



KYDM-F for Mobile Base Stations

Description

Utilizing magnetostrictive technology, the magnetostrictive linear displacement transducer measures the distance from a predetermined point (Zero point) to the magnetic field produced by a movable permanent magnet. As the moving magnet's position is coupled by the magnetic field, the magnetostrictive linear displacement transducer requires no mechanical contact between parts that would cause friction and wear. The magnetostrictive linear displacement transducer provides an absolute output, therefore, no data is lost if power is interrupted. The magnetostrictive linear displacement transducer offers modular construction, flexible mounting configurations and easy installation.



Application:

Level detection for Mobile Base Stations

Features

- ◆ High stability and accuracy of 0.1% FS, fully meet customer 1 ~ 2mm accuracy requirement.,
- ◆ Match with the system instantly reflect the changes in the fuel tank level to address the needs of the customer point of greatest concern;
- ◆ can instantly make a control scheme based on customer requirements for the dead zone, the tracking service win customers' recognition;
- ◆ Easy for installation. Holing based on the flange specified size, fix the sensor with the flange cover on the tank when the tank is working;
- ◆ With adjustable device for different specifications of the tank, can be up and down to fine-tune, standardized product range.

Specifications:

Measured position	1 position
Outputs	4-20mA, ModBus
Measuring range	300~2000mm
Operating voltage	12VDC ±10%
Non-linearity	< ±0.05% F.S.or 100um max.
Repeatability	< ±0.002% F.S.
Resolution	16bitD/A, 1um
Temperature coefficient	< ±0.02% F.S./°C
Operating temperature	-20~+80 °C
Storage temperature	-40~+100 °C
Sealing	IP65
Operating Current	<70mA
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

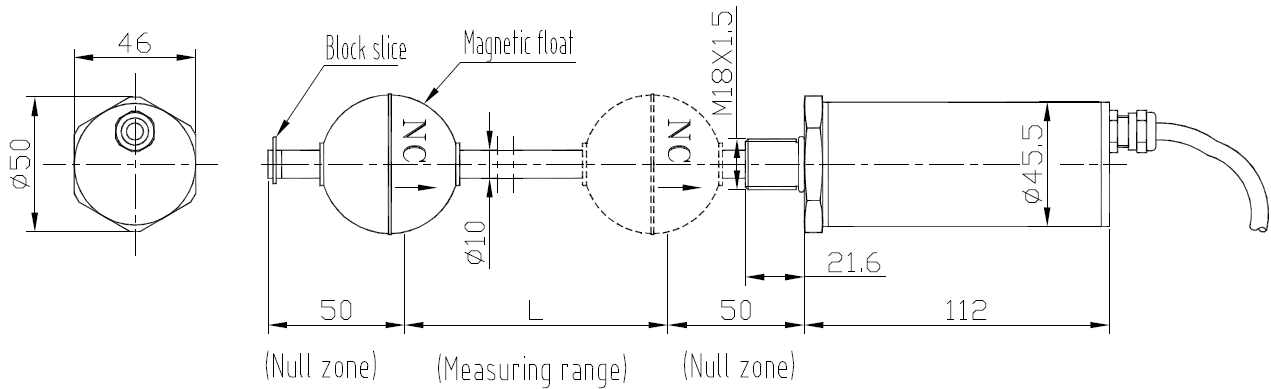


Cable	integral cable, mating connector, integral connector
Sealing	Housing:IP65,Probe IP68

Application Overview:

KYDM series of magnetostrictive linear displacement transducer using non-contact magnetostrictive principle, with durability, and widely be used in the Mobile Base Stations.

