ELECTROMAGNETIC FLOW METERS

The electromagnetic flow meter is used to measure the flow rate of conductive fluids and waste water.

The measurement is independent of the density, viscosity, temperature and pressure. The conductivity of the fluid must be greater than 5µS/cm.

The measuring tube must not be crossed by fluids carrying solid bodies of high dimension that cannot be considered suspended solids. Load losses are absent and straight stretches reduced upstream and downstream of the instrument are necessary.

Main application fields

- Sludge and water (primary, drinking and waste) treatment
- Control of civil and industrial wastes
- Measurement of industrial process water: chemical, paper, tanning, pharmaceutical, food
- Control of the chemical dosage
- Energy industry: generation and distribution
- Extractive industry: quarries, mines
- Environmental protection

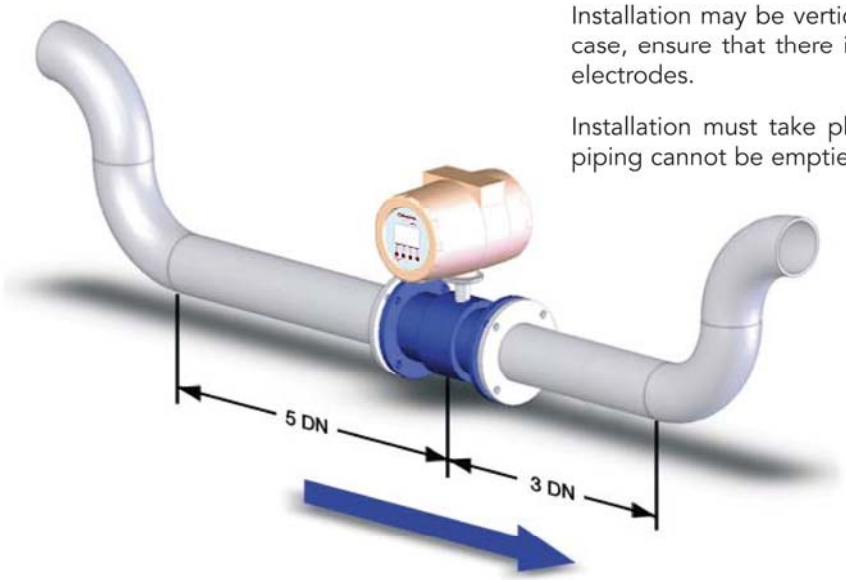
S103C

MOUNTING

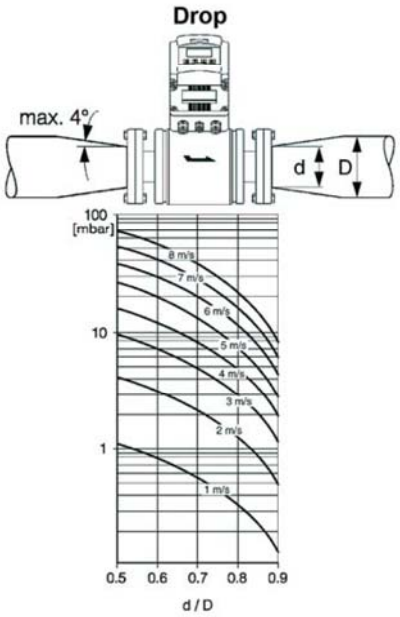
The electromagnetic meter must be installed so that the pipe is always completely filled with fluid. In the case of a half-empty pipe, the meter must be installed in an underground channel, or in a "goose neck", to achieve a siphon effect.

