GLASS LEVEL GAUGES

- ❑ **WITH REFLEX GLASSES**
- ❑ **WITH TRANSPARENT GLASSES**
- ❑ **WELD-ON TYPE**
- ❑ **WITH GLASS TUBE**
- ❑ **WITH MICROWAVE TRANSMITTER**

Reflex level gauge
type DS LG - RBR GR18

Reflex level gauge
type DS LG - RBF GR18

Reflex level gauge
type DS LG - RDR GR18

Tube and protection type
DS LG - TVR GR18

Transparent level gauge
with illumination lamp EEx d
type DS LG - TPF GR18

Reflex level gauge
with monolithic shut-off cocks
type DS LG - RTR MT18

Reflex level gauge
with ball valves
type DS LG - RTF SBB

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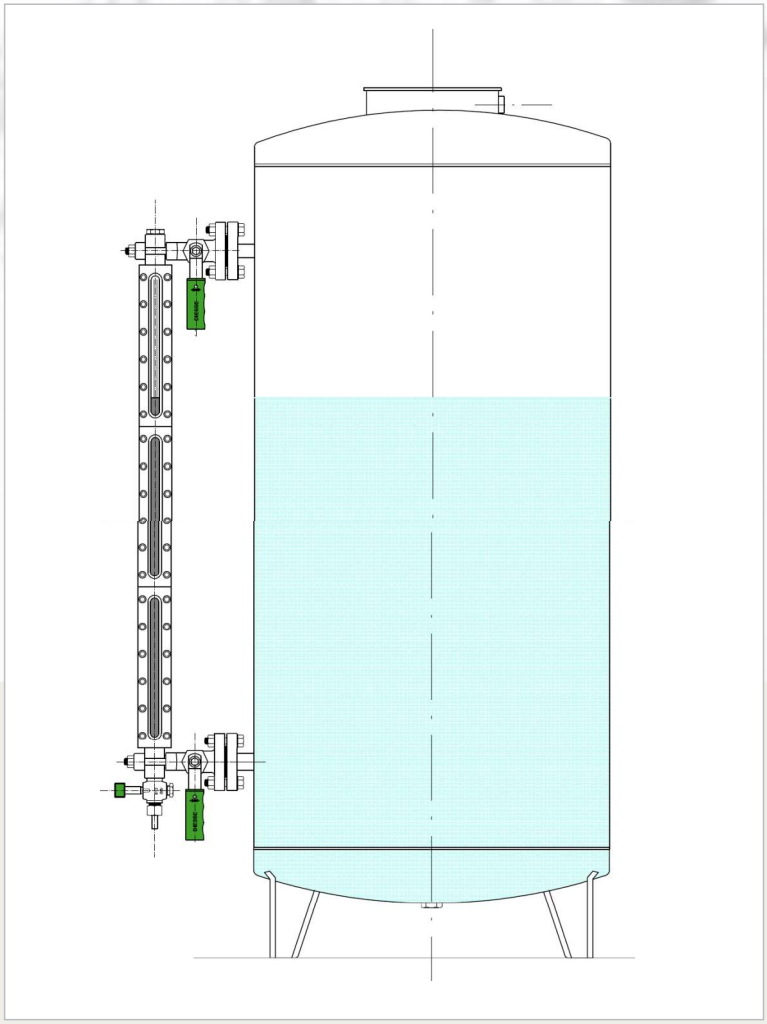
TO RECOMMEND THE MOST SUITABLE LEVEL GAUGE, PLEASE PROVIDE THE FOLLOWING ESSENTIAL DATA WHEN ASKING FOR ADVICE OR QUOTATION.

► essential data

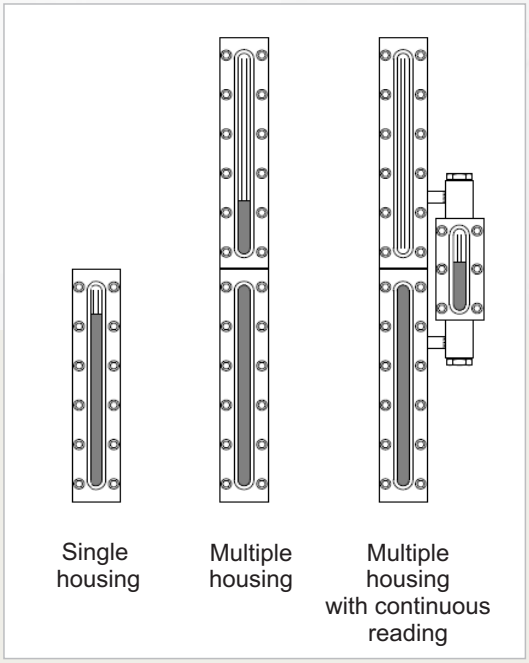
- ► **CENTRE-TO-CENTRE DISTANCE (distance between process connections)**
- MINIMUM VISIBLE LENGTH REQUIRED
- ► **TYPE OF CONNECTIONS (flanged-threaded-weld-on) and related STANDARDS (UNI-ANSI-DIN…)**
- POSITION OF PROCESS CONNECTIONS
- POSITION OF THE VALVE HANDLING
- ► **REQUIRED MATERIAL (wetted and non-wetted parts)**
- ► **TYPE OF FLUID**
- ► **DESIGN AND MAXIMUM OPERATING PRESSURES**
- ► **DESIGN AND MAXIMUM OPERATING TEMPERATURES**
- ANY ADDITIONAL ACCESSORIES

Glass level gauges give very accurate level readings, making them the ideal product for calibrating other instruments as well.
They play a crucial role during system start-up.



READING TYPE

The required visible length depends on the type of fluid and the shape of the tank.
The visible length with a single glass varies from 95 mm to 320 mm. If the required visible length exceeds these measurements, additional glasses of the same length are joined together and mounted on a single bar.
To ensure continuous reading along a housing consisting of numerous glasses, one or more housings can be placed on the side at the points where the reading is interrupted.



DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGES

Code

1 Basic Type

DS LG	DIESSE Glass level gauge

2 Level Gauge Model

Pos. 1: Level Gauge type

RTR	Reflex - rotating execution with tubular cover
RTF	Reflex - fixed distance execution with tubular cover
RBR	Reflex - rotating execution with lateral covers
RBF	Reflex - fixed distance execution with lateral covers
RCR	Reflex - rotating execution with light cover
RDR	Reflex - rotating execution with light cover - flat body
RCF	Reflex - fixed distance execution with light cover
RPF	Reflex - fixed distance execution with heavy cover
RXF	Reflex - fixed distance execution with heavy cover - flat body
TCR	Transparent - rotating execution with light cover
TMR	Transparent - rotating execution with light cover - flat body
TCF	Transparent - fixed distance execution with light cover
TMF	Transparent - fixed distance execution with light cover - flat body
TPF	Transparent - fixed distance execution with heavy cover
TXF	Transparent - fixed distance execution with heavy cover - flat body
RCW	Reflex - weld-on type with light cover
TCW	Transparent - weld on type with light cover
TVR	Tubular glass type

Pos. 2: No. of sections

Pos. 3: Glass size / type

Options Pos. 3

Standard	Type A
/B	Type B
/RV	Right View
/LV	Left View
/MS	Glass protection with MICA shields
/KFS	Glass protection with ECTFE shields

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 Gauge Valves model

Pos. 1: Type of valves

0	None
GR18	Cylindrical plug cocks
MT18	Cylindrical plug cocks - Monolithic body
NPV	Push button valves
SHV	Globe valves
SBB	Ball valves

Pos. 2: Drain and Vent connection

0	Blind
PB	Plug BSP
PT	Plug NPT
FL	Flange
D12	Cylindrical plug cock (Standard)
D18	Cylindrical plug cock
PM18	Three way cylindrical plug manometer setting valve with control flange
DHV	Globe valve
DBB	Ball valve

5 Distance Centre-to-centre

M…	Distance between connections centres in mm
M [SL…HL]	Standard distance: see table in each level type form

6 Materials

Pos. 1: Wetted parts

CS	Carbon steel ASTM A105 galvanized
LF2	Carbon steel A105 LF2 galvanized
SS	Stainless steel AISI 316L

Pos. 2: Non-wetted parts

CS	Carbon steel galvanized
SS	Stainless steel AISI 316

Pos. 3: Gaskets

Standard	Graphite / Copper
GF	Graphite / AISI 316
PF	PTFE/316
GG	EPDM (for glass tube)

7 Accessories

LC	Lower check ball	UC	Upper check ball	LUC	Check balls (lower + upper)
LPH	Lower pusher	UPH	Upper pusher	LUPH	Pusher (lower + upper)
VSG	Calibrated scale	NFE	Non-frosting extension	CR…	Continuous reading
MLA	Minimum level arrow	EVA50	Bulb type illuminator	TDR	Microwave transmitter
GPU	Glass tube protection	MJT	Middle terminal for glass tube	ELC	Remote control
LFC	Weight closing for lower handle	UFC	Weight closing for upper handle	LUFC	Weight closing for all handles (lower + upper)
SMHD	Cocks handles lock (all)	LU-SMHD	Shut-off cocks handles lock	D/V-SSHD	Vent and drain handles lock

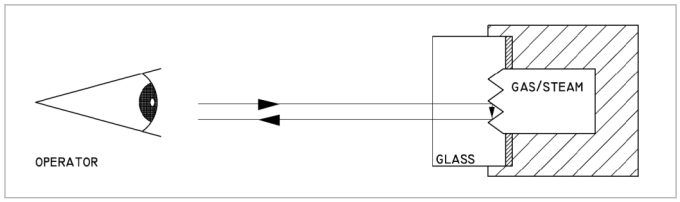
8 Approvals

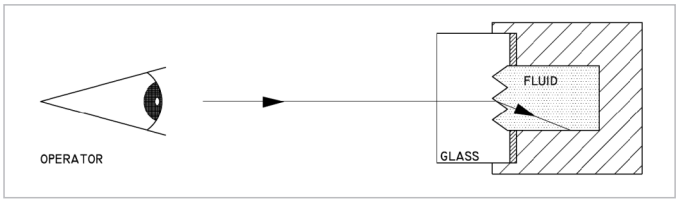
EEx	ATEX	SHP…	Marine

Code	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
e.g.	DS LG	- RBR17	- 20/40/RF	- GR18/D12/0	- M 420	- CS/CS	- LC/VSG	- EEx

REFLEX LEVEL GAUGES

The level is ascertained using a glass which has a smooth side and a wetted prismatic side.
The level of the fluid inside the level gauge is shown by using the optical principles of refraction: the wetted part fully absorbs light and so the fluid appears to be black.
The part in contact with the gas, on the other hand, fully reflects light and so the gas appears to be of a very light colour.





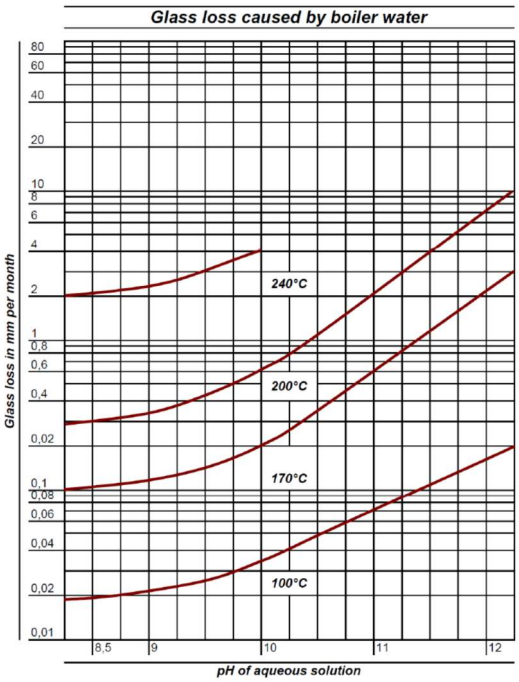
The product line includes level gauges suitable for pressure ratings from PN10 to PN160 and a huge number of industrial process applications.

This type of gauge is recommended:
- for taking clear and simple readings (see counter-indications below)
- if you are looking for an inexpensive gauge which will also save you money on maintenance costs

Operating limits / Conditions:
Process:
Max. pressure: 160 bar @ 38°C (with GR18, MT18 or SHV type valves)
Max. temperature: 300°C (max. temperature allowed by borosilicate glasses as per the DIN 7081 standard - see page 1.69)

Steam: (see page 1.59)
Max. pressure: 22 bar (with GR18, MT18 or SHV type valves)
Max. temperature: 216°C (saturated steam @ 22 bar)

For saturated steam values > 20 bar, a low-maintenance transparent level gauge with mica shield protection should be used (see graph "glass loss caused by boiler water" for the estimated glass life).
Not only does the glass life depend on the temperature, it depends on the pH of the water (the higher the value, the shorter the glass life).



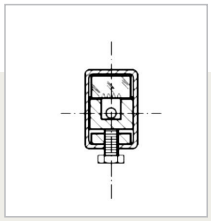
Glass loss - shown here for unprotected sight and gauge glasses - depends mainly on the pH and the temperature of the boiler water.

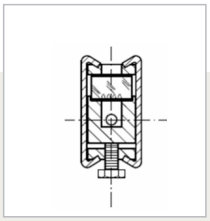
The product is NOT suitable for use in the following instances:
- if exposed to corrosive fluid (e.g. caustic soda, hydrofluoric acid, citric acid ...)
- if exposed to high pressure steam
- if subjected to repeated thermal shocks

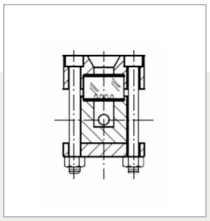
In the scenarios listed above, the glass must be protected with MICA or PCTFE shields, so a transparent level gauge is necessary

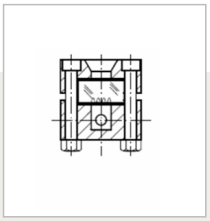
- for checking the level of separation between two immiscible fluids (interface)
- for checking the colour of a fluid (all fluids look very dark)
- in cases where the fluid is particularly viscous (a film may form on the glass which prevents you from taking an accurate reading)
- in cases where the fluid is particularly dark (the reflex principle is rendered ineffective)

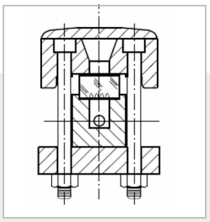
Types:

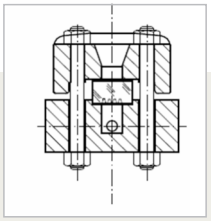

PN16


PN25/40
Class 150


PN40/64
Class 300


PN40/64
Class 300


PN100/160
Class 600/900


PN160
Class 900

Materials / Specifications:
Connections between housing and cocks:
- with grinded pipes and stuffing box (view can be turned by the customer during installation)
- fixed centre-to-centre distance with metal seal (view can be turned during manufacture)

Wetted parts:
- standard: galvanized ASTM A105 or A105 LF2 carbon steel, ASTM A182 F316L stainless steel
- additional options: on request

Non-wetted parts:
- standard: galvanized carbon steel, AISI 316/316L stainless steel
- additional options: on request

Gaskets: (see page 1.71)
- standard: graphite/copper (ASTM A105), graphite/AISI 316 (A105 LF2 and ASTM A182 F316L)
- additional options: PTFE; other extras on request

Glasses: (see page 1.69)
- reflex borosilicate glasses, thermally pre-stressed and extra hard as per the DIN 7081 standard

Shut-off: (see page 1.49)
- standard: upper valve and lower valve (side/side)
- additional options: on request

Drain: (see page 1.50)
- standard: threaded valve
- additional options: on request

Vent: (see page 1.50)
- standard: blind (for grinded pipes version)
- threaded with plug (for fixed centre-to-centre version)
- additional options: on request

Tank connections:
Flanged:
- UNI standard: PN40 DN15 / DN20 / DN25
- ANSI standard: #150 / #300 / #600 DN ½" / ¾" / 1"
- additional options: on request

Threaded:
- BSP (GAS) standard: ½"-M / ¾"-M
- NPT standard: ½"-M / ¾"-M

Weld-on: from ½" to 1" BW or SW
Option: further connections type or direct connections to the process without shut-off cocks (see page 1.49 for more details)

Shut-off cocks, drain cock and vent cock:
- Cylindrical plug cocks (type GR18 or MT18 - see page 1.47)
- Globe valves (type SHV - see page 1.48)
- Push-button valves (type NPV - see page 1.48)
- Ball valves (type SBB)

Spare parts:
Our spare parts are interchangeable with those of major international manufacturers.
For the full range of complete sets, turn to the spares section on page 1.69.

Accessories:
Lower and/or upper safety ball, pusher for safety ball, calibrated scale, non-frosting extension, minimum level arrow, continuous reading, cocks handles lock (see page 1.55 for details)

Certifications (On request):
- ATEX
- Tests and inspection by Notified Bodies
- NACE MR0175
- Others on request

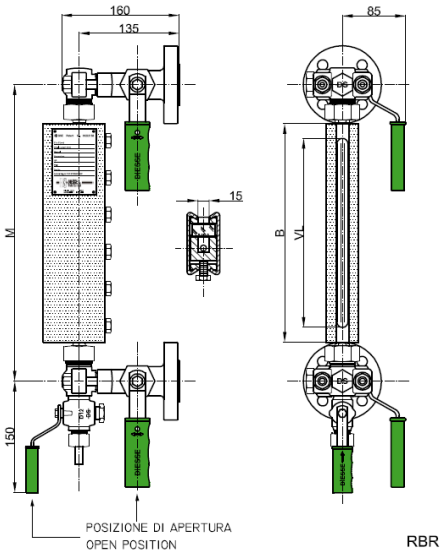
All DIESSE products are individually checked and tested in accordance with company quality procedures and the industry regulations currently in effect. Certificates can be issued on request.

DIESSE S.r.l.
Fluid Control

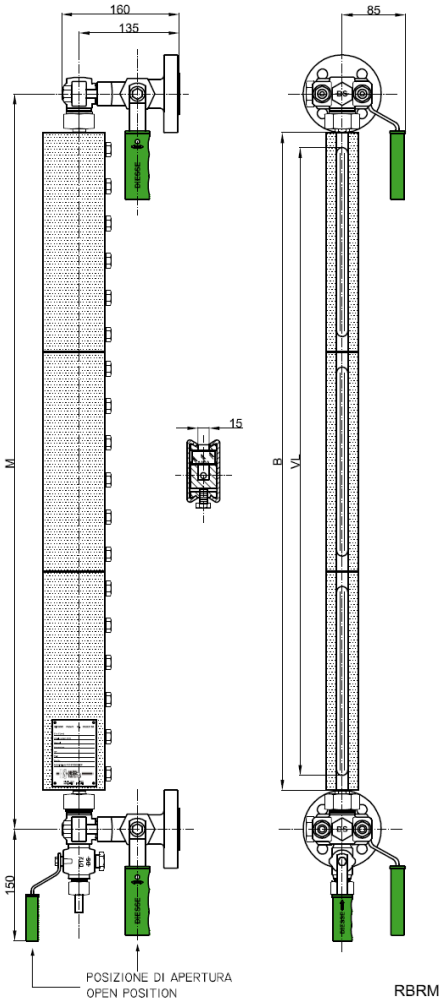
GLASS LEVEL GAUGE
REFLEX TYPE
PN25 and PN40 / Class 150

DS LG - RBR GR18

Code: DS LG RBR…-… /40/RF-GR18/…/…-M…-CS/CS



RBR



RBRM

Technical data

Service conditions
Max Pressure: PN25 and PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS
Gauge body & cocks body:	ASTM A105	AISI 316L
Cocks trim:	AISI 303	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Type DS MT18: cylindrical plug type with monolithic body - Straight type - Quick 90° closing
(see page 1.47) ***Centre-to-centre distance M = B + 115 mm or 140 mm***
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks
(see page 1.49)
Vent: Standard: blind Option: see page 1.50
Drain: Standard: cock type D12 threaded ½” Option: see page 1.50

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69) Option: type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RBR: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 40 Nm

Spare parts
Housing type DS RBR: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see pag. 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	2,4
12	2x1	155	**260**	**285**	**120**	140x1	2,8
13	3x1	180	**285**	**310**	**145**	165x1	3,3
14	4x1	205	**310**	**335**	**170**	190x1	3,8
15	5x1	235	**340**	**365**	**200**	220x1	4,3
16	6x1	265	**370**	**395**	**230**	250x1	4,9
17	7x1	295	**400**	**425**	**260**	280x1	5,4
18	8x1	335	**440**	**465**	**300**	320x1	6,1
19	9x1	360	**465**	**490**	**320**	340x1	6,6
24	4x2	410	**515**	**540**	**375**	190x2	7,5
25	5x2	470	**575**	**600**	**435**	220x2	8,5
26	6x2	530	**635**	**660**	**495**	250x2	9,7
27	7x2	590	**695**	**720**	**555**	280x2	10,7
28	8x2	670	**775**	**800**	**635**	320x2	12,1
29	9x2	720	**825**	**850**	**680**	340x2	13,1
36	6x3	795	**900**	**925**	**760**	250x3	14,4
37	7x3	885	**990**	**1015**	**850**	280x3	15,9
38	8x3	1005	**1110**	**1145**	**970**	320x3	18,0
39	9x3	1080	**1185**	**1210**	**1040**	340x3	19,5
47	7x4	1180	**1285**	**1310**	**1145**	280x4	21,2
48	8x4	1340	**1445**	**1470**	**1305**	320x4	24,0
49	9x4	1440	**1545**	**1570**	**1400**	340x4	26,0
57	7x5	1475	**1580**	**1605**	**1440**	280x5	26,5
58	8x5	1675	**1780**	**1805**	**1640**	320x5	30,0
59	9x5	1800	**1905**	**1930**	**1760**	340x5	32,5
68	8x6	2010	**2115**	**2140**	**1975**	320x6	35,9
69	9x6	2160	**2265**	**2290**	**2120**	340x6	38,9
78	8x7	2345	**2450**	**2475**	**2310**	320x7	41,9
79	9x7	2520	**2625**	**2650**	**2480**	340x7	45,4
88	8x8	2680	**2785**	**2810**	**2645**	320x8	47,9
89	9x8	2880	**2985**	**3010**	**2840**	340x8	51,9

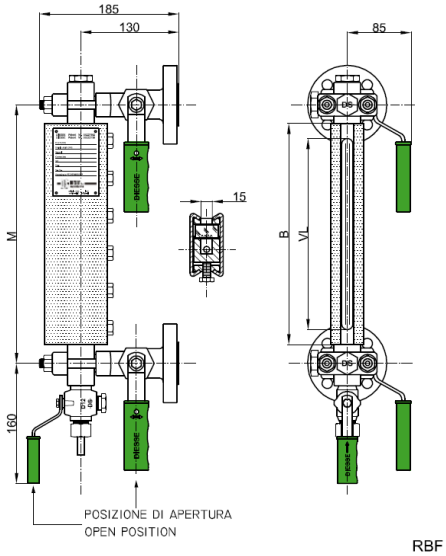
Tab. RBR

DIESSE S.r.l.
Fluid Control

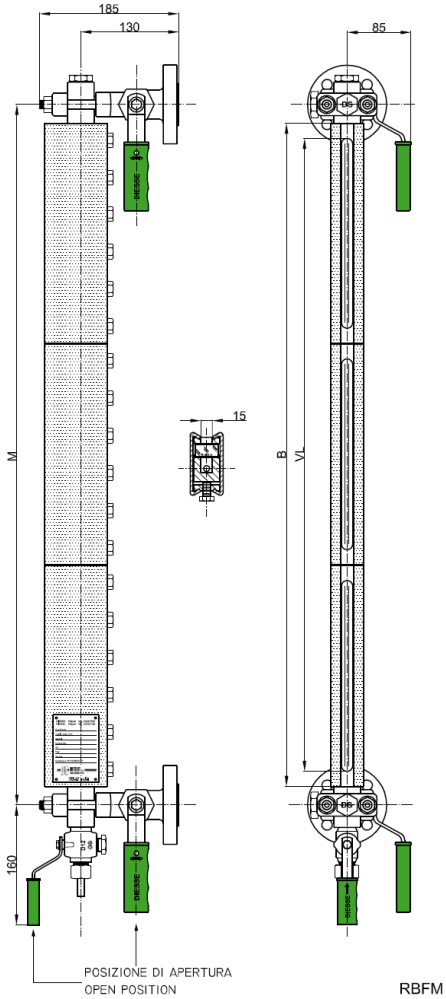
GLASS LEVEL GAUGE
REFLEX TYPE
PN25 and PN40 / Class 150

