



NeroValves GmbH
Industrial Valves: DIN - API - ASME

Nero Flow meter

Nero Flowmeter

Telemetry, Industrial Automation, Instrumentation
Flow Meter, Smart Electromagnetic Water Meter,
Flow Meter & Calibration Lab



Products Rang:



Flanged Electromagnetic Flow Meter
(Metal Body)



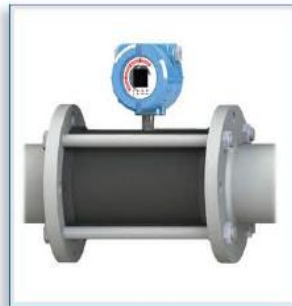
Ultrasonic Transit Time Flow Meter



Smart Electromagnetic
Battery-based Water Meter



Flanged Electromagnetic Flow Meter
(Polyethylene Body)



Wafer Electromagnetic Flow Meter
(Polyethylene Body)



Full Steel Electromagnetic Flow Meter
with Food and pharmaceutical Grade



Electromagnetic Flow Meter
(No Inlet No Outlet- 0D-0D)

Subject to alternation

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Mörfelden – Walldorf / Germany

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Nero Flow meter

Nero Easy Mag smart 800

Electromagnetic
Battery-based Water Meter



Easy Mag 800 sensors represent a smart solution provided by Nero Valves for water cycle and process applications. The structure for the generation of magnetic field provides an equipment with outstanding advantages.

These advantages precise measurement even in difficult and problematic applications.

This flanged sensor operates based on the Faraday Principle, by which a conductor crossing a magnetic field generates an electrical potential perpendicular to the field itself.

On the top and on the lower side of the stainless steel AISI 304 flow tube, two coils are installed; the magnetic field generated by the electric current crossing the coils, induces in the electrodes a potential difference proportional to the flow rate.

With the aim of measuring such potential of very low values, the interior of the flow tube is electrically insulated, thus the process liquid is no longer in contact neither with the material of the flow tube nor with that of the flanges.

The converter used generates the current supplying the coils, acquires the electrodes potential difference, process the signal to calculate the flowrate and manages all the communications.

The entire sensor has an IP68 protection degree suitable for a permanent immersion in water up to a depth of 1.5 m.

Body and Flanges

The flanges and the sensor external surface are epoxy painted. This gives the sensor an excellent resistance to water and external agents even in permanent immersion or buried.

Internal Lining

The standard internal insulating lining is Silicone. The liquid temperature can reach 80°C. With high resistance to scraping, the Silicone is considered the best material for fluids containing scattered solids for applications of water treatment, residual water, potable water and irrigation.

Electrodes

The standard electrodes are stainless steel AIS316L.

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Coupling and Connection to the Sensor

Easy Mag 800 sensors may be coupled with any Nero Valves GmbH converters. In the separate version the sensor is connected to the converter through a cable whose length depends on the liquid conductivity; the maximum length must not exceed 100 meters on the powered version and 30 meters on the battery version.

Standards Reference

The Easy mag 800 electromagnetic water meters are manufactured according the following standards:

- ✓ MID
- ✓ ISO4064-1:2014
- ✓ ISO4064-4:2014
- ✓ ISO16399: 2014

Applications

- Measure of potable or reflow water
- Distribution, municipal water
- Industrial waste water
- Overnight applications with very low flow rate
- Industrial process liquids, muds and concretes
- Leakage detection

Advantages

- No moving parts
- No parts inside of the flowmeter
- No obstruction on the flow tube
- Very low-pressure loss
- Long lasting stability and precision, no filter needed, zero maintenance
- No periodic cleaning
- Accurate measure at high flow rate (firefighting systems) and at low flow rates (overnight flow rates)
- Extremely sturdy structure,
- Bi-directional measure

