



INTRA-AUTOMATION GmbH - Postfach 10 03 27 - D-41487 Grevenbroich

Smar France (Regional office)  
Immeuble le Moulin  
Regis Houllier  
473, Boulevard Abbadie

13730 Saint Victoret  
FRANKREICH

## QUOTATION

offer no.: 10/26151Rev1

Date  
our reference06.01.2010  
EE-co

Your inquiry : 03.01.2010 / by mail

Dear Sir or Madam,

We thank you for your inquiry and are pleased to submit the following quotation acc. to our general conditions for sales and distribution:

item	description	quant.	price each EUR	total amount EUR
001	ITABAR-FLOW SENSOR TAG-No.: FI 911 type: IBFD-26-ID1403/9,5mm-S-SA-2-1-R-A-C1-C-K1H- KI-HL-T0-A81 sensor mat.: 316SS mounting stud with flange: 1 1/2" ANSI150# RF mounting material: API 5L including condensate vessels and shut-off-valves instrument connection: 1/2" NPT	1	2.130,00	net 2.130,00
002	ITABAR-FLOW SENSOR TAG-No.: FI 921 type: IBFD-26-ID997/9,5mm-S-SA-2-1-R-A-C1-C-K1H- KI-HL-T0-A81 other spec. as item 001.	1	1.965,00	net 1.965,00

Pricing: ex works, packing extra.

Terms of payment: 30 days net.

Delivery time: 4 weeks after receipt of order and clarification of technical and commercial matters.

Instruments made by Intra-Automation GmbH are not subject to any restrictions for Im- or Export by EU-, German or US-law.

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St.-Nr. 114/5762/0171

Sparkasse Neuss  
BLZ 305 500 00  
Kto.-Nr. 80 121 684  
IBAN:  
DE 20 305 500 000 080 121 684  
SWIFT: WELA DE DN

Dresdner Bank AG Grevenbroich  
BLZ 310 800 15  
Kto.-Nr. 891 535 000  
IBAN:  
DE 94 310 800 150 891 535 000  
SWIFT-BIC: DRES DE FF

Geschäftsführer  
Ernst Evers  
Handelsregister HRB 7395  
Amtsgericht Mönchengladbach  
UST.-ID-Nummer:  
DE 811 214 588



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offer no.: 10/26151Rev1  
item description

quant. price each  
EUR

page 2 of 2  
total amount  
EUR

Standard documentation 1-fold included in price for each type of instrument.

Validity of quote: 60 days.

Should you have any further questions do not hesitate to contact us.

