

RIF100 | Electromagnetic Flow Meter For Conductive Liquid, Water And Waste Water



Function

Electromagnetic flowmeters can be used to accurately measure the flowrate of liquids, slurries, pastes and sludges with an electrical conductivity of at least 20 $\mu\text{S}/\text{cm}$.

Key Features

- Meter size DN 3 ... DN 3000 (3/25 ... 120")
- Standardized installation lengths for DIN, BS, ASME B16.5 or JIS B2210-10K flanges;
- Liners, PFA, PTFE, F46, Polyurethane, hard or soft rubber, ceramic carbide;
- Accuracy $< \pm 0.5\%$ of rate ($> \text{DN } 3$);
- Fluid temperature $-40 \dots 130^\circ\text{C}$;
- AC / DC supply power.



Products features

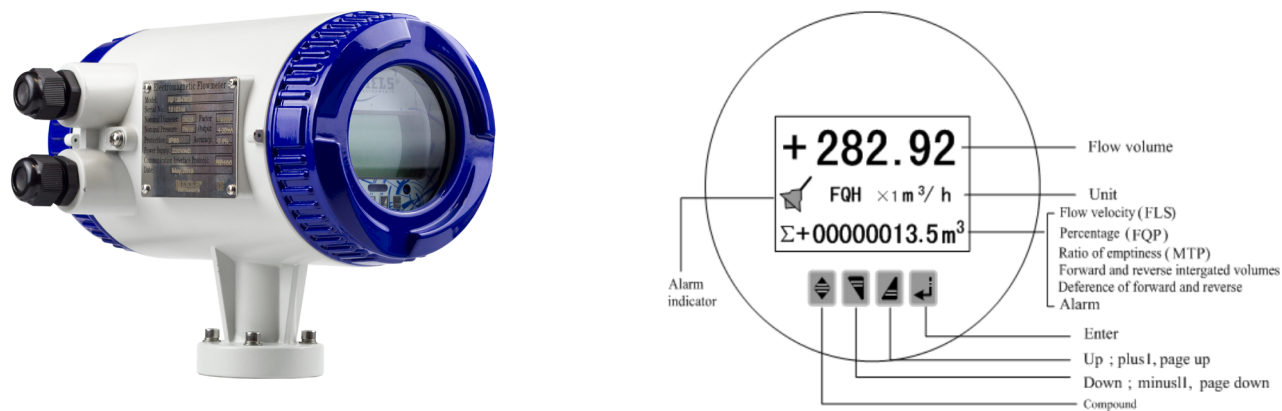
- Water purification and desalination
- Drinking water distribution networks
- Revenue metering or billing
- Leakage detection
- Irrigation
- Industry water
- Cooling water
- Wastewater
- Sewage and sludge
- Sea water

