AW-LAKE
PROCESS FLOW MEASUREMENT

TURBINE **FLOW METERS**
INSTRUMENTATION

TRG SERIES - STANDARD TURBINE FLOW METER

Ideal turbine flow meter for monitoring solvents and other lower viscosity fluids, such as antifreeze and fuel measurement.

TECHNICAL SPECIFICATIONS

Measuring Accuracy
± 1.0% of reading or better

Repeatability
± 0.1%

Flow Measuring Range
.08 to 200 GPM (gal/min)

Turn Down Ratio
10:1

Maximum Operating Pressure*
Working pressure up to 5,000 psi

Maximum Operating Temperature
Fluid temperature of -150° to 450°F

Standard Calibration Media
Tap water @ 70°F Temperature

End Connections
NPT

** Electronic sensor dependent.*

BENEFITS

Rugged & Cost-Effective
The sturdy construction of this turbine flow meter means high performance and longer service life at an affordable price.

Industry Standard
The TRG Series flow meter comes with a standard NPT end connection for universal applications.

Versatile
This meter is capable of measuring flow in line sizes from 1/2" to 2".

Electronic Integration
This meter can provide displayed flow rate, totalization, current or voltage outputs through a variety of compatible electronics.

Simplified Maintenance
The TRG Series was designed with only one moving part for easy cleaning and maintenance.

Explosion Proof (EX) Options Available

MATERIALS OF CONSTRUCTION

Rotor Support	303 Stainless Steel
Body	316L Stainless Steel
Rotor Shaft	Tungsten Carbide
Impeller	420 Stainless Steel

RECOMMENDED SENSORS

Model	Sensor Type	Temp (°F)
MAG-PB	Pulse Sensor - *No Amplifier Required*	-40 to 185
FIP-4HS	4-20 mA Output Sensor	-40 to 185
Meter Mounted Displays:		
Non EX Meters		
RT-10A	Battery-Powered monitor	0 to 140
RT-30 SD	24 VDC Powered monitor	0 to 140
EX Meters		
HUB-40EX	Hazardous area rated sensor	-40 to 140
RT-30EX	Hazardous area rated local flow rate transmitter	-6 to 140

** For additional sensors available, contact factory. Other outputs available upon request.*

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TRG SERIES - STANDARD TURBINE FLOW METER

Ideal turbine flow meter for monitoring solvents and other lower viscosity fluids, such as antifreeze and fuel measurement.

METER SPECIFICATIONS

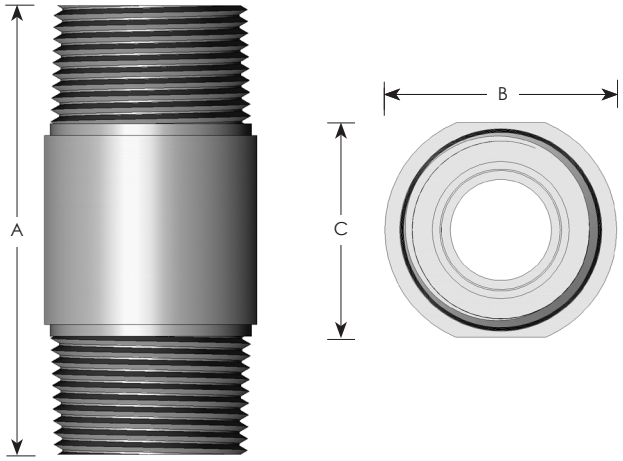
Part Number	Flow Range (gal/min)	K-Factor* (pulses/gal)	Porting	Filtration (micron)	Pressure Rating (psi)	Weight (lbs)
TRG-11.250-5 (EX2)[1]	0.08 to 0.4	125,000	1/2" Male NPT	100	5,000	0.75
TRG-11.300-5 (EX2)[1]	0.13 to 1.06	91,500	1/2" Male NPT	100	5,000	0.75
TRG-11.375-5 (EX2)[1]	0.3 to 3	48,000	1/2" Male NPT	100	5,000	0.75
TRG-11.500-5 (EX2)[1]	0.9 to 9	15,000	1/2" Male NPT	100	5,000	0.75
TRG-11.750-5 (EX2)[1]	1.6 to 16	10,500	1/2" Male NPT	300	5,000	0.75
TRG-11.750 (EX2)[1]	1.6 to 16	10,500	1" Male NPT	300	5,000	1.25
TRG-11.880** (EX2)[1]	3.2 to 32	2,900	1" Male NPT	300	5,000	1.50
TRG-1110 (EX2)[1]	5.3 to 53	800	1-1/2" Male NPT	300	5,000	2.50
TRG-1120L (EX2)[1]	13 to 200	400	2" Male NPT	300	5,000	3.25

**K-Factors given are averaged. A calibration sheet accompanies every meter sold. **This is a direct replacement for the TRG-11.875 and has a doubled K-Factor.*
[1]EX2 versions available.

METER DIMENSIONS

Part Number	A	B	C
TRG-11.250-5 (EX2)[1]	3.00"	1.35"	1.20"
TRG-11.300-5 (EX2)[1]	3.00"	1.35"	1.20"
TRG-11.375-5 (EX2)[1]	3.00"	1.35"	1.20"
TRG-11.500-5 (EX2)[1]	3.00"	1.35"	1.20"
TRG-11.750-5 (EX2)[1]	3.00"	1.35"	1.20"
TRG-11.750 (EX2)[1]	3.00"	1.55"	1.40"
TRG-11.880 (EX2)[1]	3.00"	1.55"	1.40
TRG-1110 (EX2)[1]	3.00"	2.15"	1.95"
TRG-1120L (EX2)[1]	4.00"	2.70"	2.55"

[1]EX2 versions available.



Products may be subject to change without notice - Contact factory for the most up-to-date product information.

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

HM-U Hydraulic System Turbine Flow Meter

Common Uses

The HM-U Hydraulic System Turbine Flow Meter was designed specifically to measure hydraulic fluids. These meters ensure precise regulation and control of flow rates in hydraulic systems. The meter comes with built-in ports for temperature and pressure sensors to be installed directly. This allows customers to add additional instrumentation with less possible leak paths in a small footprint. The sensor is equipped with optional Bluetooth so customers can adjust K-factors, set alarms, totalization, and more all from their mobile device.

