

FLOW 38 MID

The meter is certified for billing purposes within the EU according to MID (TCM 142/18 – 5561).

FLOW 38 MID for billing purpose for water only

Its application is wherever there is a supply of liquids between two entities for a fee. The FLOW 38 MID then serves as a sensing element forming the basis for the calculation of the invoiced amount. It is characterized by high reliability, accuracy and stability of metrological parameters. The output of the flow meter is a pulse output or a 4...20 mA current output.

The device can also communicate via the RS485 interface with the M-BUS or Mod-Bus protocols. The display shows the instantaneous flow rate, volume flow rate, back flow volume, user-resettable volume counter, date and time, and in the event of a failure, its description and more.

MAIN BENEFITS

- High measurement accuracy across the entire flow range
- Long-term stability of metrological parameters
- Simple and intuitive operation
- Remote and local reading of all data
- High abrasion resistance
- Does not cause pressure losses
- Rotatable display
- The flow sensor contains no moving parts



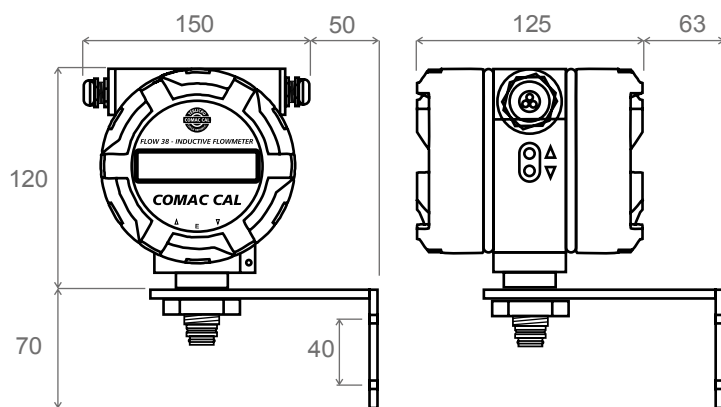
COMAC CAL

TECHNICAL DATA

Power supply	230 VAC / 50 Hz, 24 V DC
Input power	4,6 VA
Electronic type	Standard (H – head)
Design	Compact (T_{max} 90 °C), remote (standard cable length 3 m)
Diameter nominal	DN 10...400
Lining material	Rubber (hard, soft, drinking water approved): DN32...DN400 PTFE: DN 15...DN 80 ETFE: DN 100...DN 400 PFA: DN 10...DN 250
Electrode material	Stainless Steel 316 Ti, Hastelloy C4, Titanium, Tantalum
Construction	All-welded
Sensor material	Stainless steel and structural steel with polyurethane coating
Process connections	Flanged DIN (EN1092) Threaded (EN 10226-1)
Temperature class	T30, T50
Pressure	PN 10 (DN 10...DN 400), PN16 (DN 25...DN 400)
Min. conductivity of the measured medium	5 μ S/cm
Flow meter measuring range (Q_3/Q_1)	R40, R50
Flow meter accuracy	accuracy class 2 (accuracy up to 0,5%, repeatability up to 0,2%)
Pressure loss class	Δp 10
Additional electrodes	Grounding and detection electrodes for empty pip
Display	LCD 2x16 characters
Controls	2x external button (viewing values) 3x internal button (viewing + parameter changing)
Outputs	2x Impulse/flow switch (max. 400 Hz) (passive / active) 1x current (4...20 mA) (passive/active) (active output can be powered from internal source) 1x RS485 interface (Modbus/M-bus communication protocol)
Modules	micro SD card, M-bus
Max. ambient temperature	55 °C
Ingress sensor protection	IP65, IP67, IP68
Ingress electronics protection	IP65, IP67

ELECTRONICS

DISPLAY UNIT



DISPLAY UNIT OPERATION



The meter is equipped with two external buttons on the electronics housing side and three internal buttons accessible after removing the front cover with glass. Using the external buttons, it is possible to scroll individual quantities and settings. After removing the cover, it is possible to change settings as well.

The unit can be rotated within 350° for more comfortable reading of values on the display both in compact and remote designs.

