

GR/PRINTO

OPTIFLUX 5000

Electromagnetic Flow Sensor

The most accurate and abrasion resistant flowmeter

- 0.15 % accuracy
- For most aggressive and abrasive fluids
- Full vacuum resistant
- For dosing applications



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

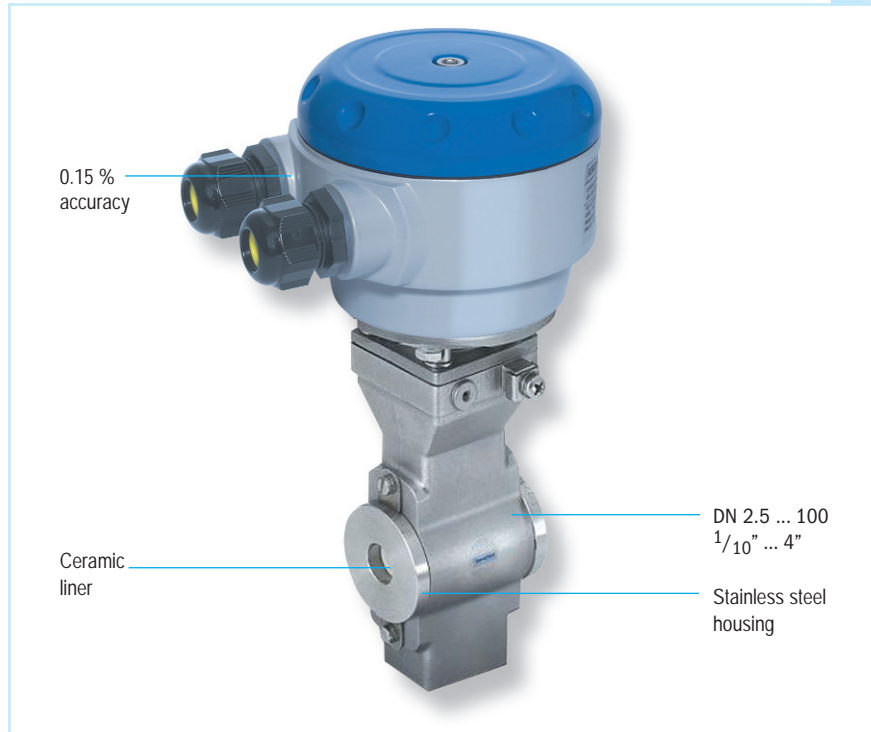


OPTIFLUX 5000

The most accurate and abrasion resistant

The electromagnetic flow sensor OPTIFLUX 5000 is considered to be the most accurate and hard-wearing, robust flowmeter available in the market today. This is the result of a special flow tube design with conical parts, streamlining distorted flow profiles.

Leading test institutes use OPTIFLUX 5000 as their master meter.



Fields of application

Industries

- Chemical
- Water & Wastewater
- Metals & Mining
- Food & Beverages
- Paper & Pulp
- Machinery

Application examples

- Precise dosing applications
- For acids (even HF), alkalis, pastes, slurries and many other aggressive media, even with high solid contents
- Master or transfer meter for calibration of other flow-meters

OPTIFLUX 5000

The most accurate and abrasion resistant

Highlights

- Highly accurate
- Long-term measuring stability even under tough conditions
- Highly corrosive and abrasive resistant
- Robust and dimensionally stable
- Sandwich design for quick and easy installation
- Absolutely vacuum resistant

Product features

- Accuracy: $< \pm 0.15\%$ of measured value
- Repeatability: $< 0.06\%$
- Unique flow tube design, with profile-optimizing cross-section
- Ceramic flow tube
- Fused-in-place Cermet or platinum electrodes; bonded electrodes in the flow tube are absolutely leakproof
- Stainless steel housing



