

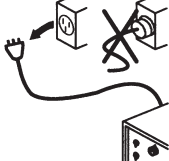


Coolant-Pump Motor Replacement HPR and HSD

Field Service Bulletin

805770 – Revision 1 – December, 2009

Hypertherm®

		DANGER ELECTRIC SHOCK CAN KILL
		

Disconnect electrical power before performing any maintenance. See *Section 1* of the system Manual for more safety precautions. Installation must be performed by Hypertherm distributors or qualified technicians!

Introduction

Purpose

This field service bulletin describes the steps necessary to replace the HPR or HSD coolant motor (031113). There are 2 kits because the HPR260 and HPR400 use wire group 229065, and the HPR130 and HSD130 use wire group 129348.

Kit 228230 contents

Part number	Description	Qty
031113	Motor: 1/3 HP, 240/50-60	1
129471	Clamp: Water pump	1
229065	Wire group: Cooling pump, HPR260 and HPR400	1

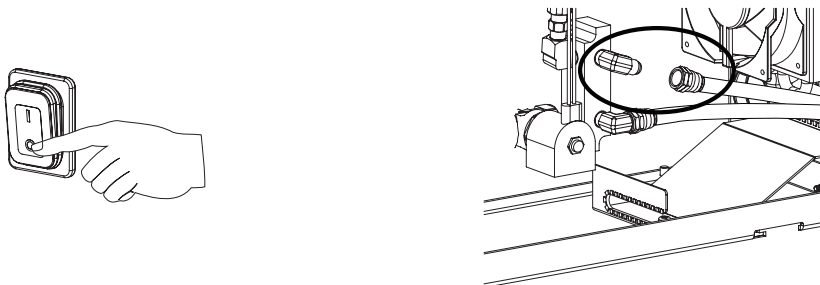
Kit 228538 contents

Part number	Description	Qty
031113	Motor: 1/3 HP, 240/50-60	1
129471	Clamp: Water pump	1
129348	Wire group: Cooling pump, HPR130 and HSD130	1

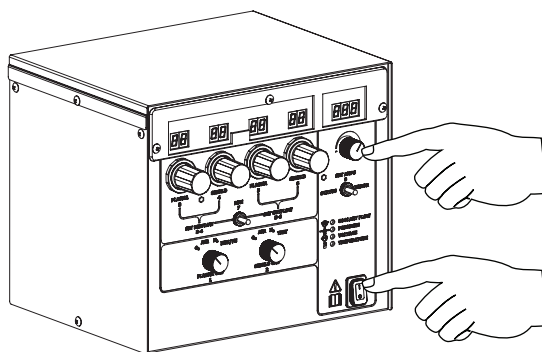
Drain the coolant from manual gas systems

HPR130 or HPR260 Manual gas systems

1. Turn OFF the power, and remove the return coolant hose (red tape) from the pump and put it in a 20 liter (5 gallon) container.



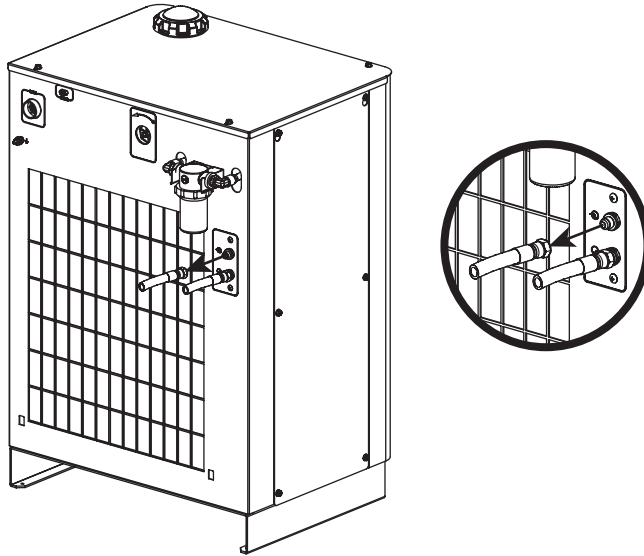
2. Press and hold the current selection knob (8) and turn ON the power switch. The pump will run continuously while (8) is pressed.



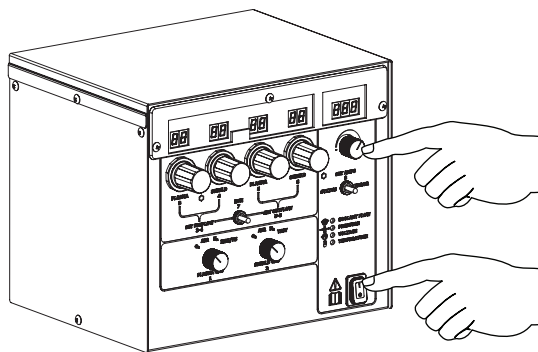
3. Run the pump until the coolant stops flowing and immediately release the current selection knob (8).

HPR400 Manual gas system

1. Turn OFF all power to the system.
2. Remove the return coolant hose (red washer on the cooler fitting) from the rear of the cooler and put it in a 20 liter (5 gallon) container.



