LEVEL MEASURING

WITH DISPLACER TRANSMITTER

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Introductions

The Displacer Level Transmitter (DLT) that made in Aramak Co. is a Hydraulics coupling type level indicating transmitter with smart data processing function.

The hydraulic coupling is a new innovation of displacement measurement that develop in ARAMAK company.

Displacement Level Transmitter is one of the most advanced level instruments based on displacer device.

The buoyancy principle has been well known for many decades as its high reliability and stability.

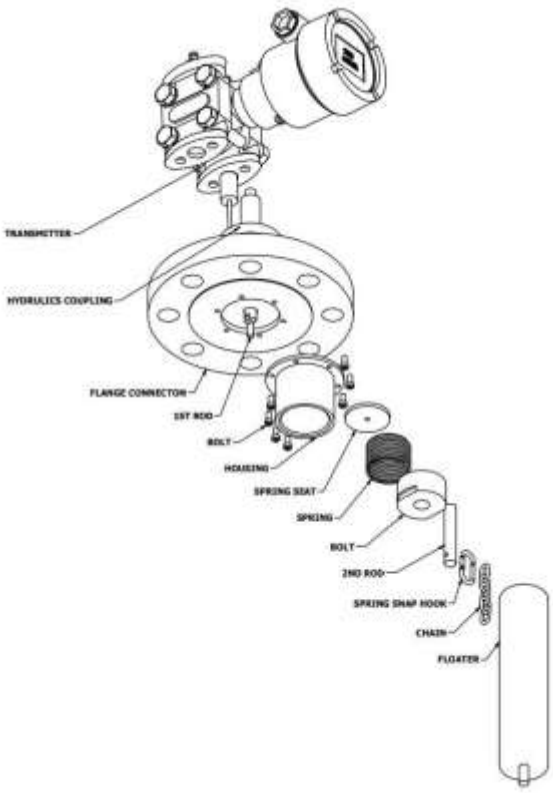
The buoyancy principle of Archimedes is applied into its operation.

The **DLT** Series can be configured parameter values and monitored the measured values by using PC or HART Communicator in Control Center were located far distance from site. It is also possible to be adjustment, operation, and control easily by using conventional remote keypad on site.

Applications

- Knock-out pots
- Condensate drums
- Separators
- Flash vessels
- Storage vessels
- Receiver tanks
- .....

Technical Data:



Output: 4–20 mA / HART / Loop Powered

Range: 300 to 3000 mm (to order)

Operating pressure: -0.6 to 200 bar

Specific gravity range: 0.5 to 1.5

Operating temperature: –20 to 200°C

Ambient temperature: –20 to 60 °C

Accuracy: < ±1.5% of output span

Repeatability: ±0.2% of output span

Linearity: 0.2% of output span

Resolution: 0.1% of output span

Hysteresis: 0.3% of output span

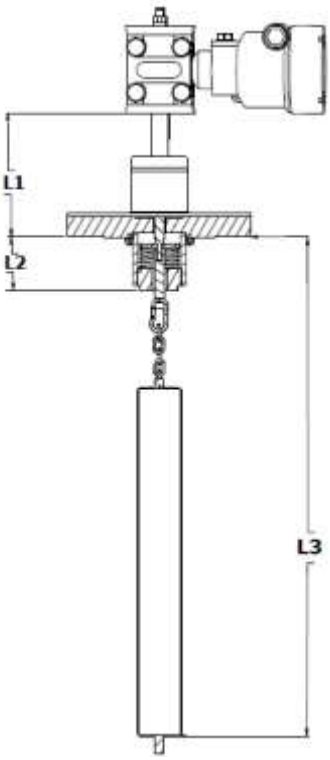
Ingress Protection: IP66/IP67

Approval/Certificate: ATEX Exia IIC T6 / Exd (for transmitter)

Materials of Construction:

The transmitter head is manufactured from cast aluminum with a paint finish of two-pack Epoxy paint suitable for off-shore/coastal use.

Wetted parts are made from stainless steel, including the element and hydraulic coupling, except for the spring which is manufactured from a specialist corrosion resistant spring material, chosen for its stability and repeatability under changing process conditions.



