



# FLOWSIC600-XT

THE PERFECT MATCH

Gas flow meters

**SICK**  
Sensor Intelligence.

# FLAWSIC600-XT: THE PERFECT MATCH

Just how can the market leader for reliable, maximum precision ultrasonic gas flow measuring devices get any better? The answer is easy: by carefully listening to and consistently responding to the requirements of individual users.

With four device versions, the FLOWSIC600-XT is able to meet any application requirement as a stand-alone or system solution – and deliver best possible measuring performance at the same time. Along with its groundbreaking design, this product family impresses with innovative intrinsic value: i-diagnostics™ the built-in solution, which delivers intelligent application diagnostics and PowerIn Technology™ continues to take measurements and save valuable data for up to three weeks in the event of a mains power failure. FLOWSIC600-XT delivers the ideal combination of maximum measurement accuracy, long-term stability, and unrivaled operational safety, yet is entirely unassuming.









## Measurement data reliability and availability

The FLOWSIC600 ultrasonic gas flow measuring device already provides best-in-class long-term stability in extreme ambient conditions, and now the FLOWSIC600-XT combines the features of its predecessor with unprecedented usability. It meets all the requirements for safe and stable custody transfer gas measurement throughout its service life. Measurement and diagnostics data and status changes can be recorded permanently in six accessible data archives, and the FLOWSIC600-XT's PowerIn Technology™ ensures that measurements continue to be taken and data stored in the event of a mains power failure.

## Simple device integration – even in compact systems

Continuous improvement of ultrasound technologies is a tradition at SICK, Germany. The FLOWSIC600-XT boasts state-of-the-art measurement technology, meaning it delivers extremely precise measurement results. Compliant with ISO 17089 and AGA9 and compatible with its predecessor the FLOWSIC600, it can be integrated successfully into any system. Plus, the new FLOWSIC600-XT Forte meets the requirements of compact installations and complies with all of the specifications of OIML R 137 Classes 1.0 and 0.5.

## Quick and easy device commissioning and checks

i-diagnostics™ helps make device commissioning and status checks quick and easy, and provides extensive flow meter and application diagnostics during operation. Should maintenance ever be required, the intelligent solution assistant provides support. The built-in infrared interface means measured value and diagnostics data can be accessed in no time, making servicing quick and efficient.



## FLWSIC600-XT – PROVIDING YOU WITH THE PERFECT GAS FLOW METER FOR ANY APPLICATION

Each of the ultrasonic gas flow meters in the FLWSIC600-XT product family has been designed for custody transfer applications and fulfills the requirements of all the common national and international standards. There are four device versions to choose from to meet specific gas flow meter performance requirements. Determining which one to use varies, which is why our performance-oriented classification of the FLWSIC600-XT, -XT Forte, -XT 2plex, and -XT Quatro is the ideal first step in ensuring there is a focus on the task at hand and customer requirements, allowing a unique solution to be provided. All of the FLWSIC600-XT versions can be installed with ease into any custody transfer measurement application with a nominal width of between 3 and 48 inches, and they can also be conveniently connected to all of the most popular flow computers on the market.



### FLWSIC600-XT

The FLWSIC600-XT has proven to be a versatile device suitable for all custody transfer natural gas applications, with 15 years of field experience gained from the FLWSIC600 having been incorporated into this four-path technology.



### FLWSIC600-XT Forte

Providing impressive meter performance in a limited space and combining eight paths on two different path levels in one device, the FLWSIC600-XT Forte guarantees maximum measurement accuracy. It is the natural first choice for installations in systems with short inlet and outlet piping.



### FLWSIC600-XT 2plex

The extremely compact FLWSIC600-XT 2plex is the combination of a gas flow meter for custody transfer applications and a check measurement device, featuring extended diagnostic functionality thanks to its additional independent measurement path.



### FLWSIC600-XT Quatro

The FLWSIC600-XT Quatro combines two measurement devices for redundant measurements in custody transfer natural gas applications in one, with an installation length equivalent to that of a single device.

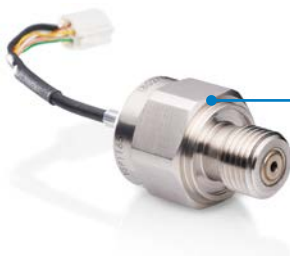
### Quick and easy data access

In addition to its numerous interfaces, the FLOWSIC600-XT also enables quick and easy access to measured value and diagnostics data thanks to the infrared communications port built into its front display. All of the necessary settings and device data are accessible via this interface. The FLOWSIC600-XT can also be extended for wireless communication.



### PowerIn Technology™ – data security guaranteed

Operating with an extremely low power consumption and measurement algorithms that have been further optimized, the FLOWSIC600-XT is setting new standards for ultrasonic gas flow meters. It boasts a highly efficient energy concept, including a backup battery that guarantees a continuous power supply even in the event of a mains power failure. If this does happen, the power consumption of all of the electronics is automatically reduced to the minimum level possible. We call this PowerIn Technology™. It makes sure that measurements can continue to be taken for up to three weeks without the need for external power and saves important measurement data. This extremely efficient electronics concept is forward-thinking in the way it allows for autonomous device operation, for example using a solar power supply.



