

# TopMeter Return

Balancing valve top  $\frac{3}{8}$ " and  $\frac{1}{2}$ "



**Direct regulation, indication and isolation of flows from heating and cooling circuits in manifold return pipe bars.**

## Description

The TopMeter offers an easy and accurate method of adjusting flow rates. The underlying measuring principle requires that the flow has settled in order to ensure reliable indicator values. No complicated flow adjustment is required on the return pipe TopMeter to achieve this. Rather, the medium allows ideal inflow from the upstream inlet pipe.

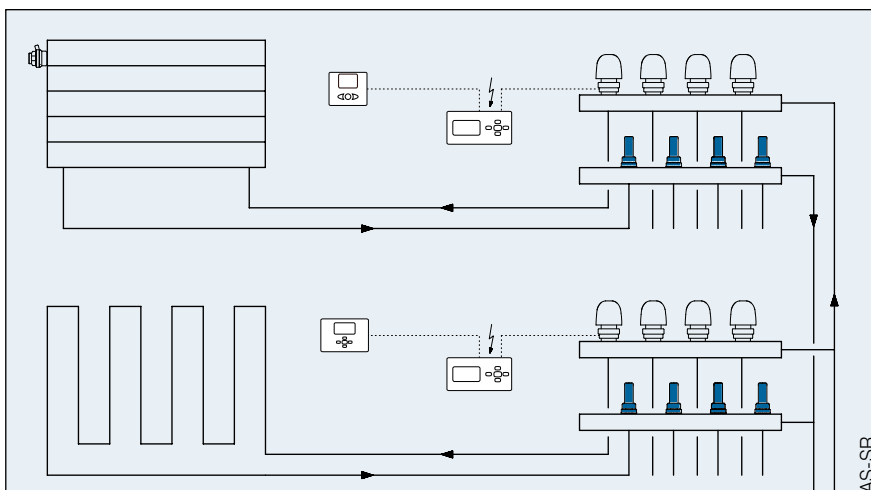
Correct balancing of hydraulic circuits ensures optimum energy distribution, resulting in more efficient and economical operation in accordance with the energy saving regulations provided for by legislation. With TopMeters, any qualified fitter can set the appropriate flow rate on the premises in question, thus avoiding investments in training and costly measuring devices.

## Installation

The TopMeter is installed in the return pipe bar of the manifold in a horizontal or vertical position. The adaptation of the manifold must correspond to the manufacturer's specifications in accordance with the mounting dimension drawings.

## Advantages

- Precise and quick balancing without diagrams, tables or measuring devices
- Flow rate displayed directly in l/min
- Settings can be blocked with the  $\frac{1}{2}$ " TopMeter and adjustments prevented using a lead seal
- Low pressure loss
- Regulating valve with isolating facility
- Sight glass available as a replacement part
- Removable sight glass (ease of maintenance)
- Can be installed in any position



## Operation

The flow measurement is based on the displacement principle of a baffle disc, which is inserted in a measuring tube. The position is conveyed to the sight glass on the indicator unit by means of a sliding bar, which fixes the baffle disc to the indicator unit. The scale printed on the sight glass allows the flow rate to be read with ease.

Turning the black spindle changes the opening profile of the valve and allows the desired flow rate to be set. The flow is isolated by turning the spindle fully.

# TopMeter Return

## Technical data

Medium temperature: -10°C – +80°C

Max. operating pressure: 6 bar

$k_{VS}$  value and measurement range:  
see type program

Material: brass, heat-resistant plastics  
and stainless steel

Seals: EPDM

Male threads according to ISO 228

Measuring accuracy:  $\pm 10\%$  of the  
highest nominal value (the change in  
viscosity must be taken into account  
with antifreeze additives)

## Fluids

- Heating water (VDI 2035)
- Cooling water
- Water and proprietary additives used  
against corrosion and freezing

## Assembly

When assembling the TopMeter in the  
manifold, the starting torque must not  
exceed 30 nM.

## Service

The sight glass can be removed if  
necessary for maintenance purposes  
and replaced. The relevant underfloor  
heating circuit must be separated in  
this case from the rest of the system.  
See installation instructions No. EA 1008

## Additional specifications

See data sheet for flow pipe TopMeter

### Please note:

Depending on the individual design  
of your application, the manifold (lo-  
wer part of valve) has to be adapted  
to the TopMeter. We can provide  
you with a drawing for this purpose  
(construction data sheet).  
Please request our construction  
data sheet if you need it.