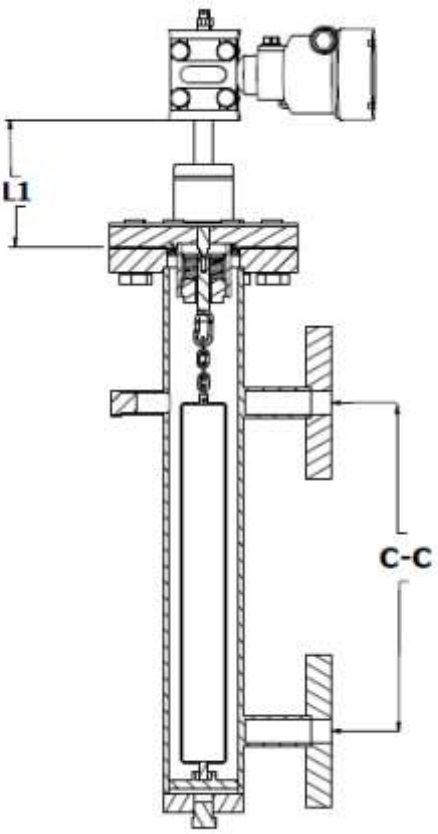
Option:

Wet ted part materials in Alloy C276 (UNS N10276), Alloy 625, (UNS N06625), and others on request

External Chamber :

The material used is either as specified on the order or selected by Aramak to suit the application. Only certified materials are used, and welding is qualified to ASME IX, and EN ISO 15614-1.

All pressure retaining parts are hydrostatically pressure tested to a minimum of 1.5 times working pressures. NDT including radiography and dye penetrant testing is available when specified at time of ordering. Inspection by customers or their appointed agents is welcome provided that this is requested at time of ordering.



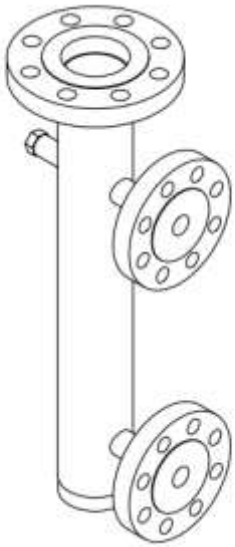
The common material /size is :

- 3”or 4” A106 pipe (depending of float size)
- Top flanged is A105, 3 or 4 inch according to chamber pipe
- Process connection: ½” to 4” (FF, RTJ, RF)
- Pressure rating: 150# to 1500# (PN20 to PN160)

Option:

- Wet side materials in Stainless Steel 316/304 , Titanium, Alloy C276 (UNS N10276), Alloy 625, (UNS N06625), Monel 400 and others on request
- Vent/Drain is applicable

The C-C length and process connection according to related datasheet



Mounting type:

Side Mounted Level Transmitter

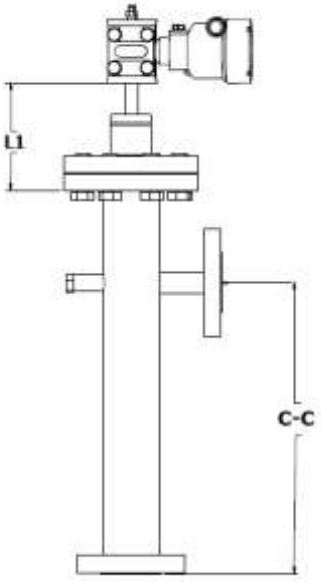
- All construction in house by code certified welders
- Float designed and weighted for maximum accuracy
- Transmitter and switch which installed, adjusted and maintained
- Safe for corrosive, flammable, toxic, high-temperature and high- pressure applications
- Rugged design- low maintenance

Top Mount Magnetic Level Gauge

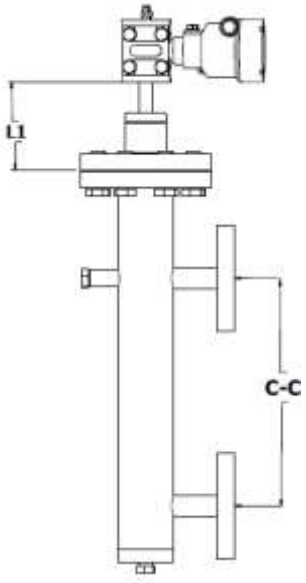
- Magnets above float connected with chain
- Slug catcher level
- Optional stilling wells
- Total or interface level measurement
- Underground tanks and sumps

Heat Traced and High Temperature Insulation Magnetic Level Gauge

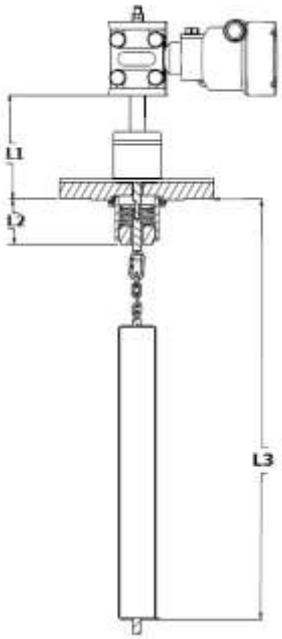
- Electrical or steam heat tracing
- Removable insulation



