

# Sight Glass Level Gauges

KSR KUEBLER AG Data Sheet Sight Glass Level Gauges

## Description

Level Gauges for direct reading of liquid levels in vessels and tanks.

## Applications

- Refineries
- Off-shore
- Oil and gas
- Power stations
- Chemical plants
- Thermofluid oil installations
- Refrigerating plants
- Cryogenic services

## Rating

- Pressure rating PN 6 – 250
- Operating temperatures from – 200 up to + 400 °C

## Product groups

- Reflex type
- Transparent type with glass or mica
- Refraction type
- Tubular type

## Chambers

- fixed, flanged, pivoted, screwed or weldable
- interrupted or continuous visible length

## Materials

- Forged steel, stainless steel, suitable for pressure equipment according to EN or ASME
- Particularly corrosion resistant materials as Duplex, Monel, Inconel, Hastelloy, Titanium, etc.

## Shut-off valves

- handwheel or quick closing lever
- with ball check
- flanged or union connection

## Accessories

- Drain and vent
- Illumination
- Heating
- Scale
- Frost protection
- Ultraviolet protection
- Corrosion protection
- Lining/coating PTFE/Halar, rubber

## Certificates

- Test certificates according to DIN EN 10204
- Sour gas regulation NACE
- Tests to customers requirements

## Necessary data

Glass type, Design pressure (p), Design temperature (T), center to center distance (ME), visible length (SL), materials, process connection, ex classification, quantity

Special constructions available upon request.  
For further details please use our datasheets.



## Sight Glass Level Gauges Type Overview

Basic-Type	Pressure rating	Body type	Connection	Gauge valve	Internal connection	Actuation	Special	Page
700.12	CL 300	reflex, transparent	side-side fixed	760.51..52	nipple	handwheel		8
700.12A	CL 900	reflex, transparent	side-side fixed	760.51..52	nipple	handwheel		9
700.13	CL 300	reflex, transparent	side-side fixed	760.56..57	nipple	Schnellschluss	offset	10
700.13A	CL 600	reflex, transparent	side-side fixed	760.56..57	nipple	Schnellschluss	offset	11
700.21	CL 300	reflex, transparent	top-bottom pivoted	760.53	nipple	handwheel	offset	12
700.21A	CL 900	reflex, transparent	top-bottom pivoted	760.53	nipple	handwheel	offset	13
700.23	CL 300	reflex, transparent	top-bottom pivoted	760.58	nipple	Schnellschluss	offset	14
700.23A	CL 600	reflex, transparent	top-bottom pivoted	760.58	nipple	Schnellschluss	offset	15
700.26	CL 1500	reflex, transparent	side-side fixed	760.51..52	nipple	handwheel		16
700.27	CL 1500	reflex, transparent	top-bottom pivoted	760.53	nipple	handwheel	offset	17
700.46	CL 300	reflex, transparent large chamber	top-bottom	without/with				18
700.31	CL 300	reflex, transparent open back, bridge-weld pad		without				19
700.B1	CL 300	reflex, side plates hinged	side-side fixed	integrated	rigid	handwheel		20
700.B3	PN 40	reflex	top-bottom	integrated	rigid	handwheel		21
700.B5	PN 40	reflex, side plates hinged	top-bottom	760.11	nipple	lever		23
700.B7	PN 40	reflex, pressure frame 15° diagonally	backside	760.11	nipple	lever		24
700.C0	PN 40	transparent	backside	integrated	rigid	handwheel		25
700.C4	PN 63	transparent	backside	integrated	rigid	handwheel		26
700.C5	PN 100	transparent	backside	760.68	union	lever		27
700.C6	up to CL 600	reflex, transparent	side-side fixed	760.18	flanged	handwheel + lever	double shut-off	28
700.C7	PN 100	red-green	backside	760.68	nipple	handwheel		29
700.C8	PN 160	refraction, mica	backside	760.18	nipple	handwheel + lever	double shut-off	30
700.CA	CL 1500	refraction, mica	backside	760.19	nipple	handwheel + lever	double shut-off	31
700.A1	PN 10	glass tube 13,5 mm, steel, glass protection	top-bottom pivoted		screwed	handwheel		32
700.A2	PN 10	glass tube 13,5 mm, Ms, glass protection	top-bottom pivoted		screwed	handwheel		33
700.A3	PN 10	glass tube 13,5 mm, SS, glass protection	top-bottom pivoted		screwed	handwheel		34
700.A4	PN 10	glass tube 13,5 mm, SS, glass protection	top-bottom pivoted	without	screwed			35
700.01	CL 150	glass tube 16 mm, glass protection, ZGH*)	top-bottom pivoted	760.01	screwed	handwheel	offset	36
700.03	CL 150	glass tube 16 mm, glass protection, ZGH*)	top-bottom pivoted	760.03	screwed	lever	offset	37

\*) GH = Glass holder in-between

## Valves Type Overview

Type	Pressure rating	Actuation	Connection body	Thruway	Pattern	Stem thread	Page
760.51	CL 1500	handwheel	nipple	straight	inline	inside	38
760.52	CL 1500	handwheel	nipple	angle	inline	inside	39
760.53	CL 1500	handwheel	nipple	angle	offset	inside	40
760.56	CL 600	quick closing valve	nipple	straight	inline	inside	41
760.57	CL 600	quick closing valve	nipple	Eck	inline	inside	42
760.58	CL 600	quick closing valve	nipple	angle	offset	inside	43
760.01	CL 1500	handwheel	nipple	angle	offset	inside	44
760.03	CL 600	quick closing valve	nipple	angle	offset	inside	45
760.11	CL 300	quick closing valve	nipple	angle	inline	inside	46
760.18	CL 900	handwheel / lever	nipple	angle	inline	inside	47
760.19	CL 1500	handwheel / lever	nipple	angle	inline	inside	48
760.68	CL 600	quick closing valve	nipple	straight	inline	inside	49

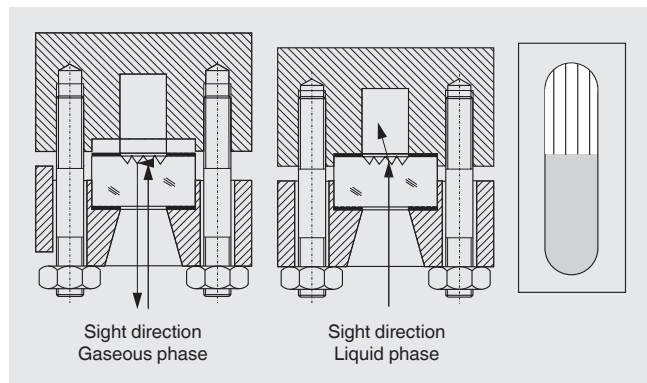
## Sight Glass Level Gauges Accessories

Type	Description	Page
709.0XXX	Illumination Transparent Sight Glass Level Gauges	50
	Sight Glass Level Gauges Connections	51
	Frost protection / Flat glasses / Gaskets	52
	Mica and gasket / Mica packages P <sub>DESIGN</sub> / Corrosion protection / Pointer low water	53
	Corrosion protection with mica / Corrosion protection and anti-adhesive / Scale / Heating	54

## Functional Description Sight Glass Level Gauges

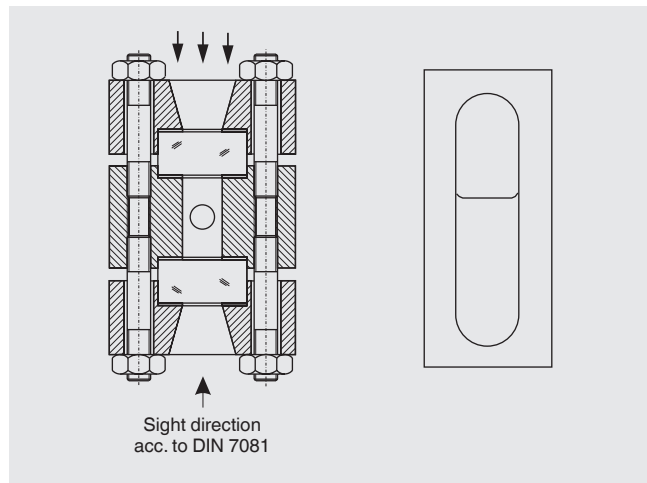
### Reflex glass type acc. to DIN 7081

Incident light is reflected at the reflex grooves of the sight glass plate covered by gas and is broken into the liquid in the part covered by medium. The liquid level is visible as a dark bar, the gaseous space as a silvery bar.



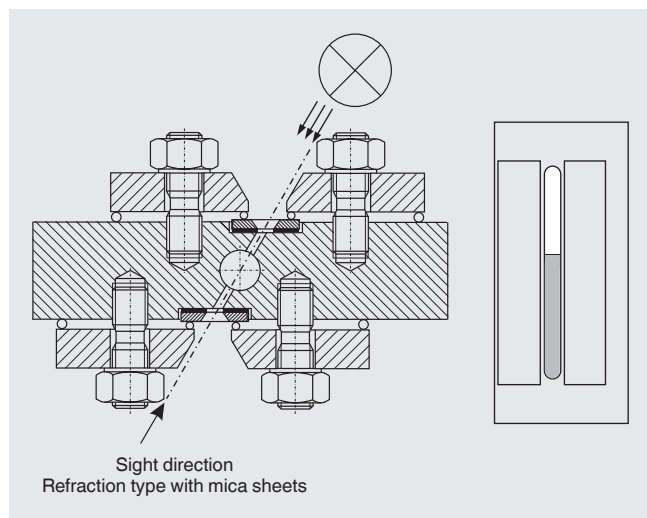
### Transparent glass type acc. to DIN 7081

Incident light is reflected at the reflex grooves of the sight glass plate covered by gas and is broken into the liquid in the part covered by medium. The liquid level is visible as a dark bar, the gaseous space as a silvery bar.



### Refraction type with mica sheets

The incident light of a lamp is guided through the two mica sheet packages in an angle and passes the medium between them. In gaseous phase the light is guided straight forward and passes both mica packets, in liquid the light is refracted away. The liquid level is visible as a black bar and the gas as a bright bar.



## Design Sight Glass Level Gauges

The main part of the sight glass level gauge is the chamber. A duct for the medium (or heating agent) is machined into the gauge body as well as the support surfaces for the gaskets and glasses or micas. Glass plates and/or micas are mounted with gasket and cushion and are fixed with the cover plate or pressure frames and bolts. The glass plates used for sight glass level gauges correspond to DIN 7081 and are suitable for temperatures up to 243 °C (280 °C when protected with mica) for steam, up to 300 °C for other liquids, and in special

cases up to 400 °C. Borosilicate glass is standard quality. For conditions above the natural mineral mica is used. The process connection normally is equipped with gauge valves. Drain valves are used for draining the gauge and are generally mounted on the lower end of the gauge body. In Special cases a vent valve can be installed on the upper end.

### Gauge body

Contains the liquid duct, the level corresponds with the level in the vessel.

### Cover

Clamping for Glass plate.

### Gasket

Recessed sealing between liquid duct and ambient

### Glass

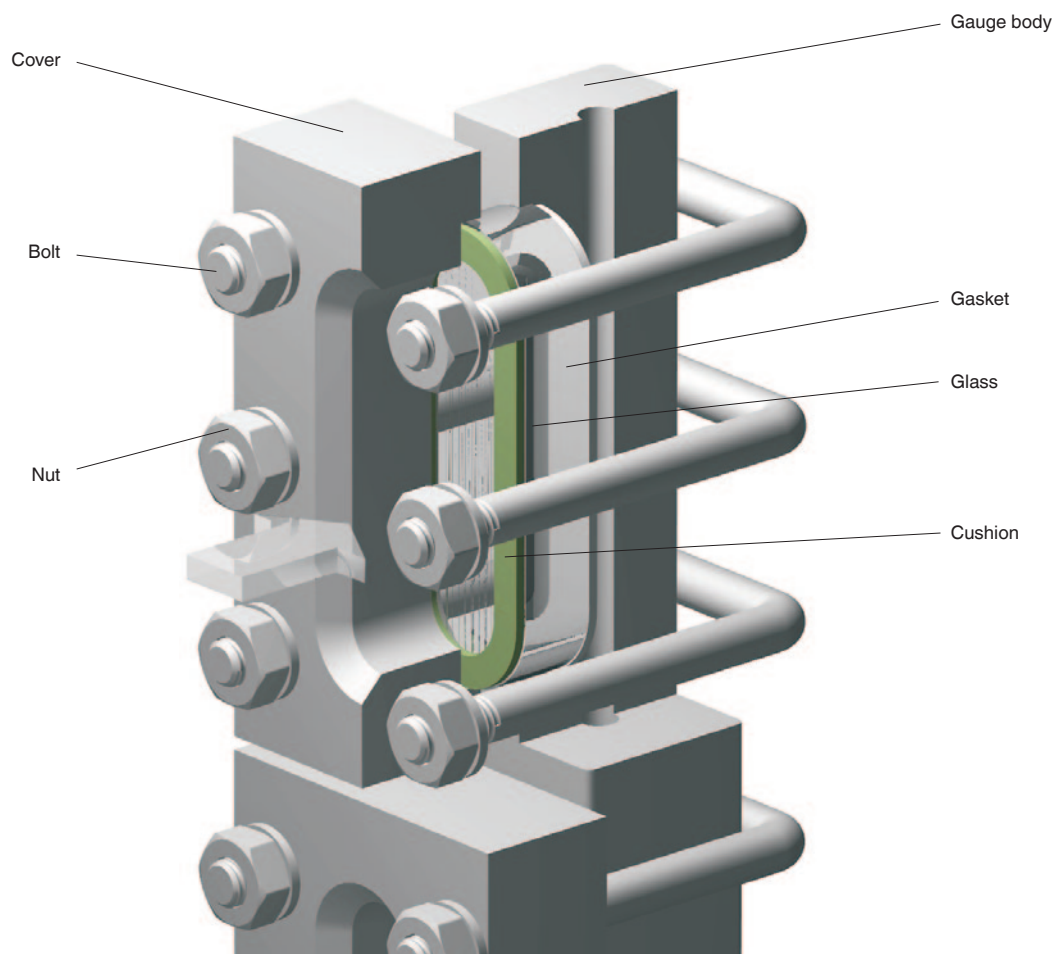
Glass plates according to DIN 7081, made of Borosilicate-Glass, quartz, Aluminum silicate

### Cushion

Mechanical protection between cover and glass

### Bolt / Nut

Take up the forces of the pressure inside.



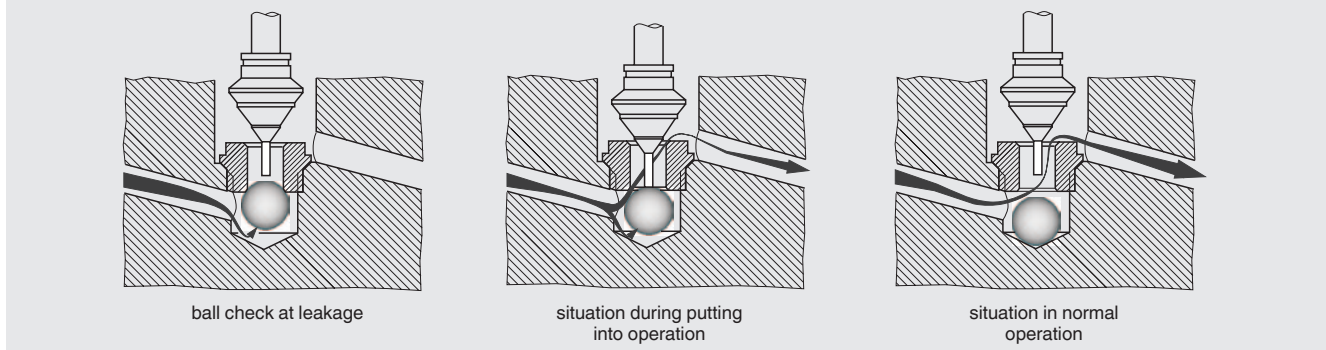
# Gauge valves

## Functional description

The gauge valves are used to shut off the vessel against the level gauge. The actuation can be done by a lever (120°)

or a handwheel. All gauge valves are equipped with a ball check as a safety device..

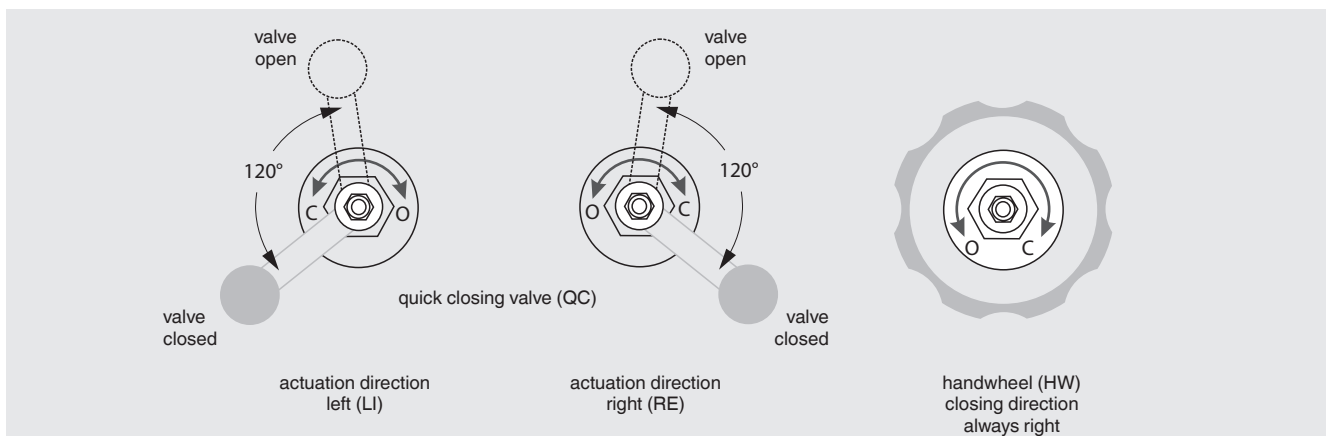
## Functional principle ball check



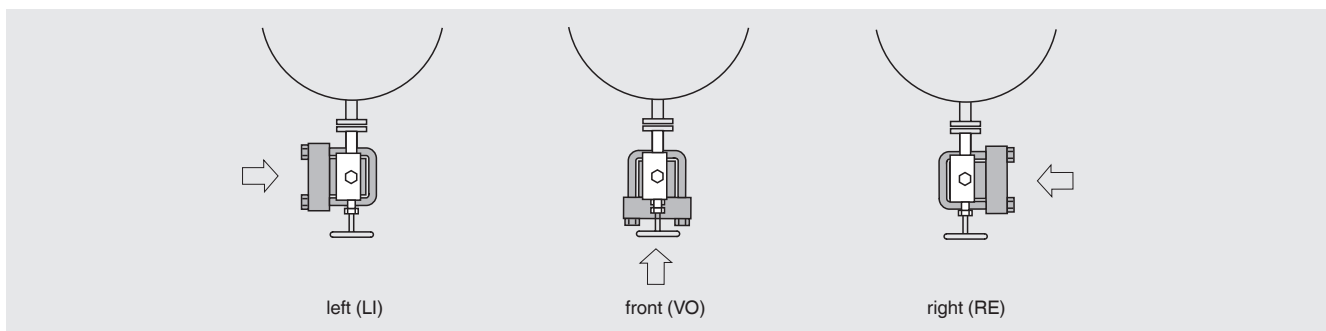
The ball check is a safety device which is used in all gauge valves. It's task is to avoid heavy leakage after breaking of a glass or mica window or leakages due to other reasons. The ball is located below the seat. As soon as there is leakage

causing flow of liquid, the ball is driven to the seat by the liquid ( $L1p > 0,5 \text{ bar}$ ). This closes the valve and stops heavy leakage.

