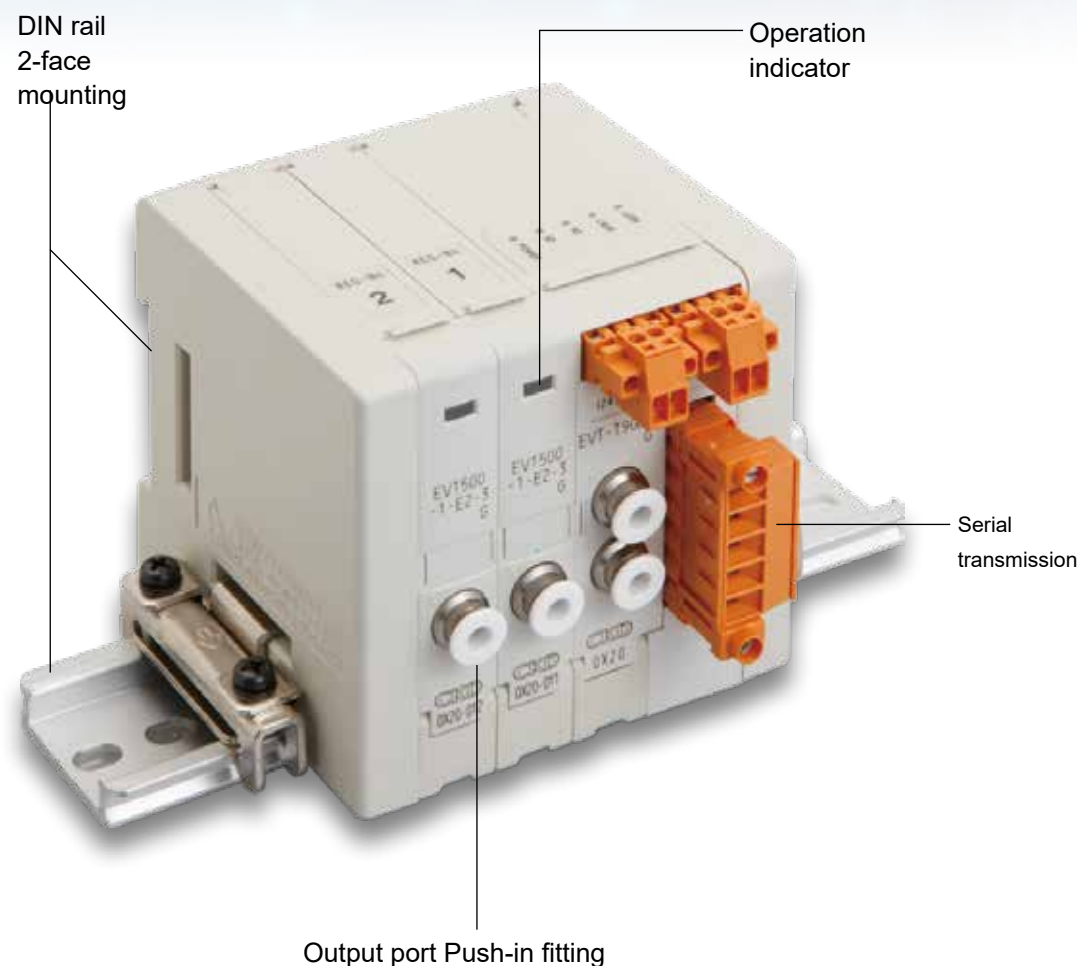


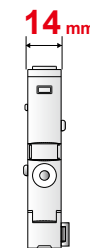
Evolution to ultra-precision / micro system area

Low-profile electro-pneumatic regulator / manifold type responding to PC control and reduced wiring. Ideal for various pressing force controls in semiconductor and precision fields, and low speed cylinder control.



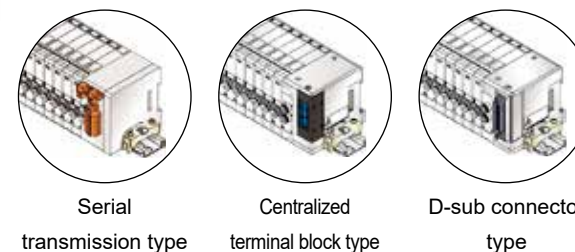
14 mm low-profile and 80 g lightweight

High integration, max. 24-station manifold possible.



Network-compatible

Serial transmission, centralized terminal block, and D-sub connector are available as electrical blocks.



2-color LED of the operational status

2-color operation indicator (PAT. PEND) displays green at set pressure, and red when out of setting or error.

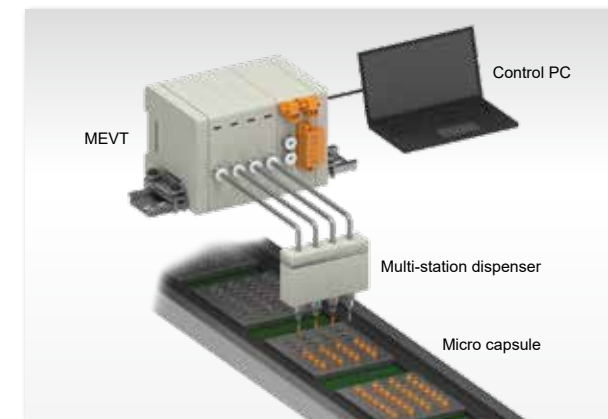


Eco-friendly product

Material names displayed on main parts. Easy sorting for recycling.

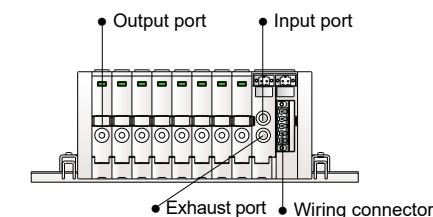
Application examples

Coating device



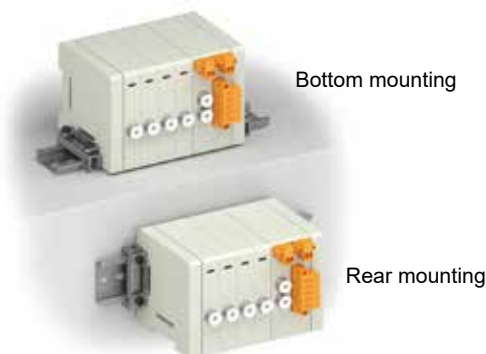
Easy to pipe/wire

Centralized piping and wiring on the front of the body improves workability and saves space.



2 installation directions (PAT. PEND)

In addition to bottom mounting, rear mounting is also possible. Operating surface for installation and maintenance can be freely selected.

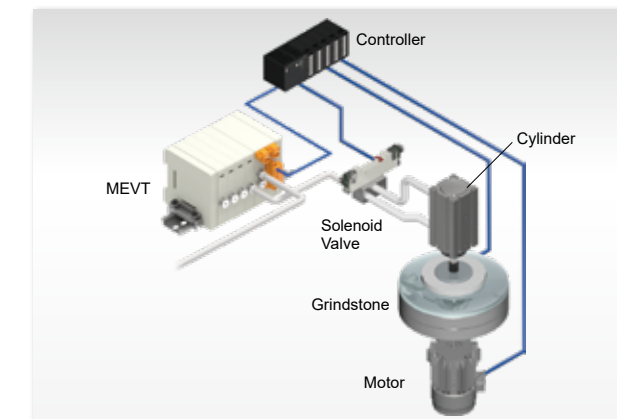


High precision/high-speed response

Controls fluid pressure with high precision and high speed response by electrical signal. Repetitive accuracy 0.3 % F.S. Response time 0.1 sec (No load)

* Refer to specifications

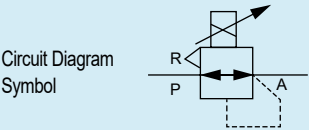
Polishing force control





Low-profile electro-pneumatic regulator
Reduced wiring manifold type

MEVT Series



For compatible detailed model numbers, please see our website.

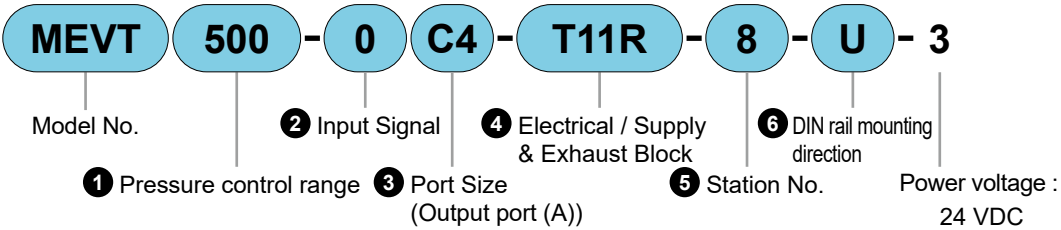
MEVT Series

Model No. Notation

Model No. Notation

Manifold Model No.

Note) Be sure to fill out the "Manifold Specifications" (P. 861).



① Pressure control range

Code	Content
100	2 to 100 kPa
500	0.01 to 0.5 MPa

③ Port size (output port (A))

Code	Content
C4	ø4 Push-in fitting
C6	ø6 Push-in fitting

*1 : Specify input (P) / exhaust (R) port size in Electrical / Supply & Exhaust Block of Manifold Specifications.

*2 : Input (P) and Output (A) ports have built-in filters.

⑤ Station No.		④ Electrical / Supply & Exhaust Block			
Code	Content	T11R	T30R	T9DAR	T9GAR
1	1 station	●	●	●	●
to	to	●	●	●	●
8	8 stations	●	●	●	●
to	to			●	●
12	12 stations			● *	● *

* Max. number of stations per device station is 4.

② Input Signal		④ Electrical / Supply & Exhaust Block			
Code	Content	T11R	T30R	T9DAR	T9GAR
0	0 to 10 VDC	●	●		
1	0 to 5 VDC	●	●	●	●
2	4 to 20 mA	●	●		

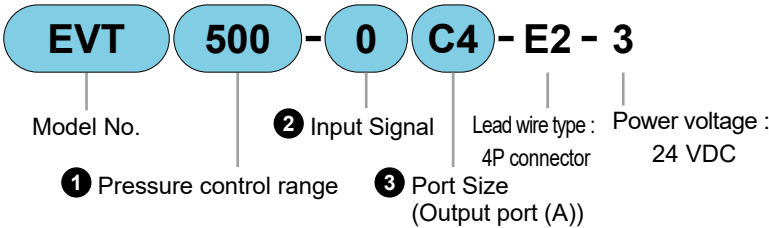
④ Electrical / Supply & Exhaust Block

Code	Content	
T11R	Centralized terminal block type	
T30R	D-sub connector type	
T9DAR	Serial transmission type	DeviceNet input 4 points / output 4 points
T9GAR		CC-Link Ver 1.10 Input 4 points / Output 4 points

⑥ DIN rail mounting direction

Code	Content	
U	Bottom	
B	Rear	

EVT discrete model No.