The complete OPTIFLUX - range

OPTIFLUX converters

All converters fit to all sensors

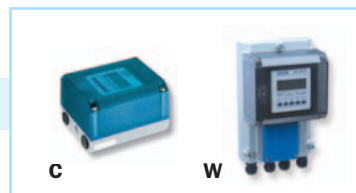
IFC 300

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]	1/10"	1/8"	1/4"	3/8"	1/2"	1"	1 1/2"	2"	3"	4"	6"	8"	10"		
	DN [mm]	2,5	4	6	10	15	25	40	50	80	100	150	200	250		
Nominal process	EN 1092-1 - PN 40	●	●	●	●	●	●	●	●	●	-	-	-	-		
flange pressure	EN 1092-1 - PN 25	-	-	-	-	-	-	-	-	-	○	-	-	-		
1/10...3/8" has 1/2"	EN 1092-1 - PN 16	-	-	-	-	-	-	-	-	-	●	●	-	-		
connection (DN)	EN 1092-1 - PN 10	-	-	-	-	-	-	-	-	-	-	-	●	●		
2.5...10 has DN 15 connection)	ANSI B16.5 - 150 lbs / JIS 10 K	●	●	●	●	●	●	●	●	●	●	●	●	●		
	ANSI B16.5 - 300 lbs / JIS 20 K	○	○	○	○	○	○	○	○	○	○	-	-	-		
Measuring tube	Aluminum Oxide (Al ₂ O ₃), ZrO ₂ stabilized	●	●	●	●	●	●	●	●	●	●	●	●	●		
Electrodes	Cermet	●	●	●	●	●	-	-	-	-	-	-	-	-		
	Platinum	-	-	-	-	-	●	●	●	●	●	○	○	○		
	Stainless steel 1.4571 (316 Ti)	-	-	-	-	-	-	-	-	-	-	●	●	●		
	HC4, Low-noise (basis HC4, Ta, Ti)	-	-	-	-	-	-	-	-	-	-	○	○	○		
Rings / gaskets <small>(all rings always type #1)</small>	Stainless steel 1.4571 (AISI 316 Ti) / Viton	●	●	●	●	●	-	-	-	-	-	-	-	-		
	Without / Gylon	-	-	-	-	-	●	●	●	●	●	-	-	-		
	Stainless steel 1.4404 (AISI 316 L) / Viton	-	-	-	-	-	-	-	-	-	-	●	●	●		
	Hastelloy C4 / Viton	○	○	○	○	○	-	-	-	-	-	○	○	○		
	HC4 / EPDM, HC4 / Kalrez, st.st. 1.4571 (AISI 316 Ti) / EPDM, Ti / EPDM, Ti / Kalrez	○	○	○	○	○	-	-	-	-	-	-	-	-		
	Tantalum / PTFE-PF 29	○	○	○	○	○	○	○	○	○	○	-	-	-		
	Without / Chemotherm, HC4 / Chemotherm, HC4 / Gylon, st.st. / Chemotherm, st.st. / Gylon	-	-	-	-	-	○	○	○	○	○	-	-	-		
Stud bolts and nuts**	Steel	●	●	●	●	●	●	●	●	●	●	-	-	-		
	Stainless steel, Rubber centering sleeves	○	○	○	○	○	○	○	○	○	○	-	-	-		
** Gaskets not included.																
Flanges	Steel 37 - C22	-	-	-	-	-	-	-	-	-	-	●	●	●		
Materials used <small>(other materials on request)</small>	Measuring tube	High density Aluminum oxide (Al ₂ O ₃), ZrO ₂ fine grain stabilized														
	Housing (polyurethane coated)	St.st. 1.4462/Duplex				St.st. 1.4301/SS 304-AISI				Steel						
	Connection box (polyurethane coated)	Die-cast aluminum (Option: Stainless steel)														
Protection category	Standard	IP 66 / 67 eq. NEMA 4/4X / 6														
	Optional	IP 68 field / IP 68 factory eq. NEMA 6 (Connection box: Stainless steel)														
Insulation class	H															
Approvals****	non-Ex	●	●	●	●	●	●	●	●	●	●	●	●	●		
	EEx zone 1 / 2	○	○	○	○	○	○	○	○	○	○	-	-	-		
	FM - class I div. 1 / 2****	○	○	○	○	○	○	○	○	○	○	-	-	-		
	CSA - GP / class I div. 1 / 2****	○	○	○	○	○	○	○	○	○	○	-	-	-		
	SAA - Aus Ex zone 1 / 2	○	○	○	○	○	○	○	○	○	○	-	-	-		
	TIIS - zone 1 / 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 (non-Ex)	-	●	●	●	●	●	●	●	●	●	-	-	-		
	Separate + IFC 010 W (non-Ex)	-	●	●	●	●	●	●	●	●	●	-	-	-		
Vacuum load	0 psig / 0 mbar absolute															
Electrical conductivity	Non-water (DN 2.5 ≥ 10 μS/cm)	-	≥ 5 μS/cm					≥ 1 μS/cm								
	Demineralsised cold water	≥ 20 μS/cm														