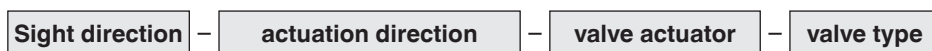
## Operation directions of quick closing valve and handwheel



## View direction onto vessel



## Complete specification for view direction and valve orientation

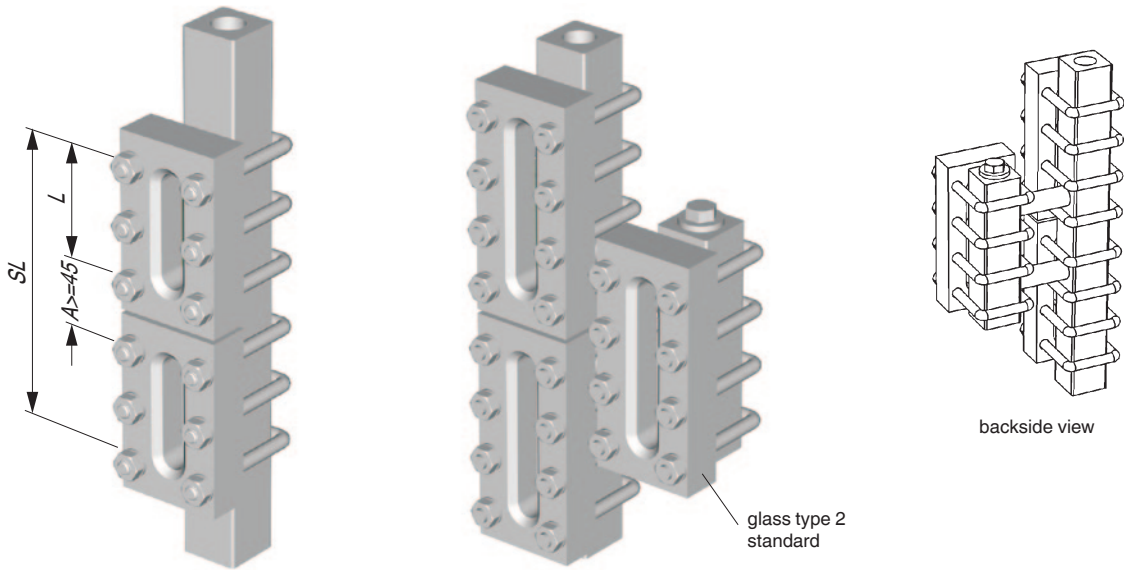


e. g. view direction left, actuation direction right, quick closing, angle type:

**LI-RE-SS-Eck**

# Arrangement of Sections

Flat glasses acc. to DIN 7081



normal indication interrupted

uninterrupted indication with bypass

## Visible length and glass type

Glass type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	L	75	95	120	145	170	200	230	260	300	320	350	380	410	440	480	510	540	580	610	640	680
L + A	120	140	165	190	215	245	275	305	345	365	395	425	455	485	525	555	585	625	655	685	725	
Visible length SL																						
nos of segments n	1	75	95	120	145	170	200	230	260	300	320	350	380	410	440	480	510	540	580	610	640	680
	2	195	235	285	335	385	445	505	565	645	685	745	805	865	925	1005	1065	1125	1205	1265	1325	1405
	3	315	375	450	525	600	690	780	870	990	1050	1140	1230	1320	1410	1530	1620	1710	1830	1920	2010	2130
	4	435	515	615	715	815	935	1055	1175	1335	1415	1535	1655	1775	1895	2055	2175	2295	2455	2575	2695	2855
	5	555	655	780	905	1030	1180	1330	1480	1680	1780	1930	2080	2230	2380	2580	2730	2880	3080	3230	3380	3580
	6	675	795	945	1095	1245	1425	1605	1785	2025	2145	2325	2505	2685	2865	3105	3285	3465	3705	3885	4065	4305
	7	795	935	1110	1285	1460	1670	1880	2090	2370	2510	2720	2930	3140	3350	3630	3840	4050	4330	4540	4750	5030
	8	915	1075	1275	1475	1675	1915	2155	2395	2715	2875	3115	3355	3595	3835	4155	4395	4635	4955	5195	5435	5755
	9	1035	1215	1440	1665	1890	2160	2430	2700	3060	3240	3510	3780	4050	4320	4680	4950	5220	5580	5850		
	10	1155	1355	1605	1855	2105	2405	2705	3005	3405	3605	3905	4205	4505	4805	5205	5505	5805				
	11	1275	1495	1770	2045	2320	2650	2980	3310	3750	3970	4300	4630	4960	5290	5730						
	12	1395	1635	1935	2235	2535	2895	3255	3615	4095	4335	4695	5055	5415	5775							

Matrix valid for A = 45

We recommend max. 7 segments and above the use of multiple gauges.

# Sight Glass Level Gauge CL 300

## Type 700.1201(reflex) / 700.1202 (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 300 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection side-side fixed
- Connection gauge valve to gauge chamber: union
- Handwheel

### General Data

Visible length SL	≤ ME
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.51/52
Actuation	handwheel
Material glass plates acc. to DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

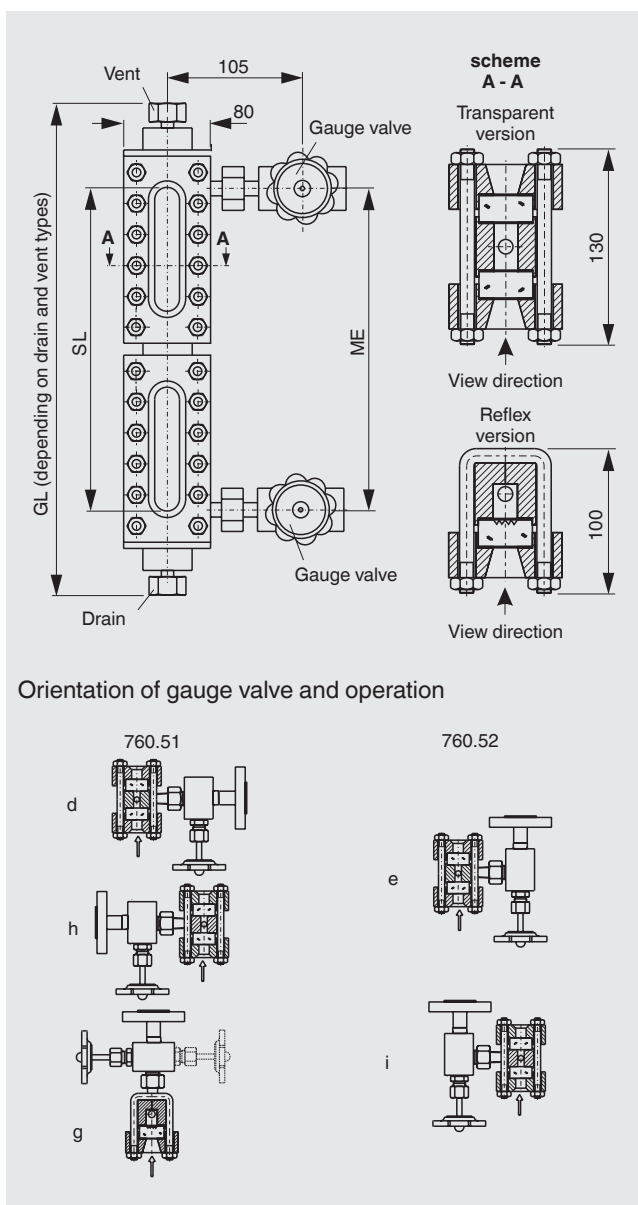
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



# Sight Glass Level Gauge CL 900

## Type 700.1201A (reflex) / 700.1202A (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 900 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection side-side fixed
- Connection gauge valve to gauge chamber: union
- Handwheel

### General Data

Visible length SL	≤ ME
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.51/52
Actuation	handwheel
Material glass plates acc. to DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

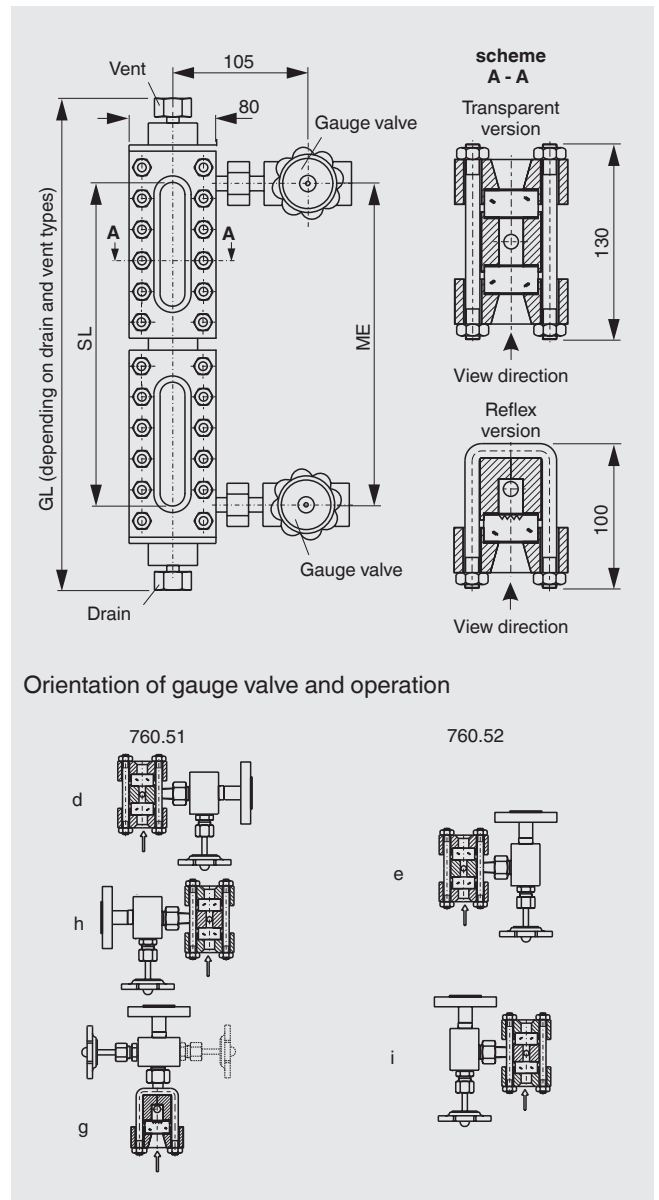
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 300

## Type 700.1301(reflex) / 700.1302 (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 300 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection side-side fixed
- Connection gauge valve to gauge chamber: union
- Quick closing

### General Data

Visible length SL	≤ ME
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.56/57
Actuation	quick closing
Material glass plates acc. to DIN 7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

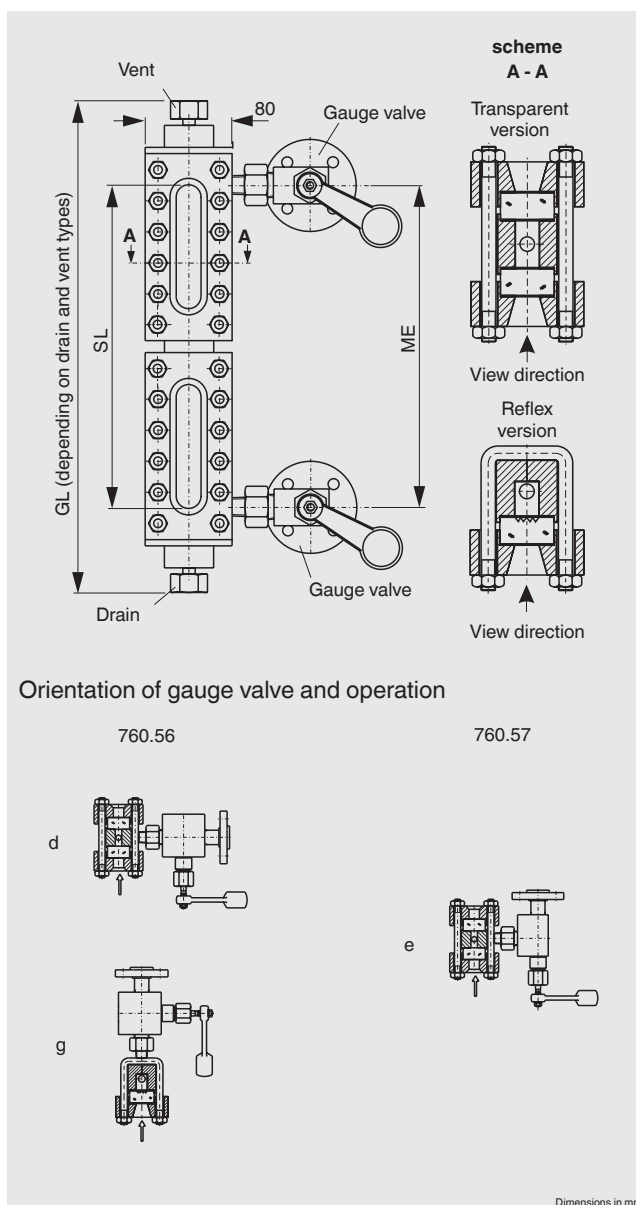
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 600

## Type 700.1301A (reflex) / 700.1302A (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 900 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection side-side fixed
- Connection gauge valve to gauge chamber: union
- Quick closing

### General Data

Visible length SL	≤ ME
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.56/57
Actuation	quick closing
Material glass plates acc. to DIN 7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

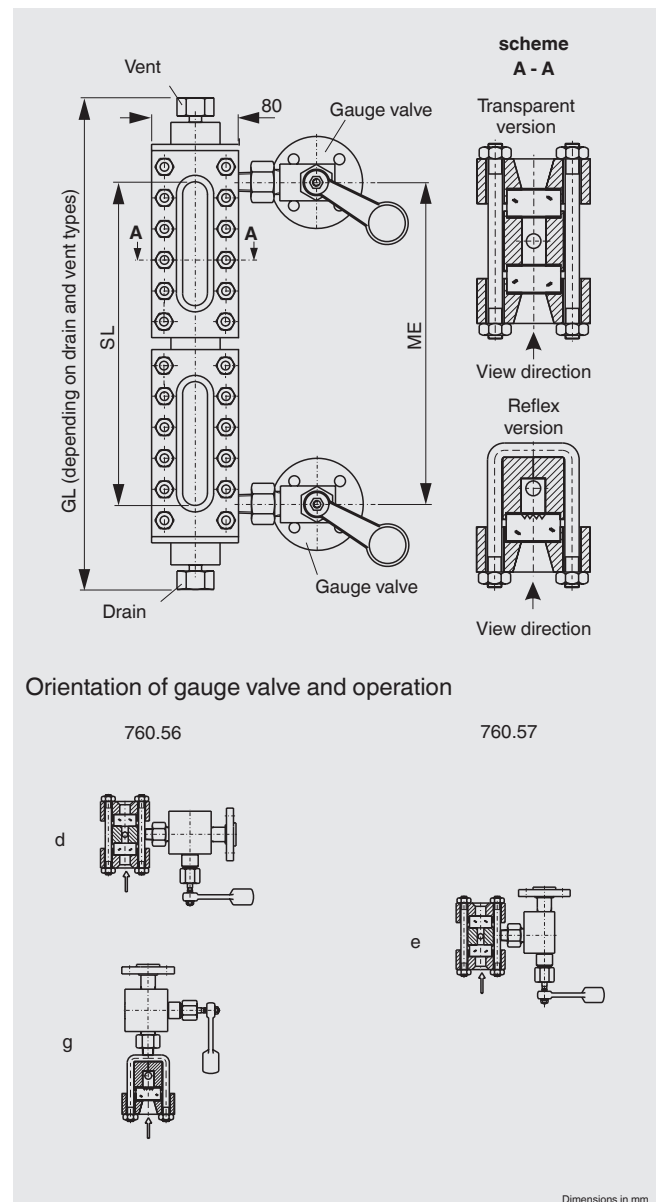
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 300

## Type 700.2101(reflex) / 700.2102 (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 300 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection top-bottom pivoted
- Connection gauge valve to gauge chamber: union
- Offset, handwheel

### General Data

Visible length SL	< ME – 180 mm
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.53
Actuation	handwheel
Material glass plates acc. to DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

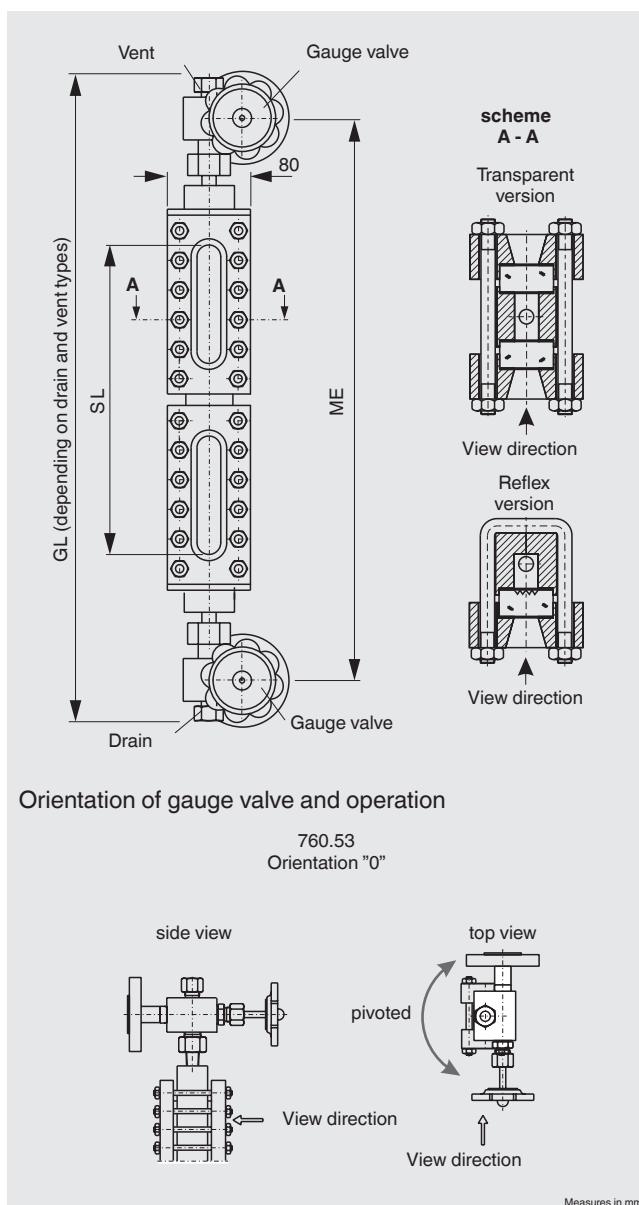
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 900

## Type 700.2101A (reflex) / 700.2102A (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 900 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection top-bottom pivoted
- Connection gauge valve to gauge chamber: union
- Offset, handwheel

### General Data

Visible length SL	< ME – 180 mm
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.53
Actuation	handwheel
Material glass plates acc. to DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

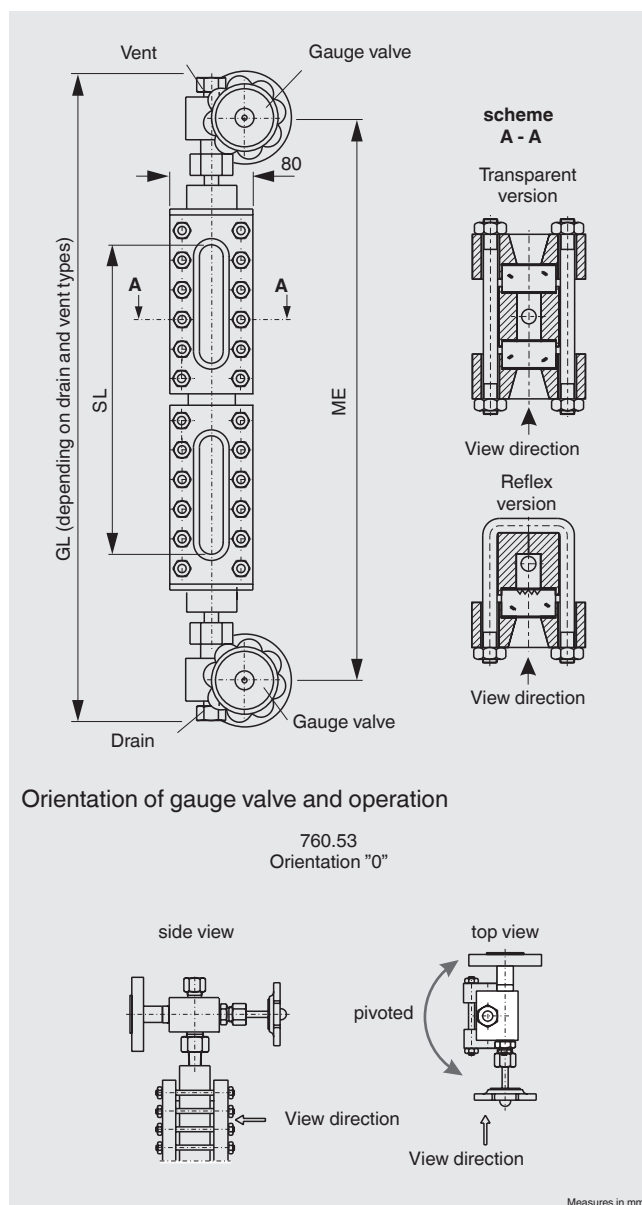
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 300

## Type 700.2301(reflex) / 700.2302 (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 300 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection top-bottom pivoted
- Connection gauge valve to gauge chamber: union
- Offset, quick closing

### General Data

Visible length SL	< ME – 180 mm
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.58
Actuation	quick closing
Material glass plates acc. To DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

