



ENVIROMAG 2000 Technical Datasheet

Electromagnetic Flow Sensor

- Engineered and manufactured for the North American water and wastewater industry
- NSF Approved for potable water
- Proven and unsurpassed lifetime performance
- Long-term reliability and durability
- Available IP68 rating
- Available for direct burial installation



Solution for the water & wastewater Industry

The ENVIROMAG 2000 magmeter is the optimum solution for North American water and wastewater measurement applications. It's design and performance makes it the choice for flow measurement throughout the process.



1. Flanged design
2. PP. Polyurethane and Hard Rubber liner
3. 3/8" to 80" diameter
4. ANSI or AWWA flanges

Highlights

- Short inlet and outlet runs
- Unaffected by contamination, solids, fibers, slurries
- No maintenance
- Wet calibrated - includes calibration report
- Suitable for potable, chlorinated, fluorinated water, etc.
- Continuous self diagnostics
- NSF approved
- Available "virtual reference" eliminates grounding rings

Applications

- Wastewater processes
- Desalination processes
- Irrigation networks
- Clean water processes
- Water distribution
- Cooling stations - district heating

OPTIFLUX converters: All converters fit to all sensors



IFC 300 High-performance solution



IFC 010 Economical solution

Technical Data

Nominal diameter	VB14										VB15								VB16											
ASME [inch]	3/8"	1/2"	1"	32 1/4"	40 1/2"	50 2"	65 2 1/2"	80 3"	100 4"	125 5"	150 6"	200 8"	250 10"	300 12"	350 14"	400 16"	450 18"	500 20"	600 24"	700 28"	800 32"	900 36"	1000 40"	1200 48"	1350 54"	1400 56"	1500 60"	1600 64"	1800 72"	2000 80"
DN [mm]	10	15	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1350	1400	1500	1600	1800	2000

Nominal Flange Pressure

ASME B16.5 - 150 lbs RF	[Standard Feature]																															
ASME B16.5 - 300 lbs RF	[Standard Feature]												[Optional Feature]																			
AWWA - class B FF	[Standard Feature]												[Optional Feature]																			
AWWA - class D FF	[Standard Feature]																															

> 80"/2000 mm on request (OPTIFLUX Series)
 AWWA Class D flanges ≤ 150PSI
 AWWA Class B flanges ≤ 50 PSI

Liner

Polypropylene	[Standard Feature]																															
Hardrubber	[Standard Feature]																															
Polyurethane	[Standard Feature]												[Optional Feature]																			

See pressure and temperature limits for various liners

Electrodes (Replaceable)

Hastelloy C4	[Standard Feature]																															
Stainless steel(AISI 316 L)	[Standard Feature]																															
Hastelloy B2	[Standard Feature]																															

(Titanium, Tantalum, Platinum available on request)

Grounding rings

Virtual Reference [†]	[Standard Feature]																															
Hastelloy C4	[Standard Feature]												[Optional Feature]																			
Stainless steel 1,4571 (AISI 316 Ti)	[Standard Feature]																															

[†]Only with IFC300 Converter. Must specify option at time of order.

Materials

Measuring tube - austenitic stainless steel	[Standard Feature]																															
Housing	[Standard Feature]																															
Sheet steel (polyurethane coated)	[Standard Feature]																															
Stainless steel	[Standard Feature]												[Optional Feature]																			
Flanges	[Standard Feature]																															
Carbon Steel	[Standard Feature]																															
Stainless steel(AISI 316 L)	[Standard Feature]												[Optional Feature]																			
Stainless steel (AISI 304)	[Standard Feature]																															
Connection box	[Standard Feature]																															
Die-cast aluminium (polyurethane coated)	[Standard Feature]																															
Stainless steel connection box	[Standard Feature]																															

Protection category

IP 66 / 67 (NEMA 4/4X / 6)	[Standard Feature]																															
IP 68 (NEMA 6P [†])	[Optional Feature]																															

Approvals

General Purpose	[Standard Feature]																															
CSA - Ordinary Locations	[Optional Feature]																															

Please note the approvals are for flow sensors only.

Versions

Compact + IFC 300 C	[Standard Feature]																															
Separate + IFC 300 F, R, W	[Standard Feature]																															
Compact + IFC 010 C	[Standard Feature]																				[Optional Feature]											
Separate + IFC 010 W	[Standard Feature]																															

Conductivity

Min. conductivity	min. 20 µS/cm																															
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[†]Separate Only with Stainless Steel Junction Box

[Blue Box] Standard Feature [Grey Box] Optional Feature

Temperature Range

Temperature range [°C]	Process [°C]		Ambient [°C]	
	min.	max.	min.	max.

