

Schauglasanzeiger Sight Glass Level Gauges



700

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Funktionsprinzip Schauglasanzeiger

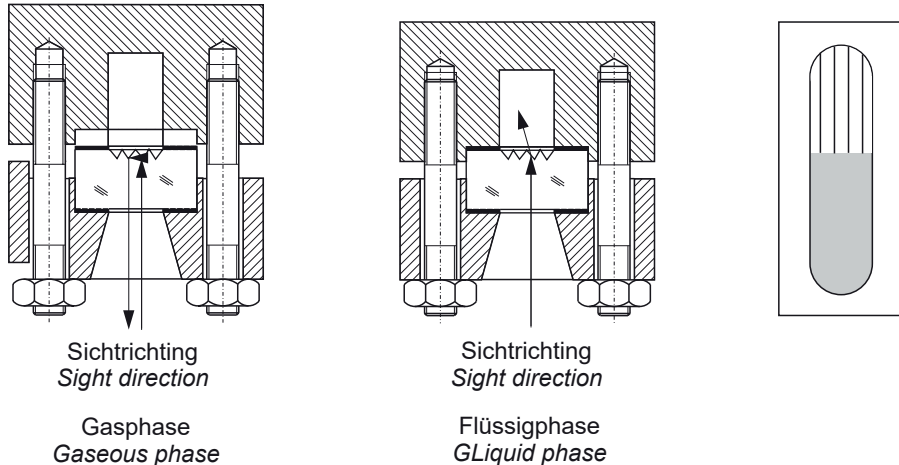
Reflexgläser nach DIN 7081

In Sichtrichtung einfallendes Licht trifft auf die Reflexrillen der Schauglasplatte und wird bei Flüssigkeit ins Medium weggebrochen und bei Gas reflektiert. Der Füllstand ist als dunkler Balken sichtbar, der Gasraum als silbriger Balken darüber.

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.



Transparentgläser nach DIN 7081

Entgegen der Sichtichtung einfallendes Licht (Tageslicht oder das Licht einer Lampe) passiert beide Schauglasplatten mit dem dazwischen befindlichen Medium. Der Füllstand ist als Strich (Meniskus) bzw. anhand der Flüssigkeit selbst direkt sichtbar.

Transparent and reflex

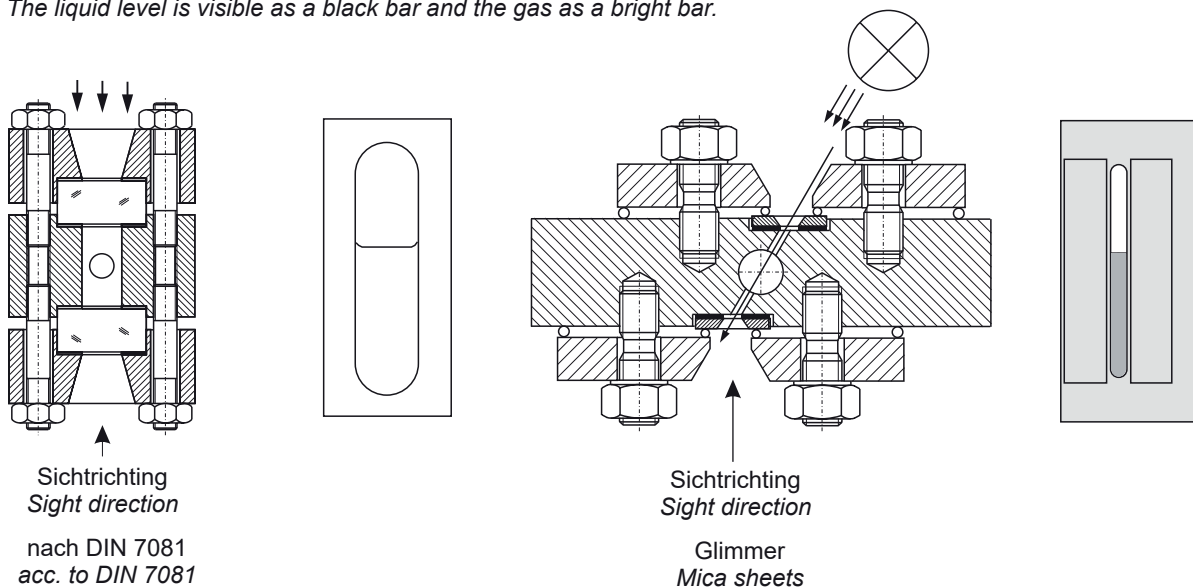
Incident light (daylight or the light of a lamp) passed sight glass contrary to the view direction the medium situated between this. The filling level is itself direct as a line (meniscus) or with the liquid visible.

Refraktionsprinzip mit Glimmerscheiben

Entgegen der Sichtichtung einfallendes Licht einer Lampe passiert beide Glimmerplatten in einem Winkel mit dem dazwischen befindlichen Medium. In Gasphase wird das Licht im Spalt geführt und durchstrahlt beide Glimmerpakete, bei Flüssigkeit wird das Licht weggebrochen. Der Füllstand ist als schwarzer Balken und der Gasraum als heller Balken ablesbar.

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.



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Sight Glass Level Gauge

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Data sheets sight glass level gauges for general applications

Basic type	Pressure rating	Body type	Connection	Gauge valve type	internal connection	Actuation	
700.10	CL 150...600	Reflex, Transparent light	side-side fixed	760.14 .. 17	flanged	quick closing	13
700.12	CL 150...600	Reflex, Transparent light	side-side fixed	760.50 .. 52	nipple	handwheel	15
700.13	CL 150...600	Reflex, Transparent light	side-side fixed	760.55 .. 57	nipple	quick closing	17
700.21	CL 150...600	Reflex, Transparent light	top-bottom pivoted	760.53	nipple	handwheel offset	19
700.23	CL 150...600	Reflex, Transparent light	top-bottom pivoted	760.58	nipple	quick closing offset	21
700.39	CL 150...600	Reflex, Transparent heavy duty	side-side fixed	760.14 .. 17	flanged	quick closing ME=SL	23
700.56	CL 150...600	Reflex, Transparent heavy duty	side-side fixed	760.14 .. 17	flanged	quick closing	25
700.37	CL 150...600	Reflex, Transparent heavy duty	side-side fixed	760.50 .. 52	nipple	handwheel	27
700.38	CL 150...600	Reflex, Transparent heavy duty	side-side fixed	760.55 .. 57	nipple	quick closing	29
700.53	CL 150...600	Reflex, Transparent heavy duty	top-bottom pivoted	760.53	nipple	handwheel offset	31
700.58	CL 150...600	Reflex, Transparent heavy duty	top-bottom pivoted	760.58	nipple	quick closing offset	33
700.25	CL 600...1500	Reflex, Transparent "cold" high pressure	side-side fixed	760.24 .. 25	flanged	handwheel	35
700.26	CL 600...1500	Reflex, Transparent "cold" high pressure	side-side fixed	760.50 .. 52	nipple	handwheel	37
700.27	CL 600...1500	Reflex, Transparent "cold" high pressure	top-bottom pivoted	760.53	nipple	handwheel offset	39

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BG00E 140 x 40 "cold" high pressure, reflex	47
BG00F 200 x 40 "cold" high pressure, transparent	47
Material list body	49

Data sheets gauge valve

Gauge valves - overview	51						
Type	pressure rating	Actuation	connection body	thruway	pattern	stem thread	
760.14	CL 600	quick closing	flange	straight	inline	inside	53
760.15	CL 600	quick closing	flange	angle	inline	inside	55
760.16	CL 600	quick closing	flange	straight	inline	OS&Y	57
760.17	CL 600	quick closing	flange	angle	inline	OS&Y	59
760.24	CL 1500	handwheel	flange	straight	inline	inside	61
760.25	CL 1500	handwheel	flange	angle	inline	inside	63
760.50	CL 1500	handwheel	union	Y-pattern	inline	inside	65
760.51	CL 1500	handwheel	union	straight	inline	inside	67
760.52	CL 1500	handwheel	union	angle	inline	inside	69
760.53	CL 1500	handwheel	union	angle	offset	inside	71
760.55	CL 600	quick closing	union	Y-pattern	inline	inside	73
760.56	CL 600	quick closing	union	straight	inline	inside	76
760.57	CL 600	quick closing	union	angle	inline	inside	77
760.58	CL 600	quick closing	union	angle	offset	inside	79

Data sheets accessories

709.1XXX Illumination halogen	81
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Frost protection, glasses, seals	85
Mica, corrosion protection	87
corrosion protection, scale, heating	89
700.VAR Process connection, drain, vent	91

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Sight Glass Level Gauges

General

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

Large variety of technically interesting types, to be used in:

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

Product groups:

- reflex type
- transparent type with glass or mica
- refraction type
- tubular type

Shut-off valves:

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

Chambers:

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

Accessories:

- Drain and vent
- Illumination
- Heating
- scale
- frost protection
- Ultraviolet protection
- corrosion protection
- Lining/coating PTFE/Halar, rubber

Rating:

- Pressure rating PN 6 - 250
- Operating temperatures from -200 up to 450 °C

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.

Certificates:

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

Necessary data:

Operation and design pressure (p), operation and design temperature (T), center to center distance (ME), visible length (SL), materials, medium, connection type for process and heating, type of illumination, quantity.

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

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Sight Glass Level Gauges

Design

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 PHÖNIX 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 450 °C. PHÖNIX uses borosilicate glass as standard quality. For conditions above the natural mineral mica is used. The process connection normally is equipped with PHÖNIX 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

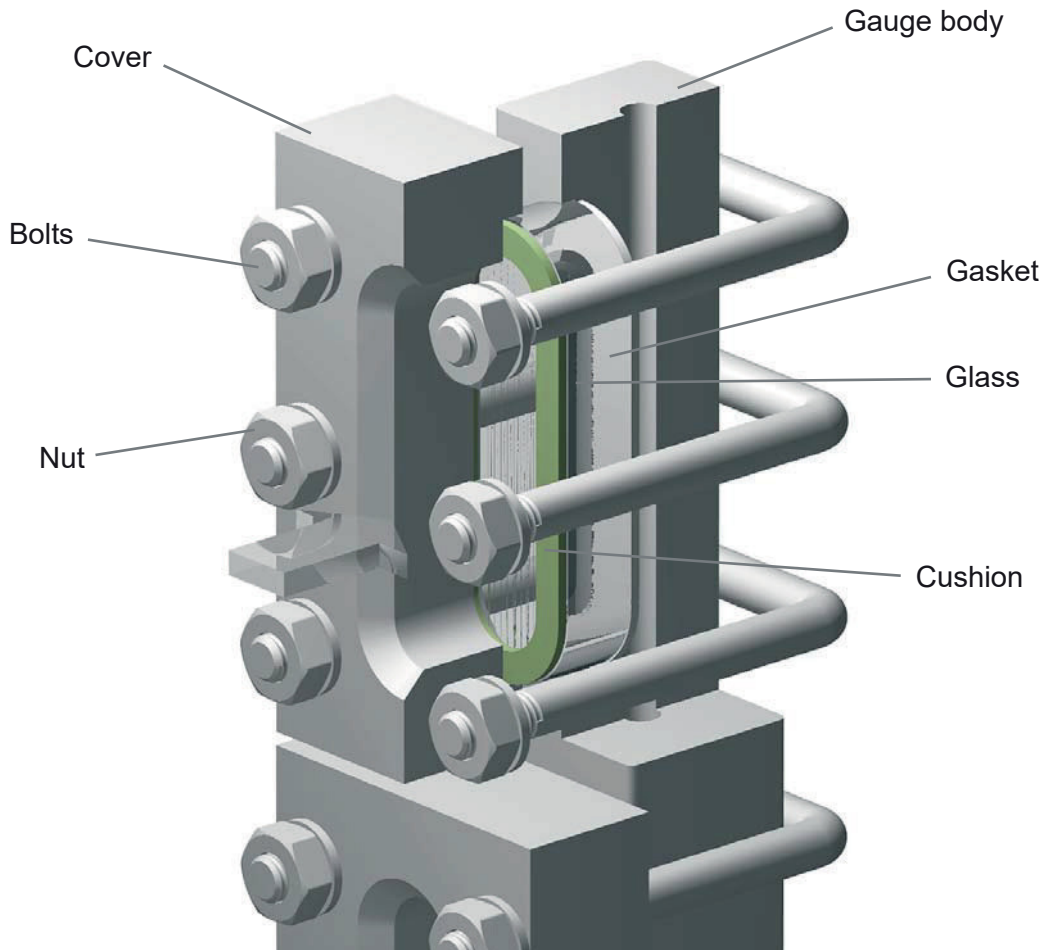
Recessed sealing between liquid duct and ambient

Glass

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

Cushion

Mechanical protection between cover and glass



Design in principle

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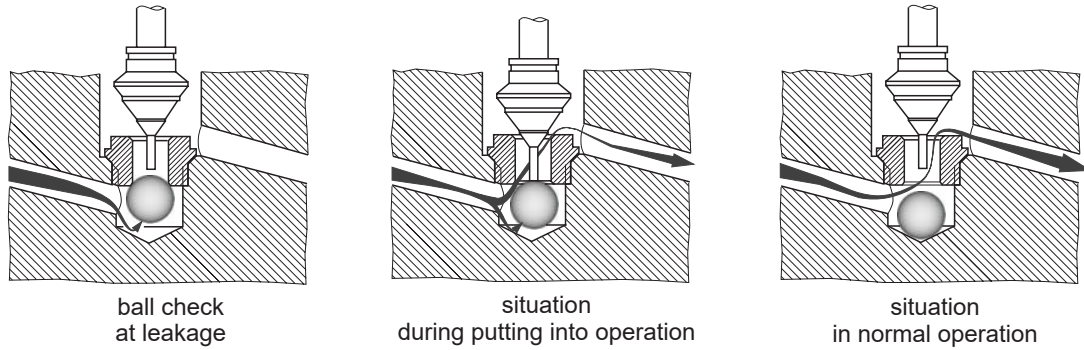
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Sight glass level gauges

Gauge valves essentials

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.

