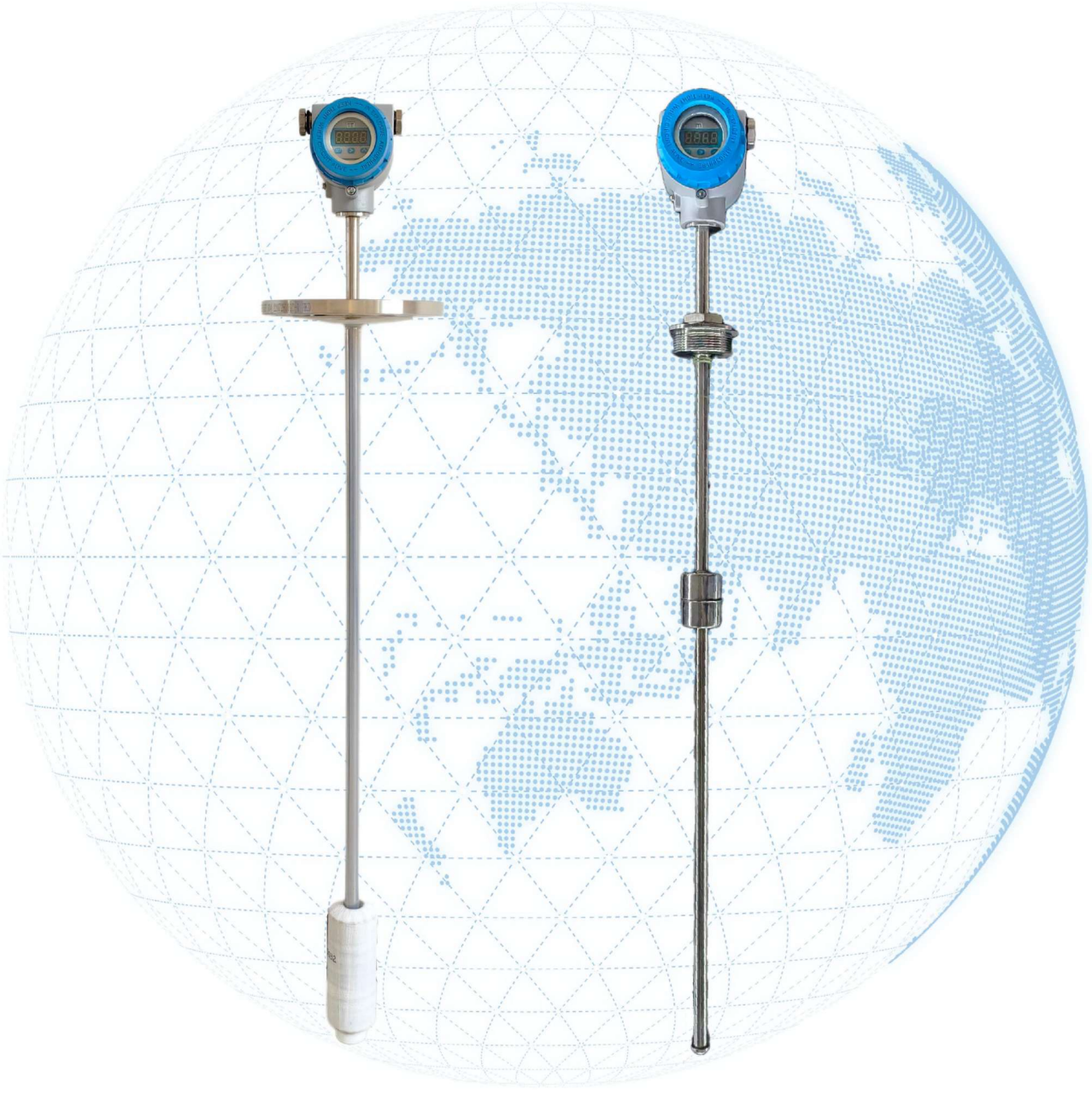
Product Manual | Magnetic Float Level Gauge



Working Principle:

Magnetic level sensor consists of reed, precise resistance and amplification transformation circuit and adopt imported advanced sensor components and signal transmitters. When the magnetic line of the magnetic float ball reaches a certain place of the level sensor, the reed closes, and the float ball changes with the height of level interface. The amplification transformation circuit converts the change of the interface height into linear 4~20mADC signal to realize the measurement and transmission of the level location signal.