DS LG - RBF GR18

Code: DS LG RBF…-… /40/RF-GR18/…/…-M…-CS/CS



RBF



RBFM

Technical data

Service conditions
Max Pressure: PN25 and PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS
Gauge body & cocks body:	ASTM A105	AISI 316L
Cocks trim:	AISI 303	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:

Standard flanges:	UNI PN40 DN15-20-25	ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions:	BSP-M ½” - ¾”	NPT-M ½” - ¾”

Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)

Vent:	Standard: threaded ½” with plug	Option: see page 1.52
Drain:	Standard: cock type D12 threaded ½”	Option: see page 1.52

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69) Option: type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RBF: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 40 Nm

Spare parts
Housing type DS RBR: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see pag. 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+40	VL	x No. elements	
11	1x1	130	**170**	**95**	115x1	3,7
12	2x1	155	**195**	**120**	140x1	4,1
13	3x1	180	**220**	**145**	165x1	4,6
14	4x1	205	**245**	**170**	190x1	5,1
15	5x1	235	**275**	**200**	220x1	5,6
16	6x1	265	**305**	**230**	250x1	6,2
17	7x1	295	**335**	**260**	280x1	6,7
18	8x1	335	**375**	**300**	320x1	7,4
19	9x1	360	**400**	**320**	340x1	7,9
24	4x2	410	**450**	**375**	190x2	8,8
25	5x2	470	**510**	**435**	220x2	9,8
26	6x2	530	**570**	**495**	250x2	11,0
27	7x2	590	**630**	**555**	280x2	12,0
28	8x2	670	**710**	**635**	320x2	13,4
29	9x2	720	**760**	**680**	340x2	14,4
36	6x3	795	**835**	**760**	250x3	15,7
37	7x3	885	**925**	**850**	280x3	17,2
38	8x3	1005	**1045**	**970**	320x3	19,3
39	9x3	1080	**1120**	**1040**	340x3	20,8
47	7x4	1180	**1220**	**1145**	280x4	22,5
48	8x4	1340	**1380**	**1305**	320x4	25,3
49	9x4	1440	**1480**	**1400**	340x4	27,3
57	7x5	1475	**1515**	**1440**	280x5	27,8
58	8x5	1675	**1715**	**1640**	320x5	31,3
59	9x5	1800	**1840**	**1760**	340x5	33,8
68	8x6	2010	**2050**	**1975**	320x6	37,2
69	9x6	2160	**2200**	**2120**	340x6	40,2
78	8x7	2345	**2385**	**2310**	320x7	43,2
79	9x7	2520	**2560**	**2480**	340x7	46,7
88	8x8	2680	**2720**	**2645**	320x8	49,3
89	9x8	2880	**2920**	**2840**	340x8	53,2

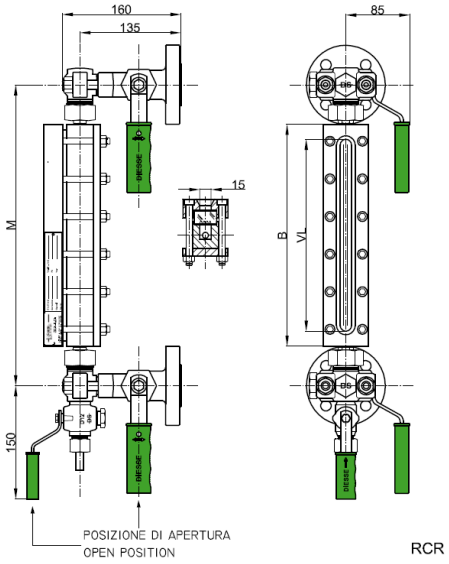
Tab. RBF

DIESSE S.r.l.
Fluid Control

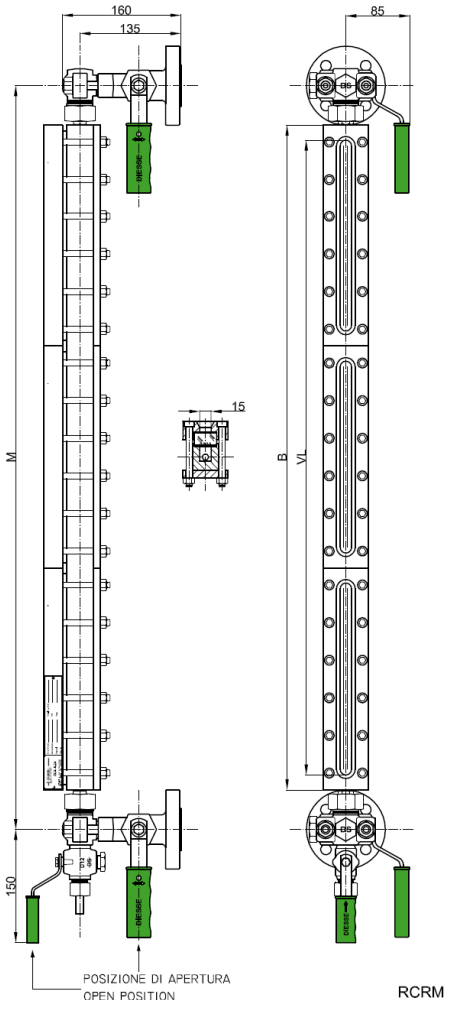
GLASS LEVEL GAUGE
REFLEX TYPE
PN40

DS LG - RCR GR18

Code: DS LG RCR…-… /40/RF-GR18/…/…-M…-CS/CS



RCR



RCRM

Technical data

Service conditions
Max Pressure: PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.49)
Vent: Standard: blind Option: see page 1.50
Drain: Standard: cock type D12 threaded ½” Option: see page 1.50

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RCR: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS RCR: see from page 1.69 (drawing with components and parts list see page 1.62)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	3,0
12	2x1	155	**260**	**285**	**120**	140x1	3,5
13	3x1	180	**285**	**310**	**145**	165x1	4,0
14	4x1	205	**310**	**335**	**170**	190x1	4,4
15	5x1	235	**340**	**365**	**200**	220x1	5,2
16	6x1	265	**370**	**395**	**230**	250x1	5,6
17	7x1	295	**400**	**425**	**260**	280x1	6,3
18	8x1	335	**440**	**465**	**300**	320x1	7,0
19	9x1	360	**465**	**490**	**320**	340x1	7,6
24	4x2	410	**515**	**540**	**375**	190x2	8,6
25	5x2	470	**575**	**600**	**435**	220x2	10,2
26	6x2	530	**635**	**660**	**495**	250x2	11,0
27	7x2	590	**695**	**720**	**555**	280x2	12,5
28	8x2	670	**775**	**800**	**635**	320x2	13,8
29	9x2	720	**825**	**850**	**680**	340x2	15,0
36	6x3	795	**900**	**925**	**760**	250x3	16,5
37	7x3	885	**990**	**1015**	**850**	280x3	18,6
38	8x3	1005	**1110**	**1145**	**970**	320x3	20,7
39	9x3	1080	**1185**	**1210**	**1040**	340x3	22,5
47	7x4	1180	**1285**	**1310**	**1145**	280x4	24,7
48	8x4	1340	**1445**	**1470**	**1305**	320x4	27,5
49	9x4	1440	**1545**	**1570**	**1400**	340x4	29,9
57	7x5	1475	**1580**	**1605**	**1440**	280x5	30,8
58	8x5	1675	**1780**	**1805**	**1640**	320x5	34,3
59	9x5	1800	**1905**	**1930**	**1760**	340x5	37,3
68	8x6	2010	**2115**	**2140**	**1975**	320x6	41,3
69	9x6	2160	**2265**	**2290**	**2120**	340x6	44,8
78	8x7	2345	**2450**	**2475**	**2310**	320x7	48,0
79	9x7	2520	**2625**	**2650**	**2480**	340x7	52,2
88	8x8	2680	**2785**	**2810**	**2645**	320x8	54,8
89	9x8	2880	**2985**	**3010**	**2840**	340x8	59,6

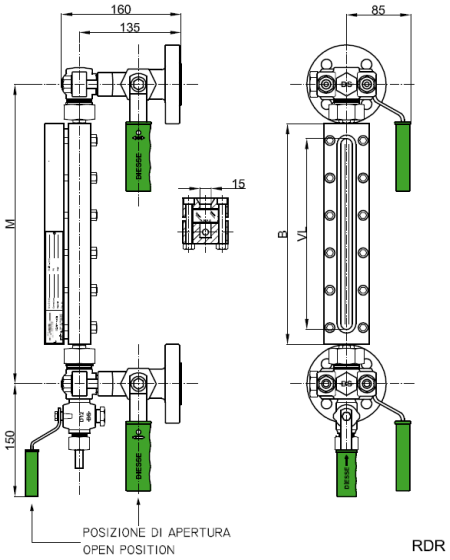
Tab. RCR

DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGE
REFLEX TYPE
PN40

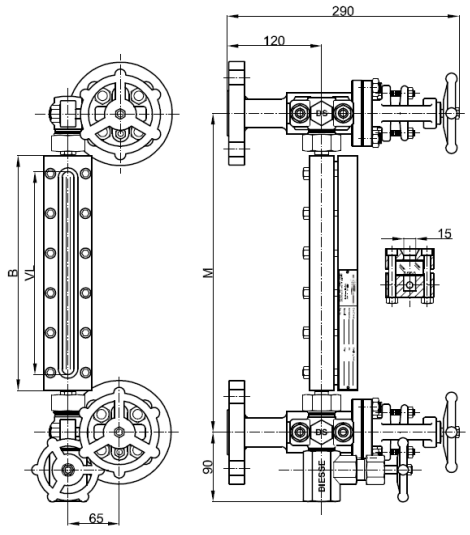
DS LG - RDR GR18 / SHV

Code: DS LG RDR…-… /40/RF-GR18/…/…-M…-CS/CS



RDR

Code: DS LG RDR…-… /40/RF-SHV/…/…-M…-CS/CS



RDRSHV

Technical data

Service conditions
Max Pressure: PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105	AISI 316L	AISI 316L
Cocks body type DS GR18:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Valves body type DS SHV:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Valves type DS SHV: globe type - Opening/Closing by handwheel
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.49)
Vent: Standard: blind Option: see page 1.50
Drain: Standard: cock type D12 threaded ½” Option: see page 1.50

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69) Option: type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RDR: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)
Valves type DS SHV: Kg. 11,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS RDR: see from page 1.69 (drawing with components and parts list see page 1.62)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
		B	M = B+105	M = B+130	VL		
11	1	130	**235**	**260**	**95**	115	2,9
12	2	155	**260**	**285**	**120**	140	3,4
13	3	180	**285**	**310**	**145**	165	3,8
14	4	205	**310**	**335**	**170**	190	4,4
15	5	235	**340**	**365**	**200**	220	5,2
16	6	265	**370**	**395**	**230**	250	5,6
17	7	295	**400**	**425**	**260**	280	6,0
18	8	335	**440**	**465**	**300**	320	6,5
19	9	360	**465**	**490**	**320**	340	7,5

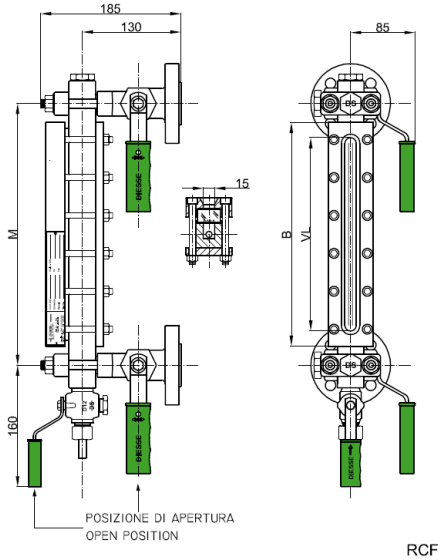
Tab. RDR

DIESSE S.r.l.
Fluid Control

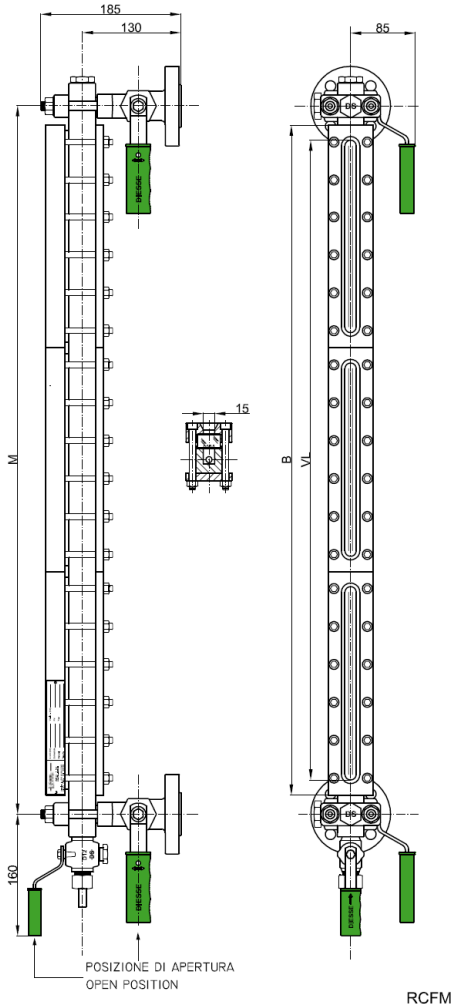
GLASS LEVEL GAUGE
REFLEX TYPE
PN40 and PN64 / Class 300

DS LG - RCF GR18

Code: DS LG RCF…-… /40/RF-GR18/…/…-M…-CS/CS



RCF



RCFM

Technical data

Service conditions
Max Pressure: PN40 and PN64; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40-64 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)
Vent: Standard: threaded ½” with plug Option: see page 1.52
Drain: Standard: cock type D12 threaded ½” Option: see page 1.52

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RCF: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS RCF: see from page 1.69 (drawing with components and parts list see page 1.62)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+40	VL	x No. elements	
11	1x1	130	**170**	**95**	115x1	4,3
12	2x1	155	**195**	**120**	140x1	4,8
13	3x1	180	**220**	**145**	165x1	5,3
14	4x1	205	**245**	**170**	190x1	5,7
15	5x1	235	**275**	**200**	220x1	6,5
16	6x1	265	**305**	**230**	250x1	6,9
17	7x1	295	**335**	**260**	280x1	7,6
18	8x1	335	**375**	**300**	320x1	8,3
19	9x1	360	**400**	**320**	340x1	8,9
24	4x2	410	**450**	**375**	190x2	9,9
25	5x2	470	**510**	**435**	220x2	11,5
26	6x2	530	**570**	**495**	250x2	12,3
27	7x2	590	**630**	**555**	280x2	13,8
28	8x2	670	**710**	**635**	320x2	15,1
29	9x2	720	**760**	**680**	340x2	16,3
36	6x3	795	**835**	**760**	250x3	17,8
37	7x3	885	**925**	**850**	280x3	19,9
38	8x3	1005	**1045**	**970**	320x3	22,0
39	9x3	1080	**1120**	**1040**	340x3	23,8
47	7x4	1180	**1220**	**1145**	280x4	26,0
48	8x4	1340	**1380**	**1305**	320x4	28,8
49	9x4	1440	**1480**	**1400**	340x4	31,2
57	7x5	1475	**1515**	**1440**	280x5	32,1
58	8x5	1675	**1715**	**1640**	320x5	35,6
59	9x5	1800	**1840**	**1760**	340x5	38,6
68	8x6	2010	**2050**	**1975**	320x6	42,6
69	9x6	2160	**2200**	**2120**	340x6	46,1
78	8x7	2345	**2385**	**2310**	320x7	49,3
79	9x7	2520	**2560**	**2480**	340x7	53,5
88	8x8	2680	**2720**	**2645**	320x8	56,1
89	9x8	2880	**2920**	**2840**	340x8	60,9

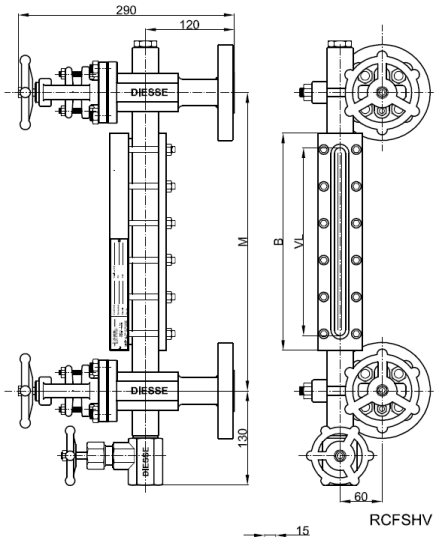
Tab. RCF

DIESSE S.r.l.
Fluid Control

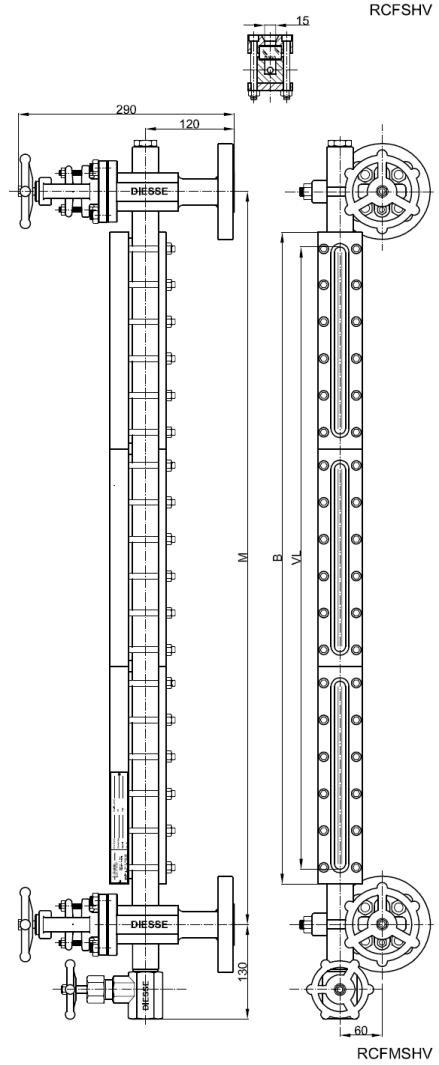
GLASS LEVEL GAUGE
REFLEX TYPE
PN40 and PN64 / Class 300

DS LG - RCF SHV

Code: DS LG RCF…-… /40/RF-SHV/…/…-M…-CS/CS



RCFSHV



RCFMSHV

Technical data

Service conditions
Max Pressure: PN40 and PN64; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN40-64 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: valve type DHV threaded ¾” Option: see page 1.54

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RCF: see below table
Valves type DS SHV: Kg. 11,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS RCF: see from page 1.69 (drawing with components and parts list see page 1.62)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	4,3
12	2x1	155	**235**	**120**	140x1	4,8
13	3x1	180	**260**	**145**	165x1	5,3
14	4x1	205	**285**	**170**	190x1	5,7
15	5x1	235	**315**	**200**	220x1	6,5
16	6x1	265	**345**	**230**	250x1	6,9
17	7x1	295	**375**	**260**	280x1	7,6
18	8x1	335	**415**	**300**	320x1	8,3
19	9x1	360	**440**	**320**	340x1	8,9
24	4x2	410	**490**	**375**	190x2	9,9
25	5x2	470	**550**	**435**	220x2	11,5
26	6x2	530	**610**	**495**	250x2	12,3
27	7x2	590	**670**	**555**	280x2	13,8
28	8x2	670	**750**	**635**	320x2	15,1
29	9x2	720	**800**	**680**	340x2	16,3
36	6x3	795	**875**	**760**	250x3	17,8
37	7x3	885	**965**	**850**	280x3	19,9
38	8x3	1005	**1085**	**970**	320x3	22,0
39	9x3	1080	**1160**	**1040**	340x3	23,8
47	7x4	1180	**1260**	**1145**	280x4	26,0
48	8x4	1340	**1420**	**1305**	320x4	28,8
49	9x4	1440	**1520**	**1400**	340x4	31,2
57	7x5	1475	**1555**	**1440**	280x5	32,1
58	8x5	1675	**1755**	**1640**	320x5	35,6
59	9x5	1800	**1880**	**1760**	340x5	38,6
68	8x6	2010	**2090**	**1975**	320x6	42,6
69	9x6	2160	**2240**	**2120**	340x6	46,1
78	8x7	2345	**2425**	**2310**	320x7	49,3
79	9x7	2520	**2600**	**2480**	340x7	53,5
88	8x8	2680	**2760**	**2645**	320x8	56,1
89	9x8	2880	**2960**	**2840**	340x8	60,9

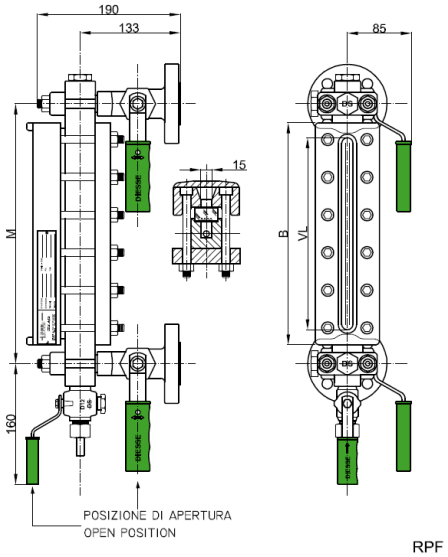
Tab. RCF

DIESSE S.r.l.
Fluid Control

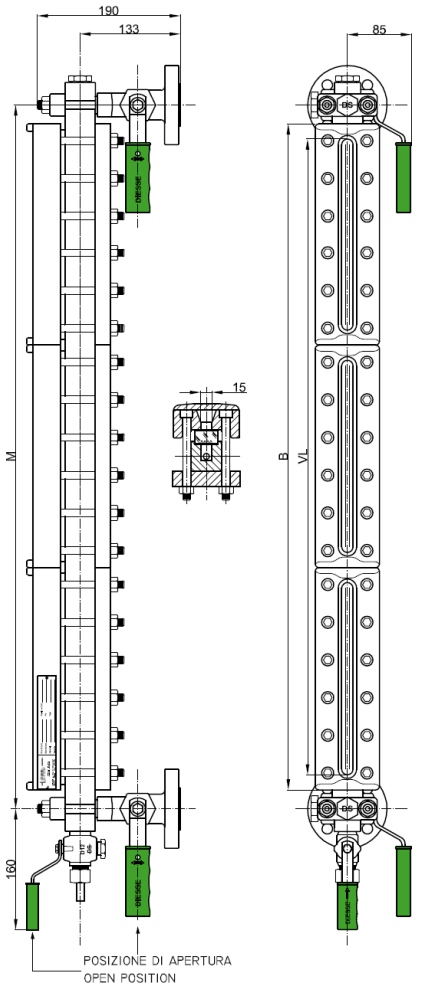
GLASS LEVEL GAUGE
REFLEX TYPE
PN100 and PN160 / Class 600 and 900

