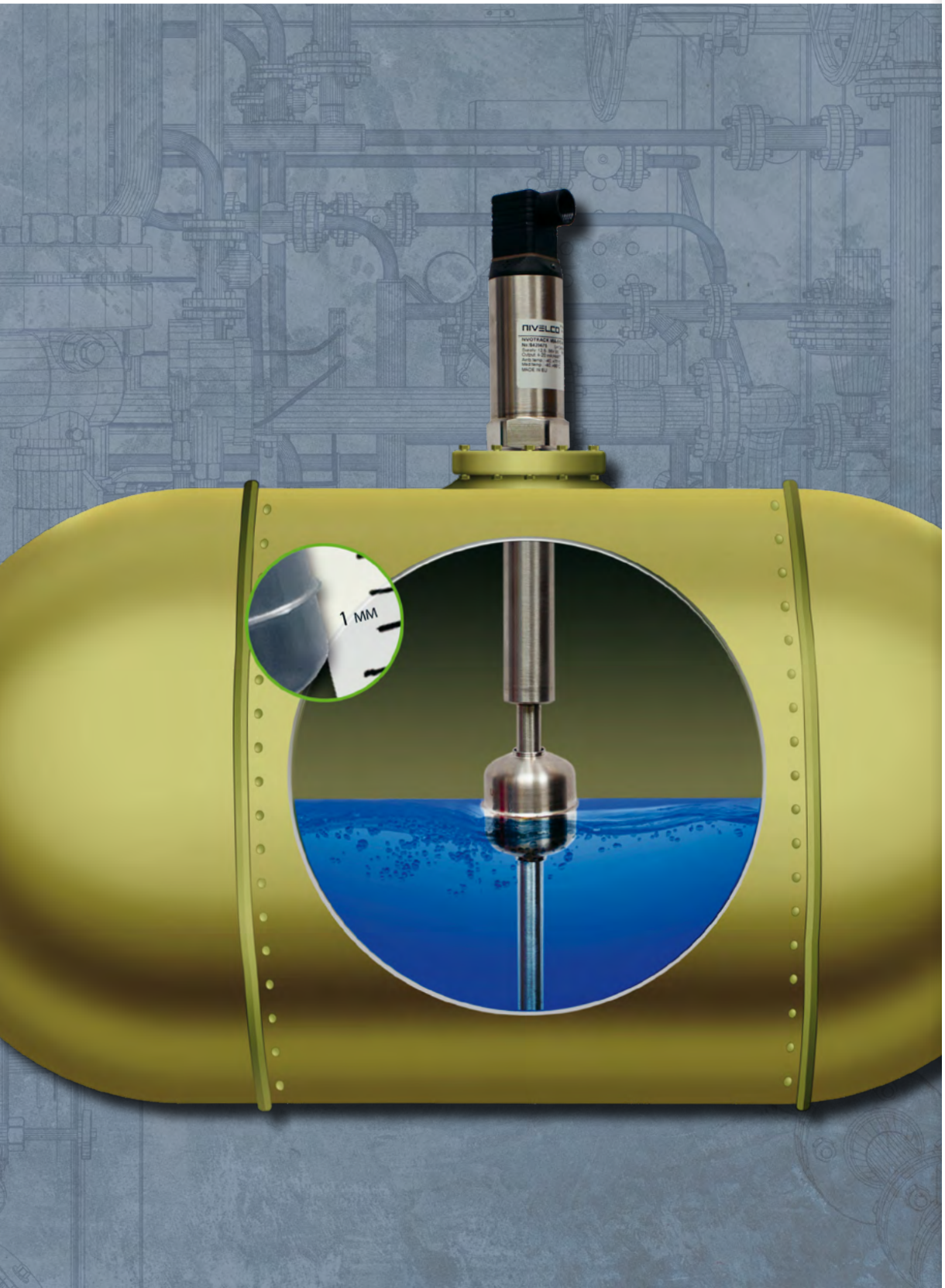
RusAutomation

NIVOTRACK

MAGNETOSTRICTIVE INTEGRATED LEVEL TRANSMITTERS



5 YEARS WARRANTY

NIVELCO

LEVEL TRANSMITTERS

GENERAL DESCRIPTION

NIVOTRACK MI□-5□□, MY□-5□□ magnetostrictive level transmitters are ideal solutions for high accuracy measurements of clean fluids. Its high precision renders the NIVOTRACK suitable for custody transfer measurements. Integrating the transmitter into a process control system is easy thanks to the intelligent signal processing and communication software as well as the wide of range of accessories offered.

