

LEVEL TRANSMITTER

Type: MAGLINK

Series 5300, 5400, and N(autic)-5400



Technical Information

03/2011



LEVEL

THE EXPERT IN LEVEL AND FLOW

Intra-Automation
Technical Information
03/2011

Technical details subject to be changed without notice.

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Scope and Validity

This catalogue only covers the MAGLINK-level-gauging-systems. Information about other products manufactured by Intra-Automation, such as magnetic site level gauges, flow meters, ultra sound, flow computers, signal converters etc can be requested via our homepage www.intra-automation.de, per e-mail (info@intra-automation.de) or per Fax (+49-(0) 21 81 / 6 44 92).

Categorizing of MAGLINK-level-measurement-system according to the Pressure Instrument Guidelines 97/23EG (PED)

The MAGLINK-level-gauging-system is not a pressure instrument according to these guidelines.

Miscellaneous

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MAGLINK-LEVEL-GAUGING-SYSTEMS



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Advantages of the Maglink-Level-Gauging-Systems

- ◆ sealed system for pressure or vacuum services
- ◆ high accuracy (linear transmission)
- ◆ materials of construction for corrosive services
- ◆ no calibration required
- ◆ remote electronic indication and/or alarm switches
- ◆ readability at eye level
- ◆ good readability by directly indicating scale \varnothing 250 mm
- ◆ double-pointer-indication (standard)
- ◆ mechanical operation (explosion proof available)
- ◆ insensitive to foam
- ◆ simple operation and maintenance
- ◆ interface measurements
- ◆ weatherproof housing
- ◆ direct mounting on top of the tank, optional **indication on the side of the tank**
- ◆ open and sealed tanks
- ◆ underground tanks
- ◆ freight-, storage- and service tanks on ships
- ◆ isolation between measured room and measurement system
- ◆ simple mechanical assembly

Measurement principle

The level gauging system „MAGLINK“ includes three main parts::

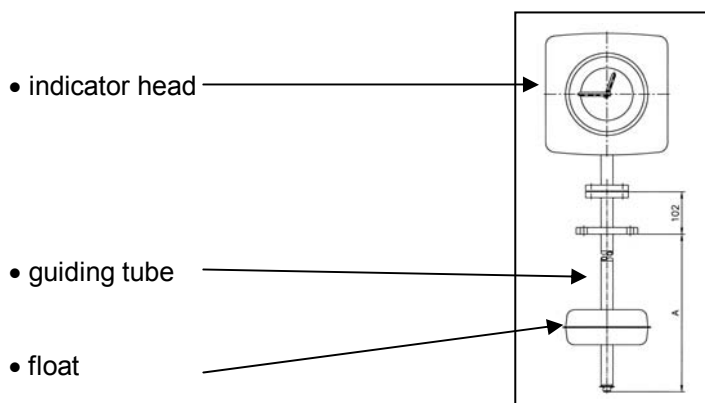


Fig. 01: Maglink

The indicator head is mounted directly on top of the guiding tube. The guiding tube is completely sealed towards the inside of the tank. A stainless steel wire is attached to a spring actuated drum located within the indicator head. The other end of the wire is fixated to a stainless steel plate that works as an end stop at high level. The plate is connected to a magnet (follower magnet) via a stainless steel wire (offset wire). This magnet is placed inside the guiding tube. The float contains an annular magnet. It actuates a magnetic coupling between the float and the follower magnet. A change in level causes a linear transmission to the indicator head through the wire as the float rises or sinks along the guiding tube. A high precision gearbox with clockwork motor compensates for the weight of the follower magnet and eliminates any backlash of the indication. A precision drum retains the wire. The standard indication head is equipped with two pointers. The red pointer indicates meters or feet and the black pointer centimeters or inches while the respective measuring ranges have the same color on the scale. For liquids with different densities and viscosities refer to page 8 where matching floats are described.

Indicator Head and Scale

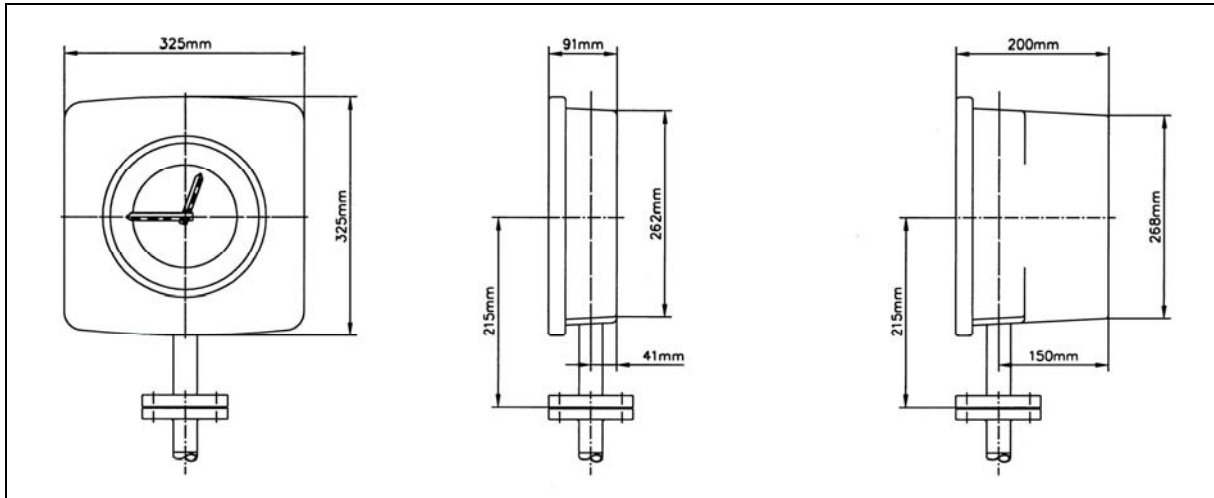


Fig. 02: Maglink-head with flat housing with wide housing

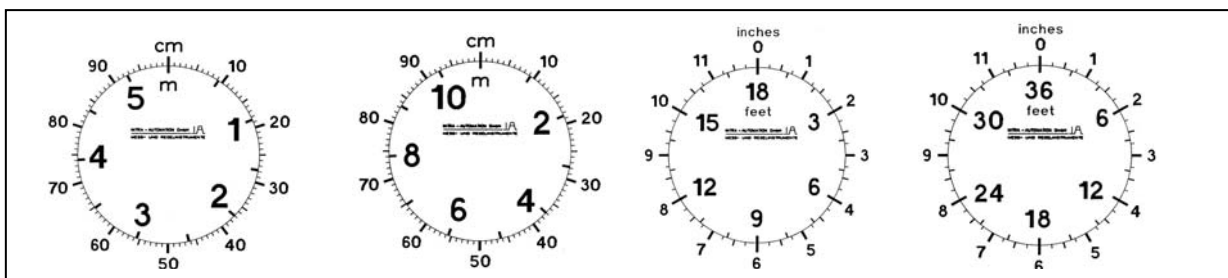
Basically there are three different housings:

- flat cast housing : used only for visual indication,
- wide cast housing : used for visual indication **and** optional level switches and/or integral transmitter for 4-20 mA output. In this case the housing is equipped with an additional cover on its backside for a simpler mounting, installation and maintenance.
- nautical housing: design for open sea ships

Technical data **housing**:

- materials : housing – cast aluminum (standard), optional steel (nautical) viewing glass, Ø220mm – glass (standard), optional Macrolon
- painting : PUR- polyester powder lacquer layer thickness approx. 70 µm color black
- ambient temperature : -40 °C (-40 °F) though 66 °C (150 °F)
- protection class : IP 65 (NEMA4)

Technical data **scale**:



0-5,4m

0-10,8m

0-18 ft

0-36 ft

Fig. 03: standard scales

The scale of the Maglink-Level-Gauge-System has a diameter of Ø 220 mm. Two different kinds of scales can be chosen from.

