

KE2_

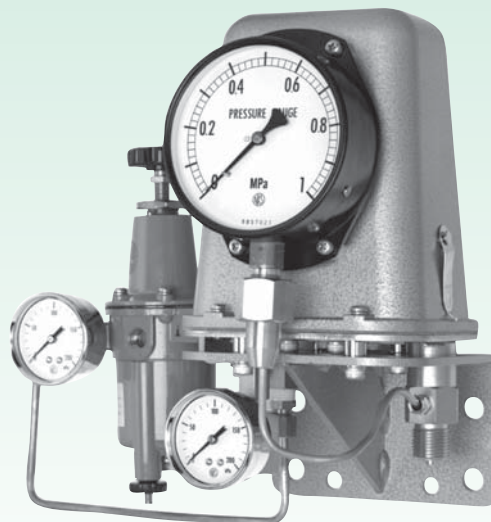
Pneumatic Transmitters Pressure & Differential Pressure

Overview

This is a force-balanced pressure transmitter that detects on-site pressure, liquid level, or differential pressure and converts it to a 20 to 100kPa constant air pressure proportional to the measured pressure value and transmits to the control room receiver.

Features

- It can be used in explosive and corrosive atmospheres because the operating principle is pneumatic.
- Forced-balance type allows a rigid body construction with few movement in pressure element and link mechanism. It can maintain long-term accuracy including shock resistance, linearity and hysteresis.
- Since the pressure receiving element is built into the body, it is extremely compact and zero adjustment is easily performed from the outside without removing the cover and affecting its span.



Specifications 1

Application:

- KE21 Pressure, vacuum, and compound measurement
- KE22 Differential pressure measurement
(Base pressure: 1MPa)

Mounting:

Panel mounting, 2B pipe mounting

Process connection port:

G3/8B, G1/2B

Air pressure connection port:

Rc1/4, φ6, φ8, φ10

Type:

Transmission function (Standard), with pressure reducing valve, output monitoring pressure gauge, on-site pressure indicator (KE21 only)

Wetted parts:

Bourdon tube SUS316
Bellows SUS316L
(Depends on pressure range)

Pressure range:

0 to 0.01→0 to 100MPa
-0.1 to 0→-0.1 to 2MPa

Operating temperature range:

-20 to 60°C

Accuracy:

±0.5%F.S., ±0.75%F.S., ±1.0%F.S., ±1.5%F.S.
(Depends on pressure range)

Supply air pressure:

140±10kPa

Output:

20 to 100kPa

Air consumption:

4 to 7L/min (Normal)

Allowable overload:

150%F.S.

Span adjustment:

Internal adjustment

Zero adjustment:

External adjustment

Case material, finishing:

Aluminum die casting, gray crystal paint

Enclosure:

Drip-proof type (IP23)

Pressure reducing valve specification:

maximum pressure range 0.97MPa
Proof pressure range 1.5MPa
Setting range 0.03 to 0.25MPa

* Up to 15 KE21 and KE22 can be used with one reducing valve

Weight:

KE21 Approx. 5.5kg
KE22 Approx. 6kg
(With option)
Pressure reducing valve Approx. 1.4kg
Output gauge Approx. 0.17kg
Local indicator Approx. 0.55kg

