Technical Data Sheet

KROHNE

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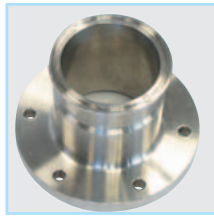
GR/PRINTO

OPTIFLUX 6000

Electromagnetic flow sensor for sanitary and hygienic applications



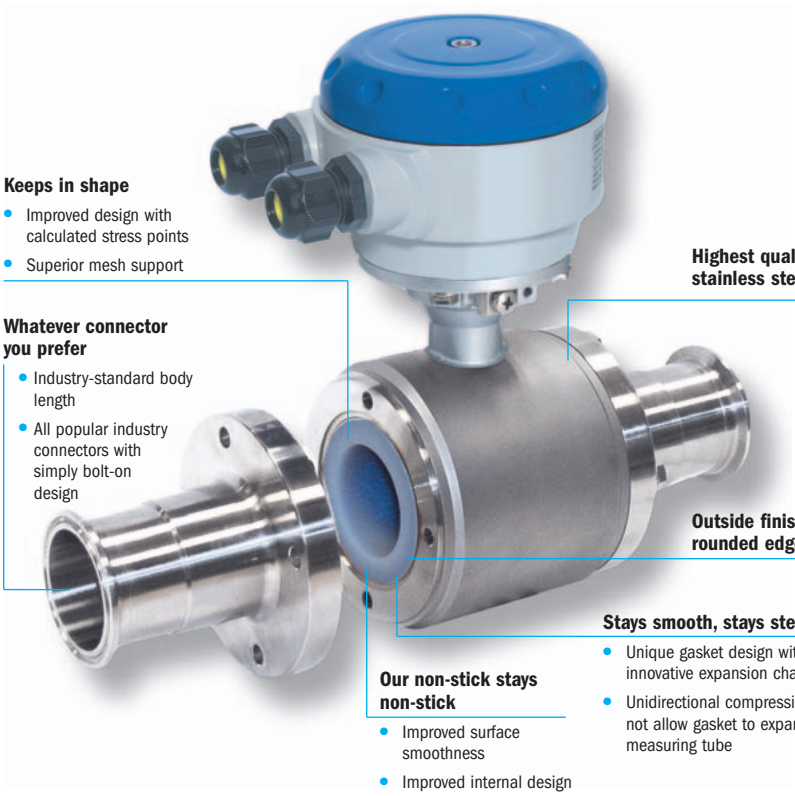
Electromagnetic flowmeters
Variable area flowmeters
Mass flowmeters
Ultrasonic flowmeters
Vortex flowmeters
Flow controllers
Level measuring instruments
Pressure and temperature
Heat metering
Communications technology
Switches, counters, displays and recorders
Engineering systems & solutions

Subject to change without notice.

OPTIFLUX 6000

The sterile solution

The OPTIFLUX 6000 electromagnetic flow sensor is the solution for all sanitary applications.



Keeps in shape
- Improved design with calculated stress points
- Superior mesh support

Whatever connector you prefer
- Industry-standard body length
- All popular industry connectors with simply bolt-on design

Highest quality stainless steel

Outside finish rounded edges

Stays smooth, stays sterile
- Unique gasket design with innovative expansion chamber
- Unidirectional compression will not allow gasket to expand into measuring tube

Our non-stick stays non-stick
- Improved surface smoothness
- Improved internal design

Fields of application

Industries
- Food & beverage
- Pharmaceuticals
- Chemical

Application examples
- Blending, dosing and batching
- Critical sanitary and hygienic applications
- From drugs and intermediates to soft drinks, milk, beer, and fruit juices
- For use in large-scale production plants with wide diameter range up to 6” / DN 150

New gasket concept

OPTIFLUX 6000 has a unique L-shaped gasket, which when compressed, shows unidirectional compression.

