

**SF1015  
PADDLE METER**

The toughest,  
most effective  
meter on the  
market.



**SUR-FLO**



**Q**

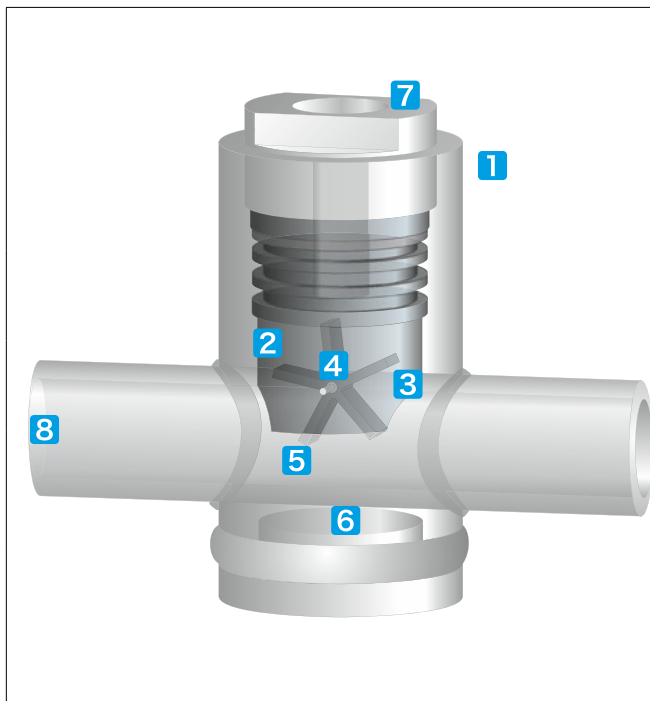
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## SUR-FLO SF1015 PADDLE METER

Can a paddle meter make life easier?

Yes, when it's engineered with the end-user in mind. When we created the SF1015, we started by looking at the pain points with conventional turbine meters. Then we engineered an advancement of the classic turbine meter – one that's accurate, tough as nails and easy to use. Our paddle meters outlast and outperform the competition, even in the harshest environments.

### Here's why:



#### SF1015 ADVANTAGES:

- 1** Durable materials, such as tungsten carbide and duplex stainless steel, stand up to corrosion and abrasion in harsh environments.
- 2** Patented design puts the rotor out of the direct path of the liquids, which minimizes the impact of gas breakouts.
- 3** Bi-directional meter and internal parts make installation foolproof.
- 4** Improved rotor bearing design reduces friction and wear.
- 5** Paddle is designed to spin at the velocity of the line flow, which significantly reduces wear and tear.
- 6** Open bore design minimizes plugging from abrasives and foreign materials, ensuring the SF1015 consistently provides reliable measurement.
- 7** Top mount rotor assembly means easy access for field maintenance. Simply pull the components out the top, make replacements and drop the cartridge back in place.
- 8** Unique design means the SF1015 doesn't require the typical up and downstream straightening pipe to maintain its accuracy.



**SUR-FLO**

# INDUSTRY APPLICATIONS

## Putting the SF1015 to work.



Sur-Flo's paddle meter is engineered for the rigors of industry. Its patented, top mount rotor design makes the SF1015 durable, reliable, cost effective and easy to maintain. The SF1015 stands up to a range of industry-specific challenges such as:

### **OIL AND GAS**

- Lower unit prices
- Corrosive/abrasive conditions
- Intensive recovery methods (shale)
- High pressure conditions
- Strict environmental regulations
- Extreme temperatures
- Remote locations

### **CHEMICAL**

- Hazardous liquids/gases
- Corrosive/abrasive conditions
- Extreme temperatures
- Strict emission/effluent regulations
- High pressure conditions

### **MINING**

- Remote locations
- Extreme temperatures
- Strict environmental regulations
- Corrosive/abrasive slurries
- Heavy vibration
- High fluid velocity

### **WATER AND WASTEWATER MANAGEMENT**

- Influent flow rate (usage, etc.)
- Constant operation
- Variable fluid contents
- Intensive quality/quantity demands
- Weather impacts on flow
- Strict environmental regulations

## PROCESS APPLICATIONS

– LIQUID MEASUREMENT

– FLUID SEPARATION SYSTEMS

– FRACTURING PROCESS

– WELLHEAD FLOW-LINE MEASUREMENT

– H<sub>2</sub>O, CO<sub>2</sub>, POLYMER INJECTION WELLS SYSTEM

– DISPOSAL WELL

– FLUID TRANSFER SYSTEMS

– SLURRY MEASUREMENT

– WATER MANAGEMENT SYSTEM



# SF1015

**APPLICATION:** water injection  
**SERVICE CONDITIONS:** scaling deposits,  
saline (<80 ppm chlorides), acids,  
H<sub>2</sub>S, sand and debris

WATERFLOOD BASIN, **ALBERTA/SASKATCHEWAN**

## CASE STUDY

DURABILITY IN CORROSIVE CONDITIONS

DURABILITY IN GAS BREAKOUT

EASY INSPECTION AND MAINTENANCE

AVAILABILITY OF CUSTOM SPOOLING

### BENEFITS



**6X** lifespan of the SF1015 vs conventional turbine meters. Norm Glover is the team lead of Facility Engineering and Construction at Enerplus. In 2016, frustration with the short service life of conventional turbine meters led him to seek a solution with Sur-Flo.