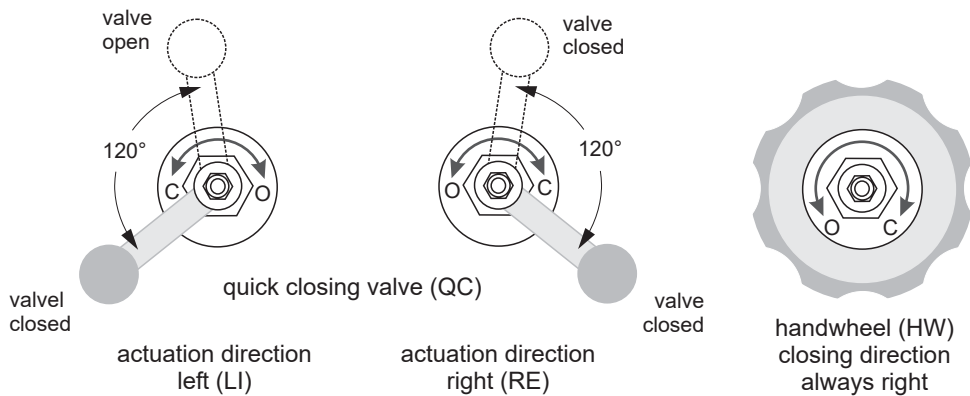
Functional principle ball check



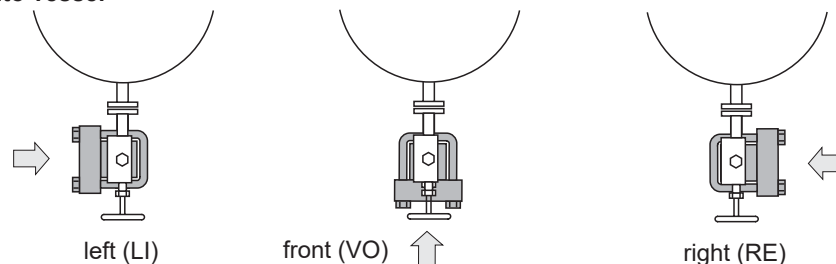
The ball check is a safety device which is used in all PHÖNIX gauge valves. It's task is to avoid heavy leakage after breaking of a glass or mica window or leakages due to other reasons.

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 ($\Delta p > 0,5 \text{ bar}$). 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

view direction - actuation direct. - valve actuator - valve type

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

LI-RE-SS-angle

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Sight glass level gauges

Type selection

according to design pressure

Type	700 (DIN 7081)													
PN	10	12 13	21 23	25	26 27			37 38	39		53 58		56	
25														
64	•	•	•											
100								•	•		•		•	
160				•	•									
250				•	•									

according to valve type

Type	700 (DIN 7081)															
Valve 760	10	12	13	21	23	25	26	27		37	38	39		53	58	56
14	•											•				•
15	•											•				•
16	•											•				•
17	•											•				•
24						•										
25						•										
40																
50		•					•			•						
51		•					•			•						
52		•					•			•						
53				•				•						•		
54																
55			•							•						
56			•							•						
57			•							•						
58					•										•	

according to chamber

Type	700 (DIN 7081)													
chamber dimension	10	12 13	21 23	25/26/27				37 38	39		53 58		56	
D40	•	•	•											
40 x 40	•	•	•											
75 x 30								•	•		•		•	
80 x 40								•	•		•		•	
100 x 40								•	•		•		•	
120 x 40								•	•		•		•	
140 x 40						•		•	•		•		•	
200 x 40						•								

according to process connection

Type	700													
connection	10	12 13	21 23	25	26	27		37 38	39		53 58		56	
flange	•			•					•				•	
nipple		•	•		•	•		•			•			

according to valve actuation

SS = quick closing lever HR = handwheel

Type	700															
operation	10	12	13	21	23	25	26	27		37	38	39		53	58	56
SS	•		•	•	•	•	•	•		•	•	•				•
HR		•		•		•	•	•		•				•		

according to ME / SL

ME = Mittenentfernung, SL = Schaulänge

Type	700													
Conn.	10	12 13	21 23	25	26	27		37 38	39		53 58		56	
ME>SL		•	•			•					•		•	
ME≥SL	•			•	•			•						
ME=SL									•					

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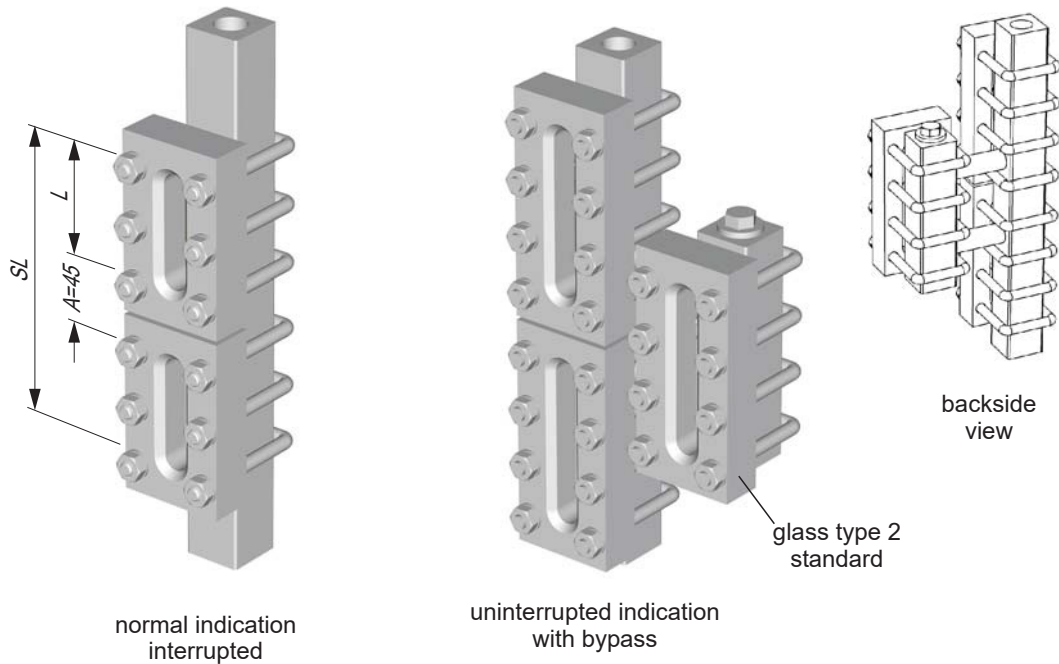
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Sight glass level gauges

Arrangement of Sections

Flat glasses acc. to DIN 7081



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							

we recommend max. 7 segments
and above that use multiple gauges

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Sight glass level gauge PN16 / CL150 to 600

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

Product group **700**

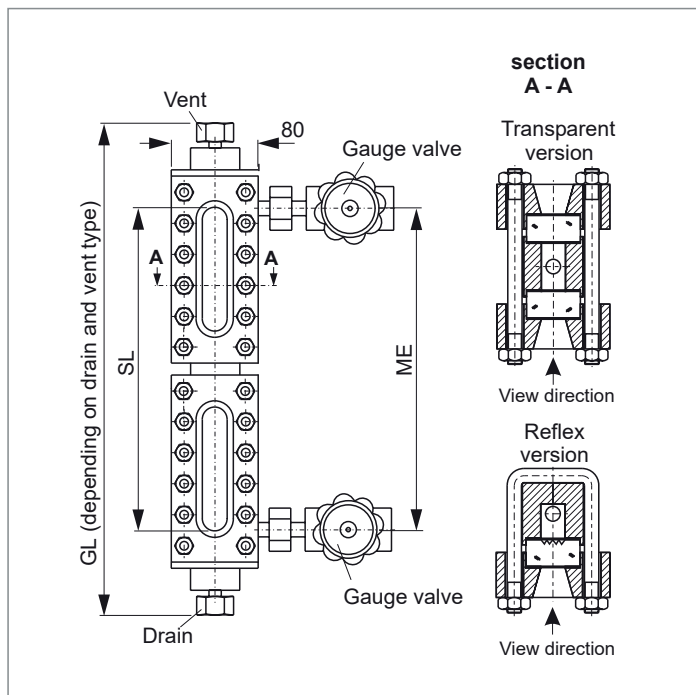
Type **12**

Sheet: 15

Revision: 4

Date:

04/22



Field of Application

Direct reading liquid level indicator for general applications up to PN16 / CL150 (depends on glass type). Increased safety with ball check valves.

General Data

Visible length SL: ≤ME
Body: 40 x 40, Ø40 (for special materials)
Connection gauge valve - body: union
Gauge valve types: see data sheet 760.50/51/52
Actuation: hand wheel
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.
Weight
- basic weight (glass type 4-9)
 reflex / transparent: 10.5-14.0 kg / 13.2-17.5 kg
- per segment (glass type 4-9)
 reflex / transparent: 7.0-11.8 kg / 8.2-12.8 kg
Depending on execution weight can vary.

Design Data

Design pressure/-temperature see derating
- D40, reflex: data sheet BG00R0
- 40 x 40, reflex, transparent: data sheet BG00R1

Further Data

Connection gauge valve - body: see 700.VAR
Process connection: see 700.VAR
Vent: see 700.VAR
Drain: see 700.VAR

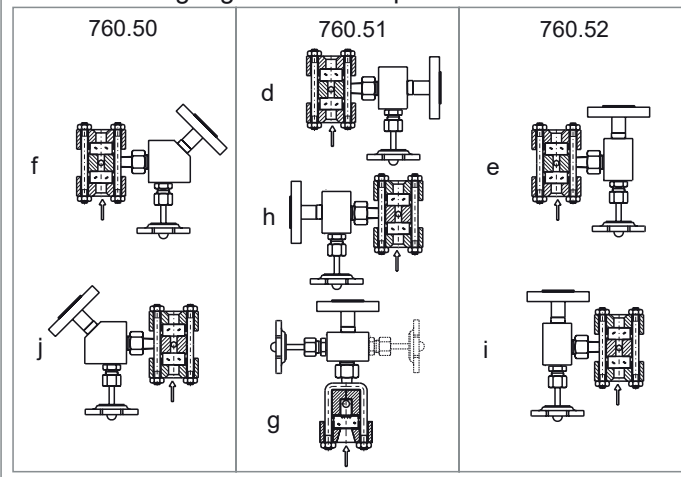
Accessories

Glass protection etc.: see accessories
Frosts protection: see accessories
Illumination: see accessories
Scale: see accessories
Heating: see accessories

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

Subject to alterations

Orientation of gauge valve and operation



Ordering no.

