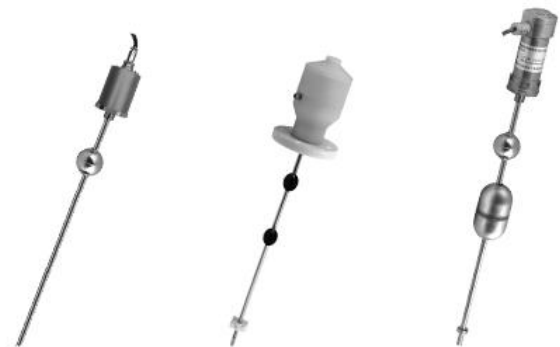




## KYDM-F Series Magnetostrictive Transducers for Oil & Chemical

### Product Type:

KYDM-F series anticorrosion magnetostrictive linear level transducer,  
 KYDM-F series flexible magnetostrictive linear level transducer,  
 KYDM-F series magnetostrictive linear level transducer, (hard tube)  
 (oil and chemical)



Normal      Anti-corrosion      Anti-explosion

### Description

KYDM magnetostrictive linear level transducer is a contactless liquids level sensor designed for accurate absolute level measurement of liquids. It can monitor the actual fluid level and temperature at the same time. Using excellent communication for monitoring and programming by EIA-RS485, data could be remote. The design and durability of the sensor make it ideal for measuring fluid levels of petroleum. The transducer provides analog output of voltage and current and digital output of Modbus. By utilizing the integral digital temperature sensor in probe, the fluid temperature could be measured as well as the level.

### Applications:

Oil and chemical Scorch

### Features:

- ◆ High accuracy to meet the high requirements metering of tank level measurement occasions;
- ◆ Stable performance, without affect of temperature and pressure changes of gas and liquid inside the tank;
- ◆ Various output options to meet a variety of collection system requirements;
- ◆ Intrinsic Safety Certification: ExiaIIBT5 to adapt to a variety of safe applications;
- ◆ Modbus, which can measure various parameters of liquid level, interface, temperature;
- ◆ Various anti-corrosive structure, to meet a wide range of oil, chlorine and other corrosive measurement environment;
- ◆ Easy installation, no maintenance.

### Specifications:

Measured position	Modbus—1~3 position or 1~5 temperature points Analog—1~2 position
Operating voltage	+24VDC±10% ; ±15VDC±10%
Outputs	0~5VDC 0~10VDC -5~+5VDC -10~+10VDC 4~20mADC ModBus Hart
Range	Rigid structure: 50~5000mm Flexible structure: 4000~20000mm
Load characteristics	Current output: Load Resistance 600Ω(Max.)
	Voltage output: Load current 2mA(Max.)



Operating Current	<70mA
Operating temperature	-40~+85 °C
Storage temperature	-40~+100 °C
Non-linearity	< ±0.01% F.S.or 1mm max.
Repeatability	< ±0.002% F.S.
Resolution	16bitD/A ,0.1mm
Hysteresis	< ±0.002% F.S.
Temperature coefficient	< ±0.007%F.S./°C
Zero range	100%F.S.
full-scale range	100%F.S.
Update time	depends on range,but less than 20ms
Probe material	A.0Cr18Ni9 (304)      B.316SS
Housing material	A.0Cr18Ni9(304)
Mounting	A.threaded connection      B.threaded flange
Cable	integral cable, mating connector, integral connector
Sealing	Housing:IP65,Probe IP68
Explosion Proof	Exd II BT5,Exia II CT6