Flow rate comparison

Flow Rate Comparison							
m/s m³/h mm	0.5	1	2	3	4	5	15 (max)
3	0.013				0.102		0.382
6	0.051				0.407		1.526
10	0.1414	0.2827	0.5654	0.8482	1.1309	1.4137	4.2411
15	0.3481	0.6362	1.2723	1.9085	2.5447	3.1809	9.5426
20	0.5655	1.1310	2.2619	3.3929	4.5239	5.6549	16.9646
25	0.8836	1.7671	3.5343	5.3014	7.0686	8.8357	26.5072
32	1.4476	2.8953	5.7906	8.6859	11.5812	14.4765	43.4294
40	2.2619	4.5239	9.0478	13.5717	18.0956	22.6195	67.8584
50	3.5343	7.0686	14.1372	21.2058	28.2743	35.3429	106.0288
65	5.9730	11.9459	23.8918	35.8377	47.7836	59.7295	179.1886
80	9.0478	18.0956	36.1911	54.2867	72.3823	92.4779	271.4336
100	14.1372	28.2743	56.5487	84.8230	113.0973	141.3717	424.1150
125	22.0893	44.1786	88.3573	132.5359	176.7146	220.8932	662.6797
150	31.8086	63.6173	127.2345	190.8518	254.4690	318.0863	954.2588
200	56.5787	113.0973	226.1947	339.2920	452.3893	565.4867	1696.4600
250	88.3573	176.7146	353.4292	530.1438	706.8583	833.5729	2650.7188
300	127.2345	254.4690	508.9380	763.4070	1017.8760	1272.3450	3817.0351
350	173.1803	346.3606	692.7212	1039.0818	1385.4424	1731.8030	5195.4089
400	226.1947	452.3893	904.7787	1357.1680	1809.5574	2261.9467	6785.8401
450	286.2776	572.5553	1145.1105	1717.6658	2290.2210	2862.7763	8588.3289
500	353.4292	706.8583	1413.7167	2120.5750	2827.4334	3534.2917	10608.7520
600	508.9380	1017.8760	2035.7520	3053.6281	4071.5041	5089.3801	15268.1403
700	692.7212	1385.4424	2770.8847	4156.3271	5541.7694	6927.2118	20781.6354
800	904.7787	1809.5574	3619.1147	5428.6721	7238.2295	9047.7868	27143.3605
900	1145.1105	2290.2210	4580.4421	6870.6631	9047.7868	11451.1052	34353.3157
1000	1413.7167	2827.4334	5654.8668	8482.3002	11309.7336	14137.1669	42411.5008
1200	2035.7520	4071.5041	8143.0082	12214.5122	16286.0163	20357.5204	61072.5612
1400	2770.8847	5541.7694	11083.5389	16625.3083	22167.0778	27708.8472	83126.5416
1600	3619.1147	7238.2295	14476.4589	21714.6884	28952.9179	36191.1474	108573.4421
1800	4580.4420	9160.8842	18321.7684	27482.6526	36643.5367	45804.4209	137413.2627
2000	5654.8667	113097.3360	22619.4671	33929.2007	45238.9342	56548.6678	169646.0033
2200	6842.3887	13684.7776	27369.5552	41054.3328	54739.1104	68423.8880	205217.6640
2400	8143.0080	16286.0163	32572.0326	48858.0490	65144.0653	81430.0816	244290.2448
2600	9556.7247	19113.4268	38226.8536	57340.2804	76453.7072	95567.1340	286701.4020
2800	11083.5387	22167.0774	44334.1548	66501.2322	88668.3095	110835.3869	332506.1608
3000	12723.4500	25446.9001	50893.8001	76340.7002	101787.6002	127234.5003	381703.5009

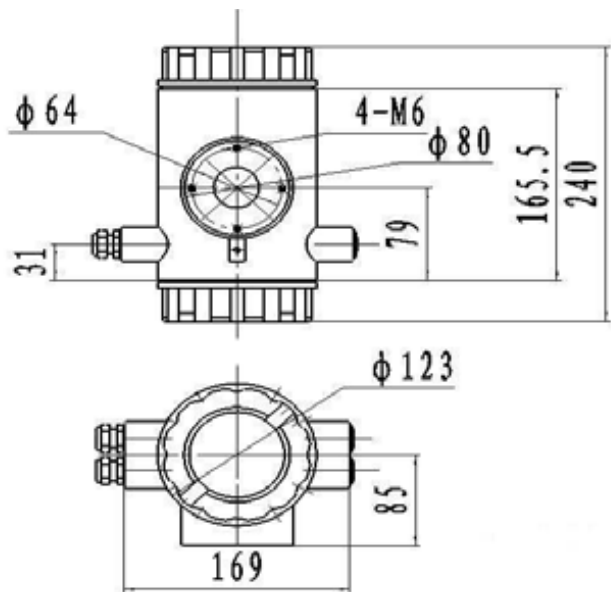
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Model RIF10C: Compact converter drawing and features

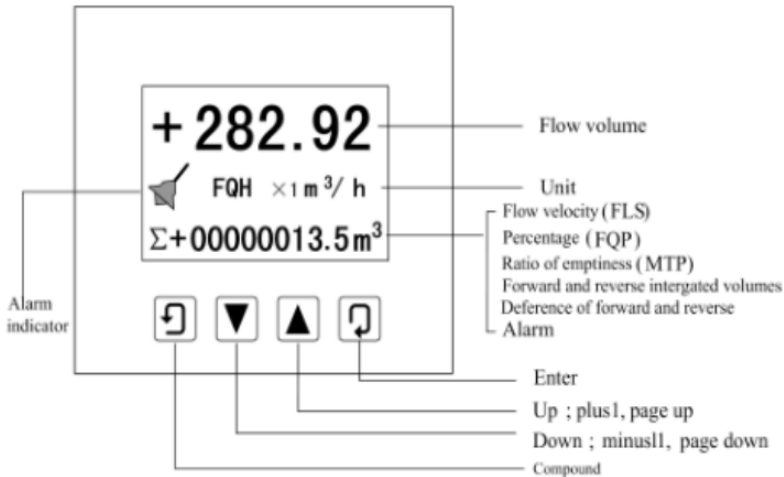


Measured value	Instant Flow Rate Forward and reverse integrated volume ratio of Emptiness Deferenze of forward and reverse Alarm Percent of flow rate
Output signals	Current output • 4...20 mA, Pulse/Frequency output • Pulse output: Range 0÷100 impulsi/s • Frequency output: 1÷5000 hz Frequency and pulse output can't be use togheter.
Alarms	Alarms can be set as minimun or maximun flow rate or as system alarm
Protocols	MODBUS interface: format of RTU. HART interface: designed by standard of HART , if you choose our hand held unit , you can display themeasur- re value on line, and setting the parameters.
Cut-Off	Free setting

