Overview

SITRANS FX vortex flowmeters provide accurate volumetric and mass flow measurement of steam, gases and liquids as an all-in-one solution with integrated temperature and pressure compensation.

Benefits

- 2-wire technology with HART communication
- Integrated temperature compensation for saturated steam as standard feature
- Integrated temperature and pressure compensation enabling direct measurement of mass, standard volume flow rate and energy
- One instrument for measuring pressure, temperature and flow. No additional installation of pressure and temperature sensors
- Maximum process reliability thanks to Intelligent Signal Processing (ISP) - stable readings, free of external disturbances
- Fully welded stainless steel construction with high corrosion, pressure and temperature resistance
- Maintenance-free design
- Ready to use due to plug & play feature
- Minimal pressure drop
- Compact or remote design
- Free Air Delivery (FAD) measurement of a compressor

Application

The SITRANS FX300 is a flowmeter in a single or dual transmitter version, suitable for measuring industrial steam, gases, as well as conductive and non-conductive liquids, e.g. steam (saturated steam, superheated steam), industrial gases (compressed air, nitrogen, liquefied gases, flue gases), and conductive and non-conductive liquids (demineralized water, boiler feed water, solvents, heat transfer oil).

The main applications of SITRANS FX300 can be found in the following sectors:

- Chemical
- Petrochemical
- Oil & Gas
- Power plants
  - Air
  - Heating
  - Cooling
  - Chilling
- Food & beverage
  - Pharmaceutical
  - Sugar refineries
  - Dairies
  - Breweries
  - Production of soft drinks
- Pulp & paper
- Water & waste water

System overview

Version	Flange	Sandwich	Dual transmitter
Compact			
Remote			

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Design

SITRANS FX300 vortex flowmeters are available in the following variants:

SITRANS FX300 Single transmitter

The single transmitter variant exists in flange or sandwich design. In flange design the SITRANS FX300 offers a sensor with integrated nominal diameter reduction up to two nominal diameter sizes. That ensures best results in accuracy and optimal measuring ranges even in pipelines with large diameters, designed for low pressure loss. By forgoing complex pipeline reduction installations, space and cost saving installations can be realized. At the same time the number of potential leakages is reduced to a minimum.

The flowmeters in sandwich design will be supplied with additional optimised centring rings. With installation of the centring rings the SITRANS FX300 can be aligned centrically and eliminates any offset between the sensor and the pipeline.

The SITRANS FX300 is also available as a remote version. This feature allows separating the transmitter from the sensor up to a distance of 15m (49 ft). The remote mounted transmitter allows easy operation and optimal readability.

The following configurations can be selected for the single transmitter variant:

- Basic version
  Suitable for liquids and gases, integrated temperature compensation included as standard for saturated steam
- With integrated pressure compensation
  Version with integrated temperature and pressure compensation for gases, wet gases, gas mixtures or steam (energy measurement optional)
- With integrated pressure compensation and isolation valve
  Allowing the pressure sensor to be shut off for the purpose of pressure and leak testing of the pipeline or for being exchanged without interrupting the process.
- Remote version
  With this version transmitter and sensor are locally seperated. In addition, it offers the same features as the compact version (integrated temperature and pressure compensation, isolation valve).

SITRANS FX300 Dual transmitter
This is a genuine redundant system with two independent sensors and transmitters providing twofold functional reliability and availability of the measurement. This variant is optimally suited for measurements in multi-product pipelines.

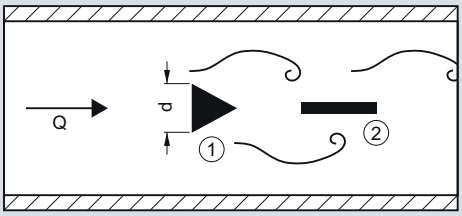
The dual transmitter version is available as:

- Basic version
  Suitable for liquids and gases, temperature compensation integrated as standard for saturated steam

Function

Operating Principle

SITRANS F X vortex flowmeters measure flow rate by detecting the frequency at which alternating vortices are shed from a bluff body inserted into the flow stream. This principle of measurement is derived from the Karman phenomenon of vortex shedding. The frequency of the alternating vortices is proportional to the flow rate.
The passage of a vortex causes a slight stress on a pick-up sensor placed downstream of the bluff body. The stress is detected by piezo-electric crystals placed inside the pick-up sensor.



① = Bluff Body, ② = Pick-up

The flowmeter calculates the flow velocity using the following equation:

$Q = A \cdot V = A \cdot d / St \cdot f = 101.93 \cdot f / K$ [m^3/h]

Where:

Q = flow rate [m^3/h]

f = vortex shedding frequency [Hz]

K = calibration constant [pulses/m^3]

d = width of the bluff body [m]

St = Strouhal Number

A = cross-section area [m^2]

V = flow velocity [m/s]

Requirements

In order to generate the vortex streets, the medium must have a minimum velocity:

- For steam and gases, the flow velocity must be 2 to 80 m/s (6.6 to 262 ft/s)
- For liquids the flow velocity must be 0.4 to 10 m/s (1.3 to 32.8 ft/s)

Configuration

Valid combinations of sensor/connections size with flange norm/nominal pressure are shown in the following table

SITRANS FX Flanged - Single transmitter (7ME2600-...)										
Sensor size	**Connection size**	**EN 1092-1, Form B1/B2, PN 10**	**EN 1092-1, Form B1/B2, PN 16**	**EN 1092-1, Form B1/B2, PN 25**	**EN 1092-1, Form B1/B2, PN 40**	**EN 1092-1, Form B1/B2, PN 63**	**EN 1092-1, Form B1/B2, PN 100**	**ANSI B16.5, class 150**	**ANSI B16.5, class 300**	**ANSI B16.5, class 600**
DN15	DN 15	-	-	-	•	-	•	•	•	•
	DN 25	-	-	-	•	-	•	•	•	•
	DN 40	-	-	-	•	-	•	•	•	•
DN 25	DN 25	-	-	-	•	-	•	•	•	•
	DN 40	-	-	-	•	-	•	•	•	•
	DN 50	-	•	-	•	•	•	•	•	•
DN 40	DN 40	-	-	-	•	-	•	•	•	•
	DN 50	-	•	-	•	•	•	•	•	•
	DN 80	-	•	-	•	•	•	•	•	•
DN 50	DN 50	-	•	-	•	•	•	•	•	•
	DN 80	-	•	-	•	•	•	•	•	•
	DN 100	-	•	-	•	•	•	•	•	•
DN 80	DN 80	-	•	-	•	•	•	•	•	•
	DN 100	-	•	-	•	•	•	•	•	•
	DN 150	-	•	-	•	•	•	•	•	•
DN 100	DN 100	-	•	-	•	•	•	•	•	•
	DN 150	-	•	-	•	•	•	•	•	•
	DN 200	•	•	•	•	-	-	•	•	-
DN 150	DN 150	-	•	-	•	•	•	•	•	•
	DN 200	•	•	•	•	-	-	•	•	-
	DN 250	•	•	•	•	-	-	•	•	-
DN 200	DN 200	•	•	•	•	-	-	•	•	-
	DN 250	•	•	•	•	-	-	•	•	-
	DN 300	•	•	•	•	-	-	•	•	-
DN 250	DN 250	•	•	•	•	-	-	•	•	-
	DN 300	•	•	•	•	-	-	•	•	-
DN 300	DN 300	•	•	•	•	-	-	•	•	-

• available
- not available

Technical specifications

Input	
Measuring range limits	See "Dimensional Drawings"
Media pressure	1 ... 100 bar (14.5 … 1450 psi) (Higher pressures on request)
Output	
Current output	
• Measuring range	4 … 20 mA
• Over range	20.8 mA ± 1 % (105 % ± 1 %)
• Load	
- min.	100 Ω
- max.	$R_{max} = (U_{Power\ Supply} - 14\ V)/22\ mA$
• Error signal	NAMUR NE 43
• Maximum output	22 mA (112.5 %)
• Multidrop mode	4 mA
Digital output	
• Communication	HART
• Physical layer	FSK
• Device category	Transmitter
Pulse output	
Passive pulse output, setting pulse value (meter factor) for totalized flow or heat quantity (energy) with option Y47 (e.g.: 1 pulse/kg or 1 pulse/kWh)	
• Pulse frequency	Max. 0.5 Hz
• Power supply	Min. 24 V DC as NAMUR or
• Non-Ex version	open < 1 mA, max. 36 V, closed 100 mA, U < 2 V
• Ex version	open < 1 mA, max. 30 V, closed 100 mA, U < 2 V
Accuracy	
Standard version	
• For liquids	± 0.75 %
- Re ≥ 20 000	
• For steam and gases	± 1 %
- Re ≥ 20 000	
• For steam, gases and liquids	± 2 %
- 10 000 < Re < 20 000	
Pressure and temperature compensated version	
• For liquids	
- 10 000 < Re < 20 000	± 2 %
- Re ≥ 20 000	± 0.75 %
• For gases and steam	
- 10 000 < Re < 20 000	± 2.5 %
- Re ≥ 20 000	± 1.5 %
Repeatability	± 0.1 %
Installation conditions	
(At different conditions, e.g. installation after control valve, bends or reductions, please refer to the operating instructions.)	
• Inlet run	≥ 20 x DN
• Outlet run	≥ 5 x DN

