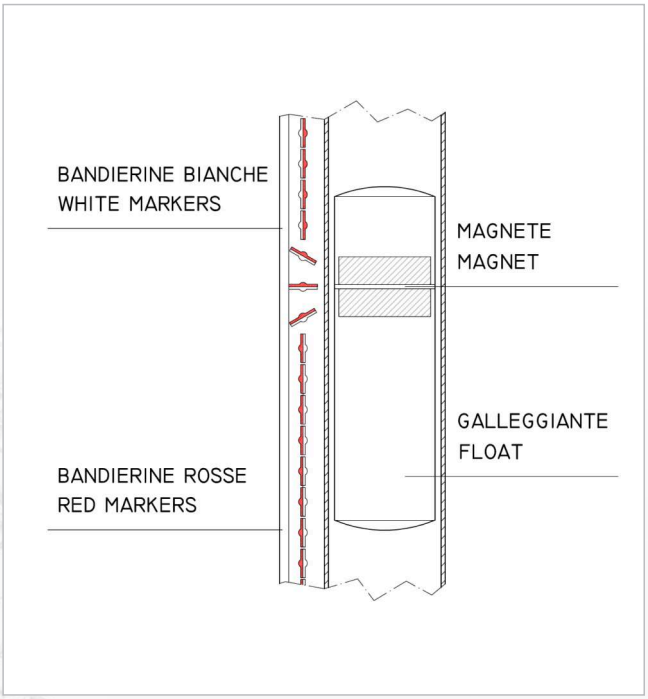
DS DIESSE FLUID CONTROL

Product origin
Design & Manufacturing
ITALY

# 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.

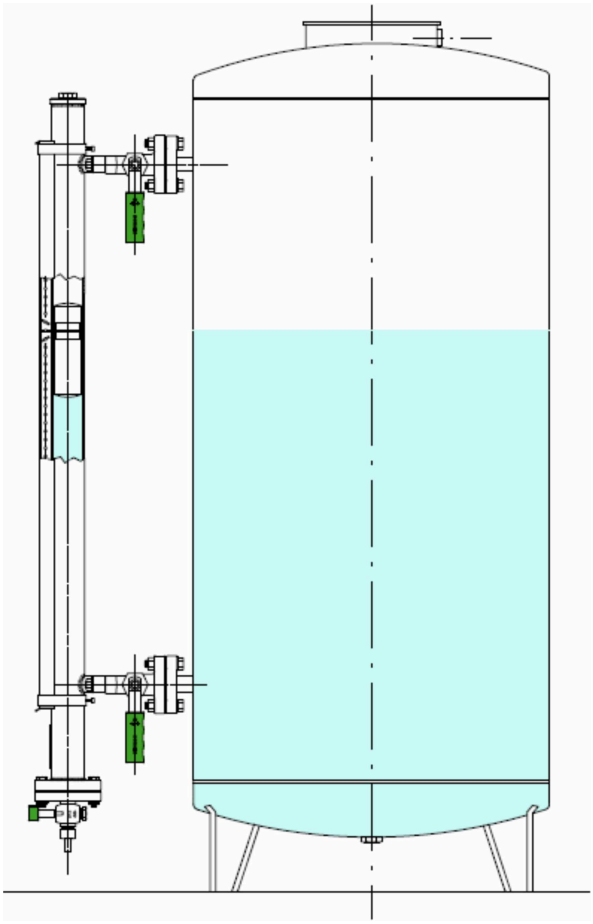
**► essential data**

- **►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



DS DIESSE FLUID CONTROL

Product origin
Design & Manufacturing
ITALY

# MAGNETIC level gauges

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

CE

Consorzio Europeo Certificazione

**CERTIFICATO**

**Controlli ufficiali delle attrezzature effettuati a intervalli casuali**

in accordo alla Direttiva 2014/68/UE
Certificato No.: 16/101-VF15335
Categoria: II

Nome e Indirizzo del Fabbricante: DIESSE Srl Fluid Control
Via dell'Artigianato 10/12,
21040 Origgio (VA)

A seguito degli accertamenti effettuati, il Fabbricante è autorizzato ad apporre, in corrispondenza della Marcatura CE, il numero identificativo sotto riportato su ciascuna attrezzatura a pressione prodotta:

CE 1131

Procedura in accordo alla Direttiva 2014/68/UE: Controllo interno della produzione unito a controlli ufficiali delle attrezzature effettuati a intervalli casuali (Modulo A2)

Rapporto di Audit No: 16/101-RA001 del 13/09/2016

Descrizione delle attrezzature a pressione: Indicatore di livello magnetico DS-MG DS-BP
Dis. MGNDSBP01_Rev.3 ; MGNDSBP01_Rev.3
N.F. 40616