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Nero Flow meter



**Easy Mag
Smart 800-INS**



**Easy Mag
Smart 800 ELC-Z**



**Easy Mag
Smart 800 ELC-Z-P**

Transmitter	
power supply	220 V AC- 24 V DC
Output	4-20 mA, pulse output, alarm output, Modbus RTU output
screen	1.2-inch graphical screen
IP	IP67
liquid minimum conductivity	5µS/cm
Sensor	
available sizes	DN25-DN1500
operating pressure	PN40- PN25- PN16- PN10- PN6
standards of flanges	DIN- ANSI- ASA
electrodes	AIS316L
body material	AISI 304 stainless steel
color	epoxy
materials of liners	polyethylene- polyurethane- fiber glass- hard rubber
temperature of the liquid	-40°C to 80°C
installing method of transmitter	compact and separate
SMS, GPRS UDP/TCP	4-20 mA analog input
	storage memory card up to 4GB
	sending data to the central data base via GPRS

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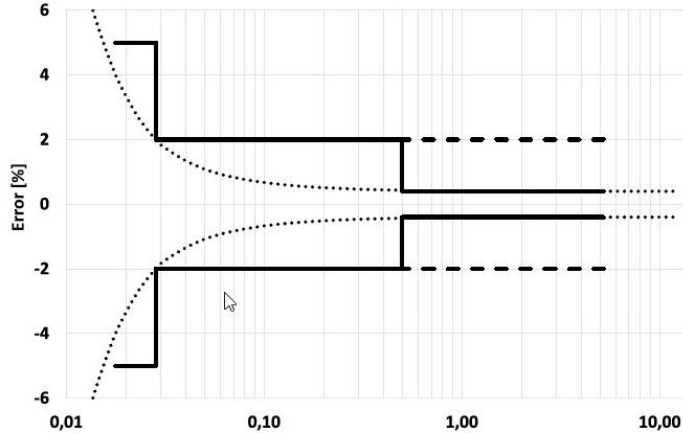


Nero Flow meter

Calibration and Maximum Error

The uncertainty of the calibration is equal to 0,2% ± 2mm/s. The repeatability of the measure is about 0,1%. Bi-directional measure.

Maximum Permissible Error is as below:



Flow Rate Charts

V max	Size	Q4 l/s	m3/h	Q3 l/s	R 25	Q1 l/s	Q2 l/s
10.00	50.00	19.63	56.52	15.70	25.00	0.63	1.00
10.00	80.00	50.24	144.70	40.19	25.00	1.61	2.57
10.00	100.00	78.50	226.10	62.80	25.00	2.51	4.02
10.00	125.00	122.66	353.30	98.13	25.00	3.93	6.28
10.00	150.00	176.63	508.70	141.30	25.00	5.65	9.04
10.00	200.00	314.00	904.30	251.20	25.00	10.05	16.08
V max	Size	Q4 l/s	m3/h	Q3 l/s	R 160	Q1 l/s	Q2 l/s
10.00	50.00	19.63	56.52	15.70	160.00	0.10	0.16
10.00	80.00	50.24	144.70	40.19	160.00	0.25	0.40
10.00	100.00	78.50	226.10	62.80	160.00	0.39	0.63
10.00	125.00	122.66	353.30	98.13	160.00	0.61	0.98
10.00	150.00	176.63	508.70	141.30	160.00	0.88	1.41
10.00	200.00	314.00	904.30	251.20	160.00	1.57	2.51
V max	Size	Q4 l/s	m3/h	Q3 l/s	R 100	Q1 l/s	Q2 l/s
10.00	50.00	19.63	56.52	15.70	100.00	0.16	0.25
10.00	80.00	50.24	144.70	40.19	100.00	0.40	0.64
10.00	100.00	78.50	226.10	62.80	100.00	0.63	1.00
10.00	125.00	122.66	353.30	98.13	100.00	0.98	1.57
10.00	150.00	176.63	508.70	141.30	100.00	1.41	2.26
10.00	200.00	314.00	904.30	251.20	100.00	2.51	4.02

