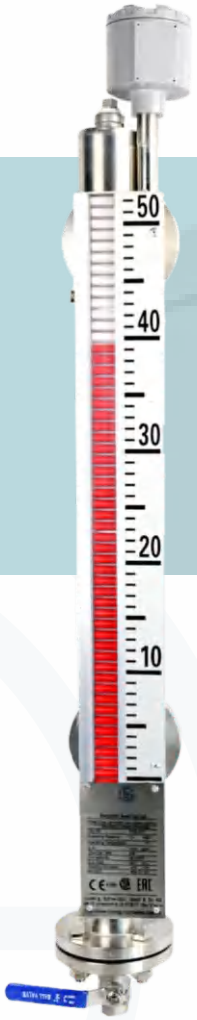
The selection is detailed on page 12



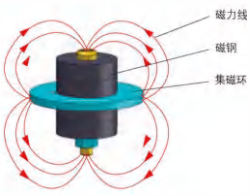
LSM10

Magnetic Column Level Meter

Principle of operation

The bypass cavity is installed on the side of the tank body, and the liquid level float introduced into the tank body at the same height floats on the liquid level after communication.

The magnetic display body is installed on the surface of the bypass cavity, and turns over with the position of the built-in magnetic steel in the floating ball, and the switch and sensor are also triggered by the built-in magnetic steel in the floating ball.



Product description

LSM series magnetic column level meter consists of bypass cavity, float and magnetic display. The bypass cavity is connected to the tank body through at least two process interfaces (flanges, threads or welding ends), and the same height is introduced into the liquid level in the tank body.

The float is located in the cavity and floats on the liquid level. The permanent magnet is built in the float, and the magnetic field can pass through the wall of the bypass cavity to trigger the magnetic display installed outside the bypass cavity to turn over, thus realizing non-contact liquid level height indication.

The magnetic display is composed of bicolor plastic turnover columns or stainless steel turnover plates, each of which is closely arranged at 10 mm. After being triggered by the magnetic steel in the float, the built-in small magnetic columns turn over 180 degrees in turn, changing from white to red when the liquid level rises and from red to white when the liquid level falls.

Functional performance

Can provide customized design for process and system requirements.

Working conditions:

-Operating temperature: t =-200 ...+450℃

-operating pressure: P = vacuum to 10.0mpa.

-medium density: ρ≥200 kg/m3

Different process connections and materials are available.

Optional liquid level transmitter and magnetic switch.

Explosion-proof design

Product application

Column display, no need for external power supply.

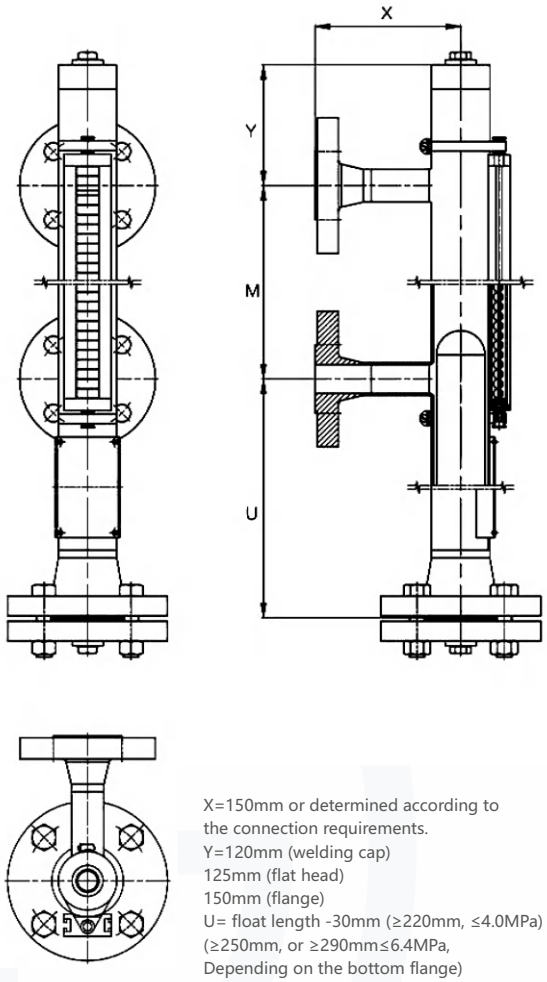
Year-on-year display level

Customized design and corrosion-resistant materials are optional, which can be used in a wide range of industrial fields, such as chemistry, petrochemical industry and oil and gas drilling.

Water treatment, food industry and pharmacy in process industry and drinking water industry.

