

ALTOFLUX IFS 4000/4005

... result of more than 40 years' experience with electromagnetic flowmeters



- Liner made of KROHNE Teflon®-PFA or other fluorines
- Dimensionally stable, even in caustic, acid and hot conditions
- Vacuum-resistant, also at elevated temperatures
- For use in hazardous locations

Variable area flowmeters

Vortex flowmeters

Flow controllers

Electromagnetic flowmeters

Ultrasonic flowmeters

Mass flowmeters

Level measuring instruments

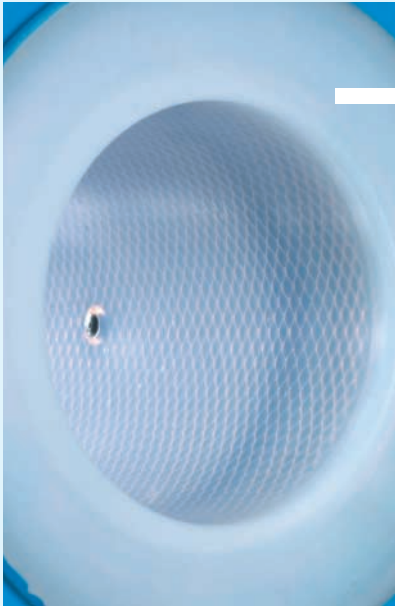
Communications technology

Engineering systems & solutions

Switches, counters, displays and recorders

Heat metering

Pressure and temperature



ALTOFLUX IFS 4000 / 4005

The result of more than 40 years' experience with electromagnetic flowmeters

ALTOFLUX IFS 4000 / 4005

flowmeters measure the volumetric flowrate of electrically conductive liquids, acids, alkaline solutions, pastes and slurries, also with very high solids content.

Fields of application

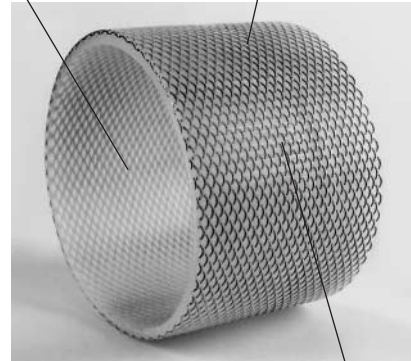
- water and wastewater
- chemical and pharmaceutical
- paper and woodpulp production
- mining, ore extraction and dressing
- measurement of water / sand mixes
- ... with solids contents of up to 50%
- Teflon®-PFA and -PTFE liners ensure extremely high abrasion resistance
- chemically resistant to alkaline solutions and acids:
- no restriction with Teflon®-PFA or -PTFE liners (materials for electrodes and grounding rings to be selected for process compatibility)

Calibrated on **EN 17 025** accredited calibration rigs, accuracy of calibration better than 99.97% of the measured value.



DN 25-150 and 1"-6" with KROHNE Teflon®-PFA liner

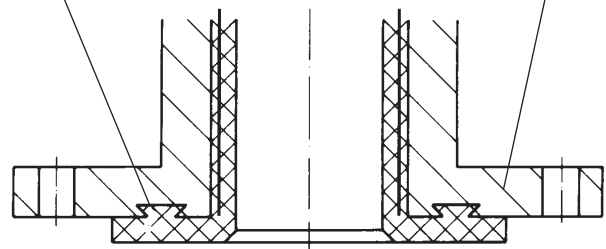
Dimensionally stable through stainless steel mesh reinforcement, also at elevated temperatures



No additional electrode gaskets required

With dovetail groove for easy installation

Fully welded housing, absolutely tight, rugged, resistant to corrosion



Can be operated together with all KROHNE signal converters of integral or remote design

Fitting length also in conformity with ISO 13 359

For use in hazardous locations

Hazardous-duty (Ex) versions ALTOFLUX IFS 4000

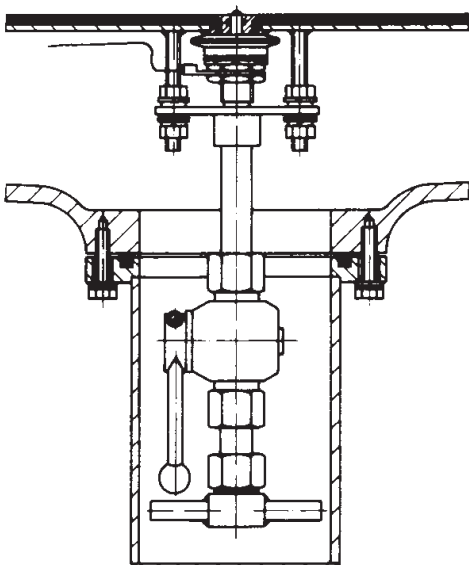
Meter size	compact units		separate units Anlagen	
	KEMA 01 ATEX 2200 X Ex II GD T 85 ... 140 °C (185 ... 284 °F)		KEMA 01 ATEX 2063 X Ex II GD T 85 ... 180 °C (185 ... 356 °F)	
	IFM 4080 K - EEx Increased safety	IFM 4080 K / i-EEx Outputs intrinsic safety	IFS 4000 F - EEx	combined with signal converter ...
DN 10 - 20 3/8" - 3/4"	EEx dme [ib] IIC T6...T3	EEx dme [ib] [ia] IIC T6...T3	EEx me [ib] IIC T6...T3	● IFC 090 F-EEx KEMA 01 ATEX 2234 Outputs in increased safety EEx de [ib] IIC T6
DN 25 - 150 1" - 6"	EEx d [ib] IIC T6...T3 EEx de [ib] IIC T6...T3	EEx d [ib] [ia] IIC T6...T3 EEx de [ib] [ia] IIC T6...T3	EEx de [ib] IIC T6...T3	● IFC 090 F/i-EEx KEMA 01 ATEX 2234 Outputs intrinsic safety EEx de [ib] [ia] IIC T6
DN 200 - 300 8"-12"	EEx dq [ib] IIC T6...T3 EEx dqe [ib] IIC T6...T3	EEx dq [ib] [ia] IIC T6...T3 EEx dqe [ib] [ia] IIC T6...T3	EEx qe [ib] IIC T6...T3	● IFC 110 F-EEx ATEX from Oct. 2002 outside of EEx area [EEx ib] IIC
DN 350-1600 14" - 64"	EEx de [ib] IIC T6...T3	EEx de [ib] [ia] IIC T6...T3		
DN 350 - 2000 14" - 80"			EEx e [ib] IIC T6...T3	● IFC 210 E-EEx PTB 00 ATEX 2026 X outside of EEx area [EEx ib] IIC