Hardrubber

Separate flow sensor (OPTIFLUX 2000 F)	-5	69	-40	65
Compact with IFC 300 (OPTIFLUX 2300 C)	-5	69	-40	65
Compact with IFC 010 (OPTIFLUX 2010 C)	-5	69	-25	60

* Hard Rubber available for sizes DN25 - 2000

Polyurethane

Separate flow sensor (OPTIFLUX 2000 F)	-5	80	-40	65
Compact with IFC 300 (OPTIFLUX 2300 C)	-5	80	-40	65
Compact with IFC 010 (OPTIFLUX 2010 C)	-5	80	-25	60

* Polyurethane available for DN 50-1000

Polypropylene

Separate flow sensor (OPTIFLUX 2000 F)	-5	90	-40	65
Compact with IFC 300 (OPTIFLUX 2300 C)	-5	90	-40	65
Compact with IFC 010 (OPTIFLUX 2010 C)	-5	90	-25	60

* Polypropylene available for DN 10-15

Temperature range [°F]	Process [°F]		Ambient [°F]	
	min.	max.	min.	max.

Hardrubber

Separate flow sensor (OPTIFLUX 2000 F)	23	156	-40	149
Compact with IFC 300 (OPTIFLUX 2300 C)	23	156	-40	149
Compact with IFC 010 (OPTIFLUX 2010 C)	23	156	-13	140

* Hard Rubber available for sizes 1" - 80

Polyurethane

Separate flow sensor (OPTIFLUX 2000 F)	23	176	-40	149
Compact with IFC 300 (OPTIFLUX 2300 C)	23	176	-40	149
Compact with IFC 010 (OPTIFLUX 2010 C)	23	176	-13	140

* Polyurethane available for sizes 2" - 40"

Polypropylene

Separate flow sensor (OPTIFLUX 2000 F)	23	194	-40	149
Compact with IFC 300 (OPTIFLUX 2300 C)	23	194	-40	149
Compact with IFC 010 (OPTIFLUX 2010 C)	23	194	-13	140

* Polypropylene available for ASME 3/8" - 1/2"

Vacuum Load

Liner	Diameter [mm]	Minimum operating pressure absolute in mbar (abs) at process temperature			
		20°C	40°C	60°C	80°C
Polypropylene Hardrubber and Polyurethane	DN 10 - 15	250	250	400	400
	DN 25 - 300	250	250	400	400
	DN 350 - 1000	500	500	600	600
	DN 1200 - 2000	600	600	750	750

Liner	Diameter [inch]	Minimum operating pressure absolute in psia at process temperature			
		68°F	104°F	140°F	176°F
Polypropylene Hardrubber and Polyurethane	3/8" - 1/2"	3.6	3.6	5.8	5.8
	1"-12"	3.6	3.6	5.8	5.8
	14" - 40"	7.3	7.3	8.7	8.7
	48" -80"	8.7	8.7	10.9	10.9

