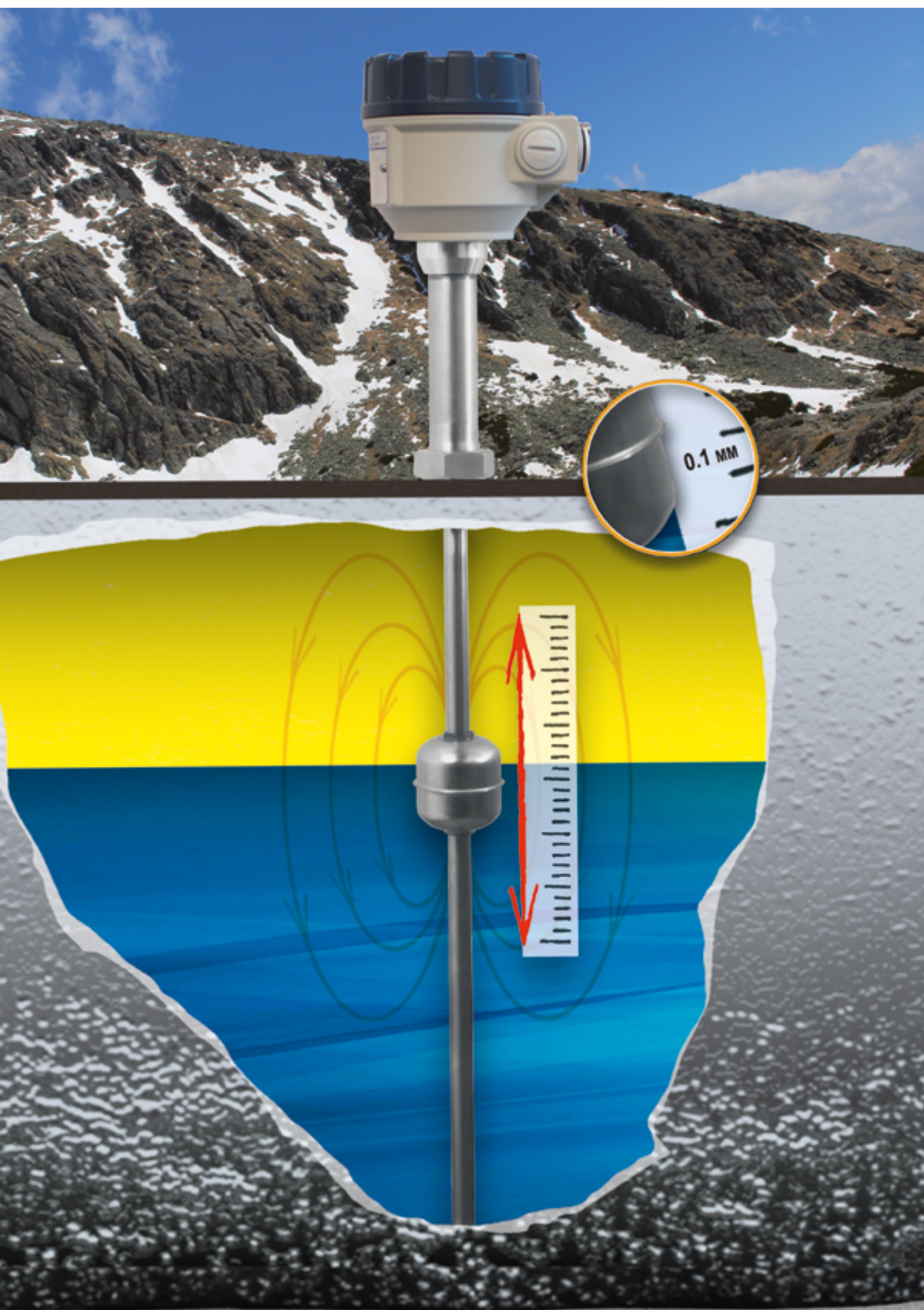


# NIVOTRACK

MAGNETOSTRICTIVE COMPACT LEVEL TRANSMITTERS  
FOR LIQUIDS



5 YEARS WARRANTY

**NIVELCO**

LEVEL TRANSMITTERS

NIVOTRACK MI□-, MX□-, MY□-5□□ magnetostrictive level transmitters are an ideal solution for high-accuracy measurement of clean fluids. Integrating the transmitter into a process control system is easy due to the intelligent signal processing and communication software and the wide range of accessories.

## OPERATING PRINCIPLE

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

## FEATURES

- 2-wire integrated transmitter
- 1 mm resolution
- Distance and level measurement
- Standard and mini versions
- Stainless steel or Titanium floats
- IP65
- HART® communication
- Level monitoring of tanks
- Interface measurement
- 5 years warranty

## APPLICATIONS

- Level measurement of liquids, with min. 0.4 kg/dm<sup>3</sup> density
- Chemical industry
- Power plants
- Oil industry
- Water industry
- Chemicals, solvents, hydrocarbons



MIA-513

## TECHNICAL DATA

		Rigid probe version		
		Standard (MI□)	Mini (MY□)	Plastic-coated (MX□)
Measured process value		Liquid level, distance		
Nominal length (L)		0.3...3.5 m	0.3...1.5 m	0.3...3 m
Material of the tube		1.4571 (316Ti) stainless steel		
Highest process pressure <sup>(1)</sup>		25 bar	16 bar	3 bar
Process temperature <sup>(1)</sup>		-40...+90 °C		
Standard float diameter / material <sup>(1)</sup>		Ø54 × 60 mm cylindrical / 1.4404	Ø28 × 29 mm / 1.4404	Ø76 × 87 mm cylindrical / PVDF or PP
Medium density		See "Floats"		
Material of wetted parts		Titanium, Stainless Steel	Stainless Steel	PFA, PVDF, PP
Ambient temperature		-40...+70 °C		
Output	Analog	4...20 mA (limit values: 3.9...20.5 mA)		
	Digital communication	HART® (lowest loop resistance: 250 Ω)		
Error indication		Output signal = 22 mA / 3.8 mA		
Output load		$R_L = (U_S - 12.5 \text{ V}) / 0.02 \text{ A}$ , $U_S = \text{supply voltage}$		
Supply voltage		12.5...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)		
Weight		2.9 kg + measuring probe (0.6 kg/m)	2.9 kg + measuring probe (0.3 kg/m)	2.9 kg + measuring probe (0.7 kg/m)

<sup>(1)</sup> Properties of non-standard floats can be found in "Floats."