7 0 0 1 2 X X X X X X X X - X X - X X X X X X X X X X - X X X X X		see 700.VAR	ME [mm]
bridging	without	0	results from ME X spec. glass types
	with	1	
glass window	Reflex (DIN 7081)	1	nos of segments
	Transparent (DIN 7081)	2	
gauge valve	760.50	5 0	DIN-bolts, -nuts
	760.51	5 1	A ANSI-bolts, -nuts
	760.52	5 2	0 D40 (for special materials)
		X	1 40 x 40 DIN 7081
			see data sheet 760.50/51/52
			gauge body
			orientation gauge valve

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Sight glass level gaug PN16 / CL15 to 600

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

Product group **700**

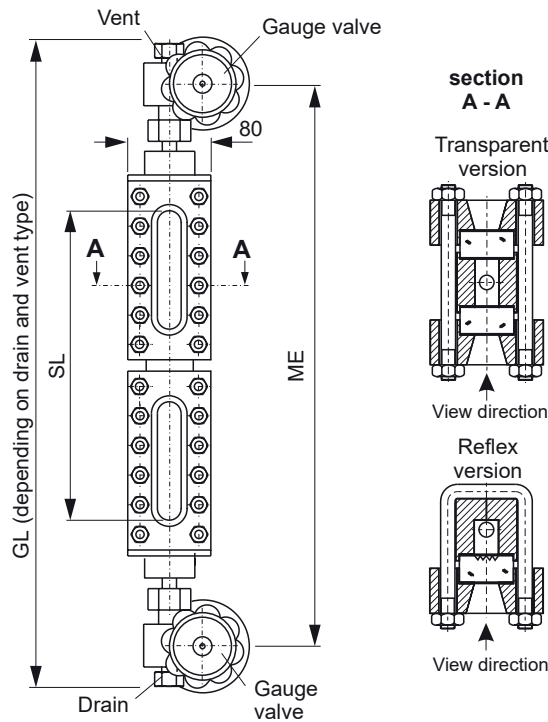
Type **21**

Sheet: 19

Revision: 4

Date:

04/22



Field of Application

Direct reading liquid level indicator for general applications up to PN100 / CL600 (depends on glass type). Increased safety with ball check valves.

General Data

Visible length SL: <ME - 180 mm
Body: 40 x 40, Ø40 (for special materials)
Connection gauge valve - body: union
Gauge valve types: see data sheet 760.53
Actuation: hand wheel
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.
Weight
- basic weight (glass type 4-9) reflex / transparent: 10.5-14.0 kg / 13.2-17.5 kg
- per segment (glass type 4-9) reflex / transparent: 7.0-11.8 kg / 8.2-12.8 kg
Depending on execution weight can vary.

Design Data

Design pressure/-temperature see derating
- D40, reflex: data sheet BG00R0
- 40 x 40, reflex, transparent: data sheet BG00R1

Further Data

Connection gauge valve - body: see 700.VAR
Process connection: see 700.VAR
Vent: see 700.VAR
Drain: see 700.VAR

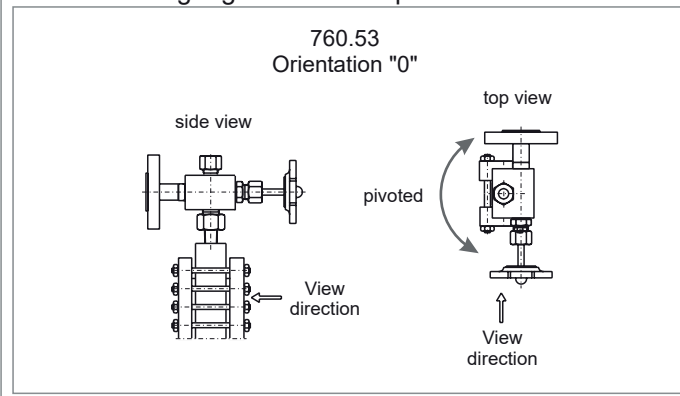
Accessories

Glass protection etc.: see accessories
Frosts protection: see accessories
Illumination: see accessories
Scale: see accessories
Heating: see accessories

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

Subject to alterations

Orientation of gauge valve and operation



Ordering no.

7 0 0 2 1 X X 5 3 0 X X - X X - X X X X X X X X - X X X X										see 700.VAR		ME [mm]	
										X X		nos of segments	
										X X		results from ME	
										X		spec. glass types	
										X X		glass type	
										A		ANSI-bolts, -nuts	
										DIN		bolts, -nuts	
										0		D40 (for special materials)	
										1		40 x 40 DIN 7081	
										5 3 0		see data sheet 760.53	
												orientation gauge valve	
												DIN/ASME	
												gauge body	
												gauge valve	
												bridging	
												without	
												with	
												Reflex (DIN 7081)	
												Transparent (DIN 7081)	

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Sight glass level gauge PN16 / CL150 to 600

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

Product group **700**

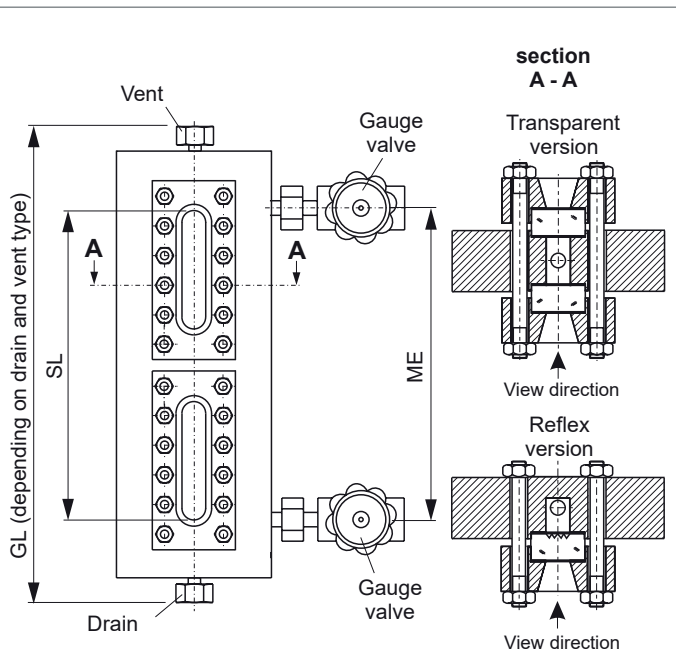
Type **37**

Sheet: 27

Revision: 4

Date:

04/22



Field of Application

Direct reading liquid level indicator for general applications up to PN160 / CL900 (depends on glass type). Increased safety with ball check valves.

General Data

Visible length SL: ≤ME
 Body: 75x30, 80x40, 100x40, 120x40, 140x40
 Connection gauge valve - body: union
 Gauge valve types: see data sheet 760.50/51/52
 Actuation: hand wheel
 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.
 Weight
 - basic weight (glass type 4-11)
 reflex / transparent: 21.0-27.0/24.0-32.0 kg
 - per segment (glass type 4-11)
 reflex / transparent: 7.9-15.6/10.4-19.8 kg
 Depending on execution weight can vary.

Design Data

Design pressure/-temperature see derating
 75x30, 80x40, 100x40,
 120x40, 140x40: Datenblatt BG00R2-00RD

Further Data

Connection gauge valve - body: see 700.VAR
 Process connection: see 700.VAR
 Vent: see 700.VAR
 Drain: see 700.VAR

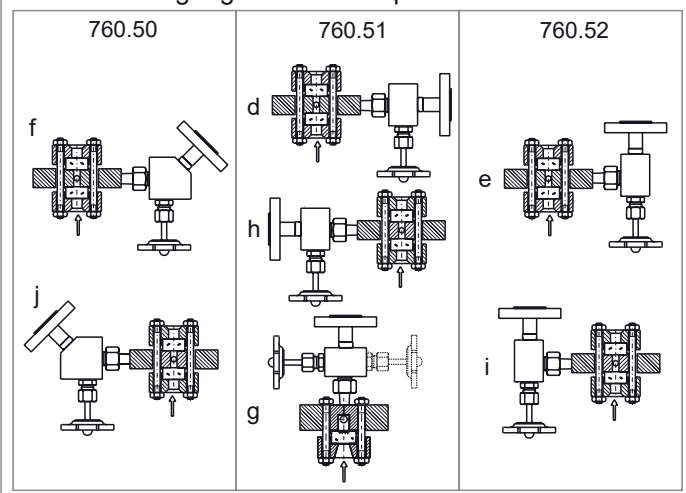
Accessories

Glass protection etc.: see accessories
 Frosts protection: see accessories
 Illumination: see accessories
 Scale: see accessories
 Heating: see accessories

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

Subject to alterations

Orientation of gauge valve and operation



Ordering no.

7 0 0 3 7 X X X X X X X - X X - X X X X X X X X - X X X X		see 700.VAR	ME [mm]
bridging	without	0	results from ME X spec. glass types
	with	1	
glass window	Reflex (DIN 7081)	1	nos of segments
	Transparent (DIN 7081)	2	
gauge valve	760.50	5 0	DIN-bolts, -nuts
	760.51	5 1	A ANSI-bolts, -nuts
	760.52	5 2	X 7, A - D, depends on design pressure
			see data sheet 760.50/51/52
			orientation gauge valve

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Sight glass level gauge PN16 - PN160 / CL150 to 900

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

Product group **700**

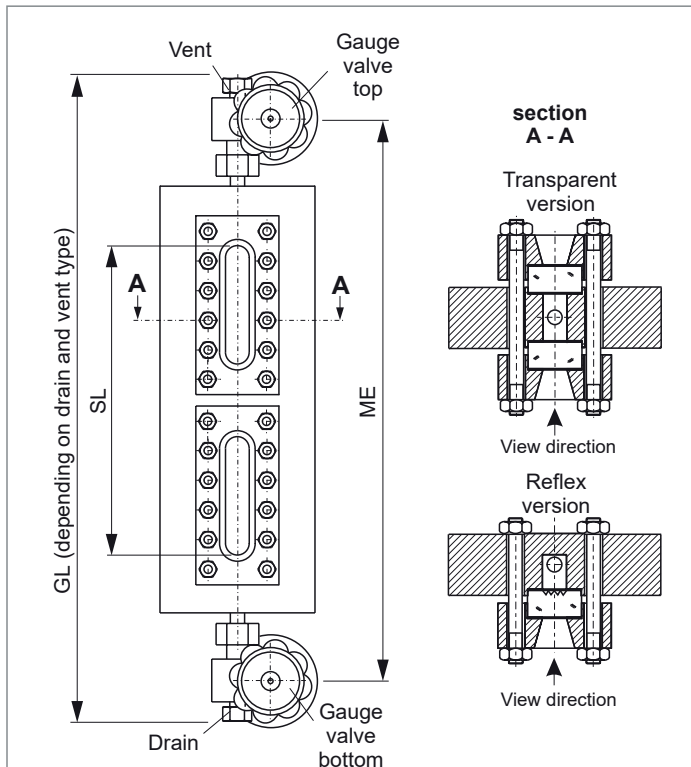
Type **53**

Sheet: 31

Revision: 4

Date:

04/22



Field of Application

Direct reading liquid level indicator for general applications up to PN160 / CL900 (depends on glass type). Increased safety with ball check valves.

General Data

Visible length SL: <ME-180 mm
 Body: 75x30, 80x40, 100x40, 120x40, 140x40
 Connection gauge valve - body: union
 Gauge valve types: see data sheet 760.53
 Actuation: hand wheel
 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.
 Weight
 - basic weight (glass type 4-11)
 reflex / transparent: 21.0-27.0/24.0-32.0 kg
 - per segment (glass type 4-11)
 reflex / transparent: 7.9-15.6/10.4-19.8 kg
 Depending on execution weight can vary.

Design Data

Design pressure/-temperature see derating
 75x30, 80x40, 100x40,
 120x40, 140x40: Datenblatt BG00R2-00RD

Further Data

Connection gauge valve - body: see 700.VAR
 Process connection: see 700.VAR
 Vent: see 700.VAR
 Drain: see 700.VAR

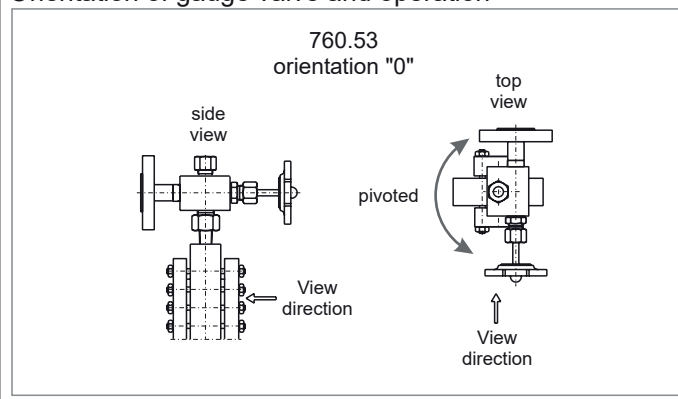
Accessories

Glass protection etc.: see accessories
 Frosts protection: see accessories
 Illumination: see accessories
 Scale: see accessories
 Heating: see accessories

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

Subject to alterations

Orientation of gauge valve and operation



Ordering no.

