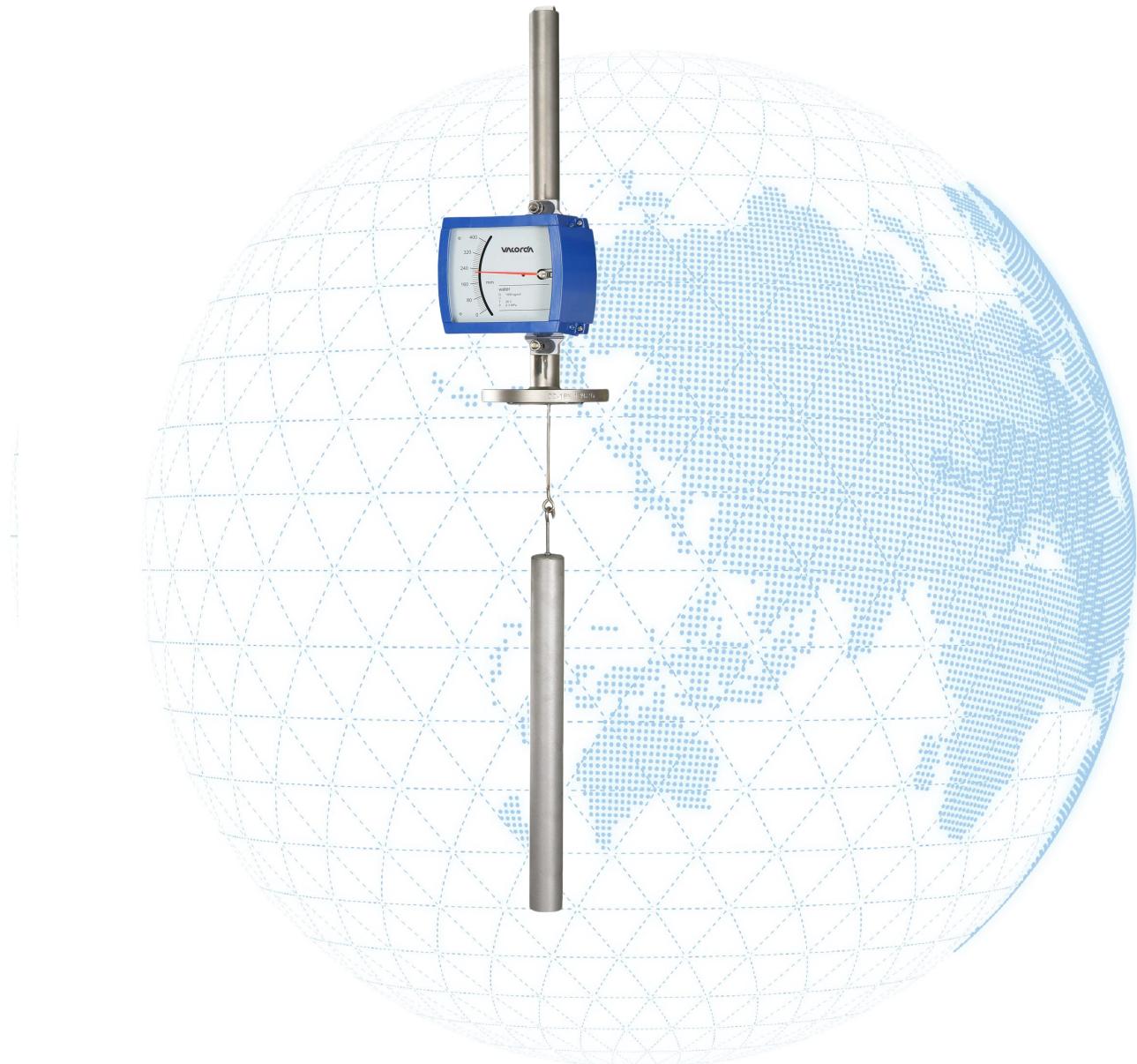


Product Manual | Electric Displacer Level Gauge



Working principle

HKD25 series electric displacer level gauge is designed and manufactured based on the principle of buoyancy and Hooke's law. The length of the displacer is equal to the measuring range. The measuring displacer is suspended on the measuring spring of the level gauge. When the measuring cylinder is immersed in the liquid to be measured, the cylinder is subject to the combined action of spring tension, buoyancy and gravity. A change in the level indicates a change in the level of the liquid. The displacement change is indicated by an indicator mounted on the outside of the body through a magnetic coupling method.

