

# KH55

## Pressure Transmitter

### Overview

This is a stable and reliable pressure transmitter for ships. The built-in electronic circuit converts the measured pressure to a uniform 4 to 20mA DC signal and transmits these signals to the outside.

### Features

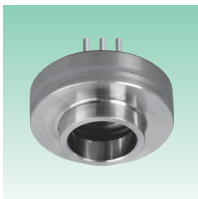
- Enclosure rating: IP57
- Marine type approval: NK, LR and DNV
- Small size, lightweight, and easy to handle.
- Excellent corrosion resistance and reliability achieved by the use of a metal diaphragm.
- No media leakage problem sometimes found in a model with moving parts such as piston type.



### Sensor features

#### Low pressure range

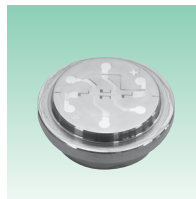
##### Stainless steel diaphragm-sealed sensor



This is a fluid-filled pressure sensor using SUS316L for all wetted parts. The MEMS sensor element, capable of measuring low pressure, is silicon oil-filled in the detection part with a SUS316L diaphragm (pressure receiver). It is suitable for highly stable and accurate pressure measurement for gases and liquids requiring high corrosion resistance.

#### Medium to high pressure range

##### Semiconductor-evaporated "SS" Sensor



This widely-proven semiconductor-evaporated "SS" (semiconductor strain gauge) sensor is excellent in durability and stability with the use of the integrated structure: the semiconductor strain gauge, sensing part and connection are all welded without using adhesives or corrosive materials. This makes it available for a wide variety of pressure media such as liquid and gases.

### Specifications

Item	Description			
	Stainless steel diaphragm-sealed sensor		Semiconductor-evaporated "SS" Sensor	
Model number	KH55-A□8		KH55-A□4, A□6	
Media	Liquids, gases or steam (not eroding the wetted materials)			
Type	Wall mounted type			
Connection	G3/8B, G1/2B			
<b>Wetted parts*1</b>				
Diaphragm	SUS316L		SUS630 (17-4PH) or Co-Ni alloy	
Fitting	SUS316L		SUS316	
Pressure range	0 to 20kPa -20 to 0kPa ±10, 20kPa	0 to 50, 100kPa -100, 50 to 0kPa ±50kPa	0 to 0.2MPa -0.1 to 0.1MPa	0 to 0.3→0 to 35MPa -0.1 to 0.2→-0.1 to 2MPa
Allowable maximum pressure*2	0.1MPa	0.2MPa	0.4MPa	150% of pressure range
Allowable vacuum pressure	130Pa abs. or more			-
Position difference	30Pa or less / 90°			-
Accuracy	±0.5%F.S. (24V DC±10%, 23°C±2°C)			
Power source*3	24V DC±10%			
Output	4 to 20mA DC 2 wire system			
Load resistance	500Ω max.			
Cable outlet	Gland: JIS 15b (Standard) or JIS 15a, JIS 15c			
Temperature coefficient	±0.05%F.S./°C (Zero, Span)			
Operating temperature range	-25 to 70°C			
Storage temperature range	-30 to 80°C			
Insulation resistance	100MΩ or more (50V DC collectively for the fitting to input terminal)			
Withstand voltage	500V AC (for 1 min.)			
Effect of supply voltage variation	0.05%F.S./V			
Enclosure*4	IP57 (JIS C 0920)			
Case material / finish	ADC12 / Blue paint			
Weight	Approx. 0.7kg			
EMC standard	Conformity directive: 2004/108/EC (EMC directive) Conformity standards: EN61326-1:2013 ; EN61326-2-3:2013			
Marine type approval	NK, LR, DNV			

\* 1: Ensure the wetted materials are compatible with process gases or liquids.

