Optimizer® ST3 Filter Manifold

Installation and use manual

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INTRODUCTION

The Optimizer® ST3 filter manifold is designed for use with Optimizer ST point-of-use (POU) liquid filters (Optimizer ST-L and ST-LX product families) to minimize contamination risk when handling filter cartridges. Using Entegris' Connectology® technology, the Optimizer ST filter quickly connects and seals to the ST3 manifold, which enables rapid filter change-outs without tools. By limiting hazardous chemical handling during installation, the filter manifold speeds up installation and reduces downtime while also increasing operator safety.

⚠ **CAUTION: To reduce the safety risk of chemical leakage, carefully follow these instructions.**

NOTE: The Optimizer ST3 filter manifold is designed for use with Entegris filters and flushing shell only. The warranty will be voided if it is used with non-Entegris products.

SPECIFICATIONS

Materials	Metal plates	Stainless steel
	Release tub	Polyacetal
	Connectors	PFA
	O-rings	None on manifold
Connections	Tube, Flowell® 60, Flowell 80EZ (See part number table for sizes.)	
Maximum operating conditions	Maximum operating pressure: 0.39 MPa (3.9 bar, 57 psi) at 25°C (77°F) Maximum operating temperature: 40°C (104°F)	

ORDERING INFORMATION

OPTIMIZER ST3 MANIFOLD

Quantity: 1 each/box

Tube Type (standard size)

Part number	Inlet/outlet	Vent port
AM3T44201	12.7 mm (½") tube	6.35 mm (¼")
AM3T33201	9.53 mm (⅜") tube	6.35 mm (¼")
AM3T22201	6.35 mm (¼") tube	6.35 mm (¼")

Flowell 60 Elbow Type

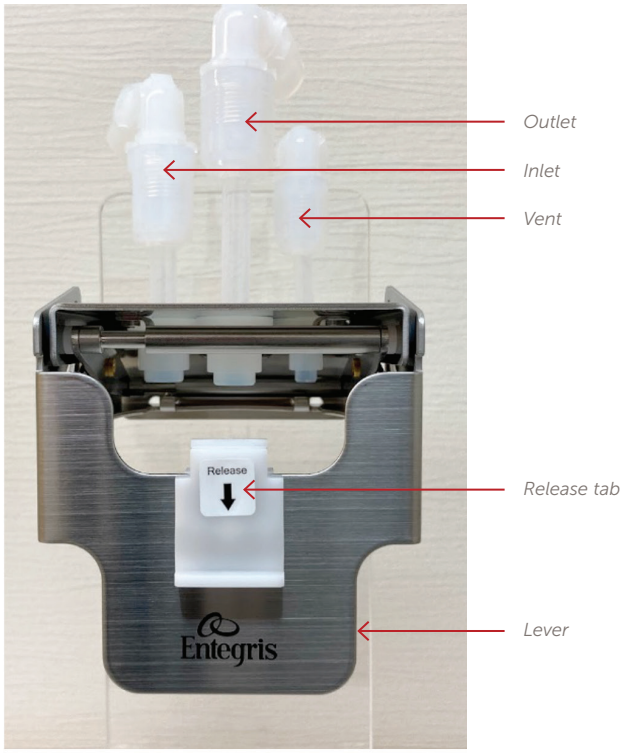
AM3XL420T	12.7 mm (½")	6.35 mm (¼")
AM3XL320T	9.53 mm (⅜")	6.35 mm (¼")
AM3XL220T	6.35 mm (¼")	6.35 mm (¼")

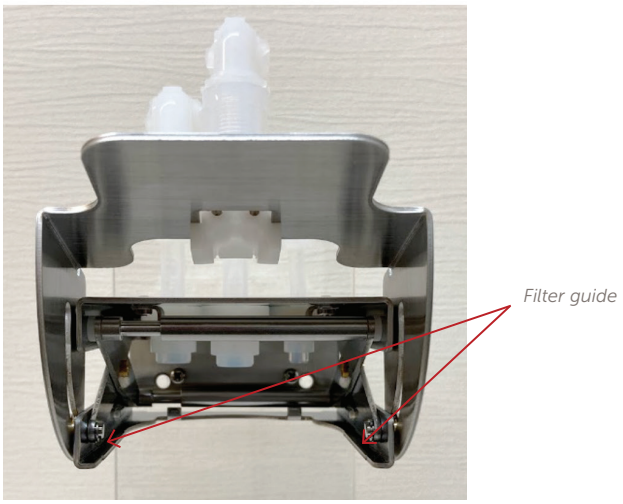
Flowell 80EZ Elbow Type

AM3ZL420T	12.7 mm (½")	6.35 mm (¼")
AM3ZL320T	9.53 mm (⅜")	6.35 mm (¼")
AM3ZL220T	6.35 mm (¼")	6.35 mm (¼")

⚠ **CAUTION: The Optmizer ST3 manifold is designed for an OF type filter only. OM type filters cannot be used with this manifold series.**

MANIFOLD AND FILTER PARTS



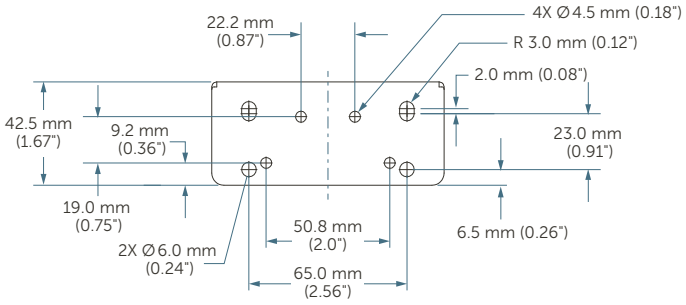


Manifold

Filter

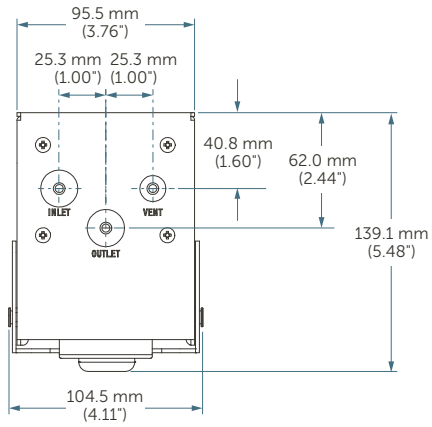
DIMENSIONS

MOUNTING PLATE (COMMON TO ALL TYPES)