MEASUREMENT DATA

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

<sup>(1)</sup> Under reference conditions, accuracy data only valid in case of factory setting. When used with a bypass float, the values given are not valid. With factory-calibrated float for NIVOFLIP, accuracy is 4...5 mm. <sup>(2)</sup> Accuracy data is only valid with factory default settings!

FLOATS

	MBA-505-2X-0C7-10	MBA-505-2M-600-00 <sup>(3)</sup>	MBK-530-2M-400-00 <sup>(4)</sup>	MBA-505-2M-800-00 <sup>(3)</sup>	MBA-505-2M-200-00 <sup>(3)</sup>	MBA-505-2M-900-00 <sup>(4)</sup>
Type	MI□					
Dimensions						
Medium density (min.)	0.61 kg/dm <sup>3</sup>	0.45 kg/dm <sup>3</sup>	0.55 kg/dm <sup>3</sup>	0.55 kg/dm <sup>3</sup>	0.8 kg/dm <sup>3</sup>	0.4 kg/dm <sup>3</sup>
Material	Titanium		Austenitic stainless steel <sup>(5)</sup>	Titanium	Austenitic stainless steel <sup>(5)</sup>	
Process pressure	16 bar			25 bar		

<sup>(3)</sup> Designed for min. 2" process connection, order only with rigid probe.

<sup>(4)</sup> Flange is ordered separately.

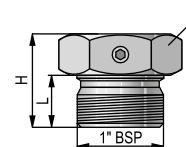
<sup>(5)</sup> Austenitic stainless steel: 1.4401, 1.4404, 1.4435, 1.4571, etc.

	MGU-505-2M-200-00	MGU-506-1M-200-00	4w34bs-16yyyyy <sup>(6)</sup>
Type	MX□		MY□
Dimensions			
Medium density (min.)	0.7 kg/dm <sup>3</sup>	0.4 kg/dm <sup>3</sup>	0.8 kg/dm <sup>3</sup>
Material	PVDF	PP	Austenitic stainless steel <sup>(5)</sup>
Process pressure	3 bar		10 bar

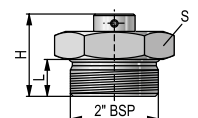
<sup>(6)</sup> Designed for min. 1" process connection, order only with mini version.

ACCESSORIES

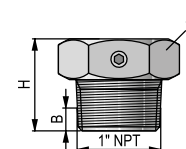
Threaded sliding sleeve					
Type	Process connection	S (mm)	H (mm)	L (mm)	B (mm)
MBH-105-2M-300-00	1" BSP	41	36	20	-
MBK-105-2M-300-00	2" BSP	60	55	24	-
MBL-105-2M-300-00	1" NPT	41	37	-	~10
MBN-105-2M-300-00	2" NPT	60	44,5	-	~11



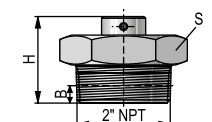
MBH-105-2M-300-00



MBK-105-2M-300-00



MBL-105-2M-300-00



MBN-105-2M-300-00

**NIVOTRACK M-500 Integrated with rigid probe**

**5 years**

2-wire integrated magnetostrictive level transmitter for liquids with Ø54 mm stainless steel float and rod probe, 1 mm resolution

**Version**

<b>M</b> <input type="checkbox"/> <input type="checkbox"/> - <b>5</b> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>I</b>	Transmitter

**Process connection**

<b>M I</b> <input type="checkbox"/> - <b>5</b> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>A</b>	1" BSP
<b>B</b>	1" BSP, lower connection
<b>C</b>	2" BSP
<b>F</b>	2" BSP, lower connection
<b>D</b>	1" NPT
<b>E</b>	1" NPT, lower connection
<b>G</b>	2" NPT
<b>H</b>	2" NPT, lower connection
<b>O</b>	2½" TriClamp
<b>S</b>	2½" TriClamp, lower connection
<b>P</b>	3" TriClamp
<b>R</b>	4" TriClamp
<b>U</b>	Without process connection for sliding sleeve
<b>L</b>	* Without float, for NIVOFLIP (max. 3.5 m, max. +90 °C)
<b>T</b>	* Without float, for NIVOFLIP (max. 3.5 m, max. +200 °C)

\* Probe length = center to center of NIVOFLIP +300 mm

**Housing**

<b>M I</b> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>5</b>	Stainless steel

**Probe length\*\***

<b>M I</b> <input type="checkbox"/> - <b>5</b> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>nn</b>	0.3...1 m
<b>oo</b>	1.1...3 m; sold by the 0.1 m

nn = 03...10 : 0.3...1 m  
oo = 11...30 : 1.1...3 m, \*\* 3...3.5 m as per special offer

**Output / Resolution / Certificates / Electric connection**

<b>M I</b> <input type="checkbox"/> - <b>5</b> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>L ***</b>	4...20 mA + HART® / 1 mm / Ex ia G / cable
<b>M</b>	4...20 mA + HART® / 1 mm / DIN connector

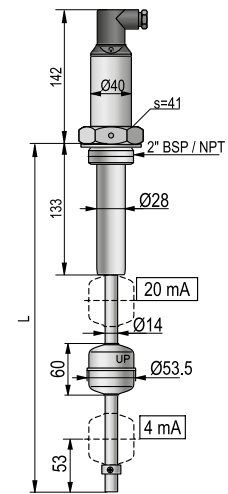
Need of IEC Ex is to be specified in the text part of the order.

