC24V	24 VDC	●	●
DC12V	12 VDC	●	●
AC110V	110 VAC (50/60 Hz)	●	●
AC220V	220 VAC (50/60 Hz)	●	●

* Other made-to-order products		4F1	4F3
[AC voltage]			
12V, 24V, 48V		●	●
115V, 120V, 125V		●	●
127V, 210V, 230V		●	●
240V, 250V, 380V		●	●
[DC voltage]			
45V, 48V, 80V		●	●
100V, 110V, 125V		●	●

G Organizations for explosive-proof certification		4F1	4F3
Blank	Japan certification (TIS)	●	●
KR	Korea certification (KOSHA)	●	●
TW	Taiwan certification (ITRI)	●	●
CN	China certification (CCC)	●	●

