

Vortex Flowmeter
Model: IFLO-LUGB Series

FEATURES

- ❑ No moving parts inside, easier installation and maintenance
- ❑ Digital filter amplifier with wide measurement range and anti-interface performance
- ❑ Wide flow ratio up to 33:1
- ❑ High accuracy up to $\pm 0.5\%$ for A series
- ❑ Max temperature up to $+420^\circ\text{C}$ for A series
- ❑ Size range is from DN10-DN2000
- ❑ Compact and remote structure for option
- ❑ Power-off record keeping function



STANDARD SPECIFICATION

Model	DB Series	DA Series	C Series
Medium	Liquid; Gas; Steam		Liquid; Gas
Diameter	DN15-DN300	DN10-DN500	DN200-DN2000
Accuracy	$\pm 1.5\%$; $\pm 1.0\%$	$\pm 1.0\%$; $\pm 0.5\%$	$\pm 2.5\%$
Structure	Compact type; Remote type		
Compensation Type	Without compensation; Single temperature compensation; Single pressure compensation; Temperature & pressure compensation		Without
Min. Temperature	-20°C	-20°C	-20°C
Max. Temperature	$+100^\circ\text{C}$; $+250^\circ\text{C}$; $+300^\circ\text{C}$	$+100^\circ\text{C}$; $+250^\circ\text{C}$; $+320^\circ\text{C}$; $+420^\circ\text{C}$	$+100^\circ\text{C}$; $+250^\circ\text{C}$
Body Material	SS304; SS316; SS316L		
Connection Type	Flange; Wafer		Insertion
Protection	IP65	IP65; IP67	IP65
Explosion-proof	Exia II CT1-T6 Ga- Exd II CT6 Gb		Exia II CT1-T6 Ga
Communication	RS485; Hart@V7.0		
Power Supply	24V DC; 3.6V lithium battery		

- *Notice:
1. The remote type is with 10m wires as default, max up to 15m.
 2. The wafer type can't be with T & P compensation, only is single temperature.
 3. It can't be battery power if along with the HART comm. output.
 4. It can't be with Ex if the B series with T & P compensation.
 5. Note: 2-wire 4-20mA and RS485 cannot be used at same time.
3-wire 4-20mA and RS485 can be used at same time.

FLOW RANGE

Liquid Measurement											
Density (kg/m ³)	500	600	700	800	900	1000	1200	1400	1600	1800	Qmax
Diameter	Different density fluid, the mini flow rate Qmin(Unit:m ³ /h)										(Unit:m ³ /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

Gas/ Air Measurement													
Density (kg/m ³)	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:m ³ /h)												Unit: (m ³ /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

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	
150	Qmin	0.35	0.51	0.66	0.81	0.99	1.13	1.44	1.62	1.74	2.02	2.64	3.26	
	Qmax	4.2	6.18	8.09	9.96	12	13.8	17.5	19.6	21.1	24.6	32.1	39.5	
200	Qmin	0.62	0.9	1.19	1.45	1.76	2.01	2.56	2.87	3.09	3.61	4.71	5.8	
	Qmax	7.5	11	14.4	17.7	21.4	24.5	31.1	35	37.6	43.7	57.1	70.3	
250	Qmin	0.96	1.41	1.85	2.2	2.76	3.16	4	4.5	4.84	5.61	7.36	9.02	
	Qmax	11.6	17	22	27.6	33	38	48	54	58.7	68	89	110	
300	Qmin	1.38	2.04	2.66	3.28	3.97	4.54	5.78	6.48	6.97	8.12	10.56	12.98	
	Qmax	16.7	24.7	32	39	48	55	70	78	84	98	128	158	
350	Qmin	1.71	2.52	3.30	4.06	4.92	5.62	7.15	8.02	8.60	10.0	13	16	
	Qmax	22.8	33.6	44	54	65	74.9	95	106	115	133	174	215	
400	Qmin	2.24	3.29	4.30	5.30	6.40	7.30	9.30	10.5	11.2	13.1	17	21	
	Qmax	29	43.5	57	70	85	97	124	139	150	174	228	281	
450	Qmin	2.83	4.17	5.45	6.72	8.13	9.29	11.8	13.2	14.2	16.6	21.6	26.6	
	Qmax	37	56	72	89	108	123	157	176	190	221	289	26.6	
500	Qmin	3.49	5.15	6.74	8.29	12.3	14	17.9	20.1	21.6	25.2	33	40.5	
	Qmax	46	68	89.8	110	164	188	239	268	289	336	439	540	

