

blacklinesafety

G7 EXO

Diffusion and Pump Conversion

Technical User Manual

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1 G7 EXO MODELS

There are two G7 EXO models: **G7 EXO Pump** and **G7 EXO Diffusion**.

- G7 EXO Pump is equipped with a four-channel pump system that allows you to monitor up to four areas sequentially from up to 100 feet (30 metres) away.
- G7 EXO Diffusion allows you to monitor and measure ambient gas concentrations.

For detailed instructions on how to use G7 EXO Pump and G7 EXO Diffusion, refer to the [G7 EXO Technical User Manual](#).



G7 EXO Diffusion



G7 EXO Pump

2 G7 EXO CONVERSION KITS

Depending on your requirements, you can convert your device between the Pump and Diffusion models using Blackline Safety's conversion kits.

2.1 G7 EXO PUMP CONVERSION KIT

Use Blackline Safety's G7 EXO Pump Conversion kit ([ACC-G7EXO-PUMP](#)) to convert G7 EXO Diffusion to G7 EXO Pump.



What's in the Box

The G7 EXO Pump Conversion kit ([ACC-G7EXO-PUMP](#)) comes with:



Pump cartridge cover
1x



Pump gas chamber
1x



M4 screws 18 mm
4x



Pump module
1x



Inlet filter
4x

2.2 G7 EXO DIFFUSION UPGRADE KIT

Use Blackline Safety's G7 EXO Diffusion upgrade kit ([ACC-G7EXO-DIFFUSION-MOD-KIT](#)) to convert your G7 EXO Pump to G7 EXO Diffusion, or to upgrade your older G7 EXO Diffusion.

What's in the Box

The G7 EXO Diffusion Upgrade kit comes with:



Diffusion cover
1x



Diffusion chamber
1x



M4 screws 18 mm
4x



Pump module
1x



Wind guard
1x

3 REMOVING G7 EXO COMPONENTS

To convert from G7 EXO Diffusion to G7 EXO Pump or vice versa, or to upgrade G7 EXO Diffusion, you must uninstall the currently installed components.

You will need:

- G7 EXO
- Screwdriver (#2 Phillips)

Before you begin:

- Place G7 EXO in a dry, safe, and non-hazardous environment.
- Disconnect any external charging source, such as the trickle charger or solar panel.

3.1 UNINSTALLING G7 EXO PUMP COMPONENTS



Figure 3-1: Uninstalling G7 EXO Pump components

IMPORTANT: Do not discard your G7 EXO Pump components. Device components can be re-installed in G7 EXO as your area monitoring requirements change.

To uninstall G7 EXO Pump components:

1. Power off EXO. Use a Phillips screwdriver to remove the pump cartridge cover.
NOTE: The captive screws should stay attached to the pump cartridge cover. Once the cover is removed, set it aside for storage.
2. Remove the device's gas sensor cartridge by pulling it out of its slot in the pump gas chamber, and then set it aside for re-installation into the device.
3. Remove the pump module:
 - a.  Place G7 EXO on its side with the pump module facing upwards.
 - b. Remove the screws from the pump module and set them aside.
 - c. Carefully lift the module, using your fingers to detach the quick connect from G7 EXO.
 - d. Remove and set the pump module aside with the other pump components.

- e.  Stand G7 EXO upright.
4. Remove the pump gas chamber:
 - a. Remove the screws and washers from each side of the pump gas chamber.
 - b. Slide the chamber out of the front enclosure, using your fingers to carefully detach the pump gas chamber coupling from G7 EXO's inlet tubing.

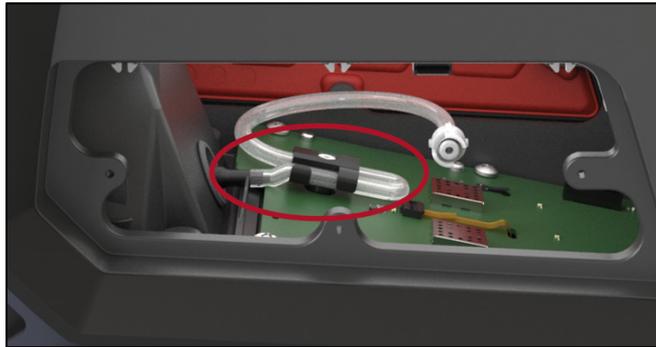


Figure 3-2: Ideal tubing position for optimal gas flow

NOTE: You may need to gently unclip or adjust the tubing by sliding it through the tube clamp to shorten the loop to allow for the movement of the pump gas chamber.