HKD25 series electric displacer level gauge adopts full metal structure, the indicator is completely isolated from the measured medium, which can be displayed on the spot, and it can also output 4-20mA/ADC two-wire signal, switch signal output, HART protocol.

Features

1. Simple structure, stable and reliable, low maintenance workload;
2. The liquid level indicator is completely isolated from the measured medium, which is safe and reliable;
3. Working pressure from -0.1 ~ 42MPa;
4. Working temperature from -160 ~ + 425°C
5. Suitable for high viscosity measurement: <500MPa.s
6. Housing material: Cast aluminum, SS304, SS316L
7. Multiple signal output: 4-20mA, switch signal, HART protocol.

Scope of application

HKD25 electric float level gauge is widely used in the liquid level, interface and liquid level measurement and process control of petroleum, chemical, metallurgy, power, food, pharmaceutical, paper and other industries.

Indicator function

When the displacement of the float changes with the liquid level through magnetic coupling detection, the liquid level is indicated by the pointer and the dial, and it can also be transmitted remotely through 4~20mA/ADC signal or 4~20mA/ADC+HART signal.

Features:

- ◆ Modular structure
- ◆ On-site direct indication of liquid level
- ◆ Can be used for high temperature environment measurement (option)
- ◆ Available with 4-20 mA electrical signal output (option)
- ◆ Available with HART communication protocol (option)

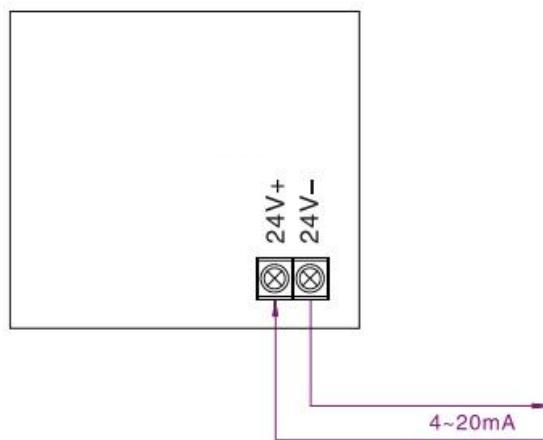
Non-explosion proof/ Exia type of indicator**Explosion-proof (Exd) indicator****Technical Parameters**

Measuring range:	300-6000 mm (or according to user requirements)
Measurement accuracy:	1.5, 2.0
Buoy material:	304, 316L, HC, Ti, etc.(Or customization)
Medium density:	$\geq 0.45\text{g/cm}^3$
Interface measurement:	The difference between the density of the two media is $\geq 0.1\text{g/cm}^3$
Medium temperature:	$\leq 80^\circ\text{C}$, $\leq 150^\circ\text{C}$, $\leq 250^\circ\text{C}$, $\leq 400^\circ\text{C}$
Medium pressure:	Standard type $\leq 4.0\text{ MPa}$ High pressure type $\leq 42\text{MPa}$
Pressure Grade:	standard type: DN40-DN50 / PN4.0MPa; DN80-DN100 / PN1.6MPa High pressure type: DN40-DN50 / PN10.0MPa Special type: according to user requirements
Process connection:	flange DN50, G1.5 "thread or according to user requirements
Output signal:	4 ~ 20mA/ADC (two-wire system)
Communication output:	HART, Modbus (RS485)
Alarm output:	upper and lower limit switch output Capacity: up to 400VAC 0.05A, 24VDC 0.2A
Working power:	15-35VDC, 220VAC Lithium battery 3.6V7.5HA, 220VAC
Ambient temperature:	$-20^\circ\text{C} \sim + 60^\circ\text{C}$
Display case material:	standard: Cast aluminum, 304, 316L for customization
Protection level:	IP65, IP67 (IP68 negotiated supply)
Explosion-proof grade:	Intrinsically safe Exia II CT6Ga Flameproof Exd II CT6Gb