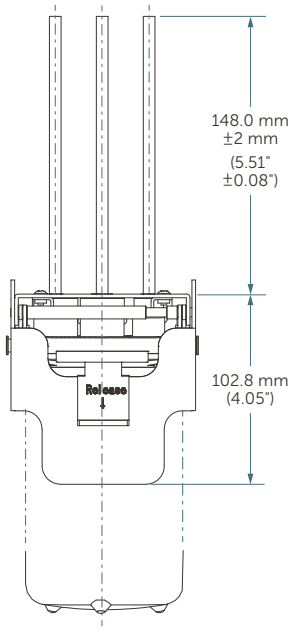


TUBE TYPE MANIFOLD (PART NUMBER AM3T22201)

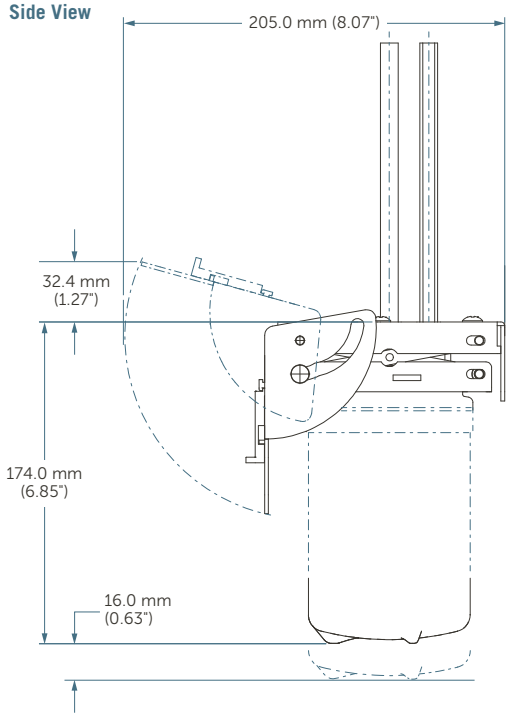
Top View



Front View



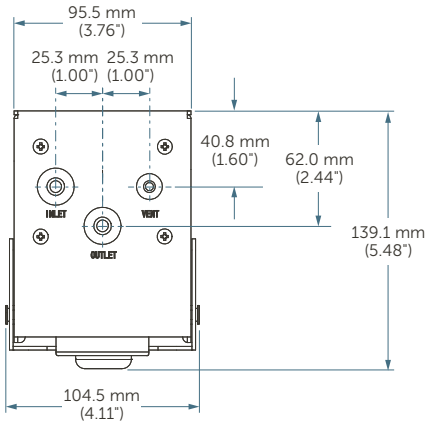
Side View



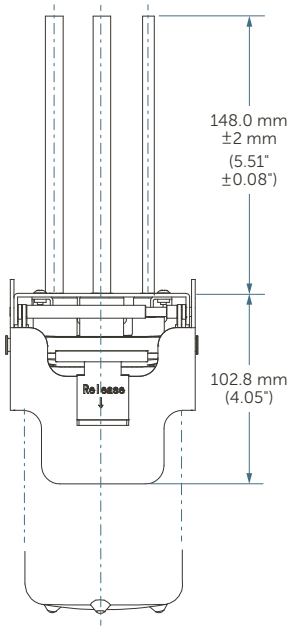
DIMENSIONS (CONTINUED)

TUBE TYPE MANIFOLD (PART NUMBER AM3T33201)

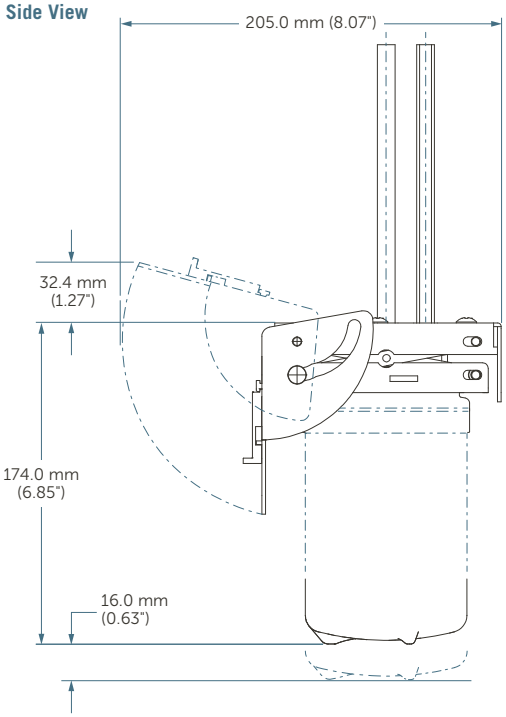
Top View



Front View



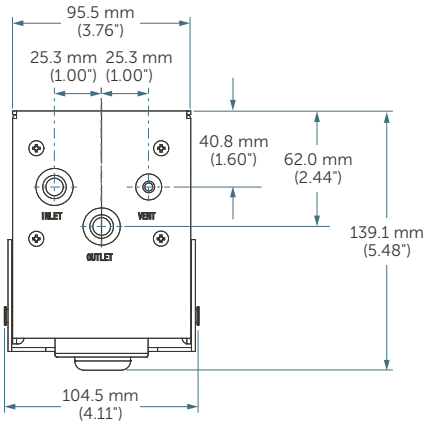
Side View



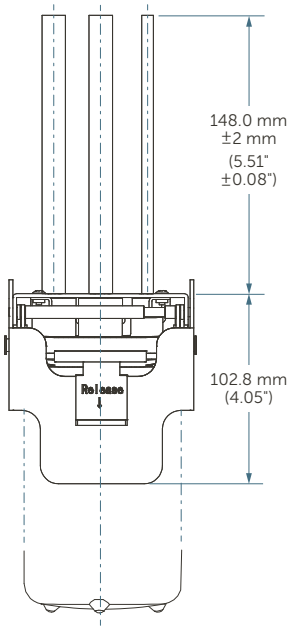
DIMENSIONS (CONTINUED)

