

Betriebsanleitung
Operating Instruction
Mode d'emploi
Istruzioni per l'uso
Instrucciones de uso
Instrukcja użytkowania
操作说明
Gebruiksaanwijzing

Schaugläser
Sight Glasses
Indicateurs de niveau
Spie di livello
Visores de nivel
Wskaźniki poziomu cieczy
观察镜
Peilglasen

GN 743.6



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About this documentation

This documentation is intended for designers and planners of systems and machines as well as persons entrusted with the installation, commissioning and maintenance of the product.

The sight glass GN 743.6 is referred to below as the "product".

Your safety

This section describes basic safety requirements and important information about the safe installation of the product.

- ▶ Read the operating instructions and information carefully.
- ▶ Follow the safety instructions and warnings in this document.
- ▶ Only use the product if it is undamaged and in good working order.
- ▶ Keep the documentation nearby at the location of use.
- ▶ Retain the documentation for the entire service life of the product.
- ▶ Also observe the current statutory regulations and other binding rules for accident prevention and environmental protection.

Safety symbols



DANGER indicates dangers that lead directly to **death or severe injuries**.



WARNING indicates dangers that could lead to **death or severe injuries**.



CAUTION indicates dangers that could lead to **injuries**.



IMPORTANT indicates dangers that could lead to **property damage**.

Symbols	Meaning
	Warning about a source of danger
-	Lists
▶	Instruction

Safety and hazard information

Improper installation, modifications or incorrect operation can cause injuries and property damage.

- Sight glasses of the series GN 743.6 must be protected against sudden stresses, temperature drops and abrupt pressure loads. Observe the certificate of conformity.
- Temperature range, depending on specification, from -20 °C to +150 °C.
- Make certain that you and others are not within the danger area.
- Carry out a visual inspection before every use.

Proper use

- The product is intended for installation in containers used in machine construction. It allows you to check the oil level of a machine or gearbox or other fluid levels.
- The product may only be operated in accordance with the technical specifications.

Foreseeable misuse

- Any use that deviates from the intended use is considered misuse.
- The product may not come into direct contact with food!
- Solvents and aggressive substances that can be expected to damage glass, aluminum, Viton or stainless steel AISI 301 may not be used.

User qualifications

The product may only be used by authorized and trained persons and in accordance with the corresponding national regulations when used outside of Germany.

Storage

- ▶ Store the product only in the original packaging in a dry and protected environment.

Environmental conditions

The product may not be brought into contact with aggressive chemicals, acids or their vapors. These are potentially harmful to the product and could cause damage.

Product description

Sight glasses GN 743.6 are suitable for use in an environment at risk to explosions. They comply with the European explosion protection directive (ATEX) 2014/34/EU.

The sight glass is available in sizes 11, 14 and 18. The size refers to the visible diameter of the tempered safety glass.

The high-stability, scratch-proof glass pane is sealed with an O-ring on the periphery of the pane. Leak tightness is therefore not affected by axial pressures. The sealing ring is embedded in a radial groove and cannot drop out, nor can it be pressed out when tightening torque is applied. Sight glasses can also be used in pressurized tanks. Test results are available to verify the pressure resistance.

Marking

This designation can be found on the front side of the sight glass:
 Otto Ganter J17 GN 743.6-14-G1/2

The markings have been applied radially on the sight glass:

- II 2 G Ex h IIC TX Gb LU 17 ATEX 0168 U
- II 2 D Ex h IIIC X °C Db LU 17 ATEX 0168 U

The sight glass is classified and marked as follows based on the test results:

- II 2 G Ex h IIC T4 Gb for -20 °C ≤ Ta ≤ + 130 °C or
- II 2 G Ex h IIC T3 Gb for -20 °C ≤ Ta ≤ + 150 °C or
- II 2 D Ex h IIC 125°C Db for -20 °C ≤ Ta ≤ + 120 °C or
- II 2 D Ex h IIC 150°C Db for -20 °C ≤ Ta ≤ + 145 °C or

Example - explanation of terms for marking according to the ATEX product directive 2014/34/EU


Front side

- Otto Ganter J17 GN 743.6-14-G1/2
- Otto Ganter → Manufacturer
 - J17 → Year of manufacturing 2017
 - GN 743.6-14-G1/2 → Article number

Radial 1

 II 2 G Ex h IIC TX Gb LU 17 ATEX 0168 U

2014/34/EU Marking as per directive

-  → Explosion protection marking
- II → Group II, devices for use in locations with explosive gas atmospheres, except mining sites with a risk of firedamp and/or explosive dust
- 2 → Category (devices for Zone 1 and Zone 2)
- G → Explosive atmosphere due to gases, vapors or smoke


Marking according to the standard EN ISO 80079-36

- Ex h → Marking for non-electrical devices
- IIC → Explosion group (all gases)
- TX → Temperature class
- Gb → Equipment protection level (EPL). Device with "high" protection level for use in explosive zones in which there is no risk of fire in case of predictable errors/malfunction or normal operation. (Zone 1)
- LU 17 ATEX 0168 U → Certification number (U component)

Radial 2

 II 2 D Ex h IIIC X °C Db LU 17 ATEX 0168 U

2014/34/EU Marking as per directive

-  → Explosion protection marking
- II → Group II, devices for use in locations with explosive gas atmospheres, except mining sites with a risk of firedamp and/or explosive dust
- 2 → Category (devices for Zone 21 and Zone 22)
- D → Explosive atmosphere due to dust

