

Overview



SITRANS FX vortex flowmeter are designed for use in industrial applications and optimally suited to the demands in auxiliary supply systems.

The proven principle of vortex flowmeters is suitable for measurement of liquids, gases and vapors unaffected by conductivity, viscosity, temperature and pressure.

Benefits

- Integrated pressure and temperature compensation
- Temperature compensation for saturated steam included as standard
- High measuring accuracy
- Maintenance-free sensor
- Non-wearing, fully welded stainless steel construction with high resistance to corrosion, pressure and temperature
- SIL2 certified according to IEC 61508 Edition 2
- Use in hazardous areas
- Integrated reduction of nominal diameter for space-saving and economic installation and large measuring ranges
- Redundant data management: Easy exchange of electronics without loss of calibration and configuration data
- FAD (Free Air Delivery) functionality
- Gross and net heat calculation to support advanced energy management
- Remote version with cable length up to 50 m (164 ft) (in preparation)

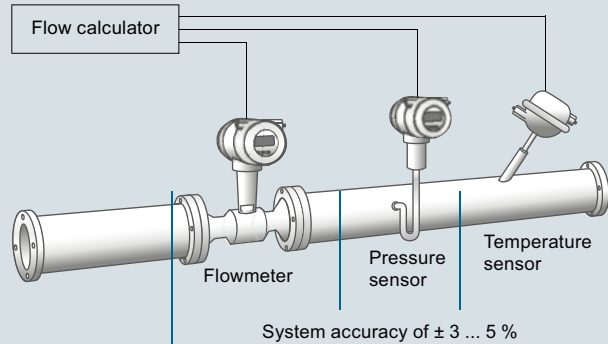
Even the basic version of the vortex flowmeter SITRANS FX330 is equipped with temperature compensation for saturated steam applications. With the optional pressure sensor the SITRANS FX330 has integrated density compensation for calculation of corrected volume and mass (online density compensation). The density compensation for calculation of corrected volume and mass is based on the standards of NIST for gases and IAPWS for steam.

Higher measuring accuracy with the use of compact measuring systems

With the classic installation of a vortex flowmeter and separate pressure and temperature sensor as well as flow calculator, all errors occurring in the measuring chain must be taken into account when determining system accuracy. This can result in a measuring error between ± 3 to 5 %.

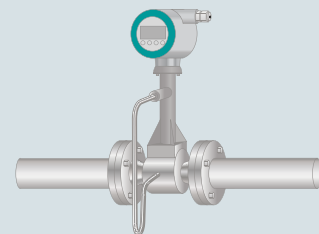
Using a vortex flowmeter with integrated pressure and temperature compensation such as the SITRANS FX330 allows you not only to lower installation costs but also increase the measuring accuracy of the measuring point. In this case the accuracy is ± 1.5 % of the measured value.

classic



integrated

Flowmeter with integrated pressure and temperature compensation



The SITRANS FX330 in flange design is available with integrated reduction of nominal diameter for space-saving installations and large measuring spans. About 90% of all vortex flowmeters are ordered one size smaller than the line diameter in order to increase the flow speed and to get a wider measuring range. Here, the line has to be reduced before and widened after the sensor, typically including 20x DN inlet and 5x DN outlet run. With the reduction and widening of nominal diameter included in the sensor, it is no longer necessary. To compensate the non-existent straight inlet run between reduction and the vortex bluff body, these devices are specially calibrated and linearized.

A new feature of the SITRANS FX330 is the advanced signal processing and filtering called AVFD (Advanced Vortex Frequency Detection): Interferences and disturbances in the measuring signal are suppressed, signals outside from the relevant frequency band are filtered out.

Redundant data management prevents loss of calibration and configuration data when changing electronics or display.

By default, all SITRANS FX330 meters are factory-calibrated (traceable to international standards) and pre-set according to customer specifications. The SITRANS FX330 also comes with an installation wizard to ease installation; e.g. in a steam application it will only show related settings.

Developed according to the standard IEC 61508 edition 2, the SITRANS FX330 can be used in safety-related application with classification SIL2 for continuous volume flow measurement.

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

Application

- Measurement of saturated steam and superheated steam
- Steam boiler monitoring
- Heat metering of steam and hot water
- Measurement of consumption of industrial gases
- Measurement of consumption in compressed air systems
- Monitoring of compressor output
- Evaluation of Free Air Delivery (FAD)
- SIP and CIP processes in the food, beverage and pharmaceutical industries
- Measuring of conductive and non-conductive liquids
- Safety-related measurement in SIL applications (SIL2)

Gross and net heat quantity calculation

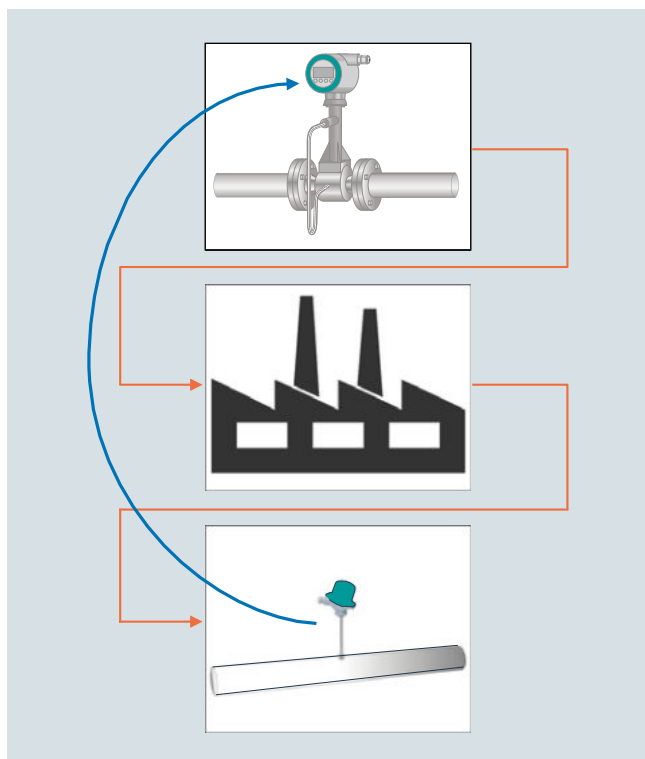
The SITRANS FX330 was designed for applications in auxiliary and supply service lines, such as internal monitoring of energy flows for saturated and superheated steam or hot water. Equipped with temperature sensor as standard, the device can be installed as heat meter in the feed line directly connected with an external temperature sensor in the return line. The gross and net heat calculation can be fed into a DCS to support advanced energy management.

