

# PRESSURE TRANSDUCERS WITH AMP.

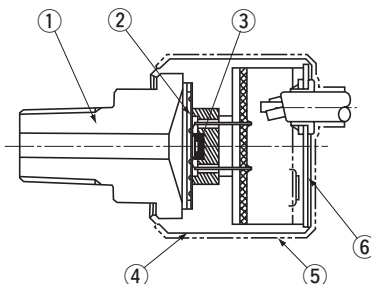
# PA-870/PA-878



## FEATURES

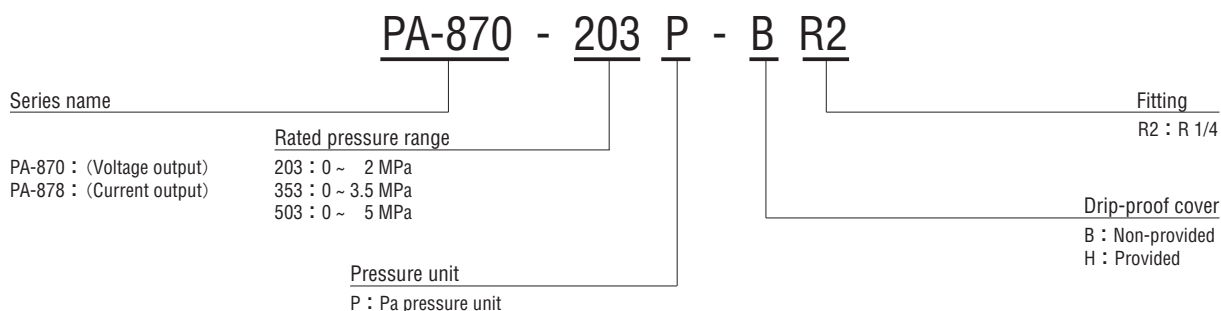
- High corrosion resistance by Hastelloy® diaphragm
- SUS 316 welded stainless steel joint
- Built-in amplifier circuit
- Voltage or current output mode

## INTERNAL STRUCTURE PA-870/PA-878



Part name	Material
① Fitting	SUS 316
② Stainless steel diaphragm	Hastelloy® C-22
③ Sensor chip	Silicone
④ Housing	SUS 316
⑤ Drip-proof cover	Silicone rubber
⑥ Back cover	SUS 303

## MODEL NUMBER DESIGNATION



## LIST OF MODEL NUMBERS

Output	Pressure reference		Gauge		
	Drip-proof cover	MPa Rated pressure range	0 ~ 2	0 ~ 3.5	0 ~ 5
Voltage output	Non-provided		PA-870-203P-B-R2	PA-870-353P-B-R2	PA-870-503P-B-R2
	Provided		PA-870-203P-H-R2	PA-870-353P-H-R2	PA-870-503P-H-R2
Current output	Non-provided		PA-878-203P-B-R2	PA-878-353P-B-R2	PA-878-503P-B-R2
	Provided		PA-878-203P-H-R2	PA-878-353P-H-R2	PA-878-503P-H-R2

※Verify the above model numbers when placing orders.

※Hastelloy® is a resistered trade name of Haynes International Inc.

# PA-870/PA-878

## PRESSURE TRANSDUCERS WITH AMP.

### STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25±5 °C and excitation voltage of 12 V DC.

Item	Model number	PA-870			PA-878			
		203P	353P	503P	203P	353P	503P	
General specifications	Pressure reference	Gauge ※1						
	Rated pressure range	MPa	2	3.5	5	2	3.5	5
	Maximum pressure	MPa	4	7	10	4	7	10
	Operating temp. range	°C	- 10 ~ 75					
	Compensated temp. range	°C	0 ~ 50					
	Operating humidity	%RH	35 ~ 85 (No condensation)					
	Storage temp.	°C	- 20 ~ 90 (Atmospheric pressure, humidity 65 %RH maximum)					
	Pressure medium		Corrosive gases/liquids compatible with SUS 316 and Hastelloy® C-22					
	Insulation resistance	MΩ minimum	100 (500 V DC)					
	Dielectric strength		350 V AC, 60 s (Leakage current 0.5 mA maximum)					
	Pressure port		R 1/4					
	Net weight	g	Approx. 190					
	Drip-proof structure		Without drip-proof cover : IP54, With drip-proof cover : IP65					
	Power	Supply voltage	V DC	10.8 ~ 26.4				
Consumption current		maximum	10 mA			—		
Analog output	Output voltage/current	DC	1 ~ 5 V			4 ~ 20 mA		
	Zero voltage/current		1 ± 0.05 V			4 ± 0.1 mA		
	Span voltage/current		4 ± 0.05 V			16 ± 0.1 mA		
	Linearity/Hysteresis	%F.S.	± 0.5					
	Thermal error	ZERO %F.S./°C	± 0.05					
		SPAN %F.S./°C	± 0.05					
	Load resistance		10 kΩ minimum			500 Ω maximum (At power voltage 24 V)		
Response	ms maximum	2						