Field replaceable electrodes WE

for meter sizes ≥ DN 350 and ≥ 14".

If the properties of the process product are not known in the project phase, it is advisable to use replaceable electrodes particularly where larger meter sizes are involved.

The electrodes can be removed at system operating pressure for efficient cleaning of their surface.



FM Approvals

The **IFS 4000 F primary** heads are FM approved:

Div 1: EXP-IS / 1 / 1 / BCD
DIP-IS / II, III / 1 / EFG
J.I. No. 5Y8A1.AX

Div. 2: NI / I / 2 / ABCD
S / II / 2 / FG
S / III / 2
J.I. No. 4X7A4.AX

The FM approvals for **IFC 110** and **IFC 090** signal converters are pending.

The **IFM 4080 K** integral flowmeters are FM approved:

Div 2: NI / I / 2 / ABCD
S / II / 2 / FG
S / III / 2
J.I. No. 4X7A4.AX

Technical data

Meter sizes	
Integral systems	DN 10 - 1600 and $\frac{3}{8}$ " - 64"
IFS 4000 F (remote unit)	DN 10 - 3000 and $\frac{3}{8}$ " - 120"
IFS 4005 F (remote unit)	DN 50 - 3000 and 2" - 120"
Pipe flanges	
to DIN 2501 (= BS 4504)	DN 10 - 50 and DN 80 / PN 40 DN 65 and DN 100 - 150 / PN 16 DN 200 - 1000 / PN 10 DN 1100 - 2000 / PN 6 DN 2200 - 3000 / PN 2.5
to ANSI B 16.5	$\frac{3}{8}$ " - 24" / Class 150 lb / RF
to AWWA	14" - 120" / Class B or D / FF
Electrical conductivity	
	$\geq 5 \mu\text{S/cm}$, $\geq 20 \mu\text{S/cm}$ for demineralized cold water
Temperatures	
Integral systems	Ambient temperature Process temperature - 25 to + 60 °C - 25 to \leq + 60 °C - 13 to + 140 °F - 13 to \leq + 140 °F
	- 25 to + 140 °C - 25 to \leq + 140 °C* (Ex max. 150 °C) - 13 to + 104 °F - 13 to \leq + 284 °F* (Ex max. 302 °F)
IFS 4000 F (remote)	- 25 to + 60 °C - 25 to \leq + 180 °C* - 13 to + 140 °F - 13 to \leq + 356 °F*
IFS 4005 F (remote)	
DN 50 / 2"	- 25 to + 60 °C - 60 to \leq + 100 °C* - 13 to + 140 °F - 76 to \leq + 212 °F*
\geq DN 65 / \geq 2 $\frac{1}{2}$ "	- 25 to + 60 °C - 60 to \leq + 120 °C* - 13 to + 140 °F - 76 to \leq + 248 °F*
	* dependent on liner, flange standard, etc.
Max. allowable operating data	
	Process temperature, operating pressure and vacuum load for the liner, refer to Page 8 "Limits"
Insulation class of field coils	
<u>Integral systems</u>	
DN 10 - 300 / $\frac{3}{8}$ " - 6"	H / \leq 140 °C / \leq 284 °F process temperature
DN 350 - 1600 / 14" - 64"	E / \leq 120 °C / \leq 248 °F process temperature, (option H / \leq 140 °C / \leq 284 °F)
<u>IFS 4000 F (remote)</u>	
DN 10 - 300 / $\frac{3}{8}$ " - 6"	H / \leq 180 °C / \leq 356 °F process temperature
DN 350 - 3000 / 14" - 120"	E / \leq 120 °C / \leq 248 °F process temperature, (with option H / \leq 180 °C / \leq 356 °F)
Power supply for field coils	
IFS 4000 F (seperate) and all integral units	max. 60V from signal converter
IFS 4005 F (seperate)	max. 250V from SC150 F signal converter
Electrode design	
DN 10 - 3000 / $\frac{3}{8}$ " - 120"	flat elliptical electrodes, solidly fitted, surface-polished
Option DN 350 - 3000 / 14" - 120"	field-replaceable electrodes WE
Protection category (EN 60 529 / IEC 529)	
Standard	IP 67, equivalent to NEMA 6 (with field replaceable electrodes WE: IP65, equivalent to NEMA 4/4X)
Option	IP 68, equivalent to NEMA 6
Grounding rings	
	available as an option

