

GENERAL

The VPEMF series electromagnetic flow meter is a kind of flow meter made by adopting Faraday law of electromagnetic induction.

It's used for measuring the volumetric flow rate of conductive liquid and serous fluid in the closed pipe, and is applicable to chemicals, power, mining and metallurgy, water supply and drain, paper making, medicine, foods and so on.

FEATURES

- ☐ CE - LVD(2014/35/EU), EMC(2014/30/EU), Ex(2014/34/EU) Pressure Equipment (2014/68/EU)
- ☐ It's not affected by the change of liquid density, viscosity, temperature, pressure and conductivity.
- ☐ Capable of measuring flows in both directions.
- ☐ No maintenance is necessary because no driving parts, Lower requirements for straight pipe.
- ☐ Adopts new excitation method, and features low power consumption, stable zero point and high precision.
- ☐ Adopts surface mounting technology (SMT) with the functions of self-inspection and self-diagnosis.
- ☐ Provides superb stability and accuracy for a long time, Maintains a stable accuracy even at a site with a high level of noise and vibration.

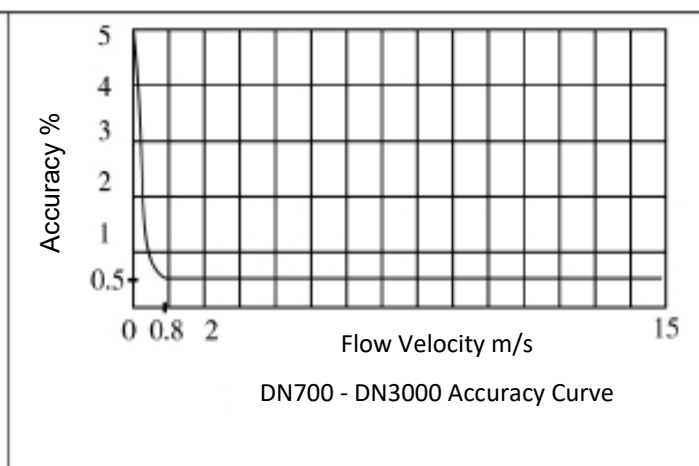
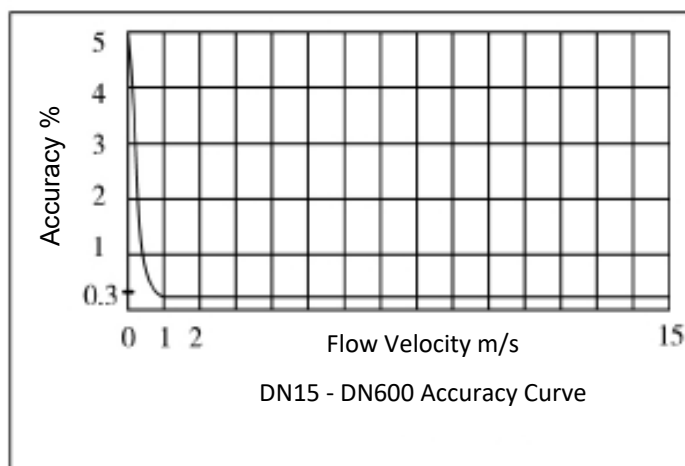
STANDARD SPECIFICATION

