

## Borosilicate Gauge Glass

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# Borosilicate Gauge Glass

## DIN 7081 Standard

We manufacturer two standard versions of gauge glasses: Reflex glasses which allow simple and safe readings to be made at a distance; and Transparent glasses which can also be supplied in a high-pressure version for particularly high requirements. If you cannot find your gauge glass here please contact us at [info@bont-tech.com](mailto:info@bont-tech.com)

## Mechanical Properties

- Tensile bending strength:
  - Standard :  $\geq 150 \text{ N/mm}^2$
  - High Pressure:  $\geq 180 \text{ N/mm}^2$
- Surface pressure prestressing:
  - Standard :  $\geq 80 \text{ N/mm}^2$
  - High Pressure:  $\geq 90 \text{ N/mm}^2$
- The thermal prestressing increase the existing tensile bending strength by a factory of at least 2.5. This means that the safety required by DIN 7081 for gauge glass is guaranteed.

## Thermal Properties and Working Conditions

- Maximum working temperature: 300 °C
- Temperature exceeding 280 °C may cause the induced compressive stress to be relieved, reducing its durability
- With saturated and superheated steam:
  - Unprotected glasses : 243 °C
  - Mica protected glasses : 300°C
- The admissible temperature limit can be 430 °C for media without any technically significant attach to glass. Provide the specific conditions of use (pressure, medium type, type of fitting) permit this
- Resistance to thermal shock :  $\Delta T \text{ min. } 265^\circ\text{C}$

## Application

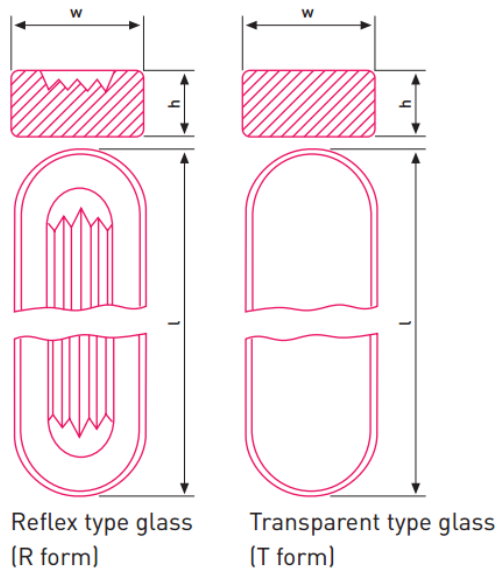
- Boiler
- Surge Vessel/Dearator
- Storage Tank
- Palm Oil Mill
- Power Plant



Dimension

Standard						High Pressure		
Reflex			Transparent			Transparent		
Size	Dimension (mm)	Ordering Code	Size	Dimension (mm)	Ordering Code	Size	Dimension (mm)	Ordering Code
0	95 x 34 x 17*	GG-LK-RB0	0	95 x 34 x 17*	GG-LK-TB0	0	95 x 34 x 17.5*	GG-LK-HTB0
1	115 x 34 x 17*	GG-LK-RB1	1	115 x 34 x 17*	GG-LK-TB1	1	115 x 34 x 17.5*	GG-LK-HTB1
2	140 x 34 x 17	GG-LK-RB2	2	140 x 34 x 17	GG-LK-TB2	2	140 x 34 x 17.5*	GG-LK-HTB2
3	165 x 34 x 17	GG-LK-RB3	3	165 x 34 x 17	GG-LK-TB3	3	165 x 34 x 17.5*	GG-LK-HTB3
4	190 x 34 x 17	GG-LK-RB4	4	190 x 34 x 17	GG-LK-TB4	4	190 x 34 x 17.5*	GG-LK-HTB4
5	220 x 34 x 17	GG-LK-RB5	5	220 x 34 x 17	GG-LK-TB5	5	220 x 34 x 17.5*	GG-LK-HTB5
6	250 x 34 x 17	GG-LK-RB6	6	250 x 34 x 17	GG-LK-TB6	6	250 x 34 x 17.5*	GG-LK-HTB6
7	280 x 34 x 17	GG-LK-RB7	7	280 x 34 x 17	GG-LK-TB7	7	280 x 34 x 17.5*	GG-LK-HTB7
8	320 x 34 x 17	GG-LK-RB8	8	320 x 34 x 17	GG-LK-TB8	8	320 x 34 x 17.5*	GG-LK-HTB8
9	340 x 34 x 17	GG-LK-RB9	9	340 x 34 x 17	GG-LK-TB9	9	340 x 34 x 17.5*	GG-LK-HTB9
10	370 x 34 x 17	GG-LK-RB10	10	370 x 34 x 17	GG-LK-TB10	10	370 x 34 x 17.5*	GG-LK-HTB10
11	400 x 34 x 17	GG-LK-RB11	11	400 x 34 x 17	GG-LK-TB11	11	400 x 34 x 17.5*	GG-LK-HTB11
1	115 x 30 x 17*	GG-LK-RA1	1	115 x 30 x 17*	GG-LK-TA1	1	115 x 30 x 17.5*	GG-LK-HTA1
2	140 x 30 x 17	GG-LK-RA2	2	140 x 30 x 17	GG-LK-TA2	2	140 x 30 x 17.5*	GG-LK-HTA2
3	165 x 30 x 17	GG-LK-RA3	3	165 x 30 x 17	GG-LK-TA3	3	165 x 30 x 17.5*	GG-LK-HTA3
4	190 x 30 x 17	GG-LK-RA4	4	190 x 30 x 17	GG-LK-TA4	4	190 x 30 x 17.5*	GG-LK-HTA4
5	220 x 30 x 17	GG-LK-RA5	5	220 x 30 x 17	GG-LK-TA5	5	220 x 30 x 17.5*	GG-LK-HTA5
6	250 x 30 x 17	GG-LK-RA6	6	250 x 30 x 17	GG-LK-TA6	6	250 x 30 x 17.5*	GG-LK-HTA6
7	280 x 30 x 17	GG-LK-RA7	7	280 x 30 x 17	GG-LK-TA7	7	280 x 30 x 17.5*	GG-LK-HTA7
8	320 x 30 x 17	GG-LK-RA8	8	320 x 30 x 17	GG-LK-TA8	8	320 x 30 x 17.5*	GG-LK-HTA8
9	340 x 30 x 17	GG-LK-RA9	9	340 x 30 x 17	GG-LK-TA9	9	340 x 30 x 17.5*	GG-LK-HTA9

