KLINGER VORTEX

Flow meter

The vortex flow meter is a kind of velocity flow meter designed based on the Karman vortex principle. It is mainly used for flow measurement of medium and fluid in industrial pipelines, such as flow control and measurement of gas, steam or liquid, and other media.

According to the selection, the vortex flow meter can achieve the following functions: measuring the temperature, pressure, instantaneous flow, and cumulative flow of medium fluid in industrial pipelines. It has pulse output, 4-20mA analog signal output, RS485 communication (Modbus RTU protocol), and other functions.

The vortex flow meter is widely used in heat supply, gas supply, chemical industry, environmental protection, metallurgy, textile, steel, pharmaceutical, paper making, drainage, and other corporations to superheated steam and saturated steam, compressed air and gas (oxygen, nitrogen, hydrogen, etc.), water and liquid (such as water, alcohol, stupid class, etc.) of the measurement and control.

FEATURES

- The product has high reliability, long-term stability, a simple structure, and easy maintenance.
- The zero point has no drift, and the performance is very stable.
- Various structural forms, including pipeline type, plug-in flow sensor, and other forms.
- Small pressure loss, high accuracy.
- Flexible installation.
- The circuit adopts various protection modes, which are anti-surge and have strong adaptability.
- 316L stainless steel sensor housing.
- Long-life lithium battery.

PRODUCTS GALLERY

Compact Display Type (PT-A)

Compact Display Type (PT-B)

Remote Display Type

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TECHNICAL DATA

NOMINAL DIAMETER (MM)	DN15-DN300 DN300-DN1000 (Insertion type)
NOMINAL PRESSURE (WAFER CONNECTION)	DN15-DN50 (priority PN4.0MPa) DN65-DN100 (priority PN2.5MPa) >DN125 (priority PN1.6MPa)
NOMINAL PRESSURE (FLANGE CONNECTION)	DN15-DN50 (priority PN2.5MPa) DN65-DN300 (priority PN1.6MPa) Can be used in a negativepressure environment.
MEDIUM TEMPERATURE	-40~100°C; -40~+250°C; -40~+330°C;
AMBIENT TEMPERATURE	-20~55°C
RELATIVE HUMIDITY	5%-90%
ATMOSPHERIC PRESSURE	86-106kPa
MAIN BODY MATERIAL	Stainless steel 304
MEASUREMENT RANGE	See the selection specification table
ACCURACY	Flange Type: ±1.5% (flow rate) Insertion type: ±2.5% (flow rate) Temperature: ±0.8°C Pressure: ± 0.3%FS
RANGE RATIO	1:6-1:25
POWER SUPPLY	24VDC or 3.6V battery
OUTPUT	4-20mA & Pulse
COMMUNICATION	Modbus RS485
PROTECTION LEVEL	IP65
PRESSURE LOSE	Comply with JB/T9249 standard Cd≤2.4
TRANSMISSION DISTANCE	3-wire pulse output ≤300m; 2-wire current output (4-20mA) ≤1500m; RS485 ≤1200m; Load resistance ≤500z

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FLOW RANGE

Installation dimensions comply with ISO 13359 -standard. Recommended maximum flow velocity: 4–6 m/s.

ITEM	500	600	700	800	900	1000	1200	1400	1600	1800	QMAX M3/H
MM	Qmin m3/H										
15	0.7	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	3.2
20	1.3	1.1	1.1	1.0	0.9	0.7	0.7	0.6	0.6	0.6	5.7
25	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.9	0.8	0.8	8.8
32	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.1	19
40	3.8	3.5	3.3	3.1	2.8	2.5	2.4	2.3	2.2	2.1	29
50	5.2	4.8	4.3	4.1	4.0	3.9	3.3	3.1	2.9	2.8	46
65	7.8	7.1	6.9	6.8	6.7	6.6	5.5	4.9	4.6	4.4	78
80	12.2	11.1	10.6	10.2	10.1	9.9	8.8	8.4	7.7	6.6	118
100	22	20	19	18	17	16	14	13	11	10	184
125	31	29	28	26	25	24	23	22	20	15	287
150	57	55	49	46	39	35	33	31	28	22	413
200	108	96	85	76	68	62	58	55	47	38	735
250	201	180	164	142	120	97	87	79	74	60	1148
300	273	240	219	197	175	140	131	120	107	84	1653

Table 1: PT-B vortex flowmeter measurable liquid of different densities corresponding with flow range under working condition