When it comes to energy, the most accurate measurement of consumption is essential. By combining flow, temperature and pressure measurements in one device, SITRANS FX330 provides the basis for a precise mass flow calculation.



In steam applications, the software even determines the enthalpy - the heat content - of the steam. Therefore, SITRANS FX330 is able to calculate the gross heat quantity.

In case net heat quantity consumption of process is asked for, a single temperature sensor can be added to the return line. SITRANS FX330 uses the readings to calculate the amount of heat consumed.

The SITRANS FX330 thereby proves itself to be a reliable partner.



Design

SITRANS FX330 Flange	SITRANS FX330 Sandwich
	
Flange version with integrated temperature compensation as standard for saturated steam and optional pressure compensation for superheated steam, gases and wet gases.	All advantages of the flange version in a space-saving sandwich design; centering rings guarantee an easy installation without any offset.
Integrated reduction of nominal diameter for space-saving and economic installations plus large measuring ranges.	Integrated reduction of nominal diameter not available
Also in remote design with field housing and connection cable up to 50 m (164 ft) (in preparation)	
With shut off valve allowing <ul style="list-style-type: none"> • exchange and calibration of pressure sensor • pressure and leak testing of pipeline without interrupting the process 	

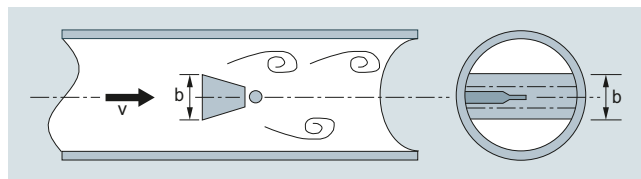
Function

Vortex flowmeters are used to measure the flow of gases, vapors and liquids in completely filled pipes. The measuring principle is based on the principle of the Karman vortex street. Inside the measuring sensor vortices are shed from a bluff body and are detected by a sensor located behind. The frequency f of the vortex shedding is proportional to the flow velocity v .

The nondimensional Strouhal number S describes the relationship between vortex frequency f , width b of the bluff body and the mean flow velocity v :

$$f = (S \cdot v) / b$$

The vortex frequency is recorded at the sensor and evaluated at the converter.



Functional principle

Configuration

Available combinations of sensors and connection size for SITRANS FX330 in flanged design are shown in the table below.

SITRANS FX330 Flanged (7ME2610-...)										
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

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

Technical specifications

Range of application	Flow measurement of liquids, gases and vapors		For detailed information see operating instructions 'Intended use'
Mode of operation	Measuring principle		Installation conditions Inlet run <ul style="list-style-type: none"> For undisturbed flow profile, after pipe section with reducer, after 1 x 90° pipe bend After 2 x 90° pipe bend After 2 x 90° three-dimensional pipe bend After control valves Before flow conditioner After flow conditioner Outlet run
Primary measured value	Karman vortex street <ul style="list-style-type: none"> Volume flow Mass flow Corrected volume flow Density Temperature Pressure Heat energy 		
Design	Transmitter		Material Sensor and process connections <ul style="list-style-type: none"> Standard Option Transmitter housing <ul style="list-style-type: none"> Standard Option Pressure sensor gasket <ul style="list-style-type: none"> Standard Option Sensor gasket (Pick-up) <ul style="list-style-type: none"> Standard Option
• Compact and remote version	Cable length up to 50 m (164 ft) (in preparation)		
Sensor	Flange version	Sandwich version	1.4404/316L Hastelloy C22 on request Aluminum Aluminum die-cast, two-layer coating (epoxy/polyester) Die-cast aluminum with finish for advanced requirements
• Integrated temperature measurement	•	•	FPM FFKM 1.4535/316L Hastelloy C276
• Reduction of nominal diameter	•	•	
• Pressure and temperature compensation	•	•	Process connections DIN EN 1092-1 ANSI B16.5
• Isolation valve	•	•	
• Dual measuring device	•	•	DN 15 ... DN 300/PN 16 ... PN 100 ½" ... 12"/150 ... 600 lb For valid combinations of connection size and pressure rating see table in section Configuration
Display	4-line graphical display (backlit) with control keys		Enclosure rating Standard Option
Operation	<ul style="list-style-type: none"> Via local display (languages: German, English, French) Via SIMATIC PDM 		
Accuracy	Volume flow		Power supply Non-Ex version Ex version
• Liquids	<ul style="list-style-type: none"> Re \geq 20 000 10 000 < Re < 20 000 		
- Re \geq 20 000	\pm 0.75 % of measured value		Inputs/Outputs Current output Binary output Current input
- 10 000 < Re < 20 000	\pm 2.0 % of measured value		
• Gases and vapors	<ul style="list-style-type: none"> Re \geq 20 000 10 000 < Re < 20 000 		4 ... 20 mA, HART Pulse/Frequency/Status/Limit switch 4 ... 20 mA, passive
- Re \geq 20 000	\pm 1.0 % of measured value		
- 10 000 < Re < 20 000	\pm 2.0 % of measured value		Communication HART 7
Mass flow/Corrected volume flow	<ul style="list-style-type: none"> Gases and vapors Re \geq 20 000 10 000 < Re < 20 000 		
• Gases and vapors	<ul style="list-style-type: none"> Re \geq 20 000 10 000 < Re < 20 000 		Calibration Standard calibration Special calibration
- Re \geq 20 000	\pm 1.5 % of measured value		
- 10 000 < Re < 20 000	\pm 2.5 % of measured value		3-point calibration: 3 x 15 %, 3 x 50 %, 3 x 80 % 5-point calibration: 3 x 15 %, 3 x 30 %, 3 x 50 %, 3 x 60 %, 3 x 80 %
Mass flow	<ul style="list-style-type: none"> Liquid/water Re \geq 20 000 10 000 < Re < 20 000 		Certificates and approvals Ex approvals CE declaration of conformity Safety integration level (SIL)
• Liquid/water	<ul style="list-style-type: none"> Re \geq 20 000 10 000 < Re < 20 000 		
- Re \geq 20 000	\pm 1.5 % of measured value		ATEX, QPS, IECEx PED 2014/68/EU EMC 2014/30/EU SIL2 according to IEC 61508
- 10 000 < Re < 20 000	\pm 2.5 % of measured value		
Repeatability (Volume flow)	\pm 0.1 % of measured value		
Operating conditions	Temperature ratings		
• Medium	-40 ... +240 °C (-40 ... +465 °F)		
• Ambient	<ul style="list-style-type: none"> Non-Ex Ex 		
- Non-Ex	-40 ... +85 °C (-40... +185 °F)		
- Ex	-40 ... +65 °C (-40... +140 °F)		
• Storage	-50 ... +85 °C (-58... +185 °F)		
Pressure ratings	Max. 100 bar (1450 psi), higher pressure rates on request		
Max. allowable test pressure	1.5 x PN		
• With integrated pressure sensor and isolation valve (closed)	2 times the measuring range of pressure sensor		
• With integrated pressure sensor and without isolation valve	2 times the measuring range of pressure sensor		
Process medium	<ul style="list-style-type: none"> Density Viscosity Reynold's number 		
• Density	Taken into consideration when sizing		
• Viscosity	< 10 cP		
• Reynold's number	> 10000		
Recommended flow velocities	<ul style="list-style-type: none"> Liquids Gases and vapors DN 15: DN 25: 		
• Liquids	0.3 ... 7 m/s (0.98 ... 23 ft/s)		
• Gases and vapors	2.0 ... 80 m/s (6.6 ... 262.5 ft/s)		
DN 15:	3.0 ... 45 m/s (9.8 ... 148 ft/s)		
DN 25:	2.0 ... 70 m/s (6.6 ... 230 ft/s)		