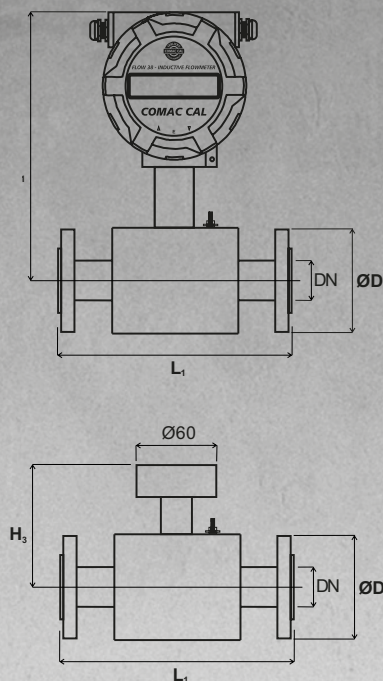
FLOW RANGES

Table with flow ranges for individual DN size

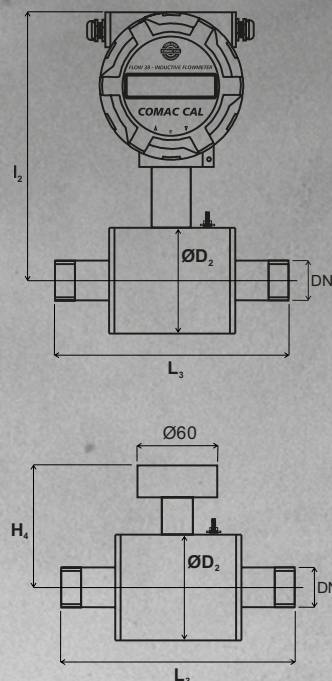
DN [mm]	R50 (H1) Q_1 [m ³ /h] (15)	R40 (H1V1) Q_1 [m ³ /h] (14)	Q_3 [m ³ /h]	Q_4 [m ³ /h]
DN 10	0,03	0,04	1,6	2,0
DN 15	0,08	0,10	4,0	5,0
DN 20	0,13	0,16	6,3	7,9
DN 25	0,20	0,25	10,0	12,5
DN 32	0,32	0,40	16,0	20,0
DN 40	0,50	0,63	25,0	31,3
DN 50	0,80	1,00	40,0	50,0
DN 65	1,26	1,58	63,0	78,8
DN 80	2,00	2,50	100,0	125,0
DN 100	3,20	4,00	160,0	200,0
DN 125	5,00	6,25	250,0	312,5
DN 150	8,00	10,00	400,0	500,0
DN 200	12,60	15,75	630,0	787,5
DN 250	20,00	25,00	1000,0	1250,00
DN 300	32,00	40,00	1600,0	2000,00
DN 350	--	40,00	1600,0	2000,00
DN 400	--	40,00	1600,0	2000,00

FLOW 38 MID

FLANGE (EN 1092)



