



AXONIC

Static flow meters for thermal energy C&I applications

Axonic is a static ultrasonic flow meter perfectly adapted to the needs of district heating and cooling applications. With our proven know-how of static metering technology it has been developed for heating and cooling applications where water is used as an energy transfer medium.

Axonic is equipped with an universal interface which allows it to be easily combined with Itron calculators such as CF51, CF55 or CF800. It is powered by the connected calculators and therefore it doesn't require its own source of electrical power (e.g. battery).

FEATURES AND BENEFITS

- » High accuracy and repeatability
- » Outstanding dynamic range
- » Still measurement also when exceeding q_{max}
- » Robust and reliable design
- » Ease of installation thanks to an innovative mobile flange design
- » Insensitive to flow disturbances
- » 150°C permanent medium temperature
- » Optional 2nd pulse output
- » Self diagnostic functions
- » High pressure versions (PN40)
- » Various choice of lengths
- » Insulation compliant

Revenue protection

Axonic helps to protect the revenue of district heating companies by featuring extraordinary metrological performance, such as a high accuracy according to MID class 2, long term stability and an outstanding dynamic range up to R400. AXONIC is still measuring also when exceeding q_{max} and helps reducing billing losses.

In addition, the fully concentric flow channel design creates a flow profile that is insensitive against up, and downstream flow disturbances and therefore reliable in any type of installation, even if space for flow meter installation is very limited.

In combination with Itron calculators it features intelligent diagnostic functions to control and optimize the entire thermal energy system.

Advanced functions

In the field the Axonic flow meter permanently monitors the operating conditions. In case of abnormal conditions, such as back-flow or air in the pipe, the meter sends a dedicated warning to the connected Itron calculator that can be transmitted via advanced reading systems in order to prompt a quick response by the system operator.

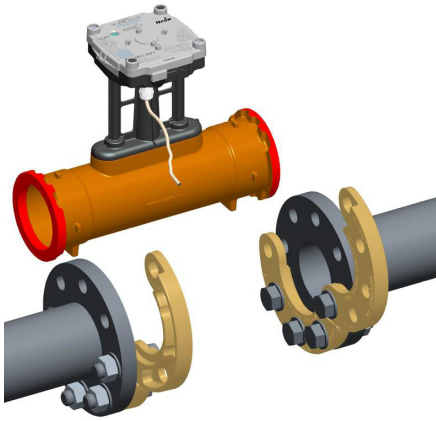
Applications

- » Heating
- » Cooling

Standards

- » MID approval according to 2004/22/EC
- » Cooling approval according PTB 7.2
- » Class 2 acc. to EN1434
- » Environmental class EN1434 class C, MID class E2 + M2
- » IP 68





Mobile Flanges

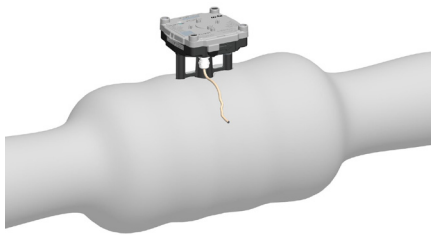
FEATURES AND BENEFITS

Innovative mobile flange design

Axonic PN16 and PN25 versions are equipped with Itron's innovative mobile flanges. As a result the weight of the meter itself is lower and due to the step by step mounting of flanges and meter, the installation of Axonic is simplified and requires only one field operator. In addition, this concept allows installation of the meter even if the counter flanges are not fully concentric to each other.

Optional parallel pulse output

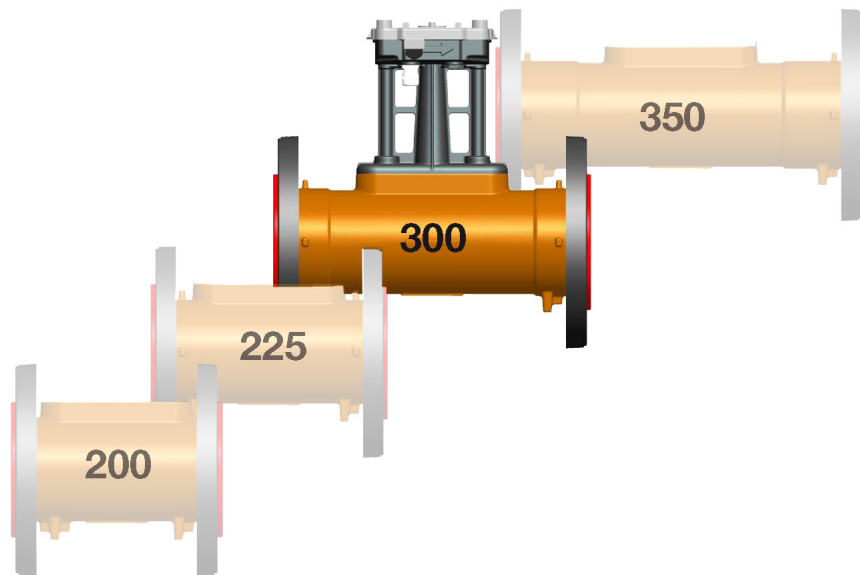
Optionally Axonic is available with a 2nd pulse output that can have a different configuration than the main output. This 2nd pulse output allows simple integration of the Axonic flow signal into building control systems and provides a valuable additional benefit.