① Pressure control range

Code	Content
100	2 to 100 kPa
500	0.01 to 0.5 MPa

② Input Signal

② Input Signal		Electrical / Supply & Exhaust Block			
Code	Content	T11R	T30R	T9DAR	T9GAR
0	0 to 10 VDC	●	●		
1	0 to 5 VDC	●	●	●	●
2	4 to 20 mA	●	●		

③ Port size (output port (A))

Code	Content
C4	ø4 Push-in fitting
C6	ø6 Push-in fitting

Clean specification (Catalog No. CB-033SAA)

- Dust generation prevention structure usable in clean rooms

MEVT - - P70

Specifications (*1)

Item		EVT100	EVT500
Operating Fluid		Clean compressed air (Equivalent to ISO 8573-1 : 2010 [1 : 3 : 2])	
Max. Operating pressure		200 kPa	0.7 MPa
Min. Operating pressure		Set pressure + Max. control pressure x 0.1	
Proof pressure	Supply side	300 kPa	1.05 MPa
	Output side	150 kPa	0.75 MPa
Pressure control range		2 to 100 kPa	0.01 to 0.5 MPa
Power supply voltage		24 VDC ±10 % (stabilized power supply with ripple rate 1 % or less)	
Current consumption		0.1 A or less	
Input Signal(Input Impedance)		0 to 10 VDC (6.6 kΩ)	
		0 to 5 VDC (3.3 kΩ)	
		4 to 20 mA	
Analog output		1 to 5 VDC (load impedance 1 kΩ and over)	
Insulation resistance		100 MΩ (500 VDC megger) or more	
Proof voltage		1500 VAC for 1 min	
Hysteresis		0.4 % F.S. or less	
Linearity		±0.5 % F.S. or less	
Resolution		0.1 % F.S. or less	
Repeatability		0.3 % F.S. or less	
Temperature characteristics	Zero point fluctuation	±0.15 % F.S./°C or less	
	Span fluctuation	±0.07 % F.S./°C or less	
Max. flow rate (ANR)		2 L/min	6 L/min
Step response	No load	0.1 s or less	
	15 cm³ load	0.5 s or less	
Ambient temperature		5 to 50 °C	
Fluid temperature		5 to 50 °C	
Indicator		2-color display	
Lubrication		Not allowed	
Mounting orientation		Free	
Atmosphere		Cannot be used in corrosive gas atmosphere	
Main dimensions		W14 x D75 x H75	
Port size		ø4, ø6 Push-in fitting (Selectable)	
Weight		80 g	

- *1 : The above characteristics are measured at room temperature with power supply voltage 24±0.1 VDC.

*2 : Residual pressure of EVT100 : 2 kPa or less, EVT500 : 10 kPa or less exists when input signal is 0 %.

*3 : Analog output is not available for the serial transmission type.
Pressure monitor data is available for Device Net compatible (T9DAR) and CC-Link compatible (T9GAR).
(Refer to the Serial Transmission Device Unit specifications on P. 855.)

*4 : The conditions for the values above are : 25±3 °C ambient temperature, no load, Operating pressure of the max. control pressure x1.1 (EVT100 : 110 kPa, EVT500 : 0.55 MPa), and 10 to 100 % control pressure.
In addition, when the secondary side is a closed circuit, pressure fluctuations will occur if the product is used for blowing or for similar applications.

*5 : The conditions where Operating pressure is maximum and control pressure is maximum are shown.

*6 : The characteristics where Operating pressure is maximum and step amount is

50 % F.S.→100 % F.S.

50 % F.S. → 60 % F.S.

50 % F.S. → 40 % F.S.

*7 : The indicator is for reference only and does not guarantee accuracy.

Manifold specifications

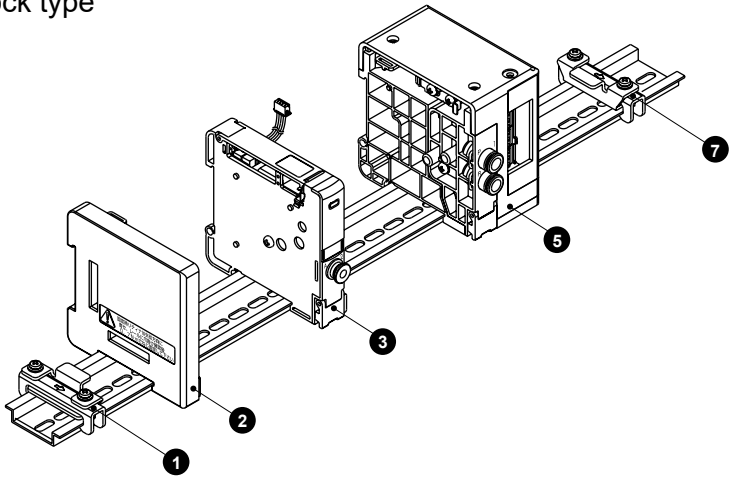
Item	Electrical / Supply & Exhaust Block	
	T11R, T30R	T9DAR, T9GAR
Manifold type	Block manifolds	
Mounting method	DIN rail mount type	
Supply / Exhaust method	Centralized supply / Centralized exhaust	
Max. station No.	8 stations	12 stations *1
Port size	Output port (A)	ø4, ø6 Push-in fitting (Selectable)
	Supply (P) / Exhaust port (R)	ø4, ø6 Push-in fitting (Selectable)

*1 : The max. station numbers for one device unit are T9DAR, T9GAR : 4 stations.

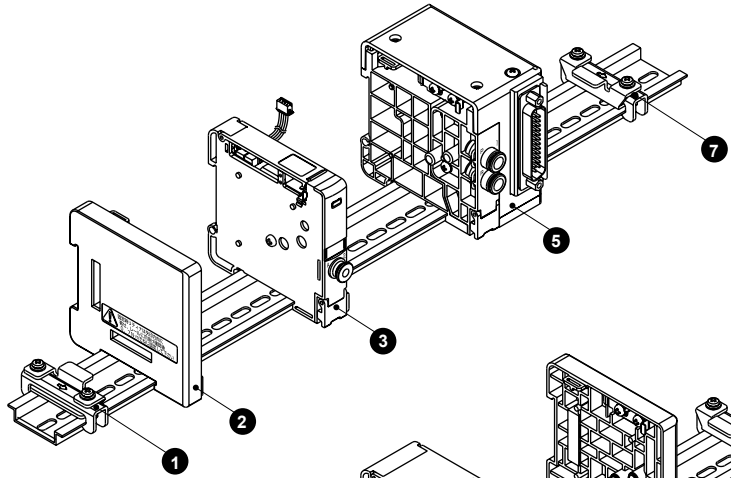
MEVT Component Description and Parts List

MEVT Component Description and Parts List

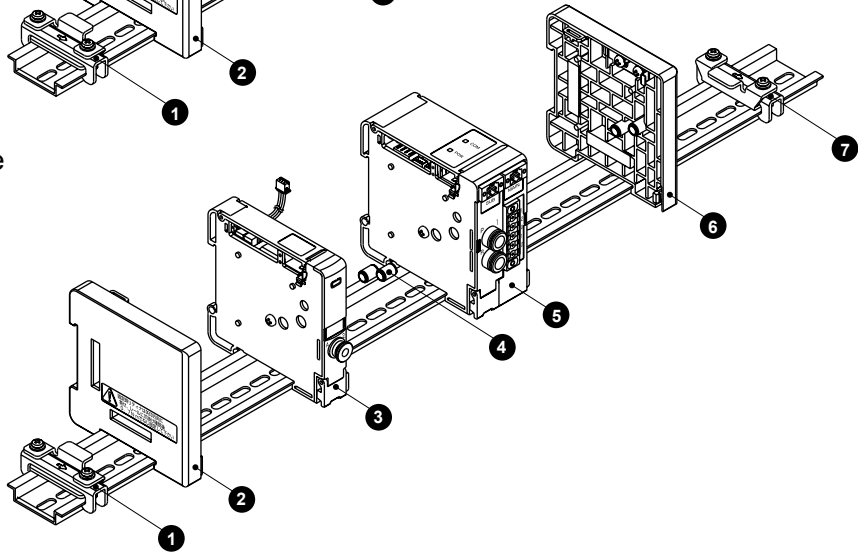
Centralized terminal block type



D-sub connector type



Serial transmission type



Main component parts list

Part No.	Block component part name	Model No.	Part No.	Block component part name	Model No.
1	Retainer L	EVT-HL	5	Electrical / Supply & Exhaust Block	EVT-T□
2	End block L	EVT-EL	6	End block R	EVT-ER
3	EVT	EVT□00	7	Retainer R	EVT-HR
4	Piping fitting	EVT-P			

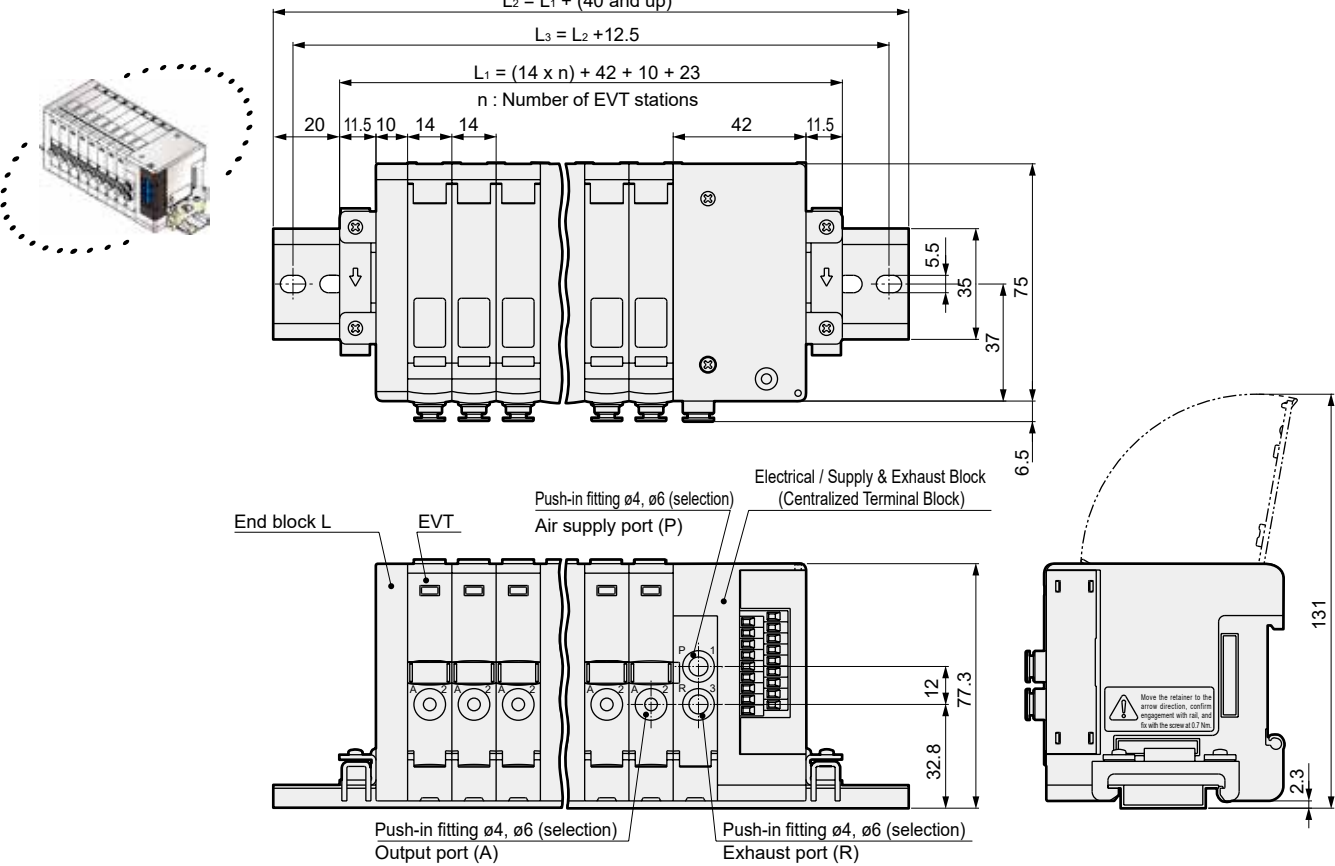
Weight

Block type		Weight	Block type		Weight
EVT	EVT□00	80	Electrical / Supply & Exhaust Block	T11R	115
End block	EVT-EL	30		T30R	125
	EVT-ER	30		T9□R	145
			Retainer	EVT-H□	25
			Piping fitting	EVT-P	-

