

## Heat meters

# Compact heat meter ultra S3

**The high-tech heat meter for fully electronic heat measurement: economical, easy to service, easy to construct and extremely loadable.**

## Product description

Its volume recording works according to the patented ultrasound free jet principle. By comparing the travel times of the ultrasound signals in and against the flow direction, the flow quantity is calculated with top precision whilst taking the temperature dependency into account.

The compact heat meter ultra S3 has a wide variety of uses. For house handover stations connected to local and district heating and equally for central heating systems for residential buildings where itemised invoice-based billing is required. It is also the optimum heat meter for the separation of the hot water costs.

The data calculator with an LC display incorporates a wide range of displays and storage functions for servicing and statistics in 6 display loops.

## Performance features

- Top measurement accuracy and measurement stability through flow measurement with the ultrasound principle
- No mechanical wear and tear due to flow measurement without moving parts
- First authorisation in Europe for an ultrasound meter with a dynamic range of 1:250 in category 2 (qp 0.6 / 1.5 / 2.5 / 3.5 / 6 / 10 / 15 / 25 / 40 / 60 m<sup>3</sup>/h)
- Full dynamic range  $\geq 1:1500$
- Exact recording, even of the smallest of flow quantities
- Comprehensive displays and storage functions for servicing and statistics
- Connection to building management and control systems via retrofittable interface modules (e.g. pulse output for energy and volume or M-bus interface)
- Optical interface integrated as a standard
- Compact construction design, removable data calculator
- Temperature sensor for installation in a ball valve or an immersion sleeve
- Return flow temperature sensor up to qp 15 m<sup>3</sup>/h installed in the volume transmitter
- From qp 25 m<sup>3</sup>/h 2 free temperature sensors
- Smoothing sections are not required in the run-in or run-out
- Any fitting position, also overhead
- Authorisation according to MID [the European Measuring Device Guideline] (please observe the regulations for installing the temperature sensor)



## Technical data

Nominal flow $q_p$ :	$m^3/h$	0.6	1.5	2.5	3.5	6	10	15	25	40	60
Maximum flow $q_s$ :	$m^3/h$	1.2	3	5	7	12	20	30	50	80	120
Minimum flow $q_i$ :	l/h	6	6	10	35	24	40 <sup>1</sup> /100	60 <sup>1</sup> /150	100 <sup>1</sup> /250	160	240 <sup>1</sup> /600
Start-up flow:	l/h	1	2,5	4	7	7	20	40	50	80	120
Operating temperature:	°C	5...130					5...150				
Nominal width DN:	mm	15	15	20	25	25	40	50	65	80	100
Nominal pressure PN:	bar	16	16	16	16	16	16	25	25	25	25
Pressure loss at $q_p$ :	mbar	85	75	100	44	128	95	80	75	80	
<b>Dimensions:</b>											
Standard connection:		G 3/4 B	G 3/4 B	G 1 B	G 5/4 B <sup>2</sup>	G 5/4 B <sup>3</sup>	G 2 B <sup>2</sup>	Flange	Flange	Flange	Flange
Volume transmitter length L:	mm	110	110	130	260	260	300	270	300	300	360
Height H:	mm	82	82	84	89	89	94	99	107	114	119
Height h:	mm	15	15	18	23	23	33	74	85	93	108

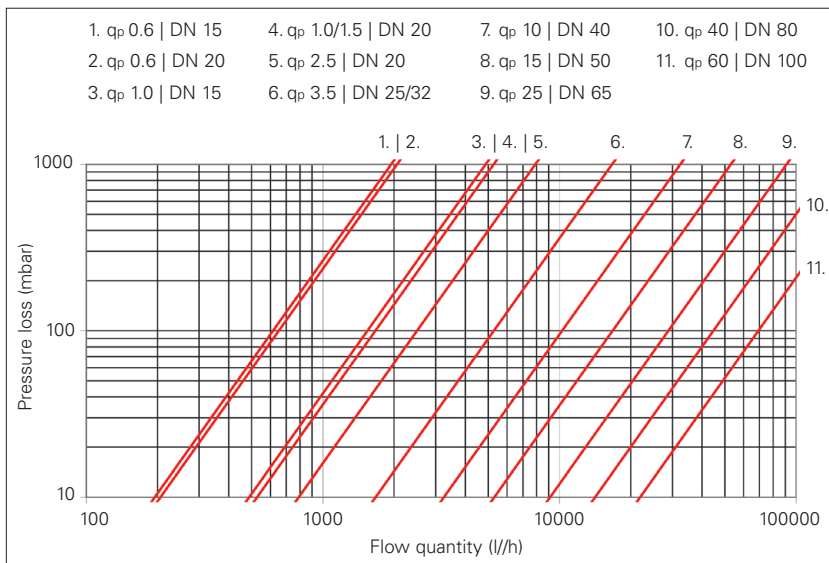
<sup>1</sup> For horizontal installation

<sup>2</sup> Also with flange connection

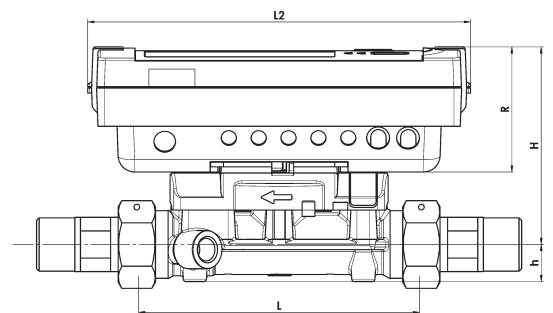
<sup>3</sup> Also with flange connection and DN 32

## Technical data Data calculator and temperature sensor

Nominal flow $q_p$ :	$m^3/h$	0.6 ... 2.5	3.5 ... 60	<b>Dimensions</b>		
<b>Data calculator</b>				signal cable length:	m	1.4
Temperature range:	°C	5 ... 130	5 ... 150	Data calculator length L2:	mm	150
Display unit:		kWh	MWh	Data calculator height R:	mm	54
Display:		LCD, 8-digit		Data calculator width:	mm	100
Environmental classification:		MID E1 + M1		<b>Temperature sensor</b>	Type	Pt 500
Surrounding temperature:	°C	5 ... 55		Sensor diameter:	mm	5.2
storage temperature:	°C	-25 ... +70		Cable length:	m	2
Protective category:		IP 54				
Power supply:		Battery (10 years & a reserve) Optional retrofittable 230 V power supply				
Temperature measurement cycle:		Battery: 16 s; 230 V: 2 s				
Volume measurement cycle:		Battery: 1 s; 230 V: 0.125 s				
Temperature difference min./max.: $\Delta\theta_K$		3 / 177				
Start-up temperature difference: $\Delta\theta_K$		0.125				



Pressure loss curve ultra S3



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