

# FLEXIM FLUXUS® F721XLF

Clamp-on Ultrasonic Measurement of Liquid Low Flows

Leading Technology | Improved Accuracy | Superior Performance



FLEXIM

  
EMERSON™

# FLEXIM FLUXUS® F721XLF

## The superior solution for liquid low flow measurement

Achieving accurate measurement of extra low flow rates has been a known challenge for many metering technologies across several industries. Even though traditional metering options are commercially available these come with some undesired effects such as pressure drop and are prone to wear and tear and drifting over time. These ultimately impact measurement accuracy and repeatability, not to mention being costly to install in retrofitted applications and requiring constant maintenance and calibration.

Understanding that flow rate measurement provides one of the most important process parameters in the chemical, pharmaceutical, petroleum, energy, and power engineering industries, Emerson continues to develop and improve our extra low flow capabilities and signal processing techniques and introduces the Flexim FLUXUS® F721XLF ultrasonic clamp-on meter.

The new FLUXUS® F721XLF can achieve accurate and reliable measurement of flows as low as 1 gph or 0.01 gpm and below in small pipes and tubes 3/8 to 2 inches, provides bidirectional communications protocols, matched transmitter and transducer calibration as well as aluminum and stainless-steel housing options.

### Application Versatility

**Chemical Injection for Oil & Gas Upstream and Midstream**

**Chemical Dosing in Water and Wastewater Treatment**

**Paint Spray Lines**

**Pulp & Paper Industry**

**Chemical and Petrochemical Industries**

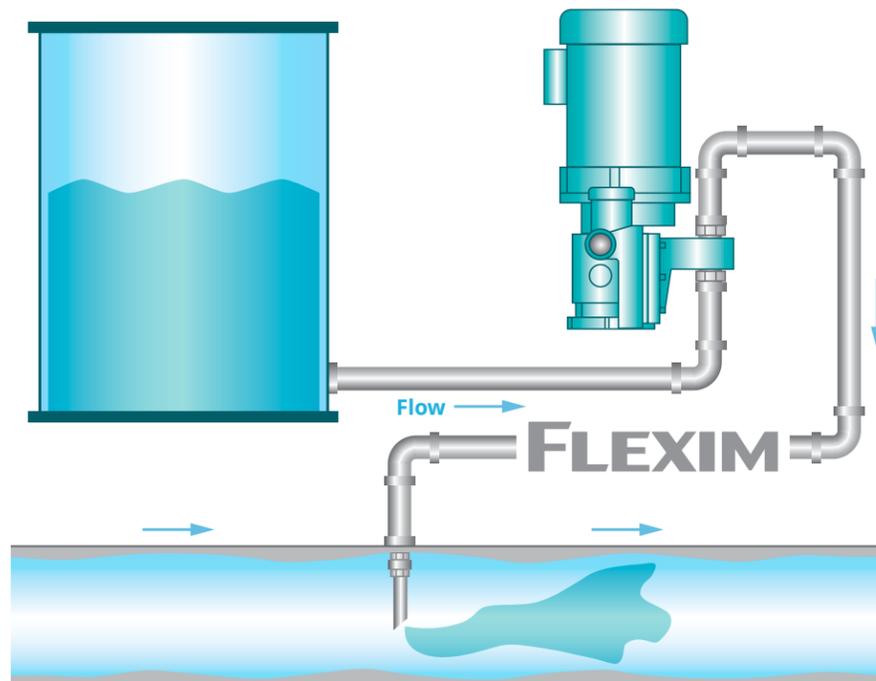
**Semiconductor Industry**

### Key Features

- Non-intrusive, clamp-on design
- No moving parts, wear & tear is a thing of the past!
- Temperature-compensated transducers
- Atex/IECEX Zone 1 & 2, FM Class 1, Div. 2 approval
- Matched transducers, advanced digital signal processing (DSP) and efficient algorithms ensure stable measurements at very low flows

### Advantages

- Unimpaired plant availability: Installation and commissioning during ongoing operation
- Independent of operating pressure
- Increased operational and environmental safety: No risk of leakage
- Completely maintenance-free



## Chemical Injection for Oil & Gas

Scale and corrosion inhibitors are used in the Oil & Gas industry to prevent scale build-up on pipes and to maintain well integrity. Accurate measurement of these costly chemicals means that oil companies can keep costs down while ensuring optimum flow is maintained.

