

Subsea Turbine Flow Meter TSF100 Series

Introduction

TSF100 turbine flow meters are available in a wide variety of flow and pressure ranges, and are highly customizable to meet the customers' specific needs: parts material, process connection, electrical connection, signal output and housing.

With over 20 years proven experience, our turbine flow meters are engineered for durability and precision in the most demanding environments. Trusted by industry leaders, TSF100 are ideal for offshore operations such as ROVs, BOPs, chemical injections and other critical offshore drilling processes. Built to perform under pressure, they deliver reliable flow measurement where it matters the most.



Features

- Robust design for harsh subsea environment
- Dual-rotor, dual-output available
- Highly customized product
- SS316, 316L, Duplex and more material
- Multiple process connection / electrical connection
- Highly accurate measurement of flow
- Well-proven quality

Applications

- ROV Skids
- ROV Workover Control Systems (RWOCs)
- Blowout Preventer (BOP)
- Offshore Chemical & Methanol Injection
- Subsea Control Systems
- Valve actuation

Specifications

| | |
|------------------------|---|
| Max. operating depth | 20,000 feet (6000 m) |
| Max. working Pressure | Internal: up to 15,000 psi (1,035 bar) External 7,800 psi (600 bar) Subject to process connection |
| Flow Ranges | See flow range table below for details |
| Accuracy: | 0.5% of reading |
| Repeatability: | 0.1% of reading |
| Linearity: | Better than 0.5% of reading |
| Outputs: | Pulse; Dual-pulse; Analog (4...20mA); Dual-analog |
| Bearing Styles: | Stainless ball bearing / Ceramic hybrid ball bearings |
| Pickup up temperature: | -30°C to 110°C |
| Process connections: | BSP, NPT, Auto Clave; Din, ASME, SAE flange |
| Wiring protection: | Short-circuit Reverse polarity |

Measuring range

L/min

| Part Code | Standard Measuring Range | Extended Measuring Range |
|-----------|--------------------------|--------------------------|
| R-04 | 1.2...12 | 0.13...13 |
| R-06 | 1.9...20 | 0.24...24 |
| R-08 | 2.8...33 | 0.38...38 |
| R-10 | 4.5...60 | 0.7...70 |
| R-12 | 7.6...90 | 1.2...120 |
| R-16 | 19...220 | 2.4...240 |
| R-20 | 34...400 | 4.9...490 |
| R-24 | 57...700 | 8.2...820 |
| R-32 | 83...1100 | 10...1300 |
| R-40 | 150...1500 | 17...1700 |

Gal/min

| Part Code | Standard Measuring Range | Extended Measuring Range |
|-----------|--------------------------|--------------------------|
| R-04 | 0.32...3.2 | 0.03...3.4 |
| R-06 | 0.5...5.2 | 0.06...6.3 |
| R-08 | 0.74...8.7 | 0.1...10 |
| R-10 | 1.2...16 | 0.18...18.5 |
| R-12 | 2...24 | 0.32...31 |
| R-16 | 5...58 | 0.63...63 |
| R-20 | 9...105 | 1.3...129 |
| R-24 | 15...185 | 2.2...216 |
| R-32 | 22...290 | 2.65...343 |
| R-40 | 40...396 | 4.5...450 |

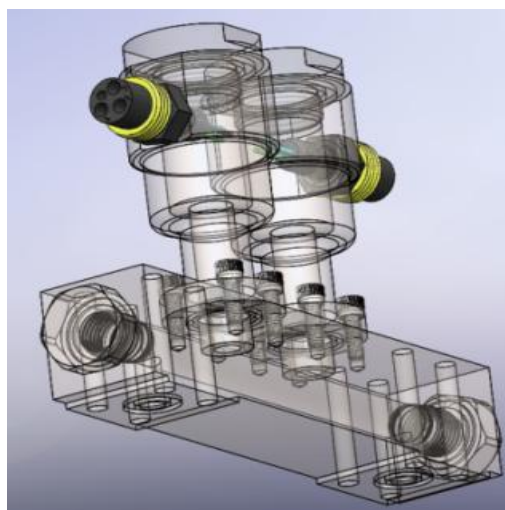
Customization

Our subsea flow meters are highly customizable to match your specific needs: parts material, process connection, electrical connection, signal output and housing.

Contact us to request a 3D file.