Insulation

Insulation compliant

According to the latest energy efficiency regulations all pipes and equipment that are installed in thermal energy systems shall be insulated in order to avoid any unnecessary energy losses. The design of Axonic follows this target; thanks to the extra-long neck the flow meter can be fully insulated, even in high temperature applications. The electronic part, that is naturally sensitive to high temperatures, remains outside the insulation and keeps cool.



Example DN 80: Various lengths 200 mm - 350 mm

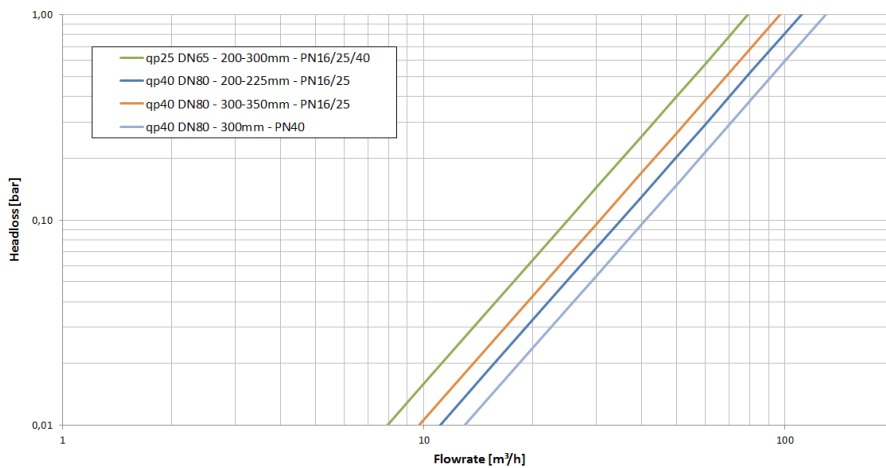
Various choice of lengths

Beside the typical standard lengths Axonic can be supplied in various special lengths, that make an exchange against older mechanical Woltman type meters possible without conversion of the pipe installation.

SPECIFICATIONS

Type		DN 65 /qp 25	DN 80 /qp 40
Maximum overflow	qss (m³/h)	55	88
Maximum flow	qs (m³/h)	50	80
Nominal flow	qp (m³/h)	25	40
Minimum flow (R250)	qi (l/h)	100	160
Cut off flow	qc (l/h)	40	80
Dynamic range (approval)		400H / 250V	250 H,V
Accuracy class		EN1434 class C2	EN1434 class C2
Head loss qp	bar	0,10	0,10-0,17
Flow profile sensitivity class		U0D0	U0D0
Water temperature (heat version)	°C	1...150°C	1...150°C
Water temperature (cooling version)	°C	1...50°C	1...50°C
Ambient temperature	°C	-25°C ... +60°C	-25°C ... +60°C
Storage / transport temperature	°C	-25°C ...+60°C	-25°C ...+60°C

HEAD LOSS



PULSE OUTPUT AND POWER SUPPLY CHARACTERISTICS

Pulse output (pulse A and B)

Type	open collector (drain)
Polarity	non-reversible (see manual)
Pulse-length	≥ 5ms, optional up to 500ms (value indicated in type plate)
Max. input voltage	30V DC
Max. input current	27mA
Drop off Voltage (ON)	≤0,3V at 0,1 mA / ≤ 2V at 27mA
Resistance (OFF state)	6 MΩ
Max. output frequency	128 Hz
Pulse weight options	8 p/L up to 2500 L/p (value indicated on type plate)

Power supply

Nominal voltage	3,2...6V
Average current consumption	< 50 μA
Peak current consumption	< 3 mA

ITEM CODES AXONIC

All products equipped with 3 m cable length, Pulse A active, Pulse B disabled. Heat: MID certificate and test report / Cooling: including factory test report.

