

GR/PRINTO

OPTIFLUX 2000

Electromagnetic Flow Sensor

The water and wastewater specialist

- International drinking water approvals
- OIML R-49, ISO 4064
- DVGW and ISO installation length
- IP 68



Electromagnetic flowmeters

Variable area flowmeters
Mass flowmeters
Ultrasonic flowmeters
Vortex flowmeters
Flow controllers
Level measuring instruments
Pressure and temperature
Heat metering
Communications technology
Switches, counters, displays and recorders
Engineering systems & solutions

Subject to change without notice.

WRc

kiwa
Partner for progress



OPTIFLUX 2000

The water and wastewater specialist

The OPTIFLUX 2000 electromagnetic flow sensor is the optimum solution for water and wastewater applications.

Its long term reliability and durability make it more than suitable for the water market.



Fields of application

Industries

- Water & Wastewater
 - water distribution networks and irrigation
 - water purification
 - environmental engineering
- Wastewater treatment
 - municipal
 - paper & pulp
 - metals & mining
 - various other process industries
- Power
 - cooling stations
 - district heating

Application examples

- From potable water to raw water and seawater
- From groundwater and wastewater to sludge and sewage
- Cooling water
- Leakage detection

OPTIFLUX 2000

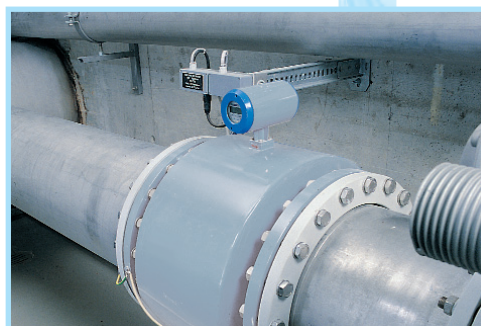
The water and wastewater specialist

Highlights

- Drinking water approvals incl. KTW, NSF, WRc, KIWA
- Proven and unsurpassed lifetime
- For flow rates from 2.3 US GPM to 1.320.00 US GPM, 0.5 m³/hr to 300,000 m³/h resp.

Product features

- Large diameter range up to 120" / DN 3000
- Maintenance free
- On-site - verification with KROHNE MagCheck
- Standard liners:
 - polypropylene
 - hard rubber
- Fitting length to DVGW and ISO
- Protection
 - standard IP 67
 - optional IP 68
- Compliance with OIML R-49 and ISO 4064
- Optional: Permanently submersible, buried underground



