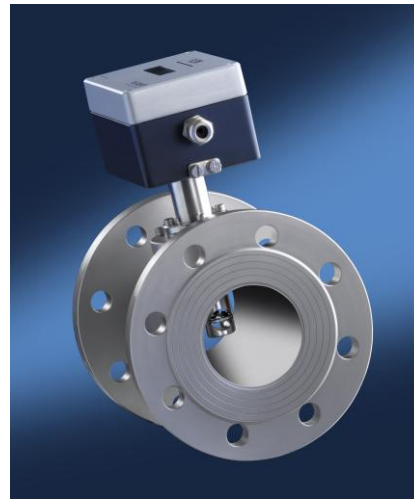


**Vane wheel measuring tube FA(R) Di
for use in gaseous and liquid media**



Drawing 30



Drawing 30

Measured variables

- Flow rate [l/min, m³/h] in air/gases and water/liquids
- Conversion to standard flow rate by measuring or entering working pressure and temperature parameters

Media

- air, gas mixtures and clean gases
- water/liquids

Measuring range

- gases / gas mixtures / air ±0.5 ... ±10,000 m³/h
- water/liquids ±1.2 ... ±590 l/min

Functional principle

- vane wheel flow sensor
- sensing the vane rotation; non-contact by means of inductive proximity switch

Design

- Measuring tube with flanged connection and integrated transducer UFA in connection housing
- Measuring tube with flanged connection, connection housing without transducer; with cable gland for connection to separate transducer

Examples of applications

- flow measurement e.g. of air, exhaust gases, process gases
- in processes with varying and/or unknown gas compositions
- flow monitoring in pharmaceutical plants
- monitoring of inerting processes
- use up to 370 °C
- measurement of flammable liquids and gases
- measuring in non-conducting liquids, for example such as ultra pure water in the semiconductor industry or in refrigerants
- tank venting/tank sucking/purge air
- special designs for liquid nitrogen in cryogenic applications
- measurement in overheated steam
- synthesis gas in laboratory facilities
- hydrogen measurements
- separation processes, e.g. of CO₂, or in the production of polysilicon
- applications with bidirectional measurement requirements

Connection options

- stationary and portable evaluation units with sensor input

Advantages

- accurate measured values even in varying and/or unknown gas compositions
- turndown ratio approx. 1:100
- distortion of values due to thermal radiation
- optional for use in category 2G (zone 1)
- universal application spectrum
- optional with ± directional sensing
- marginal pressure loss