Software	
Uncompensated for liquids and gases, density-compensated by temperature for saturated steam	Order option 1
Density-compensated by temperature and pressure for superheated steam	Order option 4
Gross heat meter	
When the thermal energy of steam is to be measured	Order option 5
Following information is required at option Y51 to Y56	• Y51 Variable current output: Flow rate, power • Y52 Power unit Select one of the following units: kJ/h, MJ/h, GJ/h, Btu/h, kcal/h, kW, MW or special (custom) • Y53 Fullscale value power • Y54 Variable pulse output: Totalized flow, energy • Y55 Totalizer on/off • Y56 Energy unit Select one of the following units: kJ, MJ, GJ, Btu th, kcal, kWh, MWh or special (custom).
Density compensated by temperature and pressure for gases, wet gases	Order option 7
Wet gases	Select Y49 and enter relative humidity of process medium in %
FAD - Free Air Delivery	
When the delivered air of a compressor is to be measured	Order option 8
In Y81 to Y87 add information regarding:	• Y81 Inlet suction temperature • Y82 Atmospheric pressure • Y83 Pressure drop at inlet suction filter • Y84 Inlet relative humidity • Y85 Actual compressor rotation (rpm) • Y86 Rated compressor rotation (rpm)Rated compressor rotation (rpm) • Y87 Relative humidity at compressor output
Mixed gases	When fluid is a gas mixture, specifiy the single gas components and their amount/concentration in %.
Rated operation conditions	
Ambient temperature	
• Non-Ex version	-40 … +85 °C (-40 … +185 °F)
• Ex version	-40 … +65 °C (-40 … +149 °F)
Storage temperature	-50 … +85 °C (-58 … +185 °F)
Media temperature	-40 … +240 °C (-40 … +464 °F)
Density	Taken into consideration when dimensioning
Viscosity	< 10 cP
Reynold's number	10 000 … 2 300 000
Media pressure limit	Max. 100 bar (1450 psi) Higher pressure on request (contact your local Siemens representative)

Technical specifications (continued)

Design	
Material	
• Sensor/Pick-up	AISI 316L (1.4404)/AISI 316L (1.4435)
	Hastelloy C22/2.4602 available on request (contact your local Siemens representative)
• Transmitter housing	Aluminum
• Sensor gaskets (Pick-up/Pressure sensor)	AISI 316L(1.4435) /FPM or FFKM
	FPM (Viton) for steam and non-aggressive gases
	FFKM (Kalrez) for chlorine and other aggressive gases.
	(The meter is fitted with FPM/FFKM gasket only when configured with pressure sensor.)
Process connections	Flange norm DIN EN 1092-1 form B1/B2 or ANSI B16.5 RF.
	Other flanges on request (contact your local Siemens representative)
• Flange version	DN 15 … 300 (½ … 12")
• Sandwich version	DN 15 … 100 (½ … 4")
Degree of protection	IP66/IP67
Dimensions and weights	See “Dimensional Drawings”
Display and operating interface	
Local display	2 lines, 10 characters per line
Languages	German, English, French
Power supply	
• Standard version	14 … 36 V DC
• Ex version	14 … 30 V DC
Certificates and approvals	
Explosion protection	
• ATEX	II 2G EEx d ia [ia] IIC T6
• FM US/C	Class I, II, III, Div 1 & 2
Calibration	All flowmeters will be delivered with a 3 point calibration certificate
Material Certificate	Certificate of compliance, pressure test, material certificate, material in acc. of NACE and PMI of pressure bearing metal parts.
Cleaning	Choose Cleaning Class1 when fluid is oxygen or contains chloride.
Certificates	X-ray and dye penetration test on pressure bearing weldings

3

Selection and ordering data

Article No. **7ME2600-** - Ord. Code

SITRANS FX300 Flanged
Single transmitter and T_{max} = 240 °C (464 °F) ↗

↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Sensor size	Connection size	
DN 15 (½")	DN 15 (½")	1 A
	DN 25 (1")	1 B
	DN 40 (1½")	1 C
DN 25 (1")	DN 25 (1")	2 B
	DN 40 (1½")	2 C
	DN 50 (2")	2 D
DN 40 (1½")	DN 40 (1½")	2 K
	DN 50 (2")	2 L
	DN 80 (3")	2 M
DN 50 (2")	DN 50 (2")	2 R
	DN 80 (3")	2 S
	DN 100 (4")	2 T
DN 80 (3")	DN 80 (3")	3 L
	DN 100 (4")	3 M
	DN 150 (6")	3 R
DN 100 (4")	DN 100 (4")	3 S
	DN 150 (6")	3 T
	DN 200 (8")	3 Q
DN 150 (6")	DN 150 (6")	4 M
	DN 200 (8")	4 P
	DN 250 (10")	4 Q
DN 200 (8")	DN 200 (8")	4 T
	DN 250 (10")	4 U
	DN 300 (12")	4 V
DN 250 (10")	DN 250 (10")	4 W
	DN 300 (12")	4 Y
DN 300 (12")	DN 300 (12")	5 E

Flange norm and nominal pressure		
Form B1/B2	**EN 1092-1**	
PN 10	DN 200 ... 300	A
PN 16	DN 50 ... 300	B
PN 25	DN 200 ... 300	C
PN 40	DN 15 ... 300	D
PN 63	DN 50 ... 150	E
PN 100	DN 15 ... 150	F
RF	**ANSI B16.5**	
class 150	1½ ... 12"	J
class 300	1½ ... 12"	K
class 600	1½ ... 6"	L

Sensor material/Gasket	
Stainless steel AISI 316L (1.4404)/AISI 316L (1.4435)/FPM	1
Stainless steel AISI 316L (1.4404)/AISI 316L (1.4435)/FFKM	5

Transmitter design	
Compact version - no cable	1
Remote version	
5 m (16.4 ft)	2
10 m (32.8 ft)	3
15 m (49.2 ft)	4

Article No. **7ME2600-** - Ord. Code

SITRANS FX300 Flanged
Single transmitter and T_{max} = 240 °C (464 °F)

Approval and cable gland		
Non-Ex, M20 x 1.5	1	
Non-Ex, ½" NPT	2	
FM approval Class 1 Div. 2, M20 x 1.5	3	
ATEX, M20 x 1.5	4	
ATEX, ½" NPT	5	
FM approval Class 1 Div. 1, M20 x 1.5	6	
FM approval Class 1 Div. 1, 1/2" NPT	7	
FM approval Class 1 Div. 2, 1/2" NPT	8	
Further approvals and cable glands		
IEC Ex with M20 x 1.5	9	N 0 A
IEC Ex with ½" NPT	9	N 0 B

Transmitter, display and communication	
With display, HART	A

Pressure sensor and isolation valve	
Without pressure sensor	A
With pressure sensor, range:	
• 4 bar (58 psi)	B
• 6 bar (87 psi)	D
• 10 bar (145 psi)	E
• 16 bar (232 psi)	G
• 25 bar (363 psi)	H
• 40 bar (580 psi)	K
• 60 bar (870 psi)	L
• 100 bar (1450 psi)	N
With isolation valve and pressure sensor, range:	
• 4 bar (58 psi)	P
• 6 bar (87 psi)	Q
• 10 bar (145 psi)	R
• 16 bar (232 psi)	S
• 25 bar (363 psi)	U
• 40 bar (580 psi)	V
• 60 bar (870 psi)	W
• 100 bar (1450 psi)	Y

Software	
Uncompensated for liquids and gases, density compensated by temperature for saturated steam	1
Density compensation for superheated steam	4
Density compensated by temperature and pressure for superheated steam, gross heat meter - setting of energy metering at option Y51 ... Y56	5
Density compensation for gases, wet gases and mixed gases - setting of relative humidity at option Y49	7
Density compensation for gases, wet gases and mixed gases, Free air delivery (FAD) - setting of FAD at option Y81 ... Y87 and relative humidity at option Y49	8