### Automatic correction of measured values under changing operating conditions

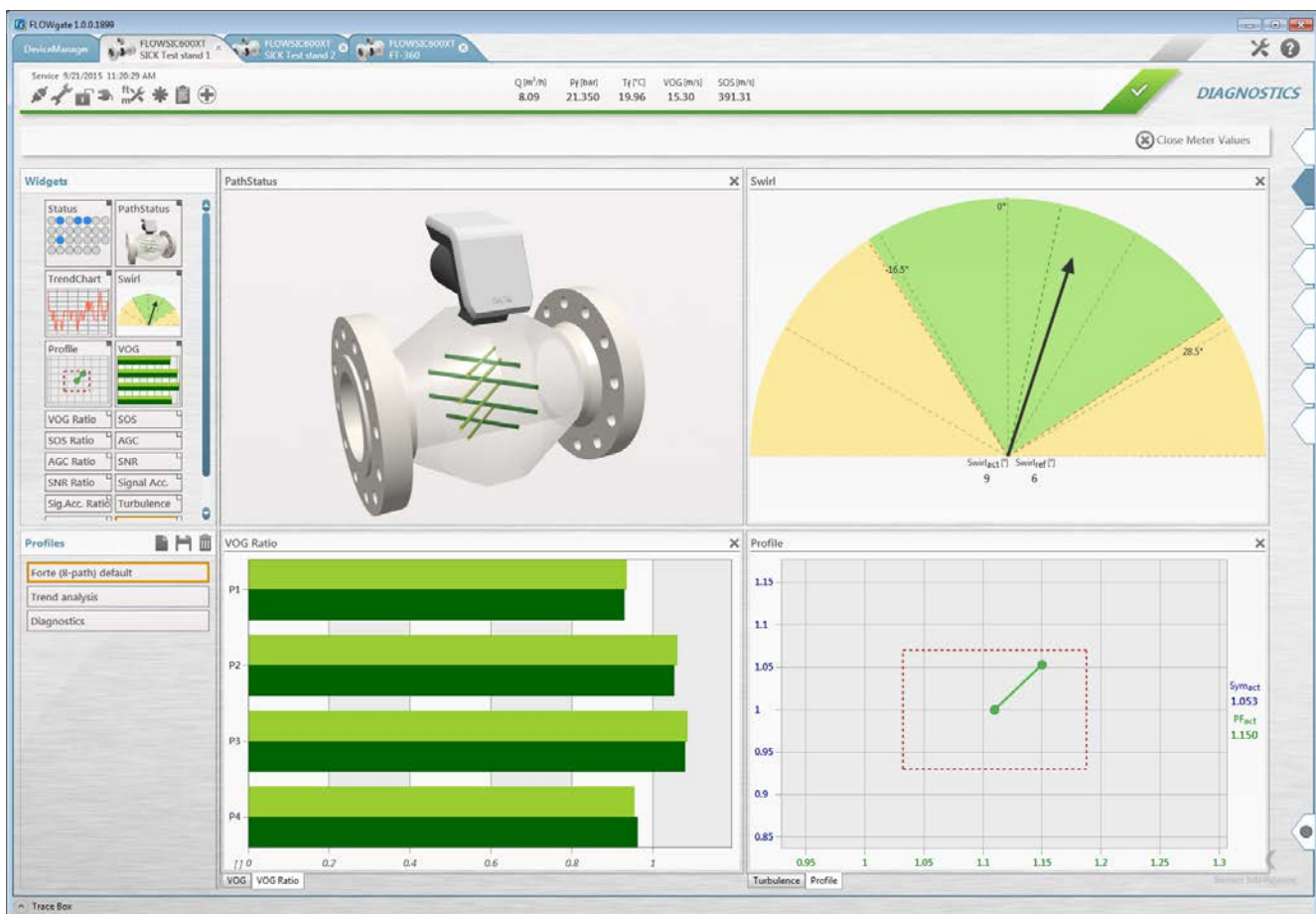
The FLOWSIC600-XT provides even more accurate measurements than its predecessor, with its integrated geometry and Reynolds number correction function boosting measurement accuracy under changing pressure and temperature conditions. Another advantage of the integrated pressure and temperature correction function is the ease and safety with which calibration conditions can be transferred over to application conditions. The pressure and temperature values required to enable this feature are provided by built-in sensors, transmitters externally connected via HART, or a flow computer.

### i-diagnostics™ – an essential tool for effective and efficient device and application diagnostics

i-diagnostics™ has so much more to offer than just diagnostics – it is an intelligent combination of firmware and software that means the device is safe, reliable, and easy to use for the entire operating time. i-diagnostics™ builds on the FLOWSIC600's CBM (condition based maintenance) smart self-diagnosis functionality, providing useful information about the system status and any changes to it, in addition to device diagnostics. In order to assess the application, diagnostics data from cross-eyed beams is first factored in, with application faults, such as blocked flow conditioners, background noise, contamination, and liquids in the gas, being detected immediately – making lengthy troubleshooting a thing of the past. Process data is constantly assessed on the basis of the integrated FingerPrint concept. This means that the measurement conditions during calibration can be compared with the measurement conditions during commissioning and with the current measurement and diagnostics data. An internal data logger continuously logs measured values for trend analyses to allow the historical measurement processes to be checked, as well as the results of the self-monitoring. A retroactive thorough check of the measurement process in the form of a graphic trend analysis is also possible.

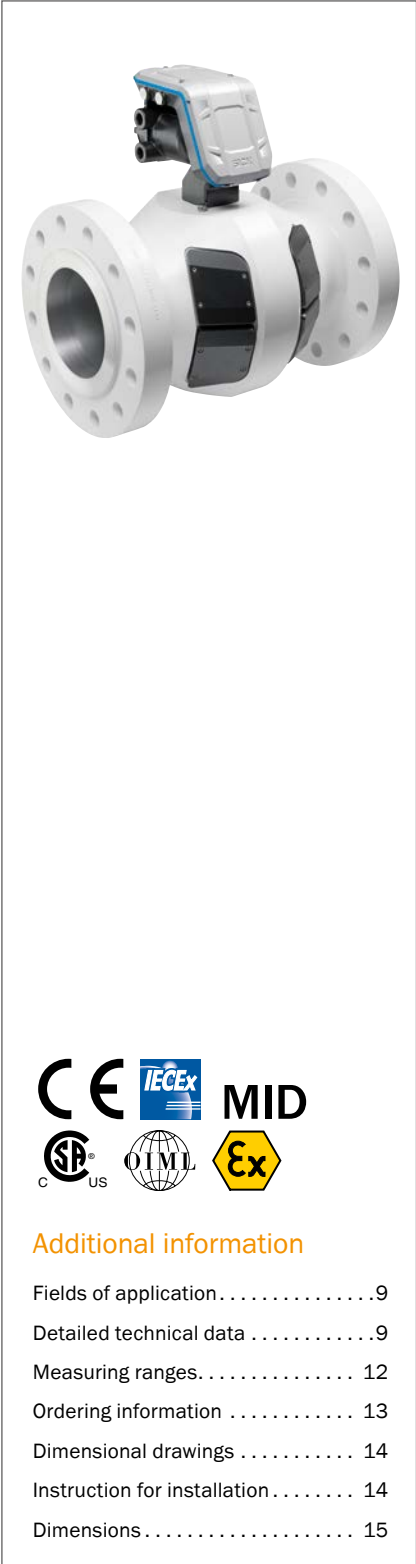
### FLOWgate™ – new and intuitive operating software