ITEM	0.5	0.8	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	12	20	QMAX M3/H
MM	Qmin m3/H												
15	6.7	4.8	3.8	3.6	3.3	3.1	2.9	2.6	2.4	2.1	1.9	1.7	32
20	10.2	7.4	6.8	5.9	5.7	5.5	5.3	5.1	4.9	4.7	4.5	4.2	57
25	17.4	14	10.6	10.2	10	9.5	9.1	8.5	8.3	8.1	7.8	6.4	88
32	22	19.8	17.4	16.7	15.8	15.2	14.5	13.6	13	11.9	11	9.9	188
40	50	35	27	26	25	24	23	23	22	21	20	17	294
50	81	53	42	40	38	36	34	32	30	28	25	21	459
65	111	92	72	67	65	60	53	51	49	46	42	28	776
80	164	135	109	92	90	86	82	78	72	61	53	37	1176
100	276	212	170	161	148	140	131	123	106	97	81	59	1837
125	397	353	265	243	221	199	177	155	137	124	106	77	2870
150	562	502	382	341	313	291	271	241	201	181	153	110	4133
200	920	751	678	630	581	533	484	436	388	339	266	206	7348
250	1696	1272	1060	1017	911	848	805	763	699	636	572	424	11481
300	1932	1700	1526	1410	1314	1198	1140	1004	927	811	773	580	16532

Table 2: PT-B vortex flowmeter measures gas of different densities corresponding with the flow range under working condition

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MPA	0.10	0.20	0.30	0.40	0.50	0.60	0.80	0.90	1.00	1.20	1.60	2.00	
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	
MM	RANGE	DIFFERENT STEAM DENSITY CORRESPONDING WITH ITS MEASURABLE FLOW RANGE											
15	Qmin	4.49	6.22	7.92	9.44	10.9	12.2	14.5	15.6	16.5	18.2	20.1	KG/H
	Qmax	35.6	53.1	69.6	85.2	101	117	147	164	179	212	271	
20	Qmin	7.74	10.8	13.3	15.8	18.4	21.0	25.6	28.1	30.2	34.6	41.4	
	Qmax	63.3	94.4	124	151	180	207	261	261	318	377	482	
25	Qmin	12.6	17.4	22.4	27.1	31.9	36.5	44.4	48.6	52.0	58.4	70.2	
	Qmax	98.9	147	193	237	281	324	408	456	497	589	752	
32	Qmin	20.0	28.6	36.8	44.2	51.3	57.9	70.5	77.2	82.8	93.5	110	
	Qmax	211	314	412	504	598	690	869	971	1059	1255	1603	
40	Qmin	32.1	44.3	56.6	68.1	79.7	90.8	110	121	132	153	184	
	Qmax	329	491	644	788	935	1079	1358	1517	1655	1960	2504	
50	Qmin	49.9	69.4	89.0	107	124	140	168	183	195	218	251	
	Qmax	514	767	1006	1231	1460	1685	2122	2370	2585	3063	3913	
65	Qmin	84.9	117	149	178	208	236	281	299	311	346	412	
	Qmax	869	1296	1700	2080	2080	2848	3586	4005	4369	5177	6612	
80	Qmin	128	171	208	246	289	330	400	437	468	531	602	
	Qmax	1317	1963	2575	3151	3738	4315	5431	6066	6619	7841	10016	
100	Qmin	0.20	0.28	0.36	0.42	0.49	0.54	0.65	0.71	0.75	0.84	0.90	T/H
	Qmax	2.06	3.07	4.02	4.92	5.84	6.74	8.49	9.48	10.3	12.3	15.7	
125	Qmin	0.32	0.43	0.54	0.64	0.73	0.81	0.93	0.99	1.03	1.10	1.15	
	Qmax	3.21	4.79	6.29	7.69	9.13	10.5	13.3	14.8	16.2	19.1	24.5	
150	Qmin	0.45	0.61	0.76	0.90	1.03	1.14	1.36	1.47	1.56	1.70	1.69	
	Qmax	4.63	6.90	9.05	11.1	13.1	15.2	19.1	21.3	23.3	27.6	35.2	
200	Qmin	0.78	1.10	1.40	1.66	1.90	2.12	2.50	2.67	2.81	3.05	3.26	
	Qmax	8.23	12.3	16.1	19.7	23.4	27.0	33.9	37.9	41.4	49.0	62.6	
250	Qmin	1.23	1.74	2.24	2.66	3.02	3.33	3.96	4.31	4.61	5.21	5.91	
	Qmax	12.9	19.2	25.1	30.8	36.5	42.1	53.0	59.2	64.6	76.6	97.8	
300	Qmin	1700	1526	1410	1314	1198	1140	1004	927	811	773	580	
	Qmax	18.5	27.6	36.2	44.3	52.6	60.7	76.4	85.3	93.1	110	141	