7 0 0 5 3 X X 5 3 0 X X - X X - X X X X X X X X - X X X X		see 700.VAR	ME [mm]
bridging	without	0	results from ME
	with	1	
glass window	Reflex (DIN 7081)	1	X spec. glass types
	Transparent (DIN 7081)	2	
gauge valve	760.53	5 3 0	DIN-bolts, -nuts
			A ANSI-bolts, -nuts
			DIN/ASME
			gauge body
			orientation gauge valve

X [7, A - D, depends on design pressure] see data sheet 760.53

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Sight glass level gauge PN100 - 250 / CL600 to 1500

"Cold" High pressure, Reflex, Transparent, Connection side-side fixed
Connection gauge valve to gauge chamber: flange
Handwheel

Product group **700**

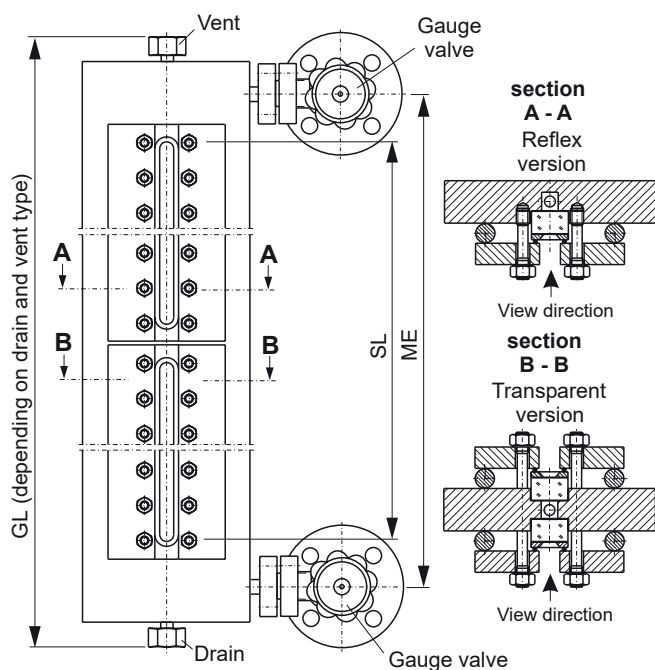
Type **25**

Sheet: 35

Revision: 4

Date:

04/22



Field of Application

Direct reading liquid level indicator for general applications up to PN250 / CL1500 (depends on glass type). Increased safety with ball check valves.

General Data

Visible length SL: ≤ME
 Body: 140x40 (Reflex), 200x40 (Transparent)
 Connection gauge valve - body: flange
 Gauge valve types: see data sheet 760.24/25
 Actuation: hand wheel
 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.
 Weight
 - basic weight (glass type 4-11)
 reflex / transparent: 21,0-27,0/24,0-32 kg
 - per segment (glass type 4-11)
 reflex / transparent: 7,9-15,6/10,4-19,8 kg
 Depending on execution weight can vary.

Design Data

Design pressure/-temperature see derating
 140x40: see data sheet BG00RE
 200x40: see data sheet BG00RF

Further Data

Connection gauge valve - body: see 700.VAR
 Process connection: see 700.VAR
 Vent: see 700.VAR
 Drain: see 700.VAR

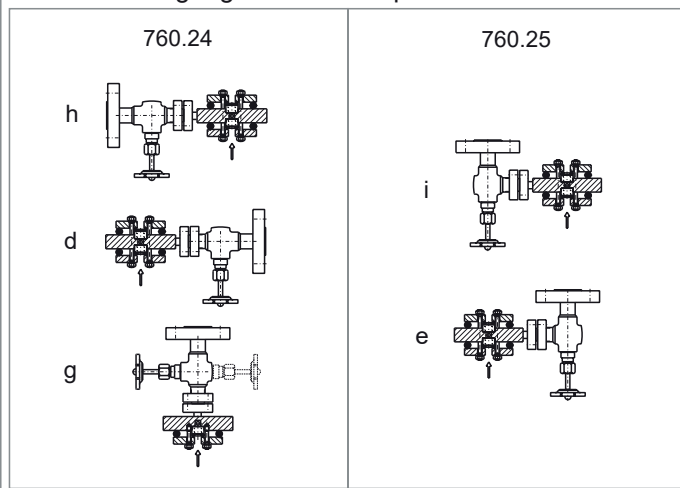
Accessories

Glass protection etc.: see accessories
 Frosts protection: see accessories
 Illumination: see accessories
 Scale: see accessories
 Heating: see accessories

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

Subject to alterations

Orientation of gauge valve and operation



Ordering no.

7 0 0 2 5 X X X X X X X X - X X - X X X X X X X X X - X X X X			see 700.VAR	ME [mm]
bridging	without	0		
	with	1		
glass window	Reflex (DIN 7081)	1		results from ME
	Transparent (DIN 7081)	2		X spec. glass types
gauge valve	760.24	2	4	X X nos of segments
	760.25	2	5	DIN-bolts, -nuts
				A ANSI-bolts, -nuts
				E 140x40 (Reflex)
				F 200x40 (Transparent)
				see data sheet 760.50/51/52
				DIN/ASME
				gauge body
				orientation
				gauge valve

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Sight glass level gauge PN100 - 250 / CL600 to 1500

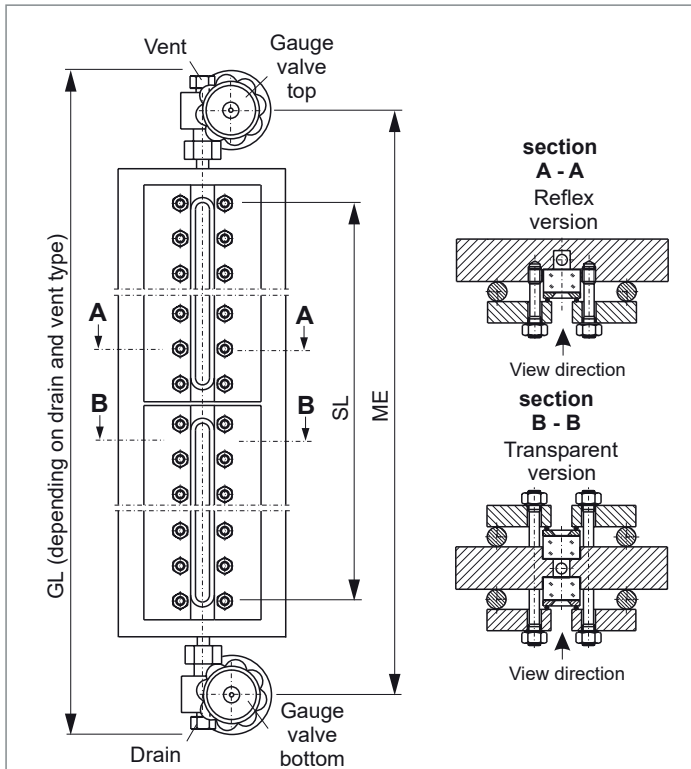
"Cold" High pressure, Reflex, Transparent, Connection top-bottom pivoted, Connection gauge valve to gauge chamber: union
Offset, handwheel

Product group **700**

Type **27**

Sheet: 39 Revision: 4

Date: 04/22



Field of Application

Direct reading liquid level indicator for general applications up to PN250 / CL1500 (depends on glass type). Increased safety with ball check valves.

General Data

Visible length SL: \leq ME-180 mm
 Body: 140x40 (Reflex), 200x40 (Transparent)
 Connection gauge valve - body: union
 Gauge valve types: see data sheet 760.53
 Actuation: hand wheel
 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.
 Weight
 - basic weight (glass type 4-11)
 reflex / transparent: 21,0-27,0/24,0-32 kg
 - per segment (glass type 4-11)
 reflex / transparent: 7,9-15,6/10,4-19,8 kg
 Depending on execution weight can vary.

Design Data

Design pressure/-temperature: see derating
 140x40: see data sheet BG00RE
 200x40: see data sheet BG00RF

Further Data

Connection gauge valve - body: see 700.VAR
 Process connection: see 700.VAR
 Vent: see 700.VAR
 Drain: see 700.VAR

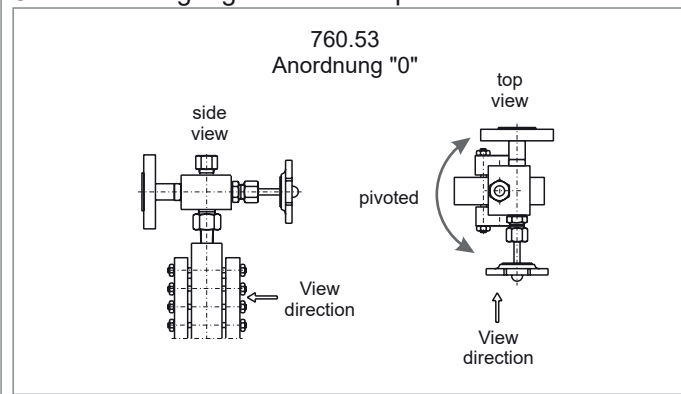
Accessories

Glass protection etc.: see accessories
 Frosts protection: see accessories
 Illumination: see accessories
 Scale: see accessories
 Heating: see accessories

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

Subject to alterations

Orientation of gauge valve and operation



Ordering no.

7 0 0 2 7 X X 5 3 X X X - X X - X X X X X X X X - X X X X										see 700.VAR	ME [mm]	
										X X	nos of segments	
										X X	results from ME	glass type
										X	spec. glass types	
										X X	DIN-bolts, -nuts	DIN/ASME
										A	ANSI-bolts, -nuts	
										E	140x40 (Reflex)	gauge body
										F	200x40 (Transparent)	
											siehe Datenblatt 760.53	orientation gauge valve
bridging	without	0										
	with	1										
glass window	Reflex (DIN 7081)	1										
	Transparent (DIN 7081)	2										
gauge valve	760.53		5	3	X							

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Sight glass level gauge

Overview chamber

	Part No.	Rating [bar]		Glass type (acc. to DIN 7081)		suitable for sight glass level gauge type	Dim.
		Reflex	Transp.	Reflex	Transparent		
	BG00R0	64 48 38		2 - 7 8, 9 10, 11		700.10/12/13/21/23	Ø40
	BG00R1	64 48 38	25 20 12,5	2 - 6 7 - 9 10, 11	2 - 6 7 - 9 10, 11	700.10/12/13/21/23	40x40
	BG00R2 BG00RA	100	64	see data sheet	see data sheet	700.37/38/39/53/56/58	75x30 80x40
	BG00RB BG00RC BG00RD	100	80	see data sheet	see data sheet	700.37/38/39/53/56/58	100x40 120x40 140x40
	BG00RE BG00RF	250	250 237 225 200 175	0 - 11	0 - 7 8 9 10 11	700.25/26/27	140x40 200x40

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Sight glass level gauge, chamber

Square bar 40 x 40
Round bar D40

Product group **700**

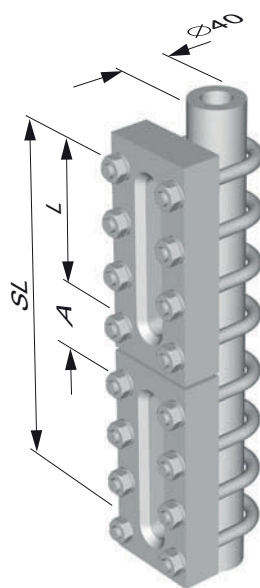
Type **BG00R0/1**

Sheet: 43

Revision: 4

Date:

04/22

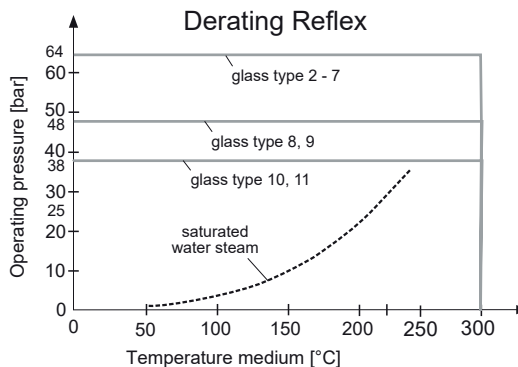


BG00R0

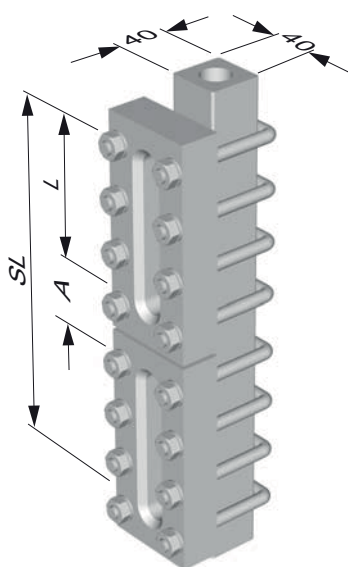
Dimensions in mm

Field of application

Sight glass level gauge type: 700.10/12/13/21/23
Type of indication: Reflex
Suitable for glass type (acc. to DIN 7081): 2-7, 8, 9, 10, 11
Rating: CS to -10 °C, SS to -200 °C/64 bar
Material: see sheet material list chamber



