

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 8,700 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 / Hybrid ceramic 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

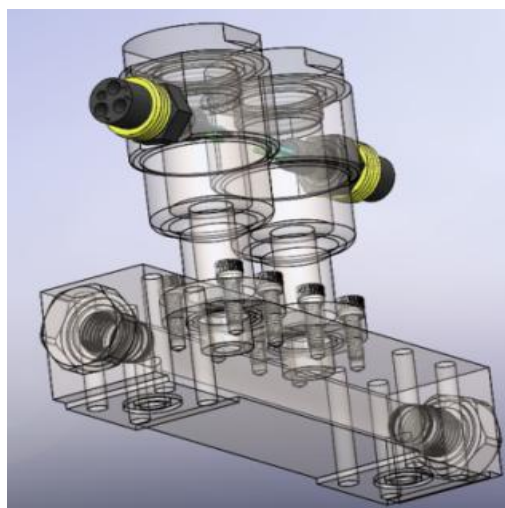
Customization

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.

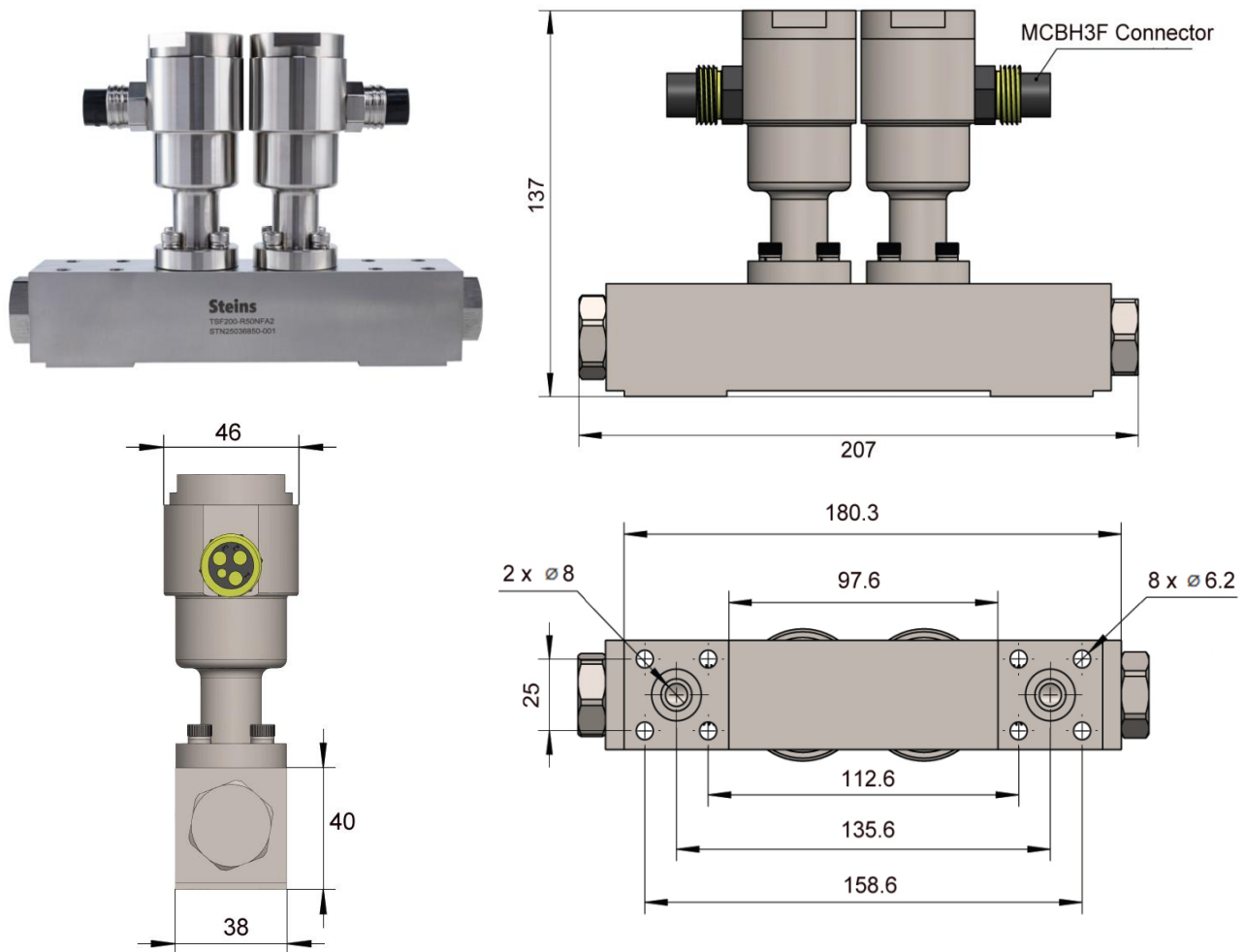
Testing and Calibration

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.

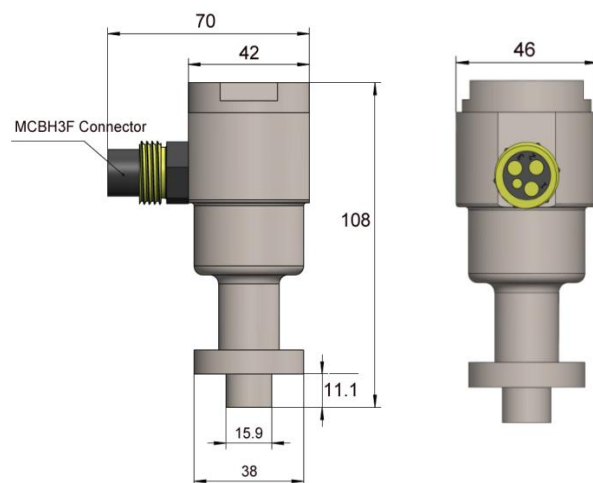


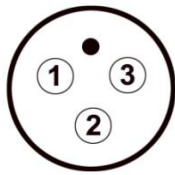
Electronics

Analog output



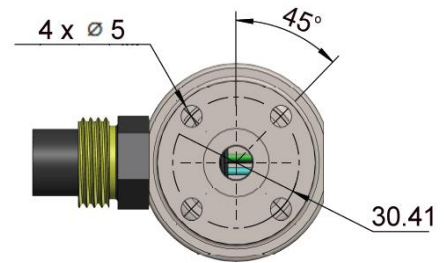
Electrical connector selectable from: Subcon, Burton and Seacon, Glenair or others.





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