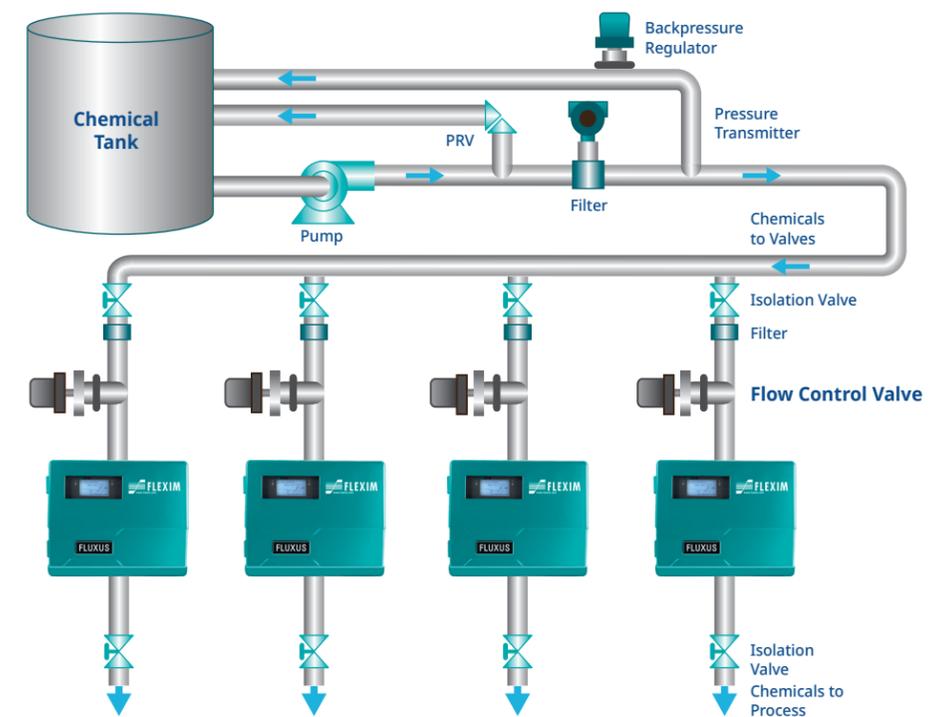
## Upstream: Exploration and Production

### Sea Water Treatment Pre Water Injection

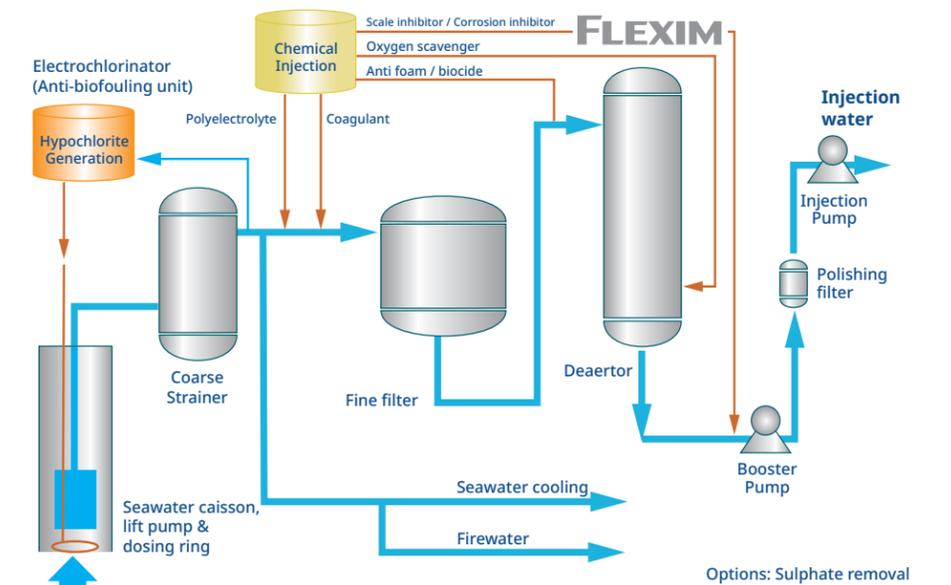
Injection of organic biocides as corrosion inhibitors is commonly used in offshore environments to reduce the abrasiveness and solid particles of sea water prior to injection. Due to the high cost and quantities needed, these are dosed weekly for a period of 1 to 2 hrs at concentrations up to 1000 mg/l and require reliable and accurate flow measurement.

## Removal of Salt on Gas Producing Wells

Precipitation of salt from reservoir water in gas reservoirs can cause significant decrease in production rates and pipeline blockages. In order to remove salt deposits freshwater treatments are performed at regular intervals to wash out the salt safely. In these applications small amounts of pure water are injected a high pressure and low flow rates to wash out the salt. Due to abrasive nature of the salt particles inline metering is often not suitable.