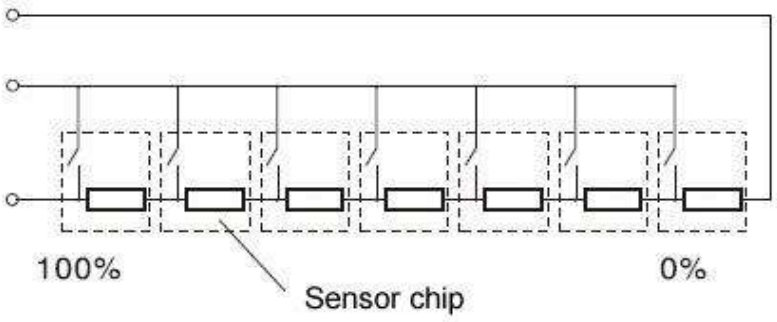
Features:

1. Simple structure, good stability and reliability.
2. Independent of medium's physical and chemical states such as conductivity, dielectric constants, foam etc.
3. Applicable for all kinds of medium environment such as corrosive, toxic and explosive one.
4. Interface measurement or level measurement of 2 kinds of medium with different density.
5. Explosive-proof design
6. Two-wire 4~20mADC signal output, 0.56" LED digital display.

Application:

UHC series magnetic flap liquid level gauge is widely used in petroleum, chemical industry, oil field, pharmaceuticals industry, food, wine industry etc.

The Circuit principle diagram:



Accuracy class:

Accuracy class: $\frac{\text{Resolution x 100}}{\text{Measuring range(mm)}}$ x %

Note:as the same resolution, the measuring range more wide,the accuracy will be more high.

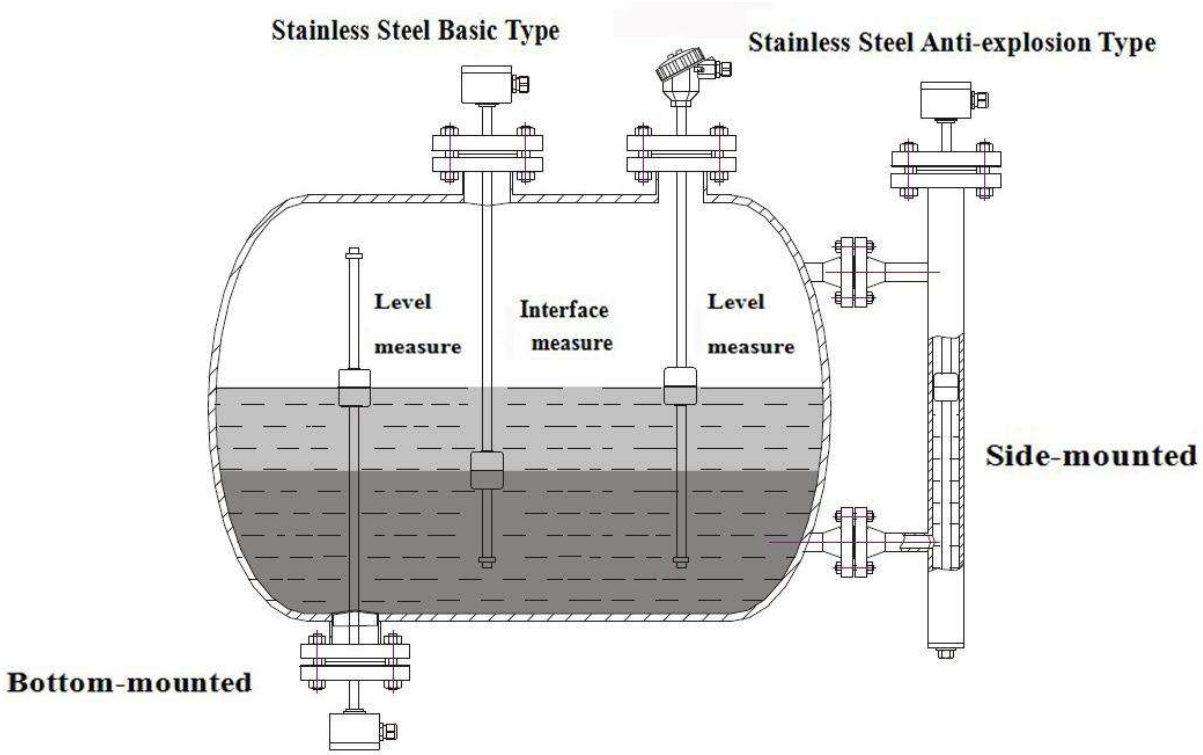
For example: resolution:10mm, measuring range:1000mm, accuracy:1%