Basic LSM10-A of magnetic column level gauge

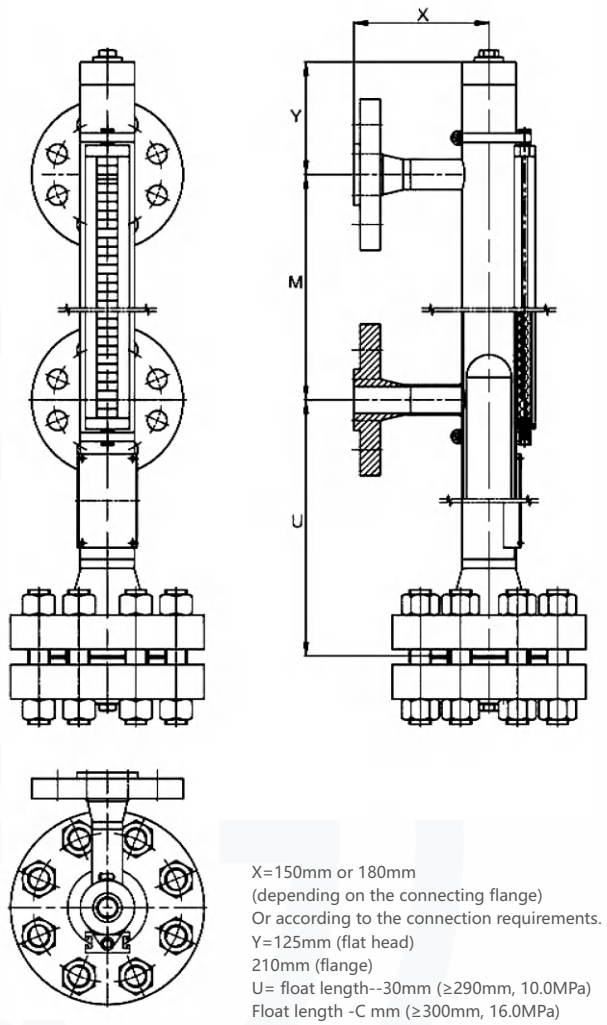
Parameter	
shunt valve	φ60.3x2mm, max. 4.0MPa
	Φ φ60.3x2.6mm, max. 6.4MPa
	φ60.3x2.77mm, max. 6.4MPa
Top of bypass pipe	Welding cap (≤2.5MPa)
	Flat head with BSP 1/2 "vent plug (> >2.5MPa)
	flange
	air vent valve
	Ventilation flange
Bottom of bypass pipe	Flange with BSP 1/2 drain plug
	blow-down valve
	Blowdown flange
procedure linkage	Side Connection, Qty 2
	Flanges: HG/T 20592, DN10-DN100, PN6-PN63.
	HG/T 20615, 1/2"-4"class150-class600
	EN 1092-1, DN10-DN100, PN6-PN63
	ANSI B16.5, 1/2"-4"class150-class600
	Welded end: 1/2"-1 "
	External thread: G/NPT 1/2"-1 "
	Internal thread: G/NPT 1/2"-1 "
center distance	150mm~6000mm (larger size can be customized according to requirements)
Main material	304/316L/316Ti/ double standard 316/316L
Rated pressure	Maximum 6.4MPa
medium temperature	-200℃~+450℃
float	fundamental form
	Pressure-resistant type
Magnetic display body	Standard type (-50~+200℃)
	High temperature type (-200~+450℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
Magnetic switch	Magnetic switch



X=150mm or determined according to the connection requirements.
Y=120mm (welding cap)
125mm (flat head)
150mm (flange)
U= float length -30mm (≥220mm, ≤4.0MPa)
(≥250mm, or ≥290mm≤6.4MPa,
Depending on the bottom flange)

