



FlowGuard® FT420

Magnetic inductive flow meter

Product highlights

- 800 measurements per second enable precise dosing processes
- Meets the highest requirements for measurement accuracy (0.5% of the measured value) and repeatability (0.2%)
- Can be used at media temperatures up to 90°C
- Wide measuring range from 0.01 m³/h to 12,200 m³/h depending on pipe diameter (DN4...DN600)
- Wide range of process connections and materials available

Item no. 1318/ [Diameter]/ [Process connection]/ [Pressure]/ [Pipe coating material]/ [Electrode material]/ [Protection class]/ [Output signal]

Description

The FlowGuard® FT420 magnetic inductive flow meter is used for bidirectional flow measurement of liquid media, from drinking water to chemically aggressive media, in a temperature range up to 90°C.

In addition to a pulse output, the sensor has a 4 ... 20 mA analog output for transmitting the volume flow and quantity measurement. Two status LEDs indicate the sensor status precisely at all times. The process connection can be designed as a flange, thread, sandwich, or clamp according to DIN 32676/DIN 11851.

Areas of application

The FlowGuard® FT420 is used in a wide range of industrial applications. With 800 measurements per second, it is particularly suitable for dosing processes, e.g., in the pharmaceutical, food, and chemical industries. Thanks to its robust design and its ability to deliver reliable and highly accurate measurement results even under the most demanding operating conditions, a pure stainless steel version is also available.

General information

Areas of application	Liquids (min. conductivity 20 µS/cm)
Device type	Magnetic inductive flow meter
Device design	Compact device
Flow measurement range	0.2 ... 12 m/s Bidirectional measurement
Flow measurement accuracy	≤0.5% of the measured value Repeatability 0.2
Flow medium temperature	Max. 90°C (higher temperatures in consultation with manufacturer)
Pressure	PN10, PN16, PN25 PN40, PN64, PN100 150lb (ANSI), 300lb(ANSI), 40K
Display	2 LEDs with four colors
Protection class of evaluation unit	IP65, IP67 or IP68 available
Protection class sensor	IP65, IP67 or IP68 available
Special features	800 measurements per sensor Customer Empty pipe detection DN10...DN600 Negligible pressure loss Additional electrodes for grounding and detection

Outputs/inputs

Output	Pulse output, analog log output
Specification Analog signal	4 ... 20mA Pulse output/current switch

Mechanical data

Diameter	DN4 ... 600 (other diameters available on request)
Process connection	Stainless steel flange (EN 1092) Sandwich design Thread (EN ISO 228-1) Milk pipe screw connection DIN11851
Pipe coating material	Rubber (hard) DN25...DN600 Rubber with drinking water approval DN25...DN600 PTFE- DN10...DN80 PFA- DN100...DN600 ETFE DN100...DN600 PVDF- DN4...DN20 RILSAN- DN25...DN600

Material of the evaluation unit	Stainless steel or steel ST37 (coated)
Electrode material	CrNi steel DIN 1.4571 (316 Ti) Hastelloy C4 titanium Tantal

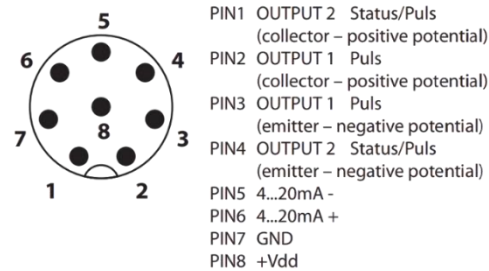
Electrical

Power	24 VAC/ VDC with protection
Operating voltage tolerance	± 15
Electrical connection	M12, 8-pin
Power consumption max.	4.2 VA

Additional

Ambient temperature	0 ... 55°C (evaluation unit)
Accessories	Grounding rings

Electrical connection



Order number

Part number **1318**

Diameter

See table Measuring ranges **DN04 ... 600**

Process connection

Flange Steel ST37 painted **FSt**
 Flange stainless steel **FE304L**
 1.4306/304L Flange stainless **FE316L**
 steel 1.4404/316L (EN1092)
 Sandwich design Thread **S**
 (EN ISO 228-1) Milk pipe **G**
 screw connection **M**
 (DIN11851)
 Clamp (DIN32676) **C**

Pressure

PN10 **10**
 PN16 **16**
 PN25 **25**
 PN40 **40**
 PN64 **64**
 PN100 **100**
 150 lb (ANSI) **150**
 300 lb (ANSI) **300**
 40K (JIS) **40K**

