



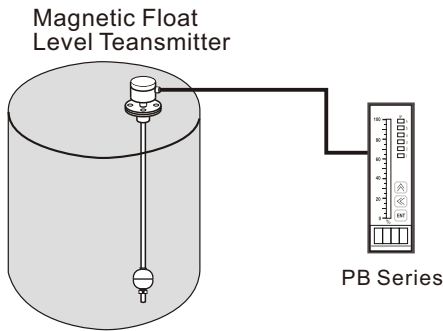
# Magnetic Float Level Transmitter



# INTRODUCTION

## WORKING PRINCIPLE

The "Magnet Float Level Transmitter" is composed of a float and sensing rod (shown below). As the float is raised or lowered by the liquid level, the sensing rod will induce a resistance output, which is directly proportional to the liquid level. The Magnet Float Level Transmitter is a sturdy, reliable and durable device that is applicable to most industries.



## FEATURES

- Optional TAB-2100 (see p4) to produce a 0/4~20mA signal
- Optional PB series bargraphic display scaling panel meter for level control and display
- Sensing elements are protected with a plastic package for safety in use and transport.
- High performance and reliable electric circuit modular design (fig.2)
- Explosion Proof certificate available
- Marine certificate: ABS, DNV, BV, LR, GL available

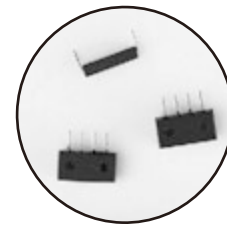


Fig.1  
Sensing Element

## APPLICATIONS

- Waste water treatment
- Turn-key facilities
- Electric power plants
- Shipping vessels
- Hydraulic facilities
- Chemical industrial equipment
- Petrochemical industries
- Hot coal boiler
- e.g. diesel engine generators, motor
- oil meters, oil material storage tanks

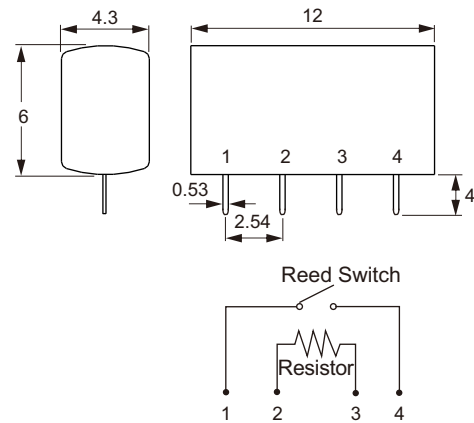
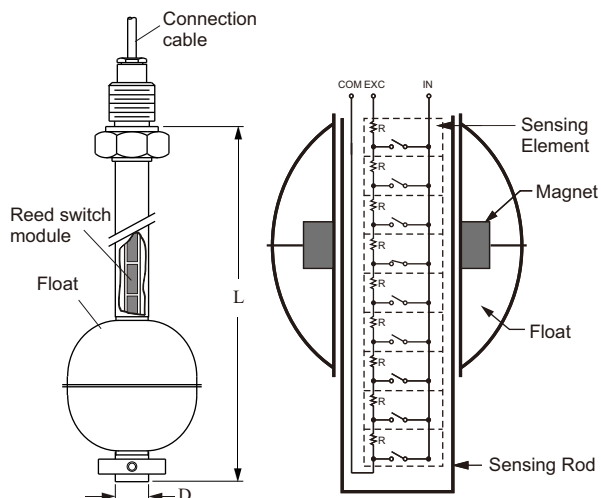


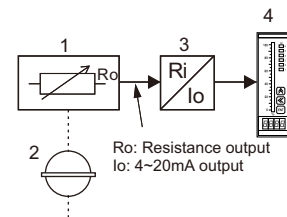
Fig.2  
Sensing Element Size

## CONSTRUCTION



## SCHEMATIC DIAGRAMS

1. Sensing Rod
2. Float
3. Transducer
4. Display Unit



# HOUSING DIMENSIONS

**B**

Material : Aluminum  
Enclosure : IP65  
Max.Temp.: -20°C ~200°C

**C**

Material : PP+Fiber  
Enclosure : IP65  
Max.Temp.: -20°C ~80°C

**D**


Material : Aluminum  
Enclosure : IP65  
Max.Temp.: -20°C ~200°C


**E**

Material : Aluminum  
Enclosure : IP65  
Max.Temp.: -20°C ~200°C

**G**

Material : PC  
Enclosure : IP65  
Max.Temp.: -20°C ~80°C

**K** Explosion-proof 

Material : Aluminum  
Enclosure : CESI 03 ATEX 108  
ATEX  II 2G Ex d IIB T6  
Max.Temp.: -20°C ~100°C

**N**

Material : SUS316  
Enclosure : IP65  
Max.Temp.: -20°C ~200°C

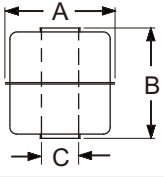
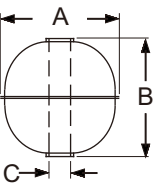
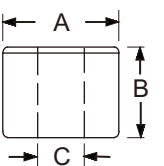
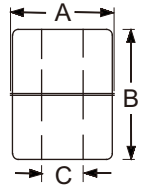
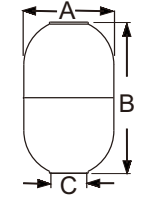
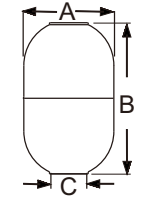
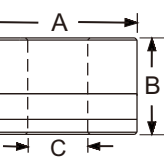
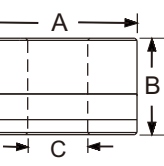
**X**

Material : Aluminum  
Enclosure : IP65  
Max.Temp.: -20°C ~100°C

**A**

Material : Aluminum  
Enclosure : IP67  
Max.Temp.: -40°C ~80°C

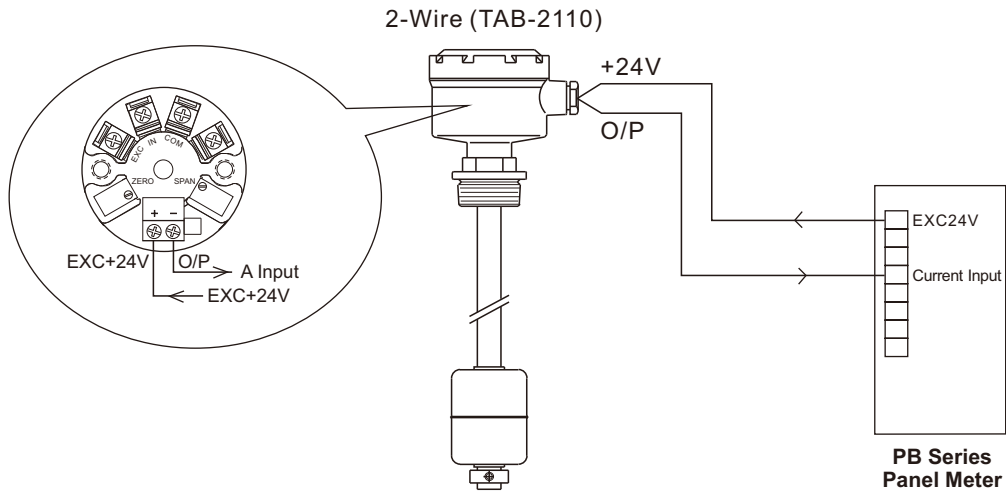
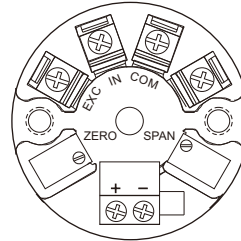
# FLOAT SPECIFICATIONS