**Available on request (must be specified in the text of the order)**

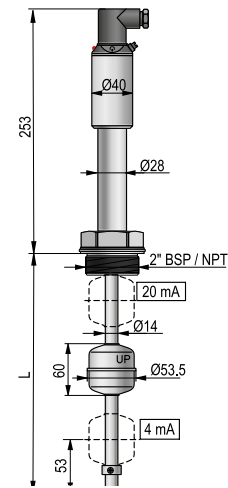
<b>MBK-530-2M-400-00</b>	Ø96 mm stainless steel ball float (for min. 0.55 kg/dm³ liquids)
<b>MBA-505-2M-900-00</b>	Ø124 mm stainless steel ball float (for min. 0.4 kg/dm³ liquids)
<b>MBA-505-2M-800-00</b>	Ø54 mm titanium float (for min. 0.55 kg/dm³ liquids)
<b>MBA-505-2M-600-00</b>	Ø50x100 mm titanium float (min. 0.45 kg/dm³)

**Accessories sold separately; see relevant page for details**

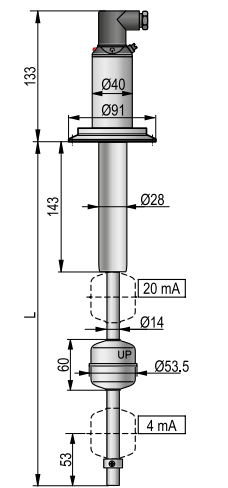
<b>MBH-105-2M-300-00</b>	Sliding sleeve, 1.4571, 1" BSP
<b>MBK-105-2M-300-00</b>	Sliding sleeve, 1.4571, 2" BSP
<b>MBL-105-2M-300-00</b>	Sliding sleeve, 1.4571, 1" NPT
<b>MBN-105-2M-300-00</b>	Sliding sleeve, 1.4571, 2" NPT
<b>S A T - 5 0 4 -</b> <input type="checkbox"/>	HART®-USB/Bluetooth® modem
<b>S A K - 3 0 5 -</b> <input type="checkbox"/>	HART®-USB/RS485 modem
<b>P</b> <input type="checkbox"/> <b>F</b> - <input type="checkbox"/> <b>1</b> <input type="checkbox"/> - <input type="checkbox"/>	Smart Field Display and Data Logger
<b>P</b> <input type="checkbox"/> <b>F</b> - <input type="checkbox"/> <b>0 1</b> - <input type="checkbox"/>	Loop Display



MIC / MIG-5□□-M



MIF / MIH-5□□-M



MIP-5□□-M

**NIVOTRACK M-500 Integrated mini version with rigid probe** 5 years

2-wire integrated magnetostrictive level transmitter for liquids, mini version, with Ø28 mm stainless steel float and rod probe, 1 mm resolution

**Version**

M	□	-	5	□	-	□
Y	Transmitter mini					

**Process connection**

M	Y	□	-	5	□	-	□
A	1" BSP						
B	1" BSP, lower connection						
C	2" BSP						
F	2" BSP, lower connection						
D	1" NPT						
E	1" NPT, lower connection						
G	2" NPT						
H	2" NPT, lower connection						
J	1½" TriClamp						
K	1½" TriClamp, lower connection						
M	2" TriClamp						
N	2" TriClamp, lower connection						
O	2½" TriClamp						
S	2½" TriClamp, lower connection						
P	3" TriClamp						
R	4" TriClamp						

**Housing**

M	Y	□	-	□	-	□
5	Stainless steel					

**Probe length**

M	Y	□	-	5	□	-	□
nn	0.3...1 m						
oo	1.1...1.5 m; sold by the 0.1 m						
nn = 03...10 : 0.3...1 m							
oo = 11...15 : 1.1...1.5 m							

**Output / Resolution / Certificates / Electric connection**

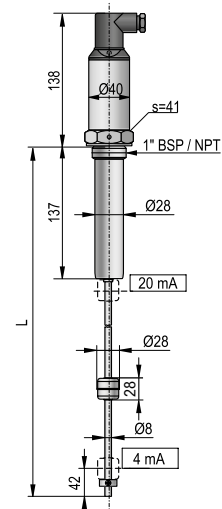
M	Y	□	-	5	□	-	□
K	*	4...20 mA + HART® / 1 mm / cable					
L	*	4...20 mA + HART® / 1 mm / Ex ia G / cable					
M	*	4...20 mA + HART® / 1 mm / DIN connector					
N	*	4...20 mA + HART® / 1 mm / Ex ia G / DIN connector					
O	*	4...20 mA + HART® / 1 mm / M12x1 connector					
P	*	4...20 mA + HART® / 1 mm / Ex ia G / M12x1 connector					

\* Under development

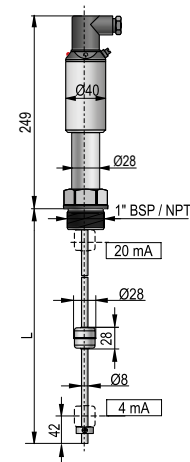
IEC Ex compliance is optional; it must be specified in the order.

**Accessories sold separately; see relevant page for details**

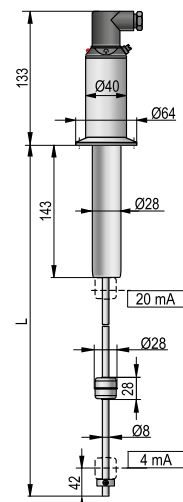
S	A	T	-	5	0	4	-	□	HART®-USB/Bluetooth® modem
S	A	K	-	3	0	5	-	□	HART®-USB/RS485 modem
P	□	F	-	□	1	□	-	□	Smart Field Display and Data Logger
P	□	F	-	□	0	1	-	□	Loop Display



MYA / MYD-5□□-M



MYB / MYE-5□□-M



MYM-5□□-M

**NIVOTRACK M-500 Integrated with plastic-coated rigid probe 5 years**

2-wire integrated magnetostrictive level transmitter for liquids with Ø76 mm PVDF float and plastic-coated stainless steel rod probe, 1 mm resolution

