Sontex

Thermal Energy ■ Flow Metering

Superstatic 449

Compact Fluidic Oscillator Heat Meter

Superstatic 449
The compact heat meter with the fluidic oscillation measuring principle
The consistent further development

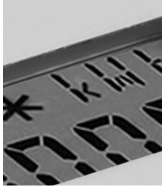
The new compact heat and cooling meter Superstatic 449 is the consistent further development that successfully applies the fluidic oscillation measuring principle that established itself in the recent years, with its convincing measuring accuracy and measuring stability.

The Superstatic 449 is based, like the well-proven Superstatic 440, on the static measuring principle of the fluidic oscillation. All the advantages and innovative features of the fluidic oscillation are embedded in a new compact form for low flows from qp 0.6 – qp 2.5 m3/h and combined with the use of modern materials and Swiss precision.

The heat meter Superstatic 449 is a split device with a detachable multifunctional modular integrator with a large variety of communication modules. This allows a wide field of applications and an easy integration in any district heating, district cooling or building management system.

Technical data
Superstatic 449 qp 0.6 – qp 2.5 m³/h
Class 2 EN 1434

Nominal flow qp m³/h	Threaded connection G"	PN PN	Mounting length mm	Maximal flow qs m³/h	Minimal flow qi l/h	Low flow threshold value (50°C) l/h	Pressure loss at qp bar	Weight kg	Material
0.6	3/4" (DN 15)	16	110	1.2	6	-	-	-	brass
1.5	3/4" (DN 15)	16	110	3	15	10	0.2	1.3	brass
1.5	1" (DN 20)	16	130	3	15	10	0.2	1.4	brass
1.5	1" (DN 20)	16	190	3	15	10	0.2	1.6	brass
2.5	1" (DN 20)	16	130	5	25	-	-	-	brass
2.5	1" (DN 20)	16	190	5	25	-	-	-	brass



Superstatic 449
The compact static heat meter with the unique measuring principle

Superstatic 449-the compact heat meter that uses the unique fluidic oscillation measuring principle.

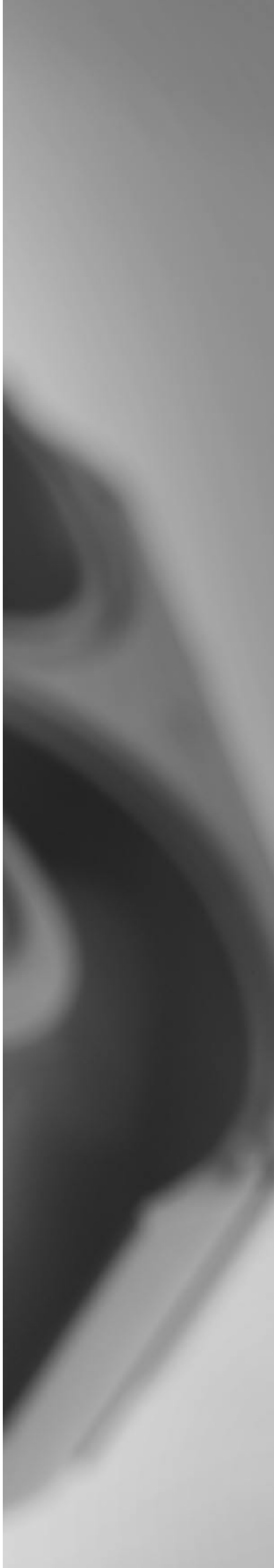
The principle of the fluidic oscillation was developed by Sontex to its perfection and ensures a stable and precise measuring in a robust and reliable design.

The concept of the Superstatic 449 is designed that it can be easily enhanced in the future, either the flow sensor or the integrator.
The static heat meter Superstatic 449 is available with battery power or several different mains power supplies. The Superstatic 449 meets the requirements of the European Measuring Instruments Directive MID 2004/22/EC and is a class 2 heat meter according to EN 1434.

Main features

The Superstatic 449 heat and cooling meter is optimised to measure the consumption of thermal energy in any district heating, district cooling or building management system for the individual billing of thermal energy cost and can be easily integrated in any Smart Metering environment.

- For flows from qp 0.6 - qp 2.5 m^3/h
- Splitable integrator for a flexible mounting and reading
- Compact and lightweight
- Corrosion resistant materials
- No moving parts
- Stable, precise and reliable measuring
- Direct sensing of the fluidic oscillation without mirrors
- For heating and cooling energy measuring
- Multifunctional Supercal integrator with bi-directional Supercom radio, M-Bus, LON, GSM, Relay, RS-232, Analogue modules, etc.



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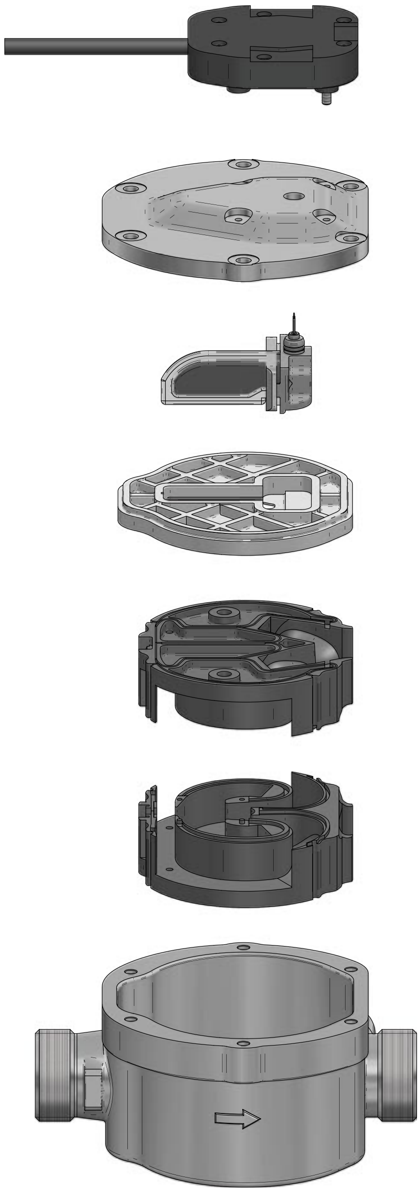

Description of the measuring principle

In the oscillator the liquid is directed to a nozzle and accelerated to a jet (Oscillating jet). Opposite of the nozzle the jet is redirected by a separator to the left or right into a channel that leads to the measuring head with a piezoelectric sensor. The pressure of the liquid on the sensor generates an electrical pulse. The liquid flows back to the pipe through a return loop and redirects the jet into the other channel where the action is repeated and fluidic oscillation is created.
The frequency of the fluidic oscillation, i.e. the generated electrical pulses by the sensor, is linear proportional to the flow thus the flow can be calculated.
A positive side effect is a self-cleaning of the oscillator due to the increased speed of the oscillating jet.

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