

FB06

Bypass Level Indicator

- **detection and display of the filling level of liquids, even aggressive, turbulent, dirty, flammable, hot and toxic media**
- **simple, robust and unbreakable construction**
- **pressure- and gas-tight separation of measuring and display room**
- **pressure ranges from vacuum to 400 bar**
- **temperature range from -196 °C to +450 °C**
- **level indicator without auxiliary energy**
- **transmitter and/or alarm contacts available**
- **process- and procedure-specific fabrication**



Description:

The FB06 bypass level indicators consist of a standpipe which is attached to the side of a vessel as a communicating vessel via process connections (flange, threaded or welded spigots). Due to this mounting, the level in the standpipe corresponds to the level in the vessel. A cylinder float located in the standpipe with integrated permanent magnet system transmits this level without contact to an externally mounted roller or flap display and / or actuates a transmitter and / or alarm contacts.

Typical applications:

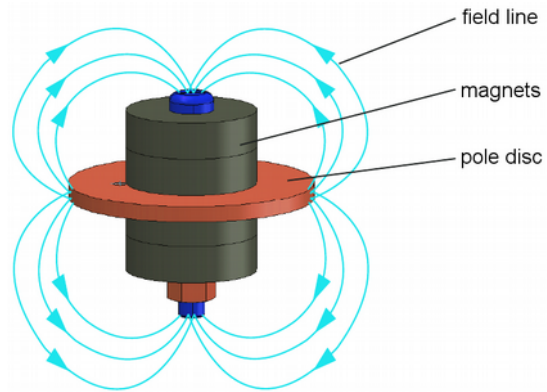
By using a wide variety of materials, the bypass level indicators can be used in all industrial sectors. Machinery and tank construction water treatment, environmental technology chemical industry, petrochemical industry, offshore, shipbuilding energy plants, power stations pharmaceutical industry, food industry.

Models:

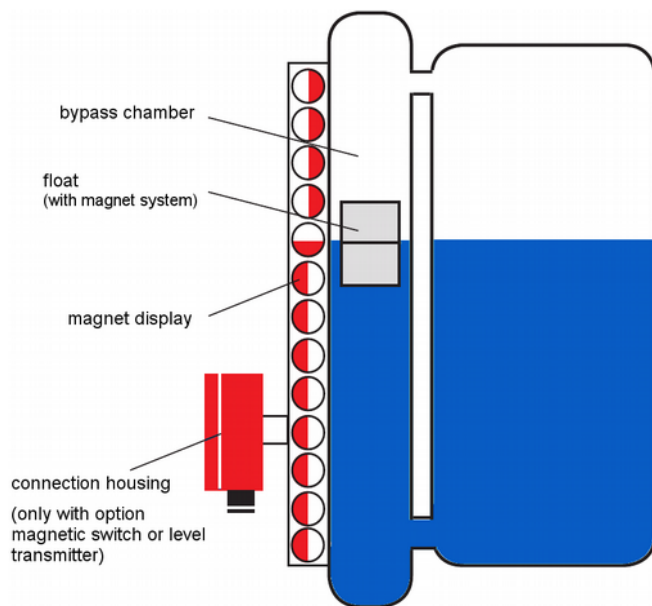
FB06.M:	miniature version, max. 40 bar
FB06.S:	standard version, max. 100 bar
FB06.H:	high pressure version, max. 385 bar
FB06.W:	materials titanium, Hastelloy st. steel 6 Mo 1.4547, max. 250 bar
FB06.B:	with internal coating E-CTFE or PTFE, max. 16 bar
FB06.K:	plastic version, max. 6 bar

Magnet system:

The magnet system is assembled from a pole disc and various magnets. The magnets can be individually adapted to the different chamber dimensions and temperatures up to 450 °C. The magnets can be mounted on a pole disc.



Principle diagram:



Design and function:

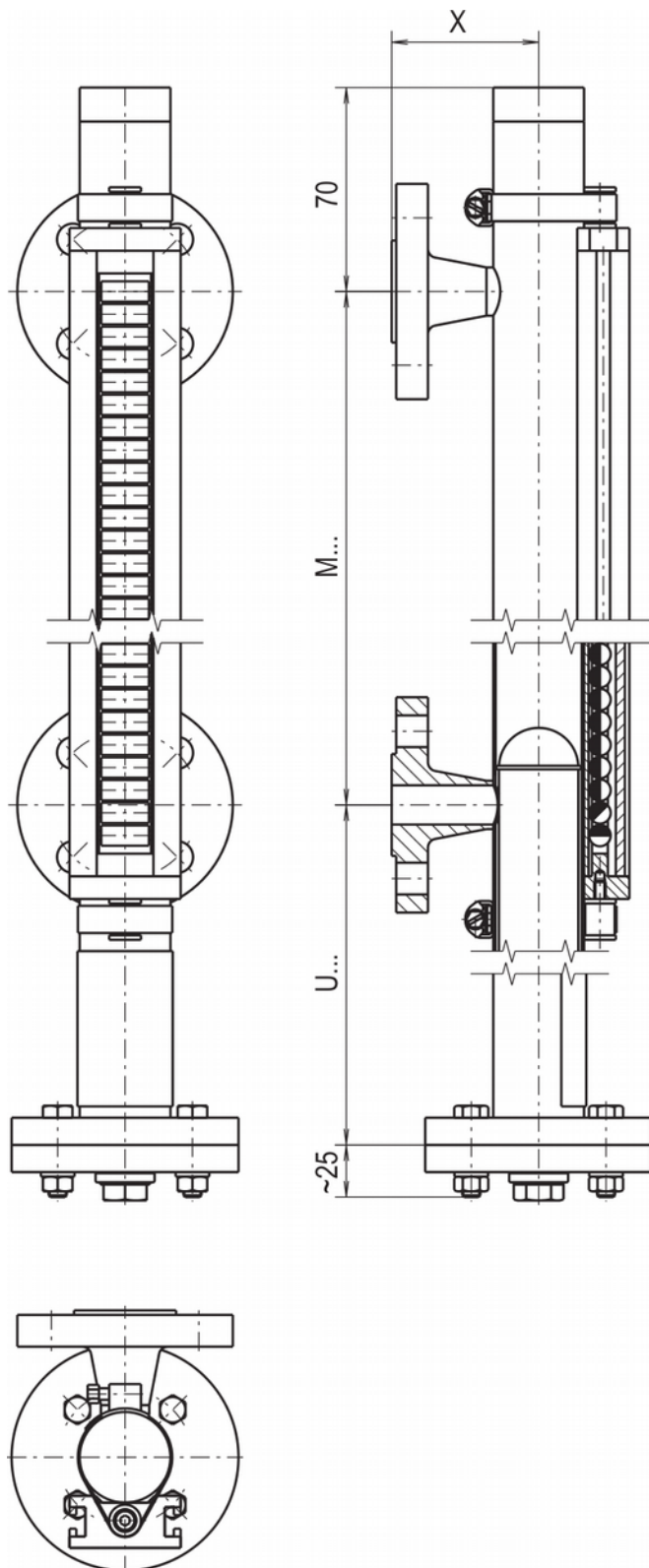
- a float moves with the liquid level of the medium to be measured in a bypass tube mounted on the side of a vessel to communicate with it.
- the radially symmetrical magnet system positioned in the float simultaneously activates the magnetic indicator mounted on the outside of the bypass tube as well as the switching and measuring elements with its magnetic field.

