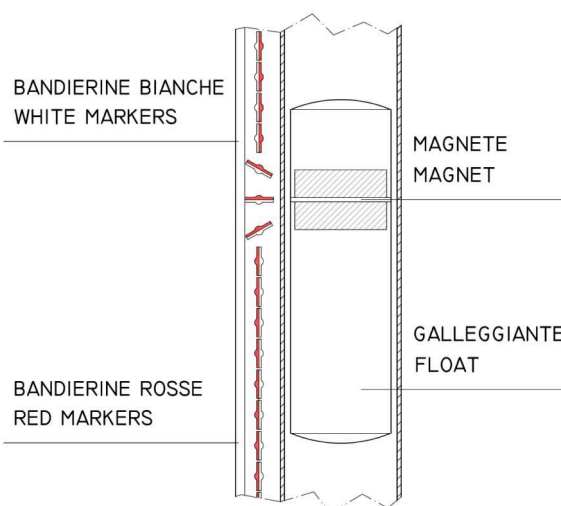


## MAGNETIC level gauges

Magnetic level gauge indicates the level of fluid inside a tank by using the magnetic properties of its elements.

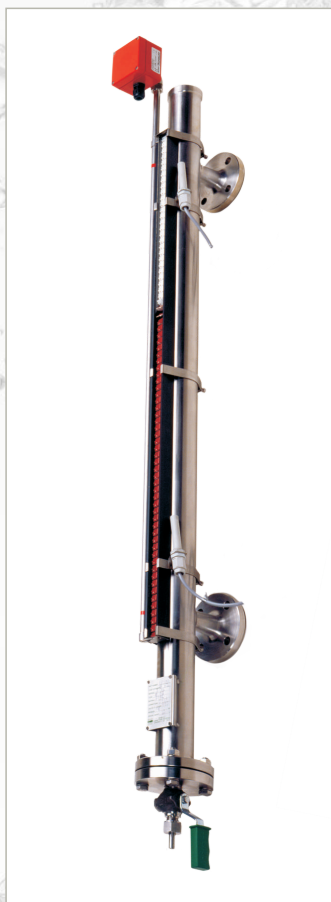
A by-pass (which mainly consists of a tube longer than the fluid range) is connected to the tank containing the fluid whose level is to be measured.

A float containing a magnet moves up and down the main chamber, and its position determines the tank fluid level (the level is clearly indicated by red and white markers). Variation in fluid level causes the float to move and the float magnet then makes the roller display (which also contains a magnet) rotate. Red markers are normally shown in the part of the tank holding the fluid and white markers in the part containing the gas/steam.



Magnetic level gauge with flanged connections, magnetic switches and level transmitter

Magnetic level gauge with flanged cut off cocks, drain cock and level transmitter



Magnetic level gauges are built exclusively according to the centre-to-centre distance specified by the customer. The reading length usually matches the centre-to-centre distance.

The roller display reading point and the height of the level switches can be adjusted quickly and easily thanks to specially designed clamping brackets.

The simple mounting principle means that electronic accessories can be fitted to the gauge at a later stage.

The materials used to manufacture the gauges differ depending on their intended use.

Given that the level gauge works as a result of its magnetic properties, no ferromagnetic materials have been used in its construction.

The standard model features an AISI 316 L stainless steel main chamber and an AISI 316L stainless steel or Titanium Grade 2 float.

DIESSE also offers a wide range of optional accessories, including: shut-off valves, drain valves, vent valves, calibrated scale, bistable switches and level transmitters (described later on in the catalogue).

TO RECOMMEND THE MOST SUITABLE LEVEL GAUGE FOR A PARTICULAR PURPOSE,  
PLEASE PROVIDE THE FOLLOWING DATA WHEN ASKING FOR ADVICE OR A QUOTATION.

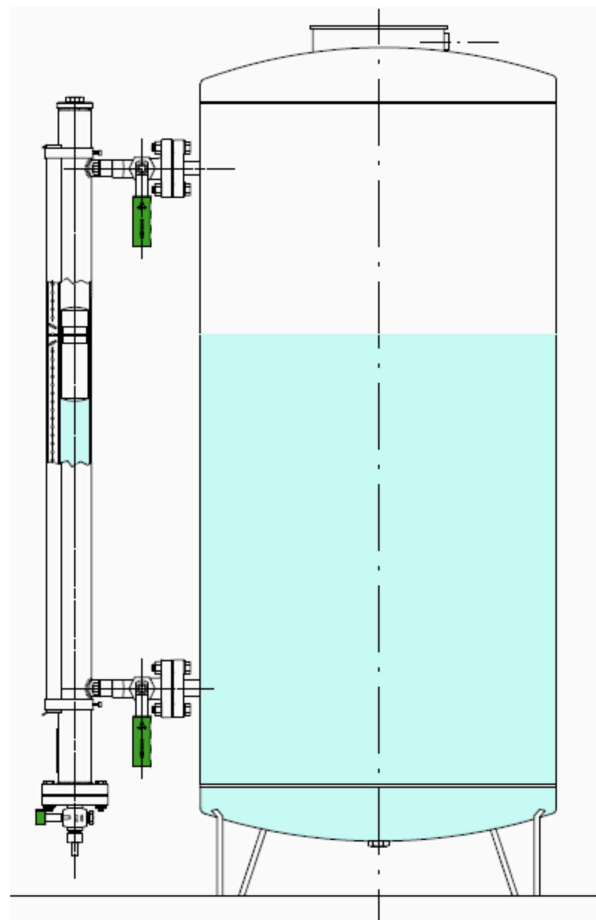
► essential data

- ► **CENTRE-TO-CENTRE DISTANCE** (distance between process connections)
- ► **TYPE OF CONNECTIONS** (flanged-threaded-weld-on) and related **STANDARDS** (UNI-ANSI-DIN...)
- POSITION OF PROCESS CONNECTIONS
- POSITION OF THE VALVE HANDLING
- ► **TYPE OF FLUID**
- ► **SPECIFIC WEIGHT OF FLUID**
- ► **DESIGN AND MAXIMUM OPERATING PRESSURES**
- ► **DESIGN AND MAXIMUM OPERATING TEMPERATURES**
- ANY ADDITIONAL ACCESSORIES

Magnetic level gauges are suitable for a wide range of applications and are a perfect alternative to glass level gauges if the latter cannot be used safely.

They are particularly recommended:

- in cases where a particularly accurate fluid level reading is not necessary
- in cases where the maximum pressure and temperature values exceed those listed in the technical specifications of the glasses
- if remote readings have to be taken (e.g. if the level gauge is positioned above or a considerable distance away from the observer's position)
- if continuous readings using a remote gauge situated some distance away from the system are necessary
- if one or more signals (i.e. alarm signals) are required to indicate various tank liquid levels
- if the centre-to-centre distance exceeds 3 metres



## MAGNETIC level gauges

DIESSE magnetic level gauges are manufactured and certified in accordance with the strictest international standards.



## Materials / Specifications:

The different versions available are as follows:

### Main Chamber:

- Standard: Stainless steel AISI 316L Ø 60.3 mm, thickness 2 mm or 2.7 mm

### Float:

- Standard: Stainless steel AISI 316L or Titanium Grade 2 Ø 50 mm

### Rollers / Housing:

- Standard: brass rollers with red and white epoxy paint / anodised aluminum housing, glass cover
- Options: stainless steel rollers red and white / anodised aluminum or stainless steel housing, polycarbonate or glass cover

### Process connections position:

- Standard: side/side
- Additional Options: side/bottom; top/side; top/bottom

### Process connections type:

- Standard: with flanges, threaded tubes and butt weld tubes
- Additional Options: shut-off cocks (side/side) on request

### Drain:

- Standard: threaded 1/2" with plug
- Additional Options: threaded cock; other extras on request

### Vent:

- Standard: threaded 1/2" with plug
- Additional Options: threaded cock; other extras on request

### Gaskets:

- Standard: graphite/AISI 316
- Options: PTFE/AISI 316, other extras on request

## Accessories:

Magnetic switch, Level transmitter, Calibrated scale, Shut-off cocks, Drain cock, Vent cock, Cocks handles lock (see from page 2.13)

## Certifications (on request):

- Marine Approval
- Others on request

**All DIESSE products are individually checked and tested in accordance with company quality procedures and the industry regulations currently in effect.**  
Certificates can be issued on request.