OPTIFLUX 6000

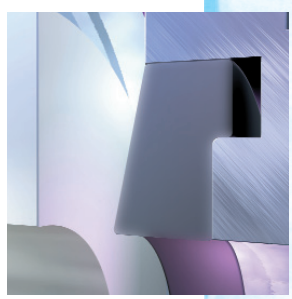
The sterile solution

Highlights

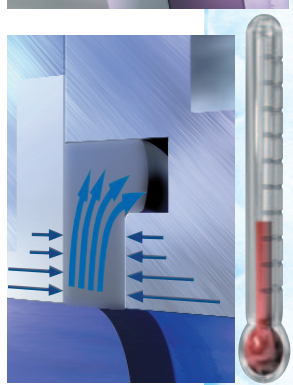
- Completely sanitary design in stainless steel
- Fully suitable for SIP and CIP
- Typical food & beverage and pharmaceutical process connections and insertion lengths
- FDA approved, EHEDG & 3A certified

Product features

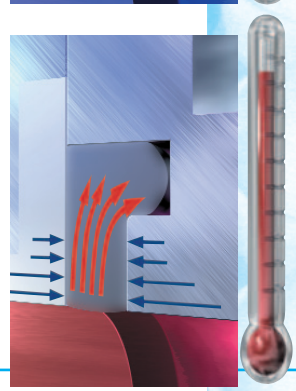
- Unique L-shaped gasket prevents expansion of the gasket into the measuring tube
- Simple and effective SIP (Steaming in Place) and CIP (Cleaning in Place)
- Cleaning temperatures depending from the process connection up to 300°F / 150°C
- Large diameter range up to 6” /DN 150
- Low weight
- Conductivity
  - non water > 1 µS/cm
  - water > 20 µS/cm



Gasket insert, uncompressed, the trapezoidal form is clearly visible.



Meter fitted, gasket compressed, at room temperature.
The greatest compression pressure is at the measuring tube end of the gasket, forcing it to expand only into the expansion chamber.



Elevated temperature with meter fitted and gasket compressed.
The compression chamber is almost completely filled. The gasket does not bulge excessively into the measuring tube.

The complete OPTIFLUX - range

OPTIFLUX converters

All converters fit to all sensors

IFC 300
One for all applications

C

F

W

IFC 010
Economic converter

C

W

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

OPTIFLUX 6000

The responsibility as to the suitability, intended use and corrosion resistance of the materials used in their construction rests solely with the purchaser.

Technical data ● Standard ○ Option - On request

Nominal diameter	**ANSI [inch]**	1/10"	1/8"	1/4"	3/8"	1/2"	1"	1 1/2'	2"	2 1/2'	3"	4"	5"	6"
	DN [mm]	2,5	4	6	10	15	25	40	50	65	80	100	125	150
Process Connections	DIN 11850	●	●	●	●	●	●	●	●	●	●	●	●	●
	DIN 11851	○	○	○	○	○	○	○	○	○	○	○	○	○
	DIN 11864-2A	-	-	-	-	-	○	○	○	○	○	○	○	○
	DIN 32676	-	-	-	-	-	○	○	○	○	○	○	○	○
	ISO 2037	●	●	●	●	●	●	●	●	●	●	●	●	●
	ISO 2852	○	○	○	○	○	○	○	○	○	○	○	○	○
	SMS 1145	-	-	-	-	-	○	○	○	○	○	○	○	○
	TRI CLOVER	-	-	-	-	-	○	○	○	○	○	○	○	○
	Notes: DN 2.5 - 6 (1/10 - 1/4") have DN 10 (3/8") connections.													
Liner*	PFA	●	●	●	●	●	●	●	●	●	●	●	●	●
	* See temperature limits.													
Electrodes	Hastelloy C4	●	●	●	●	●	●	●	●	●	●	●	●	●
	Hastelloy B2	○	○	○	○	○	○	-	-	-	-	-	-	-
	Platinum	○	○	○	○	○	○	-	-	-	-	-	-	-
	Stainless steel 1.4404 (AISI 316 L)	-	-	-	-	-	○	○	○	○	○	○	-	-
	Stainless steel 1.4571 (AISI 316 Ti)	○	○	○	○	○	○	-	-	-	-	-	-	-
	Tantalum	○	○	○	○	○	○	-	-	-	-	-	-	-
	Titanium	○	○	○	○	○	○	○	○	○	○	○	○	○
Integrated rings / gaskets	Without / EPDM	●	●	●	●	●	●	●	●	●	●	●	●	●
	Without / silicone	○	○	○	○	○	○	○	○	○	○	○	○	○

