LZ Series Metallic Tube Variable-area Folwmeter

General

LZ series variable-area flowmeter with metallic measuring tube has the characteristics of simplicity, reliability, wide application field, high precision and easy installation. Compared variable-area flowmeter with glass tube flow meter, this series has the characteristics of high pressure safe, high temperature safe, easy reading etc.
It is widely applicable in petrol, chemical, power supply, pharmacy, food, water treatment industry etc.

Connection Type


Tri-clamp Connection


Flange Connection

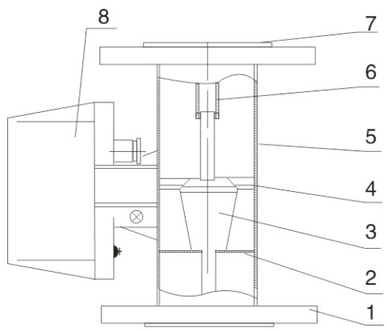

Threaded Connection


Flame-proof Type

Main Technical Parameters

Measure Range	Water（20℃）(2.5-10000) L/h Air（20℃，1.101325MPa）(0.07-750) m³/h
Range Ratio	10:1
Accuracy Grade	±1.5%，±2.5%
Fluid Working Pressure	DN15-DN50：4.0MPa DN80-DN150：1.6MPa
Working Pressure of Coating	1.6MPa
Fluid Working Temperature	-80℃~+200℃（PTFE≤+85℃） （For Model PTFE≤+85℃）
Connection Type	（Flange connection，Threaded connection or Tri-clamp connection flange refer to standard GB/T9119；ANSI 150lbs、300lbs；HG20592-20635；Other standard flange can be made to the user requirement.）
Environment Temperature	-25℃~+55℃
Medium Viscidity	DN15≤5mPa.S; DN25-DN100≤250mPa.S
Electricty Singal Output	Output Signal：（4-20mA）
	Linear Accuracy：1%
	Temperature Influence：0.5%/10℃
	Power Supply：（13-30）V DC
	Power Supply Consume：≤250mW
Restrict Alarm	Power Supply：24（±10%）V DC
	Power Loss：≤3W
	Working Temperature：-25℃~+60℃
Explosion-proof Gr	EXIbIICT5

Construction



1 Flange Connection	5 Tube Body
2 Guider	6 Stopper
3 Float	7 Spring Collar
4 Measuring Tube	8 Indicator

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Model Selection

Metallic Tube Variable-area Flowmeter	
Z	Local indicator
D	Local indicator with 4-20MA output
DE	LCD display with 4-20MA output
DN15-150	Pipe Size(mm)
Connection type	
F	Flange connection(ANSI150lbs)
C	Tri-clamp connection
S	Threaded connection
Structure Form	
Y10	Bottom - top
Y20	Right - left or left - right (Horizontal)
Y30	In and on the same side
Y40	In and out on different side
Y50	Bottom - side
Contacting Liquid	
RRO	316/ oCr18Ni 12 Mo2Ti
RR1	304/ 1Cr18 Ni9Ti
RL	316L
RP	PTFE
Ti	Titamium
HC	Hastelloy C
Indicator	
1	Aluminum alloy
2	All stainless steel
3	Flame - proof type
Power Supply	
D1	DV24V power supply
D2	Battery power supply
Alarm	
K1	High alarm limit(HA)
K2	Low alarm limit(LA)
K12	One HA and LA
N	N/A
Additional Function	
T	Jacket type
Z	Damp type
B	Flame-proof type
H	Hart
N	N/A