FLOWgate™ intelligently links diagnostics data together and then displays it. The quick status function provides immediate information about the current status of the application, and if a warning limit is reached, the solution assistant can be used to analyze the problem at the click of a button. In order to get a quick overview or analysis, each user can put together measured values and diagnostics parameters as required in the measured value overview, and then amend or save their overview. FLOWgate™ allows the FLOWSIC600-XT, and in turn all of the measured value and diagnostics data, to be accessed at any time via a PC or tablet – whether online or offline. The graphical display of trend analyses in charts facilitates the analysis of the measurement process and provides information on changes to the process. Concise diagnostics, maintenance, and calibration reports can be created at any time using the report manager, while a range of wizards, including one for commissioning, make it much easier to operate the device.



FLOWgate™ overview

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### Product description

As the follow-up to the successful FLOWSIC600, the FLOWSIC600-XT ultrasonic gas flow measuring device is setting new standards in its market segment. The FLOWSIC600-XT is available in variants with 4, 4+1, 4+4, and 8 measurement paths to meet the requirements of every application, whether it is being used as a stand-alone or system solution. In addition to the OIML R 137 Class 1.0 requirements, the FLOWSIC600-XT meets the requirements of Class 0.5 and AGA9 in their entirety.

The FLOWSIC600-XT contains i-diagnostics™ – an intelligent application diagnostics function – and PowerIn Technology™, which enables continuous measurement operation for up to three weeks in the event of a mains voltage failure. These functions help ensure usability and unparalleled operational safety – and what’s more, the equipment offers the very best possible measurement accuracy and long-term stability.

### At a glance

- User-friendly product family
- Automatic correction of pressure and temperature effects
- Available for all operating conditions
- PowerIn Technology™ for reliable backup operation
- Intelligent application diagnostics with i-diagnostics™
- Extendable with flow computers per connect-and-go

### Your benefits

- Low measurement uncertainty in every application
- Excellent measurement data reliability and availability
- The right ultrasonic gas flow measuring device for every application – without compromise
- Simple device integration – even in compact systems
- Quick and easy commissioning and checks

→ [www.sick.com/FLOWSIC600-XT](http://www.sick.com/FLOWSIC600-XT)

For more information, simply visit the above link to obtain direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



## Fields of application

- Custody transfer measurement of natural gas
- Transport and storage of gas
- Onshore and offshore applications
- Gas production applications with H<sub>2</sub>S and CO<sub>2</sub> content

## Detailed technical data

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

### System

<b>Measured values</b>	Volumetric flow, a. c., volume a. c., gas velocity, sound velocity, Optional volume correction via integrated EVC
<b>Number of measuring paths</b>	4, 4+1 (2plex), 4+4 (Quattro), 8 (Forte)
<b>Measurement principle</b>	Ultrasonic transit time difference measurement
<b>Measuring medium</b>	Natural gas, air, natural gases with contents of CO <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> S, O <sub>2</sub>
<b>Measuring ranges</b>	
$Q_{\min}$ from ... to	180 ...26.600 ft <sup>3</sup> /h
$Q_{\max}$ from ... to	35,000 ... 4.238.000 ft <sup>3</sup> /h
	Measuring ranges depend on nominal pipe size
<b>Repeatability</b>	± 0.05 % of the measured value
<b>Accuracy</b>	
	Error limits $Q_t$ ... $Q_{\max}$
4-path and 8-path version:	≤ ± 0.5 % Dry calibrated
4-path and 8-path version:	≤ ± 0.2 % After flow calibration and adjustment with constant factor. Without uncertainty of the calibration test facility.
4-path and 8-path version:	≤ ± 0.1 % After flow calibration and adjustment with polynomial or piecewise correction. Without uncertainty of the calibration test facility.
<b>Min. piping requirements</b>	
4-path version	According OIML Class 1.0: with straight inlet section of ≥ 10D or ≥ 5D with flow conditioner According OIML Class 0.5: with straight inlet section of ≥ 10D and flow conditioner
8-path version	According OIML Class 1.0: with straight inlet section of ≥ 2D According OIML Class 0.5: with straight inlet section of ≥ 5D
	For details see operating instructions
<b>Diagnostics functions</b>	i-diagnostics™: integrated device diagnostics and intelligent extended device and application diagnostics via FLOWgate™ software
<b>Gas temperature</b>	
	-40...356 °F
On request:	-317...536 °F
<b>Operating pressure</b>	0...2320 psi On request: 0...6500psi
<b>Nominal pipe size</b>	
	3 " ... 56 " (DN 80 ... DN 1400), other nominal pipe sizes on request
<b>Ambient temperature</b>	
	-40...158 °F (-76...158 °F with enclosure for electronics)
<b>Storage temperature</b>	-40...158 °F (-76...158 °F meter body only)
<b>Ambient humidity</b>	≤ 95 % Relative humidity; non-condensing