Table 3: PT-B vortex flowmeter measures saturated steam of different densities corresponding with flow range under working condition

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ITEM	0.50 KG/M3	0.80 KG/M3	1.20 KG/M3	2.40 KG/M3	3.60 KG/M3	4.80 KG/M3	6.00 KG/M3	7.20 KG/M3	1600 KG/M3	1800 KG/M3	QMAX M3/H
	DIFFERENT GAS DENSITY UNDER STANDARD CONDITION, LOWER LIMIT Q-MIN (UNIT: M 3 /H)										
DN10	0.30	0.28	0.24	0.21	0.19	0.15	0.14	0.13	0.12	0.11	2.0
DN15	0.60	0.50	0.47	0.37	0.36	0.35	0.30	0.28	0.26	0.24	4.5
DN20	1.15	1.00	0.98	0.90	0.80	0.60	0.58	0.56	0.54	0.52	8.0
DN25	1.30	1.20	1.10	1.05	1.00	0.90	0.82	0.76	0.71	0.68	12
DN32	1.90	1.80	1.70	1.62	1.56	1.50	1.45	1.35	1.20	1.00	20
DN40	3.50	3.20	3.00	2.80	2.60	2.28	2.20	2.10	2.00	1.90	32
DN50	4.70	4.30	3.9	3.70	3.60	3.50	3.00	2.80	2.60	2.50	50
DN65	7.10	6.50	6.30	6.20	6.10	6.00	5.00	4.50	4.20	4.00	84
DN80	11	10	9.60	9.20	9.10	9.00	8.00	7.60	7.00	6.00	127
DN100	20	18	17	16	15	14	13	12	10	9.00	198
DN125	28	26	25	24	23	22	21	20	18	14	310
DN150	52	50	45	42	36	32	30	28	26	20	445
DN200	99	88	78	70	62	57	53	50	43	35	791
DN250	184	165	150	130	110	89	80	72	68	55	1237
DN300	250	220	200	180	160	128	120	110	98	77	1780
DN350	350	280	250	210	190	173	160	140	120	100	2450
DN400	450	400	360	300	260	226	200	180	160	140	3160
DN450	500	450	400	350	300	286	260	240	210	180	4000
DN500	600	530	480	420	380	355	330	300	260	220	4950

Table 4: PT-A vortex flowmeter measurable liquid of different densities corresponding with flow range under working condition

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ITEM	0.50 KG/M3	0.80 KG/M3	1.20 KG/M3	2.40 KG/M3	3.60 KG/M3	4.80 KG/M3	6 KG/M3	7.20 KG/M3	8.40 KG/M3	9.60 KG/M3	12 KG/M3	20 KG/M3	QMAX M3/H
	DIFFERENT GAS DENSITY UNDER STANDARD CONDITION, LOWER LIMIT Q-MIN (UNIT: M 3 /H)												
DN10	2.8	2.0	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	16
DN15	4.8	3.5	3.2	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	38
DN20	8.2	6.6	5.0	4.8	4.7	4.5	4.3	4.0	3.9	3.8	3.7	3.0	67
DN25	10	9	7.9	7.6	7.2	6.9	6.6	6.2	5.9	5.4	5.0	4.5	100
DN32	26	18	14	13.2	12.8	12.2	12	11.7	11.2	10.9	10.1	9	170
DN40	38	25	20	19	18	17	16	15	14	13	12	10	300
DN50	48	40	31	29	28	26	23	22	21	20	18	12	500
DN65	80	66	53	45	44	42	40	38	35	30	26	18	780
DN80	130	100	80	76	70	66	62	58	50	46	38	28	1200
DN100	180	160	120	110	100	90	80	70	62	56	48	35	2000
DN125	280	250	190	170	156	145	135	120	100	90	76	55	2900
DN150	380	310	280	260	240	220	200	180	160	140	110	85	4100
DN200	800	600	500	480	430	400	380	360	330	300	270	200	7500
DN250	1000	880	790	730	680	620	590	520	480	420	400	300	12500
DN300	1300	1190	1140	1060	980	900	820	760	700	620	580	400	16500
DN350	1800	1600	1550	1400	1300	1200	1100	1000	900	820	720	600	22000
DN400	2200	2160	2000	1800	1650	1500	1400	1300	1200	1100	1000	700	30000
DN450	2700	2580	2500	2300	2100	1900	1700	1600	1500	1400	1200	800	37000
DN500	3500	3200	3100	2900	2600	2400	2200	2000	1800	1600	1300	1000	46000