Full signal converter data are specified in the relevant Data Sheets

Materials

<u>Measuring tube</u>		austenitic steel
<u>Liner</u>		
Standard	DN 10 - 20 / $\frac{3}{8}$ " - $\frac{3}{4}$ " DN 25 - 150 / 1" - 6" DN200 - 600 / 8" - 24" DN700 - 2000 / 24" - 80"	Teflon®-PTFE Teflon®-PFA (reinforced with stainless steel mesh) Tefzel (gaskets of electrodes: KALREZ, option Viton) FEP
Option	DN200 - 600 / 8" - 24" DN200 - 1200 / 8" - 48" DN200 - 1800 / 8" - 72" DN200 - 3000 / 8" - 120" ≥ DN200 / ≥ 8"	Teflon®-PTFE soft rubber Irlathane Neoprene others on request
<u>Electrodes</u>		
Standard		Hastelloy C4
Option		stainless steel 1.4571 or SS 316 Ti, Hastelloy B2, titanium, tantalum, platinum, platinum-iridium, others on request
Field replaceable WE		stainless steel 1.4571 or SS 316 Ti
<u>Connecting flanges*</u>		
DIN: DN 10 - 50, DN80 ($\frac{3}{8}$ " - 2", 3") DN65, ≥ DN 100 (≥ 4")		steel 1.0402 (C 22) or AISI C 1020 steel 1.0501 (RST 37.2) or AISI C 1035 steel ASTM A 105 N
ANSI		
<u>Housing*</u>		
DN 10 - 40 / $\frac{3}{8}$ "-1 $\frac{1}{2}$ " ≥ DN 50 / ≥ 2"		GTW-S 30 (malleable cast iron) sheet steel
<u>Terminal box*</u>		
IFS 4000 F / 4005 F (remote)		die-cast aluminium
<u>Grounding rings (option)</u>		stainless steel 1.4571 or SS 316 Ti

* with polyurethane coating

Grounding rings

For process flow measurement reasons the product must be grounded. Such as grounding system is lacking in pipes upstream and downstream of the primary head which feature a corrosion-resistant internal coating or liner, or are made entirely of plastics material. In such cases, grounding rings must be fitted on both sides of the primary head.

Grounding ring No. 1

3 mm/0.10" thick (tantalum: 0.5 mm/0.02" thick)

Protective ring No. 2

3 mm/0.10" thick for Teflon®-PTFE liner.

On primary heads with Teflon®-PTFE liner, protective rings No. 2 prevent damage to the flanges during transportation and installation. These rings can also be used as grounding rings.

Grounding ring No. 3

with cylindrical neck 3 mm/0.10" thick
30 mm/1.25" long for DN 10-300 and $\frac{3}{8}$ "-12"

100 mm/3.95" long for ≥ DN 350 and ≥ 14"

Where abrasive liquids are concerned, grounding rings No. 3 with cylindrical neck should be used for the inlet side of the primary head to prevent damage to the inlet edge.

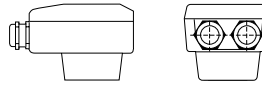
Dimensions and weights

PLEASE NOTE !

The **total dimension for the height** is obtained from **dimension b** (see table) **plus the height** of the terminal box or the signal converter, see drawings.

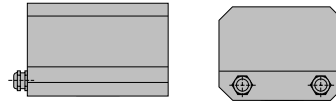
The **total weight** is made up of the weight of the signal converter (see table) **plus** the weight of the terminal box or signal converter, see below.

Terminal box



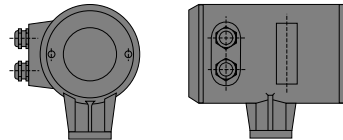
Weight approx. 0.5 kg (1.1 lb)

IFC 010 K and IFC 020 K signal converter



Weight approx. 1.6 kg (3.6 lb)

IFC 090 K signal converter



Weight approx. 2.3 kg (5.1 lb)

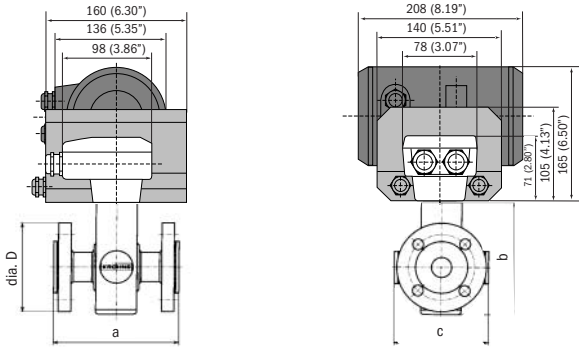
Flange connections to ...			Dimensions in mm (inches)
DIN 2501 (= BS 4504)	DN 10- 300	PN40, 16, 10	see table
	DN350-1000	PN 10	see table
	DN350-1000	PN25	see table, dimension "a _{standard} " + 200 mm
	≥ DN1200	PN 6, 2.5	information supplied on request
ANSI B 16.5	3/8"-24"	150 lb / RF	see table
		≥ 300 lb / RF	dimensions supplied on request
AWWA	≥ 14"	Class B, D / FF	dimensions supplied on request

- Dimension "a" without flange gaskets: not included with flowmeter, to be provided by customer.
- rathane liner ≥ DN 350 / ≥ 14"; thickness > 12 mm: nominal size of flanges greater than nominal size of measuring tube, see table
- Meter size 3/8": flange connection 1/2"

