

# Torch Rebuild and Filter Replacement Kit Maintenance Guide

XPR300®

**Hypertherm®**

## ⚠ 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 "Downloads library" at [www.hypertherm.com](http://www.hypertherm.com).

### Rebuild the torch

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



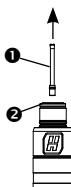
3. Remove the consumables.



4. 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.

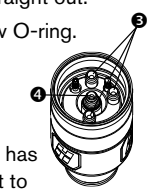


#### ▪ (2) O-rings ❷ on the front of the torch body

- 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.

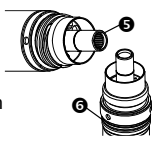
#### ▪ (3) bullet plugs ❸ and (1) O-ring ❹ on the coolant-in connection

- A. Use pliers to pull the old bullet plugs straight out.
- B. Apply a thin layer of lubricant to the new O-ring.
- C. Carefully install the O-ring onto the coolant-in connector.
- D. Install the new bullet plugs. Make sure each new bullet plug 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 plugs into the slots. This can damage the plugs.



#### ▪ Current band ❺

- Do not scratch the inside of the quick-disconnect receptacle when you remove the current band.
- Position the current band in the groove on the receptacle.

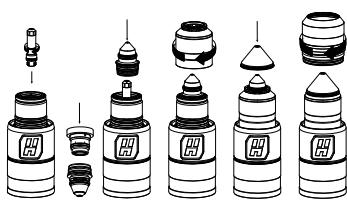


#### ▪ O-ring ❻ on the bottom of the quick-disconnect receptacle

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

5. Examine the consumables, and remove any contamination.

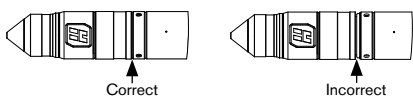
6. Install the consumables.



7. Assemble the quick-disconnect torch and receptacle.

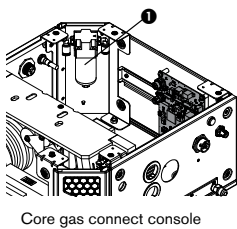


- Make sure to correctly align the torch and receptacle.
- Make sure that there is no space between the torch body and the O-ring on the torch quick-disconnect receptacle



8. Turn ON the power to the system.

### Replace the air filter element



1. Turn OFF the power to the system.
2. Turn OFF the supply gases.

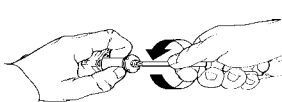
3. Remove the filter housing ❶.

4. Remove the filter bowl ❷.

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.

6. Remove the filter element from the filter bowl.



7. Install the new filter element.

- Do not let the filter element turn when you loosen the screw.

8. Install the filter bowl and the filter housing.

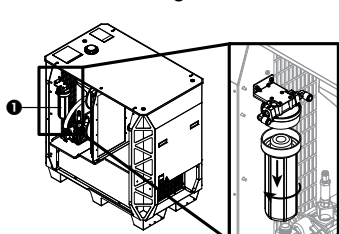
9. Turn ON the supply gases.

10. Turn ON the power to the system.

### Replace the coolant filter element

1. Turn OFF the power to the system.

2. Remove the filter housing ❶.



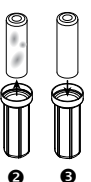
3. Discard the old coolant from the housing.

4. Remove and discard the filter element ❷.

5. Install the new filter element ❸.

6. Install the housing.

7. Turn ON the power to the system.



### Replace all of the coolant

1. Turn OFF the power to the system.

2. 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.

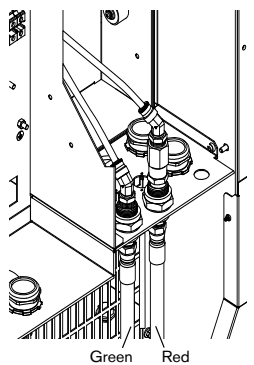
3. Open the valve on the bottom of the reservoir. Remove the cap on the reservoir inlet to allow the coolant to flow out.

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

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

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

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



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

9. Put a container under the coolant pump plug.

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

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

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

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

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

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

16. Install the coolant pump screen.

17. 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.

18. Install the plug on the coolant pump housing.

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

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

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

22. 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.

23. 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.

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

### Install new coolant

1. To choose the correct coolant, see "Coolant requirements" in the *XPR300 Instruction Manual (809480)*.

2. To install the new coolant, see "Coolant installation" in the *XPR300 Instruction Manual (809480)*.