- Standard scale
 - design: double-pointer (*red / black*)
 - scaling: meters (*red*)/ centimeters (*black*) or feet (*red*)/ inches (*black*)
 - measuring range: 0 - 5,4 m; 0 – 10,8 m; 0 – 18 ft or 0 – 36 ft
 - material: aluminum, white primed

- Special scale (optional)
 - design: one pointer (*black*)
 - scaling: according to customer specification (i.e. in cm; mm; ft; inch; Liter; m³)
 - measuring range: according to customer specification
 - material: aluminum, white primed

Guiding Tube

The guiding tube consists of the following parts:

- weld on head mounting flange
1" 150 lbs,
- tank mounting flange
(standard DN50 PN16 or 2" 150 lbs RF)
- guiding tube
- end stop
or bottom support for measurement length A > 3000mm.

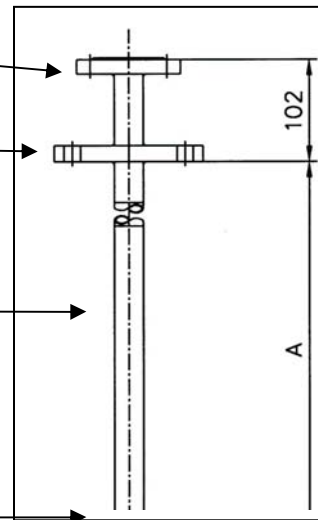


Fig. 04: guiding tube

Technical data:

- materials : 1.4571 = 316 Ti (standard), PP, PVC, PVDF
(further materials upon request)
- max. length : 14000 mm (from 6000mm multipart)
- max. operating temperature : 0 °C (32 °F) through 250 °C (480 °F) → 1.4571;
0 °C (32 °F) through 60 °C (140 °F) → PP, PVC, PVDF
- max. operating pressure : 118 bar (1734 psig) → 1.4571 = 316 Ti (standard),
254 bar (3735 psig) → 1.4571 = 316 Ti (thick wall);
6 bar (102 psig) → PP, PVC, PVDF

Float Systems

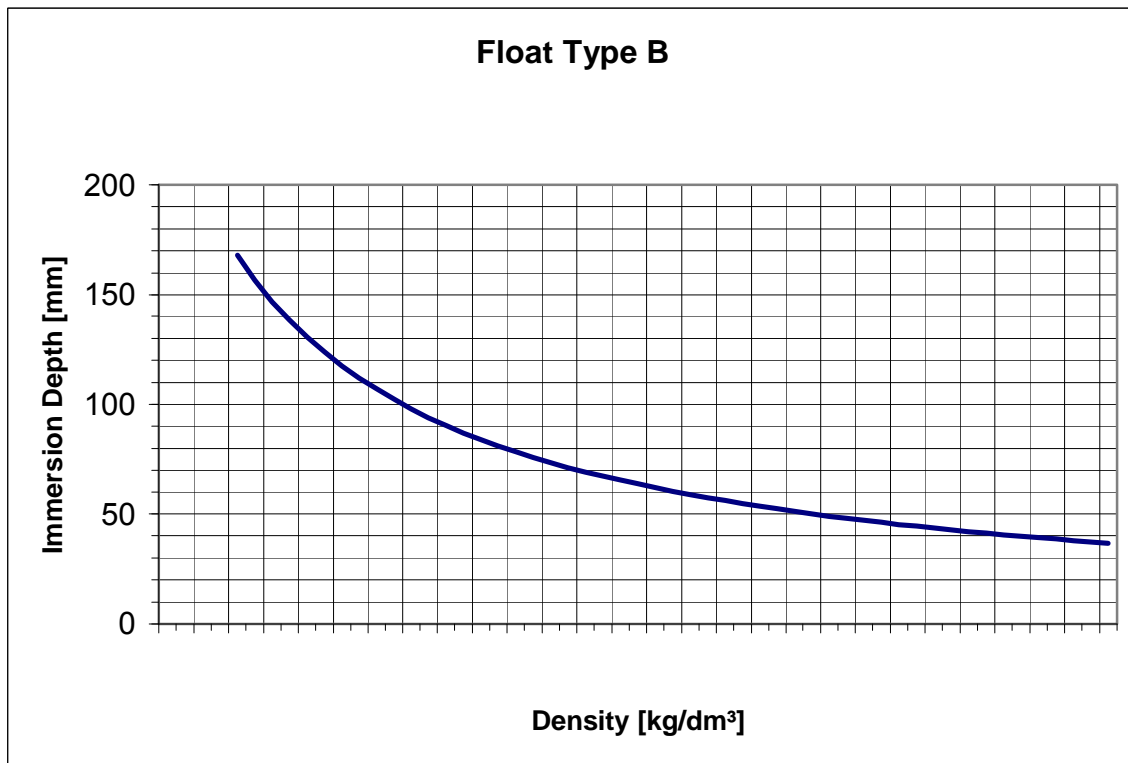
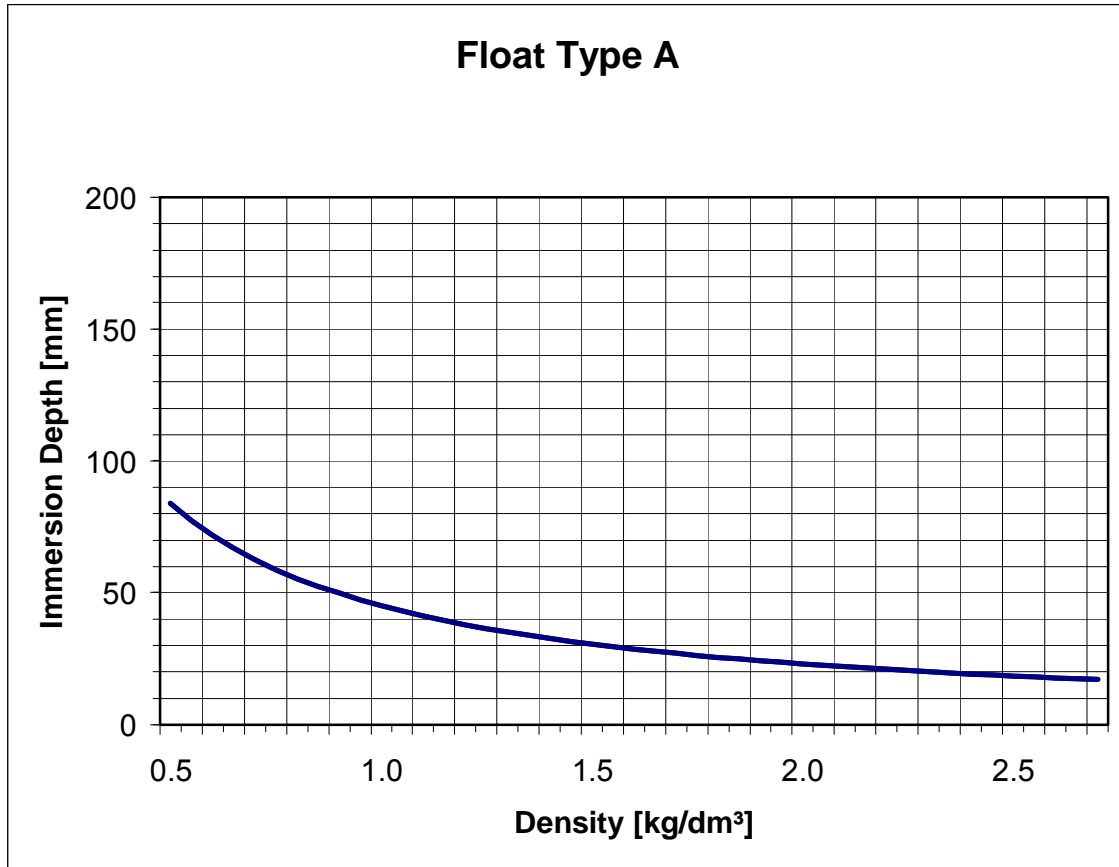
- types of floats

