SIGHT GLASS

Description

The **PGSAFE® Straight-Through Sight Glass** — also known as an **inline sight glass** or **flow sight glass** — is a flanged pipeline assembly that provides direct visual inspection of liquid flow, fluid colour, and process condition along the pipeline axis. Because the body installs, in line with the pipe, flow passes straight through the fitting with minimal pressure drop and no flow diversion.

The body is precision-machined from **Carbon Steel** and fitted with a **borosilicate or tempered soda-lime safety glass plate** for clear, undistorted viewing under process conditions. In addition to the standard Cast Iron body, carbon steel, rubber-lined, and fluorine-lined variants are available for corrosive or chemically aggressive service conditions.

The series covers nominal bore sizes from **1/2" (15 mm) to 8" (200 mm)**, with a standard pressure rating of **Pg = 16 kg/cm^2 (≈ 16 bar)** and a maximum working temperature of **300°C** (glass-type dependent). Consequently, it is widely specified for reflux lines, cooling water circuits, drain inspection, food & beverage production, chemical process, and petrochemical pipeline applications.

Technical Specifications

PGSAFE® Straight-Through Sight Glass — Full Specification Table

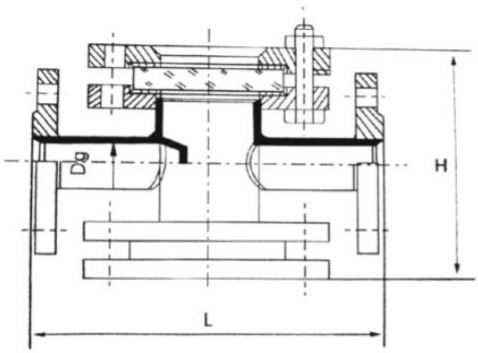
Parameter	Specification
Product Type	Straight-Through Sight Glass (Inline / Flow Sight Glass)
Nominal Pressure	Pg = 16 kg/cm^2 (≈ 16 bar)
Nominal Diameter Range	1/2" (15 mm) — 8" (200 mm)
Max. Working Temperature	≤ 300°C (depends on glass type)
Body Material	Carbon Steel or (Stainless steel 304 / 316 on request)
Glass Plate Options	Borosilicate (high thermal stability) · Tempered soda-lime safety glass
Glass Thickness	10 mm (DN15–25) · 15 mm (DN32–40) · 20 mm (DN50–200)
Connection Type	Flanged (standard)
Certification	ISO 9001:2015 · CE available · EN 10204-3.1 on request

Comap Vietnam - 3rd Floor, CT1-C14 Bac Ha Building,
To Huu Street, Dai Mo Ward, Hanoi City.

Why Specify a Straight-Through Inline Sight Glass?

Unlike tee-mounted or angled viewports, a straight-through sight glass installs directly along the pipe centreline. As a result, flow passes through the body without diversion, which means pressure drop is kept to a minimum and no additional pipe fittings are required. This makes the inline design particularly well suited to space-constrained installations and high-velocity flow lines.

In addition, the replaceable glass plate design allows field servicing without removing the body from the pipeline. Furthermore, the wide range of body materials — from standard stainless steel through to rubber and PTFE/fluorine linings — means a single product family covers general industrial service as well as chemically aggressive applications.



Main Connection Dimensions

Pg = 16 kg/cm²							
Nominal diameter Dg		External dimensions		Glass plate		Weight (kg)	Model
in	mm	L	H	diameter	thickness		
1/2"	15	200	130	65	10	4.5	PGS-SG-DN15-PN16-CS
3/4"	20	200	130	65	10	5	PGS-SG-DN20-PN16-CS
1"	25	200	130	65	10	5.5	PGS-SG-DN25-PN16-CS
1 1/4"	32	260	180	95	15	9.2	PGS-SG-DN32-PN16-CS
1 1/2"	40	260	190	95	15	9.7	PGS-SG-DN40-PN16-CS
2"	50	320	210	140	20	17	PGS-SG-DN50-PN16-CS
2 1/2"	65	320	235	140	20	19	PGS-SG-DN65-PN16-CS
3"	80	360	250	165	20	24	PGS-SG-DN80-PN16-CS
4"	100	360	270	165	20	26	PGS-SG-DN100-PN16-CS
5"	125	440	295	165	20	32	PGS-SG-DN125-PN16-CS
6"	150	440	335	165	20	36	PGS-SG-DN150-PN16-CS
8"	200	480	380				PGS-SG-DN200-PN16-CS

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Typical Applications

The PGSAFE® inline sight glass is well suited to any process line where operators need to confirm flow presence, detect phase changes, or monitor fluid colour. However, the specific body material and glass type must be matched to the operating fluid.

- Reflux and return lines — visual confirmation of flow return in distillation, reactor, and heat exchanger circuits.
- Cooling water systems — flow rate and fluid clarity monitoring in closed-loop cooling circuits.
- Drain and receiving lines — inline inspection of effluent colour and flow presence before tank entry.
- Food & beverage processing — hygienic flow observation on CIP-compatible stainless steel lines.
- Chemical & petrochemical pipelines — PTFE/rubber-lined variants for corrosive media.
- Water treatment plants — dosing line confirmation, filter backwash observation, and effluent inspection.

Installation & Maintenance

- Use rated gaskets and apply even bolt torque in a cross-pattern sequence to avoid point loading on the glass plate.
- Inspect the glass for chips or cracks before pressurising the line. Do not use a damaged glass plate.
- Keep spare glass plates and gaskets on site for critical lines. Replacement is field-serviceable without removing the body.
- Do not exceed rated pressure (Pg = 16 kg/cm^2) or temperature (300°C) without consulting Lumistar technical sales