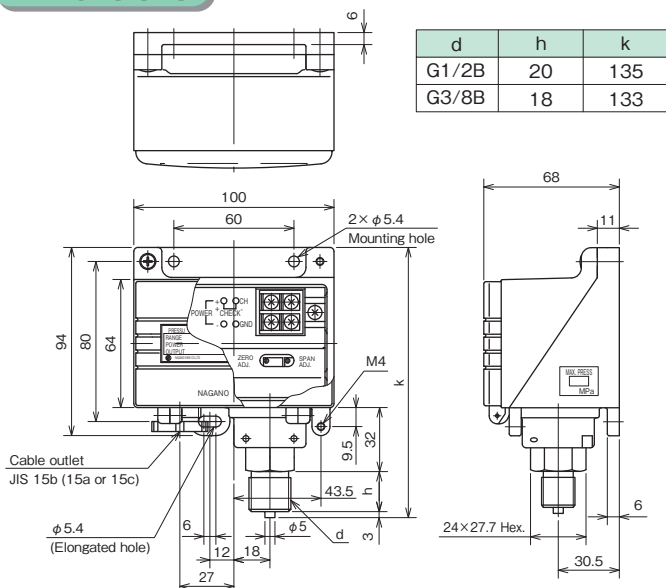
\* 2: Allowable maximum pressure is the upper limit of pressure value which may safely be applied to the product and remain in specification once pressure is returned to the rated pressure range with a couple of times overpressurization for about 10 minutes. Effects of continuous overpressure are not guaranteed.

\* 3: Use stabilized power source with small ripple fluctuation for power supply.

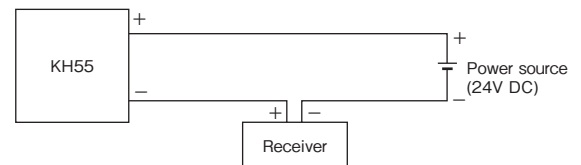
\* 4: IP57 is guaranteed only when a suitable cable gland and cable are installed correctly.

### Dimensions

Unit: mm



### Wiring



### Model number configuration

Please specify the model number, each specs and the range for ordering.

Model																	
K H 5 5	—	A			5	1	1		×	×	×	×	×				
Pressure Transmitter			①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
Model number					Product specifications					Additional specifications (Optional)							
① Type	A	Wall mounted type			NK type approval, Lloyd type approval, DNV type approval												
② Connection	3	G3/8B															
	4	G1/2B															
③ Wetted parts	4	Diaphragm: SUS630 (17-4PH)			Fitting: SUS316												
	6	High corrosion-proof diaphragm: Co-Ni alloy			Fitting: SUS316												
	8	Diaphragm: SUS316L			Fitting: SUS316L												
④ Pressure range					Low pressure (with No.8 of ③ wetted materials)					Medium pressure / High pressure (with No.4 or 6 of ③ wetted materials)							
	A	0 to 20, -20 to 0kPa ±10, ±20kPa			1	-0.1 to 0.2, 0.3, 0.4, 0.5, 0.6, 1, 1.6, 2MPa Compound											
	B	0 to 50, 0 to 100, -100 to 0, -50 to 0kPa, ±50kPa			2	0 to 0.3, 0.4, 0.5, 0.6, 1, 1.6, 2, 2.5, 3, 3.5, 4MPa											
	C	0 to 0.2, -0.1 to 0.1MPa			3	0 to 5, 6, 10, 16, 20, 25, 30, 35MPa											
⑤ Accuracy	5	±0.5%F.S.															
⑥ Power source	1	24V DC±10%															
⑦ Output	1	4 to 20mA DC 2 wire system															
⑧ Cable outlet	3	Gland JIS 15a															
	4	Gland JIS 15b (Standard)															
	5	Gland JIS 15c															
⑨ Treatment	0	Not required															
	1	Use no oil															
	2	Use no water															
	3	Use no oil & water															
⑮ Documents	0	Not required															
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) User's manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Calibration certificate for pressure standard Strength calculation sheet Attending inspection															

Please specify pressure range and unit of measure along with corresponding ordering code.

#### Treatment against wetted parts

■ **Use no oil**

Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.

■ **Use no water**

Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.

■ **Use no oil & water**

Oil/Water used in manufacturing the gauges had been flushed out & no oil/water residue remained inside its wetted parts.

\* Specify code "X" to refer N/A