DS LG - RPF GR18

Code: DS LG RPF…-… /100/RF-GR18/…/…-M…-CS/CS



RPF



RPFM

Technical data

Service conditions
Max Pressure: PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C) and
PN160; Class 900 (A105: 153,1 bar @ 38°C; AISI 316L: 148,9 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:

Standard flanges:	UNI PN100-160 DN20 - DN25	ANSI#600-900/RF DN ¾“ - 1“
Standard threaded unions:	BSP-M ¾” - 1”	NPT-M ¾” - 1”

Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)
Vent: Standard: threaded ½” with plug Option: see page 1.52
Drain: Standard: cock type D12 threaded ½” Option: see page 1.52

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RPF: see below table
Cocks type DS GR18: Kg. 9,2 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS RPF: see from page 1.69 (drawing with components and parts list see page 1.63)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+50	VL	x No. elements	
11	1x1	130	**180**	**95**	115x1	7,7
12	2x1	155	**205**	**120**	140x1	8,6
13	3x1	180	**230**	**145**	165x1	9,9
14	4x1	205	**255**	**170**	190x1	11,0
15	5x1	235	**285**	**200**	220x1	12,3
16	6x1	265	**315**	**230**	250x1	13,1
17	7x1	295	**345**	**260**	280x1	14,8
18	8x1	335	**385**	**300**	320x1	16,0
19	9x1	360	**410**	**320**	340x1	17,7
24	4x2	410	**460**	**375**	190x2	20,5
25	5x2	470	**520**	**435**	220x2	23,1
26	6x2	530	**580**	**495**	250x2	24,7
27	7x2	590	**640**	**555**	280x2	28,1
28	8x2	670	**720**	**635**	320x2	30,5
29	9x2	720	**770**	**680**	340x2	33,9
36	6x3	795	**845**	**760**	250x3	36,3
37	7x3	885	**935**	**850**	280x3	41,4
38	8x3	1005	**1055**	**970**	320x3	45,0
39	9x3	1080	**1130**	**1040**	340x3	50,1
47	7x4	1180	**1230**	**1145**	280x4	54,7
48	8x4	1340	**1390**	**1305**	320x4	59,5
49	9x4	1440	**1490**	**1400**	340x4	66,3
57	7x5	1475	**1525**	**1440**	280x5	68,0
58	8x5	1675	**1725**	**1640**	320x5	74,0
59	9x5	1800	**1850**	**1760**	340x5	82,5

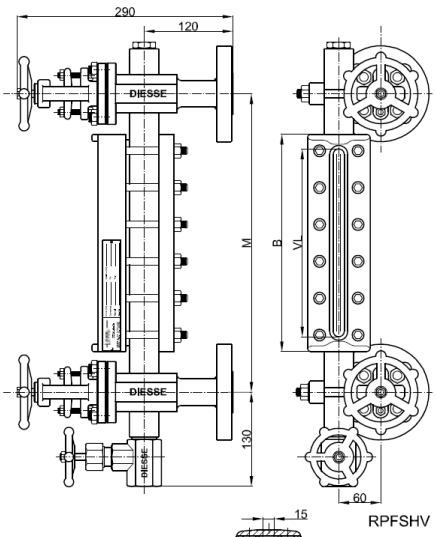
Tab. RPF

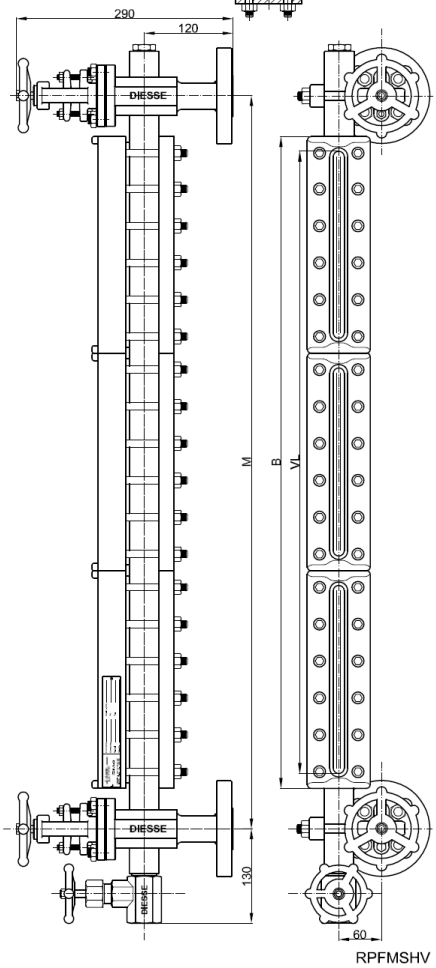
DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGE
REFLEX TYPE
PN100 and PN160 / Class 600 and 900

DS LG - RPF SHV

Code: DS LG RPF…-… /100/RF-SHV/…/…-M…-CS/CS





Technical data

Service conditions
Max Pressure: PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C) and
PN160; Class 900 (A105: 153,1 bar @ 38°C; AISI 316L: 148,9 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN100-160 DN20-25 ANSI#600-900/RF DN ¾“ - 1“
Standard threaded unions: BSP-M ¾” - 1” NPT-M ¾” - 1”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: valve type DHV threaded ¼” Option: see page 1.54

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RPF: see below table
Valves type DS SHV: Kg. 13,5 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS RPF: see from page 1.69 (drawing with components and parts list see page 1.63)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	7,7
12	2x1	155	**235**	**120**	140x1	8,6
13	3x1	180	**260**	**145**	165x1	9,9
14	4x1	205	**285**	**170**	190x1	11,0
15	5x1	235	**315**	**200**	220x1	12,3
16	6x1	265	**345**	**230**	250x1	13,1
17	7x1	295	**375**	**260**	280x1	14,8
18	8x1	335	**415**	**300**	320x1	16,0
19	9x1	360	**440**	**320**	340x1	17,7
24	4x2	410	**490**	**375**	190x2	20,5
25	5x2	470	**550**	**435**	220x2	23,1
26	6x2	530	**610**	**495**	250x2	24,7
27	7x2	590	**670**	**555**	280x2	28,1
28	8x2	670	**750**	**635**	320x2	30,5
29	9x2	720	**800**	**680**	340x2	33,9
36	6x3	795	**875**	**760**	250x3	36,3
37	7x3	885	**965**	**850**	280x3	41,4
38	8x3	1005	**1085**	**970**	320x3	45,0
39	9x3	1080	**1160**	**1040**	340x3	50,1
47	7x4	1180	**1260**	**1145**	280x4	54,7
48	8x4	1340	**1420**	**1305**	320x4	59,5
49	9x4	1440	**1520**	**1400**	340x4	66,3
57	7x5	1475	**1555**	**1440**	280x5	68,0
58	8x5	1675	**1755**	**1640**	320x5	74,0
59	9x5	1800	**1880**	**1760**	340x5	82,5

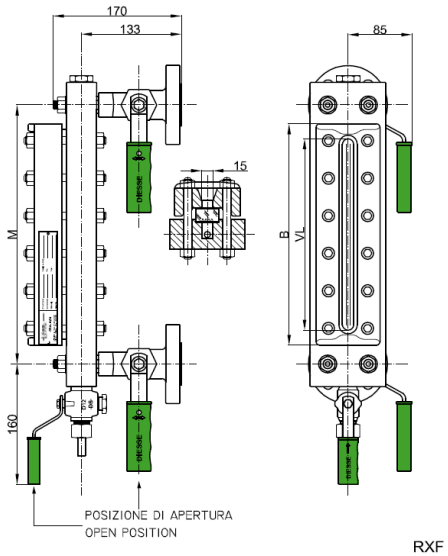
Tab. RPF

DIESSE S.r.l.
Fluid Control

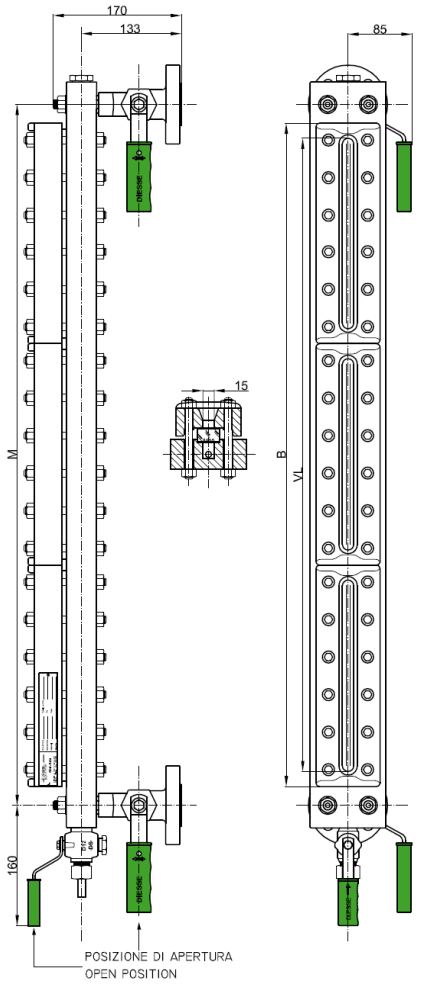
GLASS LEVEL GAUGE
REFLEX TYPE
PN160 / Class 900

DS LG - RXF GR18

Code: DS LG RXF…-… /160/RF-GR18/…/…-M…-CS/CS



RXF



RXFM

Technical data

Service conditions
Max Pressure: PN160; Class 900 (A105: 153,1 bar @ 38°C; AISI 316L: 148,9 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:

Standard flanges:	UNI PN160 DN20 - DN25	ANSI#900/RF DN ¾“ - 1“
Standard threaded unions:	BSP-M ¾” - 1”	NPT-M ¾” - 1”

Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)

Vent:	Standard: threaded ½” with plug	Option: see page 1.52
Drain:	Standard: cock type D12 threaded ½”	Option: see page 1.52

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RXF: see below table
Cocks type DS GR18: Kg. 9,2 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS RXF: see from page 1.69 (drawing with components and parts list see page 1.63)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+50	VL	x No. elements	
11	1x1	130	**180**	**95**	115x1	11,3
12	2x1	155	**205**	**120**	140x1	12,7
13	3x1	180	**230**	**145**	165x1	14,4
14	4x1	205	**255**	**170**	190x1	15,5
15	5x1	235	**285**	**200**	220x1	17,7
16	6x1	265	**315**	**230**	250x1	19,0
17	7x1	295	**345**	**260**	280x1	21,3
18	8x1	335	**385**	**300**	320x1	23,1
19	9x1	360	**410**	**320**	340x1	25,2
24	4x2	410	**460**	**375**	190x2	28,0
25	5x2	470	**520**	**435**	220x2	32,4
26	6x2	530	**580**	**495**	250x2	35,0
27	7x2	590	**640**	**555**	280x2	39,6
28	8x2	670	**720**	**635**	320x2	43,2
29	9x2	720	**770**	**680**	340x2	47,4
36	6x3	795	**845**	**760**	250x3	51,0
37	7x3	885	**935**	**850**	280x3	57,9
38	8x3	1005	**1055**	**970**	320x3	63,3
39	9x3	1080	**1130**	**1040**	340x3	69,6
47	7x4	1180	**1230**	**1145**	280x4	76,2
48	8x4	1340	**1390**	**1305**	320x4	83,4
49	9x4	1440	**1490**	**1400**	340x4	91,8
57	7x5	1475	**1525**	**1440**	280x5	94,5
58	8x5	1675	**1725**	**1640**	320x5	103,5
59	9x5	1800	**1850**	**1760**	340x5	114,0

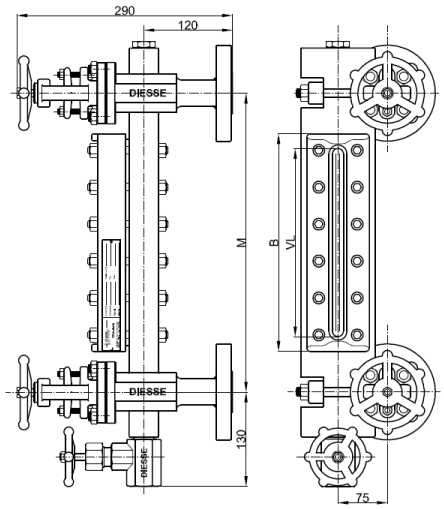
Tab. RXF

DIESSE S.r.l.
Fluid Control

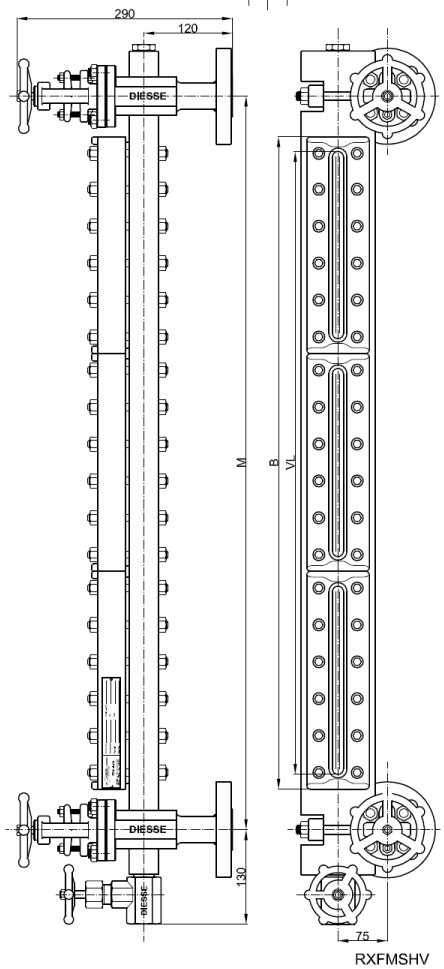
GLASS LEVEL GAUGE
REFLEX TYPE
PN160 / Class 900

DS LG - RXF SHV

Code: DS LG RXF…-… /160/RF-SHV/…/…-M…-CS/CS



RXFSHV



RXFMSHV

Technical data

Service conditions
Max Pressure: PN160; Class 900 (A105: 153,1 bar @ 38°C; AISI 316L: 148,9 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN160 DN20-25 ANSI#900/RF DN ¾“ - 1“
Standard threaded unions: BSP-M ¾” - 1” NPT-M ¾” - 1”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: valve type DHV threaded ¼” Option: see page 1.54

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RXF: see below table
Valves type DS SHV: Kg. 13,5 approx. (with flanges UNI DN20 PN160)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS RXF: see from page 1.69 (drawing with components and parts list see page 1.63)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	11,3
12	2x1	155	**235**	**120**	140x1	12,7
13	3x1	180	**260**	**145**	165x1	14,4
14	4x1	205	**285**	**170**	190x1	15,5
15	5x1	235	**315**	**200**	220x1	17,7
16	6x1	265	**345**	**230**	250x1	19,0
17	7x1	295	**375**	**260**	280x1	21,3
18	8x1	335	**415**	**300**	320x1	23,1
19	9x1	360	**440**	**320**	340x1	25,2
24	4x2	410	**490**	**375**	190x2	28,0
25	5x2	470	**550**	**435**	220x2	32,4
26	6x2	530	**610**	**495**	250x2	35,0
27	7x2	590	**670**	**555**	280x2	39,6
28	8x2	670	**750**	**635**	320x2	43,2
29	9x2	720	**800**	**680**	340x2	47,4
36	6x3	795	**875**	**760**	250x3	51,0
37	7x3	885	**965**	**850**	280x3	57,9
38	8x3	1005	**1085**	**970**	320x3	63,3
39	9x3	1080	**1160**	**1040**	340x3	69,6
47	7x4	1180	**1260**	**1145**	280x4	76,2
48	8x4	1340	**1420**	**1305**	320x4	83,4
49	9x4	1440	**1520**	**1400**	340x4	91,8
57	7x5	1475	**1555**	**1440**	280x5	94,5
58	8x5	1675	**1755**	**1640**	320x5	103,5
59	9x5	1800	**1880**	**1760**	340x5	114,0

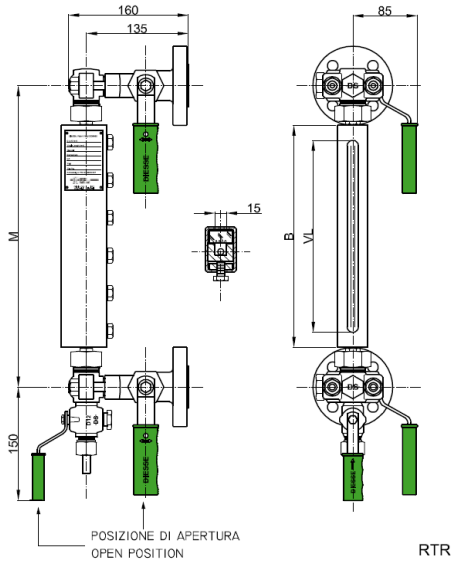
Tab. RXF

DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGE
REFLEX TYPE
PN16

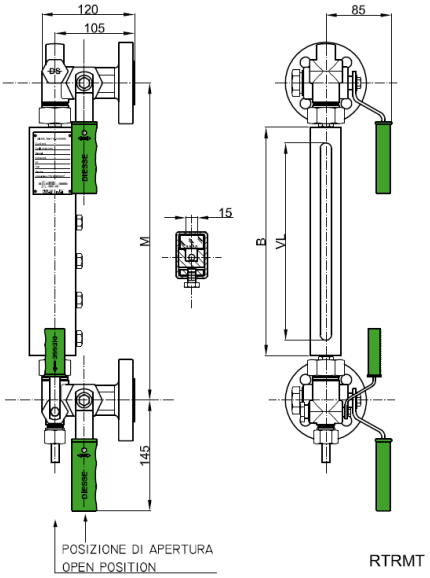
DS LG - RTR GR18 / MT18

Code: DS LG RTR…-… /16/RF-GR18/…/…-M…-CS/CS



RTR

Code: DS LG RTR…-… /16/RF-MT18/…/…-M…-CS/CS



RTRMT

Technical data

Service conditions
Max Pressure: PN16
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)

Materials (Standard)
Execution:	CS/CS
Gauge body & cocks body:	ASTM A105
Cocks trim:	AISI 303
Non-wetted parts:	Carbon steel galvanized

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Type DS MT18: cylindrical plug type with monolithic body - Straight type - Quick 90° closing
(see page 1.47) ***Centre-to-centre distance M = B + 115 mm or 140 mm***
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN16/40 DN15-20-25 ANSI#150/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.49)
Vent: Standard: blind Option: see page 1.50
Drain: Standard: cock type D12 threaded ½” Option: see page 1.50

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RTR: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)
Cocks type DS MT18: Kg. 6,1 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 25 Nm

Spare parts
Housing type DS RTR: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)
Cocks type DS MT18: see from page 1.64 (drawing with components and parts list see page 1.67)

With cocks type DS GR18:

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	1,8
12	2x1	155	**260**	**285**	**120**	140x1	2,0
13	3x1	180	**285**	**310**	**145**	165x1	2,2
14	4x1	205	**310**	**335**	**170**	190x1	2,5
15	5x1	235	**340**	**365**	**200**	220x1	2,9
16	6x1	265	**370**	**395**	**230**	250x1	3,2
17	7x1	295	**400**	**425**	**260**	280x1	3,6
18	8x1	335	**440**	**465**	**300**	320x1	4,0
19	9x1	360	**465**	**490**	**320**	340x1	4,3

Tab. RTR

With cocks type DS MT18 (Monolithic body):

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+115	M = B+140	VL	x No. elements	
11	1x1	130	**245**	**270**	**95**	115x1	1,8
12	2x1	155	**270**	**295**	**120**	140x1	2,0
13	3x1	180	**295**	**320**	**145**	165x1	2,2
14	4x1	205	**320**	**345**	**170**	190x1	2,5
15	5x1	235	**350**	**375**	**200**	220x1	2,9
16	6x1	265	**380**	**405**	**230**	250x1	3,2
17	7x1	295	**410**	**435**	**260**	280x1	3,6
18	8x1	335	**450**	**475**	**300**	320x1	4,0
19	9x1	360	**475**	**500**	**320**	340x1	4,3

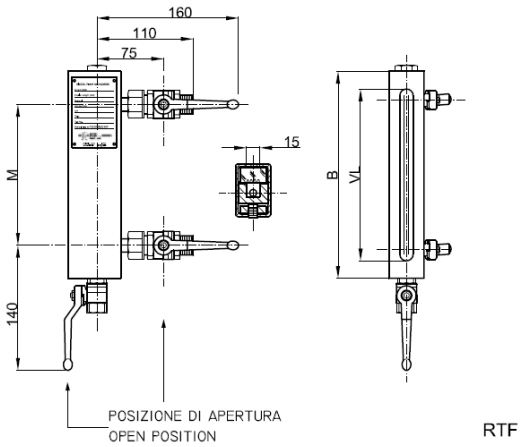
Tab. RTRMT

DIESSE S.r.l.
Fluid Control

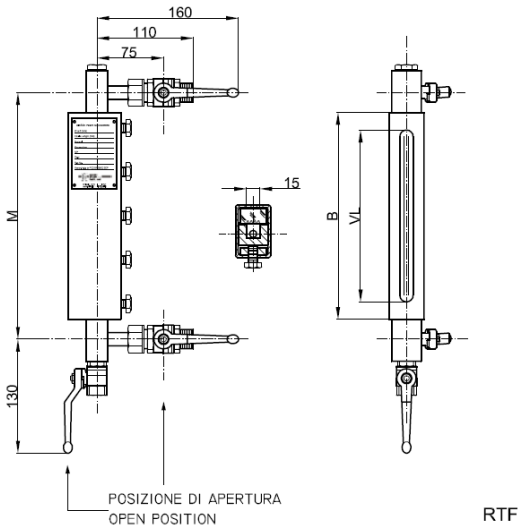
GLASS LEVEL GAUGE
REFLEX TYPE
PN16

DS LG - RTF SBB / D12

Code: DS LG RTF…-1/2"GASM-SBB/DBB/PB-M…-CS/CS



RTF



RTF

Technical data

Service conditions
Max Pressure: PN16
Max Temperature:
- With PTFE gaskets and ball valves type DS SBB: 120°C
- With graphite gaskets and cylindrical plug cocks type DS D12: 170°C

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
On request, Fixed distance, not adjustable

Materials (Standard)

Execution:	CS/CS
Gauge body:	ASTM A105
Body, ball and sealing of ball valves type DS SBB:	Brass (CW617N) / Brass (CW617N) / PTFE
Body, trim and sealing of cocks type DS D12:	ASTM A105 / AISI 303 / Graphite
Non-wetted parts:	Carbon steel galvanized

Gaskets
Standard: PTFE/copper Option: graphite/copper

Valves
Standard: ball valves type SBB threaded 1/2" BSP-F - Quick 90° closing
Handling: lever operated

Option: on request cylindrical plug cocks type DS D12 threaded 1/2" BSP-F - Quick 90° closing (see page 3.3)
Handling: lever operated with PP handle

Process connections:
Standard: threaded 1/2" BSP-M (with ball valves type DS SBB)
threaded 1/2" BSP-F (with revolving female connections - without valves)

Vent:
Standard: threaded 3/8" BSP-F with plug

Drain:
Standard: ball valve type DS DBB threaded 3/8" BSP-F - Quick 90° closing
Handling: lever operated

Option:
on request with cylindrical plug cocks type DS D12 threaded 3/8" BSP-F or BSP-M with drain tube

Glasses
Reflex - Borosilicate glass, "extra hard" and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RTF: see below table
Ball valve type DS SBB: Kg. 0,2 unit approx.
Cock type DS D12: Kg. 0,5 unit approx.