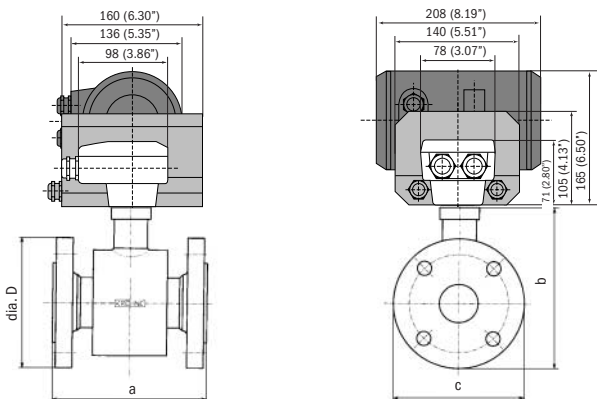
Nominal size		Dimensions in mm (inches)							Approx. weight in kg (lb)		
DIN	ANSI	a (fitting length)			bmax	c	dia. D		with DIN	with ANSI	
DN	PN (psig)	inches	Standard	ISO 13 359	ANSI			DIN, ISO	ANSI	flanges	flanges
10	40 (580)	3/8	150 (5.91)	-	150 (5.91)	165 (6.50)	121 (4.76)	90 (3.54)	88.9 (3.50)	5 (11.0)	6 (13.2)
15	40 (580)	1/2	150 (5.91)	200 (7.87)	150 (5.91)	165 (6.50)	121 (4.76)	95 (3.74)	88.9 (3.50)	5 (11.0)	6 (13.2)
20	40 (580)	3/4	150 (5.91)	200 (7.87)	150 (5.91)	165 (6.50)	121 (4.76)	105 (4.13)	98.6 (3.88)	7 (15.4)	8 (17.6)
25	40 (580)	1	150 (5.91)	200 (7.87)	150 (5.91)	165 (6.50)	121 (4.76)	115 (4.53)	108 (4.25)	7 (15.4)	8 (17.6)
32	40 (580)	-	150 (5.91)	200 (7.87)	-	180 (7.09)	139 (5.47)	140 (5.51)	-	8 (17.6)	-
40	40 (580)	1 1/2	150 (5.91)	200 (7.87)	150 (5.91)	180 (7.09)	139 (5.47)	150 (5.91)	127 (5.00)	8 (17.6)	9 (19.8)
50	40 (580)	2	200 (7.87)	200 (7.87)	200 (7.87)	218 (8.58)	160 (6.30)	165 (6.50)	152 (6.00)	8 (17.6)	8 (17.6)
65	16 (232)	-	200 (7.87)	200 (7.87)	-	228 (8.98)	173 (6.81)	185 (7.28)	-	10 (22)	-
80	40 (580)	3	200 (7.87)	200 (7.87)	200 (7.87)	235 (9.25)	173 (6.81)	200 (7.87)	191 (7.50)	12 (27)	13 (29)
100	16 (232)	4	250 (9.84)	250 (9.84)	250 (9.84)	286 (11.26)	233 (9.17)	220 (8.66)	228 (8.98)	15 (33)	18 (40)*
125	16 (232)	-	250 (9.84)	250 (9.84)	-	297 (11.69)	233 (9.17)	250 (9.84)	-	19 (42)	-
150	16 (232)	6	300 (11.81)	300 (11.81)	300 (11.81)	327 (12.87)	257 (10.12)	285 (11.22)	279 (10.98)	22 (49)	26 (58)*
200	10 (145)	8	350 (13.78)	350 (13.78)	350 (13.78)	385 (15.16)	291 (11.46)	340 (13.39)	343 (13.50)	34 (75)	42 (95)*
250	10 (145)	10	400 (15.75)	450 (17.72)	400 (15.75)	437 (17.20)	331 (13.03)	395 (15.55)	406 (16.00)	48 (107)	64 (140)*
300	10 (145)	12	500 (19.69)	500 (19.69)	500 (19.69)	500 (19.69)	381 (15.00)	445 (17.52)	533 (21.00)	58 (128)	94 (210)*
350	10 (145)	14	500 (19.69)	550 (21.65)	700 (27.56)	548 (21.57)	428 (16.85)	505 (19.88)	597 (23.50)	78 (172)	129 (285)*
400	10 (145)	16	600 (23.62)	600 (23.62)	800 (31.50)	606 (23.86)	483 (19.02)	565 (22.24)	635 (25.00)	98 (217)	165 (365)*
500	10 (145)	20	600 (23.62)	-	800 (31.50)	651 (25.63)	533 (20.98)	670 (26.38)	699 (27.50)	128 (283)	223 (492)*
600	10 (145)	24	600 (23.62)	-	800 (31.50)	820 (32.28)	585 (23.03)	780 (30.71)	813 (32.00)	164 (362)	306 (675)*
700	10 (145)	28	700 (27.56)	-		937 (36.89)	694 (27.32)	895 (35.24)		245 (540)	
800	10 (145)	32	800 (31.50)	-		1058 (41.65)	922 (36.30)	1015 (39.96)		328 (724)	
900	10 (145)	36	900 (35.43)	-		1164 (45.83)	1026 (40.39)	1115 (43.90)		425 (1000)	
1000	10 (145)	40	1000 (39.37)	-		1278 (50.31)	1132 (44.57)	1230 (48.43)		507 (1118)	

* max. pressure rating acc. DIN flanges, see column "PN (psig)"

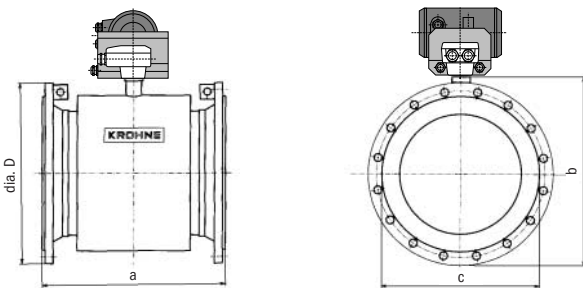
DN 10 - 40 / 3/8" - 1 1/2"



DN 50 - 300 / 2" - 12"



DN 350 - 1000 / 14" - 24"



Tolerance details for fitting length dimensions "a"

Standard

≤ DN 300 / ≤ 12" : ±0.5%,
min. ± 1mm / ± 0.04"

≥ DN 350 / ≥ 14" : ±0.5%

to ISO DIS 13 359

≤ DN 200 / ≤ 8" : +0/-3

≥ DN 250 / ≥ 10" : +0/-5

Flange size for Itrathane liners, thickness > 12 mm / > 0.50"

Nominal diameter of measuring tube

Flange size

DN in mm		in inches	
DN 350	DN 400	14	16
DN 400, 500	DN 500	14, 16	20
DN 500, 550	DN 600	20, 22	24
DN 600, 650	DN 700	24, 26	28
DN 700, 750	DN 800	28, 30	32
DN 800, 850	DN 900	32, 34	36
DN 900, 950	DN 1000	36, 38	40
DN 1000	DN 1200	40	48

Dimensions ≥ DN 1200 / ≥ 28" on request

Limits

PLEASE NOTE!