**** Approvals should read the same as OPTIFLUX 2000

Temperature range

1/10...4"	Process		Ambient	
	min.	max.	min.	max.
Al₂O₃				
Separate flow sensor	-76°F	356°F	-40°F	149°F
Compact with IFC 300 OPTIFLUX 5300 C	-76°F	284°F	-40°F	149°F
Compact with IFC 010 OPTIFLUX 5010 C	-13°F	248°F	-13°F	140°F

6"...10"	Process		Ambient	
	min.	max.	min.	max.
Al₂O₃				
Separate flow sensor	-76°F	248°F	-13°F	140°F

DN 2.5...100	Process		Ambient	
	min.	max.	min.	max.
Al₂O₃				
Separate flow sensor	-60°C	180°C	-40°C	65°C
Compact with IFC 300 OPTIFLUX 5300 C	-60°C	140°C	-40°C	65°C
Compact with IFC 010 OPTIFLUX 5010 C	-25°C	120°C	-25°C	60°C

DN 150...250	Process		Ambient	
	min.	max.	min.	max.
Al₂O₃				
Separate flow sensor	-60°C	120°C	-25°C	60°C

	Max. permissible temperature change in °F			
	10 minutes		Sudden change	
	1/10"- 1/2"	1"- 4"	1/10"- 1/2"	1"- 4"
Rising	302	302	248	248
Falling	248	212	194	176

	Max. permissible temperature change in °C			
	10 minutes		Sudden change	
	DN 2.5 - 15	DN 25 - 100	DN 2.5 - 15	DN 25 - 100
Rising	150	150	120	120
Falling	120	100	90	80

Dimensions and weights

Nominal size		Dimensions in inches						Approx. weight in lbs**
ANSI	[psig]	L*	H	W	T			
					T _{box}	T ₀₁₀	T ₃₀₀	
1/10"	580	2,56	4,84	1,73	7,87	8,98	10,94	3,5
1/8"	580	2,56	4,84	1,73	7,87	8,98	10,94	3,5
1/4"	580	2,56	4,84	1,73	7,87	8,98	10,94	3,5
3/8"	580	2,56	4,84	1,73	7,87	8,98	10,94	3,5
1/2"	580	2,56	4,84	1,73	7,87	8,98	10,94	3,5
1"	580	2,28	4,57	4,02	7,60	8,70	10,67	3,5
1 1/2"	580	3,27	5,16	4,61	8,19	9,29	11,26	5,3
2"	580	4,06	5,87	5,31	8,90	10,00	11,97	6,4
3"	580	6,02	7,13	6,57	10,16	11,26	13,23	14,1
4"	232	7,99	8,11	7,56	11,14	12,24	14,21	19,4
6"	145	10,43	14,21	11,14	20,31	-	-	81,6
8"	145	12,40	15,82	13,46	21,92	-	-	116,8
10"	145	14,37	18,26	16,02	24,36	-	-	191,8

All flanges according ANSI B 16.5.

≤ ANSI 4" flangeless (sandwich) version; ≥ ANSI 6" flanged version.

*** Total fitting length:**

- ANSI 1/10"-1/2" flow meter with integrated rings: Dim. L + 2 x gasket thickness.
- ANSI 1"-4" flow meter without rings: Dim. L only (no gaskets required).
- ANSI 6"-10" flow meter with separate rings: Dim. L + 2 x 0.12 + 2 x gasket thickness.

** Approx. weight of meter body.

Nominal size		Dimensions in mm						Approx. weight in kg**
DN [mm]	PN [bar]	L*	H	W	T			
					T _{box}	T ₀₁₀	T ₃₀₀	
2,5	40	65	123	44	200	228	278	1,6
4	40	65	123	44	200	228	278	1,6
6	40	65	123	44	200	228	278	1,6
10	40	65	123	44	200	228	278	1,6
15	40	65	123	44	200	228	278	1,6
25	40	58	116	102	193	221	271	1,6
40	40	83	131	117	208	236	286	2,4
50	40	103	149	135	226	254	304	2,9
80	40	153	181	167	258	286	336	6,4
100	16	203	206	192	283	311	361	8,8
150	10	265	355	283	432	-	-	37
200	10	315	396	342	473	-	-	53
250	10	365	458	395	535	-	-	87

All flanges according (EN 1092 -1).

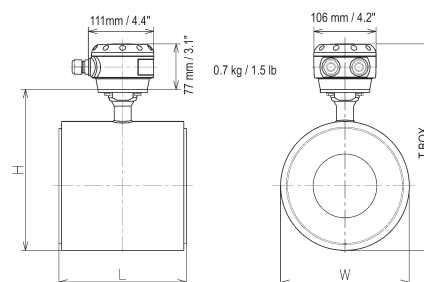
≤ DN 100 flangeless (sandwich) version; ≥ DN 150 flanged version.