<b>Conformities</b>	OIML R 137-1&2:2012 OIML D 11:2013 ISO 17089-1 AGA-Report No. 9 MID: 2014/32/EU PED: 2014/68/EU ATEX: 2014/34/EU EMC: 2014/30/EU GOST 8.611-2013 GOST 8.733-2011
<b>Ex-approvals</b>	
	IECEX Ex db ia op is [ia Ga] IIA/IIC T4 Gb Ex db eb ia op is [ia Ga] IIA/IIC T4 Gb Ex ia op is IIA/IIC T4 Ga Ex ia nA op is IIC T4 Gc
	ATEX II 2 (1) G Ex db ia op is [ia Ga] IIA/IIC T4 Gb II 2 (1) G Ex db eb ia op is [ia Ga] IIA/IIC T4 Gb II 1G Ex ia op is IIA/IIC T4 Ga II 3G Ex ia nA op is IIC T4 Gc
	NEC/CEC (US/CA) Explosion-proof / non-incendive: CI I, Div. 1 Group D, T4 / Ex d ia [ia Ga] IIA T4 Gb / CI I, Zone 1 AEx d ia op is [ia Ga] IIA T4 Gb CI I, Div. 1 Groups A, B, C, D, T4 / Ex ia IIC T4 Ga / CI I, Zone 0, AEx ia op is IIC T4 Ga CI I, Div. 1 Groups B, C, D, T4 / Ex d ia [ia Ga] IIC T4 Gb / CI I, Zone 1 AEx d ia op is [ia Ga] IIC T4 Gb Intrinsically safe: CI I, Div. 1 Group D T4 / Ex ia IIA T4 Ga / CI I, Zone 0, AEx ia op is IIA T4 Ga CI I, Div. 1 Groups A, B, C, D, T4 / Ex ia IIC T4 Ga / CI I, Zone 0, AEx ia op is IIC T4 Ga Non-incendive CI I, Div. 2 Groups A, B, C, D, T4 / Ex ia nA IIC T4 Gc / CI I, Zone 2, AEx ia nA op is IIC T4 Gc
<b>Enclosure rating</b>	
	IP66 / IP67
<b>Analog outputs</b>	1 output: 4 ... 20 mA, ≤ 250 Ω Active/passive, electrically isolated
<b>Digital outputs</b>	4 outputs: 2 x status, 2 x pulse ≤ 30 V, 50 mA Passive, electrically isolated, Open Collector or according to NAMUR (EN 50227), f <sub>max</sub> = 10 kHz (scalable)
<b>Modbus</b>	✓
Type of fieldbus integration	TCP RTU RS-485 (3x) ASCII RS-485 (3x)
<b>Ethernet</b>	✓
Remark	Option
<b>HART</b>	✓
Remark	HART master (for connection of external pressure and temperature transmitters)
<b>Optical interface</b>	✓
Remark	Service interface (IR, according IEC 62056-21)
<b>Serial</b>	✓
Remark	Encoder
<b>Operation</b>	Via display and software FLOWgate™
<b>Dimensions (W x H x D)</b>	See dimensional drawings and tables
<b>Weight</b>	See table "Dimensions"
<b>Material in contact with media</b>	Low temperature carbon steel, stainless steel, duplex steel

<b>Electrical connection</b>	
Voltage	Electrically isolated: 12 ... 24 V DC Intrinsically safe: 6 ... 16 V DC
	PowerIn technology™ with back-up battery (2,400 mAh, 10.8 V), optional
Power consumption	0.45 W ... 2.45 W Depending on electronics configuration
<b>Integrated components</b>	Integrated pressure sensor and temperature sensor for correction of pressure and temperature effects (option)

### Volume correction

<b>Correction method</b>	PTZ (optional integrated)
<b>Compressibility</b>	SGERG88 AGA 8 Gross method 1 AGA 8 Gross method 2 AGA NX-19 AGA NX-19 mod. NX-19 mod. (GOST) GERG91 mod. (GOST) Fixed value
<b>Data archives</b>	1 diagnostics archive (6,000 entries) 2 measurement periodic archives (6,000 entries each)
<b>Logbooks</b>	Event log book (1,000 entries) Parameter log book (200 entries) Metrology log book (50 entries)



Measuring ranges

Measuring ranges, metric

Nennweite	Extendet flow rate range acc. MID				
	Standard flow rate range acc. MID				
	Extended MID minimum flow rate	Standard MID minimum flow rate	MID transition flow rate	MID maximum flow rate	Non-MID maximum flow rate
	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h
	Extended Q <sub>min</sub>	Standard Q <sub>min</sub>	Acc. ISO 17089 Q <sub>t</sub>	Standard Q <sub>max</sub>	Extended Q <sub>max</sub>
DN 80 (3")	5	8	40	650	1,000
DN 100 (4")	8	13	65	1,000	1,600
DN 150 (6")	16	20	100	2,500	3,000
DN 200 (8")	20	32	160	4,000	4,500
DN 250 (10")	25	50	240	6,500	7,000
DN 300 (12")	35	65	310	7,800	8,000
DN 350 (14")	45	80	420	10,000	10,000
DN 400 (16")	60	120	550	13,000	14,000
DN 450 (18")	100	130	700	16,000	17,000
DN 500 (20")	130	200	850	20,000	20,000
DN 550 (22")	150	260	1,000	24,000	24,000
DN 600 (24")	180	320	1,200	28,000	32,000
DN 650 (26")	240	450	1,400	32,000	35,000
DN 700 (28")	280	650	1,700	36,000	40,000
DN750 (30")	320	650	1,900	40,000	45,000
DN 800 (32")	360	800	2,200	43,000	50,000
DN 850 (34")	400	900	2,500	47,000	55,000
DN 900 (36")	450	1,000	2,800	51,000	66,000
DN 950 (38")	500	1,100	3,100	56,000	70,000
DN 1000 (40")	550	1,200	3,400	60,000	80,000
DN 1050 (42")	600	1,300	3,800	65,000	85,000
DN 1100 (44")	650	1,400	4,100	70,000	90,000
DN 1150 (46")	700	1,500	4,500	72,000	95,000
DN 1200 (48")	750	1,600	4,800	80,000	100,000
DN 1300 (52")	900	1,700	5,600	90,000	110,000
DN 1400 (56")	1,000	1,800	6,500	100,000	120,000

When using an installation configuration with flow conditioner the maximum allowed gas velocity in the pipe is limited to 40 m/s