- ◆ **Size** : 3mm(1/8")~3000mm(120")
- ◆ **Measuring Range** : Liquid - 0.003 ~ 382,000 m3/Hr
- ◆ **Flow Velocity** : 0.1m/s ~ 15m/s
- ◆ **Conductivity** : Over 5 μ S / cm
- ◆ **Accuracy** :
 - DN15 ~ DN600 \pm 0.3% of the indicating value (flow velocity \geq 1m/s); \pm 3mm/s (flow velocity <1m/s)
 - DN3 ~ DN10 \pm 0.5% of the indicating value (flow velocity \geq 0.8m/s); \pm 4mm/s (flow velocity <0.8m/s)
- ◆ **Material**
 - Measuring Tube : Stainless Steel 304,316
 - Lining : PTFE, Neoprene ,PFA,F46,PU,Ceramic
 - Electrode : SS 316L, Hastelloy-B/C,Titanium,Tantalum, Platinum
 - Flange : CS, SS 304, SS316, SS 316L
- ◆ **Fluid Temperature**
 - Compact Type : -40 ~ +70 °C (Standard)
 - : -40 ~ +60 °C (Explosion Proof)
 - Remote Type : -40 ~ +150 ° C (Standard)
 - : -40 ~ +80 °C (Explosion Proof)
- ◆ **Process Connection**
 - Flange Type : DIN PN 10 - PN 420
 - : ANSI 150# - ANSI2500#
 - : JIS 10K / JIS 20K / JIS 40K/JIS63K
 - Other Option : Threaded, Clamp on, Tri-clamp
- ◆ **Local Display** : LCD Display With Back Light
Digit Display : 5 Digit Flowrate
 : 8 Digit Totalizer
- ◆ **Output**
 - Analog : DC 4 - 20mA/ 0-10mA
 - Pulse : Passive Output (0-5000HZ)
 - Alarm : 2 Points (high/low flow rate)
- ◆ **Communication Protocol** :RS232/RS485/Hart/Profibus DP
- ◆ **Flowrate Unit** : Ltr, ft3,m3, lgal, Ugal
- ◆ **Flow Time Unit** : S, Min, Hr,Dy, Wk
- ◆ **Flow velocity Unit** : m/s
- ◆ **Power Supply** : 19 ~ 40V D.C.
 : 85 ~ 265V A.C. 45 ~ 400HZ
- ◆ **Ambient Temperature** : -40 to +60 ° C
- ◆ **Protection Class** : PI 65, IP 67, IP 68
- ◆ **Explosion Proof** : Exdibmb II CT6 (Circular Converter)
 : Exdibmb II B+H2T6 (Square Converter)
- ◆ **Power Consumption** : Less-than 20 VA
- ◆ **Exciting Mode** : Low-frequency Rectangular Wave
- ◆ **Exciting current** : 125~500mA
- ◆ **Converter Housing** : Aluminum Alloy
- ◆ **Cable Entry** : Standard : M20 M18
Option : 1/2" NPT