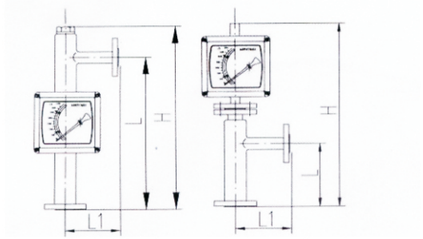
Selection Example

	①	②	③	④	⑤	⑥	⑦	⑧	⑨
LZ	Z	15	F	Y10	RR1	1	D1	K1	N

Measuring Range

Diameter (mm)	Water (L/h) 20℃ 101325Pa		Air (m^3/h) 20℃ 101325Pa.abs	Maximum Pressure Loss (Kpa)		Accuracy	Working Pressure
	RRO RR1 RL	PTFE	RRO RR1 RRL	RRO RR1 RRL	PTFE		
15	1.6–16		0.05–0.5	6.5		± 1.5%	≤4.0Mpa
	2.5–25		0.07–0.7	6.5			
	4–40	2.5–25	0.12–1.2	6.5	5.5		
	6–60	4–40	0.18–1.8	6.6	5.5		
	10–100	6–60	0.3–3	6.6	5.6		
	16–160	10–100	0.4–4.0	6.8	5.8		
	25–250	16–160	0.7–7.0	7.2	6.1		
	40–400	25–250	1.0–10	8.6	6.1		
	60–600	40–400	1.5–15	11.1	7.3		
	80–800	60–600	2.5–25	11.1	7.3		
	100–1000	80–800	3.0–30	11.1	7.3		
20	40–400	40–400	0.75–7.5	8.6	6.1		
	60–600	60–600	1.2–12	11.1	7.3		
	100–1000	100–1000	1.8–18	11.1	7.3		
25	40–400	40–400	1–10	6.5	5.9		
	60–600	50–500	1.5–15	6.5	6.2		
	80–800	60–600	2.5–25	7.0	7.0		
	100–1000	80–800	4–40	7.0	5.9		
	160–1600	100–1000	5–50	8.0	6.0		
	250–2500	160–1600	6–60	10.8	6.8		
	400–4000	250–2500	8–80	15.8	9.2		
	500–5000	400–4000	10–100	16.2	11.0		
	600–6000	500–5000	15–150	16.5	12.0		
32	160–1600	160–1600	3.0–30	8.0	6.0		
	250–2500	250–2500	5.0–50	10.8	6.8		
	400–4000	400–4000	7.5–75	15.8	9.2		
	600–6000	600–6000		16.5	12.0		
40	400–4000	400–4000	3.0–30	8.0	6.5		
	600–6000	600–6000	5.0–50	11	6.8		
	1000–10000	1000–10000	7.5–75	16.2	9.4		
50	600–6000	400–4000	18–180	8.0	6.5		
	1000–10000	600–6000	25–250	11.0	6.8		
	1600–16000	1000–10000	40–400	16.2	9.4		
	2000–20000	1600–16000	50–500	17.0	14.5		
	2500–25000	2000–20000	60–600	19.0	16.5		
65	1200–12000	1200–12000	18–180	8.2	6.9		≤1.6Mpa
	1600–16000	1600–16000	30–300	8.2	6.9		
	2500–25000	2500–25000	37–370	15.5	11.9		
80	1600–16000	1000–10000	50–500	8.2	6.9		
	2500–25000	1600–16000	60–600	15.5	11.9		
	4000–40000	2000–20000	100–1000	20.0	16.1		
	5000–50000	2500–25000	150–1500	25.0	18.1		
100	4000–40000	2000–20000	100–1000	8.4	8.1		
	5000–50000	2500–25000	150–1500	11.2	9.1		
	6000–60000	4000–40000	180–1800	20.0	16.5		
	8000–80000	5000–50000	240–2400	25.4	22.2		
	10000–100000	8000–80000	300–3000	32	29.2		
125	10000–100000	8000–80000	300–3000	42	38.5		
	25000–125000	10000–100000		45	42		
150	12500–125000	10000–100000		45	42		
	15000–150000	12500–125000		60	58		

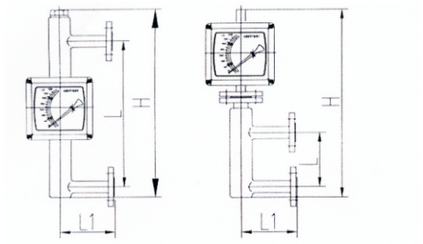
Note:1.To ensure flowmeter working stability,it should be assured that working pressure not less than double of max loss of pressure when flowmeter used to measure liquid ;when you measured medium is air, it should be assured that working pressure not less than five times of max loss of pressure;2.Above measuring range is for reference only , you can select other measuring ranges according to range ratio 10:1;
3.Flowmeter can be special made for you as per medium density ,viscosity , temperature ,pressure and other parameters you supply.