Product Dimension:



Packaging size: $\Phi 7.5\text{cm} * L$ ($L = \text{range} + 450\text{mm}$, integral cable)

$\Phi 7.5\text{cm} * L$ ($L = \text{range} + 300\text{mm}$, mating connector)

GW: 1kg

Net weight: 0.9kg

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Ordering Information

Option and Explain		Category			
KYDM-F	KYDM Magnetostrictive linear level transducer				
P	Common	Safety category			
G	Flame-proof				
B	Intrinsic safety				
1	24VDC(±10%)	Input voltage			
2	15VDC(±10%)				
3	±15VDC(±10%)				
4	Special (12VDC-24VDC)				
V_ _ _ _ (Voltage output)	[1][2]output 01=0---10v 05=0---5v 55=-5---+5v 11=-10---+10v	[3]Magnet 1=Single 2=Double	[4]Direction 0=Positive ⁽¹⁾ 1=Opposite ⁽²⁾	Output	electrical performance
A_ _ _ _ (Current output)	1][2]output 42=4---20mA	[3]Magnet 1=Single 2=Double	[4]Direction 0=Positive ⁽¹⁾ 1=Opposite ⁽²⁾		
M_ _ _ _ (Modbus RTU output)	[1]Baud rate 9=9600bps 4=4800bps 1=19200bps	[2]Magnet 1=Single 2=Double	[3]Temp point 0=Null 1-5 point 3= three		
G	Hard tube	structural features			
F	Anticorrosive				
R	Flexible				
A	A type of electronic housing*				
B	B type of electronic housing*				
X	Special				
_ _ _ _ M (MM)	Metric Unit-Range	Measuring Length			
1	Metric screw thread M18*1.5	Connection			physical Structure
2	Metric screw thread M20*1.5				
3	Inch screw thread 3/4-16UNF				
X	Special				
0	Null				
C	Cable	outlet			
J	Connection Terminator				
H	Connector				
N	High temperature cable				
0	Cable on top				
1	Cable on side				
-	0~9(Cable length)				
A	Mounting Kit FK-1	Mounting Kit			Attachment
B	Mounting Kit FK-2				
C	Mounting Kit FK-3				
W	Null				
- - -	[1]Level float [2]interface float [3] interface float	Float Type			

KYDM-F G 1 M910W G B 0100M 1 J 1 3 W 100

(1) 0 point near the end

*Refer to appendix

(2) 0 point near the top

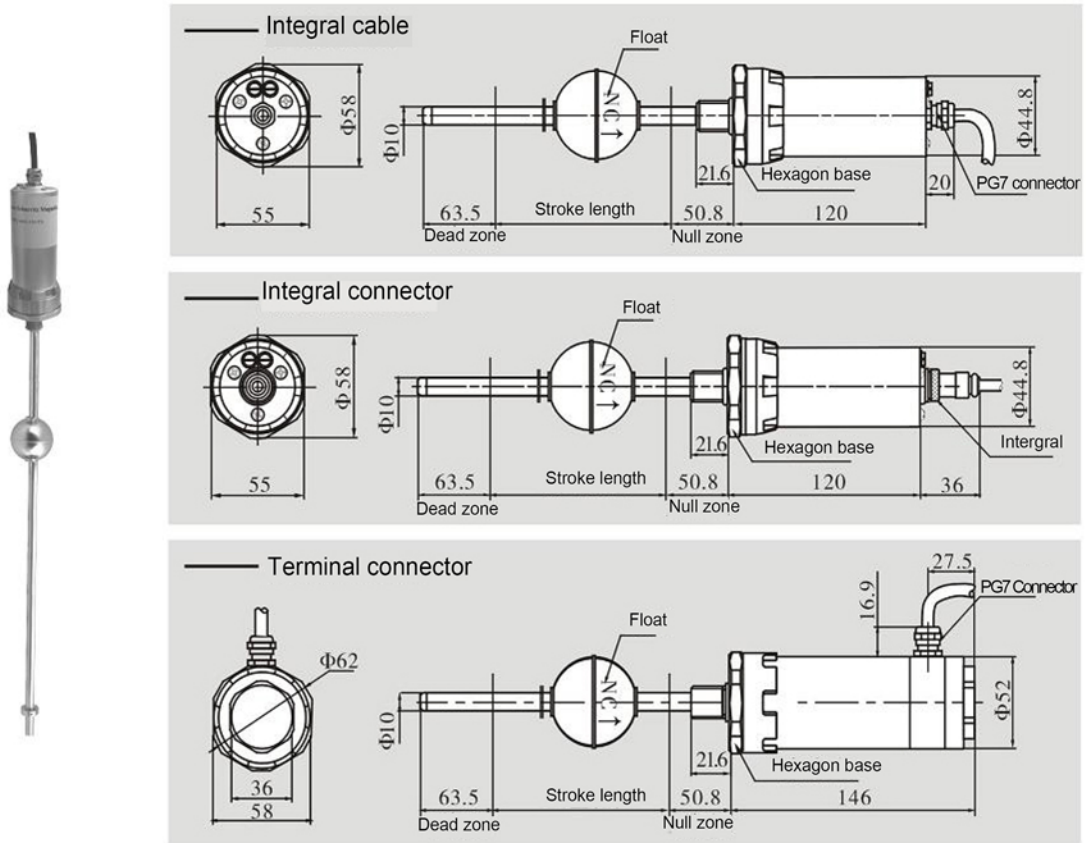
KYDM-FG1M910WGB0100M1J13W100 mean a sensor with:

Flame-proof ;Input Voltage:24VDC; Modbus output: 9600bps,1 magnet,No temperature point;Hard tube;B type of electronic housing;
rang:100mm;connection:Metric screw thread M18*1.5;outlet:Connection Terminator,Cable on side,Cable length:3m;
Mounting Kit:null;Float Type:level float

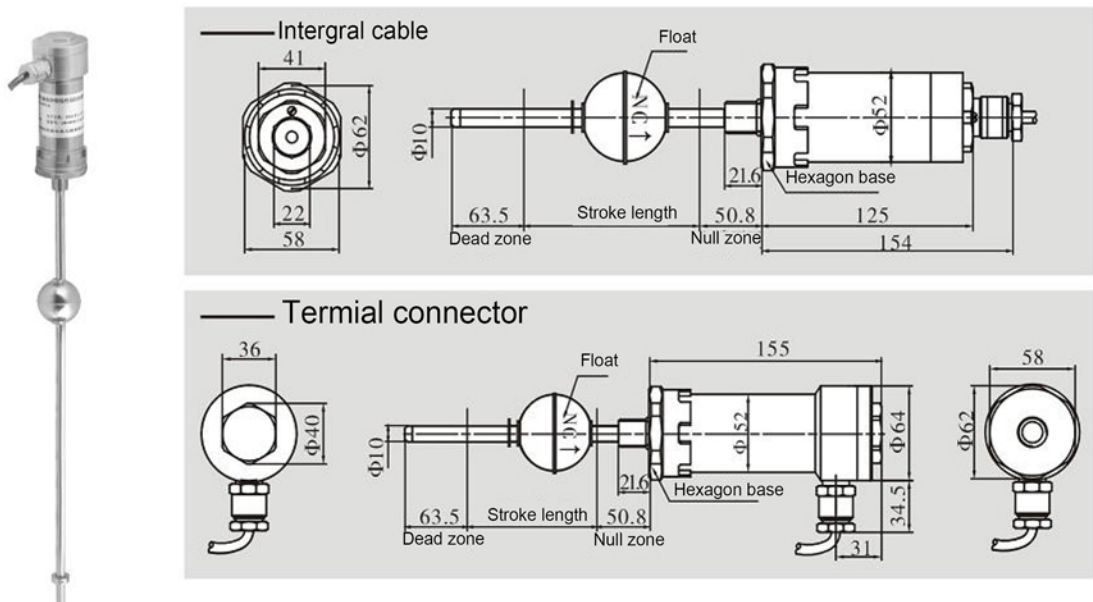


