

HYDRAMAG

Electromagnetic Flowmeter (Battery powered)

Revolutionizing Flow



HYDRAMAG Electromagnetic flowmeter redefine accuracy for conductive liquids exceeding 20 $\mu\text{S}/\text{cm}$. Built for longevity, their robust design tackles harsh environments, while the maintenance-free operation ensures continuous, hassle-free performance.

BATTERY POWERED



VARIOUS
COMMUNICATION
OUTPUT



IP68 PROTECTION



HIGH ACCURACY



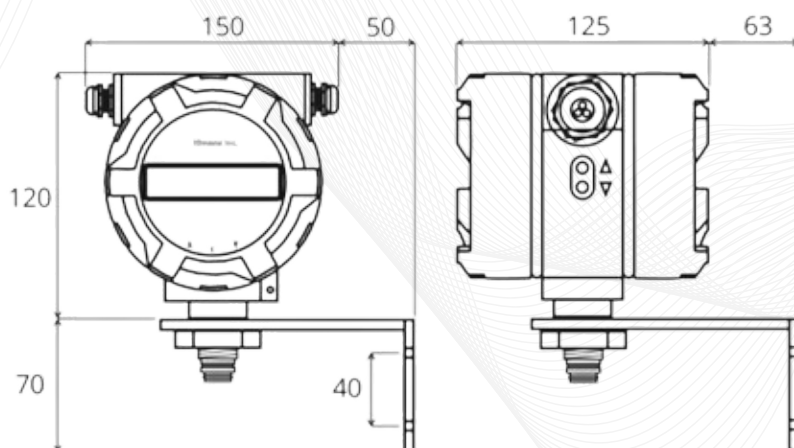
FEATURES

TECHNICAL DATA

Power	Replaceable lithium battery power pack / external (12 V DC, max. 500 mA)
Input power	M12 – 5p (external powering, UART) M12 – 8p (ImpOut, RS485)
Type of electronics	Meter mount (H – standard), (Tmax 90 °C), Remote mount(R), (standard cable length 3 m)
Measurement period	1...60 s
Diameter nominal	DN 10...200
Lining material	Rubber (hard, soft, with potable water test certificate): DN 25...DN 200 (T min 0 °C , Tmax 70 °C) PTFE: DN 15...DN 80 (Tmin –25 °C , Tmax 150 °C for separate version) Rilsan: DN 25...DN 200 (Tmax 70 °C for separate version) ETFE: DN 100...DN 200 (Tmax 150 °C), PFA, Ceramics (upon agreement with the manufacturer)
Electrode material	CrNi steel DIN 1.4571, Hastelloy C4, Titanium, Tantalum
Frame	All-welded
Sensor material	Flanged– stainless steel and structural steel with polyurethane coating Wayfair, Threaded, Food grade – stainless steel
Process connections	Wayfair (PN25 only) Flanged DIN (EN1092) – carbon or stainless steel Threaded (EN 10226-1) Food grade (DIN 11851 fitting, clamp)
Pressure	PN10 (DIN), PN16 (DIN), PN25 (DIN), PN40 (DIN), PN64 (DIN), PN100 (DIN) 10K (JIS), 20K (JIS), 40K (JIS) 150lb (ANSI), 300lb (ANSI)
Min. conductivity of the measured fluid	50 µS/cm
Flow range (Qmin/Qmax)	bidirectional 0,2 ...12 m/s (1:60)
Flow meter accuracy	1 % for 1...10 m/s (0.5% on request)
Additional electrodes	Grounding and detection electrodes for empty piping
Pressure loss	Negligible
Additional electrodes	Grounding and detection electrodes for empty piping (DN 10...DN 200)
Empty piping detection	DN 10...DN 200
Display unit	one line, alphanumerical LCD
Controls	2× external button (viewing values) 3× internal button (viewing + parameter changing)
Outputs	M12 – 5p (external powering, UART) M12 – 8p (ImpOut, RS485)
Archivation	Micro SD
Max. temperature of medium	150 °C (according to the lining and design)
Max. ambient temperature	5...55 °C
Degree protection of sensor	IP67, IP68
Degree protection of electronics	Meter mount (H – standard), IP65, IP67