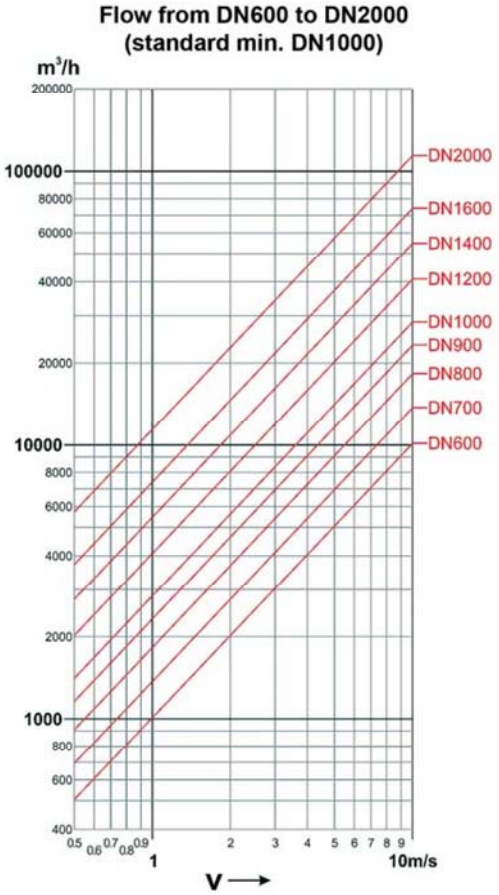
Installation may be vertical or horizontal but in the latter case, ensure that there is no deposit of material on the electrodes.

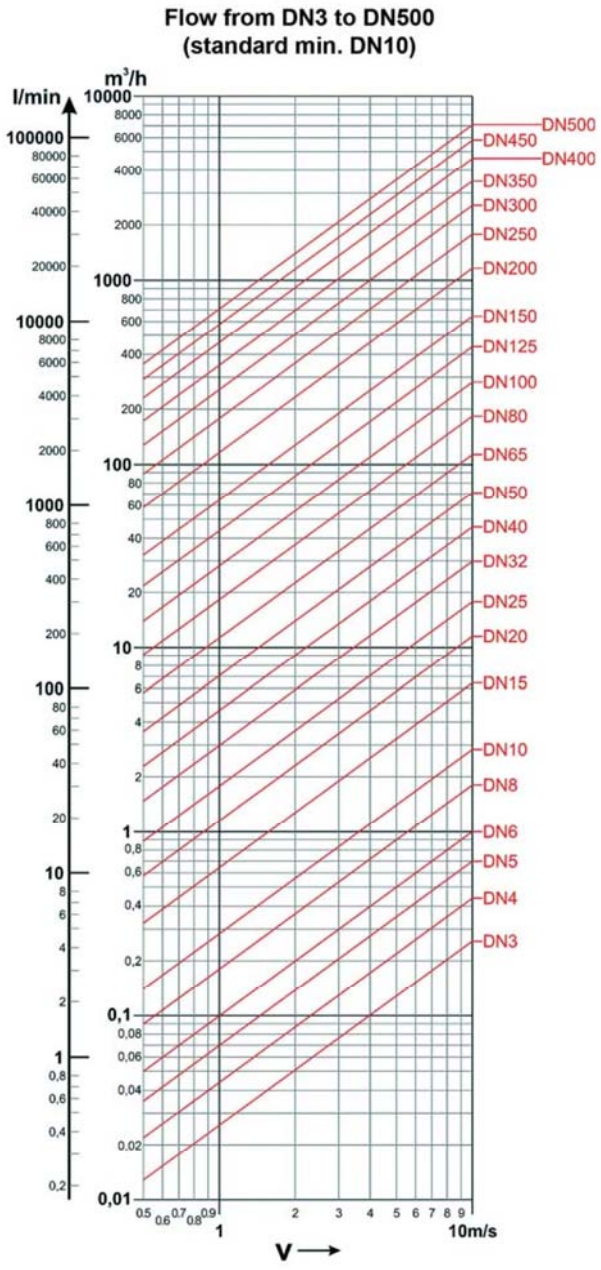
Installation must take place in such a position that the piping cannot be emptied.



ABACUS FOR THE OPTIMAL SELECTION OF THE MEASURING TUBE







CH 608 A/B/R Converter

The 608 converter has been designed with the purpose of meeting all the requirements of modern water management systems.

It supports extended functions which make it perfectly suitable for measuring and billing in civil, industrial and agricultural sector and for flow measurement in residual water treatment.