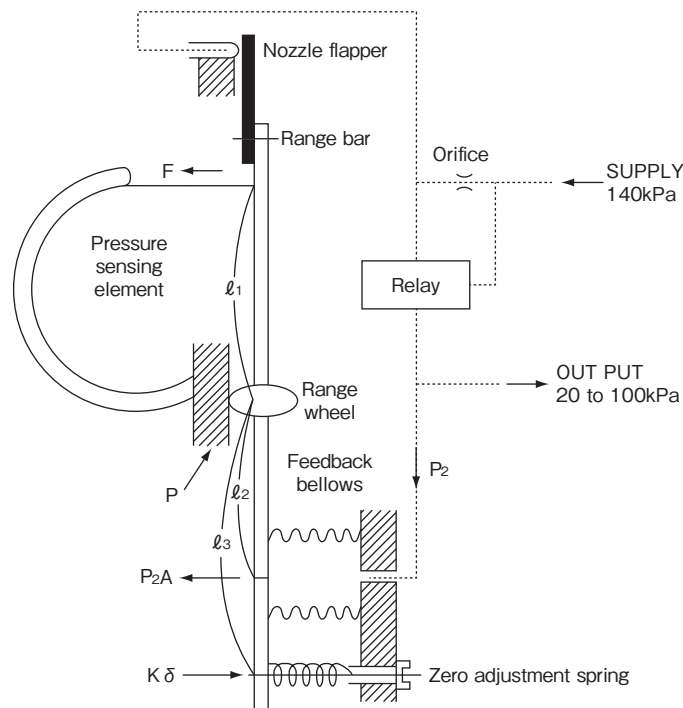
Specifications 2

Accuracy, Wetted parts:

Model number	Pressure range MPa	Accuracy (±%F.S.)	Wetted parts	Pressure range MPa	Accuracy (±%F.S.)	Wetted parts
KE21	0 to 0.01	1.0	Bellows SUS316L	0 to 7 to 10 to 15 to 25 to 35 to 50 to 70 to 100	0.5	Bourdon tube SUS316
	0 to 0.02 to 0.03 to 0.04 to 0.05 to 0.1 to 0.2 to 0.3	0.75				
	0 to 0.4 to 0.6 to 1 to 1.5 to 2 to 2.5 to 3.5 to 5	0.5	Bourdon tube SUS316	-0.1 to 0 to 0.1 to 0.2	0.75	Bellows SUS316L
			Bourdon tube SUS316	-0.1 to 0.3 to 0.4 to 0.6 to 1 to 1.5 to 2	0.5	Bourdon tube SUS316
KE22	0 to 0.01	1.5	Bellows SUS316L (Gasket: PTFE)	0 to 0.1 to 0.2 to 0.3 to 0.4	1.0	Bellows SUS316L (Gasket: PTFE)
	0 to 0.02 to 0.03 to 0.04 to 0.05	1.0				

