

AN 130

Hydraulic Sensor

for hot water up to 130 °C, PN 16 and PN 25



M-T Q_n ... AN

Special Features

Fully dry dial meter with no gear reduction in the wet chamber

Wear resistant tungsten carbide / sapphire bearing

Magnetic coupling protected against magnetite

Pulse sender safe from interference

Easy to repair construction with external regulation

Description

The hydraulic AN 130 sensors are multi-jet dry dial vane impeller hot water meters, suitable for installing in central heating and cooling systems and remote warning systems. With their built-in pulse sender they are approved as a volume measurement element for heat meters

Versions for horizontal, rising and falling flow directions with screwings (PN 16) or flanges (horizontal flow, PN 25) are available

Pattern Approval

22.16

95.07



M-T Q_n ... SAN



M-T Q_n ... FAN

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Technical Data

Display:	00000.000 m ³
Working pressure:	16 bar 25 bar (Special version)
Working temperature:	10 ... 130 °C
PTB-Approval:	Class B
Pulse sender	
Pulse sender:	Reed switch permanently installed
Cable length:	2 m
Load capacity:	max. 0.1 A, max. 28 V
Contact resistance:	max 105 Ohm
Pulse value:	10 Litres / pulse For other pulse values see special versions

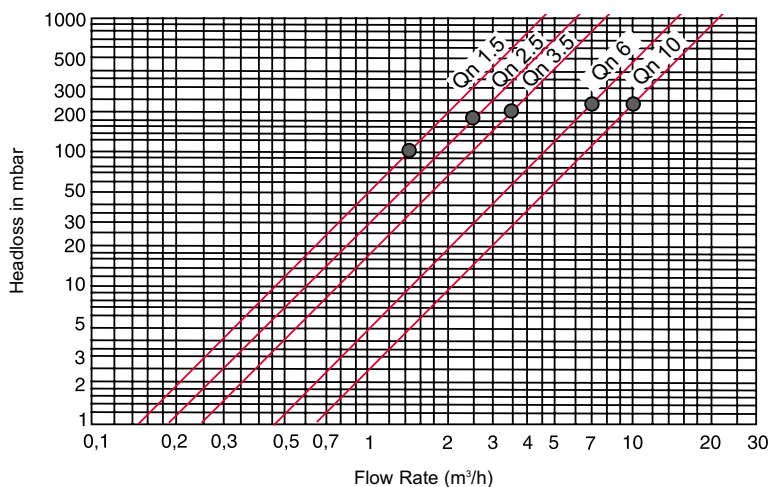
Materials

Casing:	Brass, painted
Impeller:	Plastic
Impeller cup:	Plastic
Bearing pin:	Tungsten carbide
Impeller bearing :	Sapphire
Magnetic coupling:	Ceramic permanent magnets

Performance Data

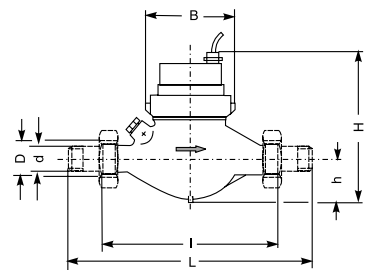
Nominal-size	Q _n		1,5	2,5	3,5	6	10
Continuous loading	Q _n	m ³ /h	1,5	2,5	3,5	6	10
Max. flow rate (short-term)	Q _{max}	m ³ /h	3	5	7	12	20
Transitional flow-rate	Q _t	l/h	120	200	280	400	800
Minimum flow rate	Q _{min}	l/h	30	50	70	120	200
Pressure drop at	Q _n	bar	0,11	0,18	0,2	0,25	0,25
Flow rate at 1 bar pressure drop		m ³ /h	4,7	6,0	8,1	12,5	20,5