The complete OPTIFLUX - range

OPTIFLUX converters

All converters fit to all sensors

IFC 300

One for all applications



IFC 010

Economic converter



OPTIFLUX sensors

OPTIFLUX 2000

Water and waste-water specialist



OPTIFLUX 4000

All-round process specialist



OPTIFLUX 5000

Highly accurate & abrasion resistant



OPTIFLUX 1000

Economical solution



OPTIFLUX 6000

Sanitary and hygienic solution



Special-purpose flowmeters

OPTIFLUX 4040 C

The 2-wire EMF



OPTIFLUX 7300 C

The electrode-free EMF



TIDALFLUX 4110 PF

For partially filled pipelines



BATCHFLUX 5015 C

For volumetric filling



Technical data

● Standard

○ Optional

- On request

Nominal diameter	ANSI [inch]	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	48"	56"	64"	72"	80"		
	DN [mm]	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	1600	1800	2000		
Nominal flange pressure*	EN 1092-1 - PN 40	●	●	●	●	○	●	○	○	○	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-	-		
	EN 1092-1 - PN 25	-	-	-	-	○	-	○	○	○	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-	-		
	EN 1092-1 - PN 16	-	-	-	-	●	-	●	●	●	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-	-		
	EN 1092-1 - PN 10	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-		
	EN 1092-1 - PN 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●		
	ISO insertion length	○	○	○	●	●	●	●	●	●	●	○	●	○	●	●	●	●	○	-	-	-	-	-	-	-	-	-	
	ANSI B16.5 - 150 lbs RF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	-	-	-	-	-	-	-	-	-	
	ANSI B16.5 - 300 lbs RF	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-	-	
	AWWA - class B or D FF (HR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	£ 10 bar	-	-	-	-	-	-	-	-	
	JIS 10 K	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	
	JIS 20 K	●	●	●	-	-	-	-	-	-	-	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-	-	
* For vacuum load see separate table.		Larger than 80" / DN 2000 on request.																											
Liner**	Polypropylene	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Hardrubber	○	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
** See pressure and temperature limits.																													
Electrodes	Hastelloy C4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Stainless steel 1.4571 (AISI 316 Ti)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Titanium	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
Grounding rings	Hastelloy C4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Stainless steel 1.4571 (AISI 316 Ti)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Titanium	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
Flanges	Steel 1.0460 (C 22.8)	●	●	●	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Steel 1.0038 (RSt 37-2)	-	-	-	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Stainless steel 1.4404 (AISI 316 L)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Stainless steel 1.4571 (AISI 316 Ti)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
Materials used***	Measuring tube	Austenitic stainless steel																											
	Housing (polyurethane coated)	GTW-S 30	Sheet steel																										
	Connection box (polyurethane coated)	Die-cast aluminum, option: stainless steel																											
	*** Other materials on request.																												
Protection category	Standard	IP 66 / 67 eq. NEMA 4/4X / 6																											
	Optional	IP 68 field eq. NEMA 6																											
		IP 68 factory eq. NEMA 6																											
Insulation class		E																											
Approvals****	Non-Ex	●																											
	EEx zone 2	○																											
	FM - class I , II, III - div. 2	○																											
	CSA - Ordinary location	○																											
	CSA - class I, II, III div. 2	○																											
	SAA - Aus Ex zone 2	○																											
	TIIS - zone 2	○																											
**** Available approvals for flow sensor.		Note: contact KROHNE for more approval details																											
Versions	Compact + IFC 300 C	●																											
	Separate + IFC 300 F, R, W	●																											
	Compact + IFC 010 C	●																										-	
	Separate + IFC 010 W	●																										-	
Electrical conductivity		min. 20 µS/cm																											

Temperature range

	Process		Ambient	
	min.	max.	min.	max.
Hardrubber				
Separate flow sensor	23°F	176°F	-40°F	149°F
Compact with IFC 300 OPTIFLUX 2300 C	23°F	176°F	-40°F	149°F
Compact with IFC 010 OPTIFLUX 2010 C	23°F	176°F	-13°F	140°F

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

* Polypropylene available for ANSI 1" - 6"

	Process		Ambient	
	min.	max.	min.	max.
Hardrubber				
Separate flow sensor	-5°C	80°C	-40°C	65°C
Compact with IFC 300 OPTIFLUX 2300 C	-5°C	80°C	-40°C	65°C
Compact with IFC 010 OPTIFLUX 2010 C	-5°C	80°C	-25°C	60°C

Polypropylene				
Separate flow sensor	-5°C	90°C	-40°C	65°C
Compact with IFC 300 OPTIFLUX 2300 C	-5°C	90°C	-40°C	65°C
Compact with IFC 010 OPTIFLUX 2010 C	-5°C	90°C	-25°C	60°C

* Polypropylene available for DN 25 - 150

Vacuum load

Vacuum load		Minimum operating pressure absolute in psia at process temperature			
Liner	[inches]	68°F	104°F	140°F	176°F
Polypropylene	1" - 6"	3,6	3,6	5,8	5,8
Hardrubber	8" - 12"	3,6	3,6	5,8	5,8
	14" - 40"	7,3	7,3	8,7	8,7
	8" - 120"	8,7	8,7	10,9	10,9

Vacuum load		Minimum operating pressure absolute in mbar (abs) at process			
Liner	[mm]	20°C	40°C	60°C	80°C
Polypropylene	DN 25 - 150	250	250	400	400
Hardrubber	DN 200 - 300	250	250	400	400
	DN 350 - 1000	500	500	600	600
	DN 1200 - 3000	600	600	750	750

Flow sensor

Nominal size		Dimensions in mm							Approx. weight in kg**
DN [mm]	PN [bar]	L [*]		H	W	T			
		DIN	ISO 13 359			T _{box}	T _{IFC010}	T _{IFC300}	
25	40	150	200	141	115	218	246	296	7.0
32	40	150	200	157	140	234	262	312	8.0
40	40	150	200	166	150	243	271	321	8.0
50	40	200	200	185	165	262	290	340	8.0
65	16	200	200	199	185	276	304	354	10.0
80	40	200	200	209	200	286	314	364	12.0
100	16	250	250	237	220	314	342	392	15.0
125	16	250	250	266	250	343	371	421	19.0
150	16	300	300	299	285	376	404	454	22.0
200	10	350	350	357	340	434	462	512	34.0
250	10	400	400	405	395	482	510	560	48.0
300	10	500	500	455	445	532	560	610	58.0
350	10	500	550	507	505	584	612	662	78.0
400	10	600	600	563	565	640	668	718	98.0
450	10	600	x	613	615	690	718	768	x
500	10	600	x	667	670	744	772	822	128.0
600	10	600	x	777	780	854	882	932	164.0
700	10	700	x	893	895	970	998	1048	245.0
800	10	800	x	1009	1015	1086	1114	1164	328.0
900	10	900	x	1111	1115	1188	1216	1266	425.0
1000	10	1000	x	1221	1230	1298	1326	1376	507.0