Selection and ordering data

	Order code
Additional information	
Please add "**-Z**" to Article No. and specify as minimum Order code Y40, Y41, Y42 and Y45 and plain text.	
Input process data	
Specify medium (liquid, gas, steam or customer-specific)	**Y40**
Temperature: Specify operating temperature with unit	**Y41**
Pressure: Specify operating pressure with unit	**Y42**
Density (only for customer-specified medium): Specify density with unit	**Y43**
Viscosity (only for customer-specified medium): Specify viscosity with unit	**Y44**
Flow rate: Specify max. flow rate with units	**Y45**
Setting of pulse output: Specify pulse value (meter factor) for totalized flow (1 pulse/unit)	**Y47**
Relative humidity of process medium in %	**Y49**
Settings of gross heat	
Variable current output: Flow rate, power	**Y51**
Power unit (specify: kJ/h, MJ/h, GJ/h, Btu/h, kcal/h, kW, MW or special (custom))	**Y52**
Fullscale value power	**Y53**
Variable pulse output: Totalized flow, energy	**Y54**
Totalizer on/off	**Y55**
Energy unit (specify: kJ, MJ, GJ, Btu th, kcal, kWh, MWh or special (custom))	**Y56**
Settings of FAD	
Inlet suction temperature[1)]	**Y81**
Atmospheric pressure[1)]	**Y82**
Pressure drop at inlet suction filter[2)]	**Y83**
Inlet relative humidity[1)]	**Y84**
Actual compressor rotation (rpm)[2)]	**Y85**
Rated compressor rotation (rpm)[2)]	**Y86**
Relative humidity at compressor outlet[2)]	**Y87**

1) Required information from customer.

2) Required information from compressor manufacturer (data sheet).

	Order code
Further designs	
Please add "**-Z**" to Article No. and specify Order code.	
Converter housing material	
Aluminum for increased requirement, color: petrol green	**A10**
Material certificate	
Certificate of compliance EN 10204-2.1	**C10**
Pressure test + 3.1 accordance EN 10204	**C11**
Material certificate of pressure bearing parts + certificate 3.1	**C12**
Material in accordance with NACE MR 0175-01	**C13**
PMI of pressure bearing metal parts + certificate 3.1	**C14**
Material certificate of pressure bearing parts + PMI + certificate 3.1	**C15**
Calibration certificate FX300	
As standard the flow device has a 3-point calibration certificate	
5-point calibration certificate	**D11**
Hardness test	
Hardness test on pressure bearing parts + certificate 3.1	**H30**
Cleaning	
Cleaning class 1	**K46**
Cleaning class 1 + certificate 3.1 acc. EN 10204	**K48**
Certificates	
X-ray test on pressure bearing weldings	**M56**
Dye penetration test on pressure bearing weldings	**M58**
Tag name plate	
Stainless steel tag with 3 mm characters, max. 2 x 8 characters (40 x 20 mm, add plain text)	**Y17**
Stainless steel tag with 2.5 mm characters, max. 8 x 40 characters (120 x 46 mm, add plain text)	**Y18**

3

Selection and ordering data

Article No. **7ME2700-**

SITRANS FX300 Sandwich Single transmitter and T_{max} = 240 °C (464 °F) ↗												Ord. Code	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.						-							
Sensor size	**Connection size**												
DN 15 (½")	DN 15 (½")	**1**	**A**										
DN 25 (1")	DN 25 (1")	**2**	**B**										
DN 40 (1½")	DN 40 (1½")	**2**	**K**										
DN 50 (2")	DN 50 (2")	**2**	**R**										
DN 80 (3")	DN 80 (3")	**3**	**L**										
DN 100 (4")	DN 100 (4")	**3**	**S**										
Nominal pressure													
Form B1/B2	**EN 1092-1**												
PN 16	DN 50 ... 300			**B**									
PN 40	DN 15 ... 300			**D**									
PN 63	DN 50 ... 150			**E**									
PN 100	DN 15 ... 150			**F**									
RF	**ANSI B16.5**												
class 150	1½ ... 4"			**J**									
class 300	1½ ... 4"			**K**									
class 600	1½ ... 4"			**L**									
Sensor material/Gasket													
Stainless steel AISI 316L (1.4404)/AISI 316L (1.4435)/FPM					**1**								
Stainless steel AISI 316L (1.4404)/AISI 316L (1.4435)/FFKM					**5**								
Transmitter design													
Compact version - no cable						**1**							
Remote version													
5 m (16.4 ft)						**2**							
10 m (32.8 ft)						**3**							
15 m (49.2 ft)						**4**							
Approval and cable gland													
Non-Ex, M20 x 1.5							**1**						
Non-Ex, ½" NPT							**2**						
FM approval Class 1 Div. 2, M20 x 1.5							**3**						
ATEX, M20 x 1.5							**4**						
ATEX, ½" NPT							**5**						
FM approval Class 1 Div. 1, M20 x 1.5							**6**						
FM approval Class 1 Div. 1, 1/2" NPT							**7**						
FM approval Class 1 Div. 2, 1/2" NPT							**8**						
Further approvals and cable glands													
IEC Ex with M20 x 1.5							**9**					**N**	**0** **A**
IEC Ex with ½" NPT							**9**					**N**	**0** **B**
Transmitter, display and communication													
With display, HART								**A**					

Article No. **7ME2700-**

SITRANS FX300 Sandwich Single transmitter and T_{max} = 240 °C (464 °F)												Ord. Code	
						-							
Pressure sensor and isolation valve													
Without pressure sensor									**A**				
With pressure sensor, range:													
• 4 bar (58 psi)									**B**				
• 6 bar (87 psi)									**D**				
• 10 bar (145 psi)									**E**				
• 16 bar (232 psi)									**G**				
• 25 bar (363 psi)									**H**				
• 40 bar (580 psi)									**K**				
• 60 bar (870 psi)									**L**				
• 100 bar (1450 psi)									**N**				
With isolation valve and pressure sensor, range:													
• 4 bar (58 psi)									**P**				
• 6 bar (87 psi)									**Q**				
• 10 bar (145 psi)									**R**				
• 16 bar (232 psi)									**S**				
• 25 bar (363 psi)									**U**				
• 40 bar (580 psi)									**V**				
• 60 bar (870 psi)									**W**				
• 100 bar (1450 psi)									**Y**				
Software													
Uncompensated for liquids and gases, density compensated by temperature for saturated steam										**1**			
Density compensation for superheated steam										**4**			
Density compensated by temperature and pressure for superheated steam, gross heat meter - setting of energy metering at option Y51 ... Y56										**5**			
Density compensation for gases, wet gases and mixed gases - setting of relative humidity at option Y49										**7**			
Density compensation for gases, wet gases and mixed gases, Free air delivery (FAD) - setting of FAD at option Y81 ... Y87 and relative humidity at option Y49										**8**			

Selection and ordering data

	Order code
Additional information	
Please add "**-Z**" to Article No. and specify as minimum Order code Y40, Y41, Y42 and Y45 and plain text.	
Input process data	
Specify medium (liquid, gas, steam or customer-specific)	**Y40**
Temperature: Specify operating temperature with unit	**Y41**
Pressure: Specify operating pressure with unit	**Y42**
Density (only for customer-specified medium): Specify density with unit	**Y43**
Viscosity (only for customer-specified medium): Specify viscosity with unit	**Y44**
Flow rate: Specify max. flow rate with units	**Y45**
Setting of pulse output: Specify pulse value (meter factor) for totalized flow (1 pulse/unit)	**Y47**
Relative humidity of process medium in %	**Y49**
Settings of gross heat	
Variable current output: Flow rate, power	**Y51**
Power unit (specify: kJ/h, MJ/h, GJ/h, Btu/h, kcal/h, kW, MW or special (custom))	**Y52**
Fullscale value power	**Y53**
Variable pulse output: Totalized flow, energy	**Y54**
Totalizer on/off	**Y55**
Energy unit (specify: kJ, MJ, GJ, Btu th, kcal, kWh, MWh or special (custom))	**Y56**
Settings of FAD	
Inlet suction temperature[1)]	**Y81**
Atmospheric pressure[1)]	**Y82**
Pressure drop at inlet suction filter[2)]	**Y83**
Inlet relative humidity[1)]	**Y84**
Actual compressor rotation (rpm)[2)]	**Y85**
Rated compressor rotation (rpm)[2)]	**Y86**
Relative humidity at compressor outlet[2)]	**Y87**

[1)] Required information from customer.

[2)] Required information from compressor manufacturer (data sheet).