**Version**

**M**  **U** - **5**   -  **X** Transmitter

**Process connection**

**M** **X**  - **5**   -  **U** Without process connection for sliding sleeve

**Housing**

**M** **X** **U** -    -  **5** Stainless steel

**Probe length**

**M** **X** **U** - **5**   -  **n n** 0.3...1 m  
**o o** 1.1...3 m; sold by the 0.1 m

nn = 03...10 : 0.3...1 m  
 oo = 11...30 : 1.1...3 m

**Output / Resolution / Certificates / Electric connection**

**M** **X** **U** - **5**   -  **K** \* 4...20 mA + HART® / 1 mm / cable  
**L** \* 4...20 mA + HART® / 1 mm / Ex ia G / cable  
**M** 4...20 mA + HART® / 1 mm / DIN connector  
**N** \* 4...20 mA + HART® / 1 mm / Ex ia G / DIN connector  
**O** \* 4...20 mA + HART® / 1 mm / M12x1 connector  
**P** \* 4...20 mA + HART® / 1 mm / Ex ia G / M12x1 connector

\* Under development

**Available on request (must be specified in the text of the order)**

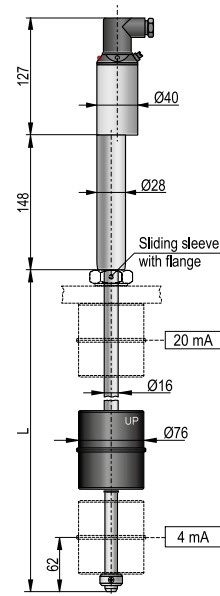
Requests for PP floats must be specified in the text part of the order. The standard float material is PVDF. (PVDF: MGU-505-2M-200-00, PP: MGU-506-1M-200-00)

**Process connection**

**MGH-105-2M-300-00** Sliding sleeve: 1" BSP, PVDF  
**MGL-105-2M-300-00** Sliding sleeve: 1" NPT, PVDF  
**M F A - 3 2 1 - 2** PP flange DN80, PN16 + 1" BSP sliding sleeve must be ordered  
**M F A - 3 3 1 - 2** PP flange DN100, PN16 + 1" BSP sliding sleeve must be ordered

**Accessories sold separately; see relevant page for details)**

**S A T - 5 0 4 -**  HART®-USB/Bluetooth® modem  
**S A K - 3 0 5 -**  HART®-USB/RS485 modem  
**P**  **F** -  **1**  -  Smart Field Display and Data Logger  
**P**  **F** -  **0 1 -**  Loop Display



MXU-500

NIVOTRACK magnetostrictive level transmitters are an ideal solution for high-accuracy measurement of clean fluids. Their level of precision makes them an excellent choice for the custody transfer measurement of liquids such as fuels, solvents, and alcohol derivatives. Flexible tube units make accurate measurements possible in tanks as high as 15 meters. Models with plastic coating can be used with aggressive materials. Integrating the transmitter into a process control system is easy due to the intelligent signal processing and communication software and the wide range of accessories offered.

**FEATURES**

- 0.1 mm or 1 mm resolution
- Insertion length up to 15 m
- Compact model
- Rigid or flexible guide tube
- Plastic-coated version for chemicals
- 4...20 mA and HART® output
- Graphic display
- 99-point linearization table
- Measurement optimization
- Volume measurement
- PACTware™ compatible
- Interface measurement
- ATEX certified variants
- IP67 (IP68)
- 5 years warranty

**APPLICATIONS**

- Custody transfer measurement
- Oil, gas and chemical industry (ATG – Automatic Tanking Gauge)
- Fuels and gasoline products
- Pharmaceutical industry
- Alcohols and beverages, food industry
- Installation in bypass tubes possible
- Supplementary level transmitter for NIVOFLIP magnetic flip indicator

**CERTIFICATES**

- ATEX (Ex ia G)
- ATEX (Ex d G)
- ATEX (Ex d ia G)
- OIML R 85
- IEC Ex (Ex ia G)
- IEC Ex (Ex d G)
- IEC Ex (Ex d ia G)



MCA-500 mini version



MTA-500 rigid probe



MG□-500 plastic-coated version



MTK-500 flexible probe version



SAP-300 plug-in display

**FLOATS**

	MBA-505-		MBK-530-2M-400-00	MBA-505-2M-		MBA-505-2M-900-00	MGU-505-2M-200-00	MGU-506-1M-200-00	4w34bs-16yyyyy <sup>(2)</sup>
	2X-0C7-10	2M-600-00 <sup>(1)</sup>		800-00 <sup>(1)</sup>	200-00 <sup>(1)</sup>				
Dimensions									
Medium density (min.) [kg/dm <sup>3</sup> ]	0.61	0.45	0.55	0.55	0.8	0.4	0.7	0.4	0.8
Material	Titanium		Austenitic stainless steel <sup>(3)</sup>	Titanium	Austenitic stainless steel <sup>(3)</sup>		PVDF	PP	Austenitic stainless steel <sup>(3)</sup>
Process pressure	16 bar			25 bar			3 bar		10 bar

<sup>(1)</sup> Designed for min. 2" process connection

<sup>(2)</sup> Designed for min. 1" process connection, only order with mini version.

<sup>(3)</sup> Austenitic stainless steel: 1.4401, 1.4404, 1.4435, 1.4571, etc.