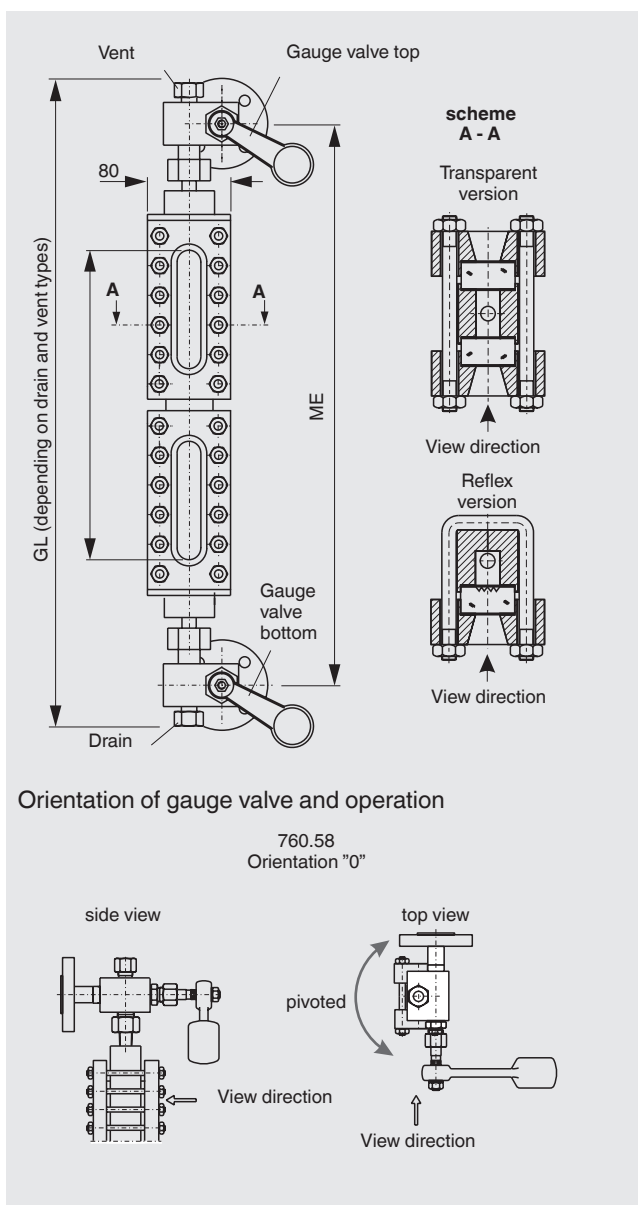
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 600

## Type 700.2301A (reflex) / 700.2302A (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 900 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- Light execution
- Reflex, Transparent
- Connection top-bottom pivoted
- Connection gauge valve to gauge chamber: union
- Offset, quick closing

### General Data

Visible length SL	< ME – 180 mm
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.58
Actuation	quick closing
Material glass plates acc. To DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

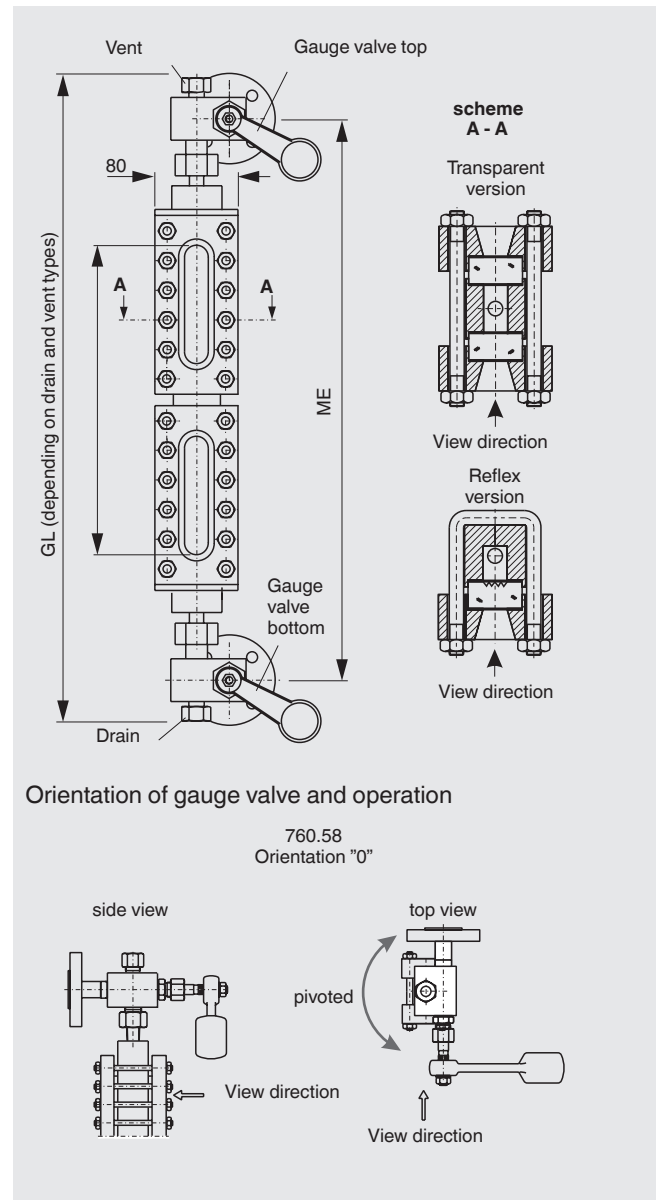
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge CL 300

## Type 700.2601(reflex) / 700.2602 (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 1500 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- „Cold“ High pressure
- Reflex, Transparent
- Connection side-side fixed
- Connection gauge valve to gauge chamber: union
- Handwheel

### General Data

Visible length SL	≤ ME
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.51/52
Actuation	handwheel
Material glass plates acc. To DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

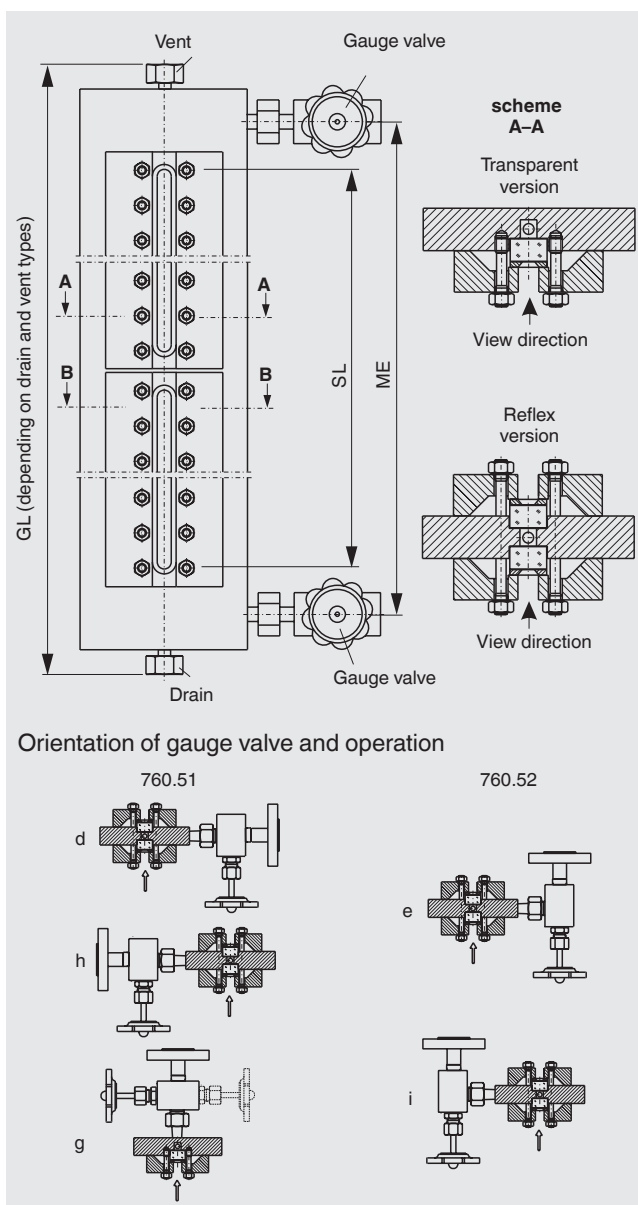
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



# Sight Glass Level Gauge CL 1500

## Type 700.2701(reflex) / 700.2702 (transparent)

### Applications

Direct reading liquid level indicator for general applications up to CL 1500 (depends on glass type).  
Increased safety with ball check valves.

### Special Features

- „Cold“ High pressure
- Reflex, Transparent
- Connection top-bottom pivoted
- Connection gauge valve to gauge chamber: union
- Offset, handwheel

### General Data

Visible length SL	≤ ME – 180 mm
Connection gauge valve-body	union
Gauge valve types	see datasheet 760.53
Actuation	handwheel
Material glass plates acc. To DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

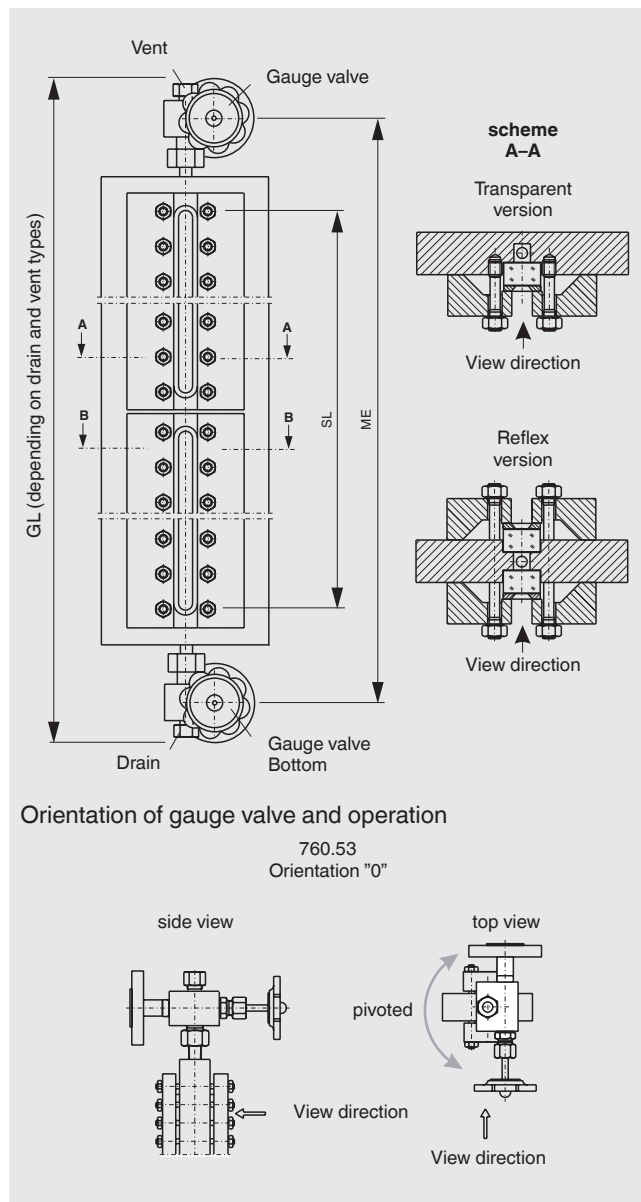
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Sight Glass Level Gauge weld-in CL 600

Type 700.31/3201(reflex) / 700.31/3202 (transparent)

## Applications

Direct reading liquid level indicator for welding in a container wall, up to CL 600.

## Special Features

- Reflex, Transparent
- Body open, closed

## General Data

Body weld-in  
 optionally corners rounded

Process connection welded

Material glass plates acc. To DIN7081 Borosilicate

Material media wetted parts CS, SS

Types with special materials e.g. Hastelloy, Monel etc. are available.

## Design Data

Derating depends on temperature and window size.

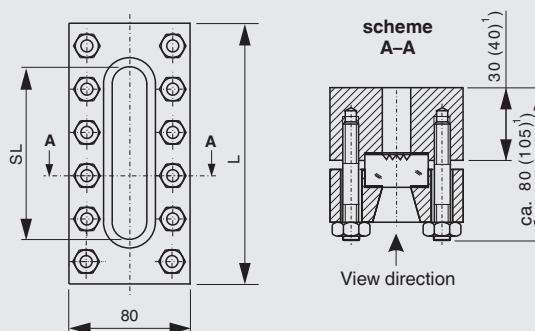
## Accessories

Glass protection etc. see Accessories

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

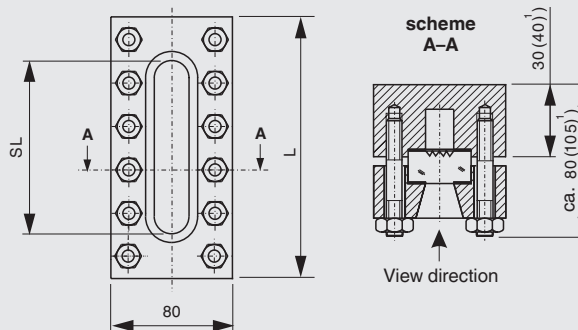


Typ 700.31



<sup>1)</sup> with larger pressure, tank volumes or length

Typ 700.32



<sup>1)</sup> with larger pressure, tank volumes or length

Dimensions in mm

## Dimension table glass sizes

Glass size	length L	sight length SL
0	118	75
1	138	95
2	163	120
3	188	145
4	213	170
5	243	200
6	273	230
7	303	260
8	343	300
9	363	320
10	393	350

Glass size	length L	sight length SL
11	423	380
12	453	410
13	483	440
14	523	480
15	553	510
16	583	540
17	623	580
18	653	610
19	683	640
20	723	680

# Sight Glass Level Gauge CL 300

## Type 700.4601(reflex) / 700.4602 (transparent)

### Applications

Direct reading liquid level indicator with glass tube for out-gassing media up to CL 300 (depends on glass type).

### Special Features

- Reflex, Transparent
- Connection top-bottom pivoted
- Gauge heads 760.51/52/53

### General Data

Visible length SL	< GL
Process connection	flange, nipple
Material glass plates acc. To DIN7081	Borosilicate
Material media wetted parts	CS, SS

Depending on delivery situation material can vary.  
Types with special materials e.g. Hastelloy, Monel etc. are available.

### Design Data

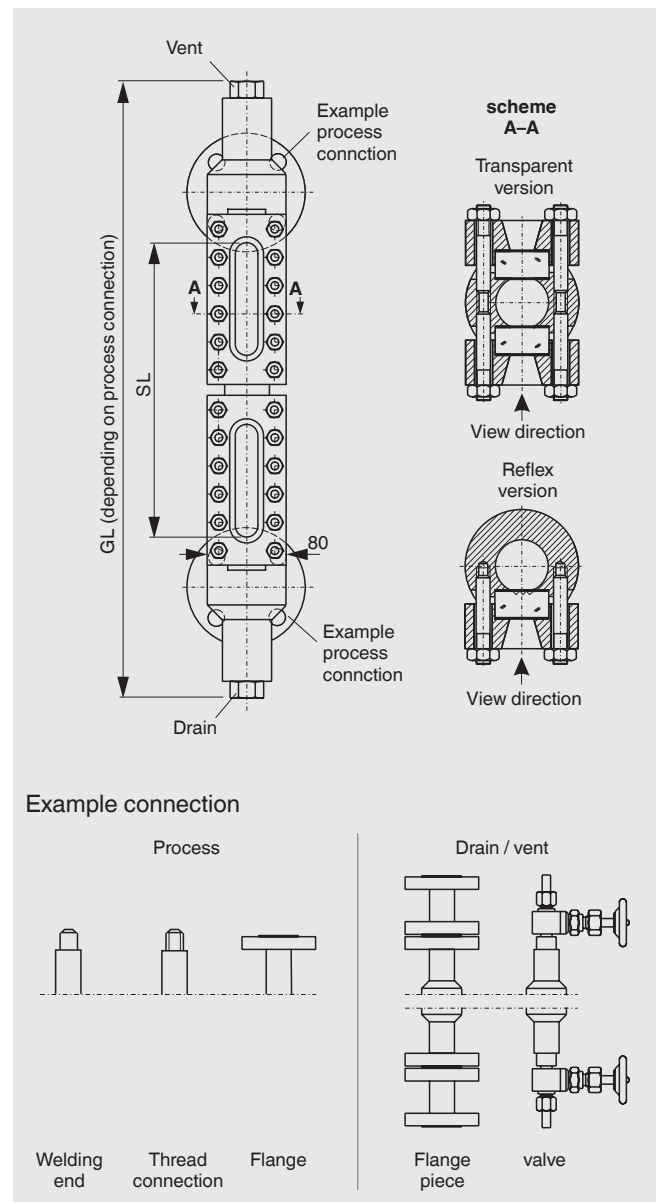
Derating depends on temperature and window size.

### Further Data

Process connection see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Heating	see Accessories



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Reflection Water Level Gauge CL 300

## Type 700.B1 (Reflex)

### Applications

The liquid water level gauge type 700.B1 is a reflection gauge for direct reading water level in steam boilers. They are equipped with sight glasses with grooves for a clear contrast in the display.

### Special Features

- Reflection
- Connection side-side fixed
- Gauge heads integrated
- Glass holder: side plates, hinged
- Handwheel

### General Data

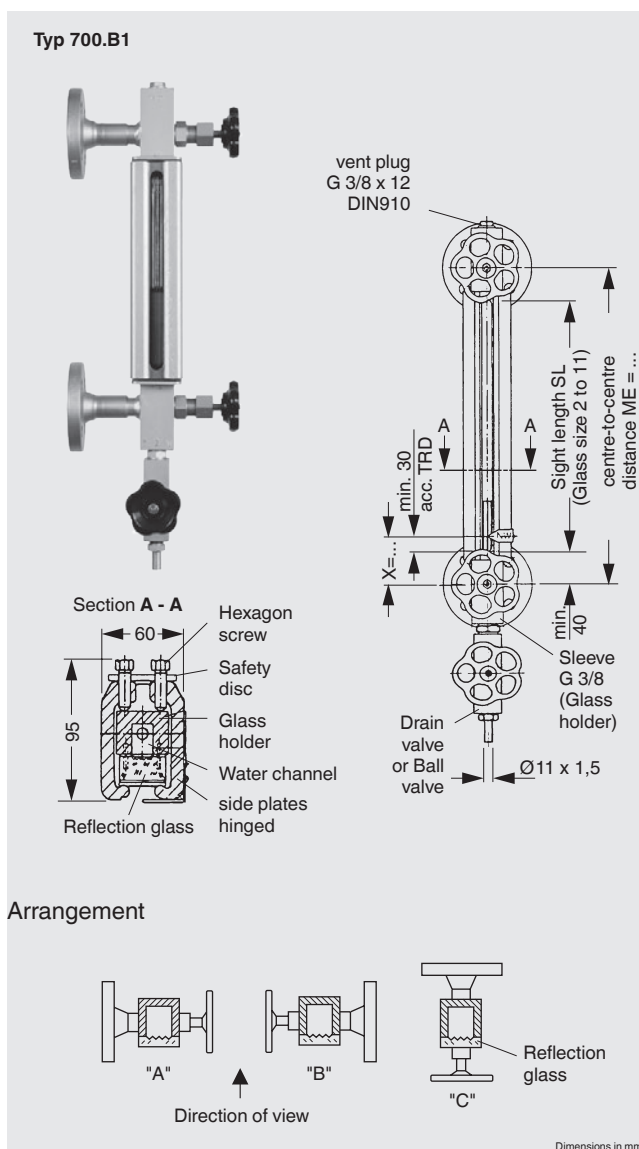
Sight length SL*)	<ME
Glass size**)	2 – 11 (34 x 17 mm)
Actuation	handwheel
Connection gauge head-body	valves integrated
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Materials	
- Sight glasses DIN 7081	Borosilikate
- Glass holder	CS
- Connection flanges	CS
- Shut off parts	SS
- Gaskets	Graphite

### Design Data

Design temperature / Design pressure	-10...100°C / 40 bar up to 200°C / 32 bar up to 243°C / 30 bar
--------------------------------------	--

### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device) (at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection



\*) Sight length „SL“ = min. center-center-distance ME – 80 mm  
Interruption between 2 sight glasses: min. 50 mm  
\*\*) Other glass sizes available on request.  
CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size	2	3	4	5	6	7	8	9	10	11
Glass length / mm	140	165	190	220	250	280	320	340	370	400
SL per segment	120	145	170	200	230	260	300	320	350	380
<b>min. center-to-center-distance / mm</b>										
1 x glass size	200	225	250	280	310	340	380	400	430	460
2 x glass size	370	420	470	530	590	650	730	770	830	890
3 x glass size	540	615	690	780	870	960	1080	1140	1230	1320

# Reflections Level Gauge PN 40

## Type 700.B301 (Reflex), NIVOFLEX Type 22/230

### Applications

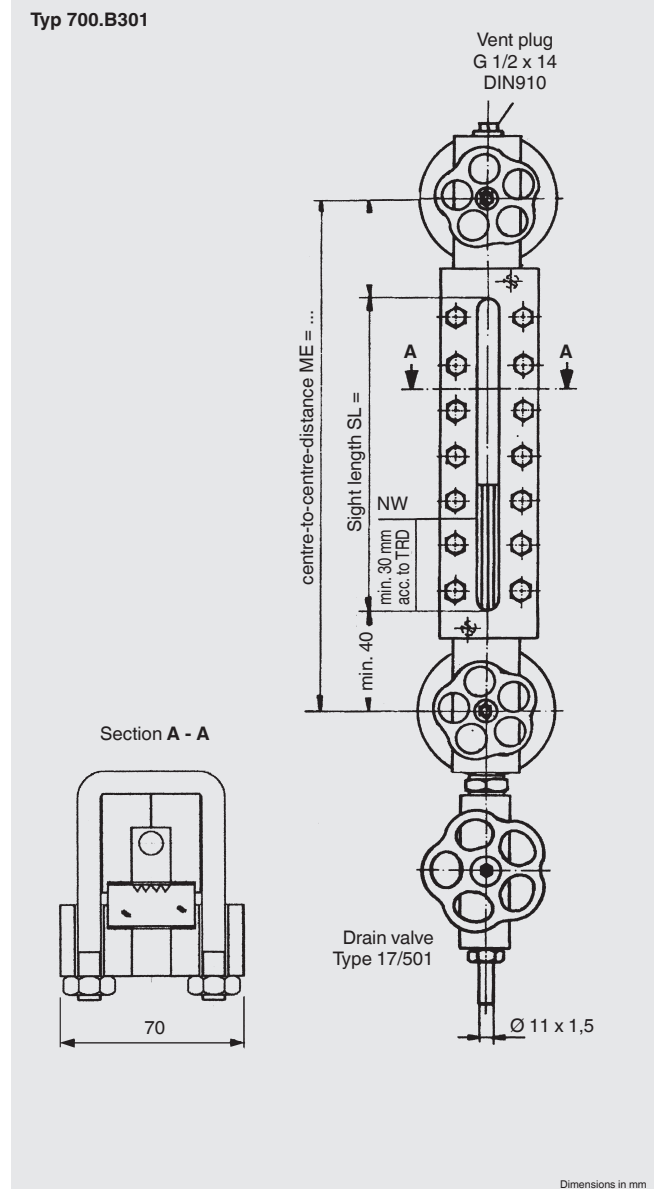
The liquid level gauge type NIVOFLEX 22/230 is a universal direct reading reflection level gauge for heating engineering, refrigerating engineering as well as for storage vessels, considering the chemical resistance of the used materials. They are equipped with sight glasses with grooves for a clear contrast in the display.