Magnetic column level meter high pressure LSM10-B

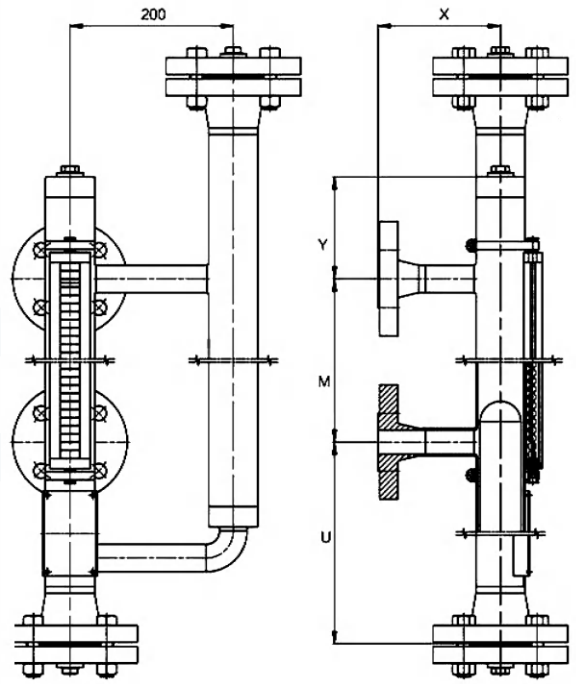
Parameter	
shunt valve	φ65x3.5mm, max. 10.0MPa
	φ69x6mm, max. 10.0MPa
	Φ φ60.3x3.91mm, maximum 10.0MPa.
	Φ 665 x 3.5 mm, maximum 10.0MPa.
	φ69x6mm, max. 10.0MPa
	Φ φ60.3x3.91mm, maximum 10.0MPa.
Top of bypass pipe	Flat head with BSP 1/2 "vent plug (> > 2.5MPa)
	flange
	air vent valve
	Ventilation flange
Bottom of bypass pipe	Flange with BSP 1/2 drain plug
	blow-down valve
	Blowdown flange
procedure linkage	Side Connection, Qty 2
	Flanges: Hg/T 20592, DN15-DN100, PN63-PN400.
	HG/T 20615, 1/2"-4"class600-class2500
	EN 1092-1, DN10-DN100, PN63-PN400
	ANSI B16.5, 1/2"-4"class600-class2500
	Welded end: 1/2"-1 "
	External thread: G/NPT 1/2"-1 "
	Internal thread: G/NPT 1/2"-1 "
center distance	150mm~6000mm (larger size can be customized according to requirements)
Main material	304/316L/316Ti
Rated pressure	Maximum 10.0MPa
Medium temperature	-200℃~+450℃
float	Pressure-resistant type
	Ball float
	Solid float
Magnetic display body	Standard type (-50~+200℃)
	High temperature type (-200~+450℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
Magnetic switch	Magnetic switch



X=150mm or 180mm
(depending on the connecting flange)
Or according to the connection requirements.
Y=125mm (flat head)
210mm (flange)
U= float length--30mm (≥290mm, 10.0MPa)
Float length -C mm (≥300mm, 16.0MPa)
C≤45mm)

Double-cavity LSM10-C magnetic column level gauge

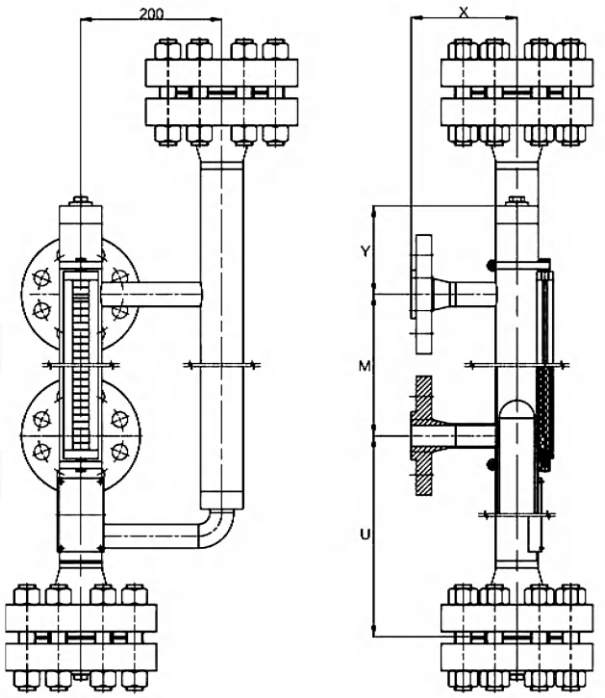
Parameter	
shunt valve	φ60.3x2mm, max. 4.0MPa
	Φ φ60.3x2.6mm, max. 6.4MPa
	φ60.3x2.77mm, max. 6.4MPa
Top of bypass pipe	Welding cap (≤2.5MPa)
	Flat head with BSP 1/2 "vent plug (> >2.5MPa)
	flange
	air vent valve
	Ventilation flange
Bottom of bypass pipe	Flange with BSP 1/2 drain plug
	blow-down valve
	Blowdown flange
procedure linkage	Side Connection, Qty 2
	Flanges: HG/T 20592, DN10-DN100, PN6-PN63.
	HG/T 20615, 1/2"-4"class150-class600
	EN 1092-1, DN10-DN100, PN6-PN63
	ANSI B16.5, 1/2"-4"class150-class600
	Welded end: 1/2"-1 "
	External thread: G/NPT 1/2"-1 "
	Internal thread: G/NPT 1/2"-1 "
Top connection	Flanges: HG/T 20592, DN50-DN100, PN6-PN63.
Extended sensor	HG/T 20615, 2"-4"class150-class600
	EN 1092-1, DN50-DN100, PN6-PN63
	ANSI B16.5, 2"-4"class150-class600
	Flat head with internal thread: G/NPT 1/2"-1 "
center distance	150mm~6000mm (larger size can be customized according to requirements)
Main material	304/316L/316Ti/ double standard 316/316L
Rated pressure	Maximum 6.4MPa
medium temperature	-200℃~+450℃
float	fundamental form
	Pressure-resistant type
Magnetic display body	Standard type (-50~+200℃)
	High temperature type (-200~+450℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
	Guided wave radar level meter
Magnetic switch	Magnetic switch



