

Circular Sight glass Fittings Series to DIN 28120 or similar

Data Sheet 01.01

Sight glass fittings to DIN 28120 are circular flanged sets suitable for welding into or onto vessel walls, complete with relevant matching seals and sight glass disc set between the flange rings. They correspond in construction and assembly to the dimensions and constructional guidelines of the above DIN spec. No. 28120 covering sizes DN 50 to DN 200.

Based upon these standard thicknesses, distortion free location of the sight glass is guaranteed provided of course that the welding flange has been correctly welded into or onto the vessel wall.

• **Application:**

Weld-on sight glass fittings for the observation of the internals of pressure vessels, silos, gear-trains, separators, pipelines, etc.

• **Operating conditions:**

Pressure: 10 bar or 16 bar, depending on size (higher pressure rating on request)

Vacuum

Operating temperature: max. 280°C with borosilicate glass disc to DIN 7080
max. 150°C with soda lime glass disc to DIN 8902 (higher temperature rating on request)

• **Combinations:**

These sight glass units can be combined with Lumiglas luminaires for use in explosion hazardous areas as well as under all normal working conditions (See data sheet series 06 and 07). The cover flanges can be drilled and tapped to take these luminaires.

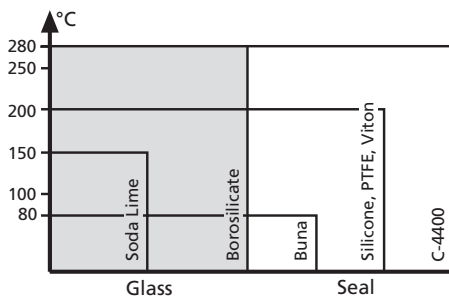
• **Certificates/Testing:**

Depending on customer's requirements certification and testing can be provided to DIN EN 10204 3.1/3.2.

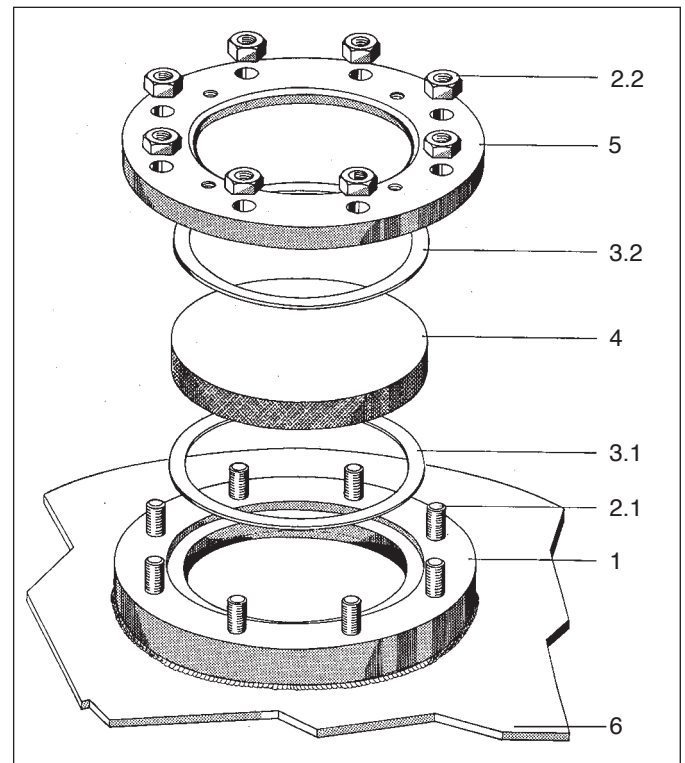
• **Parts and available materials:**

| Item | Part name | Material options |
|----------|------------------------------|---|
| 1 | base flange (welding flange) | carbon steel RSt 37-2, stainless steel 1.4571 or alternative |
| 2.1, 2.2 | bolts, studs & nuts | carbon steel 5.6/5 or stainless steel A2 |
| 3.1, 3.2 | seal | KLINGERSil C-4400; silicone, PTFE or alternative |
| 4 | sight glass disc | - soda lime glass, toughened (tempered) to DIN 8902, max. temp 150°C - toughened (tempered) borosilicate to DIN 7080 max. temp 280°C |
| 5 | cover flange | carbon steel RSt 37-2, stainless steel 1.4541 or alternative |
| 6 | vessel wall | |