Humidity in the sample gas

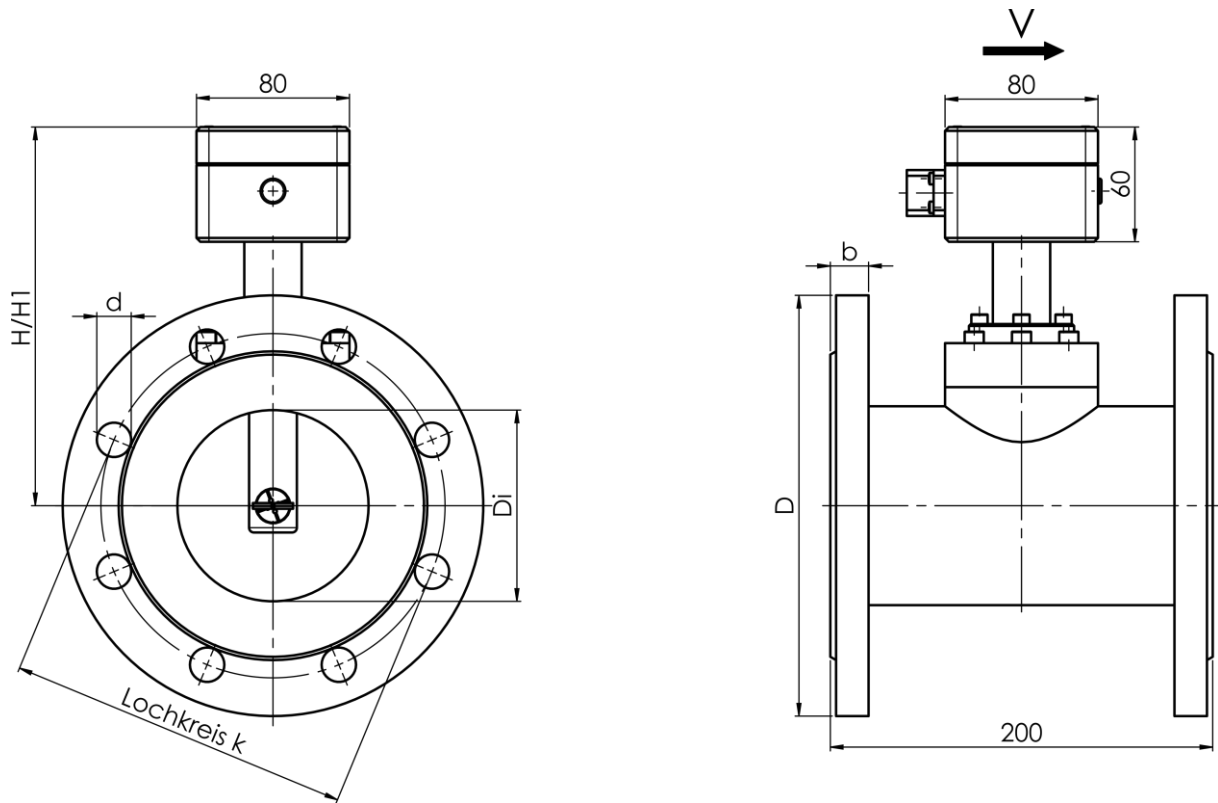
- relative gas humidity of less than 100 % has no impact on the measurement uncertainty

Particles in the medium

- can cause restriction in the fatigue strength of the vane wheel set

FA(R) Di GFE

ZG30



Basic-types (I) without direction sensing			
sensor with integrated transducer		sensor for use with separate transducer	
Type	Article No.	Type	Article No.
Measuring tube inside diameter 25 mm			
FA Di 25 GFE /p10/ZG30 UFA	B018/200-UFA	FA Di 25 GFE /p10/ZG30	B018/200
FA Di 25 GFE /p10/ZG30 ASME UFA	B018/205-UFA	FA Di 25 GFE /p10/ZG30 ASME	B018/205
Measuring tube inside diameter 40 mm			
FA Di 40 GFE /p10/ZG30 UFA	B018/210-UFA	FA Di 40 GFE /p10/ZG30	B018/210
FA Di 40 GFE /p10/ZG30 ASME UFA	B018/215-UFA	FA Di 40 GFE /p10/ZG30 ASME	B018/215
Measuring tube inside diameter 50 mm			
FA Di 50 GFE /p10/ZG30 UFA	B018/220-UFA	FA Di 50 GFE /p10/ZG30	B018/220
FA Di 50 GFE /p10/ZG30 ASME UFA	B018/225-UFA	FA Di 50 GFE /p10/ZG30 ASME	B018/225
Measuring tube inside diameter 80 mm			
FA Di 80 GFE /p10/ZG30 UFA	B018/230-UFA	FA Di 80 GFE /p10/ZG30	B018/230
FA Di 80 GFE /p10/ZG30 ASME UFA	B018/235-UFA	FA Di 80 GFE /p10/ZG30 ASME	B018/235
Measuring tube inside diameter 100 mm			
FA Di 100 GFE /p10/ZG30 UFA	B018/240-UFA	FA Di 100 GFE /p10/ZG30	B018/240
FA Di 100 GFE /p10/ZG30 ASME UFA	B018/245-UFA	FA Di 100 GFE /p10/ZG30 ASME	B018/245
Measuring tube inside diameter 150 mm			
FA Di 150 GFE /p6/ZG30 UFA	B018/250-UFA	FA Di 150 GFE /p6/ZG30	B018/250
FA Di 150 GFE /p6/ZG30 ASME UFA	B018/255-UFA	FA Di 150 GFE /p6/ZG30 ASME	B018/255
Measuring tube inside diameter 200 mm			
FA Di 200 GFE /p6/ZG30 UFA	B018/260-UFA	FA Di 200 GFE /p6/ZG30	B018/260
FA Di 200 GFE /p6/ZG30 ASME UFA	B018/265-UFA	FA Di 200 GFE /p6/ZG30 ASME	B018/265
other flanges on request			

