



## OPTIFLUX 5000

Technical Datasheet

### Electromagnetic Flow Sensor

- Excellent long-term stability and accuracy
- Transfer standard of international metrological authorities
- For most aggressive and abrasive fluids
- Fully vacuum-resistant
- High-tech ceramics liner



**KROHNE**

## Solution with high-tech ceramics

The OPTIFLUX 5000 electromagnetic flow sensor is the standard in accuracy. OPTIFLUX 5000 is highly resistant against abrasion.



- ① Sandwich design
- ② Ceramic liner
- ③ Cermet electrodes

## Highlights

- Excellent long-term stability and accuracy
- Transfer standard of international metrological authorities
- For most aggressive and abrasive fluids
- Fully vacuum-resistant
- High-tech ceramics liner
- Insensitive against temperature shocks

## Industries

- Chemicals
- Pulp & Paper
- Water
- Wastewater
- Minerals & Mining
- Automotive

## Applications

- Transfer standard
- Dosing of additives
- Water meter calibration
- Volumetric dosing
- Chemical dosing
- Automotive (engine test rigs)
- Calibration of diaphragm pumps

## Electromagnetic product range

### OPTIFLUX converters: All converters fit to all sensors



1



2

1 IFC 300 High-performance solution

2 IFC 010 Economical solution

### OPTIFLUX sensors



1



2



3



4



5

1 OPTIFLUX 1000 Economical solution

2 OPTIFLUX 2000 Solution for the water and wastewater industry

3 OPTIFLUX 4000 Standard solution for the process industry

4 OPTIFLUX 5000 Solution with high-tech ceramics

5 OPTIFLUX 6000 Sanitary and hygienic solution

### Special-purpose flowmeters



1



2



3



4



5

1 WATERFLUX 2070 Battery powered watermeter solution

2 OPTIFLUX 4040 C 2-wire solution

3 TIDALFLUX 4110 PF Solution for partially filled pipelines

4 BATCHFLUX 5015 C Solution for volumetric filling

5 OPTIFLUX 7300 C Electrode-free solution

## Technical data

Nominal diameter	VN18										
	ASME [inch]	1/10"	1/8"	1/4"	3/8"	1/2"	1"	1 1/2"	2"	3"	4"
DIN [mm]	2,5	4	6	10	15	25	40	50	80	100	

### Nominal flange pressure

EN 1092-1 - PN40	[Blue bar]										
EN 1092-1 - PN25	[Grey bar]										
EN 1092-1 - PN16	[Blue bar]										
ASME B16.5 - 150lbs	[Blue bar]										
ASME B16.5 - 300lbs	[Grey bar]										

### Measuring tube

Ceramic	[Blue bar]										
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### Electrodes

Cermet	[Blue bar]										
Platinum							[Blue bar]				

### Rings | gaskets

Stainless steel AISI 316Ti (1.4571)   Viton	[Blue bar]										
Without   Gylon							[Blue bar]				
Hastelloy C4   Viton	[Grey bar]										
Hastelloy C4   EPDM	[Grey bar]										
Hastelloy C4   Kalrez	[Grey bar]										
Stainless steel AISI 316Ti (1.4571)   EPDM	[Grey bar]										
Titanium   EPDM	[Grey bar]										
Titanium   Kalrez	[Grey bar]										
Tantalum   PTFE-PF 29	[Grey bar]										
Without   Chemotherm							[Grey bar]				
Hastelloy C4   Chemotherm							[Grey bar]				
Hastelloy C4   Gylon							[Grey bar]				
Stainless steel AISI 316Ti (1.4571)   Chemotherm							[Grey bar]				
Stainless steel AISI 316Ti (1.4571)   Gylon							[Grey bar]				

### Stud bolts and nuts

Steel	[Blue bar]										
Stainless steel, rubber centering sleeves	[Grey bar]										

### Materials

Flow sensor housing (PU coated)											
- stainless steel Duplex (1.4462)	[Blue bar]										
- stainless steel AISI 304 (1.4306)							[Blue bar]				
Flow converter housing (compact design)											
- die-cast aluminium (PU coated)	[Blue bar]										
- stainless steel AISI 304 (1.4306)	[Grey bar]										
Connection box (separate design)											
- die-cast aluminium (PU coated)	[Blue bar]										
- stainless steel AISI 304 (1.4306)	[Grey bar]										
	other materials on request										

Nominal diameter	VN18										
ASME [inch]	1/10"	1/8"	1/4"	3/8"	1/2"	1"	1 1/2"	2"	3"	4"	
DIN [mm]	2.5	4	6	10	15	25	40	50	80	100	

Protection category

IP 66 / 67 eq. NEMA 4/4X / 6	■										
IP 68 field eq. NEMA 6P	■										
IP 68 factory eq. NEMA 6P	■										
	IP 68 only available with stainless steel connection box										

Approvals

Non-Ex	■										
EEx - zone 1   2	■										
FM - class I div. 1 / 2	■										
CSA - GP   class I div. 1 / 2	■										
	Please note the approvals are for flow sensors only										

Versions

Compact + IFC 300 C	■										
Separate + IFC 300 F   W   R	■										
Compact + IFC 010 C		■									
Separate + IFC 010 W		■									

Vacuum load

0mbar   0psi absolute	■										
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Conductivity

≥ 1 µS/cm [non-water]							■				
≥ 5 µS/cm [non-water]		■									
≥ 10 µS/cm [non-water]	■										
≥ 20 µS/cm [demineralised cold water]	■										

