

PolluFlow®

Ultrasonic flow sensor with volume pulse output



The PolluFlow® 90 °C/PN16 series can be combined with any of our calculators PolluTherm® F, PolluWatt Duo III, PolluTherm® or other common calculators for thermal energy.
Recommendation: Choose our PolluTherm® F calculator, which is technically identical to our PolluStat!

For the 130 °C/PN25 series, a calculator with a 3.0-5.5V/DC power supply such as PolluTherm® or PolluWatt Duo III is required for the PolluFlow® flow sensor.

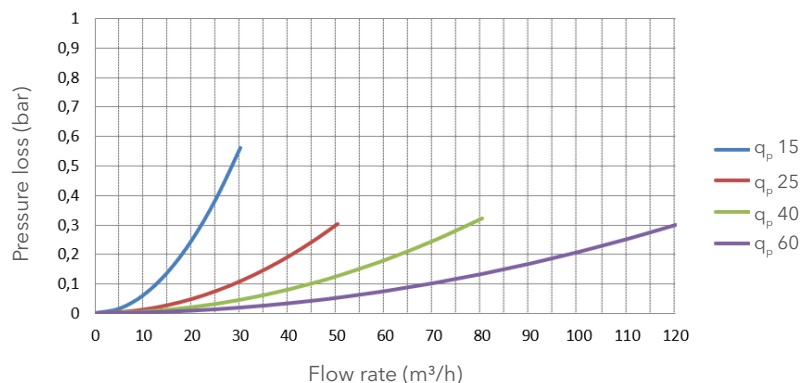
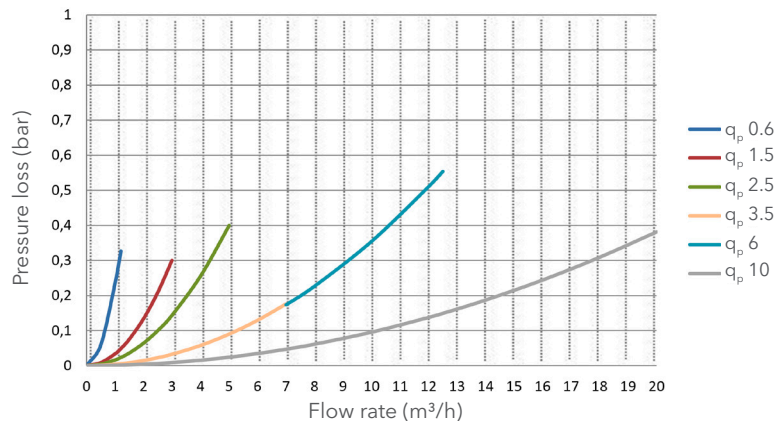
FEATURES

- Approval according MID Classe 2 with dynamic range 1:100 (q_i:q_p)
- No moving parts in the measuring channel
- Choice between horizontal, vertical and inclined installation
- Wide temperature range
PN16: 5 to 90 °C (short-term 105 °C)
PN25: 5 to 130 °C (short-term 150 °C)
- Ideally suited for e.g. "6 °C/12 °C" refrigeration systems with water as the medium
- Very good long term stability approved by AGFW duration test
- Extreme low energy consumption enabling a long lifetime
- 90 °C / PN16 with calculator PolluTherm® F
130 °C/PN16 with calculator PolluTherm® or PolluWatt Duo III
- Available
DN15 to DN 40 **PN16**/90 °C with threaded connection and
DN15 to DN100 **PN16**/90 °C or **PN25**/130 °C with flange connection

The ultrasonic measuring principle is based on the transit time measuring method and offers the following advantages: Detection of low flows in an extended measuring range with high measuring dynamics. Good wear resistance, as there are no moving parts. Low pressure loss and low sensitivity to foreign bodies in the medium.

In addition, the PolluFlow® is suitable for measuring fully condensed steam in condensate pressure networks.