Tightening torque of housing screws
Standard: 20 Nm

Spare parts
Housing type DS RTF: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS D12: see from page 1.72

CODE	TYPE	BODY Length [mm]	DISTANCE [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
		B	M	VL		
11	1	130	**On request**	**95**	115	1,8
12	2	155	**On request**	**120**	140	2,0
13	3	180	**On request**	**145**	165	2,2
14	4	205	**On request**	**170**	190	2,5
15	5	235	**On request**	**200**	220	2,9
16	6	265	**On request**	**230**	250	3,2
17	7	295	**On request**	**260**	280	3,6
18	8	335	**On request**	**300**	320	4,0
19	9	360	**On request**	**320**	340	4,3

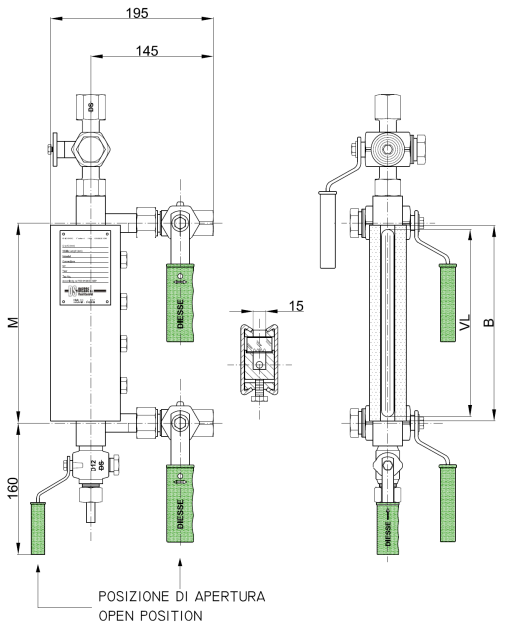
Tab. RTF

DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGE
REFLEX TYPE
PN25

DS LG - RBFPM D18

Code: DS LG RBFPM…-1/2"GASF-D18/D12/PM18-M…-CS/CS



RBFPM

Technical data

Service conditions
Max Pressure: PN25
Max Temperature: 170°C

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
On request, Fixed distance, not adjustable

Materials (Standard)

Execution:	CS/CS
Gauge body & cocks body:	ASTM A105
Cocks trim:	AISI 303
Non-wetted parts:	Carbon steel galvanized

Gaskets
Standard: grahite/copper

Shut-off cocks
Standard: cylindrical plug cocks type DS D18 threaded 1/2" BSP-F - Quick 90° closing (see page 3.4)
Handling: lever operated with PP handle

Process connections:
Standard: threaded 1/2" BSP-F (with cylindrical plug cocks type DS D18)
threaded M28x2-F (with revolving female connections - without valves)

Vent:
Standard: three way cylindrical plug manometer setting valve with control flange type DS PM18 threaded 1/2" BSP-F (see page 3.5)
Handling: lever operated with PP handle
Option: on request threaded 1/2" BSP-F with plug (without cock)

Drain:
Standard: with cylindrical plug cock type DS D12 threaded 1/2" BSP-M with drain tube - Quick 90° closing (see page 3.3)
Handling: lever operated with PP handle

Glasses
Reflex - Borosilicate glass, "extra hard" and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)
Option: type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RBFPM: see below table
Cocks type DS D18: Kg. 0,9 unit approx.
Cock type DS PM18: Kg. 1,2 unit approx.
Cock type DS D12: Kg. 0,5 unit approx.

Tightening torque of housing screws
Standard: 40 Nm

Spare parts
Housing type DS RBFPM: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS D18: see from page 1.72
Cock type DS PM18: see from page 1.72
Cock type DS D12: see from page 1.72

CODE	TYPE	BODY Length [mm]	DISTANCE [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
		B	M	VL		
11	1	130	**On request**	**95**	115	2,4
12	2	155	**On request**	**120**	140	2,8
13	3	180	**On request**	**145**	165	3,3
14	4	205	**On request**	**170**	190	3,8
15	5	235	**On request**	**200**	220	4,3
16	6	265	**On request**	**230**	250	4,9
17	7	295	**On request**	**260**	280	5,4
18	8	335	**On request**	**300**	320	6,1
19	9	360	**On request**	**320**	340	6,6

Tab. RBFPM

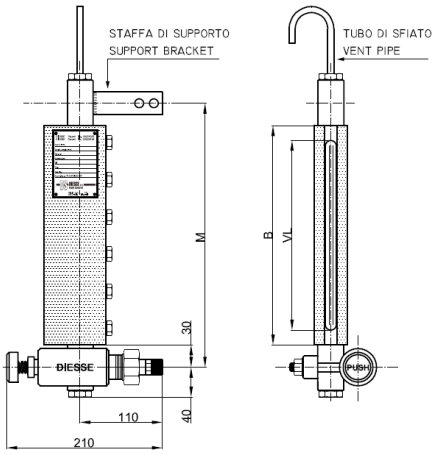
MARINE LEVEL GAUGES

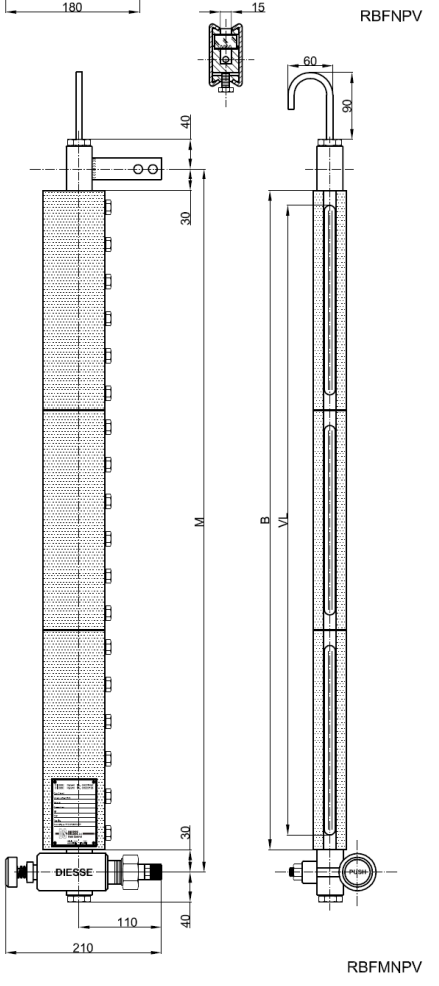
DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGE
REFLEX TYPE
PN16

DS LG - RBF NPV

Code: DS LG RBF…-… /40/RF-NPV/…/…-M…-CS/CS





Technical data

Service conditions
Pressione max: PN16
Temperatura max: 150°C

Application
Fluid storage tanks also aboard of ships

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS
Gauge body & valve body:	ASTM A105	AISI 316L
Stem and disc:	AISI 410	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized

Gaskets
Standard: grahite/copper Option: PTFE/AISI316

Self-closing Valve
Type 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 connections:

Standard flange:	UNI PN16 DN15-20-25	ANSI#150/RF DN ½“ - ¾“ - 1“
Standard threaded unions:	BSP-M ½” - ¾”	NPT-M ½” - ¾”

Option: further connections types
Vent: Standard: threaded ½” with vent pipe Option: on request (see details at page 1.52)
Drain: Standard: threaded ½” with plug Option: on request (see details at page 1.52)

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69) Option: type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RBF: see below table
Valve type DS NPV: Kg. 2,6 approx. (with flanges UNI DN20 PN16)

Tightening torque of housing screws
Standard: 40 Nm

Spare parts
Housing type DS RBF: see from page 1.69 (drawing with components and parts list see page 1.61)
Valve type DS NPV: see from page 1.74 (drawing with components and parts list see page 1.67)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+60	VL	x No. elements	
11	1x1	130	**190**	**95**	115x1	3,7
12	2x1	155	**215**	**120**	140x1	4,1
13	3x1	180	**240**	**145**	165x1	4,6
14	4x1	205	**265**	**170**	190x1	5,1
15	5x1	235	**295**	**200**	220x1	5,6
16	6x1	265	**325**	**230**	250x1	6,2
17	7x1	295	**355**	**260**	280x1	6,7
18	8x1	335	**395**	**300**	320x1	7,4
19	9x1	360	**420**	**320**	340x1	7,9
24	4x2	410	**470**	**375**	190x2	8,8
25	5x2	470	**530**	**435**	220x2	9,8
26	6x2	530	**590**	**495**	250x2	11,0
27	7x2	590	**650**	**555**	280x2	12,0
28	8x2	670	**730**	**635**	320x2	13,4
29	9x2	720	**780**	**680**	340x2	14,4
36	6x3	795	**855**	**760**	250x3	15,7
37	7x3	885	**945**	**850**	280x3	17,2
38	8x3	1005	**1065**	**970**	320x3	19,3
39	9x3	1080	**1140**	**1040**	340x3	20,8
47	7x4	1180	**1240**	**1145**	280x4	22,5
48	8x4	1340	**1400**	**1305**	320x4	25,3
49	9x4	1440	**1500**	**1400**	340x4	27,3
57	7x5	1475	**1535**	**1440**	280x5	27,8
58	8x5	1675	**1735**	**1640**	320x5	31,3
59	9x5	1800	**1860**	**1760**	340x5	33,8
68	8x6	2010	**2070**	**1975**	320x6	37,2
69	9x6	2160	**2220**	**2120**	340x6	40,2
78	8x7	2345	**2405**	**2310**	320x7	43,2
79	9x7	2520	**2580**	**2480**	340x7	46,7
88	8x8	2680	**2740**	**2645**	320x8	49,3
89	9x8	2880	**2940**	**2840**	340x8	53,2

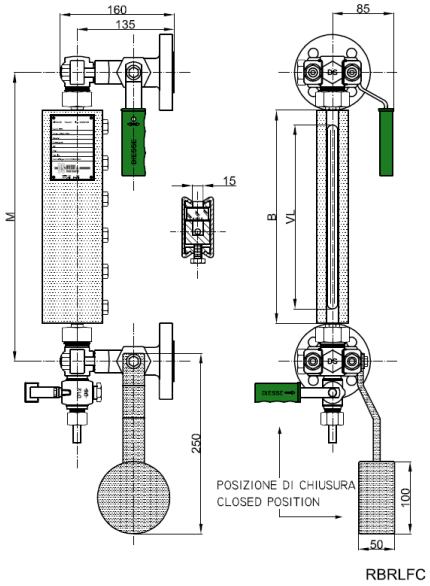
Tab. RBF

DIESSE S.r.l.
Fluid Control

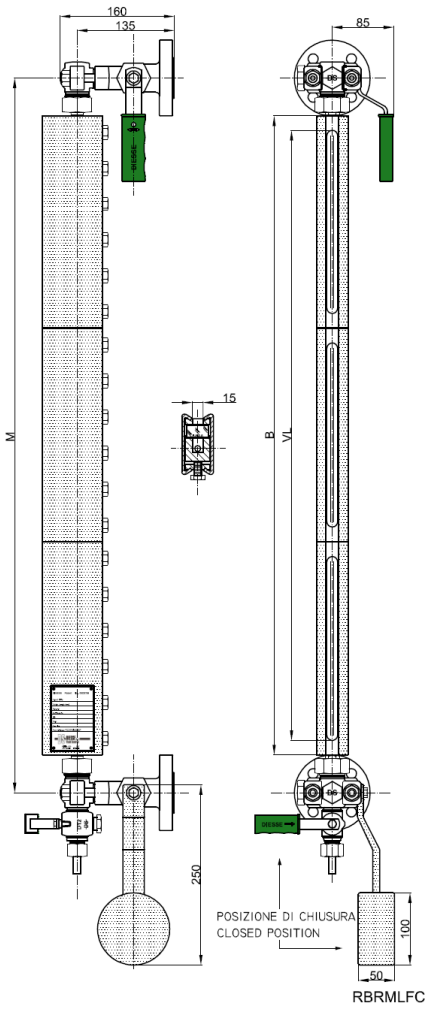
GLASS LEVEL GAUGE
REFLEX TYPE
PN25 and PN40 / Class 150

DS LG - RBR GR18 - LFC

Code: DS LG RBR…-… /40/RF-GR18/…/…-M…-CS/CS-LFC



RBRLFC



RBRMLFC

Technical data

Service conditions
Max Pressure: PN25 and PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

Application
Fluid storage tanks also aboard of ships

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS
Gauge body & cocks body:	ASTM A105	AISI 316L
Cocks trim:	AISI 303	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Lower cock with weight closing accessory for self closing
Handling: lever operated (Standard: right; Option: left)
Process connections:

Standard flanges:	UNI PN40 DN15-20-25	ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions:	BSP-M ½” - ¾”	NPT-M ½” - ¾”

Options: further connections types to the process (see page 1.49)

Vent:	Standard: blind	Option: see page 1.50
Drain:	Standard: cock type D12 threaded ½”	Option: see page 1.50

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69) Option: type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RBR: see below table
Cocks type DS GR18 with weight closing for lower handle: Kg. 10,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 40 Nm

Spare parts
Housing type DS RBR: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see pag. 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	2,4
12	2x1	155	**260**	**285**	**120**	140x1	2,8
13	3x1	180	**285**	**310**	**145**	165x1	3,3
14	4x1	205	**310**	**335**	**170**	190x1	3,8
15	5x1	235	**340**	**365**	**200**	220x1	4,3
16	6x1	265	**370**	**395**	**230**	250x1	4,9
17	7x1	295	**400**	**425**	**260**	280x1	5,4
18	8x1	335	**440**	**465**	**300**	320x1	6,1
19	9x1	360	**465**	**490**	**320**	340x1	6,6
24	4x2	410	**515**	**540**	**375**	190x2	7,5
25	5x2	470	**575**	**600**	**435**	220x2	8,5
26	6x2	530	**635**	**660**	**495**	250x2	9,7
27	7x2	590	**695**	**720**	**555**	280x2	10,7
28	8x2	670	**775**	**800**	**635**	320x2	12,1
29	9x2	720	**825**	**850**	**680**	340x2	13,1
36	6x3	795	**900**	**925**	**760**	250x3	14,4
37	7x3	885	**990**	**1015**	**850**	280x3	15,9
38	8x3	1005	**1110**	**1145**	**970**	320x3	18,0
39	9x3	1080	**1185**	**1210**	**1040**	340x3	19,5
47	7x4	1180	**1285**	**1310**	**1145**	280x4	21,2
48	8x4	1340	**1445**	**1470**	**1305**	320x4	24,0
49	9x4	1440	**1545**	**1570**	**1400**	340x4	26,0
57	7x5	1475	**1580**	**1605**	**1440**	280x5	26,5
58	8x5	1675	**1780**	**1805**	**1640**	320x5	30,0
59	9x5	1800	**1905**	**1930**	**1760**	340x5	32,5
68	8x6	2010	**2115**	**2140**	**1975**	320x6	35,9
69	9x6	2160	**2265**	**2290**	**2120**	340x6	38,9
78	8x7	2345	**2450**	**2475**	**2310**	320x7	41,9
79	9x7	2520	**2625**	**2650**	**2480**	340x7	45,4
88	8x8	2680	**2785**	**2810**	**2645**	320x8	47,9
89	9x8	2880	**2985**	**3010**	**2840**	340x8	51,9

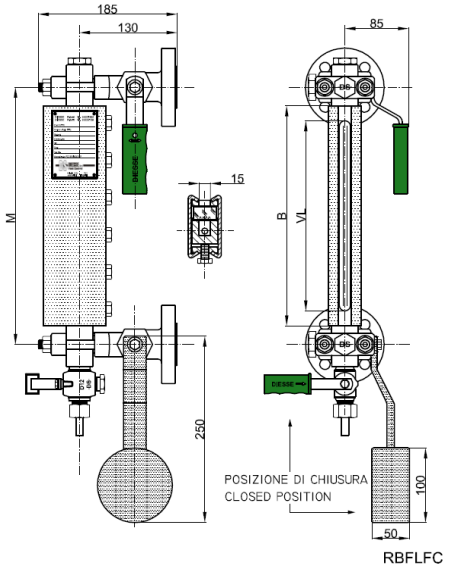
Tab. RBR

DIESSE S.r.l.
Fluid Control

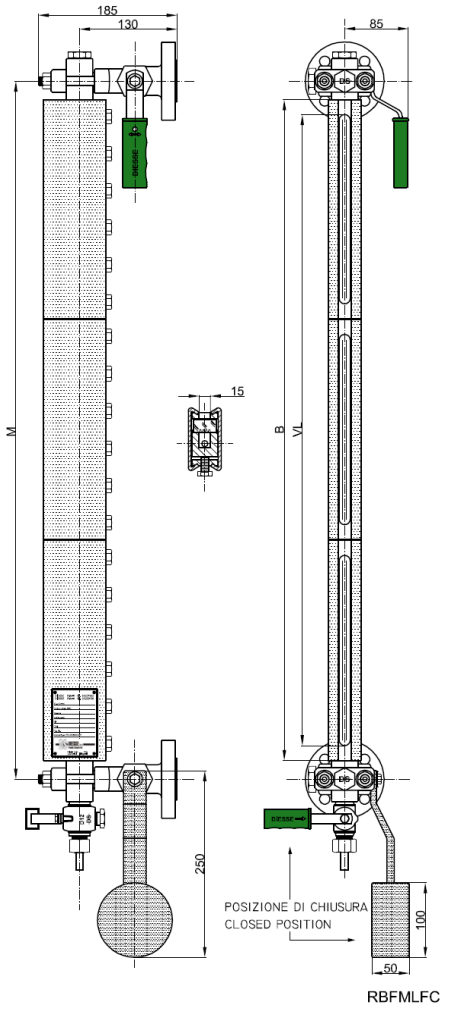
GLASS LEVEL GAUGE
REFLEX TYPE
PN25 and PN40 / Class 150

DS LG - RBF GR18 - LFC

Code: DS LG RBF…-… /40/RF-GR18/…/…-M…-CS/CS - LFC



RBFLFC



RBFMLFC

Technical data

Service conditions
Max Pressure: PN25 and PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

Application
Fluid storage tanks also aboard of ships

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS
Gauge body & cocks body:	ASTM A105	AISI 316L
Cocks trim:	AISI 303	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Lower cock with weight closing accessory for self closing
Handling: lever operated (Standard: right; Option: left)
Process connections:

Standard flanges:	UNI PN40 DN15-20-25	ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions:	BSP-M ½” - ¾”	NPT-M ½” - ¾”

Options: further connections types to the process (see page 1.51)

Vent:	Standard: threaded ½” with plug	Option: see page 1.52
Drain:	Standard: cock type D12 threaded ½”	Option: see page 1.52

Glasses
Reflex - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69) Option: type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS RBF: see below table
Cocks type DS GR18 with weight closing for lower handle: Kg. 10,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 40 Nm

Spare parts
Housing type DS RBR: see from page 1.69 (drawing with components and parts list see page 1.61)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see pag. 1.66)

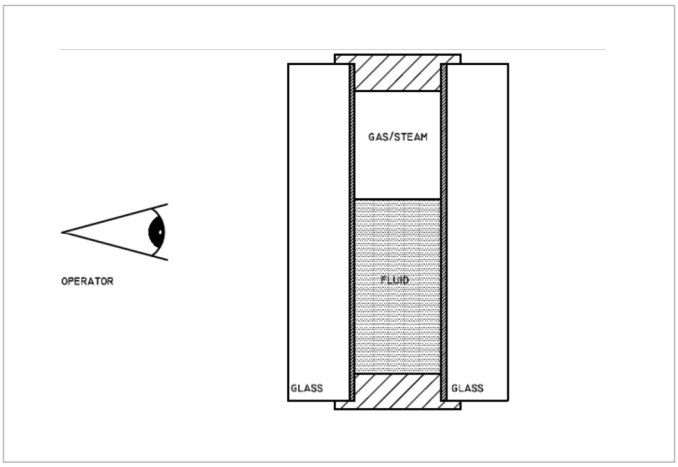
CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+40	VL	x No. elements	
11	1x1	130	**170**	**95**	115x1	3,7
12	2x1	155	**195**	**120**	140x1	4,1
13	3x1	180	**220**	**145**	165x1	4,6
14	4x1	205	**245**	**170**	190x1	5,1
15	5x1	235	**275**	**200**	220x1	5,6
16	6x1	265	**305**	**230**	250x1	6,2
17	7x1	295	**335**	**260**	280x1	6,7
18	8x1	335	**375**	**300**	320x1	7,4
19	9x1	360	**400**	**320**	340x1	7,9
24	4x2	410	**450**	**375**	190x2	8,8
25	5x2	470	**510**	**435**	220x2	9,8
26	6x2	530	**570**	**495**	250x2	11,0
27	7x2	590	**630**	**555**	280x2	12,0
28	8x2	670	**710**	**635**	320x2	13,4
29	9x2	720	**760**	**680**	340x2	14,4
36	6x3	795	**835**	**760**	250x3	15,7
37	7x3	885	**925**	**850**	280x3	17,2
38	8x3	1005	**1045**	**970**	320x3	19,3
39	9x3	1080	**1120**	**1040**	340x3	20,8
47	7x4	1180	**1220**	**1145**	280x4	22,5
48	8x4	1340	**1380**	**1305**	320x4	25,3
49	9x4	1440	**1480**	**1400**	340x4	27,3
57	7x5	1475	**1515**	**1440**	280x5	27,8
58	8x5	1675	**1715**	**1640**	320x5	31,3
59	9x5	1800	**1840**	**1760**	340x5	33,8
68	8x6	2010	**2050**	**1975**	320x6	37,2
69	9x6	2160	**2200**	**2120**	340x6	40,2
78	8x7	2345	**2385**	**2310**	320x7	43,2
79	9x7	2520	**2560**	**2480**	340x7	46,7
88	8x8	2680	**2720**	**2645**	320x8	49,3
89	9x8	2880	**2920**	**2840**	340x8	53,2

Tab. RBF

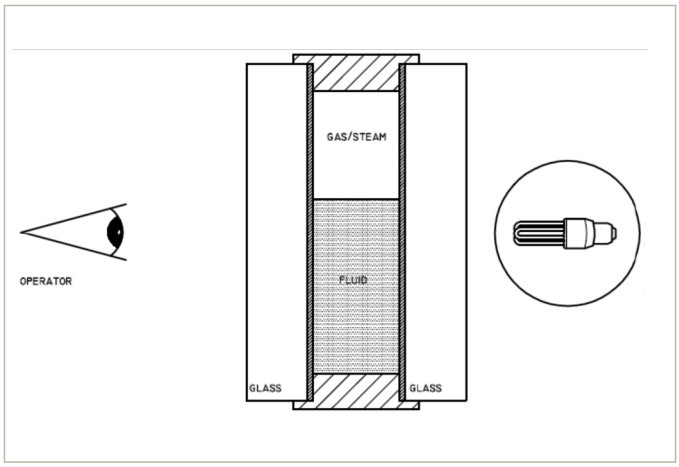
TRASPARENT LEVEL GAUGES

In this kind of level gauge, the fluid is held between two smooth glasses. The level can be identified as the fluid has a different level of transparency compared to gases and steam.

The transparent level gauge is particularly recommended for applications where the glass needs to be protected from corrosive fluids and high temperatures.
A lamp can also be fitted behind the gauge to improve visibility in special operating conditions.



With natural light



With artificial light (illumination lamp)

The product line includes level gauges suitable for pressure ratings from PN10 to PN160 and a huge number of industrial process applications.