Selection and ordering data		Article No.	Article No.
SITRANS FX330 Flanged			
• Not approved for SIL2 safety applications	↗	7ME2610-	7ME2610-
• Approved for SIL2 safety applications	↗	7ME2611-	7ME2611-
↗ 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	0
	DN 25 (1")	1 B	1
	DN 40 (1½")	1 C	2
DN 25 (1")	DN 25 (1")	2 B	A
	DN 40 (1½")	2 C	B
	DN 50 (2")	2 D	C
DN 40 (1½")	DN 40 (1½")	2 K	D
	DN 50 (2")	2 L	E
	DN 80 (3")	2 M	F
DN 50 (2")	DN 50 (2")	2 R	G
	DN 80 (3")	2 S	H
	DN 100 (4")	2 T	J
DN 80 (3")	DN 80 (3")	3 L	K
	DN 100 (4")	3 M	L
	DN 150 (6")	3 R	M
DN 100 (4")	DN 100 (4")	3 S	N
	DN 150 (6")	3 T	A
	DN 200 (8")	3 Q	B
DN 150 (6")	DN 150 (6")	4 M	C
	DN 200 (8")	4 P	D
	DN 250 (10")	4 Q	E
DN 200 (8")	DN 200 (8")	4 T	F
	DN 250 (10")	4 U	G
	DN 300 (12")	4 V	H
DN 250 (10")	DN 250 (10")	4 W	J
	DN 300 (12")	4 Y	K
DN 300 (12")	DN 300 (12")	5 E	L
Process connection and pressure rate			
EN 1092-1 Form B1			
PN 10	DN 200 ... 300	A	M
PN 16	DN 50 ... 300	B	N
PN 25	DN 200 ... 300	C	P
PN 40	DN 15 ... 300	D	Q
PN 63	DN 50 ... 150	E	R
PN 100	DN 15 ... 150	F	S
ANSI B16.5 RF			
Class 150	½ ... 12"	J	T
Class 300	½ ... 12"	K	U
Class 600	½ ... 6"	L	V
System design			
Compact version	No cable	0	W
Remote version (in preparation)	Cable length with Order code L..	1	0
Transmitter housing			
Aluminum		0	1
Aluminum, silicon free		1	2
Dual version, aluminum		6	3
Dual version, aluminum, silicon free		7	
SITRANS FX330 Flanged			
• Not approved for SIL2 safety applications	↗	7ME2610-	7ME2610-
• Approved for SIL2 safety applications	↗	7ME2611-	7ME2611-
Communication			
HART			0
PROFIBUS PA			1
FOUNDATION Fieldbus			2
Ex approval			
Without Ex approval			A
ATEX II2 G Ex ia			B
ATEX II2 G Ex d			C
ATEX II3 G Ex nA			D
ATEX II2 D Ex tb			E
QPS IS Class I Div.1			F
QPS XP Class I Div.1			G
QPS NI Class I Div. 2			H
QPS DIP Class I, III Div. 1			J
IECEX II2 G Ex ia			K
IECEX II2 G Ex d			L
IECEX II3 G Ex nA			M
IECEX II2 D Ex tb			N
Pressure sensor and gasket material			
Without pressure sensor			A
With pressure sensor and gasket material FPM (Viton), Range:			B
1 bar (14.5 psi)			C
2 bar (29 psi)			D
4 bar (58 psi)			E
6 bar (87 psi)			F
10 bar (145 psi)			G
16 bar (232 psi)			H
25 bar (363 psi)			J
40 bar (580 psi)			K
60 bar (870 psi)			L
100 bar (1450 psi)			M
With pressure sensor and gasket material FFKM (Kalrez), Range:			N
1 bar (14.5 psi)			P
2 bar (29 psi)			Q
4 bar (58 psi)			R
6 bar (87 psi)			S
10 bar (145 psi)			T
16 bar (232 psi)			U
25 bar (363 psi)			V
40 bar (580 psi)			W
60 bar (870 psi)			
100 bar (1450 psi)			
Software version			
Standard - Uncompensated for gases, steam and liquids including temperature compensation for saturated steam			0
Standard + Heat meter for saturated steam and water			1
Density compensation for steam + Heat meter for saturated and superheated steam			2
Density compensation for gases, wet gases and mixed gases + FAD			3

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

Selection and ordering data

SITRANS FX330 Sandwich

- Not approved for SIL2 safety applications ↗ 7ME2710-
- Approved for SIL2 safety applications ↗ 7ME2711-

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

Sensor size

DN 15 (½")	1 A
DN 25 (1")	2 B
DN 40 (1½")	2 K
DN 50 (2")	2 R
DN 80 (3")	3 L
DN 100 (4")	3 S

Pressure rating

EN 1092-1		
PN 16	DN 15 ... 100	B
PN 25	DN 15 ... 100	C
PN 40	DN 15 ... 100	D
PN 63	DN 15 ... 100	E
PN 100	DN 15 ... 100	F

ANSI B16.5

Class 150	½ ... 4"	J
Class 300	½ ... 4"	K
Class 600	½ ... 4"	L

System design

Compact version	No cable	0
Remote version (in preparation)	Cable length with Order code L..	1

Transmitter housing

Aluminum	0
Aluminum, silicon free	1

Communication

HART	0
PROFIBUS PA	1
FOUNDATION Fieldbus	2

Ex approval

Without Ex approval	A
ATEX II2 G Ex ia	B
ATEX II2 G Ex d	C
ATEX II3 G Ex nA	D
ATEX II2 D Ex tb	E
QPS IS Class I Div. 1	F
QPS XP Class I Div. 1	G
QPS NI Class I Div. 2	H
QPS DIP Class I, III Div. 1	J
IECEX II2 G Ex ia	K
IECEX II2 G Ex d	L
IECEX II3 G Ex nA	M
IECEX II2 D Ex tb	N

Article No.