Additional features:

- simple, robust and unbreakable construction, long service life
- bypass tube and float made of stainless steel 1.4571, 1.4404 or special materials
- pressure- and gas-tight separation between measurement and display room
- detection and display of the filling level of a strong aggressive, flammable, poisonous, hot and strong dirty media
- the function of the magnetic display is also available in case of power failure warranted
- can be used in all industrial sectors due to the use of a wide variety of corrosion-resistant materials.
- constant detection of the filling level, independent of physical-chemical changes in the state of the measuring media such as: foam formation, conductivity, dielectric, pressure, vacuum, temperature, vapours, condensation blistering, boiling effects
- interface layer level measurement from Δ -density 100 kg/m³
- special designs: food conform, coatings, liquid gas, heating jacket

Bypass-level-indicator FB06.M... miniature version

Bypass tube made of stainless steel



M = center distance of the process connections
 U = float length (min. 150 mm)
 X = according to process connection

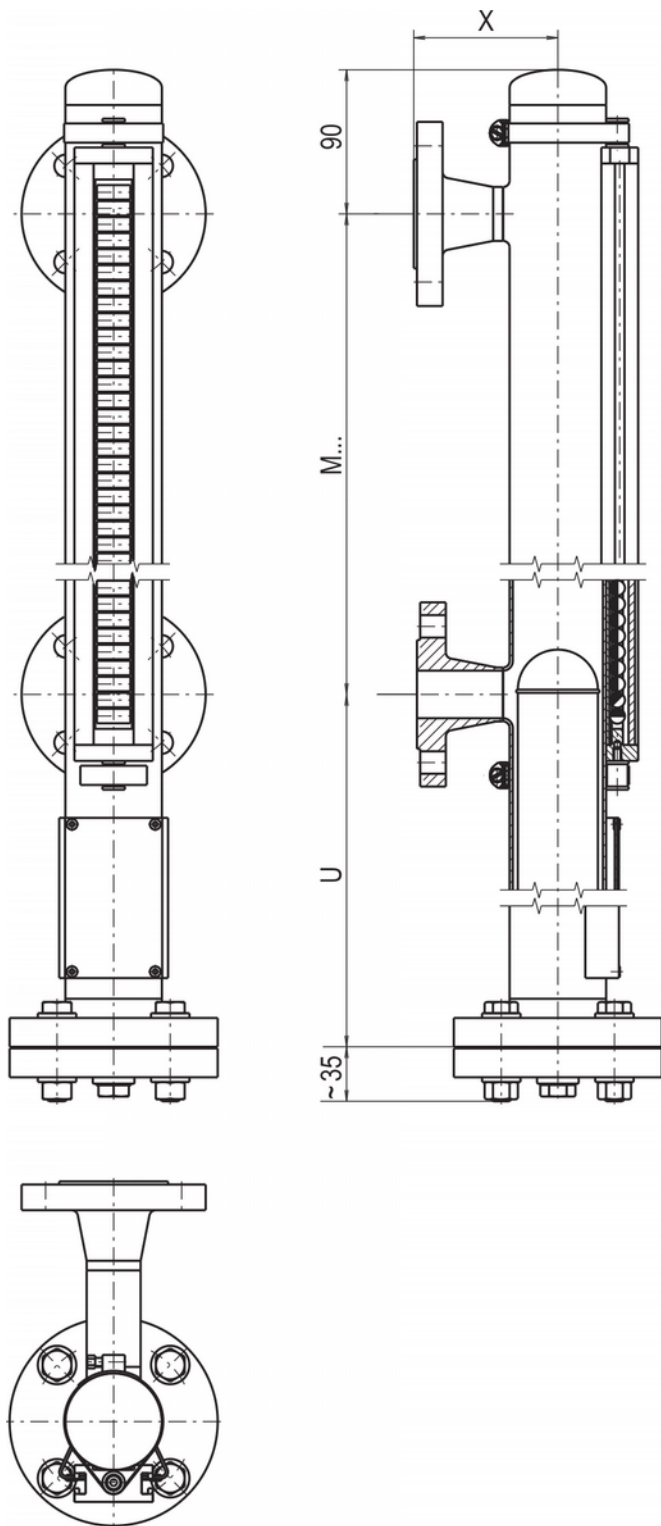
Technical Data:

Bypass tube:	Ø 42,2 x 2 mm, max. 40 bar
Pipe end at top:	tube sheet or flange connection options: <ul style="list-style-type: none"> • venting screw • venting valve • venting flange
Pipe end below:	flange connection options: <ul style="list-style-type: none"> • drain screw • drain valve • drain flange
Process connections 2x lateral:	<ul style="list-style-type: none"> • flange EN 1092-1 DN 10 - DN 100, PN 6 - PN 63 • flange DIN 1092-1 DN 10 - DN 100, PN 6 - PN 64 • flange ANSI B 16.5, 1/2" - 4", class 150 – class 600 • welding nozzle 1/2" - 1" • threaded socket G/NPT 1/2" - 1" • threaded nozzle G/NPT 1/2" - 1"
Center distance:	Min. 150 mm up to max. 5.000 mm
Material:	CrNi-Steel 1.4571 (316Ti)
Nominal pressure:	Max. 40 bar
Temperature range:	-169 ... +200 °C
Float:	cylinder floa
Magnetic display:	rolls, white/red
Level transmitter:	Reed-transmitter
Magnetic switch:	see separate chapter "magnetic switch"
Approvals:	Ex c, GL, DNV

Special versions on request

Bypass level indicator FB06.S... standard version

Bypass tube made of stainless steel



M = center distance of the process connections
 U = float length (min. 200 mm)
 X = according to process connection

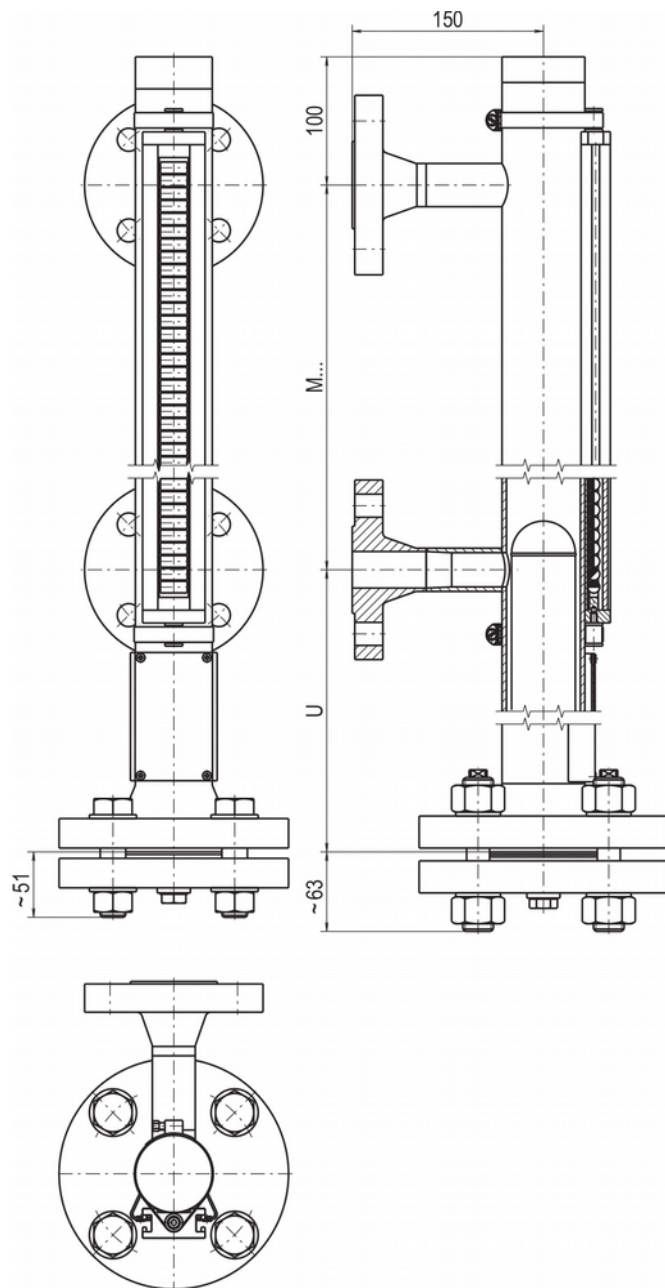
Technical Data:

Bypass tube:	Ø 60,3 x 2 mm, max. 63 bar Ø 60,3 x 2,77 mm, max. 100 bar
Pipe end at top:	tube sheet or flange connection options: • venting screw • venting valve • venting flange
Pipe end below:	flange connection options: • drain screw • drain valve • drain flange
Process connections 2x lateral:	<ul style="list-style-type: none"> • flange EN 1092-1 DN 10 - DN 100, PN 6 - PN 63 • flange DIN 1092-1 DN 10 - DN 100, PN 6 - PN 64 • flange ANSI B 16.5, 1/2" - 4", class 150 - class 600 • welding nozzle 1/2" - 1" • threaded socket G/NPT 1/2" - 1" • threaded nozzle G/NPT 1/2" - 1"
Center distance:	Min. 150 mm bis max. 6.000 mm (larger distances on request)
Material:	st. steel 1.4571 (316Ti), 1.4404 (316L), 1.4401/1.4404 (316/316L)
Nominal pressure:	max. 64 bar
Temperature range:	-196 ... +450 °C
Float:	cylinder float or beading float
Magnetic display:	standard version: up to 200 °C, high temperature version: up to 450 °C
Level transmitter:	reed- transmitter
Magnetic switch:	see separate chapter "magnetic switch"
Approvals:	Ex c, GL, DNV, ABS

Special versions on request

Bypass level indicator FB06.H... high pressure version

Bypass tube made of stainless steel



M = center distance of the process connections
U = float length (min. 220 mm)

Technical Data:

Bypass tube:

1.4571: Ø 60,3 x 3,91 mm, max. 160 bar
Ø 76,1 x 5 mm, max. 100 bar
Ø 71 x 7,5 mm, max. 250 bar
Ø 76,1 x 10 mm, max. 385 bar

14401 / 1.4404: Ø 60,3 x 3,91 mm, max. 160 bar
Ø 30.3 x 5.54 mm, max. 250 bar
Ø 73 x 7,01 mm, max. 150 bar

Pipe end at top:

tube sheet or flange connection options:
• venting screw
• venting valve
• venting flange

Pipe end below:

Flange connection options:
• drain screw
• drain valve
• drain flange

Process connections 2x lateral:

- flange EN 1092-1
DN 10 - DN 100, PN 63 - PN 400
- flange DIN 1092-1
DN 10 - DN 100, PN 64 - PN 400
- flange ANSI B 16.5, 1/2" - 4",
class 600 – class 2.500
- welding nozzle 1/2" - 1"
- threaded socket G/NPT 1/2" - 1"
- threaded nozzle G/NPT 1/2" - 1"

Center distance:

min. 150 mm bis max. 6.000 mm
(larger distances on request)

Material:

st. steel 1.4571
st. steel 1.4401 / 1.4404

Nominal pressure:

max. 400 bar

Temperature range:

-196 ... +450 °C

Float:

cylinder float, ball segment float or
foam float

Magnetic display:

standard version: up to 200 °C
high temperature version: up to 450 °C

Level transmitter:

reed- transmitter

Magnetic switch:

see separate chapter "magnetic
switch"

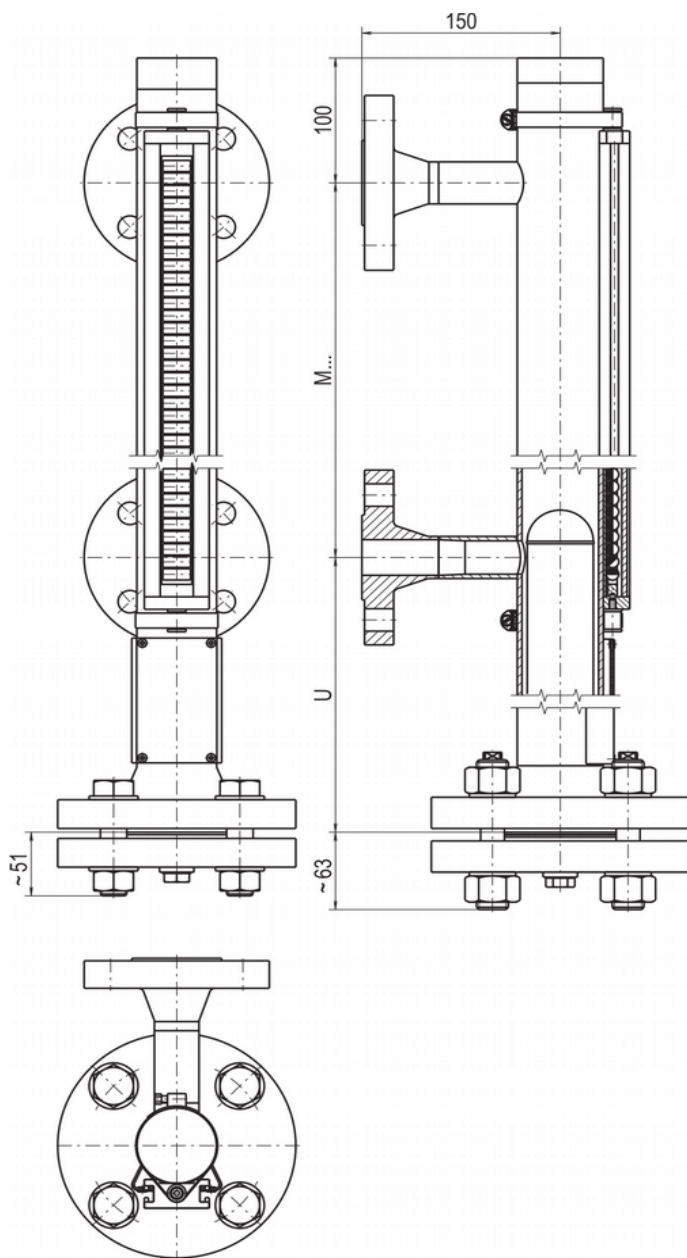
Approvals:

Ex c, GL, DNV

Special versions on request

Bypass level indicator FB06.W... special version

Bypass tube made of titanium, Hastelloy or stainless steel 6 Mo 1.4547



M = center distance of the process connections
U = float length (min. 220 mm)