Basic-types (II) with direction sensing *

sensor with integrated transducer		sensor for use with separate transducer	
Type	Article No.	Type	Article No.
Measuring tube inside diameter 25 mm			
FAR Di 25 GFE /p10/ZG30 UFA	B018/300-UFA	FAR Di 25 GFE /p10/ZG30	B018/300
FAR Di 25 GFE /p10/ZG30 ASME UFA	B018/305-UFA	FAR Di 25 GFE /p10/ZG30 ASME	B018/305
Measuring tube inside diameter 40 mm			
FAR Di 40 GFE /p10/ZG30 UFA	B018/310-UFA	FAR Di 40 GFE /p10/ZG30	B018/310
FAR Di 40 GFE /p10/ZG30 ASME UFA	B018/315-UFA	FAR Di 40 GFE /p10/ZG30 ASME	B018/315
Measuring tube inside diameter 50 mm			
FAR Di 50 GFE /p10/ZG30 UFA	B018/320-UFA	FAR Di 50 GFE /p10/ZG30	B018/320
FAR Di 50 GFE /p10/ZG30 ASME UFA	B018/325-UFA	FAR Di 50 GFE /p10/ZG30 ASME	B018/325
Measuring tube inside diameter 80 mm			
FAR Di 80 GFE /p10/ZG30 UFA	B018/330-UFA	FAR Di 80 GFE /p10/ZG30	B018/330
FAR Di 80 GFE /p6/ZG30 ASME UFA	B018/335-UFA	FAR Di 80 GFE /p10/ZG30 ASME	B018/335
Measuring tube inside diameter 100 mm			
FAR Di 100 GFE /p10/ZG30 UFA	B018/340-UFA	FAR Di 100 GFE /p10/ZG30	B018/340
FAR Di 100 GFE /p10/ZG30 ASME UFA	B018/345-UFA	FAR Di 100 GFE /p10/ZG30 ASME	B018/345
Measuring tube inside diameter 150 mm			
FAR Di 150 GFE /p6/ZG30 UFA	B018/350-UFA	FAR Di 150 GFE /p6/ZG30	B018/350
FAR Di 150 GFE /p6/ZG30 ASME UFA	B018/355-UFA	FAR Di 150 GFE /p6/ZG30 ASME	B018/355
Measuring tube inside diameter 200 mm			
FAR Di 200 GFE /p6/ZG30 UFA	B018/360-UFA	FAR Di 200 GFE /p6/ZG30	B018/360
FAR Di 200 GFE /p6/ZG30 ASME UFA	B018/365-UFA	FAR Di 200 GFE /p6/ZG30 ASME	B018/365
other flanges on request			
<p>* For measuring tubes with direction sensing, the inlet and outlet sections on both sides must be the same length as the inlet section. Medium temperature max. 260 °C.</p>			

Dimensions (1)							
nominal size / tube inside diameter / flange dimensions							
nominal size	tube inside Ø Di [mm]	standard*	flange outside Ø D [mm]	flange thickness b [mm]	hole circle Ø k [mm]	Hole Ø d [mm]	number of holes
DN25 / 1"	25	EN	115	18	85	14	4
	25	ASME	108.0	14.2	79.2	15.7	4
DN40 / 1 1/2"	40	EN	150	18	110	18	4
	40	ASME	127.0	17.5	98.6	15.7	4
DN50 / 2"	50	EN	165	18	125	18	4
	50	ASME	152.4	19.1	120.7	19.1	4
DN80 / 3"	80	EN	200	20	160	18	8
	80	ASME	190.5	23.9	152.4	19.1	4
DN100 / 4"	100	EN	220	20	180	18	8
	100	ASME	228.6	23.9	190.5	19.1	8
DN150 / 6"	150	EN	285	22	240	22	8
	150	ASME	279.4	25.4	241.3	22.4	8
DN200 / 8"	200	EN	340	24	295	22	12
	200	ASME	342.9	28.4	298.5	22.4	8