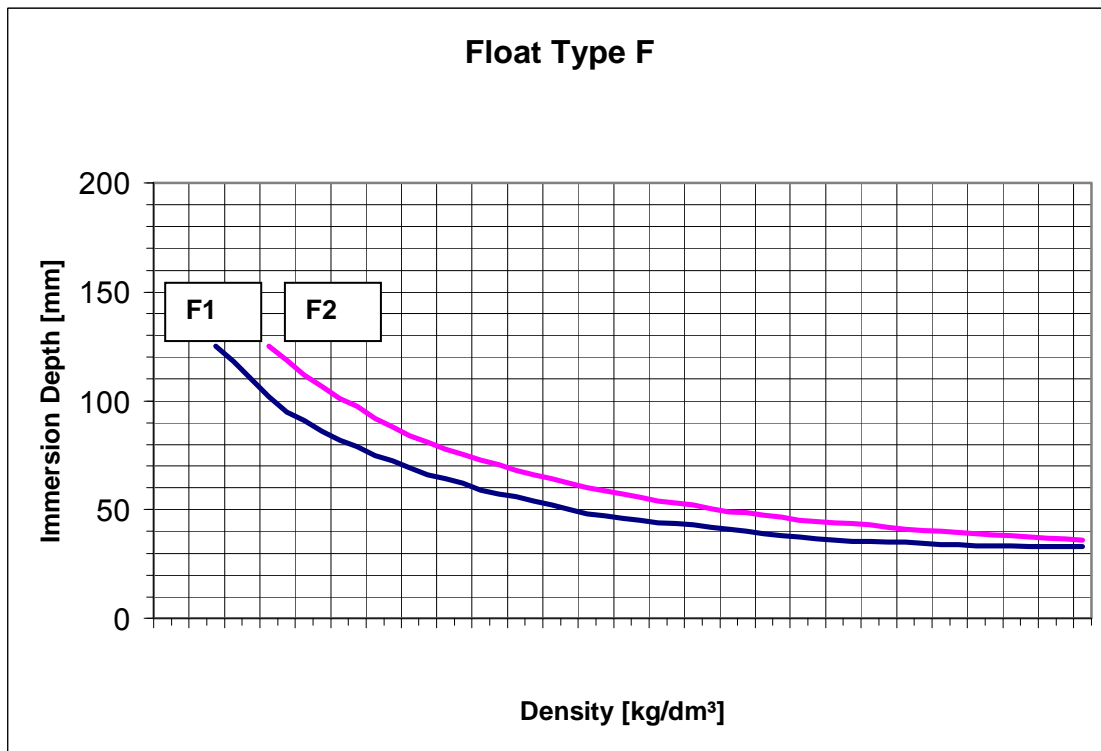
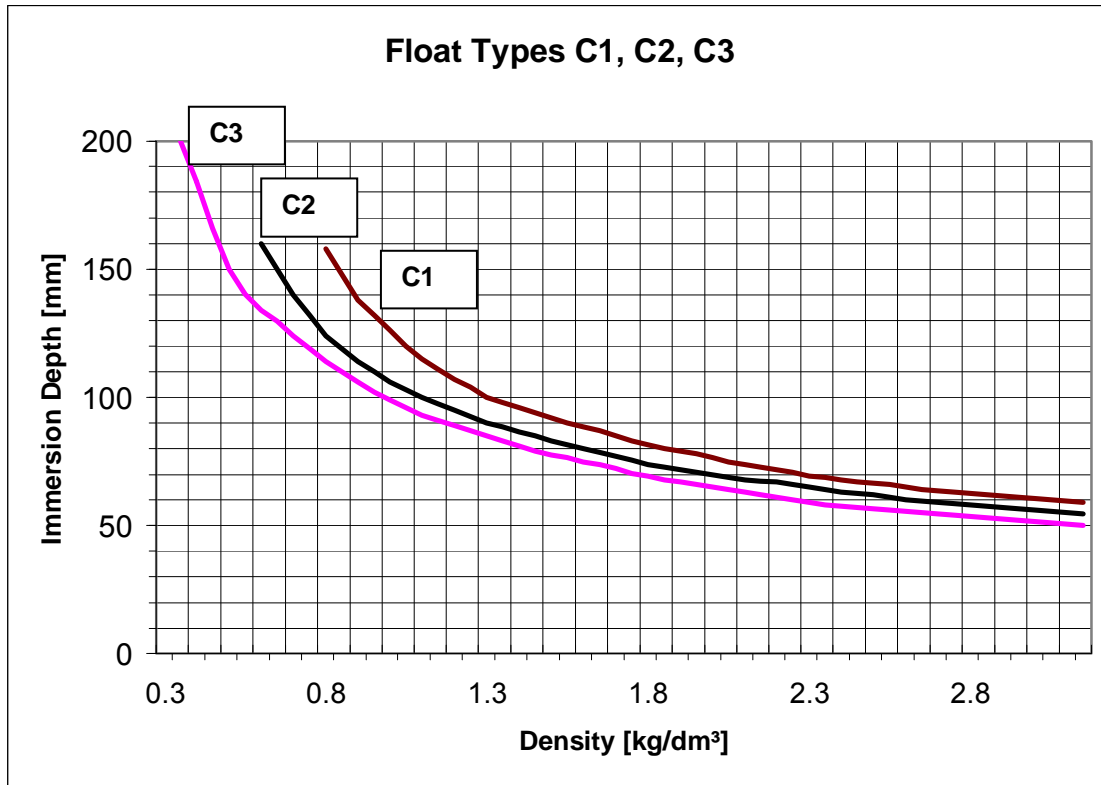
Float	Data (1, 2, 3)	Standard version	Ex-version
Type A (Standard) (4)	min. 0,5 kg/dm ³ max. 3,5 bar (50 psig) max. 250 °C (480 °F) mat.: 1.4571 (316Ti)		
Type B (4)	min. 0,7 kg/dm ³ max. 5 bar (150 psig) max. 250 °C (480 °F) mat.: 1.4571 (316Ti) ØD = 140 mm H = 178 mm		
Type C1 (4)	min. 0,75 kg/dm ³ max. 25 bar (350 psig) max. 250 °C (480 °F) mat.: 1.4571 (316Ti) ØD = 190 mm H = 184 mm		
Type C2 (4)	min. 0,58 kg/dm ³ max. 18 bar (250 psig) max. 250 °C (480 °F) mat.: 1.4571 (316Ti) ØD = 229 mm H = 206 mm		
Type C3 (4)	min. 0,35 kg/dm ³ max. 8,5 bar (120 psig) max. 250 °C (480 °F) mat.: 1.4571 (316Ti) ØD = 267 mm H = 254 mm		