Hardware features, software features and functions CH 608 A/B/R

Converter installation	Compact on the sensor or remote on support, up to 100 m far from the sensor
Converter case	Epoxy painted aluminum, IP 67. With front window in toughened glass.
Power supply	**CH608A** 90...264 Vac; 12/24 Vac/dc
	CH608B Battery powered or 12/24 Vac/dc ; Expected battery life T=0 / 50°C (32 / 122 °F) ; Internal battery pack 6-10 years
	CH608R Rechargeable battery + 10 Watt photovoltaic panel
Output signals	**Active analogue output** 4 ÷ 20 mA ; Digital output for pulses maxim 1000 Hz duty cycle max 50% for instant flow, positive only, positive and negative
	Programmable digital output for: – Maximum pulses1000 Hz duty cycle max 50% for negative flow; – Negative flow indication; – Cumulative alarm
	Digital output in active frequency 0 ÷ 10 kHz
Temperature	**Process** -10°C ÷ 70°C ; **Ambient** -20°C ÷ 60°C; **Storing** -30°C ÷ 70°C
Display	graphic LCD 128x64 pixels, visual area 50x25mm, backlit
	simultaneous indications: counter, instant variable and status flags
	4 totalizers available (2 positive totals and 2 negative totals)
Programming	– with 4 push buttons for non-billing applications – through IrCOM interface and dedicated software – via RS485 MODBUS RTU protocol
Process data logger	4 MB flash memory, 200,000 lines of data (one line includes: instant flow, 2 counters, date, time, temperature)
Diagnostics data logger	64 kB EEPROM, 2000 lines of data (one line includes: date, time, temperature, error codes, user actions with changes made)

ELECTROMAGNETIC FLOW METERS

	CH2200	CH2500	CH2400	CH1000
				
Connection to process				
Dimensions	DN15…DN400	DN 450…DN2000	DN25…DN100	DN25…DN300
Connections	UNI 2223 on request ANSI 150; ANSI 300; AWWA CI.D; ANSI 600		TRICLAMP on request DIN 11851; SMS fil. male	WAFER
Pressure	PN10…PN64		PN10…PN40	PN16…PN40
Accuracy				
With liquid speed ≥ 0.2 m/s	0.2%	0.2%	0.2%	0.2%
Materials				
Inner lining	PFTE on request EBANITE	EBANITE on request PTFE	PFTE	PFTE on request EBANITE
Electrodes	HASTELLOY C on request Titanium, Tantalum, Platinum		HASTELLOY C on request Titanium, Tantalum	
No. of electrodes	3 x DN15…40 4 x DN50…400	4	2	3 x DN15…40 4 x DN50…300
Body	Carbon steel		AISI 304	Carbon steel
Flange	Carbon steel		AISI 304	–
Process temperature				
Compact version with converter integral with the sensor	-25 ÷ 80°C	-25 ÷ 80°C	-25 ÷ 80°C	-25 ÷ 80°C
Separated version with converter separated from the sensor	-25 ÷ 200°C	-25 ÷ 200°C	-25 ÷ 130°C	-25 ÷ 130°C
Protection grade				
Compact version with converter integral with the sensor	IP67	IP67	IP67	IP67
Separated version with converter separated from the sensor	IP68	IP68	IP68	IP68
Certifications				
ATEX II 2 GD EEx mb IIC T4 U	on request	on request	on request	on request

CH500	CH2660	CH2770	CH2700	CH1222
				
Connection to process				
DN3…DN20	DN80…DN500	DN100…DN4000	DN100…DN4000	DN40…DN1000
GAS on request NPT; TRICLAMP; DIN 11851	INSERTION THREADED	INSERTION FLANGED UNI2278 DN40	INSERTION Welded sleeve 2"	INSERTION
PN16	PN10	PN25		PN20
Accuracy				
0,2%	2%	2%	2%	2%
Materials				
PFTE	PFTE	PFTE	PFTE	PFTE
AISI316 L	AISI316 L	AISI316 L	AISI316 L	AISI316 L
2	2	2	2	2
AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
AISI 316 L	–	Carbon steel	Ball valve AISI 316 L	
Process temperature				
-25 ÷ 80°C	-25 ÷ 80°C	-25 ÷ 80°C	-25 ÷ 80°C	-25 ÷ 80°C
-25 ÷ 130°C	-25 ÷ 130°C	-25 ÷ 130°C	-25 ÷ 130°C	-25 ÷ 130°C
Protection grade				
IP67	IP67	IP67	IP67	IP67
IP68	IP68	IP68	IP68	IP68
Certifications				
on request	on request	on request	on request	on request