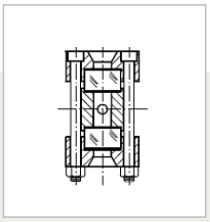
This type of gauge is recommended:
- for use with corrosive fluids (protective shield for the glass is required)
- for steam with an operating pressure > 20 bar (protective shield for the glass is required)
- if repeated thermal shocks are likely (protective shield for the glass is required)
- for checking the interface (level of separation between two immiscible fluids)
- for checking the colour of a fluid
- for dirty / oily fluids

Operating limits / Conditions:

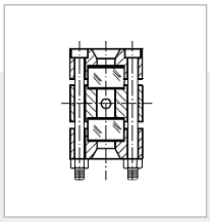
Process:
Max. pressure: 160 bar @ 38°C (with cylindrical plug cocks or globe valves)
Max. temperature: 300°C (max. temperature allowed by borosilicate glasses as per the DIN 7081 standard - see page 1.69)

Steam: (see page 1.59)
Max. pressure: 70 bar (with cylindrical plug cocks or globe valves)
Max. temperature: 280°C

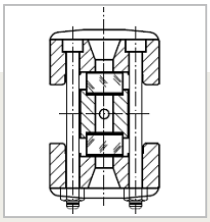
Types:



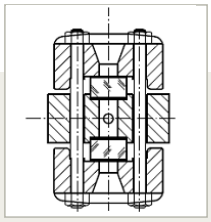
PN25/40
Class 150/300



PN40/64
Class 300



PN64/100
Class 600



PN100/160
Class 600/900

Materials / Specifications:
Connections between housing and cocks:
- with grinded pipes and stuffing box (view can be turned can be positioned by the customer during installation)
- fixed centre-to-centre distance with metal seal (view can be turned can be positioned during manufacture)

Wetted parts:
- standard: galvanized ASTM A105 or A105 LF2 carbon steel, ASTM A182 F316L stainless steel
- additional options: on request

Non-wetted parts:
- standard: galvanized carbon steel, AISI 316/316L stainless steel
- additional options: on request

Gaskets: (see page 1.71)
- standard: graphite/copper (ASTM A105), graphite/AISI 316 (A105 LF2 and ASTM A182 F316L)
- additional options: PTFE; other extras on request

Glasses: (see page 1.69)
- transparent borosilicate glasses, thermally pre-stressed and extra hard as per the DIN 7081 standard

Shut-off: (see page 1.49)
- standard: upper valve and lower valve (side/side)
- additional options: on request

Drain: (see page 1.50)
- standard: threaded valve
- additional options: on request

Vent: (see page 1.50)
- standard: blind (for grinded pipes version)
- threaded with plug (for fixed centre-to-centre version)
- additional options: on request

Tank connections:
Flanged:
- UNI standard: PN40 DN15 / DN20 / DN25
- ANSI standard: #150 / #300 / #600 DN ½" / ¾" / 1"
- additional options: on request

Threaded:
- BSP (GAS) standard: ½"-M / ¾"-M
- NPT standard: ½"-M / ¾"-M

Weld-on: from ½" to 1" BW or SW
Option: further connections type or direct connections to the process without shut-off cocks (see page 1.49 for more details)

Shut-off cocks, drain cock and vent cock:
- Cylindrical plug cocks (type GR18 or MT18 - see page 1.47)
- Globe valves (type SHV - see page 1.48)
- Push-button valves (type NPV - see page 1.48)
- Ball valves (type SBB)

Spare parts:
Our spare parts are interchangeable with those of major international manufacturers.
For the full range of complete sets, turn to the spares section on page 1.69.

Accessories:
Mica or PCTFE protective shield for the glass, flameproof and watertight illumination lamp (ATEX approved), lower and/or upper safety ball, pusher for safety ball, calibrated scale, non-frosting extension, minimum level arrow, continuous reading, cocks handles lock (see page 1.55 for details)

Certifications (On request):
- ATEX
- Tests and inspection by Notified Bodies
- NACE MR0175
- Others on request

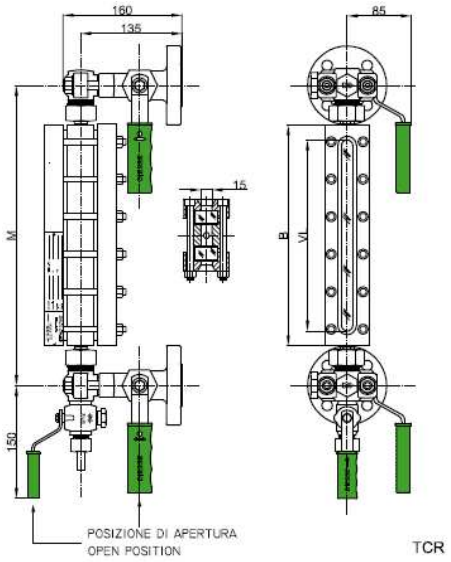
All DIESSE products are individually checked and tested in accordance with company quality procedures and the industry regulations currently in effect. Certificates can be issued on request.

DIESSE S.r.l.
Fluid Control

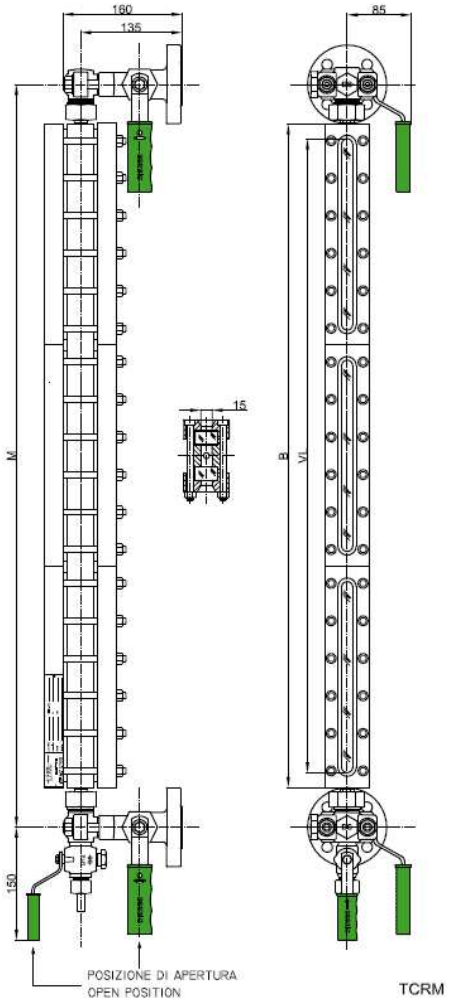
GLASS LEVEL GAUGE TRANSPARENT TYPE PN25 and PN40

DS LG - TCR GR18

Code: DS LG TCR…-… /40/RF-GR18/…/…-M…-CS/CS



TCR



TCRM

Technical data

Service conditions
Max Pressure: PN25 e PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase
Note: depending on operating conditions, each element may have one or more internal reinforcements

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.49)
Vent: Standard: blind Option: see page 1.50
Drain: Standard: cock type D12 threaded ½” Option: see page 1.50

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TCR: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TCR: see from page 1.69 (drawing with components and parts list see page 1.64)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see pag. 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	3,2
12	2x1	155	**260**	**285**	**120**	140x1	3,8
13	3x1	180	**285**	**310**	**145**	165x1	4,3
14	4x1	205	**310**	**335**	**170**	190x1	4,7
15	5x1	235	**340**	**365**	**200**	220x1	5,5
16	6x1	265	**370**	**395**	**230**	250x1	6,0
17	7x1	295	**400**	**425**	**260**	280x1	6,7
18	8x1	335	**440**	**465**	**300**	320x1	7,4
19	9x1	360	**465**	**490**	**320**	340x1	8,1
24	4x2	410	**515**	**540**	**375**	190x2	9,2
25	5x2	470	**575**	**600**	**435**	220x2	10,8
26	6x2	530	**635**	**660**	**495**	250x2	11,8
27	7x2	590	**695**	**720**	**555**	280x2	13,3
28	8x2	670	**775**	**800**	**635**	320x2	14,6
29	9x2	720	**825**	**850**	**680**	340x2	16,0
36	6x3	795	**900**	**925**	**760**	250x3	17,7
37	7x3	885	**990**	**1015**	**850**	280x3	19,8
38	8x3	1005	**1110**	**1145**	**970**	320x3	21,9
39	9x3	1080	**1185**	**1210**	**1040**	340x3	24,0
47	7x4	1180	**1285**	**1310**	**1145**	280x4	26,3
48	8x4	1340	**1445**	**1470**	**1305**	320x4	29,1
49	9x4	1440	**1545**	**1570**	**1400**	340x4	31,9
57	7x5	1475	**1580**	**1605**	**1440**	280x5	32,8
58	8x5	1675	**1780**	**1805**	**1640**	320x5	36,3
59	9x5	1800	**1905**	**1930**	**1760**	340x5	39,8
68	8x6	2010	**2115**	**2140**	**1975**	320x6	43,6
69	9x6	2160	**2265**	**2290**	**2120**	340x6	47,8
78	8x7	2345	**2450**	**2475**	**2310**	320x7	50,8
79	9x7	2520	**2625**	**2650**	**2480**	340x7	55,7
88	8x8	2680	**2785**	**2810**	**2645**	320x8	57,9
89	9x8	2880	**2985**	**3010**	**2840**	340x8	63,5

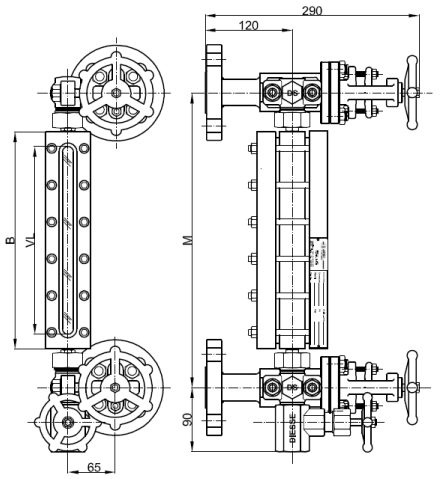
Tab. TCR

DIESSE S.r.l.
Fluid Control

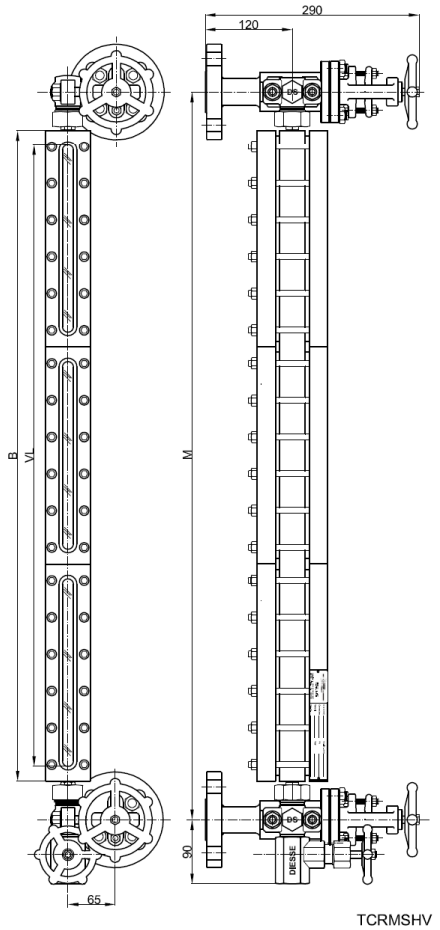
GLASS LEVEL GAUGE TRANSPARENT TYPE PN25 and PN40

DS LG - TCR SHV

Code: DS LG TCR…-… /40/RF-SHV/…/…-M…-CS/CS



TCRSHV



TCRMSHV

Technical data

Service conditions
Max Pressure: PN25 e PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase
Note: depending on operating conditions, each element may have one or more internal reinforcements

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: blind Option: see page 1.54
Drain: Standard: valve type DHV threaded ¾” Option: see page 1.54

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TCR: see below table
Valves type DS SHV: Kg. 11,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TCR: see from page 1.69 (drawing with components and parts list see page 1.64)
Valves type DS GR18: see from page 1.74 (drawing with components and parts list see pag. 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	3,2
12	2x1	155	**260**	**285**	**120**	140x1	3,8
13	3x1	180	**285**	**310**	**145**	165x1	4,3
14	4x1	205	**310**	**335**	**170**	190x1	4,7
15	5x1	235	**340**	**365**	**200**	220x1	5,5
16	6x1	265	**370**	**395**	**230**	250x1	6,0
17	7x1	295	**400**	**425**	**260**	280x1	6,7
18	8x1	335	**440**	**465**	**300**	320x1	7,4
19	9x1	360	**465**	**490**	**320**	340x1	8,1
24	4x2	410	**515**	**540**	**375**	190x2	9,2
25	5x2	470	**575**	**600**	**435**	220x2	10,8
26	6x2	530	**635**	**660**	**495**	250x2	11,8
27	7x2	590	**695**	**720**	**555**	280x2	13,3
28	8x2	670	**775**	**800**	**635**	320x2	14,6
29	9x2	720	**825**	**850**	**680**	340x2	16,0
36	6x3	795	**900**	**925**	**760**	250x3	17,7
37	7x3	885	**990**	**1015**	**850**	280x3	19,8
38	8x3	1005	**1110**	**1145**	**970**	320x3	21,9
39	9x3	1080	**1185**	**1210**	**1040**	340x3	24,0
47	7x4	1180	**1285**	**1310**	**1145**	280x4	26,3
48	8x4	1340	**1445**	**1470**	**1305**	320x4	29,1
49	9x4	1440	**1545**	**1570**	**1400**	340x4	31,9
57	7x5	1475	**1580**	**1605**	**1440**	280x5	32,8
58	8x5	1675	**1780**	**1805**	**1640**	320x5	36,3
59	9x5	1800	**1905**	**1930**	**1760**	340x5	39,8
68	8x6	2010	**2115**	**2140**	**1975**	320x6	43,6
69	9x6	2160	**2265**	**2290**	**2120**	340x6	47,8
78	8x7	2345	**2450**	**2475**	**2310**	320x7	50,8
79	9x7	2520	**2625**	**2650**	**2480**	340x7	55,7
88	8x8	2680	**2785**	**2810**	**2645**	320x8	57,9
89	9x8	2880	**2985**	**3010**	**2840**	340x8	63,5

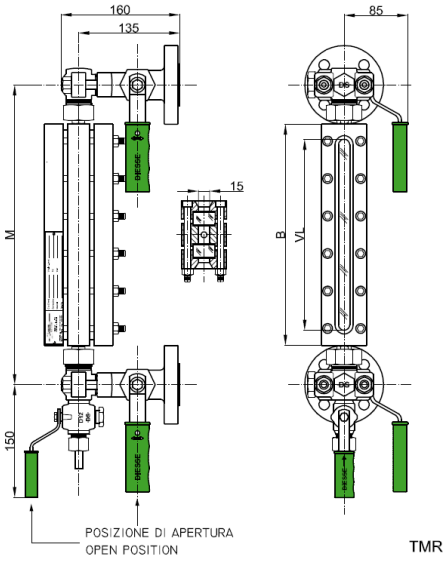
Tab. TCR

DIESSE S.r.l.
Fluid Control

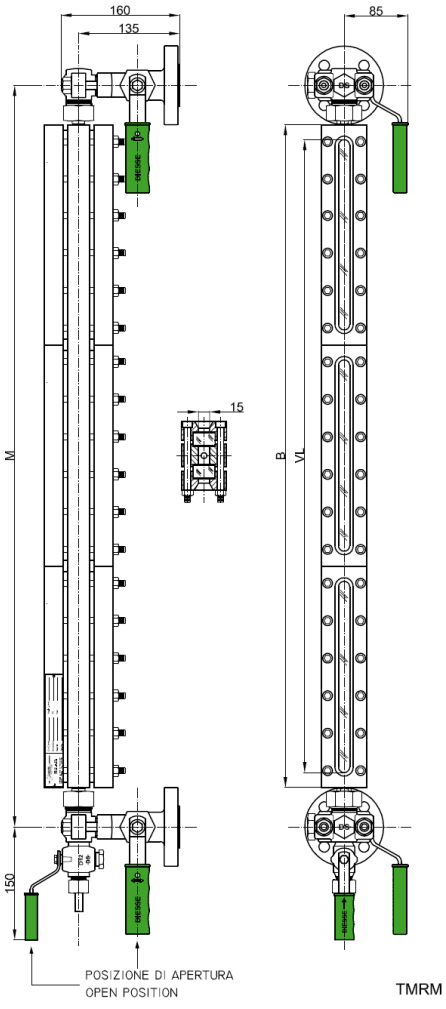
GLASS LEVEL GAUGE TRANSPARENT TYPE PN40

DS LG - TMR GR18

Code: DS LG TMR…-… /40/RF-GR18/…/…-M…-CS/CS



TMR



TMRM

Technical data

Service conditions
Max Pressure: PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.49)
Vent: Standard: blind Option: see page 1.50
Drain: Standard: cock type D12 threaded ½” Option: see page 1.50

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69) Option: type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TMR: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TMR: see from page 1.69 (drawing with components and parts list see page 1.64)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see pag. 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	3,6
12	2x1	155	**260**	**285**	**120**	140x1	4,3
13	3x1	180	**285**	**310**	**145**	165x1	4,9
14	4x1	205	**310**	**335**	**170**	190x1	5,4
15	5x1	235	**340**	**365**	**200**	220x1	6,3
16	6x1	265	**370**	**395**	**230**	250x1	6,9
17	7x1	295	**400**	**425**	**260**	280x1	7,7
18	8x1	335	**440**	**465**	**300**	320x1	8,6
19	9x1	360	**465**	**490**	**320**	340x1	9,4
24	4x2	410	**515**	**540**	**375**	190x2	10,6
25	5x2	470	**575**	**600**	**435**	220x2	12,4
26	6x2	530	**635**	**660**	**495**	250x2	13,6
27	7x2	590	**695**	**720**	**555**	280x2	15,2
28	8x2	670	**775**	**800**	**635**	320x2	17,0
29	9x2	720	**825**	**850**	**680**	340x2	18,6
36	6x3	795	**900**	**925**	**760**	250x3	20,3
37	7x3	885	**990**	**1015**	**850**	280x3	22,7
38	8x3	1005	**1110**	**1145**	**970**	320x3	25,4
39	9x3	1080	**1185**	**1210**	**1040**	340x3	27,8
47	7x4	1180	**1285**	**1310**	**1145**	280x4	30,2
48	8x4	1340	**1445**	**1470**	**1305**	320x4	33,8
49	9x4	1440	**1545**	**1570**	**1400**	340x4	37,0
57	7x5	1475	**1580**	**1605**	**1440**	280x5	37,7
58	8x5	1675	**1780**	**1805**	**1640**	320x5	42,2
59	9x5	1800	**1905**	**1930**	**1760**	340x5	46,2
68	8x6	2010	**2115**	**2140**	**1975**	320x6	50,6
69	9x6	2160	**2265**	**2290**	**2120**	340x6	55,4
78	8x7	2345	**2450**	**2475**	**2310**	320x7	59,0
79	9x7	2520	**2625**	**2650**	**2480**	340x7	64,6
88	8x8	2680	**2785**	**2810**	**2645**	320x8	67,4
89	9x8	2880	**2985**	**3010**	**2840**	340x8	73,8

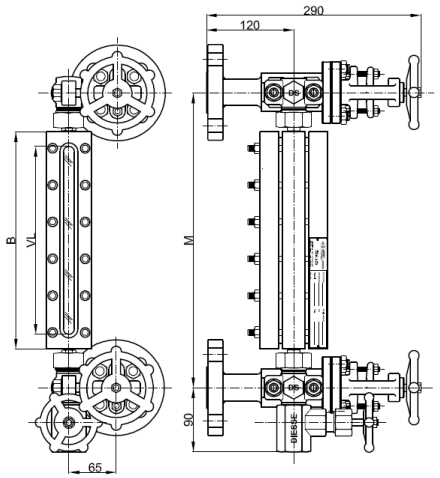
Tab. TMR

DIESSE S.r.l.
Fluid Control

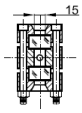
GLASS LEVEL GAUGE TRANSPARENT TYPE PN40

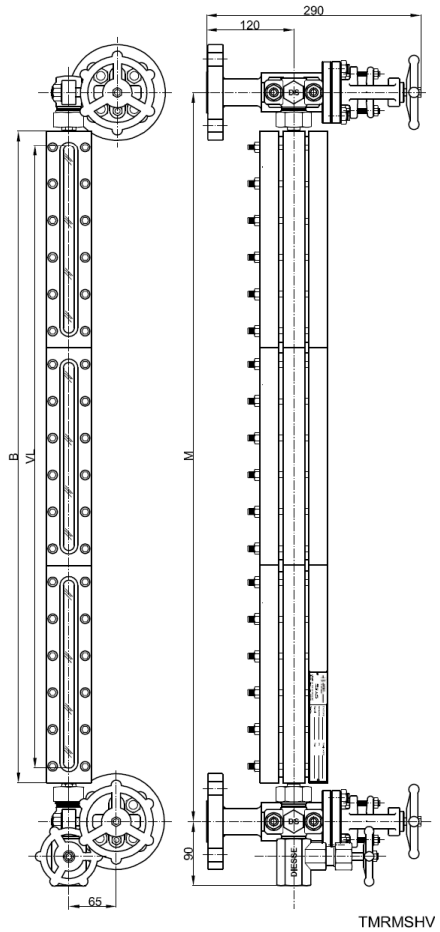
DS LG - TMR SHV

Code: DS LG TMR…-… /40/RF-SHV/…/…-M…-CS/CS



TMRSHV





TMRMSHV

Technical data

Service conditions
Max Pressure: PN40
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: adjustable on 360° in the installation phase

Distance (Centre-to-centre)
Standard: see below table (**Distance adjustable - 0 mm / + 10 mm**)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: blind Option: see page 1.54
Drain: Standard: valve type DHV threaded ¾” Option: see page 1.54

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69) Option: type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TMR: see below table
Valves type DS SHV: Kg. 11,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TMR: see from page 1.69 (drawing with components and parts list see page 1.64)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see pag. 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL Pipes L = 57 -0/+10 mm	DISTANCE HL Pipes L = 72 -0/+10 mm	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+105	M = B+130	VL	x No. elements	
11	1x1	130	**235**	**260**	**95**	115x1	3,6
12	2x1	155	**260**	**285**	**120**	140x1	4,3
13	3x1	180	**285**	**310**	**145**	165x1	4,9
14	4x1	205	**310**	**335**	**170**	190x1	5,4
15	5x1	235	**340**	**365**	**200**	220x1	6,3
16	6x1	265	**370**	**395**	**230**	250x1	6,9
17	7x1	295	**400**	**425**	**260**	280x1	7,7
18	8x1	335	**440**	**465**	**300**	320x1	8,6
19	9x1	360	**465**	**490**	**320**	340x1	9,4
24	4x2	410	**515**	**540**	**375**	190x2	10,6
25	5x2	470	**575**	**600**	**435**	220x2	12,4
26	6x2	530	**635**	**660**	**495**	250x2	13,6
27	7x2	590	**695**	**720**	**555**	280x2	15,2
28	8x2	670	**775**	**800**	**635**	320x2	17,0
29	9x2	720	**825**	**850**	**680**	340x2	18,6
36	6x3	795	**900**	**925**	**760**	250x3	20,3
37	7x3	885	**990**	**1015**	**850**	280x3	22,7
38	8x3	1005	**1110**	**1145**	**970**	320x3	25,4
39	9x3	1080	**1185**	**1210**	**1040**	340x3	27,8
47	7x4	1180	**1285**	**1310**	**1145**	280x4	30,2
48	8x4	1340	**1445**	**1470**	**1305**	320x4	33,8
49	9x4	1440	**1545**	**1570**	**1400**	340x4	37,0
57	7x5	1475	**1580**	**1605**	**1440**	280x5	37,7
58	8x5	1675	**1780**	**1805**	**1640**	320x5	42,2
59	9x5	1800	**1905**	**1930**	**1760**	340x5	46,2
68	8x6	2010	**2115**	**2140**	**1975**	320x6	50,6
69	9x6	2160	**2265**	**2290**	**2120**	340x6	55,4
78	8x7	2345	**2450**	**2475**	**2310**	320x7	59,0
79	9x7	2520	**2625**	**2650**	**2480**	340x7	64,6
88	8x8	2680	**2785**	**2810**	**2645**	320x8	67,4
89	9x8	2880	**2985**	**3010**	**2840**	340x8	73,8