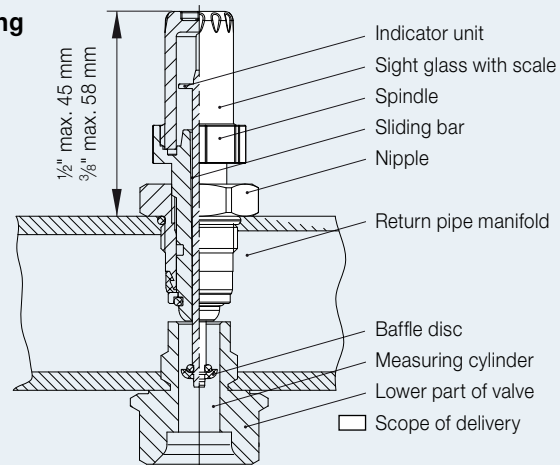
The retaining O ring as well as the  
counterpart in the manifold are the  
responsibility of the customer in all  
cases.

## Type Program

Code no.	DN	G	Measurement range	$k_{VS}$ (m <sup>3</sup> /h)
223.5203.---	15	1/2"	0,6 – 2,4 l/min	1,2*
223.5204.---	15	1/2"	1,0 – 4,0 l/min	1,7*
223.5208.---	15	1/2"	2,0 – 8,0 l/min	2,4*
Code no.	DN	G	Measurement range	$k_{VS}$ (m <sup>3</sup> /h)
223.5303.---	10	3/8"	0,5 – 2,5 l/min	0,8*
223.5304.---	10	3/8"	1,0 – 5,0 l/min	1,0*

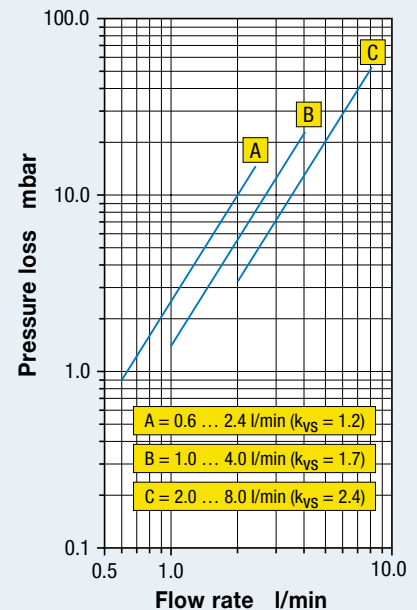
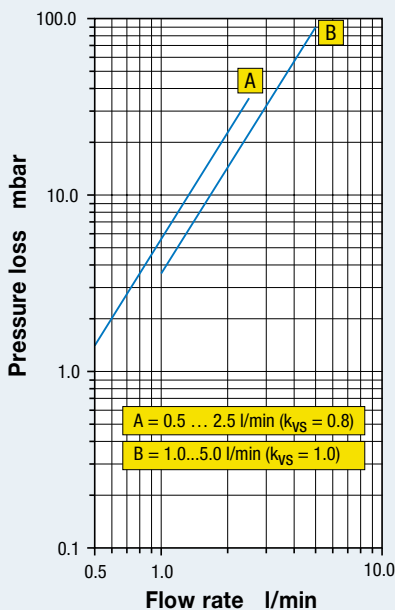
\*  $k_{VS}$ -value depends on counterpart used and manifold geometry

## Detailed drawing



## Pressure loss diagram with max. valve opening

223.5303.---	3/8"	0.5 ... 2.5 l/min	223.5203.---	1/2"	0.6 ... 2.4 l/min
223.5304.---	3/8"	1.0 ... 5.0 l/min	223.5204.---	1/2"	1.0 ... 4.0 l/min
			223.5208.---	1/2"	2.0 ... 8.0 l/min



Spare parts:	Sight glass 1/2" Item no.	Sight glass 3/8" Item no.
0,6 – 2,4 l/min	298.2303.000	0,5 – 2,5 l/min 298.2313.000
1,0 – 4,0 l/min	298.2304.000	1,0 – 5,0 l/min 298.2314.000
2,0 – 8,0 l/min	298.2308.000	