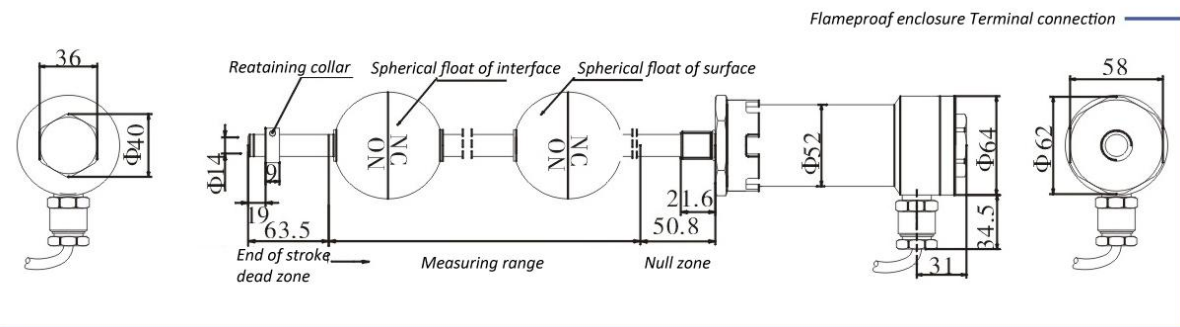
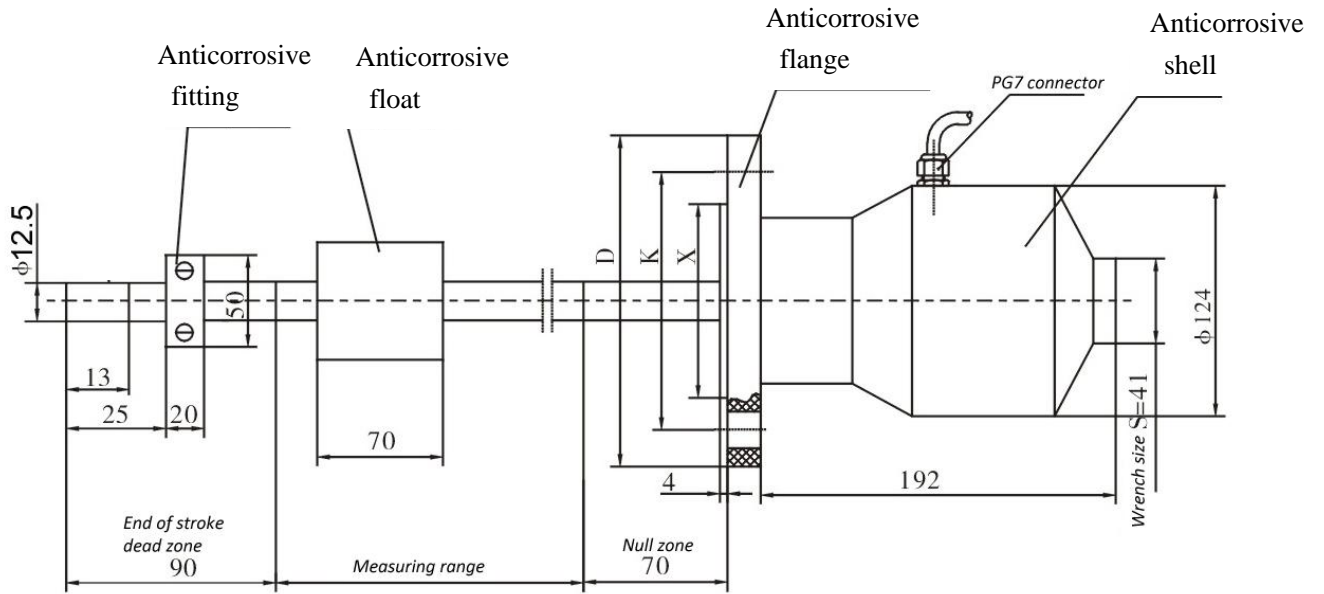
Note: The F.S. is short for Full Scale.