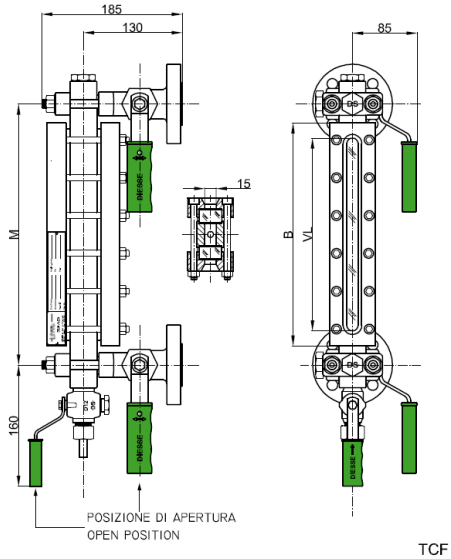
Tab. TMR

DIESSE S.r.l.
Fluid Control

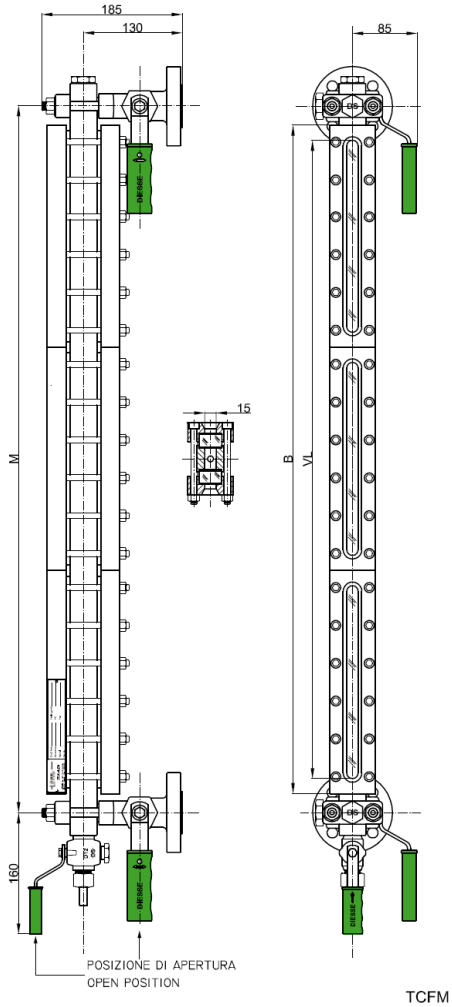
GLASS LEVEL GAUGE TRANSPARENT TYPE PN40 / Class 300

DS LG - TCF GR18

Code: DS LG TCF…-… /40/RF-GR18/…/…-M…-CS/CS



TCF



TCFM

Technical data

Service conditions
Max Pressure: PN40; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase
Note: depending on operating conditions, each element may have one or more internal reinforcements

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)
Vent: Standard: threaded ½” with plug Option: see page 1.52
Drain: Standard: cock type D12 threaded ½” Option: see page 1.52

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TCF: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TCF: see from page 1.69 (drawing with components and parts list see page 1.64)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+40	VL	x No. elements	
11	1x1	130	**170**	**95**	115x1	4,5
12	2x1	155	**195**	**120**	140x1	5,1
13	3x1	180	**220**	**145**	165x1	5,6
14	4x1	205	**245**	**170**	190x1	6,0
15	5x1	235	**275**	**200**	220x1	6,8
16	6x1	265	**305**	**230**	250x1	7,3
17	7x1	295	**335**	**260**	280x1	8,0
18	8x1	335	**375**	**300**	320x1	8,7
19	9x1	360	**400**	**320**	340x1	9,4
24	4x2	410	**450**	**375**	190x2	10,5
25	5x2	470	**510**	**435**	220x2	12,1
26	6x2	530	**570**	**495**	250x2	13,1
27	7x2	590	**630**	**555**	280x2	14,6
28	8x2	670	**710**	**635**	320x2	15,9
29	9x2	720	**760**	**680**	340x2	17,3
36	6x3	795	**835**	**760**	250x3	19,0
37	7x3	885	**925**	**850**	280x3	21,1
38	8x3	1005	**1045**	**970**	320x3	23,2
39	9x3	1080	**1120**	**1040**	340x3	25,3
47	7x4	1180	**1220**	**1145**	280x4	27,6
48	8x4	1340	**1380**	**1305**	320x4	30,4
49	9x4	1440	**1480**	**1400**	340x4	33,2
57	7x5	1475	**1515**	**1440**	280x5	34,1
58	8x5	1675	**1715**	**1640**	320x5	37,6
59	9x5	1800	**1840**	**1760**	340x5	41,1
68	8x6	2010	**2050**	**1975**	320x6	44,9
69	9x6	2160	**2200**	**2120**	340x6	49,1
78	8x7	2345	**2385**	**2310**	320x7	52,1
79	9x7	2520	**2560**	**2480**	340x7	57,0
88	8x8	2680	**2720**	**2645**	320x8	59,2
89	9x8	2880	**2920**	**2840**	340x8	64,8

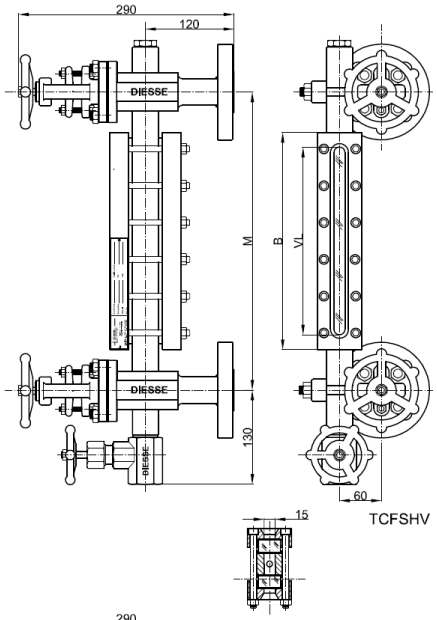
Tab. TCF

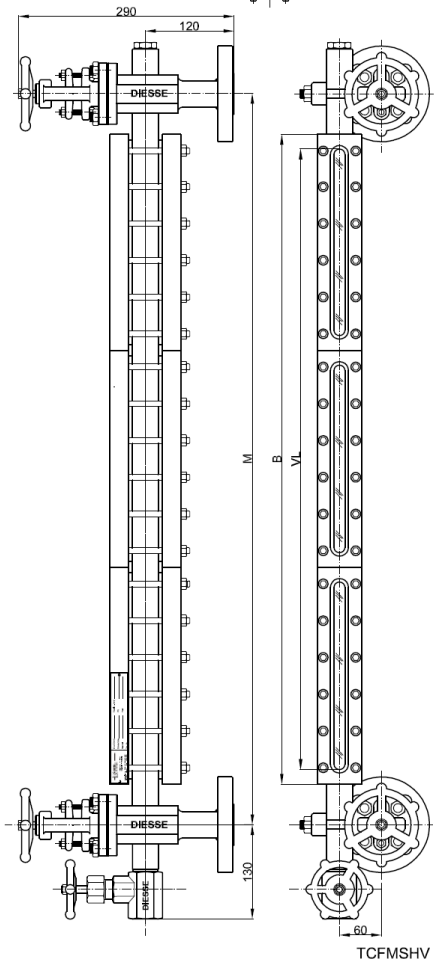
DIESSE S.r.l.
Fluid Control

GLASS LEVEL GAUGE TRANSPARENT TYPE PN40 / Class 300

DS LG - TCF SHV

Code: DS LG TCF…-… /40/RF-SHV/…/…-M…-CS/CS





Technical data

Service conditions
Max Pressure: PN40; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase
Note: depending on operating conditions, each element may have one or more internal reinforcements

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution ne:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN40 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: valve type DHV threaded ¾” Option: see page 1.54

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TCF: see below table
Valves type DS SHV: Kg. 11,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TCF: see from page 1.69 (drawing with components and parts list see page 1.64)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	4,5
12	2x1	155	**235**	**120**	140x1	5,1
13	3x1	180	**260**	**145**	165x1	5,6
14	4x1	205	**285**	**170**	190x1	6,0
15	5x1	235	**315**	**200**	220x1	6,8
16	6x1	265	**345**	**230**	250x1	7,3
17	7x1	295	**375**	**260**	280x1	8,0
18	8x1	335	**415**	**300**	320x1	8,7
19	9x1	360	**440**	**320**	340x1	9,4
24	4x2	410	**490**	**375**	190x2	10,5
25	5x2	470	**550**	**435**	220x2	12,1
26	6x2	530	**610**	**495**	250x2	13,1
27	7x2	590	**670**	**555**	280x2	14,6
28	8x2	670	**750**	**635**	320x2	15,9
29	9x2	720	**800**	**680**	340x2	17,3
36	6x3	795	**875**	**760**	250x3	19,0
37	7x3	885	**965**	**850**	280x3	21,1
38	8x3	1005	**1085**	**970**	320x3	23,2
39	9x3	1080	**1160**	**1040**	340x3	25,3
47	7x4	1180	**1260**	**1145**	280x4	27,6
48	8x4	1340	**1420**	**1305**	320x4	30,4
49	9x4	1440	**1520**	**1400**	340x4	33,2
57	7x5	1475	**1555**	**1440**	280x5	34,1
58	8x5	1675	**1755**	**1640**	320x5	37,6
59	9x5	1800	**1880**	**1760**	340x5	41,1
68	8x6	2010	**2090**	**1975**	320x6	44,9
69	9x6	2160	**2240**	**2120**	340x6	49,1
78	8x7	2345	**2425**	**2310**	320x7	52,1
79	9x7	2520	**2600**	**2480**	340x7	57,0
88	8x8	2680	**2760**	**2645**	320x8	59,2
89	9x8	2880	**2960**	**2840**	340x8	64,8

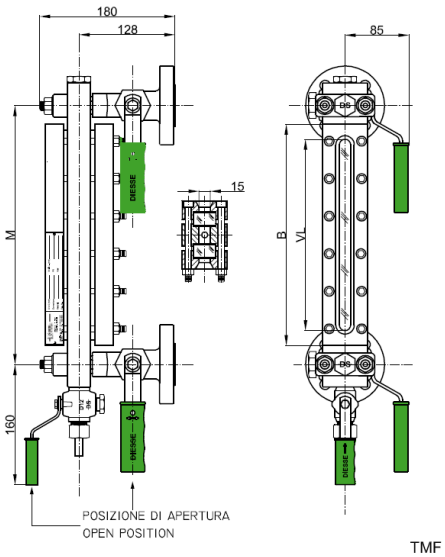
Tab. TCF

DIESSE S.r.l.
Fluid Control

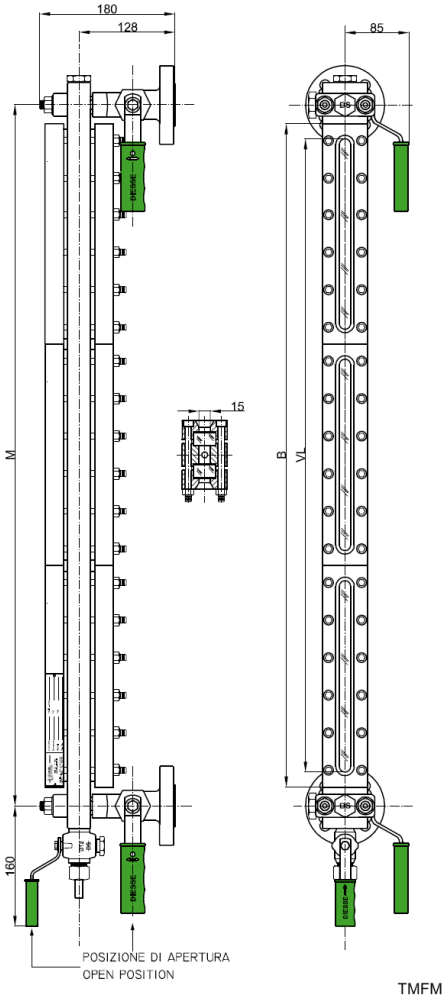
GLASS LEVEL GAUGE TRANSPARENT TYPE PN40 and PN64 / Class 300

DS LG - TMF GR18

Code: DS LG TMF…-… /40/RF-GR18/…/…-M…-CS/CS



TMF



TMFM

Technical data

Service conditions
Max Pressure: PN40 e PN64; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN40-64 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: BSP-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)
Vent: Standard: threaded ½” with plug Option: see page 1.52
Drain: Standard: cock type D12 threaded ½” Option: see page 1.52

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69) Option: type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TMF: see below table
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TMF: see from page 1.69 (drawing with components and parts list see page 1.64)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+40	VL	x No. elements	
11	1x1	130	**170**	**95**	115x1	5,4
12	2x1	155	**195**	**120**	140x1	6,1
13	3x1	180	**220**	**145**	165x1	6,7
14	4x1	205	**245**	**170**	190x1	7,2
15	5x1	235	**275**	**200**	220x1	8,1
16	6x1	265	**305**	**230**	250x1	8,8
17	7x1	295	**335**	**260**	280x1	9,5
18	8x1	335	**375**	**300**	320x1	10,4
19	9x1	360	**400**	**320**	340x1	11,2
24	4x2	410	**450**	**375**	190x2	12,4
25	5x2	470	**510**	**435**	220x2	14,2
26	6x2	530	**570**	**495**	250x2	15,4
27	7x2	590	**630**	**555**	280x2	17,0
28	8x2	670	**710**	**635**	320x2	18,8
29	9x2	720	**760**	**680**	340x2	20,4
36	6x3	795	**835**	**760**	250x3	22,1
37	7x3	885	**925**	**850**	280x3	24,5
38	8x3	1005	**1045**	**970**	320x3	27,2
39	9x3	1080	**1120**	**1040**	340x3	29,6
47	7x4	1180	**1220**	**1145**	280x4	32,0
48	8x4	1340	**1380**	**1305**	320x4	35,6
49	9x4	1440	**1480**	**1400**	340x4	38,8
57	7x5	1475	**1515**	**1440**	280x5	39,5
58	8x5	1675	**1715**	**1640**	320x5	44,0
59	9x5	1800	**1840**	**1760**	340x5	48,0
68	8x6	2010	**2050**	**1975**	320x6	52,4
69	9x6	2160	**2200**	**2120**	340x6	57,2
78	8x7	2345	**2385**	**2310**	320x7	60,8
79	9x7	2520	**2560**	**2480**	340x7	66,4
88	8x8	2680	**2720**	**2645**	320x8	69,2
89	9x8	2880	**2920**	**2840**	340x8	75,6

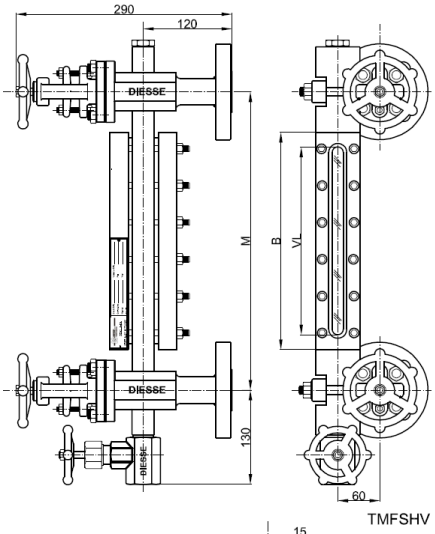
Tab. TMF

DIESSE S.r.l.
Fluid Control

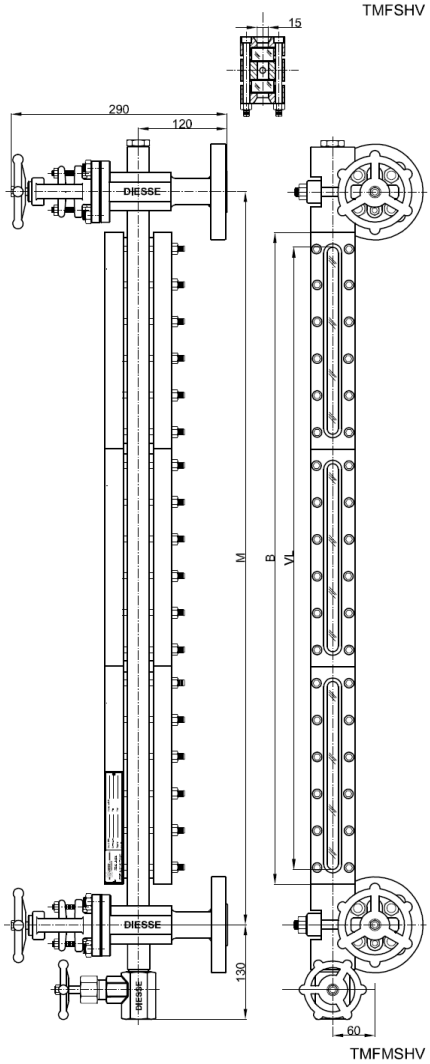
GLASS LEVEL GAUGE TRANSPARENT TYPE PN40 and PN64 / Class 300

DS LG - TMF SHV

Code: DS LG TMF…-… /40/RF-SHV/…/…-M…-CS/CS



TMFSHV



TMFMSHV

Technical data

Service conditions
Max Pressure: PN40 e PN64; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 3.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN40-64 DN15-20-25 ANSI#150-300-600/RF DN ½“ - ¾“ - 1“
Standard threaded unions: GAS-M ½” - ¾” NPT-M ½” - ¾”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: valve type DHV threaded ¾” Option: see page 1.54

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69) Option: type A (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TMF: see below table
Valves type DS SHV: Kg. 11,8 approx. (with flanges UNI DN20 PN40)

Tightening torque of housing screws
Standard: 35 Nm

Spare parts
Housing type DS TMF: see from page 1.69 (drawing with components and parts list see page 1.64)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	5,4
12	2x1	155	**235**	**120**	140x1	6,1
13	3x1	180	**260**	**145**	165x1	6,7
14	4x1	205	**285**	**170**	190x1	7,2
15	5x1	235	**315**	**200**	220x1	8,1
16	6x1	265	**345**	**230**	250x1	8,8
17	7x1	295	**375**	**260**	280x1	9,5
18	8x1	335	**415**	**300**	320x1	10,4
19	9x1	360	**440**	**320**	340x1	11,2
24	4x2	410	**490**	**375**	190x2	12,4
25	5x2	470	**550**	**435**	220x2	14,2
26	6x2	530	**610**	**495**	250x2	15,4
27	7x2	590	**670**	**555**	280x2	17,0
28	8x2	670	**750**	**635**	320x2	18,8
29	9x2	720	**800**	**680**	340x2	20,4
36	6x3	795	**875**	**760**	250x3	22,1
37	7x3	885	**965**	**850**	280x3	24,5
38	8x3	1005	**1085**	**970**	320x3	27,2
39	9x3	1080	**1160**	**1040**	340x3	29,6
47	7x4	1180	**1260**	**1145**	280x4	32,0
48	8x4	1340	**1420**	**1305**	320x4	35,6
49	9x4	1440	**1520**	**1400**	340x4	38,8
57	7x5	1475	**1555**	**1440**	280x5	39,5
58	8x5	1675	**1755**	**1640**	320x5	44,0
59	9x5	1800	**1880**	**1760**	340x5	48,0
68	8x6	2010	**2090**	**1975**	320x6	52,4
69	9x6	2160	**2240**	**2120**	340x6	57,2
78	8x7	2345	**2425**	**2310**	320x7	60,8
79	9x7	2520	**2600**	**2480**	340x7	66,4
88	8x8	2680	**2760**	**2645**	320x8	69,2
89	9x8	2880	**2960**	**2840**	340x8	75,6

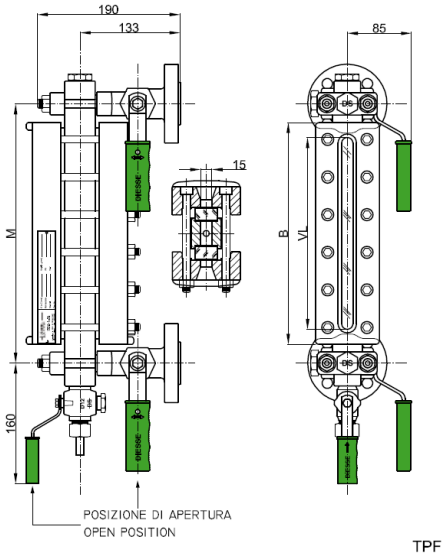
Tab. TMF

DIESSE S.r.l.
Fluid Control

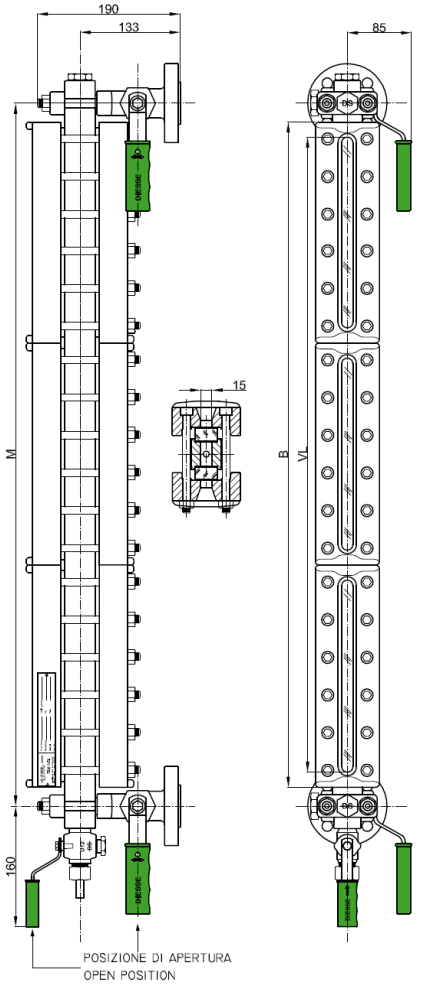
GLASS LEVEL GAUGE TRANSPARENT TYPE PN64 and PN100 / Class 600

DS LG - TPF GR18

Code: DS LG TPF…-… /100/RF-GR18/…/…-M…-CS/CS



TPF



TPFM

Technical data

Service conditions
Max Pressure: PN64 e PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase
Note: depending on operating conditions, each element may have one or more internal reinforcements

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:

Standard flanges:	UNI PN64-100 DN20 - DN25	ANSI#600/RF DN ¾“ - 1“
Standard threaded unions:	BSP-M ¾” - 1”	NPT-M ¾” - 1”

Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)

Vent:	Standard: threaded ½” with plug	Option: see page 1.52
Drain:	Standard: cock type D12 threaded ½”	Option: see page 1.52