Measuring ranges, imperial

Nennweite	Extended flow rate range acc. MID				Non-MID maximum flow rate Ft <sup>3</sup> /h
	Standard flow rate range acc. MID				
	Extended MID minimum flow rate Ft <sup>3</sup> /h	Standard MID minimum flow rate Ft <sup>3</sup> /h	MID transition flow rate Ft <sup>3</sup> /h	MID maximum flow rate Ft <sup>3</sup> /h	
	Extended Q <sub>min</sub>	Standard Q <sub>min</sub>	Acc. ISO 17089 Q <sub>t</sub>	Standard Q <sub>max</sub>	
3" (DN 80)	180	280	1,400	23,000	35,000
4" (DN 100)	290	460	2,300	35,300	56,000
6" (DN 150)	570	710	3,500	88,000	106,000
8" (DN 200)	710	1,130	5,700	141,300	159,000
10" (DN 250)	880	1,800	8,500	230,000	247,000
12" (DN 300)	1,200	2,300	10,900	276,000	283,000
14" (DN 350)	1,600	2,800	14,800	353,000	354,000
16" (DN 400)	2,100	4,200	19,400	459,000	495,000
18" (DN 450)	3,500	4,600	24,700	565,000	602,000
20" (DN 500)	4,600	7,100	30,000	706,000	708,000
22" (DN 550)	5,300	9,200	35,000	848,000	850,000
24" (DN 600)	6,400	11,300	42,000	989,000	1,133,000
26" (DN 650)	8,500	15,900	49,000	1,130,000	1,240,000
28" (DN 700)	9,900	23,000	60,000	1,271,000	1,420,000
30" (DN 750)	11,300	23,000	67,000	1,413,000	1,590,000
32" (DN 800)	12,700	28,300	78,000	1,519,000	1,770,000
34" (DN 850)	14,200	31,800	88,000	1,660,000	1,950,000
36" (DN 900)	15,900	35,300	99,000	1,801,000	2,337,000
38" (DN 950)	17,700	38,800	109,000	1,978,000	2,479,000
40" (DN 1000)	19,500	42,400	120,000	2,119,000	2,833,000
42" (DN 1050)	21,200	45,900	134,000	2,296,000	3,010,000
44" (DN 1100)	23,000	49,400	145,000	2,472,000	3,187,000
46" (DN 1150)	24,800	53,000	159,000	2,543,000	3,364,000
48" (DN 1200)	26,600	56,500	170,000	2,825,000	3,541,000
52" (DN 1300)	31,800	60,000	198,000	3,178,000	3,885,000
56" (DN 1400)	35,300	63,600	230,000	3,532,000	4,238,000

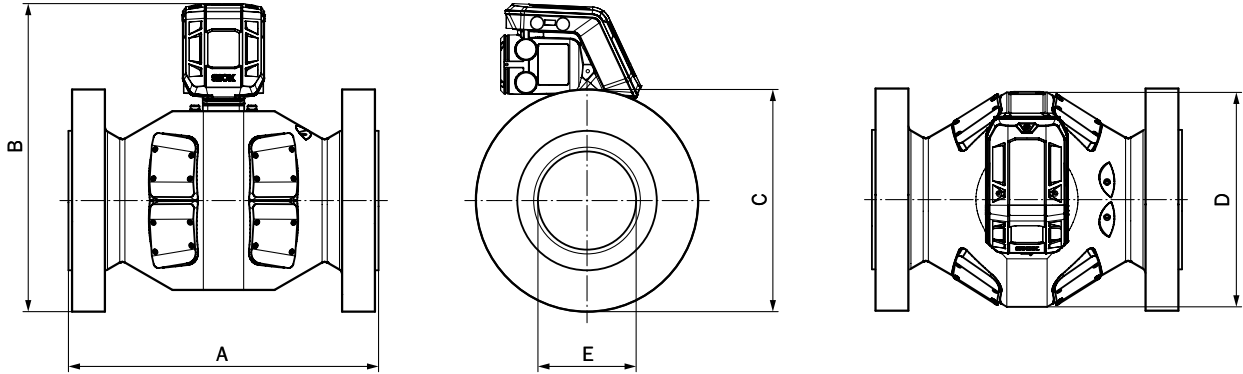
When using an installation configuration with flow conditioner the maximum allowed gas velocity in the pipe is limited to 131 ft/s

## Ordering information

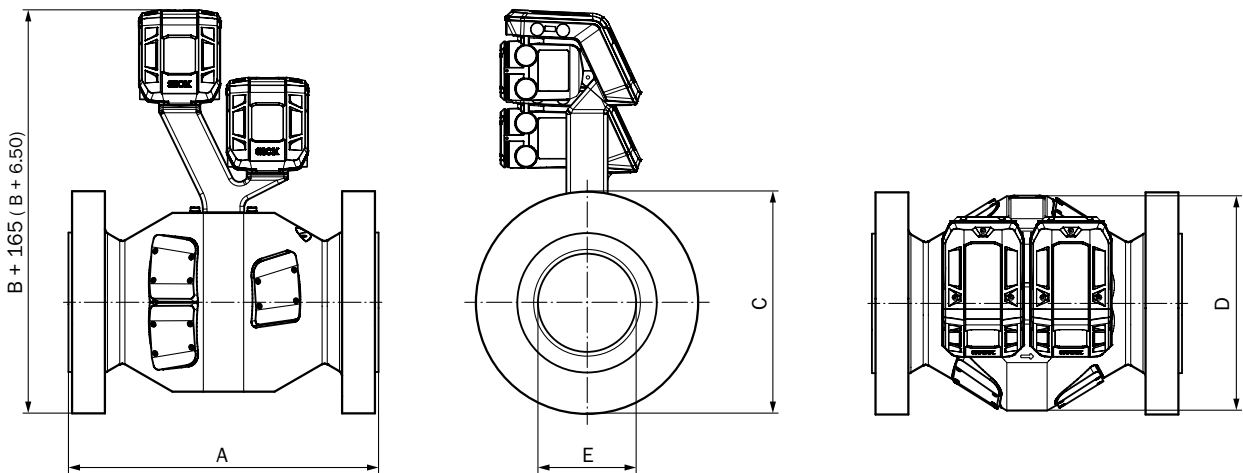
Our regional sales organization will help you to select the optimum device configuration.

