

WELD TO TANK
SIGHT GLASS ZW30
WELD-NECK

Douglass

See more, see better



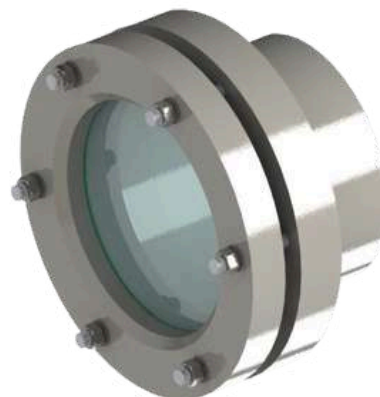
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SIGHT GLASS ZW30 - WELDING NECK

Overview:

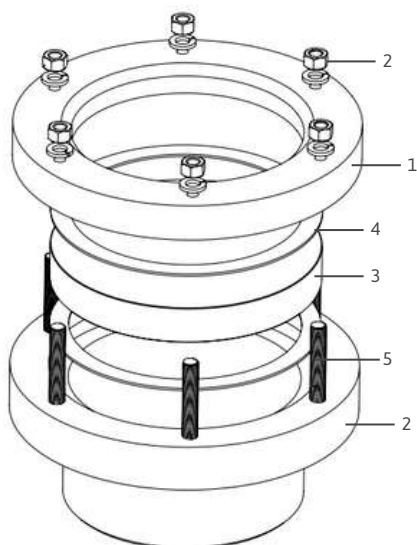
The Douglass Weld-to-Tank Sight Glass is designed to provide a clear and reliable view of the internal processes within industrial tanks and vessels. This sight glass is engineered for durability and efficiency, making it an essential component for industries requiring real-time monitoring of liquid levels, temperatures, and other critical factors.

The Douglass Weld-to-Tank Sight Glass is ideal for use in various industries, including chemical processing, oil and gas, pharmaceuticals, food and beverage, and more. It allows for the continuous observation of processes where safety and precision are paramount.



Advantages:

- **Ease of Installation:** The ZW30 is designed for quick and easy installation, reducing downtime and labor costs during setup. Its intuitive design ensures that even complex installations can be completed efficiently.
- **Aesthetic Design:** The screws are positioned on the upper flange, giving the ZW30 a clean and professional appearance. This makes it an excellent choice for installations where visual appeal is important.
- **Customizable Options:** While the ZW30 comes in standard sizes, it offers customization options to meet specific project requirements, such as adjustments to metal thickness, glass type, and gasket materials..
- **Cost-Effective Solution:** The ZW30 provides a reliable and durable sight glass at a competitive price, making it an excellent option for industries seeking to balance performance and cost-efficiency.
- **Durable Construction:** Built from high-quality materials such as carbon steel or stainless steel, the ZW30 is resistant to corrosion and wear, ensuring long-lasting performance even in demanding environments.
- **Versatility:** Suitable for a wide range of industrial applications, from chemical processing to food and beverage production, the ZW30 can be adapted to various operating conditions and requirements.
- **Optional LED Lighting:** For installations in dark environments, the ZW30 can be equipped with an optional LED light to enhance visibility and safety. The light is protected by a polycarbonate layer to prevent damage from potential explosions inside the tank.



Parts and Materials:

| Item | Part name | Material options |
|------|------------------------|---|
| 1 | Cover Flange | <ul style="list-style-type: none"> Stainless Steel 316L Stainless Steel 304 Carbon Steel w/ anti-corrosion coating |
| 2 | Weld Pad | <ul style="list-style-type: none"> Stainless Steel 316L Stainless Steel 304 Carbon Steel w/ anti-corrosion coating |
| 3 | Sight Glass (max temp) | <ul style="list-style-type: none"> DIN7080 Tempered Borosilicate (280°C) DIN8902 Tempered Soda Lime (150°C) Quartz, Min. 95% Fused Silica (1450°C) |
| 4 | Gaskets * (max temp) | <ul style="list-style-type: none"> Non Asbestos (200°C) Exp Graphite (450°C) Graph/Kevlar (450°C) FKM (260°C) PTFE (260°C) EPDM (140°C) |
| 5 | Bolts | <ul style="list-style-type: none"> Stainless Steel 304 |

*Can have a combination in cushion / Gasket

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TECHNICAL INFORMATION

| ID | A (Visible Diam) | B (Total Diam) | C (Total Thickness) |
|----|------------------|------------------|---------------------|
| 3" | 3" (76.20 mm) | 5" (127.00 mm) | 3.5" (88.90 mm) |
| 4" | 4" (101.6 mm) | 6" (152.40 mm) | 3.5" (88.90 mm) |
| 5" | 5" (127.00 mm) | 7.5" (190.50 mm) | 4" (101.60 mm) |
| 6" | 6" (152.40 mm) | 9" (228.60 mm) | 4.5" (114.30 mm) |
| 7" | 7" (177.80 mm) | 10" (254.00 mm) | 5" (127.00 mm) |
| 8" | 8" (203.20 mm) | 11" (279.40 mm) | 5" (127.00 mm) |
| 9" | 9" (228.60 mm) | 12" (304.80 mm) | 6" (152.40 mm) |

Installation Instructions for Weldable to Tank Sight Glass (Neck-Weld) (Douglass Brand)

Tools and Materials Required:

- Welding machine
- Welding rods/electrodes (appropriate for materials)
- Torque wrench (calibrated)
- Gaskets (as specified, typically non-reusable)
- Bolts and nuts (as specified)
- Protective gear (welding mask, gloves, etc.)
- Optional: LED light kit

1. Preparation:

- Clean the tank surface and ensure the opening is clear of any debris or rust.
- Verify that all components (sight glass, gaskets, bolts, nuts, etc.) are present and in good condition.