### General Data

Valves	integrated at top and bottom
Valve passage	8 mm
Process connection	flange DIN 20-25/PN 40, Form C
Draining valve	Type 17501
Vent screw	G 1/2 x 14 mm, DIN 910
Materials	
- Glass holder	CS or SS
- Connection flanges	CS or SS
- Draining valve	CS or SS
- Shut-off parts	SS Mat. 1.4401, 1.4571
- Reflection sight glasses	Borosilikat, with grooves acc. to DIN 7081
- Gaskets	non-asbestos (Graphite with foil)

### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device) (at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection



CS (= carbon steel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size*	2	3	4	5	6	7	8	9
Glass length / mm	140	165	190	220	250	280	320	340
SL per segment	120	145	170	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>								
1 x glass size	200	225	250	280	310	340	380	400
2 x glass size				525	590	650	730	770
3 x glass size				770	870	960	1080	1140
4 x glass size				1015	1135	1255	1415	1495
5 x glass size				1280	1410	1560	1760	1860

\* Reflection glasses DIN 7081, width 34 mm, thickness 17 mm

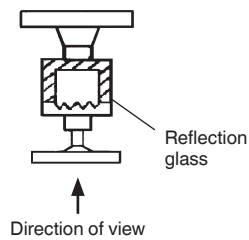
**Sight length SL = min. center-to-center-distance ME – 80 mm**  
**Interruption between 2 sight glasses min. 45 mm**

### Design Data

Design pressure PN 40 (with shut-off valve)	
Design temperature*	Design pressure
– 10 ... 120 °C	40 bar
– 10 ... 200 °C	35 bar
– 10 ... 243 °C	32 bar
<b>max. temperature for reflection glass acc. to DIN 7081 = 243 °C</b>	

\*Design – 60°C available on request

### Anordnung C



# Reflection Water Level Gauge PN 40

## Type 700.B5 (Reflex)

### Applications

The liquid water level gauge type 700.B5 is a reflection gauge for direct reading water level in steam boilers. They are equipped with sight glasses with grooves for a clear contrast in the display.

### Special Features

- Reflection
- Connection side-side fixed
- Gauge heads side-side
- Glass holder: side plates, hinged
- Lever

### General Data

Sight length SL*)	<ME
Glass size**)	2 – 11 (34 x 17 mm)
Actuation	lever
Connection gauge head-body	valves side-side
Valve type	760.11
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Materials	
- Sight glasses DIN 7081	Borosilikate
- Glass holder	CS
- Connection flanges	CS
- Shut off parts	SS
- Gaskets	Graphite

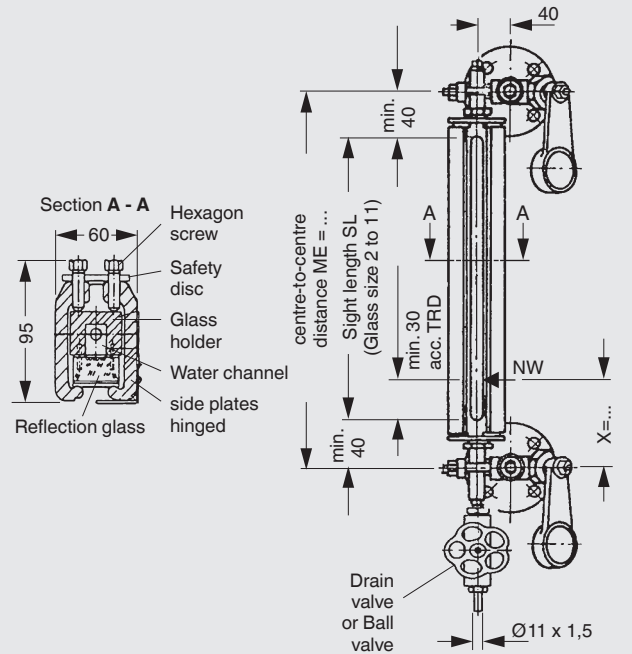
### Design Data

Design temperature / Design pressure	- 10...100°C / 40 bar
	up to 200°C / 32 bar
	up to 243°C / 30 bar

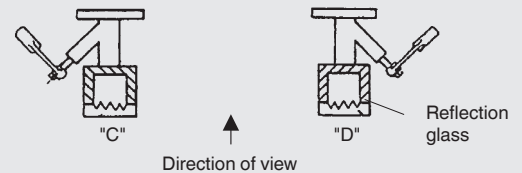
### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device)
	(at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection

Type 700.B5



Arrangement



Measures in mm

\*) Sight length SL = min. center-center-distance ME – 80 mm  
Interruption between 2 sight glasses: min. 50 mm

\*\*\*) Other glass sizes available on request.

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size	2	3	4	5	6	7	8	9	10	11
Glass length / mm	140	165	190	220	250	280	320	340	370	400
SL per segment	120	145	170	200	230	260	300	320	350	380
<b>min. center-to-center-distance / mm</b>										
1 x glass size	200	225	250	280	310	340	380	400	430	460
2 x glass size	370	420	470	530	590	650	730	770	830	890
3 x glass size	540	615	690	780	870	960	1080	1140	1230	1320

# Reflection Water Level Gauge PN 40

## Type 700.B7 (Reflex)

### Applications

The water level gauge type 700.B7 is a universal reflection gauge for direct reading water level e.g. for storage vessels. They are equipped with sight glasses with grooves for a clear contrast in the display.

### Special Features

- Reflection
- Connection side-side fixed
- Gauge heads side-side
- Glass holder: side plates, hinged
- Lever

### General Data

Sight length SL*)	<ME
Actuation	lever
Connection gauge head – glass holder	valves side-side
Valve type	760.11
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Vent plug	M 12x12, DIN 910

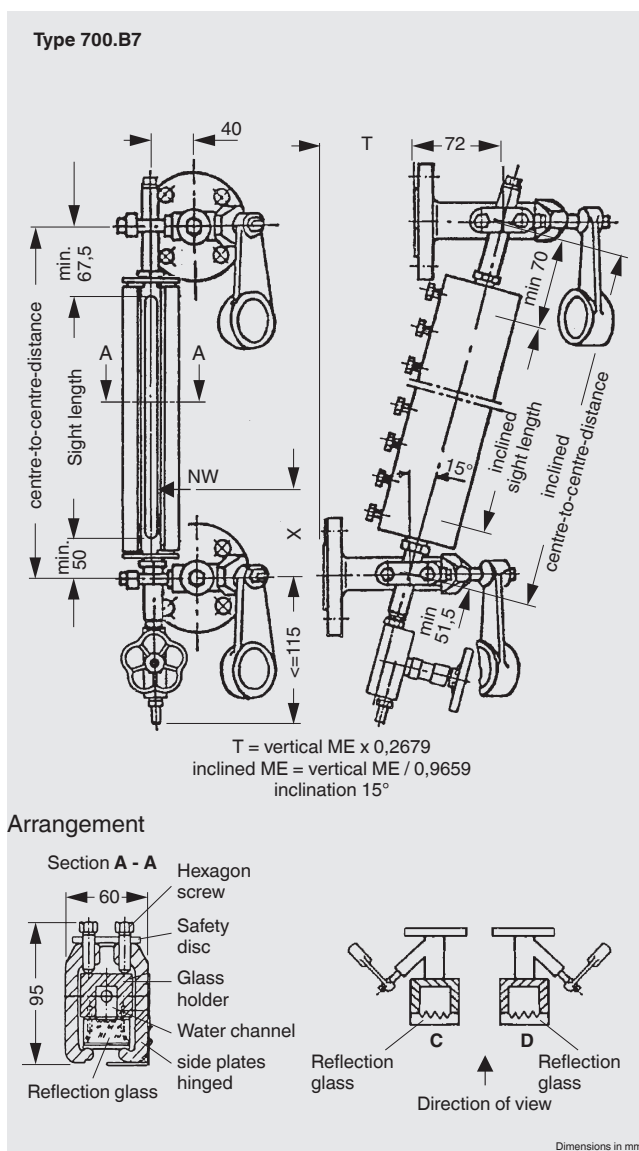
Materials	
- Sight glasses DIN 7081	Borosilikate
- Glass holder	CS
- Connection flanges	CS
- Shut off parts	CS
- Gaskets	Graphite

### Design Data

Design temperature / Design pressure	-10 ... 120 °C / 40 bar
	-10 ... 238 °C / 32 bar

### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device)
	(at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size	2	3	4	5	6	7	8	9
Glass length / mm	140	165	190	220	250	280	320	340
SL per segment	120	145	170	200	230	260	300	320
vertical CCD*	from 233,5	257,5	281,5	310,5	339,5	368,5	407	426,5
	to 265	290	320	345	375	415	435	465



# Transparent Sight Glass Level Gauge PN 40

## Type 700.C0 (Transparent)

### Applications

The transparent sight glass level gauge type 700.C0 is für direct reading e.g. for storage vessels.

### Special Features

- Transparent
- Connection back-side
- Gauge heads integrated
- Glass holder with smooth sight glasses
- Handwheel

### General Data

Sight length SL*)	< ME
Actuation	handwheel
Connection gauge head-body	valves integrated
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Materials	
- Sight glasses DIN 7081	Borosilikate
- Glass holder	CS
- Connection flanges	CS
- Drain valve	CS
- Shut off parts	SS
- Gaskets	Graphite

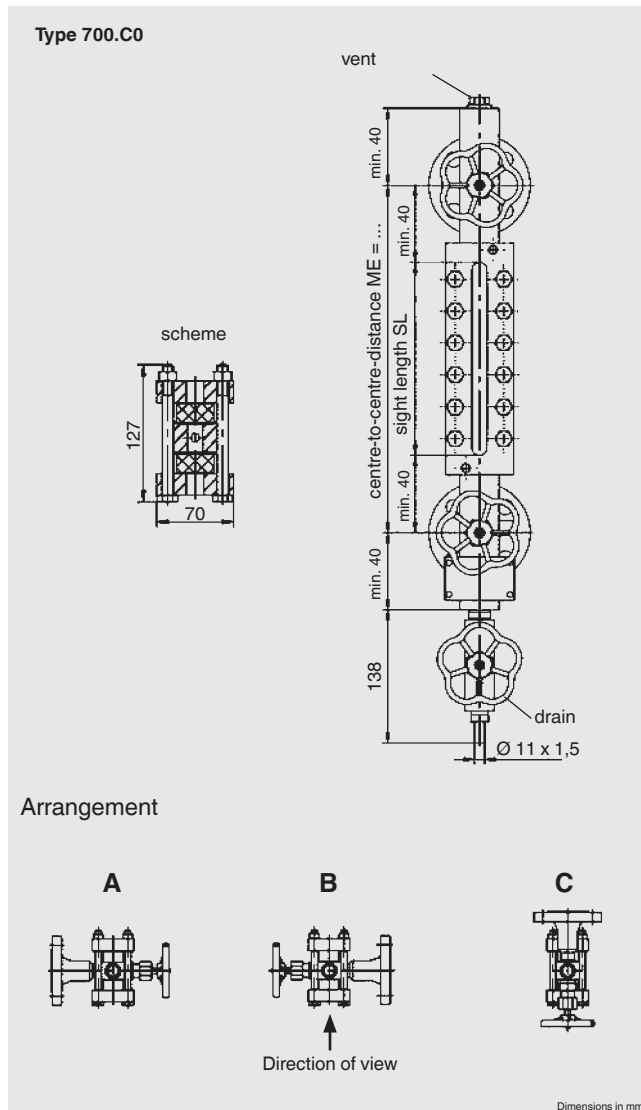
### Design Data

Design temperature / Design pressure (for glass sizes 2 to 9)	- 10 ... 100°C / 40 bar
	- 10 ... 200°C / 32 bar
	- 10 ... 243°C / 30 bar
	- 10 ... 300°C* / 30 bar

\*) with mica protection inner side

### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device) (at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection



\*) Sight length SL = center-to-center-distance ME – 80 mm  
Interruption between 2 sight glasses: min. 45 mm

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size*	2	3	4	5	6	7	8	9
Glass length / mm	140	165	190	220	250	280	320	340
SL per segment	120	145	170	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>								
1 x glass size	200	225	250	280	310	340	380	400
2 x glass size				525	590	650	730	770
3 x glass size				770	870	960	1080	1140
4 x glass size				1015	1135	1255	1415	1495
5 x glass size				1280	1410	1560	1760	1860

# Transparent Sight Glass Level Gauge PN 63

## Type 700.C4 (Transparent)

### Applications

The transparent sight glass level gauge type 700.C4 is für direct reading e.g. for storage vessels.

### Special Features

- Transparent
- Connection back-side
- Gauge heads backside
- Glass holder with smooth sight glasses
- Lever

### General Data

Sight length SL*)	< ME
Actuation	lever
Connection gauge head-body	valves backside
Valve type	760.68
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Materials	CS, SS
Material sight glasses DIN 7081	Borosilikate
Material Gaskets	Graphite
Other materials on request.	

### Design Data

Design temperature / Design pressure (for glass sizes 2 to 9)	- 10 ... 120°C / 63 bar
	- 10 ... 200°C / 50 bar
	- 10 ... 243°C / 45 bar
	- 10 ... 300°C* / 40 bar

\*) with mica protection inner side

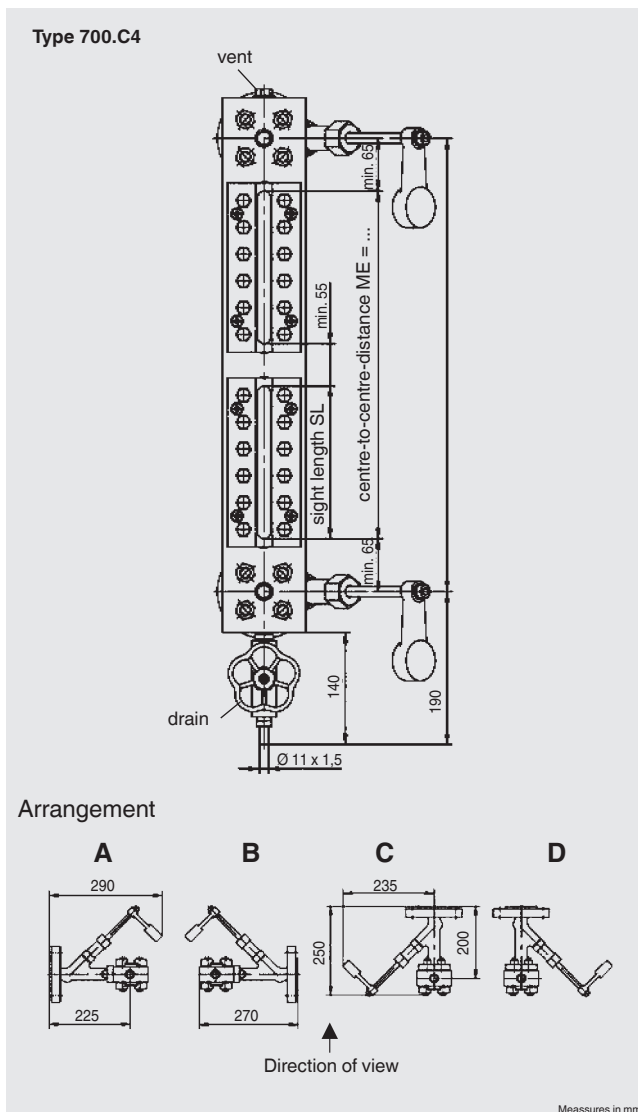
### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device) (at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection
Illumination device series	see 709

Valves with stuffing box enlarged version for easy outgasing fluids.

### Glass size / range of centre-to-centre distance

Glass size*	5	6	7	8	9
Glass length / mm	220	250	280	320	340
SL per segment	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>					
1 x glass size	330	360	390	430	450
2 x glass size	585	645	705	785	825
3 x glass size	840	930	1020	1140	1200
4 x glass size	1095	1215	1335	1495	1575
5 x glass size	1350	1500	1650	1850	1950



Sight length SL = min. center-center-distance ME - 130 mm  
 \*) design center-to-center distance = sight length  
 only arrangement A and B  
 Interruption between 2 sight glasses: min. 55mm

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Transparent Sight Glass Level Gauge PN 100

## Type 700.C5 (Transparent)

### Applications

The transparent sight glass level gauge type 700.C5 is for direct reading e.g. for storage vessels.

### Special Features

- Transparent
- Connection back-side
- Gauge heads backside
- Glass holder with smooth sight glasses
- Lever

### General Data

Sight length SL*)	< ME
Actuation	lever
Connection gauge head-body	valves backside
Valve type	760.68
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Materials	CS, SS
Material sight glasses DIN 7081	Borosilikate
Material Gaskets	Graphite
Other materials on request.	

### Design Data

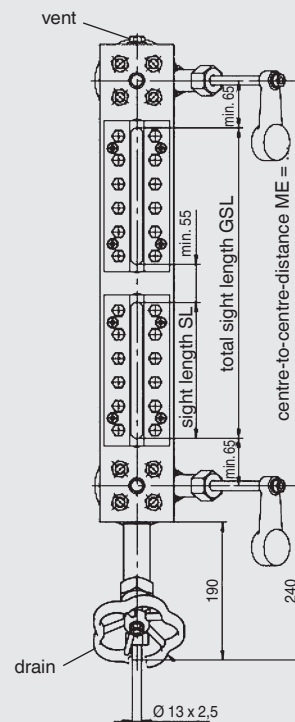
Design temperature / Design pressure	- 10 ... 120°C / 100 bar
(for glass sizes 2 to 9)	- 10 ... 200°C / 90 bar
	- 10 ... 300°C*/ 82 bar

\*) with mica protection inner side

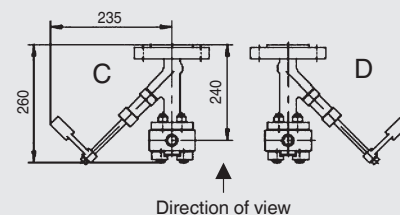
### Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device)
	(at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection
Illumination device series	see 709

Type 700.C5



Arrangement



Measures in mm

Sight length SL = min. center-center-distance ME - 130 mm  
 \*) design center-to-center distance = sight length  
 Interruption between 2 sight glasses: min. 55mm

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size*	5	6	7	8	9
Glass length / mm	220	250	280	320	340
SL per segment	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>					
1 x glass size	330	360	390	430	450
2 x glass size	585	645	705	785	825
3 x glass size	840	930	1020	1140	1200
4 x glass size	1095	1215	1335	1495	1575
5 x glass size	1350	1500	1650	1850	1950

# Sight Glass Level Gauge CL up to 600

## Type 700.C601 (Reflex), 700.C602 (Transparent)

### Applications

Direct reading liquid level indicator for boiler level up to CL 600 (depends on glass type). Increased safety with ball check valves.

### Special Features

- Reflex, Transparent
- Connection side-side fixed
- Connection gauge valve to gauge chamber: flange
- Double shut-off, handwheel and lever

### General Data

Sight length SL	≤ ME
Connection gauge valve - body	flange
Gauge valve types	760.18
Actuation	handwheel and lever
Material sight glasses	
DIN 7081	Borosilikate, mica protection
Material media wetted parts	CS
Types with special materials are available.	