X=150mm or determined according to the connection requirements.
Y=120mm (welding cap)
125mm (flat head)
150mm (flange)
U= float length -30mm (≥220mm, ≤4.0MPa)
(≥260mm, or ≥290mm≤6.4MPa,
Depending on the bottom flange)

Magnetic column level gauge LSM10-D with high pressure and double cavity

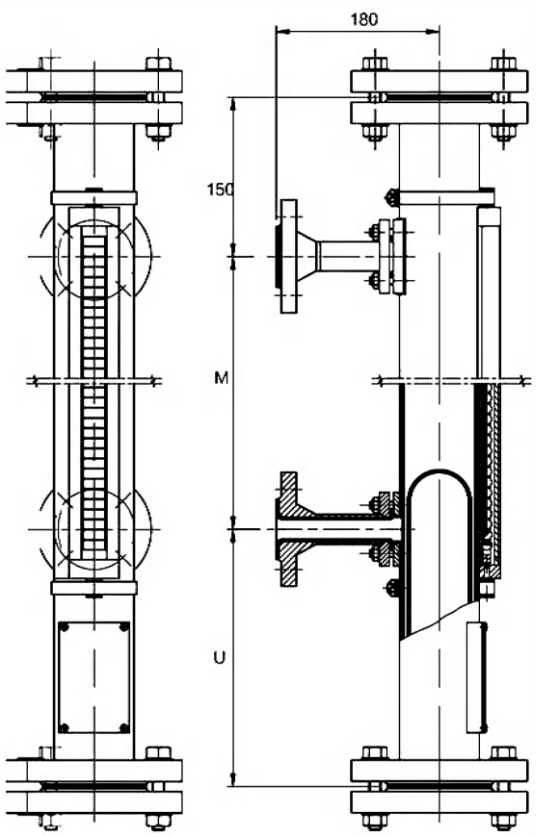
Parameter	
shunt valve	φ65x3.5mm, max. 10MPa
	φ69x6mm, max. 10MPa.
	φ60.3x3.91mm, max. 10MPa.
	φ60.3x3.91mm, max. 10MPa.
	φ73x7.01mm, max. 10MPa
Top of bypass pipe	Flat head with BSP 1/2 "vent plug (> >2.5MPa)
	flange
	air vent valve
	Ventilation flange
Bottom of bypass pipe	Flange with BSP 1/2 drain plug
	blow-down valve
	Blowdown flange
procedure linkage	Side Connection, Qty 2
	Flanges: Hg/T 20592, DN10-DN100, PN63-PN100.
	HG/T 20615, 1/2"-4"class600-class1500
	EN 1092-1, DN10-DN100, PN63-PN160
	ANSI B16.5, 1/2"-4"class600-class1500
	Welded end: 1/2"-1 "
	External thread: G/NPT 1/2"-1 "
Top connection Extended sensor	Internal thread: G/NPT 1/2"-1 "
	Flanges: Hg/T 20592, DN10-DN100, PN63-PN100.
	HG/T 20615, 1/2"-4"class600-class1500
	EN 1092-1, DN10-DN100, PN63-PN160
	ANSI B16.5, 1/2"-4"class600-class1500
	Flat head with internal thread: G/NPT 1/2"-1 "
center distance	150mm~6000mm (larger size can be customized according to requirements)
Main material	304/316L/316Ti
Rated pressure	Maximum 10.0MPa
medium temperature	-200℃~+450℃
float	Pressure-resistant type
	Ball float
	Solid float
Magnetic display body	Standard type (-50~+200℃)
	High temperature type (-200~+450℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
	Guided wave radar level meter
Magnetic switch	Magnetic switch