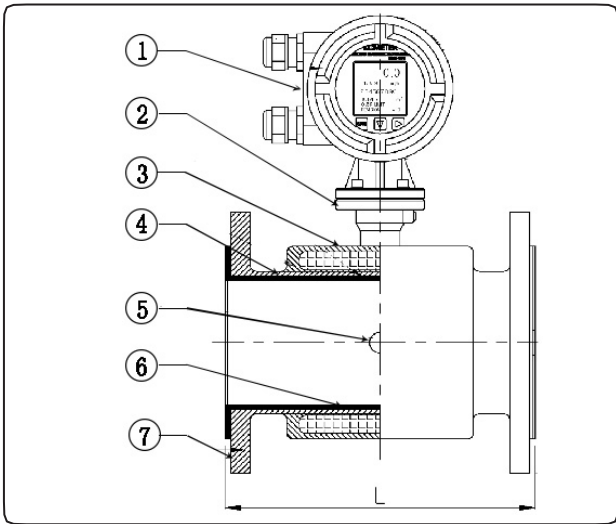
FLOW RANGE - Flow Velocity

Size mm	0.01 m/s (Min)	1 m/s	2 m/s	3 m/s	4 m/s	5m/s	15 m/s (max)
15	0.0064	0.6362	1.2723	1.9085	2.5447	3.1809	9.5426
20	0.0113	1.1310	2.2619	3.3929	4.5239	5.6549	16.9646
25	0.0177	1.7671	3.5343	5.3014	7.0686	8.8357	26.5072
40	0.0452	4.5239	9.0478	13.5717	18.0956	22.6195	67.8584
50	0.0707	7.0686	14.1372	21.2058	28.2743	35.3429	106.0288
65	0.1195	11.9459	23.8918	35.8377	47.7836	59.7295	179.1886
80	0.1810	18.0956	36.1911	54.2867	72.3823	90.4779	271.4336
100	0.2827	28.2743	56.5487	84.8230	113.0973	141.3717	424.1150
150	0.6362	63.6173	127.2345	190.8518	254.4690	318.0863	954.2588
200	1.1310	113.0973	226.1947	339.2920	452.3893	565.4867	1696.4600
250	1.7671	176.7146	353.4292	530.1438	706.8583	883.5729	2650.7188
300	2.5447	254.4690	508.9380	763.4070	1017.8760	1272.3450	3817.0351
350	3.4636	346.3606	692.7212	1039.0818	1385.4424	1731.8030	5195.4089
400	4.5239	452.3893	904.7787	1357.1680	1809.5574	2261.9467	6785.8401
450	5.7256	572.5553	1145.1105	1717.6658	2290.2210	2862.7763	8588.3289
500	7.0686	706.8583	1413.7167	2120.5750	2827.4334	3534.2917	10602.8752
600	10.1788	1017.8760	2035.7520	3053.6281	4071.5041	5089.3801	15268.1403
700	13.8544	1385.4424	2770.8847	4156.3271	5541.7694	6927.2118	20781.6354
800	18.0956	1809.5574	3619.1147	5428.6721	7238.2295	9047.7868	27143.3605
900	22.9022	2290.2210	4580.4421	6870.6631	9160.8842	11451.1052	34353.3157
1000	28.2743	2827.4334	5654.8668	8482.3002	11309.7336	14137.1669	42411.5008
1200	40.7150	4071.5041	8143.0082	12214.5122	16286.0163	20357.5204	61027.5612
1400	55.4177	5541.7694	11083.5389	16625.3083	22167.0778	27708.8472	83126.5416
1600	72.3823	7238.2295	14476.4589	21714.6884	28952.9179	36191.1474	108573.4421
1800	91.6088	9160.8842	18321.7684	27482.6525	36643.5367	45804.4209	137413.2627
2000	113.0973	11309.7336	22619.4671	33929.2007	45238.9342	56548.6678	169646.0033
2200	136.8478	13684.7776	27369.5552	41054.3328	54739.1104	68423.8880	205217.6640
2400	162.8602	16286.0163	32572.0326	48858.0490	65144.0653	81430.0816	244290.2448
2600	191.1343	19113.4268	38226.8536	57340.2804	76453.7072	95567.1340	286701.4020