* EN : flange dimensions according to DIN EN 1092-1 form B1 for pressure stage PN16
ASME: flange dimensions according to ANSI B 16.5 150 lbs RF

Dimensions (2)				
Nominal size / dimensions / sensor weight				
tube inside Ø Di [mm]	sensor length [mm]	sensor height H* [mm]	sensor height H1** [mm]	sensor weight ZG30 EN/ASME [kg]
25	200	152.5	212.5	10 / 10
40	200	180	240	10 / 10
50	200	180	240	10 / 10
80	200	188	248	12 / 12
100	200	198	258	12 / 15
150	200	223	283	15 / 15
200	200	248	308	15 / 15

* 100 °C design
** 260 °C and 370 °C design

Model designation / order code (examples)							
FA Di	40	G ... E		p10	ZG30	EN	UFA
FA Di	150	G ... E		P6	ZG30	ASME	
FAR Di	40	G ... E		p6	ZG30	EN	UFA
(1)	(2)	(3) ... (4)		(5)	(6)	(7)	(8)

(1) Sensor type	
Description	Design
FA Di ...	vane wheel measuring tube without direction sensing
FAR Di ...	vane wheel measuring tube with ± direction sensing

(2) Measuring tube inside diameter

... 25 ...	tube inside diameter	25 mm
... 40 ...	tube inside diameter	40 mm
... 50 ...	tube inside diameter	50 mm
... 80 ...	tube inside diameter	80 mm
... 100 ...	tube inside diameter	100 mm
... 150 ...	tube inside diameter	150 mm
... 200 ...	tube inside diameter	200 mm

(3) Medium *

... GF ...	air/gases or gas mixtures
* Most sensors up to 260 °C can also be used in liquids. However, the appropriate vane wheel article and water calibration must be selected for this purpose. (see page 9)	

Protection

Transducer housing	IP65
Measuring tube with integrated vane wheel	IP68

(4) Sensor material / materials in contact with the medium *

Design	Material measuring tube	Material vane wheel	others
... E ... stainless steel	stainless steel 1.4404/AISI 316L 1.4305, 1.4571	stainless steel 1.xy	PVDF, vespel, ceramics Al ₂ O ₃

* Not all mentioned materials are used in every sensor. Materials may differ for individual sensors. Detailed information about a desired sensor on request!

Permissible temperature of the medium / sealing material

Sealing-material *	Permissible temperature of the medium	Article No.
't_{max} +100 °C'		
PTFE, FKM (standard)	-20 ... +100 °C	B018/901
PTFE	-40 ... +100 °C	B018/902
Graphite, FKM	-20 ... +100 °C	B018/903
't_{max} +260 °C'		
Graphite	-40 ... +260 °C	B018/911
PTFE	-40 ... +260 °C	B018/912
't_{max} +370 °C'		
Graphite	-40 ... +370 °C	B018/921
* other materials on request!		

Permissible ambient temperatures *

sensor for connect to separate transducer	-40 ... +80 °C
sensor with integrated transducer UFA	-40 ... +60 °C
sensor with integrated transducer, with option LCD display	-5 ... +60 °C
* When used in hazardous areas, the media and ambient temperature are limited according to the valid operating instructions	

(5) Max. working pressure *

... p6 ...	up to 6 bar / 0.6 MPa overpressure
... p10 ...	up to 10 bar / 1 MPa overpressure
* others on request!	

(6) Design (I) (see page 2)*

Drawing No.	Sensor connection	Design
... ZG30 ...	flange connection	transducer housing with/without integrated transducer

* special designs on request!

(7) Flange design*

... EN ...	DIN EN 1092-1 form B1
... ASME ...	ANSI B 16.5 150 lbs form RF

* other flanges on request!