- not available x dimensions and weights on request

* Total fitting length:

Flowmeter supplied with separate grounding rings:

Dimension L + 2 x 3 mm + 2 x gasket thickness

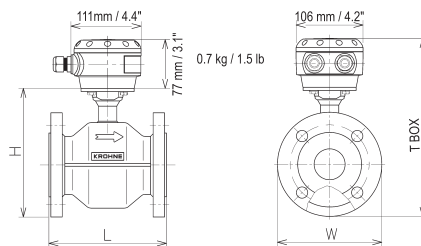
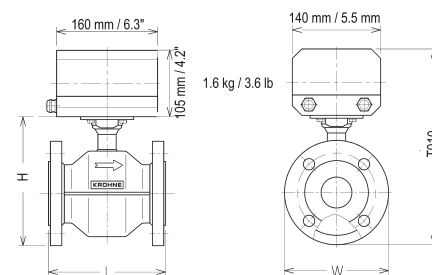
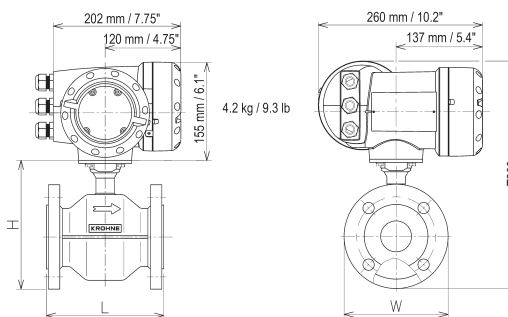
** Approx. weight of meter body with DIN flanges.

All flanges according to EN 1092 -1

Tolerances for fitting length dimensions L to ISO DIS 13 359

DN ≤ 200 / ≤ 8" : +0/-3 mm (0.12")

DN ≥ 250 / ≥ 10" : +0/-5 mm (0.2")

Dimensions and weights
OPTIFLUX 2000 F

OPTIFLUX 2010 C

OPTIFLUX 2300 C


Flow sensor

Nominal size		Dimensions for 150 lbs flanges in inches						Approx. weight in lbs***	Dimensions for 150 lbs flanges in mm						Approx. weight in kg***
ANSI	[psig]*	L**	H	W	T				L**	H	W	T			
					T _{box}	T _{IFC010}	T _{IFC300}					T _{box}	T _{IFC010}	T _{IFC300}	
1"	284	5.91	5.39	4.25	8.43	9.53	11.50	17.6	150	137	108	214	242	292	8.0
1 1/2"	284	5.91	6.10	5.00	9.13	10.24	12.20	19.8	150	155	127	232	260	310	9.0
2"	284	7.87	7.05	6.00	10.08	11.18	13.15	17.6	200	179	152	256	284	334	8.0
3"	284	7.87	8.03	7.50	11.06	12.17	14.13	29.0	200	204	191	281	309	359	13.2
4"	284	9.84	9.49	9.00	12.52	13.62	15.59	40.0	250	241	229	318	346	396	18.1
5"	284	9.84	10.55	10.00	13.58	14.69	16.65	x	250	268	254	345	373	423	x
6"	284	11.81	11.69	11.00	14.72	15.83	17.80	58.0	300	297	279	374	402	452	26.3
8"	284	13.78	14.29	11.00	17.32	18.43	20.39	95.0	350	363	279	440	468	518	43.1
10"	284	15.75	16.77	13.50	19.80	20.91	22.87	140.0	400	426	343	503	531	581	63.5
12"	284	19.69	20.08	16.00	23.11	24.21	26.18	210.0	500	510	406	587	615	665	95.3
14"	284	27.56	20.71	19.00	23.74	24.84	26.81	285.0	700	526	483	603	631	681	129.3
16"	284	31.50	23.07	21.00	26.10	27.20	29.17	365.0	800	586	533	663	691	741	165.6
20"	284	31.50	27.09	23.50	30.12	31.22	33.19	492.0	800	688	597	765	793	843	223.2
24"	284	31.50	31.50	32.00	34.53	35.63	37.60	675.0	800	800	813	877	905	955	306.2
28"	145	35.43	35.98	36.50	39.02	40.12	42.09	x	900	914	927	991	1019	1069	x
32"	145	39.37	40.75	41.73	43.78	44.88	46.85	x	1000	1035	1060	1112	1140	1190	x
36"	145	43.31	44.96	46.00	47.99	49.09	51.06	x	1100	1142	1168	1219	1247	1297	x
40"	145	47.24	49.41	50.75	52.44	53.54	55.51	x	1200	1255	1289	1332	1360	1410	x
48"	145	55.12	57.87	59.50	60.91	62.01	63.98	x	1400	1470	1511	1547	1575	1625	x
72"	145	78.74	82.80	86.50	85.83	86.93	88.90	x	2000	2103	2197	2180	2208	2258	x
80"	145	86.61	95.39	99.75	98.43	99.53	101.50	x	2200	2423	2534	2500	2528	2578	x