MIA-513

OPERATING PRINCIPLE

A float containing a magnetic disc moves along a guide tube with the specific magnetostrictive wire in it. A pulse generated by the electronics travels along the magnetostrictive wire. At the point the pulse reaches the float's magnetic field, a torsion develops. Reflected from the torsion point, the pulse creates an acoustic wave that travels back along the wire. The 4 – 20 mA output of the transmitter is proportional to the elapsed time between the excitation and detection.

MAIN FEATURES

- 2-wire integrated transmitter
- 1 mm resolution
- Distance and level measurement
- Standard and mini type versions
- Stainless steel or titanium floats
- IP65 protection
- HART® communication
- Chemicals, solvents, hydrocarbons
- Level monitoring of tanks
- Interface measurement

APPLICATIONS

- Level measurement of liquids, with minimum 0.4 kg/dm^3 density
- Chemical industry
- Power plants
- Oil industry
- Water industry

TECHNICAL DATA

Type		Rigid probe version – standard (MI□)	Rigid probe version – mini (MY□)
Measured process value		Liquid level, distance	
Nominal length (L)		0.3 m – 3.5 m	0.3 m – 1.5 m
Material of the tube		1.4571 (316Ti) stainless steel	
Max. medium pressure[1]		2.5 MPa (25 bar)	1.6 MPa (16 bar)
Medium temperature[1]		-40 °C … +90 °C	
Standard float diameter / material[1]		Ø54 x 60 mm cylindrical / 1.4404	Ø28 x 29 mm / 1.4404
Medium density		Ø54 mm float min. 0.8 g/cm^3; Ø54 mm titanium float min. 0.55 g/cm^3 Ø95 mm float min. 0.55 g/cm^3 Ø124 mm or Ø95 mm titanium float min. 0.4 g/cm^3	
Material of wetted parts		Stainless steel: 1.4571 (316Ti), floats: see "Float Selection"	
Ambient temperature		-40 °C … +70 °C	
Output	Analogue	4 – 20 mA (limit values: 3.9 – 20.5 mA)	
	Digital communication	HART® (minimum loop resistance: 250 Ω)	
Error indication		Output signal = 22 mA or 3.8 mA	
Output load		Rt = (Ut - 12.5 V) / 0.02 A, Ut = power supply voltage	
Power supply		12.5 V – 36 V DC	
Electrical protection		Class III	
Ingress protection		IP65	
Process connection		As per order code	
Electric connection (M□□-5□□-M types)		Hirschmann EN 175 301-803-A (DIN 43650)	
Mass		2.9 kg + measuring probe: 0.6 kg/m	2.9 kg + measuring probe: 0.3 kg/m

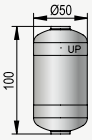
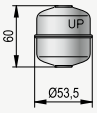
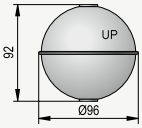
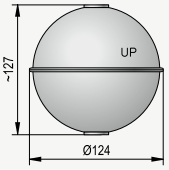
[1] *Details of non-standard floats can be found under "Float Selection".*

MEASUREMENT DATA

Type	M□□-5□□-□
Resolution (on HART® transmitted value)	1 mm
Nonlinearity (on HART® transmitted value)	±2 mm or ±0.085% F.S. whichever is greater
Hysteresis (under reference conditions)	±0.25 mm
Zero span (in LEVEL measurement mode)	Anywhere within the active range
Measurement range (reducing)*	Minimal range: 32 mm; Maximum range: see "Dimensions"
Temperature error	0.04 mm / 10 °C (between -25 °C … +50 °C)
Current output resolution	0.4 µA
Current output accuracy	33 µA
Current output temperature error	6 ppm / °C