Marking according to the standard EN ISO 80079-36

- Ex h → Marking for non-electrical devices
- IIIC → Devices of Group III are intended for use in areas in which explosive dust atmospheres might exist, except mining sites with a risk of firedamp
- X °C → Surface temperature
- Db → Equipment protection level (EPL). Device with "high" protection level for use in flammable dust atmospheres in which there is no risk of fire in case of predictable errors/malfunction or normal operation. (Zone 21)
- LU 17 ATEX 0168 U → Certification number (U component)

Specification

Housing	Sight glass
<ul style="list-style-type: none">- Aluminum AlMg1SiSn- Surface precision turned	<ul style="list-style-type: none">- Tempered safety glass

Seals	Circlip
<ul style="list-style-type: none">- FPM elastomer (Viton®)	<ul style="list-style-type: none">- Stainless steel AISI 301

Installation and commissioning

The product may only be used by authorized and trained persons and in accordance with the corresponding national regulations when used outside of Germany.

Before commissioning, always read and observe the safety instructions. Failure to heed these instructions can result in dangers to people or damage to the product.

Operating pressure

DANGER

Injuries and property damage due to overpressure or underpressure

Failure to observe the operating pressure can lead to personal injuries and property damage!

- ▶ The operating pressure may not exceed the values in the following table!
- ▶ Avoid underpressure.
- ▶ Before commissioning, ensure that the proper use is observed with regard to application conditions (pressure, temperature, liquids and gases, category, temperature class).

The following values apply at standard ambient temperature and pressure (SATP: 25 °C and external pressure of 1000 hPa).

Size d ₁	11	14	18
Operating pressure p _{max} [bar]	25	25	18

Check the temperature specifications

Depending on the specification, the sight glass GN 743.6 can be used in a temperature range from -20 °C to +150 °C.

Installing the sight glass

- ▶ Visually inspect the product for damage (flat gasket, glass, housing and position of the circlip)!
- ▶ The product may not be brought into contact with aggressive chemicals, acids or their vapors.
- ▶ Ensure that the seal is seated on a flat, cleanly machined surface and is perpendicular to the threaded hole!
- ▶ Use an appropriate tool (open-end wrench, box-end wrench)!
- ▶ Note that the sight glass has right-hand thread.
- ▶ Observe the recommended tightening torque!

Size d ₁	11	14	18
Recommended tightening torque M _{rec.} [Nm]	25	25	18

Maintenance and cleaning

- ▶ Regularly perform the following inspections:
 - Visual inspection for possible damage (flat gasket, glass, housing and position of the circlip)
 - Inspect the sight glass for significant soiling
 - Check the tightening torque
- ▶ Do not use aggressive media for cleaning that could damage the sight glass.
- ▶ Include a check of proper sealing in the regular inspection of the overall machine/plant. In the event of a leak, the sight glass must be replaced! Observe the instructions in the section „Disassembly“.

Disassembly

⚠ DANGER

Injuries and property damage due to overpressure or underpressure

Failure to observe the operating pressure can lead to personal injuries and property damage!

- ▶ The operating pressure may not exceed the values in the following table!
- ▶ Avoid underpressure.

- ▶ Observe the regulations for the overall system!
- ▶ The system must be depressurized, and the liquid must be prevented from escaping.
- ▶ The sight glass has right-hand thread.
- ▶ Use an appropriate tool (open-end wrench, box-end wrench)!

Disposal

- ▶ Dispose of the product safely and in an environmentally sound way.
- ▶ Observe the national regulations, laws and rules.

EC certificate of conformity

In accordance with Directive 2014/34/EU and the implementing statutory regulations, we declare as manufacturer:

Otto Ganter GmbH & Co.KG
 Triberger Str. 3
 78120 Furtwangen, Germany

that the explosion-protected product described in the operating instructions:

Sight glass of type series GN 743.6

satisfies the fundamental safety and health requirements according to Annex II of the directive indicated below

Applicable directives:

- 2014/34/EU: 2014-02-26

The following harmonized standards have been applied

- DIN EN ISO 80079-36: 2016-12

Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirement

EU declaration of conformity

- LU 17 ATEX 0168 U

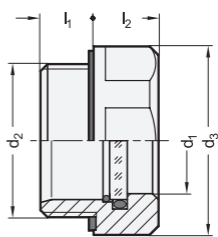
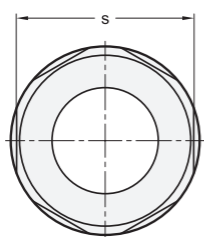
Person authorized to compile the conformity documentation:

Otto Ganter GmbH & Co. KG



Furtwangen, 13 September 2021
 Stefan Ganter, Managing Director

Technische Daten · Technical data
 Caractéristiques techniques · Dati tecnici
 Datos técnicos · Dane techniczne
 术参数 · Technische gegevens



d_1	d_2	d_3	l_1	l_2	s
11	G 3/8	22	8	8	20
11	M 16x1,5	22	8	8	20
14	G 1/2	26	8,5	9	23
14	M 20x1,5	26	8,5	9	23
18	G 3/4	32	9	11	30
18	M 26x1,5	32	9	11	30
18	M 27x1,5	32	9	11	30
18	M 27x2	32	9	11	30

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