- The limits specified in the table for process temperature and operating pressure make allowance for the tube liner and the flange standard. Refer also to footnotes 1) to 4).
- Refer to certificates of conformity for max. allowable operating data for hazardous-duty versions, provided only with hazardous-duty equipment.

● **Abbreviations used:**

- DIN** = DIN 2501 (= BS 4504)
ANSI = ANSI B 16.5
AWWA = AWWA
API = API 6 BX

Limits for Teflon®-PFA, Teflon®-PTFE and Tefzel

Liner	Flange			Max. operating pressure in bar (psig) at a process temperature of							
	Standard	Nominal diameter	Pressure rating/ Class	≤ 40 °C (≤ 105 °F)	≤ 60 °C (≤ 140 °F)	≤ 70 °C (≤ 158 °F)	≤ 90 °C (≤ 195 °F)	≤ 100 °C (≤ 210 °F)	≤ 120 °C (≤ 250 °F) 1)	≤ 140 °C (≤ 285 °F) 1) 2) 3)	≤ 180 °C (≤ 355 °F) 1) 2) 3)
PFA	DIN	DN25-50, DN80	PN 40	40.0 (580)	40 (580)	40 (580)	40 (580)	40 (580)	40 (580)	40 (580)	40 (580)
	ANSI B16.5	DN65, DN 100-150 1", 1½", 2", 3", 4", 6",	PN 16 150 lb 300lb	16 (232) 19.6 (284)	16 (232) 19.0 (275)	16 (232) 18.7 (271)	16 (232) on request	16 (232) 18.1 (262)	16 (232) 17.7 (256)	16 (232) 17.0 (246)	16 (232) 16.2 (235) 14.7 (213)
PTFE	DIN	DN10-20 DN200-500	PN 40 PN 10	40 (580) 10 (145)	40 (580) 10 (145)	40 (580) 10 (145)	40 (580) 10 (145)	40 (580) 10 (145)	40 (580) 10 (145)	40 (580) 10 (145)	40 (580) 10 (150)
	ANSI B16.5	¾"-3¼", 1½", 2½", 5"	150lb 300lb	19.6 (284) on request	19.0 (275) on request	18.7 (271) on request	18.1 (262) on request	17.7 (256) on request	17.0 (246) on request	16.2 (235) on request	14.7 (213) on request
PTFE, Tefzel	ANSI B16.5	8"	150lb 300lb	19.6 (284) 32.1 (465)	19.0 (275) 32.1 (465)	18.7 (271) 31.7 (459)	18.0 (261) 30.4 (440)	17.7 (256) 29.7 (430)	16.9 (246) 28.5 (413)	16.2 (235) 26.7 (387)	14.7 (213) 25.5 (369)
		10"	150lb 300lb	19.6 (284) 23.6 (342)	19.0 (275) 23.4 (339)	18.7 (271) 22.9 (332)	18.0 (261) 22.0 (319)	17.7 (256) 21.6 (313)	16.9 (246) 20.7 (300)	16.2 (235) 20.0 (290)	14.7 (213) 18.6 (269)
		12"	150-300lb	19.6 (284)	19.0 (275)	18.7 (271)	18.0 (261)	17.7 (256)	16.9 (246)	16.2 (235)	14.7 (213)
		14"	150-300lb	17.8 (258)	17.6 (255)	17.3 (250)	16.6 (240)	16.3 (236)	15.6 (226)	15.6 (219)	14.0 (203)
		16"	150-300lb	15.6 (226)	15.4 (223)	15.1 (219)	14.5 (210)	14.2 (205)	13.7 (198)	13.2 (191)	12.2 (177)
		18"	150-300lb	13.8 (200)	13.7 (198)	13.4 (194)	12.9 (187)	12.6 (182)	12.1 (175)	11.7 (169)	10.8 (156)
		20"	150-300lb	12.4 (179)	12.3 (178)	12.0 (174)	11.6 (168)	11.3 (163)	10.9 (158)	10.5 (152)	9.7 (140)
		22"	150-300lb	11.2 (162)	11.2 (162)	10.9 (158)	10.5 (152)	10.3 (149)	10.0 (145)	9.5 (137)	8.8 (127)
		24"	150-300lb	14.2 (205)	14.1 (204)	13.8 (200)	13.3 (192)	13.0 (188)	12.5 (181)	12.0 (174)	11.2 (162)
Tefzel	DIN	DN 200-600	PN 10 4)	10 (145)	10 (145)	10 (145)	10 (145)	10 (145)	10 (145)	-	-

1) with insulation class E of the field coils, the maximum process temperature allowable is 120 °C (250 °F).
 2) Max. process temperature 140 °C (285 °F) for the integral flowmeters.
 3) Ambient temperature max. 40 °C (105 °F).
 4) Max. process temperature 120 °C (248 °F) for the flowmeters with Tefzel liner.
 5) Higher pressure rating on request. KROHNE is able to supply electromagnetic flowmeters up to 1500bar (20 000psig) and more.