Side-Bottom



Side-Side



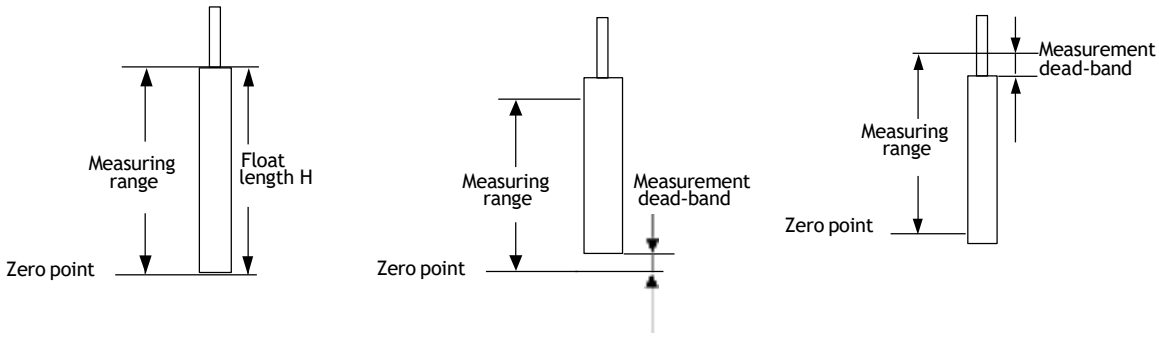
Top mount

Attention in usage

Aramak standard Displacement type level transmitter measurement range is set equivalent to float length H.

Therefore, it will be unsuitable when detecting the levels around 0 % or 100 % (at normal operation), or when continuous output of 4 mA or less or 20 mA or more is needed.

When conducting the actual liquid adjustment (filling adjustment) after installing the displacement type level transmitter at the job site, be sure to set the float bottom to zero point (reference point at 0 % liquid level). Structurally, if the measurement fluid is not in contact with float, output will not change. If other than the float bottom is set to zero point (reference point at 0 % liquid level), it may cause the measurement dead-band at the measurement range of lower limit (or upper limit), or may cause output linearity error.



Order Information

DLT	XX	XX	XXXX	XX	XXX	XX	XX	XXX	XXX	XX	XXX	XXX	XXX
Design													
Float Top mount (without Chamber)	TM1												
Float Side Mount (with External Chamber)	SM1												
Mounting (for SM Type)													
Side-Side		SS											
Side-Bottom		SB											
Top Mount		TM											
Center to Center or Prob Length (mm)													
….. (mm, inside Diameter)			XXXX										
Chamber Process Connection:													
1”				I1									
1 ½”				I2									
2”				I3									
3"				I4									
4”				I5									
Option				I6									
Operating Fluid Density (kg/m3)													
….. (Kg/m3)					XXX								
Chamber Connection Rating													
ANSI Class 150						A1							
ANSI Class 300						A2							
ANSI Class 600						A3							
ANSI Class 900						A4							
ANSI Class 1500						A5							
ANSI Class 2500						A6							
PN 10						P1							
PN 16						P2							
PN 25						P3							
PN 40						P4							
PN 63						P5							
PN 100						P6							
PN 160						P7							
NPT-Female						T1							
NPT-Male						T2							
G-Male						T3							
G-Female						T4							
Not Applicable						T5							
Chamber or Wetted Part Material													
Not Applicable							I0						
316 / 316L stainless							I1						
Titanium							I2						
Alloy C276							I3						
Inconel							I4						
Monel 400							I5						
Other							P6						

Order Information

Float Material							
	316/316L stainless	I1					
	304/304L stainless	I2					
	Titanium	P2					
	Other	P6					
Transmitter							
	4-20 mA HART + M20*1.5 Gland		E1				
	4-20 mA HART Exia + M20*1.5 Gland		E2				
	4-20 mA HART Ex D + M20*1.5 Gland		E3				
	Field Bus		E4				
	4-20 mA HART (High Temp.)		E5				
	4-20 mA HART Exia (High Temp.)		E6				
	4-20 mA HART Ex D (High Temp.)		E7				
	Field Bus (High temp.)		E8				
	Other		E9				
Drain for chamber							
	Not Applicable			S2			
	1/2" NPT-F + Plug			S3			
	3/4" NPT-F + Plug			S4			
	1" Flanged (For Side-Side)			S5			
	Other			O1			
Isolating Valve							
	Not Applicable				0		
	Gate Valve Stainless Steel				BC		
	Ball Valve Stainless Steel				BS		
	Other				O1		
Certification							
	Material Certificates					C0	
	Material NACE MR0175					C1	
	Material NACE MR0103					C2	
	Internal Pressure Test					C3	
	Others					C7	
Added requirements							
	Manufactured to customer drawing						DW
	Heated or Cooling Jacket						HJ
	Electrical Heat Trace						ET
	Others						OT

Contact us

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