➤ DIMENSIONS & PARAMETERS

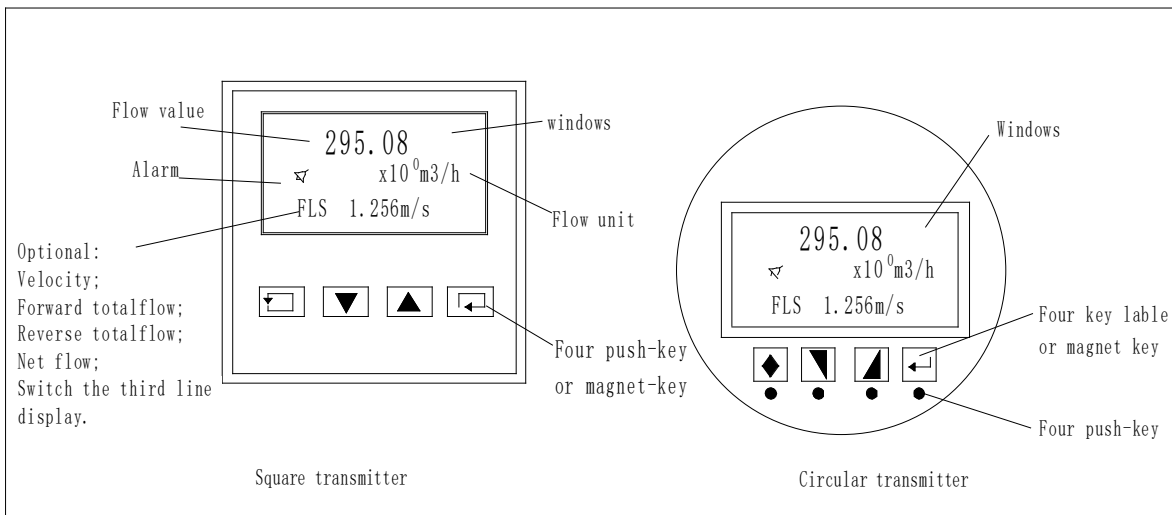
■ STRUCTURAL DRAWING



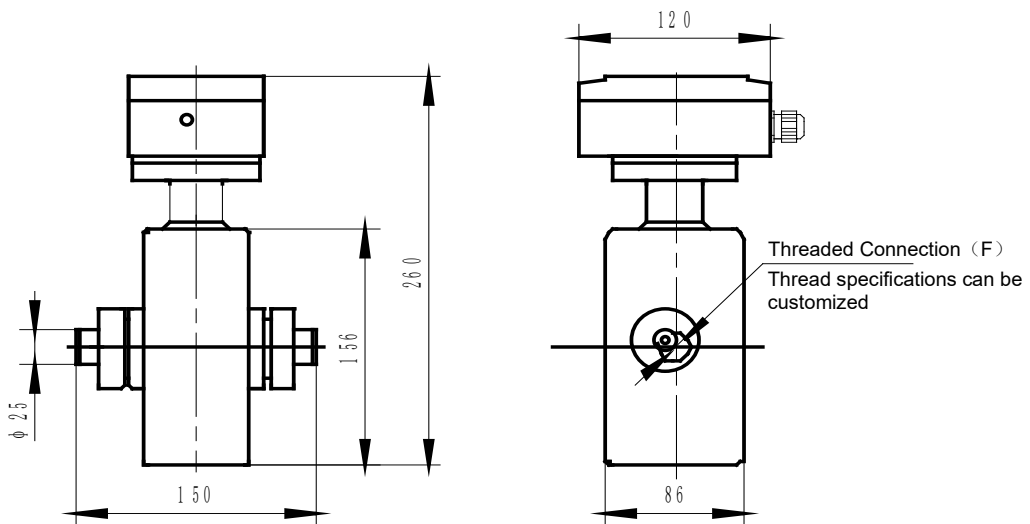
■ STANDARD MATERIAL

No.	Description	Material	
		Normal	Option
1	Converter	Aluminum	S.S 304(Square)
2	Connecting base	C. S.	S.S 304/S.S 316
3	Housing	C.S.	S.S 304 / S.S 316
4	Measuring tube	S.S 304	S.S 316
5	Lining	PTFE, Rubber, PU, PFA, F46, Ceramic	
6	Electrode	SS316L, Hastelloy-B/C, Titanium, Tantalum, Platinum	
7	Flange	C.S.	S.S 304 / S.S 316