Glass type	2	5	6	7	8	9	10	11
Glass-SL L	120	200	230	260	300	320	350	380
Visible length $SL = N * L + (N - 1) * A$ $A = 45$ (may vary acc. to spec. SL)								

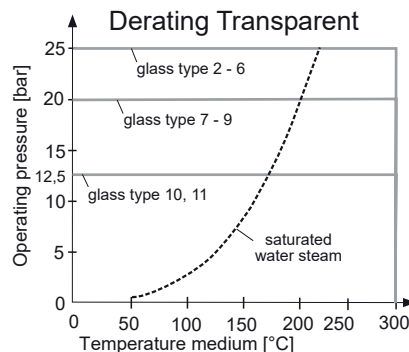
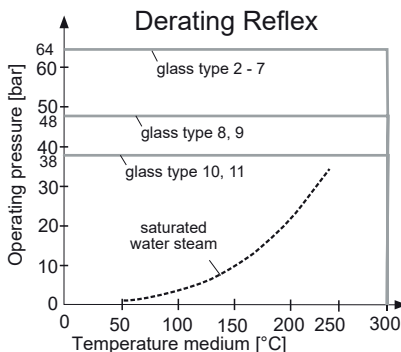


BG00R1

Masses in mm

Field of application

Sight glass level gauge type: 700.10/12/13/21/23
Type of indication: Reflex, Transparent
Suitable f. glass type (acc. to DIN 7081): 2-7, 8, 9, 10, 11 / 2-6, 7-9, 10, 11
Rating / Transparent: CS to -10 °C, SS to -200 °C/64/25 bar
Material: see sheet material list body



Glass type	2	5	6	7	8	9	10	11
Glass-SL L	120	200	230	260	300	320	350	380
Visible length $SL = N * L + (N - 1) * A$ $A = 45$ (may vary acc. to spec. SL)								

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Sight glass level gauge, chamber

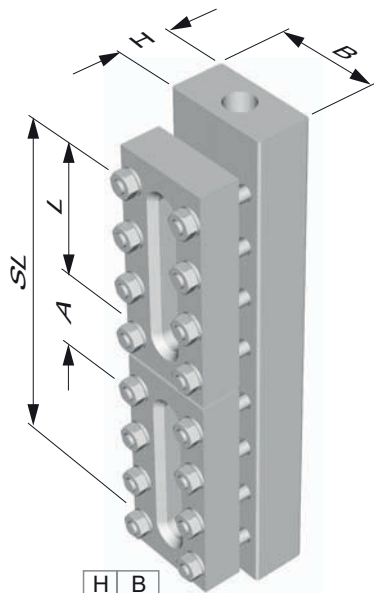
Bar 75 x 30
Bar 80 x 40
Bar 100 x 40
Bar 120 x 40
Bar 140 x 40

Product group **700**

Type **BG00R2-D**

Sheet: 45 Revision: 4

Date: 04/22



	H	B
BG00R2	30	75
BG00RA	40	80

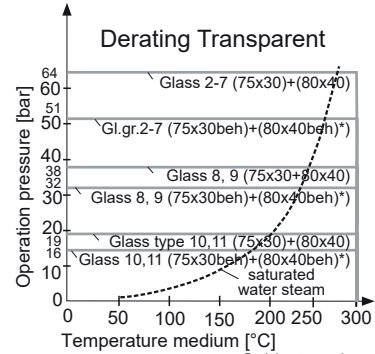
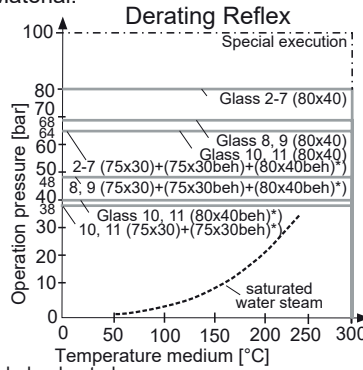
Dimensions in mm

Field of application

Sight glass level gauge type:
Type of indication:
Suitable f. glass type (acc.to DIN 7081):
Reflex / Transparent:
Rating Reflex / Transparent:
Material:

700.37/38/39/40/53/56/58
Reflex, Transparent

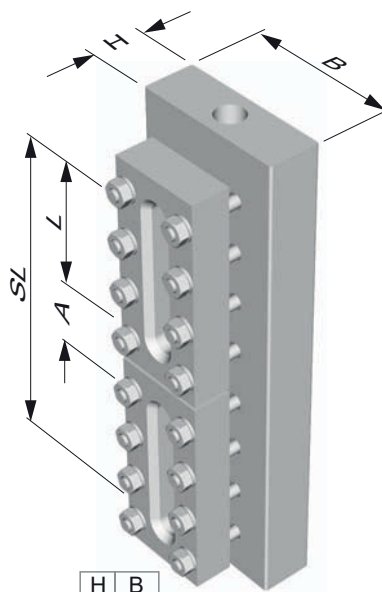
2-7, 8, 9, 10, 11
CS to -10 °C, SS to -200 °C/100/64 bar
see sheet material list chamber



*) beh = heated

Subject to alterations

Glass type	2	5	6	7	8	9	10	11
Glass-SL L	120	200	230	260	300	320	350	380
Visible length SL = N * L + (N - 1) * A	A = 45 (may vary acc. to spec. SL)							



	H	B
BG00B	40	100
BG00C	40	120
BG00D	40	140

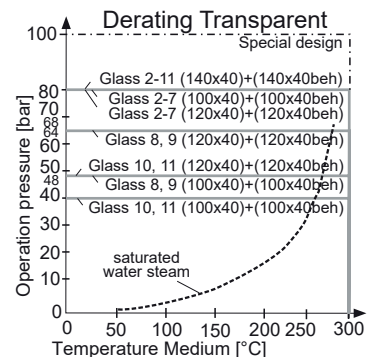
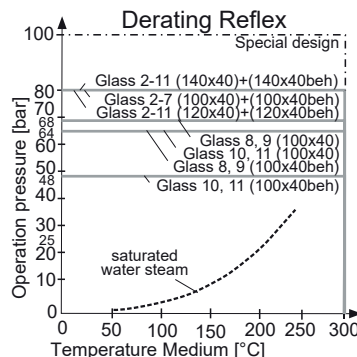
Dimensions in mm

Field of application

Sight glass level gauge type:
Type of indication:
Suitable f. glass type (acc.to DIN 7081):
Reflex / Transparent:
Rating Reflex / Transparent:
Material:

700.37/38/39/40/53/56/58
Reflex, Transparent

2-7, 8, 9, 10, 11
CS to -10 °C, SS to -200 °C/100 bar
see sheet material list chamber



*) beh = heated

Subject to alterations

Glass type	2	5	6	7	8	9	10	11
Glass-SL L	120	200	230	260	300	320	350	380
Visible length SL = N * L + (N - 1) * A	A = 45 (may vary acc. to spec. SL)							

Sight glass level gauge, chamber

Bar 140x40 (Reflex), 200 x 40 (Transparent)

Product group **700**

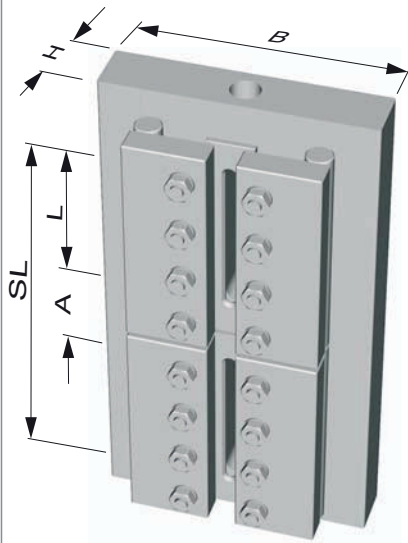
Type **BG00RE/F**

Sheet: 47

Revision: 4

Date:

04/22



	H	B	
BG00RE	40	140	Reflex
BG00RF	40	200	Transparent

Di-
mensions
in mm

Field of application

Sight glass level gauge type:

Type of indication:

Suitable f. glass type (acc.to DIN 7081):

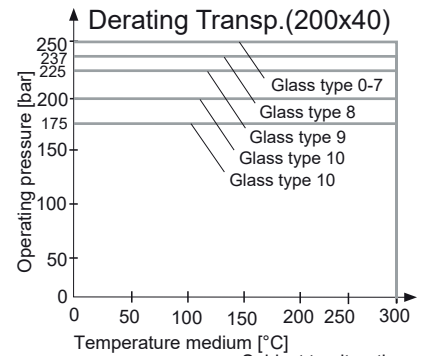
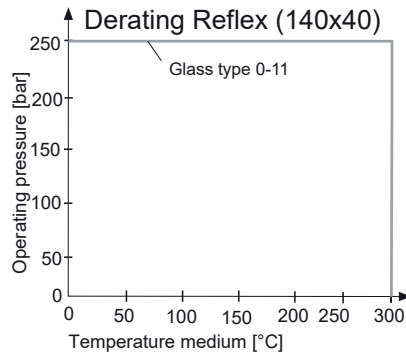
Reflex / Transparent:

Rating Reflex / Transparent:

Material:

700.25/26
Reflex, Transparent

0-7, 8, 9, 10, 11
CS to -10 °C, SS to -200 °C/250 bar
see sheet material list chamber



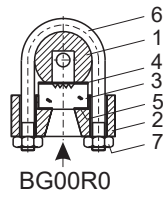
Glass type	0	1	2	3	4	5	6	7	8	9	10	11
Glass-SL L	75	95	120	145	170	200	230	260	300	320	350	380

Visible length $SL = N * L + (N - 1) * A$ $A = 45$ (may vary acc. to spec. SL)

Sight glass level gauge

Material list chamber

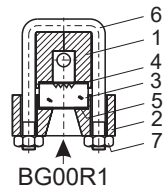
BG00R0
D40
light



BG00R0

Pos	Denomination	Material	
		complete CS	complete SS
1	Body	CS	SS
2	Cover	CS	SS
3	Glass	Borosilicate	Borosilikat
4	Gasket	Graphite	Graphit
5	Cushion	Nefalit	Nefalit
6	Bolt	CS, tempered	SS
7	Nut	CS, tempered	SS

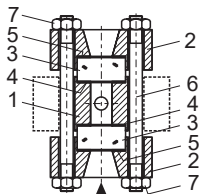
BG00R1
40x40
light



BG00R1

Pos	Denomination	Material	
		complete CS	complete SS
1	Body	CS	SS
2	Cover	CS	SS
3	Glass	Borosilicate	Borosilikat
4	Gasket	Graphite	Graphite
5	Cushion	Nefalit	Nefalit
6	Bolt	CS, tempered	SS
7	Nut	CS, tempered	SS

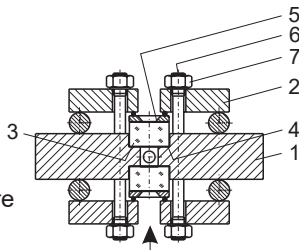
BG00R2-D
75x30 - 140x40
heavy duty



BG00R2 - BG00RD

Pos	Denomination	Material	
		complete CS	complete SS
1	Body	CS	SS
2	Cover	CS	SS
3	Glass	Borosilicate	Borosilikat
4	Gasket	Graphite	Graphite
5	Cushion	Nefalit	Nefalit
6	Bolt	CS, tempered	SS
7	Nut	CS, tempered	SS

BG00RE-F
140x40,
200x40
"cold"
high pressure



BG00RE - BG00RF

Pos	Denomination	Material	
		complete. CS	complete SS
1	Body	CS	SS
2	Cover	CS	SS
3	Glass	Borosilicate	Borosilikat
4	Gasket	Graphite	Graphite
5	Cushion	Nefalit	Nefalit
6	Bolt	CS, tempered	SS
7	Nut	CS, tempered	SS

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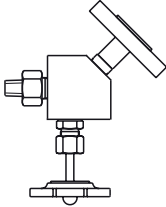
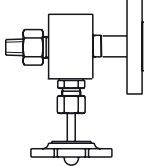
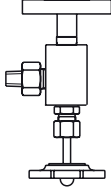
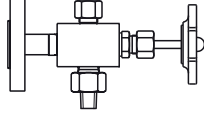
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Sight glass level gauge

Overview gauge valves

Connection body: union. Actuation: handwheel, PN 250

spindle thread inside			
760.50	760.51	760.52	760.53
			

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Gauge valve, PN250 / CL1500

Hand wheel
Flange connection to gauge
Angle seat
System thread inside
Seat renewable