TUBE TYPE MANIFOLD (PART NUMBER AM3T44201)

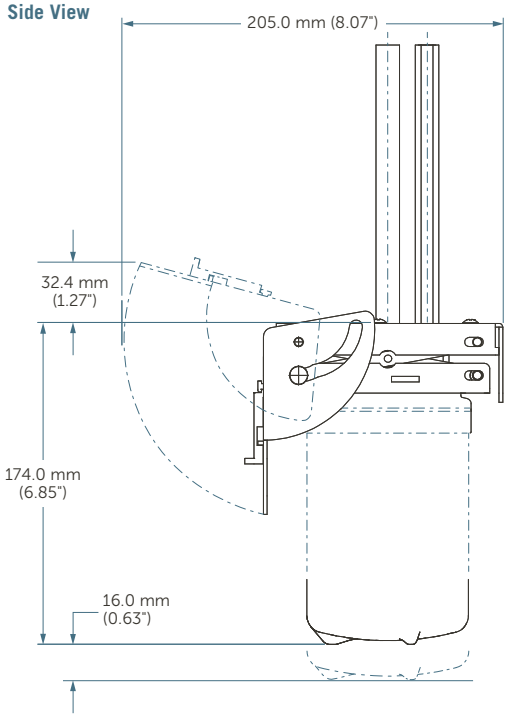
Top View



Front View



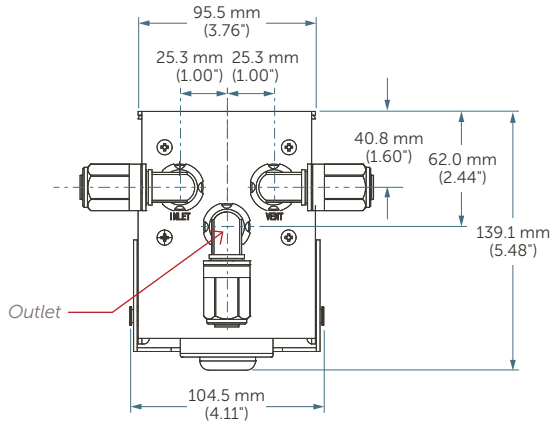
Side View



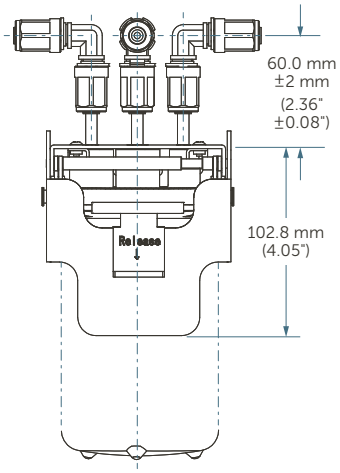
DIMENSIONS (CONTINUED)

FLOWELL 60 ELBOW TYPE MANIFOLD (PART NUMBER AM3XL220T)

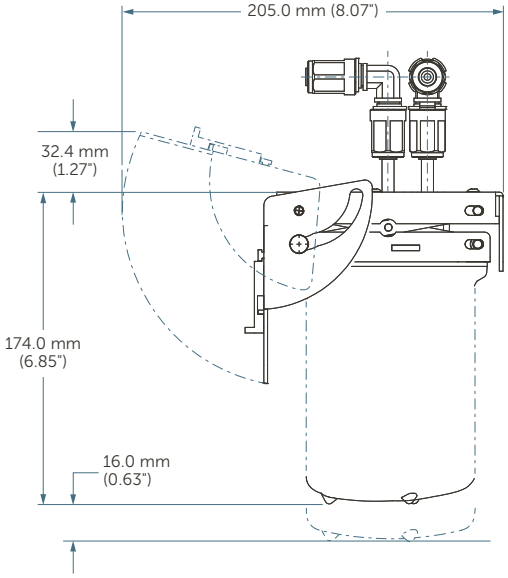
Top View



Front View



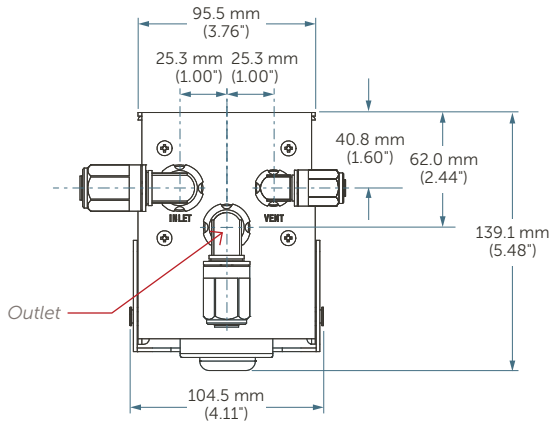
Side View



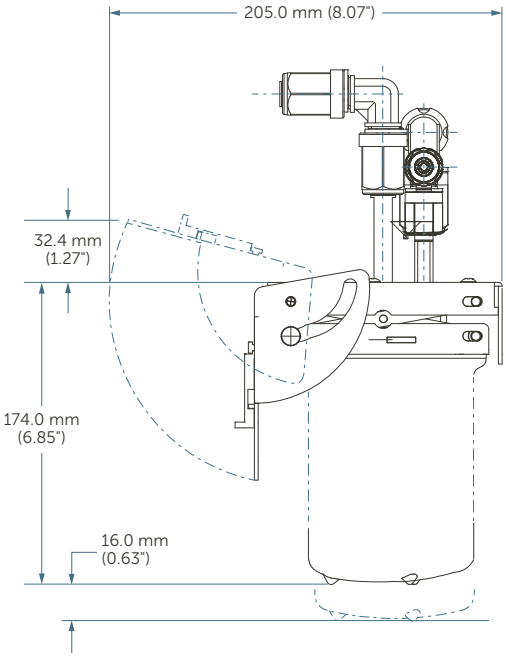
DIMENSIONS (CONTINUED)