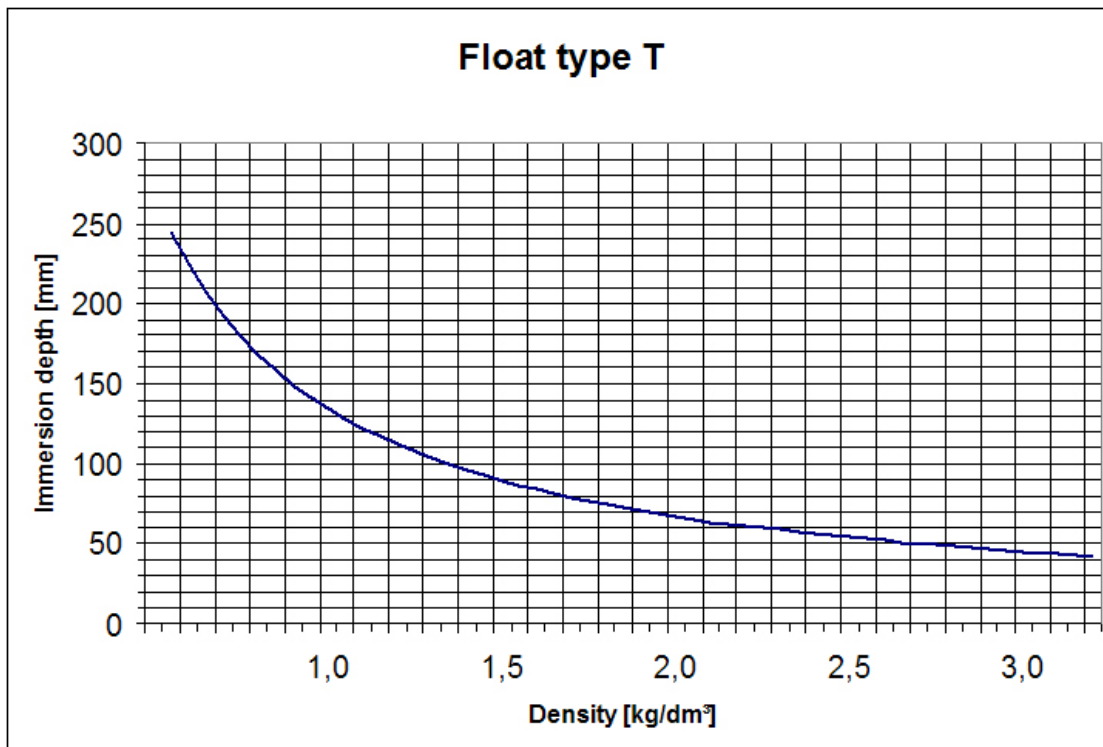
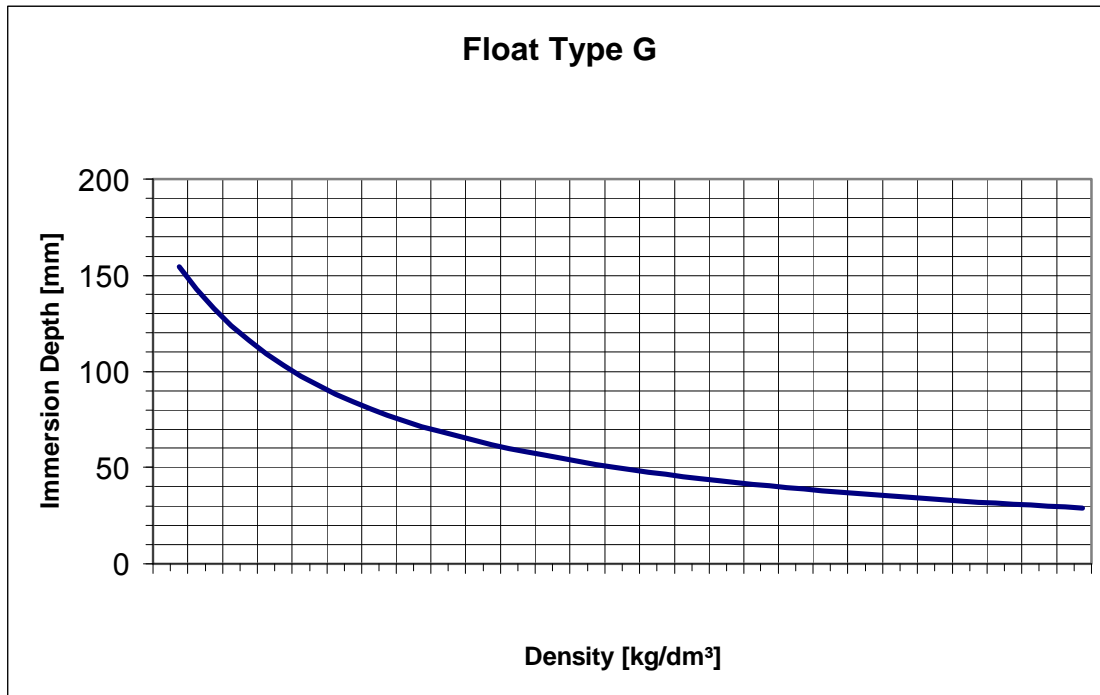
Float	Data (1, 2, 3)	Standard version	Ex-version
Type F1 (4)	min. 0,65 kg/dm ³ max. 7 bar (100 psig) max. 60 °C (140 °F) mat.: Polypropylene (PP)		
Type F2 (4)	min. 0,80kg/dm ³ max. 7 bar (100 psig) max. 60 °C (140 °F) mat.: Polyvinyl chloride (PVC)		
Type G (5)	min. 0,60 kg/dm ³ max. 3,2 bar (45 psig) max. 250 °C (480 °F) mat.: Glass ØD = 150 mm H = 175 mm		
Type T (4)	min. 0,58 kg/dm ³ max. 18 bar (250 psig) max. 250 °C (480 °F) mat.: Titan ØD = 94 mm H = 240 mm		

- 1) Except the glass float all other float types can be vented for high pressure applications
- 2) It should be avoided to use floats close to their specified minimal liquid density
- 3) Special materials and –dimensions upon request
- 4) Version for interface measurements requires a minimal difference in density of **0,2 kg/dm³**
- 5) Version for interface measurements requires a minimal difference in density of **0,4 kg/dm³**

- **Immersion Depths**







Switches / Transmitters

- Switches**

Type	Description				
B	Slot proximity switch	Explosion protection Protection class Rated voltage Rated current Rated power Inductivity Capacity EMC	Ex II 2 G EEx ia IIC T6 IP 67 max. 16 VDC (intrinsically safe circuit) max. 25 mA max. 34 mW 30 nF 100 µH EN 50014:1997; EN 50020:1994		
C	Micro switch (change-over contact) (SPDT)	Explosion protection Protection class Utilization category Rated voltage Rated current	Ex II 2 G EEx de IIC bzw. EEx d IIC IP 66 AC-15 max. 250 V max. 4 A	AC-15 max. 400 V max. 2 A	DC-13 max. 250 V max. 0,15 A

- Transmitters**

Type	Description		
E	Position sensing transducer	Explosion protection Approval Rated voltage Rated current Rated power Capacity External burden EMC Accuracy Output signal	Ex II 2 G EEx ia IIC T6 German Lloyd max. 30 VDC max. 160 mA max. 1 W ≤ 10 nF (internal) R = (supply voltage-12V)/ Signal value I EN 50014:1997; EN 50020:1994 ≤ 1,5 % of rate 4..20 mA (2-, 3- or 4-wire-version) 0..10/20 mA (3- or 4- wire-version)