SITRANS FX330 Sandwich

- Not approved for SIL2 safety applications 7ME2710-
- Approved for SIL2 safety applications 7ME2711-

Pressure sensor and gasket material

Without pressure sensor	A
With pressure sensor and gasket material FPM (Viton), Range:	B
1 bar (14.5 psi)	C
2 bar (29 psi)	D
4 bar (58 psi)	E
6 bar (87 psi)	F
10 bar (145 psi)	G
16 bar (232 psi)	H
25 bar (363 psi)	J
40 bar (580 psi)	K
60 bar (870 psi)	L
100 bar (1450 psi)	M
With pressure sensor and gasket material FFKM (Kalrez), Range:	N
1 bar (14.5 psi)	P
2 bar (29 psi)	Q
4 bar (58 psi)	R
6 bar (87 psi)	S
10 bar (145 psi)	T
16 bar (232 psi)	U
25 bar (363 psi)	V
40 bar (580 psi)	W
60 bar (870 psi)	
100 bar (1450 psi)	

Software version

Standard - Uncompensated for gases, steam and liquids including temperature compensation for saturated steam	0
Standard + Heat meter for saturated steam and water	1
Density compensation for steam + Heat meter for saturated and superheated steam	2
Density compensation for gases, wet gases and mixed gases + FAD	3

Additional information

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

Application data

Medium: 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

Operating instruction

Description	Article No.
English	A5E2100423

All literature is available to download for free, in a range of languages, at <https://intranet.entry.siemens.com>

Selection and ordering data	Order code		Order code
Further designs		Calibration	
Please add "-Z" to Article No. and specify Order code.		5-point calibration with certificate	D11
Cable connection		Cleaning	
Without cable glands	A01	Free of oil and grease (wetted parts)	K46
M20x1.5 cable glands made of plastic, grey	A02	Free of oil and grease (wetted parts) + Inspection certificate according to EN 10204-3.1	K48
• 3 pcs	A12		
• 2 pcs.	A22		
• 1 pc.		Cable length for remote version (in preparation)	
M20x1.5 cable glands made of plastic, blue	A03	5 m (16 ft)	L01
• 3 pcs	A13	10 m (32 ft)	L02
• 2 pcs.	A23	15 m (49 ft)	L03
• 1 pc.		20 m (65 ft)	L04
M20x1.5 cable glands made of brass, Ex-d/t approved	A04	25 m (82 ft)	L05
• 3 pcs	A14	30 m (98 ft)	L06
• 2 pcs.	A24	35 m (114 ft)	L07
• 1 pc.		40 m (131 ft)	L08
M20x1.5 cable glands made of brass, Ex-nA approved	A05	45 m (147 ft)	L09
• 3 pcs	A15	50 m (164 ft)	L10
• 2 pcs.	A25		
• 1 pc.		Tag name plate	
M20x1.5 cable glands in stainless steel, Ex-d/t approved	A06	TAG name plate in stainless steel 40 × 20mm (Add plain text)	Y17
• 3 pcs	A16	TAG name plate in stainless steel tag 120 × 46 mm (Add plain text)	Y18
• 2 pcs.	A26		
• 1 pc.			
1/2" NPT conduit connection in plastic (cable glands not included)	A07		
• 3 pcs	A17		
• 2 pcs.	A27		
• 1 pc.			
Isolation valve			
With isolation valve	B10		
Certificates			
Certificate of compliance according to EN 10204-2.1	C10		
Pressure test + Inspection certificate according to EN 10204-3.1	C11		
Material certification of pressure bearing metal parts according to EN 10204-3.1	C12		
Material in accordance with NACE MR0175/ISO 15156	C13		
PMI of pressure bearing metal parts + Inspection certificate according to EN 10204-3.1	C14		
Material certificate of pressure bearing metal parts according to EN 10204-3.1 + PMI	C15		
Dye penetration test of wetted welds	C16		
X-ray test of wetted welds	C17		

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

Selection and ordering data

Article No.

Article No.

SITRANS FX330 spare parts

Transmitter electronic for SITRANS FX330 • FXT030 in compact design with HART (non-Ex/Ex-i) • FXT030 in compact design with HART (Ex-d)	A5E38663070 A5E38663398
Display with HMI and data memory	A5E38663613
Seal disc 21.8 x12 x 0.1	KRH-17000700
O-ring pickup	KRH-17001400
O-ring for pressure screw 17.13 x 2.62, FPM 70	KRH-17001200
Cover gasket O-ring	KRH-16000300
Front Cover (non Ex)	KRH-16002000
Front Cover (Ex)	KRH-16002500
Back Cover	KRH-16003000
Converter housing gasket, 59,35,5-2-N	KRH-16000400
O-ring • 20 x 1, FPM (DIN 3771) • 10 x 2, NBR	KRH-17001100 KRH-17001000
DUBOX plug 5 pole, linear, RM2	KRH-17000800
Cable feed through 10 pole (non Ex)	KRH-16000500
Shut-off valve	KRH-17004000
Centering rings for Sandwich-Version • DN 15 • DN 25 • DN 40 • DN 50 • DN 50 (300 lbs, 600 lbs) • DN 50 (JIS 10K, 16K, 20K) • DN 80 • DN 100	KRH-17006000 KRH-17006001 KRH-17006002 KRH-17006003 KRH-17006004 KRH-17006005 KRH-17006006 KRH-17006007
Wall housing incl. Neck (incl. Screws, Gaskets and cable glands)	KRH-16112002
Sensor replacement kit including seal disc, socket, pickup and O-rings (for pickup and pressure screw) • DN 15 • DN 15 Conical • DN 25 • DN 25 Conical • DN 40 • DN 50 • DN 80 • DN 100 • DN 150 ... DN 300	KRH-16111100 KRH-16111110 KRH-16111150 KRH-16111160 KRH-16111200 KRH-16111210 KRH-16111220 KRH-16111230 KRH-16111300
Pressure sensor replacement kit including pressure sensor with calibration certificate, DUBOX plug and O-rings • 1 bar • 2 bar • 4 bar • 6 bar • 10 bar • 16 bar • 25 bar • 40 bar • 60 bar • 100 bar	KRH-16111350 KRH-16111370 KRH-16111400 KRH-16111401 KRH-16111402 KRH-16111403 KRH-16111404 KRH-16111405 KRH-16111406 KRH-16111407
SITRANS FX300 upgrade kit (in preparation)	