## MAGNETIC LEVEL GAUGES

### Code

#### 1 Basic Type

DS MG DIESSE Magnetic level gauge

#### 2 Level Gauge Model

##### Pos. 1: Level Gauge type

DS BP Stainless steel AISI 316L (Low / Medium pressure)  
DS MP Stainless steel AISI 316L (High Pressure)

#### 3 Process connections

##### Pos. 1: Nominal dimension

##### Pos. 2: Nominal pressure

##### Pos. 3: Type / Finish

##### Pos. 4: Position

Standard Side / Side  
/SB Side / Bottom  
/TS Top / Side  
/TB Top / Bottom

#### 4 Distance Centre-to-centre

M... Distance between connections centres in mm

#### 5 Materials

##### Pos. 1: Main chamber

SS Stainless steel AISI 316L

##### Pos. 2: Connections / Bottom flanges / Flat top with plug

SS Stainless steel AISI 316L

##### Pos. 3: Roller display - Housing / Rollers

DAB Aluminium housing / brass with epoxy paint rollers

##### Pos. 4: Float

SS Stainless steel AISI 316L  
TG2 Titanium Grade 2  
TG2R Titanium Grade 2 with reinforcements

##### Pos. 5: Gaskets

Standard: Graphite/AISI 316  
PF PTFE/AISI 316

#### 6 Accessories

EBS (Type)	Magnetic switch	LTM	Level transmitter	VSG	Calibrated scale
GR18	Cylindrical plug shut-off cocks	D12	Cylindrical plug drain cock	D12S	Cylindrical plug vent cock
CB	Support bracket	SSHD	Cocks handles lock		
LFC	Weight closing for lower handle	UFC	Weight closing for upper handle	LUFC	Weight closing for all handles (lower + upper)

#### 7 Approvals

SHP... Marine

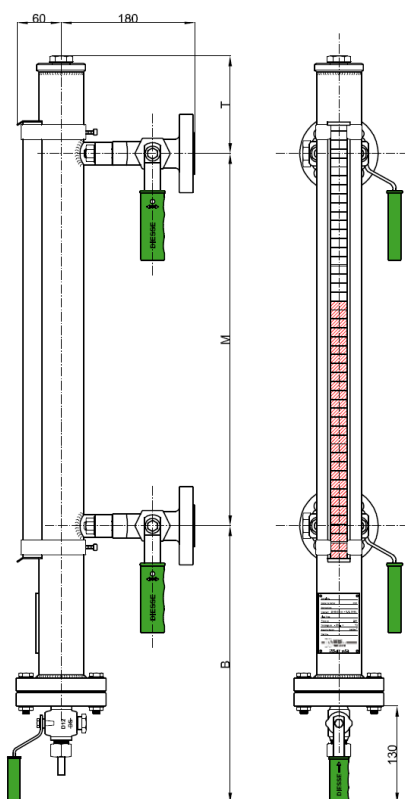
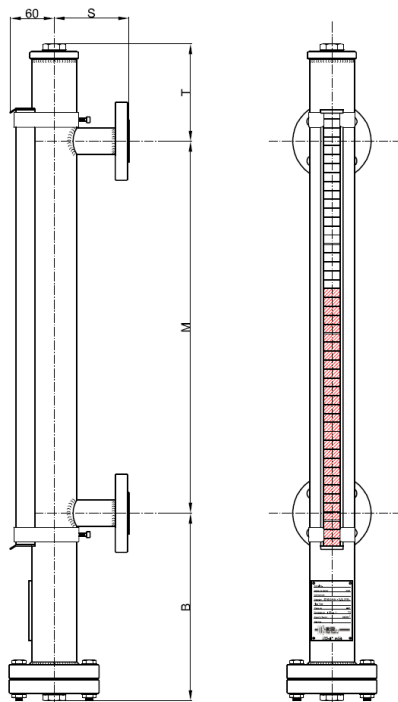
Code 1 2 3 4 5 6  
e.g. DS MG - DSBP - 20/16/RF - M 1000 - SS/SS/DAB/SS - GR18 / D12 / VSG

## MAGNETIC LEVEL GAUGE

PN16 and PN25 / Class 150

DS MG - DS BP

Code: DS MG - DSBP - ... /16/RF - M...- SS/SS/.../SS



### Technical data

#### Service conditions

Pressure: Standard PN16  
On request PN25 or Class 150  
Temperature: Standard up to 200°C  
On request up to 230°C  
Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)  
Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber: Stainless steel 316L ( $\varnothing 60,3 \times 2 \text{ mm}$ )  
Float: Stainless steel 316L ( $\varnothing 50 \text{ mm}$ )  
Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ )  
Process connections: Stainless steel 316L (flanged, threaded pipes, butt weld pipes)  
With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L  
Rollers: Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:	UNI PN16/40 DN15-20-25	ANSI #150/RF DN $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"
Standard threaded pipes:	BSP-M $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"	NPT-M $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"
	BSP-F $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"	NPT-F $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"
Standard butt weld pipes:	BW $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"	SW $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded  $\frac{1}{2}$ " with plug Options: On request, with flange or with cock DS D12 (See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded  $\frac{1}{2}$ " with plug Options: On request, with flange or with cock DS D12 (See details at page 2.13 and page 2.14)

#### Process connections with shut-off cocks: (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing

#### Dimensions

B = Distance depending on the specific weight of the fluid  
T = 130 mm (Standard); Option: on request  
S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks	(See details from page 2.13)
Drain cock	(See details from page 2.13)
Vent cock	(See details from page 2.13)
Calibrated scale	(See details from page 2.14)
Magnetic switches	(See details from page 2.15)
Level transmitter	(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 12,0 approx. (With centre-to-centre 1.000 mm and flanges DN20 PN16)  
Cocks DS GR18: Kg. 6,2 approx. (With flanges UNI DN20 PN40)

#### Spare parts

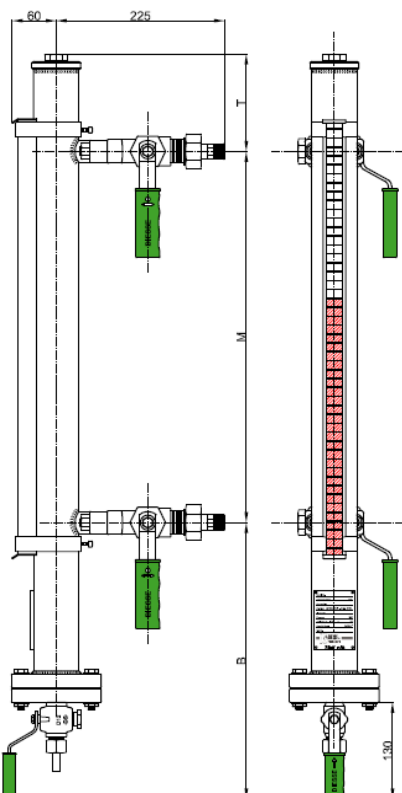
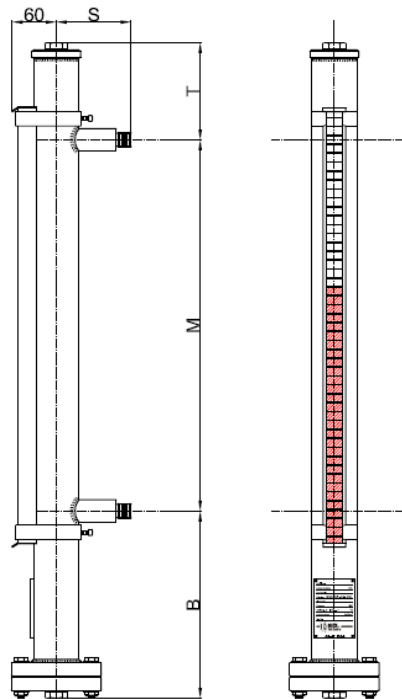
For routine maintenance are not necessary spare parts.  
For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