Typical Head Loss Curve

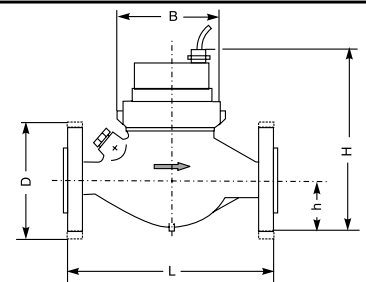


Dimensions and Weights

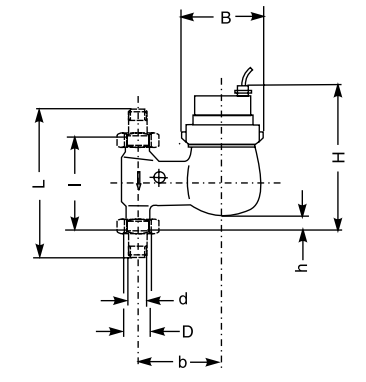
Horizontal installation for threaded fittings, Type M-T Q n ... AN R ... K 10							
Size marking	Q _n	m ³ /h	1,5	2,5	3,5	6	10
Nom. connection size	DN	mm	20	20	25	25	40
		inches	3/4	3/4	1	1	1 1/2
Pipe connection thread ¹⁾	d	inches	R 3/4	R 3/4	R 1	R 1	R 1 1/2
Meter stub thread ²⁾	D	inches	G 1	G 1	G 1 1/4	G 1 1/4	G 2
Installed length without fittings	l	mm	190	190	260	260	300
Installed length with fittings	L	mm	288	288	378	378	438
Height	H	mm	155	155	170	170	190
Height	h	mm	36,5	36,5	103	103	140
Width	B	mm	97	97	103	103	140
Weight of meter without fittings		~kg	2,0	2,1	2,9	2,9	5,2
Weight of meter with fittings		~kg	2,5	2,6	3,6	3,6	6,5



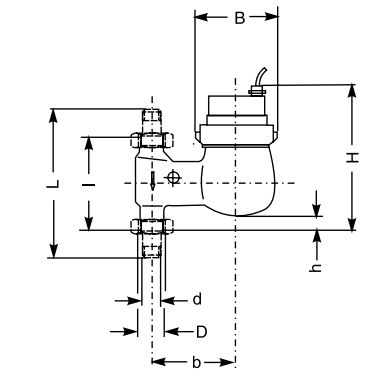
Horizontal installation with flanges, Type M-T Q n ... AN R ... K 10							
Size marking	Q _n	m ³ /h	1,5	2,5	3,5	6	10
Nom. connection size	DN	mm	20	20	25	25	40
Installed length	L	mm	190	190	260	260	300
Height	H	mm	157	157	179	179	197
Height	h	mm	46	46	51	51	68
Flange diameter	D	mm	105	105	115	115	150
Width	B	mm	95	95	101	101	131
Weight		~kg	3,5	3,5	4,8	4,8	8



Installation in falling line for threaded fittings, Type M-T Q n ... FAN R ... K 10							
Size marking	Q _n	m ³ /h	1,5	2,5	3,5	6	10
Nom. connection size	DN	mm	20	20	25	25	40
		inches	3/4	3/4	1	1	1 1/2
Pipe connection thread ¹⁾	d	inches	R 3/4	R 3/4	R 1	R 1	R 1 1/2
Meter stub thread ²⁾	D	inches	G 1	G 1	G 1 1/4	G 1 1/4	G 2
Installed length without fittings	l	mm	105	105	150	150	200
Installed length with fittings	L	mm	203	203	268	268	338
Height	H	mm	160	160	175	175	195
Height	h	mm	13	13	22	22	30
Axial offset	b	mm	100	100	105	105	120
Width	B	mm	97	97	103	103	140
Weight of meter without fittings		~kg	2	2,1	3,3	3,3	5
Weight of meter with fittings		~kg	2,3	2,4	3,8	3,8	6,3



