Viscosity-compensated variable area flow meter

Nickel-plated brass, up to 250 bar

Series: S-BWA5

Overview

Product type	Variable area flow meter for local flow reading
Medium	Oils and other liquids, 30 to 600 cSt
Flow ranges	0.1 to 110 l/min over 12 models (smallest range 0.1-0.8, largest 35-110 l/min)
Connection	G 1" female thread
Body material	Nickel-plated brass
Pressure rating	250 bar (≈3630 psi)
Power supply	Not required

Description

This variable area flow meter shows the flow of oil directly on a scale in l/min. It needs no power supply or wiring and suits local flow checks in lubrication, hydraulic and cooling oil circuits of machines and plants.

A spring-loaded float moves with the flow. Specially shaped measuring bores compensate for viscosity, so one scale stays valid for oils from 30 to 600 cSt (centistokes); the scale does not have to be adjusted to the medium or the pressure.

The meter has no electrical output. For a switching signal at a set flow, choose the variable area flow meter with switch contact.

Features

- Direct flow reading in l/min, no power supply or wiring
- Viscosity compensation for oils from 30 to 600 cSt, without recalibration for a change of oil or pressure
- Nickel-plated brass body rated to 250 bar
- 12 models between 0.1 and 110 l/min, each with its own range, all with the same dimensions
- Any mounting position, preferably with upward flow
- Maintenance limited to occasional cleaning

Technical data

Medium	Mineral oils and other liquids with a viscosity of 30 to 600 cSt (0.1-0.8 l/min version: 30 to 400 cSt)
Measuring range	0.1 to 110 l/min over 12 models; each model has its own range, from 0.1-0.8 l/min (smallest) to 35-110 l/min (largest), see models
Measuring principle	Spring-loaded float (variable area)
Accuracy	±5 % of full scale
Pressure loss	0.02 to 0.4 bar (range given for the series)
Connection	G 1" female thread (DIN 228), wrench size 40
Pressure rating	250 bar (≈3630 psi)
Medium temperature	-20 to +120 °C (≈-4 to 248 °F)
Ambient temperature	Max. +80 °C (≈176 °F)
Mounting position	Any, preferably with upward flow
Flow direction	One direction only, from the low to the high scale value
Protection class	IP53
Weight	Approx. 1.2 to 1.3 kg

Materials

Body	Nickel-plated brass
Float	Brass
Spring	Stainless steel 1.4310
Stop rings	Brass
Seals	FKM
Display	Polycarbonate / stainless steel 1.4301

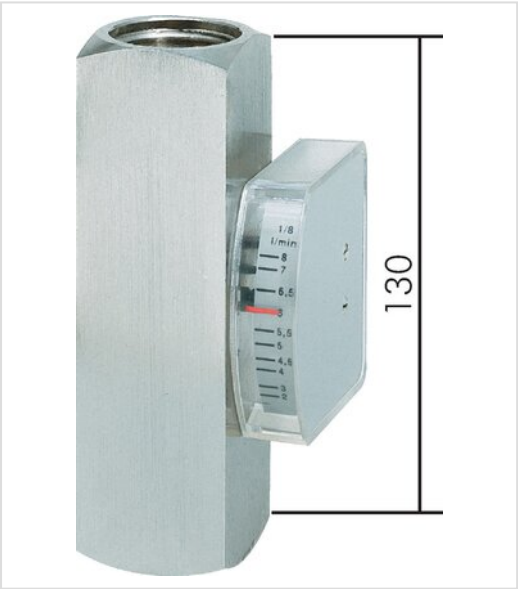
Models

All models have a G 1" female thread and the same dimensions. Choose the model whose range includes the normal operating flow.

Tameson SKU	Measuring range	Viscosity	Connection	Pressure rating	Weight
M287K	0.1 - 0.8 l/min	30 - 400 cSt	G 1" female	250 bar	1.2 kg
M287M	0.5 - 1.5 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287N	1 - 4 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287P	2 - 8 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287Q	3 - 10 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287R	5 - 15 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287S	8 - 24 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287T	10 - 30 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287U	15 - 45 l/min	30 - 600 cSt	G 1" female	250 bar	1.3 kg
M287V	20 - 60 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg
M287W	30 - 90 l/min	30 - 600 cSt	G 1" female	250 bar	1.3 kg
M287X	35 - 110 l/min	30 - 600 cSt	G 1" female	250 bar	1.2 kg

Dimensions

The dimensions are the same for all flow ranges.



Dimension	Value
Overall length	130 mm
Connection	G 1" female thread (DIN 228)
Body width (wrench size)	40 mm
Weight	Approx. 1.2 to 1.3 kg

Installation

1. **Check the medium**
   The medium must not carry solid particles. Magnetic particles can also cause faults; fit a dirt trap with a double screen or a magnetic filter upstream.

2. **Provide straight pipe runs**
   10 × D upstream and 5 × D downstream of the device (D = nominal pipe diameter) to avoid measuring errors.

3. **Observe the flow direction**
   The flow must run from the low to the high scale value.

4. **Use suitable threads and sealant**
   All threads are G threads to DIN 228. Use only matching fittings and sealant; unsuitable ones affect function and tightness.

> ⚠ **Warning**
> When screwing in fittings, hold the device body against the torque with a suitable open-end wrench on the wrench flats. The screw connection must not turn against the body, or the device can leak.

5. **Mounting position**
   Any; upward flow from bottom to top is preferred.

Maintenance

The meter has only a few moving parts, so maintenance is limited to occasional cleaning. Keep solid and magnetic particles out of the medium with a dirt trap or magnetic filter upstream. Before cleaning, depressurize and drain the line.

> ⚠ **Warning**
> Do not exceed the maximum pressure (250 bar) and temperature (+120 °C medium, +80 °C ambient). Depressurize and drain the line before removing the meter.

Tameson B.V.
Torenallee 20, 5617 BC Eindhoven, The Netherlands
CoC: 72902531
VAT: NL859280263B01

Contact Information
support@tameson.com
tameson.com

Document Information
Version: 1.0

Specifications subject to change without notice. Verify current specifications before ordering.