X=150mm or 180mm (depending on the connecting flange)
Or according to the connection requirements.
Y=125mm (flat head)
210mm (flange)
U= float length--30mm (≥290mm, 10.0MPa)
Float length -C mm (≥300mm, 16.0MPa)
C≤45mm)

Magnetic column level gauge corrosion-resistant LSM10-E

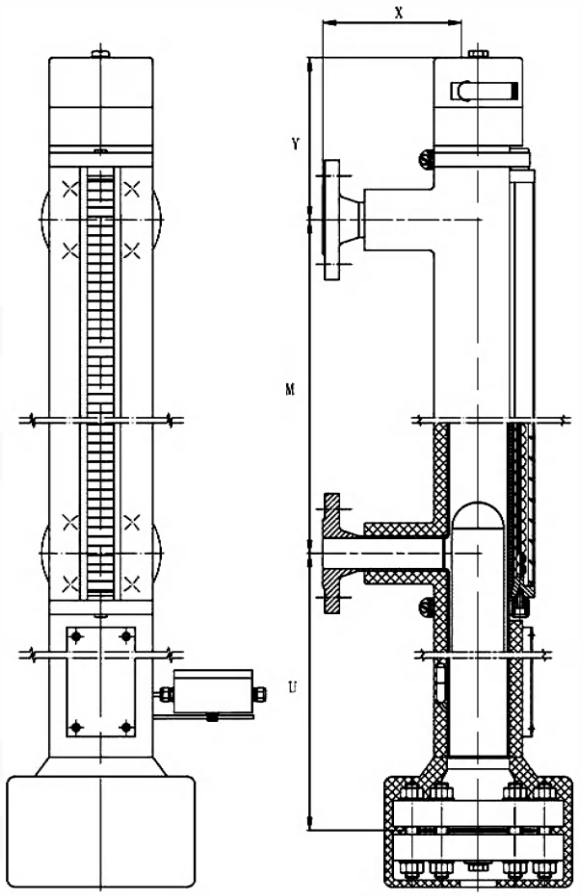
Parameter			
Main material	304/316L/316Ti		
	E-CTFE (internal coating)	ETFE (internal coating)	PTFE (internal coating)
shunt valve	φ64x2mm	φ70x2mm	φ70x2mm
Rated pressure	Maximum 1.6MPa	Maximum1.6MPa	Maximum1.6MPa
Top of bypass pipe	Ventilation flange ≥DN20 goods NPS3/4 "		
Bottom of bypass pipe	Discharge flange ≥DN20 goods NPS3/4 "		
procedure linkage	Side Connection, Qty 2		
	Flanges: HG/T 20592, DN15-DN100, PN6-PN40.		
	HG/T 20615, 1/2"-4"class150-class300		
	EN 1092-1, DN10-DN100, PN6-PN40		
	ANSI B16.5, 1/2"-4"class150-class300		
Center distance	150mm~5000mm (segmented beyond the need, each segment is directly connected with flange)		
Medium temperature	-45℃~+150℃ (depending on medium)		
Float	Corrosion-resistant type		
Magnetic display body	Standard type (-50~+200℃)		
liquid level sensor	Dry spring liquid level sensor/transmitter		
	Magnetostrictive liquid level transmitter		
Magnetic switch	Magnetic switch		



U= float length (≥220mm)