## MAGNETIC LEVEL GAUGE

PN16 and PN25 / Class 150

DS MG - DS BP

Code: DS MG - DSBP - 1/2" GAS-M - M...- SS/SS/.../SS



### Technical data

#### Service conditions

Pressure: Standard PN16  
On request PN25 or Class 150  
Temperature: Standard up to 200°C  
On request up to 230°C  
Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)  
Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber: Stainless steel 316L ( $\varnothing 60,3 \times 2 \text{ mm}$ )  
Float: Stainless steel 316L ( $\varnothing 50 \text{ mm}$ )  
Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ )  
Process connections: Stainless steel 316L (flanged, threaded pipes, butt weld pipes)  
With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L  
Rollers: Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:	UNI PN16/40 DN15-20-25	ANSI #150/RF DN 1/2" - 3/4" - 1"
Standard threaded pipes:	BSP-M 1/2" - 3/4" - 1"	NPT-M 1/2" - 3/4" - 1"
	BSP-F 1/2" - 3/4" - 1"	NPT-F 1/2" - 3/4" - 1"
Standard butt weld pipes:	BW 1/2" - 3/4" - 1"	SW 1/2" - 3/4" - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded 1/2" with plug Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded 1/2" with plug Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

#### Process connections with shut-off cocks: (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing

#### Dimensions

B = Distance depending on the specific weight of the fluid  
T = 130 mm (Standard); Option: on request  
S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks	(See details from page 2.13)
Drain cock	(See details from page 2.13)
Vent cock	(See details from page 2.13)
Calibrated scale	(See details from page 2.14)
Magnetic switches	(See details from page 2.15)
Level transmitter	(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 10,0 approx. (with centre-to-centre 1.000 mm and threads 1/2" BSP-M)  
Cocks DS GR18: Kg. 3,8 approx. (with threads 1/2" BSP-M)

#### Spare parts

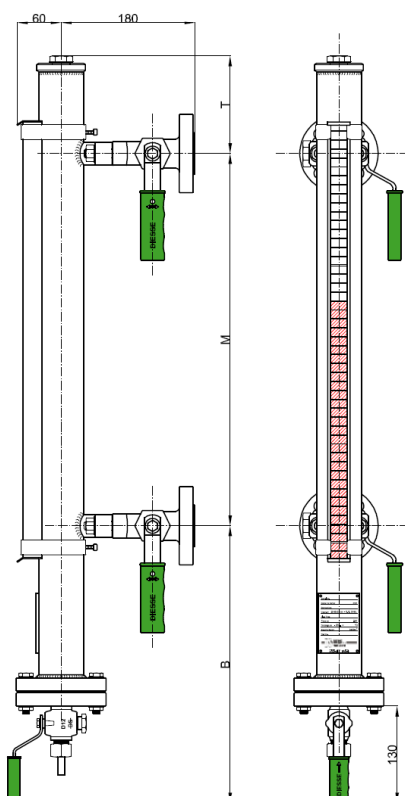
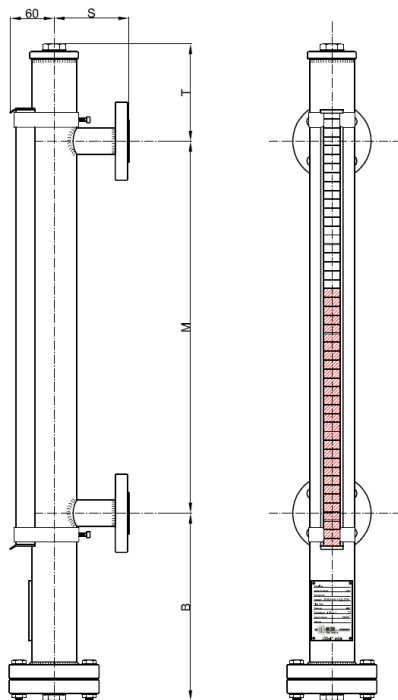
For routine maintenance are not necessary spare parts.  
For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

## MAGNETIC LEVEL GAUGE

PN40 / Class 300

DS MG - DS MP

Code: DS MG - DSMP - ... /40/RF - M...- SS/SS/.../SS



### Technical data

#### Service conditions

Pressure: Standard PN40

On request Class 300

Temperature: Standard up to 200°C

On request up to 230°C

Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)

Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber:

Stainless steel 316L ( $\varnothing 60,3 \times 2,77 \text{ mm}$ )

Float:

Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ ) with reinforcements

Process connections:

Stainless steel 316L (flanged, threaded pipes, butt weld pipes)

With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L

Rollers:

Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:

UNI PN40 DN15-20-25

ANSI #300/RF DN  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard threaded pipes:

BSP-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

NPT-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

BSP-F  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

NPT-F  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard butt weld pipes:

BW  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

SW  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded  $\frac{1}{2}$ " with plug

Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded  $\frac{1}{2}$ " with plug

Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Process connections with shut-off cocks:** (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing

#### Dimensions

B = Distance depending on the specific weight of the fluid

T = 130 mm (Standard); Option: on request

S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks

(See details from page 2.13)

Drain cock

(See details from page 2.13)

Vent cock

(See details from page 2.13)

Calibrated scale

(See details from page 2.14)

Magnetic switches

(See details from page 2.15)

Level transmitter

(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 12,0 approx. (With centre-to-centre 1.000 mm and flanges DN20 PN40)

Cocks DS GR18: Kg. 6,2 approx. (With flanges UNI DN20 PN40)

#### Spare parts

For routine maintenance are not necessary spare parts.

For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

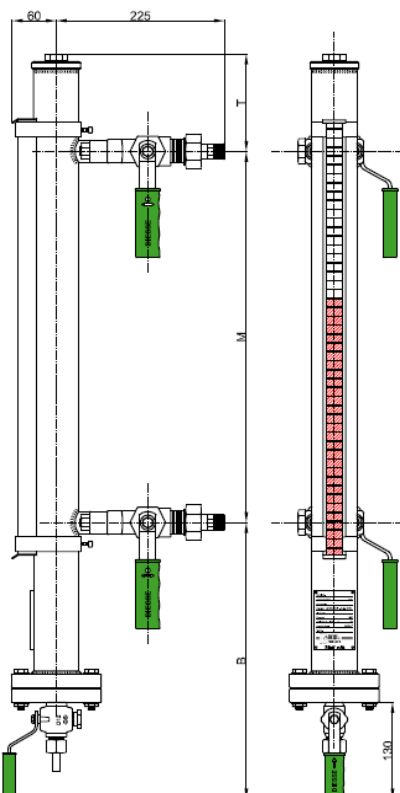
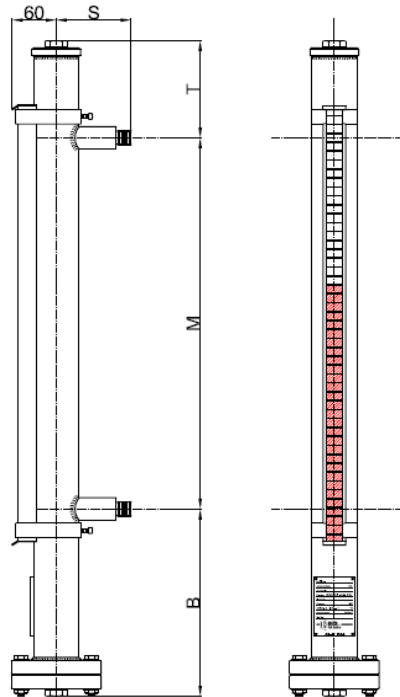