resolution:10mm, measuring range:2000mm, accuracy:2%

Main Technical parameters:

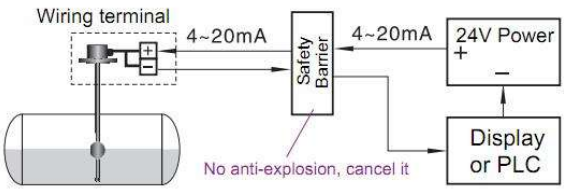
Measuring Range	200~6000mm(>6M customize)
Resolution Factor	10mm,5mm,20mm
Signal Output	4~20mA(two -line)
	200Ω/m(1/2", 3/8")
Loading Resistance	500Ω
Transmitting	＞1000m
Working Power Supply	16~30VDC
Density	≥0.5g/cm^3
Pressure	PN2.5~PN160(×0.1MPa)(Max pressure PN320)
Operating Temperature	-40 ~ 80 °C, ≤120 °C,≤150 °C
Float Ball Diameter	Φ30~Φ120（depending on pressure and density）
Flange Installation	DN40~DN150/RF/PL(HG/T20592~2009) customized
	2" thread (downward install)
	1/2" thread (upward install, resistance signal output)
	3/8" thread (upward install, resistance signal output)
Installation Angle	≤±25°
Electrical Connection	M20×1.5 female thread Three-lines screening cable
IP Grade	IP65
Explosion-Proof Grade	Exia II CT6Ga, EXd II CT6Gb

Magnetic Level Gauge（Sensor）Installation Sketch

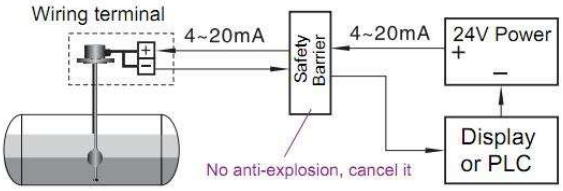


Application

Used for level Measurement

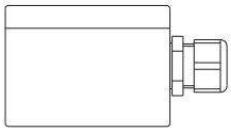


Used for interface Measurement



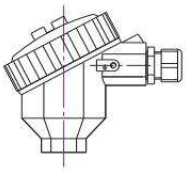
Form of Display

Without LED display



Without / Exia Ⅱ CT6Ga

Without LED display



Exia Ⅱ CT6Ga / Exd Ⅱ CT6Gb

LED display

LED display

Exia Ⅱ CT6Ga / Exd Ⅱ CT6Gb

LCD display + HART

Exia Ⅱ CT6Ga / Exd Ⅱ CT6Gb

How to order:

1. Installation type				
Flange	02(down)	04(up)	K	06
DN/sealing face	G" thread	G3/8" thread	Tri-Clamp	Bypass tube

2. Nominal pressure (*0.1MPa)								
Z	A	B	C	D	E	F	G	H
2.5	6	10	16	25	40	63	100	160

3. Rod material					
P1	P2	PP	T	F	X
SS304	SS316L	PP	Titanium	304+PTFE	Customization

4. Float ball material					
P1	P2	PP	T	F	X
SS304	SS316L	PP	Titanium	304+PTFE	Customization

5. Medium density
☐ - Liquid level measurement-indicate the density (g/cm^3)
☐/☐ - Interface measurement-indicate the density of 2 kinds of liquid (g/cm3)

6. Operating temperature		
L	H	J
≤80℃	≤120℃	≤150℃ (Special)

7. Installation depth L
☐ - Directly write the value from the process connection (If for thread connection, installation depth is the rod length, without thread)

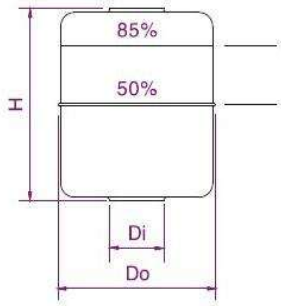
8. Resolution			
B10	B5	B20	T
10mm(normal)	5mm	20mm	Customization

9. Signal output/Display			
4	M2	M3	X
4~20mA	4~20mA (LED)	4~20mA+HART (LCD)	Customization

10. Explosion - proof		
N	i	e
N/A	Exia II CT6Ga	Exd II CT6Gb

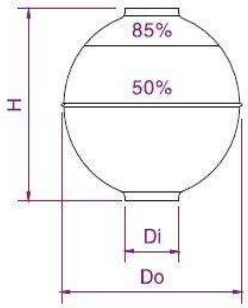
UHC-☐☐☐☐/☐☐☐☐/☐☐

Column Floater



The critical density, when floater is drowned by 85% The critical density(Maximum available density)
The standard density, when floater is drowned by 50%

Globular Floate



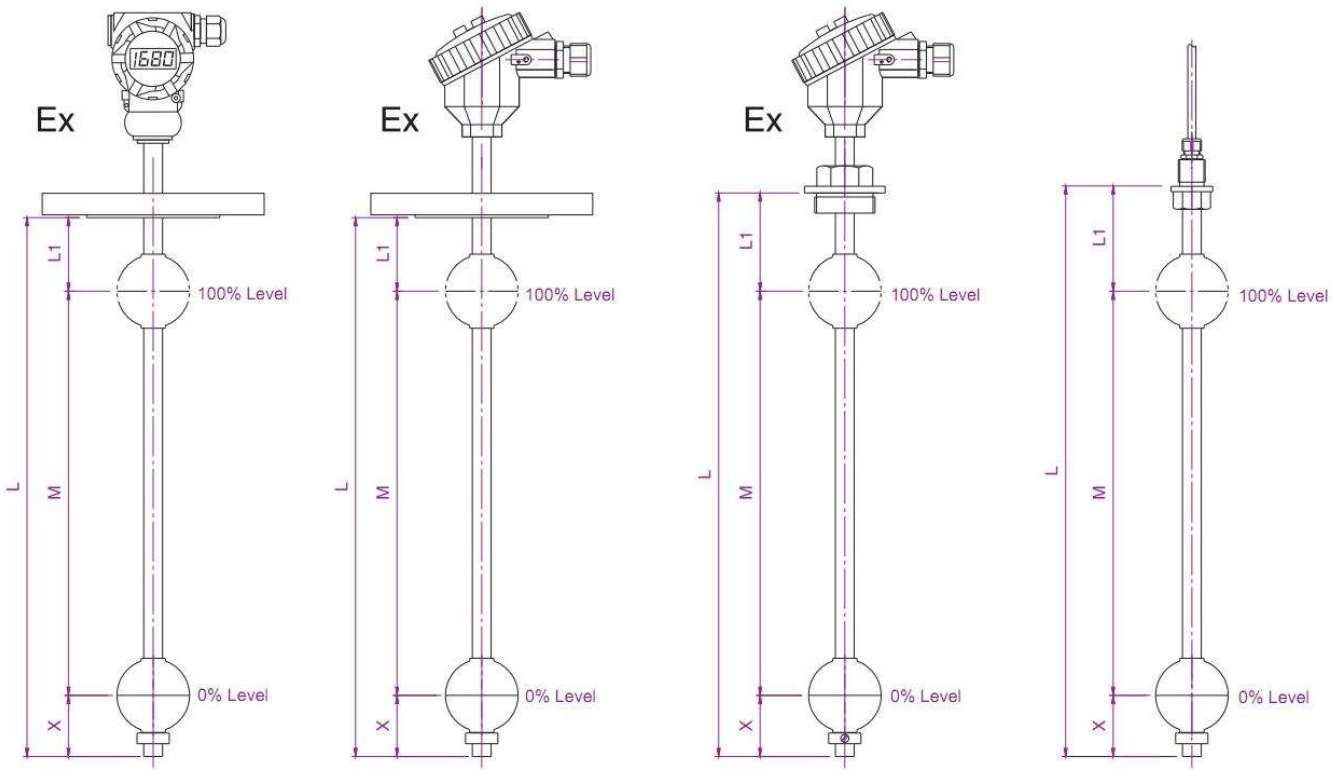
The critical density, when floater is drowned by 85% The critical density(Maximum available density)
The standard density, when floater is drowned by 50%