A type electronic housing

Common



Flame-proof



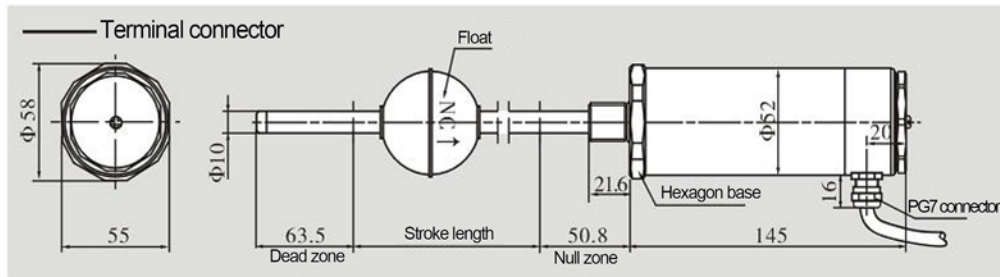
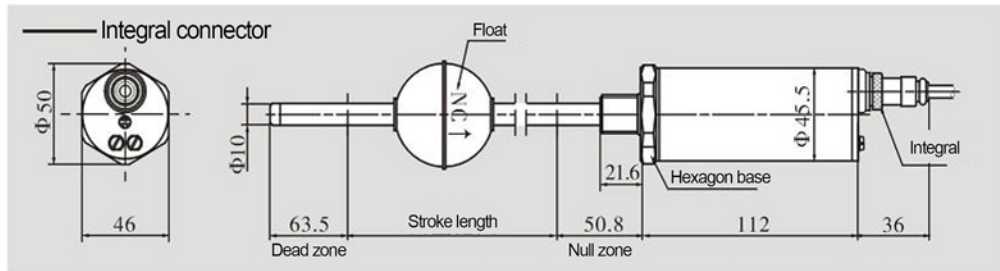
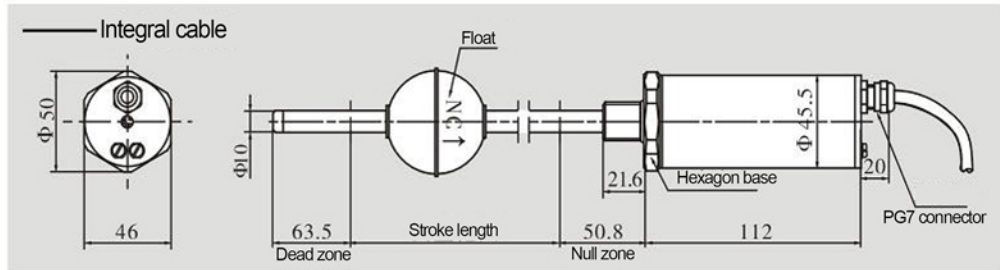
Note:

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.

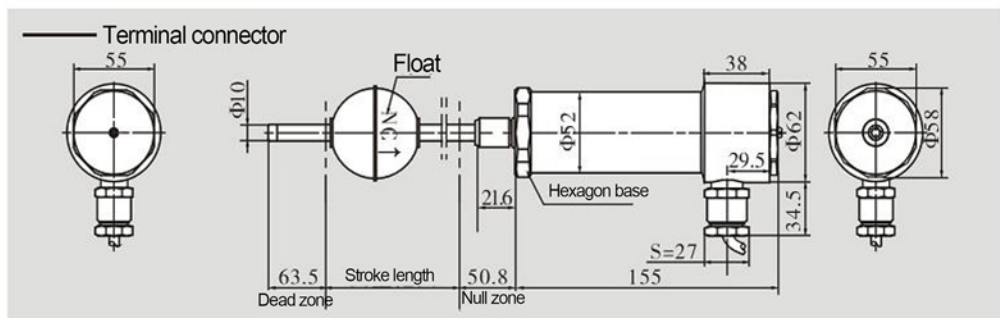
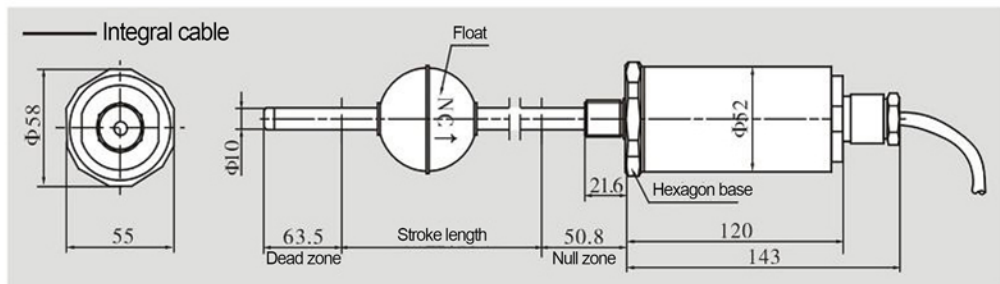