* KE22: Please specify the base pressure

Principle

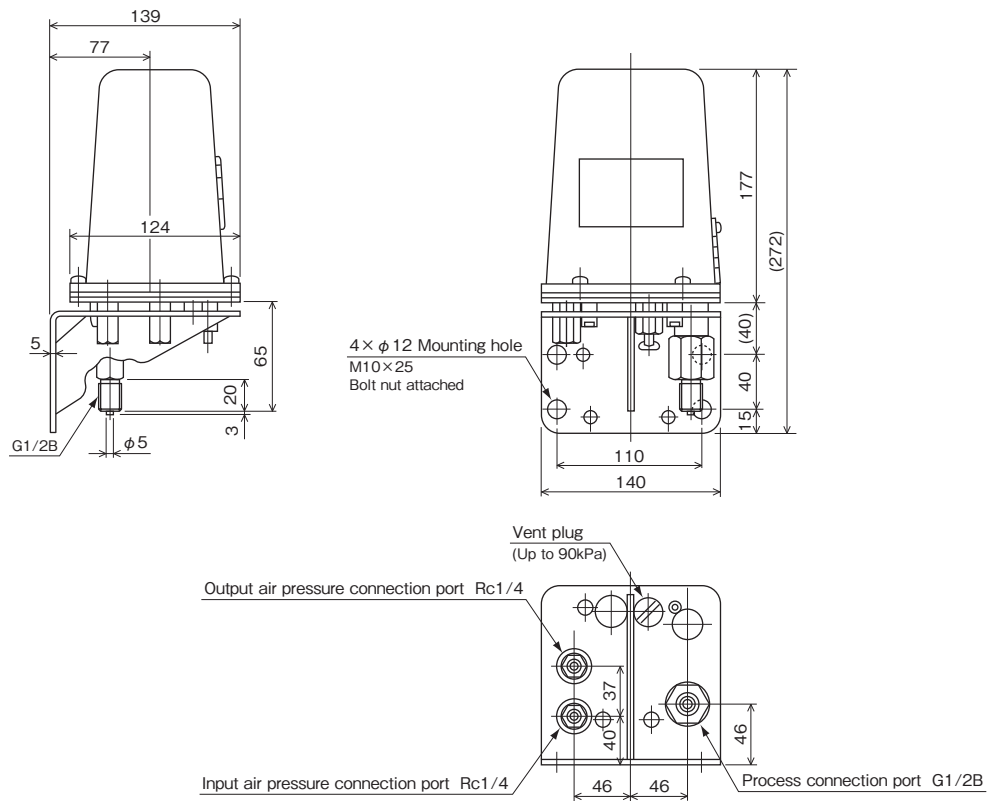


$$F l_1 = P_2 A l_2 - K \delta l_3$$

Dimensions 1

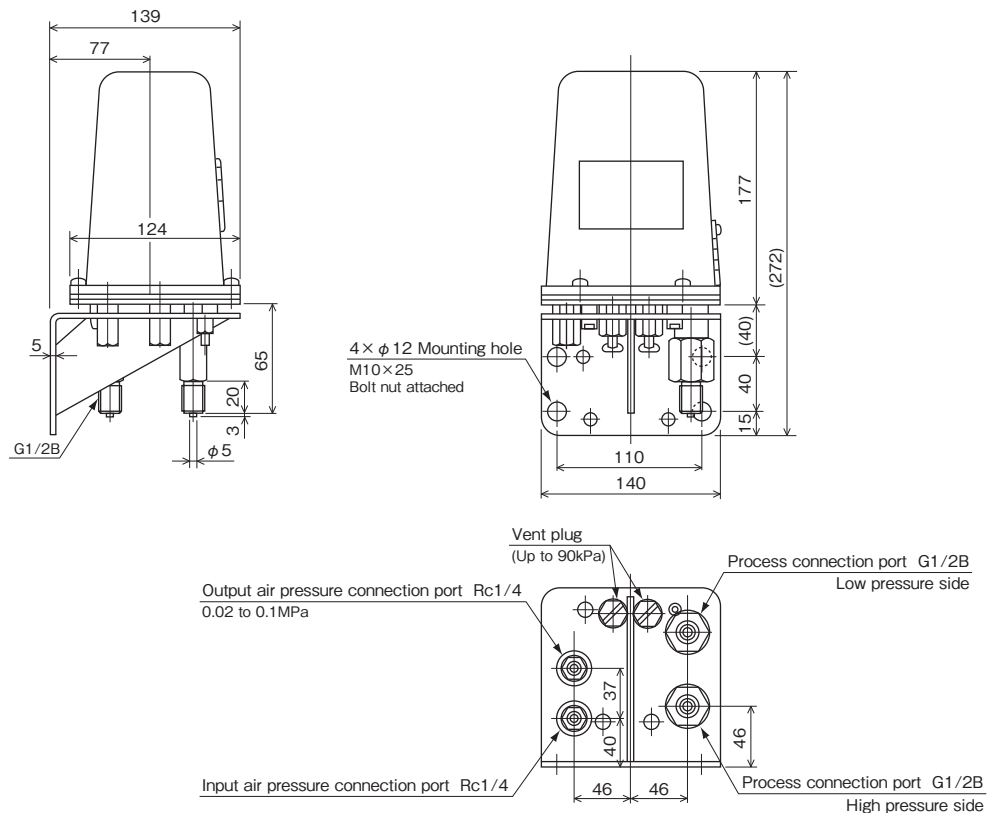
Unit: mm

Pressure transmitter



KE21-121

Differential pressure transmitter

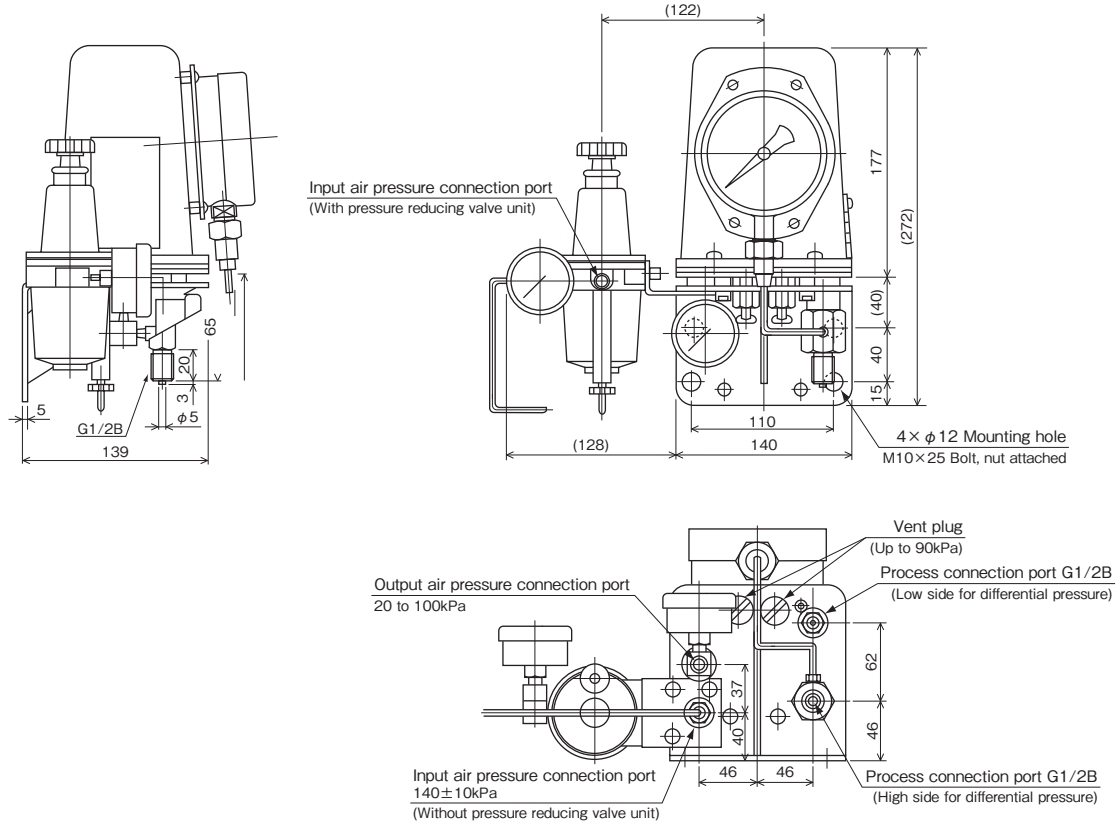