Dimension	Type	AxBxC(mm)	S.G.	Max. Pressure (kg/cm <sup>2</sup> )	Material	Max. Temp. (°C)	Approx. Weight (g)
	S3	45x55x15	0.65	12	SUS 316	200°C	37.6
	S6	75x108x19	0.5	10	SUS 304 SUS 316	200°C	165
	S4	52x52x15	0.55	30	SUS 316	200°C	33.4
	S5	75x73x19	0.61	30	SUS 304 SUS 316	200°C	105
	S8	100x100x20	0.5	15	SUS 304 SUS 316	200°C	249.7
	S9	150x150x30	0.45	15	SUS 304	200°C	534
	P3	48x45x18.5	0.6	5	PP	80°C	35.5
	F4	48x62x18	0.75	5	PVDF	120°C	65.3
	R6	72x118x28	0.62	22.5	SUS316	200°C	193
	RF	72x118x28	0.95	22.5	SUS316	200°C	296
	P9	74x45x28	0.64	5	PP	80°C	111
	PI	74x45x28	0.96	5	PP	80°C	165

# TRANSDUCER

## MODEL: TAB-2110 (TAXAA1X) Transducer

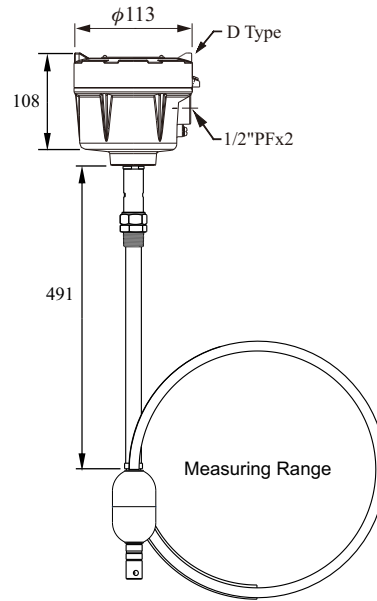
- Power Supply : 12~36Vdc
- Output Current : Loop power 4~20mA
- Load Resistance :  $RL(\text{Max})=50(Vs-8)$
- Ambient Temperature : -40~80°C
- Ambient Humidity : 0~80% RH
- Accuracy :  $\pm 0.1\%(25^\circ\text{C})$
- Temperature Effect : 0.01%F.S./°C
- Adjustment Range : Span Adjustment 20% FS  
Zero Adjustment 5% FS



# FLEXIBLE MODEL DIGITALE DISPLAY TYPE / ECONOMICAL TYPE

## MODEL: Flexible Magnetic Float Level Transmitter (Economical type)

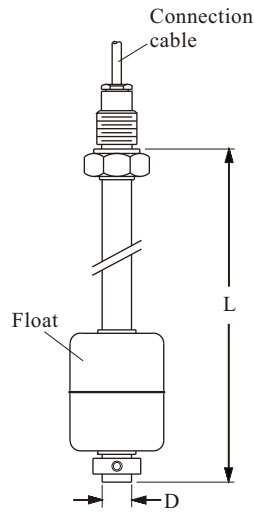
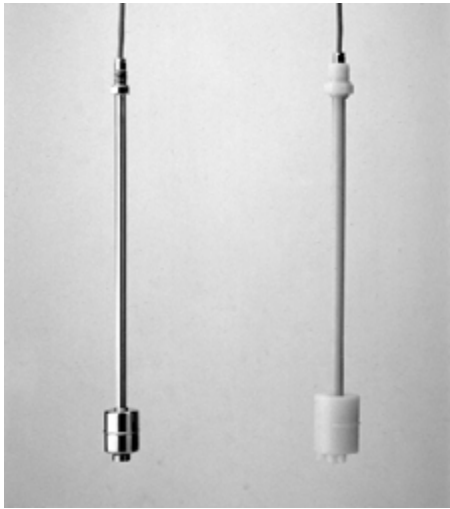
Power Supply	: 12~36Vdc
Measuring range	: 3000mm~30000mm
Analog output	: 4~20mA loop power
Resolution	: 12.7mm
Load impedance	: RL (Max.) = 50 (Vs-8)
Accuracy	: $\pm 0.1\%$ (25°C)
Ambient temp.	: -40~80°C
Operating temp.	: -40~80°C
IP rating	: IP65



## FEATURE

- Cover protection for reed module, to prevent any damage during transportation.
- Not effect by temperature and pressure variaion.
- Easy to record and set up with digital display.
- Easy to install, need not to do periodic calibration and maintenance.

# ECONOMICAL



## ● SPECIFICATIONS

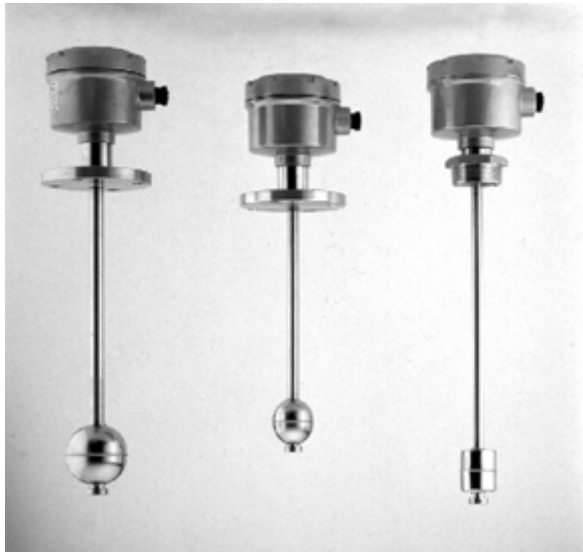
**Connection Cable:** Silicon cable 3C x 1M  
**Output:** 3-wire resistance output  
**Total Resistance:** 1MΩ (Max.)