■ standard ■ optional □ on request

## Dimensions and Weights

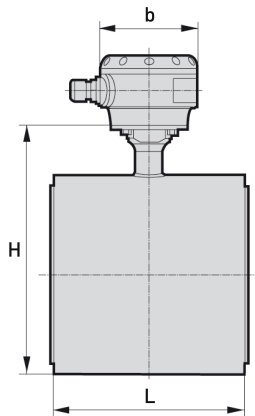
### SI-Dimensions

Nominal size		Dimensions [mm]						Approx. weight [kg]**
DN	PN	L*	H	W	T			
[mm]	[bar]				box	010	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	68	193	221	271	1,6
40	40	83	131	83	208	236	286	2,4
50	40	103	149	101	226	254	304	2,9
80	40	153	181	133	258	286	336	6,4
100	16	203	206	158	283	311	361	8,8
* Total fitting length:								
DN 2.5-15, flowmeter with integrated rings: Dim. L + 2 x gasket thickness.								
DN 25-100, flowmeter without rings: Dim. L only (no gaskets required).								
** Approx. weight of meter body.								

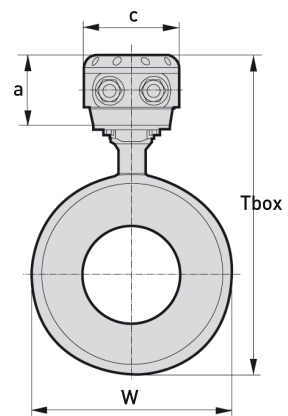
### ASME-Dimensions

Nominal size		Dimensions [inches]						Approx. weight [lbs]**
ASME	Pressure	L*	H	W	T			
[inch]	[psig]				box	010	300	
1/10"	580	2,56	4,84	1,73	7,87	8,98	10,94	10,94
1/8"	580	2,56	4,84	1,73	7,87	8,98	10,94	10,94
1/4"	580	2,56	4,84	1,73	7,87	8,98	10,94	10,94
3/8"	580	2,56	4,84	1,73	7,87	8,98	10,94	10,94
1/2"	580	2,56	4,84	1,73	7,87	8,98	10,94	10,94
1"	580	2,28	4,57	2,68	7,6	8,7	10,67	10,67
1 1/2"	580	3,27	5,16	3,27	8,19	9,29	11,26	11,26
2"	580	4,06	5,87	3,98	8,9	10	11,97	11,97
3"	580	6,02	7,13	5,24	10,16	11,26	13,23	13,23
4"	232	7,99	8,11	6,22	11,14	12,24	14,21	14,21
* Total fitting length:								
ASME 1/10"-1/2", flowmeter with integrated rings: Dim. L + 2 x gasket thickness.								
ASME 1"-4", flowmeter without rings: Dim. L only (no gaskets required).								
** Approx. weight of meter body.								

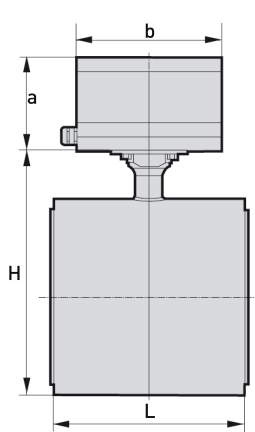
Frontview OPTIFLUX 5000 F



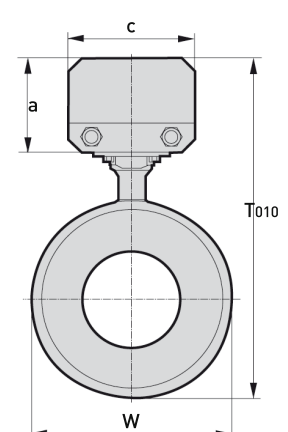
Sideview OPTIFLUX 5000 F



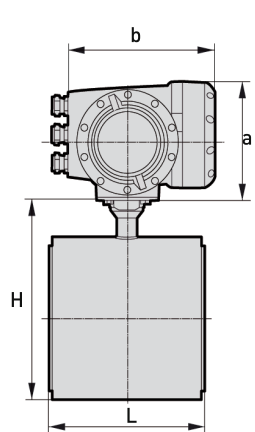
Frontview OPTIFLUX 5010 C



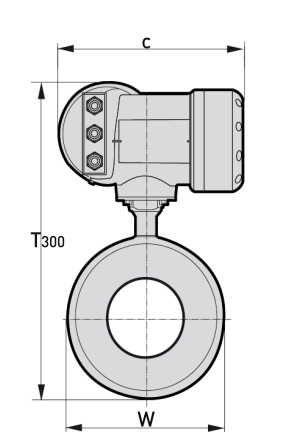
Sideview OPTIFLUX 5010 C



Frontview OPTIFLUX 5300 C



Sideview OPTIFLUX 5300 C



Dimensions housings

Type	dimension a		dimension b		dimension c	
	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
Connection box	77	3,1	111	4,4	106	4,2
IFC 010 converter	105	4,2	160	6,3	106	4,2
IFC 300 converter	155	6,1	202	7,8	260	10,2

## Temperature range

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

### DN 2,5 - 100

Separate flow sensor (OPTIFLUX 5000 F)	-60	180	-40	65	-76	356	-40	149
Compact with IFC 300 (OPTIFLUX 5300 C)	-60	140	-40	65	-76	284	-40	149
Compact with IFC 010 (OPTIFLUX 5010 C)	-25	120	-25	60	-13	248	-13	140

	Max. permissible temperature change [°C ]				Max. permissible temperature change [°F]			
	10 minutes		Sudden change		10 minutes		Sudden change	
	Rising	Falling	Rising	Falling	Rising	Falling	Rising	Falling
DN2,5...15	150	120	120	90	302	248	248	194
DN25...100	150	100	120	80	302	212	248	176







## KROHNE 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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