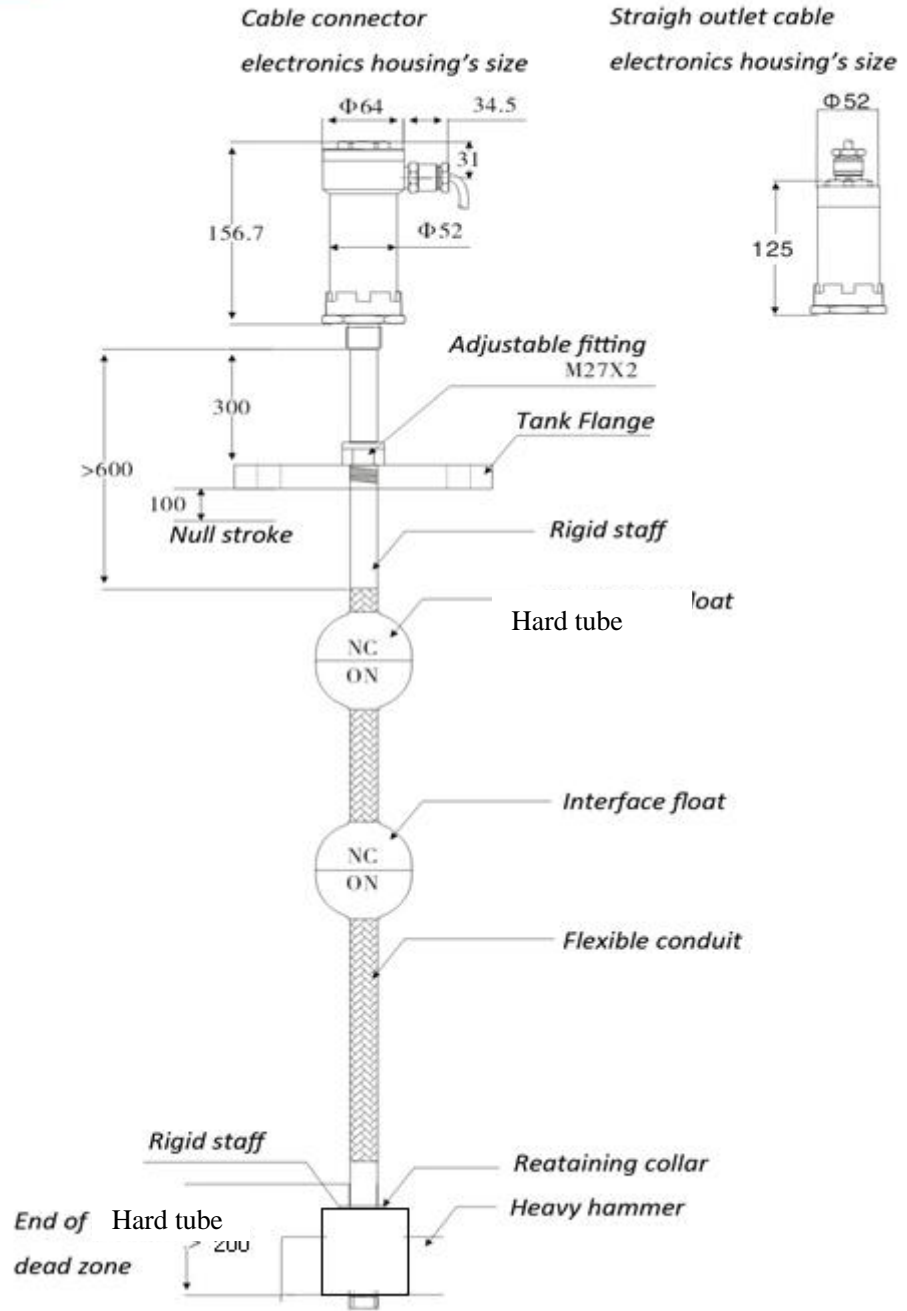
### **Application Overview:**

KYDM Magnetostrictive liquid level transducer (Oil Chemical dedicated) provides high accurate measurement of liquids level sensor designed for huge tank or vessels. It can be tailored to special length and mounting requirements for petrochemical applications. It transmits and monitors level, interface, and temperature at the same time. In addition, volume, density and weight can be work out.



**Product Dimension:**







Xinhui KangYu Control Systems Engineering, Inc.

Guifeng Hightech Village, Ximen Rd., Xinhui District, Jiangmen City, Guangdong 529100, P.R. China

Tel: 86-750-6318857 Fax: 86-750-6318900 E-mail: [sale@chinakangyu.com](mailto:sale@chinakangyu.com) Website: [www.chinakangyu.com](http://www.chinakangyu.com)

# KYDM-FG 1 M920W-

# G B 1250M 1 J 1 3-D JL0

**Safety Category**

- P Common
- G Flame-proof
- B Intrinsic safety

**Input**

- 1 24 VDC (±10%)
- 2 15 VDC (±10%)
- 3 ±15 VDC (±10%)
- 4 Special (12VDC-24VDC)

**Output**

<b>M</b> [1]Mode	[2]Baud rate	[3] Temp point	[4] Temp position
R=RTU	9=9600bps	0=Null	W=Null
A=ASCII	4=4800bps	1-5 point	S=Standard
	1=19200bps		P=Average
			X=Specia <sup>2)</sup>

**Structural features A**

- G Hard tube
- F Anticorrosive
- R Flexible

**Structural features B**

- A A type of electronic housing
- B B type of electronic housing
- X Special

**Your range (mm)**

**Connection**

- 1 Metric screw thread M18\*1.5
- 2 Metric screw thread M20\*1.5
- 3 Inch screw thread 3/4-16UNF
- X Special
- 0 Null