Product group **760**

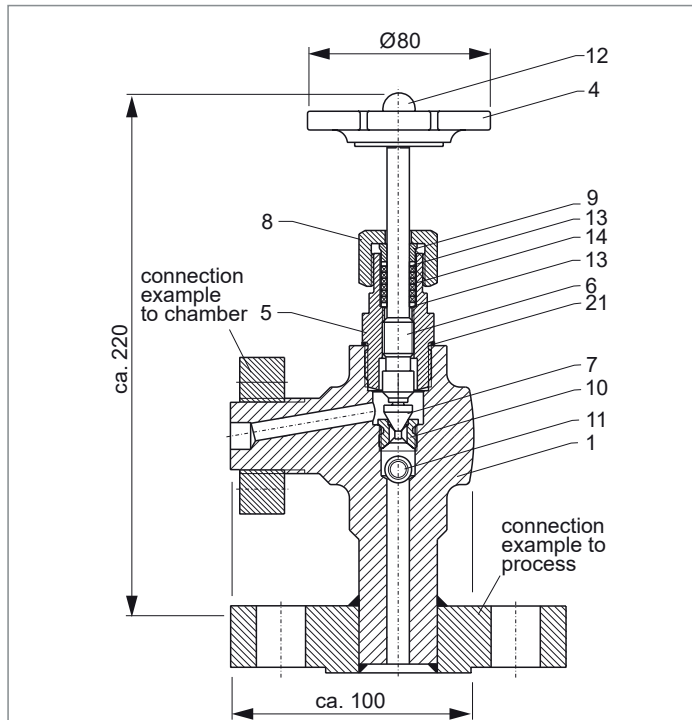
Type **25**

Sheet: 63

Revision: 4

Date:

04/22



Measures in mm

Pos.	Denomination	Dimension	Material	
			Exec. CS	Exec. SS
1	Housing	5501101159B	1.0460/A105	SS316
2				
3				
4	Hand wheel	D00388K80M08		Duroplastic/Steel
5	Bonnet	5720300059B		SS
6	Spindle	5650320759		SS
7	Cone	5610255359		SS
8	Nut	5921024059B		SS
9	Stuffing box	5706010059		SS
10	Seat	5604120459		SS
11	Ball	D054011120		SS
12	Nut M8	D15879060		SS
13	Sealing	0100016020SI		SIL4400
14	Packing	0016001040GR		Graphit
15				
16				
17				
18				
19				
20				
21	Sealing	D07603130024		SS

Field of Application

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.

General Data

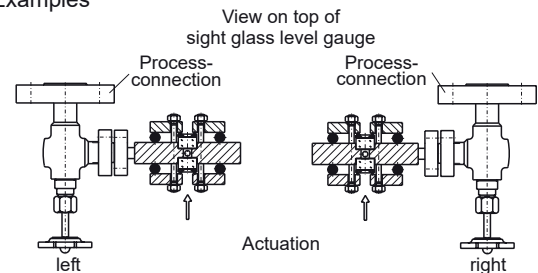
Material
- Housing, nipple, flange: CS or SS
- Trim: SS
other materials on request
Orientation: horizontally, see Fig. orientation
Ball check diff. pressure: >0,5 bar
Process connection: DIN/ANSI acc. to cust. spec.
Weight: ca. 2,0 kg

Design Data

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

Orientation

Examples



CS (= carbon steel) resp. SS (= stainless steel type 316SS) are materials suitable for pressure vessels according to EN or ASME.

subject to alterations

Bestellschlüssel

7 6 0 . 2 5 X X - X _ _ _ X X X

X	X	X	X	see 700.VAR	Connection process
S	CS				Material
4	SS				
					spindle sealing
0	F	Stuffing box			

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Gauge valve PN250 / CL1500

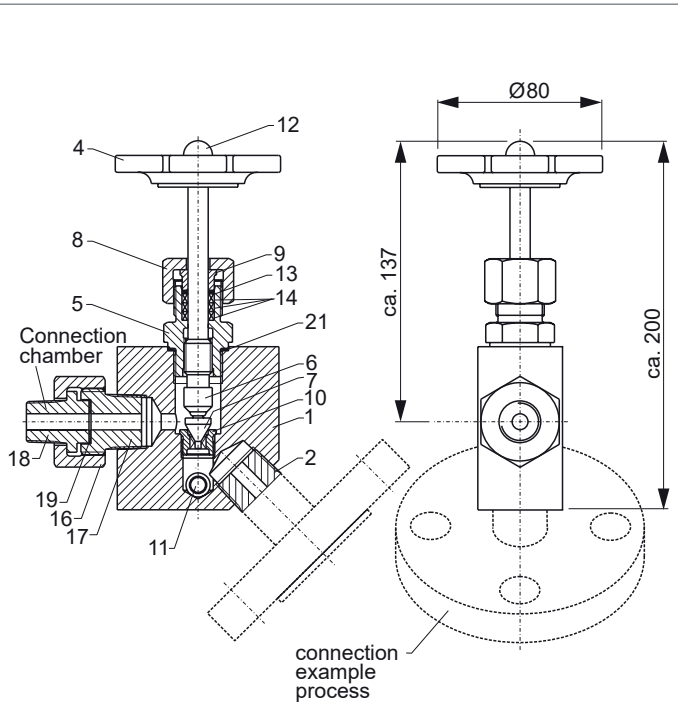
Handwheel
Nipple connection to gauge
Y-pattern seat
Spindle screw inside
Seat renewable

Product group **760**

Type **50**

Sheet: 65 Revision: 4

Date: 04/22



Measures in mm

Pos.	Denomination	Dimension	Material	
			Exec. CS	Exec. SS
1	Housing	80 x 80 x 40	1.0460/A105	SS316
2	Nipple	3/4"NPT	1.0460/A105	SS316
3				
4	Handwheel	D00388K80M08		Duroplastic/Steel
5	Bonnet	572012415AB		SS
6	Spindle	5650320759		SS
7	Cone	5610255459		SS
8	Nut	592102405AB		SS
9	Stuffing box	5706010059		SS
10	Seat	5604120459		SS
11	Ball	D054011120		SS
12	Nut M8	D15879060		SS
13	Base ring	0100016020SI		SIL4400
14	Packing	0016001040GR		Graphite
15				
16	Nut 1"	592303414AB		SS
17	Nipple	3/4"NPT/1"		SS
18	Nippel	1/2"NPT		SS
19	Sealing	0220010010PS		Graphite
20				
21	Sealing	D07603130024		SS

Field of Application

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.

General Data

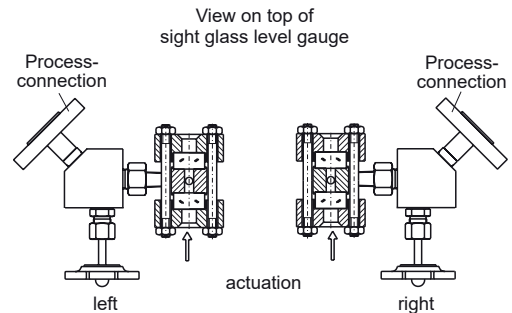
Material
- Housing, nipple, flange: CS or SS
- Trim: SS
other materials on request
Orientation: horizontally, see Fig. orientation
Ball check diff. pressure: >0,5 bar
Process connection: DIN/ANSI acc. to cust. spec.
Weight: ca. 2,5 kg

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

Orientation

Examples



CS (= carbon steel) rsp. SS (= stainless steel type 316SS) are materials suitable for pressure vessels according to EN oder ASME.

subject to alterations

Ordering no.

7 6 0 . 5 0 X X - X _ _ _ _ X X X

X	X	X	see 700.VAR	Connection process
S	CS			Material
4	SS			
_	_	Stuffing box		spindle sealing
0	F	Bellows		

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Gauge valve PN250 / CL1500

Handwheel
Nipple connection to gauge
Straight seat
Spindle screw inside
Seat renewable

Product group **760**

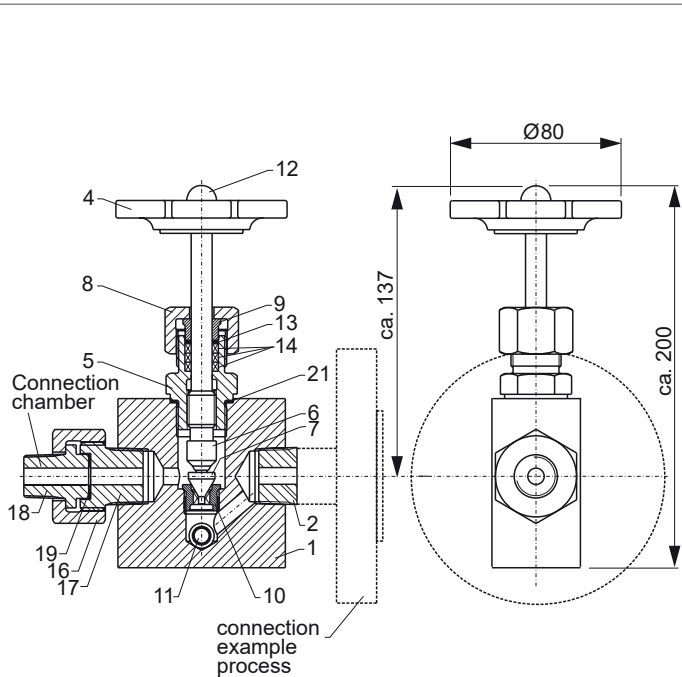
Type **51**

Sheet: 67

Revision: 4

Date:

04/22



Measures in mm

Pos.	Denomination	Dimension	Material	
			Exec. CS	Exec. SS
1	Housing	80 x 80 x 40	1.0460/A105	SS316
2	Nipple	3/4"NPT	1.0460/A105	SS316
3				
4	Handwheel	D00388K80M08		Duroplastic/Steel
5	Bonnet	572012415AB		SS
6	Spindle	5650320759		SS
7	Cone	5610255459		SS
8	Nut	592102405AB		SS
9	Stuffing box	5706010059		SS
10	Seat	5604120459		SS
11	Ball	D054011120		SS
12	Nut M8	D15879060		SS
13	Base ring	0100016020SI		SIL4400
14	Packing	0016001040GR		Graphite
15				
16	Nut 1"	592303414AB		SS
17	Nipple	3/4"NPT/1"		SS
18	Nippel	1/2"NPT		SS
19	Sealing	0220010010PS		Graphite
20				
21	Sealing	D07603130024		SS

Field of Application

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.

General Data

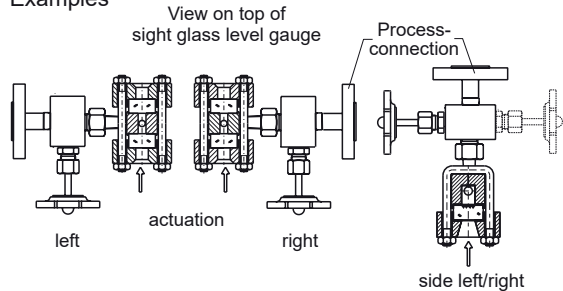
Material
- Housing, nipple, flange: CS or SS
- Trim: SS
other materials on request
Orientation: horizontally, see Fig. orientation
Ball check diff. pressure: >0,5 bar
Process connection: DIN/ANSI acc. to cust. spec.
Weight: ca. 2,5 kg

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

Orientation

Examples



CS (= carbon steel) rsp. SS (= stainless steel type 316SS) are materials suitable for pressure vessels according to EN oder ASME.

subject to alterations

Ordering no.