Glass Type



# Borosilicate Sight Glass

## DIN 7080 Standard

Our delivery programme includes all sizes given in the DIN standard and further sizes to provide a complete programme. If you cannot find your gauge glass here please contact us at [info@bont-tech.com](mailto:info@bont-tech.com)

## Mechanical Properties

- Tensile bending strength:  $\geq 160 \text{ N/mm}^2$
- Surface pressure prestressing:  $\geq 100 \text{ N/mm}^2$
- The thermal prestressing increase the existing tensile bending strength by a factor of at least 2.5. This means that the safety required by DIN 7080 for gauge glass is guaranteed.

## Thermal Properties and Working Conditions

- Maximum working temperature:  $280 \text{ }^\circ\text{C}$
- Can also be used up to  $300 \text{ }^\circ\text{C}$  if special precautions are taken such as replacing the sight glasses after a maximum of 300 hours use at more than  $280 \text{ }^\circ\text{C}$  or if they are protected by a mica shield.
- Resistance to thermal shock :  $\Delta T \text{ min. } 265^\circ\text{C}$

## Dimension tolerances to DIN 7080

- *Diameter ( $d_1$ ):*

$d_1 \leq 125\text{mm}$	$\pm 0.5 \text{ mm}$
$125\text{mm} < d_1 \leq 200\text{mm}$	$\pm 0.8 \text{ mm}$
$d_1 > 200\text{mm}$	$\pm 1.0 \text{ mm}$

- *Thickness ( $s$ ):*

$s \leq 20\text{mm}$	$+ 0.5 \text{ mm}/-0.25\text{mm}$
$s > 20\text{mm}$	$+ 0.8 \text{ mm}/-0.40\text{mm}$

- *Flatness ( $e$ ):*

$d_1 \leq 100\text{mm}$	$0.05 \text{ mm}$
$100\text{mm} < d_1 \leq 150\text{mm}$	$0.08 \text{ mm}$
$150\text{mm} < d_1 \leq 200\text{mm}$	$0.12 \text{ mm}$
$d_1 > 200\text{mm}$	$0.15 \text{ mm}$

- *Parallelism ( $p$ ):*

$d_1 \leq 100\text{mm}$	$0.20 \text{ mm}$
$100\text{mm} < d_1 \leq 200\text{mm}$	$0.25 \text{ mm}$
$d_1 > 200\text{mm}$	$0.30 \text{ mm}$

Dimension

Dimensions ( d <sub>1</sub> x s ) mm	Gasket inside diameter ( d <sub>2</sub> ) mm	Max working pressure bar	Dimensions ( d <sub>1</sub> x s ) mm	Gasket inside diameter ( d <sub>2</sub> ) mm	Max working pressure bar
30 x 15	20	200	95 x 15	75	16
35 x 7	25	25	100 x 10	80	7
40 x 12	30	50	100 x 15	80	16
45 x 10	32	40	100 x 20	80	25
45 x 12	32	50	100 x 25	80	40
50 x 10	35	25	125 x 15	100	10
50 x 12	35	40	125 x 20	100	16
55 x 10	40	25	125 x 25	100	25
60 x 10	45	16	125 x 30	100	40
60 x 12	45	25	135 x 25	110	25
60 x 15	45	40	150 x 15	125	8
63 x 8	48	8	150 x 20	125	10
63 x 10	48	16	150 x 25	125	16
63 x 12	48	25	150 x 30	125	25
63 x 15	48	40	175 x 20	150	10
70 x 12	55	16	175 x 25	150	16
70 x 15	55	25	175 x 30	150	25
80 x 10	65	10	200 x 20	175	8
80 x 12	65	16	200 x 25	175	10
80 x 15	65	25	200 x 30	175	16
80 x 20	65	40	250 x 25	225	8
90 x 10	70	8	250 x 30	225	10
			265 x 30	240	8





Bont Technologies GmbH  
Salzstr. 1  
21335 Lüneburg

[www.bont-tech.com](http://www.bont-tech.com)

[info@bont-tech.com](mailto:info@bont-tech.com)/[level@bont-tech.com](mailto:level@bont-tech.com)

Distributor:

LKS West Instruments Sdn Bhd<sup>(834286-T)</sup>

No. 50-2, Jalan Sungai Rasau D32/D,  
Berjaya Park, Seksyen 32, Shah Alam  
40460, Selangor, Malaysia

Tel: +603-5525 5038

Fax: +603-5525 5037

Email: [sales@lkssb.com.my](mailto:sales@lkssb.com.my)