Limits for FEP, soft rubber, Irathane and Neoprene

Flange	Max. operating pressure in bar (psig) at a process temperature of						
	Standard	Meter size/ Nom. dia.	Pressure/ rating/Class	Soft rubber ≤ 40°C (≤ 105°F)	Neoprene ≤ 60°C (≤ 140°F)	Irathane ≤ 70°C (≤ 158°F)	FEP ≤ 100°C (≤ 210°F)
DIN	DN200-1000	PN 10 PN 16-1500 ≥ DN 1100	PN 10	10 (150)	10 (150)	10 (150)	on request
			PN 16-1500	16-64 (150-920) 5)	16-100 (150-1450) 5)	16-1500 (150-20000) 5)	
ANSI	8"-40"	150lb 300lb 600lb	150lb	≤ 19.6 (≤ 284) 6)	≤ 19.0 (≤ 275) 6)	≤ 18.7 (≤ 271) 6)	on request
			300lb	≤ 50.8 (≤ 737) 6)	≤ 49.2 (≤ 714) 6)	≤ 48.4 (≤ 702) 6)	
AWWA	≥ 14"	B	6 (90)	6 (90)	6 (90)	on request	
		D	10 (150)	10 (150)	10 (150)		
API	≥ 8"	20000 psig	-	-	≤ 1500 (≤ 20000)	-	

5) dependent on flange pressure rating
 6) dependent on process temperature

Vacuum load

Liner	Meter size / Nom. dia.		Max. operating pressure in mbar abs. (psia) at a process temperature of							
	DN mm	inches	≤ 40 °C (≤ 105 °F)	≤ 60 °C (≤ 140 °F)	≤ 70 °C (≤ 158 °F)	≤ 90 °C (≤ 195 °F)	≤ 100 °C (≤ 210 °F)	≤ 120 °C (≤ 250 °F)	≤ 140 °C (≤ 285 °F)	≤ 180 °C (≤ 355 °F)
PFA	DN 25- 150	1"- 6"	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
PTFE	DN 10- 20	¾"- ¾"	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	500 (7.3)	750 (9.7)	1000 (15.0)
	DN 200- 300	8"- 12"	500 (7.3)	750 (9.7)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)
	DN 350- 600	14"- 24"	800 (11.2)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)	1000 (15.0)
Tefzel	DN 200- 600	8"- 12"	100 (1.5)	100 (1.5)	100 (1.5)	100 (1.5)	100 (1.5)	100 (1.5)	-	-
Soft rubber	DN 200- 300	8"- 12"	500 (7.3)	-	-	-	-	-	-	-
	DN 350- 1200	14"- 48"	600 (8.7)	-	-	-	-	-	-	-
Irathane	DN 200- 1800	8"- 72"	500 (7.3)	-	-	-	-	-	-	-
Neoprene	DN 200- 300	8"- 12"	400 (5.6)	400 (5.6)	-	-	-	-	-	-
	DN 350- 3000	14"- 120"	600 (8.7)	600 (8.7)	-	-	-	-	-	-
FEP	DN 200- 2000	8"- 80"	on request							

Teflon® is a registered trademark of Du Pont.

Ordering Code

ALTOFLUX IFS 4000 / 4005 Electromagnetic Flowmeters DN 10 - DN 150 / 3/8" - 6"
with Teflon® PTFE liner (DN 10 - 20 / 3/8" - 3/4") and Teflon® PFA liner (DN 25 - 150 / 1" - 6")

Code Primary Head											
VN07	0	1	IFS 4000	DN 10	/	3/8"	Teflon® PTFE	with flanges	1/2"		
		2	IFS 4000	DN 15	/	1/2"	Teflon® PTFE				
		3	IFS 4000	DN 20	/	3/4"	Teflon® PTFE				
		4	IFS 4000	DN 25	/	1"	Teflon® PFA				
		5	IFS 4000	DN 32	/		Teflon® PFA				
		6	IFS 4000	DN 40	/	1 1/2"	Teflon® PFA				
		7	IFS 4000	DN 50	/	2"	Teflon® PFA				
		8	IFS 4000	DN 65	/		Teflon® PFA				
		A	IFS 4000	DN 80	/	3"	Teflon® PFA				
		B	IFS 4000	DN 100	/	4"	Teflon® PFA				
		C	IFS 4000	DN 125	/		Teflon® PFA				
		D	IFS 4000	DN 150	/	6"	Teflon® PFA				
		Pressure rating (Others on request)									
				3	PN 16	DIN 2501		(DN 65, DN 100 - DN 150)			
				5	PN 40	DIN 2501					
		A	ANSI 150	lb RF							
		M	JIS 20	K							
		N	JIS 10	K							
Protection category (Ex protection only in connection to IFC 090 Ex, IFC 110 Ex or IFC 210 Ex)											
		1	IP 67								
		2	IP 68	DS, 10 m / 30 ft				ISO length			
		3	IP 68	BTS, 10 m / 30 ft				ISO length			
		4	IP 67	EEx zone 1				ISO length			
		5	IP 67	Ex nA zone 2				ISO length			
		6	IP 68	Ex nA zone 2, 10 m / 30 ft				ISO length			
		7	IP 67	SEV EEx (Swiss)				ISO length			
		8	IP 68	DS/LIYCY, 10 m / 30 ft				ISO length			
		A	IP 67	A Ex / Div 1 (USA)				ISO length			
		B	IP 67	A Ex / Div 2 (USA)				ISO length			
		C	IP 67	J Ex (Japan)				ISO length			
		D	IP 67	C/GP (CSA) (Canada)				ISO length			
		E	IP 68	A Ex / Div 2 (USA), 10 m / 30 ft				ISO length			
		G	IP 67					ISO length			
		H	IP 68	DS, 10 m / 30 ft				ISO length			
		K	IP 68	BTS, 10 m / 30 ft				ISO length			
		L	IP 67	EEx zone 1				ISO length			
		M	IP 67	Ex nA zone 2				ISO length			
		N	IP 68	Ex nA zone 2, 10 m / 30 ft				ISO length			
		P	IP 68	DS/LIYCY, 10 m				ISO length			
		R	IP 67	A Ex / Div 1 (USA)				ISO length			
		S	IP 67	A Ex / Div 2 (USA)				ISO length			
		T	IP 67	J Ex (Japan)				ISO length			
		U	IP 67	C/GP (CSA) (Canada)				ISO length			
		V	IP 67	SEV EEx (Swiss)				ISO length			
		W	IP 68	A Ex / Div 2 (USA), 10 m / 30 ft				ISO length			
Versions / Signal converter											
		1	IFS 4000 F			(without signal converter)					
		2	IFS 4005 F			(without signal converter > DN 50 / 2")					
		4	IFS 4000			(modular) remote version without connection box					
		5	IFM 4020 K			(for IFC 020 K)					
		6	IFM 4020 F			(for IFC 020 F)					
		7	IFM 4010 K			(for IFC 010 K)					
		8	IFM 4010 F			(for IFC 010 F)					
		A	IFM 4080 K			(for IFC 090 K)					
		B	IFM 4080 F			(for IFC 090 F)					
		D	IFM 4110 F			(for IFC 110 F)					
		H	IFM 4155 F			(for SC 150 / > DN 50)	standard				
		L	IFM 4020 E			(for IFC 020 E)					
		M	IFM 4080 K / i-EEEx			(for IFC 090 K/i-EEEx)					
		N	IFM 4080 F / i-EEEx			(for IFC 090 F/i-EEEx)					
		R	IFM 4210 E			(for IFC 210 E)					
Language manual											
		1	D		2	GB	3	US	4	F	
		5	D		6	GB	7	US	8	F	
		A	D		B	GB	C	US	D	F	
		E	D		F	GB	G	US	H	F	
Cable connections											
										PG 13,5	
										1/2" NPT	
										PF 1/2	
										modular / compact	
VN07										Continue on next Page	