SITRANS FX330 Flow Straightener

7ME2900- 0 0

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

Material

Stainless steel 1.4404 (316L)

Nominal size

DN 15 / ANSI ½"
DN 25 / ANSI 1"
DN 40 / ANSI 1½"
DN 50 / ANSI 2"
DN 80 / ANSI 3"
DN 100 / ANSI 4"
DN 150 / ANSI 6"
DN 200 / ANSI 8"
DN 250 / ANSI 10"
DN 300 / ANSI 12"

Pressure rating

PN 10
PN 16
PN 25
PN 40
PN 63
PN 100
Class 150
Class 300
Class 600

Additional information

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

Certificates

Certificate of compliance to EN 10204-2.1

Material certification of pressure bearing parts to EN 10204-3.1

Material in accordance with NACE MRO175/ISO 15156

PMI of pressure bearing parts + Inspection certificate according to EN 10204-3.1

Material certificate of pressure bearing parts according to EN 10204-3.1 + PMI

Cleaning

Free of oil and grease (wetted parts)

Free of oil and grease (wetted parts) + Inspection certificate according to EN 10204-3.1

1

A
B
C
D
E
F
G
H
J
K

A
B
C
D
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J
K
L

Order code

C10

C12

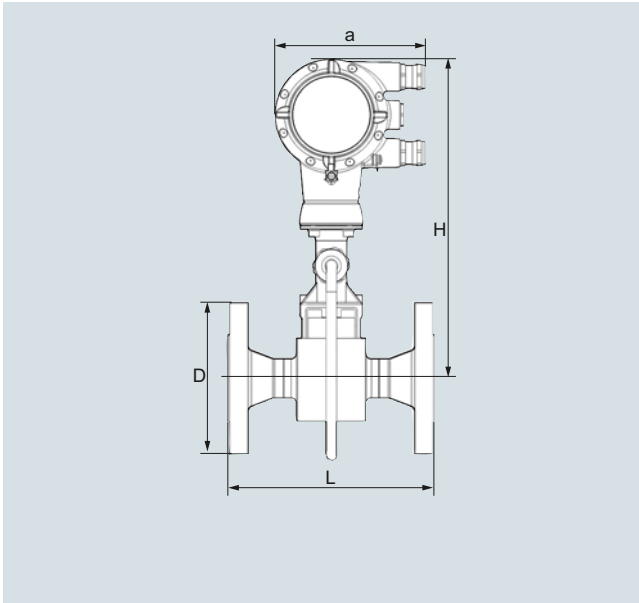
C13

C14

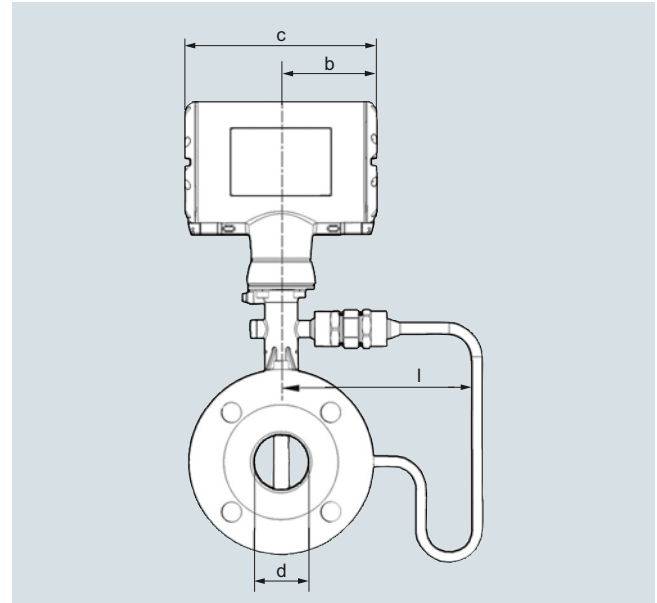
C15

K46

K48

Dimensional drawingsCompact version

SITRANS FX330 (Vortex), Flanged version with pressure sensor, front view



SITRANS FX330 (Vortex), Flanged version with pressure sensor, side view

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

Dimensional drawings (continued)