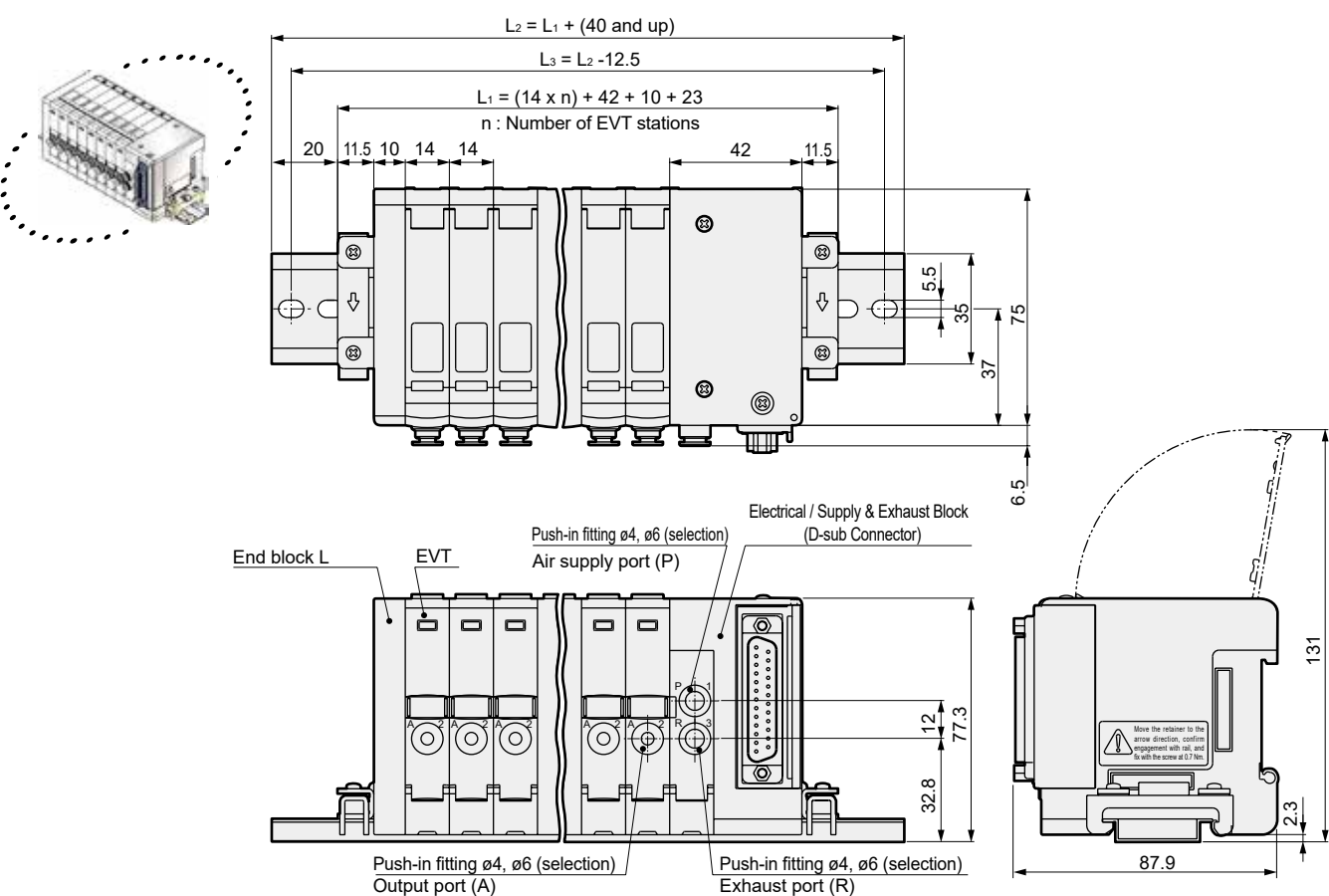
Dimensions

MEVT

- Common terminal block (T11R)



- D-sub-connector (T30R)

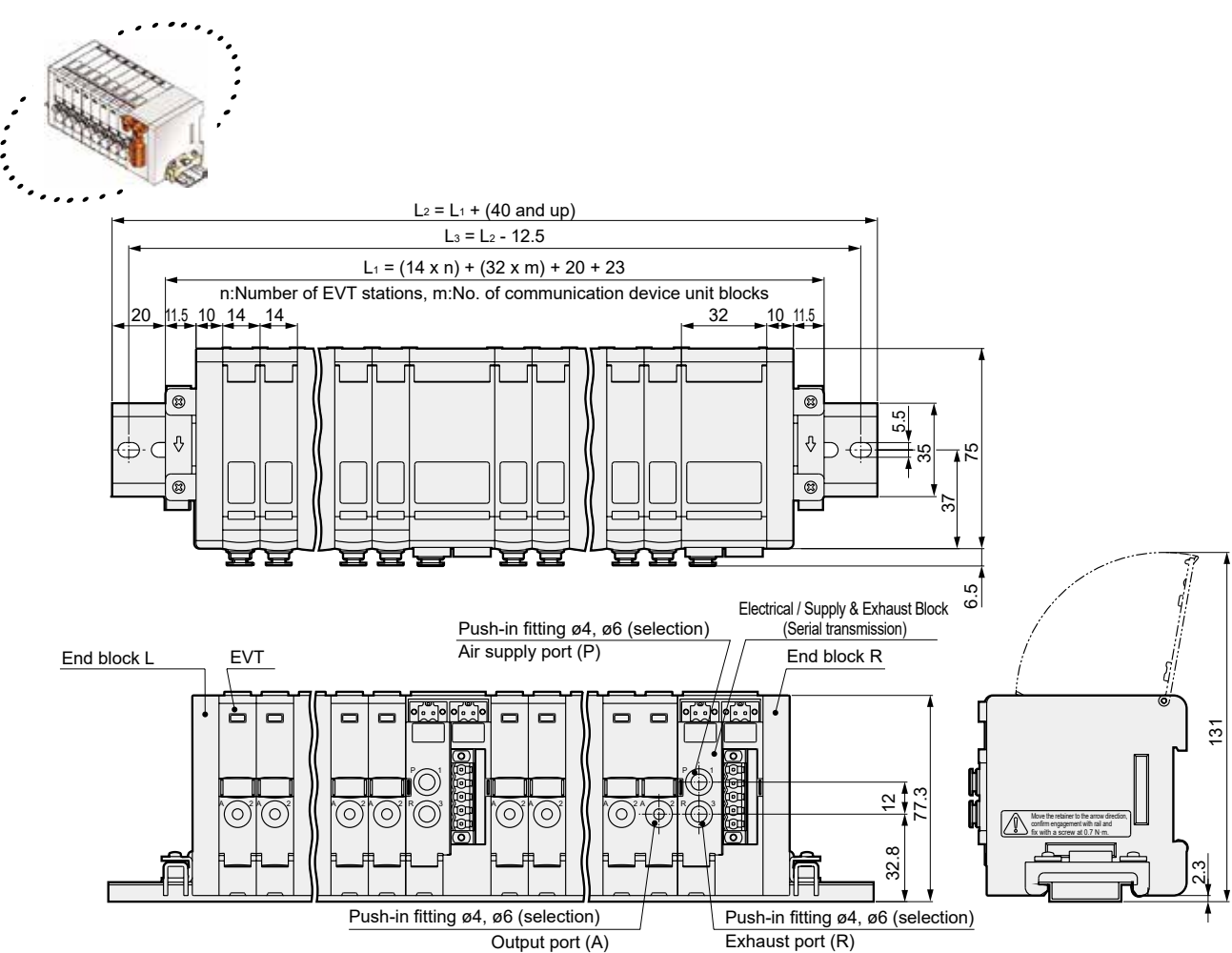


Dimensions

Dimensions

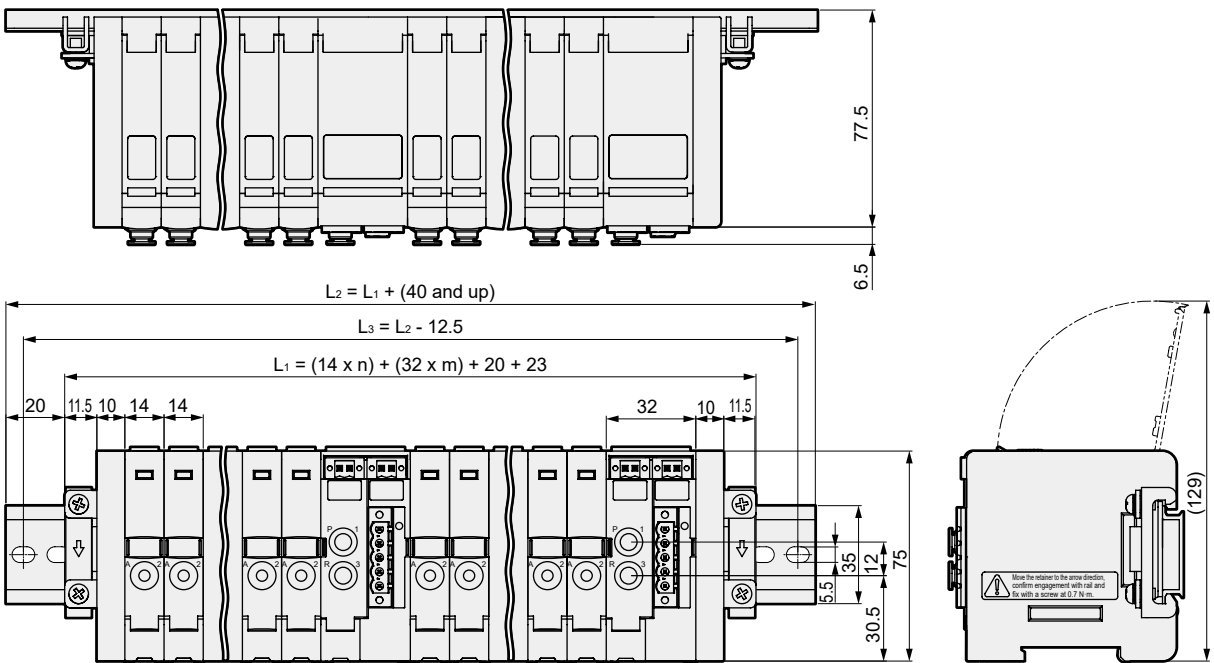
- Serial transmission (T9□)

(Note) The max. station numbers for a device unit are T9DAR, T9GAR : 4 stations.

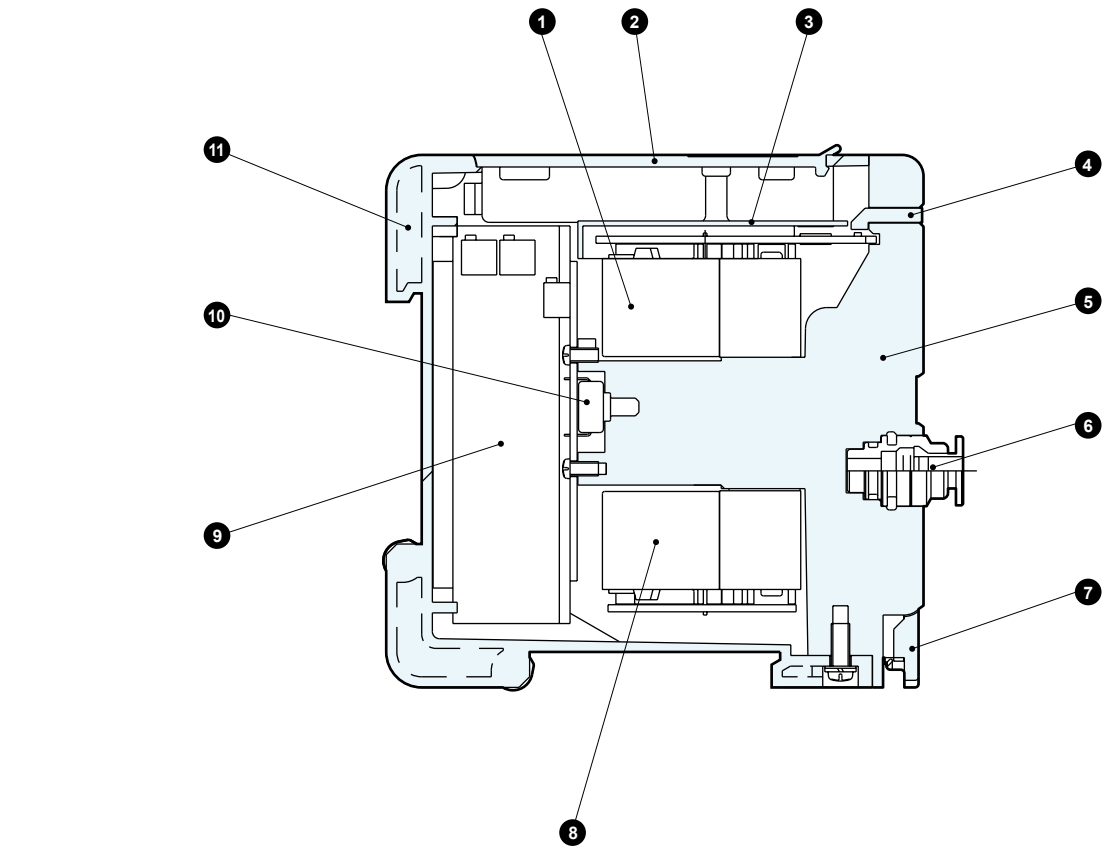
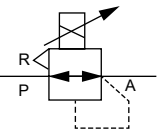