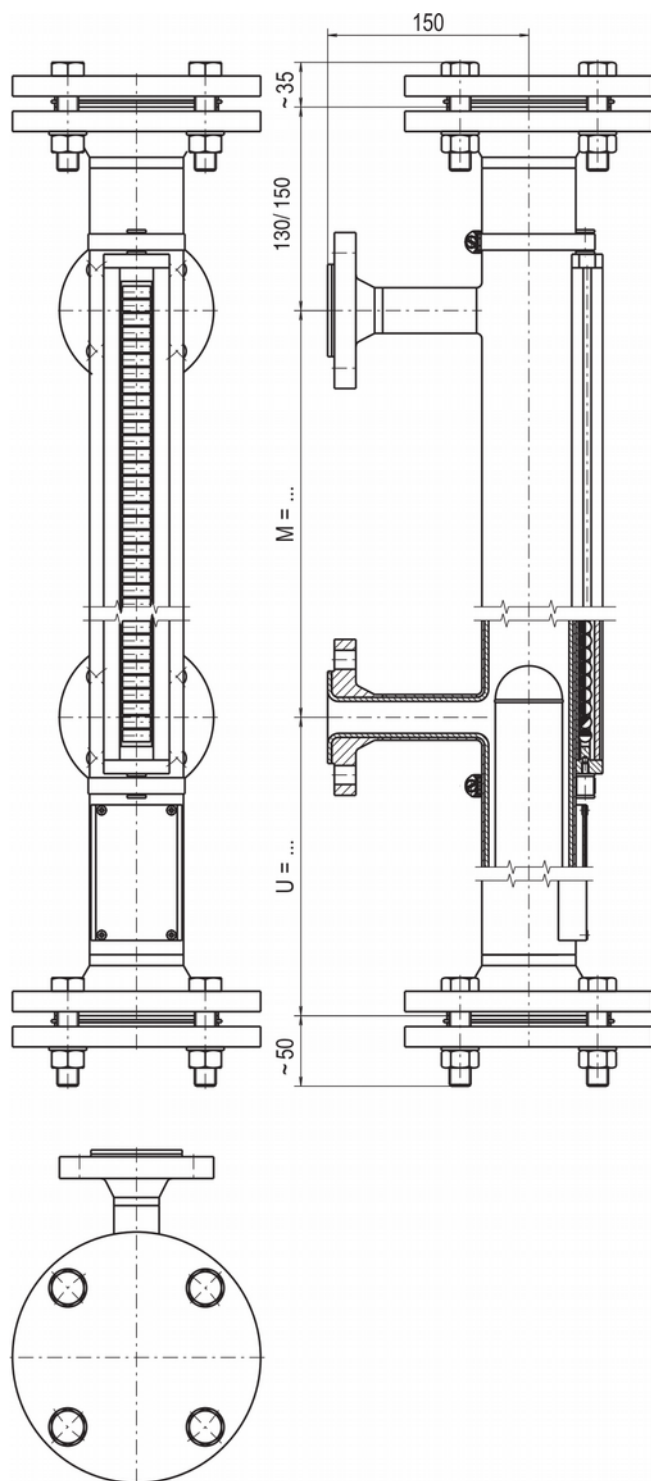
Technical Data:

Material:	Titan 3.7035	Hastelloy C276	St. steel 6Mo 1.4547 (UNS S31254)
Bypass tube:	Ø 60,3 x 2 mm, max. 16 bar Ø 60,3 x 2,77 mm, max. 40 bar	Ø 60,3 x 2,77 mm, max. 50 bar, Ø 60,3 x 3,91 mm, max. 160 bar	Ø 60,3 x 2,77 mm, max. 50 bar, Ø 60,3 x 3,91 mm, max. 160 bar, Ø 60,3 x 5,54 mm, max. 250 bar
Pipe end at top:	tube sheet or flange connection options: <ul style="list-style-type: none"> • venting screw • venting valve • venting flange 		
Pipe end below:	Flange connection options: <ul style="list-style-type: none"> • drain screw • drain valve • drain flange 		
Process connections 2x lateral:	flange EN 1092-1, DN 10 - DN 100, PN 6-PN 63 flange DIN 1092-1, DN 10 - DN 100, PN 6 - PN 64 flange ANSI B 16.5, 1/2" - 4", class 150 - class 600	flange EN 1092-1, DN 10 - DN 100, PN 6 - PN 400 flange DIN 1092-1, DN 10-DN 100, PN 6-PN 400 flange ANSI B 16.5, 1/2" - 4", class 150 - class 2500	flange EN 1092-1, DN 10- DN100, PN 63- PN 400 flange DIN 1092-1, DN 10-DN 100, PN 64-PN 400 flange ANSI B 16.5, 1/2" - 4", class 600 - class 2.500
Center distance:	min. 150 mm bis max. 6.000 mm (larger distances on request)		
Nominal pressure:	max. 40 bar	max. 160 bar	max. 250 bar
Temperature range:	-196 ... +450 °C		
Float:	cylinder float or beading float (titanium 3.7035 and st. steel 1.4547)		
Magnetic display:	standard version: up to 200 °C high temperature version: up to 450 °C		
Level transmitter:	reed- transmitter		
Magnetic switch:	see separate chapter "magnetic switch"		
Approvals:	Ex c, GL, DNV Ex c, GL, DNV -		

Special versions on request

Bypass level indicator FB06.B... with internal coating

Bypass tube st. steel with internal coating E-CTFE or PTFE



M = center distance of the process connections
U = float length (min. 200 mm)

Technical Data:

Material: stainless steel 1.4571 with internal coating

	E-CTFE	PTFE
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Bypass tube:	Ø 64 x 2 mm, max. 16 bar	Ø 70 x 2 mm, max. 10 bar
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Pipe end at top: flange connection options:
• venting flange

Pipe end below: flange connection options:
• drain flange

Process connections
2x lateral:

- flange EN 1092-1
DN 10 - DN 100, PN 6 - PN 16
- flange DIN 1092-1
DN 10 - DN 50, PN 6 - PN 16
- flange ANSI B 16.5, 1/2" - 4",
class 150 - class 300

Center distance: from 150 mm
total pipe length max. 2.500 mm
for total pipe length >2.500 mm: bypass
tube divided by flange connection

Nominal pressure:	max. 16 bar	max. 10 bar
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Temperature range: medium-dependent

Float: cylinder float

Magnetic display: standard version

Level transmitter: reed- transmitter

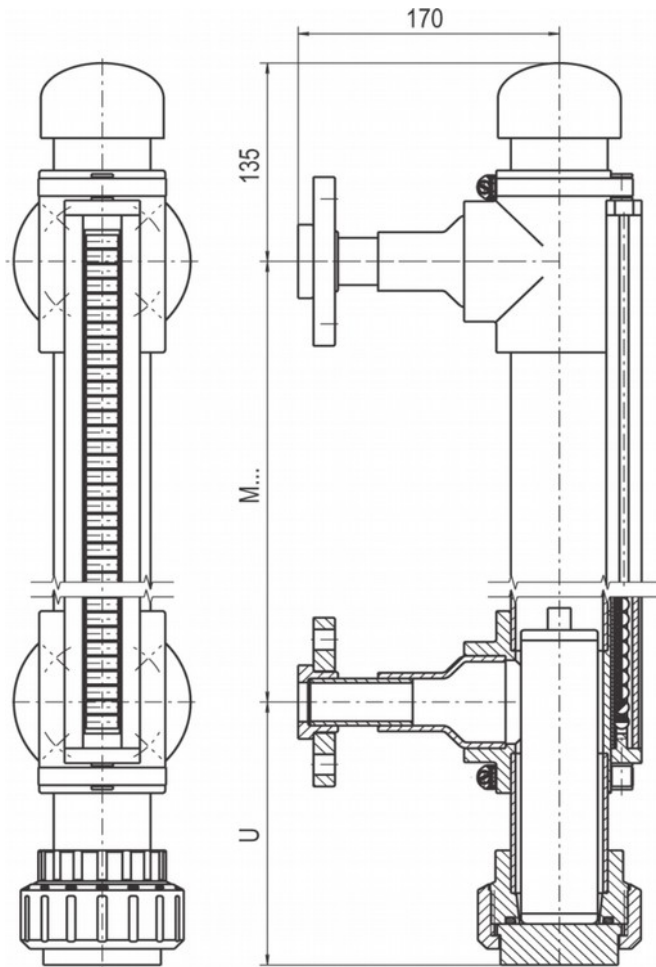
Magnetic switch: see separate chapter "magnetic switch"

Approvals: -

Special versions on request

Bypass level indicator FB06.K... plastic version

Bypass tube and float made of PVDF or PP



M = center distance of the process connections
U = float length (min. 155 mm)

Technical Data:

Bypass tube:	Ø 63 x 3 mm, max. 6 bar
Pipe end at top:	pipe flap, screw connection options: <ul style="list-style-type: none">• venting screw• venting valve• venting flange
Pipe end below:	screw connection options: <ul style="list-style-type: none">• drain screw• drain valve• drain flange
Process connections	flange EN 1092-1, DN 15 - DN 50, PN 16
2x lateral:	flange DIN 1092-1, DN 15 - DN 50, PN 16 flange ANSI B 16.5, 1/2" - 2", class 150 welding nozzle 1/2" - 1" threaded socket G/NPT 1/2" - 1" threaded nozzle G/NPT 1/2" - 1"
Center distance:	Min. 200 mm bis max. 4.000 mm (larger distances on request)
Material:	PVDF or PP
Nominal pressure:	max. 6 bar
Temperature range:	PVDF: -10 ... +100 °C PP: -10 ... +80 °C
Float:	plastic float
Magnetic display:	standard version
Level transmitter:	reed- transmitter
Magnetic switch:	see separate chapter "magnetic switch"
Approvals:	-

Special versions on request

Bypass level indicator FB06...