Parts Details and Materials

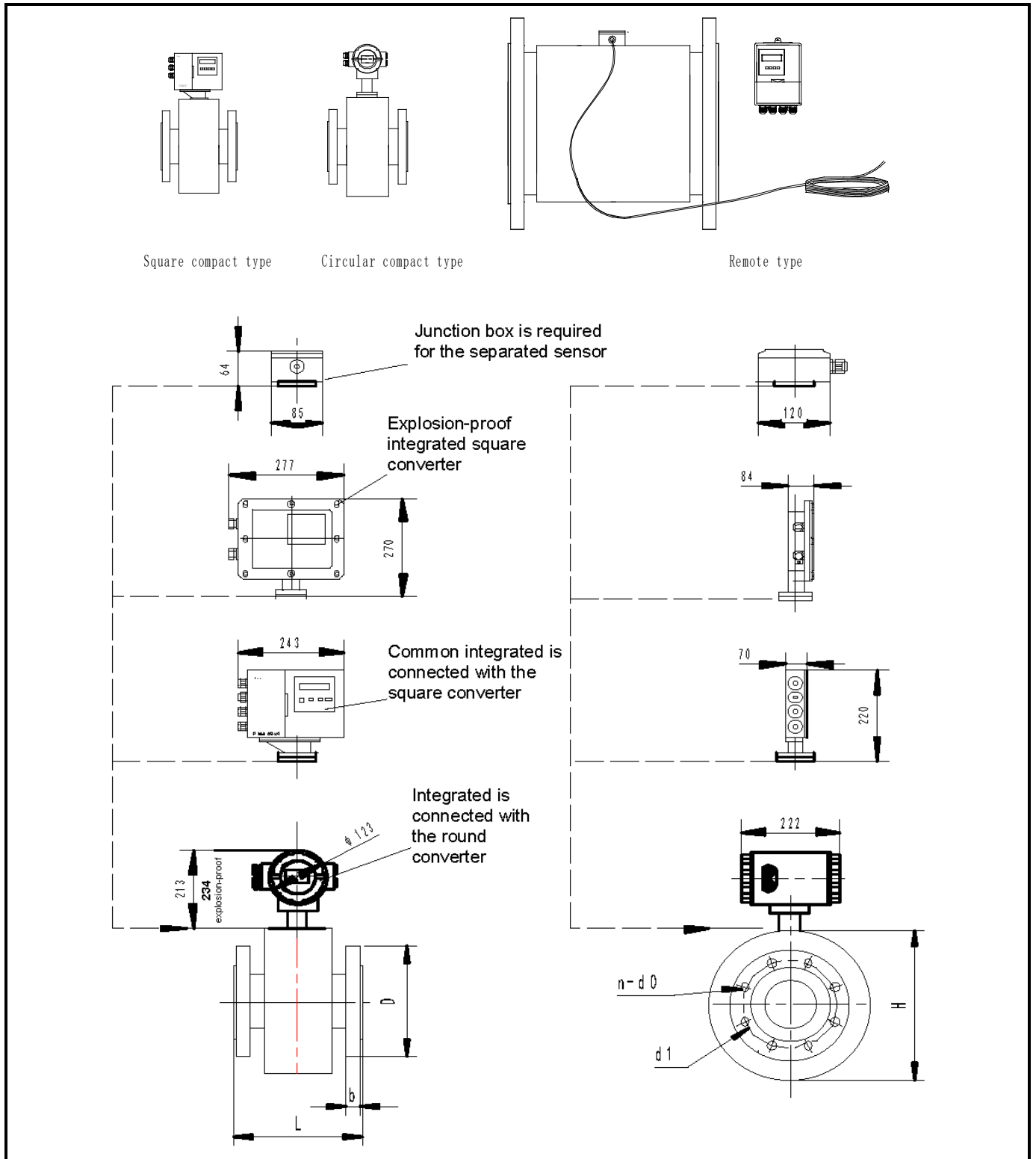


E-mag C Series Display and Operation Button



DN3, DN6, DN10 Threaded Type Sensor Dimensions (Normal) Larger Caliber Is Optional