IMPORTANT: During any adjustment of the inlet tubing and clamp, take care not to dislodge the display ribbon cable connector. If you dislodge the connector, gently reconnect it before proceeding.

- c. Set aside the pump gas chamber with the other pump components.
5. Collect and properly store the pump components set aside in the previous steps.

The device is ready for the installation of new components. For instructions on installing upgraded G7 EXO Diffusion components, see [Installing G7 EXO Diffusion Components](#).

3.2 UNINSTALLING G7 EXO DIFFUSION COMPONENTS



Figure 3-3: Uninstalling updated G7 EXO Diffusion components



Figure 3-4: Uninstalling old G7 EXO Diffusion components

IMPORTANT: If you are installing the Diffusion Upgrade kit ([ACC-G7-EXO-DIFFUSION-MOD-KIT](#)), please properly dispose of the old diffusion components. If you are converting to G7 EXO Pump from an upgraded G7 EXO Diffusion, do not discard your diffusion components. Upgraded diffusion components can be re-installed as your area monitoring requirements change.

To uninstall the G7 EXO Diffusion components:

1. Power off EXO. Use a Phillips screwdriver to remove the diffusion cartridge cover.
NOTE: The captive screws should stay attached to the diffusion cartridge cover. Once the cover is removed, set it aside for storage.
2. Remove the device's gas sensor cartridge by pulling it out of its slot in the diffusion chamber, and then set it aside for re-installation into the device.
3. Remove the diffusion module:
 - a.  Place G7 EXO on its side with the diffusion module facing upwards.
 - b. Remove the screws from the diffusion module and set them aside.
 - c. Carefully lift the module, using your fingers to detach the module's quick connect from G7 EXO.
 - d. Remove and set the diffusion module aside with the screws and diffusion cartridge cover.
 - e.  Stand G7 EXO upright.

4. Remove the diffusion chamber:
 - a. Remove the screws and washers from each side of the diffusion chamber.
 - b. Slide the chamber out from its slot, using your fingers to carefully detach the diffusion chamber coupling from G7 EXO's inlet tubing.

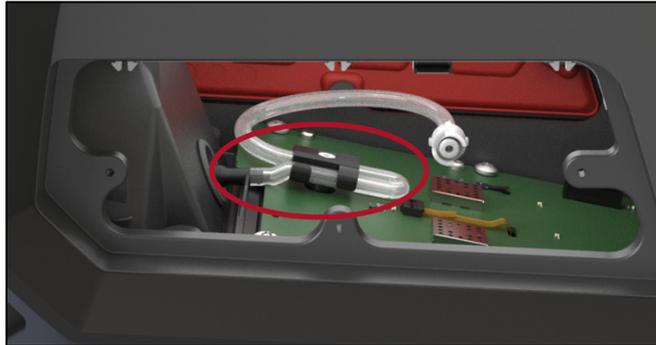


Figure 3-5: Ideal tubing position for optimal gas flow

NOTE: You may need to gently unclip or adjust the tubing by sliding it through the tube clamp to shorten the loop to allow for the movement of the diffusion gas chamber.

IMPORTANT: During any adjustment of the inlet tubing and clamp, take care not to dislodge the display ribbon cable connector. If you dislodge the connector, gently reconnect it before proceeding.

- c. Set aside the diffusion chamber with the other diffusion components.
5. If you uninstalled upgraded diffusion components, collect and properly store the diffusion components set aside in the previous steps.

If you uninstalled older diffusion components, properly dispose of the old diffusion components.

The device is ready for the installation of new components. For instructions on installing G7 EXO Pump components, refer to [Installing G7 EXO Pump Components](#). For instructions on installing upgraded G7 EXO Diffusion components, refer to [Installing G7 EXO Diffusion Components](#).

4 INSTALLING G7 EXO COMPONENTS

4.1 INSTALLING G7 EXO PUMP COMPONENTS



Figure 4-1: Installing G7 EXO Pump components

To convert from G7 EXO Diffusion to G7 EXO Pump, you will install the pump components.

You will need:

- G7 EXO with the previous components removed
- G7 EXO pump conversion kit ([ACC-G7EXO-PUMP](#))
- Screwdriver (#2 Phillips)

To install the G7 EXO Pump components:

IMPORTANT: Ensure that the G7 EXO Diffusion components have been uninstalled. For detailed instructions, refer to [Uninstalling G7 EXO Diffusion Components](#).