## Dimensional drawings (Dimensions in mm (inch))

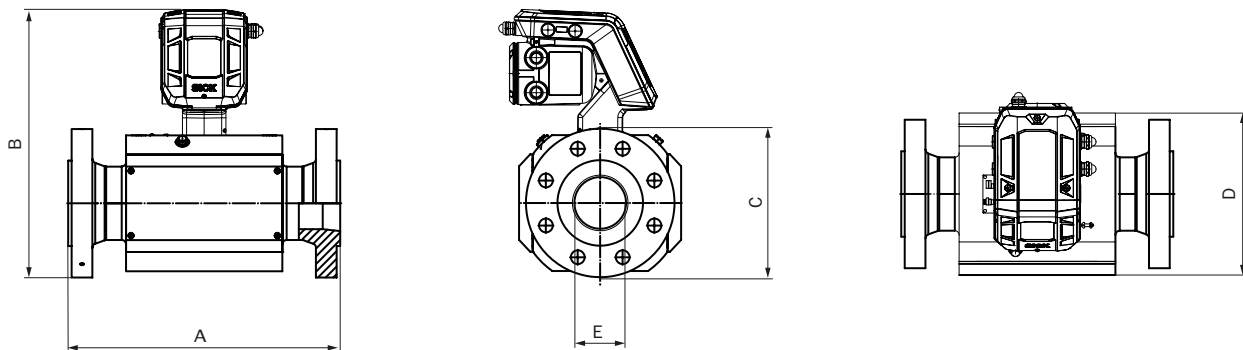
FLWSIC600-XT and FLWSIC600-XT Forte



FLWSIC600-XT 2plex and FLWSIC600-XT Quatro



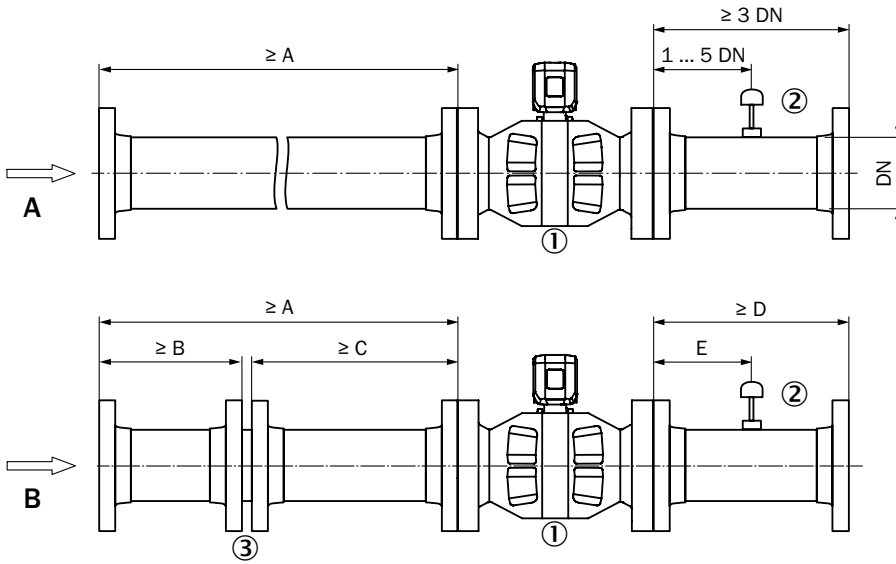
FLWSIC600-XT 3" and 4"





Instruction for installation

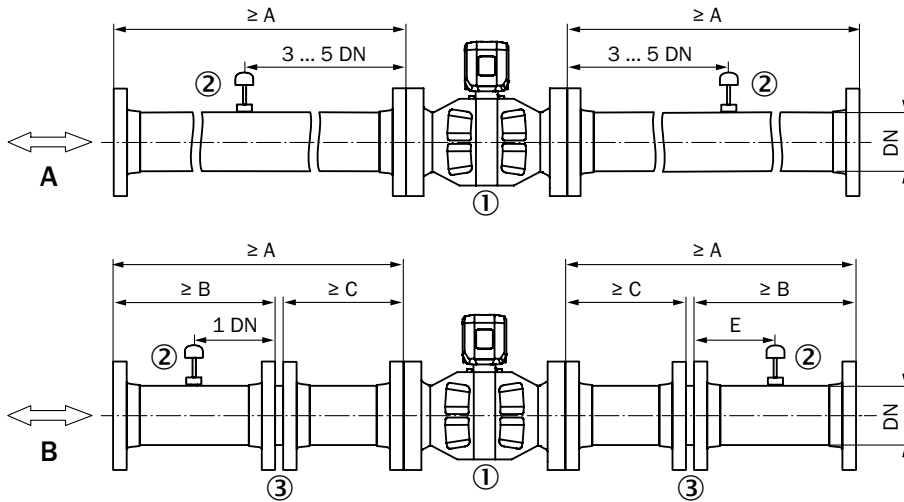
Installation of FLOWSIC600-XT in pipeline for unidirectional use (minimum requirements)



- ① FLOWSIC600-XT
- ② Temperature measuring point
- ③ Flow conditioner

Number of measuring paths	OIML R 137	A	Number of measuring paths	OIML R 137 A <sup>1)</sup>	A	B	C	D	E
4	Class 1.0	10 DN	4	Class 1.0	5 DN	2 DN	3 DN	3 DN	1 ... 5 DN
8	Class 1.0	2 DN	4	Class 0.5	10 DN	2 DN	8 DN	3 DN	1 ... 5 DN
8	Class 0.5	5 DN	8	Class 1.0/0.5	5 DN	2 DN	3 DN	3 DN	1 ... 5 DN
Number of measuring paths	AGA Report 9, 3 <sup>rd</sup> Edition, July 2017	A	Number of measuring paths	AGA Report 9, 3 <sup>rd</sup> Edition, July 2017 <sup>2)</sup>	A	B	C	D	E
4	"Metering package performance" acc. § 6.3	20 DN	4	"Metering package performance" acc. § 6.3	10 DN	5 DN	5 DN	5 DN	2.5 DN
8	"Metering package performance" acc. § 6.3 <sup>3)</sup>	5 DN	8	"Metering package performance" acc. § 6.3 <sup>3)</sup>	5 DN	2 DN	3 DN	5 DN	2.5 DN
<sup>1)</sup> Minimum requirements with PTB flow conditioner; recommended installation for other flow conditioners on request <sup>2)</sup> Minimum requirements with CPA 50 E flow conditioner; recommended installation for other flow conditioners on request <sup>3)</sup> Better repeatability and linearity are achieved with use of a flow conditioner; however both configurations meet AGA 9 performance requirements.									