Materials used*	Measuring tube	Austenitic stainless steel	
	Adapters	Stainless steel 1.4404 (AISI 316 L)	
	Housing	Stainless st. 1.4462 (Duplex)	Stainless steel 1.4301 (AISI 304)
	Terminal box standard	Die-cast aluminum (polyurethane coated)	
	Terminal box optional	Stainless steel 1.4301 (AISI 304)	
	* Other materials on request.		
Protection category	Standard	IP 66 / 67 eq. NEMA 4/4X / 6	
	Optional	IP 68 field / IP 68 factory eq. NEMA 6P	
Insulation class		H	
Sanitary approvals	3A	●	●	●	●	●	●	●	●	●	●	●	●	●
	EHEDG	●	●	●	●	●	●	●	●	●	●	●	●	●
Versions	Compact + IFC 300 C	●	●	●	●	●	●	●	●	●	●	●	●	●
	Separate + IFC 300 F, R, W	●	●	●	●	●	●	●	●	●	●	●	●	●
	Compact + IFC 010 C	-	-	-	●	●	●	●	●	●	●	●	●	●
	Separate + IFC 010 W	-	-	-	●	●	●	●	●	●	●	●	●	●
Vacuum load		0 mbar/ 0 psi absolute	
Electrical conductivity	Non-water	≥ 5 µS/cm	≥ 1 µS/cm (IFC 300, 5µS/cm with IFC 010)
	Water	≥ 20 µS/cm	

Temperature range

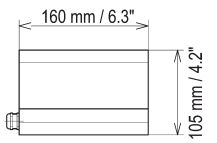
Flow sensor	Process temperature		Ambient temperature	
	min.	max.	min.	max.
PTFE / PFA	-40°C	180°C	-40°C	65°C

Compact flowmeter	Process temperature		Ambient temperature	
	min.	max.	min.	max.
with IFC 300	-40°C	140°C	-40°C	65°C
with IFC 010	-25°C	120°C	-25°C	60°C

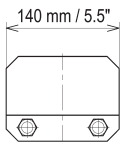
Flow sensor	Process temperature		Ambient temperature	
	min.	max.	min.	max.
PTFE / PFA	-40°F	356°F	-40°F	149°F

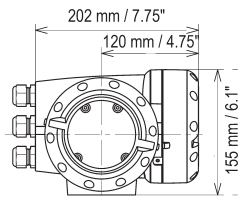
Compact flowmeter	Process temperature		Ambient temperature	
	min.	max.	min.	max.
with IFC 300	-40°F	284°F	-40°F	149°F
with IFC 010	-13°F	248°F	-13°F	140°F

Dimensions and weights

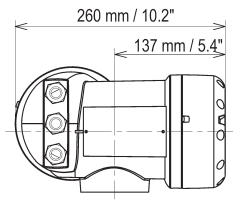


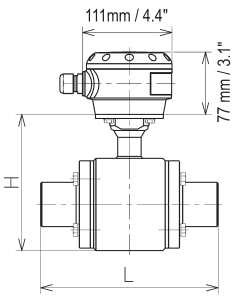
1.6 kg / 3.5 lb



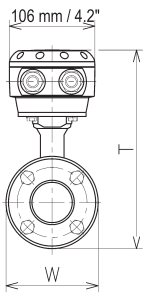


4.2 kg / 9.3 lb





0.7 kg / 1.5 lb



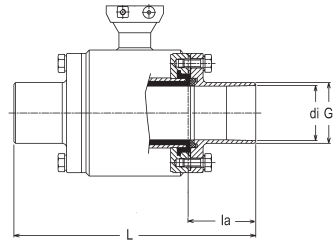
Dimensions and weights

Aseptic weld-on for pipes to DIN 11850

Nominal size DN [mm]	PN* [bar]	Dimensions in mm: Adapter dimensions di	G	la	Flowmeter dimensions L	H	W	T T_{box}	T_{IFC010}	T_{IFC300}	Approx. weight in kg**
Screwed adapter											
2.5	40	10	13	32	180	123	44	200	-	278	1.5
4	40	10	13	32	180	123	44	200	-	278	1.5
6	40	10	13	32	180	123	44	200	-	278	1.5
10	40	10	13	32	180	123	44	200	228	278	1.5
15	40	16	19	32	180	123	44	200	228	278	1.5
Bolted adapter											
25	40	26	29	21	133	128	89	205	233	283	3.0
40	40	38	41	61	220	153	114	230	258	308	5.3
50	25	50	53	61	220	153	114	230	258	308	6.8
65	25	66	69	42	220	180	141	257	285	335	10.9
80	25	81	84	67	280	191	152	268	296	346	11.2
100	16	100	103	59	280	242	203	319	347	397	18.4
125	10	125	128	66	319	258	219	335	363	413	on
150	10	150	153	64	325	293	254	370	398	448	request

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.