Pressure Loss Curve



TECHNICAL SPECIFICATIONS: CALCULATOR

Environmental class	EN 1434 class C / MID class E2 + M2 (ambient temperature: 5 ... 55 °C)		
Protection class	Heating: IP 54 Cooling and hybrid: IP 65		
Power supply	Series	90 °C/PN16	Passive sensor - own 3.0 V battery supply designed for 12 years
Housing material	Series	90 °C/PN16	DN15 to DN40 brass; DN50 to DN100 cast iron
Power supply	Series	130 °C/PN25	Active sensor- only with external power supply 3.0 ... 5.5 VDC
Housing material	Series	130 °C/PN25	DN15 to DN100 brass and flange connection only
Interface	Open Collector pulse output - output for testing		
Volume pulse value	1 l/pulse or 10 l/pulse depending on size		
Length of the connecting cable to the calculator	2.50 m		

TECHNICAL SPECIFICATIONS: FLOW SENSOR

Nominal flow rate	q _p	m ³ /h	0.6	0.6	1.5	1.5	2.5	2.5	3.5	3.5
Nominal diameter	DN	mm	15	20	15	20	20	20	25	25
Overall length	L	mm	110	190	110	190	130	190	150	260
Starting flow rate		l/h	1	1	2.5	2.5	4	4	10	10
Minimum flow rate (DR 1:250)	q _i	l/h	6	6	6	6	10	10	-	-
Minimum flow rate (DR 1:100)	q _i	l/h	6	6	15	15	25	25	35	35
Maximum flow rate	q _s	m ³ /h	1.2	1.2	3	3	5	5	7	7
Overload flow rate		m ³ /h	2.5	2.5	4.6	4.6	6.7	6.7	18.4	18.4
Pressure loss at q _p	Δp	mbar	95	85	120	75	100	100	44	60
Temperature range Heat medium		°C	Up to 90 °C (105 °C) /PN16 q _p 0.6 to q _p 10 ¾" to 2". DN15 to DN 40 thread or flange connection Up to 90 °C (105 °C) /PN16 q _p 0.6 to q _p 60. DN15 to DN100 flange connection Up to 130 °C (150 °C) ³⁾ /PN25 q _p 0.6 to q _p 60. DN15 to DN100 flange connection ³⁾							
Kvs value (Δp=Q ² /Kvs ²)			1.95	2.06	4.33	5.48	7.91	7.91	16.69	14.29

Nominal flow rate	q _p	m ³ /h	6	6	10	10	15	25	40	60
Nominal diameter	DN	mm	25	25	40	40	50	65	80	100
Overall length	L	mm	150	260	200	300	270	300	300	360
Starting flow rate		l/h	10	10	20	20	40	50	80	120
Minimum flow rate (DR 1:250)	q _i	l/h	24	24	40 ¹⁾	40 ¹⁾	60 ¹⁾	100 ¹⁾	160 ¹⁾	240 ¹⁾
Minimum flow rate (DR 1:100)	q _i	l/h	60	60	100	100	150	250	400	600/ 1200 ²⁾
Maximum flow rate	q _s	m ³ /h	12	12	20	20	30	50	80	120
Overload flow rate		m ³ /h	18.4	18.4	24	24	36	60	90	132
Pressure loss at q _p	Δp	mbar	128	128	140	140	140	75	80	75
Temperature range Heat medium		°C	Up to 90 °C (105 °C) /PN16 q _p 0.6 to q _p 10 ¾" to 2". DN15 to DN 40 thread or flange connection Up to 90 °C (105 °C) /PN16 q _p 0.6 to q _p 60. DN15 to DN100 flange connection Up to 130 °C (150 °C) ³⁾ /PN25 q _p 0.6 to q _p 60. DN15 to DN100 flange connection ³⁾							
Kvs value (Δp=Q ² /Kvs ²)			16.77	16.77	26.73	26.73	40.09	91.29	141.42	219.09

1) Valid for horizontal installation only

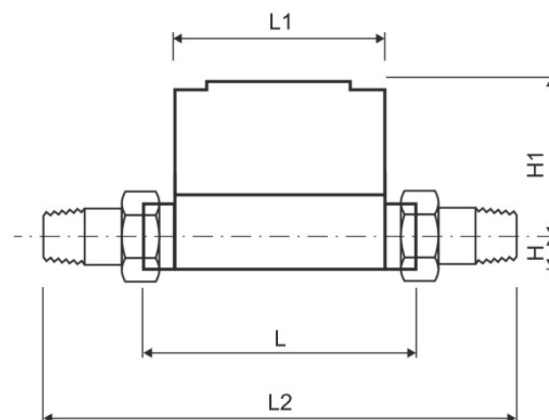
2) Up side down installation

3) 150 °C in vertical installations or tilted installation with bigger than 45 degree tilted angle

