

GR

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

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 0.5 m³/hr to 300,000 m³/h resp. 2.3 US GPM to 1,320,00 US GPM

Product features

- Large diameter range up to DN 3000
- Maintenance free
- In situ 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



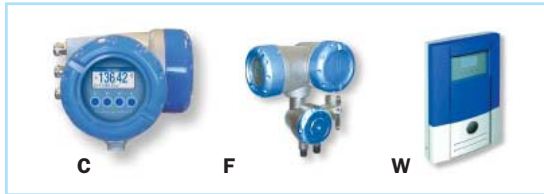
The complete OPTIFLUX - range

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 DN 2000 / 80" 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 div. 2	○																										
	CSA - GP	○																										
	CSA - class I div. 2	○																										
	SAA - Aus Ex zone 2	○																										
	TIIS - zone 2	○																										
**** Available approvals for flow sensor.																												
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	-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

	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"

Vacuum load

Vacuum load		Minimum operating pressure absolute in mbar (abs) at process temperature			
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

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

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

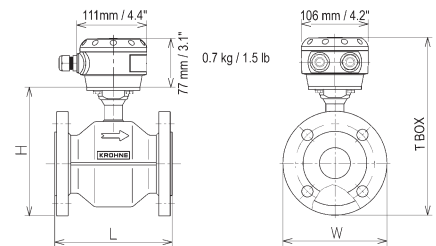
Tolerances for fitting length dimensions L to ISO DIS 13 359

DN ≤ 200 / ≤ 8" : +0/-3 mm (0.12")

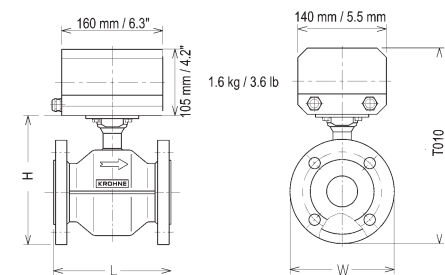
DN ≥ 250 / ≥ 10" +0/-5 mm (0.2")