*Note: The above is for reference only, as the manufacturer will calculate the actual flow range based on actual working conditions.

DIMENSIONS

Flange Clamp Series

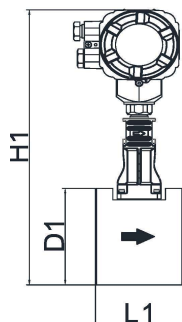


Figure 2.1
Flange Clamp Type
(Preferred Type)

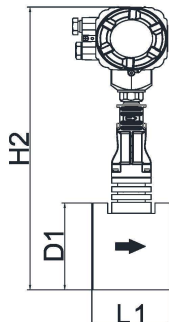


Figure 2.2
Sensor Head Non-Stop Flow
Removable Flange Clamp Type

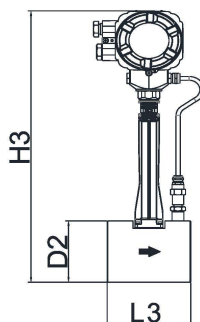


Figure 2.3
Flange Clamp Type with
Integrated Compensation

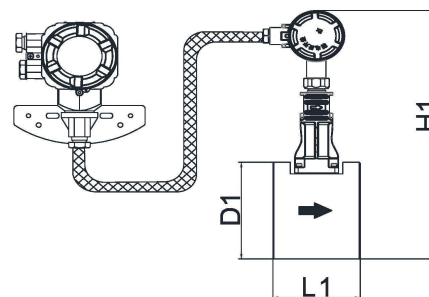


Figure 2.4 Amplifier and
Sensor Separated Type

Table 1 Maximum External Dimensions (Unit: mm)

DN	H1 ^a	H1 ^b	H1 ^c	H2 ^a	H2 ^b	H2	H3 ^b	H3 ^c	D1	D2	L1	L3
10	356	446	526	/	/	/	/	/	90	/	54	/
15	360	450	530	/	/	/	/	/	95	/	54	/
20	365	455	535	/	/	/	/	/	100	/	54	/
25	366	456	536	/	/	/	/	/	100	/	54	/
32	371	461	541	/	/	/	/	/	105	/	54	/
40	359	449	529	415	505	585	449	529	92	92	78	112
50	367	457	537	423	513	593	457	537	98	98	78	112
65	381	471	551	437	527	607	471	551	110	110	78	112
80	401	491	571	457	547	627	491	571	134	134	90	112
100	422	512	592	478	568	648	512	592	158	158	78	112
125	445	535	615	501	591	671	535	615	175	175	78	112
150	470	560	640	526	616	696	560	640	200	200	100	140
200	520	610	690	576	666	746	610	690	250	250	120	160
250	570	660	740	626	716	796	660	740	300	300	140	180
300	620	710	790	676	766	846	710	790	350	350	160	200
350	670	760	840	726	816	896	760	840	400	400	165	220
400	720	810	890	776	866	946	810	890	450	450	185	240
450	770	860	940	826	916	996	860	940	500	500	205	260
500	820	910	990	876	966	1046	910	990	550	550	225	280

Note: This product has various support columns with different lengths. Therefore, the overall meter height for some models is divided into three types: a, b, and c. Refer to the H subscripts in the table above to view the corresponding overall meter height.