Applications include:

- Hydraulic system monitoring
- Test stands
- Mobile hydraulic measurement

Technical Specifications

General Meter Data	
4 Flow Ranges	0.26 to 158.5 gpm (across all meter sizes)
Measuring Accuracy	±0.5% M.V. over full range with 30cP fluid
Repeatability	±0.5%
Linearity	±2.5% of actual flow
Max. Operating Pressure	up to 6,000 psi (420 bar)
Viscosity	30 cSt
End Connections	BSPP female
Two Additional Ports	1/4" BSPP ports for optional temperature and pressure sensors, (customer supplied)
Turndown	up to 15:1
Fluid Temperature Range	-40°F up to 248°F | -40°C to 120°C (sensor dependent)
Ambient Temperature Range	-40°F to 185°F (-40°C to 85°C)

Meter Materials of Construction

Body	Aluminum (DIN 3.4365)
Turbine Impeller	420RM Stainless Steel (DIN 1.4122)
Bearings	HM 007 - 011: Tungsten carbide sleeve bearing HM 022 - 030: Stainless steel ball bearings
Internals	303 Stainless Steel (DIN 1.4305)

AW-LAKE
PROCESS FLOW MEASUREMENT

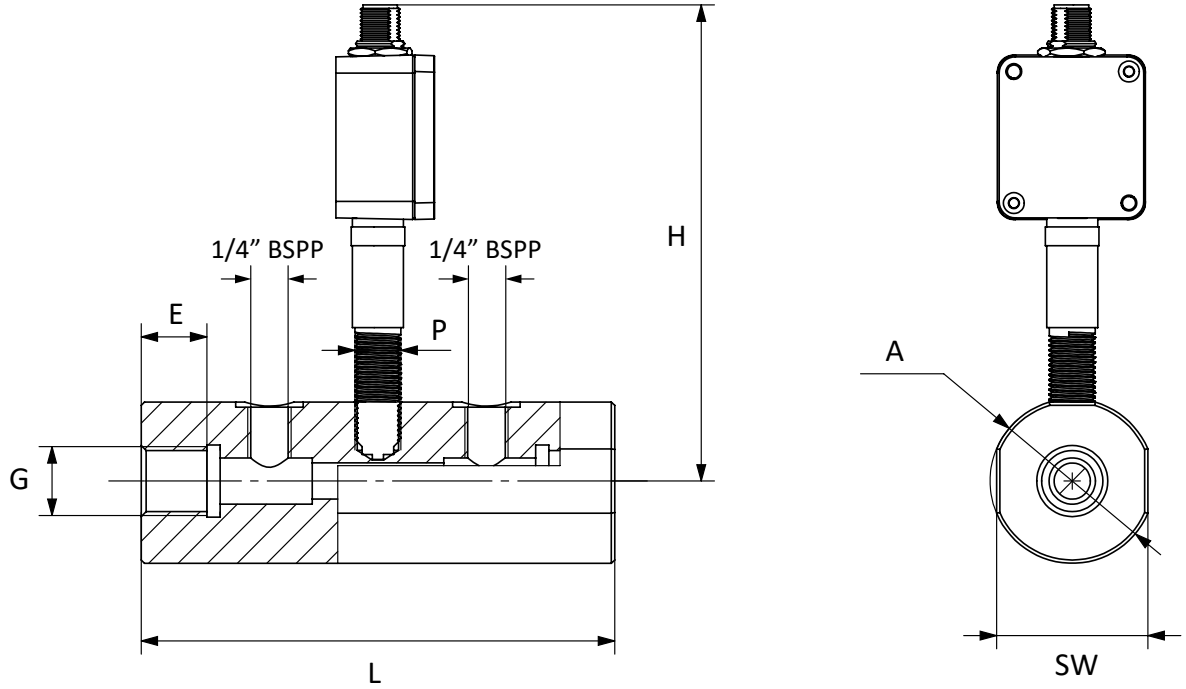
2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

HM-U Hydraulic System Turbine Flow Meter

Meter Data - Sizes

Part Number	Flow Range		Maximum Pressure		Maximum Frequency
	GPM	LPM	PSI	Bar	Hz
HM 007 U	0.26 - 5.28	1.2 - 20	6,000	420	1800
HM 011 U	1.59 - 15.85	6 - 60	6,000	420	1350
HM 022 U	3.96 - 79.25	15 - 300	6,000	420	800
HM 030 U	10.57 - 158.50	40 - 600	6,000	420	860

Meter / Sensor Dimensions



Part Number	ØA	E	G	H*	L	P	SW
HM 007 U	1.95" (49.5mm)	.63" (16mm)	1/4" BSPP	1.86" (47.3mm)	4.61" (117mm)	M14x1.5	1.81" (46mm)
HM 011 U	1.97" (50mm)	.79" (20mm)	1/2" BSPP	1.93" (49mm)	5.67" (144mm)	M14x1.5	1.81" (46mm)
HM 022 U	2.54" (64.5mm)	1.4" (35.5mm)	1-1/4" BSPP	2.51" (63.8mm)	6.1" (155mm)	M14x1.5	2.36" (60mm)
HM 030 U	2.54" (64.5mm)	1.38" (35mm)	1-1/2" BSPP	2.51" (63.8mm)	7.13" (181mm)	M14x1.5	2.36" (60mm)

** The specified values result from the dimensions of the respective turbine plus EDGE sensor.*

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

HM-U Hydraulic System Turbine Flow Meter

Recommended Sensor

AW-Lake offers a wide selection of Sensors/Pickups and Monitors/Controllers to optimize flow measurement and deliver your flow data where you need it and in the format you need it.

HM-U Standard Sensor: EDGE Sensor

Output	Part Number
Pulse Output	EDG3-1A-17S
Analog Output	EDG3-1B-17S
Modbus Output	EDG3-1C-17S

** Consult factory for high temp (over 185°) pickup options.*

Additional Electronics Options:

Please contact Factory for Intrinsically Safe, High Temperature, Local or Remote Displays, or other sensor options.

Visit AW-Lake.com for more information.

EDGE Sensor Data	
Supply Voltage Range	12-24VDC ±10%; max. current draw 40-100mA (model-specific, contact factory)
Analog Output Options	Default: 4-20mA & 0-10V; Available through PC Toolkit or mobile app: 0-5V, 1-5V, 2-10V
Standard Max. Output	±2.5% of max scaling (20.5mA/5.125V/10.25V)
Error Indication	±10% of max scaling (22mA/5.5V/11V)
Analog Output Resolution	16 bit
Analog Output Update Time	100 mSec minimum
Pulse/Frequency Output	Default: Push/Pull output Optional: Sinking or Sourcing Easy setup through PC Toolkit
Bluetooth	Contains Bluetooth Transmitter Module (FCC ID: 12208A-01)

AW-Lake Mobile Toolkit

Monitor your flow from your phone and complete all setup of the EDGE Sensor quickly using AW-Lake Mobile Toolkit App using the below QR code:

Google Play Available on the App Store

Products may be subject to change without notice. Contact factory for the most up-to-date product information.