(7) Design (II) (see page 2)

Code	Description
... UFA	with transducer housing AS80 and integrated transducer UFA
	with transducer housing AS80, but for connection to separate transducer or handheld unit

Electromagnetic Compatibility (EMC)

according to EN 61 000-6-2 and EN 61 000-6-4 / IEC77

Measuring ranges for measurements in gaseous media (with a density of approx. 1.2 kg/m³), vane wheel types and calibration possibilities

Vane wheel type	Measuring range air/gases	Vane wheel Article No.	Calibration possibilities	
			Article No. for ISO calibration	Article No. for DAKKS calibration
Measuring tubes with tube inside Ø 25 mm				
mn20	0.5 ... 25 m ³ /h	V_DI25_MN20	CQ-100 ISO	CQ-100 DAKKS
mn40	0.6 ... 50 m ³ /h	V_DI25_MN40	CQ-100 ISO	CQ-100 DAKKS
mn80	1.4 ... 100 m ³ /h	V_DI25_MN80	CQ-100 ISO	CQ-100 DAKKS
mn120	2.0 ... 160 m ³ /h	V_DI25_MN120	CQ-1600 ISO	CQ-1600 DAKKS
Measuring tubes with tube inside Ø 40 mm				
mn20	2 ... 90 m ³ /h	V_DI40_MN20	CQ-100 ISO	CQ-100 DAKKS
mn40	3 ... 170 m ³ /h	V_DI40_MN40	CQ-1600 ISO	CQ-1600 DAKKS
mn80	4 ... 350 m ³ /h	V_DI40_MN80	CQ-1600 ISO	CQ-1600 DAKKS
mn120	6 ... 520 m ³ /h	V_DI40_MN120	CQ-1600 ISO	CQ-1600 DAKKS
Measuring tubes with tube inside Ø 50 mm				
mn20	3 ... 100 m ³ /h	V_DI50_MN20	CQ-100 ISO	CQ-100 DAKKS
mn40	4 ... 210 m ³ /h	V_DI50_MN40	CQ-1600 ISO	CQ-1600 DAKKS
mn80	6 ... 400 m ³ /h	V_DI50_MN80	CQ-1600 ISO	CQ-1600 DAKKS
mn120	8 ... 600 m ³ /h	V_DI50_MN120	CQ-1600 ISO	CQ-1600 DAKKS

Measuring ranges for measurements in gaseous media (with a density of approx. 1.2 kg/m³), vane wheel types and calibration possibilities (cont'd)

Vane wheel type	Measuring range air/gases	Vane wheel Article No.	Calibration possibilities	
			Article No. for ISO calibration	Article No. for DAKKS calibration
Measuring tubes with tube inside Ø 80 mm				
mn20	7 ... 250 m ³ /h	V_DI80_MN20	CQ-1600 ISO	CQ-1600 DAKKS
mn40	10 ... 550 m ³ /h	V_DI80_MN40	CQ-1600 ISO	CQ-1600 DAKKS
mn80	15 ... 1100 m ³ /h	V_DI80_MN80	CQ-1600 ISO	CQ-1600 DAKKS
mn120	21 ... 1700 m ³ /h	V_DI80_MN120	CQ-5500 ISO	CQ-5500 DAKKS
Measuring tubes with tube inside Ø 100 mm				
mn20	10 ... 430 m ³ /h	V_DI100_MN20	CQ-1600 ISO	CQ-1600 DAKKS
mn40	16 ... 850 m ³ /h	V_DI100_MN40	CQ-1600 ISO	CQ-1600 DAKKS
mn80	25 ... 1700 m ³ /h	V_DI100_MN80	CQ-5500 ISO	CQ-5500 DAKKS
mn120	32 ... 2800 m ³ /h	V_DI100_MN120	CQ-5500 ISO	CQ-5500 DAKKS
Measuring tubes with tube inside Ø 150 mm				
mn20	20 ... 1000 m ³ /h	V_DI150_MN20	CQ-1600 ISO	CQ-1600 DAKKS
mn40	30 ... 1900 m ³ /h	V_DI150_MN40	CQ-5500 ISO	CQ-5500 DAKKS
mn80	50 ... 4000 m ³ /h	V_DI150_MN80	CQ-5500 ISO	CQ-5500 DAKKS
mn120	80 ... 6000 m ³ /h	V_DI150_MN120	CQ-10000 ISO	CQ-10000 DAKKS
Measuring tubes with tube inside Ø 200 mm				
mn20	35 ... 1700 m ³ /h	V_DI200_MN20	CQ-5500 ISO	CQ-5500 DAKKS
mn40	50 ... 3500 m ³ /h	V_DI200_MN40	CQ-5500 ISO	CQ-5500 DAKKS
mn80	80 ... 6500 m ³ /h	V_DI200_MN80	CQ-10000 ISO	CQ-10000 DAKKS
mn120	120 ... 10000 m ³ /h	V_DI200_MN120	CQ-10000 ISO	CQ-10000 DAKKS