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TPF: see below table
Cocks type DS GR18: Kg. 9,2 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS TPF: see from page 1.69 (drawing with components and parts list see page 1.65)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+50	VL	x No. elements	
11	1x1	130	**180**	**95**	115x1	7,9
12	2x1	155	**205**	**120**	140x1	9,0
13	3x1	180	**230**	**145**	165x1	10,5
14	4x1	205	**255**	**170**	190x1	11,5
15	5x1	235	**285**	**200**	220x1	12,8
16	6x1	265	**315**	**230**	250x1	13,5
17	7x1	295	**345**	**260**	280x1	15,4
18	8x1	335	**385**	**300**	320x1	16,8
19	9x1	360	**410**	**320**	340x1	18,1
24	4x2	410	**460**	**375**	190x2	21,5
25	5x2	470	**520**	**435**	220x2	24,1
26	6x2	530	**580**	**495**	250x2	25,5
27	7x2	590	**640**	**555**	280x2	29,3
28	8x2	670	**720**	**635**	320x2	32,1
29	9x2	720	**770**	**680**	340x2	34,7
36	6x3	795	**845**	**760**	250x3	37,5
37	7x3	885	**935**	**850**	280x3	43,2
38	8x3	1005	**1055**	**970**	320x3	47,4
39	9x3	1080	**1130**	**1040**	340x3	51,3
47	7x4	1180	**1230**	**1145**	280x4	57,1
48	8x4	1340	**1390**	**1305**	320x4	62,7
49	9x4	1440	**1490**	**1400**	340x4	67,9
57	7x5	1475	**1525**	**1440**	280x5	71,0
58	8x5	1675	**1725**	**1640**	320x5	78,0
59	9x5	1800	**1850**	**1760**	340x5	84,5

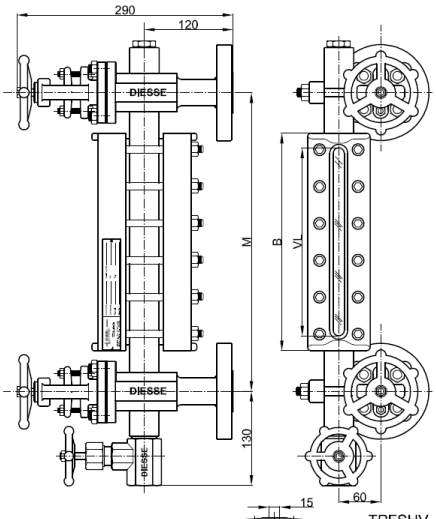
Tab. TPF

DIESSE S.r.l.
Fluid Control

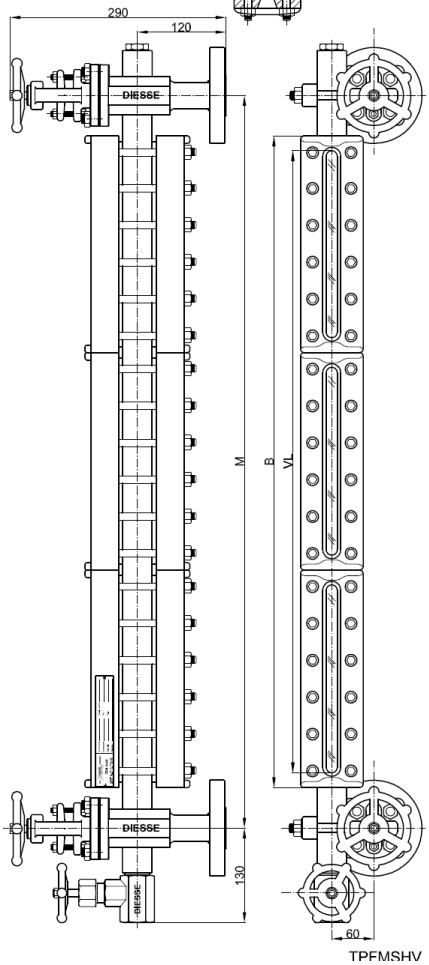
GLASS LEVEL GAUGE TRANSPARENT TYPE PN64 and PN100 / Class 600

DS LG - TPF GR18

Code: DS LG TPF…-… /100/RF-GR18/…/…-M…-CS/CS



TPFSHV



TPFMSHV

Technical data

Service conditions
Max Pressure: PN64 e PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase
Note: depending on operating conditions, each element may have one or more internal reinforcements

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN64-100 DN15-20-25 ANSI#600/RF DN ¾“ - 1“
Standard threaded unions: BSP-M ¾” - 1” NPT-M ¾” - 1”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: valve type DHV threaded ¾” Option: see page 1.54

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TPF: see below table
Valves type DS DS SHV: Kg. 13,5 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS TPF: see from page 1.69 (drawing with components and parts list see page 1.65)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	7,9
12	2x1	155	**235**	**120**	140x1	9,0
13	3x1	180	**260**	**145**	165x1	10,5
14	4x1	205	**285**	**170**	190x1	11,5
15	5x1	235	**315**	**200**	220x1	12,8
16	6x1	265	**345**	**230**	250x1	13,5
17	7x1	295	**375**	**260**	280x1	15,4
18	8x1	335	**415**	**300**	320x1	16,8
19	9x1	360	**440**	**320**	340x1	18,1
24	4x2	410	**490**	**375**	190x2	21,5
25	5x2	470	**550**	**435**	220x2	24,1
26	6x2	530	**610**	**495**	250x2	25,5
27	7x2	590	**670**	**555**	280x2	29,3
28	8x2	670	**750**	**635**	320x2	32,1
29	9x2	720	**800**	**680**	340x2	34,7
36	6x3	795	**875**	**760**	250x3	37,5
37	7x3	885	**965**	**850**	280x3	43,2
38	8x3	1005	**1085**	**970**	320x3	47,4
39	9x3	1080	**1160**	**1040**	340x3	51,3
47	7x4	1180	**1260**	**1145**	280x4	57,1
48	8x4	1340	**1420**	**1305**	320x4	62,7
49	9x4	1440	**1520**	**1400**	340x4	67,9
57	7x5	1475	**1555**	**1440**	280x5	71,0
58	8x5	1675	**1755**	**1640**	320x5	78,0
59	9x5	1800	**1880**	**1760**	340x5	84,5

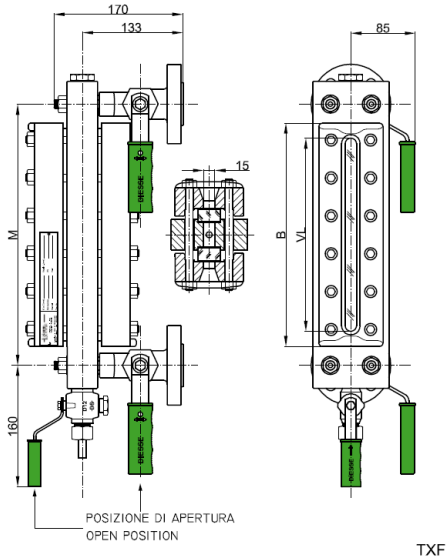
Tab. TPF

DIESSE S.r.l.
Fluid Control

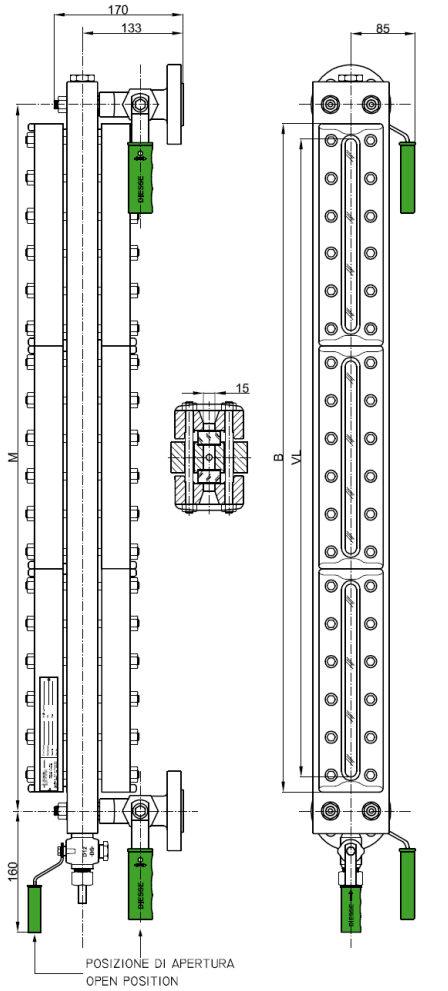
GLASS LEVEL GAUGE TRANSPARENT TYPE
PN100 and PN160 / Class 600 and 900

DS LG - TXF GR18

Code: DS LG TXF…-… /160/RF-GR18/…/…-M…-CS/CS



TXF



TXFM

Technical data

Service conditions
Max Pressure: PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C) and
PN160; Class 900 (A105: 153,1 bar @ 38°C; AISI 316L: 148,9 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body & cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Handling: lever operated with PP handle (Standard: right; Option: left)
Process connections:
Standard flanges: UNI PN100-160 DN20 - DN25 ANSI#600-900/RF DN ¾“ - 1“
Standard threaded unions: BSP-M ¾” - 1” NPT-M ¾” - 1”
Options: further connections types or direct connections to the process without shut-off cocks (see page 1.51)
Vent: Standard: threaded ½” with plug Option: see page 1.52
Drain: Standard: cock type D12 threaded ½” Option: see page 1.52

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TXF: see below table
Cocks type DS GR18: Kg. 9,2 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS TPF: see from page 1.69 (drawing with components and parts list see page 1.65)
Cocks type DS GR18: see from page 1.72 (drawing with components and parts list see page 1.66)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+50	VL	x No. elements	
11	1x1	130	**180**	**95**	115x1	11,6
12	2x1	155	**205**	**120**	140x1	13,2
13	3x1	180	**230**	**145**	165x1	15,1
14	4x1	205	**255**	**170**	190x1	16,5
15	5x1	235	**285**	**200**	220x1	18,3
16	6x1	265	**315**	**230**	250x1	19,5
17	7x1	295	**345**	**260**	280x1	22,0
18	8x1	335	**385**	**300**	320x1	24,1
19	9x1	360	**410**	**320**	340x1	25,8
24	4x2	410	**460**	**375**	190x2	30,0
25	5x2	470	**520**	**435**	220x2	33,6
26	6x2	530	**580**	**495**	250x2	36,0
27	7x2	590	**640**	**555**	280x2	41,0
28	8x2	670	**720**	**635**	320x2	45,2
29	9x2	720	**770**	**680**	340x2	48,6
36	6x3	795	**845**	**760**	250x3	52,5
37	7x3	885	**935**	**850**	280x3	60,0
38	8x3	1005	**1055**	**970**	320x3	66,3
39	9x3	1080	**1130**	**1040**	340x3	71,4
47	7x4	1180	**1230**	**1145**	280x4	79,0
48	8x4	1340	**1390**	**1305**	320x4	87,4
49	9x4	1440	**1490**	**1400**	340x4	94,2
57	7x5	1475	**1525**	**1440**	280x5	98,0
58	8x5	1675	**1725**	**1640**	320x5	108,5
59	9x5	1800	**1850**	**1760**	340x5	117,0

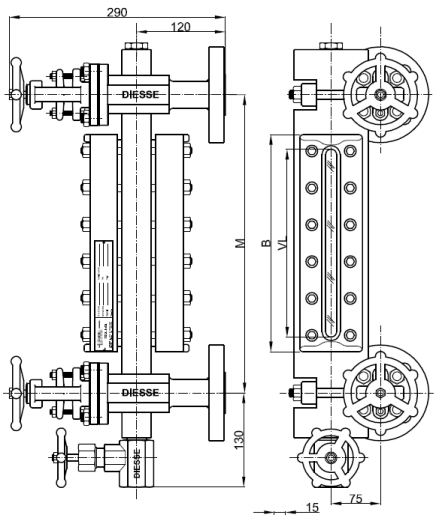
Tab. TXF

DIESSE S.r.l.
Fluid Control

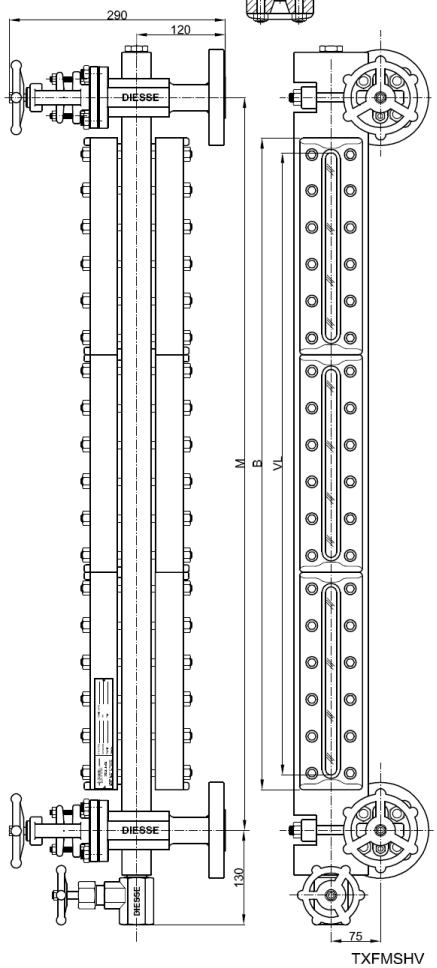
GLASS LEVEL GAUGE TRANSPARENT TYPE
PN100 and PN160 / Class 600 and 900

DS LG - TXF SHV

Code: DS LG TXF…-… /160/RF-SHV/…/…-M…-CS/CS



TXFSHV



TXFMSHV

Technical data

Service conditions
Max Pressure: PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C) and
PN160; Class 900 (A105: 153,1 bar @ 38°C; AISI 316L: 148,9 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

View
Standard: front, on request lateral (right or left) adjustable in the production phase

Distance (Centre-to-centre)
Standard: see below table for mimimum distance (Fixed distance, not adjustable)
Option: On request intermediate distances and over 2.000 mm

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Gauge body:	ASTM A105 / A105 LF2	AISI 316L	AISI 316L
Valves body:	A105 LF2	AISI 316L	AISI 316L
Stem, disc / seat valves:	AISI 410 / AISI 316	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Gaskets
Standard: grahite/copper Option: graphite/AISI 316 or PTFE/AISI316

Shut-off valves
Type DS SHV: globe type
Handling: by handwheel
Process connections:
Standard flanges: UNI PN100-160 DN20-25 ANSI#600-900/RF DN ¾“ - 1“
Standard threaded unions: BSP-M ¾” - 1” NPT-M ¾” - 1”
Options: further connections types or direct connections to the process without shut-off valves (see page 1.53)
Vent: Standard: threaded ½” with plug Option: see page 1.54
Drain: Standard: cock type DHV threaded ¾” Option: see page 1.54

Glasses
Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)

Accessories
See from page 1.55

Weights
Housing type DS TXF: see below table
Valves type DS SHV: Kg. 13,5 approx. (with flanges UNI DN20 PN100)

Tightening torque of housing screws
Standard: 75 Nm

Spare parts
Housing type DS TPF: see from page 1.69 (drawing with components and parts list see page 1.65)
Valves type DS SHV: see from page 1.74 (drawing with components and parts list see page 1.68)

CODE	TYPE	BODY Length [mm]	DISTANCE SL MINIMUM [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
	x No. el	B	M = B+80	VL	x No. elements	
11	1x1	130	**210**	**95**	115x1	11,6
12	2x1	155	**235**	**120**	140x1	13,2
13	3x1	180	**260**	**145**	165x1	15,1
14	4x1	205	**285**	**170**	190x1	16,5
15	5x1	235	**315**	**200**	220x1	18,3
16	6x1	265	**345**	**230**	250x1	19,5
17	7x1	295	**375**	**260**	280x1	22,0
18	8x1	335	**415**	**300**	320x1	24,1
19	9x1	360	**440**	**320**	340x1	25,8
24	4x2	410	**490**	**375**	190x2	30,0
25	5x2	470	**550**	**435**	220x2	33,6
26	6x2	530	**610**	**495**	250x2	36,0
27	7x2	590	**670**	**555**	280x2	41,0
28	8x2	670	**750**	**635**	320x2	45,2
29	9x2	720	**800**	**680**	340x2	48,6
36	6x3	795	**875**	**760**	250x3	52,5
37	7x3	885	**965**	**850**	280x3	60,0
38	8x3	1005	**1085**	**970**	320x3	66,3
39	9x3	1080	**1160**	**1040**	340x3	71,4
47	7x4	1180	**1260**	**1145**	280x4	79,0
48	8x4	1340	**1420**	**1305**	320x4	87,4
49	9x4	1440	**1520**	**1400**	340x4	94,2
57	7x5	1475	**1555**	**1440**	280x5	98,0
58	8x5	1675	**1755**	**1640**	320x5	108,5
59	9x5	1800	**1880**	**1760**	340x5	117,0

Tab. TXF

WELD-ON LEVEL GAUGES

This type of level gauge is designed to be welded on to the tank and withstand the pressure inside it.

It is made from both carbon steel and stainless steel and can take reflex and transparent glasses.
Reflex glasses are recommended as they improve visibility.

In order to prevent warping or distortions while the level gauge is in service, the technician tasked with installing the product must reinforce the wall of the tank where the gauge is to be welded on.

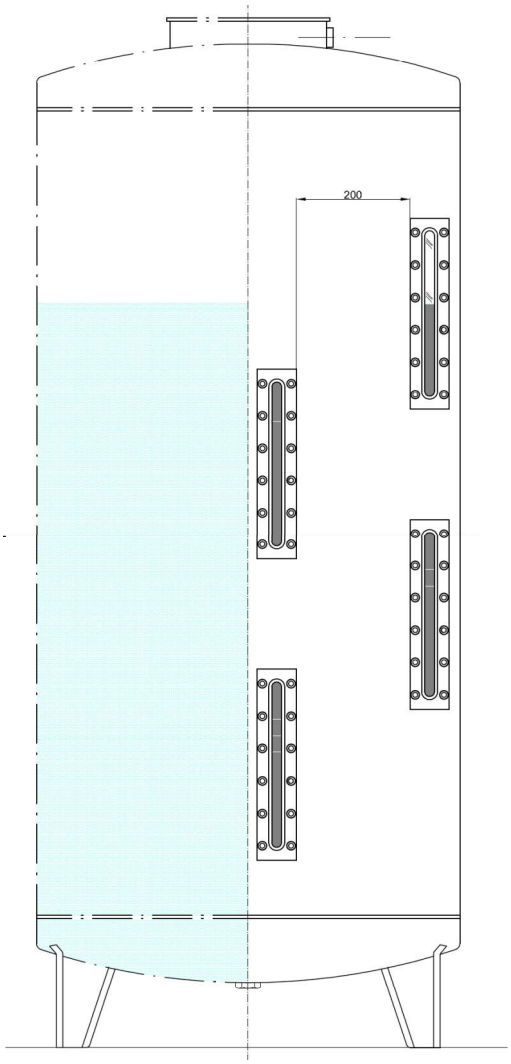
For visible lengths exceeding 320 mm, we recommend welding additional gauges on different axes to avoid weakening the tank structure.

During welding operations (which must only be carried out prior to gauge assembly), special care must be taken to avoid exposing the weld-on base to high temperatures for long periods of time as this may comprise the resistance of the gauge when in operation.

Operating limits / Conditions:

Process:

Max. pressure:	ANSI 300 rating (A105: 51 bar; AISI 316L: 49.6 bar) @ 38°C
Max. temperature:	300°C (max. temperature allowed by borosilicate glasses as per the DIN 7081 standard - see page 1.69)
On request:	ANSI 600 rating (A105: 102 bar; AISI 316L: 99.3 bar) @ 38°C



Materials / Specifications
Weld-on base:
- standard: flat with a hole running along the whole visible length
- additional options: with radius (state the tank radius); with 2 holes (Ø: 15 mm) at the far ends of the visible length

Wetted parts:
- standard: galvanized ASTM A105 or A105 LF2 carbon steel, ASTM A182 F316L stainless steel
- additional options: on request

Non-wetted parts:
- standard: galvanized carbon steel, AISI 316L stainless steel
- additional options: on request

Gaskets: (see page 1.71)
- standard: graphite
- additional options: PTFE; other extras on request

Glasses: (see page 1.69)
- reflex or transparent borosilicate glasses, thermally pre-stressed and extra hard as per the DIN 7081 standard

Spare parts:
Our spare parts are interchangeable with those of major international manufacturers.
For the full range of complete sets, turn to the spares section on page 1.69.

Accessories:
Mica or PCTFE protective shield (for transparent glass only), calibrated scale, non-frosting extension, minimum level arrow (see page 1.55 for details)

Certifications (on request):
- NACE MR0175
- Others on request

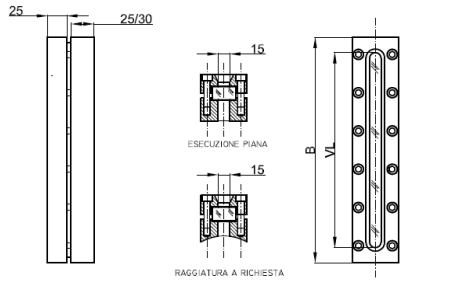
This kind of level gauge can only be tested once it has been welded on to the tank in question. All DIESSE components are individually checked and tested in accordance with company quality procedures and the industry regulations currently in effect. Certificates can be issued on request.