Approvals

- Maglink Series **5300 (without explosion protection)**

Type	Approval
53__-GL-...	German Lloyd-approval

- Maglink Series **5400 (with explosion protection)**

Type	Approval
54__-GL-...	German Lloyd-approval
544__-D-...	⊕ II 1/2 G EEx ed IIC T4
544__-I-...	⊕ II 1/2 G EEx ia IIC T4
548__-I-...	
549__-I-...	
54__-...	⊕ II 1/2 G

Accuracies

- Measurement accuracy : $\pm (2 + L)$ mm
with „L“ = length of the guiding tube in meters
- Response sensitivity to float movements : ± 2 mm
- Reproducibility : ± 2 mm

Weight

- **Model 531../ 541.. (only Indication = flat indicator head)**
 appr. weight = $15 + (2 \times L) + [\frac{1}{3} \times (F)^2]$ (metric units)
 appr. weight = $33,05 + (0.111 \times L) + [0.735 \times (F)^2]$ (anglo-american units)
- **Model 53..../ 54.... (Indication+switches/transmitter = deep indicator head)**
 appr. weight = $17 + (2 \times L) + [\frac{1}{3} \times (F)^2]$ (metric units)
 appr. weight = $37,45 + (0.111 \times L) + [0.735 \times (F)^2]$ (anglo-american units)

Value	metric		Example
	Process flange $\leq DN65/ 2 \frac{1}{2}''$	Process flange $> DN65/ 2 \frac{1}{2}''$	
L	Length of guide tube in m	Length of guide tube in m	L= 3
F	0	Flange size in inch	F= 4
			Weight = $15+2 \times 3 + [\frac{1}{3} \times (4)^2] = 26,3$ kg

Value	anglo-american		Example
	Process flange $\leq DN65/ 2 \frac{1}{2}''$	Process flange $> DN65/ 2 \frac{1}{2}''$	
L	Length of guide tube in inch	Length of guide tube in inch	L= 118
F	0	Flange size in inch	F= 4
			Weight = $33,05+0,111 \times 118 + [0,735 \times (4)^2] = 57,9$ lbs

Order Codes

Order code Maglink series 5300 (without Ex-approval)

1. Maglink type	
53	without explosion protection
2. Maglink head	
1	only local indication
4	local indication, max. 4 electr. switches or max. 3 slot proximity switches possible
8	local indication, max. 1 electr. transmitter, max. 3 electr. switches or max. 3 slot proximity switches possible
9	local indication, max. 1 electr. transmitter possible
3. scale	
1	0.. 5,4m
2	0..10,8m
3	0..18 feet
4	0..36 feet
5	single pointer style (f.e.: mm, %, inches)
Y3	other
	-
4. classification	
GL	Germanischer Lloyd; approval: 87 365-82 HH
Y4	other
5. transmitter (depends on classification)	
0	without
E	1 electr. transmitter; output signal: (0)4...20 mA power supply: 12...30 V; -20...70 °C; Genauigkeit: <= 1,5%
Y5	other
6. switch (depends on classification)	
00	without
B1	1 slot proximity switch type B
B2	2 slot proximity switches type B
B3	3 slot proximity switches type B
B4	4 slot proximity switches type B
C1	1 electr. switch type C
C2	2 electr. switches type C
C3	3 electr. switches type C
C4	4 electr. switches type C
Y6	other
7. float	
A	Ø235x94mm; 1.4571; min. 0,5 kg/dm ³ ; max. 3,5 bar; max. 250 °C
B	Ø140x178mm; 1.4571; min. 0,7 kg/dm ³ ; max. 5 bar; max. 250 °C
C1	Ø190x184mm; 1.4571; min. 0,75 kg/dm ³ ; max. 25 bar; max. 250 °C
C2	Ø229x206mm; 1.4571; min. 0,58 kg/dm ³ ; max. 18 bar; max. 250 °C
C3	Ø267x254mm; 1.4571; min. 0,35 kg/dm ³ ; max. 8,5 bar; max. 250 °C
F1	Ø133x140mm; PP; min. 0,65 kg/dm ³ ; max. 7 bar; max. 60 °C
F2	Ø133x140mm; PVC; min. 0,8 kg/dm ³ ; max. 7 bar; max. 60 °C
T	Ø94x240mm; 3.7035 (titanium); min. 0,58 kg/dm ³ ; max. 18 bar; max. 250 °C
Y7	other
8. interface level measurement <i>[min. difference in density: 0,2 kg/dm³ (0,4 kg/dm³ f. glass)]</i>	
0	without
E	Interface level measurement
Y8	other
9. coating (except float type G)	
0	without
H	float coating halar (except float type G)
P	float coating PVDF (except float type G)
Y9	other

Order code Maglink series 5300 (continued)

10. guide tube length			
RM	guide tube; Ø32x2mm; $L \leq 3000\text{mm}$		length in mm
RZ	guide tube; 1" Sch40; $L > 3000\text{mm}$		length in mm
RZ5	guide tube; 1" Sch40; $L \text{ ab } 5500\text{mm}$ (meherteilig)		length in mm
11. guide tube material			
S	316Ti (Standard)		
P	PP		
Q	PVC		
L	PVDF		
Y11	other		
12. distance head/ tank mounting flange			
B0	standard, B=102mm		
BG	man hole mounting; min. base B=500mm;		add. length in mm
Y12	other		
13. tank mounting flange always identical to guide tube material			
SM	flanges acc. to DIN		
SA	flanges acc. to ANSI		
Y13	other		
14. sealing surface			
1	DIN		
2	ANSI RF		
3	ANSI RF SF (smooth finish)		
5	ANSI FF		
Y14	other		
15. PN, material and DN of the guide tube flange for tank mounting			
CC1	PN16 / 150 lbs	CS	DN50 / 2"
CC2	PN40 / 300 lbs	CS	DN50 / 2"
C01	PN16 / 150 lbs	316Ti	DN50 / 2"
C02	PN40 / 300 lbs	316Ti	DN50 / 2"
C80	PN16 / 150 lbs	PP	DN50 / 2"
C90	PN16 / 150 lbs	PVC	DN50 / 2"
CX1	PN16 / 150 lbs	316Ti/PVDF	DN50 / 2"
CX2	PN40 / 300 lbs	316Ti/PVDF	DN50 / 2"
EC1	PN16 / 150 lbs	CS	DN80 / 3"
EC2	PN40 / 300 lbs	CS	DN80 / 3"
E01	PN16 / 150 lbs	316Ti	DN80 / 3"
E02	PN40 / 300 lbs	316Ti	DN80 / 3"
E80	PN16 / 150 lbs	PP	DN80 / 3"
E90	PN16 / 150 lbs	PVC	DN80 / 3"
EX1	PN16 / 150 lbs	316Ti/PVDF	DN80 / 3"
EX2	PN40 / 300 lbs	316Ti/PVDF	DN80 / 3"
FC1	PN16 / 150 lbs	CS	DN100 / 4"
FC2	PN40 / 300 lbs	CS	DN100 / 4"
F01	PN16 / 150 lbs	316Ti	DN100 / 4"
F02	PN40 / 300 lbs	316Ti	DN100 / 4"
F80	PN16 / 150 lbs	PP	DN100 / 4"
F90	PN16 / 150 lbs	PVC	DN100 / 4"
FX1	PN16 / 150 lbs	316Ti/PVDF	DN100 / 4"
FX2	PN40 / 300 lbs	316Ti/PVDF	DN100 / 4"

