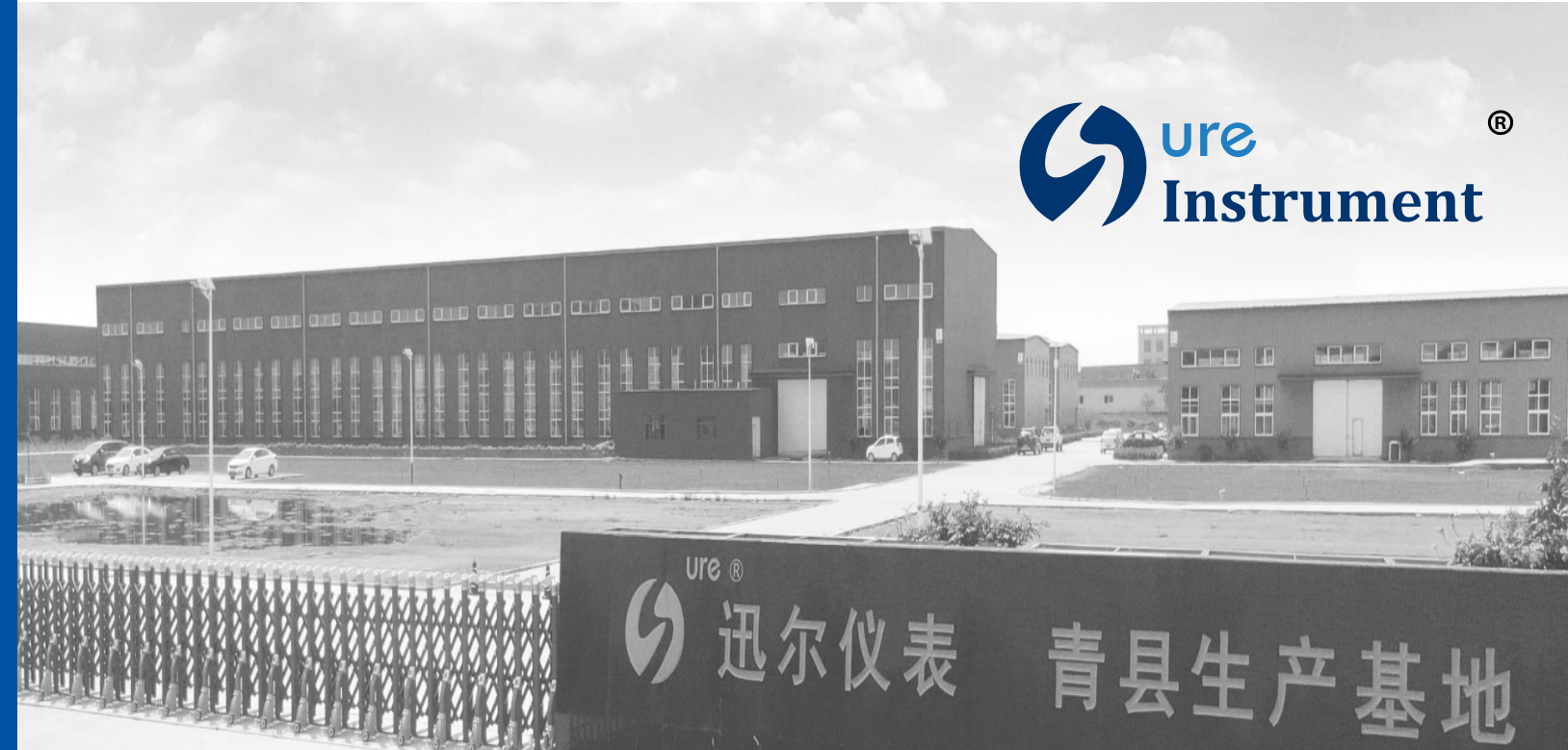




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Products Brochure

E.910/21Rev001

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FOR THE MEASUREMENTS OF FLUIDS.**



Assembly Workshop



Calibration Device



Impeller Processing Equipment



With excellent staffs, advanced equipments, strict quality control system and good services, our products are widely sold to more than 97 countries and gain good reputation from customers. Our aim is to provide a metering solution that helps our customers achieve operational improvement through their production capability, usually, in the form of reduced energy usage, improved product quality, lower emissions and greater production throughout. Reducing emissions, carbon footprint, and your company's impact on the environment is our goal. Not only will have a strong social and environmental impact but also a positive economic impact today and future.