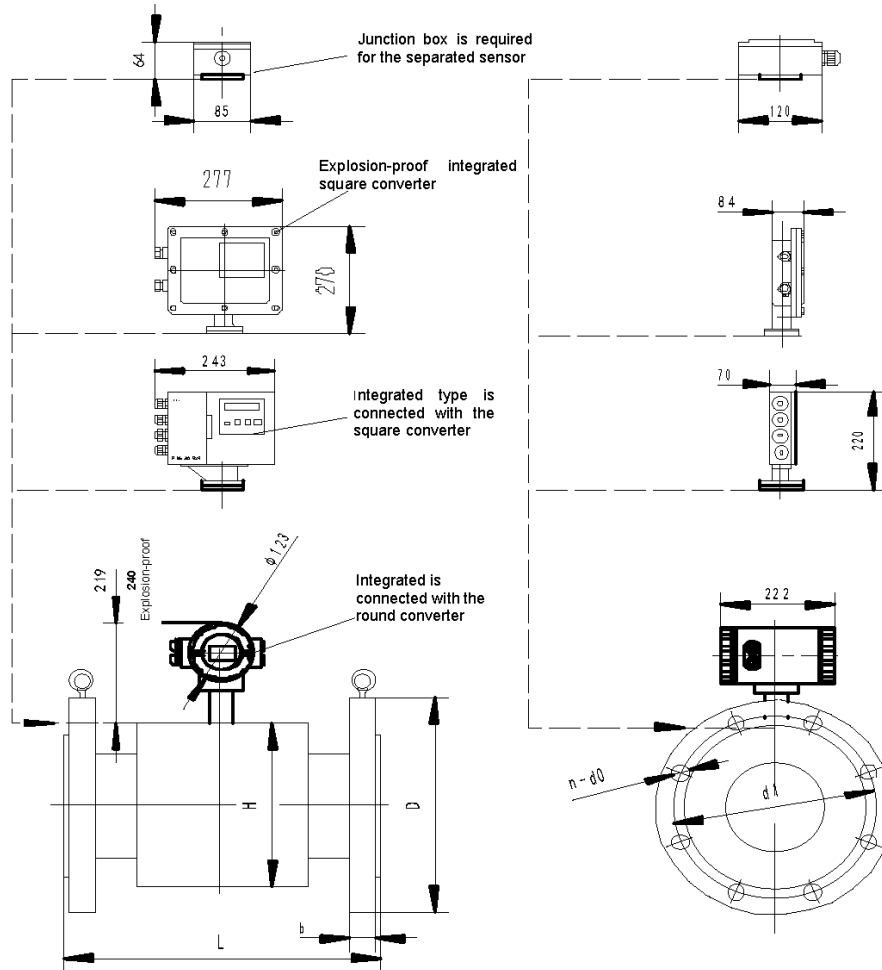
DIMENSIONS



SIZE mm	DIN PN 16 /PN 25 / PN40					ANSI 150#					L	H ∅	Weight (kg)
	D	d1	d0	n	b	D	d1	d0	n	b			
15	95	65	14	4	16	90	60.3	16	4	9.6	200	134	10
20	105	75	14	4	18	100	69.9	16	4	11.2	200	134	12
25	115	85	14	4	18	110	79.4	16	4	12.7	200	134	14
32	140	100	18	4	18	115	88.9	16	4	14.3	200	134	15

DN15~DN32 Flange Type Sensor and Converter Dimensions (Normal)