Order code Maglink series 5300 (continued)

GC1	PN16 / 150 lbs	CS	DN150 / 6"
GC2	PN40 / 300 lbs	CS	DN150 / 6"
G01	PN16 / 150 lbs	316Ti	DN150 / 6"
G02	PN40 / 300 lbs	316Ti	DN150 / 6"
G80	PN16 / 150 lbs	PP	DN150 / 6"
G90	PN16 / 150 lbs	PVC	DN150 / 6"
GX1	PN16 / 150 lbs	316Ti/PVDF	DN150 / 6"
GX2	PN40 / 300 lbs	316Ti/PVDF	DN150 / 6"
HC1	PN16 / 150 lbs	CS	DN200 / 8"
HC2	PN40 / 300 lbs	CS	DN200 / 8"
H01	PN16 / 150 lbs	316Ti	DN200 / 8"
H02	PN40 / 300 lbs	316Ti	DN200 / 8"
H80	PN16 / 150 lbs	PP	DN200 / 8"
H90	PN16 / 150 lbs	PVC	DN200 / 8"
HX1	PN16 / 150 lbs	316Ti/PVDF	DN200 / 8"
HX2	PN40 / 300 lbs	316Ti/PVDF	DN200 / 8"
JC1	PN16 / 150 lbs	CS	DN250 / 10"
JC2	PN40 / 300 lbs	CS	DN250 / 10"
J01	PN16 / 150 lbs	316Ti	DN250 / 10"
J02	PN40 / 300 lbs	316Ti	DN250 / 10"
J80	PN16 / 150 lbs	PP	DN250 / 10"
J90	PN16 / 150 lbs	PVC	DN250 / 10"
JX1	PN16 / 150 lbs	316Ti/PVDF	DN250 / 10"
JX2	PN40 / 300 lbs	316Ti/PVDF	DN250 / 10"
Y15	other		
16. bottom support for guide tube length >3000mm			
0	without		
C	bottom support; material: CS/PTFE		
S	bottom support; material: 316Ti/PTFE		
Y16	other		
17. indication on side of tank (tube mat.: CS, painted; elbow mat.: alu, painted)			
0	without		
SA	with side tank indication		
18. distance tank edge (G)/ upper tank edge To eye height (H) (dim. in mm)			
G/H	G in mm / H in mm		

Order code Maglink series 5400 (Ex-approval)

1. Maglink type	
54	With explosion protection; guide tube/ float suitable for use in zone 0 in acc. PTB 04 ATEX 1102
2. Maglink head	
1	only local indication
4	local indication, max. 4 electr. switches or max. 3 slot proximity switches possible
8	local indication, max. 1 electr. transmitter, max. 3 electr. switches or max. 3 slot proximity switches possible
9	local indication, max. 1 electr. transmitter possible
3. scale	
1	0.. 5,4m
2	0..10,8m
3	0..18 feet
4	0..36 feet
5	single pointer style (f.e.: mm, %, inches)
Y3	Other
-	
4. classification	
D	Ex II 1/2 G EEx ed IIC T4; PTB 04 ATEX 1102; - only in conjunction with type 544.. – suitable for class I, div. 1, group A, T4 “flame proofed”
I	Ex II 1/2 G EEx ia IIC T4; PTB 04 ATEX 1102; - only in conjunction with type 544../ 548/ 549.. – suitable for class I, div. 1, group A, T4 “intrinsically safe”
GL	Germanischer Lloyd; approval: 87 365-82 HH
Y4	other
5. transmitter (depends on classification)	
0	without
E	1 electr. transmitter; output signal: (0)4...20 mA; [Ex II 2 G EEx ia IIC T6]; power supply: 12...30 V; -20...70 °C; Genauigkeit: <= 1,5%
Y5	other
6. switch (depends on classification)	
00	without
B1	1 slot proximity switch type B; [Ex II 2 G EEx ia IIC T6]
B2	2 slot proximity switches type B; [Ex II 2 G EEx ia IIC T6]
B3	3 slot proximity switches type B; [Ex II 2 G EEx ia IIC T6]
B4	4 slot proximity switches type B; [Ex II 2 G EEx ia IIC T6]
C1	1 electr. switch type C; [II 2 G EEx de II C resp. EExd II C]
C2	2 electr. switches type C; [II 2 G EEx de II C resp. EExd II C]
C3	3 electr. switches type C; [II 2 G EEx de II C resp. EExd II C]
C4	4 electr. switches type C; [II 2 G EEx de II C resp. EExd II C]
Y6	other
7. float	
A	Ø235x94mm; 1.4571; min. 0,5 kg/dm ³ ; max. 3,5 bar; max. 250 °C
B	Ø140x178mm; 1.4571; min. 0,7 kg/dm ³ ; max. 5 bar; max. 250 °C
C1	Ø190x184mm; 1.4571; min. 0,75 kg/dm ³ ; max. 25 bar; max. 250 °C
C2	Ø229x206mm; 1.4571; min. 0,58 kg/dm ³ ; max. 18 bar; max. 250 °C
C3	Ø267x254mm; 1.4571; min. 0,35 kg/dm ³ ; max. 8,5 bar; max. 250 °C
F1	Ø133x140mm; PP; min. 0,65 kg/dm ³ ; max. 7 bar; max. 60 °C
F2	Ø133x140mm; PVC; min. 0,8 kg/dm ³ ; max. 7 bar; max. 60 °C
T	Ø94x240mm; 3.7035 (titanium); min. 0,58 kg/dm ³ ; max. 18 bar; max. 250 °C
Y7	other
8. interface level measurement [min. difference in density: 0,2 kg/dm ³ (0,4 kg/dm ³ f. glass)]	
0	without
E	Interface level measurement
Y8	other
9. coating (except float type G)	
0	without
H	float coating halar (except float type G)
P	float coating PVDF (except float type G)
Y9	other

Order code Maglink series 5400 (continued)

10. guide tube length			
RM	guide tube; Ø32x2mm; <i>L ≤ 3000mm</i>		length in mm
RZ	guide tube; 1" Sch40; <i>L > 3000mm</i>		length in mm
RZ5	guide tube; 1" Sch40; <i>L ab 5500mm (mehrteilig)</i>		length in mm
11. guide tube material			
S	316Ti (Standard)		
P	PP		
Q	PVC		
L	PVDF		
Y11	other		
12. distance head/ tank mounting flange			
B0	standard, B=102mm		
BG	man hole mounting; min. base B=500mm;		add. length in mm
Y12	other		
13. tank mounting flange			
always identical to guide tube material			
SM	flanges acc. to DIN		
SA	flanges acc. to ANSI		
Y13	other		
14. sealing surface			
1	DIN		
2	ANSI RF		
3	ANSI RF SF (smooth finish)		
5	ANSI FF		
Y14	other		
15. PN, material and DN of the guide tube flange for tank mounting			
CC1	PN16 / 150 lbs	CS	DN50 / 2"
CC2	PN40 / 300 lbs	CS	DN50 / 2"
C01	PN16 / 150 lbs	316Ti	DN50 / 2"
C02	PN40 / 300 lbs	316Ti	DN50 / 2"
C80	PN16 / 150 lbs	PP	DN50 / 2"
C90	PN16 / 150 lbs	PVC	DN50 / 2"
CX1	PN16 / 150 lbs	316Ti/PVDF	DN50 / 2"
CX2	PN40 / 300 lbs	316Ti/PVDF	DN50 / 2"
EC1	PN16 / 150 lbs	CS	DN80 / 3"
EC2	PN40 / 300 lbs	CS	DN80 / 3"
E01	PN16 / 150 lbs	316Ti	DN80 / 3"
E02	PN40 / 300 lbs	316Ti	DN80 / 3"
E80	PN16 / 150 lbs	PP	DN80 / 3"
E90	PN16 / 150 lbs	PVC	DN80 / 3"
EX1	PN16 / 150 lbs	316Ti/PVDF	DN80 / 3"
EX2	PN40 / 300 lbs	316Ti/PVDF	DN80 / 3"
FC1	PN16 / 150 lbs	CS	DN100 / 4"
FC2	PN40 / 300 lbs	CS	DN100 / 4"
F01	PN16 / 150 lbs	316Ti	DN100 / 4"
F02	PN40 / 300 lbs	316Ti	DN100 / 4"
F80	PN16 / 150 lbs	PP	DN100 / 4"
F90	PN16 / 150 lbs	PVC	DN100 / 4"
FX1	PN16 / 150 lbs	316Ti/PVDF	DN100 / 4"
FX2	PN40 / 300 lbs	316Ti/PVDF	DN100 / 4"