AW-LAKE PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TW SERIES - OIL & GAS TURBINE FLOW METER

Ideal to withstand the demands of the most rigorous flow measurement applications and is an ideal meter for liquid flow measurement on or off the oilfield.

TECHNICAL SPECIFICATIONS

Flow Ranges
0.6 - 2,500 GPM (gal/min)

Pressure
Working pressure up to 5,000 psi

Accuracy
±1% of reading or better
(±1% of reading over the upper 70% of the measuring range for 3/8, 1/2 and 3/4 in. meters)

Repeatability
±0.1%

Temperature
Fluid temperature of -150° to 300°F

Turndown Ratio
10:1

Calibration
Water (NIST traceable calibration)

End Connections
NPT and Victaulic®

BENEFITS

Accurate & Reliable
The TW Series turbine meter is accurate to ±1% of reading with repeatability of better than ±0.1%.

Rugged & Cost-Effective
All stainless steel construction and tight machining tolerances make for excellent durability/long life.

Port Connections
This flow meter comes with standard NPT or Victaulic® end connections for universal applications.

Versatile
The meter or just the meter internals are perfect drop-in replacements for Kimray NuFlo/Haliburton/Cameron and Blancett turbine flow meters.

Electronic Integration
This meter can accept a variety of existing electronics, such as the SignalFire Flow Totalizer.

Simplified Maintenance
Maintenance is easy with the rotor replacement kit. Rotor can be replaced in just 2-3 minutes.

MATERIALS OF CONSTRUCTION

Body	316 Stainless Steel
Rotor	CD4MCU Stainless Steel
Rotor Shaft	Tungsten Carbide
Rotor Support	316 Stainless Steel

ELECTRONICS

Included Sensor:	Sensor Type:	Output:
MG-300	Magnetic Pick-up	Pulse
Optional Local Display:	**Description:**	
SFTotalizer-1BIS	Intrinsically Safe Wireless Flow Totalizer with LCD Display	

**Contact factory for additional sensor options.*

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TW SERIES - OIL & GAS TURBINE FLOW METER

Ideal to withstand the demands of the most rigorous flow measurement applications and is an ideal meter for liquid flow measurement on or off the oilfield.

METER PART NUMBERS

Part Number	Range (gal/min)	Range (barrels/day)	K-Factor* (pulses/gal)	Porting	Strainer (mesh)	Pressure Rating (psi)	Meter Weight (lb)	Sensor Collar Size	Repair Kit Part Number**
TW-50M-100	0.6-3	20-100	18000	1/2” Male NPT	60	5000	1	1/2" HUB Connection	KIT-50M-100
TW-50M-250	0.75-7.5	25-250	13000	1/2” Male NPT	60	5000	1	1/2" HUB Connection	KIT-50M-250
TW-50M-515	2-15	68-515	3300	1/2” Male NPT	60	5000	1	1/2" HUB Connection	KIT-50M-515
TW-100M-100	0.6-3	20-100	18000	1” Male NPT	60	5000	2	1" HUB Connection	KIT-100M-100
TW-100M-250	0.75-7.5	25-250	13000	1” Male NPT	60	5000	2	1" HUB Connection	KIT-100M-250
TW-100M-515	2-15	68-515	3300	1” Male NPT	60	5000	2	1" HUB Connection	KIT-100M-515
TW-100M-1K	3-30	100-1,000	3100	1” Male NPT	60	5000	2	1" HUB Connection	KIT-100M-1K
TW-100M-2K	5-50	170-2,000	870	1” Male NPT	40	5000	2	1" HUB Connection	KIT-100M-2K
TW-150M-6K	15-180	515-6,000	330	1 1/2” Male NPT	20	5000	5	1" HUB Connection	KIT-150M-6K
TW-200M-6K	15-180	515-6,000	330	2” Male NPT	20	5000	6	1" HUB Connection	KIT-200M-6K
TW-200V-6K	15-180	515-6,000	330	2” Victaulic®	20	800	6	1" HUB Connection	KIT-200V-6K
TW-200F-13K	40-400	1,300-13,000	52	2” Female NPT	20	5000	14	1" HUB Connection	KIT-200F-13K
TW-300M-21K	60-600	2,100-21,000	57	3” Male NPT	10	800	15	1" HUB Connection	KIT-300M-21K
TW-300V-21K	60-600	2,100-21,000	57	3” Victaulic®	10	800	15	1" HUB Connection	KIT-300V-21K
TW-400M-41K	100-1200	3,400-41,000	29	4” Male NPT	10	800	20	1" Hub Connection	KIT-400M-41K
TW-400V-41K	100-1200	3,400-41,000	29	4” Victaulic®	10	800	20	1" Hub Connection	KIT-400V-41K
TW-600M-86K	200-2500	6,800-86,000	7	6” Male NPT	4	800	46	1" Hub Connection	KIT-600M-86K
TW-600V-86K	200-2500	6,800-86,000	7	6” Victaulic®	4	800	46	1" Hub Connection	KIT-600V-86K

**K-Factors given are averaged. A calibration sheet accompanies every meter sold. **Repair Kits include retaining rings, flow straightener and rotor assembly.*

Products may be subject to change without notice - Contact factory for the most up-to-date product information.

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

HM-AC High Pressure Turbine Flow Meter

Common Uses

The HM-AC series of turbine flow meters is ideal when measuring the flow of fluids under high pressure, (up to 20,000 psi) and is available in a variety of flow ranges (0.08 to 32 gallons/minute). These meters come standard with AutoClave® process connections, but are also available in Grayloc® and Techlok®. A complete line of hazardous area approved sensors and displays are available as well.