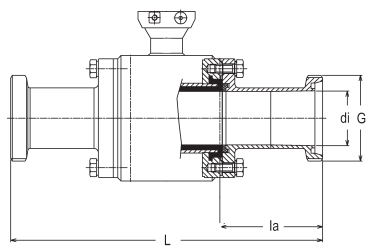


Dairy screw to DIN 11851

Nominal size DN [mm]	PN* [bar]	Dimensions in mm: Adapter dimensions di	G	la	Flowmeter dimensions L	H	W	T T_{box}	T_{IFC010}	T_{IFC300}	Approx. weight in kg**
Screwed adapter											
2.5	40	10	Rd 28 x 1/8"	53	214	123	44	200	-	278	1.5
4	40	10	Rd 28 x 1/8"	53	214	123	44	200	-	278	1.5
6	40	10	Rd 28 x 1/8"	53	214	123	44	200	-	278	1.5
10	40	10	Rd 28 x 1/8"	53	214	123	44	200	228	278	1.5
15	40	16	Rd 34 x 1/8"	53	214	123	44	200	228	278	1.5
Bolted adapter											
25	40	26	Rd 52 x 1/6"	49	190	128	89	205	233	283	3.2
40	40	38	Rd 65 x 1/6"	91	280	153	114	230	258	308	5.5
50	25	50	Rd 78 x 1/6"	93	284	153	114	230	258	308	5.3
65	25	66	Rd 95 x 1/6"	78	292	180	141	257	285	335	10.0
80	25	81	Rd 110 x 1/4"	108	362	191	152	268	296	346	12.5
100	16	100	Rd 130 x 1/4"	109	380	242	203	319	347	397	21.8
125	10	on				258	219	335	363	413	on
150	10	request				293	254	370	398	448	request

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.



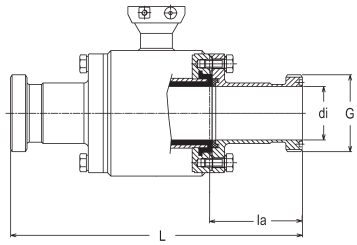
Dimensions and weights

Screwed pipe connection to SMS 1145

Nominal size		Dimensions in mm									Approx. weight in kg**
		Adapter dimensions			Flowmeter dimensions						
								T			
DN [mm]	PN* [bar]	di	G	la	L	H	W	T_{box}	T_{IFC010}	T_{IFC300}	
25	6	23	Rd 40 x 1/6"	28	148	128	89	205	233	283	3.2
40	6	36	Rd 60 x 1/6"	54	262	153	114	230	258	308	5.7
50	6	49	Rd 70 x 1/6"	84	266	153	114	230	258	308	5.4
65	6	60	Rd 85 x 1/6"	70	276	180	141	257	285	335	9.9
80	6	73	Rd 98 x 1/6"	100	346	191	152	268	296	346	12.1
100	6	98	Rd 132 x 1/6"	44	336	242	203	319	347	397	21.9

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.

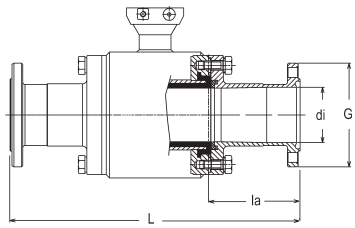


Sanitary flange to DIN 11864-2A

Nominal size		Dimensions in mm									Approx. weight in kg**
		Adapter dimensions			Flowmeter dimensions						
								T			
DN	PN*	di	G	la	L	H	W	T_{box}	T_{IFC010}	T_{IFC300}	
25	40	26	70	46	183	128	89	205	233	283	4.4
40	40	38	82	83	264	153	114	230	258	308	7.5
50	25	50	94	83	264	153	114	230	258	308	9.0
65	25	66	113	64	264	180	141	257	285	335	14.5
80	25	81	133	123	392	191	152	268	296	346	18.6
100	16	100	159	115	392	242	203	319	347	397	28.2
125	10	on				258	219	335	363	413	on
150	10	request				293	254	370	398	448	request

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.