Table 5: PT-A Vortex flowmeter measures gas of different densities corresponding with the flow range under standard condition

Conversion formula of gas volume flow under working condition & volume flow under standard condition:
QW=QS*PS*Z*(273.15+TW)/[(Pw+PL)*(273.15+TS)]---FORMULA 4
Among formula :
QW --- volume flow under working condition (unit: m 3 /h) PW --- gas pressure under working condition (unit: Mpa)
TW --- gas temperature under working condition (unit: °C)
Z --- gas relative compressibility Z=ZW/ZS (zero dimension) QS --- volume flow under standard condition (unit: m 3 /h)
PS --- Atm press under standard condition (take absolute pressure =0.101325 Mpa)
TS --- temperature under standard condition (0°C or 20°C) PL -- local Atm press (unit: MPa)

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MPA	0.10	0.20	0.30	0.40	0.50	0.60	0.80	0.90	1.00	1.20	1.60	2.00	
°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	
MM	RANGE	DIFFERENT STEAM DENSITY CORRESPONDING WITH ITS MEASURABLE FLOW RANGE											
10	Qmin	4.49	6.22	7.92	9.44	10.9	12.2	14.5	15.6	16.5	18.2	20.1	KG/H
	Qmax	35.6	53.1	69.6	85.2	101	117	147	164	179	212	271	
15	Qmin	7.74	10.8	13.3	15.8	18.4	21.0	25.6	28.1	30.2	34.6	41.4	
	Qmax	63.3	94.4	124	151	180	207	261	261	318	377	482	
20	Qmin	12.6	17.4	22.4	27.1	31.9	36.5	44.4	48.6	52.0	58.4	70.2	
	Qmax	98.9	147	193	237	281	324	408	456	497	589	752	
25	Qmin	20.0	28.6	36.8	44.2	51.3	57.9	70.5	77.2	82.8	93.5	110	
	Qmax	211	314	412	504	598	690	869	971	1059	1255	1603	
32	Qmin	32.1	44.3	56.6	68.1	79.7	90.8	110	121	132	153	184	
	Qmax	329	491	644	788	935	1079	1358	1517	1655	1960	2504	
40	Qmin	49.9	69.4	89.0	107	124	140	168	183	195	218	251	
	Qmax	514	767	1006	1231	1460	1685	2122	2370	2585	3063	3913	
50	Qmin	84.9	117	149	178	208	236	281	299	311	346	412	
	Qmax	869	1296	1700	2080	2080	2848	3586	4005	4369	5177	6612	
65	Qmin	128	171	208	246	289	330	400	437	468	531	602	
	Qmax	1317	1963	2575	3151	3738	4315	5431	6066	6619	7841	10016	
80	Qmin	0.20	0.28	0.36	0.42	0.49	0.54	0.65	0.71	0.75	0.84	0.90	
	Qmax	2.06	3.07	4.02	4.92	5.84	6.74	8.49	9.48	10.3	12.3	15.7	
100	Qmin	0.32	0.43	0.54	0.64	0.73	0.81	0.93	0.99	1.03	1.10	1.15	T/H
	Qmax	3.21	4.79	6.29	7.69	9.13	10.5	13.3	14.8	16.2	19.1	24.5	
125	Qmin	0.45	0.61	0.76	0.90	1.03	1.14	1.36	1.47	1.56	1.70	1.69	
	Qmax	4.63	6.90	9.05	11.1	13.1	15.2	19.1	21.3	23.3	27.6	35.2	
150	Qmin	0.78	1.10	1.40	1.66	1.90	2.12	2.50	2.67	2.81	3.05	3.26	
	Qmax	8.23	12.3	16.1	19.7	23.4	27.0	33.9	37.9	41.4	49.0	62.6	
200	Qmin	1.23	1.74	2.24	2.66	3.02	3.33	3.96	4.31	4.61	5.21	5.91	
	Qmax	12.9	19.2	25.1	30.8	36.5	42.1	53.0	59.2	64.6	76.6	97.8	
250	Qmin	1700	1526	1410	1314	1198	1140	1004	927	811	773	580	
	Qmax	18.5	27.6	36.2	44.3	52.6	60.7	76.4	85.3	93.1	110	141	
300	Qmin	1.23	1.74	2.24	2.66	3.02	3.33	3.96	4.31	4.61	5.21	5.91	
	Qmax	12.9	19.2	25.1	30.8	36.5	42.1	53.0	59.2	64.6	76.6	97.8	
350	Qmin	1700	1526	1410	1314	1198	1140	1004	927	811	773	580	
	Qmax	18.5	27.6	36.2	44.3	52.6	60.7	76.4	85.3	93.1	110	141	
400	Qmin	1.23	1.74	2.24	2.66	3.02	3.33	3.96	4.31	4.61	5.21	5.91	
	Qmax	12.9	19.2	25.1	30.8	36.5	42.1	53.0	59.2	64.6	76.6	97.8	