Y50 Bottom–Side (DN15–25)

Y50 Bottom–Side (DN50–100)

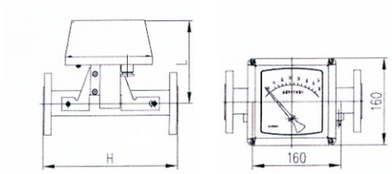
DN	H	L	L1
15	350	250	120
20	350	250	120
25	350	250	120
32	350	250	120
40	350	250	120
50	600	250	120
65	600	250	120
80	700	250	150
100	700	250	150



Y30 In and on the Same Side (DN15–25)

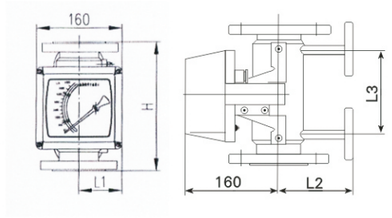
Y30 In and on the Same Side (DN50–100)

DN	H	L	L1
15	500	250	120
20	500	250	120
25	500	250	120
32	500	250	120
40	500	250	120
50	650	250	120
65	650	250	120
80	800	300	150
100	800	300	150



Y20 Right–left, Left–right (Horizontal)

DN	H	L
15	250	160
20	250	160
25	250	160
32	250	160
40	250	160
50	250	160
65	250	160
80	250	160
100	250	160
125	250	160
150	300	160

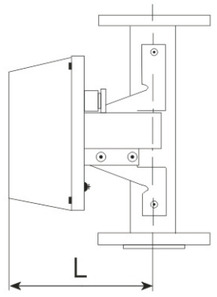


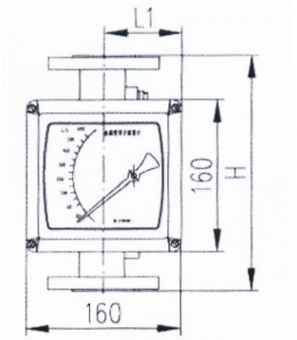
Jacket Flange Connection

DN	H	L1	L2	L3
15	250	84	116	150
20	250	84	116	150
25	250	95	128	150
32	250	99	132	150
40	250	99	132	150
50	250	111	144	150
65	250	111	144	150
80	250	130	183	150
100	250	146	179	150

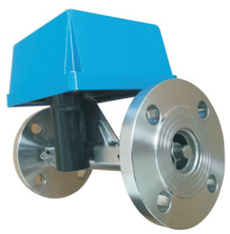
LZ Series Metallic Tube Variable–area Folwmeter

LZ– Outline and installing demension (Flange Connection)





Y10 Bottom–top



DN	H	L	L1
15	250	160	80
20	250	160	80
25	250	160	89
32	250	160	91
40	250	160	91
50	250	160	104
65	250	160	104
80	250	160	130
100	250	160	137
125	250	160	137
150	300	160	157

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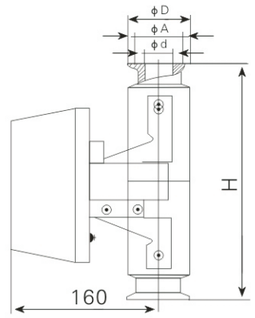
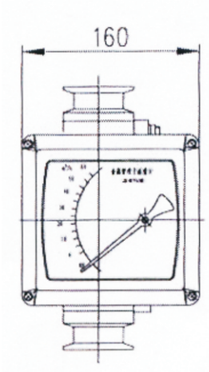
LZ– Outline and installing demension (Tri–Clamp Connection)