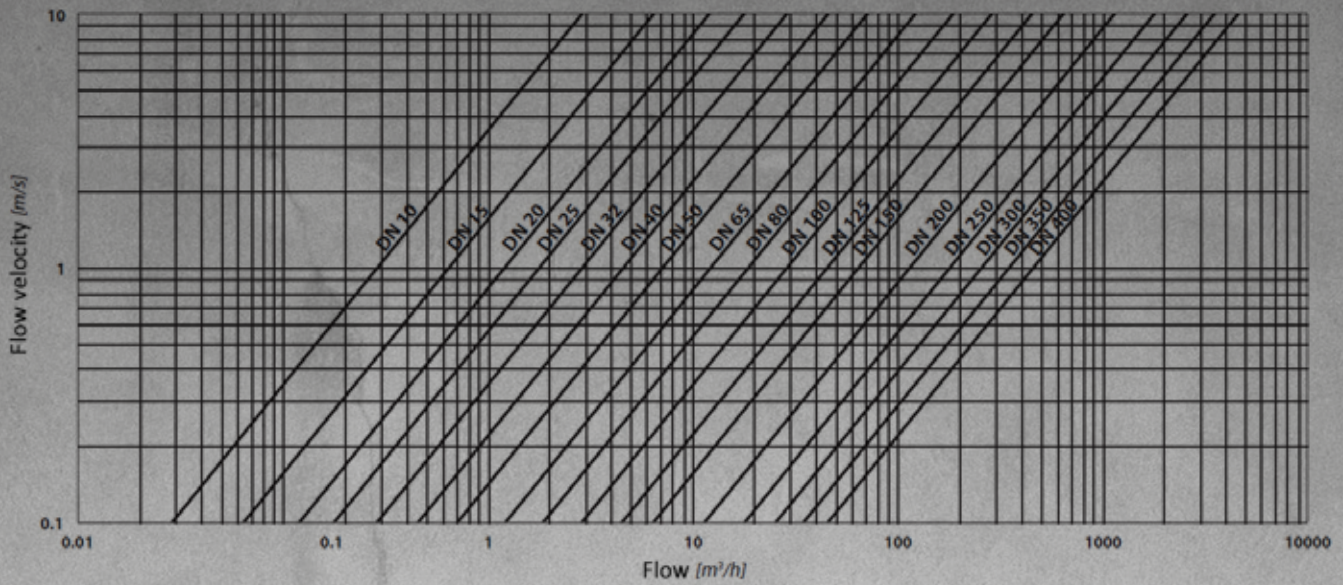
THREAD (EN 10226-1)



DIMENSIONAL TABLE

Connection [mm]	Constructional length [mm]		Outside diameter [mm]	Total height [mm]			
	Flanged	Threaded	Sensor body	Compact design		Remote design	
			Threaded	Flanged	Threaded	Flanged	Threaded
DN	L1	L3	D2	H1	H2	H3	H4
10	200	190 (3/8")	70	173	177	86	90
15	200	190 (1/2")	70	173	177	86	90
20	200	200 (3/4")	80	173	182	86	95
25	200	200 (1")	90	178	187	91	100
32	200	230 (1 1/4")	100	183	192	96	105
40	200	245 (1 1/2")	116	188	200	101	113
50	200	254 (2")	136	196	210	109	123
65	200	-	-	206	-	119	-
80	200	-	-	213	-	126	-
100	250	-	-	226	-	139	-
125	250	-	-	239	-	152	-
150	300	-	-	254	-	167	-
200	350	-	-	284	-	197	-
250	450	-	-	327	-	240	-
300	500	-	-	352	-	265	-
350	550	-	-	382	-	295	-
400	600	-	-	412	-	325	-

VOLUMETRIC FLOW VERSUS INSTANTANEOUS FLOW VELOCITY DIAGRAM



PRODUCT ORDERING CODE

FL38MIDx/DNxxx/Ax(m)/Bx/Cx/Dx/Ex/Fx/Gx/Hx/Ix

FLOW38 (type)
H... head

DN (nominal diameter)
DN... 10 ... 400

A (design)
A1... compact
A3... remote (cable length 3 ... 30 m)

B (connection)
B1... flanged
B3... threaded
B6... flanged SS304
B7... flanged SS316

C (pressure rating)
C1... PN10 (DIN), MAP 10 (EN ISO 4064)
C2... PN16 (DIN), MAP 16 (EN ISO 4064)

D (lining)
D1... hard rubber D4... PTFE
D2... soft rubber D5... PFA
D3... rubber drinking water approved D7... ETFE

I (measuring range Q_3/Q_1)

I4... R40
I5... R50

H (power supply)

H1... 230 VAC
H2... 24 VAC/VDC
H8... 110 VAC

G (output)

G1... pulse/switch (flow switch)
G2... imp./sw. + 4 ... 20 mA
G3... imp./sw. + RS485
G4... imp./sw. + 4 ... 20 mA + RS485
(RS485 protocol options
M-bus/Modbus RTU)

F (protection rating)

F1... IP65
F2... IP67
F3... IP68

E (electrodes)

E1... stainless steel 316 Ti
E2... hastelloy C
E3... titanium
E4... tantalum

ACCESSORIES / Modules:

- micro SD card
- M-bus



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