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450	Qmin	1700	1526	1410	1314	1198	1140	1004	927	811	773	580	T/H
	Qmax	18.5	27.6	36.2	44.3	52.6	60.7	76.4	85.3	93.1	110	141	
500	Qmin	1.23	1.74	2.24	2.66	3.02	3.33	3.96	4.31	4.61	5.21	5.91	
	Qmax	12.9	19.2	25.1	30.8	36.5	42.1	53.0	59.2	64.6	76.6	97.8	

ITEM	130°C	140°C	150°C	160°C	170°C	180°C	190°C	210°C	220°C	250°C	300°C	360°C	420°C
0.10MP	1.10	1.07	1.04	1.02	0.99	0.97	0.95	0.91	0.89	0.83	0.76	0.69	0.63
0.15MP	1.38	1.34	1.34	1.28	1.24	1.21	1.19	1.13	1.11	1.04	0.95	0.86	0.78
0.26MP		1.96	1.90	1.85	1.81	1.76	1.72	1.64	1.61	1.51	1.37	1.24	1.13
0.30MP			2.12	2.067	2.01	1.96	1.92	1.83	1.79	1.68	1.53	1.38	1.26
0.36MP			2.46	2.39	2.33	2.27	2.21	2.11	2.06	1.94	1.76	1.59	1.45
0.40MP				2.61	2.54	2.47	2.41	2.30	2.25	2.11	1.91	1.73	1.57
0.50MP				3.16	3.07	2.99	2.91	2.77	2.71	2.54	2.30	2.07	1.89
0.60MP					3.61	3.51	3.42	3.25	3.18	2.97	2.69	2.42	2.21
0.70MP						4.05	3.94	3.74	3.65	3.41	3.09	2.78	2.53
0.80MP						4.59	4.46	4.23	4.13	3.85	3.48	3.13	2.84
0.90MP						5.15	4.99	4.73	4.61	4.30	3.88	3.48	3.16
1.00MP							5.54	5.23	5.09	4.75	4.28	3.84	3.48
1.15MP							6.37	6.00	5.84	5.43	4.88	4.37	3.97
1.50MP								7.87	7.64	7.05	6.30	5.63	5.10
1.65MP								8.70	8.43	7.76	6.92	6.17	5.59
1.80MP								9.55	9.24	8.48	7.55	6.72	6.08
2.00MP									10.36	9.47	8.39	7.45	6.74
2.20MP									11.51	10.47	9.24	8.20	7.40
2.50MP										12.02	10.55	9.32	8.39

Table 6: PT-A vortex flowmeter measures saturated steam of different densities corresponding with flow range under working condition

TAG	AIR	HYDROGEN	OXYGEN	NITROGEN	CHLORINE	AMMONIA GAS	SEMI-WATERGAS
DENSITY	1.293	0.0889	1.43	1.251	3.214	0.77	0.836
TAG	ARGON	ACETYLENE	METHANE	ETHANE	PROPANE	BUTANE	COKE-OVEN GAS
DENSITY	1.79	1.017	0.717	1.357	2.005	2.703	0.4849
TAG	ETHYLENE	PROPYLENE	NATURAL GAS	COAL GAS	CO	CO 2	
DENSITY	1.264	1.914	0.828	0.802	1.25	1.977	

Table 7: Superheated Steam Density

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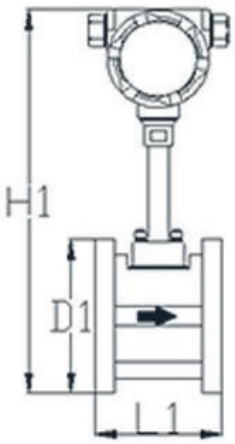
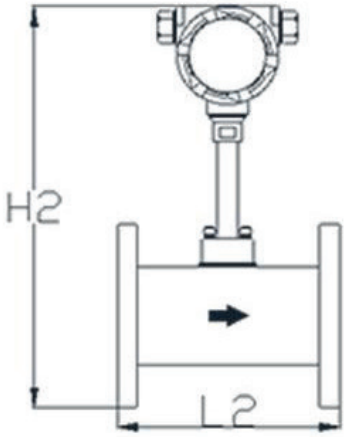
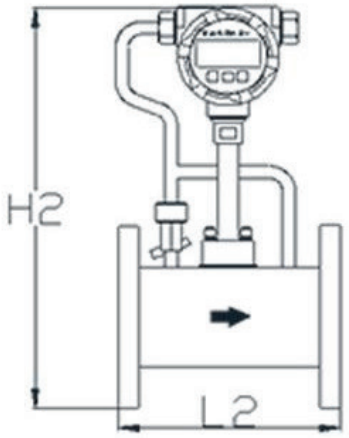
INSTALLATION DIMENSION