KE22-121

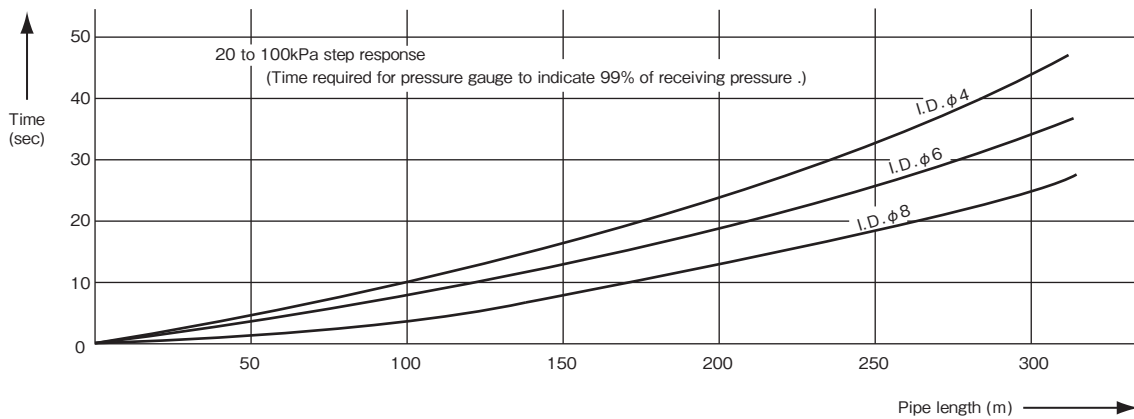
Dimensions 2

Unit: mm

With pressure reducing valve, output monitoring pressure gauge, on-site pressure indicator (KE21 and KE22)
 KE22 (Differential pressure measurement): Not available in on-site pressure indicator.