**Operating Temp.:** PP tube    -10 °C ~ 80 °C  
 PVDF tube    -20 °C ~ 120 °C  
 SUS tube    -20 °C ~ 120 °C

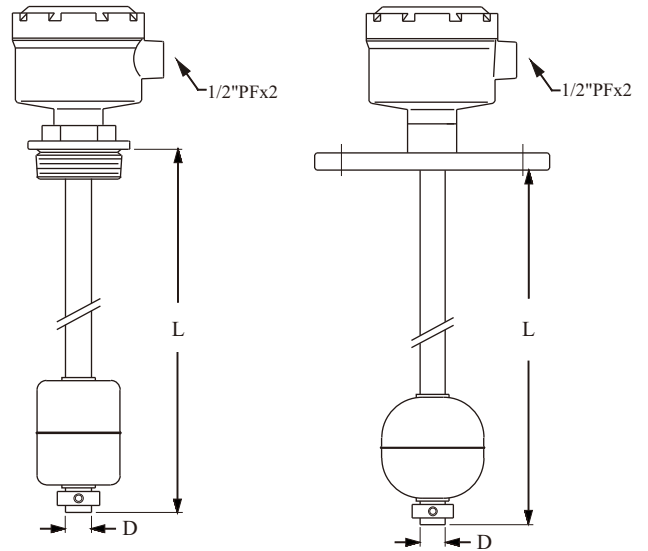
Order No.	Connection	Tube size & Material (D)	Float type & Material	Suitable S.G.	Measuring Range
FG□-AR4	3/8"PF	φ14    SUS 304 SUS 316	S3: φ45x55    SUS 316 S4: φ52x52    SUS 316	>0.65 >0.55	FGA...Max.6M FGB...Max.6M
FG□-AR7	3/8"PF	φ17.2    SUS 304	S5: φ75x73    SUS 304 SUS 316	>0.61 >0.5	FGA...Max.6M FGB...Max.6M
			S6: φ75x108    SUS 304 SUS 316		
FGB-CR5P3	3/4"PF	φ17.2    PP	P3: φ48x45    PP	>0.6	FGB...Max.6M
FGB-CR6F4	3/4"PF	φ16    PVDF	F4: φ48x62    PVDF	>0.75	FGB...Max.6M



# STANDARD



★ B type housing, dimension see page 2.



## ● SPECIFICATION

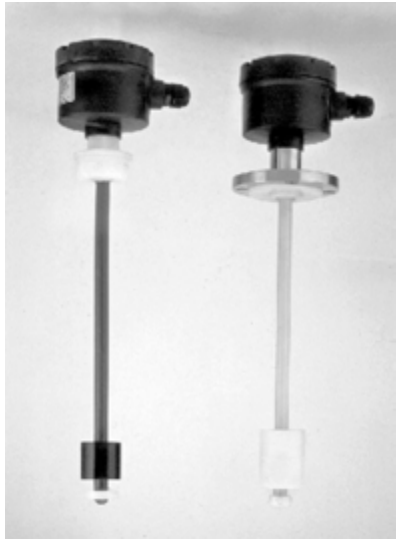
**Terminal Housing:** Aluminum, IP65  
**Output:** 4 ~ 20mA, 2-wire  
**Total resistance :** 1MΩ (Max.)

**Operating Temperature:** -20 ~ 120 °C  
**Ambient Temperature:** 0 ~ 70 °C

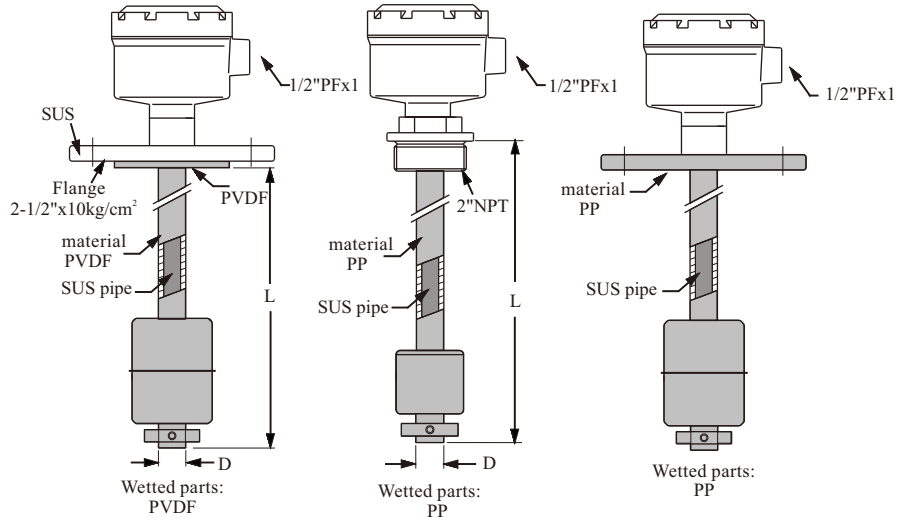
Order No.	Connection	Tube size & Material (D)	Float type & Material	Suitable S.G.	Measuring Range
FG□BFQ4	2"PT	φ14 SUS 316 SUS 304	S3: φ45x55 SUS 316 S4: φ52x52 SUS 316	>0.65 >0.55	FGC/D...Max.6M
FG□BGN4	2-1/2"x10kg/cm <sup>2</sup>	φ14 SUS 316 SUS 304	S3: φ45x55 SUS 316 S4: φ52x52 SUS 316	>0.65 >0.55	FGC/D...Max.6M
FGDBHN7	3"x10kg/cm <sup>2</sup>	φ17.2 SUS 304	S5: φ75x73 SUS 304 SUS 316	>0.61 >0.5	FGD...Max.6M
			S6: φ75x108 SUS 304 SUS 316		
FGDBIQ7	4"PT	φ17.2 SUS 304	S8: φ100x100 SUS 304 SUS 316	>0.5	FGD...Max.6M
FGDBKN8 FGDBKN9	6"x10kg/cm <sup>2</sup>	φ21.7 φ27.2 SUS 304	S9: φ150x150 SUS 304	>0.45	FGD...Max.12M



# ANTI-CORROSIVE



★ C type housing, dimension see page 2.