Order code Maglink series 5400 (continued)

GC1	PN16 / 150 lbs	CS	DN150 / 6"
GC2	PN40 / 300 lbs	CS	DN150 / 6"
G01	PN16 / 150 lbs	316Ti	DN150 / 6"
G02	PN40 / 300 lbs	316Ti	DN150 / 6"
G80	PN16 / 150 lbs	PP	DN150 / 6"
G90	PN16 / 150 lbs	PVC	DN150 / 6"
GX1	PN16 / 150 lbs	316Ti/PVDF	DN150 / 6"
GX2	PN40 / 300 lbs	316Ti/PVDF	DN150 / 6"
HC1	PN16 / 150 lbs	CS	DN200 / 8"
HC2	PN40 / 300 lbs	CS	DN200 / 8"
H01	PN16 / 150 lbs	316Ti	DN200 / 8"
H02	PN40 / 300 lbs	316Ti	DN200 / 8"
H80	PN16 / 150 lbs	PP	DN200 / 8"
H90	PN16 / 150 lbs	PVC	DN200 / 8"
HX1	PN16 / 150 lbs	316Ti/PVDF	DN200 / 8"
HX2	PN40 / 300 lbs	316Ti/PVDF	DN200 / 8"
JC1	PN16 / 150 lbs	CS	DN250 / 10"
JC2	PN40 / 300 lbs	CS	DN250 / 10"
J01	PN16 / 150 lbs	316Ti	DN250 / 10"
J02	PN40 / 300 lbs	316Ti	DN250 / 10"
J80	PN16 / 150 lbs	PP	DN250 / 10"
J90	PN16 / 150 lbs	PVC	DN250 / 10"
JX1	PN16 / 150 lbs	316Ti/PVDF	DN250 / 10"
JX2	PN40 / 300 lbs	316Ti/PVDF	DN250 / 10"
Y15	other		
16. bottom support for guide tube length >3000mm			
0	without		
C	bottom support; material: CS/PTFE		
S	bottom support; material: 316Ti/PTFE		
Y16	other		
17. indication on side of tank (tube mat.: CS, painted; elbow mat.: alu, painted)			
0	without		
SA	with side tank indication		
18. distance tank edge (G)/ upper tank edge To eye height (H) (dim. in mm)			
G/H	G in mm / H in mm		

Order code Maglink series Nautic-5400 (Ex-approval)

1. Maglink type	
N-54	Nautic with explosion protection; guide tube/ float suitable for use in zone 0 in acc. PTB 04 ATEX 1102
2. Maglink head	
1	only local indication
4	local indication, max. 4 electr. switches or max. 3 slot proximity switches possible
3. scale	
2	0..10,8m
4	0..36 feet
5	single pointer style (f.e.: mm, %, inches)
Y3	Other
	-
4. classification	
D	Ex II 1/2 G EEx ed IIC T4; PTB 04 ATEX 1102; - only in conjunction with type 544.. – suitable for class I, div. 1, group A, T4 "flame proofed"
I	Ex II 1/2 G EEx ia IIC T4; PTB 04 ATEX 1102; - only in conjunction with type 544../ 548/ 549.. – suitable for class I, div. 1, group A, T4 "intrinsically safe"
GL	Germanischer Lloyd; approval: 87 365-82 HH
Y4	other
5. transmitter (depends on classification)	
0	without
6. switch (depends on classification)	
00	without
B1	1 slot proximity switch type B; [Ex II 2 G EEx ia IIC T6]
B2	2 slot proximity switch type B; [Ex II 2 G EEx ia IIC T6]
C1	1 electr. switch type C; [II 2 G EEx de II C resp. EExd II C]
C2	2 electr. switch type C; [II 2 G EEx de II C resp. EExd II C]
Y6	other
7. float	
A	Ø235x94mm; 1.4571; min. 0,5 kg/dm ³ ; max. 3,5 bar; max. 250 °C
B	Ø140x178mm; 1.4571; min. 0,7 kg/dm ³ ; max. 5 bar; max. 250 °C
C1	Ø190x184mm; 1.4571; min. 0,75 kg/dm ³ ; max. 25 bar; max. 250 °C
C2	Ø229x206mm; 1.4571; min. 0,58 kg/dm ³ ; max. 18 bar; max. 250 °C
C3	Ø267x254mm; 1.4571; min. 0,35 kg/dm ³ ; max. 8,5 bar; max. 250 °C
F1	Ø133x140mm; PP; min. 0,65 kg/dm ³ ; max. 7 bar; max. 60 °C
F2	Ø133x140mm; PVC; min. 0,8 kg/dm ³ ; max. 7 bar; max. 60 °C
T	Ø94x240mm; 3.7035 (titanium); min. 0,58 kg/dm ³ ; max. 18 bar; max. 250 °C
Y7	other
8. interface level measurement	
[min. difference in density: 0,2 kg/dm³ (0,4 kg/dm³ f. glass)]	
0	without
E	Interface level measurement
Y8	other
9. coating (except float type G)	
0	without
H	float coating halar (except float type G)
P	float coating PVDF (except float type G)
Y9	other

Order code Maglink series Nautic-5400 (continued)