Flange version EN 1092-1

Size DN	Pressure rating PN	Dimensions [mm (inch)] a = 148.5 (5.85), b = 85.8 (3.38), c = 171.5 (6.76)							Weight [kg (lb)]	
		d	d FR ¹⁾	d FR ²⁾	D	L	H	I	Flowmeter (without pres- sure sensor)	Flowmeter (with pressure sensor)
15	40	17.3 (0.68)	-	-	95 (3.74)	200 (7.87)	358.8 (14.2)	169.3 (6.67)	5.5 (12.13)	6.1 (13.45)
15	100	17.3 (0.68)	-	-	105 (4.13)	200 (7.87)	358.8 (14.2)	169.3 (6.67)	6.5 (14.33)	7.1 (15.65)
25	40	28.5 (1.12)	17.3 (0.68)	-	115 (4.53)	200 (7.87)	358.4 (14.1)	169.3 (6.67)	7.3 (16.09)	7.9 (17.42)
25	100	28.5 (1.12)	17.3 (0.68)	-	140 (5.51)	200 (7.87)	358.4 (14.1)	169.3 (6.67)	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)	362.3 (14.3)	169.5 (6.67)	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)	362.3 (14.3)	169.5 (6.67)	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)	368.3 (14.5)	169.3 (6.67)	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)	368.3 (14.5)	169.3 (6.67)	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)	368.3 (14.5)	169.3 (6.67)	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)	368.3 (14.5)	169.3 (6.67)	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)	380.3 (15.0)	169.3 (6.67)	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)	380.3 (15.0)	169.3 (6.67)	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)	380.3 (15.0)	169.3 (6.67)	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)	380.3 (15.0)	169.3 (6.67)	26.8 (59.08)	27.4 (60.41)
100	16	107 (4.21)	80.9 (3.19)	54.5 (2.15)	220 (8.66)	250 (9.84)	396.8 (15.7)	171.5 (6.75)	21.4 (47.18)	22 (48.50)
100	40	107 (4.21)	80.9 (3.19)	54.5 (2.15)	235 (9.25)	250 (9.84)	396.8 (15.7)	171.5 (6.75)	24.4 (53.79)	25 (55.12)
100	63	106 (4.17)	80.9 (3.19)	54.5 (2.15)	250 (9.84)	250 (9.84)	396.8 (15.7)	171.5 (6.75)	29.4 (64.82)	30 (66.14)
100	100	104 (4.09)	80.9 (3.19)	54.5 (2.15)	265 (10.43)	250 (9.84)	396.8 (15.7)	171.5 (6.75)	35.4 (78.04)	36 (79.37)
150	16	159 (6.26)	107 (4.21)	80.9 (3.19)	285 (11.22)	300 (11.81)	416.3 (16.4)	191.5 (7.54)	35.2 (77.60)	35.8 (78.93)
150	40	159 (6.26)	107 (4.21)	80.9 (3.19)	300 (11.81)	300 (11.81)	416.3 (16.4)	191.5 (7.54)	41.2 (90.83)	41.8 (92.15)
150	63	157 (6.18)	107 (4.21)	80.9 (3.19)	345 (13.58)	300 (11.81)	416.3 (16.4)	191.5 (7.54)	59.2 (130.51)	59.8 (131.84)
150	100	154 (6.06)	107 (4.21)	80.9 (3.19)	355 (13.98)	300 (11.81)	416.3 (16.4)	191.5 (7.54)	67.2 (148.15)	67.8 (149.47)
200	10	207 (8.15)	159 (6.26)	107 (4.21)	340 (13.39)	300 (11.81)	442.1 (17.4)	202.8 (7.98)	37.8 (83.33)	38.4 (84.66)
200	16	207 (8.15)	159 (6.26)	107 (4.21)	340 (13.39)	300 (11.81)	442.1 (17.4)	202.8 (7.98)	37.8 (83.33)	38.4 (84.66)
200	25	207 (8.15)	159 (6.26)	107 (4.21)	360 (14.17)	300 (11.81)	442.1 (17.4)	202.8 (7.98)	46.8 (103.18)	47.4 (104.50)
200	40	207 (8.15)	159 (6.26)	107 (4.21)	375 (14.76)	300 (11.81)	442.1 (17.4)	202.8 (7.98)	54.8 (120.81)	55.4 (122.14)
250	10	260 (10.24)	207 (8.15)	159.3 (6.27)	395 (15.55)	380 (14.96)	468.8 (18.5)	229.5 (9.04)	57.4 (126.55)	58.0 (127.87)
250	16	260 (10.24)	207 (8.15)	159.3 (6.27)	405 (15.94)	380 (14.96)	468.8 (18.5)	229.5 (9.04)	58.4 (128.75)	59.0 (130.07)
250	25	259 (10.20)	207 (8.15)	159.3 (6.27)	425 (16.73)	380 (14.96)	468.8 (18.5)	229.5 (9.04)	74.4 (164.02)	75.0 (165.35)
250	40	259 (10.20)	207 (8.15)	159.3 (6.27)	450 (17.72)	380 (14.96)	468.8 (18.5)	229.5 (9.04)	92.4 (203.71)	93.0 (205.03)
300	10	310 (12.20)	260 (10.24)	207 (8.15)	445 (17.52)	450 (17.72)	492.8 (19.4)	255 (10.04)	75.7 (166.89)	76.3 (168.21)
300	16	310 (12.20)	260 (10.24)	207 (8.15)	460 (18.11)	450 (17.72)	492.8 (19.4)	255 (10.04)	82.2 (181.22)	82.8 (182.54)
300	25	308 (12.13)	260 (10.24)	207 (8.15)	485 (19.09)	450 (17.72)	492.8 (19.4)	255 (10.04)	98.7 (217.60)	99.3 (218.92)
300	40	308 (12.13)	260 (10.24)	207 (8.15)	515 (20.28)	450 (17.72)	492.8 (19.4)	255 (10.04)	127.5 (281.09)	128.1 (282.41)

¹⁾ FR - single reduction

²⁾ F2R - double reduction

Dimensional drawings (continued)