**Outlet A**

- C Cable
- J Connection Terminator
- H Connection
- N High temperature cable

**Outlet B**

- 0 Cable on top
- 1 Cable on side

**Output C**

0~9 (Cable length)

**Mounting Kit**

- A Mounting Kit FK-1
- B Mounting Kit FK-2
- C Mounting Kit FK-3
- W Null

**Float Type**

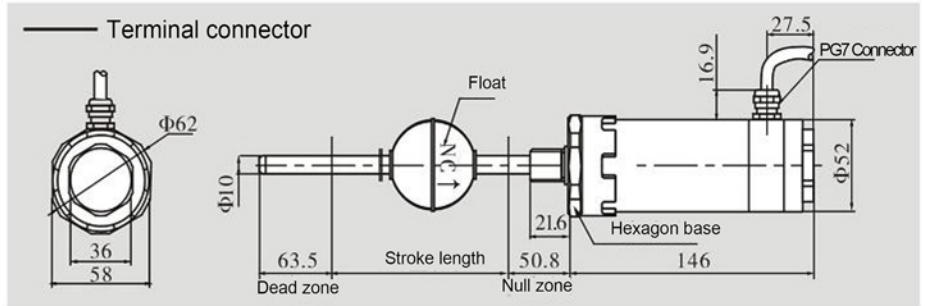
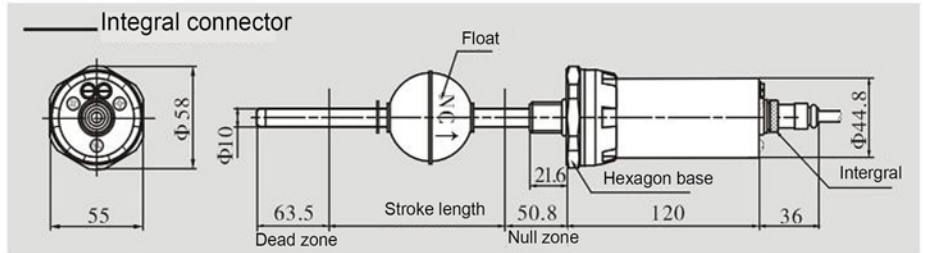
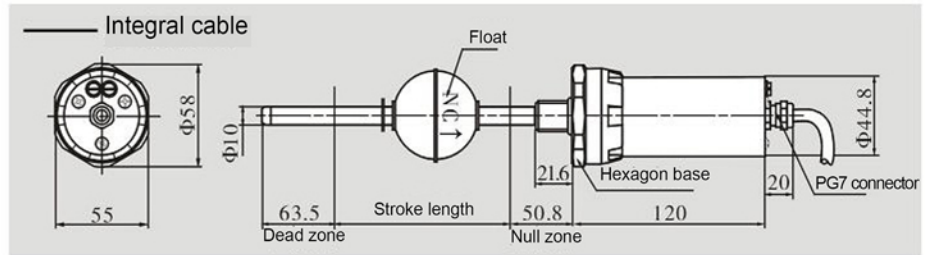
- [1] Level Float
- [2] Interface Float
- [3] Interface Float

(1) 0 point near the end  
 (2) 0 point near the top

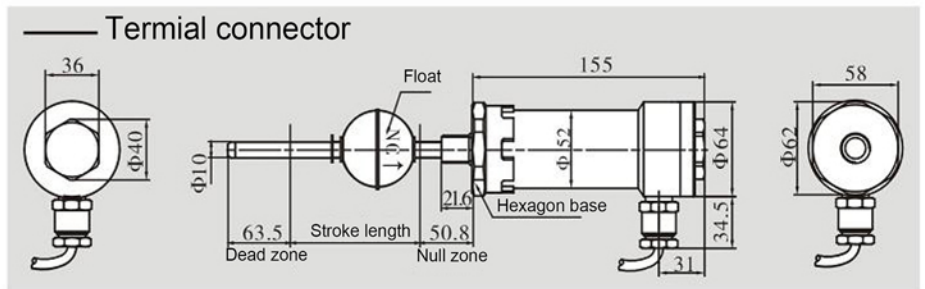
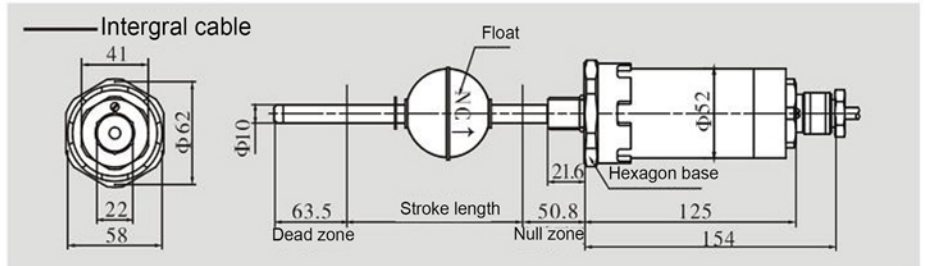