## ● SPECIFICATIONS

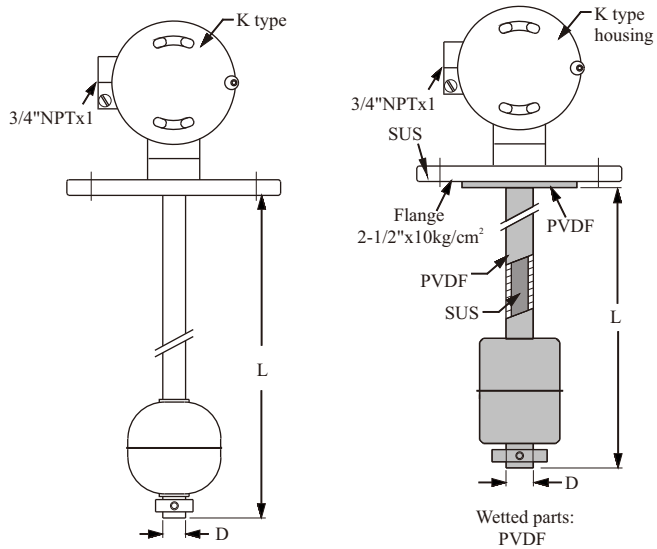
**Terminal Housing:** PP +Fiber, IP65  
**Output:** 4 ~ 20mA, 2-wire  
**Ambient Temperature:** 0~70 °C

**Operating Temperature:** PP jacket tube-10 ~ 80 °C  
 PVDF jacket tube -20 ~ 120 °C  
**Total resistance:** 1MΩ (Max.)

Order No.	Connecting	Tube size & Material (D)	Float type & Material	Suitable S.G.	Measuring Range
FGDCFQ5P3	2"PT	φ17.2 PP	P3: φ48x45 PP	>0.55	FGD...Max.6M
FGDCFQ6F4	2"PT	φ16 PVDF	F4: φ48x62 PVDF	>0.75	FGD...Max.6M
FGDCGN5P3	2-1/2"x10kg/cm <sup>2</sup>	φ17.2 PP	P3: φ48x45 PP	>0.6	FGD...Max.6M
FGDCGN6F4	2-1/2"x10kg/cm <sup>2</sup>	φ16 PVDF	F4: φ48x62 PVDF	>0.75	FGD...Max.6M

Every unit is protected by a PP or PVDF flange to prevent the sensing rod from corrosion.

★K type ATEX Explosion proof enclosure can be selected (see p2).



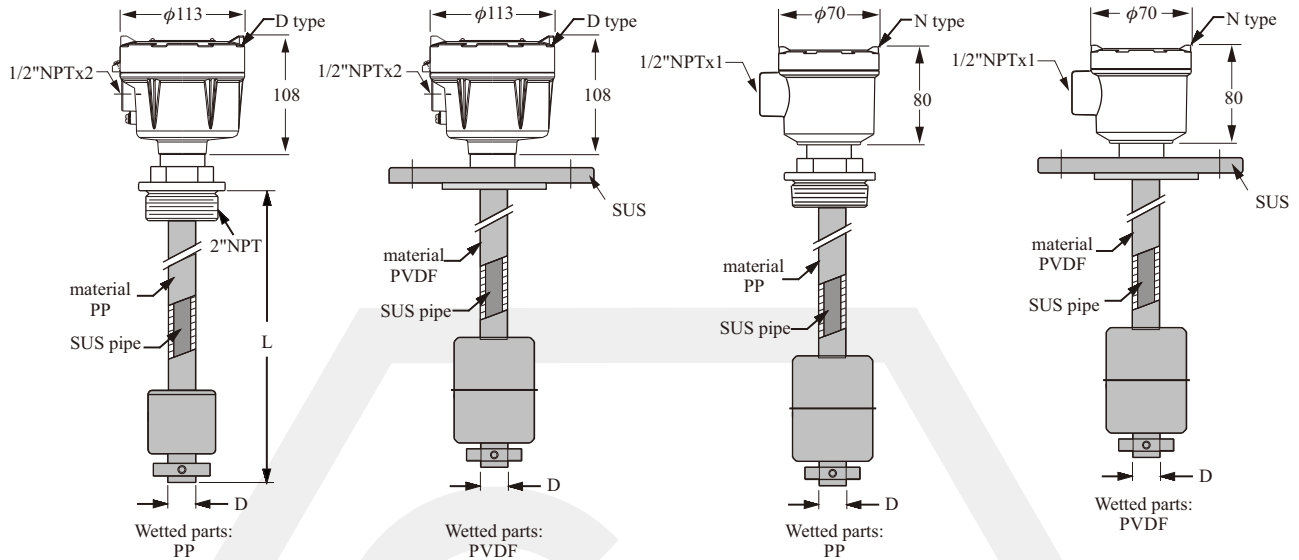
## ● SPECIFICATION

**Terminal Housing:** K type --- Aluminum, ATEX Ex d IIB T6      **Operating Temperature:** PP tube -10 ~ 80°C  
**Output:** 4 ~ 20mA, 2-wire      PVDF tube -20 ~ 120°C  
**Ambient Temperature:** 0 ~ 70 °C      SUS tube -20 ~ 120°C  
**Total resistance:** 1MΩ (Max.)

Order No.	Connection	Tube size & Material (D)	Float type & Material	Suitable S.G.	Measuring Range
FG□KFQ4	2"PT	φ14 SUS 304	S4: φ52x52 SUS 316	>0.55	FGA/B...Max.6M FGC/D...Max.6M
FG□KGN4	2-1/2"x10kg/cm <sup>2</sup>	φ14 SUS 304	S4: φ52x52 SUS 316	>0.55	FGA/B...Max.6M FGC/D...Max.6M
FGDKHN7	3"x10kg/cm <sup>2</sup>	φ17.2 SUS 304	S6: φ75x108 SUS 304 SUS 316	>0.5	FGD...Max.6M
FGDKIQ4	4"PT	φ17.2 SUS 304	S8: φ100x100 SUS 304 SUS 316	>0.5	FGD...Max.6M
FGDKFQ5P3	2"PT	φ17.2 PP	P3: φ48x45 PP	>0.6	FGD...Max.6M
FGDKFQ6F4	2"PT	φ16 PVDF	F4: φ48x62 PVDF	>0.75	FGD...Max.6M
FGDKGN5P3	2-1/2"x10kg/cm <sup>2</sup>	φ17.2 PP	P3: φ48x45 PP	>0.6	FGD...Max.6M
FGDKGN6F4	2-1/2"x10kg/cm <sup>2</sup>	φ16 PVDF	F4: φ48x62 PVDF	>0.75	FGD...Max.6M

# ENCLOSURE EXPLOSION PROOF

★ D or N type housing can be selected.