Electric heating LSM10-F for magnetic column level gauge

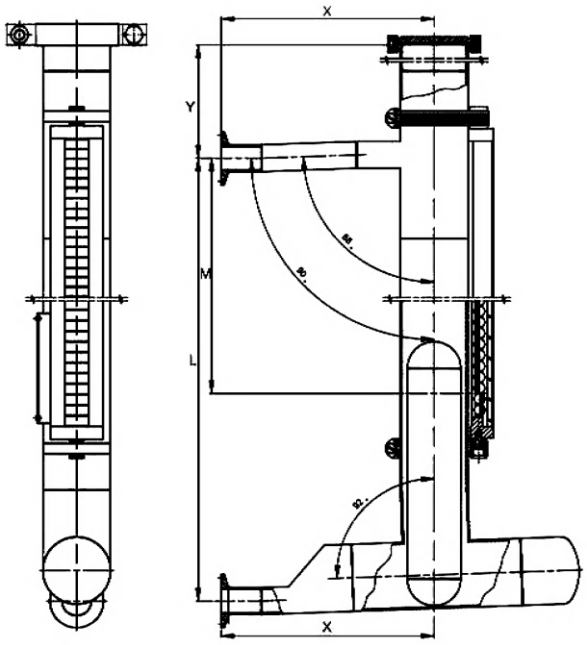
Parameter	
shunt valve	φ60.3x2mm, max. 4.0MPa
	Φ φ60.3x2.6mm, max. 6.4MPa
	φ60.3x2.77mm, max. 6.4MPa
Top of bypass pipe	Flat head with BSP 1/2 "vent plug (> > 2.5MPa)
	flange
	air vent valve
	Ventilation flange
Bottom of bypass pipe	Flange with BSP 1/2 drain plug
	blow-down valve
	Blowdown flange
procedure linkage	Side Connection, Qty 2
	Flanges: HG/T 20592, DN15-DN100, PN6-PN100.
	HG/T 20615, 1/2"-4"class150-class900
	EN 1092-1, DN15-DN100, PN6-PN160
	ANSI B16.5, 1/2"-4"class150-class900
	Welded end: 1/2"-1 "
	External thread: G/NPT 1/2"-1 "
	Internal thread: G/NPT 1/2"-1 "
center distance	150mm~6000mm
Main material	304/316L
Insulation sleeve	Detachable, with a thickness of 10~20mm.
	Filling material: glass fiber
	Fabric material: glass fiber-based fabric coated with silica gel.
Rated pressure	Maximum 10.0MPa
Medium temperature	-40℃~+200℃
float	fundamental form
	Pressure-resistant type
Magnetic display body	Standard type (-50~+200℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
Magnetic switch	Magnetic switch
electric tracing	Rated voltage AC 230V
	Output power is 47.2W
	Maximum maintenance temperature +120℃
	Maximum exposure temperature +190℃
	Minimum installation temperature -10℃



X=180mm or determined according to connection requirements.
Y=125mm
U= float length -30mm (≥220mm)
Float length -30mm (≥290mm)
(according to the bottom flange)

Sanitary LSM10-G for magnetic column level gauge

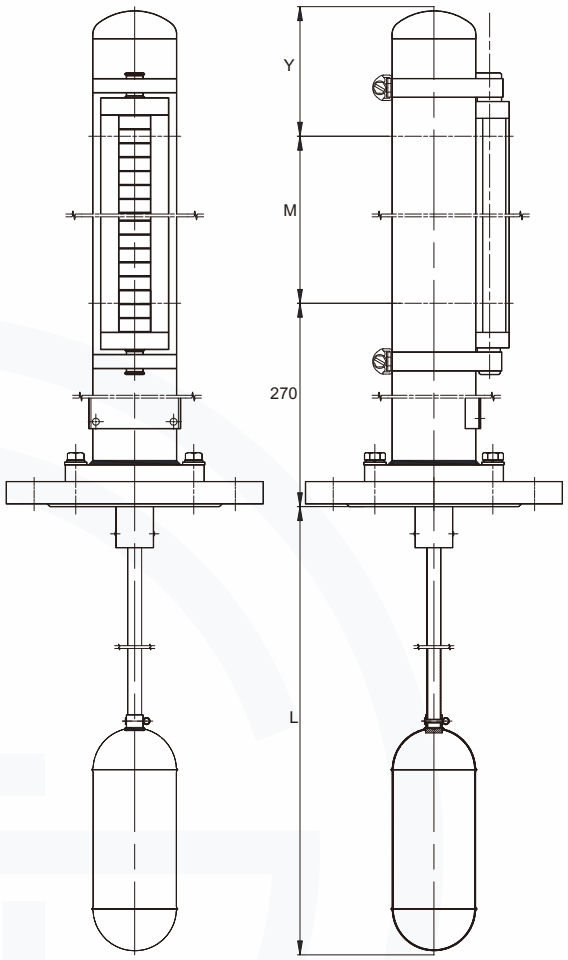
Parameter	
Shunt valve	φ63x1.65mm, maximum 1.1MPa
Top of bypass pipe	Clamping type sealing cap and high-pressure clamp
Bottom of bypass pipe	Non-effusion tee and eccentric reducer
procedure linkage	Side Connection, Qty 2
	Clamping type interface: ASME BPE 1"-2 "
	Non-effusion inclined tube
design standards	ASME BPE
Measuring range m	300mm~6000mm
Center distance l	According to m and float length
Main material	Electro-polishing of stainless steel 316L
Pipe fittings	The internal and external finish is better than Ra0.8.
Rated pressure	Maximum 1.1MPa
medium temperature	-45℃~+120℃
float	Pressure-resistant type: material: stainless steel 316L electropolishing.
Magnetic display body	Standard type (-50~+200℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
Magnetic switch	Magnetic switch



X=242mm or determined according to the connection requirements.
Y=135mm
U=M+ float length -63mm

Basic LSM10-S is placed on top of magnetic column level gauge.