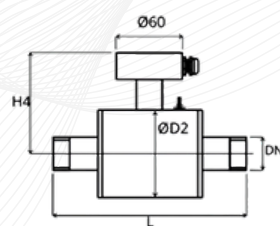
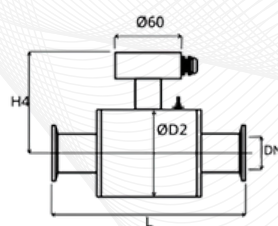
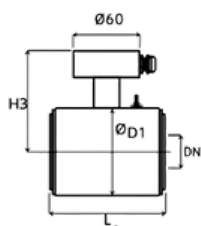
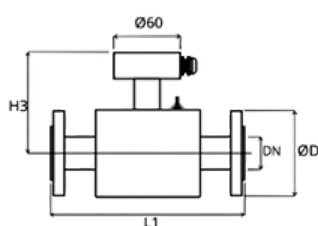
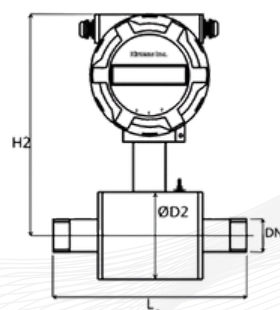
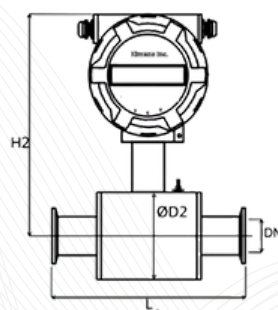
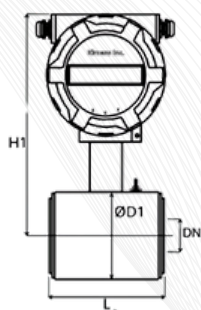
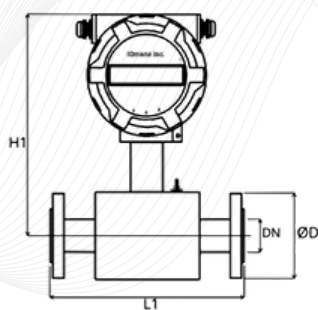
FLOW RANGES

Diameter (DN) mm	Qmin [m ³ /h] 1/60 (0,2 m/s)	Qmax [m ³ /h] (12 m/s)
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