Dimensions

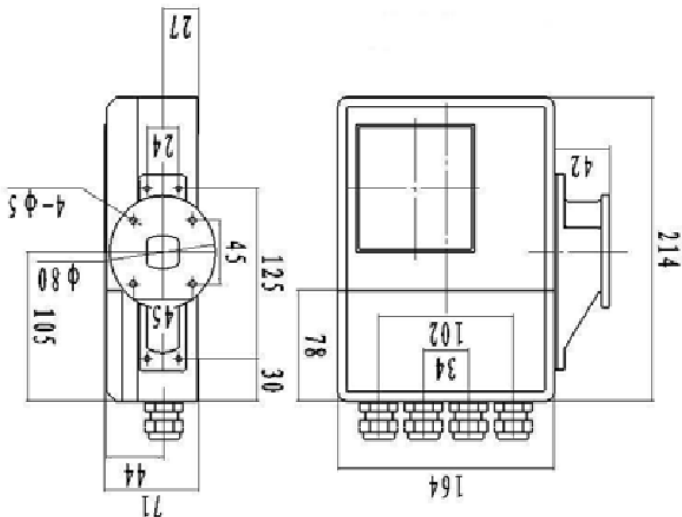


Model RIF10W: Wall mounting converter drawing and features

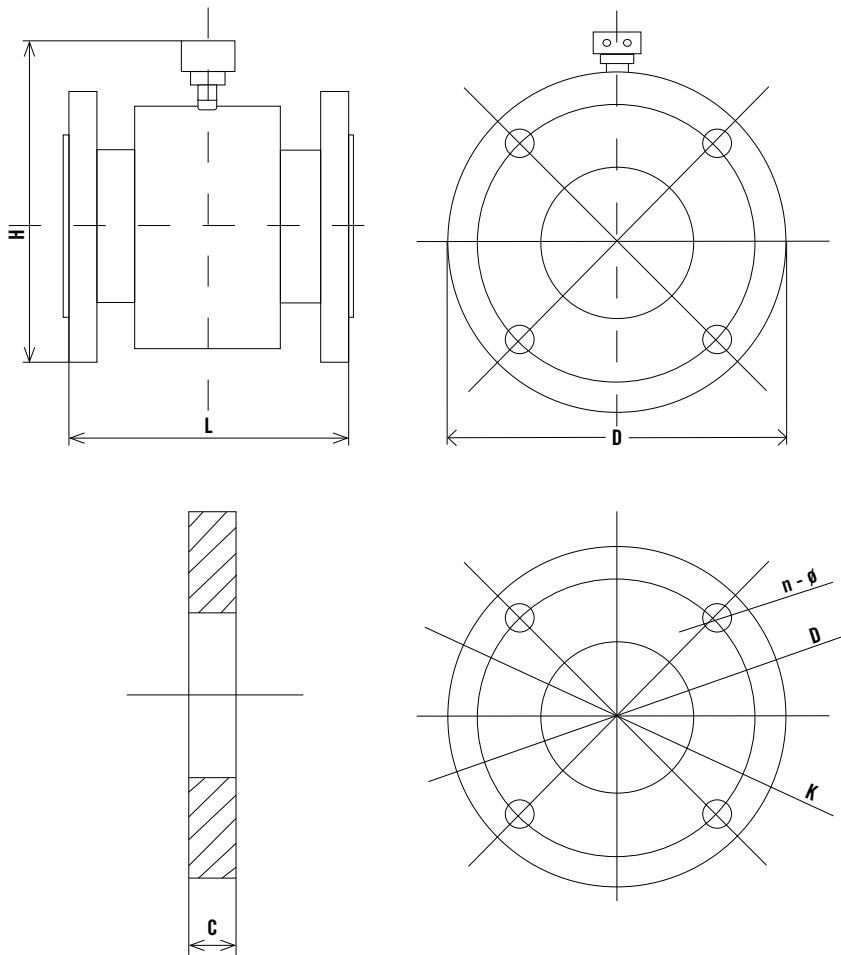


Measured value	Instant Flow Rate Forward and reverse integrated volume ratio of Emptiness Deferenze of forward and reverse Alarm Percent of flow rate
Output signals	Current output • 4...20 mA, Pulse/Frequency output • Pulse output: Range 0÷100 impulsi/s • Frequency output: 1 ÷5000 hz Frequency and pulse output can't be use togheter.
Alarms	Alarms can be set as minimun or maximun flow rate or as system alarm
Protocols	MODBUS interface: format of RTU. HART interface: designed by standard of HART , if you choose our hand held unit , you can display themeasu- re value on line, and setting the parameters.
Cut-Off	Free setting
Supply	• 85...250V c.a. • 20...36V c.c.