Option Outline Dimension Drawing

- DIN rail mounting direction : Rear side (B)



Internal structure and parts list

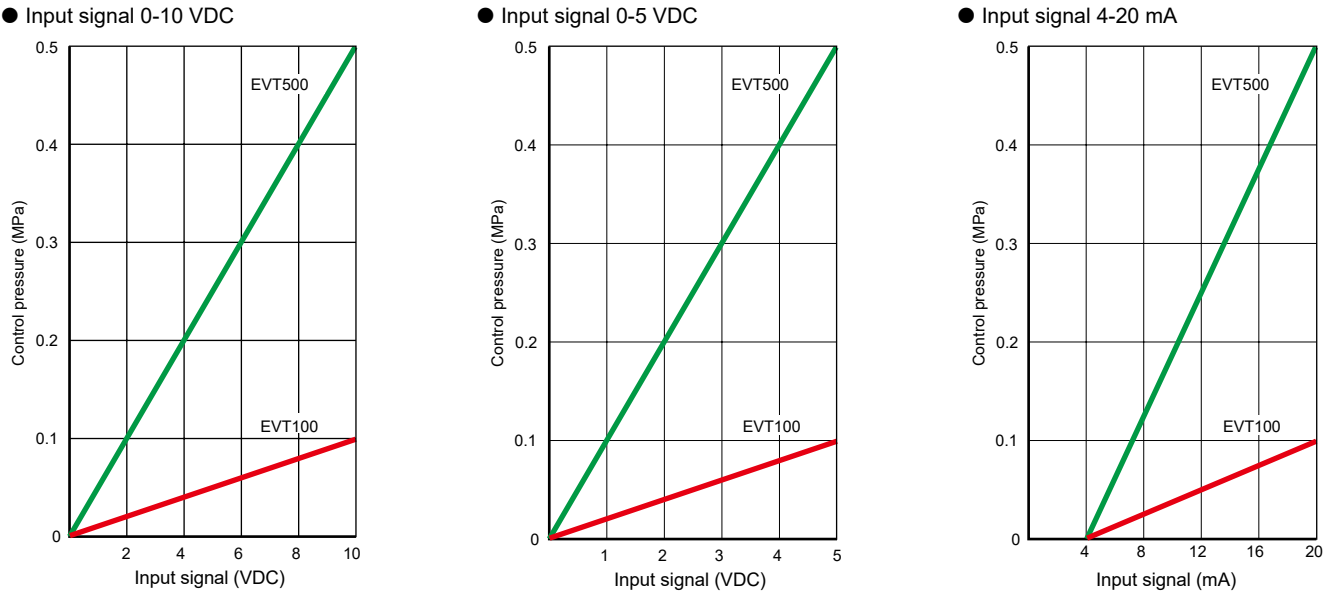


Do not disassemble

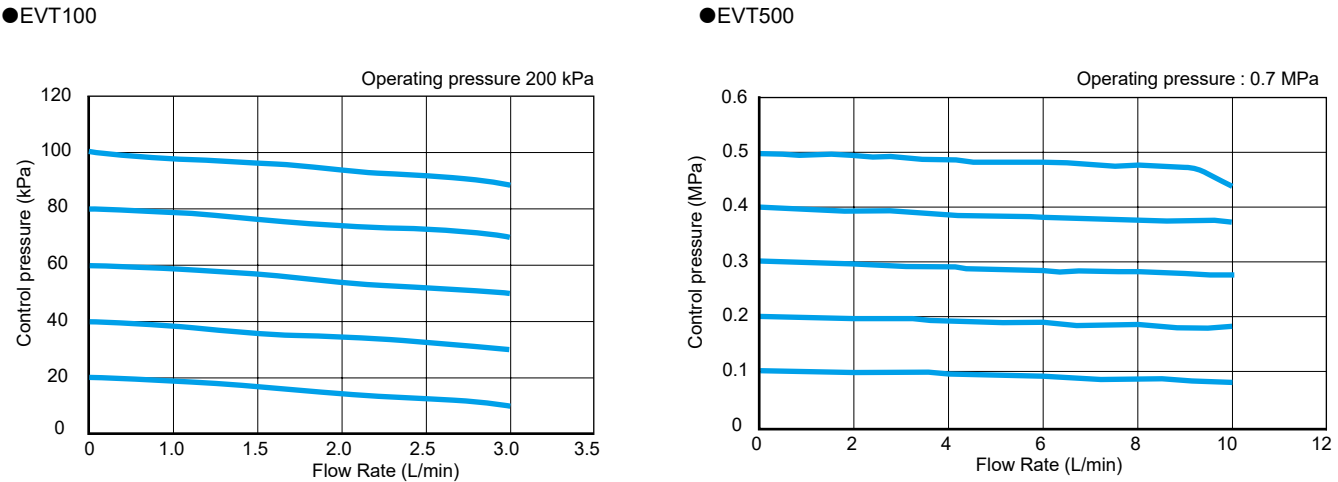
Part No.	Part Name	Material	Part No.	Part Name	Material
1	Air supply solenoid valve		7	Connection hook plate	Polyamide resin
2	Wiring cover	ABS resin	8	Solenoid valve for exhaust	
3	Valve cover	ABS resin	9	Control board	
4	Indicator lens	Polycarbonate resin	10	Pressure sensor	
5	Body	Polyamide resin	11	Case	ABS resin
6	Push-to-connect fitting				

I/O characteristics/flow characteristics

Input/Output characteristics



Flow characteristics



MEVT : Block Component Configuration

EVT single unit

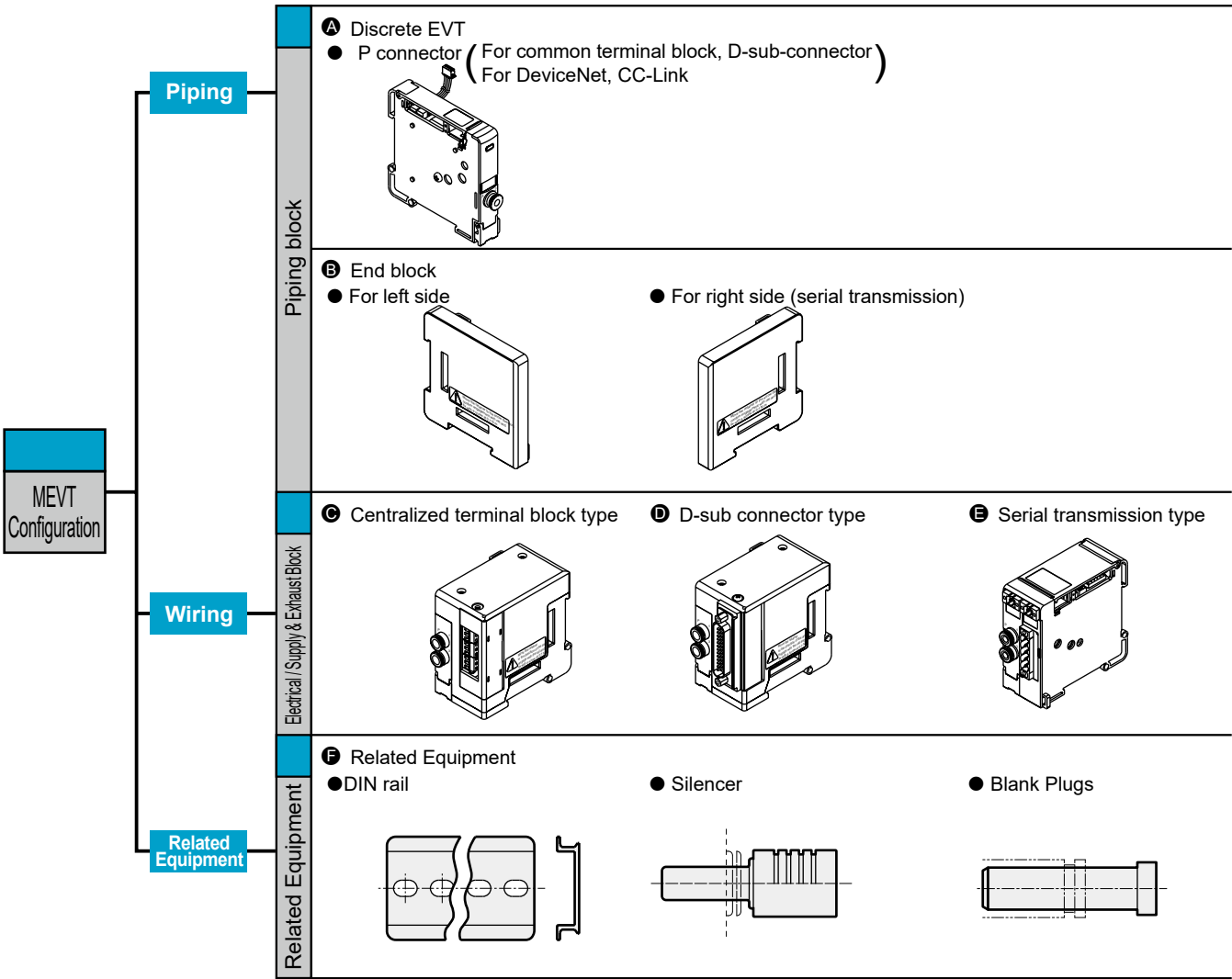
- ① Required station No. of EVT can be placed on a DIN rail. However, the number of stations depends on the wiring method. (Please refer to P. 851.)
- ② Viewed from the fitting, nominal station No. of EVT is assigned as 1, 2, 3,... from right.
- ③ The REG-No. indicated on the EVT wiring cover is for each wiring/supply and exhaust block connected, from the nearest side 1.2.3...it will be .

Wiring/supply and exhaust block

- ① At the connecting part of each block, a number of blocks can be freely connected.

End block

- ① For serial transmission, install the blocks to both sides.
- ② When using the common terminal block or D-sub-connector, mount only on the opposite side of the wiring and supply/exhaust blocks.



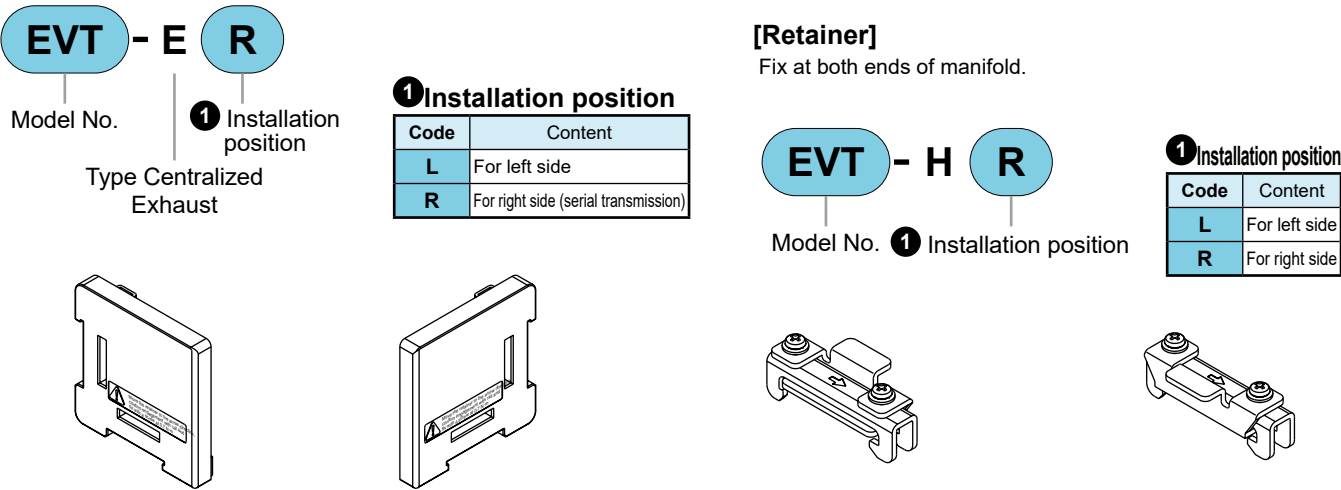
Piping

A. Discrete EVT

Refer to P. 841, P. 842 for selection guide.