Applications include:

- Dosing, filling & 2-component mixing systems
- Process monitoring
- Water & DI water
- Inhibitors
- Emulsions
- Fuels, gasoline, kerosene, methanol

Technical Specifications

General Meter Data	
9 Flow Ranges	0.08 up to 32 gpm (across all meter sizes)
Measuring Accuracy	±0.1% (under laboratory conditions, including linearization; viscosity ≥ 1 mm^3/s)
Repeatability	±0.05% (under the same conditions)
Max. Operating Pressure	Up to 20,000 psi
Fluid Temperature	-40° to 302°F (-40° to 150°C)
Viscosity Range	1 to 30 mm^2/s
Flange Standard	DIN Form B, ASME Raised Face (RF)

Meter Materials of Construction

Body	Stainless Steel as per DIN 1.3980
Rotor Support	316 Ti Stainless Steel
Rotor	329 Stainless Steel as per DIN 1.4460
Bearings/Shaft	Tungsten carbide sleeve bearing

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

HM-AC High Pressure Turbine Flow Meter

Meter Data - Sizes

Part Number	Range (gal/min)	Medium Pressure AutoClave	K-Factor (Pulses/ gal)	Max. Frequency (0-max. Hz)	Pressure Rating (psi)	Weight (lbs)
HM 003/AC	0.08 to 0.4	9/16”	123,000	1,100	20,000*	4.2
HM 004/AC	0.13 to 1.05	9/16”	94,600	1,700	20,000*	4.4
HM 005/AC	0.2 to 1.6	3/4”	67,400	1,750	20,000*	4.8
HM 006/AC	0.3 to 2.6	3/4”	45,400	2,100	20,000*	4.8
HM 007/AC	0.5 to 5	1”	19,000	1,650	20,000*	5.1
HM 009/AC	0.9 to 9	1”	19,000	2,750	20,000*	5.3
HM 011/AC	1.6 to 16	1”	5,000	1,350	20,000*	5.3
HM 013/AC	2.25 to 22.5	1-1/2”	3,500	1,300	15,000	12.1
HM 017/AC	3.2 to 32	1-1/2”	1,440	840	15,000	12.1

**Pressure rating drops to 15,000 psi if used with RT-30EX or HUB-40EX sensors.*

Sensor Recommendations

Model	Sensor Type	Temp (°F)
EX Meters		
RT-30EX	Hazardous area rated local flow rate transmitter	-6 to 140
HUB-40EX	Hazardous area rated sensor	-40 to 140
Non EX Meters		
RT-30SD	Local flow rate transmitter	-40 to 140
VTE 02	Pulse output sensor	-40 to 248
VTE 02-EX	Intrinsic safe pulse output sensor	-40 to 185

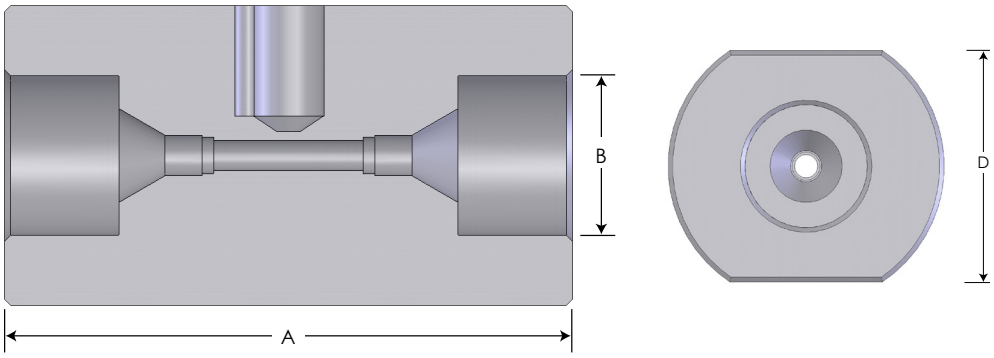
**For additional sensors such as extended temperature range, contact factory.*

Meter Dimensions

Part Number	A	B	D
HM 003/AC	3.54”	13/16”	1.97”
HM 004/AC	3.54”	13/16”	1.97”
HM 005/AC	4.13”	3/4”	1.97”
HM 006/AC	4.13”	3/4”	1.97”
HM 007/AC	5.31”	1-3/8”	1.97”
HM 009/AC	5.31”	1-3/8”	1.97”
HM 011/AC	5.51”	1-3/8”	1.97”
HM 013/AC	6.89”	1-7/8”	2.76”
HM 017/AC	7.01”	1-7/8”	2.76”

Ordering

Cotact factory for Part Number Configuration



Products may be subject to change without notice. Contact factory for the most up-to-date product information.

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TA Turbine Flow Meter

Common Uses

The TA turbine flow meter is an excellent choice for pre-process food and beverage applications that require high accuracy without 3-A approval. This meter comes with Tri-Clamp process fitting making it ideal to use in clean-out-of-place (COP) and sanitize-out-of-place (SOP) applications. Their 316L stainless steel construction provides a durable and cost-efficient flow measurement system that offers excellent accuracy and repeatability.

Applications include:

- Dairy
- Brewing
- Wine production
- Food processing

Technical Specifications

General Meter Data	
9 Flow Ranges	0.6 to 400 GPM (gal/min)
Measuring Accuracy	± 1.0% of reading or better *(±1% of reading over the upper 70% of the measuring range for 3/8, 1/2 and 3/4 in. meters)*
Repeatability	±0.1%
Max. Operating Pressure	Working pressure up to 1,000 psi (69 bar)
Process Connections	DIN 32676-C
Turndown	10:1
Max. Fluid Temperature	300°F | 149°C (sensor & seal dependent)
Electrical Connection	NEMA 6 Connector

Meter Materials of Construction

Body & Rotor Support	316L Stainless Steel
Rotor	Nickel Plated Stainless Steel
Bearings	Nickel Bindery Tungsten Carbide

Electronics*

Model	Sensor Type	Temp (°F)
MAG-INVA	Amplified Pulse Output	0 to 140
RT-30SD	15-24 VDC Powered Monitor	0 to 140

**Contact factory for additional sensor options.*

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TA Turbine Flow Meter

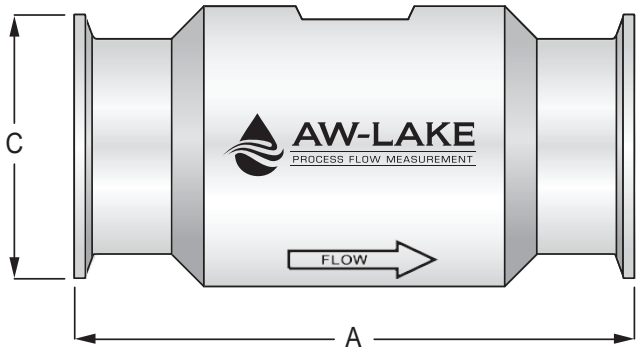
Meter Data - Sizes

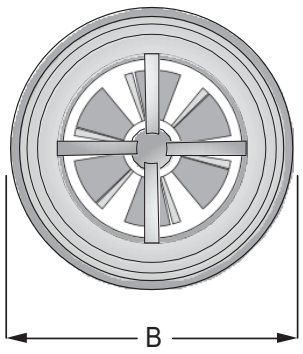
Part Number	Range (gal/min)	K-Factor * (Pulses/ gal)	Meter Size	Clamp Size	Weight (lbs)
TA-75-375-1	0.6 to 3	20,000	3/8″	3/4″	1
TA-75-500-1	0.75 to 7.5	13,000	1/2″	3/4″	1
TA-75-750-1	2 to 15	2,750	1/2″	3/4″	1
TA-150-500-1	0.75 to 7.5	13,000	1/2″	1-1/2″	3
TA-150-750-1	2 to 15	2,750	1/2″	1-1/2″	3
TA-150-875-1	3 to 30	2,600	7/8″	1-1/2″	3
TA-150-100-1	5 to 50	870	1″	1-1/2″	3
TA-150-150-1	15 to 180	330	1-1/2″	1-1/2″	5.5
TA-250-200-1	40 to 400	50	2″	2-1/2″	8.5