DIESSE S.r.l.
Fluid Control

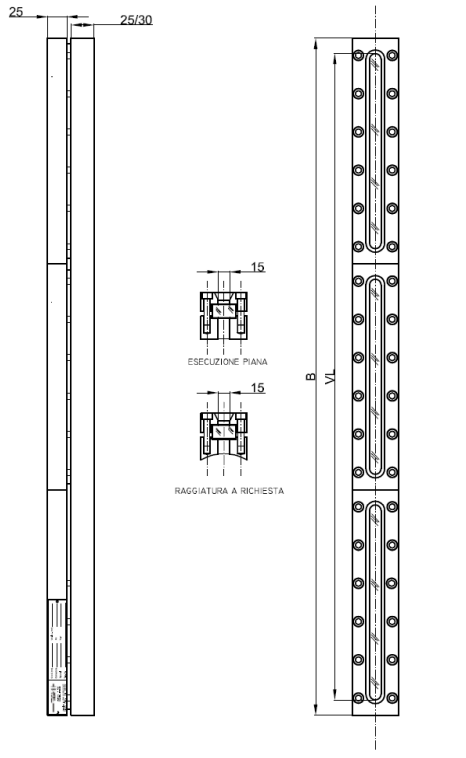
WELD-ON GLASS LEVEL GAUGE REFLEX and TRANSPARENT PN40 / Class 300

DS LG - RCW / TCW

Code: DS LG RCW…-CS/CS **REFLEX**
Code: DS LG TCW…-CS/CS **TRANSPARENT**

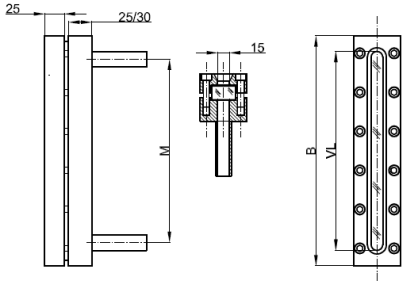


RCW/TCW



RCW/TCW

Code: DS LG RCWSP…-CS/CS **REFLEX**
Code: DS LG TCWSP…-CS/CS **TRANSPARENT**



RCWSP/TCWSP

Technical data

Service conditions
Max Pressure: PN40; Class 300 (A105: 51 bar @ 38°C; AISI 316L: 49,6 bar @ 38°C)
Option: PN100; Class 600 (A105: 102 bar @ 38°C; AISI 316L: 99,3 bar @ 38°C)
Max Temperature: 280/300°C (According to DIN 7081 for glasses, see page 1.69)

Total length
Standard: see below table
Option: On request intermediate lengths and over 1.080 mm

Process connections
Standard: Drilling on the whole visible length
Option: Two holes Ø 15 mm at the opposite ends of the visible length or two pipes welded at the centre-to-centre distance requested (see below drawing)

Execution of housing to be weld
Standard: flat
Option: On request with back radius

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Housing body:	ASTM A105	AISI 316L	AISI 316L
Cover:	ASTM A105	ASTM A105	AISI 316L

Gaskets
Standard: grahite Option: PTFE

Glasses
Reflex and Tranparent - Borosilicate glass, “extra hard” and thermally pre-stressed - According to DIN 7081
Standard: fitted with type B (see page 1.69)
Option: type A (see page 1.69)

Accessories
See from page 1.55

Weights
See below table

Tightening torque of screws
Standard: 25-30 Nm

Spare parts
See from page 1.69

Recommendation
For requested visible lenghts over 320 mm, to avoid the tank structure weakness, it is recommended to weld on the tank more level gauges positioned on different axes

CODE	TYPE	BODY Length [mm]	VISIBLE Length [mm]	GLASS Length [mm]	WEIGHT Housing [Kg]
		B	VL	x No. elements	
11	1	130	**95**	115	2,5
12	2	155	**120**	140	3,0
13	3	180	**145**	165	3,4
14	4	205	**170**	190	3,9
15	5	235	**200**	220	4,7
16	6	265	**230**	250	5,1
17	7	295	**260**	280	5,6
18	8	335	**300**	320	6,0
19	9	360	**320**	340	6,9
24	4x2	410	**375**	190x2	7,8
25	5x2	470	**435**	220x2	9,4
26	6x2	530	**495**	250x2	10,2
27	7x2	590	**555**	280x2	11,2
28	8x2	670	**635**	320x2	12,0
29	9x2	720	**680**	340x2	13,8
36	6x3	795	**760**	250x3	15,3
37	7x3	885	**850**	280x3	16,8
38	8x3	1005	**970**	320x3	18,0
39	9x3	1080	**1040**	340x3	20,7

Tab. RCW/TCW

LEVEL GAUGES WITH GLASS TUBE

Level gauges with a glass tube are an inexpensive but valid option for checking the level of non-hazardous or non-reactive fluids in unpressurised tanks.

An external metal protection of the glass tube is recommended.

Available configurations:
Borosilicate glass tube.
Diameter: 16 mm; thickness: 2.5 mm.

Centre-to-centre distance with a single tube: 3000 mm.
Visible length (without protection):
centre-to-centre distance - 95 mm.

Visible length (with protection):
centre-to-centre distance - 135 mm.

Spare glass tube:
centre-to-centre distance - 30 mm.

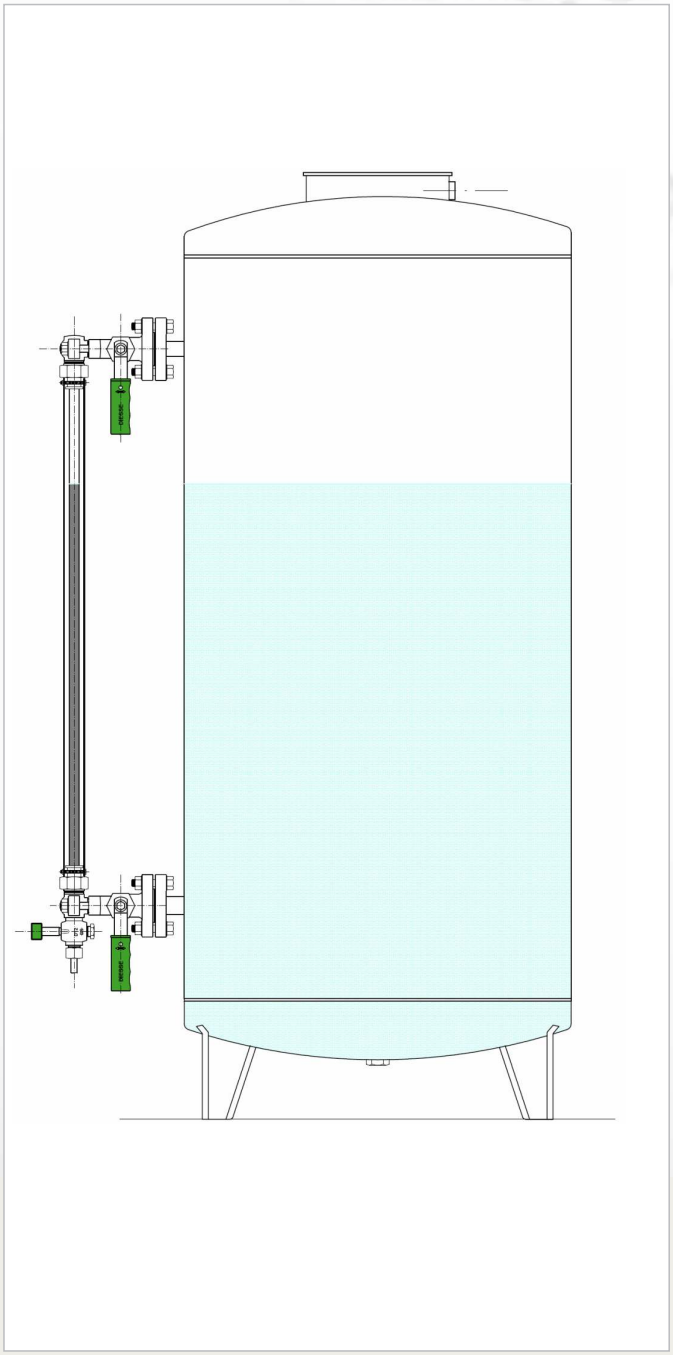
Spare protection:
centre-to-centre distance - 100 mm.

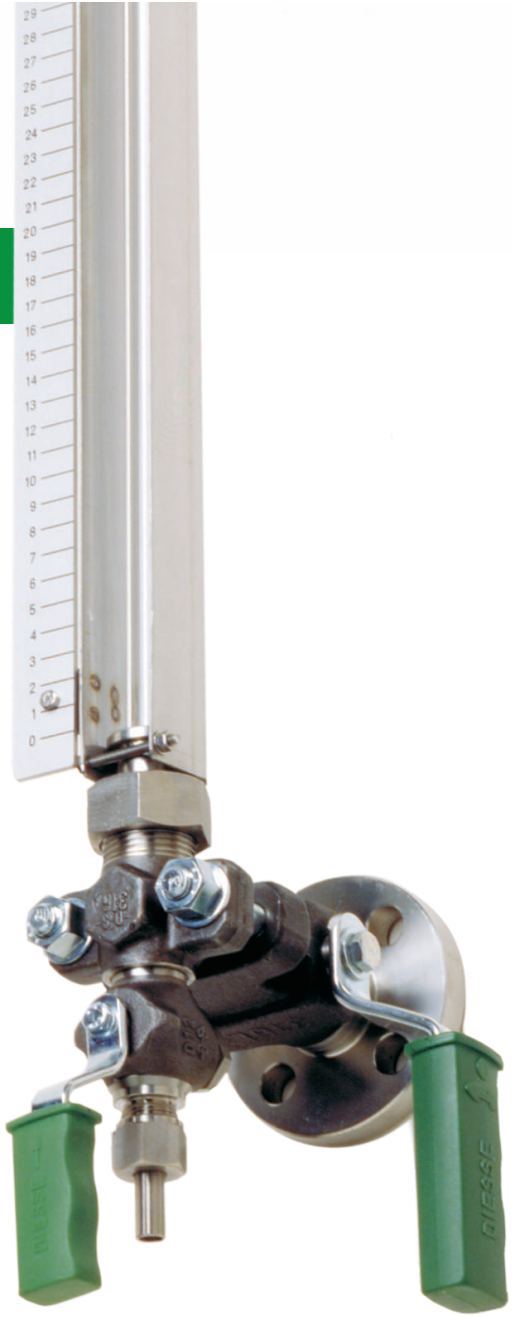
In the event of greater centre-to-centre distances, additional pipes can be connected up via middle terminals for glass tube

Operating limits / Conditions:
Process:
Max. pressure: 5 bar @ 38°C (the max. pressure also depends on the length and temperature)

Max. temperature: 120°C

The product is NOT suitable for use in the following instances:
- if it is likely to be exposed to vibrations (glass tube will break)
- if the installation is situated by a walkway (possibility of blows/impact)
- if exposed to steam (shortens glass tube life)





Materials / Specifications
Transparent tube: grade 3.3 borosilicate glass

Glass protection (optional): AISI 304 stainless steel

Wetted parts:
- standard: galvanized ASTM A105 or A105 LF2 carbon steel, ASTM A182 F316L stainless steel
- additional options: on request

Non-wetted parts:
- standard: galvanized carbon steel, AISI 316/316L stainless steel
- additional options: on request

Gaskets: (see page 1.72)

Cocks:
- standard: graphite/copper (ASTM A105), graphite/AISI 316 (A105 LF2 and ASTM A182 F316L)
- additional options: PTFE; other extras on request

Sealing gasket:
- standard: EPDM
- additional options: graphite or PTFE; other extras on request

Shut-off: (see page 1.49)
- standard: upper valve and lower valve (side/side)
- additional options: on request

Drain: (see page 1.50)
- standard: threaded valve
- additional options: on request

Vent: (see page 1.50)
- standard: blind
- additional options: threaded with plug; other extras on request

Tank connections:
Flanged:
- UNI standard: PN40 DN15 / DN20 / DN25
- ANSI standard: #150 DN ½" / ¾" / 1"
- additional options: on request

Threaded:
- BSP (GAS) standard: ½"-M / ¾"-M
- NPT standard: ½"-M / ¾"-M

Weld-on: from ½" to 1" BW or SW
Option: further connections type or direct connections to the process without shut-off cocks (see page 1.49 for more details)

Shut-off cocks, drain cock and vent cock:
- Cylindrical plug cocks

Spares:
Our spare parts are interchangeable with those of major international manufacturers.
For the full range of complete sets, turn to the spares section on page 1.69.

Accessories:
Stainless steel "U" protection, lower and/or upper safety ball, pusher for safety ball, calibrated, non-frosting extension, minimum level arrow, continuous reading, cocks handles lock
(see page 1.55 for details)

Certifications (on request):

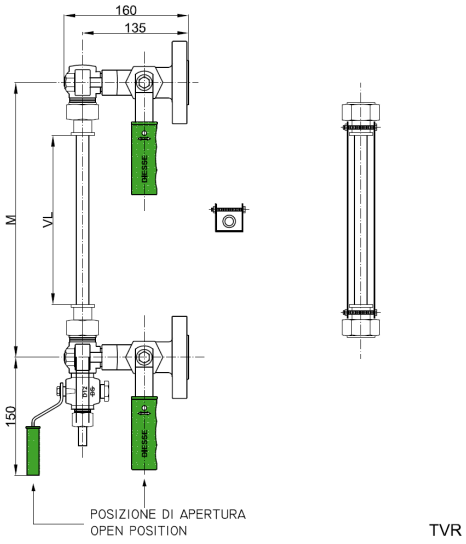
For this kind of gauge the pressure test can be performed only on the cocks (on request), glass tubes cannot be tested due to their fragility. All DIESSE components are individually checked and tested in accordance with company quality procedures and the industry regulations currently in effect.
Certificates can be issued on request.

DIESSE S.r.l.
Fluid Control

LEVEL GAUGE WITH GLASS TUBE AND "U" SHAPED PROTECTION

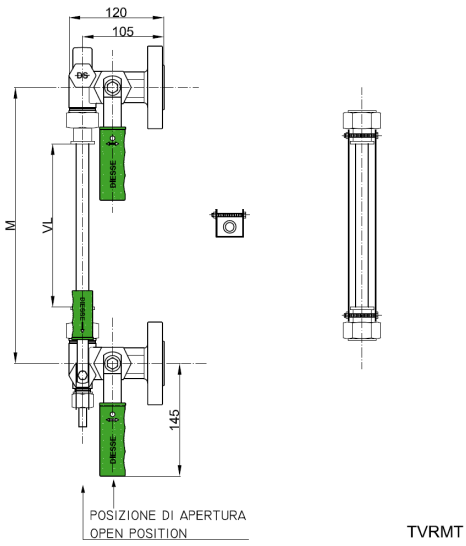
DS LG - TVR GR18 / MT18

Code: DS LG TVR…-… /16/RF-GR18/…/…-M…-CS/CS



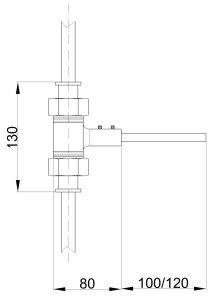
TVR

Code: DS LG TVR…-… /16/RF-MT18/…/…-M…-CS/CS



TVRMT

MIDDLE TERMINAL - CODE: MJT



Technical data

Service conditions
Max Pressure: max: 5 barg (Max. pressure also function of the length and the temperature)
Max Temperature: 120°C

View
Standard: adjustable on 360° in the installation phase (rotating the "U" shaped protection)

Distance (Centre-to-centre)
On request
Max with a single glass tube 3.000 mm
Option: on request are available distances over 3.000 mm using the middle terminals to connect more glass tubes

Visible length [VL]

With shut-off cocks type DS GR18

- **With the "U" shaped protection**
  Visible length [VL] = Centre-to-centre distance [M] - 135 mm (with extended stuffing box covers to fasten the "U" shaped protection)

- **Without protection**
  Visible length [VL] = Centre-to-centre distance [M] - 95 mm (with standard stuffing box covers)

With shut-off cocks type DS MT18

- **With the "U" shaped protection**
  Visible length [VL] = Centre-to-centre distance [M] - 145 mm (with extended stuffing box covers to fasten the "U" shaped protection)

- **Without protection**
  Visible length [VL] = Centre-to-centre distance [M] - 105 mm (with standard stuffing box cover)

Materials (Standard)

Execution:	CS/CS	SS/CS	SS/SS
Cocks body:	ASTM A105	AISI 316L	AISI 316L
Cocks trim:	AISI 303	AISI 316	AISI 316
Non-wetted parts:	Carbon steel galvanized	Carbon steel galvanized	AISI 316

Glass tube
Standard: borosilicate glass 3.3, Ø 16 mm, thickness 2,5 mm

Protection for glass tube (Option always recommended)
Standard: metal sheet "U" shaped in stainless steel AISI 304

Gaskets

Standard:	Cocks: graphite/copper	Glass sealing: EPDM
Option:	Cocks: graphite/AISI 316	Glass sealing: graphite
	Cocks: PTFE/AISI316	Glass sealing: PTFE

Shut-off cocks
Type DS GR18: cylindrical plug type - Straight type - Quick 90° closing
Type DS MT18: cylindrical plug type with monolithic body - Straight type - Quick 90° closing (see page 1.47)
Handling: lever operated with PP handle (Standard: right; Option: left)

Process connections:

Standard flanges:	UNI PN16/40 DN15-20-25	ANSI#150/RF DN ½" - ¾" - 1"
Standard threaded unions:	BSP-M ½" - ¾"	NPT-M ½" - ¾"

Options: further connections types or direct connections to the process without cocks (see page 1.49)

Vent:	Standard: blind	Option: see page 1.50
Drain:	Standard: cock type D12 threaded ½"	Option: see page 1.50

Accessories
See from page 1.55

Weights
Cocks type DS GR18: Kg. 7,4 approx. (with flanges UNI DN20 PN40)
Cocks type DS MT18: Kg. 6,1 approx. (with flanges UNI DN20 PN40)

Spare parts
Glass tube: Length = Centre-to-centre distance [M] - 30 mm
Protection: Length = Centre-to-centre distance [M] - 100 mm
Cocks type DS GR18: see from page 1.72
(drawing with components and parts list see page 1.66)
Cocks type DS MT18: see from page 1.64
(drawing with components and parts list see page 1.67)

Utilization

The product is NOT suitable for use in the following instances:

- ❑ if it is likely to be exposed to vibrations (glass tube will break)
- ❑ if the installation is situated by a walkway (possibility of blows/impact)
- ❑ if exposed to steam (shortens glass tube life)

LEVEL GAUGES WITH MICROWAVE TRANSMITTER

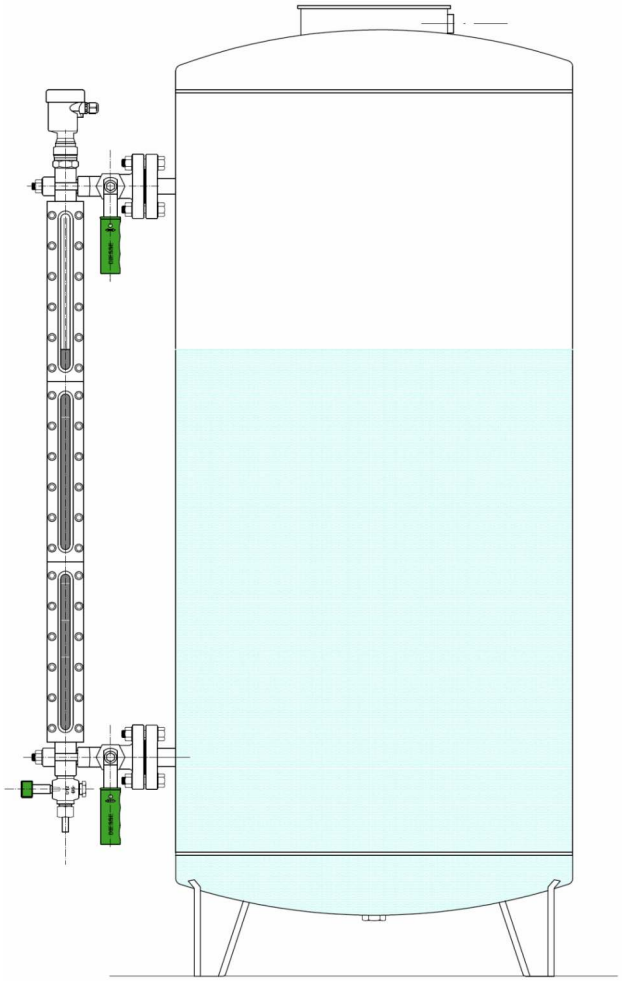
DIESSE has been granted a European patent for the glass level gauge equipped with a microwave transmitter, which allows to get, with 2/4-wire, 4-20mA, Hart-Profibus PA or Foundation fieldbus output signal. Traditional visual readings can also be taken by glasses.

The equipment is suitable for use with most liquids and can be installed in both non-explosive and in potentially explosive atmospheres (ATEX certified).

In addition, it can be used as an overflow safety device thanks to the SIL (safety integrity level) of the microwave transmitter.

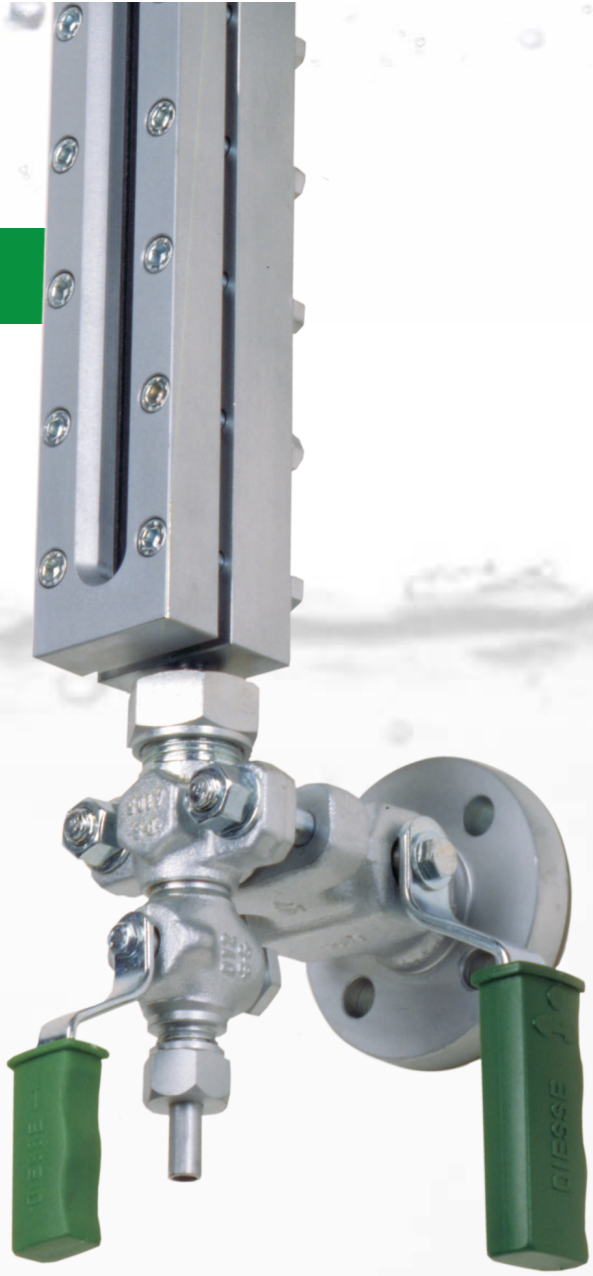
The standout features of this type of gauge are as follows:

- Remote and in situ indication/transmission of liquid level
- Ability to programme adjustable thresholds (alarm and/or control signals) in proportion to the gauge length
- Automatic analogue/digital control via system accessories (relays, regulators etc.)
- Actual/visible level readings appear in real time with the process management analogue/digital parameters. No risk of discordance
- Two types of parameters on a single process connection: visual mechanical parameters and analogue/digital control parameters
- Pressure and temperature readings can be taken in addition to the usual metric level readings and are shown on one or more displays
- Control and alarm signals can be remotely transmitted



HOW DOES IT WORK?

High frequency microwave pulses are ‘guided’ along a cable positioned in the centre of the level gauge housing. When the pulses reach the surface of the fluid, they are reflected back up the guide to electronic processors. A microcontroller then processes the reflected microwaves, converting them into legible level or volume data.



TECHNICAL SPECIFICATIONS OF MICROWAVE TRANSMITTER:

MATERIALS:

Cable:
316 stainless steel; diameter: 1 mm

Gasket:
FPM (Viton), EPDM or Kalrez 6375

Process connection:
316L stainless steel, ¾" BSP (GAS); other materials available on request

COVER/PROTECTION:
Resin, aluminium or 316L stainless steel

ELECTRICAL CONNECTION:
M20 x 1,5 mm or ½" NPT

OPERATING CONDITIONS (*):

Pressure:	up to 400 bar
Operating temperature:	-200 + 400°C
Ambient temperature:	-20 + 80°C

OUTPUT SIGNAL:
Standard: 4…20mA, Hart-Profibus PA or Foundation fieldbus

ACCURACY:
+/- 5 mm

ELECTRONIC POWER SUPPLY: (4…20mA/Hart loop powered)

Standard (non Ex):	14-36 VDC
EEx ia version:	10-30 VDC
EEx d version:	20-36 VDC

OPTIONAL ACCESSORIES:
Integrated or remote display and calibration module

INGRESS PROTECTION:
IP 67

EXPLOSION PROTECTION: ATEX II 1G, 1/2G, 2G EEx ia IIC T6
(depending on the model) ATEX II 1/2G, 2G EEx d ia IIC T6

(*) the operating limits of the glass level gauge with microwave transmitter are the same as those listed in relevant sections of the reflex and transparent level gauge pages

Accessories / Certifications:
Please refer to the reflex/transparent glass level gauge sections.

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