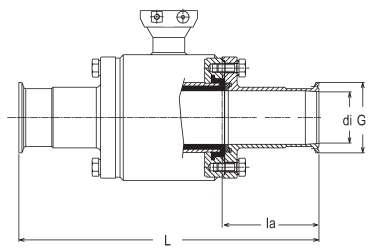


Clamp joint to DIN 32676

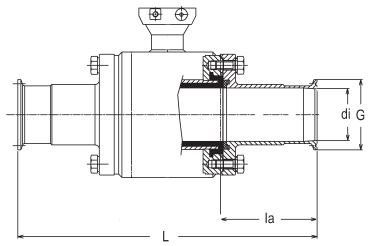
Nominal size		Dimensions in mm									Approx. weight in kg**
		Adapter dimensions			Flowmeter dimensions						
								T			
DN [mm]	PN* [bar]	di	G	la	L	H	W	T_{box}	T_{IFC010}	T_{IFC300}	
25	16	26	50.5	42	190	128	89	205	233	283	3.2
40	16	38	50.5	81	280	153	114	230	258	308	5.5
50	16	50	64.0	81	284	153	114	230	258	308	5.3
65	16	66	91.0	68	292	180	141	257	285	335	10.0
80	16	81	106.0	93	362	191	152	268	296	346	12.5
100	16	100	119.0	85	380	242	203	319	347	397	21.8

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.



Clamp joint to TRI-CLOVER

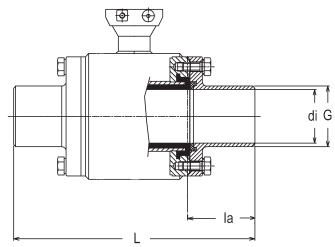


Nominal size		Dimensions in mm									Approx. weight in kg**
		Adapter dimensions			Flowmeter dimensions			T			
DN [mm]	PN* [bar]	di	G	la	L	H	W	T_{box}	T_{IFC010}	T_{IFC300}	
25	20	22	50.4	26	190	128	89	205	233	283	3.2
40	20	34	50.4	88	280	153	114	230	258	308	5.5
50	20	47	63.9	88	284	153	114	230	258	308	5.3
65	20	60	77.4	68	292	180	141	257	285	335	10
80	20	73	90.0	93	362	191	152	268	296	346	12.5
100	12	97	118.9	86	380	242	203	319	347	397	21.8

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.

Aseptic weld-on for pipes to ISO 2037



Nominal size		Dimensions in mm									Approx. weight in kg**
		Adapter dimensions			Flowmeter dimensions			T			
DN [mm]	PN* [bar]	di	G	la	L	H	W	T_{box}	T_{IFC010}	T_{IFC300}	
Screwed adapter											
2.5	40	10.0	12.0	32	180	123	44	200	-	278	1.5
4	40	10.0	12.0	32	180	123	44	200	-	278	1.5
6	40	10.0	12.0	32	180	123	44	200	-	278	1.5
10	40	10.0	12.0	32	180	123	44	200	228	278	1.5
15	40	15.2	17.2	32	180	123	44	200	228	278	1.5
Bolted adapter											
25	40	22.6	25.0	21	133	128	89	205	233	283	3.0
40	40	35.6	38.0	61	220	153	114	230	258	308	5.3
50	25	48.6	51.0	61	220	153	114	230	258	308	5.0
65	25	60.3	63.5	42	220	180	141	257	285	335	9.0
80	25	72.9	76.1	67	280	191	152	268	296	346	10.8
100	16	97.6	101.6	59	280	242	203	319	347	397	18.4
125	10	110.3	114.3	66	319	258	219	335	363	413	on
150	10	135.7	139.3	64	325	293	254	370	398	448	request

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

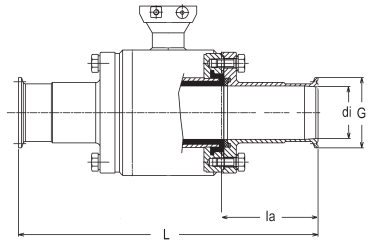
** Approx. weight of meter body with adapters.