## Offshore Seawater Treatment and Injection

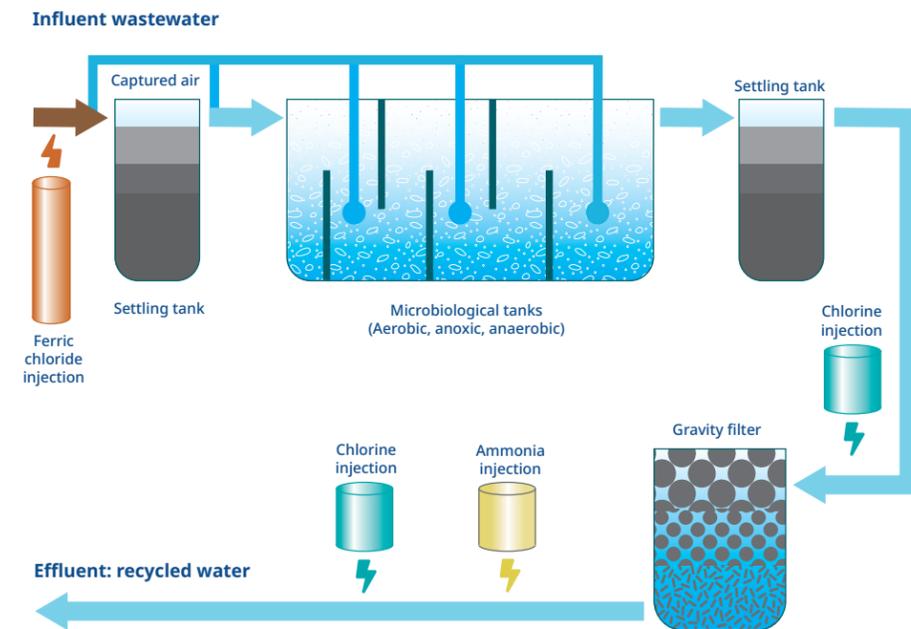


## Midstream: Underground Gas Storage

### Hydrate Inhibitor Injection

Methanol Injection is routine in Underground Storage operations to mitigate hydrate formation and minimize blockages of valves and pipelines during withdrawal stages. Injecting substances to lower freezing points thus limiting hydrate formation needs to be carefully dosed, monitored and controlled. Typical application will employ a combination of high pressure and low flow injection to ensure proper mixing with the gas medium. Chemical Dosing in Water and Wastewater Treatment

Specialized chemicals such as chlorine, hydrogen peroxide, sodium chlorite, and sodium hypochlorite (bleach) act as agents to disinfect, sanitize, and assist in the purification of wastewater at treatment facilities. These need to be handled and measured carefully and meticulously to comply with safety regulations.



## Other Applications

- Paint Spray Lines
- Pulp & Paper Industry
- Chemical/Petrochemical Industries
- Semiconductor Industry
- Pharmaceutical Dosing

## TECHNICAL FACTS

<b>FLUXUS® F721XLF</b>	<b>Clamp-on ultrasonic measuring system for extreme low flows</b>
<b>Measurement Functions</b>	
Physical quantities	Volumetric flow rate, mass flow rate, flow velocity
Totalizer	Volume, mass
Diagnostic Functions	Sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitude and transit times
<b>Measurement</b>	
Fluid	all acoustically conductive liquids with < 2 % gaseous or solid content in volume
Reynolds Number	< 1000
Repeatability	0.15 % MV ±0.019 f/s
<b>Measurement uncertainty (Volumetric flow rate)</b>	
Measurement uncertainty of the measuring system	±0.3 % MV ±0.019 f/s
Measurement uncertainty at the measuring point	±1 % MV ±0.019 f/s
<b>Transmitter</b>	
Number of measuring channels	1
Explosion protection	ATEX/IECEX Zone 1/2, FM Class I / Div. 2
Power supply	100 ... 230 V AC / 50 ... 60 Hz 12 / 24 V DC
Outputs	4 - 20 mA active 4 - 20 mA HART active / passive pulse / frequency / binary
Inputs	Pt100 / Pt1000 4 - 20 mA active / passive / binary
Digital communication	Modbus RTU/TCP, HART, Profibus PA, Foundation Fieldbus
<b>Available transducers</b>	
Explosion protection	ATEX/IECEX Zone 2, FM Class I / Div. 2
Pipe size range (inner diameter)	3/8 to 2"
Temperature range (pipe wall)	-40 °F ... +140 °F