Order Code:

Order number: Bypass level indicator	FB06.	S1.	DC/15/25.	0400.	RA.	2KA1P.	MA05UTS.	SSV50/225/25.	0
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Models and materials:

M1 = miniature stainless steel 1.4571
S1 = standard stainless steel 1.4571
S2 = standard stainless steel 1.4404
H1 = high pressure stainless steel 1.4571
H2 = high pressure stainless steel 1.4404
WT = special version Titanium 3.7035
WH = special version Hastelloy C276
WS = special version st. steel 6Mo 1.4547
BC = with internal coating, E-CTFE
BP = with internal coating, PTFE
KP = plastic, polypropylene
KF = plastic, PVDF
99 = special

Process connection:

D.. = flange DIN 1092 Form C, F, N, R13, V13
E.. = flange EN 1092-1 Form B1, B2, C, D, E, F
A.. = ANSI / Form RF, SF, FF, RTJ
J.. = JIS form RF, RFSR, FF, RTJ
GA = threaded nozzle, male thread BSP
GI = threaded socket, female thread BSP
NA = threaded nozzle, male thread NPT
NI = threaded socket, female thread NPT
SW = welding nozzle

/Connection size:

10 = DN 10 (3/8") 40 = DN 40 (1 1/2")
15 = DN 15 (1/2") 50 = DN 50 (2")
20 = DN 20 (3/4") 65 = DN 65 (2 1/2")
25 = DN 25 (1") 80 = DN 80 (3")
32 = DN 32 (1 1/4") 100 = DN 100 (4")

/Pressure stage:

00 = without 04 = max. 4 bar
06 = PN 6 63 = PN 63 (64 = PN 64)
10 = PN 10 H0 = PN 100
16 = PN 16 H6 = PN 160
25 = PN 25 2H = PN 250
40 = PN 40 4H = PN 400 xxx = ANSI-Class

Center distance [mm]:

(e.g. from nozzle centre to nozzle centre)

Magnetic display:

00 = without roller display
RA = aluminium housing with plastic rollers
RE = stainless steel housing with plastic rollers
KA = aluminium housing with stainless steel flap
KE = stainless steel housing with stainless steel flap

Magnetic switch (quantity, type, cable length [m] and cable material):

0 = without magnetic switch
...KA... to ...KE see table "Magnetic switch"
cable material P = PVC grey, S = silicone, B = PVC blue

Transmitter, transducer:

0 = without transmitter
MA...bis MD... see order code "Transmitter"

Float

Design depends on the application,
see description "float"

Options:

(multiple selection possible) see table "Options":

0 = without option (standard tube sheet top: tube cap; bottom: flange (round blanks D 130)
with drain screw G 1/2 (not for FB06.B)



Design of Bypass Level Indicator:

(for optimum design, please provide the following information)

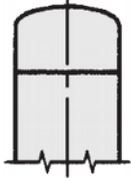
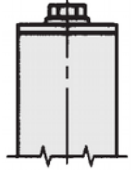
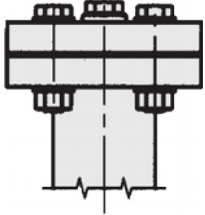
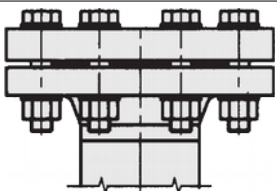
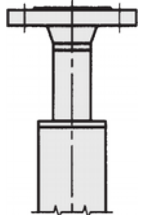
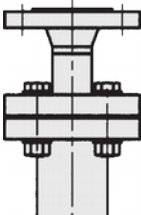
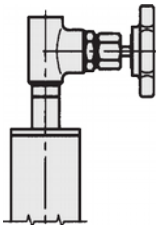
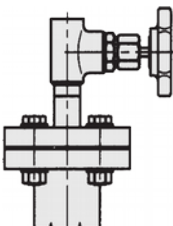
Medium:			
Operating pressure:		Max. permissible pressure:	
Operating temperature:		Max. permissible temperature:	
Center distance [mm]:			
Process connection:			
Magnet switch:		Measuring transducers:	
Options:			

Options:

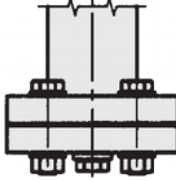
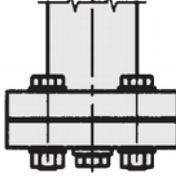
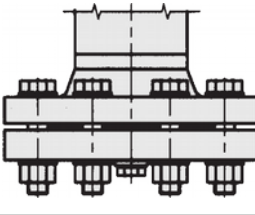
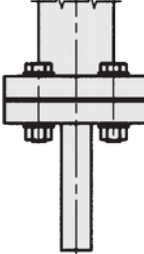
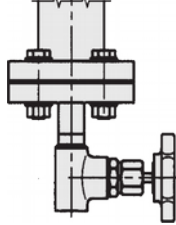
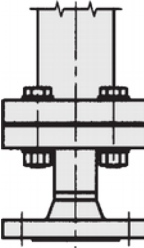
Code	Description
KSP...	customer-specific design, manufacture according to customer specifications, please inquire
UET	over-tank mounting
TRS	interface measurement
ELP	stainless steel electro-polished
PLV	magnetic display with perspex attachment for insulation
HL...	retaining lugs quantity
DAF	upper damping spring
	Approvals
ZGL	Germanischer Lloyd
DNV	Det Norske Veritas
ABS	American Bureau of Shipping
EX	ATEX explosion protection according to approval numbers
	Scales
SKF	with adhesive foil
SKA	aluminium engraved
SKV	stainless steel engraved
	Standpipe closure at top (standard is pipe cap)
TBE(N)	pipe cap with vent screw G 1/2 (1/2" NPT)
TFE(N)	flange connection with vent screw G 1/2 (1/2" NPT)
TFD	flange connection spring/slot according to DIN 2512
TBV	pipe cap with venting valve
	Standpipe end at bottom (standard flange with drain screw G 1/2)
BAN	flange (blanks D 130) with drain screw 1/2" NPT
BFD	flange connection spring/slot according to DIN 2512
BFV	flange connection with breather valve
BFS	flange connection with drain nozzle