※ 1 : The transducer measures gauge pressure using an absolute pressure sensing element.

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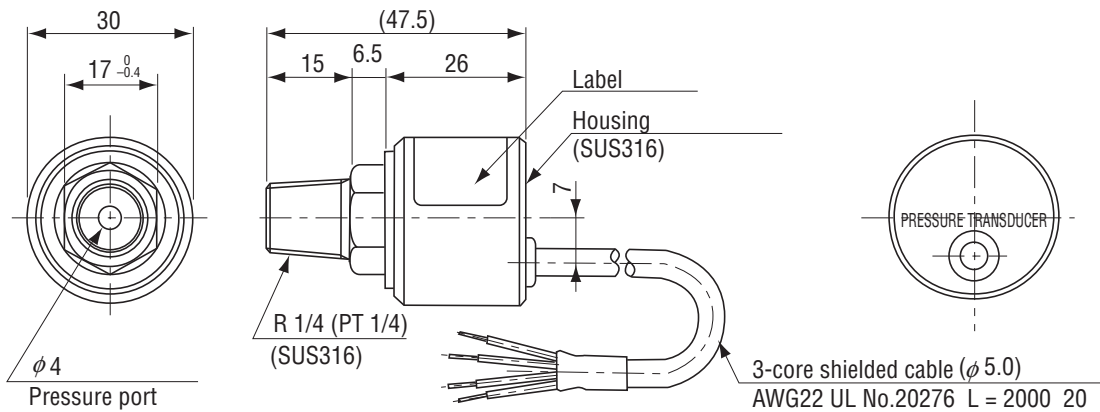
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### ENVIRONMENTAL CHARACTERISTICS

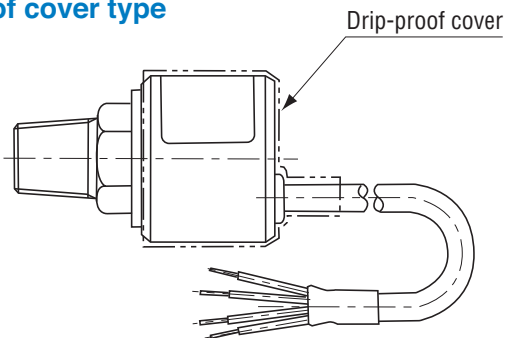
Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s <sup>2</sup> , 3 directions for 2 hours each	Zero voltage/current, Span voltage/current: ± 3 %F.S. maximum each
Shock	490 m/s <sup>2</sup> 3 directions for 3 times each	
Pressure cycling	10 <sup>6</sup> cycles 0 ~ Rated pressure	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance : ± 0.5 (Unit: mm)



#### ● Drip-proof cover type



#### PA-870

Wire color	Connection
Red	Power ⊕
Black	Common
White	Output
Gray	Shield

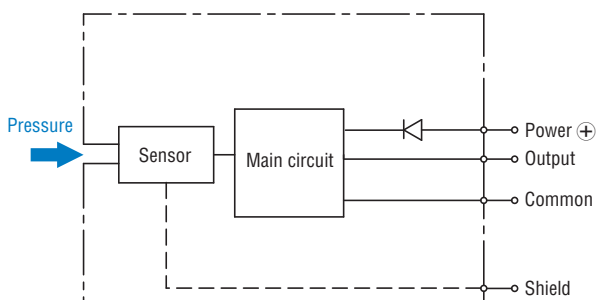
#### PA-878

Wire color	Connection
Red	Power ⊕
Black	N.C.
White	Output
Gray	Shield

Please make sure that the drip-proof cover is properly placed over the main body and the cable.

### INTERNAL ELECTRICAL SCHEMATICS

#### ● PA-870



#### ● PA-878