10. guide tube length			
RZ	guide tube; 1" Sch40; L > 3000mm		length in mm
RZ5	guide tube; 1" Sch40; L ab 5500mm (meherteilig)		length in mm
11. guide tube material			
S	316Ti (Standard)		
P	PP		
Q	PVC		
L	PVDF		
Y11	other		
12. distance head/ tank mounting flange			
B0	standard, B=102mm		
BG	man hole mounting; min. base B=500mm;		add. length in mm
Y12	other		
13. tank mounting flange always identical to guide tube material			
SM	flanges acc. to DIN		
SA	flanges acc. to ANSI		
Y13	other		
14. sealing surface			
1	DIN		
2	ANSI RF		
3	ANSI RF SF (smooth finish)		
5	ANSI FF		
Y14	other		
15. PN, material and DN of the guide tube flange for tank mounting			
CC1	PN16 / 150 lbs	CS	DN50 / 2"
CC2	PN40 / 300 lbs	CS	DN50 / 2"
C01	PN16 / 150 lbs	316Ti	DN50 / 2"
C02	PN40 / 300 lbs	316Ti	DN50 / 2"
C80	PN16 / 150 lbs	PP	DN50 / 2"
C90	PN16 / 150 lbs	PVC	DN50 / 2"
CX1	PN16 / 150 lbs	316Ti/PVDF	DN50 / 2"
CX2	PN40 / 300 lbs	316Ti/PVDF	DN50 / 2"
EC1	PN16 / 150 lbs	CS	DN80 / 3"
EC2	PN40 / 300 lbs	CS	DN80 / 3"
E01	PN16 / 150 lbs	316Ti	DN80 / 3"
E02	PN40 / 300 lbs	316Ti	DN80 / 3"
E80	PN16 / 150 lbs	PP	DN80 / 3"
E90	PN16 / 150 lbs	PVC	DN80 / 3"
EX1	PN16 / 150 lbs	316Ti/PVDF	DN80 / 3"
EX2	PN40 / 300 lbs	316Ti/PVDF	DN80 / 3"
FC1	PN16 / 150 lbs	CS	DN100 / 4"
FC2	PN40 / 300 lbs	CS	DN100 / 4"
F01	PN16 / 150 lbs	316Ti	DN100 / 4"
F02	PN40 / 300 lbs	316Ti	DN100 / 4"
F80	PN16 / 150 lbs	PP	DN100 / 4"
F90	PN16 / 150 lbs	PVC	DN100 / 4"
FX1	PN16 / 150 lbs	316Ti/PVDF	DN100 / 4"
FX2	PN40 / 300 lbs	316Ti/PVDF	DN100 / 4"

Order code Maglink series Nautic-5400 (continued)

GC1	PN16 / 150 lbs	CS	DN150 / 6"
GC2	PN40 / 300 lbs	CS	DN150 / 6"
G01	PN16 / 150 lbs	316Ti	DN150 / 6"
G02	PN40 / 300 lbs	316Ti	DN150 / 6"
G80	PN16 / 150 lbs	PP	DN150 / 6"
G90	PN16 / 150 lbs	PVC	DN150 / 6"
GX1	PN16 / 150 lbs	316Ti/PVDF	DN150 / 6"
GX2	PN40 / 300 lbs	316Ti/PVDF	DN150 / 6"
HC1	PN16 / 150 lbs	CS	DN200 / 8"
HC2	PN40 / 300 lbs	CS	DN200 / 8"
H01	PN16 / 150 lbs	316Ti	DN200 / 8"
H02	PN40 / 300 lbs	316Ti	DN200 / 8"
H80	PN16 / 150 lbs	PP	DN200 / 8"
H90	PN16 / 150 lbs	PVC	DN200 / 8"
HX1	PN16 / 150 lbs	316Ti/PVDF	DN200 / 8"
HX2	PN40 / 300 lbs	316Ti/PVDF	DN200 / 8"
JC1	PN16 / 150 lbs	CS	DN250 / 10"
JC2	PN40 / 300 lbs	CS	DN250 / 10"
J01	PN16 / 150 lbs	316Ti	DN250 / 10"
J02	PN40 / 300 lbs	316Ti	DN250 / 10"
J80	PN16 / 150 lbs	PP	DN250 / 10"
J90	PN16 / 150 lbs	PVC	DN250 / 10"
JX1	PN16 / 150 lbs	316Ti/PVDF	DN250 / 10"
JX2	PN40 / 300 lbs	316Ti/PVDF	DN250 / 10"
Y15	other		
	16. bottom support for guide tube length >3000mm		
0	without		
C	bottom support; material: CS/PTFE		
S	bottom support; material: 316Ti/PTFE		
Y16	other		

Specification sheet for MAGLINK

General Information

Customer

Ref.-no. :

TAG-no.:

Tank data

Tank height (inside) :

Tank form :

Tank connection : DIN-flange ANSI-flange

Nominal diameter

Nominal pressure :

Material :

Medium data

Fluid :

Concentration :

Temperature :

Pressure

Desired version

standard EEx i EEx d GL

indication +switches (quantity) + 1x transmitter

Mounting options/ dimensions

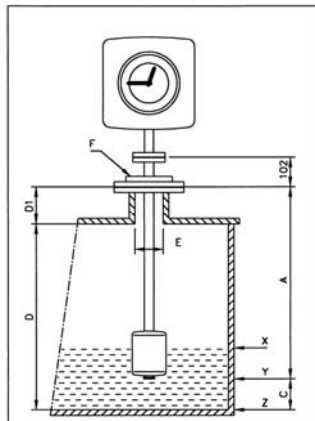


Fig. 05: standard mounting on tank nipple

Dim	Description	Value	
A	Guiding tube length		mm
C	Distance guiding tube / tank bottom		mm
D	Tank height (inside)		mm
D1	Height manhole pit		mm
E	Bore of manhole pit		mm
F	Flange size/ -pressure rating		

Scale zero point at :

X	Immersion depth of float	<input type="text"/>
Y	End of guiding tube	<input type="text"/>
Z	Tank bottom	<input type="text"/>

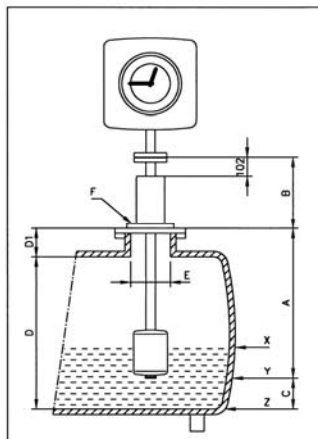


Fig. 06: mounting auf manhole-cover with reinforcement

Dim	Description	Value	
A	Guiding tube length		mm
C	Distance guiding tube / tank bottom		mm
D	Tank height (inside)		mm
D1	Height manhole pit		mm
E	Bore of manhole pit		mm
F	Flange size/ -pressure rating		

Scale zero point at :

X	Immersion depth of float	<input type="text"/>
Y	End of guiding tube	<input type="text"/>
Z	Tank bottom	<input type="text"/>

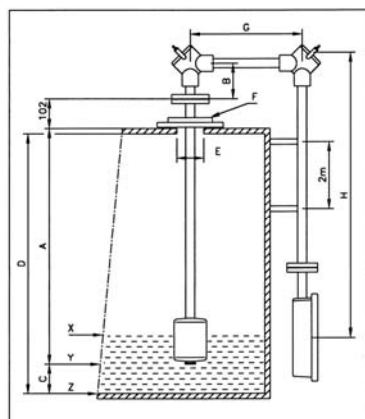


Fig. 07: mounting on the side of the tank with lowered display

Dim	Description	Value	
A	Guiding tube length		mm
C	Distance guiding tube / tank bottom		mm
D	Tank height (inside)		mm
D1	Height manhole pit		mm
E	Bore of manhole pit		mm
F	Flange size/ -pressure rating		

Scale zero point at :

X	Immersion depth of float	<input type="text"/>
Y	End of guiding tube	<input type="text"/>
Z	Tank bottom	<input type="text"/>

Besides the products covered by this brochure, Intra-Automation GmbH also manufactures other high-quality and high precision instruments for industrial measurement tasks. For more information, please contact us (contact details on the backside of this brochure).

Flow measurement



Itabar®-Flow Sensor



IntraSonic IS210 Ultrasonic Flow Meter

Level measurement



ITA-mag. Level Gauge



MAGLINK Level Indicator

Other Measurement Tasks:



DigiFlow Flow and Level Computers



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