	Order code
Further designs	
Please add "**-Z**" to Article No. and specify Order code.	
Converter housing material	
Aluminum for increased requirement, color: petrol green	**A10**
Material certificate	
Certificate of compliance EN 10204-2.1	**C10**
Pressure test + 3.1 accordance EN 10204	**C11**
Material certificate of pressure bearing parts + certificate 3.1	**C12**
Material in accordance with NACE MR 0175-01	**C13**
PMI of pressure bearing metal parts + certificate 3.1	**C14**
Material certificate of pressure bearing parts + PMI + certificate 3.1	**C15**
Calibration certificate FX300	
As standard the flow device has a 3-point calibration certificate	
5-point calibration certificate	**D11**
Hardness test	
Hardness test on pressure bearing parts + certificate 3.1	**H30**
Cleaning	
Cleaning class 1	**K46**
Cleaning class 1 + certificate 3.1 acc. EN 10204	**K48**
Certificates	
X-ray test on pressure bearing weldings	**M56**
Dye penetration test on pressure bearing weldings	**M58**
Tag name plate	
Stainless steel tag with 3 mm characters, max. 2 x 8 characters (40 x 20 mm, add plain text)	**Y17**
Stainless steel tag with 2.5 mm characters, max. 8 x 40 characters (120 x 46 mm, add plain text)	**Y18**

3

Selection and ordering data

Article No. — **7ME2700-** — Ord. Code

SITRANS FX300 Sandwich Dual transmitter and T_{max} = 240 °C (464 °F) ↗

↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Sensor size	Connection size	
DN 40 (1½")	DN 40 (1½")	2 K
DN 50 (2")	DN 50 (2")	2 R
DN 80 (3")	DN 80 (3")	3 L
DN 100 (4")	DN 100 (4")	3 S
DN 150 (6")	DN 150 (6")	4 M
DN 200 (8")	DN 200 (8")	4 T
DN 250 (10")	DN 250 (10")	4 W
DN 300 (12")	DN 300 (12")	5 E
Flange norm and nominal pressure		
Form B1/B2	**EN 1092-1**	
PN 10	DN 200 ... 300	A
PN 16	DN 50 ... 300	B
PN 25	DN 200 ... 300	C
PN 40	DN 40 ... 300	D
PN 63	DN 50 ... 150	E
PN 100	DN 40 ... 150	F
RF	**ANSI B16.5**	
class 150	1½ ... 12"	J
class 300	1½ ... 12"	K
class 600	1½ ... 6"	L
Sensor material/Gasket		
Stainless steel AISI 316L (1.4404)/AISI 316L (1.4435)/FPM		1
Stainless steel AISI 316L (1.4404)/AISI 316L (1.4435)/FFKM		5
Transmitter design		
Compact version - no cable		1
Remote version		
5 m (16.4 ft)		2
10 m (32.8 ft)		3
15 m (49.2 ft)		4
Approval and cable gland		
Non-Ex, M20 x 1.5		1
Non-Ex, ½" NPT		2
FM approval Class 1 Div. 2, M20 x 1.5		3
ATEX, M20 x 1.5		4
ATEX, ½" NPT		5
FM approval Class 1 Div. 1, M20 x 1.5		6
FM approval Class 1 Div. 1, 1/2" NPT		7
FM approval Class 1 Div. 2, 1/2" NPT		8
Further approvals and cable glands		
IEC Ex with M20 x 1.5		9 — N 0 A
IEC Ex with ½" NPT		9 — N 0 B
Transmitter, display and communication		
With display, HART		A
Pressure sensor and isolation valve		
Without pressure sensor		A
Software		
Uncompensated for liquids and gases, density-compensated by temperature for saturated steam		1

Order code

Additional information

Please add "**-Z**" to Article No. and specify as minimum Order code Y40, Y41, Y42 and Y45 and plain text.

Input process data	
Specify medium (liquid, gas, steam or customer-specific)	**Y40**
Temperature: Specify operating temperature with unit	**Y41**
Pressure: Specify operating pressure with unit	**Y42**
Density (only for customer-specified medium): Specify density with unit	**Y43**
Viscosity (only for customer-specified medium): Specify viscosity with unit	**Y44**
Flow rate: Specify max. flow rate with units	**Y45**
Setting of pulse output: Specify pulse value (meter factor) for totalized flow (1 pulse/unit)	**Y47**
Relative humidity of process medium in %	**Y49**

Further designs

Please add "**-Z**" to Article No. and specify Order code.

Converter housing material	
Aluminum for increased requirement, color: petrol green	**A10**
Material certificate	
Certificate of compliance EN 10204-2.1	**C10**
Pressure test + 3.1 accordance EN 10204	**C11**
Material certificate of pressure bearing parts + certificate 3.1	**C12**
Material in accordance with NACE MR 0175-01	**C13**
PMI of pressure bearing metal parts + certificate 3.1	**C14**
Material certificate of pressure bearing parts + PMI + certificate 3.1	**C15**
Calibration certificate FX300	
As standard the flow device has a 3-point calibration certificate	
5-point calibration certificate	**D11**
Hardness test	
Hardness test on pressure bearing parts + certificate 3.1	**H30**
Cleaning	
Cleaning class 1	**K46**
Cleaning class 1 + certificate 3.1 acc. EN 10204	**K48**
Certificates	
X-ray test on pressure bearing weldings	**M56**
Dye penetration test on pressure bearing weldings	**M58**
Tag name plate	
Stainless steel tag with 3 mm characters, max. 2 x 8 characters (40 x 20 mm, add plain text)	**Y17**
Stainless steel tag with 2.5 mm characters, max. 8 x 40 characters (120 x 46 mm, add plain text)	**Y18**

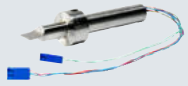
Selection and ordering data (continued)

Operating instructions for SITRANS FX300

Description	Article No.
• English	**A5E2100423**
• German	**A5E02171807**

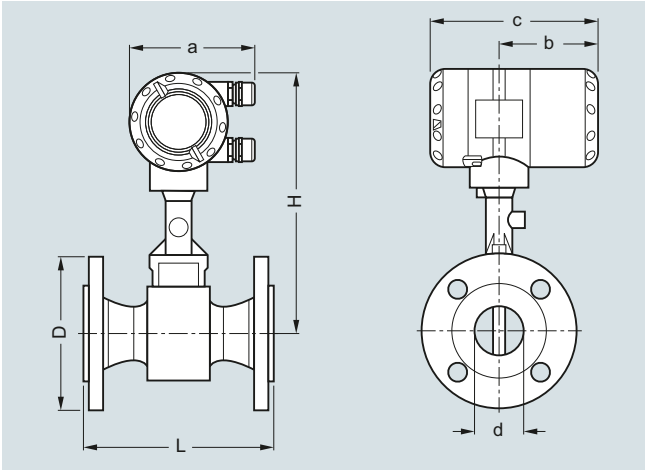
All literature is available to download for free, in a range of languages, at
http://www.siemens.com/processinstrumentation/documentation

Spare parts for SITRANS FX300

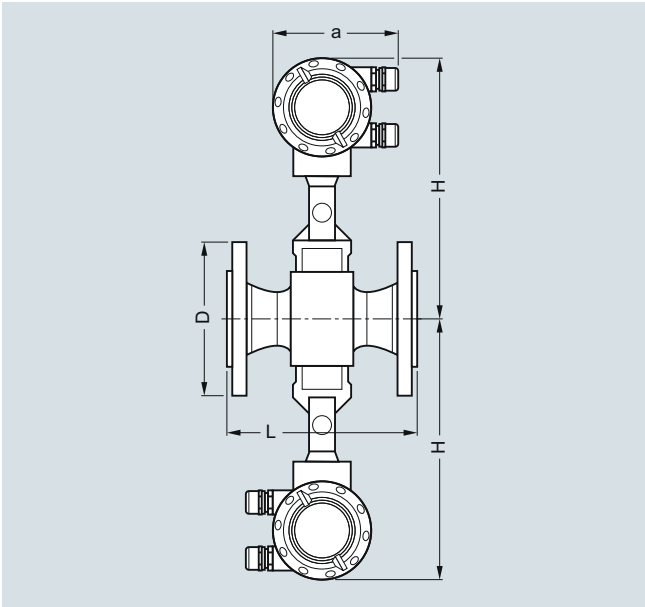
Description	Article No.	
Electronic		
• Basic D-HART	**A5E02181531**	
• Steam D-HART	**A5E02181541**	
• Gas D-HART	**A5E02181544**	
Serial number of flow meter must be specified on order.		
Display	**A5E02181558**	
Sensor replacement (incl. seal disc, pickup, O-rings for pickup, and pressure screw)		
• DN 15 (incl. ½" socket)	**KRH-16111100**	
• DN 25 (incl. 1" socket)	**KRH-16111150**	
• DN 40 ... 100	**KRH-16111200**	
• DN 150 ... 300	**KRH-16111300**	
Pressure sensor replacement (incl. pressure sensor, DUBOX plug, 2 O-rings and calibration certificate)		
• 4 bar (58 psi)	**A5E02181157**	
• 6 bar (87 psi)	**A5E02181175**	
• 10 bar (145 psi)	**A5E02181180**	
• 16 bar (232 psi)	**A5E02181221**	
• 25 bar (363 psi)	**A5E02181307**	
• 40 bar (580 psi)	**A5E02181316**	
• 60 bar (870 psi)	**A5E02181322**	
• 100 bar (1450 psi)	**A5E02181437**	
Service Toolbox for programming software (basic, steam and gas); for changing settings and diagnostics Note: Dedicated service training is required. Please contact Customer Support.	**A5E02375819**	
Connection cable for remote mounting		
• 15 m (49 ft)	**A5E36832003**	

