



Application

The 3A-VL Sight Glass assembly can be installed anywhere in a process where it is desirable to view an internal portion of your process without having to open the system and expose it to outside elements. Typical placements can include, but are not limited to, strainers, process piping, tanks, and other equipment.

Each Sight Glass assembly is 3-A certified and can be disassembled for easy inspection.



Operating Parameters

Table 1: Maximum Operating Pressures and Temperatures (13MHHM clamp with wing nut tightened to 25 in. lb. of torque)	
Sight Glass Connection Size	Max. Pressure @ 250 °F
2.0" TC	250
2.5" TC	200
3.0" TC	150
4.0" TC	125

Assembly

The assembly contains six (6) sub-components:

1. Short Weld Tri-Clamp Ferrule
2. Tri-clamp Gasket
3. Sight Glass Lens
4. Sight Glass EPDM Gasket
5. Sight Glass Ferrule
6. Tri-clamp

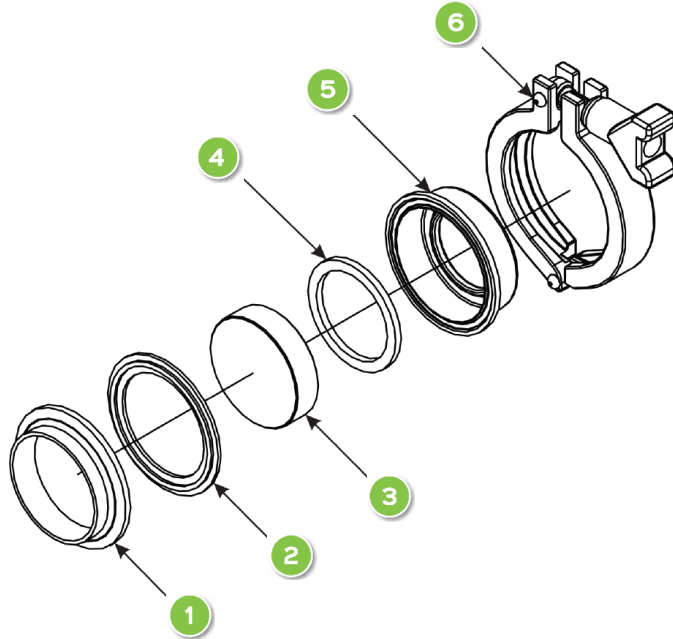


Figure 1: Exploded View

Install the **4** sight glass gasket into the **5** sight glass ferrule, followed by the **3** sight glass lens. The **2** tri-clamp gasket can then be placed on top of the **5** sight glass ferrule such that it seats in the ferrule groove. This assembled portion can then be placed onto a tri-clamp ferrule, ensuring that the **2** tri-clamp gasket is seated in both grooves. The two ferrules are then clamped together using the **6** tri-clamp.

The **6** tri-clamp should be tightened to 25 in-lbs of torque. Be careful not to under tighten or over tighten the **6** tri-clamp as either can result in unwanted conditions including a leaking connection or gasket intrusion.

The Sight Glass assembly includes a **1** tri-clamp weld ferrule to use if an existing tri-clamp connection does not exist. If the ferrule is not needed for the application, discard, or re-use as needed. Due to the number of unique situations where a **1** tri-clamp weld ferrule could be added, it is highly recommended to consult a fabrication and welding specialist for the welding operation.