FLOWELL 60 ELBOW TYPE MANIFOLD (PART NUMBER AM3XL320T)

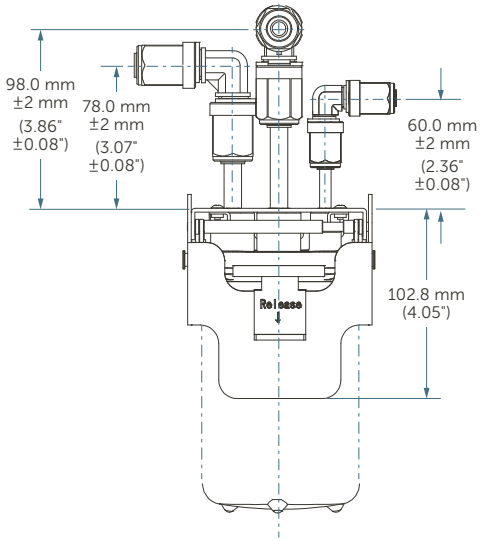
Top View



Side View



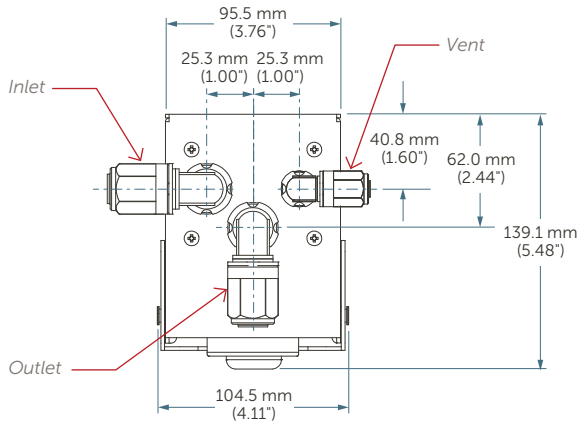
Front View



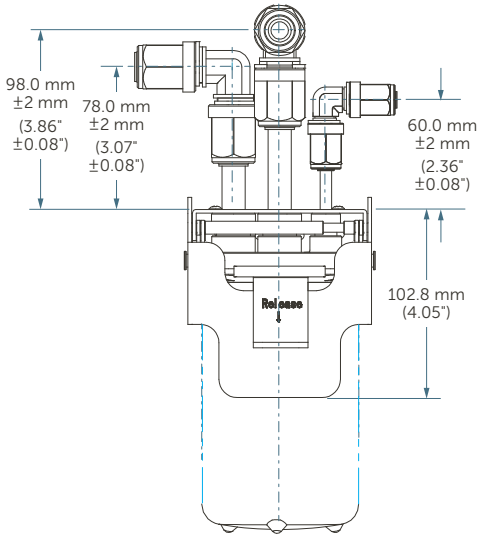
DIMENSIONS (CONTINUED)

FLOWELL 60 ELBOW TYPE MANIFOLD (PART NUMBER AM3XL420T)

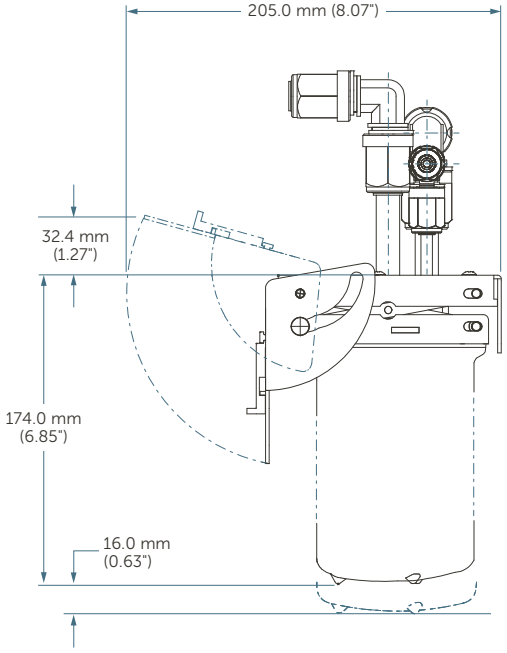
Top View



Front View



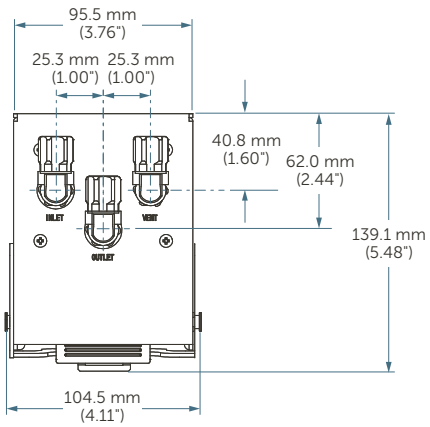
Side View



DIMENSIONS (CONTINUED)