Nominal size		Dimensions for 300 lbs flanges in inches						Approx. weight in lbs***	Dimensions for 300 lbs flanges in mm						Approx. weight in kg***
ANSI	[psig]*	L**	H	W	T				L**	H	W	T			
					T _{box}	T _{IFC010}	T _{IFC300}					T _{box}	T _{IFC010}	T _{IFC300}	
1"	740	5.91	5.71	4.87	8.74	9.84	11.81	x	150	145	124	222	250	300	x
1 1/2"	740	7.87	6.65	6.13	9.69	10.79	12.76	x	200	169	156	246	274	324	x
2"	740	9.84	7.32	6.50	10.35	11.46	13.43	x	250	186	165	263	291	341	x
3"	740	9.84	8.43	8.25	11.46	12.56	14.53	x	250	214	210	291	319	369	x
4"	740	11.81	10.00	8.25	13.03	14.13	16.10	x	300	254	210	331	359	409	x
6"	740	12.60	12.44	12.50	15.47	16.57	18.54	x	320	316	317	393	421	471	x

* At 68°F / 20°C.

x Dimensions and weights on request.

- not available

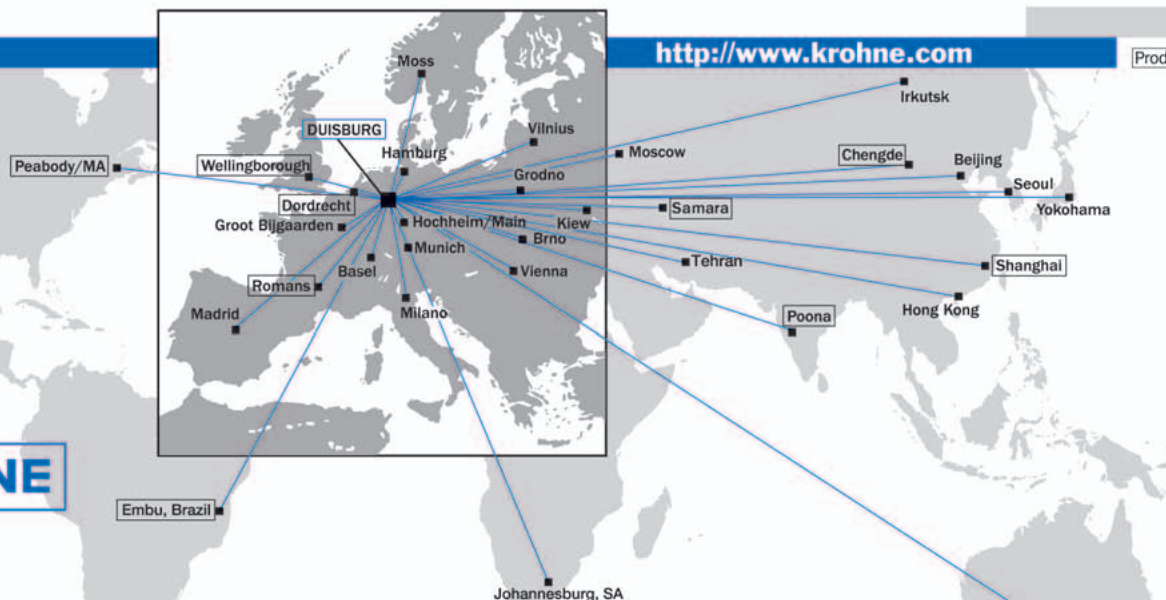
** Total fitting length: Flowmeter supplied with separate grounding rings: Dimension L + 2 x 0.12" + 2 x gasket thickness.

*** approx. weight of meter body with ANSI flanges. Flanges ANSI 1/10" - 24" to ANSI B 16.5. Flanges ANSI 28" and above to ANSI B 1647 A.

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