

FLOW 55

Electromagnetic Flowmeter for Open Channels and Partially Filled Pipes FLOW 55

This advanced flowmeter represents the cutting edge in liquid monitoring for systems where standard meters typically fail.

Utilizing unique dual-sensing technology, the device combines electromagnetic induction with an integrated ultrasonic sensor to provide highly accurate detection of both liquid level and flow velocity.

Specifically optimized for partially filled pipes, open channels, and gravity-fed systems, the unit achieves an outstanding accuracy of $\pm 1-2\%$ of the actual flow rate.

To ensure seamless integration into modern control systems, the instrument features universal connectivity (4–20 mA, Modbus RTU) with full support for IoT modules. Exceptional durability is guaranteed by an IP68 rating, allowing for permanent immersion of the sensor, while the transmitter is protected to IP65–IP68 standards.

MAIN ADVANTAGES

- Utilizes all the main advantages of the inductive flow meter Flow 38
- When the pipe is fully filled, it operates as an inductive flow meter for low-pressure applications
- Primarily designed for stormwater and wastewater
- Suitable for pipe slopes of 0–4%
- Based on the liquid level and flow velocity, the flow rate is determined at any filling height



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TECHNICAL DATA

Power Supply	24 V DC or 230 V AC
Power Consumption	4,6 VA
Electronics Type	H – HEAD
Design Options	Compact (T _{max} 90 °C), Remote
Nominal Diameter	DN 80 ... DN 600
Lining Material	Hard rubber
Electrode Material	CrNi steel DIN 1.4571
Construction	All-welded
Measuring Principle	Electromagnetic in combination with ultrasonic level meter
Application	Open channels, gravity-fed systems, partially filled pipelines, grey waters, rain waters
Pipe Pressure Ratings	No pressure (gravity flow) or PN10 if pipe is full
Measuring Medium	Conductive liquids (e.g., wastewater, surface water, treated water)
Flowmeter Accuracy	±1-2 % of actual flow (depends on flow profile and level detection)
Additional Electrodes	Grounding
Empty-pipe Detection	DN 80 ... DN 600
Display	LCD 2 × 16 characters, local display with totalizer, instantaneous flow, level info, status info
Controls	2× external buttons (for value viewing) 3× internal buttons (for viewing and parameter setting)
Outputs	2× pulse / flow switch (max. 400 Hz), 4 ... 20 mA, 1× RS485 interface (Modbus / M-Bus protocol), M-Bus, HART, micro SD, Ethernet module (TCP/IP, integrated web server), NB-IoT
Ambient Temperature	max to 55 °C
Ingress Protection	IP68 for sensor, IP65-IP68 for transmitter
Ingress Electronics Protection	standard design (H – Head)
Installation	In open channel, waste line, rainwater lines - no pressure systems
Level Detection	Integrated ultrasonic sensor
Process Temperature	0 °C to +70 °C

FLOW - FLOW 55

DN	Flow rate m ³ /hod		Flow cross-section area cm ²		Velocity m/s	
	Pipe filling		Pipe filling		V _{min} *	V _{max} **
mm	10 %	70 %	10 %	70 %	m/s	m/s
80	1	25	4,7	35,3	0,46	1,95
100	2	45	8,1	55	0,55	2,3
150	5	132	18,3	124	0,72	3
200	10	290	32,4	220	0,88	3,6
300	30	840	73	495	1,15	4,7
400	59	1 820	121	883	1,35	5,7
500	118	3 250	202	1 365	1,61	6,6
600	171	5 360	270	1 990	1,76	7,5

V_{min}* for 10 % pipe filling and 1 % slope | V_{max}** for 70 % pipe filling and 4 % slope

DIMENSIONAL TABLE

Connection [mm]	Installation length [mm]	Total height [mm]	
		Compact version	Remote version
	Flanged	Flanged	Flanged
DN	L1	H1	H3
80	200	273	236
100	250	286	249
125	250	299	262
150	300	314	277
200	350	344	307
250	450	387	350
300	500	412	375
350	550	442	405
400	600	472	435
500	600	952	907
600	600	1085	1040

Note: the outer diameter of the flange corresponds to the required pressure class and standard



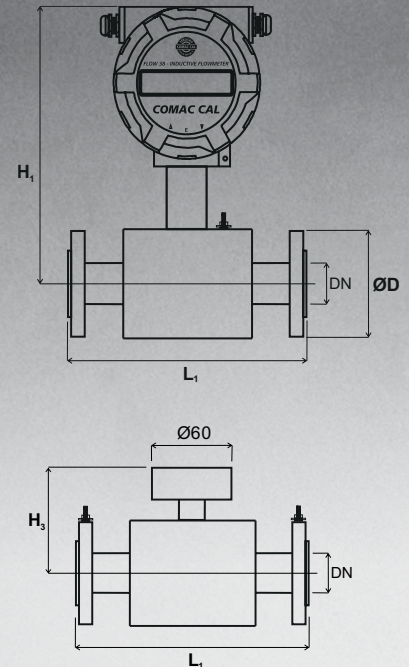
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FLOW 55

FLANGED CONNECTION
(EN 1092)



The installation lengths can be adjusted by agreement with the manufacturer.

PRODUCT ORDERING CODE

FL55x/DNxxx/Ax(m)/Bx/Cx/Dx/Ex/Fx/Gx/Hx/Ix	
FLOW55 (type) H... head	I (measuring range Q_{min}/Q_{max}) I1... 1/60
DN (nominal diameter) DN... 80 ... 600**	H (power supply) H1... 230 VAC H2... 24 VAC/VDC
A (design) A1... compact A2... remote (cable length 3 ... 30 m, T _{max} 80 °C)	G (output) G1... pulse/switch (flow switch) G2... imp./sw. + 4 ... 20 mA G3... imp./sw. + RS485 (Modbus) G4... imp./sw. + 4 ... 20 mA + RS485
B (connection) B1... flanged	F (protection rating) F1... IP65 F2... IP67 F3... IP68
C (pressure rating) C1... PN10 (DIN)	E (electrodes) E1... stainless steel 316 Ti
D (lining) D1... hard rubber	

ACCESSORIES:

STANDALONE MODULES:

- (CANNOT BE COMBINED)
- Additional analog output 4 ... 20 mA
 - Ethernet module (Modbus TCP/IP protocol)
 - Ethernet module (integrated web server)
 - NB-IoT module

COMBINABLE MODULES:

- M-bus (available separately or combined with micro SD card)
- HART (available separately or combined with micro SD card)
- micro SD card (available separately)