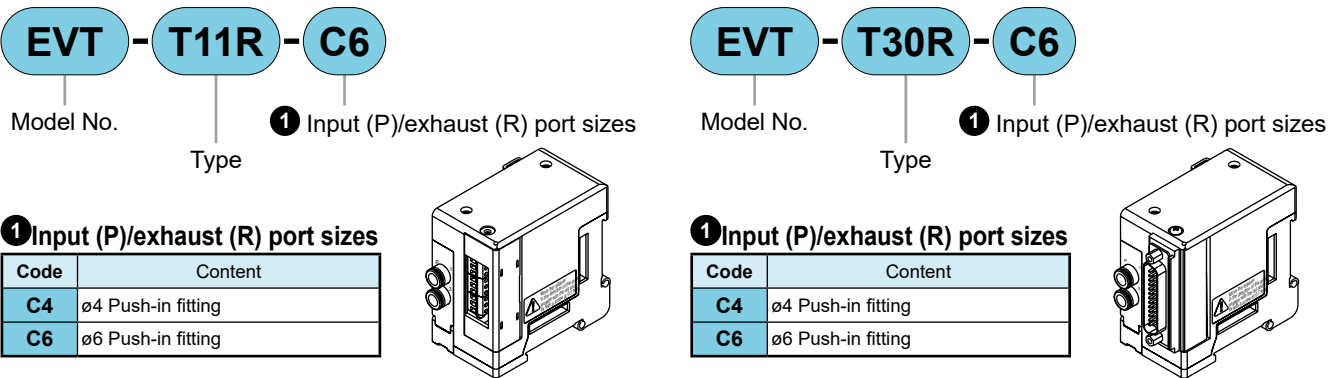
B. End block

For serial transmission (T9□), install the block to both ends of the manifold. When using the common terminal block (T11R) or D-sub-connector (T30R), mount only on the opposite side (EVT-EL) of the wiring and supply/exhaust blocks.

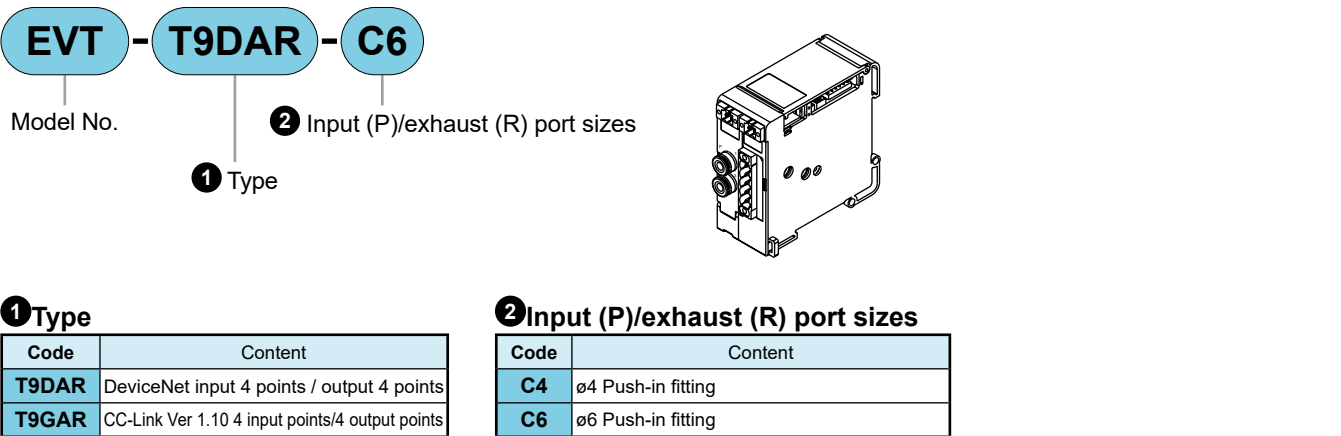


Electrical / Supply & Exhaust Block

C. Centralized terminal block type



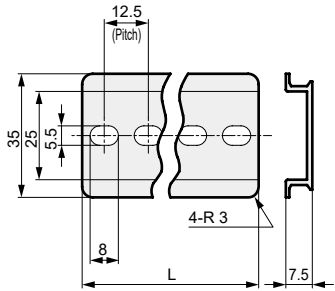
E. Serial transmission type



Related Equipment DIN rail, silencer, blanking plug

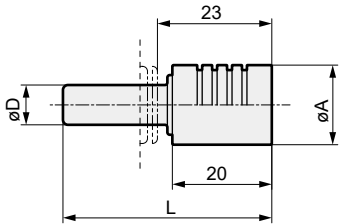
DIN rail

EVT-BAA [Length]



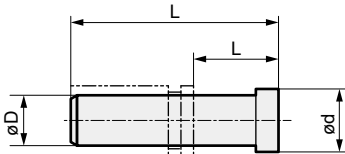
Note) [Length] select from the DIN rail length setting table L2 on P. 860.

Silencer



Model No.	D	L	A	Weight g
SLW-H6	ø6	41	16	3.9

Blank Plugs



Model No.	D	L	L	d	Weight g
GWP 4-B	ø4	27	9	6	0.4
GWP 6-B	ø6	29	11	8	0.8

Technical data 1 Notes on wiring

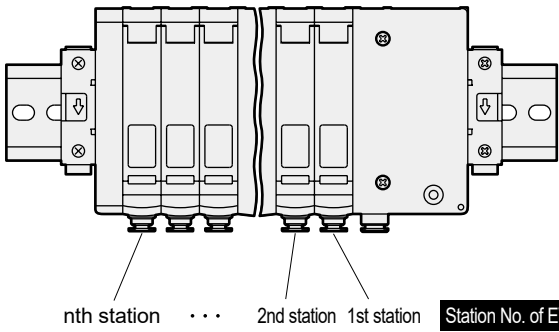
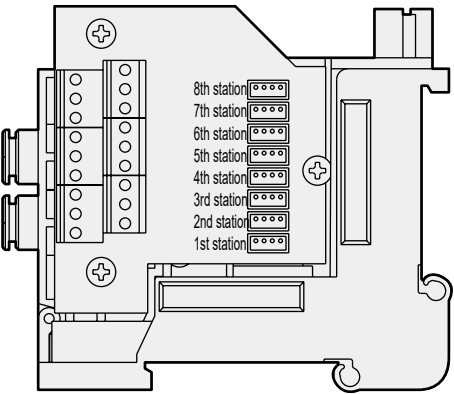
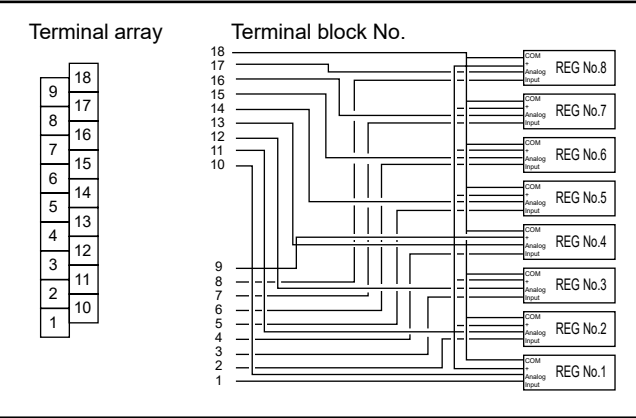
Common terminal block (T11R) : Wiring method

Notes on wiring

[Precautions for common terminal box (T11R)]

The number of EVT stations is set in order starting from the right with the piping ports facing forward. If voltage drops due to simultaneous communication or cable length, 4-20 mA of current type is recommended for input signal. Recommended terminal block screw tightening torque 0.25 N·m

Internal wiring method of T11R (up to 8 stations for EVT)



Terminal array of wiring method T11R

The max. station number for EVT is 8.

Terminal No.									
18	17	16	15	14	13	12	11	10	
9	8	7	6	5	4	3	2	1	

[Standard wiring]

Terminal No.	18	17	16	15	14	13	12	11	10
Terminal array	COM	Analog output 8	Analog output 7	Analog output 6	Analog output 5	Analog output 4	Analog output 3	Analog output 2	Analog output 1
Terminal No.	9	8	7	6	5	4	3	2	1
Terminal array	Power supply (+)	Input signal 8	Input signal 7	Input signal 6	Input signal 5	Input signal 4	Input signal 3	Input signal 2	Input signal 1

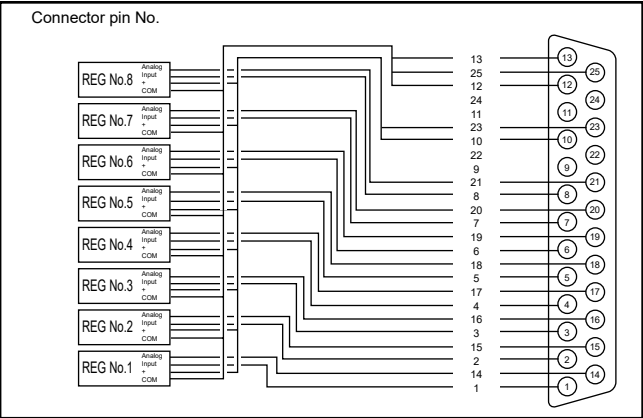
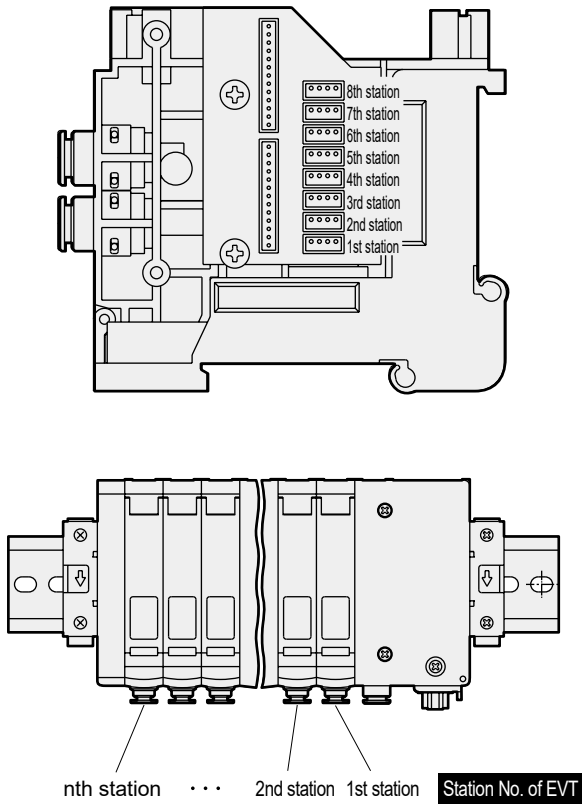
D-sub-connector (T30R) : Wiring method

D-sub-connector (T30R)

The connector used for wiring method T30R is generally called a D-sub-connector and is widely used in FA and OA components especially used for personal computer communication.