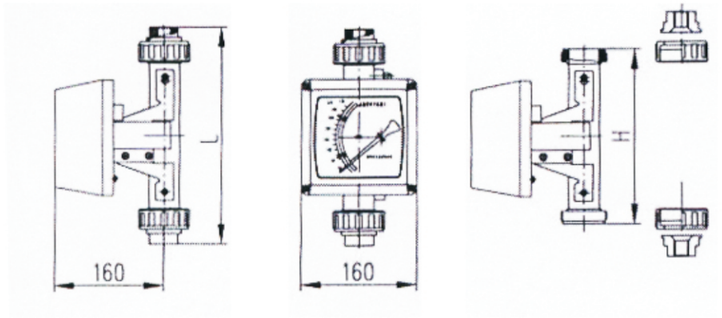
Y10 Tri–Clamp Connection

DN	H	D	A	d
15	250	34	27.5	22
20	250	50.5	43·5	37
25	250	50.5	43.5	37
32	250	50.5	43.5	37
40	250	50.5	43.5	37
50	250	64	56.5	50
65	250	77.5	70.5	58
65	250	91	83.5	67
80	250	106	97	80
100	250	119	110	90

LZ Series Metallic Tube Variable–area Folwmeter

LZ– Outline and installing demension

(Threaded Connection)



Y10 Threaded Connection

DN	H	L	Thread
15	250	315	G1/2"
20	250	315	G3/4"
25	250	315	G1"
32	250	315	G1–
40	250	315	G1–
50	250	315	G2"
65	250	315	G2–
80	250	330	G3"
100	250	330	G4"

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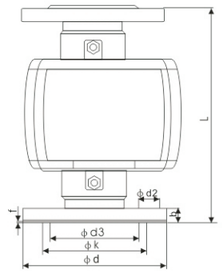
LZ Series Metallic Tube Variable–area Folwmeter

Flange And Outline Dimensions

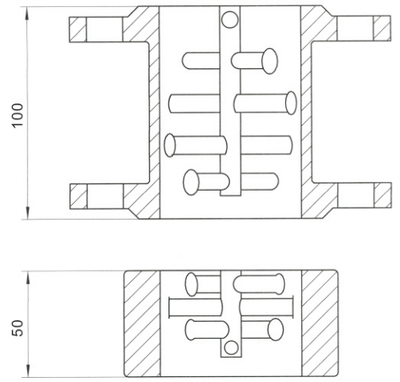
Cliber/Pressure mm/MPa	Size (mm)						
	Φd	Φd3	Φk	Φd2	b	f	L
15/4.0	95	45	65	4-Φ14	16	2	250
25/4.0	115	68	85	4-Φ14	18	2	250
50/4.0	165	102	125	4-Φ18	20	3	250
80/1.6	200	138	160	4-Φ18	20	3	250
100/1.6	220	162	180	4-Φ18	20	3	250
125/1.6	250	188	210	4-Φ18	22	3	250
150/1.6	285	218	240	4-Φ22	22	3	300



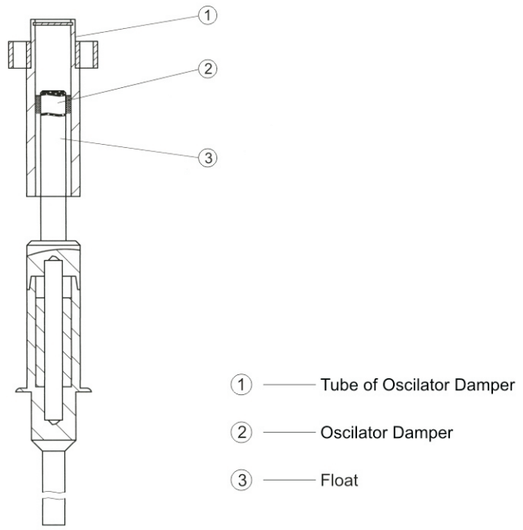
Magent Fliter

If medium might having been mixed with freeomagnet particles,installation of relevant filters turns essential. Hekucal positioning pattern of the filtering sticks reduces pressure loss to the maximum. Each filtering magnetic stick has been coated with PTFE, which protects the sticks from corrosion.
Type I :（flange connetion） Height:100mm
Type II: (compacted installation)Height:50mm

Magnet Fliter



Oscilator Damper



Oscilator Damper

In coping with unstable medium flow(pressure) at the entrance of flowmeters to ensure steady, reliable and en durable functioning, hi-tech. oscilation dampers is recommended to be installed on respective measuring components of the devices when measuring clean gases.