Yours faithfully

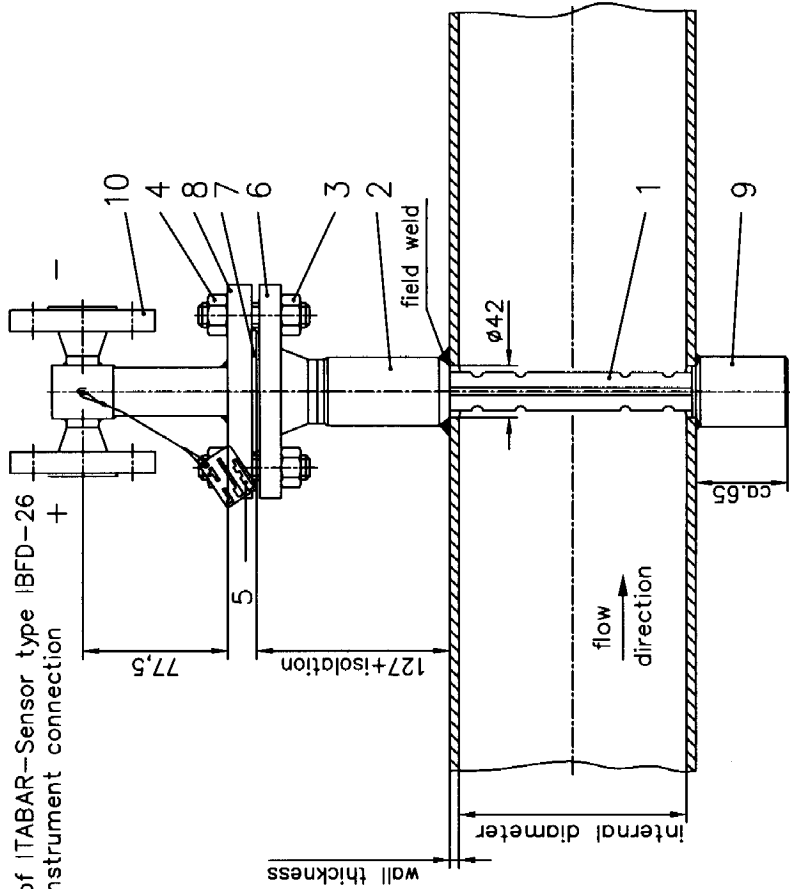
INTRA-AUTOMATION GmbH

Ernst Evers

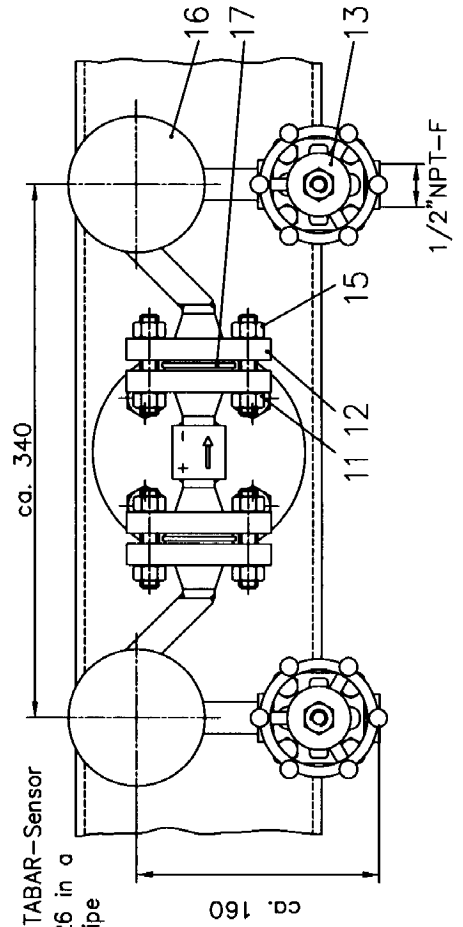
Please also visit our homepage [www.intra-automation.de](http://www.intra-automation.de)

Important. If you have any question or comment to this quote, please always note our reference number on your writings. Without that notice, we are not able to work on them.

drawing of ITABAR-Sensor type IBFD-26 without instrument connection



drawing of ITABAR-Sensor type IBFD-26 in a horizontal pipe



client	Smar France	
quotation/order no.	10/26151	
TAG no.	FI 911	FI 921
internal pipe diameter	1403 mm	997 mm
wall thickness	9,5 mm	9,5 mm
insulation	without	without
pipe line	medium	mounting of the flow sensor depend on the pipe line (horizontal or vertical)
<input checked="" type="checkbox"/> horizontal	<input checked="" type="checkbox"/> steam	<input checked="" type="checkbox"/> -○
	<input type="checkbox"/> gas	<input type="checkbox"/> ○
	<input type="checkbox"/> fluid	<input type="checkbox"/> ○ or ○
<input type="checkbox"/> vertical	<input type="checkbox"/> steam	<input type="checkbox"/> -○
<input type="checkbox"/> up stream	<input type="checkbox"/> gas	<input type="checkbox"/> -○
<input type="checkbox"/> down stream	<input type="checkbox"/> fluid	<input type="checkbox"/> -○

17 gasket	2	316SS/Graphit
16 condensation vessel ø88,9	2	Hll
15 nut M12	8	DIN 2510 C35
13 shut-off valve	2	A105
12 welding neck flange DN15/PN16	2	DIN 2633 CS
11 screw M12	4	DIN 2510 CK35
10 welding neck flange DN15/PN16	2	DIN 2633 316SS
9 end support	1	Carbon Steel API 5L
8 sensor flange 1 1/2"150#RF	1	ANSIB16.5 316SS
7 gasket	1	SS/Graphit
6 WN flange 1 1/2"150# RF	1	ANSIB16.5 Carbon Steel API 5L
5 TAG plate	1	316SS
4 bolts 1/2" x 70	4	ASTM A193 B7
3 nuts 1/2"	8	ASTM A194 2H
2 mounting stud	1	Carbon Steel API 5L
1 sensor profile ø25,4mm	1	316SS
item description	p.c.	standard/size/standard material
description: ITABAR-Flow-Sensor type: IBFD-26		
date	name	Massstab: / Format: A4
05.01.2010	Dermir	
Gez.		INTRA-AUTOMATION GmbH
Gepr.		Otto-Hahn-Strasse 20
Norm		41515 Grevenbroich
drawing-no.:		
date/home	ZSON/09/E/IBFD-26-26151	Rev. Blatt: 0 1/1
Ueprung:	Ers.fuer:	Ers.durch:

# INTRA-AUTOMATION GmbH

D-41515 Grevenbroich \* Otto-Hahn-Str. 20 \* Tel: +49 2181-68761 \* Fax: +49 2181-64492

## WINFLOW 2.75 (I) Diff. Pressure Calculation ITABAR - Flow - Sensor

Company: SMAR  
Name(capital letters):  
Street:  
Zip Code/City:  
Offer-/Com. No: 10/26151  
P. Order Number:  
Tag No.: FI 911  
Serial No.:  
Pipe Data: ID=1403,00/9,500 mm - horizontal  
Date: 04.01.2010  
Person in charge: E.E.

Calculation: Mass rate Gas & steam  
Fluid: Saturated steam

Base Temperature	273,15 Kelvin
Base Pressure	101,33 kPa

Pipe Internal Dimensions to 20°C 1.403,00 mm

Flowing Temperature: 120,350 °C  
Flowing Pressure: 2,000 bar A  
Density: 1,132 kg/m<sup>3</sup>  
Viscosity: 0,0130 cPs  
K-Factor: 0,6942 without unit

	QMax	QNorm	QMin	
Flow Rate	170.000,00	136.000,00	34.000,00	kg/H
Reynolds No.	3.295.795	2.636.636	659.159	without unit
Permanent press. loss	0,170	0,110	0,010	mbar
Expansionsfactor	0,999	1,000	1,000	without unit
Velocity:	26,97	21,58	5,39	m/sec.
<b>Differential Pressure</b>	<b>8,288</b>	<b>5,302</b>	<b>0,331</b>	<b>mbar</b>

Itabar-Type: IBFD-26-ID1403/9,5mm-S-SA-2-1-R-A-C1-C-K1H-KI-HL-T0-A81  
Material Sensor 316SS  
Note:

Max. DeltaP	38,00 mbar	Max. Flow Rate	364.246,00 kg/H
Natural Freq.:	7,96 hz	Operat. Freq.:	18,81 hz

Your specialist for measuring level and flow

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## WINFLOW 2.75 (I) Diff. Pressure Calculation ITABAR - Flow - Sensor

Company: SMAR  
Name(capital letters):  
Street:  
Zip Code/City:  
Offer-/Com. No: 10/26151  
P. Order Number:  
Tag No.: FI 921  
Serial No.:  
Pipe Data: ID=997,00/9,500 mm - horizontal  
Date: 04.01.2010  
Person in charge: E.E.

Calculation: Mass rate Gas & steam  
Fluid: Saturated steam

Base Temperature	273,15	Kelvin
Base Pressure	101,33	kPa

Pipe Internal Dimensions to 20°C 997,00 mm

Flowing Temperature: 120,350 °C  
Flowing Pressure: 2,000 bar A  
Density: 1,132 kg/m<sup>3</sup>  
Viscosity: 0,0130 cPs  
K-Factor: 0,6748 without unit

	QMax	QNorm	QMin	
Flow Rate	120.000,00	96.000,00	24.000,00	kg/H
Reynolds No.	3.273.821	2.619.057	654.764	without unit
Permanent press. loss	0,460	0,300	0,020	mbar
Expansionsfactor	0,999	0,999	1,000	without unit
Velocity:	37,70	30,16	7,54	m/sec.
<b>Differential Pressure</b>	<b>17,162</b>	<b>10,973</b>	<b>0,685</b>	<b>mbar</b>

Itabar-Type: IBFD-26-ID997/9,5mm-S-SA-2-1-R-A-C1-C-K1H-KI-HL-T0-A81  
Material Sensor 316SS  
Note:

Max. DeltaP 72,80 mbar      Max. Flow Rate 247.476,59 kg/H  
Natural Freq.: 16,91

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