TECHNICAL DATA

	Rigid probe	Flexible probe	Plastic-coated rigid probe	Mini version with rigid probe
Measured process value	Liquid level, distance, volume			
Nominal length (L)	0.3...4.5 m	2...15 m	0.3...3 m	0.3...1.5 m
Material of the tube	1.4571 (316Ti) stainless steel		PFA-coated stainless steel	1.4571 stainless steel
Highest process pressure <sup>(1)</sup>	25 bar (2.5 MPa)	16 bar (1.6 MPa)	3 bar (0.3 MPa)	10 bar (1 MPa)
Process temperature	-40...+90 °C, see temperature diagram			
Standard float (see: Floats table) <sup>(2)</sup>	MBA-505-2M-200-00	MBK-530-2M-400-00	MGU-505-2M-200-00	4w34bs-16yyyyy
Medium density	See "Floats"			
Material of wetted parts	Titanium, Stainless steel		PFA, PVDF, PP	Stainless steel
Ambient temperature	-40...+70 °C (SAP plug-in display: minimum temperature -25 °C)			
Output	Analog	4...20 mA (limit values: 3.9...20.5 mA)		
	Digital	HART® (lowest loop resistance: 250 Ω)		
	Display	Graphic display (SAP-300)		
Damping time	Adjustable 0...99 s			
Error indication	22 mA or 3.8 mA or holding			
Output load	$R_L = (U_s - 12.5 V)/0.02 A$ , $U_s =$ supply voltage			
Supply voltage	12.5...36 V DC			
Electrical protection	Class III			
Ingress protection	IP67			
Process connection	As per order code			
Electric connection	2× M20×1.5 cable glands + 2× internally threaded ½" NPT connection, cable outer diameter: Ø6...12 mm (shielded cable is recommended), wire cross section: 0.5...1.5 mm <sup>2</sup>			
Housing	Plastic (PBT) or painted aluminum or stainless steel			
Weight	1.7 kg + m. probe: 0.6 kg/m	2.9 kg + m. probe: 0.3 kg/m + counterweight 3.5 kg	1.7 kg + m. probe: 0.7 kg/m	1.7 kg + m. probe: 0.25 kg/m

<sup>(1)</sup> Depends on selected float, with sliding sleeve connection the highest process pressure is 3 bar (0.3 MPa)

<sup>(2)</sup> Requested float version must be specified in the order

MEASUREMENT DATA

	M□□-□□□-2/4/6/8	M□□-□□□-1/3/5/7, M□□-□□□-A/B/C/D
Resolution <sup>(3)</sup>	1 mm	0.1 mm
Nonlinearity <sup>(3) (4)</sup> (up to 10 m order length)	±2 mm or ±0.02% F.S. whichever is greater	±1 mm or ±0.01% F.S. whichever is greater
Nonlinearity <sup>(3) (4)</sup> (above 10 m order length)	±3 mm or ±0.02% F.S. whichever is greater	
Hysteresis	±1 mm	±0.25 mm (up to 10 m length)
		±1 mm (above 10 m length)
Zero span (in LEVEL mode)	Anywhere within the active range	
Measuring Range (reducing)	Minimum distance: 200 mm; maximum distance: as per probe length	
Temperature error	0.04 mm / 10 °C between (-25...+50 °C)	
Current Output Properties	Resolution: 2 µA, accuracy: 10 µA, temperature error: 200 ppm/ °C	

<sup>(3)</sup> For displayed and HART® transmitted values

<sup>(4)</sup> Under reference conditions, accuracy data only valid in case of factory setting. When used with a bypass float, the values given are not valid. With factory-calibrated float for NIVOFLIP, accuracy is 3...4 mm.

Ex INFORMATION

	M□□-5/7□□-5 Ex, 6 Ex, 7 Ex, 8 Ex	M□□-5/7□□-C Ex, D Ex	M□□-5/7□□-A Ex, B Ex
Ex marking (ATEX)	II 1 G Ex ia IIB T6...T5 Ga	II 1/2 G Ex db ia IIB T6...T5 Ga/Gb	II 2 G Ex db IIB T6...T5 Gb
Ex marking (IECEX)	Ex ia IIB T6...T5 Ga	Ex db ia IIB T6 Ga/Gb	Ex db IIB T6...T5 Gb
Nominal length (L)	0.3...15 m	0.3...10 m	
Cable entry	M20×1.5 cable gland	Metal M20×1.5 cable gland Ex d certification	
Cable outer diameter	Ø7...Ø13 mm	Ø9...Ø11 mm	
Stock cable	-		
Ex supply voltage, Intrinsic safety data	$U_i = 30 V$ $I_i = 140 mA$ $P_i = 1 W$	$C_i < 15 nF$ $L_i < 200 \mu H$	$U_i: 12.5...36 V DC$ $I_i = 140 mA$



**NIVOTRACK M-500 Compact with rigid probe** **5 years**

2-wire compact magnetostrictive level transmitter for liquids with Ø54 mm stainless steel float and rod probe, 0.1 mm or 1 mm resolution

**Version**

<b>M</b> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span>	
<b>T</b>	Transmitter
<b>B</b>	Transmitter with plug-in display

**Process connection**

<b>M</b> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span>	
<b>A</b>	1" BSP
<b>C</b>	2" BSP
<b>D</b>	1" NPT
<b>G</b>	2" NPT
<b>O</b>	2½" TriClamp
<b>P</b>	3" TriClamp
<b>R</b>	4" TriClamp
<b>U</b>	Without process connection for sliding sleeve
<b>L</b>	* Without float, for NIVOFLIP (max. 5.8 m, max. +90 °C)
<b>T</b>	* Without float, for NIVOFLIP (max. 5.8 m, max. +200 °C)

\* Probe length = center to center of NIVOFLIP +300 mm

**Housing**

<b>M</b> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span>	
<b>5</b>	Painted aluminum
<b>6</b>	** Fiberglass-reinforced plastic (PBT)
<b>7</b>	Stainless steel
<b>E</b>	Painted aluminum, Side viewed "B" head position model
<b>F</b>	** Fiberglass-reinforced plastic (PBT), Side viewed "B" head position model
<b>G</b>	Stainless steel, Side viewed "B" head position model

\*\* Ex version not available

**Probe length\*\*\***

<b>M</b> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span>	
<b>nn</b>	0.5...1 m
<b>oo</b>	1.1...3 m; sold by the 100 mm

nn = 05...10 : 0.5...1 m, oo = 11...30 : 1.1...3 m, \*\*\* 3...4.5 m as per special offer