1. Wafer version (priority)



2. Flange version



3. P&T compensation compact version

DN	H1A	H1B	H1C	D1	L1	H2A	H2B	H2C	L2
DN15	525	445	355	45	65	540	460	370	170
DN20	531	451	361	58	65	545	465	375	170
DN25	531	451	361	58	65	550	470	380	250
DN32	531	451	361	58	65	563	483	393	250
DN40	529	449	359	85	70	578	498	408	250
DN50	541	461	371	99	70	590	510	420	250
DN65	558	478	388	118	70	612	532	442	250
DN80	573	493	403	132	70	625	545	455	280
DN100	595	515	425	156	70	644	564	474	300
DN125	621	541	451	184	70	674	594	504	350
DN150	647	567	477	211	70	703	623	533	350
DN200	705	625	535	266	98	757	677	587	400
DN250	757	677	587	319	114	810	730	640	450
DN300	808	728	638	370	130	860	780	690	500

Note: This product has three kinds of pillars a, b, c, different lengths, you can check the height of the entire table corresponding to the H mark on the table above. 150°C sensor head without compensation vortex, use pillar c; 150°C sensor head with compensation vortex, use pillar b; For 260°C sensor head vortex, use pillar b; for 300°C sensor head vortex, use pillar a.

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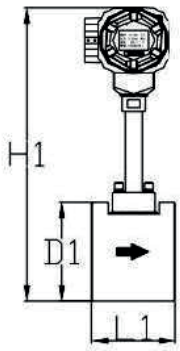
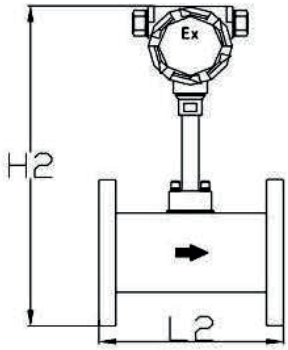
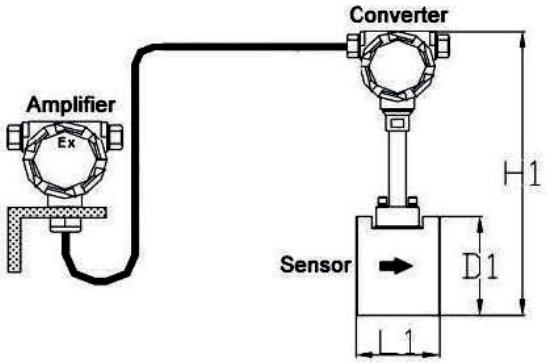


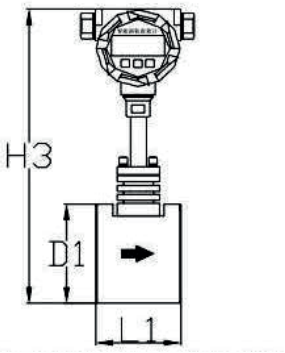
1. Wafer version (priority)



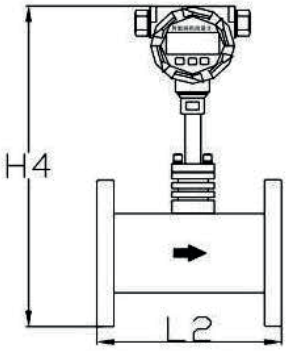
2. Flange version



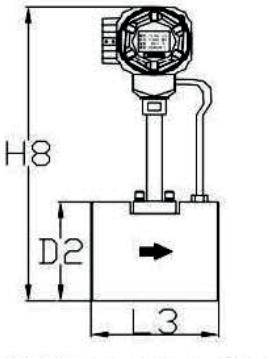
3. Remote version



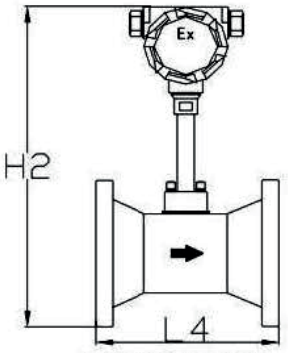
4. Wafer version (priority)
Feature: under continuous flow dismountable sensor head