Measurement uncertainty / repeatability with a gas density of approx. 1.2 kg/m³

Linearisation of characteristics (ISO)	all types	< 1.5 % of measured value + 0.5 % of terminal value ***
Linearisation of characteristics (DAKKS)	all types	Up to < 0.9 % of measured value + 0.25 % of terminal value (up to 40 m/s) ***
Repeatability		±(0.05 % of measured value + 0.02 m/s)

The lowest measurement uncertainties in the field are attained with calibrations as close as possible to the operating conditions. For this, the measurement results obtained can be implemented as characteristic in the evaluation unit. Information and details on the measurement uncertainties according to the calibrated measurement standards can be found in the calibration documents 'U325 and U183'.

*** on request, in the calibration range of the respective accredited test bench

Calibration certificate	
ISO calibration certificate calibration medium air, 6 calibration values in the measuring range	already included in ISO calibration
DAkkS calibration certificate calibration medium air, 6 selectable calibration values in the measuring range	already included in DAkkS calibration

Measuring ranges for measurements in liquids, vane wheel types and calibration (takes place in water)

Vane wheel type	Measuring range liquid/water	Vane wheel article No.	ISO calibration
Measuring tubes with tube inside Ø 25 mm			
mn20	1.2 ... 100 l/min	V_DI25_MN20	CQ-WVP
mn40	1.5 ... 130 l/min	V_DI25_MN40	CQ-WVP
mn80	1.8 ... 150 l/min	V_DI25_MN80	CQ-WVP
Measuring tubes with tube inside Ø 40 mm			
mn20	3 ... 250 l/min	V_DI40_MN20	CQ-WVP
mn40	4 ... 330 l/min	V_DI40_MN40	CQ-WVP
mn80	5 ... 400 l/min	V_DI40_MN80	CQ-WVP
Measuring tubes with tube inside Ø 50 mm			
mn20	5 ... 470 l/min	V_DI50_MN20	CQ-WVP
mn40	6 ... 530 l/min	V_DI50_MN40	CQ-WVP
mn80	7 ... 590 l/min	V_DI50_MN80	CQ-WVP

Measurement uncertainty / repeatability in water*		
Linearisation of characteristics	all types	< 1 % of measured value + 0.5 % of terminal value **
Repeatability		±(0.05 % of measured value + 0.02 m/s)

The lowest measurement uncertainties in the field are attained with calibrations as close as possible to the operating conditions. For this, the measurement results obtained can be implemented as characteristic in the evaluation unit. Information and details on the measurement uncertainties according to the calibrated measurement standards can be found in the calibration documents 'U325 and U183'

- * for water and liquids with a viscosity of up to approx. 0.0002 m²/s (200 cSt)
- ** on request, in the calibration range of the respective test bench

Calibration / adjustment in sensors with direction indication
FAR Di probes are adjusted for both oncoming flow directions. The subsequent calibration is, as a rule, based on the '+'-oncoming flow direction which is marked with a dot on the sensor body. An additional calibration based on the '-'-oncoming flow direction is generally possible.

