

SIEMENS



# The perfect fit for tight spaces

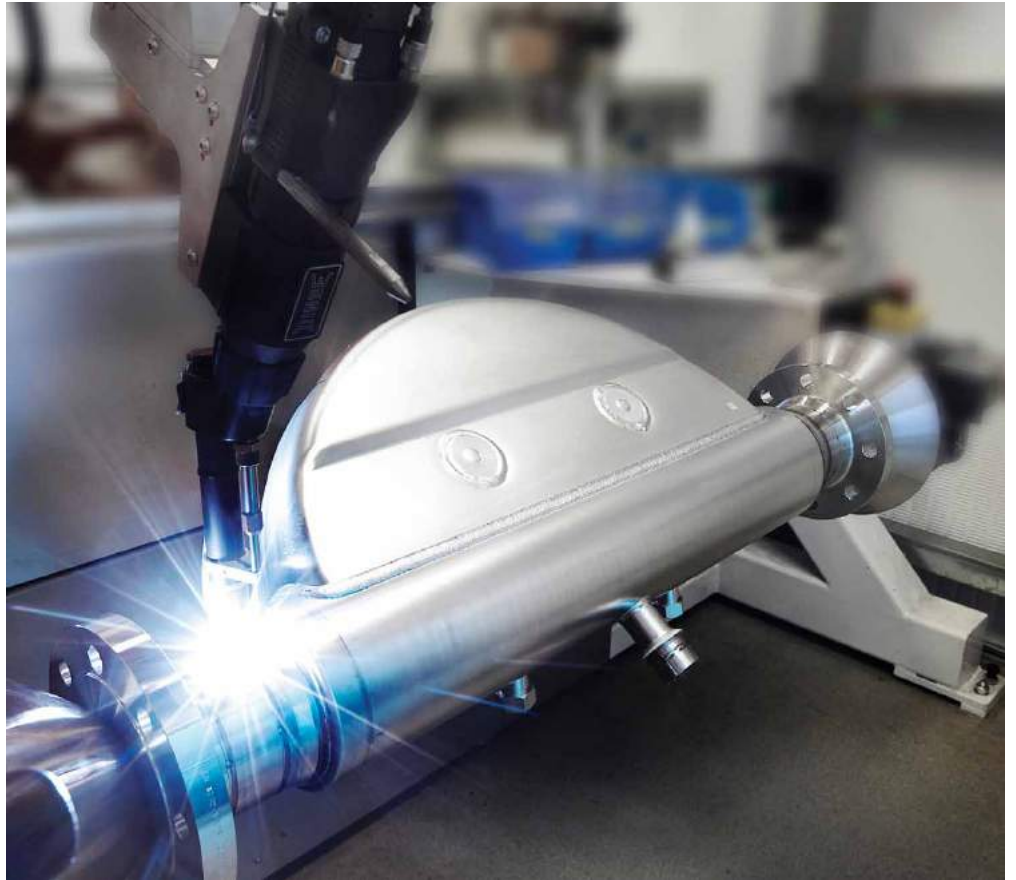
SITRANS FC410 - Because size matters

Process Instrumentation

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SITRANS FC410  
highlight video



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When is small actually large? If you are a skid or machine builder for the process industries, the answer lies in your instrumentation. As production costs rise and competition grows fiercer, it is becoming increasingly important to maximize productivity while minimizing both space and expense.

*The measurement devices you select for your assemblies can make all the difference.*

By choosing the SITRANS FC410 flowmeter solution – the lightest and most compact Coriolis system worldwide – you can reduce skid size, fit multiple units into the tightest areas, simplify installation into both new and existing applications, and minimize costs. The fully digital generation of compact flowmeters is tailored for direct integration into machine control systems.

With the all-in-one design of the SITRANS FC410, you only pay for what you really need. Installation is quick and easy thanks to simplified hardware and cabling. The SITRANS FC410 supports all PLC types with no additional ordering options necessary.

Because the SITRANS FC410 is manufactured in one of the world's most sophisticated and highly automated Coriolis factories, you are ensured short lead times for custom-tailored solutions with consistent world-class accuracy and reliability.

In selecting Siemens as your flow technology partner, you are guaranteed around-the-clock support 7 days a week by our network of specialists in 190 countries.

*The SITRANS FC410 Coriolis flowmeter: large-scale performance in a small-scale package.*

Our production robots can position and assemble up to 250 kg (551 lbs) with precision of 5  $\mu\text{m}$  (0.2 mils) in our laser welding station, while in-house electrolytic surface treatment and electropolishing ensure a perfect finish.

# The ideal all-in-one flow solution.



## Hemishape™

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

In designing the SITRANS FC410, our goal was to help you fit more meters into less space – without compromising performance. The result is a cutting-edge Coriolis flowmeter at the top of its class, developed for applications in which space is at a premium and dedicated performance is preferred.

## Quality built right in: Mini Flow Link (MFL)

The built-in transmitter functionalities allow for installation almost anywhere without the need for a discrete transmitter. Based on patented digital signal processing technology, the MFL delivers multi-parameter measurements with efficiency, simplicity and security. The meter is robust enough for use in hazardous environments thanks to the MFL's intrinsically safe interface.