B type electronic housing

Common



Flame-proof



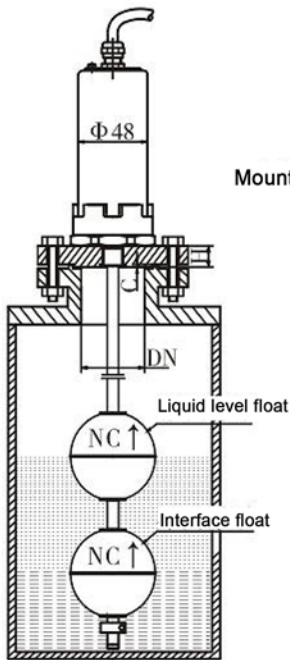
Note:

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.

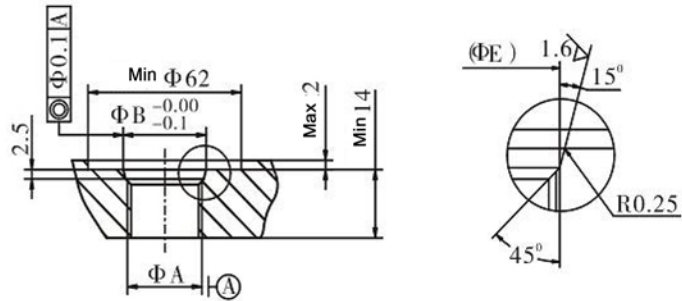


Installation Rigid structure

Installation method A(Flange connection)



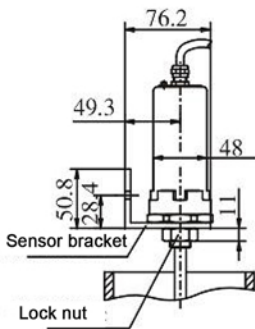
Mounting holes size ▶



Installation Dimensions

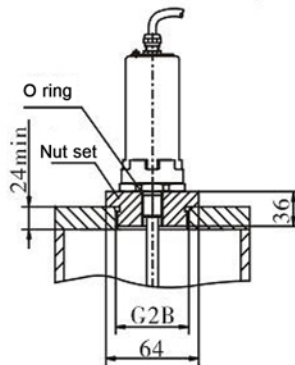
Code \ Size	A	B	C
M1	M18x1.5-6H	Φ20 ⁰ _{-0.1}	Φ18.7
M2	M20x1.5-6H	Φ21.6 ⁰ _{-0.1}	Φ20.3
M3	3/4-16UNF	Φ20.3 ⁰ _{-0.1}	Φ19.3

Installation method B(FK-1)



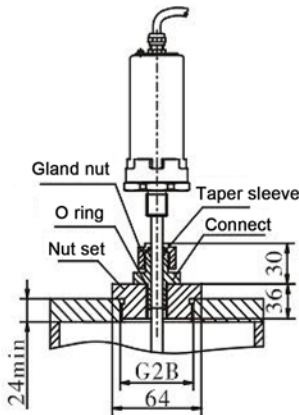
※ Suitable for open tank. May choose sensor bracket and lock nut provided by KangYu, fix the sensor at the required position.