Smallest measurable values, density influence

The smallest measurable value for measurements in air/gases specified in our documents results from a measuring medium density $\rho \cong 1.204 \text{ kg/m}^3$. The smallest measurable value \dot{V}_0 is also increased/decreased negligibly even with a considerably different medium density from 1.204 kg/m^3 and follows in good approximation the relation:

$$\dot{V}(t)_{0,real} = \dot{V}_{0,specif.} * \sqrt{1.204 \text{ kg/m}^3 / \rho_{real}}$$

The characteristic is displaced by the difference

$$\dot{V}_{0,specif.} - \dot{V}_{0,real} = \Delta \dot{V}$$

Readout of measured values is too great by the amount $\Delta \dot{V}$ when measuring in gases of a density of ρ_{real} greater than 1.204 kg/m^3 , and too small by the amount $\Delta \dot{V}$ when measuring in gases of a density of ρ_{real} less than 1.204 kg/m^3 . $\Delta \dot{V}$ is to be added to or subtracted from the respective output value.

Option 'Ex'

Type of protection	Art. No.	Comment
CE <Ex> II 3 G Ex ec IIC T6 Gc X Gas-Ex: Category 3G (zone 2)	FAEX2E *	only in connection with: • evaluation unit
CE <Ex> II 3 D Ex tc IIIC TX Dc X Dust-Ex: Category 3D (zone 22)	FAEX2E *	only in connection with: • evaluation unit
CE <Ex> II 2 G Ex ia IIC T6 Gb Gas-Ex: Category 2G (zone 1)	FAEX1 *	only in connection with: • isolation/supply unit LDX2 and 'non-Ex evaluation unit' or compatible separate evaluation unit with Ex-input

* remark: media and ambient temperature according to the valid operating instructions

The following section refers to sensors with transducer housing with integrated transducer UFA.

Connection housing AS80

dimensions	80 / 80 / 60 mm (L / W / H)
connection	connector GO 070 with terminal screws
terminal assignment	see page 11

Output / transducer (see page 4, 'Basic types')

output 4-20 mA / integrated UFA	in sensor housing integrated transducer UFA (see page 11)
------------------------------------	--

Design: transducer UFA integrated in sensor housing

Analog output flow / resistance	for FA DI and FAR Di*: 4 ... 20 mA = 0 ... x m ³ /h (or m/s), for FAR Di also 4 ... 12 ... 20 mA = -x ... 0 ... +x m ³ /h (or m/s) end value x adjustable / resistance max. 400 Ohm * only if digital output is parameterised as flow direction output
Output 'limit value' or 'quantity pulses' or '±flow direction'	open collector / max. 50 mA / max. 27 V DC, pulse duration 0.5 s
PC interface	RS232
	output signals electrically isolated from the power supply
self-monitoring	parameter settings, sensor interface; in case of error: analog output less than 3.6 mA
connection	connector GO 070 with terminal screws
power supply	24 V DC (20 ... 27 V DC)
power consumption	less than 3 W
working temp. range	-40 ... +80 °C
housing	sensor connection housing AS80
EMC	EN 61 000-6-2 and EN 61 000-6-4 / IEC77
setting parameter	analog output, profile factor/coefficient, pipe inside diameter, time constant, sensor type, measurement range, medium, limit value or quantity pulse (rating adjustable) or ±flow direction, switchover actual/standard flow with parameters 'working pressure' and 'working temperature'
setting parameter with PC software UCOM and programming adapter (see below) changeable	