# FLEXUS products are leaders in non-intrusive, clamp-on ultrasonic flow measurement for liquids, gases, and steam

## Solving Your Flow Metering Issues

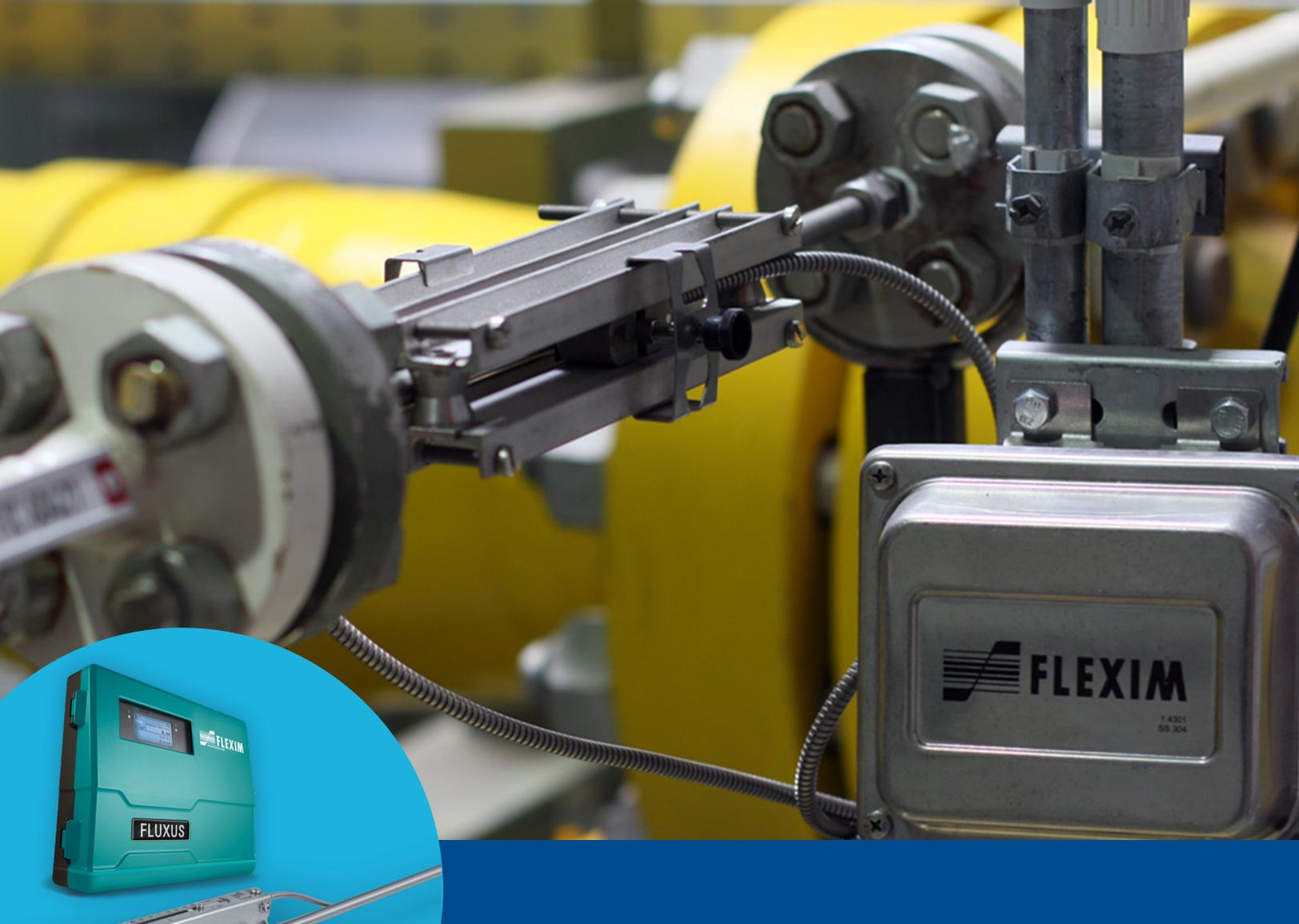
Emerson provides non-intrusive solutions for measuring the flow of gases as well as liquids. We are proud of our status as a pioneering industrial measurement company that delivers flow measurement technologies that clamp right onto the pipe.

### Featured Industry Solutions

- Oil and Gas
- Chemical
- Buildings and District Heating
- Water and Sewage
- Power
- Pharmaceutical, Food & Beverage

“ I think we can safely say that ultrasonic flowmeters have finally met their potential. I have taken more than 600 readings with the FLEXIM portable meter, and my success rate is 99.8 percent; and that includes pipes containing acids, water, gasses, and slurries at several hundred degrees. At the end of the day, I collect all the data dumps from the built-in data logger and export it to my spread sheet program. ”

- Greg H.,  
Process Analytics Chemist Eastman Chemical



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