LZ Series Metallic Tube Variable-area Folwmeter

LZZW Series Metal Tube Flowmeter

Description

The flowmeter operates on the float measuring principle. The measuring section consists of a metal cone in which a float can move freely up and down. The medium flows through the flowmeter from bottom to top.

The variable area flowmeters are suitable for measuring gases, vapors and liquids with specialty of solid, steady and reliable. The flowmeters are available as inlet or outlet pressure regulator. It also select install 1 or 2 limit switches.

Horizontal Connection | Vertical Connection | Horizontal Connection with Limit Switch

Description Code

The description code consists of the following elements*:

LZZW — □ / □ / □
① ② ③

① F10 without valve and vertical connection
F12 with valve and horizontal connection
② RR1 Material 304
RL Material 316L
③ K1 One upper limit switch
K2 One lower limit switch
K12 Two limit switches

* Positions which are not needed are omitted (no blank positions).

Technical data

1、Measuring ranges: Water（20℃）0.3～100 L/h
Air（20℃ 101325Pa）5～3400 L/h
2、Measuring span:10:1
3、Accuracy: 4.0
4、Maximum Pressure: 2.5 MPa
5、Medium Temperature: -80～+150℃
6、Ambient Temperature:-25～+65℃
7、Connection Type:1/4″NPTF
8、Limit Switch:1 or 2
9、Protection category: IP67

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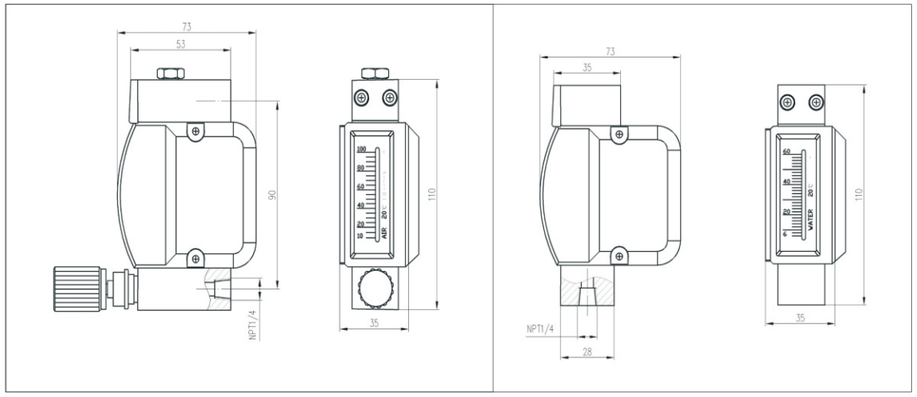
LZ Series Metallic Tube Variable-area Folwmeter

Flow Table

Cones	Water（20℃ L/h）	Air(20℃ 101325Pa L/h)	Maximum Pressure Loss（kPa）
K01	—	5～50	1.2
K02	0.3～3	10～100	1.4
K03	0.5～5	15～150	1.5
K04	1～10	40～400	1.8
K05	2.5～25	80～800	3.5
K06	4-40	125～1250	6.5
K07	6-60	200～2000	13.0
K08	8～80	250～2500	23.5
K09	10～100	340～3400	40.0

Dimensions



LZZW–F12(Horizontal Connection) | LZZW–F10(Vertical Connection)

Materials of main parts

Parts	Standard	Special
Seating	304	316L or on request
Cone and Float	304	316L or on request
Indicator Housing	Aluminum Casting	