

PRODUCT DATA SHEET

DS1221

SCREWED METAL TUBE VA GMTB & S Series



Part of the Roxspur GMT Variable Area flowmeter family, models GMTB and GMTS are brass or Stainless steel tube flowmeters with female screwed connections. With $\frac{1}{2}$, 1" and 2" BSP threaded fittings standard, the meters are ideal for arduous industrial service as an alternative to large glass tube flowmeters. They have particular advantages for gas or liquid flow measurement at high pressures and temperatures or where the fluids are opaque or dark coloured or to provide higher operational security for dangerous or toxic materials.

The VA meter principle used in the Roxspur GMT flowmeter measures the position of a float in a precision-machined tapered tube. The float rises with the flow up the taper until the upthrust from the flow balances with the weight of the float. A magnet, electron beam welded into the float casing, drives the external meter indication over a 100mm scale typically displaying a 10:1 flow range.

Options available on the GMTB/GMTS include flow alarm outputs for high or low adjustable set points and electronic 4-20mA flow transmitter outputs. All of these are available with CENELEC intrinsically safe approval. For low-pressure natural gas flow measurement, models are available with minimal line pressure loss. Special versions are available for oxygen service. All units are available calibrated for the specific line conditions or fluid involved.

FEATURES

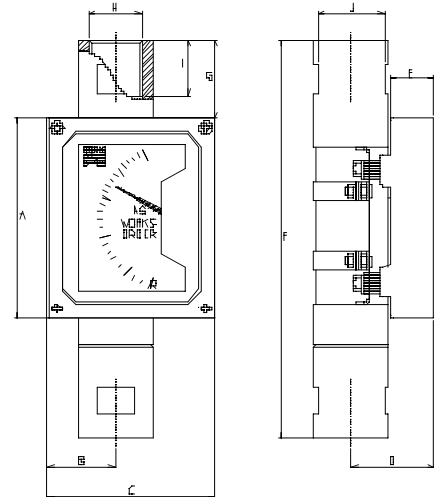
- Economic construction
- BSP screw ed end fittings
- Brass or stainless steel
- Wide flow ranges
- Sizes 15-50mm $\frac{1}{2}$ " –2" bore
- Integral damping on gas flow lines
- Local indication
- Calibration for wide range of gases and liquids
- Optional electronic outputs



SPECIFICATION

Body materials:	GMTB: Brass GMTS: 316 Stainless steel
Float and float guides:	316 stainless steel
Indicator housing:	Aluminium alloy LM25M polyester coated, weather-proofed to IP65
Connections:	BSP female parallel threads sizes $\frac{1}{2}$ ", 1", 2"
Scale length:	100mm, 150 degrees. Air or water. Custom scales available to order
Tumdown:	Typically 10:1
Accuracy:	$\pm 2\%$ FSD
Hysteresis:	Less than 0.5%
Pressure:	GMTB: 75 bar GMTS: 100 bar
Temperature maximum:	200°C
Dashpot damper:	To smooth out flow fluctuations and noise on gas flows, a dashpot damper is built in. This is suitable for clean gases where particulate matter is less than 50 microns.
Natural Gas:	Special variant using PVC coated float assembly for low-pressure gases. Line pressure loss 1.3-7.6 mBar dependent on flow range. Specify line pressure and flow range required.

DIM	15	25	50
A	126	126	126
B	51	45	42
C	106	106	106
D	48	51	66
E	27	27	27
F	250	250	250
G	51	49	49
H	$\frac{1}{2}$ " BSP	1" BSP	2" BSP
I	26	34	27
J	27	41	60



STANDARD FLOW RANGES

Size	Model	Max Water Flow At 20°C (litres/hour)	Max Air Flow (m ³ /hr at 20°C, 1.0138)	Pressure Drop At Max Flow (mBar)
$\frac{1}{2}$ "	GMT*151*	160	5	15
	GMT*152*	250	7.5	30
	GMT*153*	400	12	20
	GMT*154*	600	18	35
1"	GMT*251*	1000	30	15
	GMT*252*	1600	50	30
	GMT*253*	2500	75	35
	GMT*254*	4000	120	80
	GMT*255*	6000	200	160
2"	GMT*351*	6000	180	30
	GMT*352*	10000	300	40
	GMT*353*	16000	600	80
	GMT*354*	25000	1000	190

* In the model code, GMTB represents brass and GMTS stainless steel flow tube construction. The final suffix is L for Liquid and G for Gas operation.

INSTALLATION NOTES

1. The instrument should be installed vertically in the pipework with the direction of flow vertically upwards.
2. Ensure that any ferromagnetic material is clear of the body and indicator case by 100mm minimum.
3. The upstream and downstream pipe bores should be the same nominal size as the instrument. Straight pipe lengths of 5 diameters upstream and 2 diameters downstream should be provided if possible.
4. Before the meter is installed, the pipeline should be checked, cleaned and flushed to eliminate any foreign matter. An appropriate filter should be fitted upstream if any particle present is likely to be greater than 50 microns.

OPTIONS AVAILABLE

Calibration for different liquids or gases or for non-standard operating process conditions.
Flow alarm outputs or analogue 4-20mA outputs, with CENELEC approval if required.
Higher pressure or temperature models.

Alternative materials or screw threads for all end connections, including hygienic polished and PTFE lined versions.
Special models for oxygen service, including all brass designs. Stainless steel flanged versions of the GMT flowmeter are described in Roxspur data DS1220

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