Options for chamber ends

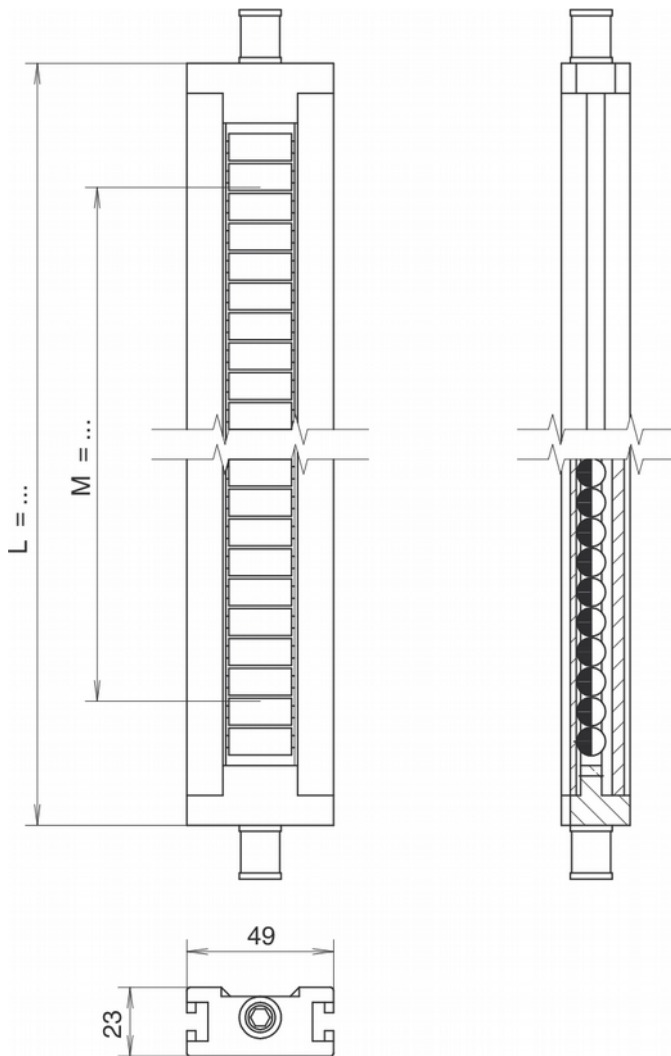
Chamber end top (examples):

Description		Code:
Pipe cap without venting		0
Pipe cap with vent screw G 1/2" (1/2 NPT)		TBE(N)
Flange connection with vent screw G 1/2" (1/2 NPT)		TFE(N)
Flange connection e.g. sealing faces groove/tongue per DIN 2512		TFD
Pipe cap with vent flange		TFB
Flange connection vent flange		TFF
Pipe cap with vent valve		TBV
Flange connection with vent valve		TFV

Chamber end bottom (examples):

Description		Code:
Flange connection with drain plug G 1/2"		0
Flange connection with drain plug 1/2" NPT		BAN
Flange connection e.g. sealing faces groove/tongue per DIN 2512 with drain plug G 1/2"		BFN
Flange connection with drain nozzle		BFS
Flange connection with drain valve		BFV
Flange connection with drain flange		BFF

Magnetic Displays:



Options:

scale with adhesive foil
 scale aluminium engraved
 scale stainless steel engraved
 scale in cm, mm or %
 special scale
 acrylic glass attachment for insulation at low temperatures
 purge gas connection
 display elements in red, white, black and yellow
 (others on request)

RA plastic rollers in aluminium housing with T-slot:

Housing: aluminium, anodized
Length L 180 ... 6.000 mm
Display element: plastic rollers, PBT, red/white
Sight cover: polycarbonate
Permissible temperature: -50 ... +200 °C

RE plastic rollers in st. steel housing with T-slot:

Housing: stainless steel
Length L 180 ... 6.000 mm
Display element: plastic rollers, PBT, red/white
Sight cover: polycarbonate
Permissible temperature: -50 ... +200 °C

KA st. steel flaps in aluminium housing with T-slot:

Housing: aluminium, anodized
Length L 180 ... 6.000 mm
Display element: st. steel flaps, red/white
Sight cover: glass
Permissible temperature: -200 ... +450 °C

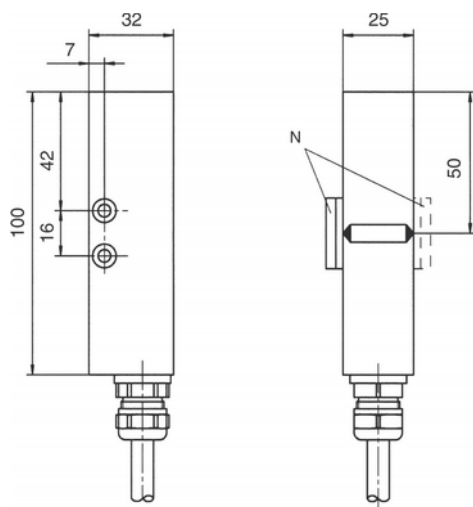
KE st. steel flaps in st. steel housing with T-slot:

Housing: stainless steel
Length L 180 ... 6.000 mm
Display element: st. steel flaps, red/white
Sight cover: glass
Permissible temperature: -200 ... +450 °C

Magnetic Switch:

Code	Description	Approvals						Switching capacity	Process Temp.
		without	Ex i	Ex d	DNV GL	EAC Ex	EAC LVD		
KA	reed, aluminium housing, cable outlet	x	x		x	x	x	reed switch AC ≤ 230 V, ≤ 40 VA, ≤ 1 A DC ≤ 230 V, ≤ 20 W, ≤ 0.5 A	-50 °C...+180 °C
KB	reed, aluminium connection housing, cable screw	x	x		x	x	x		-50 °C...+180 °C
KC	reed, aluminium housing, plug M12	x	x			x	x		-40 °C...+100 °C
KD	reed, st. steel housing, cable outlet	x	x	x	x	x	x		-50 °C...+180 °C
KF	reed, high temperature, st. steel housing, cable connection	x	x				x		-196 °C...+380 °C
KG	microswitch aluminium housing, cable connection 3/4" NPT			x				micro switch AC / DC: ≤ 230 V, ≤ 5 A	-50 °C...+180 °C

KA magnetic switch, reed, aluminium housing, cable screw:

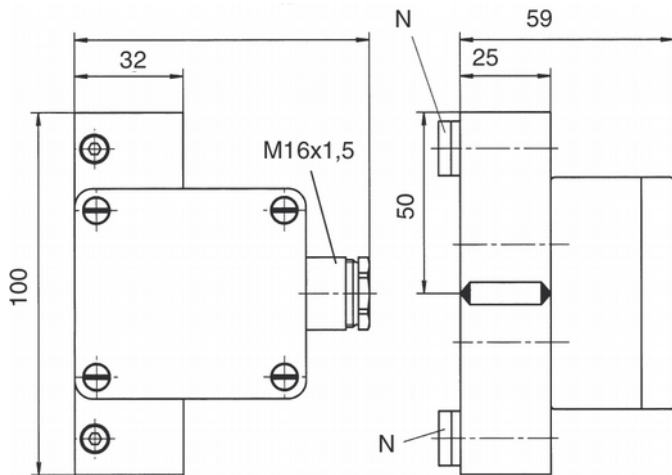


N = Slot nut for mounting on the right or left of the magnetic roller display

Technical Data:

Contactors:	reed contact
Contact function:	1 SPDT
Switching behavior:	bistable
Switching capacity:	AC 230, 40 VA, 1 A DC 230 V, 20 W, 0,5 A
Ex i:	only for connection to a certified intrinsically safe circuit with max. 100 mA and max. 30 V
Process temperature:	-50 ... +180 °C Ex i: -40 ... +150 °C
Ambient temperature:	-40 ... +80 °C
Housing:	aluminium
Protection class:	IP66
ATEX approvals:	Ex i

KB magnetic switch, reed, aluminium connection housing, cable connection:

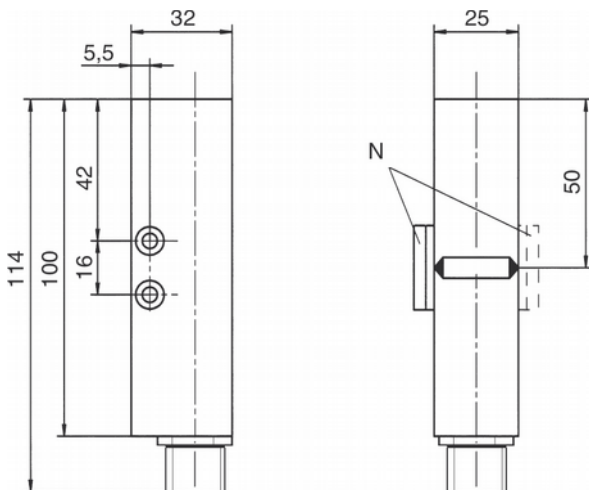


N = Slot nut for mounting on the right or left of the magnetic roller display

Technical Data:

Contactors:	reed contact
Contact function:	1 SPDT
Switching behavior:	bistable
Switching capacity:	AC 230, 40 VA, 1 A DC 230 V, 20 W, 0,5 A
Ex i:	only for connection to a certified intrinsically safe circuit with max. 100 mA and max. 30 V
Process temperature:	-50 ... +180 °C Ex i: -40 ... +150 °C
Ambient temperature:	-40 ... +80 °C
Housing:	aluminium, cable connection M16 x 1,5
Protection class:	IP65
ATEX approvals:	Ex i

KC Magnetic switch, reed, aluminium housing, plug M12:

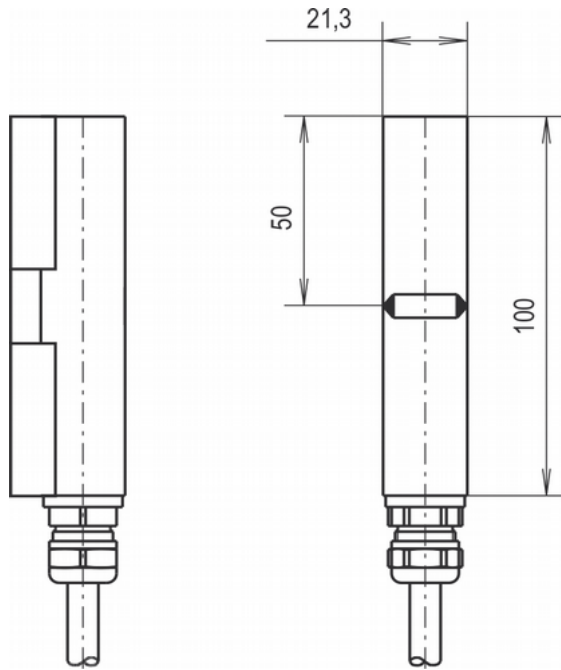


N = Slot nut for mounting on the right or left of the magnetic roller display

Technical Data:

Contactors:	reed contact
Contact function:	1 SPDT
Switching behavior:	bistable
Switching capacity:	AC 230, 40 VA, 1 A DC 230 V, 20 W, 0,5 A
Ex i:	only for connection to a certified intrinsically safe circuit with max. 100 mA and max. 30 V
Process temperature:	-40 ... +100 °C Ex i: -40 ... +100 °C
Ambient temperature:	-40 ... +80 °C
Housing:	aluminium
Protection class:	IP67
ATEX approvals:	Ex i

KD Magnetic switch, reed, stainless steel housing, cable outlet

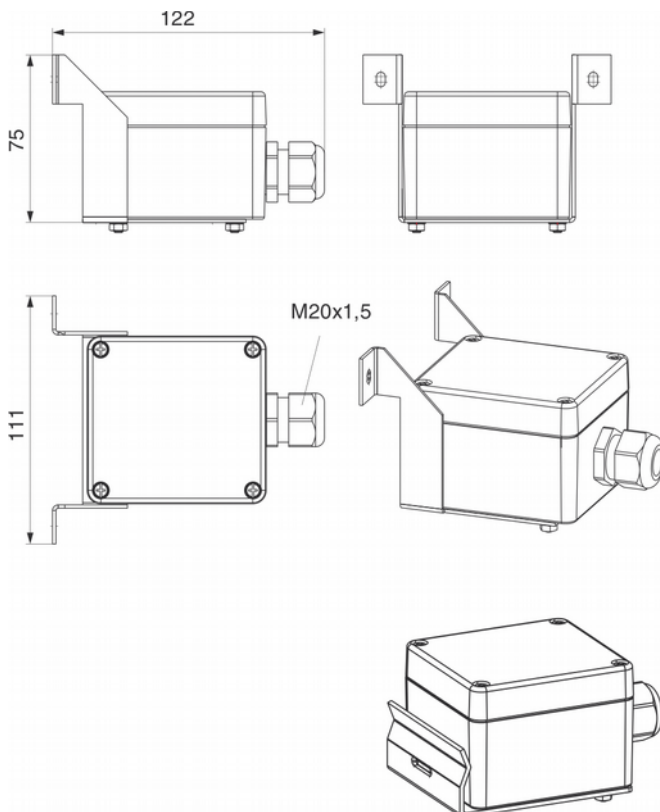


Zur Befestigung mit Spannband

Technical Data:

Contactors:	reed contact
Contact function:	1 SPDT
Switching behavior:	bistable
Switching capacity:	AC 230, 40 VA, 1 A DC 230 V, 20 W, 0,5 A
Ex i:	only for connection to a certified intrinsically safe circuit with max. 100 mA and max. 30 V
Process temperature:	-50 ... +180 °C Ex i / Ex d: -40 ... +150 °C
Ambient temperature:	-40 ... +80 °C
Housing:	stainless steel 1.4571 (316Ti)
Protection class:	IP66/IP68
ATEX Approvals:	Ex I, Ex d

KF magnetic switch, reed, high temperature, stainless steel housing, cable connection



Technical Data:

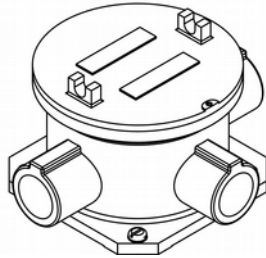
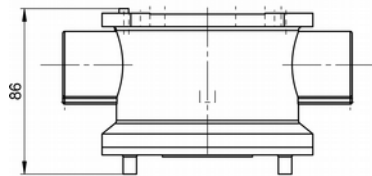
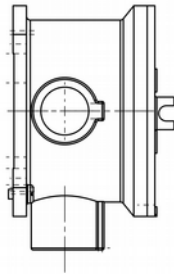
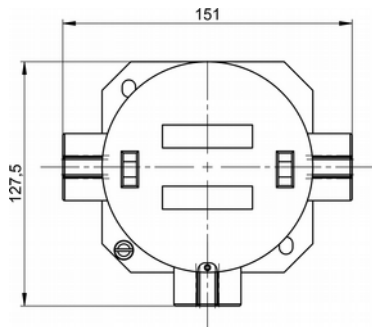
Contactors:	reed contact
Contact function:	1 SPDT
Switching behavior:	bistable
Switching capacity:	AC 230, 40 VA, 1 A DC 230 V, 20 W, 0,5 A
Ex i:	only for connection to a certified intrinsically safe circuit with max. 100 mA and max. 30 V
Process temperature:	-196 ... +380 °C Ex i: -60 ... + 380 °C
Ambient temperature:	-40 ... +80 °C
Housing:	st. steel 1.4571 (316Ti) cable connection M20 x 1,5
Protection class:	IP666/IP68
ATEX Approvals:	Ex i