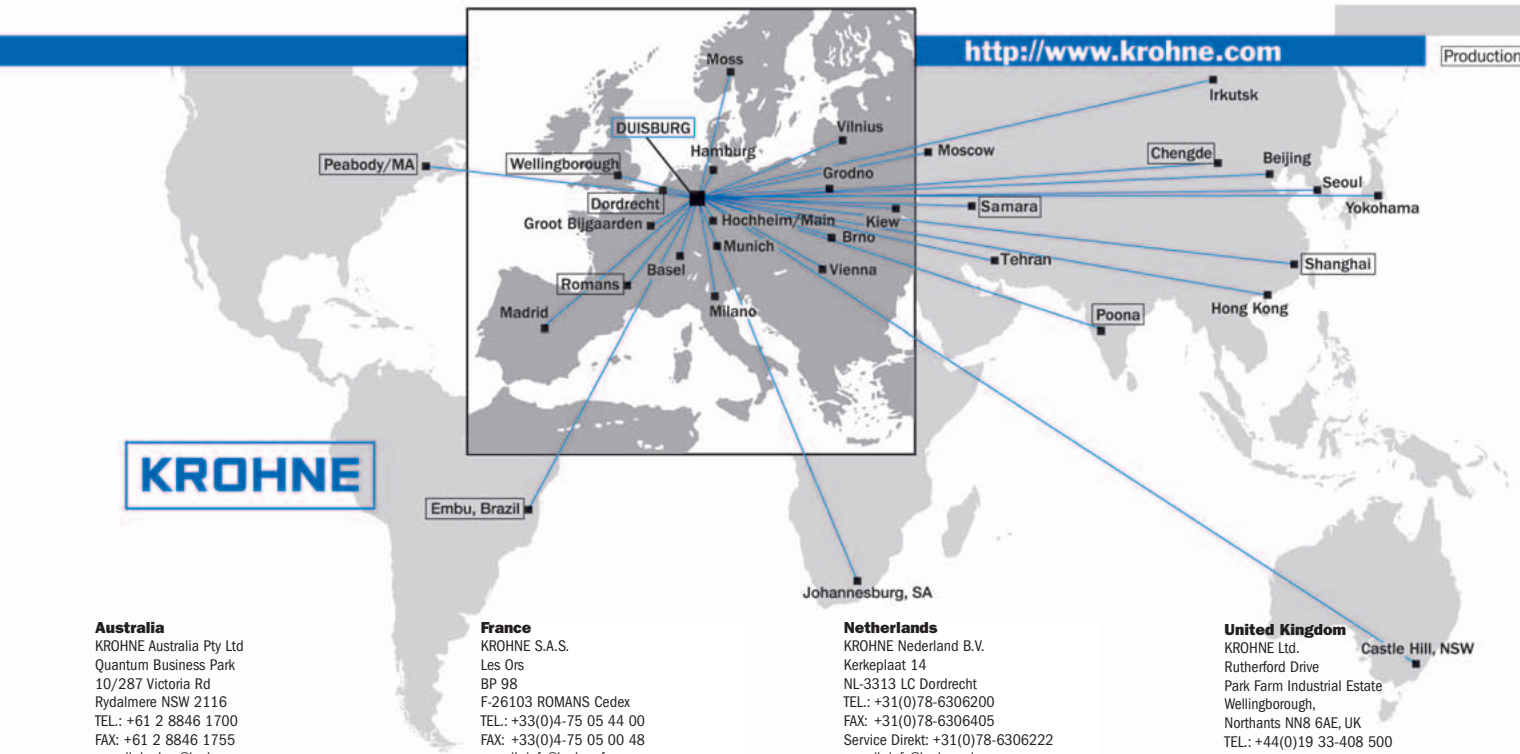
Clamp joint to ISO 2852

Nominal size		Dimensions in mm									Approx. weight in kg**
		Adapter dimensions			Flowmeter dimensions						
								T			
DN [mm]	PN* [bar]	di	G	la	L	H	W	T_{box}	T_{IFC010}	T_{IFC300}	
Screwed adapter											
2.5	16	10.0	34.0	52	219	123	44	200	-	278	1.5
4	16	10.0	34.0	52	219	123	44	200	-	278	1.5
6	16	10.0	34.0	52	219	123	44	200	-	278	1.5
10	16	10.0	34.0	52	219	123	44	200	228	278	1.5
15	16	15.2	34.0	52	219	123	44	200	228	278	1.5
Bolted adapter											
25	16	22.6	50.5	42	175	128	89	205	233	283	3.3
40	16	35.6	50.5	88	273	153	114	230	258	308	5.4
50	16	48.6	64.0	88	273	153	114	230	258	308	5.2
65	10	60.3	77.5	68	273	180	141	257	285	335	9.5
80	10	72.9	91.0	93	333	191	152	268	296	346	11.2
100	8	97.6	119.0	86	333	242	203	319	347	397	19.1
125	5	on				258	219	335	363	413	on
150	5	request				293	254	370	398	448	request

*Pressure limits for complete temperature range equal maximum pressure rating indicated.

** Approx. weight of meter body with adapters.





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°. 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
Argentina
Belarus
Cameroon
Canada
Chile
Colombia
Croatia
Denmark
Ecuador
Egypt
Finland
Gabon
Ghana
Greece
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Romania
Saudi Arabia
Senegal
Slovakia
Slovenia
Sweden
Taiwan
Thailand
Turkey
Tunisia
Venezuela
Yugoslavia

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

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