Pipe casing material

Rubber (hard) – DN25...DN600 **GH**
 Rubber with drinking water **GT**
 approval
 - DN25...DN600
 PTFE DN10...DN80 **PTFE**
 PFA DN100...DN600 **PFA**
 ETFE DN100...DN600 **ETFE**
 PVDF- DN4...DN20 **PVDF**
 RILSAN - DN25...DN600 **RILSAN**

Electrode material

CrNi steel DIN 1.4571 (316Ti) **ST**
 Hastelloy C4 **HA**
 Titanium **TI**
 Tantalum **TA**

Protection class

IP65 **65**
 IP67 **67**
 IP68 **68**

Output signal

Pulse output/flow switch Pulse **Imp**
 output/flow switch
 + 4...20 mA **Imp Analog**

Table with flow ranges for individual DN sizes

	Qmin [m3/h]	Qmax [m3/h]
Diameter nominal [mm]	1/60 (0.2 m/s)	- (12 m/s)
DN 4	0,01	0,6
DN 6	0,02	1,2
DN 8	0,04	2,2
DN 10	0,06	3,4
DN 15	0,13	7,6
DN 20	0,24	14,2
DN 25	0,35	21
DN 32	0,6	34
DN 40	0,9	54
DN 50	1,4	84
DN 65	2,4	144
DN 80	3,6	220
DN 100	5,6	340
DN 125	8,9	534
DN 150	13	760
DN 200	23	1350
DN 250	35	2115
DN 300	51	3050
DN 350	70	4150
DN 400	90	5426
DN 500	141	8480
DN 600	203	12200

Display

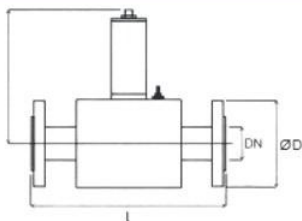
LED1	LED2	Description	Current output
● green	-	The meter is in good order and the flow is null or negative	4mA
● green	● blue is flashing	The meter is in good order and the flow is positive where the blue LED is indicating the transmission of volumetric pulses	4÷20mA
● green	● yellow	Measuring tube empty	<4mA
● red	-	Meter is out of order, service necessary	<4mA
● red	● yellow	Meter is temporarily beyond parameters	<4mA
-	-	Supply voltage error	-

Dimensions

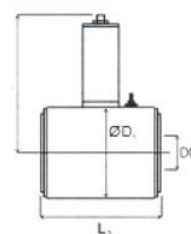
Dimensions									
	Constructional length [mm]					Outside diameter [mm]		Total height of compact design [mm]	
Connection [mm]	Flanged	Sandwich (PN25)	Threaded (connection)	Food Thread	Clamp	Sandwich (PN25)	Threaded, Food Sandwich (PN25)	Flanged, Sandwich (PN25)	Threaded, Food Thread, Clamp
DN	L1	L2	L3	L3	L3	D1	D2	H1	H2
4	-	-	157 (1/2")	-	-	-	70/-/-	-/146	150
6	-	-	157 (1/2")	-	-	-	70/-/-	-/146	150
8	-	-	157 (1/2")	-	-	-	70/-/-	-/146	150
10	200	90	186 (3/8")	173	180	51	70/-/-	146	150
15	200	90	190 (1/2")	165	175	51	70	146	150
20	200	90	200 (3/4")	170	175	61	80	146	155
25	200	90	200 (1")	180	175	71	90	151	160
32	200	90	228 (1 1/4")	192	175	82	100	156	165
40	200	110	248 (1 1/2")	215	203	92	116	161	173
50	200	110	258 (2")	228	211	107	136	169	183
65	200	130	-	-	-	127	151	179	191
80	200	130	-	-	-	142	177	186	204
100	250	200	-	-	-	168	-	199	-
125	250	200	-	-	-	194	-	212	-
150	300	200	-	-	-	224	-	227	-
200	350	200	-	-	-	284	-	257	-
250	450	-	-	-	-	-	-	300/-	-
300	500	-	-	-	-	-	-	325 / -	-
350	550	-	-	-	-	-	-	355 / -	-
400	600	-	-	-	-	-	-	385 / -	-
500	600	-	-	-	-	-	-	-	-
600	600	-	-	-	-	-	-	-	-

Version

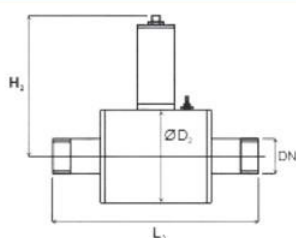
Flanged



Sandwich



Threaded (connection)



Food Thread

