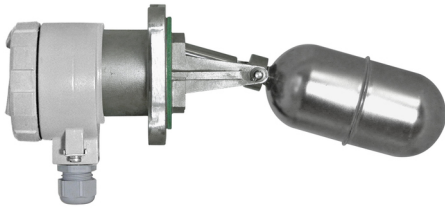


# Magnetic float level switch NIVOMAG



- For level of liquid on any kind of tanks
- Versions for neutrals, alkali or acidic fluids
- Versions for side or top mounted
- Max. 250 °C medium temperature
- Explosion proof version available

## APPLICATIONS

Magnetic float level switches are used for level detection of liquids in all types of tanks.

They are perfectly suited for use in condensate tanks, base tanks, storage tanks or to provide an alarm for low levels of lubricating oils or fuels.

## DESCRIPTION

The NIVOMAG is a compact 316 stainless steel switch. Measurement principal : a non contact coupling system is realised by the permanent magnet of the float placed in the tank that can activate the microswitch situated in the housing mounted on the outside. Therefore, the unit does not require external power.

The variety of both the top and side mounted versions makes it easy to install the switch in any tank at any location. For the simplest level switching you can select models with fixed hysteresis, while for level control application we offer Nivomag switches with adjustable hysteresis.

All parts in contact with the fluid are made of stainless steel. Models with rubber or silicon sleeves can be applied for contaminated liquids.

This sensor is suitable for applications up to 25 bar and 250 °C for liquids with densities greater than 0.7.

## MODEL SELECTION

	Lowest S.G acceptable			
Stem length	0...100 mm	200 mm	300 mm	1000...3000 mm
Float Ø 52 mm / S.G. =	0.7	0.8	0.85	-
Float Ø 64 mm / S.G. =	0.7	0.8	0.8	-
Float Ø 120 mm / S.G. =	-	-	-	0.7

NIVOMAG type	MK-21	MK-23
Fixed hysteresis	Yes	
Adjustable hysteresis		Yes
Stem	Yes	Yes
Stem "L" or "Z"	Yes	
Side mounting	Yes	
Vertical mounting	Yes	Yes
Waterproof housing	Yes	
Rubber protection sleeve	Yes	
Flange fitting	Yes	Yes
Threaded fitting	Yes	
Ex version	Yes	Yes
Test device	Yes	



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Magnetic float level switch  
NIVOMAG

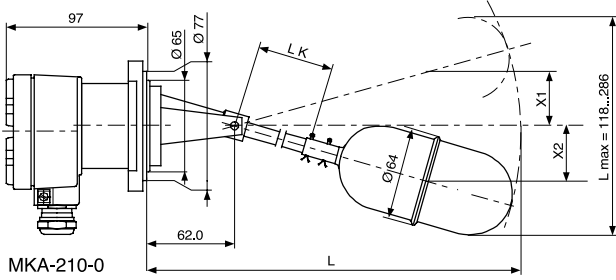
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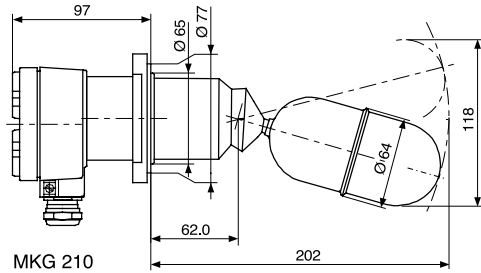
NIV