Installation in rising line for threaded fittings, Type M-T Q n ... SAN R ... K 10							
Size marking	Q _n	m ³ /h	1,5	2,5	3,5	6	10
Nom. connection size	DN	mm	20	20	25	25	40
		inches	3/4	3/4	1	1	1 1/2
Pipe connection thread ¹⁾	d	inches	R 3/4	R 3/4	R 1	R 1	R 1 1/2
Meter stub thread ²⁾	D	inches	G 1	G 1	G 1 1/4	G 1 1/4	G 2
Installed length without fittings	l	mm	105	105	150	150	200
Installed length with fittings	L	mm	203	203	268	268	338
Height	H	mm	155	155	170	170	190
Height	h	mm	19	19	33	33	30
Axial offset	b	mm	82	82	94	94	120
Width	B	mm	97	97	103	103	140
Weight of meter without fittings		~kg	2	2,1	3,3	3,3	5
Weight of meter with fittings		~kg	2,3	2,4	3,8	3,8	6,3



Connection thread dimensions: 1) d Withworth tapered pipe thread R 1/2" to R 2" to ISO 7/1 = DIN 2999 Part 1
 2) D Pipe thread G 1 to G 2 B to DIN ISO 228/1

Ordering Notes

Horizontal version for threaded fittings Return Pulse sender, 10 Litres/pulse, Certified Class B

Ordering Text	Order Ref No
M-T Q _n 1,5 AN R 3/4" K 10	88188300
M-T Q _n 2,5 AN R 3/4" K 10	88188300
M-T Q _n 3,5 AN R 1" K 10	88188300
M-T Q _n 6 AN R 1" K 10	88188300
M-T Q _n 10 AN R 1 1/2" K 10	88188300

Special versions on request

Special housing Q n 1,5 Installed length 165 mm R 1/2" K 10

Special housing Q n 6 Installed length 260 mm R 1 1/4" K 10

Special size Q n 15 Installed length 270 mm R 2" K 100

Pulse values 1 / 2.5 / 25 Litres / pulse on request

Falling line version for threaded fittings Return Pulse sender, 10 Litres / pulse, Certified Class B

Ordering Text	Order Ref No
M-T Q _n 1,5 FAN R 3/4" K 10	88188303
M-T Q _n 2,5 FAN R 3/4" K 10	88188503
M-T Q _n 3,5 FAN R 1" K 10	88188703
M-T Q _n 6 FAN R 1" K 10	88188803
M-T Q _n 10 FAN R 1 1/2" K 10	88188903

Horizontal version with flanges, PN 16 Return Pulse sender, 10 Litres / pulse, Certified Class B

Ordering Text	Order Ref No
M-T Q _n 1,5 ANF DN 20 PN 16 K 10	88188304
M-T Q _n 2,5 FAN DN 20 PN 16 K 10	88188504
M-T Q _n 3,5 FAN DN 25 PN 16 K 10	88188704
M-T Q _n 6 FAN DN 25 PN 16 K 10	88188804
M-T Q _n 10 FAN DN 40 PN 16 K 10	88188904

Rising line version for threaded fittings Return Pulse sender, 10 Litres / pulse, Certified Class B

Ordering Text	Order Ref No
M-T Q _n 1,5 SAN R 3/4" K 10	88188302
M-T Q _n 2,5 SAN R 3/4" K 10	88188502
M-T Q _n 3,5 SAN R 1" K 10	88188702
M-T Q _n 6 SAN R 1" K 10	88188802
M-T Q _n 10 SAN R 1 1/2" K 10	88188902

Horizontal version with flanges, PN 25 Return Pulse sender, 10 Litres / pulse, Certified Class B

Ordering Text	Order Ref No
M-T Q _n 1,5 ANF DN 20 PN 25 K 10	88188302
M-T Q _n 2,5 FAN DN 20 PN 25 K 10	88188502
M-T Q _n 3,5 FAN DN 25 PN 25 K 10	88188702
M-T Q _n 6 FAN DN 25 PN 25 K 10	88188802
M-T Q _n 10 FAN DN 40 PN 25 K 10	88188902