Response time



Model number configuration 1

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

Model **KE21** — **00C** × × × × × ×

Pneumatic 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	1	Panel mounting, G1/2B				
	2	Panel mounting, G3/8B				
	3	2B pipe mounting, G1/2B				
	4	2B pipe mounting, G3/8B				
② Connection	2	Rc 1/4				
	6	φ6				
	8	φ8				
	0	φ10				
③ Optional	1	Standard (Transmission function)				
	2	With pressure reducing valve				
	3	With output monitoring pressure gauge				
	4	With on-site pressure indicator (Except model up to 0.03MPa range)				
	5	With pressure reducing valve, With output monitoring pressure gauge				
	6	With output monitoring pressure gauge, With on-site pressure indicator				
	7	With pressure reducing valve, With on-site pressure indicator				
	8	With pressure reducing valve, With output monitoring pressure gauge, With on-site pressure indicator				
④ Pressure range (MPa)	1	0 to 0.01	Accuracy: ±1.0%F.S.			
	2	0 to 0.02, 0.03, 0.04, 0.05	Accuracy: ±0.75%F.S.			
		-0.1 to 0, 0.1, 0.2 Compound	Accuracy: ±0.75%F.S.			
	3	-0.1 to 0.3, 0.4, 0.6, 1, 1.5, 2 Compound	Accuracy: ±0.5%F.S.			
		0 to 0.1, 0.2, 0.3	Accuracy: ±0.75%F.S.			
4	0 to 0.4, 0.6, 1, 1.5, 2, 2.5, 3.5, 5, 7	Accuracy: ±0.5%F.S.				
5	0 to 10, 15, 25, 35, 50	Accuracy: ±0.5%F.S.				
⑤ Accuracy	0	Standard	Accuracy: ±1.0%F.S.			
		±1.0%F.S.	0 to 0.01MPa			
		±0.75%F.S.	0 to 0.02→0.3, -0.1 to 0→0.2MPa			
⑥ Supply pressure	0	140±10kPa				
⑦ Output	C	20 to 100kPa				
⑧ Treatment	0	Not required				
	1	Use no oil				
	2	Use no water				
	3	Use no oil & water				
⑨ Other additional spec.	0	Not required				
	1	Mounting plate for U bolt				
⑮ Documents	0	Not required				
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Attending inspection				

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

[Manufacturing range]
Note: 0.03MPa and below for on-site pressure indicator
· Please refer to our GE and GR for pressure indicator.

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

Model number configuration 2

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

Model: **KE22** — **00C** × × × × ×

Pneumatic differential pressure transmitter

Model number		Product specifications			Additional specifications (Optional)		
① Type	1	Panel mounting, G1/2B					
	2	Panel mounting, G3/8B					
	3	2B pipe mounting, G1/2B					
	4	2B pipe mounting, G3/8B					
② Connection	2	Rc 1/4					
	6	φ6					
	8	φ8					
	0	φ10					
③ Optional	1	Standard (Transmission function)					
	2	With pressure reducing valve					
	3	With output monitoring pressure gauge					
	5	With pressure reducing valve, With output monitoring pressure gauge					
④ Pressure range (MPa)	1	0 to 0.01			Accuracy: ±1.5%F.S.		
		0 to 0.02, 0.03, 0.04, 0.05			Accuracy: ±1.0%F.S.		
	2	0 to 0.1, 0.2, 0.3, 0.4			Accuracy: ±1.0%F.S.		
⑤ Accuracy	0	Standard			0 to 0.01MPa		
		±1.5%F.S.			±1.0%F.S.		
⑥ Supply pressure	0	140±10kPa					
⑦ Output	C	20 to 100kPa					
⑧ Treatment	0	Not required					
	1	Use no oil					
	2	Use no water					
	3	Use no oil & water					
⑨ Other additional spec.	0	Not required					
	1	Mounting plate for U bolt					
⑮ Documents	0	Not required					
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Attending inspection					

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

[Manufacturing range]

- Base pressure: 1MPa
- Please refer to our GE and GR for pressure indicator.

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