1. Clamp-on without compensation, stop flow type (H1):
 - For -40 to +150°C sensor head, height H1^a;
 - For -40 to +260°C sensor head, height H1^b;
 - For -40 to +320°C sensor head, height H1^c;
 - For -200°C to +80°C sensor head, height H1^c;
2. Clamp-on without compensation, non-stop flow type (H2):
 - For -40 to +150°C sensor head, height H2^a;
 - For -40 to +260°C sensor head, height H2^b;
 - For -40 to +320°C sensor head, height H2^c;
 - For -40 to +420°C sensor head, height H2^c;
 - For -200°C to +80°C sensor head, height H2^c;
3. Clamp-on with temperature compensation, stop flow type (H3):
 - For steam type: height H3^c;
 - For non-steam type:
 - For -40 to +150°C and -40 to +260°C sensor heads, height H3^b;
 - For -40 to +320°C and -40 to +420°C sensor heads, height H3^c.

Flange Connection Series Vortex Flow Meter

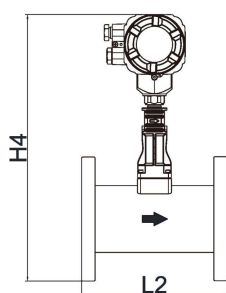


Figure 3.1
Flange Connection Type

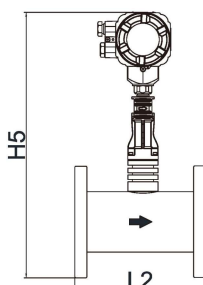


Figure 3.2
Sensor Head Non-Stop Flow
Removable Flange
Connection Type

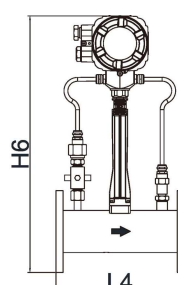


Figure 3.3
Integrated T & P
Compensation Smart Type

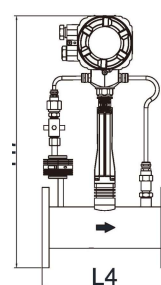


Figure 3.2
Sensor Head Non-Stop Flow
Removable Integrated T & P
Compensation Smart Type

Table 2 Maximum External Dimensions (Unit: mm)

DN	H4 ^a	H4 ^b	H4 ^c	H5 ^a	H5 ^b	H5 ^c	H6 ^b	H6 ^c	H7 ^b	H7 ^c	L2	L4
10	362	452	532	/	/	/	/	/	/	/	200	/
15	364	454	534	/	/	/	/	/	/	/	200	/
20	369	459	539	/	/	/	/	/	/	/	200	/
25	374	464	544	/	/	/	/	464	544	511	591	200
32	387	477	557	/	/	/	477	557	526	606	200	275
40	393	483	563	442	532	612	483	563	532	612	200	275
50	405	495	575	454	544	624	495	575	544	624	200	275
65	426	516	596	472	562	642	516	596	562	642	200	275
80	441	531	611	489	579	659	531	611	579	659	225	300
100	460	550	630	509	599	679	550	630	599	679	250	350
125	489	579	659	536	626	706	579	659	626	706	275	375
150	519	609	689	568	658	738	609	689	658	738	300	400
200	574	664	744	621	711	791	664	744	711	791	350	450
250	628	718	798	675	765	845	718	798	765	845	400	500
300	679	769	849	726	816	896	769	849	816	896	450	550
350	735	825	905	782	872	952	825	905	872	952	500	600
400	790	880	960	837	927	1007	880	960	927	1007	550	650
450	841	931	1011	888	978	1058	931	1011	978	1058	600	700
500	894	984	1064	941	1031	1111	984	1064	1031	1111	650	750

Note: This product has various support columns with different lengths. Therefore, the overall meter height for some models is divided into three types: a, b, and c. Refer to the H subscripts in the table above to view the corresponding overall meter height.