Dimensions and Weights

Refer to diagrams on page 7

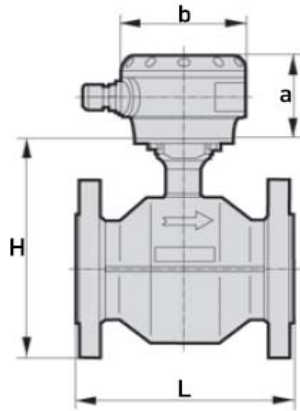
Nominal size [inch-mm]	Flange Type/ Rating	Dimensions [mm]						Dimensions [inch]						Approximate weight	
		L'	H	W	T			L'	H	W	T			[kg]	[lb]
					box	010	300				box	010	300		
3/8" - 10	ANSI 150	150	179	89	257	285	339	5.9	7.1	3.5	10.1	11.2	13.3	7	16.0
1/2" - 15	ANSI 150	150	179	89	257	285	339	5.9	7.1	3.5	10.1	11.2	13.3	7	16.0
1" - 25	ANSI 150	150	179	108	257	285	339	5.9	7.1	4.3	10.1	11.2	13.3	8	18.0
1½" - 40	ANSI 150	150	203	127	281	309	363	5.9	8.0	5.0	11.1	12.2	14.3	10	22.0
2" - 50	ANSI 150	200	191	152	269	297	351	7.9	7.5	6.0	10.6	11.7	13.8	13	29.0
3" - 80	ANSI 150	200	210	191	288	316	370	7.9	8.3	7.5	11.3	12.4	14.6	17	37.0
4" - 100	ANSI 150	250	256	229	334	362	416	9.8	10.1	9.0	13.2	14.3	16.4	23	51.0
5" - 125	ANSI 150	250	280	254	358	386	440	9.8	11.0	10.0	14.1	15.2	17.3	27	60.0
6" - 150	ANSI 150	300	304	279	382	410	464	11.8	12.0	11.0	15.0	16.1	18.3	34	75.0
8" - 200	ANSI 150	350	355	343	433	461	515	13.8	14.0	13.5	17.0	18.1	20.3	50	110.0
10" - 250	ANSI 150	400	433	406	511	539	593	15.8	17.1	16.0	20.1	21.2	23.3	73	160.0
12" - 300	ANSI 150	500	499	483	577	605	659	19.7	19.7	19.0	22.7	23.8	25.9	100	220.0
14" - 350	ANSI 150	500	552	533	630	658	712	19.7	21.7	21.0	24.8	25.9	28.0	114	250.0
16" - 400	ANSI 150	600	608	597	686	714	768	23.6	23.9	23.5	27.0	28.1	30.2	155	340.0
18" - 450	ANSI 150	600	672	635	750	778	832	23.6	26.5	25.0	29.5	30.6	32.8	170	375.0
20" - 500	AWWA CL. D	600	739	699	817	845	899	23.6	29.1	27.5	32.2	33.3	35.4	191	420.0
24" - 600	AWWA CL. D	600	852	813	930	958	1012	23.6	33.5	32.0	36.6	37.7	39.8	250	550.0
28" - 700	AWWA CL. D	700	918	927	996	1024	1078	27.6	36.1	36.5	39.2	40.3	42.4	320	704.0
30" - 750	AWWA CL. D	750	974	984	1052	1080	1134	29.5	38.3	38.8	41.4	42.5	44.6	358	787.6
32" - 800	AWWA CL. D	800	1038	1060	1116	1144	1198	31.5	40.9	41.8	43.9	45.0	47.2	395	869.0
36" - 900	AWWA CL. D	900	1144	1168	1222	1250	1304	35.4	45.0	46.0	48.1	49.2	51.3	450	990.0
40" - 1000	AWWA CL. D	1000	1258	1289	1336	1364	1418	39.4	49.5	50.8	52.6	53.7	55.8	665	1463.0
42" - 1050	AWWA CL. D	1300	1313	1350	1391	Not Applicable	1473	51.2	51.7	53.1	54.8	Not Applicable	58.0	683	1502.6
48" - 1200	AWWA CL. D	1300	1483	1511	1561	Not Applicable	1643	51.2	58.4	59.5	61.5	Not Applicable	64.7	970	2134.0
54" - 1350	AWWA CL. D	1600	1635	1682	1713	Not Applicable	1795	63.0	64.4	66.2	67.4	Not Applicable	70.7	TBA	TBA
60" - 1500	AWWA CL. D	1700	1782	1860	1860	Not Applicable	1942	66.9	70.2	73.2	73.2	Not Applicable	76.5	TBA	TBA
70" - 1750	AWWA CL. D	1800	2139	2197	2217	Not Applicable	2299	70.9	84.2	86.5	87.3	Not Applicable	90.5	TBA	TBA