### A type electronic housing

#### Common



#### Flame-proof



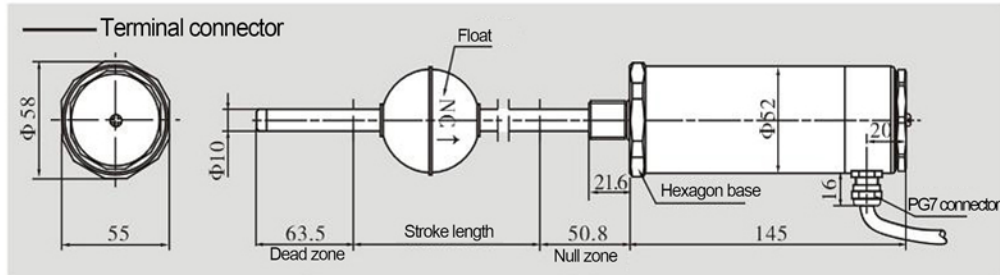
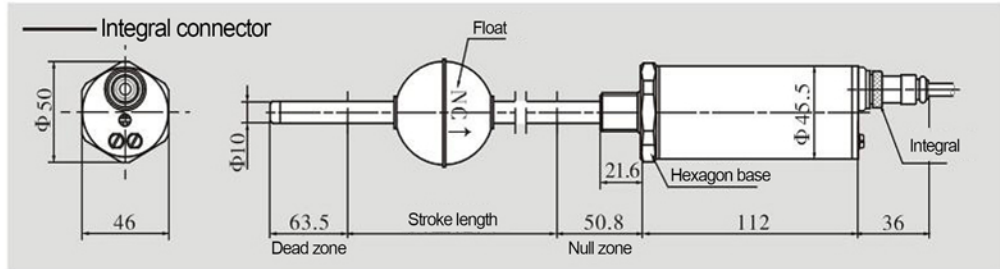
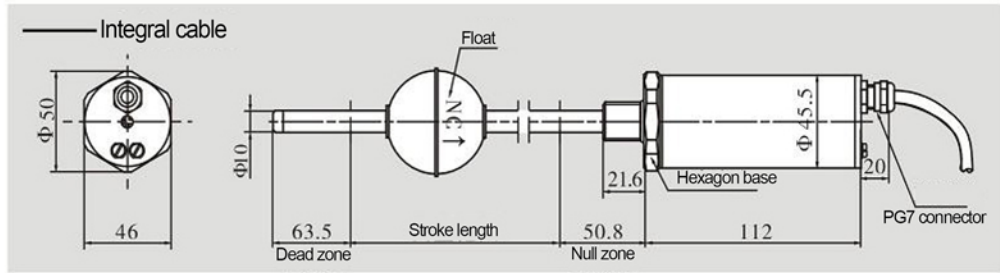
#### Note:

1. Sensor rod 10mm diameter for stroke length within 3 meter, 13mm for over 3 meters, 14mm for sensors with temperature measurement.
2. Electronic housing material: Aluminum for common type with integral cable and integral connector, stainless steel for terminal connector and flame-proof type.
3. Recommend A type electronic housing for over 3 meter stroke length.