524-01 /1

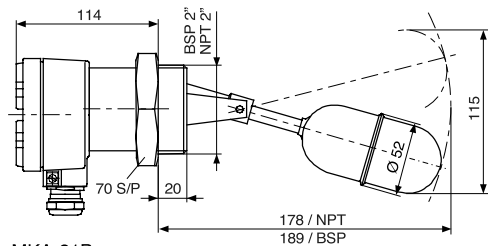
**DIMENSIONS**



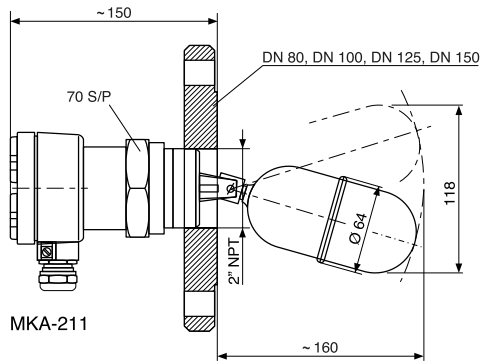
MKA-210-0



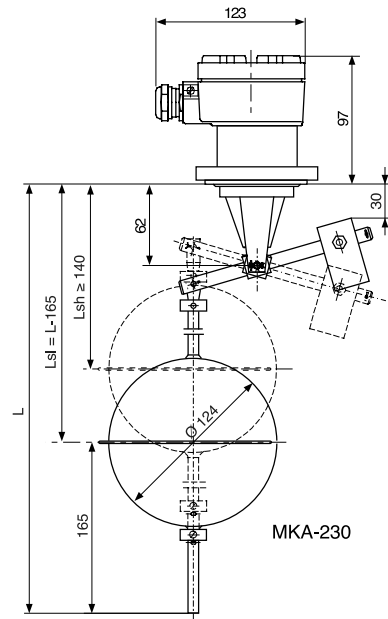
MKG 210  
MKS 210-0



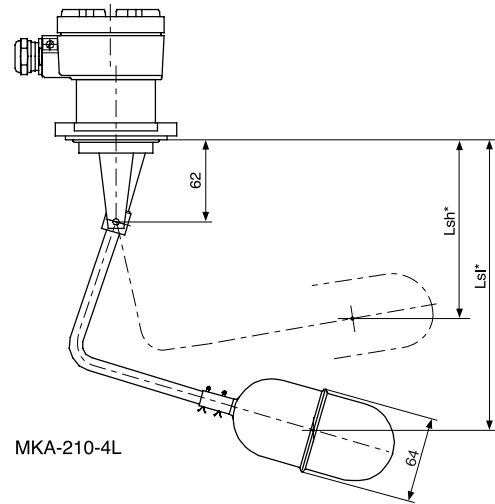
MKA-21B  
MKA-21N0



MKA-211



MKA-230



MKA-210-4L

*\*only one of the values can be specified*

Lsh = High switching point

Lsl = Low switching point

**Switching points for models with fixed hysteresis (Type MK-21)**

Lk = arm length	0	100	200	300
L = protrusion length	202	321	421	521
Lmax = maximum displacement	118	180	234	286
X1 = high switch point	12	30	46	62
X2 = low switch point	12	30	46	62

Note: values for water @20°C Tolerance: ±5 mm

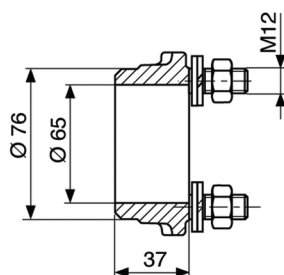
## TECHNICAL FEATURES

Mounting	Side mounting			Vertical mounting
	MKA-21 _ _	MKG-2 _ _	MKS-2 _ _	MKA-23 _ _
NIVOMAG type	MKA-21 _ _	MKG-2 _ _	MKS-2 _ _	MKA-23 _ _
Pressure	25 bar max.			16 bar max.
Liquid temperature	-20 ... +250 °C	0... +100 °C	0... +200 °C	-20 ... +250 °C
Ambient temperature	-20 ... +80 °C			
S. G.	From 0.7 to 0.85 (See § selection - page 1)			
Hysteresis	Fixed			Adjustable
Insertion distance	See drawings			
Wet parts material	AISI 316 Ti			
Housing material	Aluminum alloy, epoxy painted			
Switch	Micro-switch (NO & NC)*			
Switching power	250 V AC 12-10 A / 220 V DC 13-0,6 A (IEC 947-5-1)			
Switching power, Ex version	250 V AC 12-2,5 A / 220 V DC 13-0,3 A (IEC 947-5-1)			
Connector	With 1 pressure gland, PG 16 (cable 5x2,5 mm <sup>2</sup> )			
Protection	IP 65			
Class	Electric protection Class 1			
Approval	Ex II 1/2 G Ex dme IIC T4...T6 (Excepted for MKG and MKS)			

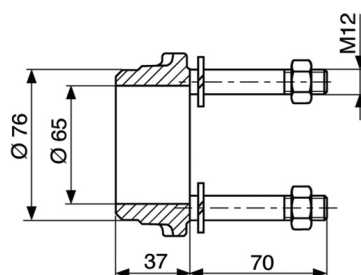
\* NO and NC terminals should be connected to equipotential circuits