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

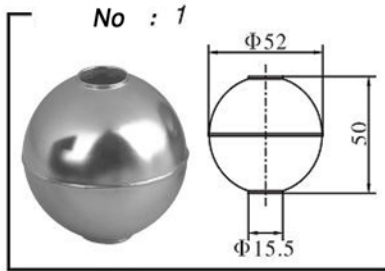
*Note: The amount of float according to the actual product selection

Installation accessories list

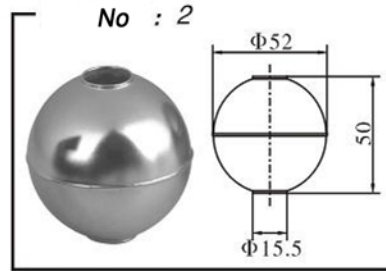
Name	Number		
	FK-1	FK-2	FK-3
Lock nut	1		
Sensor bracket	1		
Nut set		1	1
Connect			1
Taper sleeve			1
Gland nut			1



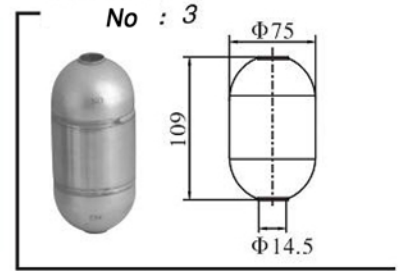
Appendix-float list



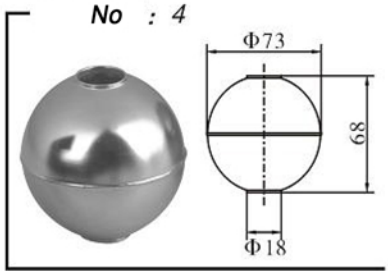
Material:316 stainless steel Density:0.6g/cm³
Pressure:2.5MPa Blind area=55mm



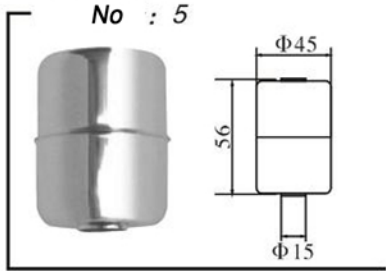
Material:316 stainless steel Density:0.80g/cm³
Pressure:2.5MPa Blind area=55mm



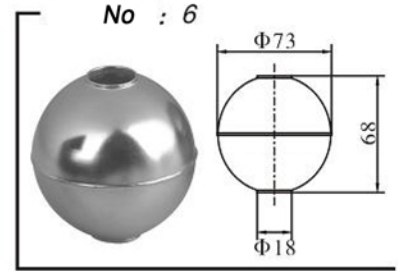
Material:316 stainless steel Density:0.44g/cm³
Pressure:2.5MPa Blind area=100mm



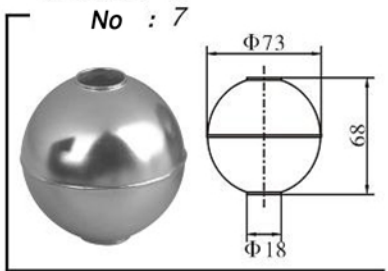
Material:316 stainless steel Density:0.70g/cm³
Pressure:2.5MPa Blind area=63.5mm



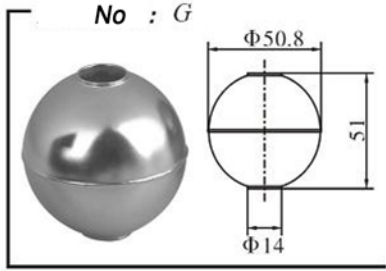
Material:316 stainless steel Density:0.57g/cm³
Pressure:1.0MPa Blind area=58mm