Parameter	
Top pipe	φ60.3x2mm, max. 4.0MPa
Top of overhead pipe	Welding cap (≤2.5MPa)
	Flat head with BSP 1/2 "vent plug (> > 2.5MPa)
	air vent valve
	Ventilation flange
procedure linkage	Flanges: HG/T 20592, DN50-DN250, PN6-PN40.
	HG/T 20615, 2"-10"class150-class300
	EN 1092-1, DN50-DN250, PN6-PN40
	ANSI B16.5, 2"-10"class150-class300
Insertion depth l	500mm~4500mm
Measuring range m	M≤L-50- length of float
Main material	304/316L
Rated pressure	Maximum 4.0MPa
Medium temperature	-60℃~+300℃
float	pillar
	sphericity
Magnetic display body	Standard type (-50~+200℃)
	High temperature type (-200~+450℃)
liquid level sensor	Dry spring liquid level sensor/transmitter
	Magnetostrictive liquid level transmitter
Magnetic switch	Magnetic switch

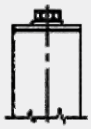


X=120mm welding cap
125mm flat head

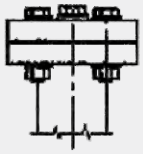
Body End Option-Top Structure (Example)

Top structure (example)

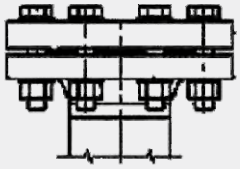
1
weld cap



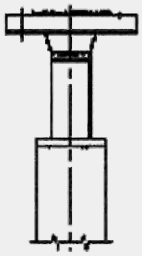
2
Flat head
With BSP 1/2 "vent plug



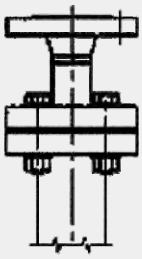
3
Flange with BSP 1/2 "vent plug



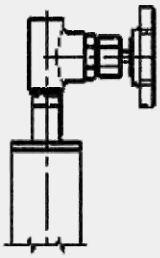
4
flange
Such as: EN 1092 tenon/
groove sealing surface



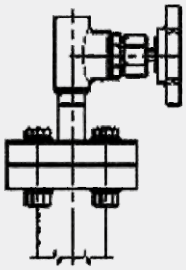
5
Flat head with
ventilation flange



6
Flange with vent flange



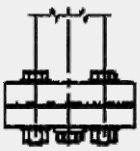
7
Flat head with vent valve



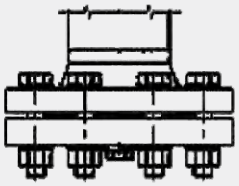
8
Flanged vent valve

Other top structures can be customized according to requirements.

Bottom structure (example)

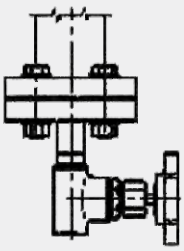


9
Flange belt G/NPT
1/2 "drain plug

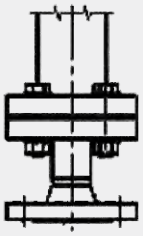


10
Flange (e.g. EN 1092)
Tenon/groove sealing surface)
with drain plug

11
Flanged blowdown nozzle



12
Flanged drain valve

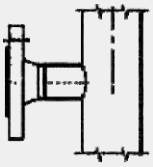


13
Flange with
blowdown flange

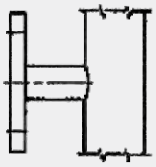
Other bottom structures can be customized according to requirements.

Optional process interface

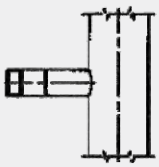
Bottom structure (example)



