

XPR® Coolant Check Valve Upgrade Procedures

Field Service Bulletin

810810 Revision 1 July 2023

Hypertherm, Inc.

21 Great Hollow Road, P.O. Box 5010 Hanover, NH 03755 USA 603-643-3441 Tel (Main Office) 603-643-5352 Fax (All Departments) info@hypertherm.com (Main Office)

800-643-9878 Tel (Technical Service) technical.service@hypertherm.com (Technical Service) 800-737-2978 Tel (Customer Service) customer.service@hypertherm.com (Customer Service)

Hypertherm México, S.A. de C.V.

52 55 5681 8109 Tel 52 55 5681 7978 Tel soporte.tecnico@hypertherm.com (Technical Service)

Hypertherm Plasmatechnik GmbH

Sophie-Scholl-Platz 5 63452 Hanau Germany 00 800 33 24 97 37 Tel 00 800 49 73 73 29 Fax

31 (0) 165 596900 Tel (Technical Service) 00 800 4973 7843 Tel (Technical Service)

technicalservice.emeia@hypertherm.com (Technical Service)

Hypertherm (Singapore) Pte Ltd.

Solaris @ Kallang 164 164 Kallang Way #03-13 Singapore 349248, Republic of Singapore 65 6841 2489 Tel 65 6841 2490 Fax marketing.asia@hypertherm.com (Marketing) techsupportapac@hypertherm.com (Technical Service)

Hypertherm Japan Ltd.

Level 9, Edobori Center Building 2-1-1 Edobori, Nishi-ku Osaka 550-0002 Japan 81 6 6225 1183 Tel 81 6 6225 1184 Fax htjapan.info@hypertherm.com (Main Office) techsupportapac@hypertherm.com (Technical Service)

Hypertherm Europe B.V.

Laan van Kopenhagen 100 3317 DM Dordrecht Nederland 31 165 596907 Tel 31 165 596901 Fax 31 165 596908 Tel (Marketing) **31 (0) 165 596900 Tel (Technical Service)**

00 800 4973 7843 Tel (Technical Service)

technicalservice.emeia@hypertherm.com (Technical Service)

© 2023 Hypertherm, Inc. All rights reserved. 100% Associate-owned.

XPR, EasyConnect, OptiMix, VWI, and Hypertherm are trademarks of Hypertherm, Inc. and may be registered in the United States and/or other countries. All other trademarks are the property of their respective holders.

Environmental stewardship is one of Hypertherm's core values. www.hypertherm.com/environment

Hypertherm (Shanghai) Trading Co., Ltd.

B301, 495 ShangZhong Road Shanghai, 200231 PR China 86-21-80231122 Tel 86-21-80231120 Fax

86-21-80231128 Tel (Technical Service)

techsupport.china@hypertherm.com (Technical Service)

South America & Central America: Hypertherm Brasil Ltda.

Rua Bras Cubas, 231 – Jardim Maia Guarulhos, SP – Brasil CEP 07115-030 55 11 2409 2636 Tel tecnico.sa@hypertherm.com (Technical Service)

Hypertherm Korea Branch

#3904. APEC-ro 17. Heaundae-gu. Busan. Korea 48060 82 (0)51 747 0358 Tel 82 (0)51 701 0358 Fax marketing.korea@hypertherm.com (Marketing) techsupportapac@hypertherm.com (Technical Service)

Hypertherm Pty Limited

GPO Box 4836 Sydney NSW 2001, Australia 61 7 3103 1695 Tel 61 7 3219 9010 Fax au.sales@hypertherm.com (Main Office) techsupportapac@hypertherm.com (Technical Service)

Hypertherm (India) Thermal Cutting Pvt. Ltd

A-18 / B-1 Extension, Mohan Co-Operative Industrial Estate, Mathura Road, New Delhi 110044, India 91-11-40521201/ 2/ 3 Tel 91-11 40521204 Fax htindia.info@hypertherm.com (Main Office) technicalservice.emeia@hypertherm.com (Technical Service)

Introduction

A WARNING



ELECTRIC SHOCK CAN KILL

Disconnect electric power before doing installation or maintenance. You can get a serious electric shock if electric power is not disconnected. Electric shock can seriously injure or kill you.