#### Challenge: Gas Breakout

Produced water injection can boost oil recovery from depleted reservoirs. It can also cause gas breakout conditions – the development of large gas pockets along the surface of liquid hydrocarbons. Gas breakouts can wreak havoc with flow meters.

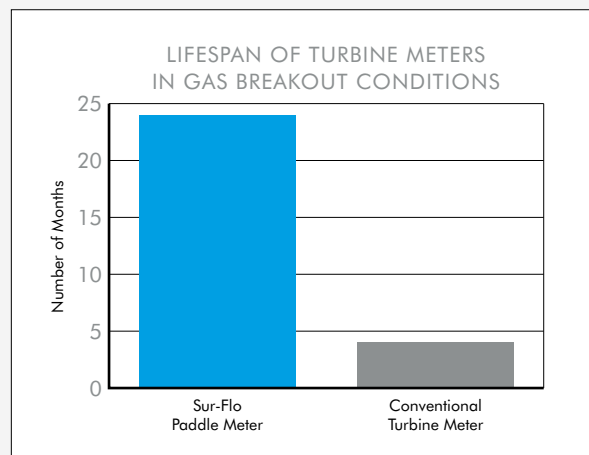
Back in 2016, Enerplus team lead, Norm Glover, was fed up with the performance he was getting from flow meters that couldn't stand up to breakout

conditions and lasted less than four months. "Every time you got an expansive bubble of gas, the turbine on the flow meters spun like crazy, loaded up the axle and blew out the bearing," says Glover. He took a colleague's advice and contacted Sur-Flo.

#### Sur-Flo Solution:

Sur-Flo's unique paddle meter design is engineered so that wearing parts are out of the direct path of the fluid. This makes the SF1015 incredibly durable,

even in gas breakout situations. Glover says his Sur-Flo meters have lasted up to two years – about six times the lifespan of his conventional meters. Glover also likes that Sur-Flo offers custom spooling options for pump retrofits and design solutions like backer bars to add structural integrity (see photo below). "Anyone that asks, I tell them about Sur-Flo," says Glover. Anytime we change out meters, we change to Sur-Flo. The word is out."



**Norm Glover, Enerplus team lead, says durability and easy maintenance mean the total cost of ownership for Sur-Flo meters is far less than other meters. Glover also likes that Sur-Flo's in-house production facility means product delivery that's far faster than the competition.**

# Sold by Sur-Flo. Made by Sur-Flo.

At Sur-Flo, our skilled manufacturing staff take pride in making innovative, durable meters and controls.

Custom orders are one of our strengths. Popular customization options for the SF1015 Paddle meter include backing bars, customized flanges to fit all dimensions, custom materials for harsh environments and custom spooling.

At Sur-Flo, we're proud to offer customer-centred support, technical assistance and one of the best turn-around times in the industry.



## SPECIFICATIONS

|                            |  |
|----------------------------|--|
| Standard Meter Sizes       | Up to 8" (for larger sizes, contact Sur-Flo)                           |
| Maximum Operating Pressure | 150 – 1500 ANSI  |
| Flow Rates                 | 5 – 27,000 M <sup>3</sup> /Day , 0.9 – 4990 US GPM                     |
| Meter Temperature Range    | -75°C – 149°C, -100°F – 300°F  |
| Accuracy                   | ± 1% of reading  |
| Repeatability              | ± 0.5% of indicated flow throughout the linear flow range              |
| Process Connections        | NPT, Flanged, and Victaulic, custom connections available upon request |
| NACE Compliance            | MR0175   |

## DIMENSIONS

|                     |  |
|---------------------|--|
| Up to 2"            | NPT: 6" face to face, flanged: 16" raised face to raised face  |
| 3" and 4"           | NPT: 12" face to face, flanged: 16" raised face to raised face |
| 6" and 8" or larger | NPT: 16" face to face, flanged: 16" raised face to raised face |

Note: custom lengths are available

## MAGNETIC PICKUP COIL TEMPERATURE RANGE

|          |                                |
|----------|--------------------------------|
| Standard | -101°C – 165°C, -150°F – 330°F |
| High     | Available upon request         |

Note: Magnetic Pickup Coil is intrinsically safe

## YOUR PRODUCTIVITY. ENGINEERED.

Since 1979, Sur-Flo has been designing and manufacturing products that make work easier for our customers. We take tried-and-true process control and measurement technologies and make them better, safer and easy to maintain. Our control valves and flow meters are engineered to perform and built to last.

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