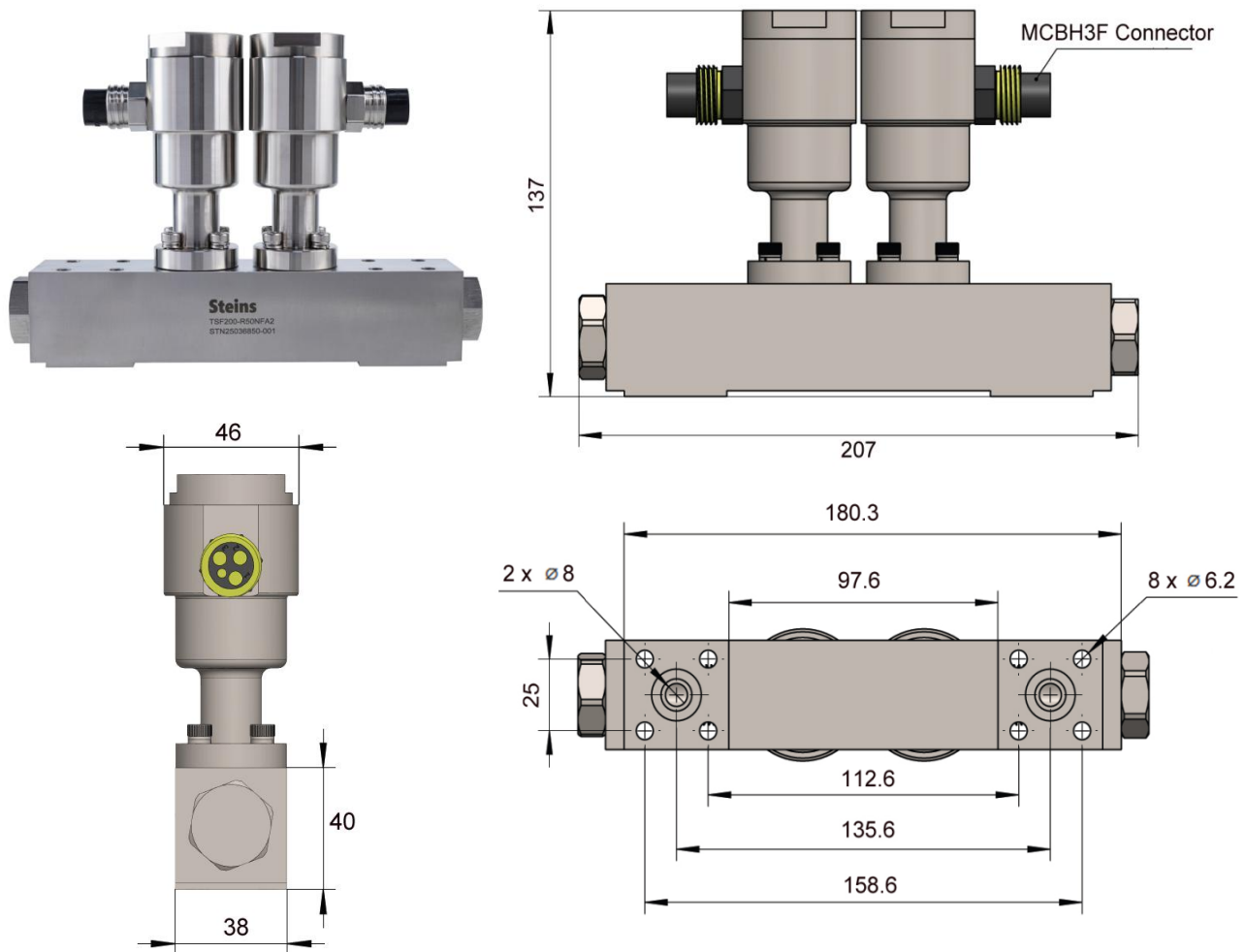
Testing and Calibration

All TSF100 Subsea Turbine Flow Meters are individually calibrated and are traceable to national standards. We provide you with a test certificate for each meter.



Dimensions in mm

TSF100 is a highly customizable product; it could be any housing upon to request.

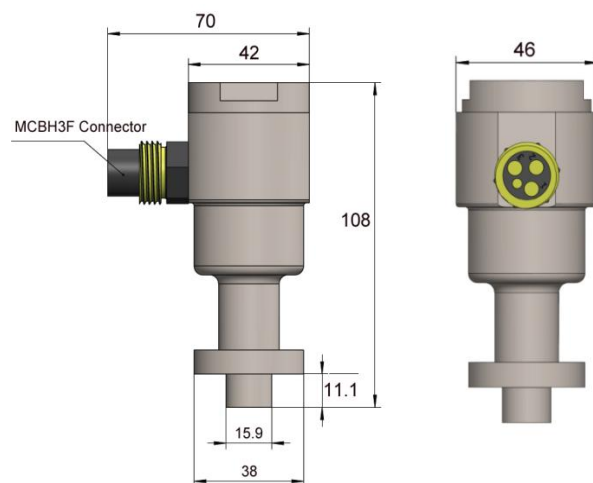


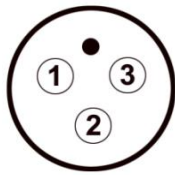
Electronics

Analog output



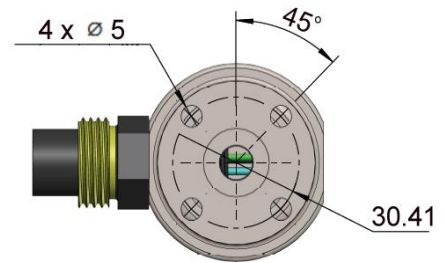
Electrical connector selectable from: Subcon, Burton and Seacon, Glenair or others.





Connector: Subconn 3-pin connector, or use any other connectors users prefer.

- 1: Power +
- 2: Analog output
- 3: Power -



Order information

TSF100 is a highly customizable product.

Below information is for your references, please feel free to change any of below to meet your requirement.

1. Model

TSF100- Subsea Turbine Flow Meter

2. Part Code

| | |
|------|---|
| R-04 | 1/2" End Fitting |
| R-06 | 1/2" End Fitting |
| R-08 | 1/2" End Fitting |
| R-10 | 3/4" End Fitting (5/8" for AN thread) |
| R-12 | 3/4" End Fitting |
| R-16 | 1" End Fitting |
| R-20 | 1-1/4" End Fitting |
| R-24 | 1-1/2" End Fitting |
| R-32 | 2" End Fitting |
| R-40 | 2-1/2" End Fitting (flange connection only) |
| | Other connections on request |

3. End Fitting

| | |
|----|------------------------------|
| A | Female AN thread |
| N | Female NPT thread |
| AC | Autoclave MP |
| F | ANSI Class 600 flange |
| | other end fitting on request |

4. Output

| | |
|----|--|
| P1 | Pulse output |
| P2 | Dual-pulse output in two separated housing |
| A1 | 4...20mA |
| A2 | Two 4...20mA |