## MAGNETIC LEVEL GAUGE

PN40 / Class 300

DS MG - DS MP

Code: DS MG - DSBP - 1/2" GAS-M - M...- SS/SS/.../SS



### Technical data

#### Service conditions

Pressure: Standard PN40

On request Class 300

Temperature: Standard up to 200°C

On request up to 230°C

Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)

Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber:

Stainless steel 316L ( $\varnothing 60,3 \times 2,77 \text{ mm}$ )

Float:

Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ ) with reinforcements

Process connections:

Stainless steel 316L (flanged, threaded pipes, butt weld pipes)

With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L

Rollers:

Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:

UNI PN40 DN15-20-25

ANSI #300/RF DN  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard threaded pipes:

BSP-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

NPT-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

BSP-F  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

NPT-F  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard butt weld pipes:

BW  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

SW  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded  $\frac{1}{2}$ " with plug

Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded  $\frac{1}{2}$ " with plug

Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Process connections with shut-off cocks:** (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing

#### Dimensions

B = Distance depending on the specific weight of the fluid

T = 130 mm (Standard); Option: on request

S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks

(See details from page 2.13)

Drain cock

(See details from page 2.13)

Vent cock

(See details from page 2.13)

Calibrated scale

(See details from page 2.14)

Magnetic switches

(See details from page 2.15)

Level transmitter

(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 10,0 approx. (with centre-to-centre 1.000 mm and threads 1/2" BSP-M)

Cocks DS GR18: Kg. 3,8 approx. (with threads 1/2" BSP-M)

#### Spare parts

For routine maintenance are not necessary spare parts.

For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.



## MAGNETIC MARINE LEVEL GAUGES

On request the product is available also with  
**the approval certificate of Lloyd's Register**

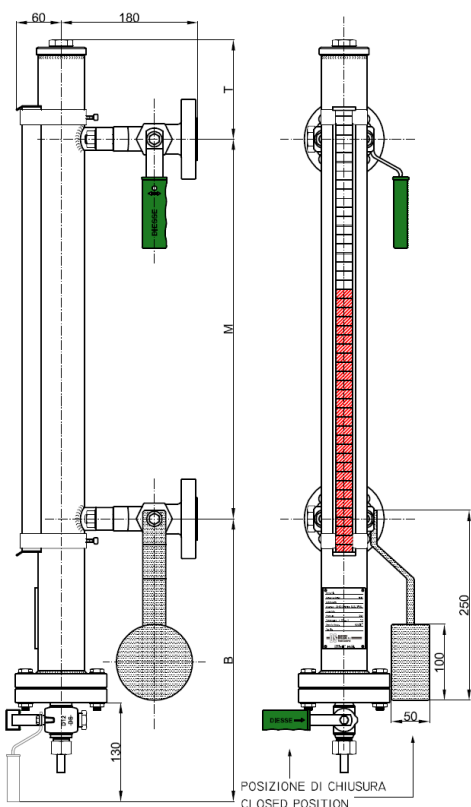
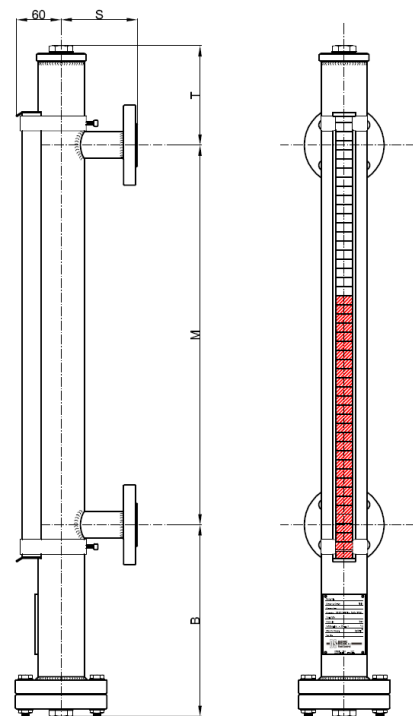


## MAGNETIC LEVEL GAUGE

PN16 and PN25 / Class 150

DS MG - DS BP - SHP

Code: DS MG - DSBP - ... /16/RF - M...- SS/SS/.../SS - SHP



### Technical data

#### Service conditions

Pressure: Standard PN16  
On request PN25 or Class 150  
Temperature: Standard up to 200°C  
On request up to 230°C  
Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### Application

Fluid storage tanks also aboard of ships

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)  
Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber: Stainless steel 316L ( $\varnothing 60,3 \times 2 \text{ mm}$ )  
Float: Stainless steel 316L ( $\varnothing 50 \text{ mm}$ )  
Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ )  
Process connections: Stainless steel 316L (flanged, threaded pipes, butt weld pipes)  
With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L  
Rollers: Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:	UNI PN16/40 DN15-20-25	ANSI #150/RF DN $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"
Standard threaded pipes:	BSP-M $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"	NPT-M $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"
	BSP-F $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"	NPT-F $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"
Standard butt weld pipes:	BW $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"	SW $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded  $\frac{1}{2}$ " with plug Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded  $\frac{1}{2}$ " with plug Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

#### Process connections with shut-off cocks: (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing  
Lower cock with weight closing accessory for self closing

#### Dimensions

B = Distance depending on the specific weight of the fluid  
T = 130 mm (Standard); Option: on request  
S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks	(See details from page 2.13)
Drain cock	(See details from page 2.13)
Vent cock	(See details from page 2.13)
Calibrated scale	(See details from page 2.14)
Magnetic switches	(See details from page 2.15)
Level transmitter	(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 12,0 approx. (With centre-to-centre 1.000 mm and flanges DN20 PN16)  
Cocks DS GR18 with weight closing for lower handle: Kg. 9,6 approx. (With flanges DN20 PN40)

#### Spare parts

For routine maintenance are not necessary spare parts.

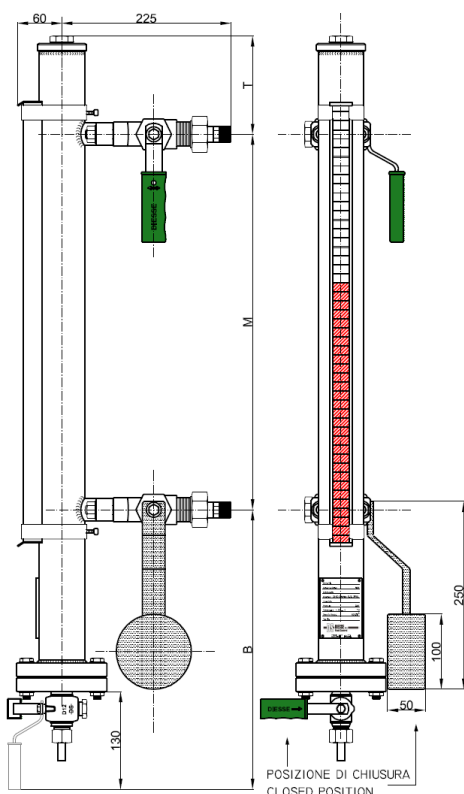
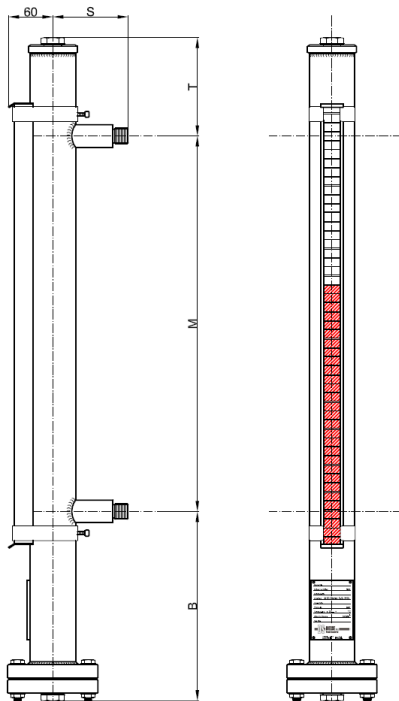
For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