Dimensional drawings

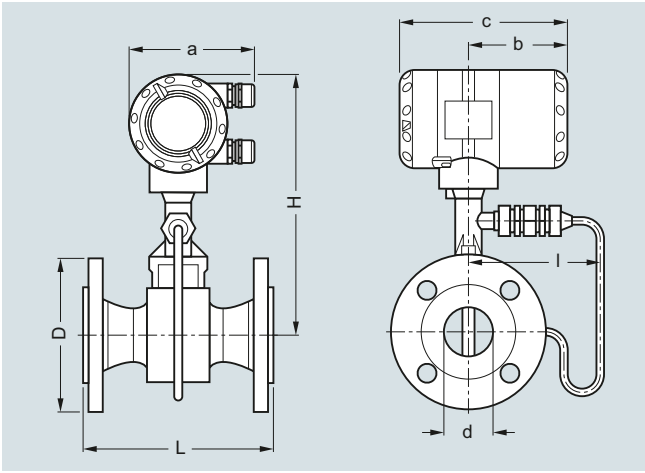
Compact version



Flange version



Flange version, dual converter



Flange version with pressure sensor

Dimensional drawings (continued)

Flange version DIN EN 1092-1

Size	Pressure rating	Dimensions [mm (inch)] a = 135 (5.32), b = 108 (4.26), c = 184 (7.25)							Weight [kg (lb)][1]	
DN	PN	d	d FR[2]	d FR[3]	D	L	H	I	Flowmeter (without pressure sensor)	Flowmeter (with pressure sensor)
15	40	17.3 (0.68)	-	-	95 (3.74)	200 (7.87)	315 (12.40)	144 (5.67)	5.5 (12.13)	6.1 (13.45)
15	100	17.3 (0.68)	-	-	105 (4.13)	200 (7.87)	315 (12.40)	144 (5.67)	6.5 (14.33)	7.1 (15.65)
25	40	28.5 (1.12)	17.3 (0.68)	-	115 (4.53)	200 (7.87)	315 (12.40)	144 (5.67)	7.3 (16.09)	7.9 (17.42)
25	100	28.5 (1.12)	17.3 (0.68)	-	140 (5.51)	200 (7.87)	315 (12.40)	144 (5.67)	9.3 (20.50)	9.9 (21.83)
40	40	43.1 (1.70)	28.5 (1.12)	17.3 (0.68)	150 (5.91)	200 (7.87)	320 (12.60)	144 (5.67)	10.2 (22.49)	10.8 (23.81)
40	100	42.5 (1.67)	28.5 (1.12)	17.3 (0.68)	170 (6.69)	200 (7.87)	320 (12.60)	144 (5.67)	14.2 (31.31)	14.8 (32.63)
50	16	54.5 (2.15)	42.5 (1.67)	28.5 (1.12)	165 (6.50)	200 (7.87)	325 (12.80)	144 (5.67)	12.1 (26.68)	12.7 (28.00)
50	40	54.5 (2.15)	42.5 (1.67)	28.5 (1.12)	165 (6.50)	200 (7.87)	325 (12.80)	144 (5.67)	12.3 (27.12)	12.9 (28.44)
50	63	54.5 (2.15)	42.5 (1.67)	28.5 (1.12)	180 (7.09)	200 (7.87)	325 (12.80)	144 (5.67)	16.3 (35.94)	16.9 (37.26)
50	100	53.9 (2.12)	42.5 (1.67)	28.5 (1.12)	195 (7.68)	200 (7.87)	325 (12.80)	144 (5.67)	17.8 (39.24)	18.4 (40.57)
80	16	82.5 (3.25)	54.5 (2.15)	42.5 (1.67)	200 (7.87)	200 (7.87)	340 (13.39)	154 (6.06)	16.8 (37.04)	17.4 (38.36)
80	40	82.5 (3.25)	54.5 (2.15)	42.5 (1.67)	200 (7.87)	200 (7.87)	340 (13.39)	154 (6.06)	18.8 (41.45)	19.4 (42.77)
80	63	81.7 (3.22)	54.5 (2.15)	42.5 (1.67)	215 (8.46)	200 (7.87)	340 (13.39)	154 (6.06)	22.8 (50.27)	23.4 (51.59)
80	100	80.9 (3.19)	54.5 (2.15)	42.5 (1.67)	230 (9.06)	200 (7.87)	340 (13.39)	154 (6.06)	26.8 (59.08)	27.4 (60.41)
100	16	107.1 (4.22)	80.9 (3.19)	54.5 (2.15)	220 (8.66)	250 (9.84)	360 (14.17)	164 (6.46)	21.4 (47.18)	22 (48.50)
100	40	107.1 (4.22)	80.9 (3.19)	54.5 (2.15)	235 (9.25)	250 (9.84)	360 (14.17)	164 (6.46)	24.4 (53.79)	25 (55.12)
100	63	106.3 (4.19)	80.9 (3.19)	54.5 (2.15)	250 (9.84)	250 (9.84)	360 (14.17)	164 (6.46)	29.4 (64.82)	30 (66.14)
100	100	104.3 (4.11)	80.9 (3.19)	54.5 (2.15)	265 (10.43)	250 (9.84)	360 (14.17)	164 (6.46)	35.4 (78.04)	36 (79.37)
150	16	159.3 (6.27)	107.1 (4.22)	80.9 (3.19)	285 (11.22)	300 (11.81)	375 (14.76)	174 (6.85)	35.2 (77.60)	35.8 (78.93)
150	40	159.3 (6.27)	107.1 (4.22)	80.9 (3.19)	300 (11.81)	300 (11.81)	375 (14.76)	174 (6.85)	41.2 (90.83)	41.8 (92.15)
150	63	157.1 (6.19)	107.1 (4.22)	80.9 (3.19)	345 (13.58)	300 (11.81)	375 (14.76)	174 (6.85)	59.2 (130.51)	59.8 (131.84)
150	100	154.1 (6.07)	107.1 (4.22)	80.9 (3.19)	355 (13.98)	300 (11.81)	375 (14.76)	174 (6.85)	67.2 (148.15)	67.8 (149.47)
200	10	206.5 (8.13)	159.3 (6.27)	107.1 (4.22)	340 (13.39)	300 (11.81)	400 (15.75)	194 (7.64)	37.8 (83.33)	38.4 (84.66)
200	16	206.5 (8.13)	159.3 (6.27)	107.1 (4.22)	340 (13.39)	300 (11.81)	400 (15.75)	194 (7.64)	37.8 (83.33)	38.4 (84.66)
200	25	206.5 (8.13)	159.3 (6.27)	107.1 (4.22)	360 (14.17)	300 (11.81)	400 (15.75)	194 (7.64)	46.8 (103.18)	47.4 (104.50)
200	40	206.5 (8.13)	159.3 (6.27)	107.1 (4.22)	375 (14.76)	300 (11.81)	400 (15.75)	194 (7.64)	54.8 (120.81)	55.4 (122.14)
250	10	260.4 (10.25)	206.5 (8.13)	159.3 (6.27)	395 (15.55)	380 (14.96)	420 (16.54)	224 (8.82)	57.4 (126.55)	58.0 (127.87)
250	16	260.4 (10.25)	206.5 (8.13)	159.3 (6.27)	405 (15.94)	380 (14.96)	420 (16.54)	224 (8.82)	58.4 (128.75)	59.0 (130.07)
250	25	258.8 (10.19)	206.5 (8.13)	159.3 (6.27)	425 (16.73)	380 (14.96)	420 (16.54)	224 (8.82)	74.4 (164.02)	75.0 (165.35)
250	40	258.8 (10.19)	206.5 (8.13)	159.3 (6.27)	450 (17.72)	380 (14.96)	420 (16.54)	224 (8.82)	92.4 (203.71)	93.0 (205.03)
300	10	309.7 (12.19)	260.4 (10.25)	206.5 (8.13)	445 (17.52)	450 (17.72)	445 (17.52)	244 (9.61)	75.7 (166.89)	76.3 (168.21)
300	16	309.7 (12.19)	260.4 (10.25)	206.5 (8.13)	460 (18.11)	450 (17.72)	445 (17.52)	244 (9.61)	82.2 (181.22)	82.8 (182.54)
300	25	307.9 (12.12)	260.4 (10.25)	206.5 (8.13)	485 (19.09)	450 (17.72)	445 (17.52)	244 (9.61)	98.7 (217.60)	99.3 (218.92)
300	40	307.9 (12.12)	260.4 (10.25)	206.5 (8.13)	515 (20.28)	450 (17.72)	445 (17.52)	244 (9.61)	127.5 (281.09)	128.1 (282.41)

[1] For dual converter: specified weight + 2.80 kg (6.17 lb).