ALTOFLUX 4000/4005

from last Page										
VN07										Continue Code Primary Head ALTOFLUX IFS 4000 / 4005 (DN 10 - DN 150 / 3/8" - 6")
										Liner (option)
										0 standard
										2 provided for protection rings
										Electrodes (others on request)
										3 Hastelloy C4 (standard)
										4 Hastelloy B2
										5 Tantalum
										6 Titanium
										7 Platinum (wetted parts)
										Electrode construction
										1 fixed mounted
										Material of flanges
										1 steel St 37-C22 / A 105
										2 stainless steel 1.4306 (304 L)
										3 stainless steel 1.4404 (316 L)
										4 stainless steel 1.4571 (316 Ti) - only for DIN
										Primary constant
										0 standard (with signal converter)
										5 GK + GKL (für IFC 010, 020, 090, 110, 210)
										6 GK + GKH (für IFC 020, IFC 090, IFC 110, IFC 210, SC 150)
VN07									1	Complete ordering code

ALTOFLUX IFS 4000 / 4005 Electromagnetic Flowmeter DN 200 - DN 2000 / 8" - 80" with liner of Teflon® PTFE, Tefzel, hard rubber, FEP glued, etc.

Code Primary Head

V303	0	E	IFS 4000	DN 200	/	8"	Teflon® PTFE
		E	IFS 4000	DN 200	/	8"	Tefzel (electrode gaskets PFA)
		E	IFS 4000	DN 200	/	8"	hard rubber only for Ex !
		F	IFS 4000	DN 250	/	10"	Teflon® PTFE
		F	IFS 4000	DN 250	/	10"	Tefzel (electrode gaskets PFA)
		F	IFS 4000	DN 250	/	10"	hard rubber only for Ex !
		G	IFS 4000	DN 300	/	12"	Teflon® PTFE
		G	IFS 4000	DN 300	/	12"	Tefzel (electrode gaskets PFA)
		G	IFS 4000	DN 300	/	12"	hard rubber only for Ex !
		H	IFS 4000	DN 350	/	14"	Teflon® PTFE
		H	IFS 4000	DN 350	/	14"	Tefzel (electrode gaskets PFA)
		H	IFS 4000	DN 350	/	14"	hard rubber only for Ex !
		K	IFS 4000	DN 400	/	16"	Teflon® PTFE
		K	IFS 4000	DN 400	/	16"	Tefzel (electrode gaskets PFA)
		K	IFS 4000	DN 400	/	16"	hard rubber only for Ex !
		M	IFS 4000	DN 500	/	20"	Teflon® PTFE
		M	IFS 4000	DN 500	/	20"	Tefzel (electrode gaskets PFA)
		M	IFS 4000	DN 500	/	20"	hard rubber only for Ex !
		N	IFS 4000	DN 600	/	24"	Teflon® PTFE
		N	IFS 4000	DN 600	/	24"	Tefzel (electrode gaskets PFA)
		N	IFS 4000	DN 600	/	24"	hard rubber only for Ex !
		P	IFS 4000	DN 700	/	28"	FEP, glued
		P	IFS 4000	DN 700	/	28"	hard rubber only for Ex !
		R	IFS 4000	DN 800	/	32"	FEP, glued
		R	IFS 4000	DN 800	/	32"	hard rubber only for Ex !
		S	IFS 4000	DN 900	/	36"	FEP, glued
		S	IFS 4000	DN 900	/	36"	hard rubber only for Ex !
		T	IFS 4000	DN 1000	/	40"	FEP, glued
		T	IFS 4000	DN 1000	/	40"	hard rubber only for Ex !
		U	IFS 4000	DN 1200	/	48"	FEP, glued
		V	IFS 4000	DN 1400	/	56"	FEP, glued
		W	IFS 4000	DN 1600	/	64"	FEP, glued
		X	IFS 4000 F	DN 1800	/	72"	FEP, glued
		Y	IFS 4000 F	DN 2000	/	80"	FEP, glued
							Pressure rating (others on request)
							2 PN 10 DIN 2501
							A ANSI 150 lb RF DN ≥ 300 / ≥ 12" max. pressure rating 10 bar / 150 psig (higher on request)
							M JIS 20 K max. pressure rating 10 bar / 150 psig (higher on request) only for DN 200-1000 / 8"-40"
							N JIS 10 K max. pressure rating 10 bar / 150 psig (higher on request) only for DN 200-1000 / 8"-40"
V303							Continue on next Page