Nominal size [inch-mm]	Flange Type/ Rating	Dimensions [mm]						Dimensions [inch]						Approximate weight	
		L'	H	W	T			L'	H	W	T			[kg]	[lb]
					box	010	300				box	010	300		
1" - 25	ANSI 300	150	145	124	223	251	305	5.9	5.7	4.9	8.8	9.9	12.0	8	18.0
1½" - 40	ANSI 300	200	169	156	247	275	329	7.9	6.7	6.1	9.7	10.8	13.0	9	20.0
2" - 50	ANSI 300	250	186	165	264	292	346	9.8	7.3	6.5	10.4	11.5	13.6	13	29.0
3" - 80	ANSI 300	250	214	210	292	320	374	9.8	8.4	8.3	11.5	12.6	14.7	17	37.0
4" - 100	ANSI 300	300	275	254	353	381	435	11.8	10.8	10.0	13.9	15.0	17.1	23	51.0
6" - 150	ANSI 300	350	316	318	394	422	476	13.8	12.4	12.5	15.5	16.6	18.7	36	79.0
8" - 200	ANSI 300	400	382	381	460	488	542	15.8	15.0	15.0	18.1	19.2	21.3	71	157.0
10" - 250	ANSI 300	500	448	445	526	554	608	19.7	17.6	17.5	20.7	21.8	23.9	112	247.0
12" - 300	ANSI 300	600	519	521	597	625	679	23.6	20.4	20.5	23.5	24.6	26.7	170	375.0
14" - 350	ANSI 300	700	595	584	673	701	755	27.6	23.4	23.0	26.5	27.6	29.7	215	474.0
16" - 400	ANSI 300	800	646	648	724	752	806	31.5	25.4	25.5	28.5	29.6	31.7	290	639.0
18" - 450	ANSI 300	800	709	711	787	815	869	31.5	27.9	28.0	31.0	32.1	34.2	359	789.0
20" - 500	ANSI 300	800	777	775	855	883	937	31.5	30.6	30.5	33.7	34.8	36.9	426	937.0
24" - 600	ANSI 300	800	903	914	981	1009	1063	31.5	35.5	36.0	38.6	39.7	41.8	611	1345.0

Notes:

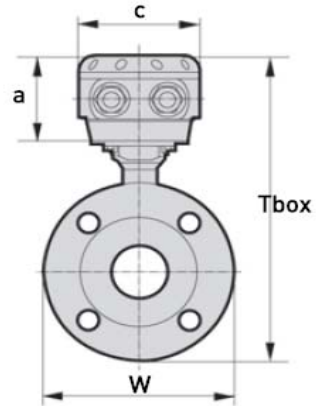
1 If flowmeter is supplied with separate grounding rings, the totals fitting length "L" is computed as follows: "L" + 2 x 3 mm (1/8") + 2 x gasket thickness

Frontview ENVIROMAG 2000F



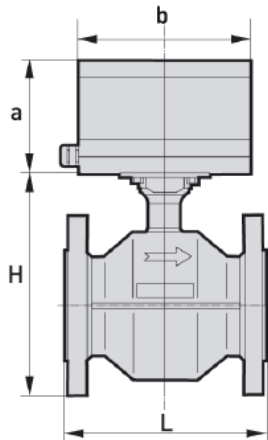
a = 77 mm / 3,1"
b = 111 mm / 4,4"

Sideview ENVIROMAG 2000F



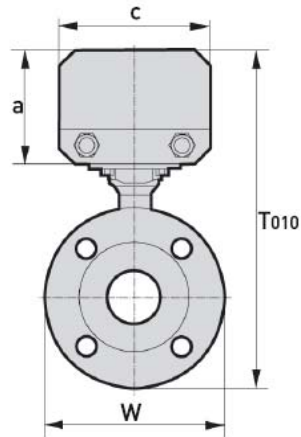
a = 77 mm / 3,1"
c = 106 mm / 4,2"

Frontview ENVIROMAG 2010C



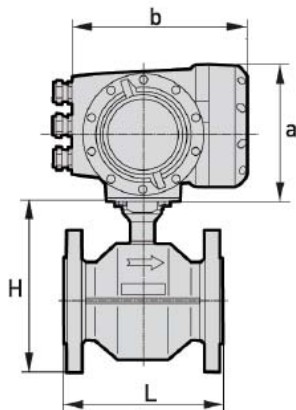
a = 105 mm / 4,2"
b = 160 mm / 6,3"

Sideview ENVIROMAG 2010C



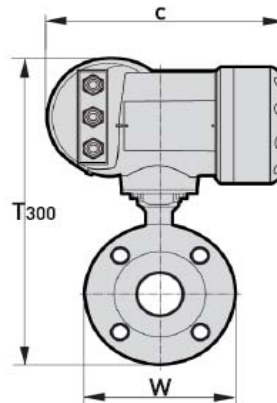
a = 105 mm / 4,2"
c = 140 mm / 5,5"

Frontview ENVIROMAG 2300C



a = 155 mm / 6,1"
b = 202 mm / 7,8"

Sideview ENVIROMAG 2300C



c = 260 mm / 10,2"

KROHNE Product Overview

- Electromagnetic flowmeters
- Variable area flowmeters
- Mass flowmeters
- Ultrasonic flowmeters
- Vortex flowmeters
- Flow controllers
- Level measuring instruments
- Pressure gauges
- Temperature measuring instruments
- Water solutions & analysis
- Oil and gas turnkey solutions

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