[Precautions for D-sub-connector (T30R)]

The number of EVT stations is set in order starting from the right with the piping ports facing forward. If voltage drops due to simultaneous communication or cable length, 4-20 mA of current type is recommended for input signal.



T30R connector pin array

The max. station number for EVT is 8.

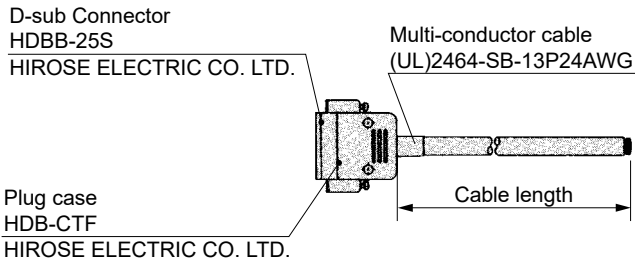


Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Pin assignment	Input signal 1	Input signal 2	Input signal 3	Input signal 4	Input signal 5	Input signal 6	Input signal 7	Input signal 8	(Blank)	Power supply (+)	(Blank)	COM	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Pin assignment	Analog output 1	Analog output 2	Analog output 3	Analog output 4	Analog output 5	Analog output 6	Analog output 7	Analog output 8	(Blank)	Power supply (+)	(Blank)	COM	

Model No. Notation cable with D-sub-connector

EVT - CABLE - D 0 0 - 5

D-sub-connector pin No. and conductor



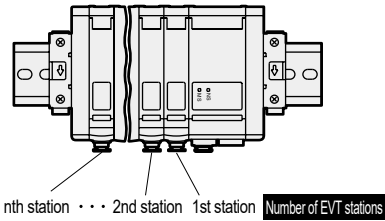
Cable length	Weight g
5 m	793

D-sub-connector pin No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Core identification	Insulator color	Yellow	Green	Gray	White	Yellow	Green	Gray	White	Yellow	Orange	Green	Orange	Orange
	Marker	1 point	1 point	1 point	1 point	2 points	2 points	2 points	2 points	3 points	1 point	3 points	1 point	2 points
	Mark color	Black	Black	Black	Black	Black	Black	Black	Black	Black	Red	Black	Black	Black
D-sub-connector pin No.		14	15	16	17	18	19	20	21	22	23	24	25	
Core identification	Insulator color	Yellow	Green	Gray	White	Yellow	Green	Gray	White	Yellow	Orange	Orange	Orange	
	Marker	1 point	1 point	1 point	1 point	2 points	2 points	2 points	2 points	3 points	2 points	3 points	3 points	
	Mark color	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Black	

Serial transmission (T9□) : Wiring method

[Serial transmission (T9□)]

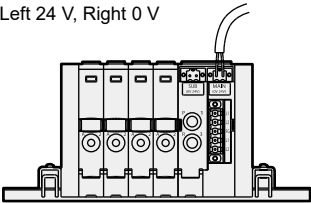
- device unit output No. differs with the manufacturer. The internal connector No. and EVT correspond as shown below.
- With the piping port in front, station numbers on EVT are assigned from right.
- Since internal connectors are wired in order, if there are fewer EVT stations than wiring and supply/ exhaust blocks, some connectors are left open. Do not use these open connectors for drives other than EVTs in use.
- Do not remove the protective connectors connected to blank connectors or a malfunction may occur.
- The Operating power is dedicated for 24 VDC.
- A device unit for each communication system is used. Contact CKD for usable PLC models, host unit model numbers and communication system specifications. (See P. 855)
- To ensure network reliability, use the communication cable recommended for each communication system.
- Securely fix the attached connector with fixing screws.
(Refer to the table at right for the proper tightening torque)
- The SUB power supply terminal is only for crossover wiring. Use the MAIN power supply terminal when connecting a single wire. Applying power to the SUB and MAIN power supply terminals will cause malfunction. Do not perform such wiring.
- MAIN and SUB power terminals are connected internally.
When not using the SUB power terminal, connect the attached connector to prevent short-circuiting.



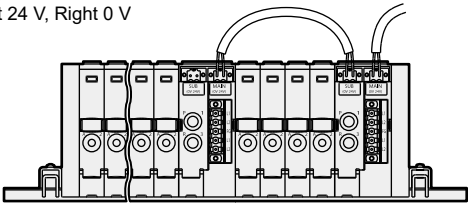
	Cable fixing screw	Connector fixing screw
Power connector	0.25 N·m	0.4 N·m
Communication connector	0.5 N·m	

[Wiring power cable]

Connect the power cable to MAIN when using one device unit (wiring/supply and exhaust blocks).
* Check power polarity.
T9DAR, T9GAR Left 24 V, Right 0 V



When using more than one device unit (wiring and supply/exhaust blocks)
Connect one power cable to the first MAIN, and then from SUB to the next MAIN.
* Check power polarity.
T9DAR, T9GAR Left 24 V, Right 0 V



* Refer to the table below for the number of EVT stations.

Max. EVT station No.

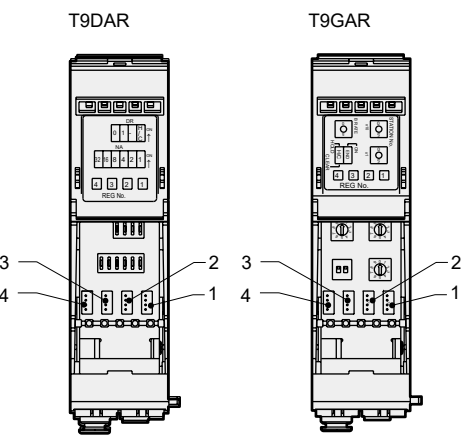
Device unit (wiring and supply/ exhaust blocks) model No.	Communication protocol	Max. EVT station No.		
		When using 1 device units	When using 2 device units	When using 3 device units
T9DAR	DeviceNet	4 units,	8 units,	12 units,
T9GAR	CC-Link	4 units,	8 units,	12 units,

Up to three device units can be connected per manifold.

Wiring method T9□ channel No. and connector No. Responses

T9DAR				
Device unit output channel No. (Pressure setting data)	0 (1)	1 (2)	2 (3)	3 (4)
Device unit input channel No. (Pressure monitor data)	0 (1)	1 (2)	2 (3)	3 (4)
Connector No. (REG No.) Number of EVT stations	1	2	3	4
(Note) Channel No. may be counted from "1" depending on the master.				
T9GAR				
Device unit output channel No. (Pressure setting data)	1	2	3	4
Device unit input channel No. (Pressure monitor data)	1	2	3	4
Connector No. (REG No.) Number of EVT stations	1	2	3	4

Internal connector No.



Serial transmission device unit specifications

(Refer to the table below for the applicable PLC correspondence table)

Item	T9DAR	T9GAR
Communication subject	DeviceNet *1	CC-Link Ver 1.10 *2
Communication speed	125 kbps/250 kbps/500 kbps	156 kbps/625 kbps/2.5 Mbps/ 5 Mbps/10 Mbps
Power supply voltage	24 VDC ±10 % *3 (Unit power supply/regulator power supply common terminal) Communication power supply (V+, V-) : 11 to 25 VDC	24 VDC ±10 % *3 (Unit power supply/regulator power supply common terminal)
Current consumption	60 mA or less Load current is not included Communication power supply (V+, V-) : 50 mA or less	80 mA or less Load current is not included
Max. output points (DA output)	4 points	
Max. number of inputs (AD input)	4 points	
DA output	Pressure setting data	12 bit
	Accuracy *4	± 1 % F.S.
AD input	Pressure monitor data	12 bit
	Accuracy *5	± 6 % F.S. or less
Occupied	Occupied output memory : 2xn (bytes) *6 Occupied input memory : 2xn (bytes) *6	Occupied unit No. : 1 station Remote device station

- *1 : Contact CKD for EDS file.
*2 : Contact CKD regarding information on PRO files.
*3 : To ensure output accuracy, use a stabilized power supply with a ripple voltage of 1 % or less.
*4 : DA output accuracy does not include EVT accuracy.
*5 : AD input accuracy includes EVT monitor accuracy.
*6 : PLC device unit memory is determined by the number of EVT units (n) connected when the device unit power is turned ON.
(Note that if no units are connected, the memory for four units is occupied)

PLC compatibility table

Model No.	Manufacturer name (recommended organization)	Series name	Communication protocol	Host unit model No.
T9DAR	ODVA	DeviceNet compatible PLCs, computers and SBCs of various manufacturers	DeviceNet	Connected to the masters compatible with the manufacturers' DeviceNet systems
	OMRON Corporation	SYSMAC CS Series SYSMAC CJ Series SYSMAC CV Series SYSMAC α Series SYSMAC C200HS Series Others	DeviceNet (CompoBus/D)	CS1W-DRM21-V1 Type CJ1W-DRM21 Type CVM1-DRM21-V1 Type C200HW-DRM21-V1 ITNC-EI□01-DRM (PLC with master) 3G8B3-DRM21 (VME board) Other Device Net compatible masters
	Toyota Electric Corporation	PC3J/2J Series PC3JD PC2F/PC2FS	DeviceNet (DLNK)	THK-5398 TIC-5642 (master integrated PLC) TFU-5359 Other DeviceNet compatible masters
	CLPA	CC-Link compatible PLCs, computers and SBCs of various manufacturers	CC-Link	Connected to each manufacturer's CC-Link compatible master
T9GAR	Mitsubishi Electric Corporation	MELSEC A Series MELSEC QnA Series MELSEC Q Series Others	CC-Link	AJ61BT11 AJ61QBT11 A1SJ61BT11 A1SJ61QBT11 QJ61BT11 A80BD-J61BT11 (for PCI bus) Other CC-Link compatible masters

Model No.

LED display

Wiring and setting method

T9DAR

NS

MS

LED name	Indicator description
NS	Indicators network status
MS	Indicators device unit status

Wiring method

Previous station

DeviceNet cable

T-branch tap

Following station

(Black) V-

(Blue) CAN_L

(None) Drain

(White) CAN_H

(Red) V+

(Black) V-

(Blue) CAN_L

(None) Drain

(White) CAN_H

(Red) V+

Multi-drop method

T-branch method

The wiring section connector is included.

Pay attention to the polarity of the power supply (left : 24 V, right : 0 V).

Unit power and regulator power use a common terminal.

The power connector (24 V, 0 V) is insulated from communication power (V+, V-).

Setting Method

DR

HOLD

0

1

CLEAR

ON

Set the communication speed.

Set output status if a communication error occurs.

NA

32

16

8

4

2

1

ON

Set the device unit address.

Communication speed	0	1
125 kbps	OFF	OFF
250 kbps	ON	OFF
500 kbps	OFF	ON
Setting not available	ON	ON

HOLD/CLEAR setting

◆HOLD

In the event of a communication error, the output of all channels is maintained in the state they were in just prior to the occurrence of the error. (Only for set addresses)

Note) Output may not be held depending on the state of the error.

◆CLEAR

If a communication error occurs, all channels are turned OFF (0 data output to EVT). (Only for set addresses)

Precautions

● Output to EVT is output simultaneously for all channels.

● Refer to the device unit specifications for details on occupied memory

● Contact CKD regarding information on the EDS file.

T9GAR

LERR

LRUN

RD

SD

POWER

LED name	Indicator description
LERR	Lights when transmission error occurs. Turns OFF when time has lapsed. Lights when the station No. setting or transmission speed setting is incorrect. Blinks when station No. or transmission speed in setting changes.
LRUN	Lights when receiving normal data, and turns OFF at timeover. (Lights when receiving normal data.)
RD	Lights when receiving data.
SD	Lights when transmitting data.
POWER	Lights when power is ON.

Wiring method

Previous station

CC-Link dedicated cable

Following station

(Blue) DA

(White) DB

(Yellow) DG

(Bare) SLD

FG

(Blue) DA

(White) DB

(Yellow) DG

(Bare) SLD

FG

* SLD and FG are internally short-circuited within the remote station.

The wiring section connector is included.

Pay attention to the polarity of the power supply (left : 24 V, right : 0 V).

Unit power and regulator power use a common terminal.

Setting Method

Set the transmission speed.

