

## TS Certification

# Pilot Operated 3-Port Solenoid Valve 50-VPE500/700-X170 Series

### Specifications

Fluid	Air		
Type of actuation	N.C. or N.O. (Convertible)		
Pilot type	Internal pilot	External pilot	
Operating pressure range	0.2 to 0.8 MPa	Supply pressure	-101.2 kPa to 0.8 MPa
		External pilot pressure	0.2 to 0.8 MPa
Ambient and fluid temperatures	T5: -10°C to 50°C T6: -10°C to 40°C		
Response time	45 ms or less (at 0.5 MPa)*1		
Max. operating frequency	1 Hz		
Lubrication	Not required		
Manual override	Non-locking push type		
	Push-turn locking type D		
Mounting orientation	Unrestricted		

\*1 Based on dynamic performance test, JIS B 8419: 2010. (0.5 MPa, at rated voltage.)

### Solenoid Specifications

External wiring connection		Flameproof threaded-joint metal conduit	
Coil rated voltage	AC (% Hz)	100, 200, 12, 24, 48, 110, 220, 240 V	
	DC	24, 6, 12, 48, 110 V	
Allowable voltage fluctuation		-15% to +10% of rated voltage	
Coil Insulation type		Class B	
Apparent power	AC	Starting	9.1 VA (50 Hz) 7.8 VA (60 Hz)
		Holding	6.2 VA (50 Hz) 4.6 VA (60 Hz)
Power consumption	DC	3.5 W (Coil rated voltage: 6, 12, 24 V)*2	

\*2 The other voltage: 4 W

### Option

Description	Part no.	Applicable
Bracket (With mounting screw)	VP500-27-3A	50-VPE542
	VP700-27-2A	50-VPE742

### Flow Rate Characteristics

Piping	Model	Port size	Flow rate characteristics												Weight <sup>*3</sup> kg
			1 → 2 (P → A)			2 → 3 (A → R)			3 → 2 (R → A)			2 → 1 (A → P)			
			C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	
Body ported	50-VPE542-□□-02-03-X170	1/4	6.6	0.35	1.6	7.4	0.41	2.0	6.9	0.34	1.7	7.5	0.42	2.0	1.0
		3/8	9.1	0.42	2.4	9	0.43	2.4	8.8	0.36	2.2	9.3	0.43	2.5	
	50-VPE742-□□-03-04-X170	3/8	12	0.29	2.9	12	0.36	3.1	12	0.31	3.1	13	0.36	3.4	1.28
		1/2	15	0.23	3.8	14	0.25	3.8	15	0.22	3.7	16	0.29	4	

\*3 Weight for the flameproof threaded-joint metal conduit type

### Pilot Air Exhaust Port (PE Port)

There is a pilot air exhaust port (PE port) at the bottom of all pilot valves, excluding the common exhaust type.

Please refrain from blocking this port as failure to do so may result in valve malfunction.

In addition, if there is a possibility that the hazard classification will change due to the exhaust air, be sure to connect piping to this port and exhaust it to a safe location.

### Explosion Proof Precautions

- The zones of this valve are as follows.  
Gas: Zone 1 or 2  
Dust: Zone 21 or 22
- This valve is a Taiwan explosion-proof certified product and is therefore only for use within Taiwan.
- The external ground cable has a 4 to 6.64 mm<sup>2</sup> conductor cross section, so be sure to protect it from bending or excessive force.
- When using a cable gland, be sure to use a product with explosion-proof certification.
- Please use the product in accordance with other Taiwan laws.
- Be sure to operate this product within the temperature range stated in the specification chart. (The temperature range for the specification with a certified explosion-proof construction varies from the range stated in the standard model's specifications.)
- Be sure to implement measures to prevent static electricity from charging the non-metal parts on the external surface of the valve.
- As air is also exhausted from the valve PE port (pilot valve exhaust passage), be sure to confirm whether this will affect the ambient environment before use.
- Be sure to either use antistatic fittings or to implement static electricity prevention measures.



