

HYDRASONIC S8

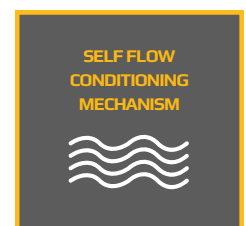
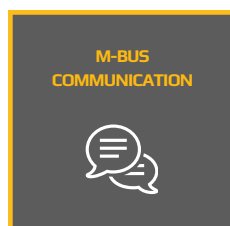
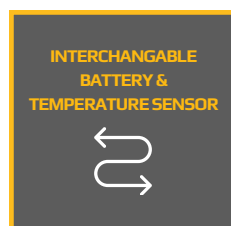
Ultrasonic In-line BTU meters

Revolutionizing Flow



Hydrasonic S8 ultrasonic BTU meter is designed for measuring the energy consumption in heating/cooling application for billing purpose. Its static ultrasonic technology is based on the measurement of the transit time.

It offers benefits like easy battery & temperature sensor replacement, IP68 protection, no straight run requirements, M-Bus and Wireless M-Bus communication options.



GENERAL

Application	-	Heating or bi-functional (heating/cooling) Heat-transfer fluid: glycol-free water
Approval	-	In compliance with MID-EN1434
Accuracy class	-	Class 2
Ambient temperature	°C	+5 ... +55
Storage temperature	°C	+5 ... +55 max. -20...+60 (max. 4 weeks)
Humidity	%	95 maximum
Battery supply	-	3.6 VDC
Temperature sensor type	-	PT1000 , 2-wires: Ø 5.2 mm
Cable length of temperature sensor	m	1.4
Test possibilities	-	via display
Volume measuring cycle	s	2
Temperature measuring cycle	s	30
Power calculation cycle	s	2

CALCULATOR

Protection class	-	IP66 (Optional IP67)
Environmental class-mechanical	-	M1, M2
Environmental class electromechanical	-	E1, E2
Calculator	-	Removable, with 1.5m cable to flow sensor
Absolute temperature range	°C	+1...+90 (+150 optional)
Starting temperature difference $\Delta\theta$	K	0.125
Min. temperature difference $\Delta\theta_{min}$	K	In compliance with MID
Max. temperature difference (heating) $\Delta\theta_{max}$	K	147 (In compliance with MID)
Extensive readable data memory	-	Monthly for 18 months (hourly, daily, yearly optional) values of energy, volume and error hours; additionally event memory (error log)
Interchangeable components	-	Battery (Standard) ; Temperature sensors (Optional)

FLOW SENSORS

Dynamic range (Qp/Qi) - 1:100

Mounting position flow sensor - Any position, no straight run requirements

Temperature range (heating/ cooling) °C 2-87*

Protection class - IP68 (heating/cooling)

*150 °C optional

INTERFACES

Optical ZVEI interface, for communication and testing. M-Bus protocol

Display LCD-8 digit

M-Bus According to EN13757-3: 2013

Wireless M-Bus According to EN13757-4; 2013

DISPLAY

Display indication LCD-8 digit + special characters

Units kWh - m³ - °C - m³ /h*

Total values 99,999.999

Values displayed (main loop) Energy - Volume - Flow - Power - Temperature - Differential temperature - Operating hours - Meter SN-Meter size-Meter time-Error Status - Display test

*MWh-GJ optional

M-BUS

M-Bus Auto baud detect (300 and 2,400 bauds); galvanically insulated

M-Bus cable 24 AWG , 2 Core

Data transmission Data reading via 2 non-polarized wire (1.5m)

Battery life-time Up-to 12 years*

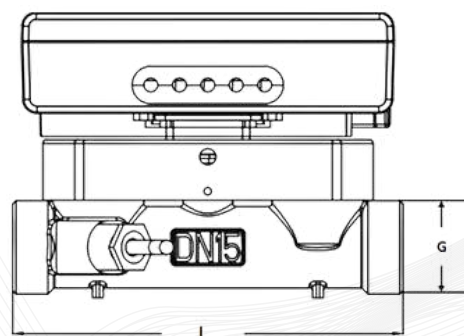
*Under standard conditions of use and temperature

