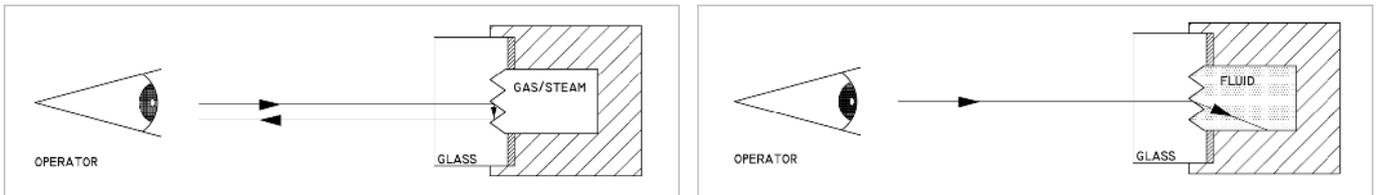


REFLEX LEVEL GAUGES

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).

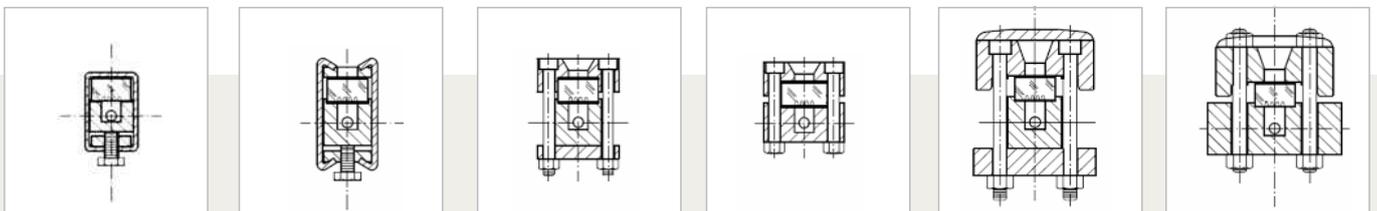
The product is NOT suitable for use in the following instances:

- 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

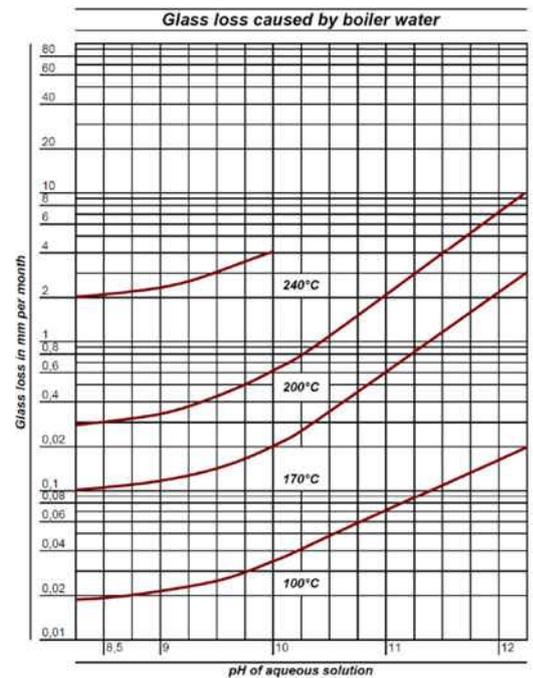
PN25/40
Class 150

PN40/64
Class 300

PN40/64
Class 300

PN100/160
Class 600/900

PN160
Class 900



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

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 1/2" / 3/4" / 1"
- additional options: on request

Threaded:

- BSP (GAS) standard: 1/2"-M / 3/4"-M
- NPT standard: 1/2"-M / 3/4"-M

Weld-on: from 1/2" 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.