

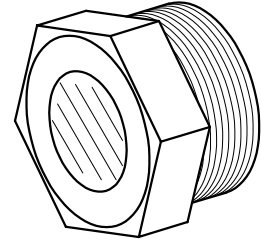


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KSW Sight Window Installation and Operating Instructions

KSW Specifications

- Electroless nickel plated carbon steel body
- Hermetically sealed clear glass lens
- Hexagon Pipe Plug Configuration with Male NPT Mounting Connection



Maximum Working Pressure at Various Temperatures				
Temperature (°F)	100	200	300	400
Maximum Working Pressure (PSI)	2700	2700	2350	2000

Safety

Pressure and vacuum systems are inherently dangerous and proper precautions should be taken when using sight windows. If not handled, installed and/or used properly, sight windows can be dangerous. Safety glasses and any other personal protective equipment (PPE) necessary for the application should be used when working with or around sight windows. Failure to follow safety measures could result in serious physical injury to personnel or damage to property.

Handling

Sight windows are designed and manufactured to be robust and reliable once installed. However, sight windows can be damaged while handling. Ensure there is no glass-to-metal contact or any impact with other hard materials. Window integrity can be compromised through contact and impacts even if no damage is visible in the clear lens.

Damaging the sight window prior to installation voids the warranty. Any further use of the window is at the discretion of the end user.

Cleaning

The sight window glass lens should be cleaned like any other optical glass to avoid scratching. Use a soft cloth (e.g. microfiber, etc.) with a gentle cleaning solvent that is appropriate for glass. Do not use any abrasive paper or cloth not designed for optical cleaning purposes.

Inspection

Confirm that the sight window received is the model requested.

Sight windows are inspected prior to packaging and shipment, however, damage can occur during shipping. Please inspect them carefully upon receipt.

Inspect the threads for any signs of damage.

Inspect the glass lens to ensure it has no visible damage. There is a possibility of tiny bubbles, annular hairline cracks and optical distortion (most commonly fisheye). These are normal occurrences that can happen during the glass fusing process. These are superficial and do not affect the performance of the sight window.

Important: If any damage is found or there is any question about the integrity of the sight window, contact manufacturer before use. Never use a damaged sight window.

Storage

Store sight windows in the box received or an equivalent packaging system. Do not allow sight windows to come into contact with each other or other hard objects.

Sight window packaging should be sealed to prevent dust collection or oxidation. Windows can show slight surface rust if exposed to atmosphere for long periods of time. This is normal and does not affect the performance, but prevention is best.

Installation

Ensure that the sight window ratings and materials of construction are compatible with the service and conditions. Ensure that vessel where sight window is being installed is at ambient temperature.

Sight windows must be installed with a wrench that grips all six sides of the hexagon head body when tightening. This ensures that torque will be uniformly distributed around the body to prevent damage to the glass. Therefore, only use a socket wrench or a box-end (closed-end) wrench when tightening.

Important: Do not use any kind of pliers, open-end wrenches, adjustable wrenches or pipe wrenches during installation. These only utilize two faces of the hexagon head body which creates uneven loading and stress on the hermetically sealed glass. Do not use a hammer wrench or an impact wrench as they use concussive rotational blows to maximize torque. Using these tools can damage your sight window and will void the warranty.

Ensure that the male pipe threads on the sight window and the internal pipe threads on the vessel are clean and clear of any debris. Ensure that the internal pipe threads on the vessel are not distorted and gage properly to ensure proper engagement and sealing during installation. Apply appropriate thread sealant for the application. Pipe fittings should never be installed without thread sealant.

Hand tighten the sight window. Mark the sight window body or socket and the vessel port to help count the turns beyond hand tight. Wrench tighten using a socket wrench or a box-end wrench. Refer to the table below for the maximum allowable turns past hand tight and maximum recommended torque values.

Important: Number of turns beyond hand tight varies from application to application. Tighten sight window only until you are confident it is sealed, not to the maximum amount by default. Over-tightening can damage the sight window and will void the warranty.

Kenco Model Number	KSW20
Pipe Thread Size	2" NPT
Maximum Turns Past Hand Tight	2
Recommended Torque (ft-lb)	85
Maximum Torque (ft-lb)	125

Operation

Thoroughly inspect the sight window after installation and before putting into service. Ensure that the sight window will not be subjected to any sudden extreme temperature changes.

Important: Thermal shock can damage the glass lens and result in serious physical injury to personnel or damage to property.

Follow all safety measures previously mentioned and pressure test to ensure there are no leaks.

Maintenance

Clean and inspect sight window regularly for any signs of damage. This will help establish a routine inspection and maintenance cycle.

Replacement

Be sure the vessel liquid level is below the sight window, vessel is relieved of all internal pressure, and sight window is at ambient temperature. Slowly turn sight window counterclockwise until it is removed. Carefully remove any debris from internal pipe threads on vessel. Follow all steps previously mentioned in this manual to install a new unit.

Important: Failure to relieve internal vessel pressure before removing sight window can result in serious physical injury to personnel or damage to property.

Warranty & Disclaimers

The customer assumes full responsibility for safe and proper installation and use. Any injury, damage, or loss resulting from improper installation or use is the sole responsibility of the customer.

For a period of one year past the date of shipment, Kenco warrants that the sight window shall function reliably and safely as long as it was installed correctly and used within specifications. Any use outside the specifications voids all warranties.

Any modification, change, or damage to a Kenco sight window could result in an unsafe sight window and will void all warranties. Customer takes full responsibility for any failure, damage, or loss that occurs as a result of the use of a modified or damaged sight window. If a sight window is found to be damaged, it should be immediately removed from service. See terms and conditions of sale.