*** Total fitting length:**

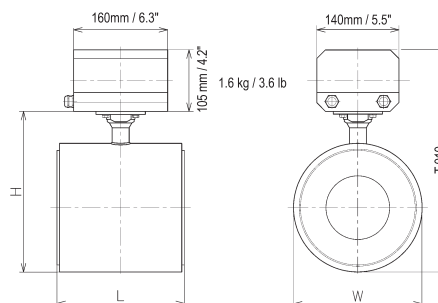
- DN 2.5-15 flow meter with integrated rings: Dim. L + 2 x gasket thickness.
- DN 25-100 flow meter without rings: Dim. L only (no gaskets required).
- DN 150-250 flow meter with separate rings: Dim. L + 2 x 3 mm + 2 x gasket thickness

** Approx. weight of meter body.

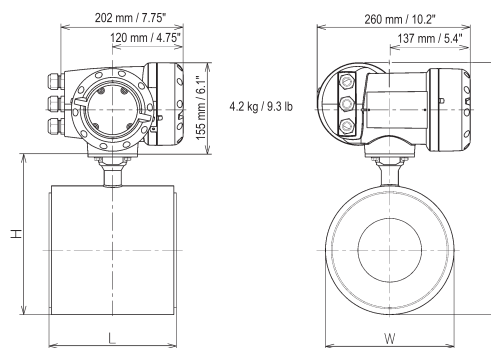
OPTIFLUX 5000 F



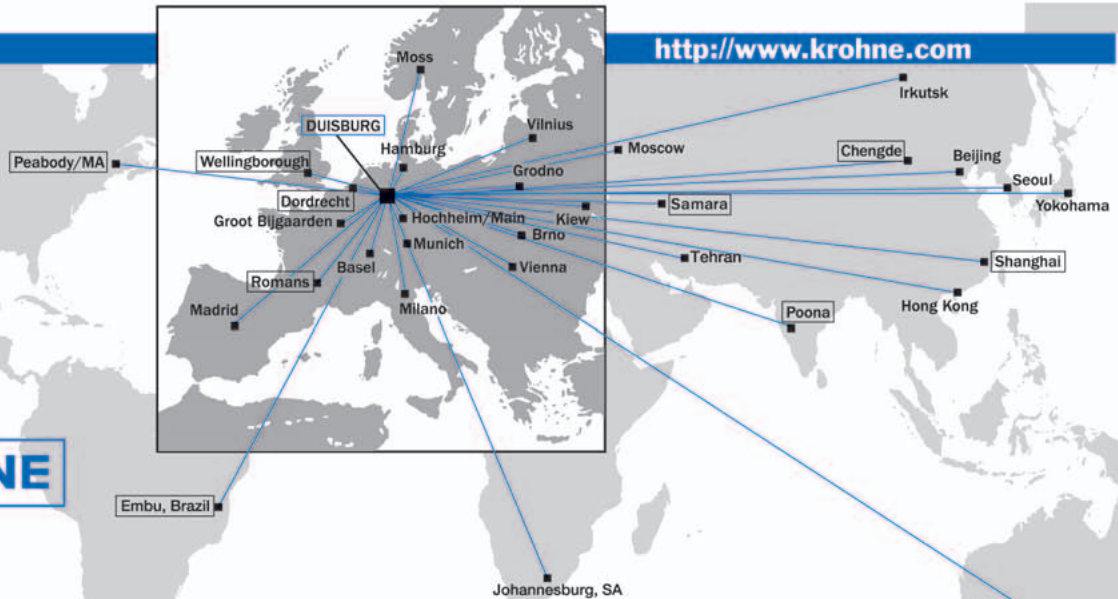
OPTIFLUX 5010 C



OPTIFLUX 5300 C







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.
Modecenterstraße 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 404
ul. Marxistskaja 3
109147 Moscow/Russia
TEL: +7(0)095-9117165
FAX: +7(0)095-7428873
e-mail: krohne@dol.ru

Czech Republic

KROHNE CZ, spol. s r.o.
Soběšická 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-Straße
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 14
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 Norway A.S.
Ekholtveien 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 Singapore Pte. Ltd.
14, International Business Park,
Jurong East
Chiyoda Building #01-01/02
Singapore 609922
Singapore
TEL: ++65-65-67-4548
FAX: ++65-65-67-9874

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, n.º 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

Overseas Representatives

- | | |
|-------------|--------------|
| Algeria | Kuwait |
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| Jordan | |

Other Countries:

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