

# G. GIOANOLA



## KALOR SONIC ultrasonic compact heat meter for heating and cooling systems

- MID approved to MI004 Directive 2004/22/CE
- Accuracy class: EN1434 class 2
- Mechanical class M1 / electromagnetic class E1
- Temperature range 15 °C ... 90 °C

- ❑ Compact electronic meter, suitable for heat consumption measurements for central heating/cooling applications, where water is used as heat carrier at a max temperature of 90°C
- ❑ Nominal flow rate  $Q_p$  from 0,6 m<sup>3</sup>/h to 3,5 m<sup>3</sup>/h
- ❑ Threaded connections from 1/2" to 1"
- ❑ The heat meter is made of 03 main units: flow sensor, electronic unit, temperature sensor
- ❑ Ultrasonic flow sensor, the temperature sensor for the return pipe is connected onto the flow sensor body; it is possible to install the flow sensor on returnpipe in all positions H/V without need of inlet or outlet straight pipes (it is also available the version for installation on supply pipe) – liquid temperature max 90°C
- ❑ The electronic units has an 8-digit digital display plus special symbols; it is powered by a 3V lithium, whose lifetime is 10+1 years; the unit can be rotated of 360° and can be detached from the flow sensor body (max 30 cm), Mbus optical interface, a 3 level (main/technical/statistics) switch to retrieve data. The system can store up to 15 months (retrieved by display) and 18 months (retrieved by optical interface)
- ❑ Temperature sensor are PT 1000 5 mm (5,2mm) with 1,5 mt cable, 2-wire connection (1 sensor inside body/1 loose)

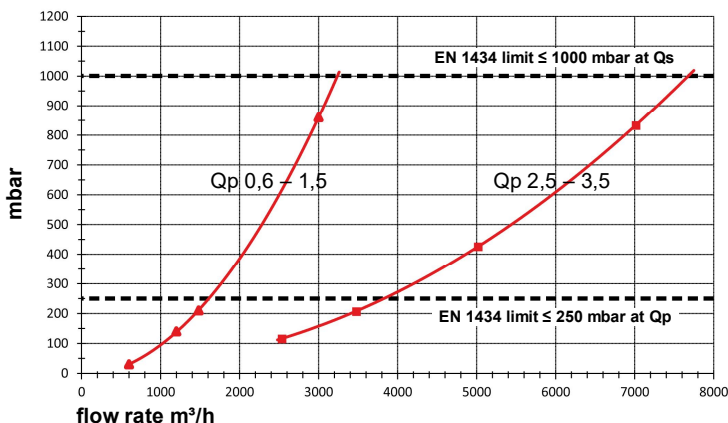
Options upon request:

- Mbus output protocol EN 13757-2 EN 13757-3 + 2 pulsed inputs to connect cold and hot sanitary water meters
- Pulsed output potential-free pulse output class OA for heat energy or volume – closure time 125ms – max current 120mA-contact resistance (on) max 25 Ohm - dual data recording for cooling/heating (please refer to national standards, if applicable, on cooling/heating installations)
- Wireless Mbus interface on 868Mhz frequency – Mode T1,S1-protocol according to Norm EN 13757-4- OMS



Transmission frequency	868Mhz
Power of transmission	Up to 25mW
Protocol	Wireless M-Bus EN13757-4
Transmission modes available	S1/T1 unidirectional OMS
Cryptography	AES128 bits
Available radio telegram	Short according to AMR (OMS) – Long (Walk-by)

Head loss diagram



Technical data	Qp	0,6	1,5	2,5	3,5	3,5
<b>Flow sensor</b>						
Nominal flow rate $q_p$	m <sup>3</sup> /h	0,6	1,5	2,5	3,5	3,5
Starting flow rate	l/h	6	6	12	17	17
Minimum flow rate $q_i$	l/h	12	15	25	35	35
Max flow rate $q_s$	m <sup>3</sup> /h	1,2	3,0	5	7	7
Working range		1:50	1:100	1:100	1:100	1:100
Head loss $\Delta p$ at $q_i/q_p$	$\Delta p$ bar	0,03/ 0,15	0,21/ 0,87	0,115/ 0,425	0,21/ 0,835	0,21/ 0,835
Nominal pressure	PN bar			16		
Size DN	mm	15	15	20	20	25
External threading	inches	G3/4B	G3/4B	G1B	G1B	G1.1/4B
Length	mm	110	110	130	130	150
<b>Electronic counter</b>						
Temperature range	°C	1-105				
Temperature difference	$\Delta T$ K	3-90				
Envir. temp	°C	5-55				
Min temp. difference.	$\Delta T$ K	>0,5				
Temp. resolution	°C	0,01				
Measuring frequency at $q_p$	Sec	4-60				
Flow measurement frequency	Sec	2				
Measuring unit		kWh, MWh, GJ, l, m <sup>3</sup> , m <sup>3</sup> /h, l/h, kW, MW				
Max value recording		Flow and power				
Protection grade		IP54				
Electromagnetic compatibility		EN1434				
<b>Temperature sensors</b>						
Resistance made of platinum	PT	PT1000				
Size	mm	5 – 5,2				
Length of connection cable	m	1,5				
<b>Dimensions</b>						
Electronic unit	mm	75x110				
Length of connection cable	m	0,85				
Height of centre tube	mm	68				
Weight (without couplings)	Kg	0,73	0,73	0,78	0,79	0,93

The company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice. 02-16



**G. GIOANOLA SISMA meters**

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