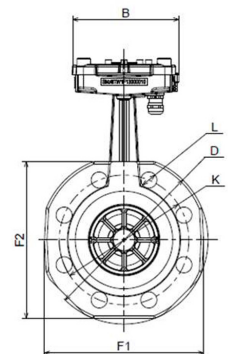
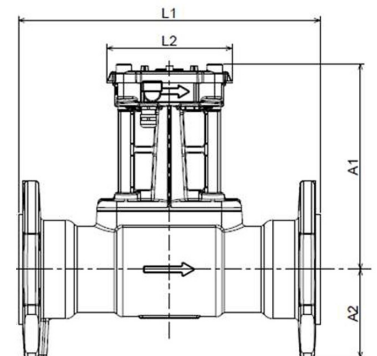
Art.-No.	Description	Application	DN (mm)	QP [m ³ /h]	L [mm]	PN [bar]	Pulse weight [L]	
AX-AH24C11Z10FM1EN	AXONIC D65Q25L200P16	H-R250-10L-MID-EN	Heating	65	25	200	16	10
AX-BH24C11Z10FM1EN	AXONIC D65Q25L300P16	H-R250-10L-MID-EN	Heating	65	25	300	16	10
AX-CH24C11Z10FM1EN	AXONIC D65Q25L300P25	H-R250-10L-MID-EN	Heating	65	25	300	25	10
AX-DH24C11Z10FM1EN	AXONIC D65Q25L300P40	H-R250-10L-MID-EN	Heating	65	25	300	40	10
AX-EH24C11Z10FM1EN	AXONIC D80Q40L200P16	H-R250-10L-MID-EN	Heating	80	40	200	16	10
AX-FH24C11Z10FM1EN	AXONIC D80Q40L225P16	H-R250-10L-MID-EN	Heating	80	40	225	16	10
AX-GH24C11Z10FM1EN	AXONIC D80Q40L300P16	H-R250-10L-MID-EN	Heating	80	40	300	16	10
AX-IH24C11Z10FM1EN	AXONIC D80Q40L350P16	H-R250-10L-MID-EN	Heating	80	40	350	16	10
AX-HH24C11Z10FM1EN	AXONIC D80Q40L300P25	H-R250-10L-MID-EN	Heating	80	40	300	25	10
AX-JH24C11Z10FM1EN	AXONIC D80Q40L350P40	H-R250-10L-MID-EN	Heating	80	40	350	40	10
AX-AC24C11Z10FF2EN	AXONIC D65Q25L200P16	C-R250-10L-ITR-EN	Cooling	65	25	200	16	10
AX-BC24C11Z10FF2EN	AXONIC D65Q25L300P16	C-R250-10L-ITR-EN	Cooling	65	25	300	16	10
AX-CC24C11Z10FF2EN	AXONIC D65Q25L300P25	C-R250-10L-ITR-EN	Cooling	65	25	300	25	10
AX-EC24C11Z10FF2EN	AXONIC D80Q40L200P16	C-R250-10L-ITR-EN	Cooling	80	40	200	16	10
AX-FC24C11Z10FF2EN	AXONIC D80Q40L225P16	C-R250-10L-ITR-EN	Cooling	80	40	225	16	10
AX-GC24C11Z10FF2EN	AXONIC D80Q40L300P16	C-R250-10L-ITR-EN	Cooling	80	40	300	16	10
AX-IC24C11Z10FF2EN	AXONIC D80Q40L350P16	C-R250-10L-ITR-EN	Cooling	80	40	350	16	10
AX-HC24C11Z10FF2EN	AXONIC D80Q40L300P25	C-R250-10L-ITR-EN	Cooling	80	40	300	25	10

DIMENSIONS

Type		DN 65 qp25			DN80 qp 40			
		PN16	PN25	PN40	PN16	PN25	PN40	
Body length (available versions)	L1	mm	200	300	300	200	300	350
			300			225	300	350
Electronic	L2	mm	124	124	124	124	124	124
Electronic	B	mm	119	119	119	119	119	119
Height	A1	mm	204	204	204	209	209	209
Height	A2	mm	93	93	88	100	100	95
Bolt circle diameter	K	mm	145	145	145	160	160	160
Bolt holes diameter	L	mm	19	19	18	19	19	18
Number of holes			4	8	8	8	8	8
Flange dimensions*	D	mm	185	185	188	200	200	203
	D1	mm	108	108	109	128	128	120
	F1	mm	-	-	178	-	-	194
	F2	mm	-	-	175	-	-	190
Weight (length)	kg		8,0 (200)	9,0 (300)	10,5 (300)	9,3 (200)	10,4 (300)	14,0 (350)
	(mm)		9,0 (300)			9,6 (225)	10,4 (300)	10,9 (350)

*Flanges PN16 and PN 25 according EN 1092-2 / Mobile Flanges Elevated interface type B

*Flanges PN40 according EN 1092-1 / Type 21 PN40 Male hubbed socket Type E



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ITRON

11, boulevard Pasteur
67500 Haguenau
France

Phone: +33 3 88 90 63 00
Fax: +33 3 88 73 23 20