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Diemension

DN	D	D1	D2	D3	L	H	S	N
50 (2")	45	125	165	110	200	276	18	4
65 (2 1/2")	57	145	185	123	200	289	18	4
80 (3")	73	160	200	139	200	305	18	8
100 (4")	98	180	220	164.5	250	330.5	18	8
125 (5")	124.5	210	250	191.5	250	357.5	18	8
150 (6")	150	240	285	218.5	300	384.5	22	8
200 (8")	195	295	340	269.5	350	435.5	22	12
250 (10")	250	355	405	323	450	489	26	12
300 (12")	295	410	460	374	500	540	26	12
350 (14")	335	470	520	406	550	572	26	16
400 (16")	380	525	580	457	600	623	29.5	16
450 (18")	430	585	640	507	600	673	29.5	20
500 (20")	476	650	715	557	600	723	32.5	20
600 (24")	577	770	840	659	600	825	35.5	20
1000 (44")	960	1200	1290	1100	1000	1266	42	36
1200 (48")	1160	1422	1510	1300	1200	1466	42	44
1400 (56")	1350	1651	1700	1550	1400	1716	48	48

Other dimension on request

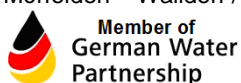
**Flanged Electromagnetic Flow Meter (Metal Body)
Easy Mag 400**

- No dynamic parts
- No obstacles and pressure drop in flow
- accuracy: +; - 0.15 to 0.5
- No need for periodical calibration

- Sending information via SMS and GPRS
- Information record and online display of reports
- Internal data logger based on GPRS

- Capability of being installed under the ground
- Applying non-linearity co-efficiency for less than 1m/s flow speed
- Meeting the requirements of OIML R49 in specific conditions under ISO17025 certification
- CE (European Conformity) Standard

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Industrial Valves: DIN - API - ASME

Nero Flow meter

Flanged Electromagnetic Flow Meter (Metal Body) Easy Mag 400



The Electromagnetic Flowmeter, a Water Solution for Varied Applications Sensor Easy Mag 400

Easy Mag 400 sensors represent the state of the art of Ifa Sanat Gharb Co., Ltd. international production for water cycle and process applications.

The innovation of the sensor that increases considerably the liquid flow rate and the reading accuracy of signal generated to the electrodes, enables an extremely wide range of measurement.

These performances allow to measure also low flow rates precisely and repeatable, even in difficult/problematic applications with solid parts.

This flanged sensor series bases its operation on the Faraday Principle, by which a conductor crossing a magnetic field generates an electrical potential perpendicular to the field itself.

On the top and on the lower side of the stainless steel AISI 304 flow tube, two coils are installed; the magnetic field generated by the electric current crossing the coils, induces in the electrodes a potential difference proportional to the flow rate.

With the aim of measuring such potential of very low values, the interior of the flow tube is electrically insulated, thus the process liquid is no longer in contact neither with the material of the flow tube nor with that of the flanges.

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Nero Flow meter

The converter used generates the current supplying the coils, acquires the electrodes potential difference, process the signal to calculate the flowrate and manages all the communications.

The entire sensor has an IP68 protection degree suitable for a permanent immersion in water up to a depth of 1.5 m for 1 hour.

Body and flanges

The flanges and the sensor external surface are epoxy painted. This treatment gives the sensor an excellent resistance to water and external agents even in permanent immersion or buried.

Internal lining

The liquid temperature can reach 80°C. Thanks to its high resistance to scraping, the Silicone is considered the best material for fluids containing scattered solids for applications of water treatment, residual water, potable water and irrigation.

Electrodes

The standard electrodes are stainless steel 316.

Coupling and connection to the sensor

Easy Mag 400 sensors may be coupled with any IFA converters. In the separate version the sensor is connected to the converter through a cable whose length depends on the liquid conductivity; the maximum length must not exceed 100 meters on the powered version and 30 meters on the battery version.

Applications

- Measure of potable or reflow water
- Distribution, municipal water
- Industrial waste water
- Overnight applications with very low flow rate
- Industrial process liquids, muds and concretes
- Leakage detection

Advantages

- No moving parts
- No parts inside of the flowmeter
-
- No obstruction on the flow tube
- Long lasting stability and precision, no filter needed, zero maintenance
- No periodic cleaning
- Accurate measure at high flow rate (firefighting systems) and at low flow rates (overnight flow rates)
- Extremely sturdy structure,
- Internal parts protected by a bi-component resin in order to increase protection from external agents
- Bi-directional measure

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Technical Features Easy Mag 2300