## ● SPECIFICATIONS

**Terminal Housing:** D type --- Aluminum  
 N type --- SUS

**Output:** 4 ~ 20mA, 2-wire

**Ambientt:** 0~70 °C

**Total Resistance:** 1MΩ (Max.)

**Operation Temperature:** PP tube -10 ~ 80 °C  
 PVDF tube -20 ~ 120 °C

MODEL NO. FG7	Connecting	Tube size (D) & Material	Float type & Material	Suitable S.G.	Measuring Range
FG7□DFQ4	2"PT	φ14 SUS 316	S3: φ45x55 SUS 316	>0.65	FG7...Max.3M
FG7□DGN4	2-1/2"x10kg/cm <sup>2</sup>	φ14 SUS 316	S3: φ45x55 SUS 316	>0.65	FG7...Max.3M
FG7DDHN7	3"x10kg/cm <sup>2</sup>	φ17.2 SUS 304	S5: φ75x73 SUS 304 SUS 316	>0.61	FG7...Max.6M
FG7DDIQ4	4"PT	φ17.2 SUS 304	S8: φ100x100 SUS 304 SUS 316	>0.5	FG7...Max.6M
FG7DDKN8 FG7DDKN9 FG7DDKN8 FG7DDKN9	6"x10kg/cm <sup>2</sup>	φ21.7 φ27.2 SUS 304	S9: φ150x150 SUS 304	>0.45	FG7...Max.6M
FG7DDFQ5P3	2"PT	φ17.2 PP	P3: φ48x45 PP	>0.6	FG7...Max.6M
FG7DDFQ6F4	2"PT	φ16 PVDF	F4: φ48x62 PVDF	>0.75	FG7...Max.6M
FG7DDGN5P3	2-1/2"x10kg/cm <sup>2</sup>	φ17.2 PP	P3: φ48x45 PP	>0.6	FG7...Max.6M
FG7DDGN6F4	2-1/2"x10kg/cm <sup>2</sup>	φ16 PVDF	F4: φ48x62 PVDF	>0.75	FG7...Max.6M

## MODEL NUMBER / ORDER CODE COMPARISON TABLE

Model Number	Order Code
FG□-AR4	FGX10100-A10AAA403CMA2B
FG□-AR7	FGX10100-A10AAA403CMA2D
FGB-CR5P3	FGX10100-B10AAA703E182D
FGB-CR6F4	FGX10100-AAA703E242C
FG□BFQ4	FGX10000-A1BAAB201CMA2B
FG□BGN4	FGX10000-A1BAKB442
FGBBHN7	FGX10000-A1BAKB542EMA2D
FGBBIQ7	FGX10000-A1BAKB701EMA2D
FGBBKN8	FGX10000-A1BAKB942EMA3A
FGBBKN9	FGX10000-A1BAKB942EMA3B
FGDCFQ5P3	FGX10000-B1CAAB201E182DP3
FGDCFQ6F4	FGX10000-B1CAAB201E242CF4
FGDCGN5P3	FGX10000-B1CAKB442E182DP3
FGDCGN6F4	FGX10000-B1CAKB442E242CF4
FG□KFQ4	FGX10000-A1KAAB201CMA2B
FG□KGN4	FGX10000-A1KAKB442CMA2B
FGDKHN7	FGX10000-A1KAKB542EMA2D
FGDKIQ4	FGX10000-A1KAAB701EMA2D
FGDKFQ5P3	FGX10000-A1KAAB201E182DP3
FGDKFQ6F4	FGX10000-A1KAAB201E242CF4
FGDKGN5P3	FGX10000-A1KAKB442E182DP3
FGDKGN6F4	FGX10000-A1KAKB442E242CF4
FG7□DFQ4	FGX100□□-A1DAAB201CMB2BS3
FG7□DGN4	FGX100□□-A1DAKB442CMB2BS3
FG7DDHN7	FGX100□□-A1DAKB542EMA2DS5
FG7DDIQ4	FGX100□□-A1DAAB707EMA2DS8
FG7DDKN8	FGX100□□-A1DAKB942EMA3AS9
FG7DDKN9	FGX100□□-A1DAKB942EMA3BS9
FG7DDFQ5P3	FGX100□□-A1DAAB207E182DP3
FG7DDFQ6F4	FGX100□□-A1DAAB207E242CF4
FG7DDGN5P3	FGX100□□-A1DAKB442E182DP3
FG7DDGN6F4	FGX100□□-A1DAKB442E242CF4

# ORDER INFORMATION

FGX1 <sup>05</sup> <sup>06</sup> <sup>07</sup> <sup>08</sup> - <sup>09</sup> <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup> <sup>14</sup> <sup>15</sup> <sup>16</sup> <sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup> <sup>23</sup> <sup>24</sup> 00 <sup>27</sup> 0 <sup>29</sup> <sup>30</sup> <sup>31</sup> <sup>32</sup> <sup>33</sup>

**05 06 Model**

- 00: Standard
- 01: Economy type

**07 08 Certification**

- 00: None
- 1C: ATEX-Exd
- 7C: NEPSI-Exd

**09 10 Probe type**

- A1: Rod type
- A2: FLEXIBLE MODEL
- B1: Corrosion-proof rod type

**11 Housing type**

- 0: Without housing
- B: B type housing (Aluminum)
- C: C type housing (PP)
- D: D type housing (Aluminum)
- E: Terminal head (Aluminum)
- K: K type (Aluminum)
- N: N type (stainless steel)

**Connection**

**12 13**

- Flange
- AK: JIS-FF
- AN: ANSI-RF
- AS: DIN-FF

**14 15**

- A4: 3/8"
- A5: 1/2"
- A7: 3/4"
- A8: 1"
- B1: 1-1/2"
- B2: 2"
- B4: 2-1/2"
- B5: 3"
- B7: 4"
- B8: 5"
- B9: 6"
- D7: DN20
- D8: DN25
- D9: DN32
- E1: DN40
- E2: DN50
- E3: DN65

**16 17**

- 01: PT male
- 03: PF male
- 07: NPT male
- 40: 5 kg/cm<sup>2</sup>
- 42: 10 kg/cm<sup>2</sup>
- 48: 150 Lbs
- 49: 300 Lbs
- 57: PN10
- 58: PN16

**18 Resolution**

- C: 6.35mm
- E: 12.7mm

(Next page)

FGX1 <sup>05</sup>□<sup>06</sup>□<sup>07</sup>□<sup>08</sup>□ - <sup>09</sup>□<sup>10</sup>□<sup>11</sup>□<sup>12</sup>□<sup>13</sup>□<sup>14</sup>□<sup>15</sup>□<sup>16</sup>□<sup>17</sup>□<sup>18</sup>□<sup>19</sup>□<sup>20</sup>□<sup>21</sup>□<sup>22</sup>□<sup>23</sup>□<sup>24</sup>□ 00 <sup>27</sup>□ 0 <sup>29</sup>□<sup>30</sup>□<sup>31</sup>□<sup>32</sup>□<sup>33</sup>□

<sup>19</sup> <sup>20</sup> **Probe material**

MA: SUS 304  
 MB: SUS 316  
 18: PP  
 24: PVDF

<sup>21</sup> <sup>22</sup> **Probe diameter**

1G:  $\phi$ 9.5mm      2D:  $\phi$ 17.2mm  
 2A:  $\phi$ 12.7mm     3A:  $\phi$ 21.7mm  
 2B:  $\phi$ 14.0mm     3B:  $\phi$ 27.2mm  
 2C:  $\phi$ 16.0mm

