Turbine Flow Meter
StaTurb TF500 Series - High Performance

Introduction

The TF500 series turbine flow meter includes a rotor and a sensor. When fluid passes through TF500 and the revolving rotor passes the sensor, electrical pulses are produced in which frequency is proportional to the flow rate.

As a premium, high-performance turbine flow meter, the TF500 series features an extended turndown ratio, versatile bearing options (including journal or ball bearings) and a wide array of customized materials and process connections. This adaptable design makes it ideally suited for highly demanding applications that require premium accuracy, expanded flow ranges, and extensive customization - such as laboratory, test benches, aerospace, chemical injection, semiconductor fabrication and chemical processing.





Characteristics

High pressure rating

Low pressure drop

Fast response

High repeatability and accuracy

High / low temperature

Compact design

Applications

Laboratory

Aerospace

Chemical injection

Semiconductor fabrication

Experimental equipment

Test benches

Chemical processing

Specifications

Flow range	See below flow range table for details.
Applicable medium	Low to medium visocity Liquids
Accuracy	0.5%
Repeatability	<0.1%
Pressure rating	Standard 5000psi (Customization available)
Response time	2ms
Operating Temperature	-350…450°F (-212…232°C)
Materials	Body: 316 stainless steel
	Rotor: 17-4 PH stainless steel
	Shaft: 316 stainless steel
	Bearing: stainless steel ball bearing / hybrid ceramic ball bearing
Process connection	MS male flare
	NPT male thread
	ASME B16.5 Flange
Certification	ISO 9001; CE

Flow Range - GPM

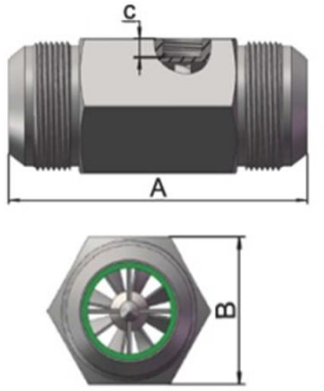
Part Code	Standard Flow Range (GPM)		Extended Flow Range (GPM)		Filtration (Micron)
	Magnetic Pickup	RF Pickup	Magnetic Pickup	RF Pickup	
R-02	0.13…1.3	0.13…1.3	0.11…1.45	0.01…1.45	10
R-04	0.32…3.2	0.27…3.2	0.11…3.4	0.03…3.4	10
R-06	0.53…5.3	0.5…5.3	0.13…6	0.06…6	10
R-08	0.87…8.7	0.74…8.7	0.16…10	0.1…10	10
R-10	1.6…16	1.2…16	0.3…19	0.2…20	10
R-12	2.4…24	2…24	0.5…25	0.3…25	10
R-16	5.8…58	5…58	1…65	0.65…65	20
R-20	10…100	9…100	1.6…130	1.3…130	20
R-24	18…180	15…180	2.6…210	2.1…210	50
R-32	30…300	21…300	3.5…350	2.7…350	50
R-40	40…400	35…400	5…450	4.5…450	50

Flow Range - LPM

Part Code	Standard Flow Range (LPM)		Extended Flow Range (LPM)		Filtration (Micron)
	Magnetic Pickup	RF Pickup	Magnetic Pickup	RF Pickup	
R-02	0.5…5	0.5…5	0.4…5.5	0.05…5.5	10
R-04	1.2…12	1…12	0.4…13	0.13…13	10
R-06	2.0…20	1.9…20	0.5…24	0.24…24	10
R-08	3.3…33	2.8…33	0.6…38	0.38…38	10
R-10	6…60	4.5…60	1.1…70	0.7…70	10
R-12	9…90	7.6…90	1.9…95	1.2…95	10
R-16	22…220	19…220	3.8…240	2.4…240	20
R-20	40…400	34…400	4.9…490	4.9…490	20
R-24	70…700	57…700	8.2…820	8.2…820	50
R-32	110…1100	83…1100	13…1300	10…1300	50
R-40	150…1500	150…1500	19…1700	17…1700	50

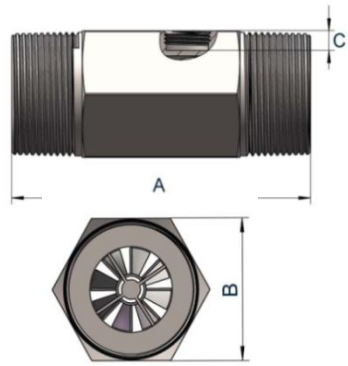
Dimensions in mm

MS Connection



Part Code	Flow Meter ID (inch)	End Fitting MS Male Flare (Tube Size)	A	B	C
R-02	0.3	1/2"	62.2	23	6.7
R-04	0.3	1/2"	62.2	23	6.7
R-06	0.37	1/2"	62.2	23	5.8
R-08	0.4	1/2"	62.2	23	5.5
R-10	0.5	5/8"	69.2	32	8.6
R-12	0.56	3/4"	83	32	7.9
R-16	0.86	1"	90.5	36	5.8
R-20	1	1-1/4"	103	41	6.5
R-24	1.31	1-1/2"	116.5	50	6.8
R-32	1.75	2"	154	65	8.8

NPT Connection



Part Code	Flow Meter ID (inch)	End Fitting NPT Male Thread	A	B	C
R-02	0.3	1/2"	68	23	6.7
R-04	0.3	1/2"	68	23	6.7
R-06	0.37	1/2"	68	23	5.8
R-08	0.4	1/2"	68	23	5.5
R-10	0.5	3/4"	69.2	32	8.6
R-12	0.56	3/4"	82.8	32	7.9
R-16	0.86	1"	90.5	36	5.8
R-20	1	1-1/4"	103	46	6.5
R-24	1.31	1-1/2"	117	50	6.8
R-32	1.75	2"	155	65	8.8

Order Code

Example: TF500-R-10AS

1. Model

TF500-	High Performance Turbine Flow Meter

2. Part Code

R-10	Select a part code from flow range table above to determine flow range.

3. End Fitting

M	37° MS Male Flare
N	Male NPT Thread
Fxxx	ASME B16.5 Flange (xxx: Class#)
	E.g., F600 for ASME Flange Class 600
	Other end fittings on request

4. Bearing

S	Stainless steel ball bearing
C	Hybrid ceramic ball bearing

Electronics options are listed on the next page.

Electronics Options

S1000 Pickup Coils / Transmitters
Amplified Pulse
Linearized 4…20mA Output



DE500 Local Display
Local Display
4…20mA + Alarms Output



SA500 Pickup Coils
Intrinsically Safe
Amplified Pulse



SX500 Flow Transmitters
Explosion-Proof
Modbus RS485



Refer to the electronics datasheet for details.