

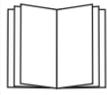
Torch Rebuild and Filter Replacement Kit Maintenance Guide

XPR170® / XPR300®

Hypertherm®

12/2021 809800 Revision 2

⚠ WARNING!



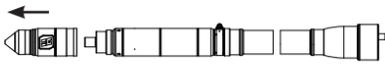
READ THE SAFETY INFORMATION

Before operating or maintaining any Hypertherm equipment, read the *Safety and Compliance Manual (80669C)* for important safety information.

You can find the *Safety and Compliance Manual* in the "Documents library" at www.hypertherm.com.

Rebuild the torch

- Turn OFF the power to the system.
- Remove the quick-disconnect torch from the quick-disconnect receptacle.



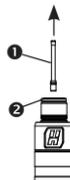
- Remove the consumables.



- Replace the following parts:

▪ (1) water tube ❶

- Insert the tube until it comes to a stop. When correctly installed, the water tube can seem loose. Any side-to-side looseness will disappear after electrode installation.

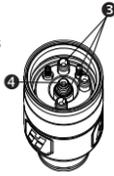


▪ (2) O-rings ❷ on the front of the torch body

- Apply a thin layer of silicon lubricant to each new O-ring before you install it. The O-rings should look shiny, but there should not be too much lubricant.

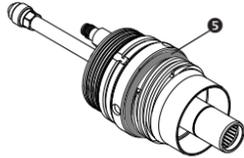
▪ (3) bullet connectors ❸ and (1) O-ring ❹ on the coolant-in connection

- Use pliers to pull the old bullet connectors straight out.
- Apply a thin layer of lubricant to the new O-ring.
- Carefully install the O-ring onto the coolant-in connector.
- Install the new bullet connectors. Make sure each new bullet connector is fully seated and has 2 O-rings. Apply a thin layer of lubricant to each O-ring. Do not use tools to push the connectors into the slots. This can damage the connectors.



▪ O-ring ❺ on the quick-disconnect receptacle

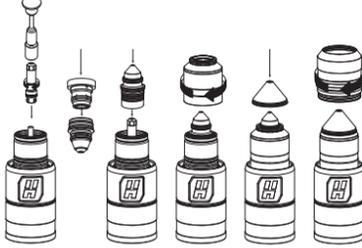
- Do **not** lubricate this O-ring.



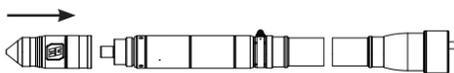
- Examine the consumables, and remove any contamination.
- Install the consumables. Use the **429013** tool to tighten the electrode to the correct torque.

- This tool is not included in the kit.

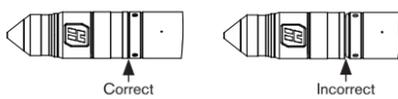
429013
2.3 N·m – 2.8 N·m
(20 lbf·in – 25 lbf·in)



- Assemble the quick-disconnect torch and receptacle.

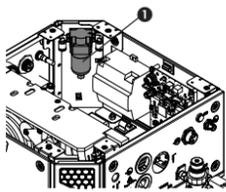


- Make sure to correctly align the torch and receptacle.
- Make sure that there is no space between the torch body and the O-ring on the torch quick-disconnect receptacle.



- Turn ON the power to the system.

Replace the air filter element



- Turn OFF the power to the system.
- Turn OFF the supply gases.

- Remove the filter housing ❶.

- Remove the filter bowl ❷.

- Remove the filter element ❸ from the filter bowl and from the plastic fittings ❹.

- Discard the filter element, but set aside the fittings.

- Remove water and debris from the filter bowl. Make sure that the bowl is clean.

- Install the new filter element in the filter bowl. Use the plastic fittings that you removed in step 5.

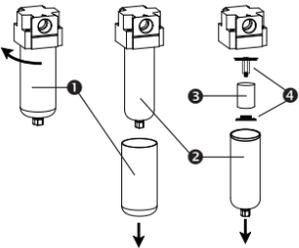
- Apply a thin layer of silicone lubricant to the O-ring around the top of the filter bowl.

- The O-ring should look shiny, but there should not be too much lubricant.

- Install the filter bowl and the filter housing.

- Turn ON the supply gases.

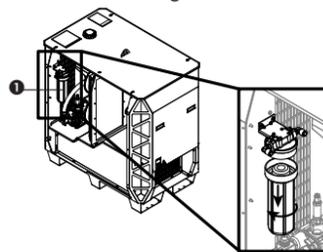
- Turn ON the power to the system.



Replace the coolant filter element

- Turn OFF the power to the system.

- Remove the filter housing ❶.



- Discard the old coolant from the housing.

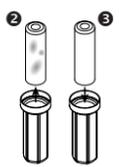
- Remove and discard the filter element ❷.

- Remove debris from the housing.

- Install the new filter element ❸.

- Install the housing.

- Turn ON the power to the system.



Replace all of the coolant

- Turn OFF the power to the system.

- Connect a 3/8-inch inner diameter tube to the outlet of the valve on the bottom of the reservoir. Put the other end of the tube into an empty container.

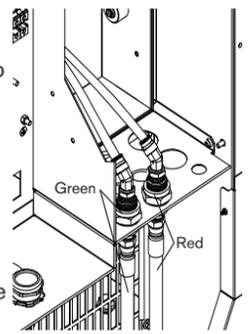
- Open the valve on the bottom of the reservoir. Remove the cap on the reservoir fill port inlet to allow the coolant to flow out.

- Remove the coolant return hose (red band) from the rear of the power supply.

- Attach compressed air (no more than 6.89 bar/100 psi) to the fitting where the hose (red band) was connected.

- For no more than 30 seconds, blow the coolant into the reservoir and filter housing.

- Close the valve at the bottom of the reservoir and remove the 3/8-inch tube from the valve outlet.



- Leave the coolant return hose (red band) disconnected.

- Put a container under the coolant pump plug.

- Remove the plug and coolant pump screen. Set them aside.

- Remove the coolant supply hose (green band) from the rear of the plasma power supply.

- Attach compressed air (no more than 3.45 bar/50 psi) to the fitting where the hose (green band) was connected.

- For no more than 30 seconds, blow all of the coolant into the container.

- Leave the coolant supply hose (green band) disconnected.

- Examine the coolant pump screen. Rinse it with clean water if you find debris or replace it if you find damage.

- Install the coolant pump screen.

- Wipe the O-ring on the plug. Make sure that the O-ring is free of debris, cracks, and nicks. Replace it if you find damage.

- Install the plug on the coolant pump housing.

- If you have not done so already, replace the coolant filter (see "Replace the coolant filter element" in this guide).

- Put the disconnected end of the return hose (red band) into an empty container.

- Attach compressed air (no more than 6.89 bar/100 psi) to the disconnected end of the supply hose (green band).

- For approximately 3 minutes, blow air into the supply hose (green band) fitting to force coolant out of the return hose (red band) and into the container.

- After 3 minutes, look for coolant flow out of the return hose (red band).

- Repeat steps 22 and 23 until flow from the coolant return hose (red band) stops.

- When the flow stops, connect both hoses (red and green bands) to the rear of the plasma power supply.

Install new coolant

- To choose the correct coolant, see "Coolant requirements" in the *XPR170 Instruction Manual (810060)* or the *XPR300 Instruction Manual (809480)*.

- To install the new coolant, see "Coolant installation" in the *XPR170 Instruction Manual (810060)* or the *XPR300 Instruction Manual (809480)*.