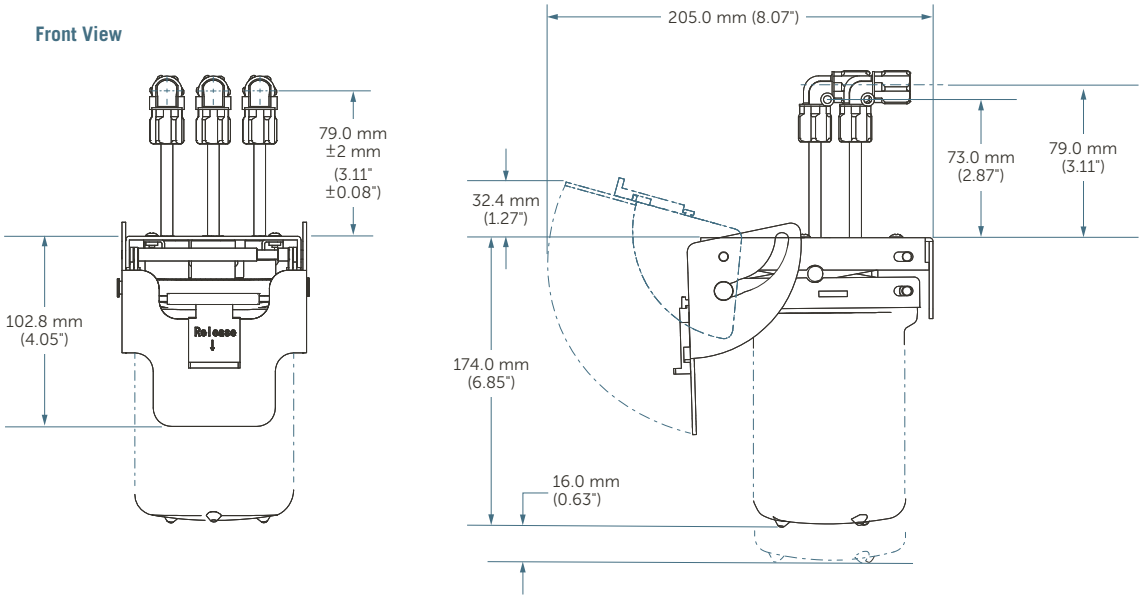
FLOWELL 80EZ ELBOW TYPE MANIFOLD (PART NUMBER AM3ZL220T)

Top View



Side View

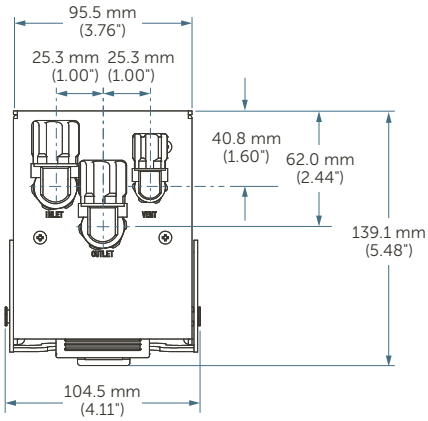
Front View



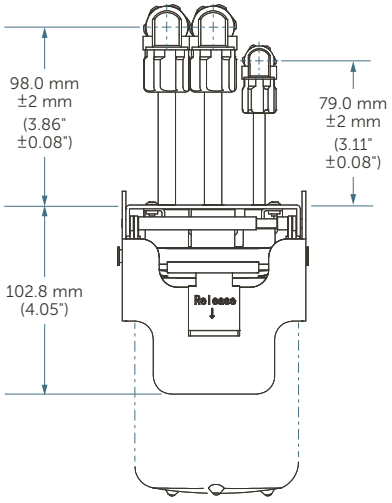
DIMENSIONS (CONTINUED)

FLOWELL 80EZ ELBOW TYPE MANIFOLD (PART NUMBER AM3ZL320T)

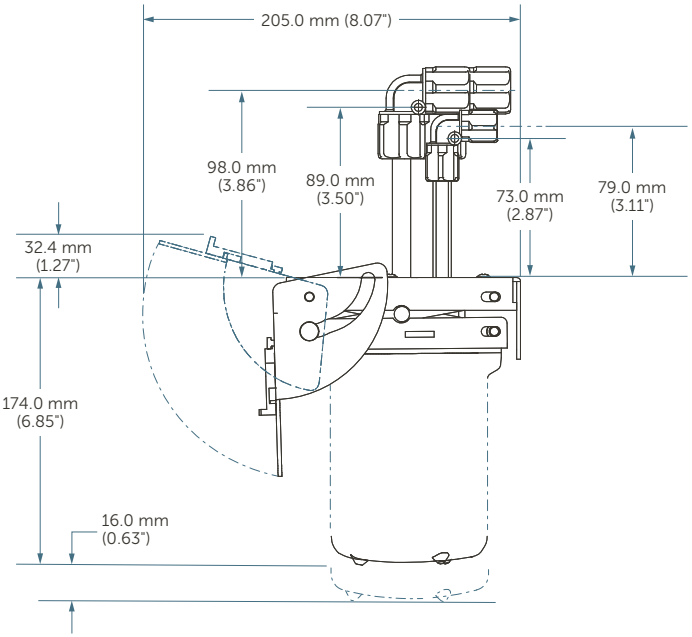
Top View



Front View



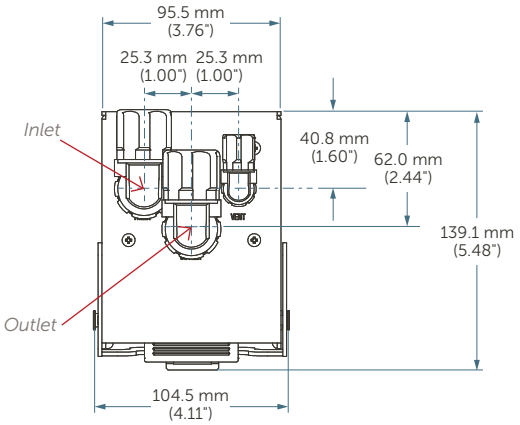
Side View



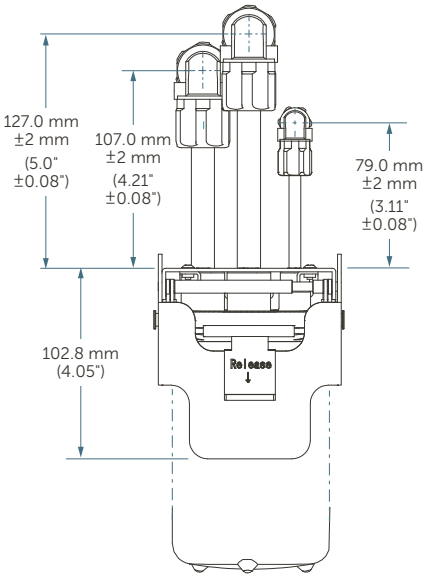
DIMENSIONS (CONTINUED)