1. Install the pump gas chamber:
 - a. Using your fingers, attach the pump gas chamber coupling to G7 EXO's inlet tubing.
 - b. Carefully push the inlet tubing back into G7 EXO's interior.
 - c. Slide the pump gas chamber into its slot and secure the chamber using two screws and washers, ensuring they are snug but not over-tight.
2. Install the pump module:
 - a.  Place G7 EXO on its side with the module opening facing upwards.
 - b. Check inside the module opening to see if the inlet tubing is crimped. Ensure the clip is correctly attached and, if necessary, gently adjust the inlet tubing by sliding it through the tube clamp to elongate the loop.

IMPORTANT: During any adjustment of the inlet tubing and clamp, take care not to dislodge the display ribbon cable connector. If you dislodge the connector, gently reconnect it before proceeding.

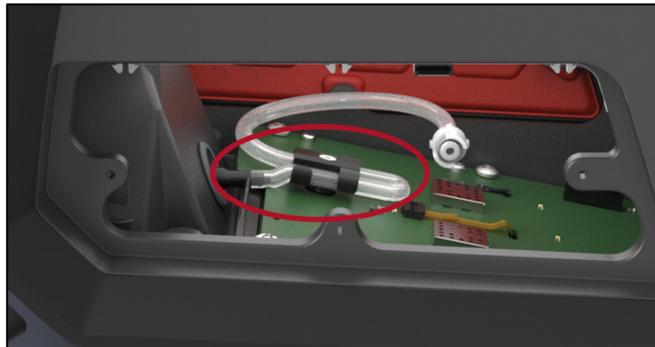


Figure 4-2: Ideal tubing position for optimal gas flow

- c. Attach the pump module to G7 EXO using the inlet tubing quick-connect.
- d. Line up the pump module's male connector with EXO's female connector and tuck the tubing under EXO's internal frame.
- e. Lower the pump module into the opening until it is flush with EXO's frame. Ensure that the inlet tubing remains tucked under G7 EXO's internal frame.

WARNING: The pump module is designed to lay flush with the opening. Make sure the inlet tubing is not pinched between the module and EXO's frame.

WARNING: DO NOT force or otherwise use undue pressure when lowering the module into place. Forcing the module into place or not lining up the connectors may result in permanent, unreparable damage to EXO. Refer to the following schematics for more information.

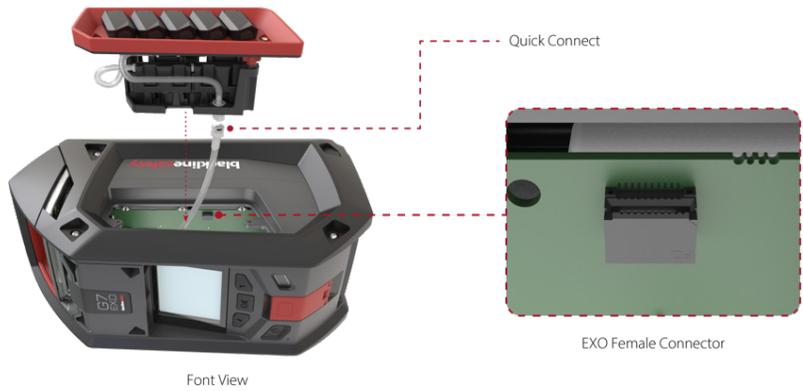


Figure 4-3: Location of G7 EXO female connector for pump module



Figure 4-4: Location of G7 EXO pump module male connector

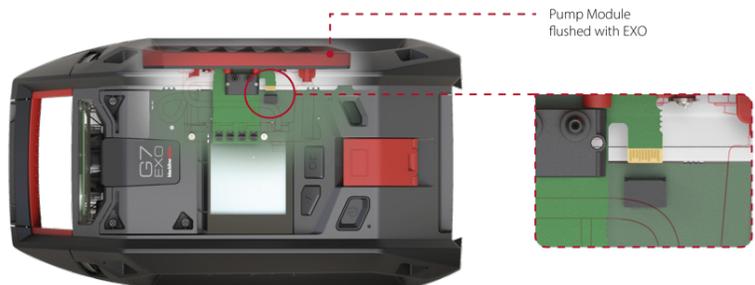


Figure 4-5: G7 EXO with properly connected pump module

- f. Secure the pump module to G7 EXO using the screws provided, ensuring they are snug but not over-tight.
 - g.  Stand G7 EXO upright.
3. Insert the gas sensor cartridge that was previously removed by sliding it into its slot in the pump gas chamber.
 4. Place the Pump Cartridge Cover on G7 EXO, ensuring that you properly orient the cover over top of the front enclosure. Tighten the cover's screws, ensuring they are snug but not over-tight.