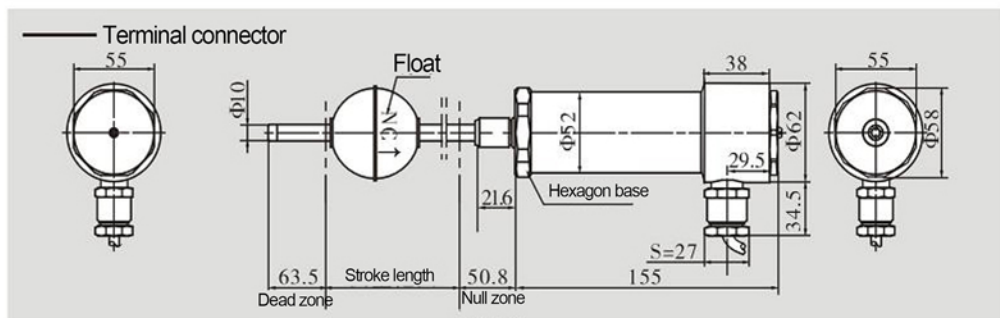
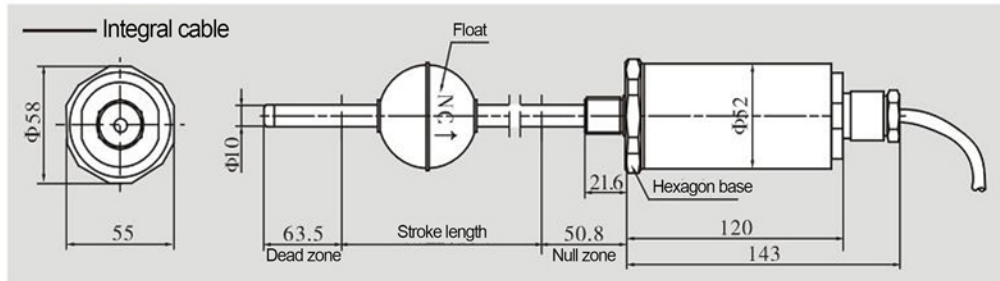


### B type electronic housing

#### Common



#### Flame-proof



#### Note:

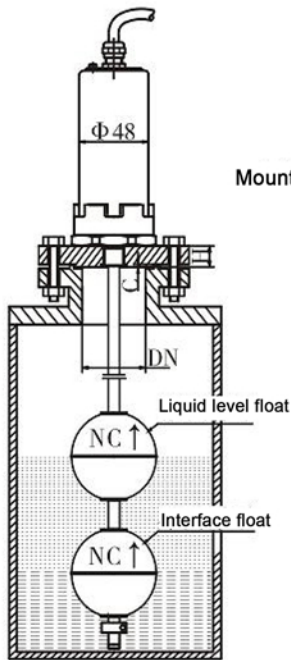
1. Sensor rod 10mm diameter for stroke length within 3 meter, 13mm for over 3 meters, 14mm for sensors with temperature measurement.
2. Electronic housing material: stainless steel.
3. Recommend B type electronic housing for harsh environment.



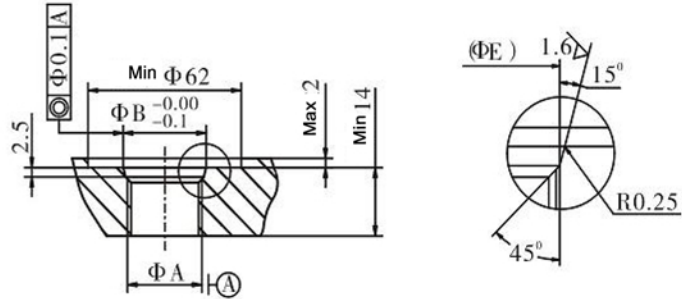


### Installation Rigid structure

#### Installation method A(Flange connection)



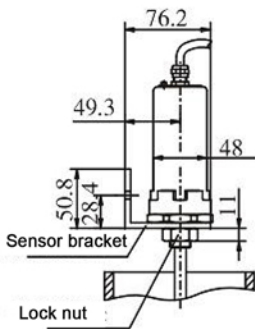
Mounting holes size ▶



Installation Dimensions

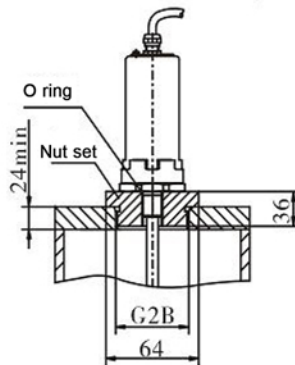
Code \ Size	A	B	C
M1	M18x1.5-6H	$\Phi 20_{-0.1}^0$	$\Phi 18.7$
M2	M20x1.5-6H	$\Phi 21.6_{-0.1}^0$	$\Phi 20.3$
M3	3/4-16UNF	$\Phi 20.3_{-0.1}^0$	$\Phi 19.3$

#### Installation method B(FK-1)



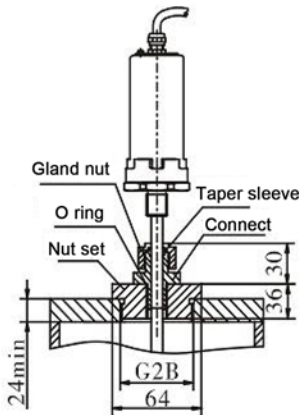
※ Suitable for open tank. May choose sensor bracket and lock nut provided by KangYu, fix the sensor at the required position.

