

WELD TO TANK
SIGHT GLASS ZW30
300 PSI

Douglass

See more, see better



WELD TO TANK

SIGHT GLASS ZW30 – 300 PSI

Overview:

The Douglass ZW30 Weld-to-Tank Sight Glass is a high-performance solution designed for demanding industrial applications requiring enhanced durability and higher pressure ratings. Suitable for tanks operating up to 300 PSI, the ZW30 is engineered to provide clear, reliable visibility into tank processes while withstanding the rigors of more intensive environments. Its robust construction allows for greater torque application, making it ideal for use with metal-inserted gaskets. The ZW30 is larger and thicker than its counterparts, offering superior strength and longevity. With options for customization, this model ensures precise alignment with specific project requirements, delivering both reliability and flexibility for industries where safety and performance are paramount.



Advantages:

- **High Pressure Capability:** The ZW30 is designed to handle pressures up to 300 PSI, making it suitable for more demanding industrial applications.
- **Greater Torque Tolerance:** The ZW30 can accommodate metal-inserted gaskets and allows for higher torque application, ensuring a tighter, more secure seal, especially in high-pressure environments.
- **Robust Construction:** With a larger and thicker design compared to the ZW15, the ZW30 offers enhanced durability and longevity, even under harsh operating conditions.
- **Customization Flexibility:** Like the ZW15, the ZW30 can be customized to meet specific project requirements, including adjustments to flange thickness, glass type, and gasket materials.
- **Versatile Application:** The ZW30 is ideal for industries that require a robust, high-performance sight glass, such as chemical processing, oil and gas, and heavy manufacturing.
- **Optional LED Lighting:** The ZW30 can be equipped with an optional LED light, enhancing visibility in low-light conditions and providing added safety features. The protective polycarbonate layer ensures the light is shielded from potential damage.
- **Reliable Performance:** The ZW30's construction and design provide reliable and consistent performance, reducing the risk of leaks and ensuring safety in high-pressure applications.

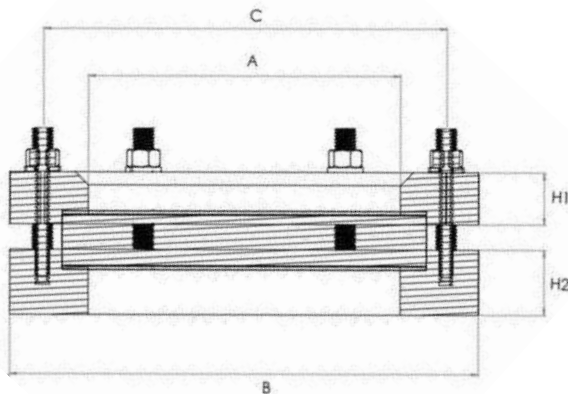
Parts and Materials:



Item	Part name	Material options
1	Cover Flange	· Stainless Steel 316L · Stainless Steel 304 · Carbon Steel w/ anti-corrosion coating
2	Weld Pad	· Stainless Steel 316L · Stainless Steel 304 · Carbon Steel w/ anti-corrosion coating
3	Sight Glass	· DIN 7080 Tempered Borosilicate · DIN 8902 Tempered Soda Lime · Quartz, Min. 95% Fused Silica
4	Gaskets	· Non Asbestos · Exp Graphite · Graph/Kevlar · FKM · PTFE · EPDM
5	Bolts/Nuts	· Stainless Steel 304

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Tools and Materials Required:

- Welding machine
- Welding rods/electrodes (appropriate for materials)
- Torque wrench
- Gaskets (as specified)
- Bolts and nuts (as specified)
- Protective gear
- Optional: LED light kit

Installation Instructions:

1. Preparation:

- Ensure the tank surface is clean, free from debris, rust, and oil. Verify that you have the correct ZW30 sight glass model and all necessary components.

2. Position the Sight Glass:

- Align the ZW30 sight glass on the tank at the designated location. Mark the weld points if necessary.

3. Welding:

- Weld the sight glass flange to the tank using the appropriate technique (MIG, TIG, or stick welding). Ensure a continuous weld bead around the flange for a secure, leak-proof seal. Allow the weld to cool naturally.

4. Install Glass and Gaskets:

- Place the gasket on the flange, center the glass onto the gasket, and add the second gasket on top if applicable.

5. Secure the Assembly:

- Align the upper flange, insert the bolts, and tighten them evenly using a criss-cross pattern to ensure even pressure. Use a torque wrench to achieve the specified torque, especially important for high-pressure applications.

6. Final Checks:

- Inspect the installation to ensure the sight glass is securely welded, the gaskets are evenly compressed, and the assembly is properly aligned. Look for any signs of stress or damage.

7. Optional LED Light Installation:

- If installing an LED light, mount the light fixture as per the manufacturer's instructions. Ensure it is securely attached and properly connected to the power source (110V or 220V as required). Test the light for correct operation.

8. Testing:

- a. Perform a pressure test on the tank to ensure there are no leaks around the sight glass. Check the sight glass and all connections for signs of stress or leaks.

TECHNICAL INFORMATION

ID	ZW30-2	ZW30-3	ZW30-4	ZW30-5	ZW30-6	ZW30-7	ZW30-8
Visible Diameter (A)	2"	3"	4"	5"	6"	7"	8"
Total Diameter (B)	5"	6"	7"	8-1/2"	10"	11"	13"
Flange Thickness							
Cover (H1)	3/4"	3/4"	3/4"	1"	1"	1-1/4"	1-1/4"
Weld Pad (H2)	1"	1"	1"	1-1/4"	1-1/4"	1-1/2"	1-1/2"
Glass Size*							
Ø	3-3/4"	4-3/4"	5-3/4"	7"	8"	9"	11"
Thickness	3/4"	3/4"	1"	1"	1-1/4"	1-1/4"	1-1/4"
Bolt Circle Diameter (C)	4-3/8"	5-3/8"	6-3/8"	7-3/4"	9"	10"	12"
Tightening Torque* (ft/lbs)	17	17	19	22	25	28	32

*Glass Sizes are for Tempered Borosilicate glass only. Please contact us for details regarding any other glass material.

*Torque values may vary depending on gasket material. Please contact us for details regarding specific torque for your application.

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.

ZW30 - **-** **-** **-** **-**

↑ 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:

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