## MAGNETIC LEVEL GAUGE

PN16 and PN25 / Class 150

DS MG - DS BP - SHP

Code: DS MG - DSBP - 1/2" GAS-M - M...-SS/SS/.../SS-SHP



### Technical data

#### Service conditions

Pressure: Standard PN16  
On request PN25 or Class 150  
Temperature: Standard up to 200°C  
On request up to 230°C  
Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### Application

Fluid storage tanks also aboard of ships

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)  
Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber: Stainless steel 316L ( $\varnothing 60,3 \times 2 \text{ mm}$ )  
Float: Stainless steel 316L ( $\varnothing 50 \text{ mm}$ )  
Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ )  
Process connections: Stainless steel 316L (flanged, threaded pipes, butt weld pipes)  
With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L  
Rollers: Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:	UNI PN16/40 DN15-20-25	ANSI #150/RF DN 1/2" - 3/4" - 1"
Standard threaded pipes:	BSP-M 1/2" - 3/4" - 1"	NPT-M 1/2" - 3/4" - 1"
	BSP-F 1/2" - 3/4" - 1"	NPT-F 1/2" - 3/4" - 1"
Standard butt weld pipes:	BW 1/2" - 3/4" - 1"	SW 1/2" - 3/4" - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded 1/2" with plug Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded 1/2" with plug Options: On request, with flange or with cock DS D12  
(See details at page 2.13 and page 2.14)

#### Process connections with shut-off cocks: (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing  
Lower cock with weight closing accessory for self closing

#### Dimensions

B = Distance depending on the specific weight of the fluid  
T = 130 mm (Standard); Option: on request  
S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks	(See details from page 2.13)
Drain cock	(See details from page 2.13)
Vent cock	(See details from page 2.13)
Calibrated scale	(See details from page 2.14)
Magnetic switches	(See details from page 2.15)
Level transmitter	(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 10,0 approx. (With centre-to-centre 1.000 mm and threads 1/2" BSP-M)  
Cocks DS GR18 with weight closing for lower handle: Kg. 7,2 approx. (With threads 1/2" BSP-M)

#### Spare parts

For routine maintenance are not necessary spare parts.

For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

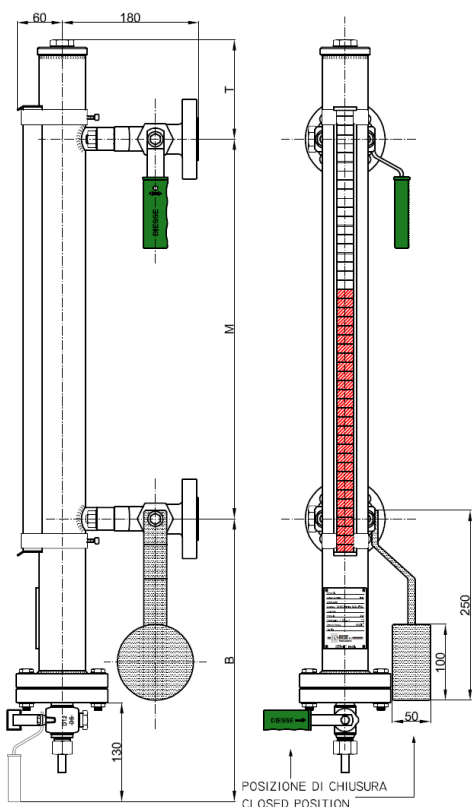
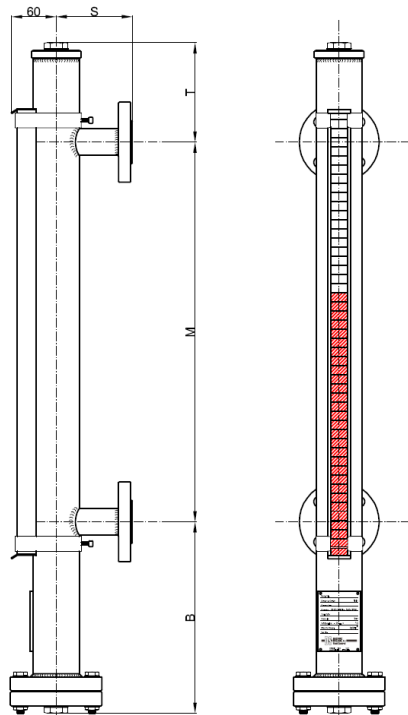


## MAGNETIC LEVEL GAUGE

PN40 / Class 300

DS MG - DS MP - SHP

Code: DS MG - DSMP - ... /40/RF - M... - SS/SS/.../SS - SHP



### Technical data

#### Service conditions

Pressure: Standard PN40

On request Class 300

Temperature: Standard up to 200°C

On request up to 230°C

Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### Application

Fluid storage tanks also aboard of ships

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)

Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber:

Stainless steel 316L ( $\varnothing 60,3 \times 2,77 \text{ mm}$ )

Float:

Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ ) with reinforcements

Process connections:

Stainless steel 316L (flanged, threaded pipes, butt weld pipes)

With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L

Rollers:

Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:

UNI PN40 DN15-20-25

ANSI #300/RF DN  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard threaded pipes:

BSP-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

NPT-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

BSP-F  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

NPT-F  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard butt weld pipes:

BW  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

SW  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded  $\frac{1}{2}$ " with plug

Options: On request, with flange or with cock DS D12 (See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded  $\frac{1}{2}$ " with plug

Options: On request, with flange or with cock DS D12 (See details at page 2.13 and page 2.14)

#### Process connections with shut-off cocks: (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing

Lower cock with weight closing accessory for self closing

#### Dimensions

B = Distance depending on the specific weight of the fluid

T = 130 mm (Standard); Option: on request

S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks

(See details from page 2.13)

Drain cock

(See details from page 2.13)

Vent cock

(See details from page 2.13)

Calibrated scale

(See details from page 2.14)

Magnetic switches

(See details from page 2.15)

Level transmitter

(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 12,0 approx. (With centre-to-centre 1.000 mm and flanges DN20 PN40)

Cocks DS GR18 with weight closing for lower handle: Kg. 9,6 approx. (With flanges DN20 PN40)

#### Spare parts

For routine maintenance are not necessary spare parts.

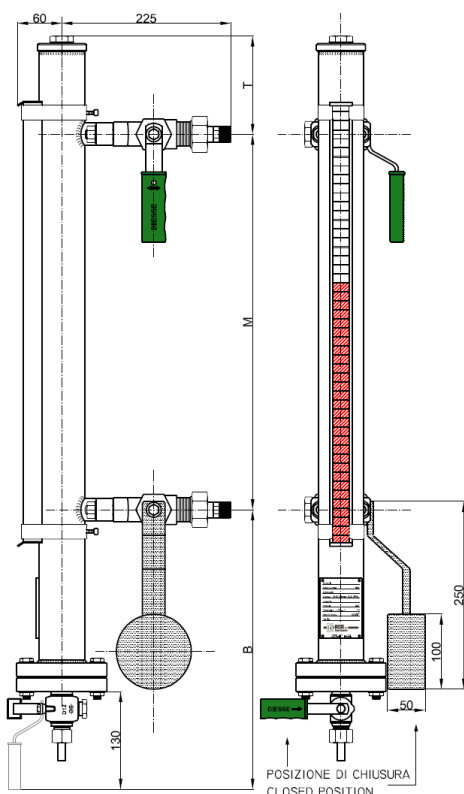
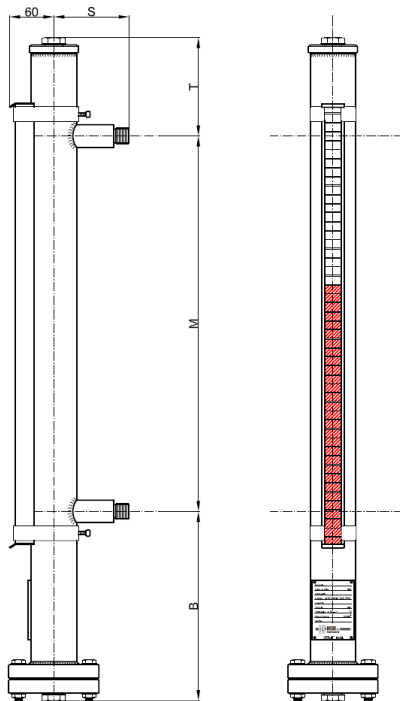
For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

