

LZB/LZJ series glass spinner flowmeters

Summary

LZB/LZJ series glass spinner flowmeters are widely used in chemical industry, petroleum, light industry, medicine, environment protection, food, measuring, testing and scientific research institutes. They are used to measure the flow rate of single-phase non pulse fluid (liquid or gas).

LZB/()F/LZJ-()F series corrosion resistant glass spinner flowmeters have a good corrosion resistance, and can be used to measure acid (except hydrofluoric acid), alkali, oxidizer and other corrosive gasses or liquid. They are suitable for chemical industry, pharmacy, papermaking, sewage disposal etc.



Principle & Structure

The flowmeter is mainly composed of a piece of taper glass pipe with bigger bottom and smaller top and a floater moving up and down along with the fluid flow(Fig.3).When the fluid flows across the taper pipe from bottom to top, the floater rises under the lift force "S" on the floater due to the fluid dynamic energy and the fluid buoyancy force "A".

When the sum of the lift force "S" and the buoyancy force "A" is equal to the floater weight "G", the floater is in equilibrium and stable at a certain height. The scale on the taper pipe indicates the fluid flow.

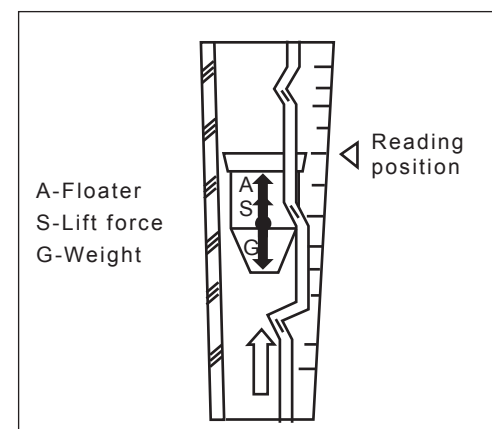


Fig.3

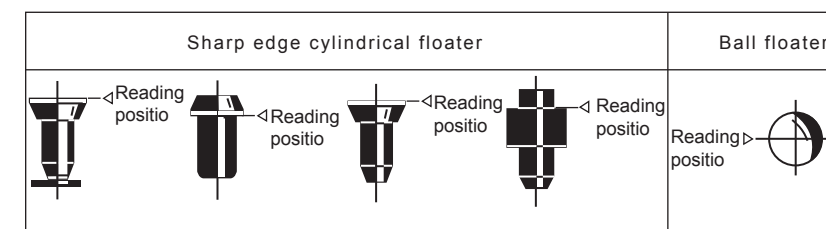


Fig.2

The taper pipe of LZB/LZB-()F flowmeter is a pipe with smooth inner wall (See Fig.4). For the flowmeter with the bore larger than DN15, the floater moves up and down along the guide rod and remains stable ;There are three guiding edges on the inner wall of the taper pipe of LZJ/LZJ-()F flowmeter to keep the floater stable (See Fig.5).The flowmeter with the bore smaller than DN10 adopts hose connection, is equipped with needle flow control valve;The flowmeter with the bore larger than DN15 adopts flanged connection.

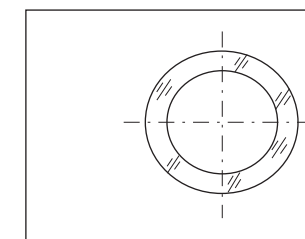


Fig.4

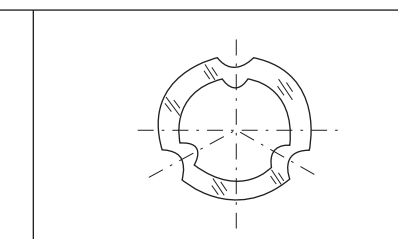


Fig.5

The profile and installing dimensions

Bore DN	A	B	C	D	E	Coupling
4	178	204	230	∅10	38.5×33(FRONT)	Hose pipe
6	178	204	230	∅10	42×33(FRONT)	Hose pipe
10	178	208	244	∅12	45×40(FRONT)	Hose pipe
15	∅95	∅65	470	∅15	4-∅14	Flange
25	∅115	∅85	470	∅25	4-∅14	Flange
40	∅145	∅110	570	∅40	4-∅18	Flange
50	∅160	∅125	570	∅50	4-∅18	Flange
80	∅185	∅150	660	∅80	4-∅18	Flange
100	∅205	∅170	660	∅100	4-∅18	Flange