FLOW SENSOR TECHNICAL DATA

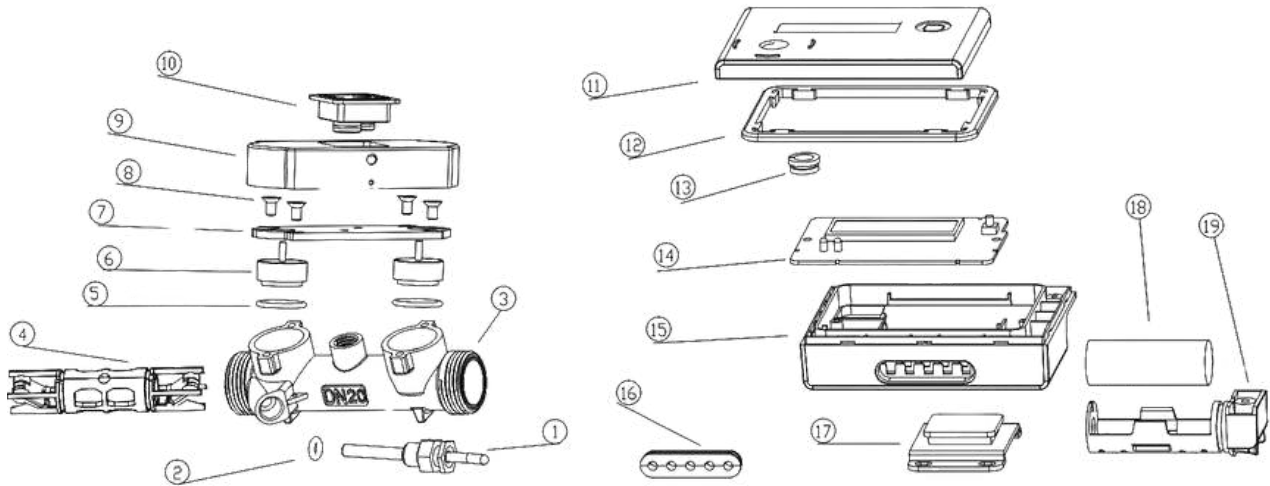
Measuring Method	Ultrasonic; Time of Flight					
Nominal Diameter	mm	DN15	DN20	DN25	DN32	DN40
Nominal flow q_p	m ³ /h	1,5	2,5	3,5	6,0	10,0
Low flow threshold	m ³ /h	0.006	0.012	0.014	0.03	0.05
Minimum flow q_i	m ³ /h	0.015	0.025	0.035	0.06	0.1
Maximum flow q_s	m ³ /h	3,0	5,0	7,0	12,0	20
Pressure drop Δp at q_p	mbar	120	100	128	128	140
Thread	-	G3/4B	G1B	G1 1/4B	G1 1/2B	G2B
Length	mm	110	130	160	180	200
Dynamic range Q_p/Q_i	-	1:100	1:100	1:100	1:100	1:100
Accuracy class (MID)	-	Class 2				
Nominal pressure P_N	Bar	16 (standard), 20/25 (Optional)				

DIMENSIONS

Nominal flowrate Q_p (m ³ /h) min	Maximum flowrate Q max	Nominal diameter (DN)	Thread G (in)	Length L (mm)	Approx. weight (kg)
1,5	3,0	DN15	G 3/4 B	110	0,720
2,5	5,0	DN20	G 1B	130	0,770
3,5	7,0	DN25	G 1 1/4 B	160	0,930
6,0	12,0	DN32	G 1 1/2 B	180	1,255
10,0	20,0	DN40	G2 B	200	1,580

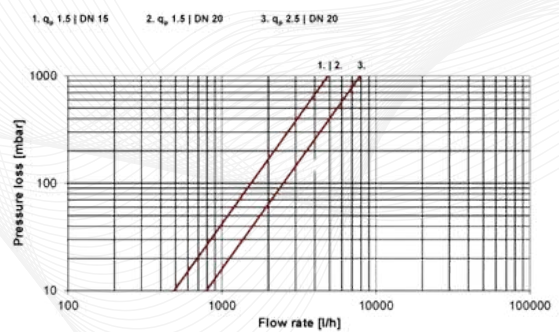
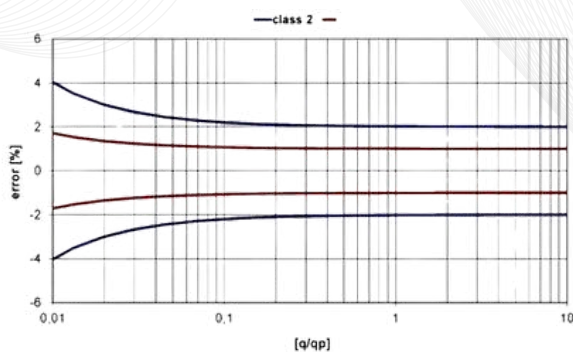


METER OVERVIEW



Item No:	Description	Item No:	Description
1	Temperature sensor	12	Gasket for calculator
2	Gasket for temperature sensor	13	Menu button
3	Brass body	14	Printed Circuit Board & Display
4	Reflector tube	15	Calculator body
5	Gasket for flow sensor	16	Cable gland tray
6	Ultrasonic flow sensor	17	Wall mounting bracket
7	SS Sensor support	18	Battery
8	SS Screws	19	Battery sleeve
9	Flow sensor cover		
10	Mounting bracket		
11	Calculator face cover		

PRESSURE LOSS & TYPICAL ERROR GRAPH



ORDERING CODE

HYDRASONIC S8	XX	-	XX	-	XX	-	XX	-	XX
Connection size									
G 3/4	3/4								
G 1	1								
G 1 1/4	1 1/4								
G 1 1/2	1 1/2								
G 2	2								
Flow sensor cable length									
1.5 m (Standard)			1.5						
3 m (Optional)			3						
Temperature sensor cable length									
1.5 m (Standard)					1.5				
3 m (Optional)					3				
Interchangeable components									
Battery (Standard)							B		
Battery & Temperature sensors							BT		
Temperature range									
1-90 °C								TS	
1-150 °C								TO	

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