Transmitter	
power supply	220 V AC- 24 V DC
Output	4-20 mA, pulse output, alarm output, Modbus RTU output
screen	1.2 inches graphical screen
IP	IP67
liquid minimum conductivity	5µS/cm

Sensor	
available sizes	DN25-DN1500
operating pressure	PN40- PN25- PN16- PN10- PN6
standards of flanges	DIN- ANSI- ASA
electrodes	AISI16L
body material	AISI 304 stainless steel
color	epoxy
materials of liners	polyethylene- polyurethane- fiber glass- hard rubber
temperature of the liquid	-40°C to 80°C
installing method of transmitter	compact and separate
Data Logger	
SMS, GPRS UDP/TCP	4-20 mA analog input
	storage memory card up to 4GB
	sending data to the central data base via GPRS

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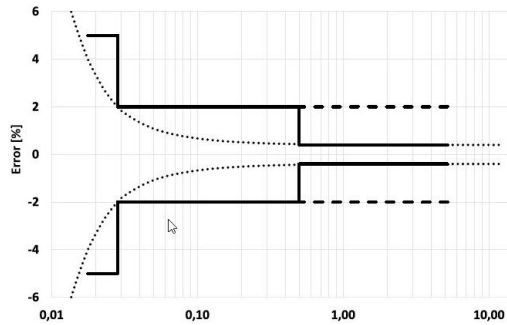


Nero Flow meter

Calibration and maximum error

The uncertainty of the calibration is equal to 0,2% ± 2mm/s. The repeatability of the measure is about 0,1%. Bi-directional measure.

Maximum Permissible Error is as below:



Flow Rate Charts

V max	Size	Q4 l/s	m3/h	Q3 l/s	R 25	Q1 l/s	Q2 l/s
10.00	50.00	19.63	56.52	15.70	25.00	0.63	1.00
10.00	80.00	50.24	144.70	40.19	25.00	1.61	2.57
10.00	100.00	78.50	226.10	62.80	25.00	2.51	4.02
10.00	125.00	122.66	353.30	98.13	25.00	3.93	6.28
10.00	150.00	176.63	508.70	141.30	25.00	5.65	9.04
10.00	200.00	314.00	904.30	251.20	25.00	10.05	16.08
V max	Size	Q4 l/s	m3/h	Q3 l/s	R 160	Q1 l/s	Q2 l/s
10.00	50.00	19.63	56.52	15.70	160.00	0.10	0.16
10.00	80.00	50.24	144.70	40.19	160.00	0.25	0.40
10.00	100.00	78.50	226.10	62.80	160.00	0.39	0.63
10.00	125.00	122.66	353.30	98.13	160.00	0.61	0.98
10.00	150.00	176.63	508.70	141.30	160.00	0.88	1.41
10.00	200.00	314.00	904.30	251.20	160.00	1.57	2.51
V max	Size	Q4 l/s	m3/h	Q3 l/s	R 100	Q1 l/s	Q2 l/s
10.00	50.00	19.63	56.52	15.70	100.00	0.16	0.25
10.00	80.00	50.24	144.70	40.19	100.00	0.40	0.64
10.00	100.00	78.50	226.10	62.80	100.00	0.63	1.00
10.00	125.00	122.66	353.30	98.13	100.00	0.98	1.57
10.00	150.00	176.63	508.70	141.30	100.00	1.41	2.26
10.00	200.00	314.00	904.30	251.20	100.00	2.51	4.02