2. Position the Sight Glass:

- Place the weldable sight glass on the tank opening, ensuring proper alignment with the tank's neck.
- Confirm that the sight glass sits flush against the surface, and mark the weld positions if necessary.

3. Welding:

- Using an appropriate welding technique (TIG/MIG), weld the sight glass neck or flange to the tank, following the contours evenly.
- Pay close attention to the entire circumference to avoid uneven stress points.
- Ensure a continuous, full-penetration weld to create a secure, leak-proof seal.

4. Install Glass and Gaskets:

- Place the first gasket on the flange of the sight glass, ensuring it aligns properly around the entire opening.
- Carefully place the glass on top of the gasket, ensuring it is centered.
- If the design requires it, add a second gasket over the glass.

5. Secure the Assembly:

- Align the upper flange with the sight glass neck or flange.
- Insert bolts into the provided holes, spacing them evenly around the sight glass.
- Tighten the bolts in a criss-cross (star) pattern to ensure even compression of the gasket.
- Use a torque wrench to tighten the bolts to the specified torque value, avoiding over-tightening.

6. Final Checks:

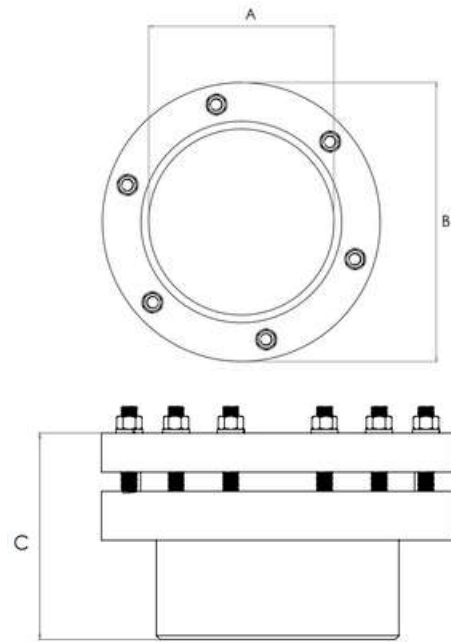
- Inspect the welded areas for any gaps, cracks, or defects.
- Confirm that the gasket is evenly compressed around the sight glass and that it is securely positioned with no visible signs of stress or misalignment.

7. Optional: Install LED Light:

- Install the optional LED light kit according to the manufacturer's instructions.
- Ensure the light is properly connected and functional.

8. Testing:

- Perform a pressure test to check for leaks and ensure the sight glass is securely installed.
- Inspect the installation for any potential weaknesses or misalignments, especially around the welded areas.



Do's:

1. Do inspect regularly: Conduct routine inspections to ensure the sight glass, gaskets, and welds are in good condition.
2. Do replace gaskets as needed: Always use new, undamaged gaskets when performing maintenance or if leaks are detected.
3. Do clean the glass: Keep the sight glass clean both inside and outside to maintain clear visibility.
4. Do follow torque specifications: Use a torque wrench to evenly tighten bolts to the specified torque value during installation and maintenance.
5. Do depressurize the tank: Always depressurize the tank before performing any maintenance or replacement on the sight glass.

Don'ts:

1. Don't reuse gaskets: Never reuse old gaskets; this can lead to leaks or improper sealing.
2. Don't overtighten bolts: Over-tightening can damage the glass or gaskets, leading to potential leaks or failure.
3. Don't ignore signs of damage: If you notice any cracks, chips, or other damage to the glass, replace it immediately to avoid safety hazards.
4. Don't use abrasive cleaners: Avoid using abrasive materials or harsh chemicals to clean the glass, as they can scratch or weaken it.
5. Don't skip regular maintenance: Failing to maintain the sight glass can lead to decreased performance, leaks, and potential safety issues.

How to order:

To make the ordering and specification of your ZW30 easier, please ask your sales representative for a model by filling out the following chart:

Keep in mind these are for standard items, any custom-made application can be tackled directly with your sales representative.

NWZW30 - _____

↑ Visible Diameter

↑ Flange Material:

- S6: SS316
- S4: SS304
- CS: Carbon Steel

↑ Gasket Material:

- EG: Expanded Graphite
- NA: Non Asbestos
- PT: PTFE
- GK: Graphite/Kevlar

↑ Sight Glass Material:

- BR: Tempered Borosilicate
- QZ: Quartz
- SL: Tempered Soda Lime