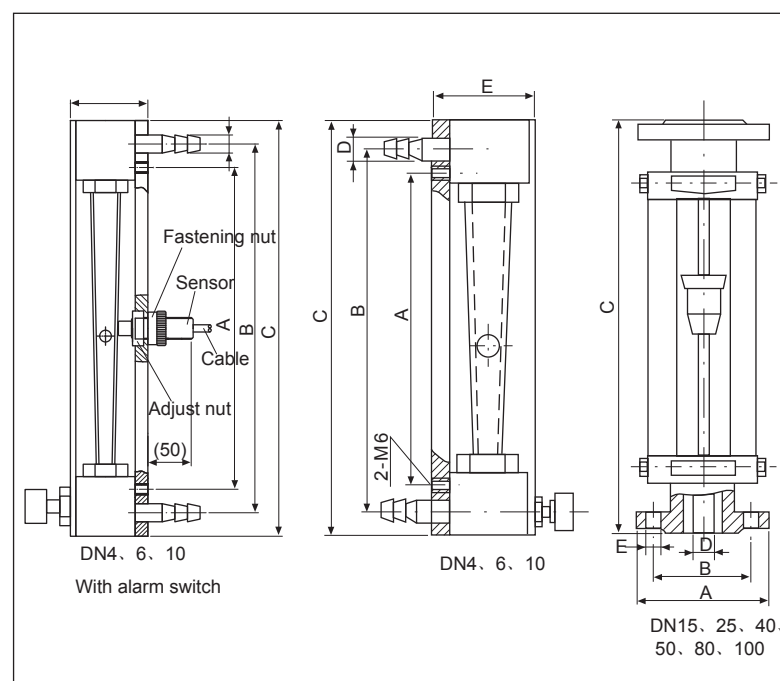


Fig.1

The material of the parts touching the fluid measured

Material	Model	LZB-4, 6, 10 LZJ-6, 10	LZB-4F LZJ-6F, 10F	LZB-15, 25, 40	LZJ-15, 25, 40, 50(F)	LZB-50, 80, 100	LZB-80, 100(F)
Spare parts							
Floater		1Cr18Ni9Ti Stainless steel	Agate	1Cr18Ni9Ti Stainless steel	Coated with fluoroplastics	1Cr18Ni9Ti Stainless steel	Coated with fluoroplastics
Base		HPb59-1 Brass	1Cr18Ni9Ti Stainless steel	Cast iron with the inner lining of Poly- propylene plastics	Cast iron with the inner lining of fluoroplastics	Cast iron with anti-corrosive paint inside	Cast iron with the inner lining of fluoroplastics
Stop		Polypropylene plastics	Fluoroplastics	Polypropylene plastics	Fluoroplastics	Cast iron	Fluoroplastics
Seal ring and shim		Nitrile butadiene rubber	Fluorine rubber	Nitrile butadiene rubber	Fluorine rubber	Nitrile butadiene rubber	Fluorine rubber
Guide rod				1Cr18Ni9Ti Stainless steel		1Cr18Ni9Ti Stainless steel	Coated with fluoroplastics

Note:If the media is organic solvent,please note it in the order.

Glass spinner flowmeter

Types and technical parameters

Bore DN (mm)	Model	Measuring range		Taper pipe length (mm)	Accuracy class		State of the fluid allowed	
		water, 20℃	air 20℃, 101325Pa		LZB/LZJ	LZB-()F LZJ-()F	Temperature (℃)	Pressure (MPa)
4	LZB-4 LZB-4F	(1 ~ 10)L/h (1.6 ~ 16)L/h (2.5 ~ 25)L/h	(16 ~ 160)L/h (25 ~ 250)L/h (40 ~ 400)L/h	160	2.5	2.5	-20 ~ +120	≤ 1
6	LZB-6 LZJ-6 LZJ-6F	(2.5 ~ 25)L/h (4 ~ 40)L/h (6 ~ 60)L/h	(40 ~ 400)L/h (60 ~ 600)L/h (100 ~ 1000)L/h					
10	LZB-10 LZJ-10 LZJ-10F	(6 ~ 60)L/h (10 ~ 100)L/h (16 ~ 160)L/h	(100 ~ 1000)L/h (160 ~ 1600)L/h (250 ~ 2500)L/h					
15	LZB-15 LZJ-15F	(16 ~ 160)L/h (25 ~ 250)L/h (40 ~ 400)L/h	(0.25 ~ 2.5)m ³ /h (0.4 ~ 4)m ³ /h (0.6 ~ 6)m ³ /h	350	2.5	2.5	-20 ~ +120	≤ 0.6
25	LZB-25 LZJ-25F	(40 ~ 400)L/h (60 ~ 600)L/h (100 ~ 1000)L/h	(1 ~ 10)m ³ /h (1.6 ~ 16)m ³ /h (2.5 ~ 25)m ³ /h					
40	LZB-40 LZJ-40F	(160 ~ 1600)L/h (250 ~ 2500)L/h	(4 ~ 40)m ³ /h (6 ~ 60)m ³ /h	430				
50	LZB-50 LZJ-50F	(0.4 ~ 4)m ³ /h (0.6 ~ 6)m ³ /h	(10 ~ 100)m ³ /h (16 ~ 160)m ³ /h	450				
80	LZB-80 LZB-80F	(1 ~ 10)m ³ /h (1.6 ~ 16)m ³ /h	(50 ~ 250)m ³ /h (80 ~ 400)m ³ /h	500				≤ 0.4
100	LZB-100 LZB-100F	(5 ~ 25)m ³ /h (8 ~ 40)m ³ /h	(120 ~ 600)m ³ /h (200 ~ 1000)m ³ /h					

Note: Special flow can be ordered as required.

All stainless steel LZB-()^B_{BF} LZB-()^{Bo}_{BOF}

Material of flange, floater, guide rod, bearing plate and bolts is stainless steel 1Cr18ni9Ti, model is of LZB-()B.

Choosing 316 for material touching the fluid, the model should be LZB-()B0 which can be ordered as required.

Choosing stainless steel with inner lining of PTFE, the model should be LZB-()BF(316 is B0F) which can be ordered as required.

All PTFE(DN3 ~ DN10) LZB-()F4

Material of base, floater, needle valve is PTFE, bearing plate and screws use stainless steel.