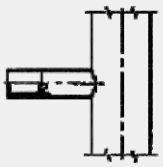
14
Necked flange



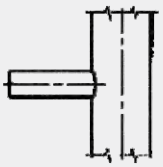
15
Ping falan



16
External screw thread

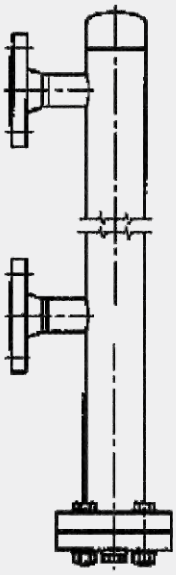


17
Internal screw

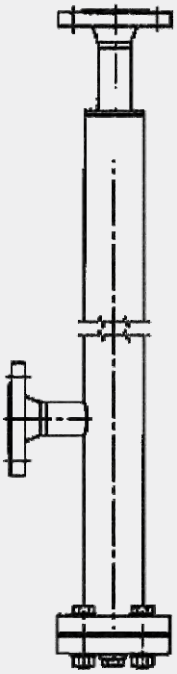


18
Welding end s

Example

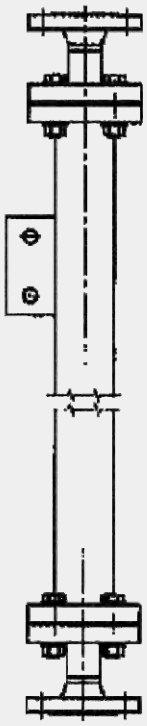


19
normalized form
2 side connection
process interfaces



20
2 process interfaces
Top side connection

21
Two side connection process interfaces
according to DIN 11851
Bottom eccentric reducing joint



22
2 process interfaces
Top-bottom connection,
optional: support frame

LSM10-Selection and composition

Selection example **LSM10**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
J	D	Y	G	N	2500	Y	A	R	2	S	Z	V	N

1.Basic model	I	Side-mounted magnetic column level gauge
	J	Top-mounted magnetic column level gauge

2.Process flange specification	A	DN25
	B	DN32
	C	DN40
	D	DN50
	E	DN65
	F	DN80
	G	DN100
	H	DN125
	I	DN150
	J	DN200
	K	DN250
	L	3/8"
	M	1/2"
	N	3/4"
	O	1"
	P	1¼"
	Q	1½"
	R	2"
	S	2½"
	U	3"
	V	3½"
	W	4"
	X	5"
	Y	6"
	Z	8"
	T( )	Other connection specifications

3.Pressure rating of flange	Z	PN10
	Y	PN16
	X	PN25
	W	PN40
	V	PN60
	U	PN100
	T	Class150
	S	Class300
	R	Class400
	Q	Class600
	T( )	Other pressure levels

LSM10-Selection and composition

Selection example **LSM10**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
J	D	Y	G	N	2500	Y	A	R	2	S	Z	V	N

4.Types of flange sealing surfaces	G	RF type
	H	RTJ type
	I	FF type
	J	ST type
	K	SG type
	T( )	Other types
5.liquid level transmitter	N	Liquid level sensor/transmitter
	O	Magnetostrictive liquid level transmitter
	P	Guided wave radar liquid level transmitter
6.measuring range	M( )	Distance between two process interfaces (unit: mm)
7.Ontology material	W	304SS
	X	316L
	Y	304+PTFE
	Z	316+PTFE
	S	titanium
	R	Hastelloy b
	Q	Hastelloy c
	P	Polyvinyl chloride PVC
	O	Polypropylene PP
	N	Polyvinylidene fluoride PVDF
	K	Insulation jacket
	L	electric tracing
	M	Other materials
8.Column-turning display	A	Aluminum shell, plastic turnover column
	B	Aluminum shell, ceramic turnover column
	C	Stainless steel shell, plastic turnover column
	D	Stainless steel shell, ceramic turnover column
9.scale plate	R	Graduated ruler
	E	Scale stainless steel ruler
10.Number of magnetic switches	N( )	(Note the number of switches)
11.Magnetic switch type	S	Normally open type
	C	Normally closed type
	D	Other types
12.Float material	Z	304SS
	T	316L
	M	Titanium
	L	Hastelloy b
	K	Hastelloy c
	J	Polyvinyl chloride PVC
	I	Polyvinylidene fluoride PVDF
	H	304+PTFE
	G	316+PTFE

LSM10-Selection and composition

Selection example **LSM10**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
J	D	Y	G	N	2500	Y	A	R	2	S	Z	V	N

13.Precision	V	±10mm	
14.Explosion proof type	A	Intrinsically safe explosion-proof	
	B	Flameproof	
	N	No explosion-proof	

Instructions:

It indicates that LSM10 magnetic tipping column is an overhead magnetic tipping column level gauge, with flange specification of DN50, pressure resistance grade of PN16, flange sealing surface of RF type, equipped with liquid level transmitter, measuring range of 2500mm, made of 304 stainless steel +PTFE, tipping column displayed as aluminum shell, plastic tipping column with graduated scale, number of magnetic switches is 2, switch type is normally open, float material is 304 stainless steel, and accuracy is ±10mm.

Product Certification

Compliance and approval; Rodwig flow meters meet key standards and certifications for process measurement technology; To ensure the highest reliability in such settings;

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