#### Installation method C(FK-2)



※ Suitable for seal tank. Smaller hole size and convenient for dismounting.

#### Installation method D(FK-3)



※ Suitable for seal tank with height measurement adjustable.

Accessories list

Name	Number
Float	1*
Locking ring	1
Socket head cap screw	1
Hex key	1
— screwdriver	1

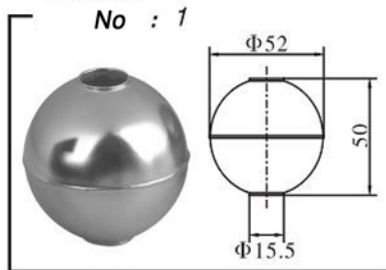
\*Note: The amount of float according to the actual product selection

Installation accessories list

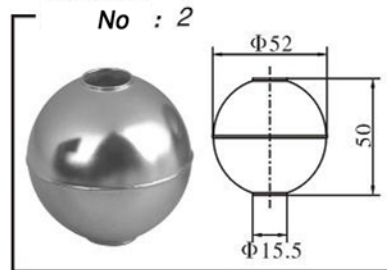
Name	Number		
	FK-1	FK-2	FK-3
Lock nut	1		
Sensor bracket	1		
Nut set		1	1
Connect			1
Taper sleeve			1
Gland nut			1



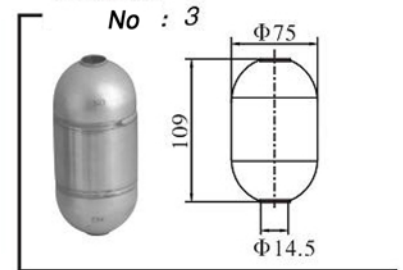
## Appendix-float list



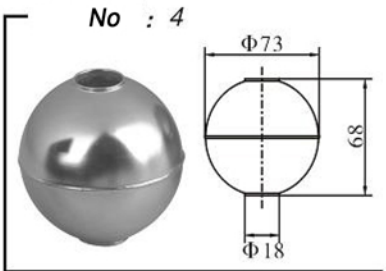
Material:316 stainless steel Density:0.6g/cm<sup>3</sup>  
Pressure:2.5MPa Blind area=55mm



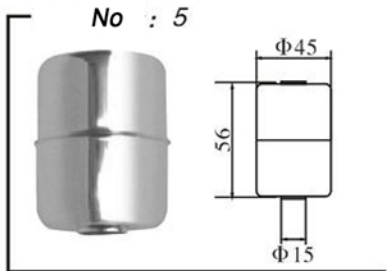
Material:316 stainless steel Density:0.80g/cm<sup>3</sup>  
Pressure:2.5MPa Blind area=55mm



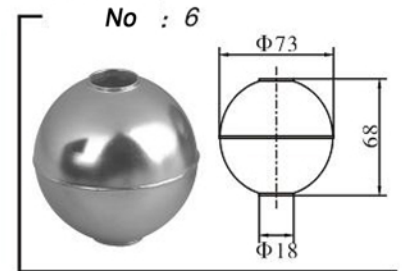
Material:316 stainless steel Density:0.44g/cm<sup>3</sup>  
Pressure:2.5MPa Blind area=100mm



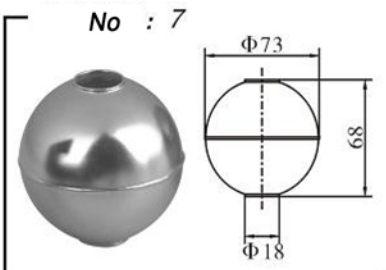
Material:316 stainless steel Density:0.70g/cm<sup>3</sup>  
Pressure:2.5MPa Blind area=63.5mm



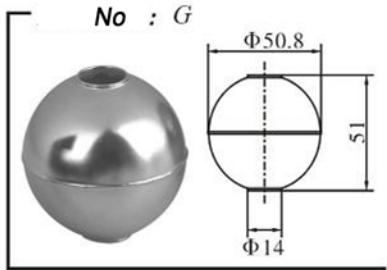
Material:316 stainless steel Density:0.57g/cm<sup>3</sup>  
Pressure:1.0MPa Blind area=58mm