Installation of FLOWIC600-XT in pipeline for bidirectional use (minimum requirements)



- ① FLOWIC600-XT
- ② Alternative temperature measurement points
- ③ Flow conditioner

Number of measuring paths	OIML R 137	A	Number of measuring paths	OIML R 137 A <sup>1)</sup>				
				A	B	C <sup>3)</sup>	E	
4	Class 1.0	10 DN	4	Class 1.0	5 DN	2 DN	3 DN	1 DN
8	Class 1.0	5 DN	4	Class 0.5	10 DN	2 DN	8 DN	1 DN
8	Class 0.5	5 DN	8	Class 1.0/0.5	5 DN	2 DN	3 DN	1 DN
Number of measuring paths	AGA report 9, 3 <sup>rd</sup> Edition, July 2017	A	Number of measuring paths	AGA report 9, 3 <sup>rd</sup> Edition, July 2017 <sup>2)</sup>				
				A	B	C	D <sup>4)</sup>	
4	“Metering package performance” acc. § 6.3	20 DN	4	“Metering package performance” acc. § 6.3	10 DN	5 DN	5 DN	2,5 DN
8	“Metering package performance” acc. § 6.3 <sup>5)</sup>	5 DN	8	“Metering package performance” acc. § 6.3 <sup>5)</sup>	6 DN	3 DN	3 DN	2,5 DN
			<sup>1)</sup> Minimum requirements with PTB flow conditioner; recommended installation for other flow conditioners on request <sup>2)</sup> Minimum requirements with CPA 50 E flow conditioner; recommended installation for other flow conditioners on request <sup>3)</sup> When C ≥ 5 DN, the temperature measuring point in pipe section C must be positioned with a distance of 3 ... 5 DN <sup>4)</sup> Meter packages shall be flow calibrated with thermowells installed <sup>5)</sup> Better repeatability and linearity are achieved with use of a flow conditioner; however both configurations meet AGA 9 performance requirements.					

Dimensions

Nominal pipe size	Connection flange	Standard	Weight <sup>1)</sup>	Length (A)	Hight <sup>2)</sup> (B)	Flange diameter (C)	Width of measuring section (D)	Internal diameter (E)
			[lbs]	[inch]	[inch]	[inch]	[inch]	[inch]
3"	Cl. 150	ANSI B16.5	275.58	15.75	17.87	7.48	8.07	2.87
	Cl. 300		286.60		17.87	8.27		
	Cl. 600		286.60		17.87	8.27		
	Cl. 900		286.60		18.15	9.45		
DN 80	PN 16	DIN 2633	233.69		17.87	7.87		
	PN 63	DIN 2636	233.69		17.87	8.46		
	PN 100	DIN 2637	233.69		17.87	9.06		
4"	Cl. 150	ANSI B16.5	401.24	19.69	19.29	9.06	9.76	3.74
	Cl. 300		418.88		19.29	10.04		
	Cl. 600		440.93		19.29	10.83		
	Cl. 900		242.51		19.29	11.42		
DN 100	PN 16	DIN 2633	392.42		19.29	8.66		
	PN 63	DIN 2636	414.47		19.29	9.84		
	PN 100	DIN 2637	414.47		19.29	10.43		
6"	Cl. 150	ANSI B16.5	282.19	17.72	21.26	11.02	12.99	5.59
	Cl. 300		319.67		21.26	12.60		
	Cl. 600		374.79		21.26	13.98		
	Cl. 900		524.70	29.53	21.26	14.96		
DN 150	PN 16	DIN 2633	308.65	17.72	21.26	11.22		
	PN 63	DIN 2636	357.15		21.26	13.58		
	PN 100	DIN 2637	388.01		21.26	13.98		
8"	Cl. 150	ANSI B16.5	562.18	23.62	24.29	13.58	16.34	7.48
	Cl. 300		608.48		24.29	14.96		
	Cl. 600		696.66		24.29	16.54		
	Cl. 900		793.66		24.29	18.50		
DN 200	PN 16	DIN 2633	573.20		24.29	13.39		
	PN 63	DIN 2636	656.98		24.29	16.34		
	PN 100	DIN 2637	793.66		24.29	16.93		
10"	Cl. 150	ANSI B16.5	831.14	29.53	27.20	15.94	16.54	9.25
	Cl. 300		906.10		27.20	17.52		
	Cl. 600		1069.24		27.20	20.08		
	Cl. 900		1164.04		27.20	21.46		
DN 250	PN 16	DIN 2633	844.37		27.20	15.94		
	PN 63	DIN 2636	956.81		27.20	18.50		
	PN 100	DIN 2637	1071.45		27.20	19.88		
12"	Cl. 150	ANSI B16.5	981.06	35.43	28.66	19.09	19.69	10.63
	Cl. 300		1089.08		28.66	20.47		
	Cl. 600		1234.59		28.66	22.05		
	Cl. 900		1424.98		26.97	24.02		
DN 300	PN 16	DIN 2633	972.24		28.66	18.11		
	PN 63	DIN 2636	1122.15		28.66	20.87		
	PN 100	DIN 2637	1289.70		25.12	23.03		