• **The following diagram serves the choice of material:**



Complete assembly of sight glass unit to DIN 28120

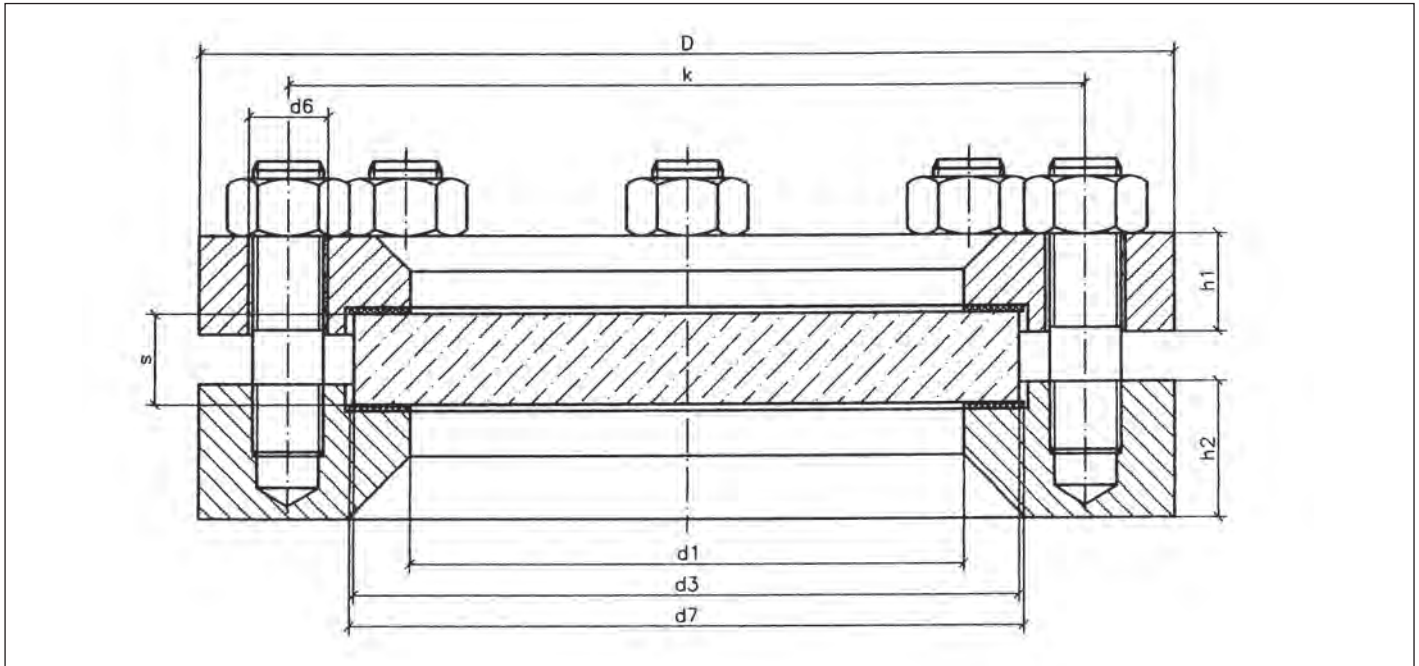


Exploded view of sight glass assembly to DIN 28120

• **Assembly:**

After welding baseflange (1) onto or into vessel wall, seals (3.1 & 3.2), glass disc (4) and cover flange (5) are placed together in the order shown. Then the nuts (2.2) (in case of studded base flange) and washers are progressively tightened, always working on diametrically opposed pairs of nuts at time. Tightening torque values are given in table on overleaf. Other information can be taken from DIN 28120.

•Dimensions for Circular Sight Glasses to DIN 28120 PN 10/16 or similar to DIN 28120 PN 6



| Size | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|------|-------|-------|------------|------------|------------|---------|
| Normal bore | DN | 50 | 80 | 100 | 125 | 150 | 200 |
| Pressure rating (bar) | PN | 10/16 | 10/16 | (6) 10/16 | (6) 10/16 | (6) 10/16 | (6) 10 |
| Viewing diameter | d1 | 80 | 100 | 125 | 150 | 175 | 225 |
| Sight glass disc | d3 | 100 | 125 | 150 | 175 | 200 | 250 |
| | s | 15/15 | 15/20 | (20) 20/25 | (20) 20/25 | (20) 25/30 | (25) 30 |
| Flanges | D | 165 | 200 | 220 | 250 | 285 | 340 |
| | k | 125 | 160 | 180 | 210 | 240 | 295 |
| | d6 | 18 | 18 | 18 | 18 | 22 | 22 |
| | h1 | 16/16 | 20/20 | (18) 22/22 | (18) 25/25 | (18) 30/30 | (20) 35 |
| | h2 | 30 | 30 | 30 | 30 | 36 | 36 |
| Mounting bolts | No. | 4 | 8 | 8 | 8 | 8 | 8 |
| | Size | M 16 | M 16 | M 16 | M 16 | M 20 | M 20 |
| Seals | d1 | 80 | 100 | 125 | 150 | 175 | 225 |
| | d7 | 102 | 127 | 152 | 177 | 202 | 252 |
| Titghtening torque for bolts lunbricant factor/ μ 0.1 | Nm | 28/32 | 20/23 | 26/30 | 32/34 | 47/54 | 63 |

• **Ordering information:**

Please specify the selected items as follows:

- Fitting
- Nominal bore (DN) / nominal pressure (PN)
- Material: welding flange, test certificate 3.1/3.2 on request
cover flange, test certificate 3.1/3.2 on request
bolts
glass disc
seals

• **Pressure rating conversion:**

- 6 bar = 87 psi
- 10 bar = 145 psi
- 16 bar = 232 psi

All dimensions in mm unless stated otherwise. Subject to change without prior notice.
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