FLOWELL 80EZ ELBOW TYPE MANIFOLD (PART NUMBER AM3ZL420T)

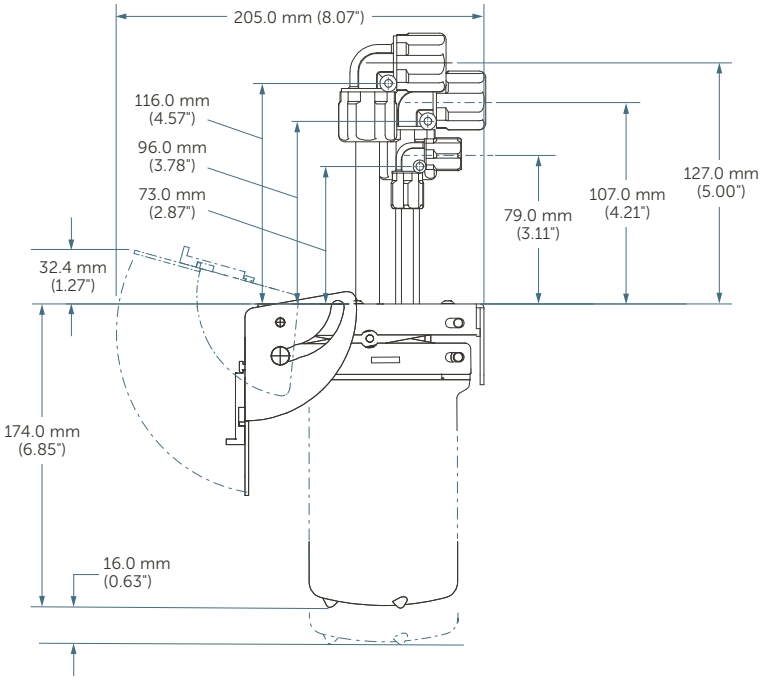
Top View



Front View



Side View



SAFETY INSTRUCTIONS

WARNING: Follow all safety and ventilation regulations and follow all gas and liquid handling procedures. Wear clothing and safety equipment appropriate for the gas and liquid used. Wear chemical-resistant work clothes and safety glasses while changing and setting up the filter.

WARNING: If you do not follow the precautions, the product may not perform properly or may not be covered by the product warranty.

WARNING: Do not disassemble the manifold product.

WARNING: Do not crush and do not expose the manifold to any shock or force such as hammering, dropping, or stepping on it.

PREPARATION FOR INSTALLING THE OPTIMIZER ST3 MANIFOLD

CAUTION: Before unpacking the product, make sure the product matches the model you ordered.

CAUTION: Once opened, products may not be returned in some cases.

1. Determine the manifold mounting position and prepare the required mounting holes or conversion bracket.

CAUTION: Refer to the dimensions on pages 4 to 6 and secure the space required for replacing and installing the fitting.

2. Place the manifold on a vertical surface of sufficient strength so that the top of the manifold is horizontal. Use a level if necessary to ensure the manifold is level.

CAUTION: If the manifold surface is not horizontal or the strength is insufficient, the liquid may splatter when replacing the filter. Reinforce the installation surface as necessary.

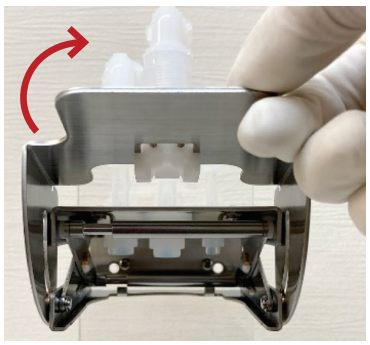
To minimize dripping when replacing the filter, it is recommended to install a stop valve on the vent and outlet lines with the shortest possible pipe length.

If it is difficult to connect the tubing after installing the manifold, connect tubing before installing the manifold.

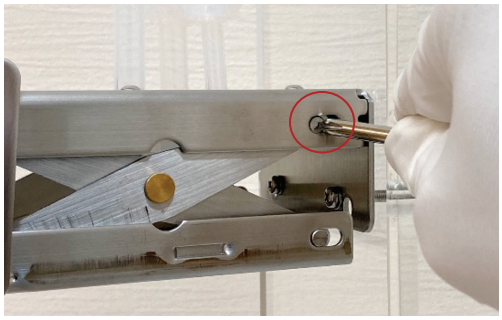
CAUTION: Make sure that no load is applied to the connector due to the weight or layout of the pipe. insufficient sealing may result and chemical liquid leakage may occur.