Float ball material	Float	Di (mm)	Do (mm)	H (mm)	Max operating pressure(PN)	Operating temperature (℃)	Standard density	Critical density g/cm³
1Cr18Ni9 Ti316L	V24	9	24	24	10-16	150	1.0	0.8
	V28	9	24	28	10-16	150	1.0	0.78
	V38	9	38	27	10-16	150	1.0	0.55
	V45	16	45	50	10-16	150	1.0	0.6
	V51	16	51	60	10-16	150	1.0	0.5
	V75	16	75	75	25	150	1.0	0.55
	V125	22	125	125	25	150	1.0	0.55
	V110	16	110	110-180	40-63	150	1.0	0.8
Titanium	T95	16-22	95	110-180	40-160	150	1.0	0.5
	T110	16-22	110	110-180	40-160	150	1.0	0.5
PTFE	F48	22	48	70-100	6-16	150	1.0	0.7
PP	P48	24.5	48	60-120	6-20	≤90	1.0	0.8
	P58	24.5	58	60-120	6-20	≤90	1.0	0.6
	P76	24.5	76	70-120	6-16	≤90	1.0	0.5

Note：1.Float bal can be customized. Acceptable when density of medium is less than 0.5g/cm3.

2. Titanium，PTFE，and PP material should be column float, the other is column or ball float.

3. The form is for indication only. Manufacturer can change the size and structure of the float ball depending on operating differential pressure and density.



Installation type	FlangeDN50~DN150 sealing face RF (HG/T20592-2009)		Thread G2" downward install	DIN Size≥DN50	Thread G1" G1/2" G3/8" Downward install
Pipe Diameter	20mm	14mm	20mm	14mm	14mm
Max depth	6000mm	3000mm	6000mm	3000mm	3000mm
Transmit Resolution	10mm(default), 20mm, 5mm				
Float ball type, Diameter	See Page 6 (according to operating pressure, density, installation)				
Operating temperature	304、304+PTFE: -40~120℃ PP: ≤80℃ PVC:≤60℃				
High temperature	≤150℃				
Medium density	≥0.5g/cm3				
Operating pressure	304、304+PTFE: ≤16MPa PP.PVC: ≤1.6MPa				
connection	M20×1.5 female thread			triple conductor(0.5m)	
Install angle	≤±25°				
IP grade	IP65				
Anti-Explosion grade	Exia II CT6Ga; Exd II CT6Gb				

Typical medium: dilute nitric acid,carbonic acid, Organic acid, Weak lye, saline water, Alcohols, aldehydes, ethers, methylbenzene, fuming sulfuric acid, water etc.

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& CONTROL INSTRUMENTS

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Manufacturer 2 : Chengdu City, Sichuan Province, China