Device unit station No. Set (in the one's place)

0 : 156 kbps

3 : 5 Mbps

1 : 625 kbps

4 : 10 Mbps

2 : 2.5 Mbps

5 and up : Setting not available

B RATE

HOLD END

ON

CLEAR

Terminal station setting

if a communication error occurs

Set output status

STATION No. (x1)

STATION No. (x10)

Device unit station No. to Please set it (in the ten's place)

HOLD/CLEAR setting

◆HOLD

• When the "analog output enabling signal" flag turns OFF, output of the corresponding channel is held in the status just before the flag is turned OFF.

• If a communication error occurs, the status of output of all channels is held in the state just before the error occurred. (Only for set addresses)

Note) Output may not be held depending on the state of the error.

◆CLEAR

• When the "analog output enabling signal" flag turns OFF, all channels are turned OFF (0 data output to EVT).

• If a communication error occurs, all channels are turned OFF (0 data output to EVT). (Only for set addresses)

Terminal station setting

This product has a 110 Ω terminator between DA and DB communication lines. The terminal station is set by turning the terminal station setting switch ON. A terminator need not be connected to the product's connector.

[CAUTION]

Be sure to turn the terminal station setting switch OFF when this product is the terminal station and a CC-Link-dedicated cable (CC-Link dedicated high performance cable (Kuramo Electric FANC-SBH)) requiring terminal resistance other than 110 Ω is used for the communication cable. This also applies when the terminator's connection differs due to a T-branch connection. In addition, connect the termination resistor commercially available or supplied with the master station to the connector of this product according to the connection conditions (specifications) to make it a terminating station. Insulate this terminator.

Precautions

● Output to EVT is output simultaneously for all channels.

● Contact CKD regarding information on PRO files.

MEMO

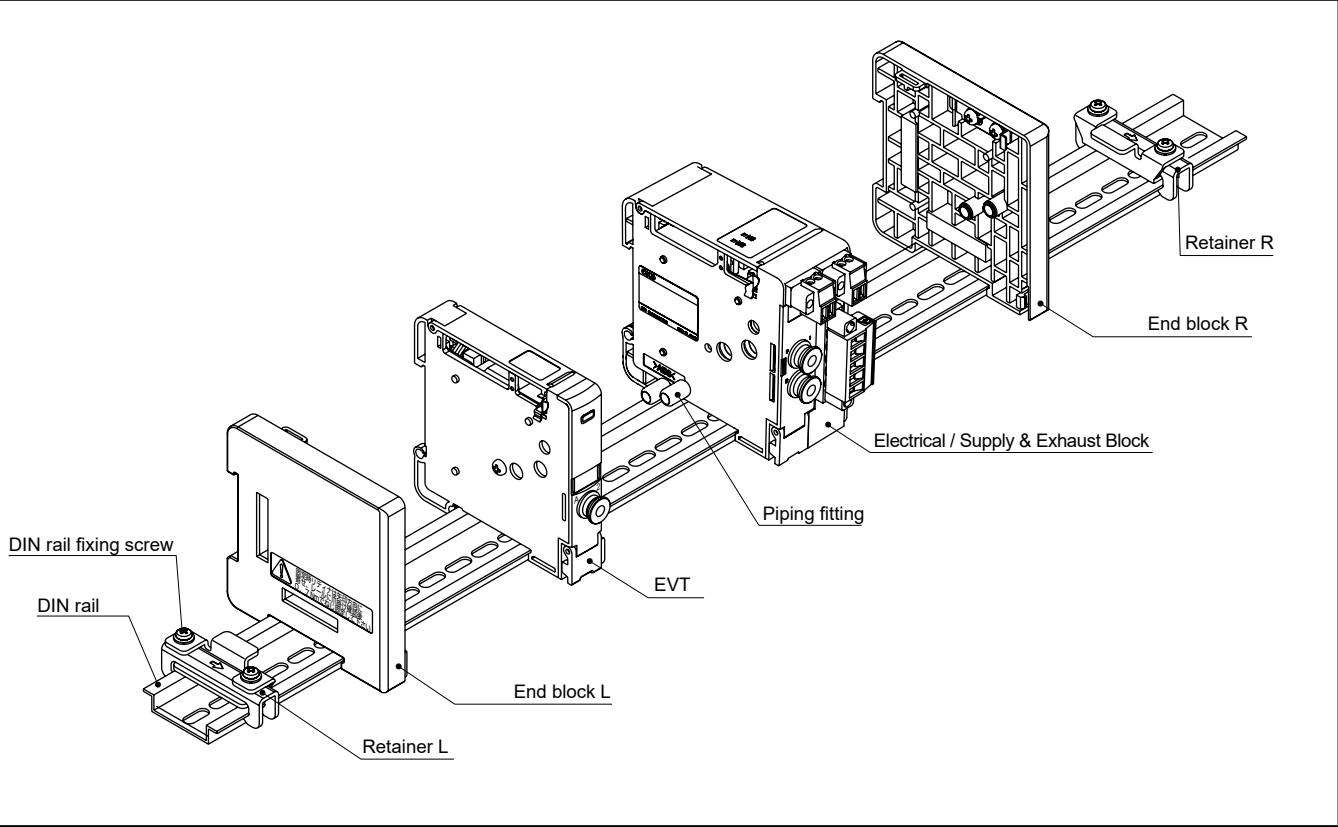
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CKD

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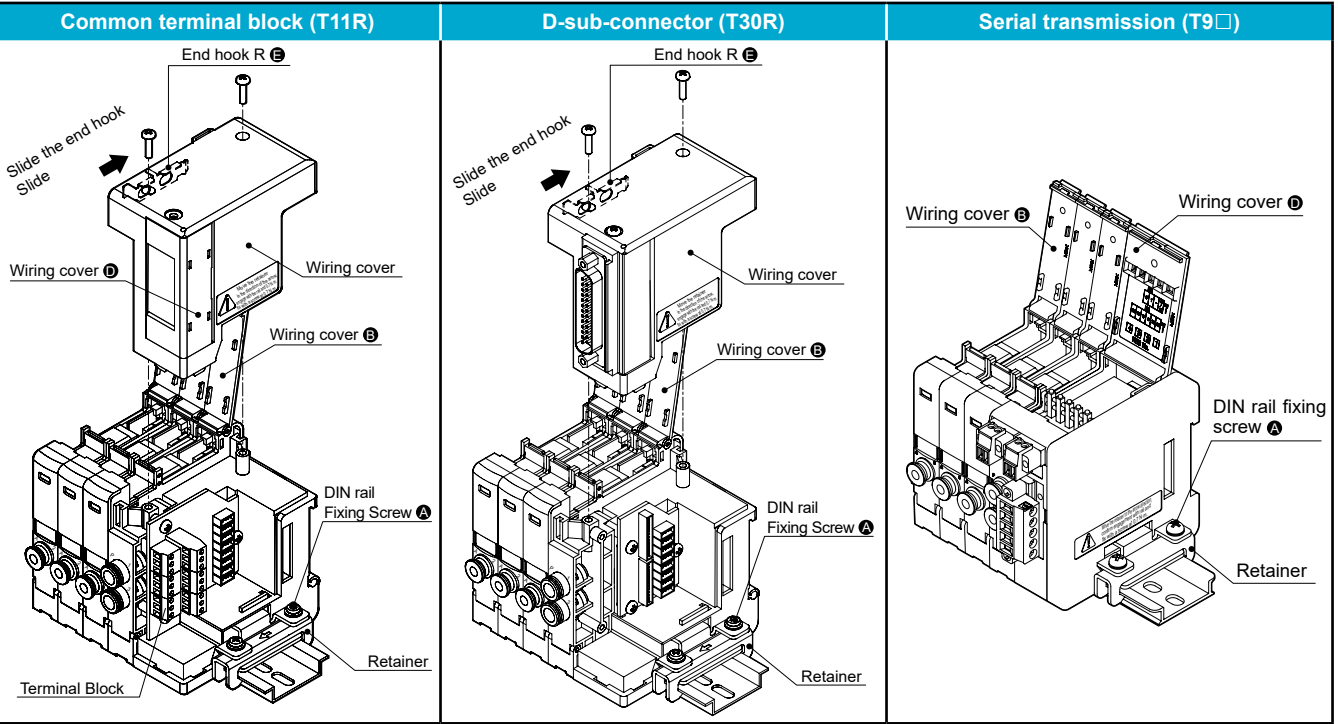
CKD

Exploded view of MEVT



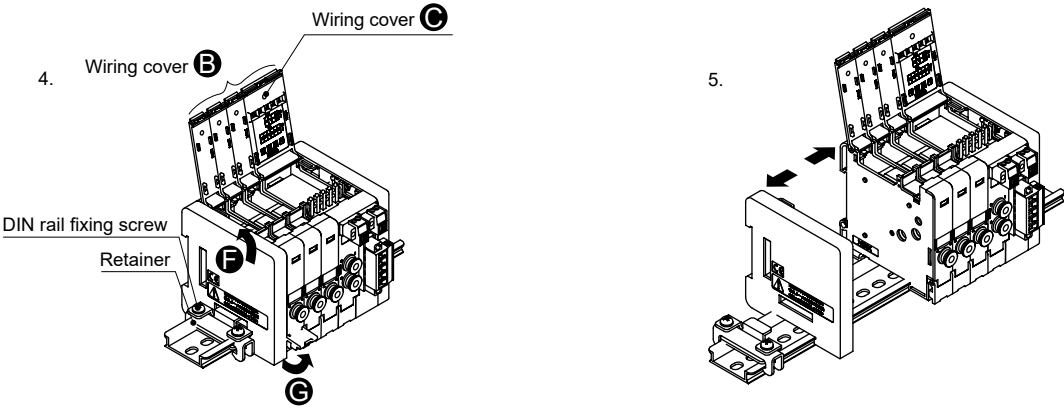
Increasing and reducing the EVT stations

1. Loosen the retainer's DIN rail fixing screw **A**.
2. Open the EVT wiring cover **B**.
3. When using the common terminal block or D-sub-connector, slide the end hook R **E** and release the hook. Next, loosen and remove screws on the wiring cover. For the serial transmission, open the wiring cover **C**. (In the case of a common terminal block, check that the wiring cover **D** does not catch on the terminal block.)

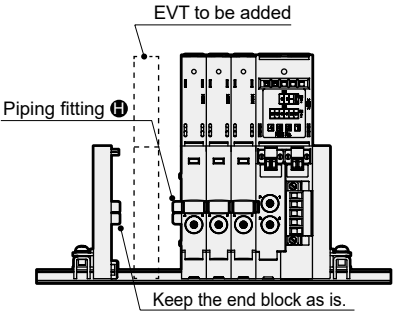


Technical Data ② How to expand reduced wiring manifold

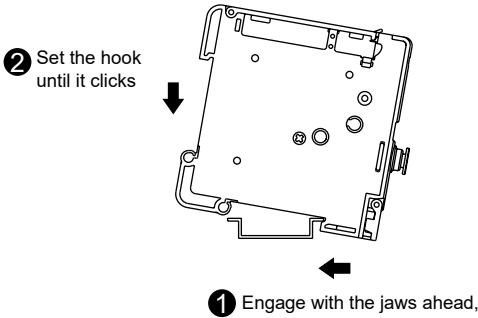
4. Remove the connecting hook spring **F** and connecting hook plate **G** where the manifold is to be increased, and remove the connection between the blocks.
5. Separate blocks to be expanded.