## ACCESSORIES

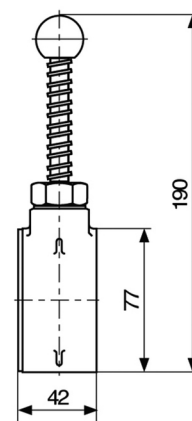
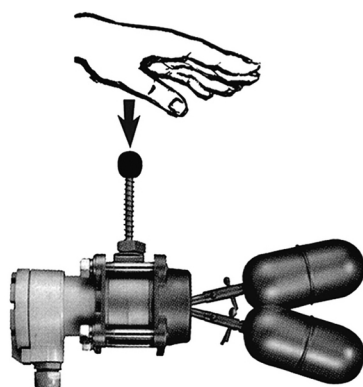
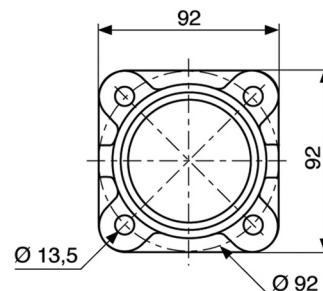
Test device is located between housing and counter-flange.  
The tester is used to check the correct operation of switch without dismantling or true level change.



MFF-1-0



MFF-1-1



MMK-110, 120

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Magnetic float level switch  
**NIVOMAG**

13-11-2018

D-524.01-EN-AD

NIV

524-01 /3

## CODE NUMBERS AND REFERENCES

### NIVOMAG

#### Model

- A** Standard (-20 ... +250 °C)
- G** Standard + rubber protection sleeve (only for non Ex version)
- S** Standard + silicon protection sleeve (only for non Ex version)

#### Differential

- 1** Fixed
- 3** Vertical mounting - adjustable

#### Fitting

- 0** Square flange 92 x 92 mm / PN 25
- 1** ISO flange DN 80 / PN 25 - carbon steel
- 2** ISO Flange DN 100 / PN 25 - carbon steel
- 5** ISO Flange DN 80 / PN 25 - AISI 316 Ti
- 6** ISO Flange DN 100 / PN 25 - AISI 316 Ti
- B** Thread 2" BSP
- N** Thread 2" NPT

#### Mounting

- 1** VERTICAL, type MK-23; standard version; insertion distance 1265 mm
- 2** VERTICAL, type MK-23; standard version; insertion distance 2265 mm
- 3** VERTICAL, type MK-23; standard version; insertion distance 3265 mm
- 5** VERTICAL, type MK-23; Ex version; insertion distance 1265 mm
- 6** VERTICAL, type MK-23; Ex version; insertion distance 2265 mm
- 7** VERTICAL, type MK-23; Ex version; insertion distance 3265 mm
- 0** HORIZONTAL, type MK-21 ; standard versions; stem length LK = 0 mm
- 1** HORIZONTAL, type MK-21 ; standard versions; stem length LK = 100 mm
- 2** HORIZONTAL, type MK-21 ; standard versions; stem length LK = 200 mm
- 3** HORIZONTAL, type MK-21 ; standard versions; stem length LK = 300 mm
- 4** HORIZONTAL, type MK-21 ; standard versions; stem Z or L
- 9** HORIZONTAL, type MK-21 ; Ex versions; stem length LK = 0 mm
- 5** HORIZONTAL, type MK-21 ; Ex version; stem length LK = 100 mm
- 6** HORIZONTAL, type MK-21 ; Ex versions; stem length LK = 200 mm
- 7** HORIZONTAL, type MK-21 ; Ex versions; stem length LK = 300 mm
- 8** HORIZONTAL, type MK-21 ; Ex version; stem Z or L

MK A 2 1 0 1

### ACCESSORIES

#### Counter-flange

- 1** Carbon steel
- 2** AISI 316 Ti
- 0** Square flange 92 x 92 mm / PN 25
- 1** Mounting with test device, square flange 92 x 92 mm / PN 25

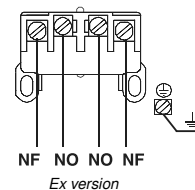
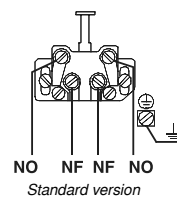
MFF-1 1 0

#### Test device

- 1** Carbon steel
- 2** AISI 316 Ti

MMK-1 1 0

#### Electric connections



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Magnetic float level switch  
**NIVOMAG**

NIV

524-01 /4

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