Type attachment

KE: T-slot

KE-S: tension strap

KG magnetic switch, micro switch, aluminium housing, cable connection

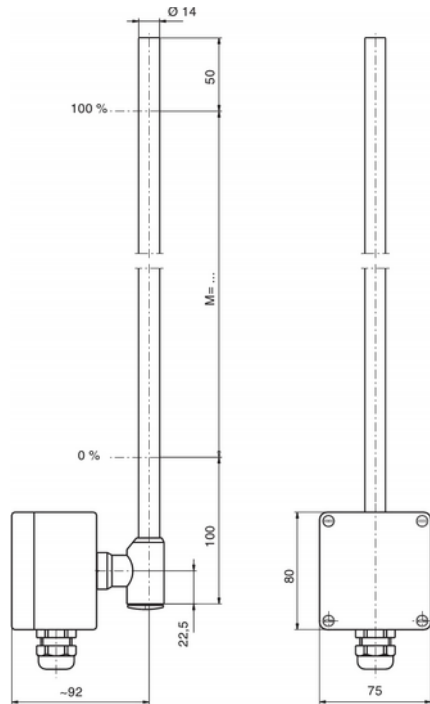


Technical Data

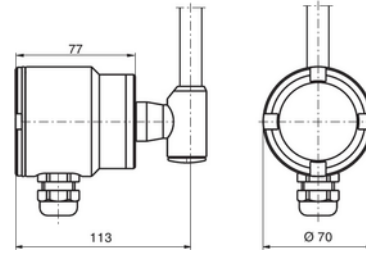
Contactors:	micro switch
Switching capacity:	AC ≤ 230 V, ≤ 5 A DC ≤ 230 V, ≤ 5 A
Process temperature:	-50 ... +180 °C
Ambient temperature:	-40 ... +80 °C
Housing:	aluminium Cable connection $\frac{3}{4}$ " NPT
Protection class:	IP65
ATEX approval:	Ex d

Reed transmitter M:

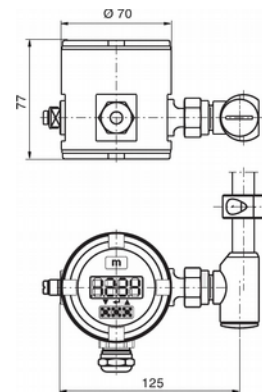
Connection housing aluminium and polyester



Connection housing stainless steel



Connection housing stainless steel with digital display (Option):



Technical Data:

Connection housing:

aluminium:	80 x 75 x 57 mm
polyester:	80 x 75 x 55 mm
stainless steel 1.4571:	Ø 70 x 77 mm
stainless steel 1.4571 with digital display:	Ø 70 x 77 mm

Transmitter tube:

stainless steel 1.4571, tube:	Ø 14 x 1 mm
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Total resistance of the measuring chain:

length- and grid dependent

Output:

3 wire potentiometer

Power supply:

< AC 50 V, < DC 75 V

Ambient temperature:

standard version:	-50 ... +100 °C
high temperature version:	-50 ... +200 °C
low temperature version:	-100 ... +100 °C

Protection class:

IP65 or IP68
(depending on version)
Ignition protection type
Ex ia IIC (only for
connection to a certified
intrinsically safe control
circuit)
and ignition protection type
intrinsically safe Ex ib IIC

ATEX control circuit:

Order code for transmitter:

MA. 05. U. TS

Connection housing:

MA = aluminium
MP = polyester
MV = stainless steel 1.4571
MD = stainless steel with digital display

Contact pitch /Resolution:

05 = 5 mm / 2,7 mm
10 = 10 mm / 5;5 mm
15 = 15 mm / 7;5 mm
18 = 18 mm / 9 mm

Arrangement of connection housing:

U = bottom (standard)
T = top

Head transmitter:

0 = without
TS = 4 – 20 mA, 2 wire
TLH = 4 – 20 mA, HART® with LCD display
T 32= 4 – 20 mA, HART® programmable

The measuring range of the transmitter corresponds to the measuring length of the bypass level indicator, others (e.g. partial ranges) on request.

Float:



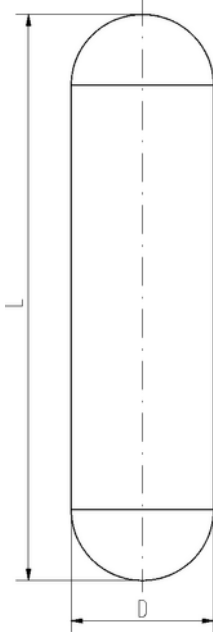
fig. left: beading float
fig. middle: cylinder float
fig. right: plastic float

fig. left: foam float
fig. right: ball segment float

The design depends on the application, chemical resistance and the physical parameters pressure, temperature and density.

Cylinder Float:

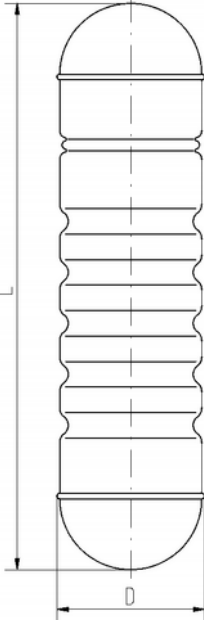
Permissible temperature: -200 ... +400 °C

	PN	Density range [kg/m ³]	Diameter [mm]	Length [mm]	Material
	16		1.270 ... 2.000	32	125
		1.090 ... 1.350	32	150	st. steel (1.4571)
		940 ... 1.110	32	180	st. steel (1.4571)
		850 ... 980	32	210	st. steel (1.4571)
		780 ... 880	32	245	st. steel (1.4571)
		730 ... 800	32	285	st. steel (1.4571)
40		1.360 ... 2.000	32	125	st. steel (1.4571)
		1.140 ... 1.400	32	155	st. steel (1.4571)
		1.010 ... 1.180	32	185	st. steel (1.4571)
		900 ... 1.020	32	225	st. steel (1.4571)
		820 ... 910	32	265	st. steel (1.4571)
		760 ... 830	32	315	st. steel (1.4571)
		1.130 ... 2.000	32	125	titanium (3.7035)
		900 ... 1.100	32	160	titanium (3.7035)
		770 ... 900	32	200	titanium (3.7035)
		670 ... 770	32	240	titanium (3.7035)
		610 ... 680	32	290	titanium (3.7035)
		560 ... 620	32	350	titanium (3.7035)
		530 ... 570	32	420	titanium (3.7035)
		490 ... 530	32	510	titanium (3.7035)

Furthermore, a large number of special floats are available for special requirements.

Beading Float:

Permissible temperature: -50 ... +200 °C

	PN	Density range [kg/m ³]	Diameter [mm]	Length [mm]	Material
	25	990 ... 2.000	50	150	st. steel (1.4571)
	830 ... 1.000	50	185	st. steel (1.4571)	
	730 ... 840	50	225	st. steel (1.4571)	
	640 ... 730	50	275	st. steel (1.4571)	
	590 ... 650	50	335	st. steel (1.4571)	
	550 ... 600	50	400	st. steel (1.4571)	
	520 ... 560	50	470	st. steel (1.4571)	
	490 ... 530	50	555	st. steel (1.4571)	
	470 ... 500	50	650	st. steel (1.4571)	
	820 ... 2.000	50,8	150	titanium (3.7035)	
	710 ... 850	50,8	180	titanium (3.7035)	
	600 ... 710	50,8	215	titanium (3.7035)	
	540 ... 610	50,8	250	titanium (3.7035)	
	480 ... 540	50,8	300	titanium (3.7035)	
	430 ... 490	50,8	355	titanium (3.7035)	
	400 ... 440	50,8	410	titanium (3.7035)	
	380 ... 410	50,8	465	titanium (3.7035)	
	370 ... 390	50,8	525	titanium (3.7035)	
	360 ... 380	50,8	595	titanium (3.7035)	
	340 ... 370	50,8	680	titanium (3.7035)	

Furthermore, a large number of special floats are available for special requirements.

Order code for floats:	SSV.	50.	225.	25
Models and material SZV = cylinder float stainless steel SZT = cylinder float titanium SSV = beading float stainless steel SST = beading float titanium SKP = plastic float PP SKF = plastic float PVDF SAS = foam float STT = ball segment float titanium				
Outer diameter [mm]:				
Length [mm]:				
Pressure stage:				