### Design Data

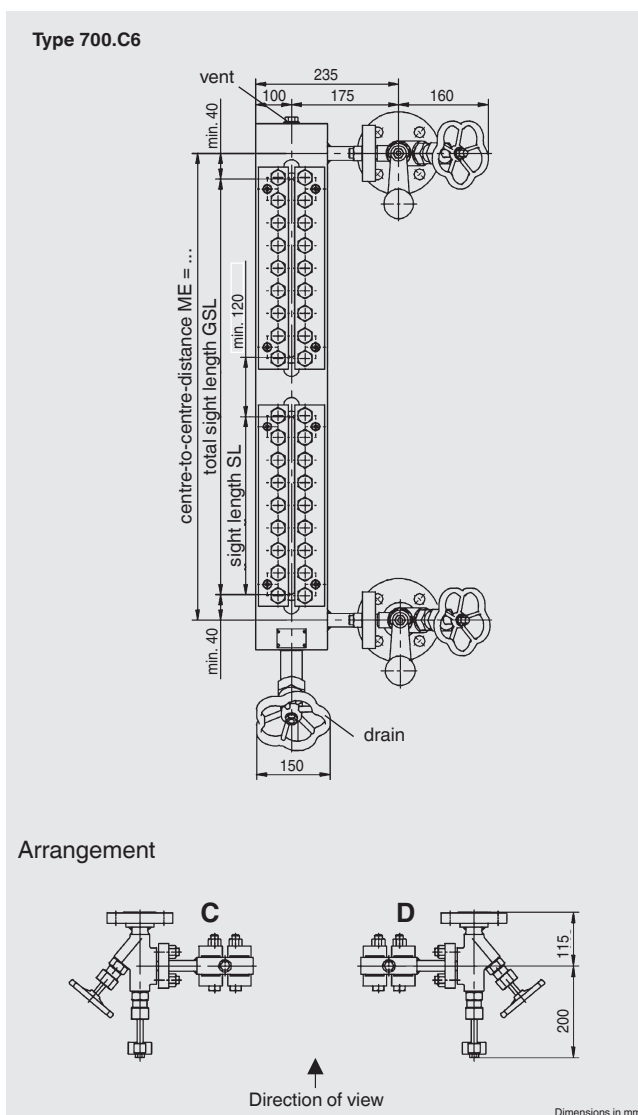
Derating depends on temperature and window size.

### Further Data

Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

Glass protection etc.	see Accessories
Frosts protection	see Accessories
Illumination	see Accessories
Scale	see Accessories
Pointer flow water	see Accessories
Heating	see Accessories



# Transparent Sight Glass Level Gauge PN 100 Type 700.C7

## Applications

The transparent sight glass level gauge type 700.C7 is for direct reading e.g. for steam boilers.

## Special Features

- Red - green
- Connection back-side
- Gauge heads backside
- Glass holder with smooth sight glasses
- Lever

## General Data

Sight length SL*)	< ME
Actuation	lever
Connection gauge head-body	valves backside
Valve type	760.68
Valve passage	8 mm
Process connection	flange DIN, EN or ANSI
Materials	CS
Material sight glasses DIN 7081	Borosilikate
Material gaskets	Graphite
Other materials on request.	

## Design Data

Design temperature / Design pressure (for glass sizes 2 to 9)	-10...120°C / 70 bar
	-10...200°C / 65 bar
	-10...243°C / 55 bar
	-10...300°C* / 45 bar

\*) with mica protection inner side

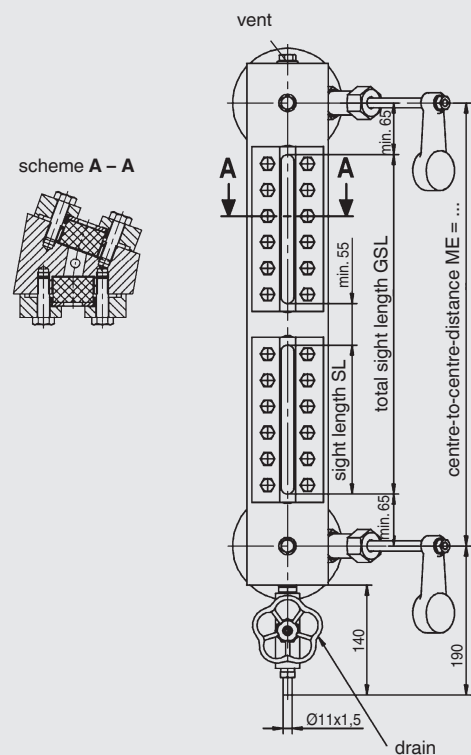
## Accessories

Pointer	NW-mark acc. to TRD
For shut off valves	automatically closing ball (safety device) (at least 1 bar pressure tanks required for the function)
Glass protection	Mica exterior protection
Illumination device series	see 709

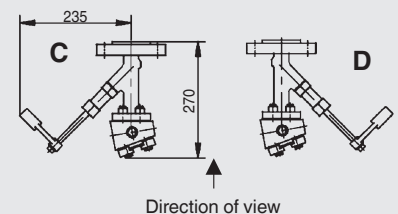
## Glass size / range of centre-to-centre distance

Glass size*	5	6	7	8	9
Glass length / mm	220	250	280	320	340
SL per segment	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>					
1 x glass size	330	360	390	430	450
2 x glass size	585	645	705	785	825
3 x glass size	840	930	1020	1140	1200
4 x glass size	1095	1215	1335	1495	1575
5 x glass size	1350	1500	1650	1850	1950

Type 700.C7



Arrangement



Dimensions in mm

Sight length SL = min. center-center-distance ME - 130 mm  
Interruption between 2 sight glasses: min. 55mm

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Transparent Sight Glass Level Gauge PN 160

## Type 700.C8 (Transparent)

### Application

The refraction liquid level gauge type 700.C8, with the special design of the water channel, effects a brilliant dark-light contrast between water and steam space and is well suited for TV remote indication

### Special Features

- Refraction
- Connection back-side
- Double shut-off valves side-side, with automatically closing ball
- Mica holder with mica sheets
- Lever

### General Data

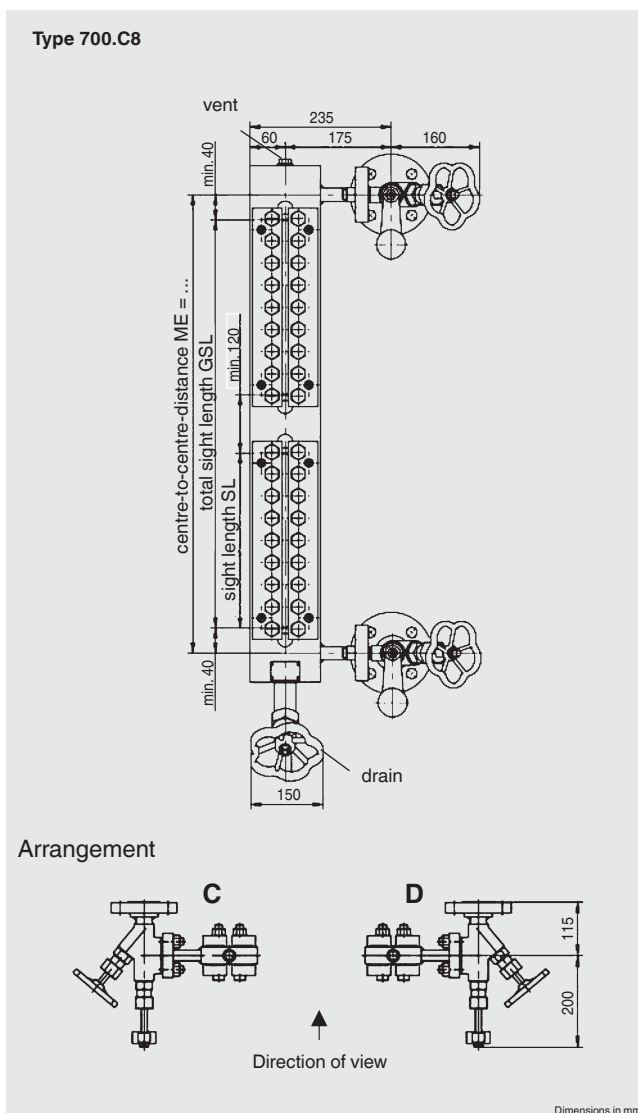
Sight length SL *)	< ME
Actuation	lever, handwheel
Connection gauge head-body	valves side-side
Valve type	760.18
Process connection	flange DIN, EN or ANSI
Materials	CS
Material mica package	mica
Material gaskets	Graphite
Other materials on request.	

### Design Data

Derating depends on temperature and window size.

### Accessories

Pointer	NW-mark acc. to TRD
Illumination device series	see 709



\*) Sight length SL = center-to-center-distance ME – 80 mm  
 Interruption between 2 sight glasses: min. 120 mm

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size*	3	4	5	6	7	8	9
Glass length / mm	165	190	220	250	280	320	340
SL per segment	145	170	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>							
1 x glass size	225	250	280	310	340	380	400
2 x glass size	490	540	600	660	720	800	840
3 x glass size	755	830	920	1010	1100	1220	1280
4 x glass size	1020	1120	1240	1360	1480	1640	1720
5 x glass size	1285	1410	1560	1710	1860	2060	2160

# Liquid Level Gauge CL 1500

## Type 700.CA

### Application

The refraction liquid level gauge type 700.CA, with the special design of the water channel, effects a brilliant dark-light contrast between water and steam space and is well suited for TV remote indication

### Special Features

- Refraction
- Connection back-side
- Double shut-off valves side-side, with automatically closing ball
- Mica holder with mica sheets
- Lever

### General Data

Sight length SL *)	< ME
Actuation	lever, handwheel
Connection gauge head-body	valves side-side
Valve type	760.18
Process connection	flange DIN, EN or ANSI
Materials	CS
Material mica package	mica
Material gaskets	Graphite
Other materials on request.	

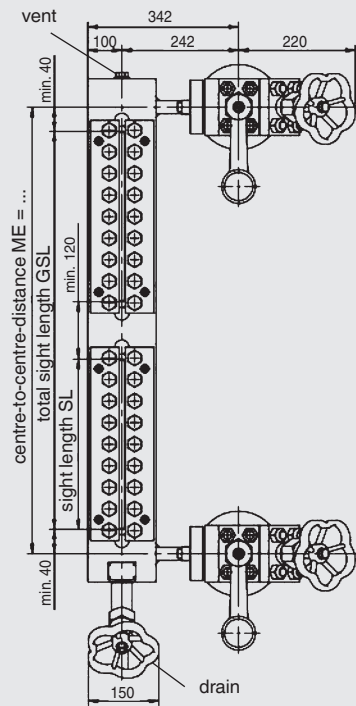
### Design Data

Nominal pressure	CL 1500
Design temperature / pressure max.	374°C / 165 bar

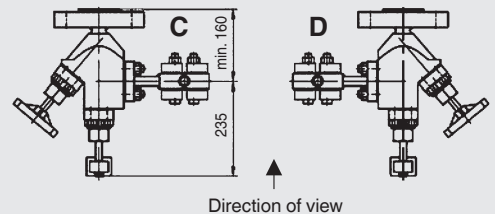
### Accessories

Pointer	NW-mark acc. to TRD
Illumination device series	see 709

Type 700.CA



Arrangement



Dimensions in mm

\*) Sight length SL = center-to-center-distance ME – 80 mm  
Interruption between 2 sight glasses: min. 120 mm

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

### Glass size / range of centre-to-centre distance

Glass size*	3	4	5	6	7	8	9
Glass length / mm	165	190	220	250	280	320	340
SL per segment	145	170	200	230	260	300	320
<b>min. center-to-center-distance / mm</b>							
1 x glass size	225	250	280	310	340	380	400
2 x glass size	490	540	600	660	720	800	840
3 x glass size	755	830	920	1010	1100	1220	1280
4 x glass size	1020	1120	1240	1360	1480	1640	1720
5 x glass size	1285	1410	1560	1710	1860	2060	2160

# Glass Tube Liquid Level Gauge PN 10

## Type 700.A1

### Applications

Direct reading liquid level indicator with glass tube for general applications up to CL150. Increased safety with ball check valves and glass protection.

### Special Features

- Connection top-bottom pivoted
- Handwheel
- Glass protection

### General Data

Center-to-center ME	max. 1200 mm
Sight length	ME – 110 mm
Diameter of glass tube*)	Ø 13,5 x 1,75mm
Actuation	handwheel
Valve passage	8 mm
Process connection	male thread G 1/2 DIN ISO 228 flange DN 15 - 25 / PN 10

#### Materials

- gauge heads steel 1.0570 / 1.0460
- gaskets for glass tube PTFE
- glass tube DURAN

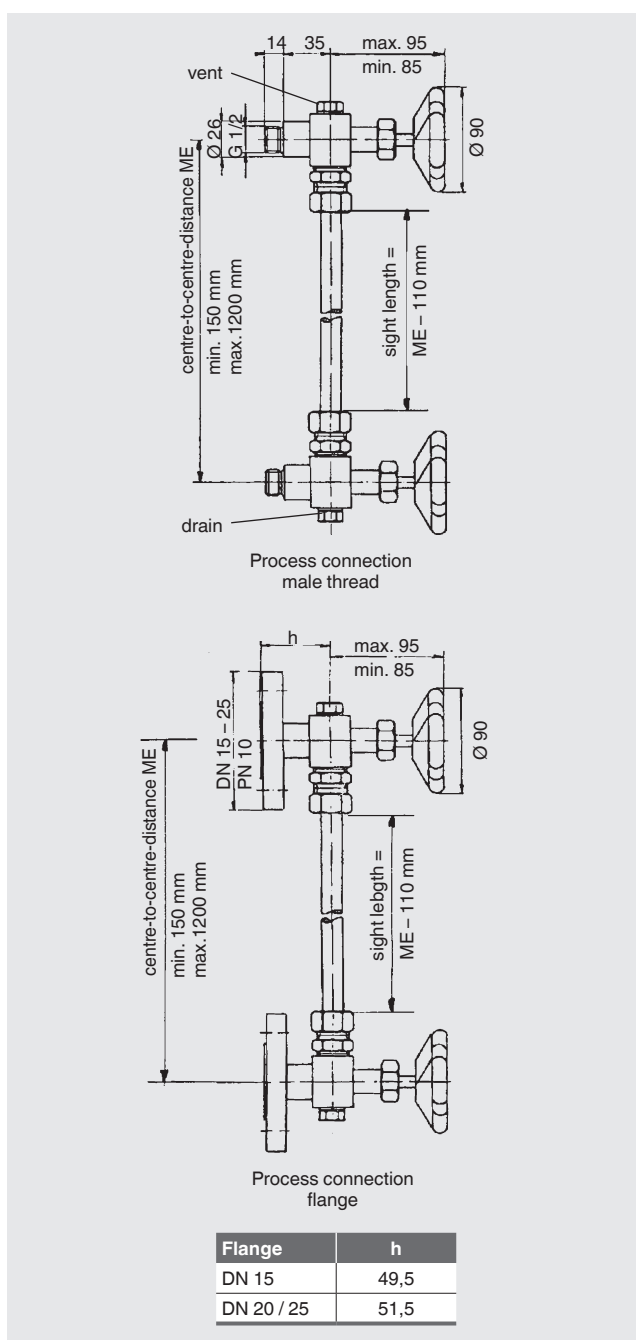
The materials may vary depending upon availability.

### Design Data

Design temperature / Design pressure	up to 120°C / 10bar up to 200°C / 8bar
--------------------------------------	---

### Accessories

glass protection**)	plexiglass cover Ø 42mm
visual help	coloured float
Scale	division and unity to customers spec.



\*) length glasstube = ME – 65 mm

\*\*) length = ME – 55, product temperature max. 80°C.



# Glass Tube Liquid Level Gauge PN 10 Type 700.A2

## Applications

Direct reading liquid level indicator with glass tube for general applications up to CL150. Increased safety with ball check valves and glass protection.

## Special Features

- Connection top-bottom pivoted
- Handwheel
- Glass protection

## General Data

Center-to-center ME	max. 1200 mm
Sight length	ME – 70 mm
Diameter of glass tube*)	Ø 13,5 x 1,75mm
Actuation	handwheel
Valve passage	8 mm
Process connection	male thread G 1/2 DIN ISO 228 flange DN 15 - 25 / PN 10

### Materials

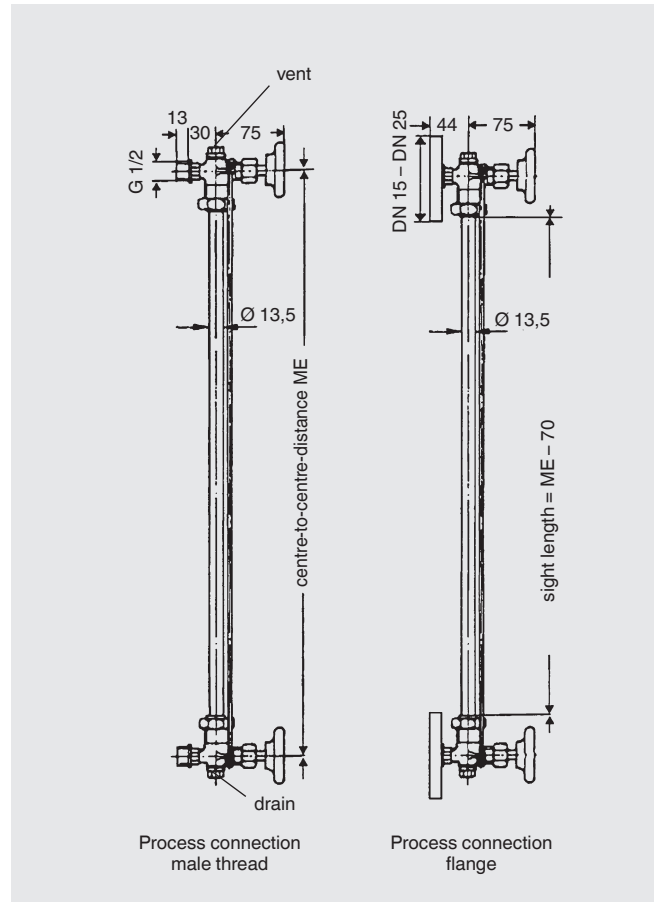
- gauge heads brass 2.0401
  - gaskets for glass tube rubber (Perbunan)
  - glass tube DURAN
- The materials may vary depending upon availability.

## Design Data

Design temperature / Design pressure up to 120°C / 10bar

## Accessories

glass protection**)	plexiglass cover Ø 42mm
visual help	coloured float
Scale	division and unity to customers spec.



\*) length glasstube = ME – 65 mm

\*\*) length = ME – 55, product temperature max. 80°C.

Length of brass-protection rods ME + 30 mm

# Glass Tube Liquid Level Gauge PN 10

## Type 700.A3

### Applications

Direct reading liquid level indicator with glass tube for general applications up to CL150. Increased safety with ball check valves and glass protection.

### Special Features

- Connection top-bottom pivoted
- Handwheel
- Glass protection

### General Data

Center-to-center ME	max. 1200 mm
Sight length	ME – 110 mm
Diameter of glass tube*)	Ø 13,5 x 1,75mm
Actuation	handwheel
Valve passage	8 mm
Process connection	male thread G 1/2 DIN ISO 228 flange DN 15 - 25 / PN 10

#### Materials

- gauge heads SS 1.4571
- gaskets for glass tube PTFE
- glass tube DURAN

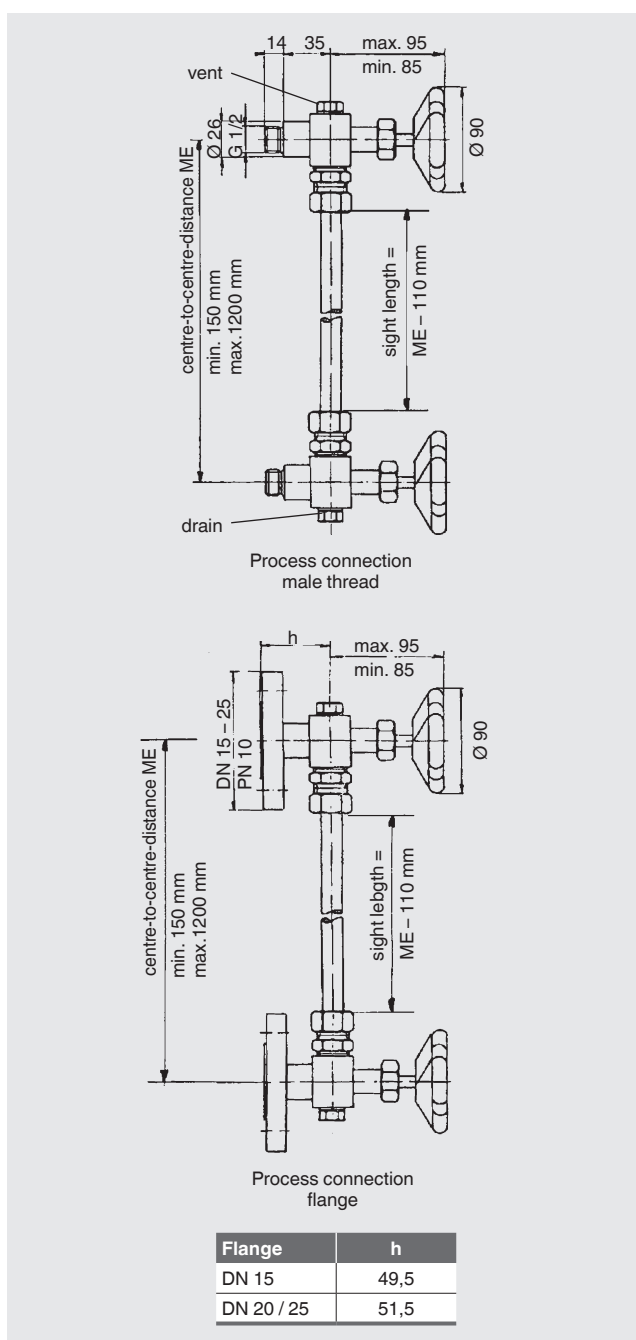
The materials may vary depending upon availability.