[2] FR - single reduction

[3] F2R - double reduction

Dimensional drawings (continued)

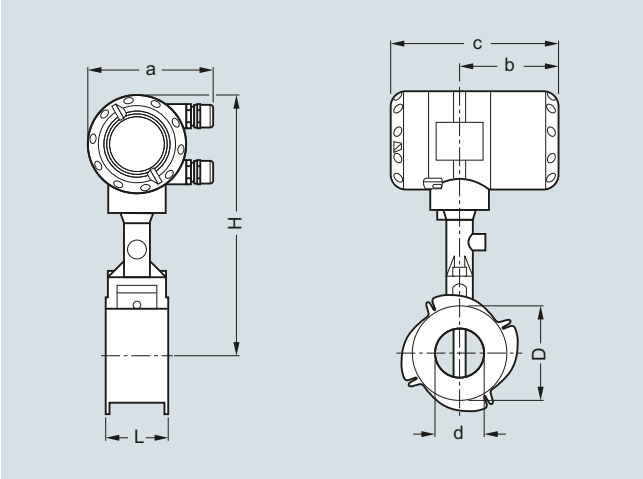
Flange version ANSI B16.5

Size	Pressure rating	Dimensions [mm (inch)] a = 135 (5.32), b = 108 (4.26), c = 184 (7.25)							Weight [kg (lb)][1]	
DN	Class	d	d FR[2]	d FR[3]	D	L	H	I	Flowmeter (without pressure sensor)	Flowmeter (with pressure sensor)
½	150	15.8 (0.62)	-	-	90 (3.54)	200 (7.87)	315 (12.40)	144 (5.67)	4.5 (9.92)	5.1 (11.24)
½	300	15.8 (0.62)	-	-	95 (3.74)	200 (7.87)	315 (12.40)	144 (5.67)	4.9 (10.80)	5.5 (12.13)
½	600	13.9 (0.55)	-	-	95 (3.74)	200 (7.87)	315 (12.40)	144 (5.67)	5.1 (11.24)	5.7 (12.57)
1	150	26.6 (1.05)	15.8 (0.62)	-	110 (4.33)	200 (7.87)	315 (12.40)	144 (5.67)	6.2 (13.67)	6.8 (14.99)
1	300	26.6 (1.05)	15.8 (0.62)	-	125 (4.92)	200 (7.87)	315 (12.40)	144 (5.67)	7.2 (15.87)	7.8 (17.20)
1	600	24.3 (0.96)	15.8 (0.62)	-	125 (4.92)	200 (7.87)	315 (12.40)	144 (5.67)	7.5 (16.53)	8.1 (17.86)
1½	150	40.9 (1.61)	26.6 (1.05)	15.8 (0.62)	125 (4.92)	200 (7.87)	320 (12.60)	144 (5.67)	8.3 (18.30)	8.9 (19.62)
1½	300	40.9 (1.61)	26.6 (1.05)	15.8 (0.62)	155 (6.10)	200 (7.87)	320 (12.60)	144 (5.67)	10.4 (22.93)	11 (24.25)
1½	600	38.1 (1.50)	26.6 (1.05)	15.8 (0.62)	155 (6.10)	200 (7.87)	320 (12.60)	144 (5.67)	11.4 (25.13)	12 (26.46)
2	150	52.6 (2.07)	40.9 (1.61)	26.6 (1.05)	150 (5.91)	200 (7.87)	325 (12.80)	144 (5.67)	11 (24.25)	11.6 (25.57)
2	300	52.6 (2.07)	40.9 (1.61)	26.6 (1.05)	165 (6.50)	200 (7.87)	325 (12.80)	144 (5.67)	12.4 (27.34)	13 (28.66)
2	600	49.3 (1.94)	40.9 (1.61)	26.6 (1.05)	165 (6.50)	200 (7.87)	325 (12.80)	144 (5.67)	13.9 (30.64)	14.5 (31.97)
3	150	78 (3.07)	52.6 (2.07)	40.9 (1.61)	190 (7.48)	200 (7.87)	340 (13.39)	154 (6.06)	19.8 (43.65)	20.4 (44.97)
3	300	78 (3.07)	52.6 (2.07)	40.9 (1.61)	210 (8.27)	200 (7.87)	340 (13.39)	154 (6.06)	22.8 (50.27)	23.4 (51.59)
3	600	73.7 (2.90)	52.6 (2.07)	40.9 (1.61)	210 (8.27)	200 (7.87)	340 (13.39)	154 (6.06)	23.8 (52.47)	24.4 (53.79)
4	150	102.4 (4.03)	78 (3.07)	52.6 (2.07)	230 (9.06)	250 (9.84)	360 (14.17)	164 (6.46)	23.4 (51.59)	24 (52.91)
4	300	102.4 (4.03)	78 (3.07)	52.6 (2.07)	255 (10.04)	250 (9.84)	360 (14.17)	164 (6.46)	31.4 (69.23)	32 (70.55)
4	600	97.2 (3.83)	78 (3.07)	52.6 (2.07)	275 (10.83)	250 (9.84)	360 (14.17)	164 (6.46)	40.4 (89.07)	41 (90.39)
6	150	154.2 (6.07)	102.4 (4.03)	78 (3.07)	280 (11.02)	300 (11.81)	375 (14.76)	174 (6.85)	36.2 (79.81)	36.8 (81.13)
6	300	154.2 (6.07)	102.4 (4.03)	78 (3.07)	320 (12.60)	300 (11.81)	375 (14.76)	174 (6.85)	51.2 (112.88)	51.8 (114.20)
6	600	146.3 (5.76)	102.4 (4.03)	78 (3.07)	355 (13.98)	300 (11.81)	375 (14.76)	174 (6.85)	76.2 (157.99)	76.8 (169.31)
8	150	202.7 (7.98)	154.2 (6.07)	102.4 (4.03)	345 (13.58)	300 (11.81)	400 (15.75)	194 (7.64)	50.0 (110.23)	50.6 (111.55)
8	300	202.7 (7.98)	154.2 (6.07)	102.4 (4.03)	380 (14.96)	300 (11.81)	400 (15.75)	194 (7.64)	74.8 (164.91)	75.4 (166.23)
10	150	254.5 (10.02)	202.7 (7.98)	154.2 (6.07)	405 (15.94)	380 (14.96)	420 (16.54)	224 (8.82)	74.4 (164.02)	75.0 (165.35)
10	300	254.5 (10.02)	202.7 (7.98)	154.2 (6.07)	455 (17.91)	380 (14.96)	420 (16.54)	224 (8.82)	106.4 (234.57)	107.0 (235.89)
12	150	304.8 (12.00)	254.5 (10.02)	202.7 (7.98)	485 (19.09)	450 (17.72)	445 (17.52)	244 (9.61)	106.3 (234.35)	106.9 (235.67)
12	300	304.8 (12.00)	254.5 (10.02)	202.7 (7.98)	520 (20.47)	450 (17.72)	445 (17.52)	244 (9.61)	151.3 (333.56)	151.9 (334.88)

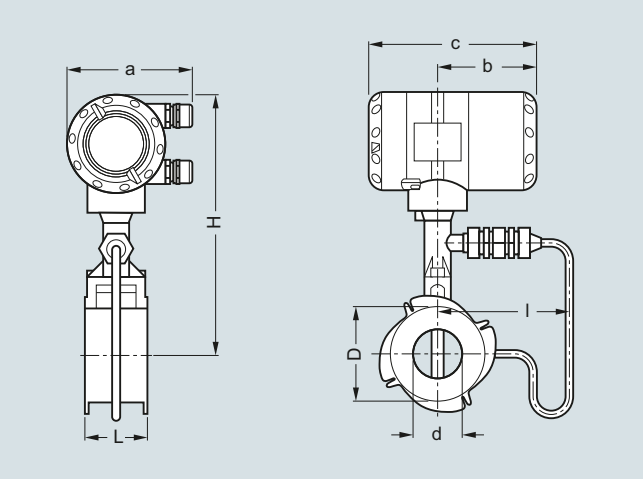
1) For dual converter: specified weight + 2.80 kg (6.17 lb)
2) FR - single reduction
3) F2R - double reduction