G7 EXO Pump is ready for operation.

NOTE: G7 EXO Pump's pump inlets must be assigned before using the device. For detailed instructions on configuring pump inlets, refer to the [G7 EXO Technical User Manual](#).

IMPORTANT: Although EXO Pump inlet filters are an optional accessory, Blackline recommends always installing inlet filters to maintain the pump in good condition.



4.2 INSTALLING G7 EXO DIFFUSION COMPONENTS



Figure 4-6: Installing G7 EXO Diffusion components

To upgrade G7 EXO Diffusion, or to convert from G7 EXO Pump to G7 EXO Diffusion, you will install the diffusion components.

You will need:

- G7 EXO with the previous components removed
- G7 EXO Diffusion components or G7 EXO Diffusion Upgrade kit ([ACC-G7EXO-DIFFUSION-MOD-KIT](#))
- Screwdriver (#2 Phillips)

To install G7 EXO Diffusion components:

IMPORTANT: The previous G7 EXO Diffusion or G7 EXO Pump components must be completely uninstalled before proceeding.

1. Install the diffusion chamber:
 - a. Using your fingers, attach the diffusion chamber coupling to G7 EXO's inlet tubing.
 - b. Carefully push the tubing into G7 EXO's front enclosure.
 - c. Slide the diffusion chamber into its slot and secure the chamber using two screws and washers, ensuring they are snug but not over-tight.
2. Install the diffusion module:
 - a.  Place G7 EXO on its side with the diffusion module opening facing upwards.
 - b. Check inside the module opening to see if the inlet tubing is crimped. Ensure the clip is correctly attached and, if necessary, gently adjust inlet tubing by sliding it through the tube clamp to elongate the loop.

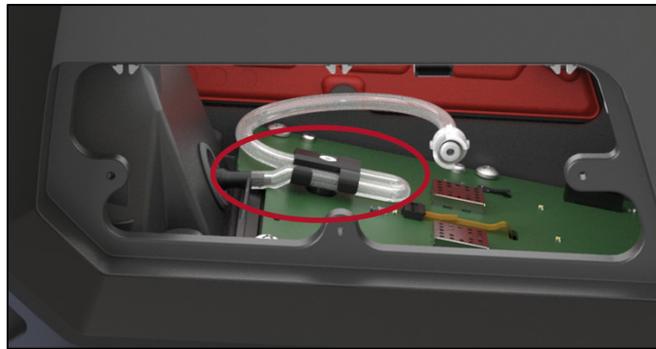


Figure 4-7: Ideal tubing position for optimal gas flow

IMPORTANT: During any adjustment of the inlet tubing and clamp, take care not to dislodge the display ribbon cable connector. If you dislodge the connector, gently reconnect it before proceeding.

- c. Attach the diffusion module to G7 EXO using the inlet tubing quick-connect.



Figure 48: Installing G7 EXO Diffusion components

- d. Lower the diffusion module into the opening until it is flush with G7 EXO. Ensure that the tubing remains tucked under G7 EXO's internal frame.

WARNING: The diffusion module is designed to lay flush with the opening. Make sure the tubing is not pinched between the module and EXO's frame.

- e. Secure the module to G7 EXO using the screws provided, ensuring they are snug but not over-tight.

- f.  Stand G7 EXO upright.

3. Insert the device's gas sensor cartridge by sliding it into it's slot in the diffusion chamber.
4. Place the diffusion cartridge cover on G7 EXO, ensuring that you properly orient the cartridge cover over top of the device's front enclosure. Tighten the cartridge's screws, ensuring they are snug but not over-tight.

G7 EXO Diffusion is ready for use.

NOTE: When bump testing or calibrating G7 EXO Diffusion in windy conditions, the wind guard is required to help regulate the flow and concentration of gas delivered to the sensors.

WARNING: Always remove the wind guard as soon as G7 EXO has been successfully bump tested and calibrated. Failure to do so will slow down EXO's response to hazardous gases.

For detailed instructions on installing and using the wind guard, refer to the [G7 EXO Technical User Manual](#).



5 SUPPORT

5.1 LEARN MORE

Visit support.blacklinesafety.com to find support and training materials for G7 EXO.

5.2 TECHNICAL SUPPORT

Contact our Technical Support team for assistance.

North America (24 hours)

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