### Design Data

Design temperature / Design pressure	up to 120°C / 10bar up to 200°C / 8bar
--------------------------------------	---

### Accessories

glass protection**)	plexiglass cover Ø 42mm
visual help	coloured float
Scale	division and unity to customers spec.



\*) length glasstube = ME – 65 mm

\*\*) length = ME – 55, product temperature max. 80°C.

# Glass Tube Liquid Level Gauge PN 10 Type 700.A4

## Applications

Direct reading liquid level indicator with glass tube for general applications up to CL150. Increased safety with ball check valves and glass protection.

## Special Features

- Connection top-bottom pivoted
- without gauge heads
- Glass protection

## General Data

Center-to-center ME	max. 1000 mm
Sight length	ME – 80 mm
Diameter of glass tube*)	Ø 13,5 x 1,75mm
Process connection	male thread G 1/2 DIN ISO 228

### Materials

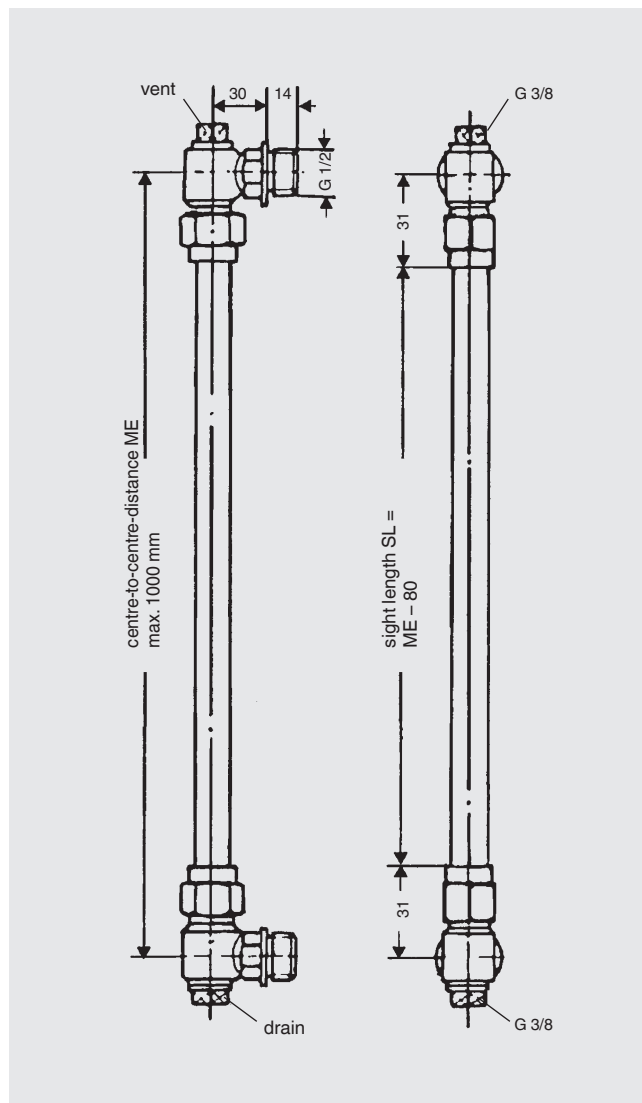
- gauge heads SS 1.4571
  - gaskets for glass tube PTFE
  - glass tube DURAN
- The materials may vary depending upon availability.

## Design Data

Design temperature / Design pressure	up to 100°C / 10 bar up to 200°C / 8 bar
--------------------------------------	---

## Accessories

glass protection**)	plexiglass cover Ø 42mm
visual help	coloured float
Scale	division and unity to customers spec.



\*) length glasstube = ME – 20 mm

\*\*) length = ME – 30, product temperature max. 80°C.

# Glass Tube Liquid Level Gauge PN 25

Type 700.01

## Applications

Direct reading liquid level indicator with glass tube for general applications up to CL 150. Increased safety with ball check-valves and glass protection.

## Special Features

- Connection top - bottom pivoted
- Offset, handwheel
- Glass protection

## General Data

Visible length SL	ME – 130 mm from 1500 mm and up every 1000 mm glass-holder in-between
Process connection	union, flange
Gauge valve types	s. data sheet 760.01
Actuation	handwheel
Material glass tube	Borosilicate
Material media wetted parts	CS, SS
Material glass protection device	Acrylicglass / SS
Material sealing glass tube	Viton

Types with special materials e.g. Hastelloy, Monel etc. are available.

### Weight

- |                                      |        |
|--------------------------------------|--------|
| - basic weight for ME ≤ 1500 mm      | 3,6 kg |
| - basic weight for ME > 1500 mm      | 4,9 kg |
| - + weight / m                       | 0,2 kg |
| - weight glass protection device / m | 0,2 kg |

## Design Data

Design pressure /temperature – 20...+ 200°C / 0...25 bar

## Further Data

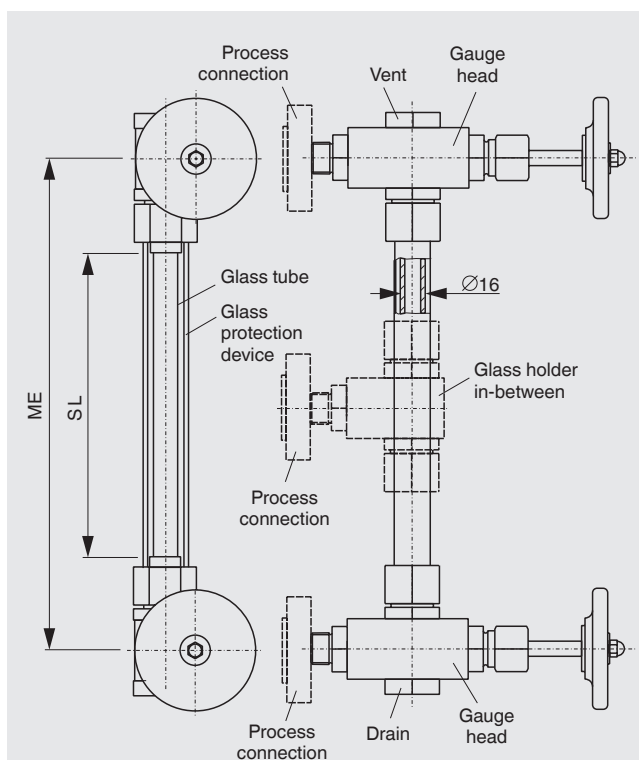
Process connection	see Connections
Vent	see Connections
Drain	see Connections

## Accessories

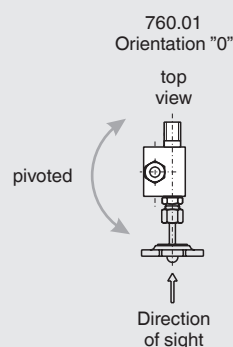
Scale see Accessories

## Spare parts

Glasstube length = ME – 40



### Orientation of gauge valve and operation



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Glass Tube Liquid Level Gauge PN 25

## Type 700.03

### Applications

Direct reading liquid level indicator with glass tube for general applications up to CL 150. Increased safety with ball check-valves and glass protection.

### Special Features

- Connection top - bottom pivoted
- Offset, quick closing
- Glass protection

### General Data

Visible length SL	ME – 130 mm
	from 1500 mm and up every
	1000 mm glass-holder in-between
Process connection	union, flange
Gauge valve types	s. data sheet 760.03
Actuation	quick closing
Material glass tube	Borosilicate
Material media wetted parts	CS, SS
Material glass protection device	Acrylic glass / SS
Material sealing glass tube	Viton
Types with special materials e.g. Hastelloy, Monel etc. are available.	
Weight	
- basic weight for ME ≤ 1500 mm	3,6 kg
- basic weight for ME > 1500 mm	4,9 kg
- + weight / m	0,2 kg
- weight glass protection device / m	0,2 kg

### Design Data

Design pressure /temperature – 20...+ 200°C / 0...25 bar

### Further Data

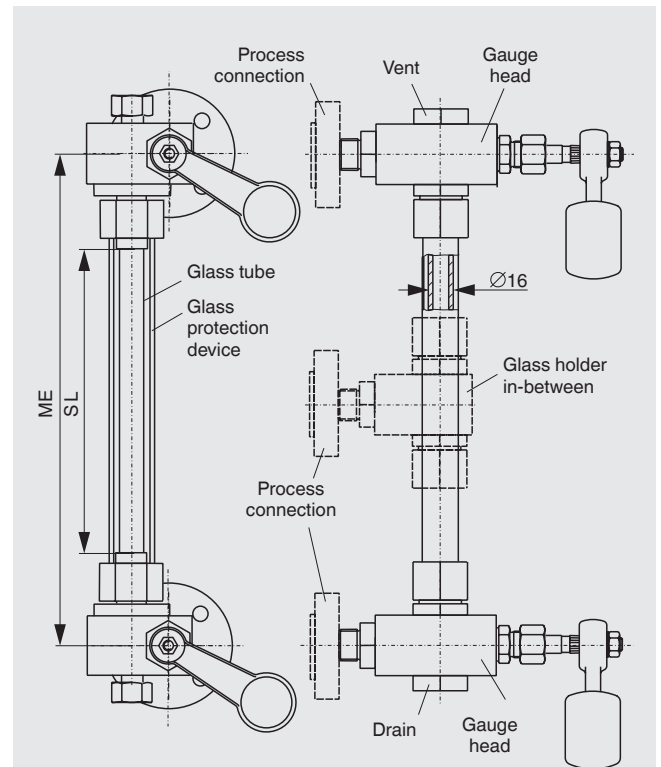
Process connection	see Connections
Vent	see Connections
Drain	see Connections

### Accessories

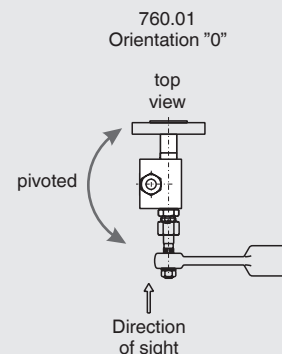
Scale see Accessories

### Spare parts

Glasstube length = ME – 40



Orientation of gauge valve and operation



CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.

# Gauge Valve CL 1500

## Type 760.51

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Handwheel
- Nipple connection to gauge
- Angle seat Spindle screw inside, seat renewable
- Special execution up to 2500 lbs

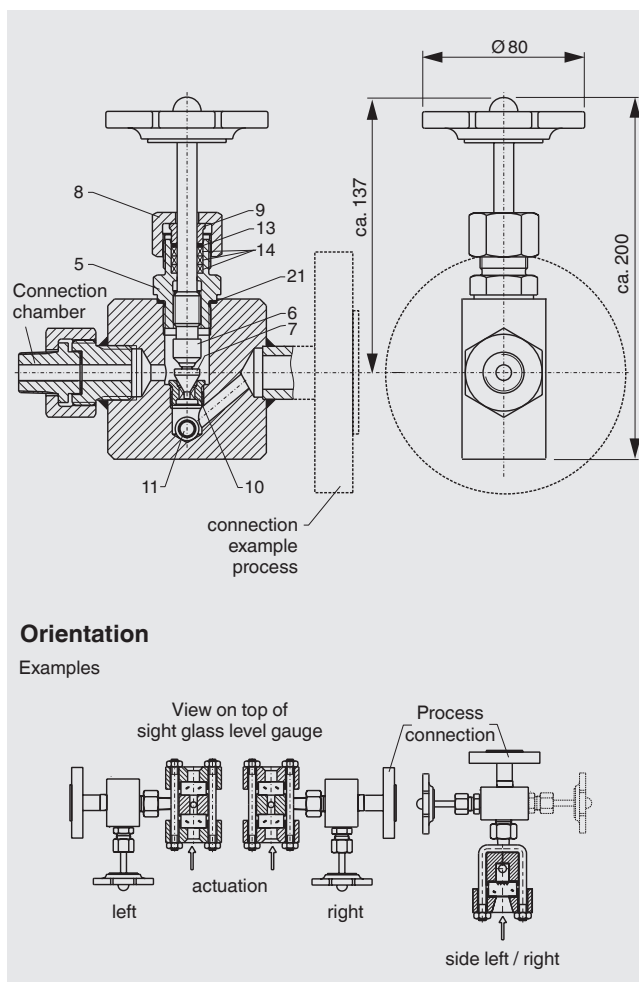
### General Data

Material		
- Housing, nipple, flange		CS or SS
- Trim		SS
other materials on request		
Orientation	horizontally, see Fig. orientation	
Ball check diff. pressure		> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.	
Weight		ca. 2,0 kg

### Design Data

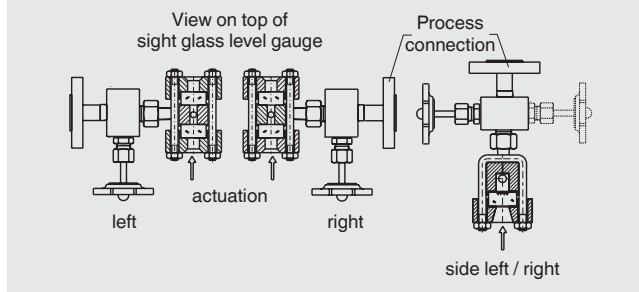
Operating pressure	up to 25 MPa / 1500 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



### Orientation

Examples



Spare parts kit **BG5XHEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124159B	SS
6	Spindle	5650320759	SS
7	Cone	5610255459	SS
8	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
13	Base ring	0100016020SI	SIL4400
14	Packing	0016001040GR	Graphit
10	Seat	5604120459	SS
11	Ball	D054011120	SS
21	Sealing	D07603121026	SS

# Gauge Valve CL 1500

## Type 760.52

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Handwheel
- Nipple connection to gauge
- Angle seat
- Spindle screw inside, seat renewable
- Special execution up to 2500 lbs

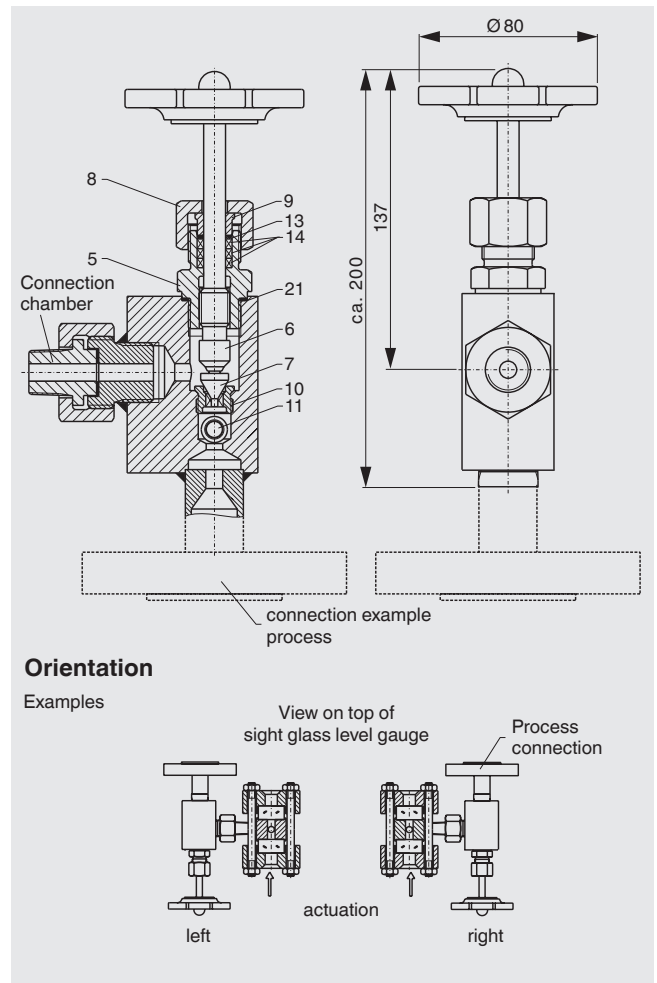
### General Data

Material	
- Housing, nipple, flange	CS or SS
- Trim	SS
other materials on request	
Orientation	horizontally, see Fig. orientation
Ball check diff. pressure	> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 2,0 kg

### Design Data

Operating pressure	up to 25 MPa / 1500 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG5XHEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124159B	SS
6	Spindle	5650320759	SS
7	Cone	5610255459	SS
8	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
13	Base ring	0100016020SI	SIL4400
14	Packing	0016001040GR	Graphit
10	Seat	5604120459	SS
11	Ball	D054011120	SS
21	Sealing	D07603121026	SS

# Gauge Valve CL 1500

## Type 760.53

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Handwheel
- Nipple connection to gauge
- Angle seat, offset
- Spindle screw inside, seat renewable
- Special execution up to 2500 lbs

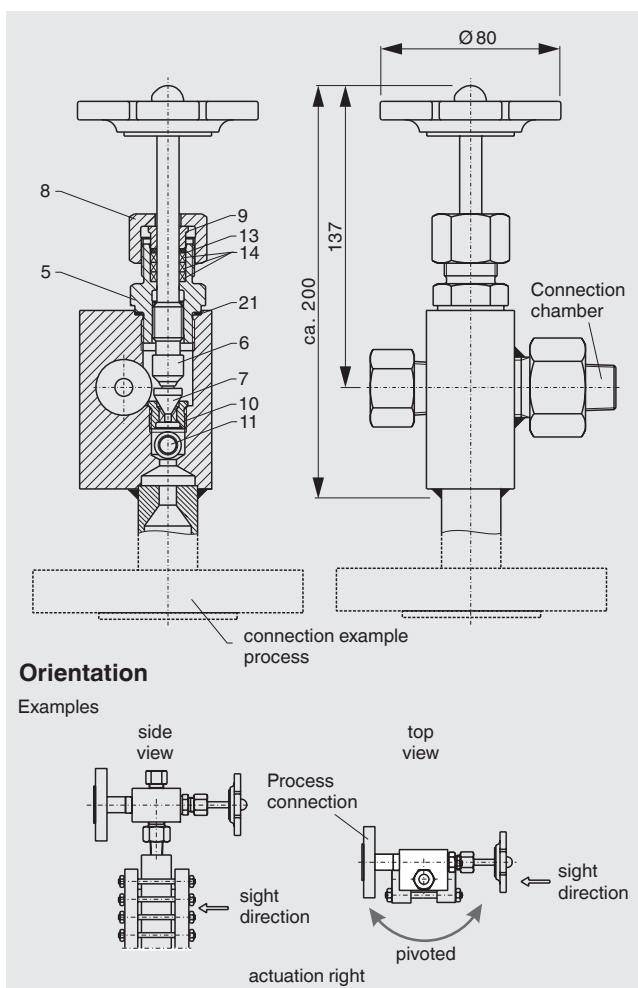
### General Data

Material		
- Housing, nipple, flange		CS or SS
- Trim		SS
other materials on request		
Orientation	horizontally, see Fig. orientation	
Ball check diff. pressure		> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.	
Weight		ca. 2,0 kg

### Design Data

Operating pressure	up to 25 MPa / 1500 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG5XHEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124159B	SS
6	Spindle	5650320759	SS
7	Cone	5610255459	SS
8	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
13	Base ring	0100016020SI	SIL4400
14	Packing	0016001040GR	Graphit
10	Seat	5604120459	SS
11	Ball	D054011120	SS
21	Sealing	D07603121026	SS



# Gauge Valve CL 600

## Type 760.56

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a lever. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Quick closing lever
- Nipple connection to gauge
- Straight seat
- Spindle screw inside
- Seat renewable