Dimensions



Flange connection sensor features and drawings



Flange Dimension

Connecting flange and installing dimension see picture executive standard of connection flange:

- 1.6MPa(DN3-DN250)
- 1.0MPa(DN300-DN1000)
- 0.6MPa(DN1100-DN3000)

Diameters	DN3...3000 [mm]
Nominal pressure	PN6, PN10, PN16, PN25, PN40 (on request special version)
Accuracy	±0,5%
Liner material	PTFE, PFA, Neoprene, poly other on request
Electrodes	SS 1.4435. On request Hastelloy C, Titanium, Tantalum, Platino-iridium
Ambient temperature	-25÷+60 °C
Fluid temperature	• Neoprene: -20 ... +90 °C • PTFE: -20 ... +130 °C
Ambient humidity	5÷100%HR
Measuring range	1500:1; velocity < 15 m/s
Conductivity	Minimun conductivity: • ≥ 20 μS/cm for Demi water Note! Separate version, the conductivity minimum requested depends of the length of cable.
Versiond available	Compact version, wall mounting version
Protection	IP65, IP68 on request

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Dimension and weight of flanged connections

Nominal Diameter	Nominal Pressure	External dimensions				Weight
[mm]	EN (DIN) [Bar]	L with liner in PTFE	L with liner in Neoprene	D	H	[Kg]
3	PN16	200	/	90	220	4
6		200	/	90	220	5
10		200	/	90	220	6
15		200	/	95	220	8
20		200	/	105	220	10
25		200	/	115	223	12
32		200	/	140	240	13
40		200	200	150	250	14
50		200	200	165	263	15
65		200	200	185	283	18
80		200	200	200	290	20
100		250	250	235	318	25
125		250	250	270	350	28
150		300	300	300	380	30
200		350	350	340	430	50
250		450	450	405	495	70
300	PN10	500	500	460	547	95
350		550	550	520	602	120
400		600	600	580	665	140
450		600	600	640	720	160
500		600	600	715	783	200
600		600	600	840	897	280
700		700	700	895	982	350
800		800	800	1015	1092	400
900		900	900	1115	1192	480
1000		1000	1000	1230	1299	550
1200	PN6	1200	1200	1405	1488	660
1400		1400	1400	1630	1700	750
1600		1600	1600	1830	1924	850
1800		1800	1800	2045	2134	980
2000		2000	2000	2265	2344	1200
2200		2200	2200	2475	2549	1600
2400		2400	2400	2685	2754	2000
2600		2600	2600	2905	3169	2400
2800		2800	2800	2905	3169	2700
3000		3000	3000	3315	3369	2900

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Dimension and weight of flanged connections

Nominal Diameter [mm]	D	K	Φ	n	C
3	90	60	14	4	14
6	90	60	14	4	14
10	90	60	14	4	14
15	95	65	14	4	14
20	105	75	14	4	16
	115				
25		85	14	4	16
32	140	100	18	4	18
40	150	110	18	4	18
50	165	125	18	4	20
65	185	145	18	8	22
80	200	160	18	8	24
100	235	190	22	8	26
125	270	220	26	8	28
150	300	250	26	8	30
200	340	295	22	12	26
250	405	355	26	12	28
300	460	410	26	12	32
350	520	470	26	16	35
400	580	525	30	16	38
450	640	585	30	20	42
500	715	650	33	20	46
600	840	770	36	20	52
700	895	840	30	24	30
800	1015	950	33	24	32
900	1115	1050	33	28	34
1000	1230	1160	36	28	34
1200	1405	1340	33	32	28
1400	1630	1560	36	36	32
1600	1830	1760	36	40	34
1800	2045	1970	39	44	36
2000	2265	2180	42	48	38
2200	2475	2390	42	52	42
2400	2685	2600	42	56	44
2600	2905	2810	48	60	46
2800	2905	3020	48	64	48
3000	3315	3220	48	68	50

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