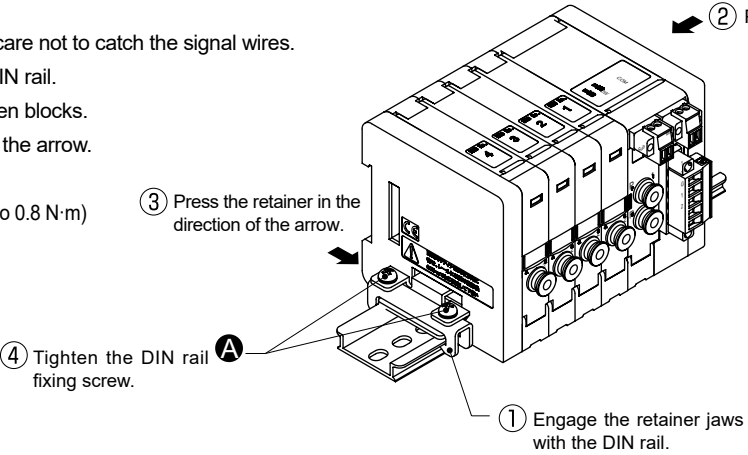
6. Insert **H** two piping sheaves into the input (P) and exhaust (R) ports at the separated section.
- Note) At the separated section **H**, two piping pipes protrude from each side (4 pipes in all).



7. Mount the EVT to be added to the DIN rail.



8. Press so that there is no gap between blocks, and close the connecting hook spring **F** and connecting hook plate **G** to connect the blocks.
9. Insert signal wires for the expanded EVT to connectors in the wiring and supply/exhaust blocks.
10. For the serial transmission, close the wiring cover **C**. When using the common terminal block or D-sub-connector, fit the wiring cover on, fix it in place with screws, and return the end hook **E** R to the original position. Tightening torque : 0.35 to 0.5 N·m)
11. Close the wiring cover **B** while taking care not to catch the signal wires.
12. ① Engage the retainer jaws with the DIN rail.
② Press so that there is no gap between blocks.
③ Press the retainer in the direction of the arrow.
④ Tighten the DIN rail fixing screw.
(Recommended tightening torque : 0.6 to 0.8 N·m)



How to fill out MEVT manifold specifications sheet (Ver. 2)

● Manifold model No. (example)

MEVT 500 - 1 C4 - T9DAR - 12 - U - 3

Model No. ① Pressure control Range ② Control input Signal ③ Port size ④ Wiring/Supply and exhaust Block ⑤ Station No. ⑥ DIN rail Mounting direction Voltage 24 VDC

Product Name	Model No.	Arrangement Position																															Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
EVT	EVT-500 : 1 : C4	○	○	○	○			○	○	○	○		○	○	○	○																	12
	EVT:-																																
	EVT:-																																
	EVT:-																																
	EVT:-																																
Electrical / Supply & Exhaust Block	EVT-T 9DA R- C4						○					○				○																3	
End block	EVT-EL (For left side)	○																														1	
	EVT-ER (For right side)																	○														1	
DIN rail	L ₂ =	Attached parts	Blank Plug										Silencer																				
			GWP 4-B					GWP 6-B					SLW-H6																				

*1. DIN rail length (L₂)

- ① Find DIN rail length by the calculation shown below.
The obtained length is standard.
- ② For standard length, length (L₂) is not required on the specifications sheet.
If you need a length other than the standard length, please enter it.
Set DIN rail length below, L₂ to select the solenoid valve.

● How to calculate length of DIN rail

Manifold length (L₁) = (A x n) + (B x m) + (C x l) + D x 2
DIN rail length (L₂) = L₂' x 12.5

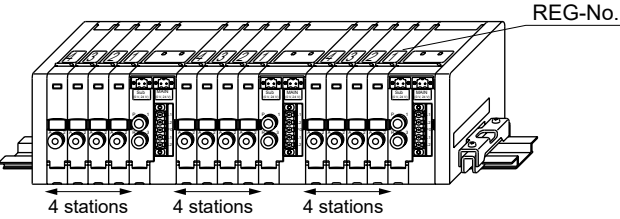
$$L_2' : \frac{L_1 + 40}{12.5} \rightarrow \text{round up to integer}$$

DIN rail mounting pitch (L₃) = L₂ -12.5

*2. Multiple combinations between serial transmission

Multiple serial transmission types can be combined and installed on the same DIN rail.
(Max. station No. T9DAR/T9GAR is 12 stations)
Install EVT or end block next to serial transmission device unit.
Indicate the combination on the manifold specification sheet.

Example) EVT : 12 stations, wiring/supply and exhaust unit T9DAR : When four points x 3



● DIN rail length setting table

L ₁ : Manifold length	L ₂ : Rail Length	Pitch L ₃	97.5 Over	110 or less	122.5	135	147.5	160	172.5	185	197.5	210	222.5	235	247.5	260	272.5	285	297.5	310	322.5	335	347.5	360	372.5	385	397.5	410	422.5	435
			to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
97.5 or less	137.5	125	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400	412.5	425	437.5	450	462.5	475	487.5
	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400	412.5	425	437.5	450	462.5	475	487.5		

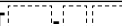
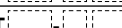
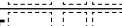
*1 : When L₁ exceeds this table range, calculate according to "How to calculate DIN rail length".

MEVT Manifold specifications sheet (Ver.2)

● Manifold model No.

MEVT - - - - - 3

Model No. ① Pressure control range ② Control input signal ③ Port size ④ Electrical / Supply & Exhaust Block ⑤ Station No. ⑥ DIN rail mounting direction Voltage 24 VDC

Product Name	Model No.	Arrangement Position																															Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
EVT	EVT 																																
	EVT 																																
	EVT 																																
	EVT 																																
	EVT 																																
Electrical / Supply & Exhaust Block	EVT-T  R- 																																
End block	EVT-EL (For left side)																																
	EVT-ER (For right side)																																
DIN rail	L ₂ = 	Attached parts	Blank Plug					Silencer																									
			GWP4-B					GWP6-B		SLW-H6																							

- Viewed from piping port, allocate positions from left.
- The REG-No. indicated on the EVT wiring cover is for each wiring/supply and exhaust block connected, from the nearest side it will be 1.2.3... .
- Install wiring/supply and exhaust block to right side of EVT. As serial transmission allows for left side installation, consult with CKD.



Pneumatic Components (Electro-Pneumatic Regulator)

To Use This Product Safely

Be sure to read this before use.
Refer to Intro 27 for general precautions.

Individual Precautions : Low-profile electro pneumatic regulator MEVT Series

Design / Selection

WARNING

- Design pneumatic circuits understanding the characteristics of compressed air.
 - If instantaneous stop holding is required during an emergency stop, functions equivalent to mechanical, hydraulic, or electrical systems cannot be expected.
 - Due to the compressibility and expandability characteristics of air, phenomena such as ejection, jetting, and leakage can occur.

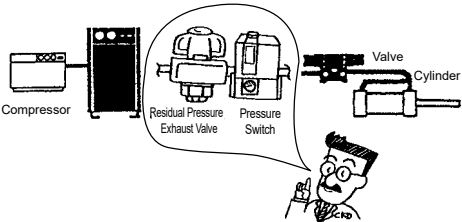
- Confirm that the product can withstand the operating environment before use.

- This product cannot be used in an atmosphere containing corrosive gases, chemical liquids, solvents, water, vapor or ozone. If water, oil, or metal chips (spatter or cutting chips, etc.) could come in contact with the product, provide appropriate protection.
- This product cannot be used in an explosive gas atmosphere.

- Pay attention to the electric circuit during emergency stop and to the cylinder operation during power outages.

- Install a "pressure switch" and "residual pressure exhaust valve" on the device's compressed air supply side.

- The pressure switch disables operation if set pressure cannot be reached. The residual pressure exhaust valve releases compressed air into the pneumatic pressure circuit to prevent accidents caused by pneumatic components operation under residual pressure.



CAUTION

- Specify the maintenance conditions in the device's instruction manual.

- Depending on the usage conditions, operating environment, and maintenance, the product's functionality may significantly deteriorate, and safety may not be ensured. Proper maintenance allows the product to fully demonstrate its functions.

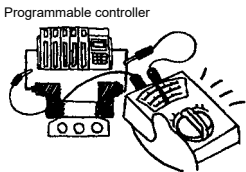
- Use a constant voltage power supply.

- Set the input signal so that it does not go outside the specification range.

- Applying a signal exceeding the range could have adverse effects on the life and properties. Avoid this type of usage.

- Check for leakage current to avoid malfunction due to leakage current from other control devices.

When using a programmable controller, etc., leakage current could cause the EVT to malfunction.



For 24 VDC 1.8 mA or less

- Take the following measures to avoid malfunction due to noise.

- Install a line filter in the AC power supply line.
- Use a surge suppressor, such as a CR or diode, on the inductive load (solenoid valve, relay, etc.), to remove noise from the source.
- Separate the wiring to the MEVT from electrical lines with strong current.
- Use the designated wire material for the serial transmission line.
- If operation may be affected by noise, wire the power supply independently for each manifold when possible.
- Keep the power supply cable as short as possible.
- Do not share power with an inverter or components causing motor noise, etc.
- Do not lay the power wire, signal wire, and other power cables in parallel.

- Precautions for wiring

- When wiring the common terminal block and D-sub-connector, the power supply gland and signal common are shared. When driving several EVT units with one PLC and D/A unit, depending on the D/A unit circuit, wiring could prevent the correct signal from being input. Contact the PLC manufacturer. When using a shielded wire, connect to the gland on the power supply side.

- This regulator cannot be used with a cylinder having a large leakage rate, such as an air bearing cylinder.

- When using for blowing applications or when back pressure is applied on the secondary side, it is not possible to maintain the set pressure. A loud thrumming sound will be generated and service life will be shortened. Avoid this kind of usage.

- Residual pressure of 2 kPa or less (EVT100) or 10 kPa or less (EVT500) is generated even when the input signal is set to 0 %. If 0 MPa is required, install a three-way valve on the secondary side or release into to the atmosphere, etc.

- Install valves on the primary and secondary sides as necessary.

- If the regulator is left with the power OFF and the primary pressure applied, the secondary pressure could rise to the primary pressure level. If this poses a safety hazard, take system safety measures using a valve on the primary side or secondary side, etc.

- About Operating Environment

Do not use the product where the product is exposed to direct sunlight or may come in contact with water, oil, etc. Consult with CKD on specifications for use outside the designated specifications or for special applications.

- Ambient temperature
 - If used in an environment with a temperature higher than 50 °C or lower than 5 °C
- Vibration/impact
 - Do not use this product in an environment exposed to vibration of 50 m/s² or more, or shock of 300 m/s² or more.

- Pressure accuracy is affected by temperature characteristics and heat generated when energized. The more manifold stations there are, the greater the effect. Provide a standby time (30 minutes or more after energizing) if you need to obtain a more stable pressure.

- Drip-proof environment

The degree of protection of this product is equivalent to IP40. Do not install in locations with moisture, salt, dust, cutting chips, or under pressurized/depressurized environments. Cannot be used in locations with rapid temperature changes or high humidity environments as condensation inside the main unit may cause problems.

- Responsiveness is affected by the Operating pressure and load volume. Also, if the Operating pressure fluctuates, the secondary control pressure will be affected. If stable reproducibility is required, stabilize the Operating pressure by installing a regulator in the preceding stage.

- When selecting a dryer, air filter, oil mist filter, or regulator, select one with a flow rate higher than the flow rate to be used.

- This product has moving parts in its operation structure, and characteristics such as accuracy will change over time. Before use, evaluate as a system, and depending on operation frequency, take measures such as using it as a regular maintenance part.

- Regularly inspect the product at least once a year to check that it operates correctly.

- This product uses a small solenoid valve as an actuator. The service life may change depending on the frequency of operation triggered by pressure switching, the Operating conditions, etc. The warranty period is set as one year or 3,000,000 repeated operations, whichever comes first, so use this as an inspection guideline.

* The conditions for 3 million operations defined in the warranty period are as follows. When repeatedly applying a step input signal where the control pressure goes from zero to the maximum control pressure. The Operating air quality in this case shall be clean compressed air from the recommended air circuit. The secondary side payload shall be 15 cm³.

- Conditions for CE compliance

This product is CE-marked, indicating conformity with the EMC Directives. The harmonized standard regarding immunity applied to this product is EN61000-6-2, but the following conditions are mandatory for compliance with this standard.

- Condition
- Use a power cable shorter than 3 m.

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Components Product Site (<https://www.ckd.co.jp/kiki/en/>) → 'model No.' → [Instruction Manual](#).