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V303	Continue Code Primary Head	ALTOFLUX IFS 4000 / 4005 (DN 200-2000 / 8"-80")	
	Protection category / Approvals	(Ex protection only in connection to IFC 090 Ex, IFC 110 Ex or IFC 210 Ex)	
	1 IP 67	G IP 67	ISO length
	2 IP 6; DS, 10 m / 30 ft	H IP 68 DS, 10 m / 30 ft	ISO length
	3 IP 6; BTS, 10 m / 30 ft	K IP 68 BTS, 10 m / 30 ft	ISO length
	4 IP 6; EEx zone 1 < DN 300 / < 12"	L IP 67 EEx zone 1 < DN 300 / < 12"	ISO length
	4 IP 6; EEx zone 1 > DN 350 / > 14"	L IP 67 EEx zone 1 > DN 350 / > 14"	ISO length
	5 IP 6; Ex nA zone 2	M IP 67 Ex nA zone 2	ISO length
	6 IP 6; Ex nA zone 2, 10 m / 30 ft	N IP 68 Ex nA zone 2, 10 m / 30 ft	ISO length
	7 IP 6; SEV EEx (Swiss)	V IP 67 SEV EEx (Swiss) < DN 300 / < 12"	ISO length > DN 350 / > 14"
	8 IP 6; DS/LIYCY, 10 m / 30 ft	P IP 68 DS/LIYCY, 10 m / 30 ft	ISO length
	A IP 6; A Ex / Div 1 (USA)	R IP 67 A Ex / Div 1 (USA)	ISO length
	B IP 6; A Ex / Div 2 (USA)	S IP 67 A Ex / Div 2 (USA)	ISO length
	C IP 6; J Ex (Japan)	T IP 67 J Ex (Japan) ≤ DN 300 / ≤ 12"	ISO length > DN 350 / > 14"
	D IP 6; C/GP (CSA) (Canada)	U IP 67 C/GP (CSA) (Canada)	ISO length
	E IP 6; A Ex / Div 2 (USA), 10 m / 30 ft	W IP 68 A Ex / Div 2 (USA), 10 m / 30 ft	ISO length
	only for DN 200 - 400 / 8" - 16"		
	Versions / Signal converter		
	1 IFS 4000 F	(without signal converter)	
	2 IFS 4005 F	(without signal converter > DN 50 / 2")	
	4 IFS 4000	(modular)	(DN ≤ 400 / ≤ 8")
	5 IFM 4020 K	(for IFC 020 K)	(DN ≤ 1600 / ≤ 64")
	6 IFM 4020 F	(for IFC 020 F)	(DN ≤ 1600 / ≤ 64")
	7 IFM 4010 K	(for IFC 010 K)	(DN ≤ 1000 / ≤ 40")
	8 IFM 4010 F	(for IFC 010 F) standard	(DN ≤ 1000 / ≤ 40")
	A IFM 4080 K	(for IFC 090 K)	(DN ≤ 1600 / ≤ 64")
	B IFM 4080 F	(for IFC 090 F)	(DN ≤ 1600 / ≤ 64")
	D IFM 4110 F	(for IFC 110 F)	(DN ≤ 1600 / ≤ 64")
	F IFM 4150 F	(for SC 150)	(DN ≥ 1600 / ≥ 64")
	H IFM 4155 F	(for SC 150)	(DN ≤ 1600 / ≤ 64")
	L IFM 4020 E	(for IFC 020 E)	(DN ≤ 1600 / ≤ 64")
	M IFM 4080 K/i-EEx	(for IFC 090 K/i-EEx)	(DN ≤ 1600 / ≤ 64")
	N IFM 4080 F/i-EEx	(for IFC 090 F/i-EEx)	(DN ≤ 1600 / ≤ 64")
	R IFM 4210 E	(for IFC 210 E)	(DN ≤ 1600 / ≤ 64")
	Language Manual		
	1 D	2 GB	3 US
	5 D	6 GB	7 US
	A D	B GB	C US
	E D	F GB	G US
			H F
			modular / compact DN ≤ 1000 / ≤ 40"
	Cable connection		
			PG 13,5
			1/2" NPT
			PF 1/2
			modular / compact DN ≤ 1000 / ≤ 40"
	Liner (option)		
4	1 Teflon® PTFE	(DN 200 - DN 600 / 8" - 24")	
4	2	provided for protection rings (Teflon® PTFE)	
4	3 Teflon® PFA	(DN 200 - DN 400 / 8" - 16")	
4	5 hard rubber	(DN 200 - DN 2000 / 8" - 80")	
4	A soft rubber	(DN 200 - DN 1200 / 8" - 48")	
4	D Irlathane (PU)	(DN 200 - DN 1800 / 8" - 72")	
4	G FEP glued	(DN 700 - DN 2000 / 28" - 80")	
4	K Tefzel	(DN 200 - DN 600 / 8" - 24")	
		electrode gaskets Viton	
	Electrodes		
0	3 Hastelloy C4	(standard)	
4	4 Hastelloy B2		
4	5 Tantalum		
4	6 Titanium		
4	7 Platinum (wetted parts)		
4	others on request		
	Electrode constructions		
0	1	fixed mounted	
4	6	removable electrodes WE (> DN 350 / >14") made of stainless steel 1.4571	
	Flange material		
0	1	steel St 37-C22 / A 105	
4	2	stainless steel 1.4306 (304 L)	
4	3	stainless steel 1.4404 (316 L)	
4	4	stainless steel 1.4571 (316 Ti) - only for DIN	
	Primary constant		
0	0	Standard (with signal converter)	
4	5	GK + GKL (for IFC 010, 020, 090, 110, 210) (DN 200 -1000 / 8" - 40")	
4	6	GK + GKH (for IFC 020, 090, 110, 210, SC 150)	
V303	Complete ordering code		