Installation & Operation

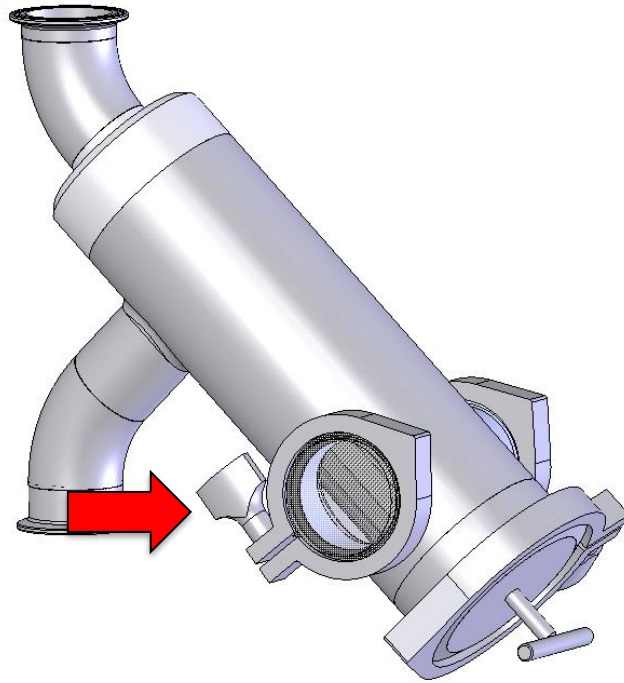


Figure 2: Example Installation of Sight Glass

An example Sight Glass assembly installation is shown in Figure 2 – on both sides of a Y-Strainer, allowing for a visual inspection of the strainer element. Ideally the Sight Glass assembly is installed in a horizontal position, as shown in Figure 2, or in a vertical (looking down into the sight glass) such that any fluid will be able to be completely drained out of the line. Figure 3 shows an assembled sight glass with tri-clamp.



Figure 3: Assembled Sight Gauge

Cleaning

The Sight Gauge can be Cleaned-In-Place (CIP'd); however, it will also require periodic inspection to ensure the gaskets are maintaining a proper seal and no leaks are present.

Maintenance

Gaskets will require periodic replacement. The frequency of gasket replacement will depend on the gasket material, operating conditions, and cleaning/CIP conditions. Sight glass lens, ferrule, and clamp may require replacement if damaged or lost.

Table 2: Recommend Spare Parts (RSP) List			
Connection Size	Description	Sani-Matic Part Number	Exploded View Item # (Figure 1)
2.0" TC	Gasket, Tri-Clamp, EPDM, 2.0"	021028	2
	Gasket, Sight Glass, EPDM, 2.0"	056508	4
2.5" TC	Gasket, Tri-Clamp, EPDM, 2.5"	021029	2
	Gasket, Sight Glass, EPDM, 2.5"	056509	4
3.0" TC	Gasket, Tri-Clamp, EPDM, 3.0"	021030	2
	Gasket, Sight Glass, EPDM, 3.0"	056510	4
4.0" TC	Gasket, Tri-Clamp, EPDM, 4.0"	021031	2
	Gasket, Sight Glass, EPDM, 4.0"	056511	4

Table 3: Additional Spare Parts List

Connection Size	Description	Sani-Matic Part Number	Exploded View Item # (Figure 1)
2.0" TC	Ferrule, Tri-Clamp, 316L, 2.0", Short	020536	1
	Lens, Sight Glass, Borosilicate, 2.0"	056512	3
	Ferrule, Sight Glass, 316L, 2.0"	056516	5
	Clamp, Tri-Clamp, 2.0"	020082	6
2.5" TC	Ferrule, Tri-Clamp, 316L, 2.5", Short	020537	1
	Lens, Sight Glass, Borosilicate, 2.5"	056513	3
	Ferrule, Sight Glass, 316L, 2.5"	056517	5
	Clamp, Tri-Clamp, 2.5"	020083	6
3.0" TC	Ferrule, Tri-Clamp, 316L, 3.0", Short	020538	1
	Lens, Sight Glass, Borosilicate, 3.0"	056514	3
	Ferrule, Sight Glass, 316L, 3.0"	056518	5
	Clamp, Tri-Clamp, 3.0"	020084	6
4.0" TC	Ferrule, Tri-Clamp, 316L, 4.0", Short	020539	1
	Lens, Sight Glass, Borosilicate, 4.0"	056515	3
	Ferrule, Sight Glass, 316L, 4.0"	056519	5
	Clamp, Tri-Clamp, 4.0"	020225	6

Troubleshooting

Table 4: Troubleshooting

Problems	Solutions
Leakage occurring at clamp connections	<ol style="list-style-type: none"> 1. Tighten clamp to specifications, making sure the gaskets are aligned when assembling 2. If leakage is still occurring replace gasket. 3. Check the system pressure to ensure the pressure is not exceeding the pressure ratings of the assembly.
Unit is not being cleaned during CIP	<ol style="list-style-type: none"> 1. Make sure that sufficient flow (CIP in process piping) or sufficient spray coverage (CIP in process tanks or equipment) is being fed 2. Other CIP variables such as temperature, contact time, chemical, etc. need to be sufficient for the application