**Output / Resolution / Certificates**

<b>M</b> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: green;">■</span> - <span style="color: green;">■</span>	
<b>1</b>	4...20 mA / 0.1 mm
<b>2</b>	4...20 mA / 1 mm
<b>3</b>	4...20 mA + HART® / 0.1 mm
<b>4</b>	4...20 mA + HART® / 1 mm
<b>5</b>	4...20 mA / 0.1 mm / Ex ia G
<b>6</b>	4...20 mA / 1 mm / Ex ia G
<b>7</b>	4...20 mA + HART® / 0.1 mm / Ex ia G
<b>8</b>	4...20 mA + HART® / 1 mm / Ex ia G
<b>A</b>	4...20 mA / 0.1 mm / Ex d G
<b>B</b>	4...20 mA + HART® / 0.1 mm / Ex d G
<b>C</b>	4...20 mA / 0.1 mm / Ex d ia G
<b>D</b>	4...20 mA + HART® / 0.1 mm / Ex d ia G

For custody transfer only models with HART output, 0.1 mm resolution, local display unit can be ordered, with up to 10 m probe length.

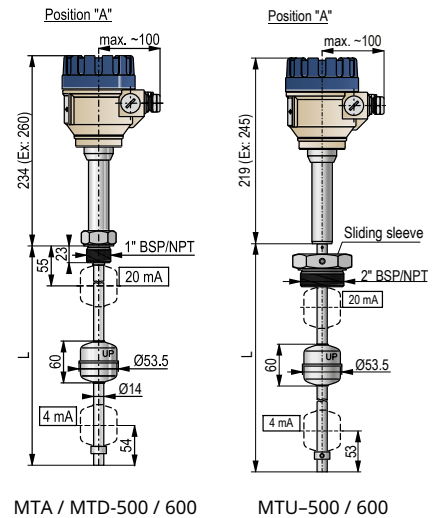
Need of IEC Ex is to be specified in the text part of the order.

**Available on request (must be specified in the text of the order)**

MBK-530-2M-400-00	Ø96 mm stainless steel ball float (for min. 0.55 kg/dm³ liquids)
MBA-505-2M-900-00	Ø124 mm stainless steel ball float (for min. 0.4 kg/dm³ liquids)
MBA-505-2M-800-00	Ø54 mm titanium float (for min. 0.55 kg/dm³ liquids)
MBA-505-2M-600-00	Ø50x100 mm titanium float (min. 0.45 kg/dm³)

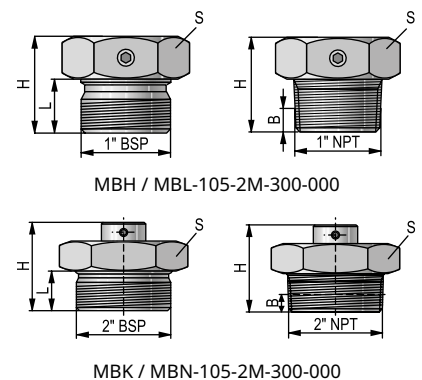
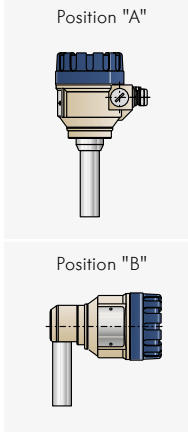
**Accessories sold separately; see relevant page for details**

<b>MBH-105-2M-300-00</b>	Sliding sleeve, 1.4571, 1" BSP
<b>MBK-105-2M-300-00</b>	Sliding sleeve, 1.4571, 2" BSP
<b>MBL-105-2M-300-00</b>	Sliding sleeve, 1.4571, 1" NPT
<b>MBN-105-2M-300-00</b>	Sliding sleeve, 1.4571, 2" NPT
<b>S A P - 3 0 0 - 0</b>	Graphic plug-in display module
<b>S A T - 5 0 4 - ■</b>	HART®-USB/Bluetooth® modem
<b>S A K - 3 0 5 - ■</b>	HART®-USB/RS485 modem



MTA / MTD-500 / 600      MTU-500 / 600

**Housing position**



Type	Material	Proc. conn.	Dimensions			
			S (mm)	H (mm)	L (mm)	B (mm)
MBH-105-2M-300-00	1.4571	1" BSP	41	36	20	-
MBK-105-2M-300-00	1.4571	2" BSP	60	55	24	-
MBL-105-2M-300-00	1.4571	1" NPT	41	37	-	10
MBN-105-2M-300-00	1.4571	2" NPT	60	44.5	-	11

**NIVOTRACK M-500 Compact with flexible probe**

**5 years**

2-wire compact magnetostrictive level transmitter for liquids with stainless steel float, stainless steel cable probe and weight with 0.1 mm or 1 mm resolution

**Version**

M	□	-	□	□	□	-	□
T							Transmitter
B							Transmitter with plug-in display

**Process connection**

M	□	□	-	□	□	-	□
K							2" BSP, Ø96 mm float
N							2" NPT, Ø96 mm float

**Housing**

M	□	□	-	□	□	-	□
5							Painted aluminum
6		*					Fiberglass-reinforced plastic (PBT)
7							Stainless steel
E							Painted aluminum, Side viewed "B" head position model
F		*					Fiberglass-reinforced plastic (PBT), Side viewed "B" head position model
G							Stainless steel, Side viewed "B" head position model

\* Ex version not available

**Probe length**

M	□	□	-	□	□	-	□
nn							2...3 m
oo							3.1...15 m; sold by the 100 mm
nn	= 20...30 : 2...3 m						
oo	= 31...F0 : 3.1...15 m						

**Output / Resolution / Certificates**

M	□	□	-	□	□	-	□
1							4...20 mA / 0.1 mm
2							4...20 mA / 1 mm
3							4...20 mA + HART® / 0.1 mm
4							4...20 mA + HART® / 1 mm
5							4...20 mA / 0.1 mm / Ex ia G
6							4...20 mA / 1 mm / Ex ia G
7							4...20 mA + HART® / 0.1 mm / Ex ia G
8							4...20 mA + HART® / 1 mm / Ex ia G
A							4...20 mA / 0.1 mm / Ex d G (up to 10 m)
B							4...20 mA + HART® / 0.1 mm / Ex d G (up to 10 m)
C							4...20 mA / 0.1 mm / Ex d ia G (up to 10 m)
D							4...20 mA + HART® / 0.1 mm / Ex d ia G (up to 10 m)