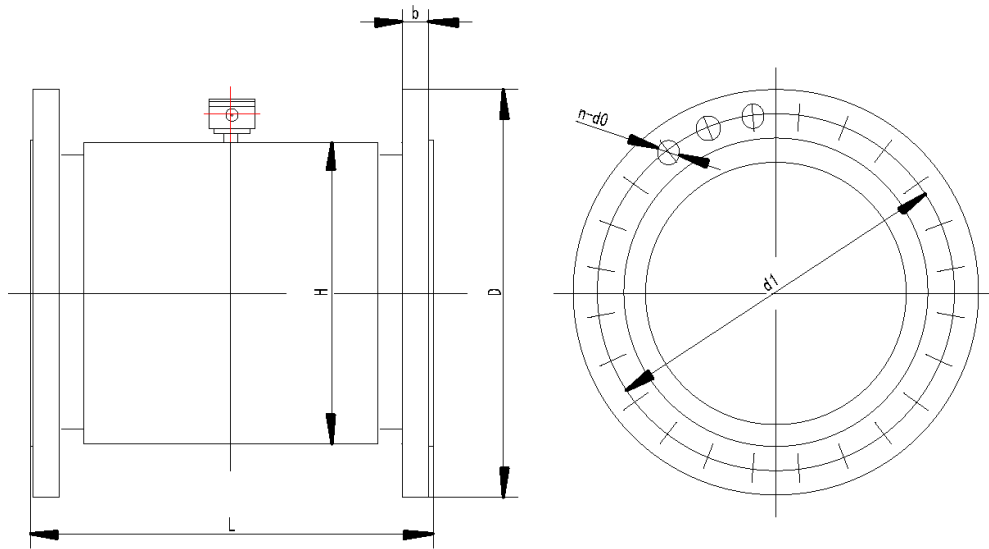
➤ DIMENSIONS



SIZE mm	DIN PN 16 /PN 25 / PN40					ANSI 150#					L	H ∅	Weight (kg)
	D	d1	d0	n	b	D	d1	d0	n	b			
40	150	110	18	4	20	125	98.4	16	4	15.9	200	149	16
50	165	125	18	4	20	150	120.7	18	4	17.8	200	156	17
65	185	145	18	4	20	180	139.7	18	4	20.7	200	156	19
80	200	160	18	8	22	190	152.4	18	4	22.3	200	156	20
	DIN PN 16					DIN PN40							
100	220	180	18	8	22	235	190	22	8	26	250	198	33
125	250	210	18	8	22	270	220	26	8	26	250	234	35
150	285	240	22	8	24	300	250	26	8	28	300	252	46
	DIN PN 10					DIN PN 16							
200	340	295	22	8	24	340	295	22	12	26	350	310	48
250	395	350	22	12	26	405	355	26	12	28	450	358	53
300	445	400	22	12	28	460	410	26	12	32	500	410	65
350	505	460	22	16	30	520	470	26	16	35	550	465	150
400	565	515	26	16	32	580	525	30	16	38	600	515	190
450	615	565	26	20	35	640	585	30	20	42	600	564	230
500	670	620	26	20	38	715	650	33	20	46	600	614	265
600	780	725	30	20	42	840	770	36	20	52	600	722	350

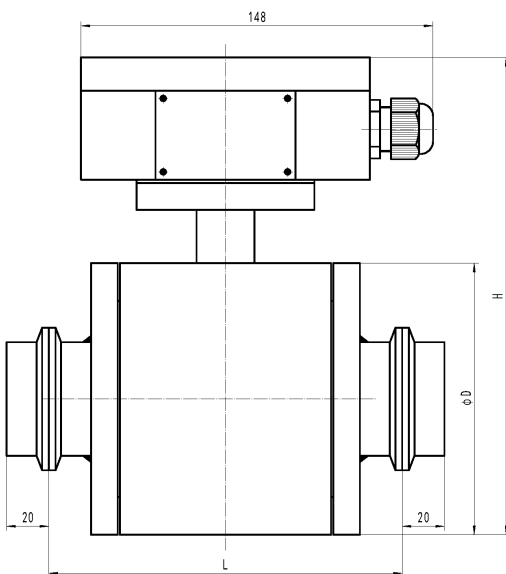
DN40~DN600 Flange Type Sensor and Converter Dimensions (Normal)

➤ DIMENSIONS



SIZE mm	GB/T9115 PN 6					GB/T9115 PN 10					L	H ∅	Weight (kg)
	D	d1	d0	n	b	D	d1	d0	n	b			
700	860	810	26	24	26	895	840	30	24	30	700	836	435
800	975	920	30	24	26	1015	950	33	24	32	800	936	545
900	1075	1020	30	24	26	1115	1050	33	28	34	900	1036	655
1000	1175	1120	30	28	26	1230	1160	36	28	34	1000	1146	810
	GB/T9115 PN 6												
1200	1405	1340	33	32	28						1200	1346	875
1400	1630	1560	36	36	32						1400	1552	1235
1600	1830	1760	36	40	34						1600	1752	1555
1800	2045	1970	39	44	36						1800	1964	2085
2000	2265	2180	42	48	38						2000	2172	2610

DN700~DN3000 Flange Type Sensor Dimensions (Normal)



SIZE mm	L	D	H	Weight (kg)
15	80	76	180	10
20	80	76	180	12
25	100	82	185	14
32	110	98	200	15
40	120	104	205	16

DN15~DN40 Tri-clamp Type Sensor Dimensions (Sanitary Type)