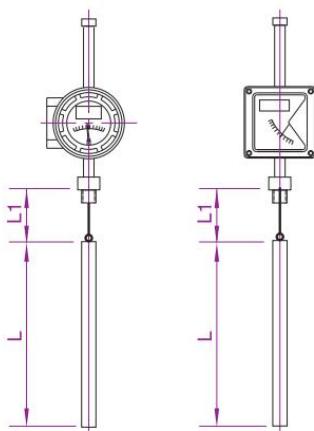
Outer tube process connection (optional):

Flange of bypass pipe connected to equipment: DN20

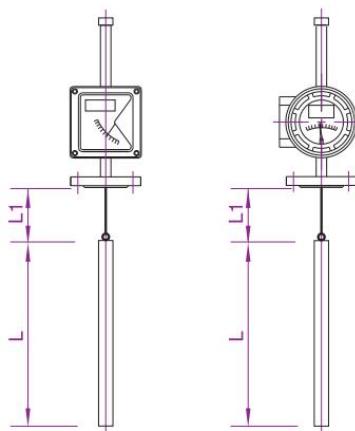
Instrument wiring



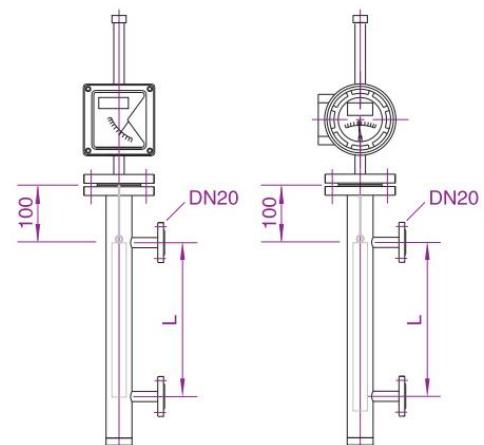
Overall structure size



Top Mounted: G1.5



Top Mounted: Flange



Bypass tube: Flange

How to order:

1. Indicator type						
Z - Local pointer	D - 4-20mA			H - 4-20mA+HART		
2. Measuring type						
Y - Liquid level measure			J - Interface level measure			
3. Wetted material						
P1	P2	PP	PV	T	F	X
SS304	SS316L	PP	PVC	Titanium	304+PTFE	Customization
4. Nominal pressure						
Z-2.5	A-6	B-10	C-16	D-25	E-40	F-63
H-160	O-50	P-110	Q-150	R-260	S-420	G-100
5. Process Connection (Connection Could Customize)						
DN/Sealing face/Flange	e.g. 20/RF/14 means DN20 RF sealing face welded flange					
Thread connection	e.g. 16/G1/2" means G1/2" female thread					
Pipe welding	17/25/4 means welded pipe, OD*, Wall thickness:25*3mm					
6. Operating temperature						
B- -190°C	C- -150°C	D- -70°C	E- -40°C	H-80°C		
I-150°C	J-250°C	K-350°C	T-425°C			
7. Medium density						
<input type="checkbox"/> - Liquid level measurement-indicate the density (g/cm ³)						
<input type="checkbox"/> / <input type="checkbox"/> - Interface measurement-indicate the density of 2 kinds of liquid (g/cm ³)						
8. C-C Distance						
<input type="checkbox"/> / Side mounted- Indicate the C-C distance (mm)						
<input type="checkbox"/> Top mounted- Indicate the insert length L1(mm)						
<input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> Rope type- Indicate L/L1/L2 distance (mm)						
9. Top and bottom structure of chamber						
<input type="checkbox"/> / <input type="checkbox"/> Upper and lower end structure						
10. Scale ruler						
<input type="checkbox"/>						
11. Level transmitter (Options)						
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/>						
12. Alarm switch (Options)						
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>						
HKD25- 1 2 3 4 5 6 7 / 8 / 9 10 11 12						



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