7 6 0 . 5 1 X X - X _ _ _ X X X

X	X	X	see 700.VAR	Connection process
S	CS			Material
4	SS			Material
_	_	Stuffing box		spindle sealing
0	F	Bellows		spindle sealing

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Gauge valve PN250 / CL1500

Handwheel
Nipple connection to gauge
Angle seat
Spindle screw inside
Seat renewable

Product group **760**

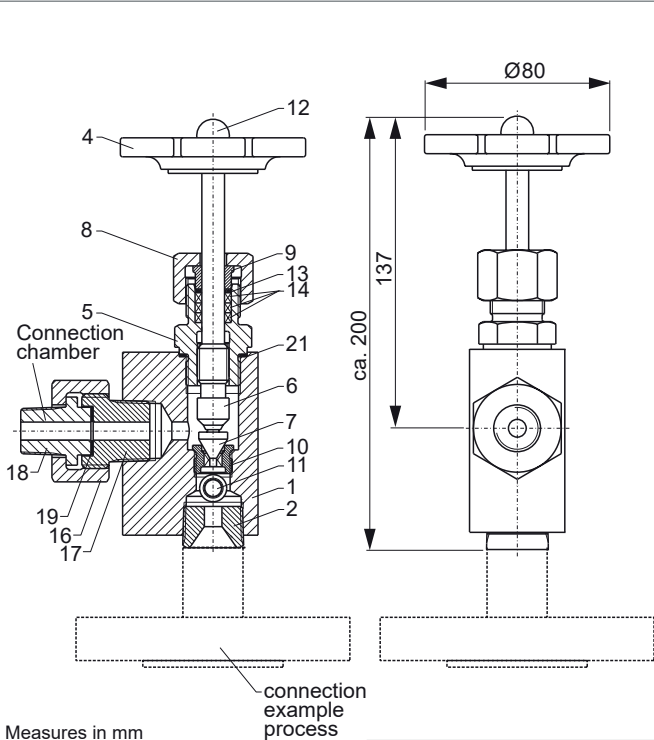
Type **52**

Sheet: 69

Revision: 4

Date:

04/22



Measures in mm

Pos.	Denomination	Dimension	Material	
			Exec. CS	Exec. SS
1	Housing	80 x 60 x 40	1.0460/A105	SS316
2	Nipple	3/4"NPT	1.0460/A105	SS316
3				
4	Handwheel	D00388K80M08		Duroplastic/Steel
5	Bonnet	572012415AB		SS
6	Spindle	5650320759		SS
7	Cone	5610255459		SS
8	Nut	592102405AB		SS
9	Stuffing box	5706010059		SS
10	Seat	5604120459		SS
11	Ball	D054011120		SS
12	Nut M8	D15879060		SS
13	Base ring	0100016020SI		SIL4400
14	Packing	0016001040GR		Graphite
15				
16	Nut 1"	592303414AB		SS
17	Nipple	3/4"NPT/1"		SS
18	Nippel	1/2"NPT		SS
19	Sealing	0220010010PS		Graphite
20				
21	Sealing	D07603130024		SS

Field of Application

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.

General Data

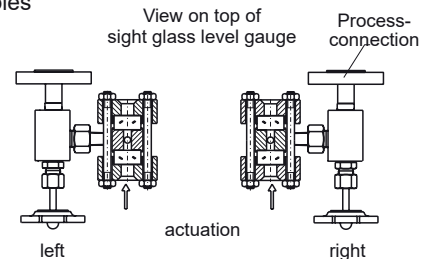
Material
 - Housing, nipple, flange: CS or SS
 - Trim: SS
 other materials on request
 Orientation: horizontally, see Fig. orientation
 Ball check diff. pressure: >0,5 bar
 Process connection: DIN/ANSI acc. to cust. spec.
 Weight: ca. 2,0 kg

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

Orientation

Examples



CS (= carbon steel) rsp. SS (= stainless steel type 316SS) are materials suitable for pressure vessels according to EN oder ASME.

subject to alterations

Ordering no.

7 6 0 . 5 2 X X - X _ _ _ X X X

X	X	X	see 700.VAR	Connection process
S	CS			Material
4	SS			
_		Stuffing box		spindle sealing
0	F	Bellows		

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Gauge valve PN250 / CL1500

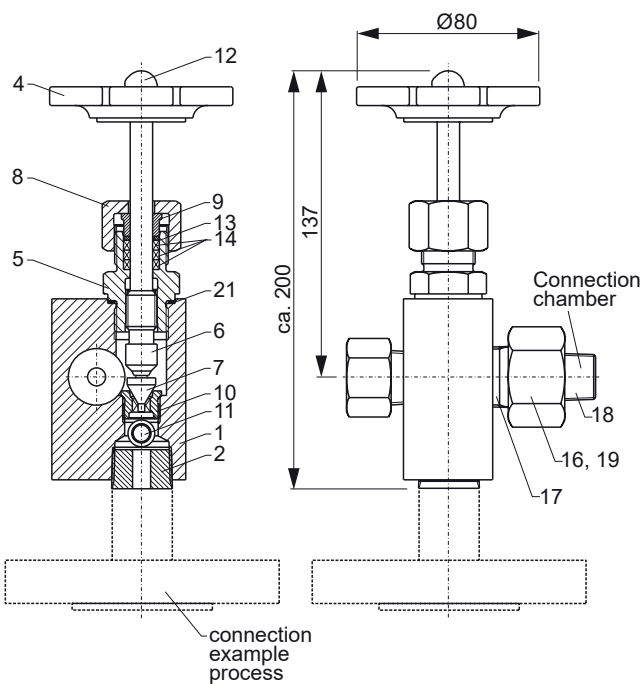
Handwheel
Nipple connection to gauge
Angle seat, offset
Spindle screw inside
Seat renewable

Product group **760**

Type **53**

Sheet: 71 Revision: 4

Date: 04/22



Measures in mm

Pos.	Denomination	Dimension	Material	
			Exec. CS	Exec. SS
1	Housing	80 x 60 x 40	1.0460/A105	SS316
2	Nipple	3/4"NPT	1.0460/A105	SS316
3				
4	Handwheel	D00388K80M08		Duroplastic/Steel
5	Bonnet	572012415AB		SS
6	Spindle	5650320759		SS
7	Cone	5610255459		SS
8	Nut	592102405AB		SS
9	Stuffing box	5706010059		SS
10	Seat	5604120459		SS
11	Ball	D054011120		SS
12	Nut M8	D15879060		SS
13	Base ring	0100016020SI		SIL4400
14	Packing	0016001040GR		Graphite
15				
16	Nut 1"	592303414AB		SS
17	Nipple	3/4"NPT/1"		SS
18	Nippel	1/2"NPT		SS
19	Sealing	0220010010PS		Graphite
20				
21	Sealing	D07603130024		SS

Field of Application

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.

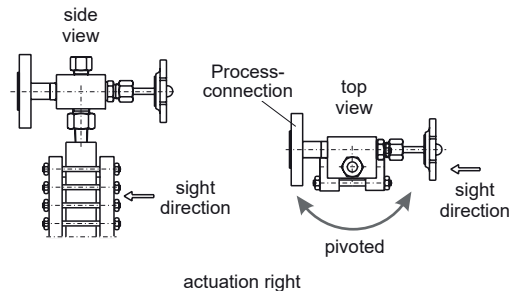
General Data

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

Orientation



CS (= carbon steel) rsp. SS (= stainless steel type 316SS) are materials suitable for pressure vessels according to EN oder ASME.

subject to alterations

Ordering no.

7 6 0 . 5 3 X X - X _ _ _ X X X

X	X	X	see 700.VAR	Connection process
S	CS			Material
4	SS			Material
_	_	Stuffing box		spindle sealing
0	F	Bellows		spindle sealing

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Gauge valve PN100 / CL600

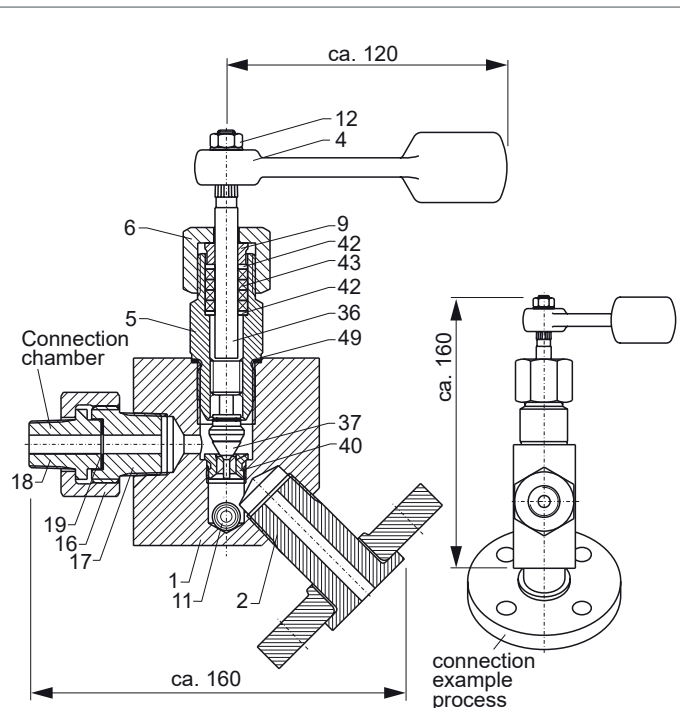
Quick closing lever
Nipple connection to gauge
Y-pattern seat
Spindle screw inside
Seat renewable

Product group **760**

Type **55**

Sheet: 73 Revision: 4

Date: 04/22



Measures in mm

Pos.	Denominat.	Dimension	Material	
			Exec. CS	Exec. SS
1	Housing	80 x 80 x 40	1.0460/A105	SS316
2	Nipple	3/4"NPT	1.0460/A105	SS316
4	Lever	69355506		Steel
5	Bonnet	5720200159B		SS
6	Nut 1"	5923033859B		SS
9	Stuffing box	5706013559		SS
11	Ball	D054011120		SS
12	Nut M10	D009342100		SS
16	Nut 1"	592303414AB		SS
17	Nippel	3/4"NPT/1"		SS
18	Nippel	1/2"NPT		SS
19	Sealing	0220010010PS		Graphite
36	Spindle	5650151159B		SS
37	Cone	5610259659		SS
38	screw conn.	5632007559		SS
39	Lock plate	3116000159		SS
40	Seat	5604121659		SS
42	Sealing	0130024020SI		SIL4400
43	Packing	0024001360GR		Graphite
46				
49	Sealing	D07603933039		SS

Field of Application

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.

General Data

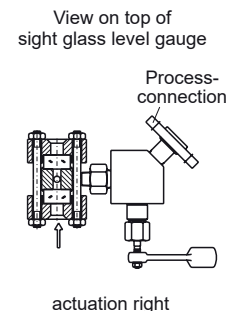
Material
- Housing, nipple, flange: CS or SS
- Trim: SS
other materials on request
Orientation: horizontally, see Fig. orientation
Ball check diff. pressure: >0,5 bar
Process connection: DIN/ANSI acc. to cust. spec.
Weight: ca. 1,5 kg

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

Orientation

Examples



CS (= carbon steel) rsp. SS (= stainless steel type 316SS) are materials suitable for pressure vessels according to EN oder ASME.

subject to alterations

Ordering no.

7 6 0 . 5 5 - X - - - X X X

X	X	X	see 700.VAR	Connection process
S	CS			Material
4	SS			

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Illumination Transparent Sight Glass Level Gauges

Even bright illumination
Fluorescent lamps with high luminous intensity und long lifetime

Product group **709**

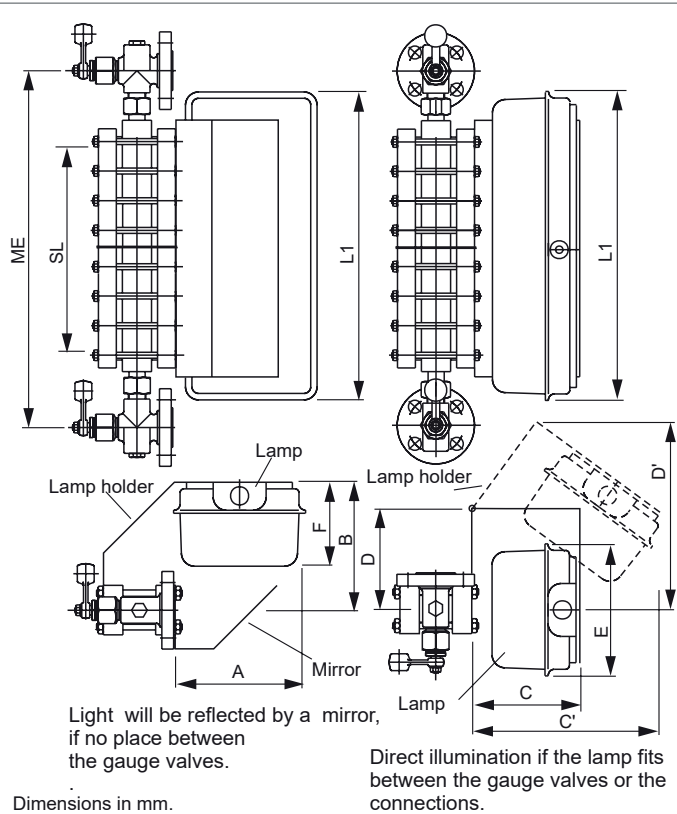
Type **2XXX**

Page: 83

Revision: 4

Date:

04/22



*) The type of the holder varies with length and weight of the lamp.
Lamp with holder can be mounted also on the other side.
The shown level gauge only for example.