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### How to Order

**50-VPE 5 4 2** - **1 T D M** - **02** **A** - **X170**

● **Explosion-proof**

<b>50</b>	Flameproof, dustproof construction
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● **Body type**

Symbol	Body type, Applicable series	
	50-VPE500-X170	50-VPE700-X170
<b>5</b>	●	—
<b>7</b>	—	●

● **Type of valve actuation**

<b>4</b>	In common between N.C. and N.O. (Pilot type)
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● **Body model**

<b>2</b>	Body ported
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● **Body option**

<b>Nil</b>	Standard (Internal pilot)
<b>R</b>	External pilot

● **Rated voltage**

AC (50/60 Hz)		DC	
<b>1</b>	100 VAC	<b>5</b>	24 VDC
<b>2</b>	200 VAC	<b>6</b>	12 VDC
<b>3</b>	110 VAC	<b>V</b>	6 VDC
<b>4</b>	220 VAC	<b>Y</b>	48 VDC
<b>7</b>	240 VAC	<b>Z</b>	110 VDC
<b>8</b>	48 VAC		
<b>A</b>	12 VAC		
<b>B</b>	24 VAC		

● **Symbol**

Type	N.C	N.O
Internal pilot (Standard)		
External pilot	Universal 	

● **TS certification**

● **Option**

<b>Nil</b>	None
<b>F</b>	With bracket

\* The bracket will be shipped unattached.

● **Symbol**

<b>A</b>	Normally closed
<b>B</b>	Normally open

● **Thread type (Port size)**

<b>Nil</b>	Rc
<b>F</b>	G
<b>N</b>	NPT
<b>T</b>	NPTF

● **Port size (P, A, B)**

Symbol	Port size	Applicable series	
		50-VPE500-X170	50-VPE700-X170
<b>02</b>	1/4	●	—
<b>03</b>	3/8	●	●
<b>04</b>	1/2	—	●

● **Electrical connection port**

Symbol	Thread type
<b>M</b>	M20 x 1.5
<b>N</b>	NPT1/2

● **Manual override**

<b>Nil</b>	Non-locking push type
<b>D</b>	Push-turn locking type D (slotted type)

● **External wire connection**

<b>T</b>	Metal conduit threaded type Flameproof enclosure cable gland (not supplied) type*1
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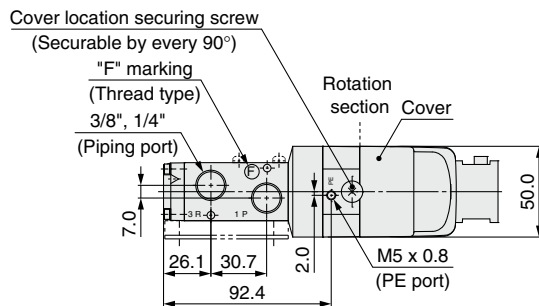
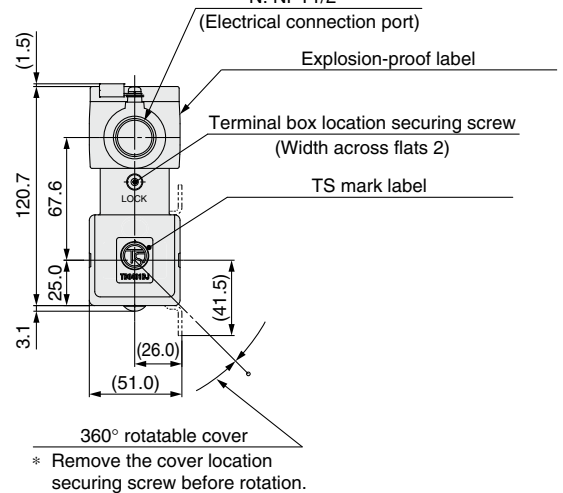
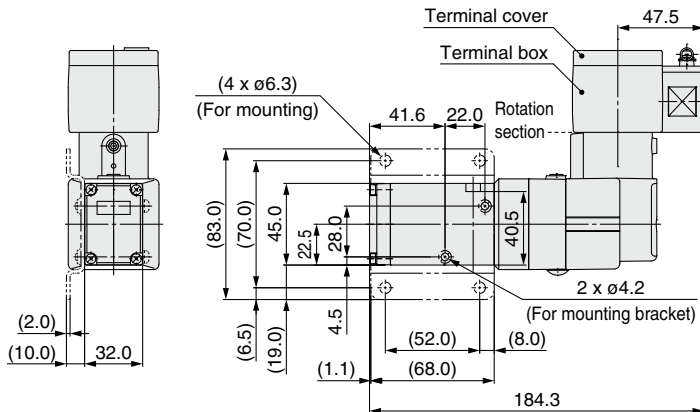
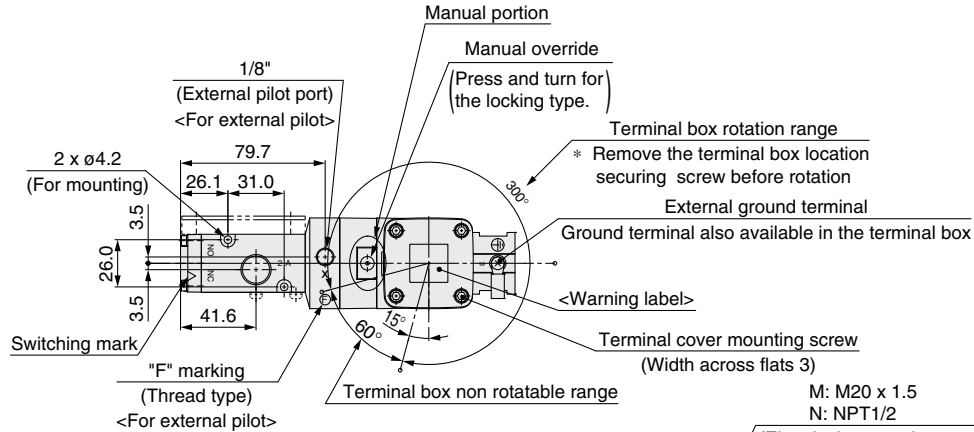
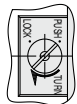
\*1 Please use a commercially available Taiwan explosion-proof certified cable gland if the product is to be used as a flameproof enclosure cable gland type valve.