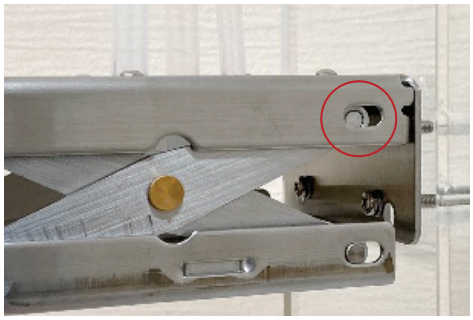
INSTALLING THE OPTIMIZER ST3 MANIFOLD

1. Raise the lever

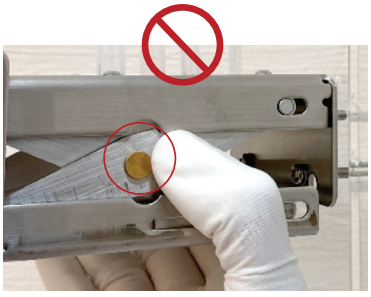


2. Press the spring shaft with a screwdriver or other narrow tool. The shaft will come off if you press both sides.





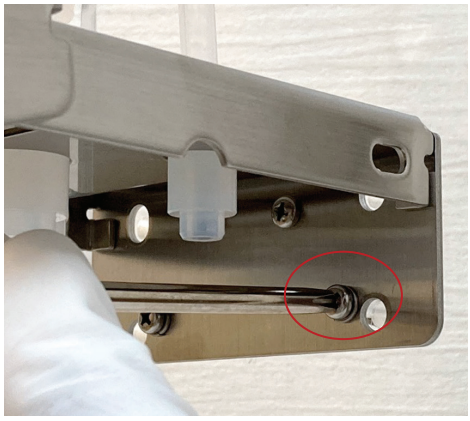
⚠ **CAUTION: Do not press anywhere other than the spring shaft that is located in the back, top right side. The shaft may come off and an unexpected accident such as leakage may occur.**



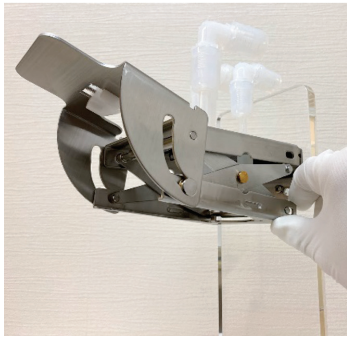
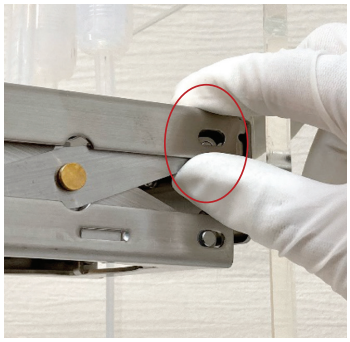
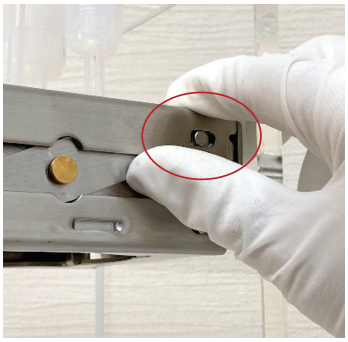
3. The lower part of the manifold opens to allow access to the tool mounting bracket.



4. Screw the manifold to the tool referring to the hole location on the mounting plate dimensional drawing found on page 4.



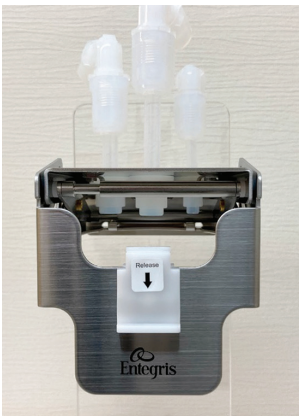
5. Return the lower part of the open manifold and push the shaft protrusions from both left and right sides to fit it on the upper part of the manifold.

6. Lower the lever to complete the installation.

   Visually check to ensure the spring shafts are properly engaged in the holes.

   If used without confirmation, the manifold may not work properly and may cause an unexpected accident such as leakage.

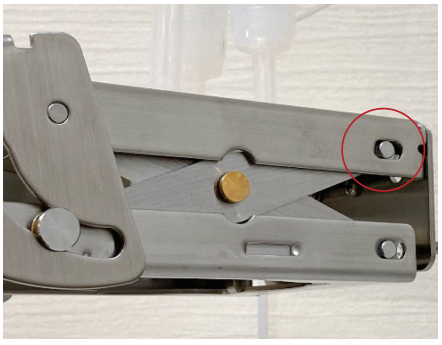


⚠ **CAUTION: Make sure ALL spring shafts are properly engaged.**

Good

Bad

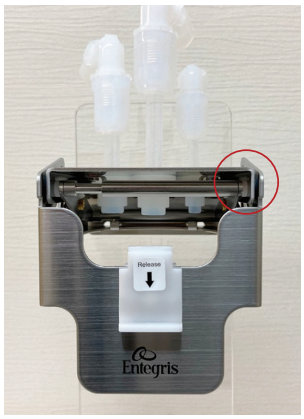
Bad



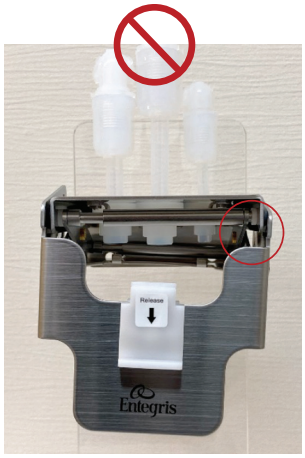
Good

Bad

Make sure the lever is horizontally attached to the manifold. If the lever is tilted, the spring shaft may not be placed properly.



Good



Bad

ATTACHING AND REMOVING THE FILTER

PREPARING THE LINE BEFORE REPLACING THE FILTER

Before replacing the filter, stop the flow of liquid on the upstream side with the downstream side of the filter open, so that the pressure inside the filter is not applied. It is recommended to purge the chemical with a safe fluid.