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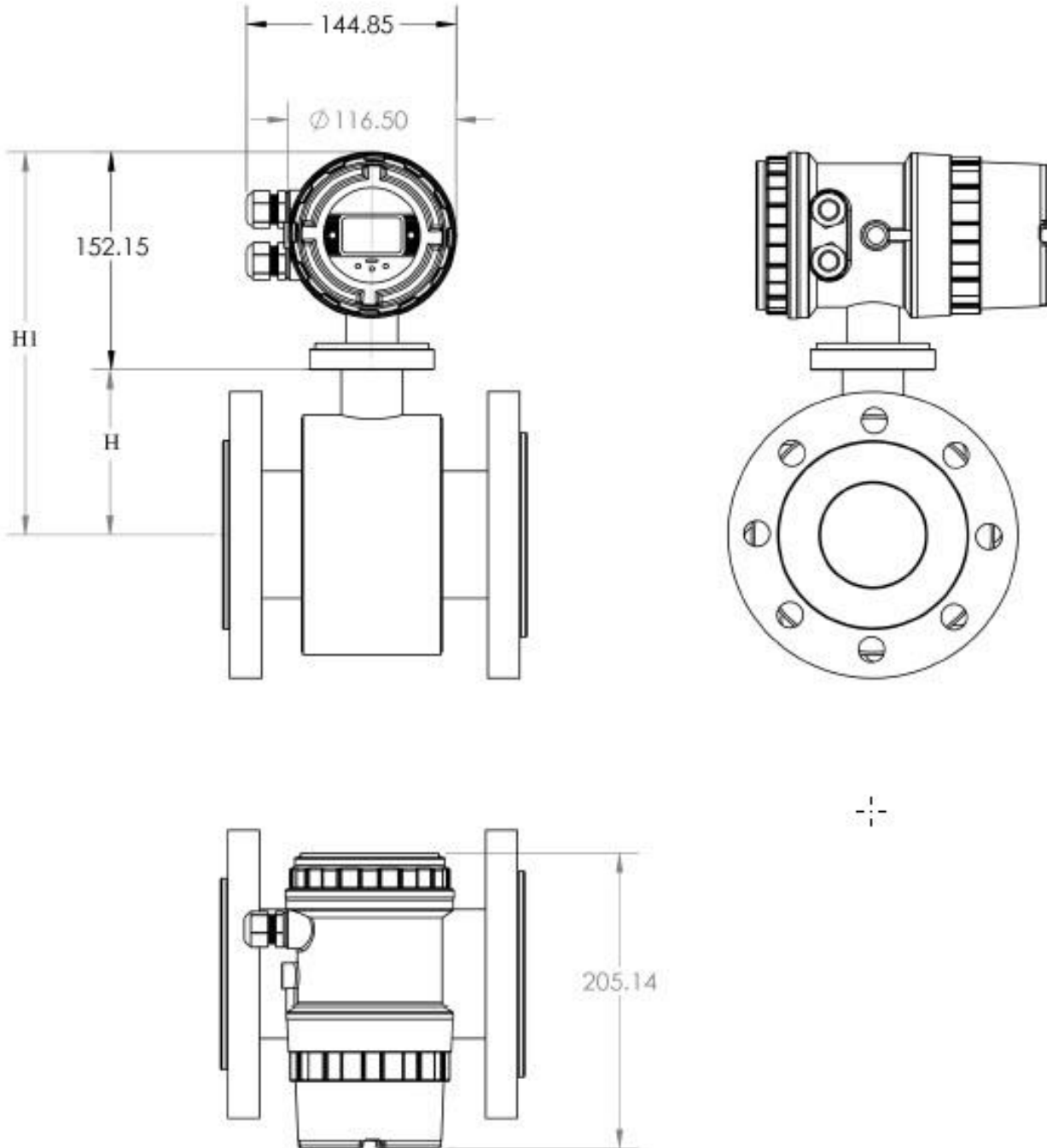
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Industrial Valves: DIN - API - ASME

Nero Flow meter

Easy Mag 400



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Nero Flow meter

Dimension for H & H1

DN	H	H1
50 (2")	81	233.15
65 (2 1/2")	87	239.15
80 (3")	95	247.15
100 (4")	107.6	259.75
125 (5")	121	273.15
150 (6")	135	287.15
200 (8")	160	312.15
250 (10")	187	339.15
300 (12")	212.5	364.65
350 (14")	228.5	380.65
400 (16")	254	406.15
450 (18")	279	431.15
500 (20")	302.5	454.65
600 (24")	355	507.15
1000 (40")	600	752.15
1200 (44")	700	852.15
1400 (48")	825	977.15
1500 (60")	875	1027.15