Dimensions and weights

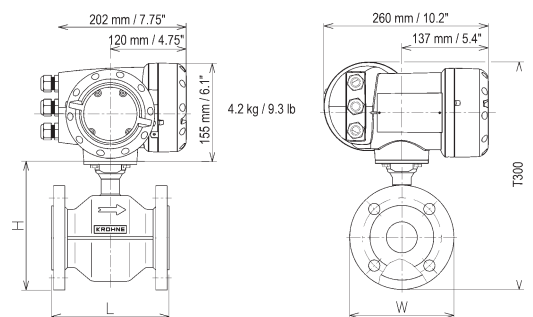
OPTIFLUX 2000 F



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

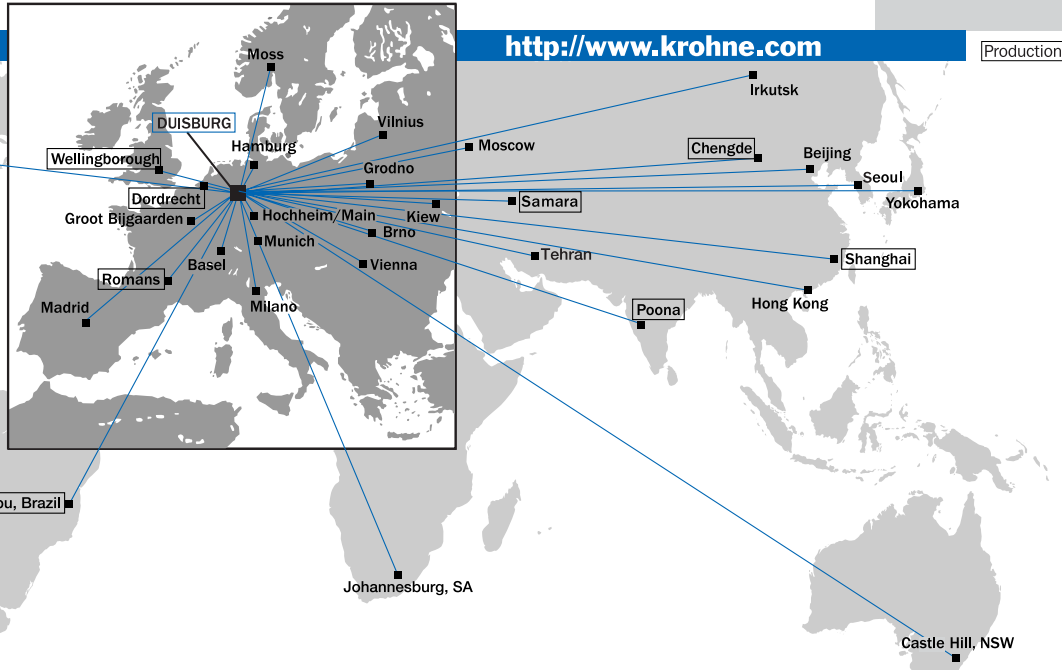
Nominal size		Dimensions for 300 lbs flanges in inches						Approx. weight in lbs***	Dimensions for 300 lbs flanges in mm						Approx. weight in kg***
ANSI	[psig]*	L**	H	W	T				L**	H	W	T			
					T _{box}	T _{IFC010}	T _{IFC300}					T _{box}	T _{IFC010}	T _{IFC300}	
1"	740	5.91	5.71	4.87	7.91	15.94	11.81	x	150	145	124	201	405	300	x
1 1/2"	740	7.87	6.65	6.13	9.16	16.89	12.76	x	200	169	156	233	429	324	x
2"	740	9.84	7.32	6.50	9.53	17.56	13.43	x	250	186	165	242	446	341	x
3"	740	9.84	8.43	8.25	11.28	18.66	14.53	x	250	214	210	287	474	369	x
4"	740	11.81	10.00	8.25	11.28	20.24	16.10	x	300	254	210	287	514	409	x
6"	740	12.60	12.44	12.50	15.53	22.68	18.54	x	320	316	317	394	576	471	x

* At 68°F / 20°C. x Dimensions and weights on request.

** 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.

KROHNE



Australia

KROHNE Australia Pty Ltd
Quantum Business Park
10/287 Victoria Rd
Rydalmere NSW 2116
TEL.: +61 2 8846 1700
FAX: +61 2 8846 1755
e-mail: krohne@krohne.com.au

Austria

KROHNE Austria Ges.m.b.H.
Modcenterstraße 14
A-1030 Wien
TEL.: +43(0)1/203 45 32
FAX: +43(0)1/203 47 78
e-mail: info@krohne.at

Belgium

KROHNE Belgium N.V.
Brusselstraat 320
B-1702 Groot Bijgaarden
TEL.: +32(0)2-4 66 00 10
FAX: +32(0)2-4 66 08 00
e-mail: krohne@krohne.be

Brazil

KROHNE Conaut
Controles Automaticos Ltda.
Estrada Das Águas Espraiadas, 230 C.P. 56
06835 - 080 EMBU - SP
TEL.: +55(0)11-4785-2700
FAX: +55(0)11-4785-2768
e-mail: conaut@conaut.com.br

China

KROHNE Measurement Instruments
(Shanghai) Co. Ltd., (KMIC)
Room 1501, Tower A
City Centre of Shanghai
100 Zun Yi Road
Shanghai 200051
TEL.: +86 21 6237 2770
FAX: +86 21 6237 2771
Cellphone: +86 (0) 139 01954185
e-mail: info@krohne-asia.com

CIS

Kanex KROHNE Engineering AG
Business-Centre Planeta, Office 403
ul. Marxistskaja 3
109147 Moscow/Russia
TEL.: +7(0)095-9117165
FAX: +7(0)095-9117231
e-mail: krohne@dol.ru

Czech Republic

KROHNE CZ, spol. s r.o.
Sobesická 156
CZ-63800 Brno
TEL.: +420 545 532 111
FAX: +420 545 220 093
e-mail: brno@krohne.cz

France

KROHNE S.A.S.
Les Ors
BP 98
F-26103 ROMANS Cedex
TEL.: +33(0)4-75 05 44 00
FAX: +33(0)4-75 05 00 48
e-mail: info@krohne.fr

Germany

KROHNE Messtechnik
GmbH & Co. KG
Ludwig-Krohne-Str.
D-47058 Duisburg
TEL.: +49(0)203-301-0
FAX: +49(0)203-301-10 389
e-mail: krohne@krohne.de