** K-Factors given are averaged. A calibration sheet accompanies every meter sold.*

Meter / Sensor Dimensions

Part Number	A	B	C
TA-75-375-1	3"	1.5"	1"
TA-75-500-1	3"	1.5"	1"
TA-75-750-1	3"	1.5"	1"
TA-150-500-1	4"	2.0"	2"
TA-150-750-1	4"	2.0"	2"
TA-150-875-1	4"	2.0"	2"
TA-150-100-1	4"	2.0"	2"
TA-150-150-1	6.25"	2.3"	2"
TA-250-200-1	6.5"	2.3"	3"





HM-F Flanged Turbine Flow Meter

Common Uses

The HM-F series of turbine flow meters can handle low viscosity fluids flowing under extremely high pressure. They are best suited for use with hydraulic oil, fuel and other light oils when ANSI or tri-clamp flanges are required. The turbine wheel's low moment of inertia allows a fast acceleration from standstill up to full number of revolutions within 5 to 50 milli-seconds, making dynamic measurements possible.

Applications include:

- Consumption measurement
- Filling processes
- Dosing systems
- 2-component mixing & blending
- Test stands

Technical Specifications

General Meter Data	
8 Flow Ranges	1.32 to 2641.7 gpm (across all meter sizes)
Measuring Accuracy	±1% standard, ±0.5% with EDGE sensor
Repeatability	±0.05%
Pressure Rating	232 up to 3,626 psi | 16 to 250 bar (at room temperature), defined by the specification of the flange connections
Viscosity	1 to 10 cSt
End Connections	Flange standard ASME Raised Face (RF) or DIN Form B
Turndown	up to 15:1
Fluid Temperature Range	-76°F up to 662°F | -60°C to 350°C

Meter Materials of Construction

Housing	316L Stainless Steel (DIN 1.4404), other materials on request
Internals	316L Stainless Steel (DIN 1.4404), other materials on request
Wheels	AISI S31803 (DIN 1.4462), other materials on request
Bearing	Tungsten carbide sleeve bearing

HM-F Flanged Turbine Flow Meter

Meter Data - Sizes

Connection Size	Flow Range (GPM)		K-Factor	Maximum Frequency
	Standard	Extended	pulses/gal	Hz
DN 15 – ½"	1.32 - 13.2	0.26 - 20	11,924.0	2625
DN 25 – 1"	5.28 - 66.0	0.79 - 66.0	1,684.5	1854
DN 40 – 1½"	13.2 - 198.1	2.64 - 198.1	401.3	1325
DN 50 – 2"	18.5 - 317.0	5.28 - 317.0	246.1	1300
DN 65 – 2½"	26.4 - 528.3	7.93 - 528.3	94.6	833
DN 80 – 3"	42.3 - 845.4	11.89 - 845.4	41.6	587
DN 100 – 4"	66.0 - 1320.9	--	26.5	583
DN 150 – 6"	92.5 - 2641.7	--	9.5	417

Part Number Guide

HM - [ ] - [ ] - [ ] - [ ] - [ ]

Connection Size

015	=	DN 15 flange
025	=	DN 25 flange
040	=	DN 40 flange
050	=	DN 50 flange
065	=	DN 65 flange
080	=	DN 80 flange
100	=	DN 100 flange
150	=	DN 150 flange
1/2"	=	½ inch flange
1"	=	1 inch flange
1-1/2"	=	1½ inch flange
2"	=	2 inch flange
2-1/2"	=	2½ inch flange
3"	=	3 inch flange
4"	=	4 inch flange
6"	=	6 inch flange

Flange Norm & Form

FAB	=	ASME B16.5 Raised Face
FDB	=	DIN EN 1092-1 Form B

Pressure Rating

150	=	Class 150
300	=	Class 300
600	=	Class 600
900	=	Class 900
1500	=	Class 1500
16	=	PN 16
40	=	PN 40
100	=	PN 100
160	=	PN 160
250	=	PN 250

Material (Housing & Internals)

04	=	316L Stainless Steel (DIN 1.4404)

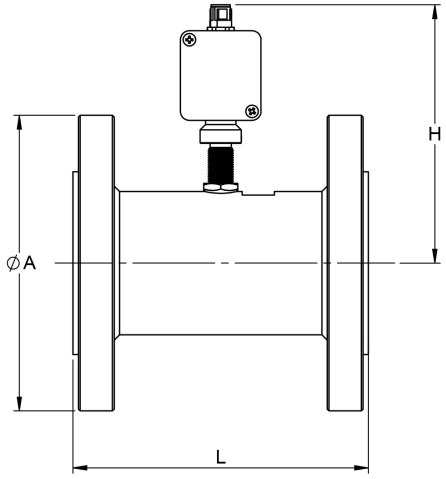
Pickup Holes

G	=	Single pickup M14x1.5
Z	=	Single pickup M14x1.5; Exd-capable*
P	=	Dual pickup 2x M14x1.5; phase-shifted

** Exd capable pickup hole not available for 1/2" or DN 15 connections.*

HM-F Flanged Turbine Flow Meter

Meter / Sensor Dimensions



Inch flanges as per ASME B 16.5, Raised Face (RF)