# 50-VPE500/700-X170 Series

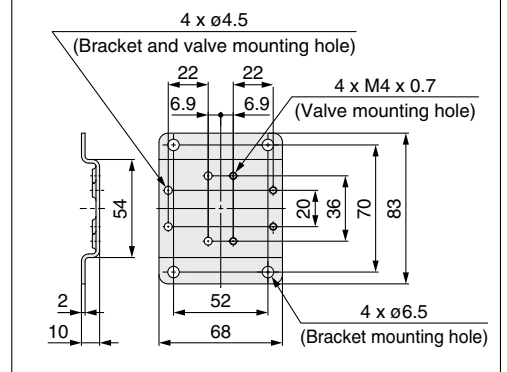
Body Ported/50-VPE500

Metal conduit threaded type/50-VPE542(R)-□T(D)□-□□□(-F)-X170

### Details of Manual Portion Type D

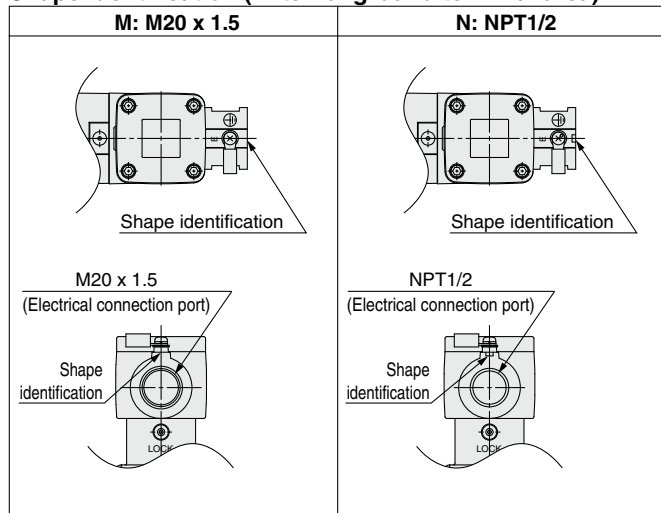


### Bracket/VP500-27-3



Screw part number: AC00031 (M4 x 38, With spring washer)

### Shape identification (External ground terminal area)



\* The shape identification is the same for the 50-VPE500 and 700.