Verifica eseguita su

Luogo di produzione: c/o DIESSE Srl Fluid Control
Via dell'Artigianato 10/12,
21040 Origgio (VA)

Validità: 12/09/19

*Legnano, 13 settembre 2016*

CONSORZIO EUROPEO CERTIFICAZIONE
L'ORGANO DELIBERANTE

Il Direttore Tecnico (A. FUGAZZI)

Il Direttore Generale (L. FIMOSSI)

ACCREDIA

CEC - CONSORZIO EUROPEO CERTIFICAZIONE S.C.A.R.L.
Sede Legale e Uffici: Via Pisacane, 46- 20025 LEGNANO (MI) Italy - tel. (+39) 0331 - 442266- fax (+39) 0331- 440054

IIS - Founding Member of

IIS CERT

**Certificato numero: 279**
*Certificate number*

Si certifica che la Società
*We hereby certify that the Company*

**DIESSE SRL FLUID CONTROL**

Unità operativa / *Branch*
VIA DELL' ARTIGIANATO 10/12 - 21040 ORIGGIO (VA)

applica un Sistema di Gestione per la Qualità conforme ai requisiti della norma
operates a Quality Management System fulfiling the requirements of

**UNI EN ISO 9001 : 2015**
ISO 9001 : 2015

campo di applicazione / *field of application* :
**Progettazione e produzione di indicatordi livello, rubinetterie industriali e strumentazione industriale e fornitura di prodotti affini.**
*Design and production of level markers, industrial taps and industrial instrumentation and supply of related products.*
Settori EA / *EA Sectors* 19 - 17

| | | L' Organo Deliberante | Il Direttore Tecnico IIS CERT |
|---|---|---|---|
| Prima emissione / *First issue* | 19/11/2007 | Dott. Ing. Paolo Piccio | Dott. Ing. Stefano Monni |
| Emissione corrente / *Current issue* | 18/12/2017 | | |
| Data di scadenza / *Expiry date* | 09/10/2019 | | |

ACCREDIA

SGQ n° 021A PRS n° 021C
PRO n° 021B SGA n° 033D
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreement

Il presente certificato è soggetto al rispetto delle condizioni stabilite nel regolamento IIS CERT QAS 017 R.
This certificate complies with the terms established by IIS CERT document QAS 017 R.

IIS CERT Srl Lungobisagno Istria 29 R - 16141 GENOVA - www.iiscert.it
Corporate Governance Istituto Italiano della Saldatura

Aside from the type of fluid in the tank, the choice of level gauge mainly depends on the operating and design temperature/pressure values. These must always be clearly specified when asking for a quote or placing an order.

Magnetic level gauges differ in terms of their pressure ratings under operating conditions: low, medium and high.

