



Electric needle valve for chemical liquid

# MNV Series



## Specifications

### 1. Valve/body

Descriptions	MNV00-10BUP-1-G
Working fluid	Chemical liquids, pure water (*1)
Fluid temperature °C	20 to 195
Proof pressure MPa	0.5
Working pressure (A→B) MPa	0 to 0.2
Fluid differential pressure kPa	5 to 200 (differential pressure between ports A and B)
Setting range	0 to 600 stp (motor drive step) · 0 step valve open side, home sensor detection · 600 step valve closed side, with stopper
Operating ambient temperature °C	20 to 100
Operating ambient humidity %RH	20 to 85 (no condensation)
Storage ambient temperature °C	0 to 60
Storage ambient humidity %RH	20 to 85 (no condensation)
Mounting orientation	Unrestricted
Connection	Super 300 Pillar fitting P Series integrated 3/8" x 1/4" fitting for PFA tube
Orifice size mm	ø3.4
Degree of protection	Waterproof (IP65 or equivalent)

\*1: Check the compatibility of product structural materials, working fluids and atmosphere. (Refer to the compatibility check list on Intro Page 16.)  
It cannot be used for nitric acid, hydrochloric acid, hydrofluoric acid, ozone or organic fluids.

### 2. Motor

Type	2-phase stepper motor (bipolar)
Drive method	Full step (step angle: 1.8°)
Rated drive current mA/phase	350
Driving speed pps	650

### 3. Sensor

Power supply voltage	24 VDC ±10% Ripple (P-P) 10[%] or less
Current consumption	50 mA or less
Control output	NPN open collector output, 40 mA or less
Operation mode	Output ON when opening the valve open side from the origin position
Response frequency	1 kHz or more

### 4. Purge (\*2)

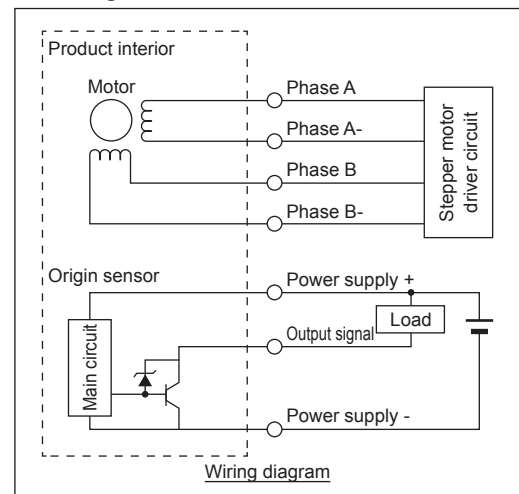
Purge flow rate l/min	15 to 30
Internal pressure kPa	0 to 100
Fluid temperature °C	10 to 30
Port size	IN port: Rc1/8, EXH port: Rc1/8
Purge supply fluid	Clean compressed air, equivalent to JIS grade 2.6.1 (JIS B 8392-1:2003)

\*2: Purge must be performed. Also, be sure to adjust the flow rate to the specified flow rate by providing a speed control valve on the supply side.

### 5. Cable

Conductor sectional area	AWG#24, approx. 0.2 [mm <sup>2</sup> ]
Conductor material	Tin plated annealed copper wire
Lead wire coating O.D.	Approx. 1.14 [mm]
Lead wire insulation material	ETFE
Cable finish O.D.	Approx. 4.4 [mm]
Coating sheath material	FEP, black
Cable length	3 m

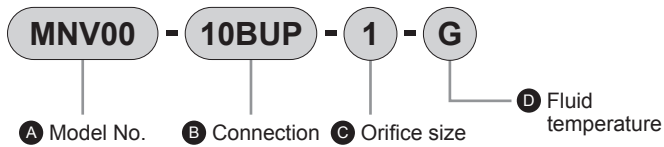
### 6. Wiring



Insulator color	Access point
Green	Motor Phase A
Yellow	Motor Phase A-
White	Motor Phase B
Red	Motor Phase B-
Orange	Origin sensor Power supply +
Blue	Origin sensor Power supply -
Gray	Origin sensor Output signal
Black	N.C.

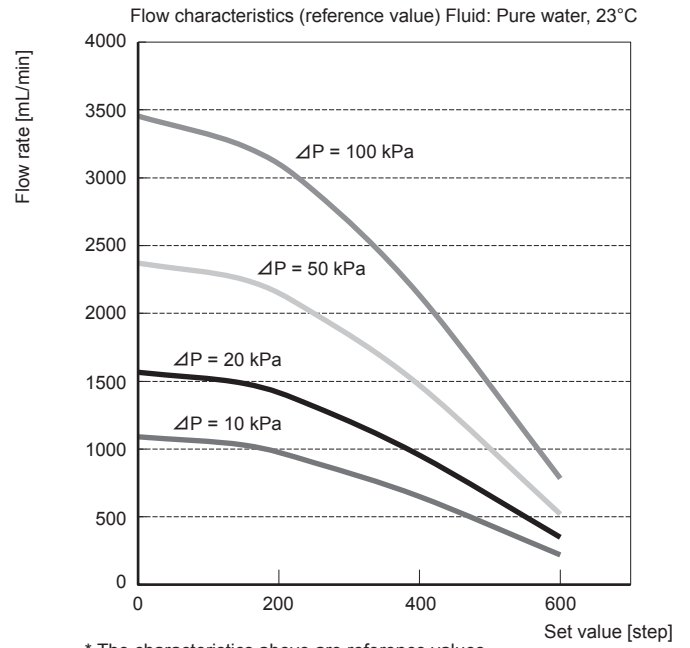
Always read the precautions on Intro Pages 7 to 16 before use.