## MAGNETIC LEVEL GAUGE

PN40 / Class 300

DS MG - DS MP - SHP

Code: DS MG - DSBP - 1/2" GAS-M - M...-SS/SS/.../SS-SHP



### Technical data

#### Service conditions

Pressure: Standard PN40

On request Class 300

Temperature: Standard up to 200°C

On request up to 230°C

Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### Application

Fluid storage tanks also aboard of ships

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)

Option: On request distances over 5.600 mm (Execution in several pieces)

#### Materials (Standard)

Main chamber:

Stainless steel 316L ( $\varnothing 60,3 \times 2,77 \text{ mm}$ )

Float:

Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ ) with reinforcements

Process connections:

Stainless steel 316L (flanged, threaded pipes, butt weld pipes)

With shut-off cocks DS GR18 in carbon steel ASTM A105 or stainless steel 316L

Rollers:

Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Process connections

Standard flanges:

UNI PN40 DN15-20-25

ANSI #300/RF DN 1/2" - 3/4" - 1"

Standard threaded pipes:

BSP-M 1/2" - 3/4" - 1"

NPT-M 1/2" - 3/4" - 1"

BSP-F 1/2" - 3/4" - 1"

NPT-F 1/2" - 3/4" - 1"

Standard butt weld pipes:

BW 1/2" - 3/4" - 1"

SW 1/2" - 3/4" - 1"

Options: further connections type or connections with cocks (See details at page 2.13 and 2.14)

**Vent:** Standard: threaded 1/2" with plug

Options: On request, with flange or with cock DS D12 (See details at page 2.13 and page 2.14)

**Drain:** Standard: threaded 1/2" with plug

Options: On request, with flange or with cock DS D12 (See details at page 2.13 and page 2.14)

#### Process connections with shut-off cocks: (See details at page 2.13 and page 2.14)

Cocks DS GR18: cylindrical plug type - Straight type - Quick 90° closing

Lower cock with weight closing accessory for self closing

#### Dimensions

B = Distance depending on the specific weight of the fluid

T = 130 mm (Standard); Option: on request

S = 100 mm (Standard); Option: on request

#### Accessories

Shut-off cocks

(See details from page 2.13)

Drain cock

(See details from page 2.13)

Vent cock

(See details from page 2.13)

Calibrated scale

(See details from page 2.14)

Magnetic switches

(See details from page 2.15)

Level transmitter

(See details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 10,0 approx. (With centre-to-centre 1.000 mm and threads 1/2" BSP-M)

Cocks DS GR18 with weight closing for lower handle: Kg. 7,2 approx. (With threads 1/2" BSP-M)

#### Spare parts

For routine maintenance are not necessary spare parts.

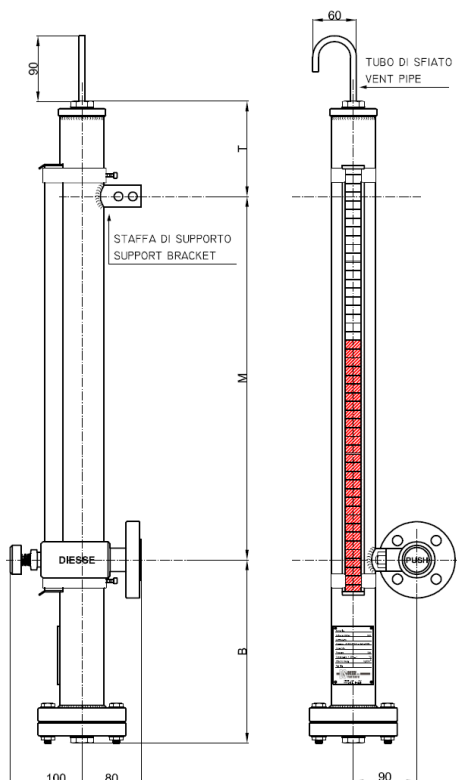
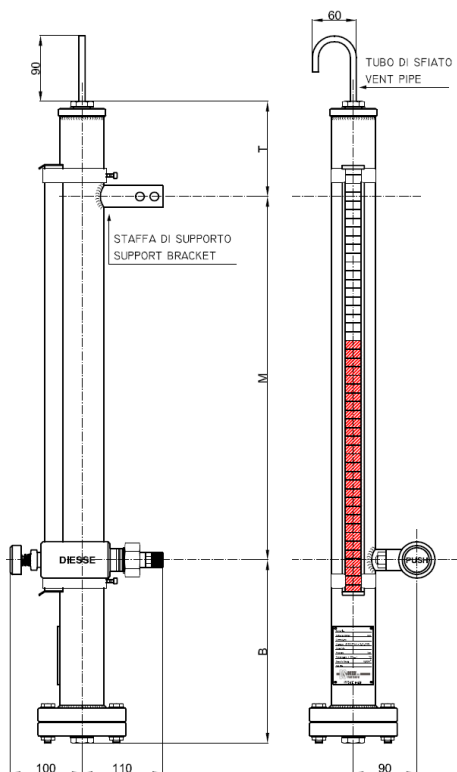
For cocks and valves see from page 1.72 of the catalogue relative to the glass level gauges.

## MAGNETIC LEVEL GAUGE

PN16

DS MG - DS BP - NPV - SHP

Code: DS MG-DSBP-... /16/RF-M...- SS/SS/.../SS-NPV- SHP



### Technical data

#### Service conditions

Pressure: PN16  
Temperature: up to 150°C  
Specific weight:  $\geq 0,7 \text{ g/cm}^3$

#### Application

Fluid storage tanks also aboard of ships

#### View

Standard: adjustable on 360° in the installation phase

#### Distance M (Centre-to-centre)

On request, distances up to 5.600 mm in one sole piece (Fixed distance, not adjustable)  
Option: On request distances over 5.600 mm (In several pieces)

#### Materials (Standard)

Main chamber: Stainless steel 316L ( $\varnothing 60,3 \times 2 \text{ mm}$ )  
Float: Stainless steel 316L ( $\varnothing 50 \text{ mm}$ )  
Titanium Grade 2 ( $\varnothing 50 \text{ mm}$ )  
Process connections: Self closing valve DS NPV, push button type in carbon steel ASTM A105 galvanized or stainless steel 316L  
Rollers: Brass with red and white epoxy paint, anodised aluminium housing, glass cover

#### Gaskets

Standard: graphite/AISI 316

Options: PTFE/AISI 316

#### Self-closing Valve

DS NPV: self-closing, push button type

Handling: opening by push button (Standard: valve on the right side; On request on the left side)

#### Process connection:

Standard flange: UNI PN16 DN15-20-25

ANSI #150/RF DN  $\frac{1}{2}$ " -  $\frac{3}{4}$ " - 1"

Standard threaded union: BSP-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ "

NPT-M  $\frac{1}{2}$ " -  $\frac{3}{4}$ "

Option: further connection types

Vent: Standard: threaded  $\frac{1}{2}$ " with vent pipe

Option: on request (see details at page 1.52)

Drain: Standard: threaded  $\frac{1}{2}$ " with plug

Option: on request (see details at page 1.52)

#### Dimensions

B = Distance depending on the specific weight of the fluid

T = 130 mm (Standard); Option: on request

#### Accessories

Shut-off cocks (see details from page 2.13)  
Drain cock (see details from page 2.13)  
Vent cock (see details from page 2.13)  
Calibrated scale (see details from page 2.14)  
Magnetic switches (see details from page 2.15)  
Level transmitter (see details from page 2.30)