Connection Size	L	ØA - Flange diameter					H[3)]
		Class 150	Class 300	Class 600	Class 900	Class 1500	
½ inch	5.00" | 127 mm	3.54" | 90 mm	3.74" | 95 mm	3.74" | 95 mm	Please use class 1500.	4.72" | 120 mm	4.92" | 125 mm
1 inch	5.50" | 140 mm	4.33" | 110 mm	4.92" | 125 mm	4.92" | 125 mm		5.91" | 150 mm	5.20" | 132 mm
1½ inch	6.00" | 152 mm	4.92" | 125 mm	6.10" | 155 mm	6.10" | 155 mm		7.09" | 180 mm	5.51" | 140 mm
2 inch	6.50" | 165 mm	5.91" | 150 mm	6.50" | 165 mm	6.50" | 165 mm		8.46" | 215 mm	5.71" | 145 mm
2½ inch	7.00" | 178 mm	7.09" | 180 mm	7.48" | 190 mm	7.48" | 190 mm		9.65" | 245 mm	6.02" | 153 mm
3 inch	10.00" | 254 mm	7.48" | 190 mm	8.27" | 210 mm	8.27" | 210 mm	9.45" | 240 mm	—	6.30" | 160 mm
4 inch	12.00" | 305 mm	9.06" | 230 mm	10.04" | 255 mm	10.83" | 275 mm	11.42" | 290 mm	—	6.69" | 170 mm
6 inch	14.00" | 356 mm	11.02" | 280 mm	12.60" | 320 mm	13.98" | 355 mm	—	—	7.68" | 195 mm

Metric flanges as per DIN-EN 1092-1 Form B

Connection Size	L	ØA Flange Diameter					
		PN 16	PN 40	PN 100	PN 160	PN 250	H[3]
DN 15	5.00" | 127 mm	Please use PN 40.	3.74" | 95 mm	4.13" | 105 mm	4.13" | 105 mm	5.12" | 130 mm	4.92" | 125 mm
DN 25	5.50" | 140 mm		4.53" | 115 mm	5.51" | 140 mm	5.51" | 140 mm	5.91" | 150 mm	5.20" | 132 mm
DN 40	6.00" | 152 mm		5.91" | 150 mm	6.69" | 170 mm	6.69" | 170 mm	7.28" | 185 mm	5.51" | 140 mm
DN 50	6.50" | 165 mm	6.50" | 165 mm	6.50" | 165 mm	7.68" | 195 mm	7.68" | 195 mm	7.87" | 200 mm	5.71" | 145 mm
DN 65	7.00" | 178 mm	7.28" | 185 mm	7.28" | 185 mm	8.66" | 220 mm	8.66" | 220 mm	—	6.02" | 153 mm
DN 80	10.00" | 254 mm	7.87" | 200 mm	7.87" | 200 mm	9.06" | 230 mm	9.06" | 230 mm	—	6.30" | 160 mm
DN 100	12.00" | 305 mm	8.66" | 220 mm	9.25" | 235 mm	10.43" | 265 mm	—	—	6.69" | 170 mm
DN 150	14.00" | 356 mm	11.22" | 285 mm	11.81" | 300 mm	13.98" | 355 mm	—	—	7.68" | 195 mm

HM-F Flanged Turbine Flow Meter

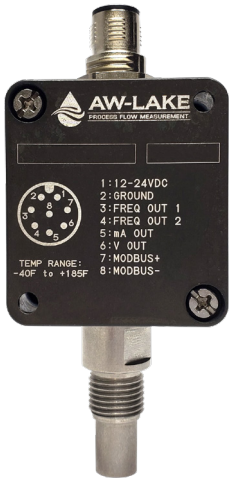
Recommended Sensor

AW-Lake offers a wide selection of Sensors/Pickups and Monitors/Controllers to optimize flow measurement and deliver your flow data where you need it and in the format you need it.

HM-F Standard Sensor: EDGE Sensor

Output	Part Number
Pulse Output	EDG3-1A-17S
Analog Output	EDG3-1B-17S
Modbus Output	EDG3-1C-17S

** Consult factory for high temp (over 185°) pickup options.*



Additional Electronics Options:

Please contact Factory for Intrinsically Safe, High Temperature, Local or Remote Displays, or other sensor options.

Visit AW-Lake.com for more information.

EDGE Sensor Data	
Supply Voltage Range	12-24VDC ±10%; max. current draw 40-100mA (model-specific, contact factory)
Analog Output Options	Default: 4-20mA & 0-10V; Available through PC Toolkit or mobile app: 0-5V, 1-5V, 2-10V
Standard Max. Output	±2.5% of max scaling (20.5mA/5.125V/10.25V)
Error Indication	±10% of max scaling (22mA/5.5V/11V)
Analog Output Resolution	16 bit
Analog Output Update Time	100 mSec minimum
Pulse/Frequency Output	Default: Push/Pull output Optional: Sinking or Sourcing Easy setup through PC Toolkit
Close Proximity Wireless	Contains BT Transmitter Module (FCC ID: 12208A-01)

AW-Lake Mobile Toolkit

Monitor your flow from your phone and complete all setup of the EDGE Sensor quickly using AW-Lake Mobile Toolkit App using the below QR code:

Google Play Available on the App Store

Products may be subject to change without notice. Contact factory for the most up-to-date product information.

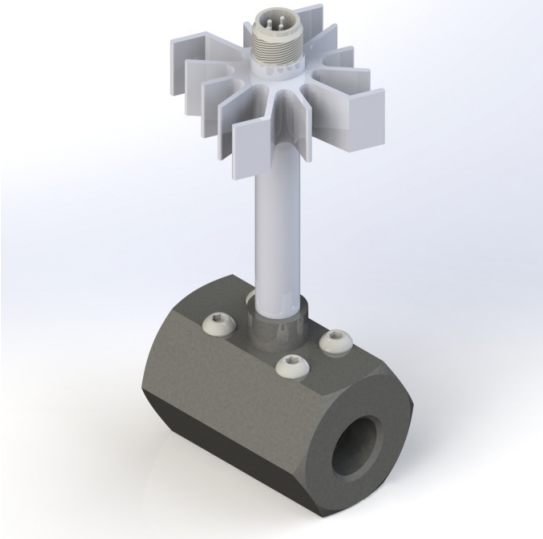
AW-LAKE PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TRP Pelton Wheel High Temp Turbine Flow Meter

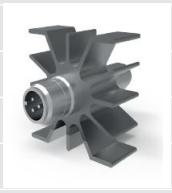
Common Uses

The TRP High Temperature Turbine Flow Meter was designed specifically to integrate into high temperature heat transfer loops often associated with maintaining ideal temperatures in the metal die casting industry. Maintaining consistent mold temperatures ensures controlled curing and optimum mold release of cast parts with reduced cycle times. With accuracies of 2.5% and repeatability of 0.5% the TRP High Temperature Turbine Flow Meter delivers the accuracy required in even the toughest applications with contaminated or extremely hot oil heat transfer media.