DIMENSIONS THREAD VERSION DN15 TO DN40, MEDIUM TEMPERATURE 90 °C (105°C)/PN16

Nominal flow rate	q _p	m ³ /h	0.6	0.6	1.5	1.5	2.5	2.5	3.5
Nominal diameter	DN	mm	15	20	15	20	20	20	25
Overall length	L	mm	110	190	110	190	130	190	150
Overall length with coupling	L2	mm	190	288	190	288	230	288	270
Height	H	mm	14.5	18	14.5	18	18	18	23
Height	H1	mm	54.5	56.5	54.5	56.5	56.5	56.5	61
Length of electronic	L1	mm	90	90	90	90	90	90	90
Width of electronic	B	mm	65.5	65.5	65.5	65.5	65.5	65.5	65.5
Connection thread on meter		Inch	G¾B	G1B	G¾B	G1B	G1B	G1B	G1¼B
Connection thread of coupling		Inch	R½	R¾	R½	R¾	R¾	R¾	R1
Operating Pressure	PN	bar	16	16	16	16	16	16	16
Weight		kg	0.6	0.63	0.6	0.63	0.61	0.63	0.93

Nominal flow rate	q _p	m ³ /h	3.5	6	6	6	10	10
Nominal diameter	DN	mm	25	25	25	32	40	40
Overall length	L	mm	260	150	260	260	200	300
Overall length with coupling	L2	mm	380	270	380	380	340	440
Height	H	mm	23	23	23	23	33	33
Height	H1	mm	61	61	61	61	66.5	66.5
Length of electronic	L1	mm	90	90	90	90	90	90
Width of electronic	B	mm	65.5	65.5	65.5	65.5	65.5	65.5
Connection thread on meter		Inch	G1¼B	G1¼B	G1¼B	G1½	G2B	G2B
Connection thread of coupling		Inch	R1	R1	R1	R1¼	R1½	R1½
Operating Pressure	PN	bar	16	16	16	16	16	16
Weight		kg	1.35	0.93	1.35	1.35	2.4	2.6



DIMENSIONS FLANGE VERSION DN15 TO DN100 90 °C (105 °C)/PN16 OR 130 °C (150 °C) / PN25

Nominal flow rate	q_p	m ³ /h	0.6	1.5	2.5	3.5	6
Nominal diameter	DN	mm	20	20	20	25	25
Overall length	L	mm	190	190	190	260	260
Height	H	mm	47.5	47.5	47.5	50	50
Height	H1	mm	56.5	56.5	56.5	61	61
Length of electronic	L1	mm	90	90	90	90	90
Width of electronic	B	mm	65.5	65.5	65.5	65.5	65.5
Flange dimension	F	mm	95	95	95	100	100
Flange diameter	D	mm	105	105	105	114	114
Hole circle diameter	K	mm	75	75	75	85	85
Screw hole diameter	D1	mm	14	14	14	14	14
Operating pressure / T Medium	PN/Tm	bar/°C	16/90 °C or 25/130 °C				
Number of screw holes		pcs	4	4	4	4	4
Weight brass body		kg	2.7	2.7	2.7	3.35	3.35

Nominal flow rate	q_p	m ³ /h	10	15	25	40	60
Nominal diameter	DN	mm	40	50	65	80	100
Overall length	L	mm	300	270	300	300	360
Height	H	mm	69	73.5	85	92.5	108
Height	H1	mm	66.5	71.5	79	86.5	96.5
Length of electronic	L1	mm	90	90	90	90	90
Width of electronic	B	mm	65.5	65.5	65.5	65.5	65.5
Flange dimension	F	mm	138	147	170	185	216
Flange diameter	D	mm	148	163	184	200	235
Hole circle diameter	K	mm	110	125	145	160	180 ¹⁾ / 190
Screw hole diameter	D1	mm	18	18	18	19	19 ¹⁾ / 22
Operating pressure / T Medium	PN/Tm	bar/°C	16/90 °C or 25/130 °C				
Number of screw holes		pcs	4	4	8	8	8
Weight ductile iron body (GGG) 90 °C/PN16		kg	-	6.31	8.08	10.01	15.76
Weight brass body 130 °C/PN25		kg	6.6	7.45	9.45	11.1	16.9

1) Values for PN 16 housing