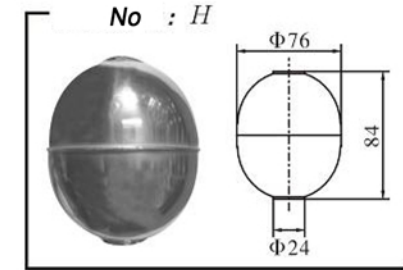
Material:316 stainless steel Density:0.91g/cm<sup>3</sup>  
Pressure:2.5MPa Blind area=63.5mm



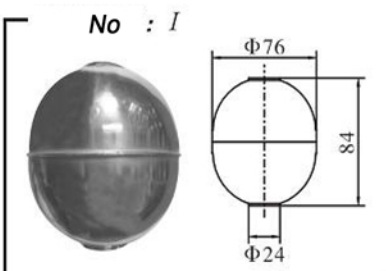
Material:316 stainless steel Density:1.05g/cm<sup>3</sup>  
Pressure:2.5MPa Blind area=63.5mm



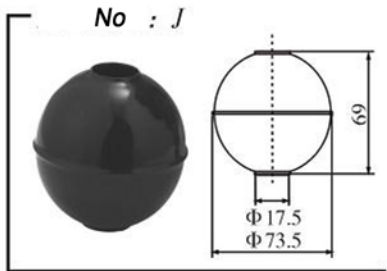
Material:316 stainless steel Density:0.66g/cm<sup>3</sup>  
Pressure:6.8MPa Blind area=50mm



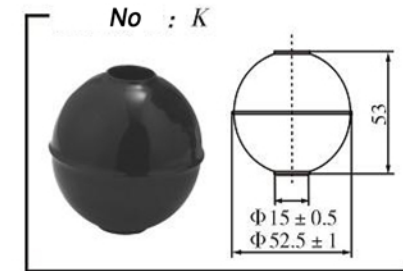
Material:316 stainless steel Density:0.7g/cm<sup>3</sup>  
Pressure:1.0MPa Blind area=60mm



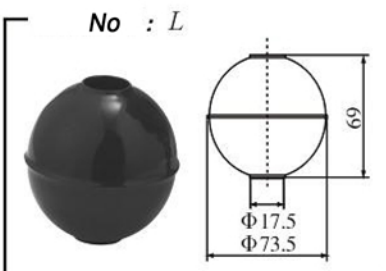
Material:316 stainless steel Density:0.91g/cm<sup>3</sup>  
Pressure:1.0MPa Blind area=60mm  
Note:Applicable to the oil-water interface



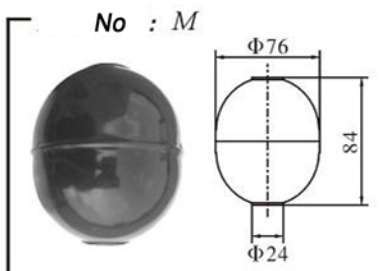
Material:The surface corrosion resistance of stainless steel  
Density:0.78g/cm<sup>3</sup> Pressure:2.5MPa  
Blind area=63.5mm Note:Applicable to strong corrosive



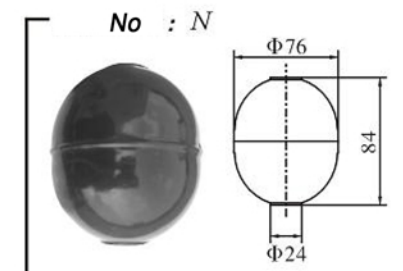
Material:The surface corrosion resistance of stainless steel  
Density:0.65g/cm<sup>3</sup> Pressure:2.5MPa  
Blind area=60mm Note:Applicable to strong corrosive



Material:The surface corrosion resistance of stainless steel  
Density:0.95g/cm<sup>3</sup> Pressure:2.5MPa  
Blind area=63.5mm Note:Applicable to strong corrosive



Material:The surface corrosion resistance of stainless steel  
Density:0.7g/cm<sup>3</sup> Pressure:1.0MPa  
Blind area=60mm Note:Applicable to strong corrosive



Material:The surface corrosion resistance of stainless steel  
Density:0.91g/cm<sup>3</sup> Pressure:1.0MPa  
Blind area=60mm Note:Applicable to strong corrosive