Technical Specifications

METER:	
Overall Flow Range	0.75 to 75 gpm (across all meter sizes)
4 Flow Ranges	.75 to 7.5 gpm, 2.5 to 25 gpm, 4 to 40 gpm, 8 to 75 gpm
Measuring Accuracy	±2.5% of actual flow
Repeatability	±0.5%
Viscosity Range	0.8 to 10cSt
Meter Sizes	1/2" through 1"
Piping Connections	±½" through 2"
Fluid Temperature Range	-76°F to 662°F (-60 to 350°C)
Max. Operating Pressure	290 psi | 20 bar
SENSOR:	
Output	0.5 mV to 500 mV
Frequency Range	7 to 820 Hz depending on flow meter
Media Temperature Range (Non Ex)	-76°F to 662°F (-60 to 350°C)
Media Temperature Range (Ex)	-4°F to 464°F (-20 to 240°C)
Connection	MIL 3-pole
Housing Material	Stainless steel
AMPLIFIER:	
Supply Voltage	12-24 VDC
Output	??
Frequency Range	7 to 820 Hz depending on flow meter
Ambient Temperature Range	-40°F to 176°F (-40 to 80°C)



AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TRP Pelton Wheel High Temp Turbine Flow Meter

Meter Data

Part Number	Flow Range (GPM)		Maximum Pressure		Resolution	Ports
	GPM	LPM	PSI	Bar	Hz	
TRP-50	0.8-8	3.0-30	290	20	520	1/2" NPT
TRP-70	2.25-22.5	8.5-85	290	20	980	3/4" BSPP
TRP-100	4-40	15-150	290	20	770	1" BSPP
TRP-100H	7.4-74	28-280	290	20	820	1" BSPP

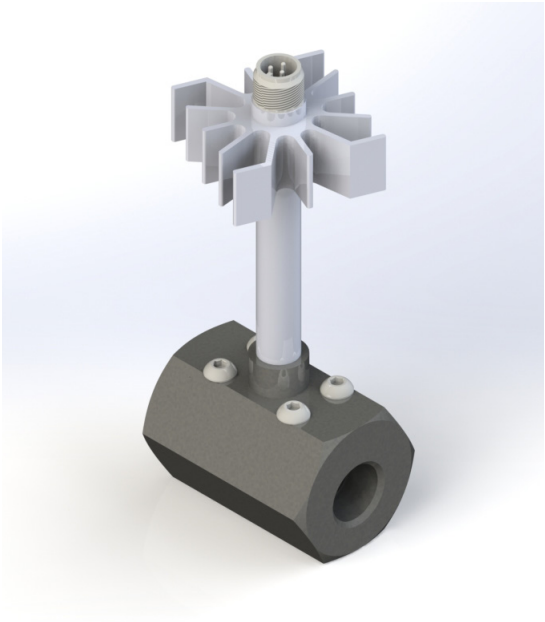
Part Number Guide

TRP – □ – □ – □

Sealing Material
A = Graphite (max. Temp 662°F / 350°C)

Flow Range
50 = 0.75 to 7.5 GPM
70 = 2.5 to 25.0 GPM
100 = 4.0 to 40.0 GPM
100H = 8.0 to 75.0 GPM

Process Connection
G = 1/2" NPT (TRP-50 only)
G = 3/4" BSPP (TRP-70 only)
G = 1" BSPP (TRP-100 or -100H only)



Materials of Construction

Body	303 Stainless Steel
Wheels	Stainless Steel (DIN 1.4122)
Bearings	Brass or Ceramic
Seals	FKM, Graphite
Bolts	ISO 4017 or ISO 7380

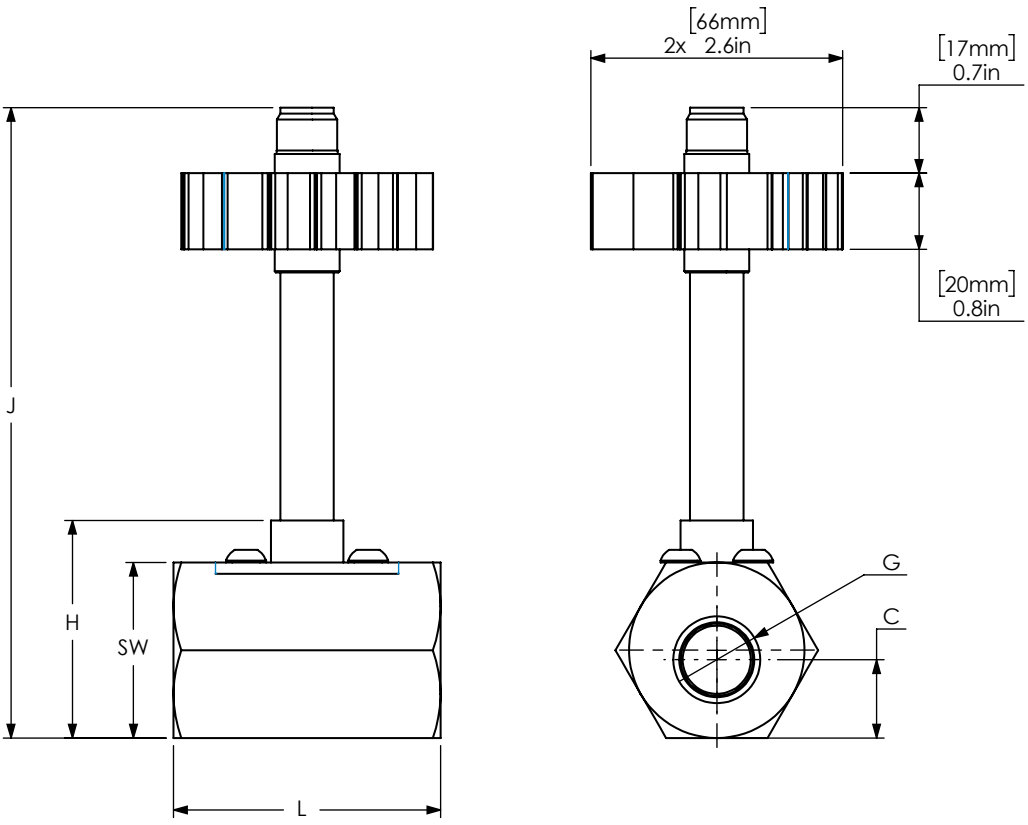
Products may be subject to change without notice.
Contact factory for the most up-to-date product information.