THE COMPANY

TIANJIN SURE INSTRUMENT is engaged into the design, manufacture and service of measurement and analysis instruments field. With 14 years development, we have become one of the outstanding enterprises in this field in China.

At present, Sure Instrument is a professional and responsible flow meter enterprise with 353 staffs, 73000m² standardized workshops and machining centers, high-precision numerical control machines automated assembling line as well as other equipments.



VORTEX FLOW METER



DESCRIPTION

The vortex flow meter is engineered for metering, measurement and control of most steam, gas and liquid flow for a very unique medium versatility, high stability and high reliability with no moving parts, simple structure and low failure rate.

APPLICATIONS

- Boiler industry(Steam measurement)
- Compressed air industry
- Textile industry
- Paper Industry
- Heating industry
- Metallurgical industry plastics processing

FEATURES

- No moving parts inside, easy installation and maintenance
- Digital filter amplifier with wider measurement range and better anti-interference performance
- Wide flow ratio up to 33 : 1
- High Accuracy up to $\pm 0.2\%$ optionally
- Max temperature up to $+420^{\circ}\text{C}$
- Inline and Insertion type for option
- Integrated and remote transmitter for option
- Power-off record function
- CE and calibration certificate
- The remote type supports pressure and temperature compensation

TECHNICAL DATA

Diameter	DN15- DN700 (DB Type)			
	DN10- DN 500 (DA Type)			
	DN200- DN2000 (Insertion Type)			
Accuracy	Liquid: $\pm 1.0\%$ of rate		Gas and steam: $\pm 1.5\%$ of rate ($\pm 1.0\%$ of rate is only for DA Type optional)	
Body Material	SS304		SS316	
Process Temp.	T1: $-20^{\circ}\text{C} \dots +100^{\circ}\text{C}$	T2: $-20^{\circ}\text{C} \dots +250^{\circ}\text{C}$	T3: $-20^{\circ}\text{C} \dots +300^{\circ}\text{C}$	T4: $-20^{\circ}\text{C} \dots +420^{\circ}\text{C}$
Ambient Temp.	$-10 \dots +50^{\circ}\text{C}$			
Connection	Flange; wafer; thread; tri-clamp			
Protection	IP65; IP68			
Power supply	24 V DC and battery for option			
Communication	RS485; HART			
Output	4-20mA; Pulse			



DA- Compact Type

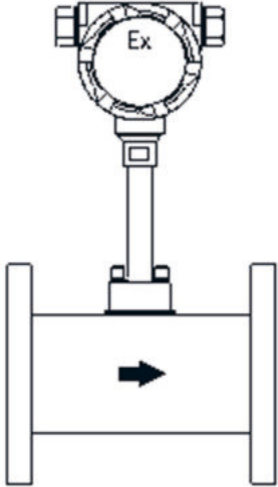
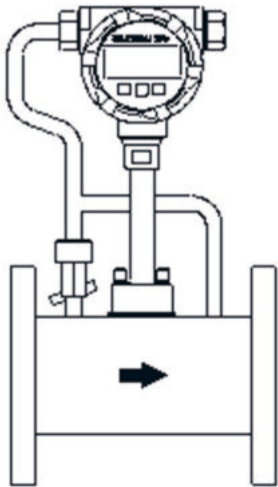