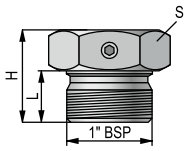
**The accuracy data is only valid for factory default settings!*

FLOAT SELECTION

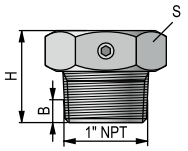
Type	MBA-505-2M-600-00[1][4]	MBA-505-2M-800-00[1][4]	MBA-505-2M-200-00[1][4]	MBK-530-2M-400-00[2][4]	MBK-530-2M-800-00[2][4]	MBA-505-2M-900-00[2][4]	4w34bs-16yyyyy[3][5]
Dimensions							
Medium density (min.)	0.45 kg/dm³	0.55 kg/dm³	0.8 kg/dm³	0.55 kg/dm³	0.4 kg/dm³	0.4 kg/dm³	0.8 kg/dm³
Material	Titanium		1.4404	1.4435	Titanium	1.4401	1.4404
Medium pressure	2 MPa (20 bar)	2.5 MPa (25 bar)					1 MPa (10 bar)

[1] Designed for min. 2" process connection, only order with rigid probe. [2] Flange to be ordered separately. [3] Designed for min. 1" process connection, only order with mini type. [4] Not available for MY□ type. [5] Only available for MY□ type.

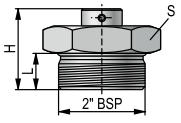
DIMENSIONS



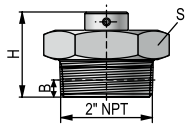
MBH-105-2M-300-00



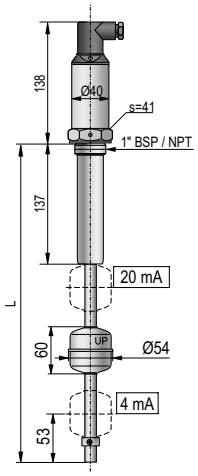
MBL-105-2M-300-00



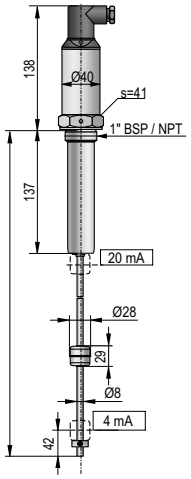
MBK-105-2M-300-00



MBN-105-2M-300-00



MI□-5□□-M



MY□-5□□-M

ORDER CODES (NOT ALL COMBINATION AVAILABLE)

NIVOTRACK M■■-5■■-■

Type	Code
Integrated transmitter	I
Integrated transmitter mini	Y

Probe type / Process connection		Code
Rod	1" BSP	A
	2" BSP	C
	1" NPT	D
	2" NPT	G
Rod without proc. conn.		U*

Housing	Code
Aluminium	5

Code	Probe length		Code
0	0 m	0 m	0
1	1 m	0.1 m	1
2	2 m	0.2 m	2
3	3 m	0.3 m	3
		0.1 m	4
		0.5 m	5
		0.6 m	6
		0.7 m	7
		0.8 m	8
		0.9 m	9

Output / Ex	Code
4 – 20 mA + HART® / 1 mm / conn.	M

Minimal probe length: 300 mm.
**With optional process connection.*

ACCESSORIES

Threaded sliding sleeve			
Type	Process conn.	Type	Process conn.
MBL-105-2M-300-00	1" NPT	MBH-105-2M-300-00	1" BSP
MBN-105-2M-300-00	2" NPT	MBK-105-2M-300-00	2" BSP

ООО "РусАвтоматизация"
454010 Россия, Челябинск, Гагарина 5, тел. 8-800-775-09-57 (звонок бесплатный), +7(351)799-54-26,
тел./факс +7(351)211-64-57, info@rusautomation.ru, www.rusautomation.ru, русавтоматизация.рф