AW-LAKE PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TRP Pelton Wheel High Temp Turbine Flow Meter

Meter Dimensions



Part Number	C	L	SW	H	G	J
TRP-50	0.81" (20.5 mm)	2.75" (70 mm)	1.8" (46 mm)	2.24" (57 mm)	1/2"	6.5" (165 mm)
TRP-70	0.81" (20.5 mm)	2.75" (70 mm)	1.8" (46 mm)	2.24" (57 mm)	1/2" 3/4"	6.5" (165 mm)
TRP-100	0.81" (20.5 mm)	2.75" (70 mm)	2.0" (50 mm)	2.40" (61 mm)	1"	6.7" (169 mm)
TRP-100H	0.91" (23 mm)	2.75" (70 mm)	2.2" (55 mm)	2.60" (66 mm)	1"	6.9" (174 mm)

3D STEP Models are available upon request of factory.
Products may be subject to change without notice. Contact factory for the most up-to-date product information.

AW-LAKE PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TR-QS SERIES - TURBINE FLOW METER

Ideal for high performance flow measurement in aggressive environments, where space is limited and installation needs vary.

TECHNICAL SPECIFICATIONS

Measuring Accuracy
± 1.0% of reading or better

Repeatability
± 0.1%

Flow Measuring Range
5 to 2,500 GPM (gal/min)
(per flange rating of install kit)

Maximum Operating Pressure
Refer to ASME/ANSI B16.5-1996

Maximum Operating Temperature
Fluid temperature of -150° to 300°F

End Connections
Wafer-style ASME/ANSI B16.5-1996
- Threaded, Flange, Graloc & Victaulic

**Actual pressure rating depends on installtion connection.*

MATERIALS OF CONSTRUCTION

Body & Rotor Support	316 Stainless Steel
Bearings	Tungsten Carbide
Rotor	Stainless Steel
Rotor Shaft	Tungsten Carbide

BENEFITS

Accurate & Reaptable
The TR Series turbine meter is accurate to ±1% of reading with repeatability of better than ±0.1%.

Smart & Simple Design
Unique design eliminates the need for mating flanges, resulting in lower costs and simplifying installation.

Space-Saver
Wafer-style mounting configurations for limited space requirements.

High Performance
This flow meter is made from superior materials of construction for high performance in aggressive environments.

Improved Accuracy
The modiffied upstream and downstream flow straighteners allow for a higher accuracy and greater fluid dynamics.

INSTALLATION KITS

Each kit includes studs, nuts, gaskets and spacer rings.

Size	150#	300#	600#	900#	1500#
1”	TR-1110QS-150	TR-1110QS-300	TR-1110QS-600	TR-1110QS-900	TR-1110QS-1500
2”	TR-1120QS-150	TR-1120QS-300	TR-1120QS-600	TR-1120QS-900	TR-1120QS-1500
3”	TR-1130QS-150	TR-1130QS-300	TR-1130QS-600	TR-1130QS-900	TR-1130QS-1500
4”	TR-1140QS-150	TR-1140QS-300	TR-1140QS-600	TR-1140QS-900	TR-1140QS-1500
6”	TR-1160QS-150	TR-1160QS-300	TR-1160QS-600	TR-1160QS-900	TR-1160QS-1500

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com

TR-QS SERIES - TURBINE FLOW METER

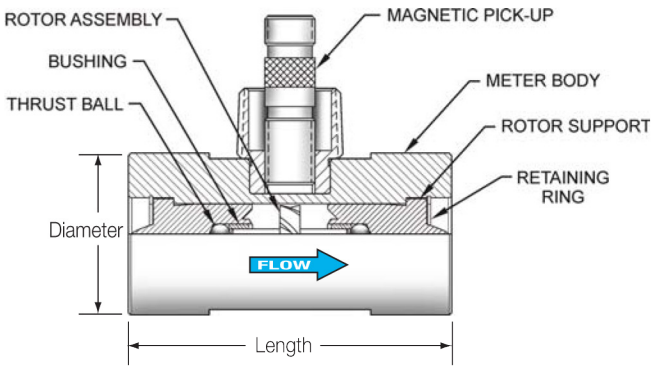
Ideal for high performance flow measurement in aggressive environments, where space is limited and installation needs vary.

METER SPECIFICATIONS

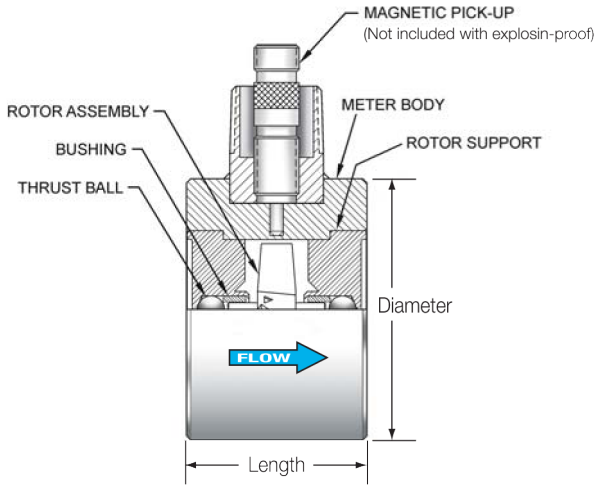
Part Number	Flow Range (Gal/min)	K-Factor * (Pulses/gal)	Bore Size x Line Size	Filtration (micron)	Dimensions (Diam x Lngth)	Repair Kit Part Number
TR-1110QS	5 - 50	870	1" x 1"	250	2" x 4"	TR-112QS
TR-1115QS	5 - 50	870	1" x 2"	250	2" x 4"	*consult factory*
TR-1118QS	15 - 180	330	1½" x 2"	840	3.62" x 2.5"	*consult factory*
TR-1120QS	40 - 400	52	2" x 2"	840	3.62" x 2.5"	TR-220QS
TR-1130QS	60 - 600	57	3" x 3"	2000	5" x 4.25"	TR-330QS
TR-1140QS	100 - 1200	29	4" x 4"	2000	6.18" x 5"	TR-440QS
TR-1160QS	200 - 2500	7	6" x 6"	4500	8.5" x 5.75"	TR-660QS

**K-Factors given are averaged. A calibration sheet accompanies every meter sold.*

Model TR1110QS only



Model TR1120QS through TR1160QS



Products may be subject to change without notice - Contact factory for the most up-to-date product information.

AW-LAKE
PROCESS FLOW MEASUREMENT

2440 W. Corporate Preserve Dr. #600, Oak Creek, WI 53154 | www.aw-lake.com