3

Dimensional drawings (continued)



Sandwich version



Sandwich version with pressure sensor

Sandwich version EN

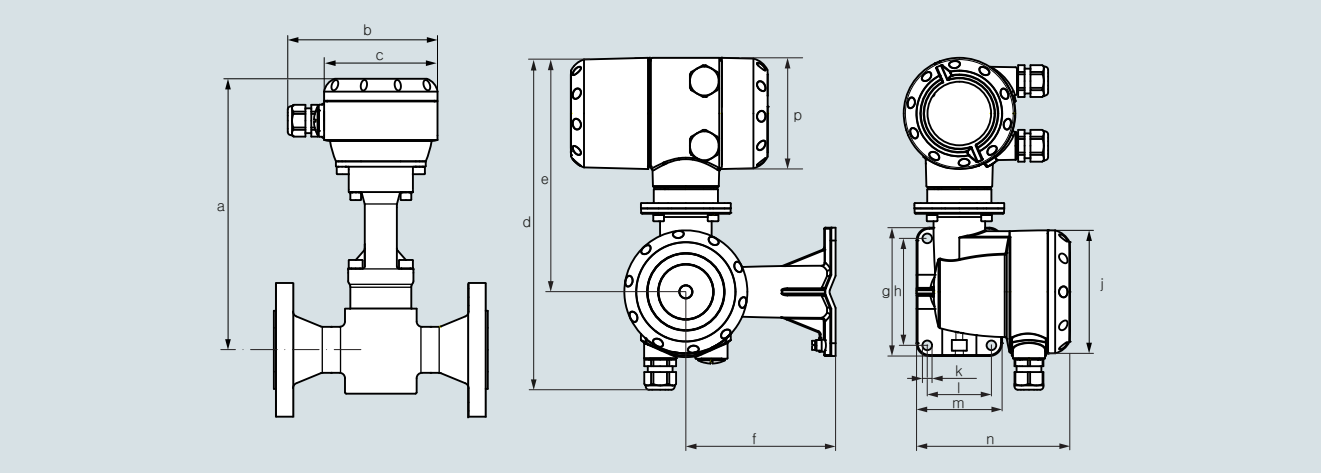
Size	Pressure rating	Dimensions [mm (inch)]								Weight [kg (lb)]	
DN	PN	a	b	c	d	D	L	H	l	Flowmeter (without pressure sensor)	Flowmeter (with pressure sensor)
15	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	16 (0.63)	45 (1.77)	65 (2.56)	265 (10.43)	144 (5.67)	3.5 (7.72)	4.1 (9.04)
25	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	24 (0.94)	65 (2.56)	65 (2.56)	265 (10.43)	144 (5.67)	4.3 (9.48)	4.9 (10.80)
40	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	38 (1.50)	82 (3.23)	65 (2.56)	270 (10.63)	144 (5.67)	4.9 (10.80)	5.5 (12.13)
50	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	50 (1.97)	102 (4.02)	65 (2.56)	275 (10.83)	144 (5.67)	6 (13.23)	6.6 (14.55)
80	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	74 (2.91)	135 (5.31)	65 (2.56)	290 (11.42)	155 (6.10)	8.2 (18.08)	8.8 (19.40)
100	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	97 (3.82)	158 (6.22)	65 (2.56)	310 (12.20)	164 (6.46)	9.5 (20.94)	10.1 (22.27)

Sandwich version ANSI

Size	Pressure rating	Dimensions [mm (inch)]								Weight [kg (lb)]	
DN	Class	a	b	c	d	D	L	H	l	Flowmeter (without pressure sensor)	Flowmeter (with pressure sensor)
½"	150, 300, 600	5.24	4.13	7.05	0.63	1.77	2.56	10.43	5.67	7.72	9.04
1"	150, 300, 600	5.24	4.13	7.05	0.94	2.56	2.56	10.43	5.67	9.48	10.80
1½"	150, 300, 600	5.24	4.13	7.05	1.50	3.23	2.56	10.63	5.67	10.80	12.13
2"	150, 300, 600	5.24	4.13	7.05	1.97	4.02	2.56	10.83	5.67	13.23	14.55
3"	150, 300, 600	5.24	4.13	7.05	2.91	5.31	2.56	11.42	6.10	18.08	19.4
4"	150, 300, 600	5.24	4.13	7.05	3.82	6.22	2.56	12.20	6.46	20.94	22.27

Dimensional drawings (continued)

Remote version



Flanged version

DN	15	25	40	50	80	100	150	200	250	300
	½"	1"	1½"	2"	3"	4"	6"	8"	10"	12"
	a									
[mm]	248	248	253	258	273	293	308	333	353	378
[inch]	9.77	9.77	9.97	10.2	10.8	11.5	12.1	13.1	13.9	14.9

	b	c	d	e	f	g	h	j	k	l	m	n	p
[mm]	140	Ø106	310	219	140	120	100	Ø115	Ø9 (4x)	60	80	144	104
[inch]	5.52	Ø4.18	12.2	8.63	5.52	4.73	3.94	Ø4.53	Ø0.36 (4x)	2.36	3.15	5.67	4.09

Sandwich version

DN	15	25	40	50	80	100
	½"	1"	1½"	2"	3"	4"
	a					
[mm]	248	248	253	258	273	293
[inch]	9.77	9.77	9.97	10.2	10.8	11.5

	b	c	d	e	f	g	h	j	k	l	m	n	p
[mm]	140	Ø106	310	219	140	120	100	Ø115	Ø9 (4x)	60	80	144	104
[inch]	5.52	Ø4.18	12.2	8.63	5.52	4.73	3.94	Ø4.53	Ø0.36 (4x)	2.36	3.15	5.67	4.09

Dimensional drawings (continued)

Flow tables

Measuring Range Limits

Water

Size DN to EN 1092-1	DN to NSI B16.5	Q_{min} EN 1092-1 [m^3/h]	Q_{max} EN 1092-1 [m^3/h]	Q_{min} ANSI B16.5 [m^3/h]	Q_{max} ANSI B16.5 [m^3/h]
15	½"	0.45	5.07	0.44	4.94
25	1"	0.81	11.40	0.81	11.40
40	1½"	2.04	28.58	2.04	28.58
50	2"	3.53	49.48	3.53	49.48
80	3"	7.74	108.37	7.74	108.37
100	4"	13.30	186.22	13.30	186.21
150	6"	30.13	421.86	30.13	421.86
200	8"	56.60	792.42	56.60	792.42
250	10"	90.48	1 266.8	90.48	1 266.8
300	12"	131.41	1 839.8	131.41	1 839.8

Values based on water at 20 °C (68 °F)

Air

Size DN to EN 1092-1	DN to ANSI B16.5	Q_{min} EN 1092-1 [m^3/h]	Q_{max} EN 1092-1 [m^3/h]	Q_{min} ANSI B16.5 [m^3/h]	Q_{max} ANS B16.5 [m^3/h]
15	½"	6.80	25.33	6.72	24.70
25	1"	10.20	81.43	10.20	81.43
40	1½"	25.35	326.63	25.35	326.63
50	2"	43.89	565.49	43.89	565.49
80	3"	96.14	1 238.64	96.14	1 238.6
100	4"	165.19	2 128.27	165.19	2 128.27
150	6"	374.23	4 821.60	374.23	4 821.6
200	8"	702.95	9 056.8	702.95	9 056.8
250	10"	1 123.7	14 478.0	1 123.7	14 478.0
300	12"	1 632.1	21 028.0	1 632.1	21 028.0

Values based on air at 20 °C (68 °F) and 1.013 bar_{abs} (14.7 psi_{abs})

Flow rate limits

Product	Nominal sizes to EN	Nominal sizes to ANSI	Minimum flow rates [m/s]	Maximum flow rates [m/s]
Liquids	DN 15 … 300	DN ½" … 12"	$0.5 \times (998/\rho)^{0.51)}$	$7 \times (998/\rho)^{0.47\ 1)}$
Gas, steam/vapor	DN 15 … 300	DN ½" … 12"	$6 \times (1.29/\rho)^{0.52)}$	$7 \times (998/\rho)^{0.47\ 3)}$

ρ = operating density [kg/m^3]

1) Minimum flow rate 0.3 m/s (0.984 ft/s) - maximum flow rate 7 m/s (23 ft/s)