Flange version ANSI B16.5

Size DN	Pressure rating Class	Dimensions [mm (inch)] a = 148.5 (5.85), b = 85.8 (3.38), c = 171.5 (6.76)							Weight [kg (lb)]	
		d	d FR ¹⁾	d FR ²⁾	D	L	H	I	Flowmeter (without pres- sure sensor)	Flowmeter (with pressure sensor)
½	150	16 (0.63)	-	-	90 (3.5)	200 (7.9)	358.8 (14.2)	169.3 (6.67)	4.5 (9.92)	5.1 (11.24)
½	300	16 (0.63)	-	-	95 (3.7)	200 (7.9)	358.8 (14.2)	169.3 (6.67)	4.9 (10.80)	5.5 (12.13)
½	600	14 (0.55)	-	-	95 (3.7)	200 (7.9)	358.8 (14.2)	169.3 (6.67)	5.1 (11.24)	5.7 (12.57)
1	150	27 (1.1)	15.8 (0.62)	-	110 (4.3)	200 (7.9)	358.4 (14.1)	169.3 (6.67)	6.2 (13.67)	6.8 (14.99)
1	300	27 (1.1)	15.8 (0.62)	-	125 (4.9)	200 (7.9)	358.4 (14.1)	169.3 (6.67)	7.2 (15.87)	7.8 (17.20)
1	600	24 (1.0)	15.8 (0.62)	-	125 (4.9)	200 (7.9)	358.4 (14.1)	169.3 (6.67)	7.5 (16.53)	8.1 (17.86)
1½	150	41 (1.6)	26.6 (1.1)	15.8 (0.6)	125 (4.9)	200 (7.9)	362.3 (14.3)	169.5 (6.67)	8.3 (18.30)	8.9 (19.62)
1½	300	41 (1.6)	26.6 (1.1)	15.8 (0.6)	155 (6.1)	200 (7.9)	362.3 (14.3)	169.5 (6.67)	10.4 (22.93)	11 (24.25)
1½	600	38 (1.5)	26.6 (1.1)	15.8 (0.6)	155 (6.1)	200 (7.9)	362.3 (14.3)	169.5 (6.67)	11.4 (25.13)	12 (26.46)
2	150	53 (2.1)	40.9 (1.6)	26.6 (1.1)	150 (5.9)	200 (7.9)	368.3 (14.5)	169.5 (6.67)	11 (24.25)	11.6 (25.57)
2	300	53 (2.1)	40.9 (1.6)	26.6 (1.1)	165 (6.5)	200 (7.9)	368.3 (14.5)	169.5 (6.67)	12.4 (27.34)	13 (28.66)
2	600	49 (1.9)	40.9 (1.6)	26.6 (1.1)	165 (6.5)	200 (7.9)	368.3 (14.5)	169.5 (6.67)	13.9 (30.64)	14.5 (31.97)
3	150	78 (3.1)	52.6 (2.1)	40.9 (1.6)	190 (7.5)	200 (7.9)	380.3 (15.0)	169.3 (6.67)	19.8 (43.65)	20.4 (44.97)
3	300	78 (3.1)	52.6 (2.1)	40.9 (1.6)	210 (8.3)	200 (7.9)	380.3 (15.0)	169.3 (6.67)	22.8 (50.27)	23.4 (51.59)
3	600	74 (2.9)	52.6 (2.1)	40.9 (1.6)	210 (8.3)	200 (7.9)	380.3 (15.0)	169.3 (6.67)	23.8 (52.47)	24.4 (53.79)
4	150	102 (4.0)	78 (3.1)	52.6 (2.1)	230 (9.1)	250 (9.8)	396.8 (15.7)	171.5 (6.76)	23.4 (51.59)	24 (52.91)
4	300	102 (4.0)	78 (3.1)	52.6 (2.1)	255 (10)	250 (9.8)	396.8 (15.7)	171.5 (6.76)	31.4 (69.23)	32 (70.55)
4	600	97 (3.8)	78 (3.1)	52.6 (2.1)	275 (11)	250 (9.8)	396.8 (15.7)	171.5 (6.76)	40.4 (89.07)	41 (90.39)
6	150	154 (6.1)	102 (4.0)	78.0 (3.1)	280 (11)	300 (12)	416.3 (16.4)	191.5 (7.54)	36.2 (79.81)	36.8 (81.13)
6	300	154 (6.1)	102 (4.0)	78.0 (3.1)	320 (13)	300 (12)	416.3 (16.4)	191.5 (7.54)	51.2 (112.88)	51.8 (114.20)
6	600	146 (5.8)	102 (4.0)	78.0 (3.1)	355 (14)	300 (12)	416.3 (16.4)	191.5 (7.54)	76.2 (167.99)	76.8 (169.31)
8	150	203 (8.0)	154 (6.1)	102 (4.0)	345 (14)	300 (12)	442.1 (17.4)	202.8 (8.0)	50.0 (110.23)	50.6 (111.55)
8	300	203 (8.0)	154 (6.1)	102 (4.0)	380 (15)	300 (12)	442.1 (17.4)	202.8 (8.0)	74.8 (164.91)	75.4 (166.23)
10	150	255 (10.0)	203 (8.0)	154 (6.1)	405 (16)	380 (15)	468.8 (18.5)	229.5 (9.04)	74.4 (164.02)	75.0 (165.35)
10	300	255 (10.0)	203 (8.0)	154 (6.1)	455 (18)	380 (15)	468.8 (18.5)	229.5 (9.04)	106.4 (234.57)	107.0 (235.89)
12	150	305 (12.0)	255 (10.0)	203 (8.0)	485 (19)	450 (18)	492.8 (19.4)	255 (10.0)	106.4 (234.35)	107.0 (235.67)
12	300	305 (12.0)	255 (10.0)	203 (8.0)	520 (21)	450 (18)	492.8 (19.4)	255 (10.0)	151.4 (333.56)	152.0 (334.88)

1) FR - single reduction

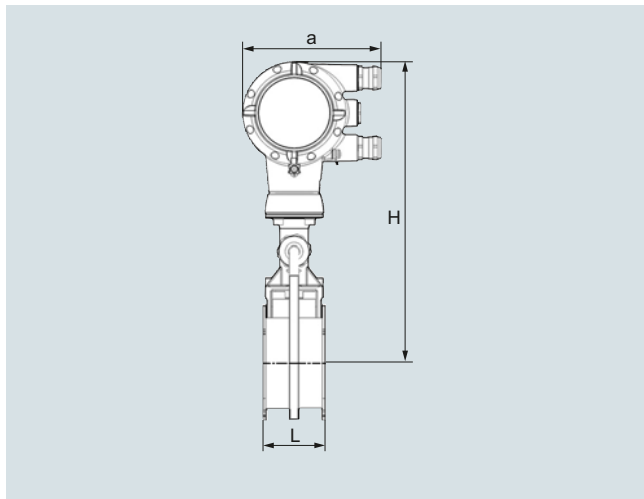
2) F2R - double reduction

Flow Measurement

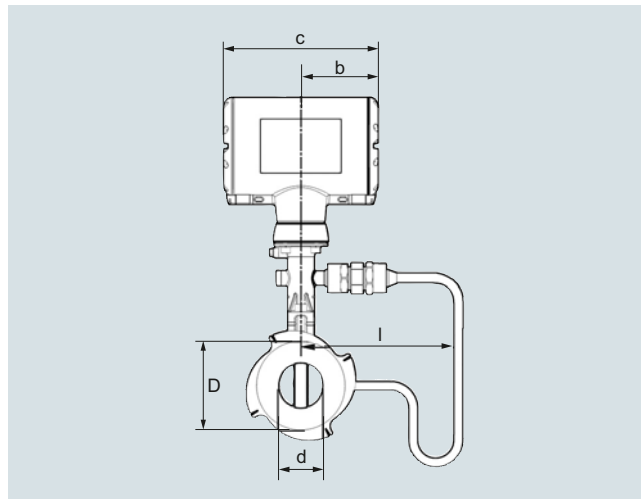
SITRANS FX (Vortex)

SITRANS FX330

Dimensional drawings (continued)