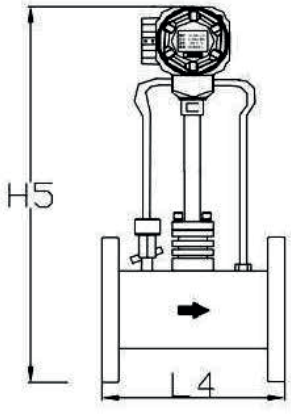
5. Flange version
Feature: under continous flow mountable sensor head



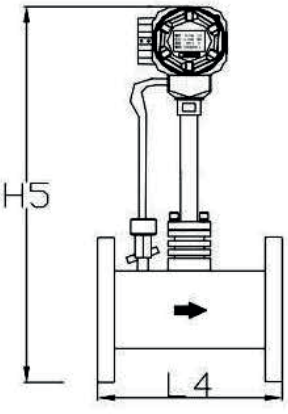
6. Temp. compensation compact wafer version



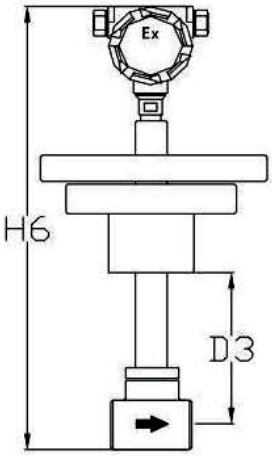
7. Low flow version
Feature: shorten diameter if lower flow (P&T compensation compact version. Body L4 width plus inside diameter.)



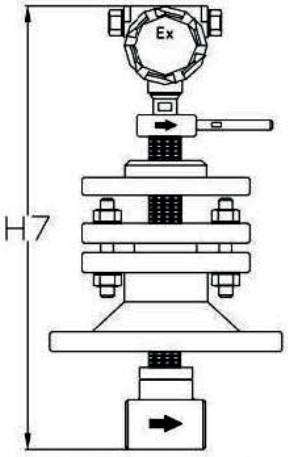
8. P&T compensation compact version



9. Flanged pressure compensation compact version



10. Cut off flow dismountable version (priority)



11. Continuous flow dismountable version

SUP-LUGB-A Vortex flowmeter max configuration size (unit: mm)

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DIMENSION	H1	H2	H3	H4	H5	H6	H7	H8	D1	D2	D3	L1	L2	L3	L4
DN10	441	428						90			50	200			
DN15	445	430						95			50	200			
DN20	450	435						100			50	200			
DN25	451	440			455			428	100	60		200		275	
DN32	456	452			468			432	105	65		200		275	
DN40	435	468	477	505	505			477	92	92		200	112	275	
DN50	438	480	484	518	518			484	98	98		200	112	275	
DN65	453	502	495	535	535				110	110		200	112	275	
DN80	476	515	519	550	550			519	134	134	134	225	112	300	
DN100	499	534	543	571	571				158			250	112	350	
DN125	520	564	560	599	599			560	175			275	112	375	
DN150	545	593	585	631	631			585	200			300	140	400	
DN200	595	647	635	682	682	530	1150	635	250	100	120	350	160	450	
DN250	645	700	685	735	735	530			300	125			180	500	
DN300	695	750	735	785	785	580	1200	735	350	150	160	450	200	550	
DN350	745	805	785	840	580				400	400	175	165	500	220	600
DN400	795	861	835	895	895	630			450	200	185	550		240	650
DN450	845	910	885	945	630				500	225	205	600		260	700
DN500	895	965	935	998	680	1300	935	550	550	250	225			280	750
DN600					730	1350				300					
DN800					830	1450				400					
DN1000					930	1550				500					
DN1200					1130	1650				600					
DN1500					1230	1750				700					
DN1800					1330	1850				800					
DN2000					1430	1950				900					

SUP-LUGB-A Vortex flowmeter max configuration size (unit: mm)