**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 expoxy 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 |

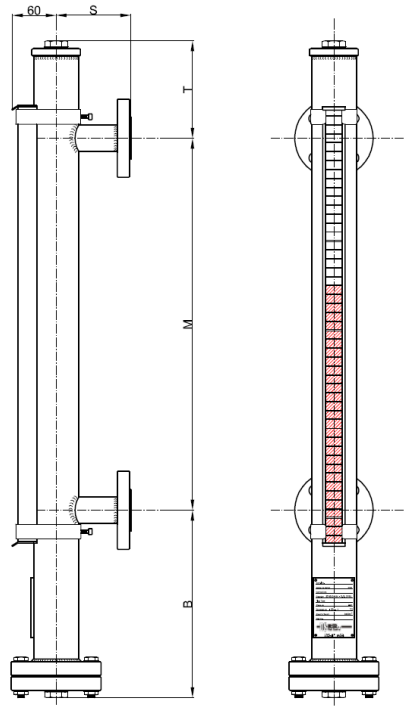
DS DIESSE FLUID CONTROL

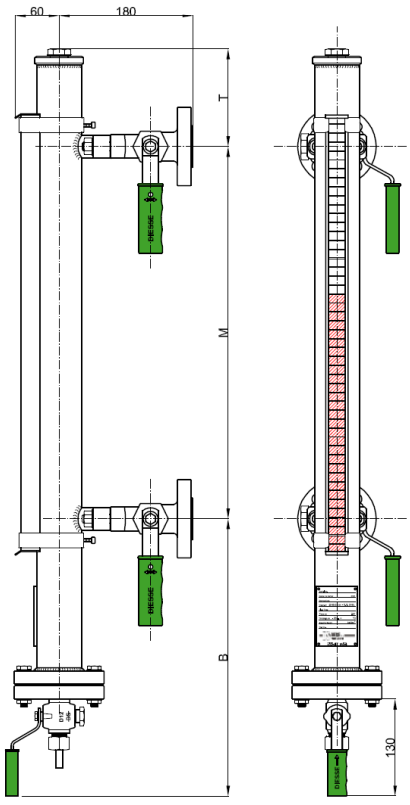
# MAGNETIC LEVEL GAUGE

## 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: ≥ 0,7 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 (Ø 60,3 x 2 mm) |
| Float: | Stainless steel 316L (Ø 50 mm)<br>Titanium Grade 2 (Ø 50 mm) |
| Process connections: | Stainless steel 316L (flanged, threaded pipes, butt weld pipes)<br>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 ½“ - ¾“ - 1“ |
| Standard threaded pipes: | BSP-M ½” - ¾” - 1”<br>BSP-F ½” - ¾” - 1” | NPT-M ½” - ¾” - 1”<br>NPT-F ½” - ¾” - 1” |
| Standard butt weld pipes: | BW ½” - ¾” - 1” | SW ½” - ¾” - 1” |

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

**Vent:** Standard: threaded ½” 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 ½” 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.

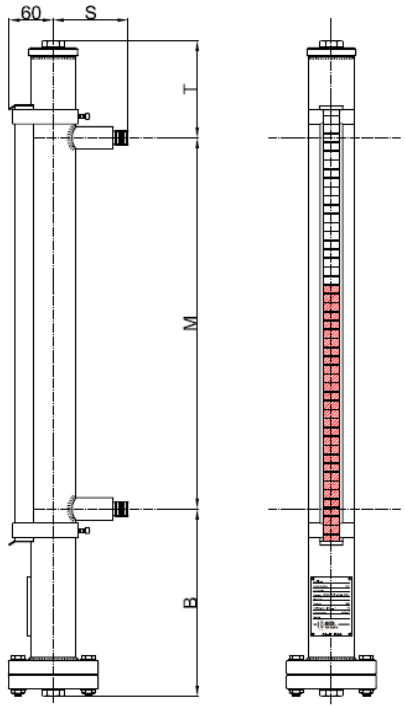
DS DIESSE FLUID CONTROL

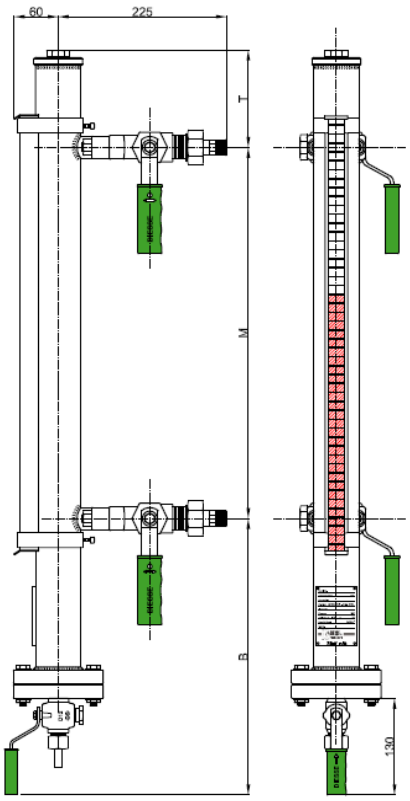
# MAGNETIC LEVEL GAUGE

## 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: ≥ 0,7 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 (Ø 60,3 x 2 mm) |
| Float: | Stainless steel 316L (Ø 50 mm)<br>Titanium Grade 2 (Ø 50 mm) |
| Process connections: | Stainless steel 316L (flanged, threaded pipes, butt weld pipes)<br>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 ½" - ¾" - 1" |
| Standard threaded pipes: | BSP-M ½" - ¾" - 1"<br>BSP-F ½" - ¾" - 1" | NPT-M ½" - ¾" - 1"<br>NPT-F ½" - ¾" - 1" |
| Standard butt weld pipes: | BW ½" - ¾" - 1" | SW ½" - ¾" - 1" |

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

**Vent:** Standard: threaded ½" 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 ½" 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.