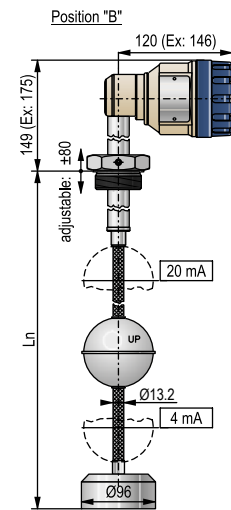
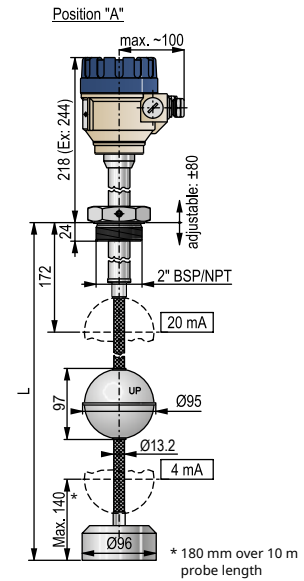
For custody transfer only models with HART output, 0.1 mm resolution, local display unit can be ordered, with up to 10 m probe length. Need of IEC Ex is to be specified in the text part of the order.

**Available on request (must be specified in the text of the order)**

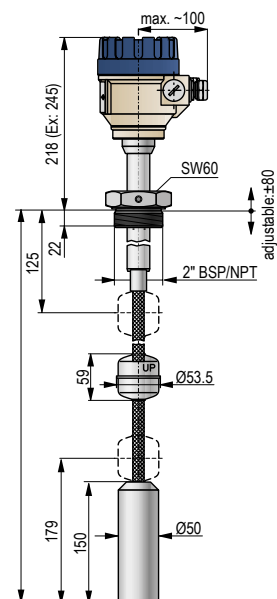
<b>MBA-505-2M-900-00</b>	Ø124 mm stainless steel ball float (for min. 0.4 kg/dm³ liquids)
<b>MBA-505-2M-600-00</b>	Ø50x100 mm titanium float (min. 0.45 kg/dm³), only available with MBK-530-2M-000-11 narrow weight

**Accessories sold separately; seerelevant page for details**

<b>S A P - 3 0 0 - 0</b>	Graphic plug-in display module
<b>S A T - 5 0 4 - □</b>	HART®-USB/Bluetooth® modem
<b>S A K - 3 0 5 - □</b>	HART®-USB/RS485 modem
<b>MBK-530-2M-000-01</b>	Ø96x45 mm standard counterweight
<b>MBK-530-2M-000-11</b>	Ø50x150 mm counterweight for 2" connection



MTK / MTN-500 / 600



MTK / MTN-500 / 600 with Ø50x3.9" titanium float

**NIVOTRACK M-500 Compact with plastic-coated rigid probe** **5 years**

2-wire compact magnetostrictive level transmitter for liquids with Ø76 mm PVDF float and plastic-coated stainless steel rod probe, 0.1 mm or 1 mm resolution

**Version**

<b>M</b> <input type="checkbox"/> <b>U</b> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>E</b>	Transmitter
<b>G</b>	Transmitter with plug-in display

**Process connection**

<b>M</b> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>U</b>	Without process connection for sliding sleeve

**Housing**

<b>M</b> <input type="checkbox"/> <b>U</b> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>5</b>	Painted aluminum
<b>6</b>	* Fiberglass-reinforced plastic (PBT)
<b>7</b>	Stainless steel
<b>E</b>	Painted aluminum, Side viewed "B" head position model
<b>F</b>	* Fiberglass-reinforced plastic (PBT), Side viewed "B" head position model
<b>G</b>	Stainless steel, Side viewed "B" head position model

\* Ex version not available

**Probe length**

<b>M</b> <input type="checkbox"/> <b>U</b> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>nn</b>	0,5...1 m
<b>oo</b>	1.1...3 m; sold by the 100 mm
nn = 05...10 : 0.5...1 m	
oo = 11...30 : 1.1...3 m	

**Output / Resolution / Certificates**

<b>M</b> <input type="checkbox"/> <b>U</b> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>	
<b>1</b>	4...20 mA / 0,1 mm
<b>2</b>	4...20 mA / 1 mm
<b>3</b>	4...20 mA + HART® / 0,1 mm
<b>4</b>	4...20 mA + HART® / 1 mm
<b>5</b>	4...20 mA / 0,1 mm / Ex ia G
<b>6</b>	4...20 mA / 1 mm / Ex ia G
<b>7</b>	4...20 mA + HART® / 0,1 mm / Ex ia G
<b>8</b>	4...20 mA + HART® / 1 mm / Ex ia G
<b>A</b>	4...20 mA / 0,1 mm / Ex d G
<b>B</b>	4...20 mA + HART® / 0,1 mm / Ex d G
<b>C</b>	4...20 mA / 0,1 mm / Ex d ia G
<b>D</b>	4...20 mA + HART® / 0,1 mm / Ex d ia G

For custody transfer only models with HART output, 0.1 mm resolution, local display unit can be ordered, with up to 10 m probe length. Need of IEC Ex is to be specified in the text part of the order.