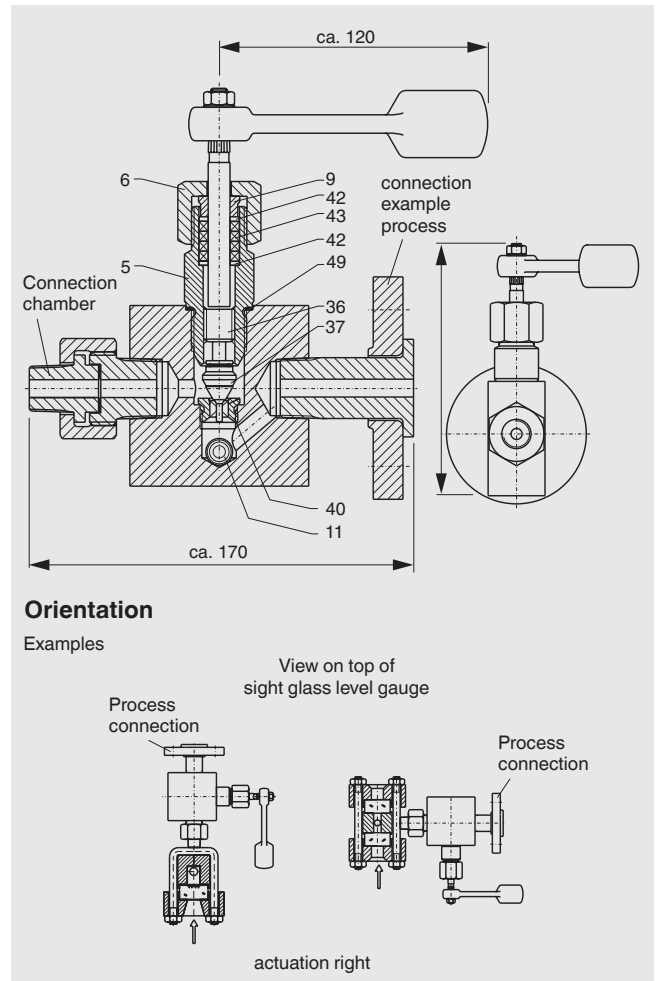
### General Data

Material	
- Housing, nipple, flange	CS or SS
- Trim	SS
other materials on request	
Orientation	horizontally, see Fig. orientation
Ball check diff. pressure	> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 1,5 kg

### Design Data

Operating pressure	up to 10 MPa / 600 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG5XSEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124259B	SS
36	Spindle	5650320859	SS
37	Cone	5610255459	SS
6	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
42	Base ring	0100016020SI	SIL4400
43	Packing	0016001040GR	Graphit
40	Seat	5604120459	SS
11	Ball	D054011120	SS
49	Sealing	D07603121026	SS

# Gauge Valve CL 600

## Type 760.57

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Quick closing lever
- Nipple connection to gauge
- Angle seat
- Spindle screw inside
- Seat renewable

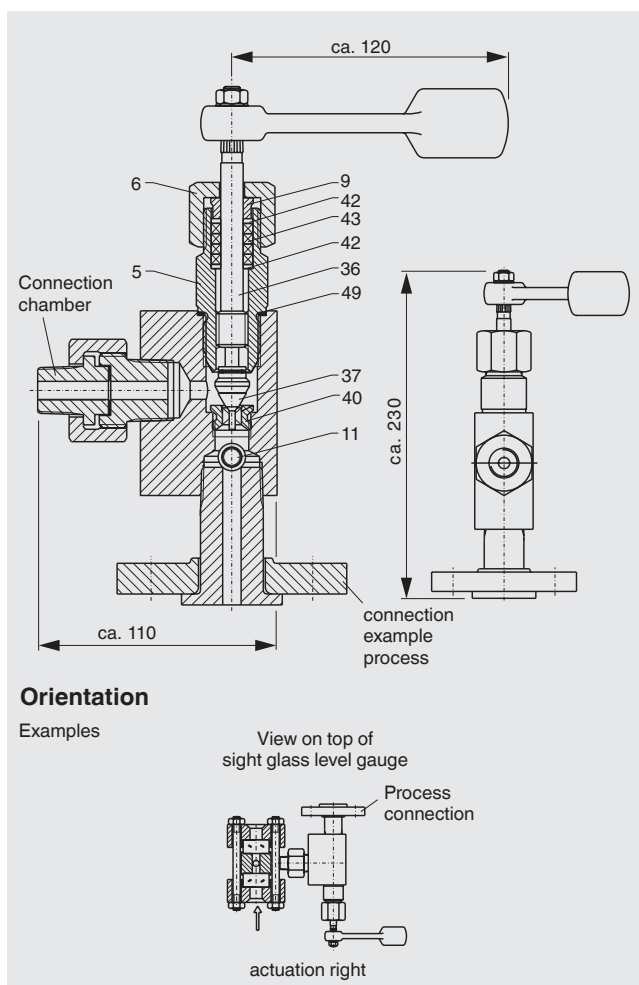
### General Data

Material	
- Housing, nipple, flange	CS or SS
- Trim	SS
other materials on request	
Orientation	horizontally, see Fig. orientation
Ball check diff. pressure	> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 1,5 kg

### Design Data

Operating pressure	up to 10 MPa / 600 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

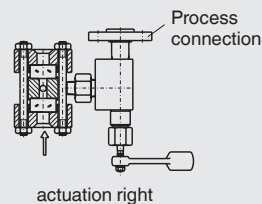
CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



#### Orientation

Examples

View on top of sight glass level gauge



Spare parts kit **BG5XSEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124259B	SS
36	Spindle	5650320859	SS
37	Cone	5610255459	SS
6	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
42	Base ring	0100016020SI	SIL4400
43	Packing	0016001040GR	Graphit
40	Seat	5604120459	SS
11	Ball	D054011120	SS
49	Sealing	D07603121026	SS

# Gauge Valve CL 600

## Type 760.58

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Quick closing lever
- Nipple connection to gauge
- Angle seat, offset
- Spindle screw inside
- Seat renewable

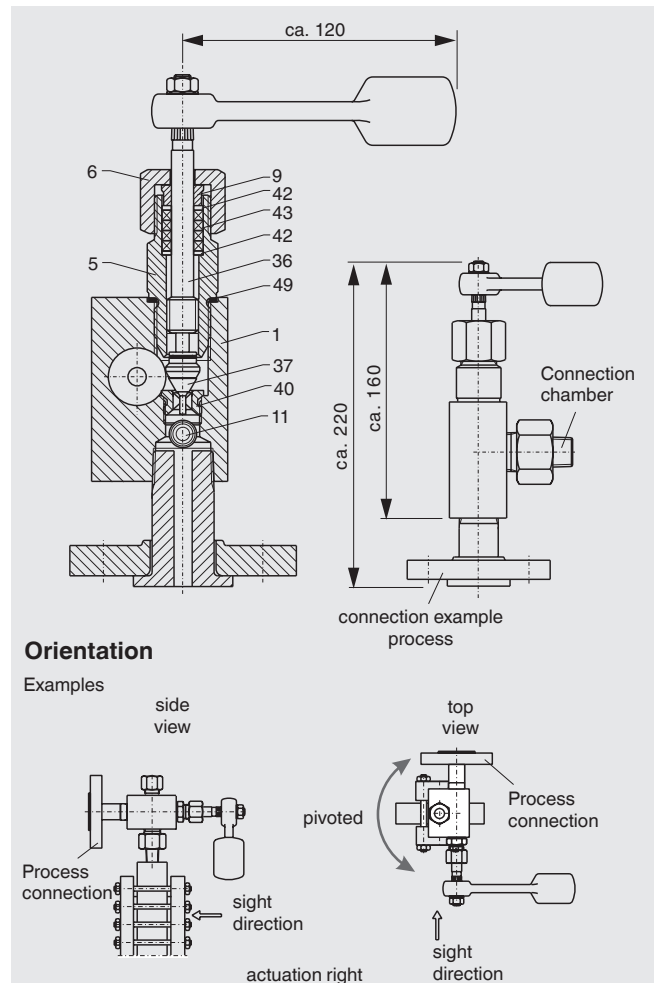
### General Data

Material	
- Housing, nipple, flange	CS or SS
- Trim	SS
other materials on request	
Orientation	horizontally, see Fig. orientation
Ball check diff. pressure	> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 1,5 kg

### Design Data

Operating pressure	up to 10 MPa / 600 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG5XSEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124259B	SS
36	Spindle	5650320859	SS
37	Cone	5610255459	SS
6	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
42	Base ring	0100016020SI	SIL4400
43	Packing	0016001040GR	Graphit
40	Seat	5604120459	SS
11	Ball	D054011120	SS
49	Sealing	D07603121026	SS

# Gauge Valve CL 1500

## Type 760.01

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Handwheel
- Angle seat, offset
- Spindle screw inside
- Seat renewable

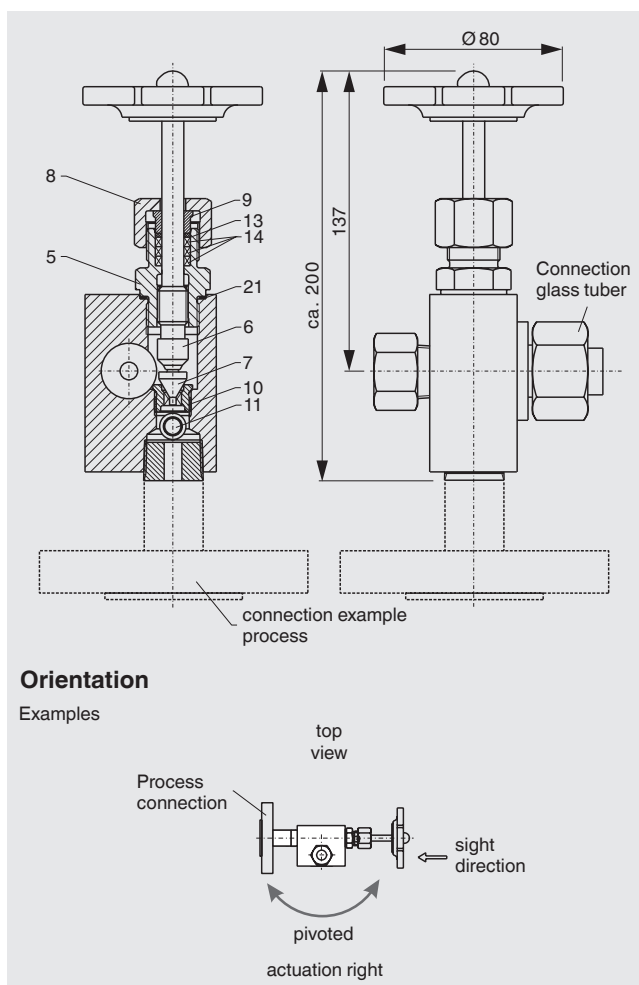
### General Data

Material		
- Housing, nipple, flange		CS or SS
- Trim		SS
other materials on request		
Orientation	horizontally, see Fig. orientation	
Ball check diff. pressure		> 0,5 bar
Process connection		DIN / ANSI acc. to cust. spec.
Weight		ca. 2,0 kg

### Design Data

Operating pressure	up to 25 MPa / 1500 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG5XHEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124159B	SS
6	Spindle	5650320759	SS
7	Cone	5610255459	SS
8	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
13	Base ring	0100016020SI	SIL4400
14	Packing	0016001040GR	Graphit
10	Seat	5604120459	SS
11	Ball	D054011120	SS
21	Sealing	D07603121026	SS

# Gauge Valve CL 600

## Type 760.03

### Applications

The gauge valve is to close the tank against the level gauge. It is actuated by a handwheel. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Quick closing lever
- Angle seat, offset
- Spindle screw inside
- Seat renewable

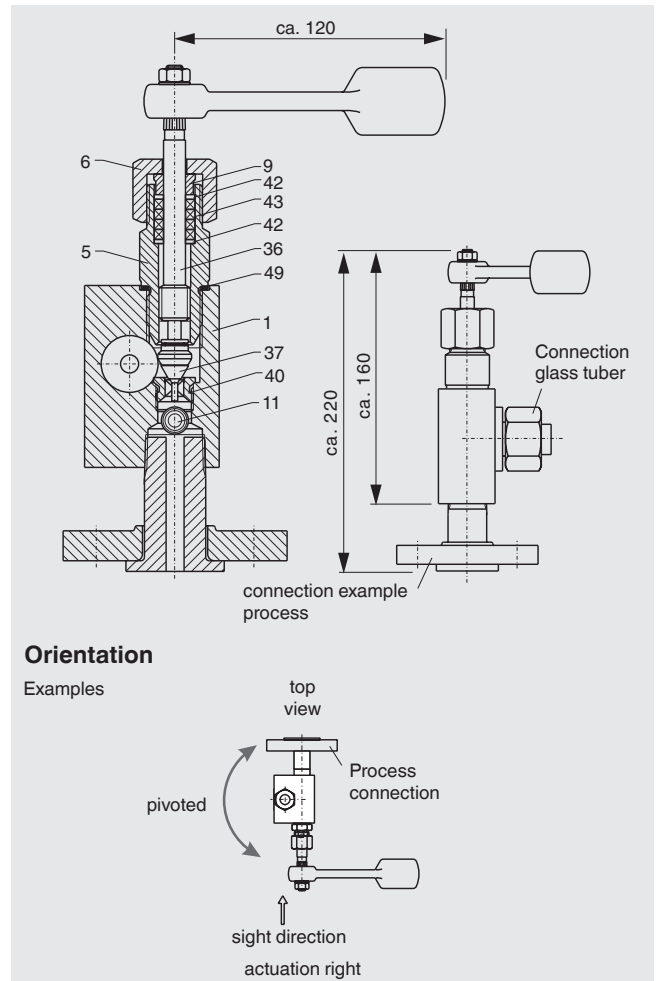
### General Data

Material	
- Housing, nipple, flange	CS or SS
- Trim	SS
other materials on request	
Orientation	horizontally, see Fig. orientation
Ball check diff. pressure	> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 2,0 kg

### Design Data

Operating pressure	up to 10 MPa / 600 lbs
Temperature media	
Housing, nipple, flange SS	- 200...+ 400°C
Housing, nipple, flange CS	- 10...+ 400°C

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG5XSEKIT** consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	5720124259B	SS
36	Spindle	5650320859	SS
37	Cone	5610255459	SS
6	Nut	5921024059B	SS
9	Stuffing box	5706010059	SS
42	Base ring	0100016020SI	SIL4400
43	Packing	0016001040GR	Graphit
40	Seat	5604120459	SS
11	Ball	D054011120	SS
49	Sealing	D07603121026	SS

# Gauge Valve CL 300

## Type 760.11

### Applications

The gauge valve is to close the vessel against the level gauge. It is actuated by a quick closing lever. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Lever and quick closing
- Angle seat
- Spindle thread inside
- Seats and cone renewable
- flanged

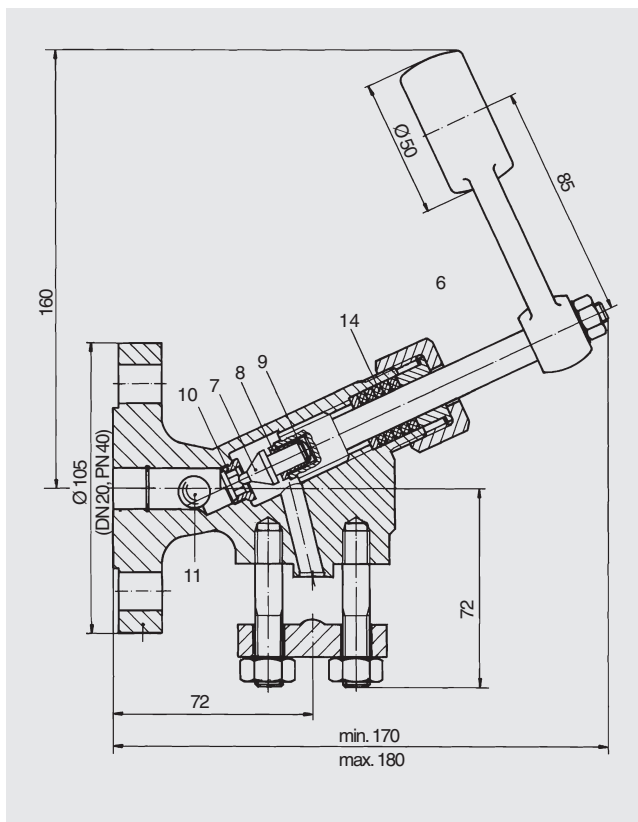
### General Data

Orientation	horizontally
valve opening	8 mm
Material	
- Housing, flange	CS
- Trim	SS
other materials on request	
Ball check diff. pressure	> 1 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 5,0 kg

### Design Data

Nominal pressure	CL 300
Design temperature / Design pressure	- 10...+ 243°C / 30 bar

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Pos	Pcs.	Denomination	Order no.	Material
6	1	Spindle	3094553	1.4104
7	1	Cone	3095354	1.4305
8	1	Screw connect.	"	1.4305
9	1	Semi-lunar ring	"	1.1750
10	1	Seat	2602C54	1.4305
11	1	Sphere	D054011011	1.4401
14	4	Packing	0021001360GR	Reingraphit

# Gauge Valve CL 900

## Type 760.18

### Applications

The gauge valve is to close the vessel against the level gauge. It is actuated by a handwheel and quick closing lever. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Double shut-off with handwheel and quick closing
- Angle seat
- Spindle thread inside
- Seats and cone renewable
- flanged

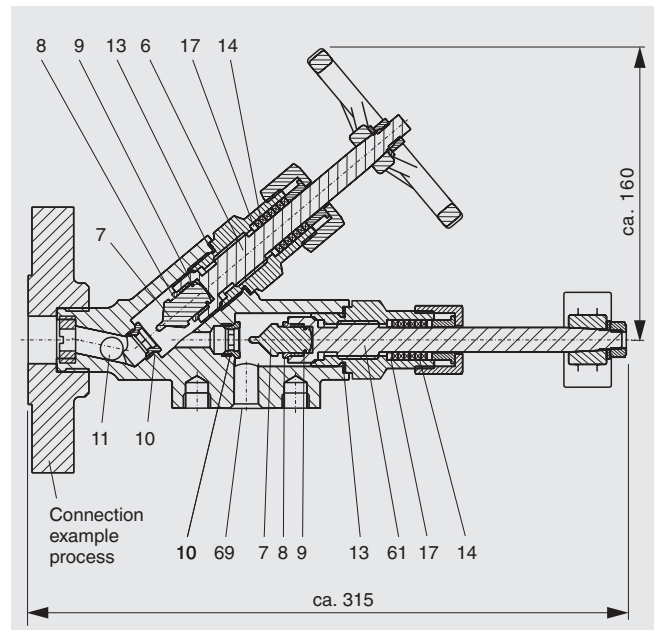
### General Data

Orientation	horizontally
valve opening	8 mm
Material	
- Housing, flange	CS
- Trim	SS
other materials on request	
Ball check diff. pressure	> 1 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 5,0 kg

### Design Data

Nominal pressure	CL 900
Design temperature /	
Design pressure max.	- 10...+ 350°C / 120 bar

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare part kit **BG181HEKIT** (handwheel, ball) consisting of

Pos	Denomination	Order no.	Material
6	Spindle	3396G53	SS
7	Cone	2811254	SS
8	Screw connect.	277154	SS
9	Semi-lunar ring	18202	SS
13	Sealing	D07603S35028	1.1003
14	Packing	0021001360GR	Graphite
17	Bottom ring	2586135	1.0501
10	Seat	2790b54	SS
11	Ball	D054011014	SS
69	Lens gasket	218238	1.0305

Spare part kit **BG181SEKIT** (lever) consisting of

Pos	Denomination	Order no.	Material
61	Spindle	3397GB53	SS
7	Cone	2811254	SS
8	Screw connect.	277154	SS
9	Semi-lunar ring	18202	SS
13	Sealing	D07603S35028	1.1003
14	Packing	0021001360GR	Graphite
17	Bottom ring	2586135	1.0501
10	Seat	2790b54	SS

# Gauge Valve CL 1500

## Type 760.19

### Applications

The gauge valve is to close the vessel against the level gauge. It is actuated by a handwheel and quick closing lever. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Double shut-off with handwheel and quick closing
- Angle seat
- Spindle thread inside
- Seats and cone renewable
- flanged

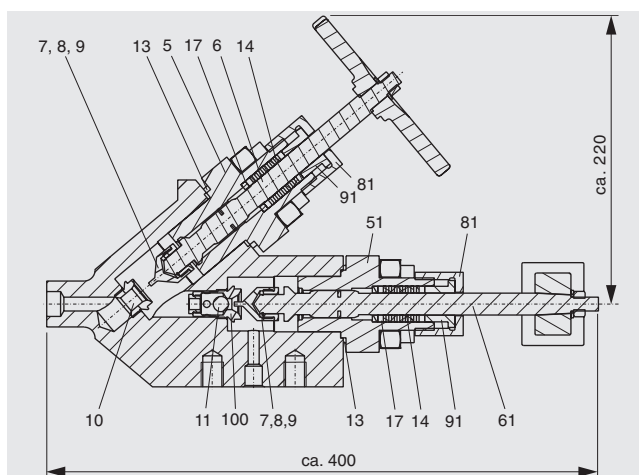
### General Data

Orientation	horizontally
valve opening	8 mm
Material	
- Housing, flange	CS
- Trim	SS
other materials on request	
Ball check diff. pressure	> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.
Weight	ca. 5,0 kg

### Design Data

Nominal pressure	CL 1500
Design temperature /	
Design pressure max.	- 10...+ 374°C / 165 bar

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare part kit **BG182HEKIT** (handwheel) consisting of

Pos	Denomination	Order no.	Material
5	Bonnet	3269149B	1.5415
6	Spindle	1615G53	SS
7	Cone	190954	SS
8	Screw connect.	1617a53	SS
9	Semi-lunar ring	18203	SS
13	Sealing	D07603S49040	1.1003
14	Packing	0026001660GI	Graphite
17	Bottom ring	162035	1.0501
10	Seat	405F254	SS
81	Nut	WK165835B	1.0501
91	Stuffing box	1657135	1.0501

Spare part kit **BG182SEKIT** (lever, ball) consisting of

Pos	Denomination	Order no.	Material
51	Bonnet	32691149B	1.5415
61	Spindle	1696253	SS
7	Cone	190954	SS
8	Screw connect.	1617a53	SS
9	Semi-lunar ring	18203	SS
13	Sealing	D07603S49040	1.1003
14	Packing (8)	0026001660GI	Graphite
17	Bottom ring	162035	1.0501
100	Seat w. ball carrier	418W11054	SS
11	Ball	D054011011	SS
81	Nut	WK165835B	1.0501
91	Stuffing box	1657135	1.0501



# Gauge Valve CL 600

## Type 760.68

### Applications

The gauge valve is to close the vessel against the level gauge. It is actuated by a quick closing lever. As a standard an automatic ball check is integrated. The process connection is manufactured acc. to customer's specification.