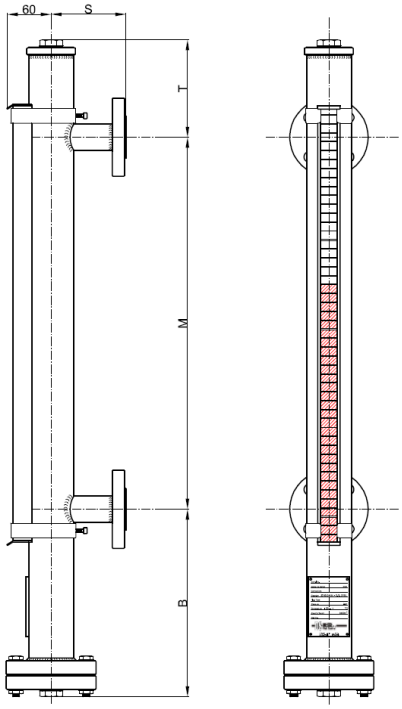
DS DIESSE FLUID CONTROL

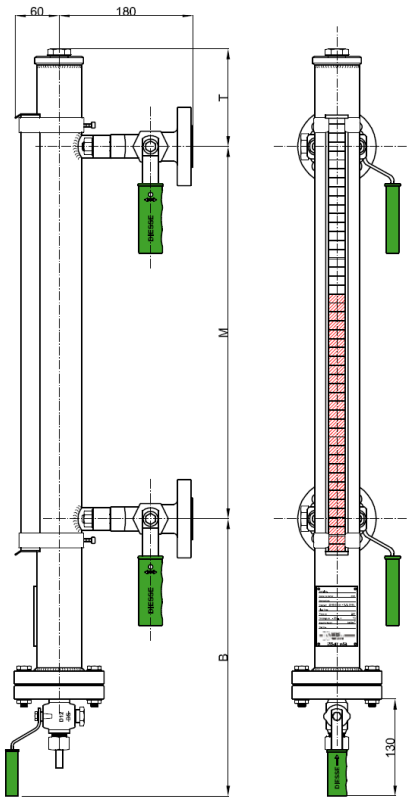
# MAGNETIC LEVEL GAUGE

## 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: ≥ 0,7 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 (Ø 60,3 x 2,77 mm) |
| Float: | Titanium Grade 2 (Ø 50 mm) with reinforcements |
| Process connections: | Stainless steel 316L (flanged, threaded pipes, butt weld pipes)<br>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 ½“ - ¾“ - 1“ |
| Standard threaded pipes: | BSP-M ½” - ¾” - 1” | NPT-M ½” - ¾” - 1” |
| | BSP-F ½” - ¾” - 1” | NPT-F ½” - ¾” - 1” |
| Standard butt weld pipes: | BW ½” - ¾” - 1” | SW ½” - ¾” - 1” |

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

**Vent:** Standard: threaded ½” 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 ½” 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.

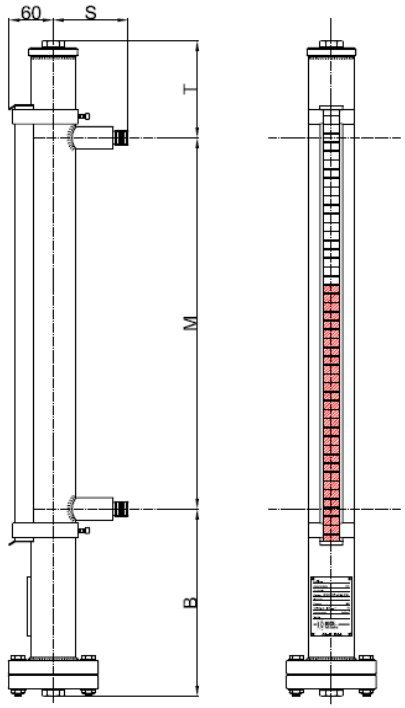
DS DIESSE FLUID CONTROL

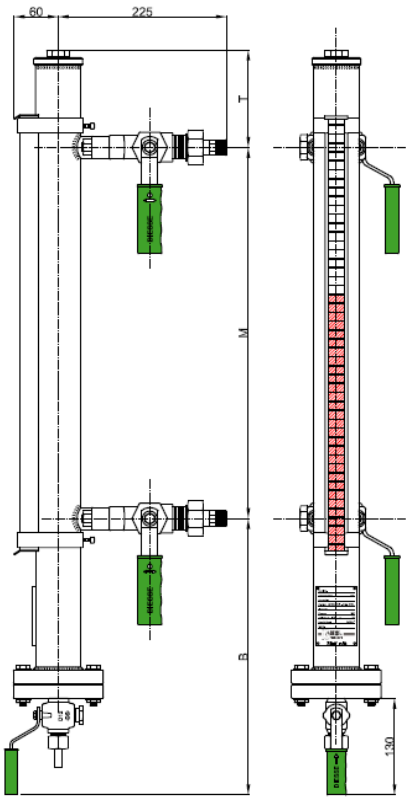
# MAGNETIC LEVEL GAUGE

## 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: ≥ 0,7 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 (Ø 60,3 x 2,77 mm) |
| Float: | Titanium Grade 2 (Ø 50 mm) with reinforcements |
| Process connections: | Stainless steel 316L (flanged, threaded pipes, butt weld pipes)<br>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 ½" - ¾" - 1" |
| Standard threaded pipes: | BSP-M ½" - ¾" - 1" | NPT-M ½" - ¾" - 1" |
| | BSP-F ½" - ¾" - 1" | NPT-F ½" - ¾" - 1" |
| Standard butt weld pipes: | BW ½" - ¾" - 1" | SW ½" - ¾" - 1" |

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

**Vent:** Standard: threaded ½" 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 ½" 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.