PREPARING THE FILTER TO BE REPLACED

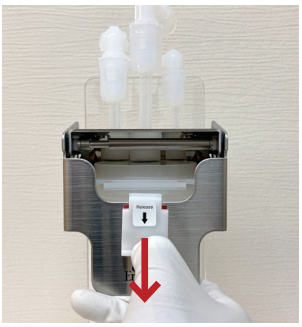
Filters compatible with this product are double wrapped for use in cleanrooms.

Please handle the product according to the cleanroom procedure.

REMOVING THE FILTER OR FLUSHING SHELL

1. Raise the lever completely while lowering the release tab with your thumb.

⚠ **CAUTION: If the lever is not raised enough, the filter may not pull out smoothly. Lift the lever completely until it stops, not doing so may cause damage to the manifold or filter.**

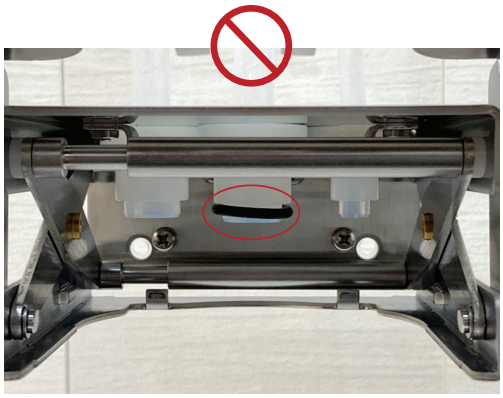


⚠ **CAUTION: When removing or attaching the filter or flushing shell, do not touch anywhere other than the lever. The shaft may come off and an unexpected accident such as leakage may occur. There is also a safety risk of getting your fingers caught in moving parts, resulting in injury.**

2. Grasp the filter or flushing shell tub and slowly pull out the used filter or flushing shell from the filter guide.

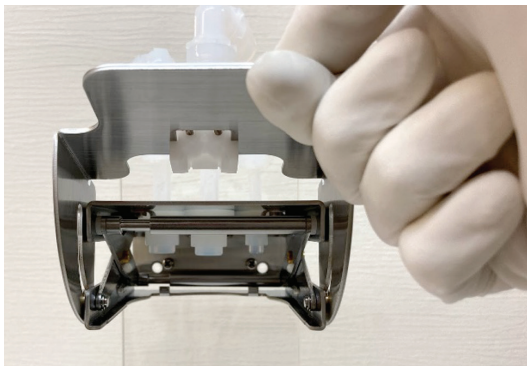
CAUTION: Make sure that the O-rings of the filter or flushing shell are not left at the manifold's connectors.

If the O-ring remains on the manifold, remove it before installing a new filter or flushing shell. There is a risk of liquid leakage due to improper installation.

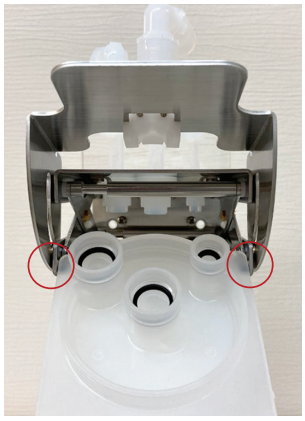


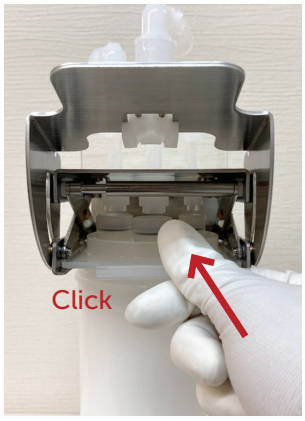
ATTACHING THE FILTER OR FLUSHING SHELL

1. Raise the manifold lever completely to the top.



2. Place the filter or flushing shell in the groove of the filter guide and push it in along the guide until you hear it click into place. (Though there may be some resistance, push the filter or flushing shell to the end.)



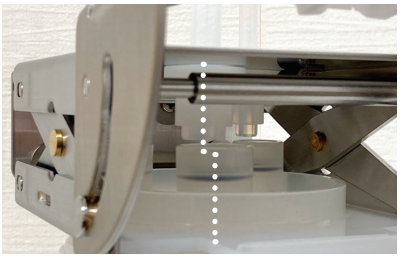


⚠ **CAUTION: If the lever is not raised enough, the filter or flushing shell cannot be inserted along the filter guide.**

Remove the filter or flushing shell, lift the lever to the top, and install again.

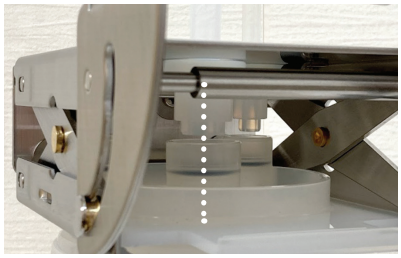
If the filter or flushing shell is forcibly inserted while the lever is not completely raised, the manifold or filter may be damaged or chemical may leak.

⚠ **CAUTION: Do not lower the lever with the filter or flushing shell not fully inserted. The connector on the manifold may get damaged if it contacts the outer wall of the connection part of the filter or flushing shell. Make sure the filter or flushing shell is completely inserted to the end.**



Incomplete insertion of filter/flushing shell

The manifold connection is not centered on the filter connection.



Complete insertion of filter/flushing shell

The manifold connection is centered on the filter connection.

⚠ **CAUTION: When removing or attaching the filter or flushing shell, do not touch anywhere other than the lever. The shaft may come off and an unexpected accident such as leakage may occur. There is also a safety risk of getting your fingers caught in moving parts, resulting in injury.**

3. Lower the lever until you hear a click from the release tab.
4. If the lever does not go down until it is vertical, the filter or flushing shell may not be locked properly. Please try again from the removal procedure on page 12.

CAUTION: Make sure all the spring shafts are properly engaged. See page 16 for detailed check points. Make sure all the fittings and tubing are securely fastened before starting liquid flow.

NOTE: The acrylic transparent stand used in these photos is for photography only and is not recommended for actual use.

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