

SIEMENS



# Explore the future of flow measurement

SITRANS FC430 - the market's most compact Coriolis solution

Process Instrumentation

Scan to explore the state-of-the-art features and production facility



Answers for industry.

# Innovation in process optimization

Running an industrial plant carries with it a very high level of responsibility – to both your customers and the environment. You must adhere to the highest standards of safety and hygiene, ensure that your final products are of consistent quality, and comply with stringent industry and governmental regulations.

By choosing SITRANS F C Coriolis flowmeters – a trusted technology from a trusted name – you can optimize your entire process for increased productivity and, as a result, a better bottom line.

**Building on a strong tradition of innovative thinking, Siemens has designed the next generation of Coriolis flowmeters for excellence in performance, safety and user-friendliness: the SITRANS FC430.**

The digitally based SITRANS FC430 is suitable for all applications within the process industry and offers the market's

most compact sensor, groundbreaking support tools and one of the first SIL 3 certifications on a Coriolis system.

Because the SITRANS FC430 is manufactured in one of the world's most sophisticated and highly automated Coriolis factories, you are ensured very short lead times for custom-tailored solutions with consistent world-class accuracy and reliability.

In selecting Siemens as your flow technology partner, you have around-the-clock access to our worldwide service network and the capability for full system integration with market-leading Totally Integrated Automation solutions.

**With the SITRANS FC430 Coriolis flowmeter, process optimization has never been easier – or more innovative.**



# Small in size – big on performance

## Unmatched safety - system approved according to SIL 3

As one of the first Coriolis manufacturers worldwide Siemens has achieved the distinguished SIL 3 certification for the SITRANS FC430 – the ultimate safety and reliability guarantee.

## The power of a total solution provider

As a leading technology solution partner, Siemens offers you a number of additional benefits:

- Global service network – tailored support by network of specialists in 150 countries
- Total solution provider – offering services from engineering to commissioning
- Totally Integrated Automation – our solutions can be fully integrated into any industry sector

In designing the SITRANS FC430, our goal was to enhance your productivity by increasing the efficiency of your operations. The result is a cutting-edge Coriolis flow solution at the top of its class in quality and safety yet space-saving and easy to operate.

## Innovation and user-friendliness - Transmitter SITRANS FCT030

Based on patented digital signal processing technology, the SITRANS FCT030 transmitter delivers true multi-parameter measurements with enhanced efficiency, security and simplicity. It features a modular design for convenient installation and replacement, and can be remote or compact mounted with all SITRANS FCS400 sensor sizes.

The innovative SensorFlash® – a micro SD card uploadable to any PC – serves as a removable database of operational user information and provides direct access to all relevant certificates and audit trails.

## With SITRANS FCT030 you also get

- 100 Hz signal processing for high-speed and reliable data updates
- Transmitter replacement in less than five minutes
- SIL 3 certification for guaranteed safety and full redundancy
- Timestamped storage of all process and product events/alarms
- True “plug & play” functionality to simplify startup

## Compactness and design - Sensor SITRANS FCS400

The SITRANS FCS400 is the market's most compact sensor. The small size facilitates installation and replacement, and makes it possible to fit multiple units into tight spaces.

At the heart of the compact design is the CompactCurve™ tube shape, offering an accuracy of 0.1% of flow rate and high sensitivity for optimal measurement of even very low flows.

From its short tube length and large bore to its cylindrical frame and hemispherical flow manifold, the SITRANS FCS400 was designed from the ground up with the hallmarks of superior performance and reliability: a very stable zero point, low pressure loss, and high immunity to process noise and plant vibrations.



## With SITRANS FCS400 you also get

- Standard purge connectors on secondary enclosure for enhanced monitoring and safety
- Optimized customization and easy configuration with a wide range of sensor variants, process connections, approvals, and configurable I/Os

# ... and cutting-edge technology within

## Simple and safe installation - 5

Cable tunnels for each I/O make installation failsafe even when cables are thick. Wago Cage Clamps secure lifelong maintenance-free hold of wires independent of vibration, temperature or pressure. Meets all IEC Ex, ATEX and FM hazardous area requirements.

## USB service port - 6

The user interface enables connection to any PC through a standardized USB 2.0 connector and protocol, with only one interface required regardless of communication method. Easily accessible interface makes it possible to service the meter quickly and without disturbing communication.

## SensorFlash® - 7

Removable micro SD card stores all user and factory settings, calibration data and certificates. Provides comprehensive audit trails with quick and easy transfer of information to any PC or between transmitters.