**Available on request (must be specified in the text of the order)**

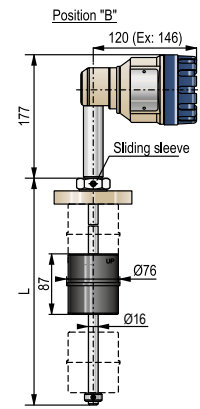
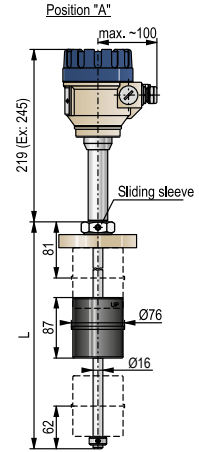
Requests for PP floats must be specified in the text part of the order. The standard float material is PVDF. (PVDF: MGU-505-2M-200-00, PP: MGU-506-1M-200-00)

**Process connection**

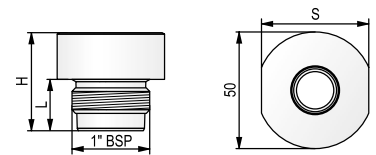
MGH-105-2M-300-00	Sliding sleeve: 1" BSP
MGL-105-2M-300-00	Sliding sleeve: 1" NPT
<b>M F A - 3 2 1 - 2</b>	PP flange DN80, PN16 + 1" BSP sliding sleeve must be ordered
<b>M F A - 3 3 1 - 2</b>	PP flange DN100, PN16 + 1" BSP sliding sleeve must be ordered

**Accessories sold separately; see relevant page for details**

<b>S A P - 3 0 0 - 0</b>	Graphic plug-in display module
<b>S A T - 5 0 4 - <input type="checkbox"/></b>	HART®-USB/Bluetooth® modem
<b>S A K - 3 0 5 - <input type="checkbox"/></b>	HART®-USB/RS485 modem



MEU-500 / 600



MGH-105-2M-300-000

	Material	Proc. conn.	Dimensions		
			S (mm)	H (mm)	L (mm)
MGH-105-2M-300-00	PVDF	1" BSP	46	42	22
MGL-105-2M-300-00		1" NPT			25

## NIVOTRACK M-500 Compact mini version with rigid probe

5 years

2-wire integrated magnetostrictive level transmitter for liquids, mini version, with Ø28 mm stainless steel float and rod probe, 0.1 mm or 1 mm resolution

### Version

M   -   -   -

<b>M</b>	Transmitter
<b>C</b>	Transmitter with plug-in display

### Process connection

M   -   -   -

<b>A</b>	1" BSP
<b>D</b>	1" NPT
<b>J</b>	1½" TriClamp
<b>M</b>	2" TriClamp
<b>O</b>	2½" TriClamp
<b>P</b>	3" TriClamp
<b>R</b>	4" TriClamp

### Housing

M   -   -   -

<b>5</b>	Painted aluminum
<b>6</b>	* Fiberglass-reinforced plastic (PBT)
<b>7</b>	Stainless steel
<b>E</b>	Painted aluminum, Side viewed "B" head position model
<b>F</b>	* Fiberglass-reinforced plastic (PBT), Side viewed "B" head position model
<b>G</b>	Stainless steel, Side viewed "B" head position model

\* Ex version not available

### Probe length

M   -    -

<b>nn</b>	0.5...1 m
<b>oo</b>	1.1...1.5 m; sold by the 100 mm

nn = 05...10 : 0.5...1 m

oo = 11...15 : 1.1...1.5 m

### Output / Resolution / Certificates

M   -   -   -

<b>1</b>	4...20 mA / 0.1 mm
<b>2</b>	4...20 mA / 1 mm
<b>3</b>	4...20 mA + HART® / 0.1 mm
<b>4</b>	4...20 mA + HART® / 1 mm
<b>5</b>	4...20 mA / 0.1 mm / Ex ia G
<b>6</b>	4...20 mA / 1 mm / Ex ia G
<b>7</b>	4...20 mA + HART® / 0.1 mm / Ex ia G
<b>8</b>	4...20 mA + HART® / 1 mm / Ex ia G

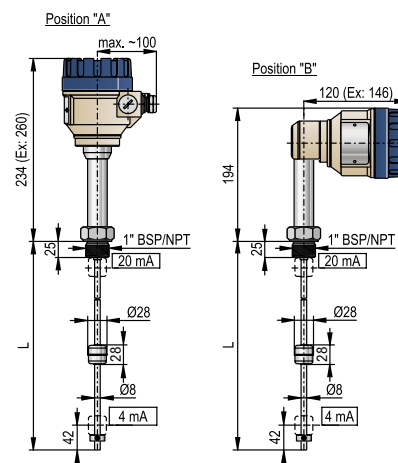
Need of IEC Ex is to be specified in the text part of the order

### Accessories sold separately; see relevant page for details)

<b>S A P - 3 0 0 - 0</b>	Graphic plug-in display module
<b>S A T - 5 0 4 -</b>	HART®-USB/Bluetooth® modem
<b>S A K - 3 0 5 -</b>	HART®-USB/RS485 modem

### Accessories sold separately (floats)

<b>MBA-505-2M-200-00</b>	Ø54x60 mm stainless steel (1.4401) ball float (for min. 0.8 kg/dm³ liquids)
<b>MBK-530-2M-400-00</b>	Ø96 mm stainless steel (1.4404) (for min. 0.55 kg/dm³ liquids)
<b>MBA-505-2M-900-00</b>	Ø124 mm stainless steel (1.4401) ball float (for min. 0.4 kg/dm³ liquids)
<b>MBA-505-2M-800-00</b>	Ø54x60 mm titanium float (for min. 0.55 kg/dm³ liquids)
<b>MBA-505-2X-0C7-10</b>	Ø49x60 mm titanium float (for min. 0.61 kg/dm³ liquids)
<b>MBA-505-2M-600-00</b>	Ø50x100 mm titanium float (for min. 0.45 kg/dm³ liquids)
<b>MGU-505-2M-200-00</b>	Ø76x87 mm PVDF float (for min. 0.7 kg/dm³ liquids)
<b>MGU-506-1M-200-00</b>	Ø76x87 mm PP float (for min. 0.4 kg/dm³ liquids)
<b>4w34bs16yyyy</b>	Ø28x28 mm stainless steel (1.4404) ball float (for min. 0.8 kg/dm³ liquids)



MMA / MMD-500 / 600

## ООО "РусАвтоматизация"

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