### Special Features

- Lever, quick closing
- Angle seat
- Spindle thread inside
- Seats and cone renewable
- flanged

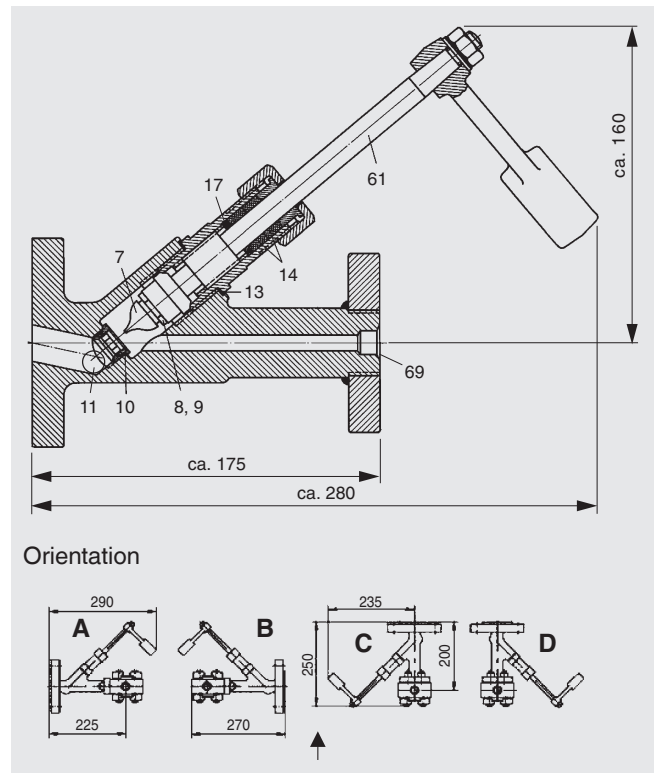
### General Data

Orientation	horizontally, see Fig.	orientation
valve opening		8 mm
Material		
- Housing, flange		CS
- Trim		SS
other materials on request		
Ball check diff. pressure		> 0,5 bar
Process connection	DIN / ANSI acc. to cust. spec.	
Weight		ca. 5,0 kg

### Design Data

Nominal pressure	CL 600
Design temperature /	
Design pressure max.	- 10...+ 300°C / 82 bar

CS (= carbonsteel) and SS (= stainless steel type 316SS) are materials suitable for Pressure Vessels according to EN or ASME.



Spare parts kit **BG681HEKIT** considering of

Pos	Denomination	Order no.	Material
61	Spindle	2840G53	SS
7	Cone	2811254	SS
8	Screw connct.	277154	SS
9	Semi-lunar ring	18202	SS
13	Sealing	D07603S35028	1.1003
14	Packing	0021001360GR	Graphite
17	Bottom ring	2586135	1.0501
10	Seat	2790b54	SS
11	ball	D054011014	SS
69	Lens gasket	218238	1.0305

# Illumination Transparent Sight Glass Level Gauges

## Type 709.0XXX



### Applications

The illuminations are designed for illuminating sight windows according to DIN 7081 and mica sight windows. By variation of segment length and number of segments as well as the optical power illumination can be adapted to most applications.

Can be operated in hazardous area.

### Special Features

- Even bright illumination
- Bulb, highlight-performance and long lifetime

### General Data

Material housing lamp	Alu
Material reflector	Glass, Acryl-Glass, mirror sheet
Dimensions	
- A	ca. 160 mm
- B	up to glass size 12 ca. 200 mm from glass size 12 ca. 300 mm
Weight	1,8kg

### Design Data

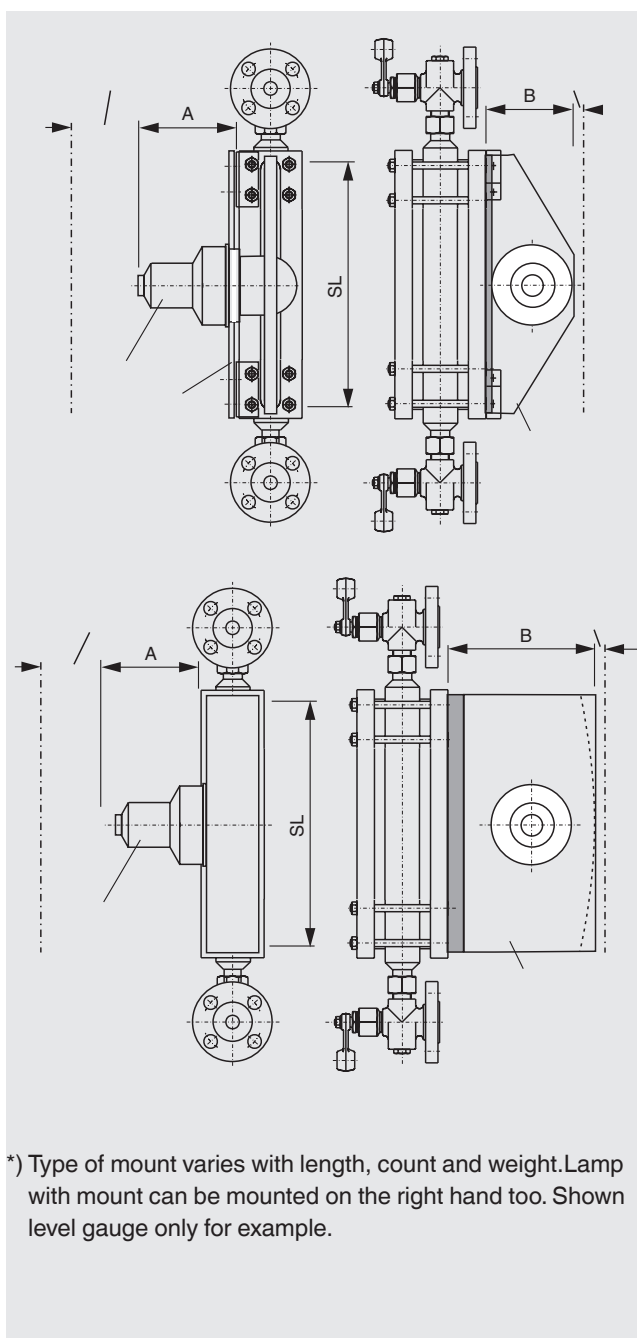
Ex-classification	II 2 GD Ex d(Ex de) IIC T2...T6
Surface temperature	depends on temperature class and lamp power
Ambienttemperature	- 50...+ 55°C

### Electrical Data

Power supply	120 / 230 VAC
Lamp power	max. 100 W
Illustration	Halogen bulb
Lampholder	E 27
Ingress protection	IP 66

### Certificates

EC-Type Examination Certificate	CESI 01 ATEX 028
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# Sight Glass Level Gauges Connections

## Process connection:

- Flange
- Male thread / female thread
- Weld end / weld sleeve
- Screw joint / spherical union
- Further designs on request

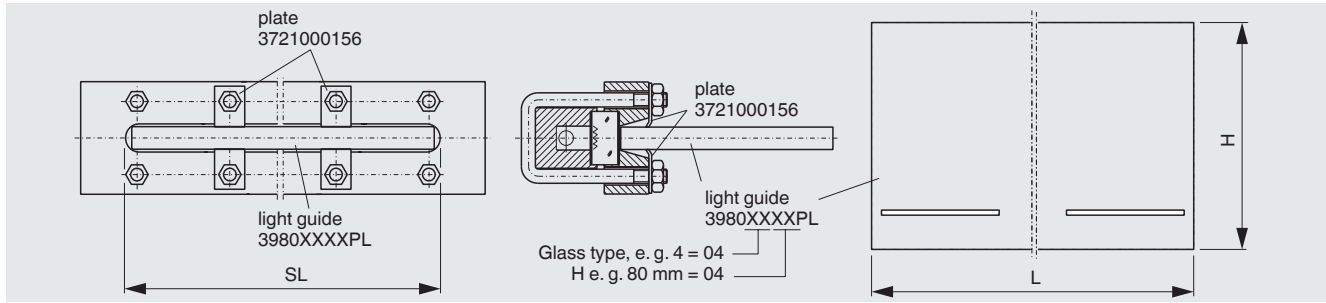
## Vent / Drain

- Plug
- Valve
- Flange piece
- Male thread / female thread
- Weld-on end / welded sleeve
- Further designs on request

# Sight Glass Level Gauges Accessories

## Frost protection

Material: PMMA (Plexiglas)

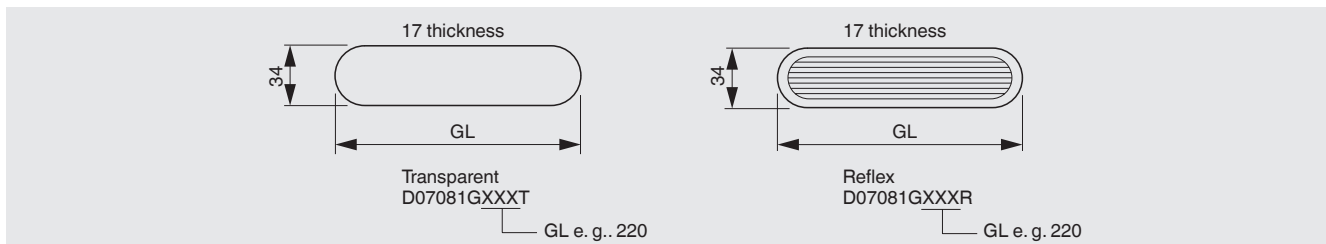


Glass type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	72	92	117	142	167	197	227	257	297	317	347	377	407	437	477	507	537	577	607	637	677

H in mm covers temperature in °C below zero, standard heights: 80, 120, 180 und 200 mm   recommended types

## Flat glasses

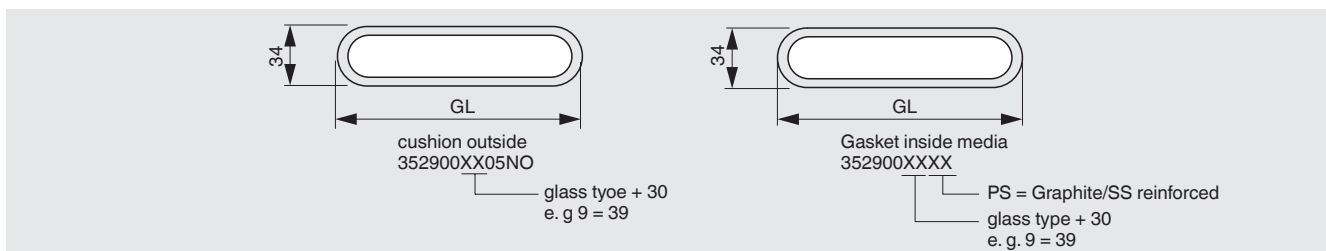
acc. to DIN 7081



Glass type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
GL	95	115	140	165	190	220	250	280	320	340	370	400	430	460	500	530	560	600	630	660	700

  recommended types

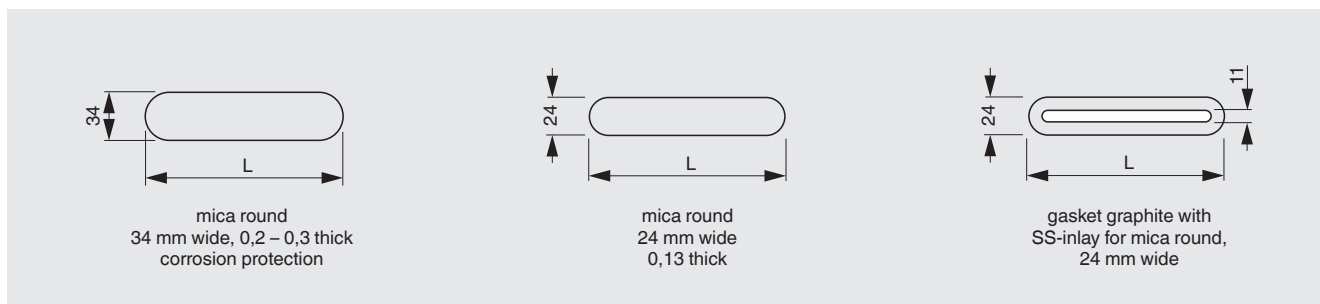
## Gaskets



Glass type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
GL	95	115	140	165	190	220	250	280	320	340	370	400	430	460	500	530	560	600	630	660	700

  recommended types

## Mica and gasket



mica size	L	mica round 34 mm wide 0,2 – 0,3 mm	mica round 24 mm wide 0,13 mm	gasket graphite-SS 24 mm wide	mica package round, 24 mm wide		
					0,9 – 1,0 mm thick	1,2 mm thick	1,7 mm thick
0	95	39890800GL	39897700GL	418D10200VG	39893700GL	39894700GL	39896700GL
1	115	39890801GL	39897701GL	418D10201VG	39893701GL	39894701GL	39896701GL
2	140	39890802GL	39897702GL	418D10202VG	39893702GL	39894702GL	39896702GL
3	165	39890803GL	39897703GL	418D10203VG	39893703GL	39894703GL	39896703GL
4	190	39890804GL	39897704GL	418D10204VG	39893704GL	39894704GL	39896704GL
5	220	39890805GL	39897705GL	418D10205VG	39893705GL	39894705GL	39896705GL
6	250	39890806GL	39897706GL	418D10206VG	39893706GL	39894706GL	39896706GL
7	280	39890807GL	39897707GL	418D10207VG	39893707GL	39894707GL	39896707GL
8	320	39890808GL	39897708GL	418D10208VG	39893708GL	39894708GL	39896708GL
9	340	39890809GL	39897709GL	418D10209VG	39893709GL	39894709GL	39896709GL
10	370	39890810GL	39897710GL	418D10210VG	39893710GL	39894710GL	39896710GL
11	400	39890811GL	39897711GL	418D10211VG	39893711GL	39894711GL	39896711GL
12	430	39890812GL	39897712GL	418D10212VG	39893712GL	39894712GL	39896712GL
13	460	39890813GL	39897713GL	418D10213VG	39893713GL	39894713GL	39896713GL
14	500	39890814GL	39897714GL	418D10214VG	39893714GL	39894714GL	39896714GL
15	530	39890815GL	39897715GL	418D10215VG	39893715GL	39894715GL	39896715GL

## Mica packages P<sub>Design</sub>

For each mica window a mica package up to 1,7 mm thickness and a gasket for each package is needed.

package thickness	P <sub>Design</sub> [bar]		
	80	120	150
0,9 – 1,0	X		
1,2		X	
1,7			X

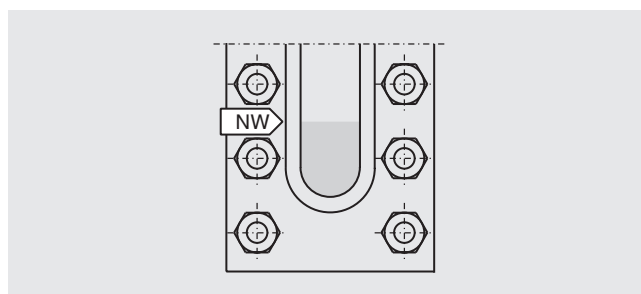
Dimensions in mm

## Corrosion protection

Corrosion protection for sight glasses from water side acc.to DIN 7081 above 243 °C 1 mica sheet is needed.

## Pointer low water

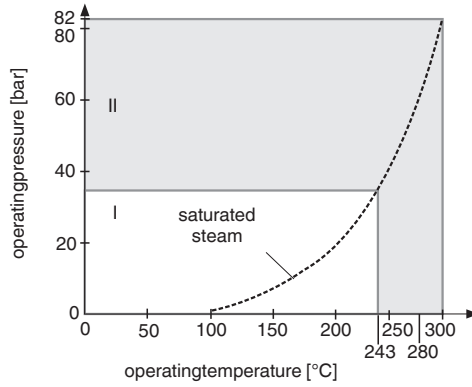
Form, size and inscription vary depending up on execution of the boiler level gauge.



## Corrosion protection with mica

for transparent glasses acc. to DIN 7081

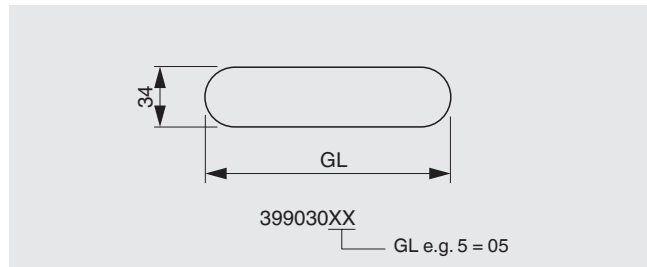
As corrosion protection you shall use 1 mica sheet with 0,2 to 0,3 mm thickness fitted to the inner side of a transparent glass acc. to DIN 7081 (marking 'waterside' inward).



I	saturated steam, glass without protection
II	saturated steam, glass with mica protection

## Corrosion protection and anti-adhesive

FEP-foil thickness 0,1 mm for transparent glasses acc. to DIN 7081 up to + 200 °C, as corrosion protection or as anti-blocking means for media which are adherent to glass



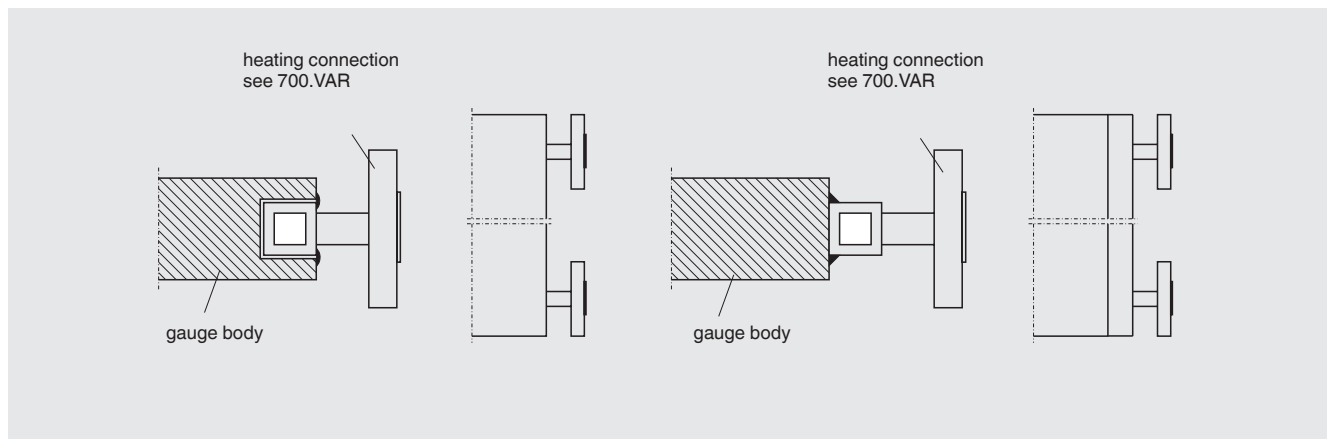
Glass type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	72	92	117	142	167	197	227	257	297	317	347	377	407	437	477	507	537	577	607	637	677

## Scale

- Foil on Aluminum graduated in cm (up to 100 °C)
- Foil on SS graduated in cm (up to 100 °C)
- SS engraving graduated in cm
- Pointer for water low indication, material Aluminum

## Heating

- Steam heating



Orientation of the heating connection by customers specification. Electrical heating also possible.



### **Ordering information Illumination**

Model / Visible length SL / Reflector / Length / Glass type

### **Ordering information Valves**

Model / Process connection / Orientation

### **Ordering information Sight Glass Level Gauges**

Model / Visible length SL / Process connection / Glass type (Reflex / Transparent) / Options

Modifications may take place and materials specified may be replaced by others without prior notice.  
Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.



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