Other dimension on request

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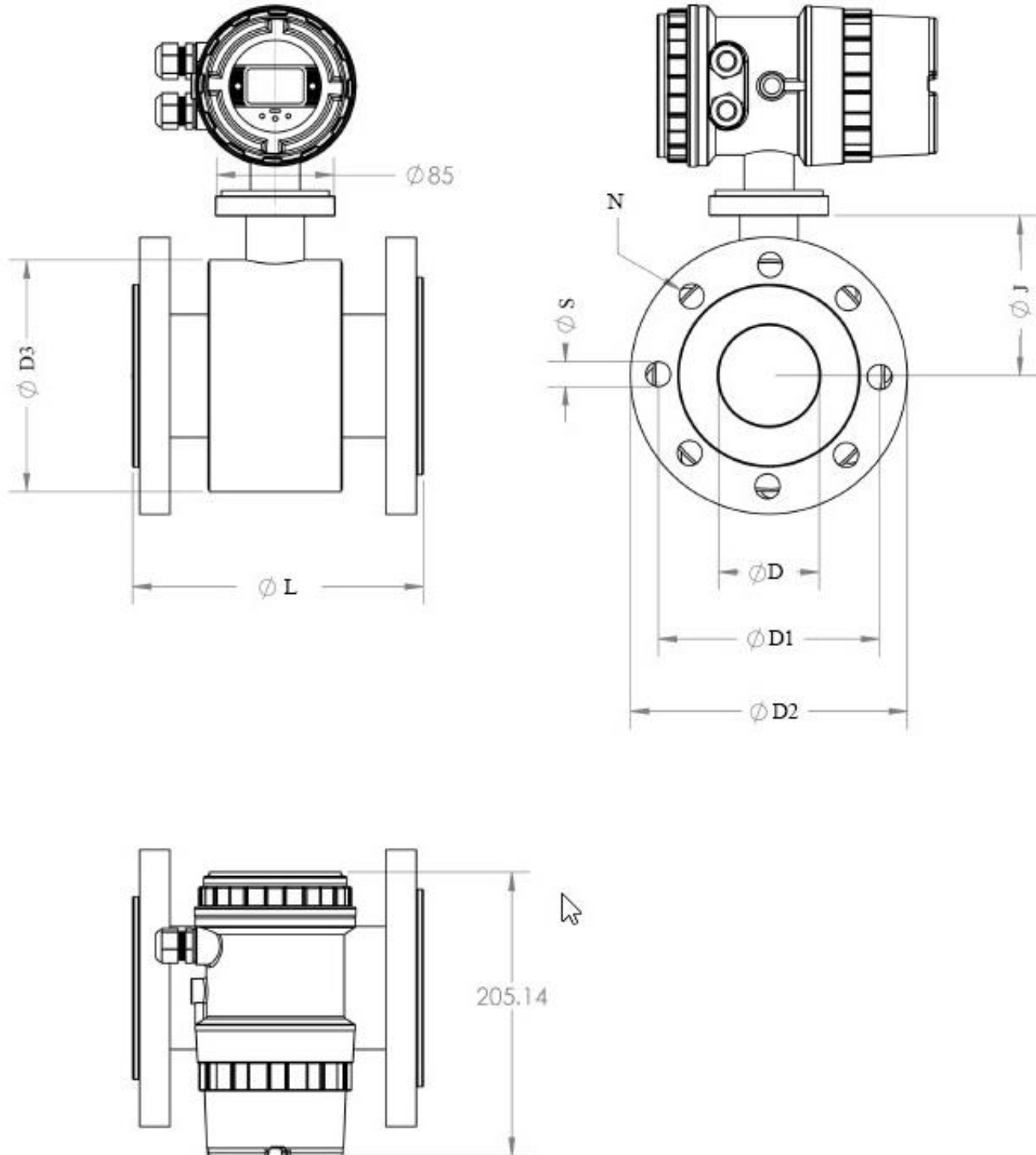


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Nero Flow meter

Dimensions:

DN	D	D1	D2	D3	L	J	S	N
50 (2")	45	125	165	110	200	81	18	4
65 (2.5")	57	145	185	123	200	87	18	4
80 (3")	73	160	200	139	200	95	18	8
100 (4")	98	180	220	164.5	250	107.6	18	8
125 (5")	124.5	210	250	191.5	250	121	18	8
150 (6")	150	240	285	218.5	300	135	22	8
200 (8")	195	295	340	269.5	350	160	22	12
250 (10")	250	355	405	323	450	187	26	12
300 (12")	295	410	460	374	500	212.5	26	12
350 (14")	335	470	520	406	550	228.5	26	16
400 (16")	380	525	580	457	600	254	29.5	16
450 (18")	430	585	640	507	600	279	29.5	20
500 (20")	476	650	715	557	600	302.5	32.5	20
600 (24")	577	770	840	659	600	355	35.5	20
1000 (44")	960	1200	1290	1100	1000	600	42	36
1200 (48")	1160	1422	1510	1300	1200	700	42	44
1400 (56")	1350	1651	1700	1550	1400	825	48	48
1500 (60")	1450	1759	1855	1650	1500	875	48	52

Other dimensions on request

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Nero Flow meter

Electromagnetic Flow Meter

(No Inlet No Outlet- 0D-0D); Easy Mag 700 0D-0D

No need to consider a distance between the meter and pump or any other connections
Internal flow conditioner for places with turbulence and not completely full
Capable of being Installed in any conditions Without dynamic pieces
Accuracy: + - 0.15 to 0.5; No need for periodical calibration
Sending information via SMS and GPRS



**Full Steel Electromagnetic Flow Meter with Food and Pharmaceutical Grade
Easy Mag 1600**



ISO 9001: 2008
ISO 18001: 2007
ISO 14001: 2004
HSE-MS
ISO/IEC 17025: 2005

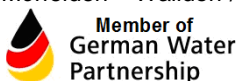
Acid and base resistant
Without any obstacles and pressure drop within the flow stream
Long lifespan, low cost
Sending information via SMS and GPRS
Applicable in the food, pharmaceutical, and chemical industries
Capability of being installed under the ground
OIML R49 test and calibration in specific conditions under ISO17025 certification

Wafer Sensor Easy Mag 1600	
available sizes	DN25-DN600
tolerable pressure	PN 6 - PN10- PN 16
electrode	AISI 316L
body	PE HD 100, PE HD 80
liner	PTFE
liquid temperature	-40°C to 28°C
protection level	IP 68

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**Wafer Electromagnetic Flow Meter
(Polyethylene Body)**



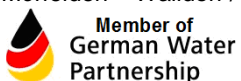
ISO 9001: 2008
ISO 18001: 2007
ISO 14001: 2004
HSE-MS
ISO/IEC 17025: 2005

Acid resistant
Without any obstacles and pressure drop within the flow stream
Long lifespan, low cost
Guaranteed for 10 years

Sending information via SMS and GPRS
Capability of being installed under the ground
OIML R49 test and calibration in specific conditions under ISO17025 certification

Wafer Sensor Easy Mag 1100	
available sizes	DN25-DN600
tolerable pressure	PN 6- PN10- PN 16
standard	DIN 16963
electrode	AISI 316L
body	PE HD 100, PE HD 80
liquid temperature	-40°C to 80°C
protection level	IP 68

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Nero Flow meter

Flanged Electromagnetic Flow Meter (Polyethylene Body)



ISO 9001: 2008
ISO 18001: 2007
ISO 14001: 2004
HSE-MS
ISO/IEC 17025: 2005

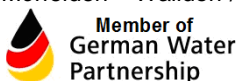
Acid resistant
Without any obstacles and pressure drop within the flow stream
Long lifespan, low cost
Guaranteed for 10 years
Sending information via SMS and GPRS
Capable of being installed underground
OIML R49 test and calibration in specific conditions under ISO17025
Wafer Sensor Easy Mag 1200
available sizes DN50-DN300
tolerable pressure PN 6- PN10- PN 16
standard DIN 16963- DIN 2501
electrode AISI 316L
body PE HD 100, PE HD 80
liquid temperature -40°C to 80°C

Wafer Sensor Easy Mag 1200	
available sizes	DN50-DN300
tolerable pressure	PN 6- PN10- PN 16
standard	DIN 16963- DIN 2501
electrode	AISI 316L
body	PE HD 100, PE HD 80
liquid temperature	-40°C to 80°C
protection level	IP 68

Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

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