## With the MFL you also get

- 10 ms signal update for high-speed and reliable data transfer
- Continuous process and metering diagnostics
- Up to 115 kbaud RS485 data rates for fast update from multiple instruments
- Multi-drop addressing including daisy-chain cabling connection



## The new shape of precision: SITRANS FCS400 Sensor

The SITRANS FCS400 is the market's lightest and most compact sensor, making it easier to optimize the layout of your entire plant.

At the heart of the sensor's compact design is its CompactCurve™ shape, offering an accuracy of 0.1%, repeatability of 0.05% and high sensitivity for optimal measurement of very low flows. From its short tube length and large bore to its cylindrical frame and hemispherical flow manifold, the SITRANS FCS400 sensor was designed for superior performance and reliability. It features a very stable zero point, low pressure loss, and high immunity to process noise or plant vibrations.



## With SITRANS FCS400 you also get

- Extensive customization and easy configuration with a wide range of sensor variants, process connections and approvals
- SensorFlash®, a micro SD card uploadable to any PC that provides direct access to relevant certificates
- Enclosure pressure rating provides for a burst pressure in excess of 160 bars. Corrosive fluids are fully contained in the worst scenario
- Hastelloy sensor options for high corrosion resistance and operations pressure



# Seamless integration frees up space & time.

With the SITRANS FC410, direct integration into your control system has never been easier or more cost-efficient. The flowmeter can be integrated with very little effort into skids or multifunctional prepared assemblies as well as plant operations – both new and as a drop-in replacement.

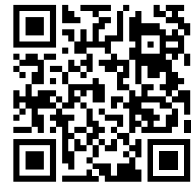
The SITRANS FC410 uses multidrop-addressable Modbus RTU RS485, a highly time-efficient communication protocol that is easy to program and diagnose. Its fully configurable byte order supports all PLC types with no additional ordering options necessary.

## Your benefits

- New installations: Requires only one-time PLC configuration. No individual programming is needed if additional meters are added.
- Replacement installations: No PLC re-programming necessary, as byte-wise data formatting allows standardization to all existing PLC data requirements.
- Installation time: Minimized due to standard multiplug connections and streamlined wiring.



Scan to see  
how easy it is  
to install the  
SITRANS FC410  
anywhere





The SITRANS FC410 provides accurate flow measurement for a broad array of industries, including:

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

## Cross-industry excellence.

With the SITRANS FC410, one meter can meet the dedicated needs of all major process industries and applications. This all-in-one solution is tailor-made for your demand, bringing you high degrees of flexibility and simplicity in both selection and installation.

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

- Complies with all major industry standards including 3A, EHEDG, FDA, NAMUR NE 132
- Compact design offers greater flexibility in installation
- 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
- Wide selection of hygienic process connections

### Reliable and flexible - Chemical industry

- High accuracy (0.1%) and high signal-to-noise ratio thanks to CompactCurve™ design
- Multi-parameter measurement
- Low wear and tear
- Compact design offers greater flexibility in installation
- One-stop solution provider for ease in ordering and reduced training needs
- Hazardous area approvals as from April 2014 including FM, ATEX, CSA, IECEx, NAMUR NE 132, INMETRO, NEPSI

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

- High accuracy (0.1%) and high signal-to-noise ratio thanks to CompactCurve™ design
- Multi-parameter measurement
- Compact and efficient heat tracing - liquid or electrical

*“As the market leader within automation and process instrumentation, we offer total solutions for every challenge.”*

SITRANS FC410 – one meter, three variants and millions of combinations to meet the demands of every process and environment. And whatever your requirements, our highly automated production setup ensures built-in quality with short lead times. Siemens – easy to do business with.



Technical Specifications - SITRANS FC410				
Sizes	DN 15 (½")	DN 25 (1")	DN 50 (2")	DN 80 (3")
Accuracy / repeatability	±0.10% / ±0.05%			
Flow range kg/h (lb/h)	3700 (8157)	11 500 (25 353)	52 000 (114 640)	136 000 (299 828)
Weight kg (lb)	4.6 (10.1)	7.9 (17.4)	25.7 (56.7)	66.5 (147)
Material	Wetted parts: 316L stainless steel or Hastelloy C22 - Enclosure: 304 stainless steel			
Pressure rating	316L stainless steel: 100 bar (1450 psi) or Hastelloy C22: 160 bar (2320 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, DIN 11864-2A Pipe threads: ASME B1.20 (NPT), ISO228-1 G (BSPP), VCO Quick-Connect Hygienic threads: DIN11851, DIN11864-1, ISO2853, SMS1145 Hygienic clamps: DIN11864-3A, DIN32676, ISO2852			
Approvals	Pressure equipment: PED, CRN Hygienic: 3A, EHEDG Hazardous areas as from April 2014: ATEX, IECEx, FM, NEPSI, CSA, GOST, INMETRO			



**Your all-in-one-solution:**  
[www.siemens.com/process-instrumentation](http://www.siemens.com/process-instrumentation)

Siemens Process Instrumentation offers best-in-class measurement for your application.

The total solution provider for flow, level, pressure, temperature, weighing, positioners and more.

**More information:**

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