MODEL SELECTION GUIDE

VPEMF Series Example: MF/C1011611101CH107 DN100 PN16 PTFE Compact Type											
VPEMF/C		X X X	X X	X	X	X	X	X	X X	X	X X
Size (mm)	Dn3-Dn3000 3-Digital Code Seeing Size Code Table 1										
Process Connection	Seeing Table 2										
Lining Material	PTFE				1						
	Neoprene (Hard Rubber)				2						
	Polyurethane (PU)				3						
	F46				4						
	PFA				5						
	Ceramic				6						
Electrode Material	SS 316L				1						
	Hastelloy B				2						
	Hastelloy C				3						
	Titanium				4						
	Platinum-iridium				5						
	Tantalum				6						
	SS 316L Covered with Tungsten Carbide				7						
Housing Protection Class	IP65				1						
	Sensor IP68+Converter IP65 *(Remote Type , No explosion proof)				2						
	IP67 *(Circular Compact Type , No explosion proof)				3						
	Sensor IP67+Converter IP65				4						
Explosion Proof	None				0						
	Exdibmb II CT6 *(Circular Compact Type,Magnetic keyboard)				1						
	Exdibmb II B+H2T6 *(Square Compact Type,Magnetic keyboard)				2						
	Exdibmb II B+H2T6 *(Square Remote Type,Magnetic keyboard)				3						
	Exdibmb II B+H2T6 *(Square Remote Type,converter in the safe area)				4						
Accessory (Optional Selection)	None				0						
	Grounding Electrode (Dn25-Dn3000)				1						
	Grounding Flange (Dn15-Dn3000)				2						
	Inlet-Protection Flange (Dn65- Dn1600)				3						
	Scraper Electrode Structure (Dn300- Dn3000, Lining :Neoprene)				4						
	Grounding Ring (Dn15-Dn3000)				5						
	Inlet-Protection Ground Ring (Dn65-Dn600)				6						
Structure Type	Remote Type (Language English)						CR				
	Compact Type (Language English)						CH				
Power Supply	85~265V A.C. 45~400HZ								1		
	19~40V D.C.								2		
Converter Type	Square Remote Type, button, 4~20mA+Pulse+Double alarm, RS232										01
	Square Remote Type, button, 4~20mA+Pulse+Double alarm, RS485										02
	Square Remote Type, button, 4~20mA+Pulse+Double alarm, HART										03
	Square Remote Type, Magnetic Button, 4~20mA+Pulse+Double alarm, RS232										04
	Square Remote Type, Magnetic Button, 4~20mA+Pulse+Double alarm, RS485										05
	Square Remote Type, Magnetic Button, 4~20mA+Pulse+Double alarm, HART										06
	Circular Compact Type, button, 4~20mA+Pulse+Double alarm, RS485										07
	Circular Compact Type, button, 4~20mA+Pulse+Double alarm, HART										08
	Circular Compact Type, Magnetic Button, 4~20mA+Pulse+Double alarm, RS485										09
	Circular Compact Type, Magnetic Button, 4~20mA+Pulse+Double alarm, HART										10
	Square Compact Type, button, 4~20mA+Pulse+Double alarm, RS232										11
	Square Compact Type, button, 4~20mA+Pulse+Double alarm, RS485										12
	Square Compact Type, button, 4~20mA+Pulse+Double alarm, HART										13
	Square Compact Type, Magnetic Button, 4~20mA+Pulse+Double alarm, RS232										14
	Square Compact Type, Magnetic Button, 4~20mA+Pulse+Double alarm, RS485										15
	Square Compact Type, Magnetic Button, 4~20mA+Pulse+Double alarm, HART										16
	Square Remote Type, button, 4~20mA+Pulse+Double alarm, Profibus DP										17

**Table 1
Size code table**

Size (mm)	Code
3	030
6	060
10	100
15	150
20	200
25	250
32	320
40	400
50	500
65	650
80	800
100	101
125	125
150	151
200	201
250	251
300	301
350	351
400	401
450	451
500	501
600	601
700	701
800	801
900	901
1000	102
1200	122
1400	142
1600	162
1800	182
2000	202
2200	222
2400	242
2600	262
2800	282
3000	302
3200	322

**Table 2
Process connection**

Code	Process Connection
06	PN 6 (DIN)
10	PN10 (DIN)
16	PN16 (DIN)
20	PN20 (ANSI 150#)
25	PN25
40	PN40
50	PN50 (ANSI 300#)
63	PN63 (DIN)
31	Threaded Connection
32	Clamp on Connection
33	Tri-clamp Sanitary Type
X X	Others