#### Weights

Magnetic level gauge: Kg. 13,5 approx. (with centre-to-centre 1.000 mm and valve DS NPV flanged DN20 PN16)

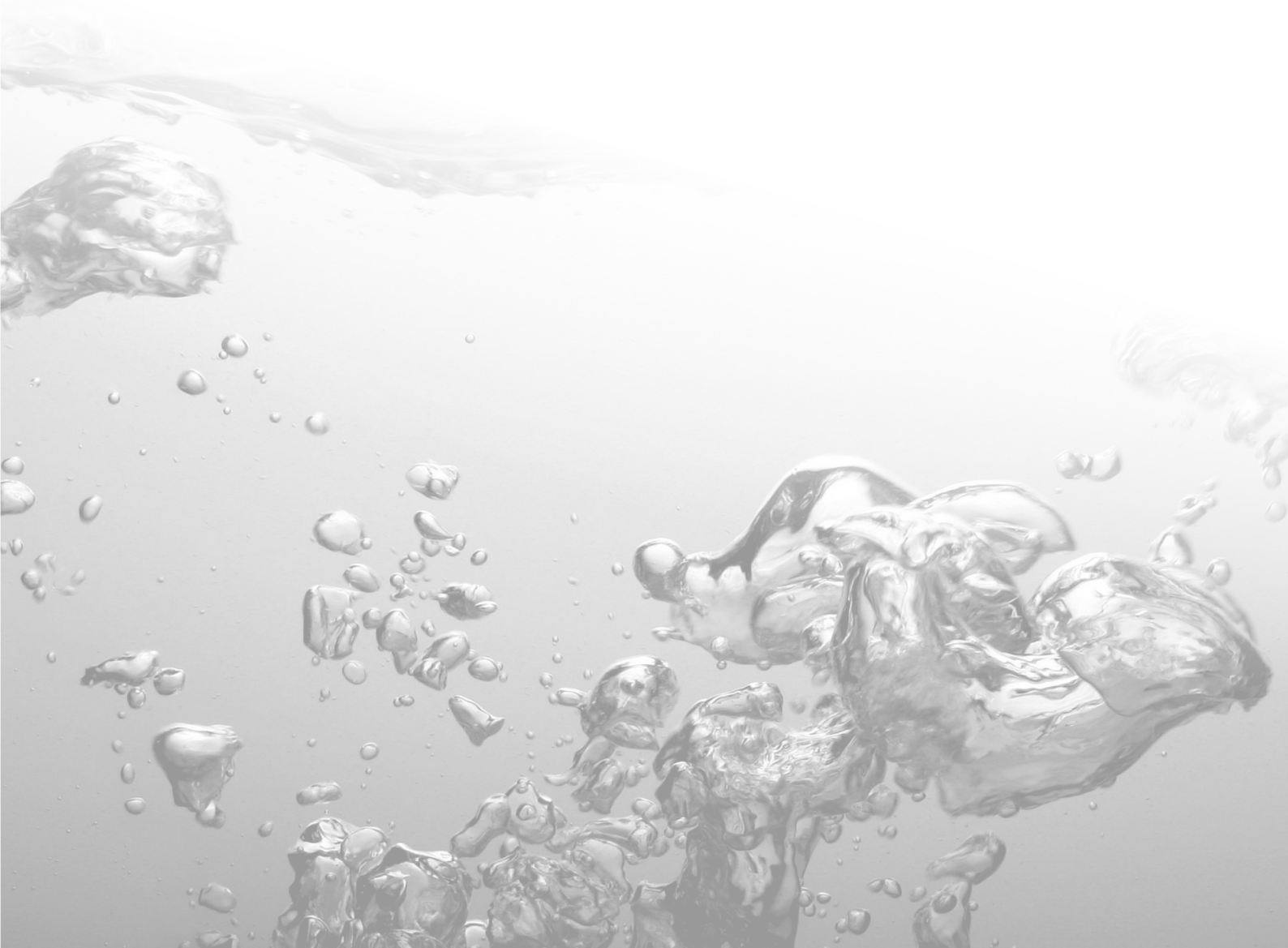
#### Spare parts

For routine maintenance are not necessary spare parts.

For valve DS NPV: see from page 1.74 (drawing with components and parts list see page 1.67) of the catalogue relative to the glass level gauges.



## accessories for magnetic level gauges



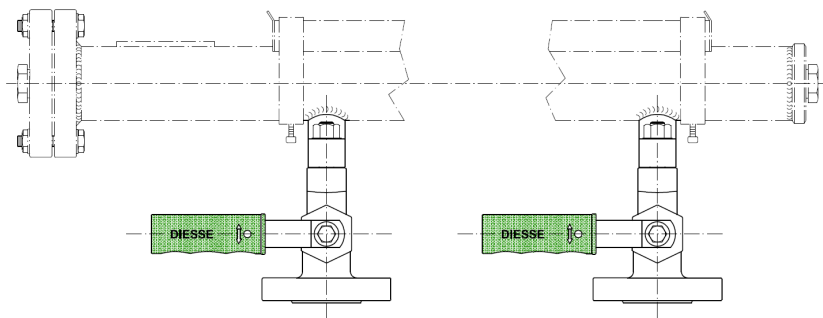


## ACCESSORIES FOR MAGNETIC LEVEL GAUGES

The DIESSE magnetic level gauges can be equipped with shut-off cocks, drain cock and vent cock.  
The shut-off cocks are connected to the main chamber by special T flanges with stainless steel AISI 316 gaskets.

### SHUT OFF COCKS cylindrical plug type

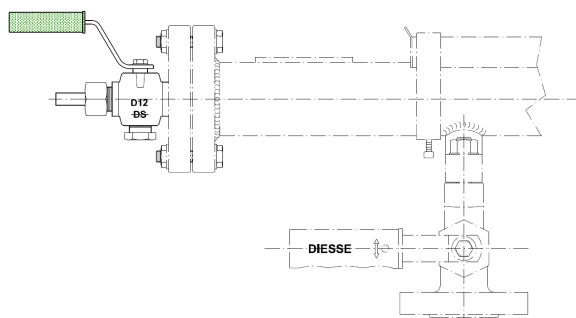
Handling: lever operated with PP handle - Quick 90° closing



Code: GR18

### DRAIN COCK cylindrical plug type

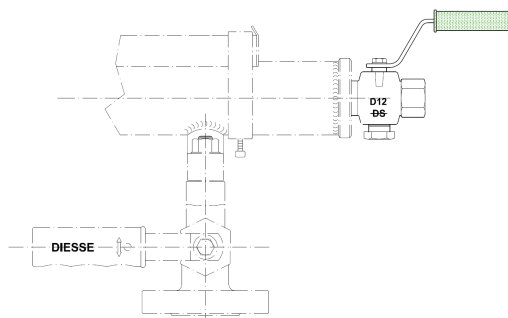
Handling: lever operated with PP handle - Quick 90° closing



Code: D12

### VENT COCK cylindrical plug type

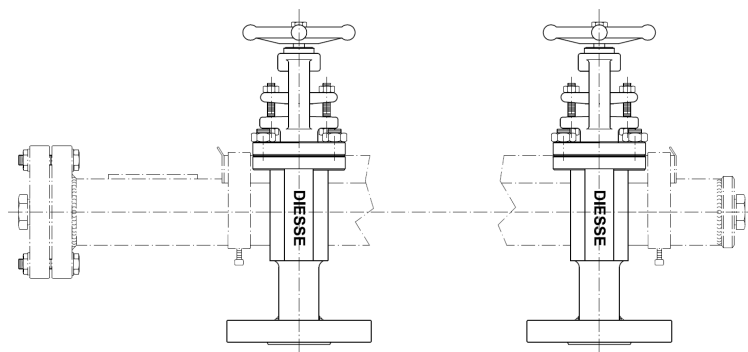
Handling: lever operated with PP handle - Quick 90° closing