<sup>23</sup> <sup>24</sup> **Float 1**

00: None  
 S3: 45\*55\*15 E>0.65      S9: 150\*150\*30 E>0.45      P3: 48\*45\*18.5 E>0.6  
 S4: 52\*52\*15 E>0.55      F4: 48\*62\*18 E>0.8          P9: 74\*45\*28 E>0.64  
 S5: 75\*73\*20.5 E>0.65    R6: 72\*118\*28 E>0.62      PI : 74\*45\*28 E>0.96  
 S6: 75\*108\*20 E>0.5      RF: 72\*118\*28 E>0.95  
 S8: 100\*100\*20 E>0.5

<sup>27</sup> **Analog output**

B: 4~20mA  
 E: 3-wire resistance output

<sup>29</sup> **Material and surface roughness**

0: None  
 A: Ra < 0.3  
 B: Ra < 0.5  
 C: Ra < 0.8

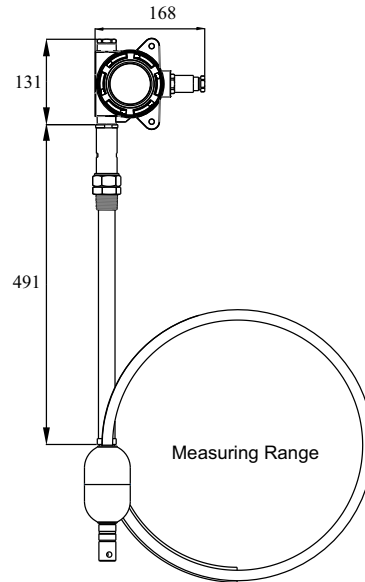
<sup>30</sup> <sup>31</sup> <sup>32</sup> <sup>33</sup> **Length**

Code	Probe Length
0150~A300	150~30000mm

# DISPLAY MODEL

## MODEL: Flexible Magnetic Float Level Transmitter (Digital display type)

Power Supply: 12~36Vdc  
 Measuring range: 3000mm~30000mm  
 Analog output: Loop power 4~20mA  
 Resolution: 12.7mm  
 Digital communication: HART RS485  
 Load impedance: RL(Max)=50(Vs-8)  
 Accuracy:  $\pm 0.1\%$ (25°C)  
 Ambient temp.: -40~80°C  
 Operating temp.: -40~80°C  
 IP rating: IP67



## FEATURE

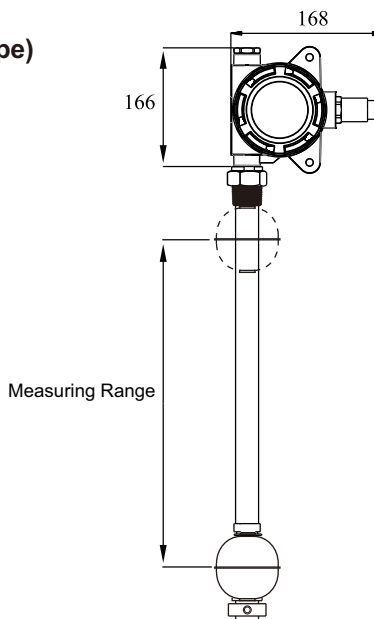
- Cover protection for reed module, to prevent any damage during transportation.
- Not effect by temperature and pressure variaion.
- Easy to record and set up with digital display.
- Easy to install, need not to do periodic calibration and maintenance.

## EXPLOSION PROOF DISPLAY MODEL

NEPSI PROOF No.GYB16.1444X  
 Ex d IIC T3~T6 Gb

### MODEL: Explosion proof Magnetic Float Level Transmitter (Digital display type)

Power Supply: 12~36 Vdc  
 Measuring range: 150mm~3000mm  
 Analog output: 4~20mA, 2Wire(Loop power)  
 Resolution: 6.35mm / 12.7mm  
 Digital communication: HART/RS-485  
 Ambient temp.: -40~85°C  
 Operating temp.: -40~125°C  
 IP rating: IP67





# ORDER INFORMATION

FGX2 <sup>05</sup> <sup>06</sup> <sup>07</sup> <sup>08</sup> - <sup>09</sup> <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup> <sup>14</sup> <sup>15</sup> <sup>16</sup> <sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup> <sup>23</sup> <sup>24</sup> 0 0 <sup>27</sup> <sup>28</sup> <sup>29</sup> <sup>30</sup> <sup>31</sup> <sup>32</sup> <sup>33</sup>

<sup>05</sup> <sup>06</sup> **Model** \_\_\_\_\_

00: Standard

<sup>07</sup> <sup>08</sup> **Certification** \_\_\_\_\_

00: None  
7C: NEPSI-Exd

<sup>09</sup> <sup>10</sup> **Probe type** \_\_\_\_\_

A1: rod type  
A2: FLEXIBLE MODEL  
B1: Corrosion-proof rod type

<sup>11</sup> **Housing type** \_\_\_\_\_

A: A type housing (Aluminum)

**Connection** \_\_\_\_\_

<sup>12</sup> <sup>13</sup>

Flange  
AK: JIS-FF  
AN: ANSI-RF  
AS: DIN-FF

Thread

AA: JIS  
AC: ANSI

<sup>14</sup> <sup>15</sup>

B2: 2"  
B4: 2-1/2"  
B5: 3"  
B7: 4"  
B8: 5"  
B9: 6"  
E2: DN50  
E4: DN80  
E5: DN100

<sup>16</sup> <sup>17</sup>

01: PT male  
03: PF male  
07: NPT male  
40: 5 kg/cm<sup>2</sup>  
42: 10 kg/cm<sup>2</sup>  
48: 150 Lbs  
49: 300 Lbs  
57: PN10  
58: PN16

<sup>18</sup> **Resolution** \_\_\_\_\_

C: 6.35mm  
E: 12.7mm

<sup>19</sup> <sup>20</sup> **Probe material** \_\_\_\_\_

MA: SUS 304  
MB: SUS 316  
21: PTFE

(Next page)

FGX2 ⑤⑥⑦⑧⑨⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔ 00 ㉗㉘㉙㉚㉛㉜㉝㉞

㉑ ㉒ **Probe diameter**

- 2A:  $\phi$ 12.7mm
- 2B:  $\phi$ 14.0mm
- 2C:  $\phi$ 16.0mm
- 2D:  $\phi$ 17.2mm
- 3B:  $\phi$ 27.2mm

㉓ ㉔ **Float1**

- |                       |                       |                      |
|-----------------------|-----------------------|----------------------|
| S3: 45*55*15 E>0.65   | S8: 100*100*20 E>0.5  | P3: 48*45*18.5 E>0.6 |
| S4: 52*52*15 E>0.55   | S9: 150*150*30 E>0.45 | P9: 74*45*28 E>0.64  |
| S5: 75*73*20.5 E>0.65 | F4: 48*62*18 E>0.8    |                      |
| S6: 75*108*20 E>0.5   | R6: 72*118*28 E>0.62  |                      |