All work that requires removal of the plasma power supply outer cover or panels must be done by a qualified technician.

Refer to the *Safety and Compliance Manual* (80669C) for more safety information.

Purpose

This Field Service Bulletin shows how to upgrade the coolant check valve in the plasma power supply:

- 1. Replace the coolant filter
- 2. Install the new check valve
- 3. Remove the old check valve

Tools and materials needed

- 10 mm, hexagonal socket wrench or nut driver
- 7/8-inch wrench
- 1-inch wrench

Kit 428971 contents

Part number	Description	Quantity
006113	Coolant check valve	1
015938	Fitting, 45-degree swivel	2
027005	Filter	1
428972	Kit: XPR check valve upgrade hoses, two pieces	1

NOTICE

To reduce coolant loss, make sure that the torch and consumables remain in the torch receptacle during the upgrade procedure.

Remove the power and panels from the plasma power supply

- 1. Remove the power from the cutting system.
- **2.** Use a 10 mm, hexagonal socket wrench or nut driver to remove the following panels on the plasma power supply:
 - Right (liquid-cooling-side) panel (Figure 1) to get access to the tube ① (Figure 2) that connects the coolant flow meter and filter housing.
 - Rear panel (Figure 3) to get access to the coolant elbow adapter that has the old check valve 2.



Keep all nuts and screws that you remove.





Figure 3



Replace the coolant filter

- **1.** Remove the filter housing (Figure 4).
- **2.** Discard all of the coolant from inside of the filter housing.
- **3.** Remove the old coolant filter. Recycle it, if possible. Discard if not.
- **4.** Examine the filter housing for debris. Rinse the filter housing to remove any debris, if found.
- 5. Install the new coolant filter (027005).
- 6. Install the filter housing.



Install the new check valve

- On the liquid-cooling side of the plasma power supply (Figure 5), release the push-to-connect fittings 3 on the coolant flow meter and filter housing to disconnect and remove the tube.
- 2. Remove the old tube (Figure 5). Recycle it if possible. Discard if not.





3. Use the push-to-connect fittings on the coolant flow meter and filter housing to install the new check valve (Figure 6).



The 45-degree swivel fittings on the upgraded check valve are designed to be loose for easier check valve installation.

- 4. Make sure that the new check valve is installed correctly (Figure 6):
 - The longer tube (approximately 10 cm/4 in.) is on the top and near the coolant-flow sensor.
 - The shorter tube 6 (approximately 7.6 cm/3 in.) is on the side and near the filter.
 - Coolant flows **up**, in the direction of the coolant-flow sensor.
 - The tubes from the new check valve are fully inserted in the fittings and the silver bands on the tubes are not visible.
 - The arrow symbol () on the check valve body points up, in the direction of the coolant-flow sensor.





Figure 6

Remove the old check valve

- 1. In the rear compartment of the plasma power supply (Figure 7), put a dry cloth or paper towel around the elbow adapter to absorb the small amount of coolant loss that can occur during check valve removal.
- **2.** Use a 7/8-inch and a 1-inch wrench to remove the elbow adapter that holds the old check valve.
- **3.** Use a 1-inch wrench to remove the old check valve from the panel adapter. Avoid removing too much of the white sealant compound from inside of the elbow adapter.
- **4.** Remove the old check valve. Recycle it if possible. Discard if not.
- 5. Install the elbow adapter, as shown in Figure 8.



Figure 8



- 6. Install the right (liquid-cooling-side) panel on the plasma power supply.
- 7. Install the rear panel.
- 8. Supply the power to the cutting system to start system operation and coolant flow.

- **9.** Operate the cutting system. Look for coolant leaks and make sure that the new check valve is correctly installed.
- **10.** Examine the coolant level. If it is low:
 - **a.** Remove the power from the cutting system.
 - **b.** Add coolant to the coolant reservoir.