2) Minimum flow rate 2 m/s (6.6 ft/s)

3) Maximum flow rate 80 m/s (262 ft/s); DN 15: 45 m/s (148 ft/s) and DN 25: 70 m/s (230 ft/s)

Dimensional drawings (continued)

Measuring range saturated steam: 1 to 7 bar

Overpressure [bar]		**1**		**3.5**		**5.2**		**7**	
Density [kg/m³]		**1.13498**		**2.4258**		**3.27653**		**4.16732**	
Temperature [°C]		**120.6**		**148.2**		**160.4**		**170.6**	
Flow [kg/h]		**min.**	**max.**	**min.**	**max.**	**min.**	**max.**	**min.**	**max.**
DN to EN 1092-1	**DN to ASME B16.5**								
15	½"	5.87	28.75	7.68	61.46	8.93	83.01	10.06	105.57
25	1"	11.82	92.42	17.28	197.53	20.09	266.81	22.66	339.35
40	1½"	29.64	370.71	43.33	792.33	50.63	1 070.2	56.80	1 361.2
50	2"	51.31	641.82	75.02	1 371.8	87.19	1 852.8	98.33	2 356.6
80	3"	112.41	1 405.8	164.33	3 004.7	191.00	4 058.4	215.39	5 161.8
100	4"	193.14	2 415.5	282.36	5 162.7	328.16	6 973.3	370.09	8 869.2
150	6"	437.56	5 472.4	639.69	11 696.0	743.45	15 798.0	838.44	20 093.0
200	8"	821.9	10 279.0	1 201.6	21 970.0	1 396.5	29 675.0	1 574.9	37 743.0
250	10"	1 313.9	16 433.0	1 920.9	35 122.0	2 232.5	47 439.0	2 517.7	60 337.0
300	12"	1 908.3	23 866.0	2 789.8	51 010.0	3 242.4	68 899.0	3 656.6	87 630.0

Measuring range saturated steam: 10.5 … 20 bar

Overpressure [bar]		**10.5**		**14.0**		**17.5**		**20.0**	
Density [kg/m³]		**5.88803**		**7.60297**		**9.31702**		**10.5442**	
Temperature [°C]		**186.2**		**198.5**		**208.7**		**215.0**	
Flow [kg/h]		**min.**	**max.**	**min.**	**max.**	**min.**	**max.**	**min.**	**max.**
DN to EN 1092-1	**DN to ANSI B16.5**								
15	½"	12.78	149.17	16.51	192.61	20.23	236.04	22.89	267.12
25	1"	26.93	479.46	30.60	619.11	33.87	758.69	36.04	858.62
40	1½"	67.51	1 878.2	76.72	2 150.7	84.93	2 395.3	90.35	2 557.7
50	2"	116.89	3 251.7	132.82	3 723.4	147.03	4 147.0	156.42	4 428.1
80	3"	256.03	7 122.4	290.93	8 155.8	322.06	9 083.7	342.62	9 699.3
100	4"	439.91	12 238	499.90	14 013.0	553.38	15 608.0	588.69	16 666.0
150	6"	996.62	27 725.0	1 132.5	31 747.0	1 253.7	35 359.0	1 333.7	37 756.0
200	8"	1 872.1	52 079.0	2 127.3	59 634.0	2 354.9	66 419.0	2 505.2	70 921.0
250	10"	2 992.7	83 254.0	3 400.7	95 333.0	3 764.6	106 180.0	4 004.9	113 380.0
300	12"	4 346.5	120 920.0	4 939.1	138 460.0	5 467.5	154 210.0	5 816.5	164 660.0

Measuring range saturated steam: 15 … 100 psig

Overpressure [psig]		**15**		**50**		**75**		**100**	
Density [lbs/ft³]		**0.0719**		**0.1497**		**0.2036**		**0.2569**	
Temperature [°F]		**249.98**		**297.86**		**320.36**		**338.184**	
Flow [lbs/h]		**min.**	**max.**	**min.**	**max.**	**min.**	**max.**	**min.**	**max.**
DN to EN 1092-1	**DN to ANSI B16.5**								
15	½"	12.95	64.35	16.83	133.87	19.62	182.02	22.04	229.63
25	1"	26.25	206.83	37.86	430.30	44.15	585.06	49.59	738.09
40	1½"	65.81	829.61	94.92	1 726	110.68	2 346.7	124.32	2 960.5
50	2"	113.94	1 436.3	164.34	2 988	191.63	4 062.9	215.23	5 125.6
80	3"	249.57	3 146.1	360.00	6 545.3	419.74	8 899.4	471.45	11 227
100	4"	428.81	5 405.7	618.51	11 246	721.21	15 291	810.06	19 291
150	6"	971.47	12 246	1 401.2	25 478	1 633.9	34 642	1 835.2	43 703
200	8"	1 824.8	23 004	2 632.1	47 859	3 069.1	65 072	3 447.2	82 092
250	10"	2 917.2	36 774	4 207.7	76 508	4 906.4	104 030	5 510.8	131 230
300	12"	4 236.8	53 410	6 111.1	111 120	7 125.8	151 080	8 003.6	190 600

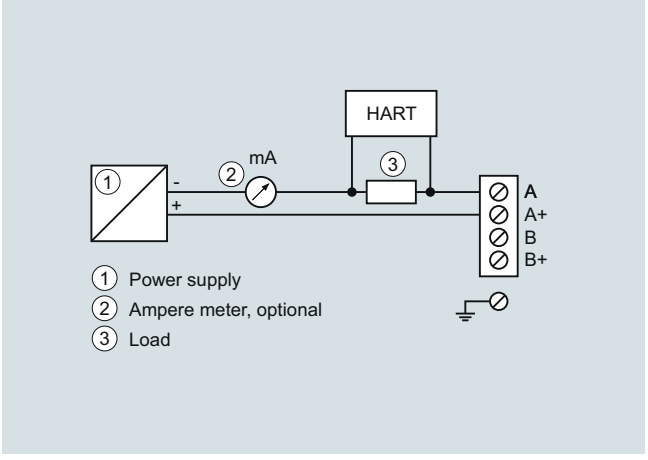
3

Dimensional drawings (continued)

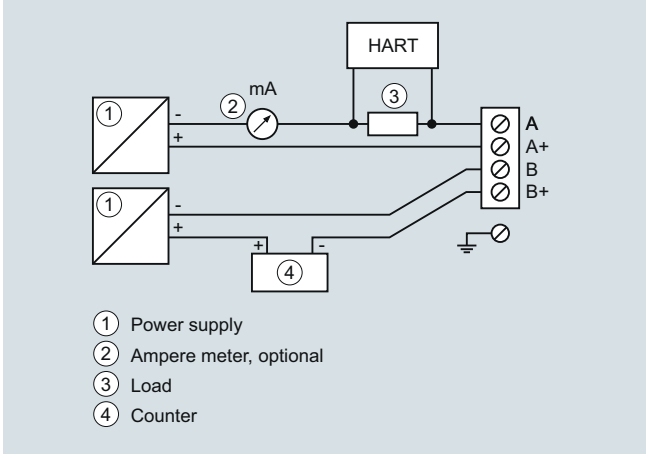
Measuring range saturated steam: 150 … 300 psig

Overpressure [psig]		150		200		250		300	
Density [lbs/ft³]		0.3627		0.4681		0.5735		0.6792	
Temperature [°F]		366.08		388.04		406.22		422.06	
Flow [lbs/h]		min.	max.	min.	max.	min.	max.	min.	max.
DN to EN 1092-1	DN to ANSI B16.5								
15	½"	27.79	324.21	35.86	418.47	43.94	512.66	52.04	607.12
25	1"	58.93	1 042.1	66.94	1 345.1	74.10	1 647.8	80.63	1 951.5
40	1½"	147.72	4 107.2	167.83	4 702.8	185.76	5 237	202.15	5 728
50	2"	255.75	7 111.9	290.56	8 141.9	321.60	9 066.8	350.00	9 917
80	3"	560.19	15 578	636.44	17 834	704.43	19 860	766.60	21 722
100	4"	962.54	26 766	1 093.5	30 643	1 210.4	34 124	1 317.2	37 324
150	6"	2 180.6	60 639	2 477.4	69 421	2 742.1	77 307	2 984	84 556
200	8"	4 096.1	113 900	4 653.6	130 400	5 150.7	145 210	5 605.2	158 830
250	10"	6 548.1	182 090	7 439.3	208 460	8 234.1	232 140	8 960.6	253 910
300	12"	9 510.2	264 460	10 805	302 760	11 959	337 150	13 014	368 770

Circuit diagrams



Connection power supply and HART communication



Connection pulse output