㉗ **Analog output**

- B: 4~20mA
- C: 20~4mA

㉘ **Digital output**

- 0: None
- B: RS-485
- C: RS485 +PT100
- E: HART
- F: HART 7.3 +PT100

㉙ **Material and surface roughness**

- 0: None
- A: Ra < 0.3
- B: Ra < 0.5
- C: Ra < 0.8

㉚ ㉛ ㉜ ㉝ **Length**

Code	Probe Length
0150~A300	150~30000mm

# MR SENSOR FLOAT LEVEL TRANSMITTER

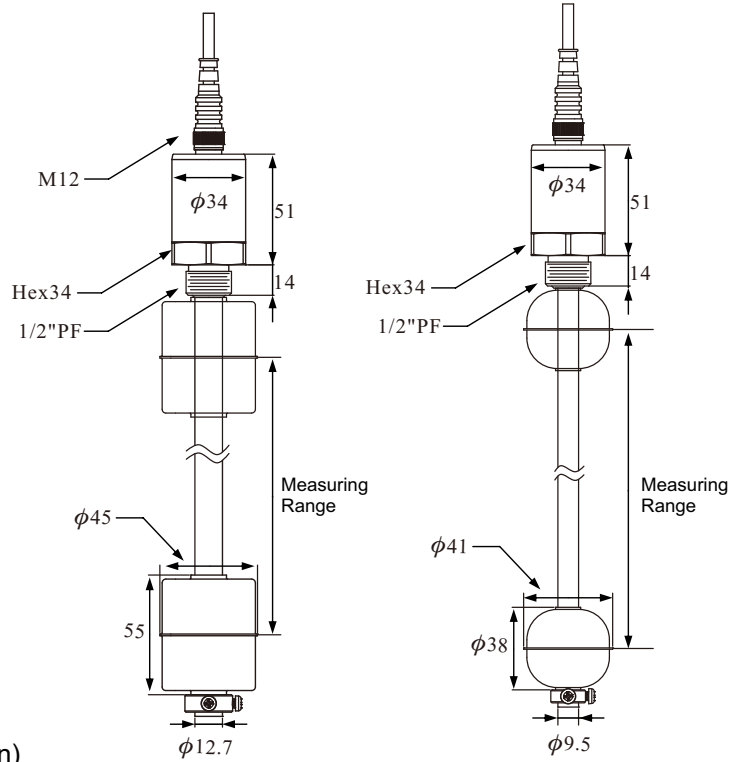
## MODEL: FG3 MR Sensor Float Level Transmitter

### PRINCIPLE

MR Sensor Float Level Transmitter is utilizing the position of magnetic float change along with fluid level. The sensing rod is composed of resistance and MR sensor as a voltage divider circuit. The smaller the MR Sensor interval, the higher the accuracy. The signal from voltage divider circuit will be converted to 4~20 mA, RS-485 and HART are also available.

### SPECIFICATION

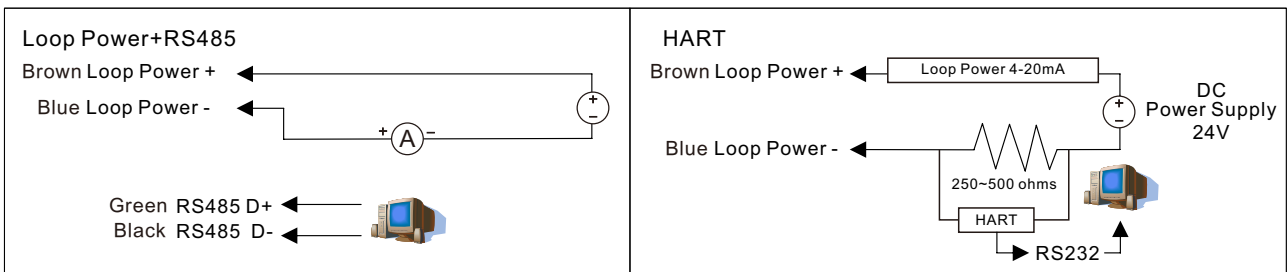
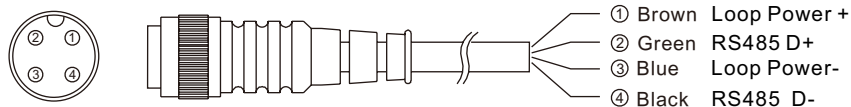
Power Supply: 12~36Vdc  
 Measuring range: 150mm~3000mm  
 Analog output: 4~20mA  
 Ambient temp.: -40~85°C  
 Operating temp.: -40~85°C  
 IP rating: IP67  
 Resolution: 5mm / 3mm  
 Digital communication: RS485 / HART(option)



### FEATURE

- Easy installation without calibration & maintenance.
- Not effect by temperature and pressure variaion.
- high accuracy Optional 5mm / 3mm
- Protection: IP67

### WIRING



# ORDER INFORMATION

FGX3 0 0 0 0 - <sup>09</sup> <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup> <sup>14</sup> <sup>15</sup> <sup>16</sup> <sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup> <sup>23</sup> <sup>24</sup> 0 0 <sup>27</sup> <sup>28</sup> <sup>29</sup> <sup>30</sup> <sup>31</sup> <sup>32</sup> <sup>33</sup>

**⑨⑩ Probe type**

A1: Rod type

**⑪ Housing type**

0: Without housing

**Connection**

⑫⑬

Flange  
AK: JIS-FF  
AN: ANSI-RF  
AS: DIN-FF

⑭⑮

A5: 1/2"  
A7: 3/4"  
A8: 1"  
B1: 1-1/2"  
B2: 2"  
B4: 2-1/2"  
B5: 3"  
B7: 4"  
B8: 5"  
B9: 6"  
E2: DN50  
E4: DN80  
E5: DN100

⑯⑰

01: PT male  
03: PF male  
07: NPT male  
40: 5 kg/cm<sup>2</sup>  
42: 10 kg/cm<sup>2</sup>  
48: 150 Lbs  
49: 300 Lbs  
57: PN10  
58: PN16

**⑱ Resolution**

A: 3mm  
B: 5mm

**⑲⑳ Probe material**

MA: SUS 304  
MB: SUS 316

**㉑㉒ Probe diameter**

1G:  $\phi$ 9.5mm  
2A:  $\phi$ 12.7mm  
2C:  $\phi$ 16.0mm

\*  $\phi$ 9.5mm Only available for resolution 5mm

\* While the total length is over 2000mm, the stem size is only  $\phi$ 16mm

(Next page)

⑨⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔
**FGX3 0 0 0 0 -**
□□□□□□□□□□□□□□□□□□□
**0 0**
□□□□□□□□

㉓ ㉔ **Float 1**  
 S2: 41\*38\*11 E>0.7  
 S3: 45\*55\*15 E>0.65  
 S5: 75\*73\*20.5 E>0.65

㉗ **Analog output**  
 B: 4~20mA  
 C: 20~4mA

㉘ **Digital output**  
 B: RS-485  
 C: RS485 +PT100  
 E: HART  
 F: HART 7.3 +PT100