## HemiShape™ - 8

Unique design of the hemispherical flow manifold secures low pressure loss and avoids cavitation and separation of fragile fluids, making it especially ideal for hygienic applications. EHEDG/3A approved with a smooth surface for easy cleaning and minimum abstraction of flow.

## Digital Sensor Link (Remote version)

Provides instant digitalization for optimal signal-to-noise ratio and increased stability. Best-in-class 100 Hz update rate and standardized M12 Plug & Play connector guarantee high-speed information transfer with up to 200 m between sensor and transmitter.



Scan to reveal  
easy installati-  
on anywhere



#### Compact or remote

Adaptable to almost any environment, the SITRANS FCT030 transmitter is available in both a remote and a compact version mountable on all SITRANS FCS400 sensor sizes DN15 to DN80.

#### Technical Specifications - Transmitter SITRANS FCT030

Architecture	Compact or remote configuration
Communication	HART 7.2
EMC performance	EN 61326-3-2
Material	Aluminum with corrosion-resistant coating
Enclosure rating	IP67
Mechanical load	18 to 1000 Hz random, 3.17 G rms, in all directions
I/O	Up to 4 channels combining analog, relay or digital outputs and binary input
LUI	Full graphical display, 240 x 160 pixels
Power supply	24 to 90 V DC, 100 to 240 V AC
Approvals	Hazardous areas: ATEX, IECEx, FM, NEPSI, CSA, TISS, GOST Hygienic: 3A Complying with NAMUR Compact system SITRANS FC430: OIML R 117
Certificates	ATEX, IECEx, FM, NEPSI, CSA, TISS, GOST, PED, CRN, 3A Compact system SITRANS FC430: SIL 3

#### Technical Specifications - Sensor SITRANS FCS400

Sizes	DN15 (½")	DN25 (1")	DN50 (2")	DN80 (3")
Accuracy	±0.10%			
Repeatability	±0.05%			
Flow range kg/h (lb/h)	3700 (8157)	11 500 (25 353)	52 000 (114 640)	136 000 (300 000)
Weight kg (lb)	4.6 (10.1)	7.9 (17.4)	15 (33.1)	50 (110)
Material	Wetted parts: 316L stainless steel - Enclosure: 304 stainless steel			
Pressure rating	100 bar (1450 psi)			
Temperature rating	-50 to 200 °C (-58 to 392 °F)			
Enclosure rating	IP67			
Ambient temperature	-40 to +60 °C (-40 to +140 °F)			
Process connections	Flanges: EN1092-1 B1, EN1092-1 D, ANSI/ASME B16.5, JIS B 2220 Pipe threads: ASME B1.20 (NPT), ISO228-1 G (BSPP), VCO Quick-Connect Hygienic threads: DIN11851, DIN11864-1, ISO2853, SMS1145 Hygienic clamps: DIN11864-2, DIN32676, ISO2853, SMS1145			
Approvals	Hazardous areas: ATEX, IECEx, FM, NEPSI, CSA, TISS, GOST Pressure equipment: PED, CRN Hygienic: 3A, EHEDG Compact system SITRANS FC430: OIML R 117			
Certificates	ATEX, IECEx, FM, NEPSI, CSA, TISS, GOST, PED, CRN, 3A, EHEDG Compact system SITRANS FC430: SIL 3			



# SITRANS FC430 - high-performance exterior

## Compact design

Market-leading compactness saves space and money, with enough flexibility for installation anywhere and the ability to fit multiple units into tight spaces.

## Standard Local User Interface - 1

Uniform look and feel across the Siemens process instrumentation portfolio reduces training needs for added cost and time-efficiency. Intelligent multi-language interface features a full graphical display, straightforward commissioning, simple navigation and customized top-level views, while standard programming wizards provide guidance for the inexperienced user.

## Movable pedestal - 2

Fully rotatable (0-180°) pedestal makes access possible from all sides and features a simple one-bolt release clamp.

## Robust frame - 3

Guarantees superior isolation and added resistance against external vibrations, resulting in an ideal measuring environment with excellent accuracy of 0.1%, repeatability of 0.05%, and no twisting. Enclosure pressure rating provides for a burst pressure in excess of 160 bars.

## Multiple process connections - 4

Wide range of process connections available for standard, hygienic and NAMUR sensors, allowing for extensive customization to meet every application need. Options include flanged, pipe-thread, hygienic thread, and hygienic clamp.