General Dimensions

Typ	A	B	C	C'	D	D'
.21X1K	200	250	160	500	250	500
.21X2K	200	250	160	500	250	500
.22X3K	250	250	180	500	250	500

Lamp Dimensions

Typ	.21G1K/.21A1K/.21D1K	.21G2K/.21A2K/.21D2K	.2243K/.2283K/.22E3K
L1	667	1277	1577
E	105	105	105
F	116	116	116

Field of Application

The illuminations are designed for illuminating sight windows according to DIN 7081 and mica sight windows. By choosing one of three lamp lengths the illumination can be fitted to level gauge. It can be operated in hazardous areas according to ATEX and FM.

General Data

Material housing lamp: plastics
Dimensions: see table
Weight type
- .21G1K/.21A1K/.21D1K: 1,5/2,8/4,0 kg
- .21G2K/.21A2K/.21D2K: 6,7/6,7/8,0 kg
- .2243K/.2283K/.22E3K: 6,7/8,0/9,1 kg

Design Data

Temperature ambient
- .21G1K/.21A1K/.21D1K: 0...+40 °C
- .21G2K/.21A2K: -20...+50 °C
- .21D2K: -20...+40 °C
- .2243K/.2283K/.22E3K: -20...+50 °C

Ex-data

- .21G2K/.21A2K/.21D2K: EEx ed IIC T4
- .2243K/.2283K/.22E3K: Cl.1 Zone 1&2 AEx ed IIC T4
Class I Div. 2 Groups ABCD T4
Class II Div 1&2 Groups EFG
Class III

Electrical Data

Power supply
- .21G1K/.21A1K/.21D1K: 230 VAC
- .21G2K/.21A2K/.21D2K: 230 VAC
- .2243K/.2283K/.22E3K: 120 VAC

Flourescent lamps

- .21G1K/.21A1K/.21D1K: 2-pin
- .21G2K/.21A2K/.21D2K: 18/36/58 W
- .2243K/.2283K/.22E3K: 2-pin T8
17/32/65 W

Ingress protection

- .21G1K/.21A1K/.21D1K: IP65
- .21G2K/.21A2K/.21D2K: IP66
- .2243K/.2283K/.22E3K: IP66 / NEMA 3, 4, 4X

Certificates

- .21G2K/.21A2K/.21D2K: PTB 96 ATEX 2144
- .2243K/.2283K/.22E3K: FM File No. J.I. 3D2A9.AE
Subject to alterations

Ordering no.

709.2XXX - K

Power supply	230 VAC	1			
	120 VAC (onlyr FM)	2			
Lamp power	1*17 W (only FM)	4	1	Standard	Type
	2*18 W	G	2	ATEX	
	1*32 W (only FM)	8	3	FM	
	1*36 W	A			
	1*58 W	D			
	1*65 W (only FM)	E			

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Sight glass level gauges

Frost protection
Flat glasses
Gaskets

Product group **700**

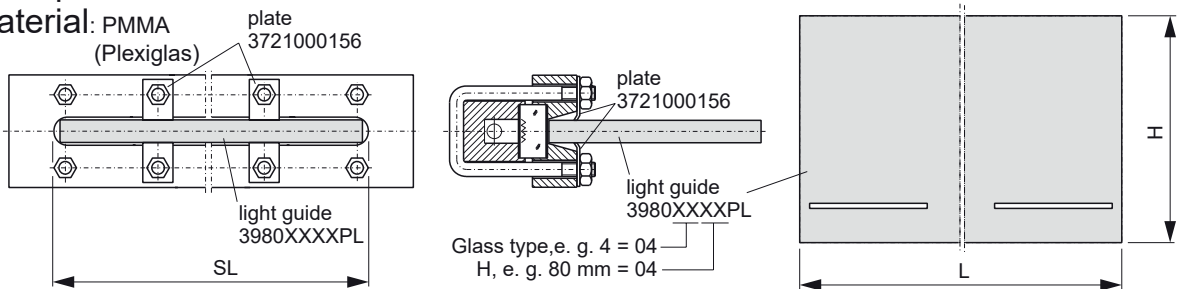
Type **-**

Sheet: 85 Revision: 4

Date: 04/22

Frost protection

Material: PMMA
(Plexiglas)

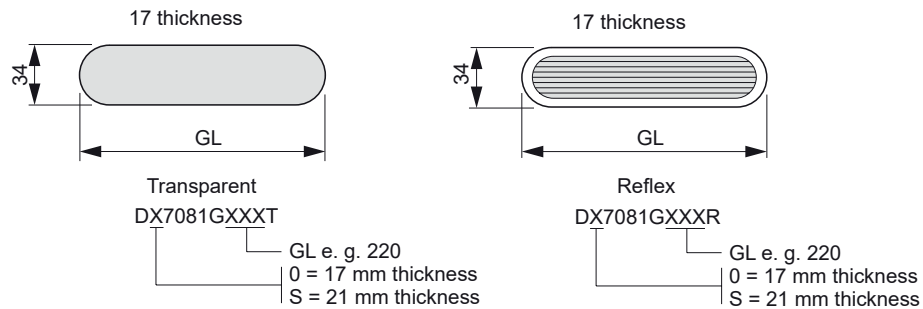


Glass type	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	72	92	117	142	167	197	227	257	297	317	347	377	407	437	477	507	537	577	607	637	677

H in mm covers temperature in °C below zero, standard heights: 80, 120, 180 und 220 mm recommended types

Flat glasses

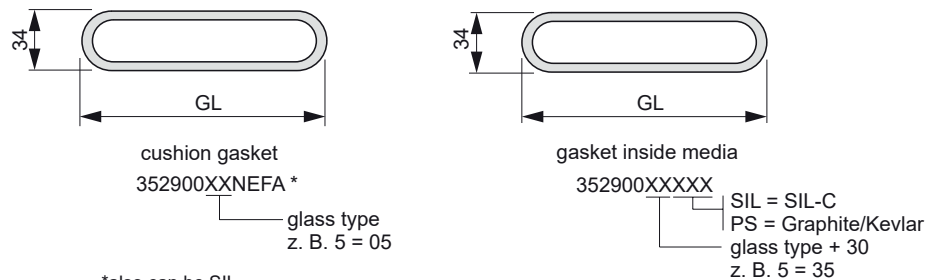
acc.to DIN 7081



Glass type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
GL	095	115	140	165	190	220	250	280	320	340	370	400	430	460	500	530	560	600	630	660	700

recommended types

Gaskets



Measures in mm

*also can be SIL

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

Subject to alterations

Sight glass level gauge

Mica sheets
Corrosion protection

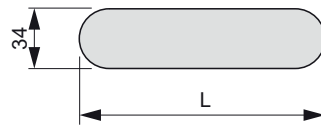
Product group **700**

Type **-**

Sheet: 87 Revision: 4

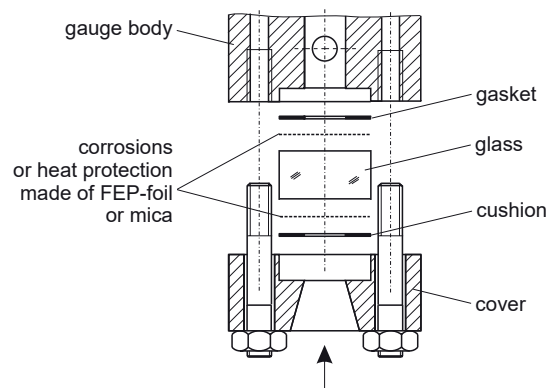
Date: 04/22

Mica



Mica, rounded see page 85

type	L		Mica, rounded 0,2 - 0,3 mm
0	95		39890800GL
1	115		39890801GL
2	140		39890802GL
3	165		39890803GL
4	190		39890804GL
5	220		39890805GL
6	250		39890806GL
7	280		39890807GL
8	320		39890808GL
9	340		39890809GL
10	370		39890810GL
11	400		39890811GL
	420		
12	430		39890812GL
13	460		39890813GL
14	500		39890814GL
15	530		39890815GL



Measures in mm

Subject to alterations

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Sight glass level gauges

Corrosion protection
Scales
Heating

Product group **700**

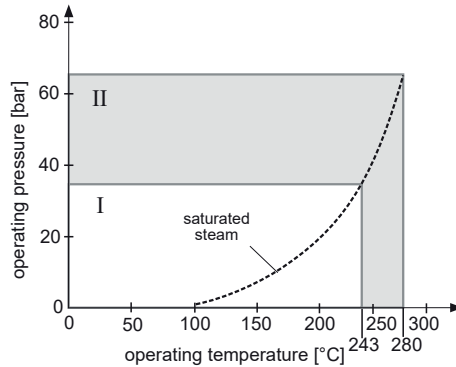
Type **-**

Sheet: 89 Revision: 4

Date: 04/22

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.

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



399030XX

GL e. g. 5 = 05

Measures in mm

Subject to alterations

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

Scales

Foil on Aluminum graduated in cm (up to 100 °C)

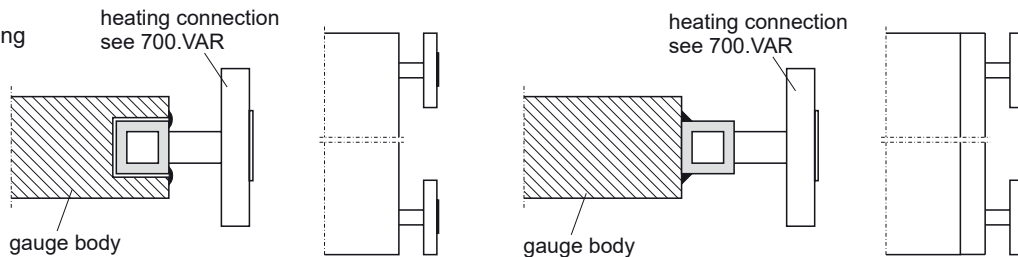
Foil on SS graduated in cm (up to 100 °C)

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.

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Sight Glass Level Gauges

700.VAR

Model code

XXXXXX

		DIN	ANSI	DIN	ANSI	
	A	without facing	ST	F	tongue	RJ
	B	female facing	LT	G	groove	LG
	C	DL-C		H	male	SG
	D	DL-D	RF	K	lens	
	E	DL-E	RF sf			
	A	DN10	1/4"	F	DN40	1 1/2"
	B	DN15	1/2"	G	DN50	2"
	C	DN20	3/4"	H	DN65	2 1/2"
	D	DN25	1"	I	DN80	3"
	E	DN32	1 1/4"	J	DN100	4"
	0	stud, welding end	F	PN160	R	PN6 (EN)
	1	PN100	G	PN250	S	PN10 (EN)
	2	PN160	H	PN320	T	male thread G
	3	PN250	I	PN400	U	male thread NPT
	4	PN320	J	150 lbs	V	PN16 (EN)
	5	PN400	K	300 lbs	W	PN25 (EN)
	9	custom design	L	600 lbs	X	stud, welding end
	A	PN6	M	900 lbs	Y	PN40 (EN)
	B	PN16	N	1500 lbs	Z	PN64 (EN)
	C	PN40	O	2500 lbs	b	PN10
	D	PN64	P	female thread G	c	PN25
	E	PN100	Q	female thread NPT		
	X	same as vent				Drain
	Y	connection acc. to customer's specification				
	9	flange piece				
	B	plug G1/2A				
	C	plug 1/2" NPT				
	D	vent G1/2A DN8 PN250				
	E	vent 1/2" NPT DN8 PN250, socket				
	F	vent 1/2" NPT DN8 PN250				
	G	vent 1/2" NPT DN6 PN400				
	I	vent 3/4" NPT DN8 PN250				
	S	gate valve 1/2" NPT				
	c	plug 3/4" NPT				
		number of glasses will be given separately				
	0	glass type 0..9, A..J (10..19) DIN 7081; glass tube=0				
	K	glass type 20 DIN 7081				
	a	mica 190 mm				
	b	mica 250 mm				
	c	mica 290 mm				
	d	mica 310 mm				
	6	frost protection 60 mm (-60<=T<0 °C)				
	8	frost protection 160 mm (-180<=T<-60 °C)				
	9	frost protection custom design				
	A	mica outside and inside (244<T<280 °C, only for H2O and transparent)				
	I	mica outside (230<T<350 °C, not for H2O)				
	Q	FEP-foil (0<T<200 °C, only for transparent)				
	1	CS				
	2	SS				
	2	PN160				
	4	1.4571/1.4571/A2-70 (T <400 °C)				
	9	Special material				
	A	1.4571/1.0460/A2-70				
	L	316L/316L/193B8				
	M	316L/A105/193B8				
	R	A105/A105/193B7				
	S	1.0460/1.0460/8.8 (T <300 °C)				
	T	316Ti/316Ti/193B8				
	U	A387Gr12/A387Gr12/193B7				
	W	1.7335/1.7335/1.7709 (T <400 °C)				

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