Nominal pipe size	Connection flange	Standard	Weight <sup>1)</sup>	Length (A)	Hight <sup>2)</sup> (B)	Flange diameter (C)	Width of measuring section (D)	Internal diameter (E)
			[lbs]	[inch]	[inch]	[inch]	[inch]	[inch]
14"	Cl. 150	ANSI B16.5	1047.19	41.34	25.28	21.06	21.26	12.40
	Cl. 300		1322.77		26.26	23.03		
	Cl. 600		1488.12		26.65	23.82		
	Cl. 900		1873.93		27.56	25.20		
DN 350	PN 16	DIN 2633	1047.19		25.00	20.47		
	PN 63	DIN 2636	1377.89		26.57	23.62		
	PN 100	DIN 2637	1653.47		27.76	25.79		
Fore al meters ≥ 16" an installation length of 3D is optionally available								
16"	Cl. 150	ANSI B16.5	1418.50	30.00	33.23	23.43	24.02	14.17
	Cl. 300		1675.51		33.23	25.59		
	Cl. 600		1889.36		33.23	26.97		
	Cl. 900		2041.48	31.50	29.72	27.76		
DN 400	PN 16	DIN 2633	1450.64	30.00	33.23	22.83		
	PN 63	DIN 2636	1750.47		33.23	26.38		
18"	Cl. 150	ANSI B16.5	1455.05	32.28	29.69	25.00	24.41	16.34
	Cl. 300		1675.51		31.18	27.95		
	Cl. 600		2116.44		32.28	29.33		
	Cl. 900		2866.01	35.43	32.68	30.91		
DN 450	Data on request							
20"	Cl. 150	ANSI B16.5	1653.47	35.51	32.09	27.56	26.38	17.72
	Cl. 300		2050.30		33.58	30.51		
	Cl. 600		2380.99		34.33	32.09		
	Cl. 900		3306.93	39.37	35.12	33.66		
DN 500	PN 16	DIN 2633	1543.23	35.51	32.40	28.15		
22"	Data on request							
DN 550	Data on request							
24"	Cl. 150	ANSI B16.5	2403.04	39.02	36.50	32.09	29.92	21.26
	Cl. 300		3064.42		38.50	36.02		
	Cl. 600		3560.46		38.98	37.01		
	Cl. 900		4629.70	47.24	40.94	40.94		
DN 600	PN 16	DIN 2633	2237.69	39.02	37.01	33.07		
26"	Cl. 150	ASME B16.47	3251.81	41.34	37.99	34.25	32.60	23.03
	Cl. 300		4023.43		40.00	38.27		
	Cl. 600		4629.70		40.87	40.00		
	Cl. 900		5511.55	49.21	42.24	42.76		
DN 650	Data on request							
28"	Cl. 150	ASME B16.47	4299.01	43.31	40.43	36.50	33.94	24.80
	Cl. 300		4905.28		42.52	40.75		
	Cl. 600		5401.32		43.31	42.24		
	Cl. 900		6613.86	51.18	45.28	46.02		
DN 700	Data on request							

Nominal pipe size	Connection flange	Standard	Weight <sup>1)</sup>	Length (A)	Hight <sup>2)</sup> (B)	Flange diameter (C)	Width of measuring section (D)	Internal diameter (E)
			[lbs]	[inch]	[inch]	[inch]	[inch]	[inch]
30"	Cl. 150	ASME B16.47	4839.14	45.28	42.52	38.78	35.51	26.57
	Cl. 300		5610.76		44.69	42.99		
	Cl. 600		6217.03		45.43	44.49		
	Cl. 900		7385.48	53.15	47.44	48.50		
DN 750	Data on request							
32"	Cl. 150	ASME B16.47	5478.48	47.24	45.08	41.77	38.54	28.35
	Cl. 300		6250.10		46.85	45.28		
	Cl. 600		6856.37		47.72	47.01		
	Cl. 900		8377.56	55.15	50.08	51.77		
DN 800	Data on request							
34"	Data on request							
DN 850	Data on request							
36"	Cl. 150	ASME B16.47	6889.44	49.21	49.21	46.02	42.60	31.889
	Cl. 300		7771.29		51.18	50.00		
	Cl. 600		8487.79		52.09	51.77		
	Cl. 900		11519.14	57.09	54.96	57.54		
DN 900	Data on request							
38"	Cl. 150	ASME B16.47	8377.56	51.10	51.57	48.74	45.67	33.66
	Cl. 300		8212.21		50.20	46.02		
	Cl. 600		9479.87		52.17	50.00		
	Cl. 900		Data on request		55.94	57.52		
DN 950	Data on request							
40"	Cl. 150	ASME B16.47	8432.67	53.15	53.50	50.75	47.76	35.43
	Cl. 300		9094.06		52.52	48.78		
	Cl. 600		10306.60		54.13	52.01		
	Cl. 900		Data on request		57.87	59.53		
DN 1000	Data on request							
42"	Cl. 150	ASME B16.47	10306.60	57.09	55.71	52.99	49.65	37.20
	Cl. 300		10251.48		54.57	50.75		
	Cl. 600		12015.18		56.85	55.28		
	Cl. 900		Data on request		59.96	61.50		
DN 1050	Data on request							
44"	Data on request							
DN 1100	Data on request							
46"	Data on request							
DN 1150	Data on request							
48"	Cl. 150	ASME B16.47	14109.57	62.99	61.97	59.49	55.75	42.52
	Cl. 300		14274.19		61.10	57.76		
	Cl. 600		17306.27		63.85	62.76		
	Cl. 900		26675.90	74.80	67.36	70.28		
DN 1200	Data on request							

<sup>1)</sup> Devices with single SPU; devices with double SPU: weight + 7 kg

<sup>2)</sup> Optional neck extension: B + 200 mm



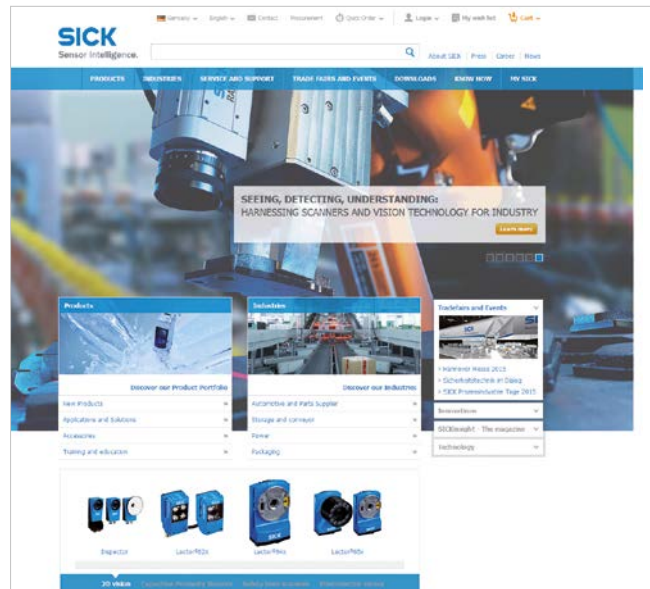






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