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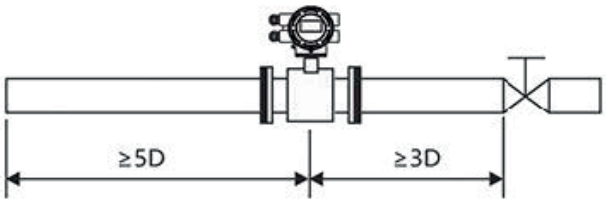
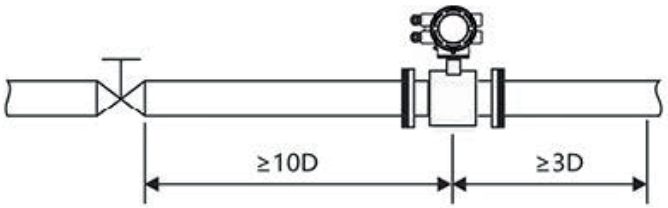
TERMINAL NO.	TERMINAL SYMBOLS	TERMINAL DESCRIPTION	NOTE
1	B-	RS485-	
2	A+	RS485+	
3	Iout	4-20mA Current Output	
4	GND	24V DC-	
5	Fout	Frequency or scaled pulse output	
6	V+	24V DC+	
7	TRH	Platinum Resistance Input	Connect Pt100 or Pt1000 platinum resistance at both ends
8	TRL	Platinum Resistance Input	
9	PIH	Pressure Sensor Input	PIH and PIL connect IN+ and IN- of pressure sensors; PVH and PVL connect mV output VO+ and VO- of pressure sensors
10	PVH	Pressure Sensor Input	
11	PVL	Pressure Sensor Input	
12	PIL	Pressure Sensor Input	
13	3V6+	Battery+	164
14	3V6-	Battery	219

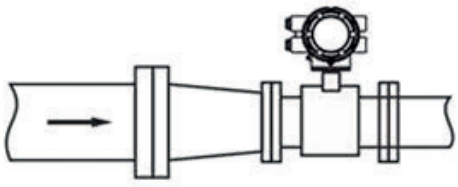
INSTALLATION



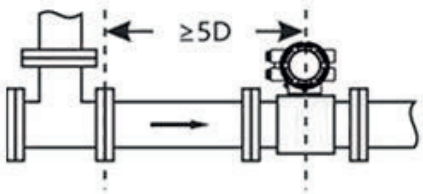
1. Valve installation downstream of the sensor



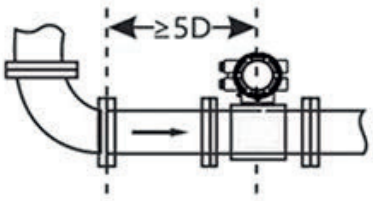
2. Valve installation upstream of the sensor



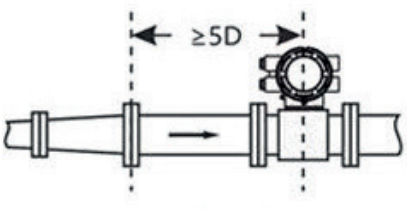
3. Reductive pipe can be regarded as a straight pipe



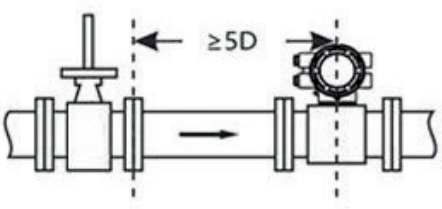
4. T shaped joint



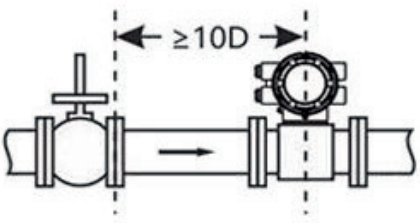
5. 90° elbow



3. Reductive pipe can be regarded as a straight pipe



4. T shaped joint



5. 90° elbow

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MODEL SELECTION

SPECIFICATIONS	SUFFIX CODE								DESCRIPTION
LUGB									Vortex Flow meter
DIAMETER	XXX								Stand for diameter 015-DN15; 050-DN50; 100-DN; 300-DN300
STRUCTURE		C							Compact type
		R							Remote display type
MEDIUM			L						Liquid
			G						Gas
			S						Steam
TRANSMITTER TYPE				N					24V DC, Pulse output; without display
				V					24VDC, 4-20mA & Pulse output; without temperature & pressure compensation
				PT					24VDC, 4-20mA & Pulse output; temperature & pressure compensation
				Notice					RS485 is optional for V & PT type
SENSOR MATERIAL					S4				SS304
					S6				SS316
TEMPERATURE RATING						T1			-40~100 °C
						T2			-40~250 °C
						T3			-40~330 °C
EXPLOSION-PROOF							BT		ExdIIBT6
							NA		None
PROCESS CONNECTION								WAF	Water connection
								DXX	D16: DIN PN16 flange D25: DIN PN25 flange
								AXX	A15: ANSI150# flange A30: ANSI300# flange
								JXX	J10: JIS 10K flange J20: JIS 20K flange
								XXX	Others

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