Accessories / options

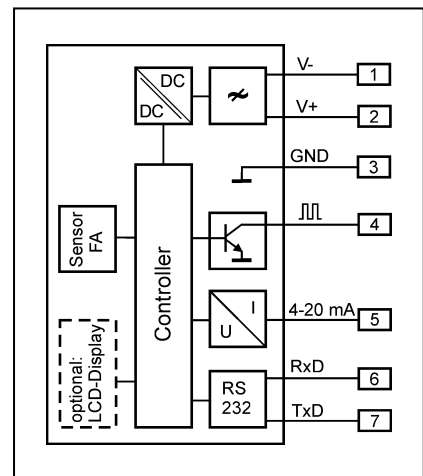
	Description	Art. No.
LCD display in housing cover	2 x 16 digit, numerals 3 mm high, working temperature range -5...+60 °C	A010/007
PC software UCOM	for configuring the UFA/int via RS232	A010/052
programming adapter GO 070 / RS232	for software UCOM, connection PC Sub-D 9-pin, power plug 230VAC/24VDC	A010/004
interface converter USB / RS232	PC connection : USB plug type A on instrument : Sub-D 9-pin	A010/100



without LCD display in housing cover



with optional LCD display in housing cover



Wiring diagram with integrated UFA

The following section refers to sensors that are connected to a separate evaluation unit or to a handheld unit:

Connection housing AS80

dimensions	80 / 80 / 60 mm (L / W / H)
connection	Cable gland for cables with an outside diameter 5 ... 9 mm, terminal clamps for strands with cross section 0.2 ... 1.5 mm ² . Comply with the standards and regulations applicable to the cable routing.
protection class	IP65, IEC 529 and EN 60 529
material	powder-coated aluminium

Connection to a separate evaluation unit or to a handheld unit

Standard	Connection via cable gland (see above); customer provides own connection cable
----------	--

Connection with mounted or enclosed connection cable and 8-pin connector plug*

		Article No.
cable length 2 m	one end: stripped cable end, marked strands with end sleeves, connected to the terminals in AS80 housing other end: screw plug 423-8 (IP68)	A099/990-S01
cable length 5 m	one end: stripped cable end, marked strands with end sleeves, connected to the terminals in AS80 housing other end: screw plug 423-8 (IP68)	A099/990-S02

* other cable lengths on request

Connection with mounted or enclosed connection cable and connection terminals *

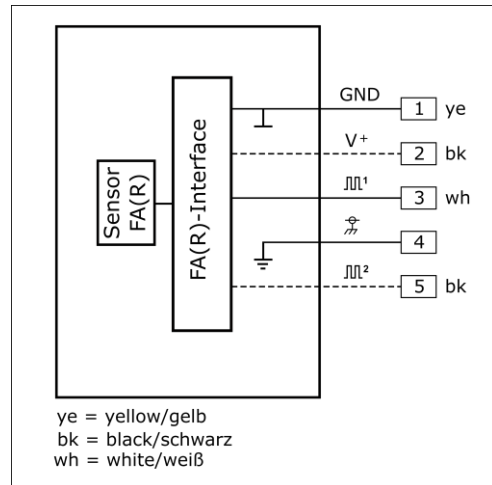
		Article No.
cable length 2 m	one end: stripped cable end, marked strands with end sleeves, connected to the terminals in AS80 housing other end: stripped cable end, marked strands with end sleeves	A099/991-S01
cable length 5 m	one end: stripped cable end, marked strands with end sleeves, connected to the terminals in AS80 housing other end: stripped cable end, marked strands with end sleeves	A099/991-S02

* other cable lengths on request

Vane wheel measuring tube FA(R) Di FM



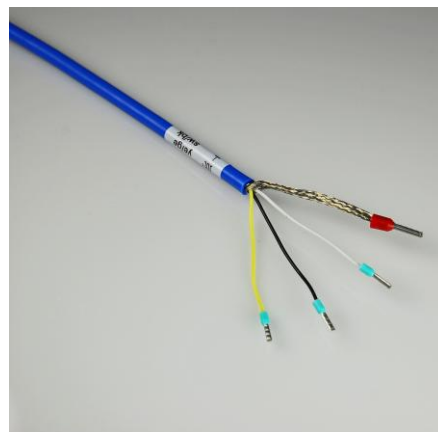
Housing with cable gland for separate evaluation-/handheld unit



Wiring diagram of sensor for separate evaluation unit (Ω^2 only for FAR Di; V^+ only for some types)



8-pin plug 423-8



stripped cable end, marked strands with end sleeves