DB- Compact Type



DA- Remote Type

TECHNICAL DRAWINGS



MODEL SELECTION

Model	Suffix Code									Description
LUGB-	①	②	③	④	⑤	⑤	⑥	⑦	⑧	Vortex Flow Meter
Fluid	L									Liquid
	G									Gas / Air
	S									Steam
Diameter	XXX									Stand for diameter 015: DN15; 050: DN50 100: DN100; 300: DN300
Structure		S								Compact type
		L								Remote type
Converter Type			C							Fluid: liquid; 24V DC; 4-20mA / Pulse output; Digital display; Ex
			V							24V DC; 4-20mA / Pulse output (V type is only for Gas/ Steam application) No compensation
			DB							24V DC; 4-20mA output/ Pulse; Temperature & Pressure Compensation; 3 wires for option
			DA							24V DC; 4-20mA output/ pulse; Temperature & Pressure Compensation; Digital display; ±1.0% accuracy; max 420°C ; Ex;3 wires for option
			Notice:							1) Modbus RS485 is optional for V, D series 2) Dual power (24V DC+Battery) is optional for C, V , D series
Body Material						S4				SS304
						S6				SS316
Explosion Proof							BT			ExdIIBT6
							CT			Exiall CT1- CT6
							NA			No explosion proof
Connection								WAF		Wafer connection
								DXX		D16: DIN PN16 Flange; D25: DIN PN25 Flange...
								AXX		A15: ANSI 150# Flange; A30: ANSI 300 # Flange...
								JXX		J10: JIS 10K Flange; J20: JIS 20K Flange...
								XXX		Insertion; Thread; Tri- clamp
Temperature								T1		-20...+100°C
								T2		-20...+250°C
								T3		-20...+300°C
								T4		-20°C...+420 °C (only for DA type)

FLOW RANGE

Liquid Measurement											
Density (kg/m³)	500	600	700	800	900	1000	1200	1400	1600	1800	Qmax
Diameter	Different density fluid, the mini flow rate Qmin(Unit:m³/h)										(Unit:m³/h)
DN15	0.66	0.55	0.52	0.41	0.4	0.39	0.33	0.31	0.29	0.26	4.5
DN20	1.27	1.1	1.08	0.99	0.88	0.66	0.64	0.62	0.59	0.57	8
DN25	1.43	1.32	1.21	1.16	1.1	0.99	0.9	0.84	0.78	0.75	12
DN32	2.09	1.98	1.87	1.78	1.72	1.65	1.6	1.49	1.32	1.1	20
DN40	3.85	3.52	3.3	3.08	2.86	2.51	2.42	2.31	2.2	2.09	32
DN50	5.17	4.73	4.29	4.07	3.96	3.85	3.3	3.08	2.86	2.75	50
DN65	7.81	7.15	6.93	6.82	6.71	6.6	5.5	4.95	4.62	4.4	84
DN80	12.1	11	10.56	10.12	10.01	9.9	8.8	8.36	7.7	6.6	127
DN100	22	19.8	18.7	17.6	16.5	15.4	14.3	13.2	11	9.9	198
DN125	30.8	28.6	27.5	26.4	25.3	24.2	23.1	22	19.8	15.4	310
DN150	57.2	55	49.5	46.2	39.6	35.2	33	30.8	28.6	22	445
DN200	108.9	96.8	85.8	77	68.2	62.7	58.3	55	47.3	38.5	791
DN250	202.4	181.5	165	143	121	97.9	88	79.2	74.8	60.5	1237
DN300	275	242	220	198	176	140.8	132	121	107.8	84.7	1780