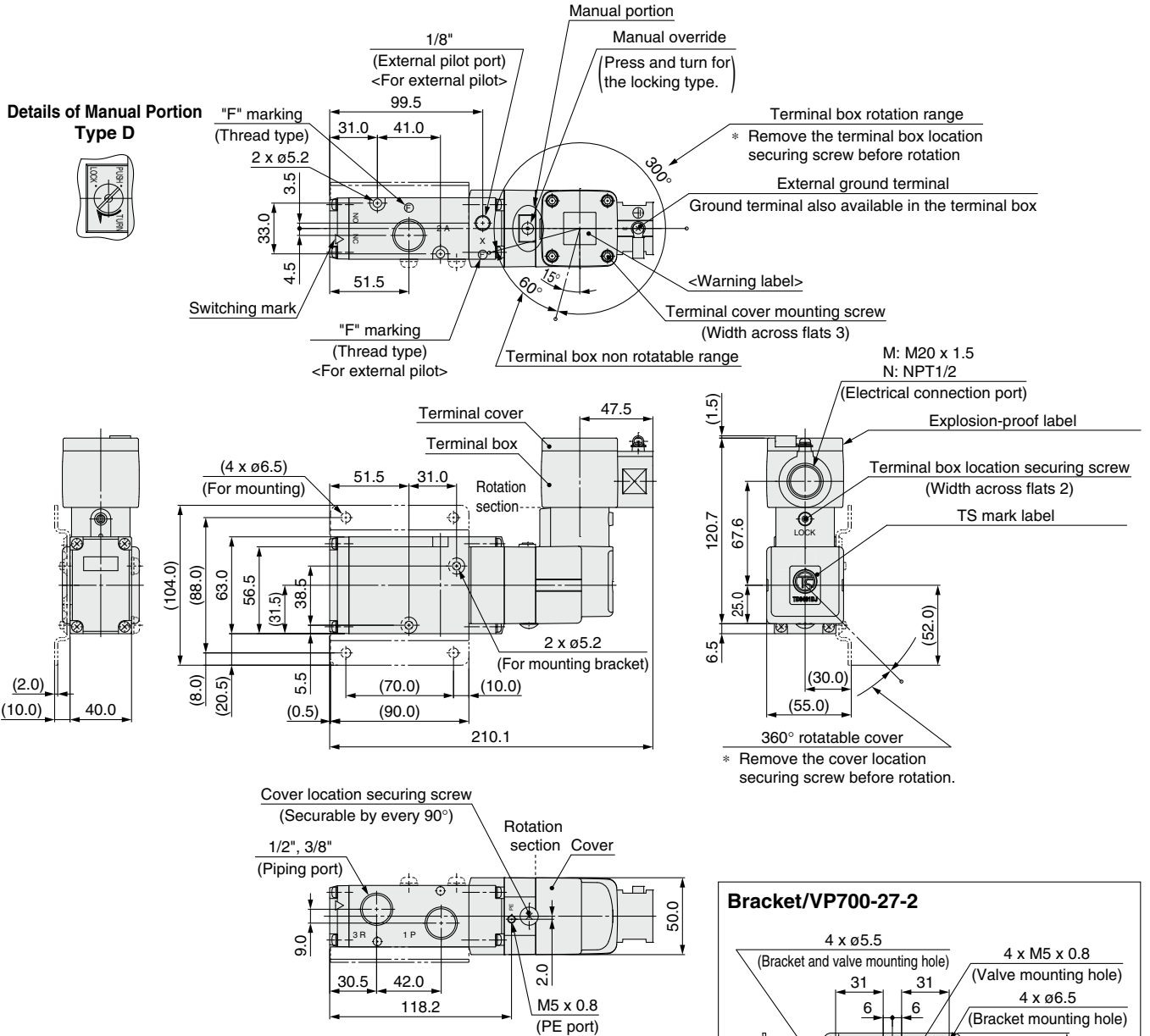


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### Body Ported/50-VPE700

#### Metal conduit threaded type/50-VPE742(R)-□T(D)□-□□□(-F)-X170



Screw part number: AA00115 (M5 x 48, With spring washer)