India

KROHNE Marshall Ltd.
A-34/35, M.I.D.C.
Industrial Area, H-Block,
Pimpri Poona 411018
TEL.: +91(0)202-7442020
FAX: +91(0)202-7442020
e-mail: pcu@vsnl.net

Iran

KROHNE Liaison Office
North Sohrevardi Ave.
26, Sarmad St., Apt. #9
Tehran 15539
TEL.: ++98-21-874-5973
FAX: ++98-21-850-1268
e-mail: krohne@krohneiran.com

Italy

KROHNE Italia Srl.
Via V. Monti 75
I-20145 Milano
TEL.: +39(0)2-4 30 06 61
FAX: +39(0)2-43 00 66 66
e-mail: info@krohne.it

Korea

KROHNE Korea
Room 508 Miwon Bldg
43 Yoido-Dong
Youngdeungpo-Ku
Seoul, Korea
TEL.: 00-82-2-780-1743
FAX: 00-82-2-780-1749
e-mail: krohnekorea@krohnekorea.com

Netherlands

KROHNE Altometer
Kerkeplaat 12
NL-3313 LC Dordrecht
TEL.: +31(0)78-6306300
FAX: +31(0)78-6306390
e-mail: postmaster@krohne-altometer.nl

Netherlands

KROHNE Nederland B.V.
Kerkeplaat 12
NL-3313 LC Dordrecht
TEL.: +31(0)78-6306200
FAX: +31(0)78-6306405
Service Direkt: +31(0)78-6306222
e-mail: info@krohne.nl

Norway

KROHNE Instrumentation A.S.
Ekholtheien 114
NO-1526 Moss
P.O. Box 2178, NO-1521 Moss
TEL.: +47(0)69-264860
FAX: +47(0)69-267333
e-mail: postmaster@krohne.no
Internet: www.krohne.no

Singapore

Tokyo Keiso - KROHNE Pte. Ltd.
27 Kian Teck Drive Jurong
Singapore 628844
Singapore
TEL.: ++65-62-64-3378
FAX: ++65-62-65-3382

South Africa

KROHNE Pty. Ltd.
163 New Road
Halfway House Ext. 13
Midrand
TEL.: +27(0)11-315-2685
FAX: +27(0)11-805-0531
e-mail: midrand@krohne.co.za

Spain

I.I. KROHNE Iberia, S.r.L.
Poligono Industrial Nilo
Calle Brasil, nº. 5
E-28806 Alcalá de Henares-Madrid
TEL.: +34(0)91-8 83 21 52
FAX: +34(0)91-8 83 48 54
e-mail: krohne@krohne.es

Switzerland

KROHNE AG
Uferstr. 90
CH-4019 Basel
TEL.: +41(0)61-638 30 30
FAX: +41(0)61-638 30 40
e-mail: info@krohne.ch

United Kingdom

KROHNE Ltd.
Rutherford Drive
Park Farm Industrial Estate
Wellingborough,
Northants NN8 6AE, UK
TEL.: +44(0)19 33-408 500
FAX: +44(0)19 33-408 501
e-mail: info@krohne.co.uk

USA

KROHNE Inc.
7 Dearborn Road
Peabody, MA 01960
TEL.: +1-978 535-6060
FAX: +1-978 535-1720
e-mail: info@krohne.com

Other Representatives

- | | |
|-----------------|--------------|
| Algeria | Japan |
| Argentina | Jordan |
| Belarus | Kuwait |
| Bulgaria | Latvia |
| Cameroon | Lithuania |
| Canada | Marocco |
| Chile | Mauritius |
| Colombia | Mexico |
| Croatia | New Zealand |
| Denmark | Pakistan |
| Ecuador | Peru |
| Egypt | Poland |
| Estonia | Portugal |
| Finland | Saudi Arabia |
| French Antilles | Senegal |
| Greece | Slovakia |
| Guinea | Slovenia |
| Hong Kong | Sweden |
| Hungary | Taiwan |
| Indonesia | Thailand |
| Ivory Coast | Turkey |
| Iran | Tunisia |
| Ireland | Venezuela |
| Israel | Yugoslavia |

Other Countries

KROHNE Messtechnik
GmbH & Co. KG
Ludwig-Krohne-Str.
D-47058 Duisburg
TEL.: +49(0)203-301-309
FAX: +49(0)203-301-389
e-mail: export@krohne.de