FLOW RANGE

Gas/ Air Measurement													
Density (kg/m³)	0.5	0.8	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	12	20	Qmax
Diameter	Different density fluid, the mini flow rate Qmin (Unit:m³/h)												Unit: (m³/h)
DN15	5.28	3.85	3.52	3.08	2.97	2.86	2.75	2.64	2.53	2.42	2.31	2.2	38
DN20	9.02	7.26	5.5	5.28	5.17	4.95	4.73	4.4	4.29	4.18	4.07	3.3	67
DN25	11	9.9	8.69	8.36	7.92	7.59	7.26	6.82	6.49	5.94	5.5	4.95	100
DN32	28.6	19.8	15.4	14.52	14.08	13.42	13.2	12.87	12.32	11.99	11.11	9.9	170
DN40	41.8	27.5	22	20.9	19.8	18.7	17.6	16.5	15.4	14.3	13.2	11	300
DN50	52.8	44	34.1	31.9	30.8	28.6	25.3	24.2	23.1	22	19.8	13.2	500
DN65	88	72.6	58.3	49.5	48.4	46.2	44	41.8	38.5	33	28.6	19.8	780
DN80	143	110	88	83.6	77	72.6	68.2	63.8	55	50.6	41.8	30.8	1200
DN100	198	176	132	121	110	99	88	77	68.2	61.6	52.8	38.5	2000
DN125	308	275	209	187	171.6	159.5	148.5	132	110	99	83.6	60.5	2900
DN150	418	341	308	286	264	242	220	198	176	154	121	93.5	4100
DN200	880	660	550	528	473	440	418	396	363	330	297	220	7500
DN250	1100	968	869	803	748	682	649	572	528	462	440	330	12500
DN300	1430	1309	1254	1166	1078	990	902	836	770	682	638	440	16500

FLOW RANGE

Saturated Steam Measurement														
Mpa		0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1	1.2	1.6	2	Unit
°C		120	134	144	152	159	165	175	180	184	192	204	215	
Kg/m³		1.12	1.67	2.19	2.68	3.18	3.67	4.62	5.16	5.63	6.67	8.52	10.57	
Diameter (mm)		Different steam density corresponding with flow range												
15	Qmin	3.85	5.67	7.41	9.12	11	12.54	15.95	17.93	19.36	22.55	29.37	36.19	kg/h
	Qmax	35	51.5	67.4	83	100	115	146	163	176	205	268	329	
20	Qmin	6.84	10.07	13.09	16.17	19.58	22.44	28.49	32.01	34.43	40.04	52.25	64.35	
	Qmax	62.2	91.6	120	147	178	204	259	291	313	365	476	586	
25	Qmin	10.68	15.73	20.46	25.3	30.69	34.98	44.55	49.94	53.79	62.59	81.73	100.54	
	Qmax	97.1	143	187	230	279	318	405	454	489	569	743	914	
32	Qmin	17.49	25.63	33.66	41.47	50.27	57.42	72.93	81.95	88.11	102.63	133.1	163.9	
	Qmax	159	234	306	378	457	522	664	745	802	933	1218	1499	
40	Qmin	25.3	36.3	47.3	58.3	70.4	80.3	102.3	110	121	143	187	231	
	Qmax	300	440	575	710	860	980	1250	1400	1500	1750	2280	2810	
50	Qmin	38.5	38.5	57.2	69.3	83.6	96.8	122.1	137.5	143	165	220	275	
	Qmax	550	460	680	845	1020	1170	1480	1670	1800	2100	2730	3360	
65	Qmin	64.9	95.7	125.4	150.7	182.6	209	264	303.6	326.7	379.5	495	605	
	Qmax	790	1160	1520	1835	2222	2540	3230	3620	3970	4620	6030	7422	
80	Qmin	98.45	144.1	189.2	233.2	282.7	319	407	451	495	572	748	924	
	Qmax	1195	1760	2300	2800	3400	3900	4900	5580	6000	6999	9100	11000	
100	Qmin	0.15	0.22	0.3	0.36	0.44	0.51	0.64	0.72	0.77	0.9	1.1	1.43	t/h
	Qmax	1.87	2.75	3.6	4.43	5.36	6.12	7.78	8.73	9.4	11	14.3	17.6	
125	Qmin	0.24	0.35	0.46	0.56	0.68	0.78	1	1.1	1.21	1.41	1.84	2.2	
	Qmax	2.91	4.29	5.62	6.91	8.37	9.56	12	13.6	14.7	17	22.3	27.4	

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