#### Cross-industry excellence

Wherever there is a demand for accurate flow measurement, the SITRANS FC430 delivers. It is ideal for a broad array of industries, including:

- Chemical
- Oil & Gas
- Food & Beverage
- Pharmaceutical

# Tailor-made solution for any industry and application

#### Putting safety first - Chemical industry

The SITRANS FC430 has been designed for optimal performance in hazardous areas and complies with a wide variety of certificates and approvals. Other distinct advantages include mass balance measurement for determination of molecular quantity, density measurement for enhanced quality checks, and high accuracy for increased efficiency of chemical processes.

#### Your benefits

- Hazardous area approvals including SIL 2 (hardware), SIL 3 (software), FM, ATEX, CSA, IEC Ex, NAMUR
- High accuracy (0.1%) thanks to CompactCurve™ design
- Multiparameter measurement
- Low wear and tear
- Compact design offers greater flexibility in installation
- Suitable for CIP/SIP cleaning
- One-stop solution provider for ease in ordering and reduced training needs

#### Saving time and money - Oil & Gas industry

Accuracy and time efficiency make all the difference in flow monitoring, particularly when large quantities of product change hands for profit, e.g. in bulk loading applications. The SITRANS FC430 is custody transfer approved and measures mass flow directly, ensuring that performance is not affected by fluctuating process conditions. In addition, a short tube length, large bore and unique tube shape result in very minimal pressure loss for decreased product loading/unloading time and a significant reduction in energy costs.

#### Your benefits

- OIML R 117 custody transfer approval for many liquids
- High accuracy (0.1%) thanks to CompactCurve™ design
- Multiparameter measurement

The **H.C. Starck Group**, a leading global metal supplier, agreed to test SITRANS FC430 at their factory in Goslar, Germany, by using it to measure the concentration of tungsten metal in sodium tungstate. The highly satisfactory results included stable performance at zero flow, reliable reporting in dynamic flow, accurate density readings, and driver current stability at zero flow as well as in conditions of fluctuating pressure and temperature.

According to an electrical project engineer for H.C. Starck, "We have always enjoyed a productive partnership with Siemens, so we are confident that this new instrumentation will be world-class. We look forward to seeing how the SITRANS FC430 will improve the efficiency of our business and, ultimately, our bottom line."





**Royal Unibrew**, an international beverage distributor headquartered in Faxe, Denmark, recently participated in a field test of the SITRANS FC430 to quantify the concentration of sugar in unfermented beer. Over the course of 8 months, the meter demonstrated stability in fluctuating conditions and reliability in long-running scenarios. It also produced highly accurate readings in both stable and dynamic flow.

According to a maintenance manager at Royal Unibrew, "The SITRANS FC430 provides density and temperature readings accurately, reliably and with good response times, which is exactly what our brewery needs. We absolutely feel confident in the new generation of Coriolis flow technology from Siemens."

### Hygienic and precise - Food & Beverage and Pharma industries

Meeting a comprehensive list of hygiene and safety requirements, the SITRANS FC430 is up for the challenge of producing foods, beverages and pharmaceuticals that are consistently safe for human consumption. Its high level of accuracy improves quality control for individual ingredients, mixes and overall production yields, while its multi-parameter measurement capability strengthens overall process management.

#### Your benefits

- Complies with all major industry standards including 3A, EHEDG, FDA, SIL 2 (hardware), SIL 3 (software), NAMUR
- Self-draining installation for optimum hygiene and food safety. Suitable for CIP/SIP cleaning
- High-speed 100 Hz signal processing means reliability even under dynamic conditions
- HART communication
- Multiconfigurably I/O with up to 4 outputs

### Unmatched versatility - Affiliated industries & OEM solutions

Thanks to its highly customizable nature and capability for exceptional performance under any conditions, the SITRANS FC430 is versatile enough to meet the challenges posed by a wide variety of affiliated industries and Original Equipment Manufacturers. From automotive to HVAC to pulp & paper and beyond, the design of the SITRANS FC430 is a direct response to the varied needs of our customers in many different businesses. As a result, you are ensured seamless incorporation into almost any application.

#### Your benefits

- Compact design offers greater flexibility in installation
- Plug & play functionality
- Multiparameter measurement
- High accuracy (0.1%) thanks to CompactCurve™ design
- Multiconfigurably I/O with up to 4 outputs

## Get more information

Find everything about Flow Instruments:  
[www.siemens.com/fc430](http://www.siemens.com/fc430)

Explore the unique range of our Process Instrumentation portfolio:  
[www.siemens.com/processinstrumentation](http://www.siemens.com/processinstrumentation)

Learn more about Process Automation:  
[www.siemens.com/processautomation](http://www.siemens.com/processautomation)

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