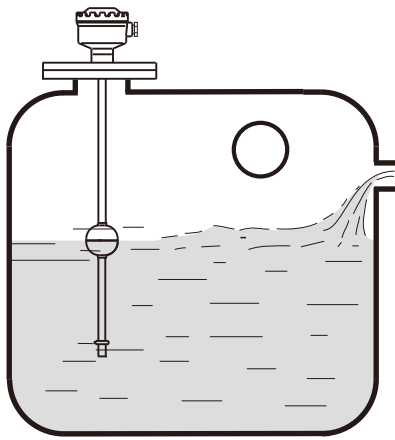
㉙ **Material and surface roughness**  
 0: None  
 A: Ra < 0.3  
 B: Ra < 0.5  
 C: Ra < 0.8

㉚ ㉛ ㉜ ㉝ **Length**

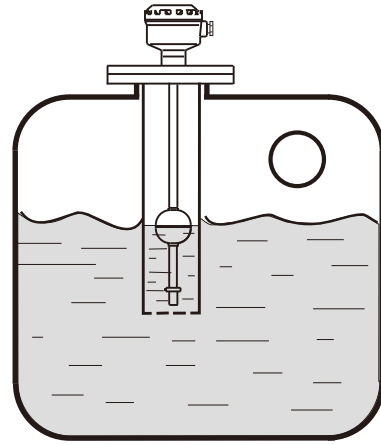
Code	Probe Length
0150~3000	150~3000mm

# INSTALLATION

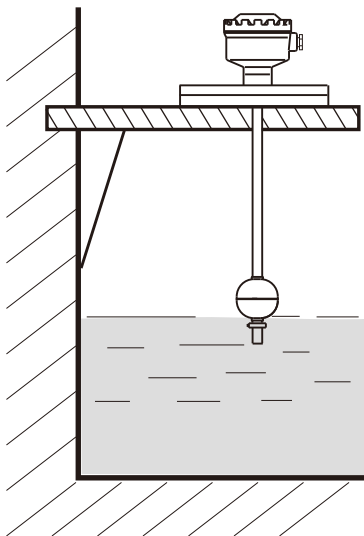
- ▶ The float level transmitter should be mounted far away from the inlet. Any rigorous liquid turbulence will produce error output signals.



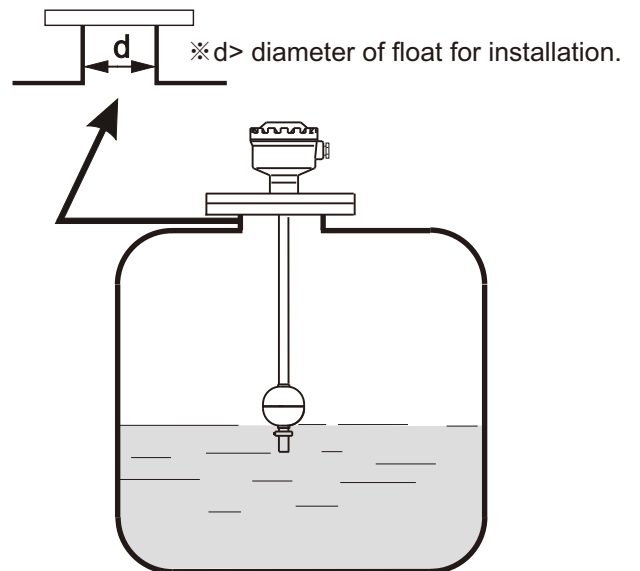
- ▶ A pipe shield or an equivalent device can help normalize the indicator actuation especially when an agitator is present.



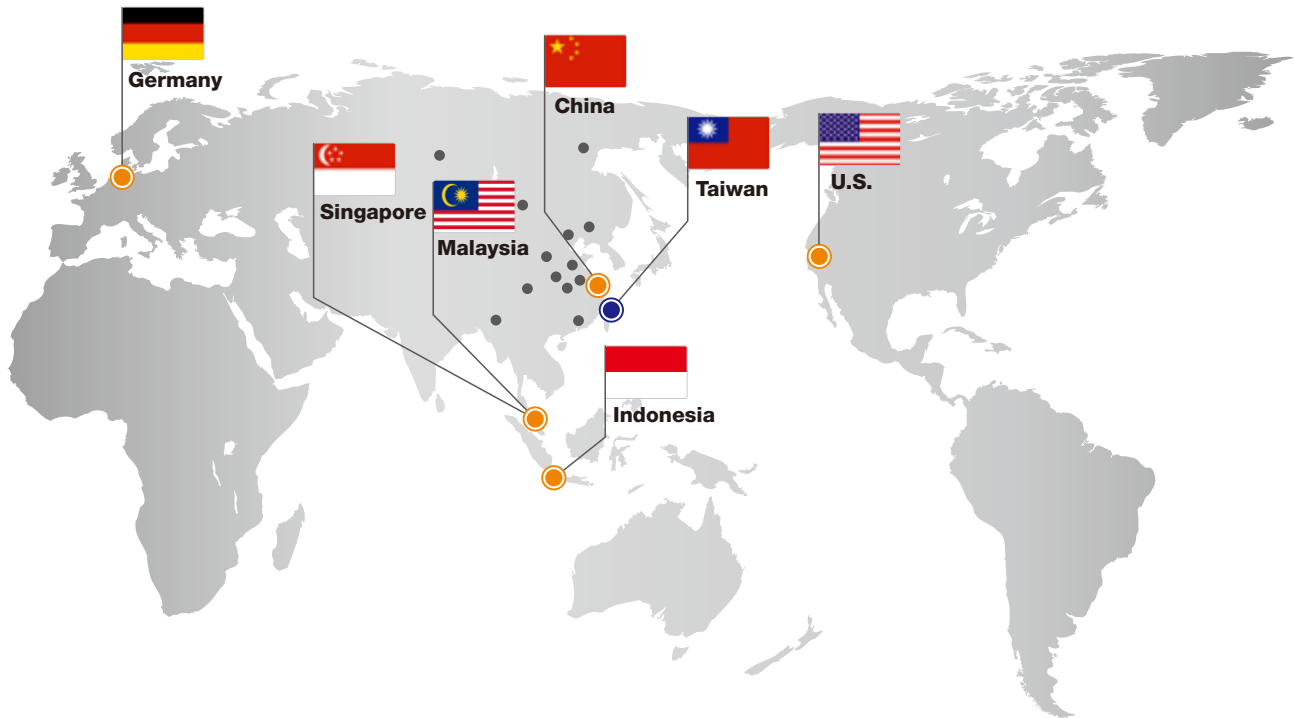
- ▶ Another useful alternative is an L type support frame when the level indicator is mounted in concrete wall tank as figure below.



- ▶ It is recommended to select the standpipe with diameter (d) larger than the float for the installation process.



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