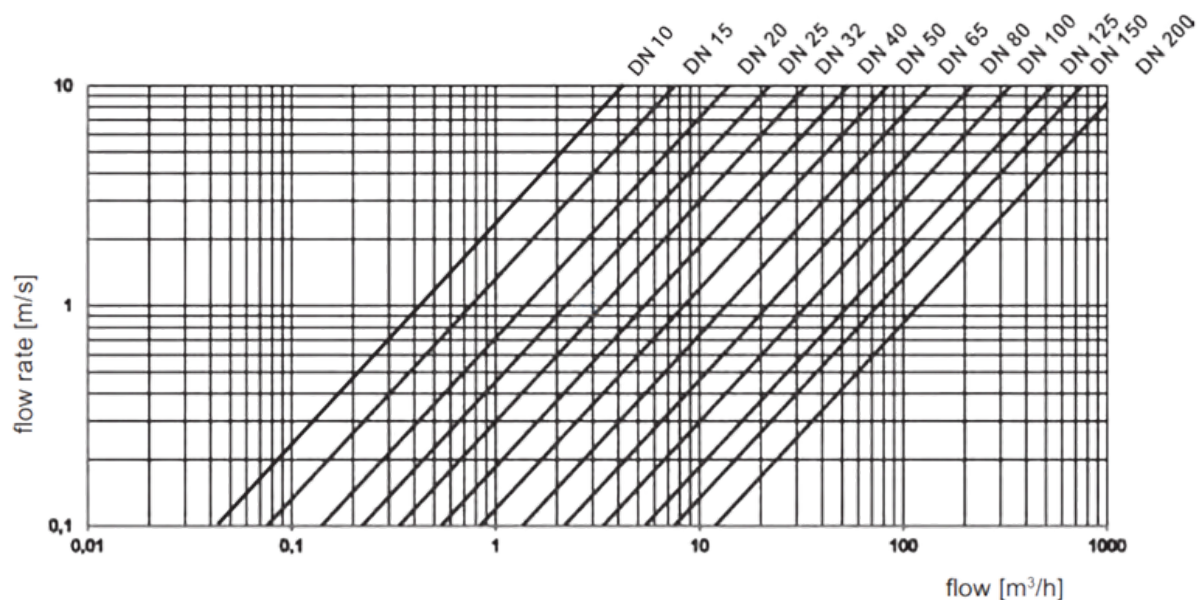
ELECTRONICS
METER/ REMOTE MOUNT


DIMENSIONS

Connection (mm)	Constructional length (mm)					Outside diameter (mm) Sensor body		Total(mm) compact design		Total(mm) separated design	
	Flanged	Wafer (PN25)	Threaded connection	Food thread	Food clamp	Wafer (PN25)	Threaded Food thread Food clamp	Flanged Wafer (PN25)	Threaded Food thread Food clamp	Flanged Wafer (PN25)	Threaded Food thread Food clamp
DN	L1	L2	L3	L3	L3	D1	D2	H1	H2	H3	H4
DN 10	200	90	186 (3/8")	173	180	51	70	173	177	86	90
DN 15	200	90	190 (1/2")	165	175	51	70	173	177	86	90
DN 20	200	90	200 (3/4")	170	175	61	80	173	182	86	95
DN 25	200	90	200 (1")	180	175	71	90	178	187	91	100
DN 32	200	90	228 (1 1/4")	192	175	82	100	183	192	96	105
DN 40	200	110	248 (1 1/2")	215	203	92	116	188	200	101	113
DN 50	200	110	258 (2")	228	211	107	136	196	210	109	123
DN 65	200	130	Upon agreement	Upon agreement	Upon agreement	127	151	206	218	119	131
DN 80	200	130	Upon agreement	Upon agreement	Upon agreement	142	177	213	231	126	144
DN 100	250	200	-	-	-	168	-	226	-	139	-
DN 125	250	200	-	-	-	194	-	239	-	152	-
DN 150	300	200	-	-	-	224	-	254	-	167	-
DN 200	350	200	-	-	-	284	-	284	-	197	-



VOLUMETRIC FLOW vs INSTANTANEOUS FLOW RATE DIAGRAM



OTHER SENSOR TYPES

WAFER SENSOR



FOOD GRADE SENSOR



THREADED SENSOR



INTERNAL LITHIUM BATTERY

Inserted lithium battery has lifetime up to five years. The lifetime of battery is important not only for the measurement period but also the used outputs or communications. The more energy demanding outputs, the shorter will be the battery life. Therefore, it is necessary to choose the right type of communication / outputs for the measurement period. At the end of the battery lifetime, the customer has the option of ordering a spare battery which is a part of our additional assortment.



ORDERING CODE

Hydramag	X	DN	XXX	/	A	X	Cl	/	B	X	/	C	X	/	D	X	/	E	X	F	X	/	G	X	/	H	X	/	I	X
Electronic (type)																														I (measuring range Qmin/Qmax)
Meter mount	H																													I1 1/60
DN(diameter nominal)																														H (power)
10 to 200			DN																											H1 Internal Lithium Battery
A (design)																														G (output)
compact																														G1 impulse
separated (cable length 3...30 m, Tmax 150 °C)																														G2 imp./sw. + RS485
separated (cable length 3...30 m, Tmax 80 °C)																														
B (connection)																														F (sensor degree protection)
flanged																														F1 IP65
wafer																														F2 IP67
threaded																														F3 IP68
dairy fitting																														
C (pressure)																														E (electrodes)
PN10 (DIN)																														E1 stainless steel 316 Ti
PN16 (DIN)																														E2 hastelloy C4
PN25 (DIN)																														E3 titanium
PN40 (DIN)																														E4 tantalum
D (lining)																														
hard rubber																														D1 PTFE D4 PVDF* D8
soft rubber																														D2 PFA D5 RILSAN D9
rubber with potable																														D3 ceramics* D6
water test certificate																														D4 ETFE D7

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