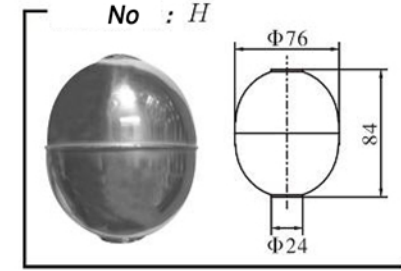
Material:316 stainless steel Density:0.91g/cm³
Pressure:2.5MPa Blind area=63.5mm



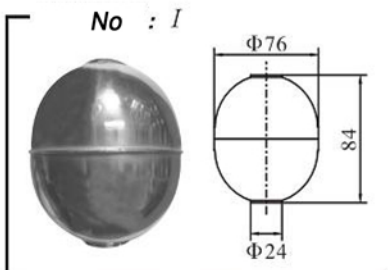
Material:316 stainless steel Density:1.05g/cm³
Pressure:2.5MPa Blind area=63.5mm



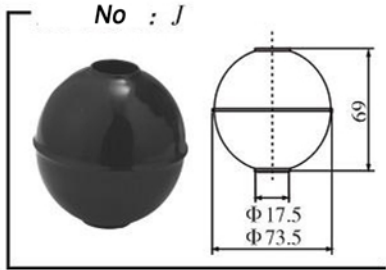
Material:316 stainless steel Density:0.66g/cm³
Pressure:6.8MPa Blind area=50mm



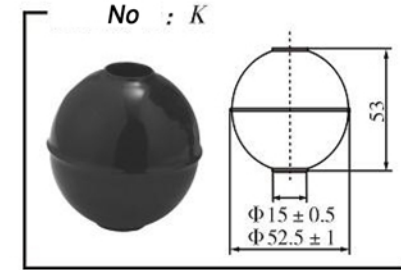
Material:316 stainless steel Density:0.7g/cm³
Pressure:1.0MPa Blind area=60mm



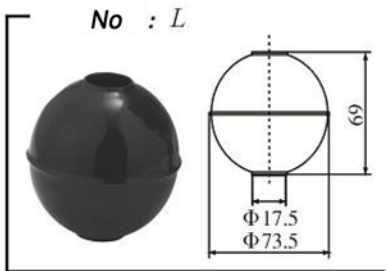
Material:316 stainless steel Density:0.91g/cm³
Pressure:1.0MPa Blind area=60mm
Note:Applicable to the oil-water interface



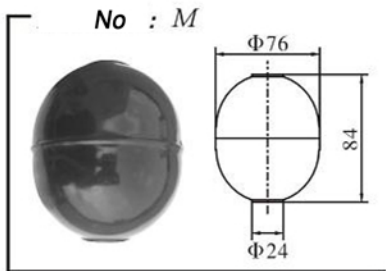
Material:The surface corrosion resistance of stainless steel
Density:0.78g/cm³ Pressure:2.5MPa
Blind area=63.5mm Note:Applicable to strong corrosive



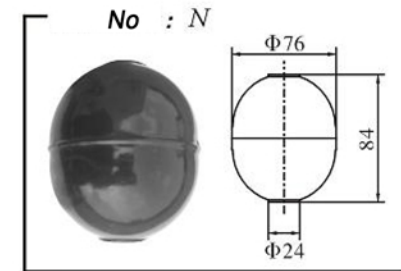
Material:The surface corrosion resistance of stainless steel
Density:0.65g/cm³ Pressure:2.5MPa
Blind area=60mm Note:Applicable to strong corrosive



Material:The surface corrosion resistance of stainless steel
Density:0.95g/cm³ Pressure:2.5MPa
Blind area=63.5mm Note:Applicable to strong corrosive



Material:The surface corrosion resistance of stainless steel
Density:0.7g/cm³ Pressure:1.0MPa
Blind area=60mm Note:Applicable to strong corrosive



Material:The surface corrosion resistance of stainless steel
Density:0.91g/cm³ Pressure:1.0MPa
Blind area=60mm Note:Applicable to strong corrosive