### How to order



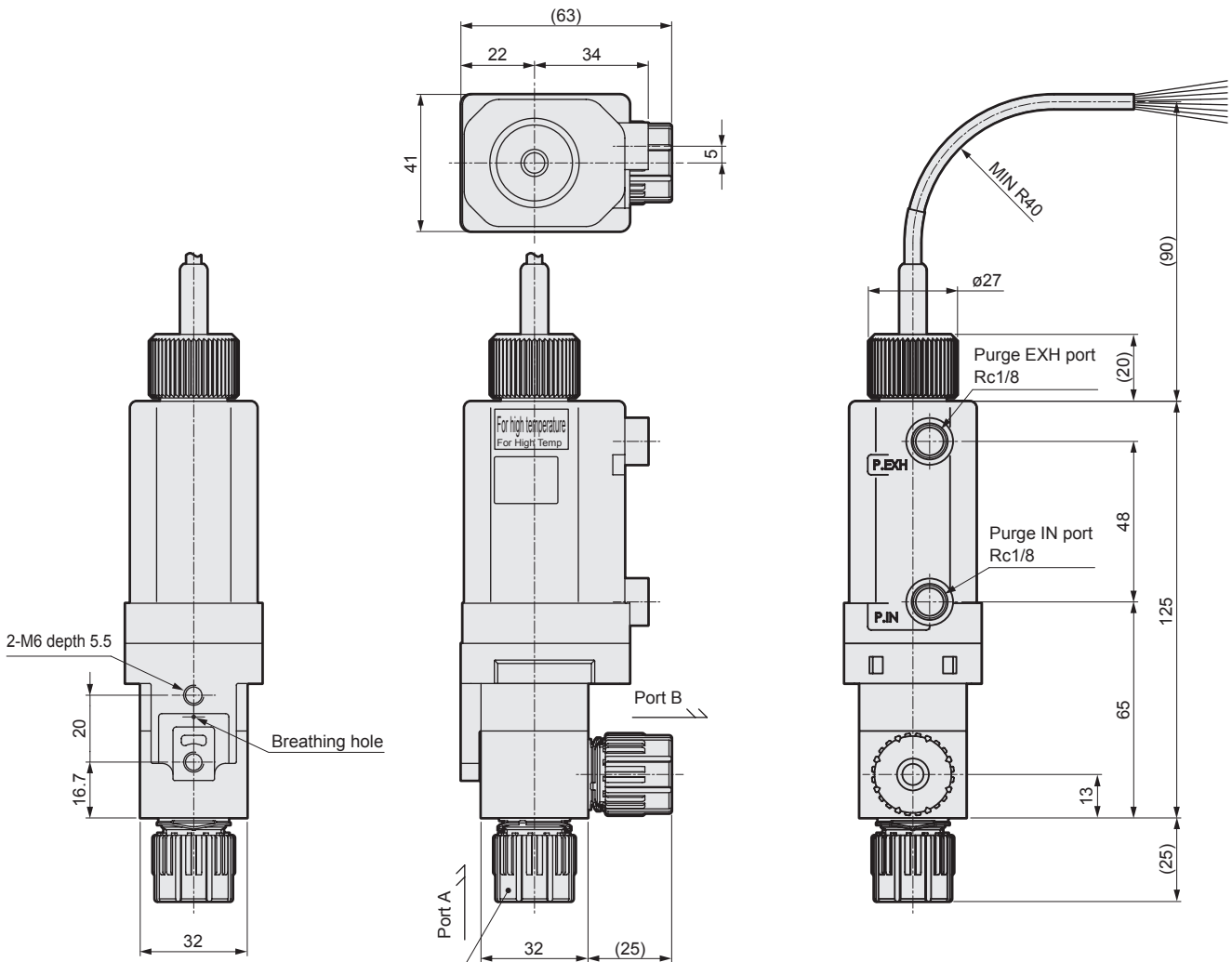
Code	Content
<b>A Model No.</b>	MNV00
<b>B Connection</b>	Super 300 Pillar fitting P Series integrated 3/8" x 1/4" tube connection
<b>C Orifice size</b>	1 $\phi 3.4$
<b>D Fluid temperature</b>	G    20 to 195°C

### Flow characteristics



\* The characteristics above are reference values.  
There are individual differences in the actual flow characteristics.

### Dimensions



2-3/8" X 1/4" Fitting for PFA tube  
Nippon Pillar Packing Co., Ltd. Super 300 pillar fitting P Series