Code: D12S

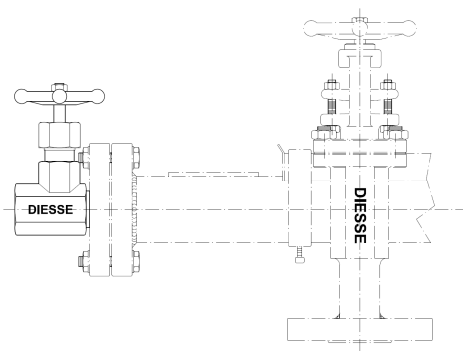
## ACCESSORIES FOR MAGNETIC LEVEL GAUGES

### SHUT OFF VALVES globe type



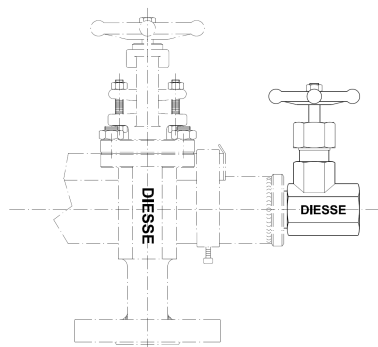
Code: SHV

### DRAIN VALVE globe type



Code: DHV

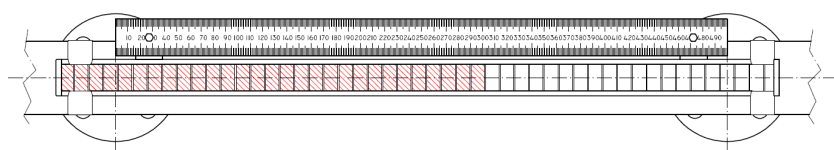
### VENT VALVE globe type



Code: DHVS

### CALIBRATED SCALE

The calibrated scale (millimeters) is in stainless steel, the values are engraved and black coloured. The standard indication correspond to the centre-to-centre distance of the level gauge. On request other materials and graduations can be supplied.

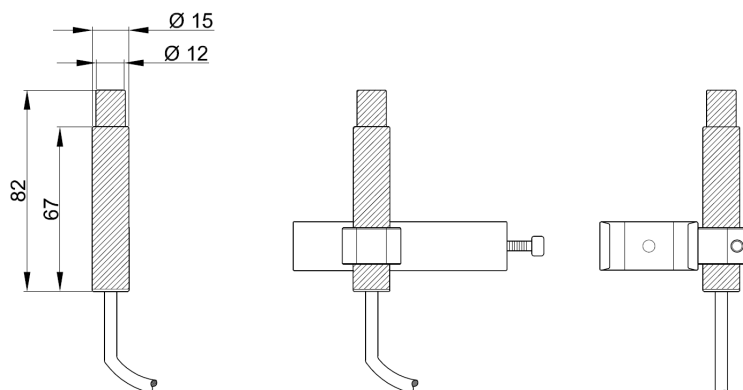


Code: VSG

## ACCESSORIES FOR MAGNETIC LEVEL GAUGES

### MAGNETIC SWITCH type TIM NSB 1240

Magnetic switches are used to monitor certain limits of the level.  
The obtained binary signal can be forwarded to trigger alarms or other controls.

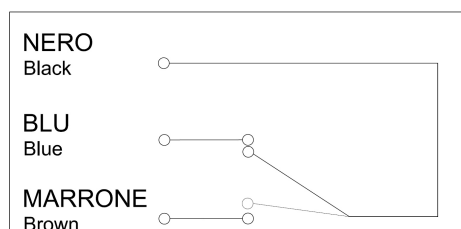


Code: TIM NSB 1240

### Technical data:

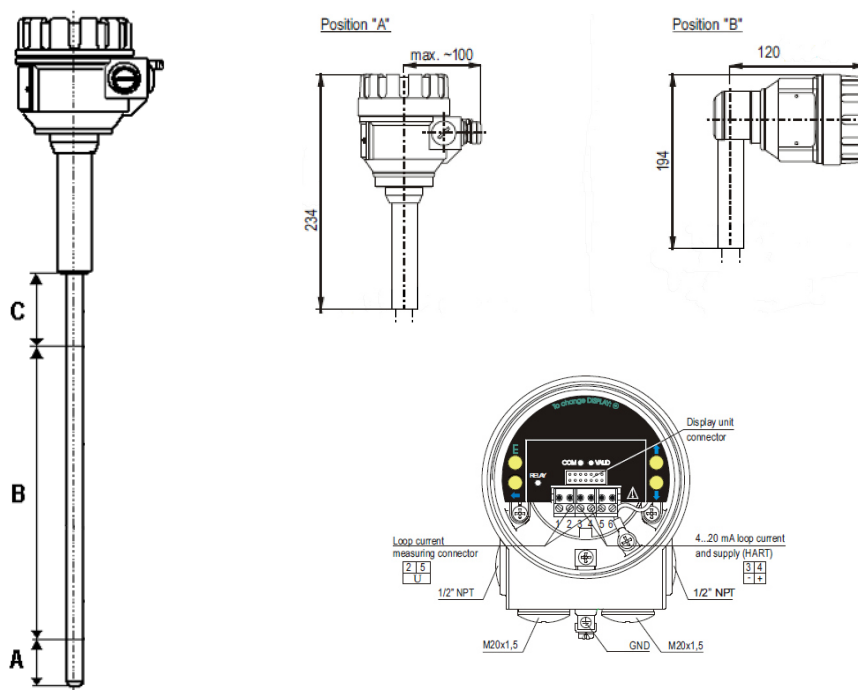
Code	TIM NSB 1240
Contact type	SPDT
Contact behaviour	Bistable
Working	Change-over
Contact material	Fe/Ni with Rodio
Max. power rating	60 VA / 30 W
Max. current rating	0,8 A
Max. voltage rating	220 V
Life time	100 million of controls
Operating frequency	250 imp/s
Repeatability precision	0,1 mm
Impact resistance	30 g / 11 ms
Vibrations resistance	0,35 mm 10-55Hz
Working temperature	-30°C / +160°C
Housing protection	IP 67
Housing material	LAESTRA (SPS) G40
Connection cable	Silicone 3 x 0,75 mmq; Length 3 m Nominal voltage 300 / 500 V Test voltage 2 KV According to table 5 of Standards CEI 20-29

### Connection diagram:



## ACCESSORIES FOR MAGNETIC LEVEL GAUGES

### LEVEL TRANSMITTER



#### Technical data:

Code	DS LTM-MTU-5- ...
Contact type	Magnetostrictive
Measured process value	Liquid level, distance, volume
Housing material	Paint coated aluminium
Tube material	Stainless steel 316 Ti
Measure A	50 mm (Standard) Other measures on request
Measure C	120 mm (Standard) 140 mm (High temperature)
Ambient temperature	-40 ... 70°C, with display -25 ... 70°C On request: execution for high temperature with thermal insulation
Output	Analogue: 4 ... 20 mA (Limit values: 3,9 ... 20,5 mA) With display: SAP 300 graphic display
Damping time	Adjustable 0 s ... 99 s
Error indication	22 mA oppure 3,8 mA or "holding"
Output load	$R_t = (U_t - 12,5V) / 0,02 A$ , $U_t$ = Power supply voltage
Power supply	12,5 V - 36 V DC, 2 wires
Electrical protection	Class III
Ingress protection	IP 67
Electric connection	2x M20x1,5 plastic cable glands for 6 ... 12 mm + 2x NPT 1/2" internal thread for cable protective pipe terminal block for 0,5 ... 1,5 mm <sup>2</sup> (AWG 20 ... AWG 15)
Resolution	1 mm
Nonlinearity	± 2 mm or ± 0,02%
Hysteresis	< ± 1 mm
Temperature error	0,04 mm / 10°C (between -25°C ... 50°C)
Current output data	Resolution: 2 µA, Accuracy: 10 µA, Temperature error: 200 ppm/°C
Accessories	SAP-300 Plug-in display module