SITRANS FX330 (Vortex), Sandwich version with pressure sensor, front view



SITRANS FX330 (Vortex), Sandwich version with pressure sensor, side view

Sandwich version EN

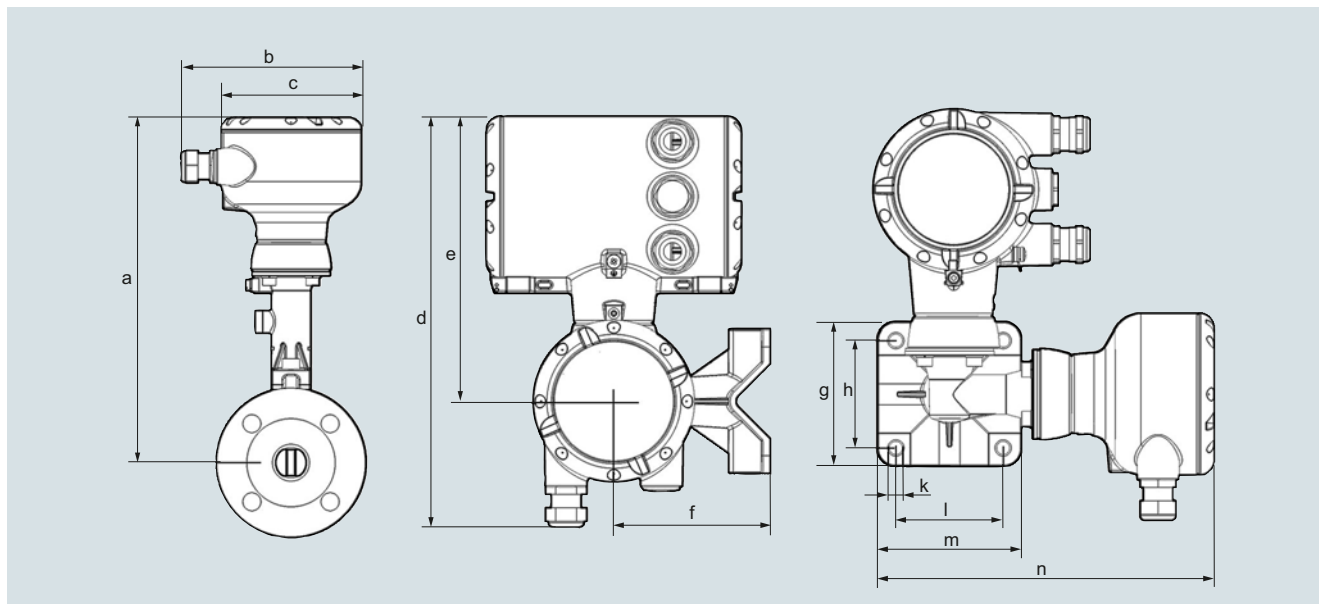
Size DN	Pressure rating PN	Dimensions [mm (inch)]								Weight [kg (lb)]	
		a	b	c	d	D	L	H	I	Flowmeter (without pres- sure sensor)	Flowmeter (with pressure sensor)
15	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	16 (0.63)	45 (1.77)	65 (2.56)	265 (10.43)	174.25 (6.86)	3.5 (7.72)	4.1 (9.04)
25	16 ... 100	133 (5.24)	105 (4.13)	179 (7.05)	24 (0.94)	65 (2.56)	65 (2.56)	265 (10.43)	174.25 (6.86)	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)	174.5 (6.87)	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)	174.5 (6.87)	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)	174.25 (6.86)	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)	176.5 (6.95)	9.5 (20.94)	10.1 (22.27)

Sandwich version ANSI

Size DN	Pressure rating Class	Dimensions [inch]								Weight [lb]	
		a	b	c	d	D	L	H	I	Flowmeter (without pres- sure sensor)	Flowmeter (with pressure sensor)
½"	150, 300	5.32	4.26	7.25	0.63	1.77	2.56	10.43	6.82	7.72	9.04
½"	600	5.32	4.26	7.25	0.55	1.77	2.56	10.43	6.82	7.72	9.04
1"	150, 300, 600	5.32	4.26	7.25	0.94	2.56	2.56	10.43	6.82	9.48	10.80
1½"	150, 300, 600	5.32	4.26	7.25	1.50	3.23	2.56	10.63	6.82	10.80	12.13
2"	150, 300, 600	5.32	4.26	7.25	1.97	4.02	2.56	10.83	6.82	13.23	14.55
3"	150, 300, 600	5.32	4.26	7.25	2.91	5.31	2.56	11.42	6.82	18.08	19.40
4"	150, 300, 600	5.32	4.26	7.25	3.82	6.22	2.56	12.20	6.82	20.94	22.27

Dimensional drawings (continued)

Remote version



SITRANS FX330 (Vortex), Remote version

Dimension a

DN	Flanged and Sandwich version						Flanged version			
	15 ½"	25 1"	40 1½"	50 2"	80 3"	100 4"	150 6"	200 8"	250 10"	300 12"
[mm]	265.7	265.2	269.2	275.2	287.2	303.7	323.2	348.9	375.7	399.7
[inch]	10.5	10.4	10.6	10.8	11.3	12.0	12.7	13.7	14.8	15.7

Dimension a F1/2R

DN	Flanged version									
	15 ½"	25 1"	40 1½"	50 2"	80 3"	100 4"	150 6"	200 8"	250 10"	300 12"
F1R ¹⁾ [mm]	-	315.7	315.2	319.2	325.2	337.2	353.7	373.2	398.9	425.7
F1R ¹⁾ [inch]	-	12.4	12.4	12.6	12.8	13.3	13.9	14.7	15.7	16.8
F2R ²⁾ [mm]	-	-	315.7	315.2	319.2	325.2	337.2	353.7	373.2	398.9
F2R ²⁾ [inch]	-	-	12.4	12.4	12.6	12.8	13.3	13.9	14.7	15.7

Dimension b ... n

	b	c	d	e	f	g	h	j	k	l	m	n
[mm]	139	108	276	191	105	97	72	108	9	72	97	226
[inch]	5.46	4.25	10.9	7.53	4.14	3.82	2.84	4.25	0.35	2.84	3.82	8.90

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

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		Minimum flow rates [m/s]	Maximum flow rates [m/s]
	to EN	to ANSI		
Liquids	DN 15 ... DN 300	DN ½" ... DN 12"	0.5 x (998/ρ) ^{0.51}	7 x (998/ρ) ^{0.47 1)}
Gas, steam/vapor	DN 15 ... DN 300	DN ½" ... DN 12"	6 x (1.29/ρ) ^{0.52}	7 x (998/ρ) ^{0.47 3)}

ρ = operating density [kg/m³]

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/m ³]		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 to 20 bar

Overpressure [bar]		10.5		14.0		17.5		20.0	
Density [kg/m ³]		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

Flow Measurement

SITRANS FX (Vortex)

SITRANS FX330

Dimensional drawings (continued)

Measuring range saturated steam: 15 to 100 psig

Overpressure [psig]		15		50		75		100	
Density [lbs/ft ³]		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

Measuring range saturated steam: 150 to 300 psig

Overpressure [psig]		150		200		250		300	
Density [lbs/ft ³]		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