

- >> Works with both heating and cooling systems
- >> High accuracy
- >> No moving parts
- >> Minimal pressure loss
- >> Horizontal or vertical installation
- >> M-bus communication
- >> Optional Modbus communication
- >> Automatic diagnostic function



## Ultrasonic cooling/heating energy metering

Cooling/Heating Energy Meter FX-BTU-DNxx-xx-M is energy measuring equipment which uses transient time ultrasonic signal and two temperature sensors to continuously measure, record and display energy consumption rate. Meter is available from DN20 pipe size with nominal flow of 1.5 m<sup>3</sup>/h up to DN200 pipe size and nominal flow of 250 m<sup>3</sup>/h. Pipe size from DN20 to DN40 come with external threaded screw connection and from pipe size DN50 to DN200 have flanges to connect to pipelines. Meters come with M-bus communication. Optional standalone meters with pulse outputs and networked models with Modbus communication are available.

### Technical features

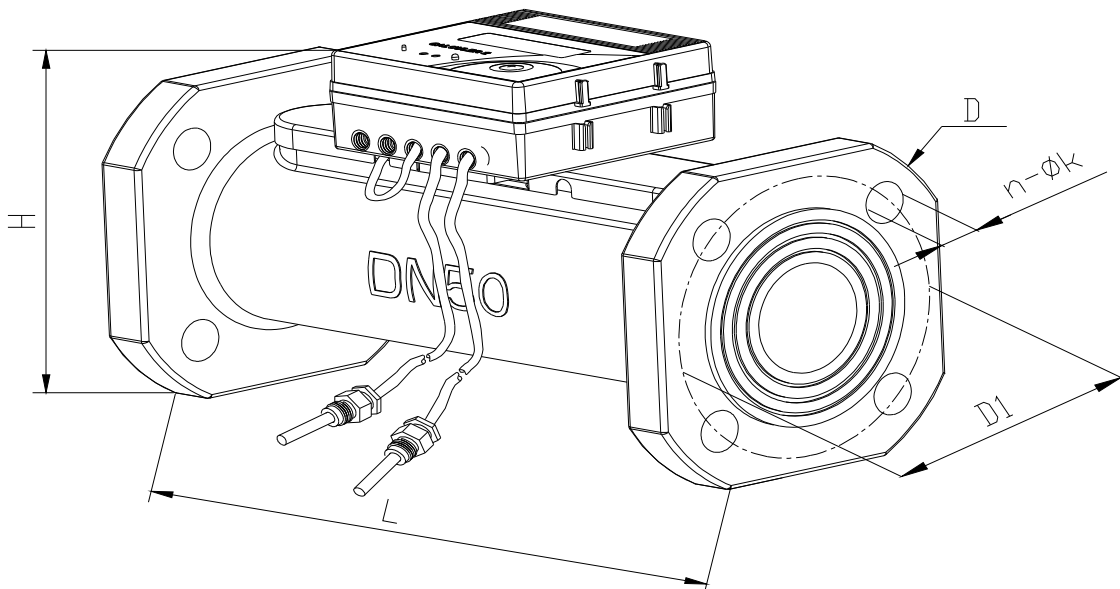
Heat or cooling conveying liquid:	Water (Clean)
Wetted Materials:	Stainless steel
Range:	Qmin:Qmax = 1:100 (see Qmax on chart)
Accuracy Flow Meter:	±(2+0.02 Qp / Q)%
Accuracy Temperature:	±(0.3 + 0.05 * T)K; ΔT = T ± 0.1K
Process Temperature range:	2~95°C
Operating Temperature:	5~+55°C
Storing Temperature:	5~+55°C
Operating Humidity:	<93%RH
Enclosure protection:	IP65
Pressure loss:	<1.5psi (10 kPa)
Maximum admissible working pressure:	1.6MPa (16 bar)
Display:	8 digit LED
Temperature resolution:	0.01°C
Power supply:	24 VAC/DC
Installation	Horizontal or vertical
Straight pipe section:	Mount a straight pipe section up to 10D upstream the meter and a straight pipe section up
Approvals:	CE
Manufacturing Process:	ISO9001

Model FX-BTU-	DN50-15	DN65-25	DN80-40	DN100-60	DN125-100	DN150-150	DN200-250
Flow-rate	15	25	40	60	100	150	250
DN	50	65	80	100	125	150	200
$q_s$ (m <sup>3</sup> /h)	30	50	80	120	200	300	500
$q_p$ (m <sup>3</sup> /h)	15	25	40	60	100	150	250

$q_s$ ---The upper limit of the flow-rate (m<sup>3</sup>/h), at which the heat meter shall function for short periods, without the maximum permissible errors being exceeded.

$q_p$ ---The permanent flow-rate (m<sup>3</sup>/h), at which the heat meter shall function continuously without the maximum permissible errors being exceeded.

NumberModel	Nominal Flow-rate	DN (mm)	Height	Diameter	Install Length	Bolt hole central circle diameter D1	Number of bolts and hole diameter n-φk
	m <sup>3</sup> /h		H(mm)	D(mm)	L(mm)		
FX-BTU-DN50-15	15	50	175	165	300	125	4-φ19
FX-BTU-DN65-25	25	65	196	185	300	145	4-φ19
FX-BTU-DN80-40	40	80	216	200	350	160	8-φ19
FX-BTU-DN100-60	60	100	233	220	350	180	8-φ19
FX-BTU-DN125-100	100	125	264	250	350	210	8-φ19
FX-BTU-DN150-150	150	150	291	285	500	240	8-φ23
FX-BTU-DN200-250	250	200	347	340	500	295	12-φ23



## Part numbers

<b>FX-BTU-DN50-15-M</b>	DN50, Nominal flow 15 m <sup>3</sup> /h, Max flow 30 m <sup>3</sup> /h, M-bus
<b>FX-BTU-DN65-25-M</b>	DN65, Nominal flow 25 m <sup>3</sup> /h, Max flow 50 m <sup>3</sup> /h, M-bus
<b>FX-BTU-DN80-40-M</b>	DN80, Nominal flow 40 m <sup>3</sup> /h, Max flow 80 m <sup>3</sup> /h, M-bus
<b>FX-BTU-DN100-60-M</b>	DN100, Nominal flow 60 m <sup>3</sup> /h, Max flow 120 m <sup>3</sup> /h, M-bus
<b>FX-BTU-DN125-100-M</b>	DN125, Nominal flow 100 m <sup>3</sup> /h, Max flow 200 m <sup>3</sup> /h, M-bus
<b>FX-BTU-DN150-150-M</b>	DN150, Nominal flow 150 m <sup>3</sup> /h, Max flow 300 m <sup>3</sup> /h, M-bus
<b>FX-BTU-DN200-250-M</b>	DN200, Nominal flow 250 m <sup>3</sup> /h, Max flow 500 m <sup>3</sup> /h, M-bus

•Change -M ending to -MD ending to any type for Modbus or remove for standalone meter