1. Flange connection without compensation, stop flow type (H4):
 - For -40 to +150°C sensor head, height H4^a;
 - For -40 to +260°C sensor head, height H4^b;
 - For -40 to +320°C sensor head, height H4^c;
 - For -200°C to +80°C sensor head, height H4^c;
2. Flange connection without compensation, non-stop flow type (H5):
 - For -40 to +150°C sensor head, height H5^a;
 - For -40 to +260°C sensor head, height H5^b;
 - For -40 to +320°C sensor head, height H5^c;
 - For -40 to +420°C sensor head, height H5^c;
 - For -200°C to +80°C sensor head, height H5^c;
3. Flange connection with compensation, stop flow type (H6):
 - For Type 056 housing with compensation and explosion-proof (H6): height H6^c;
 - Other cases:
 - For steam with compensation type, height is H6^c;
 - For non-steam with compensation type:
 - For maximum medium temperature 0°C, height H6^b;
 - For maximum medium temperature >80°C, height H6^c;
4. Flange connection with compensation, non-stop flow type (H7):
 - For steam with compensation type: height H7^c;
 - For non-steam with compensation type:
 - For maximum medium temperature , height H7^b;
 - For maximum medium temperature >80°C, height H7^c.

Internal Reduced Diameter Series Vortex Flow Meter (Maximum reduction up to 2 sizes is selectable))

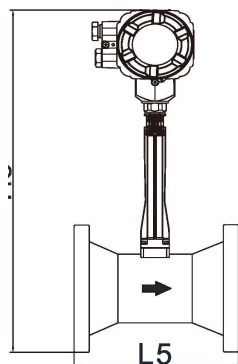


Figure 4.1
Internal Reduced Diameter Low-Flow Type (Without Compensation)

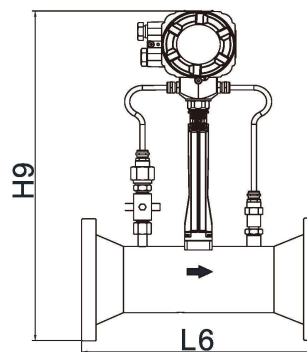


Figure 4.2
Internal Reduced Diameter Low-Flow Type
(Intelligent Integrated Temperature and Pressure Compensation Type)

Table 3 Maximum External Dimensions (Unit: mm)

Flange Bore (DN)	H8 ^a	H8 ^b	H8 ^c	H9 ^b	H9 ^c	L5	L6
10	/	/	/	/	/	/	/
15	/	/	/	/	/	/	/
20	374	464	544	/	/	275	/
25	379	469	549	/	/	300	/
32	392	482	562	482	562	300	375
40	398	488	568	488	568	325	400
50	401	491	571	491	571	350	425
65	417	507	587	507	587	375	425
80	434	524	604	524	604	375	450
100	451	541	621	541	621	450	500
125	476	566	646	566	646	500	600
150	507	597	677	597	677	550	650
200	543	633	713	633	713	600	700
250	601	691	771	691	771	700	800
300	653	743	823	743	823	800	900

1. Without compensation, internal reduced diameter, low flow velocity type (H8):

- For -40 to +150°C sensor head, height H8^a;
- For -40 to +260°C sensor head, height H8^b;
- For -40 to +320°C sensor head, height H8^c;

2. With compensation, internal reduced diameter, low flow velocity type (H9):

- For Type 056 housing with compensation and explosion-proof (H9): height H9^c;
- Other cases:
 - For steam with compensation type, height is H9^c;
 - For non-steam with compensation type:
 - For maximum medium temperature , height H9^b;
 - For maximum medium temperature >80°C, height H9^c;

MODEL SELECTION GUIDE

Model	Suffix Code								Description
IFLO-LUGB	①	②	③	④	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; $\pm 1.0\%$ accuracy; max 420°C ; Ex;3 wires for option
			Notice:						Dual power (24V DC+Battery) is optional for C, V , D series
Body Material					S4				SS304
					S6				SS316
Explosion Proof						BT			ExdIIBT6
						CT			ExiaII 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...
Temperature						XXX			Insertion; Thread; Tri- clamp
							T1		-20...+100°C
							T2		-20...+250°C
							T3		-20...+300°C
							T4		-20°C...+420 °C (only for DA type)