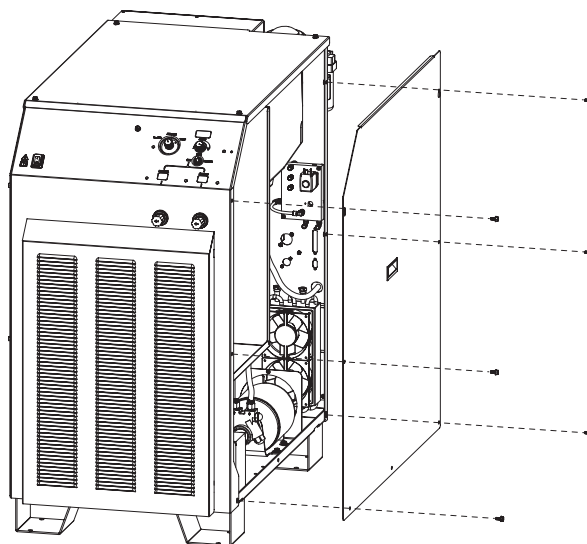
3. Press and hold the current selection knob (8) and turn ON the power switch. The pump will run continuously while (8) is pressed.



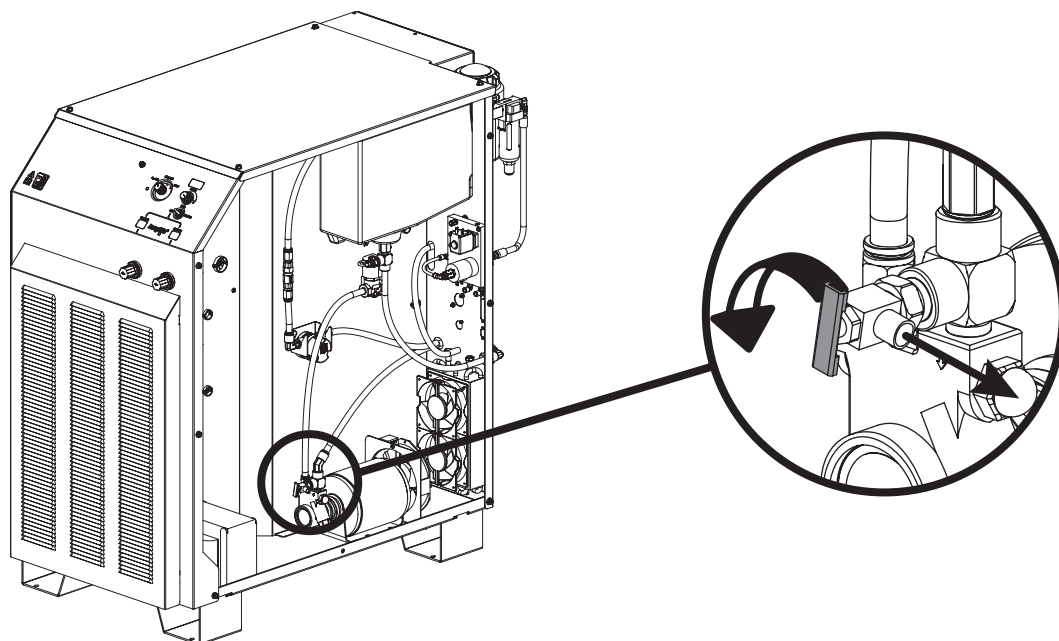
4. Run the pump until the coolant stops flowing and immediately release the current selection knob (8).

All HSD systems

1. Turn OFF the power, and remove the right-side panel from the power supply.



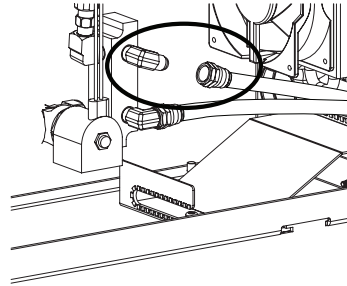
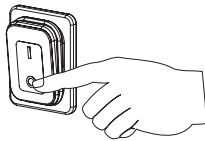
2. Locate the coolant drain valve and use a 20 liter (5 gallon) container to catch the coolant. Coolant will flow as soon as the drain is opened. Close the drain valve when the coolant stops flowing. Always dispose of coolant according to local and national codes.



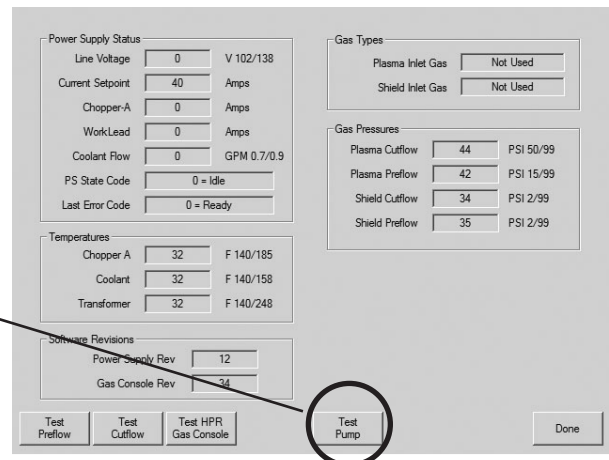
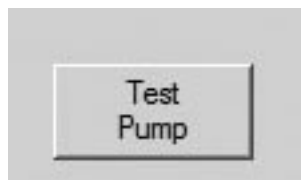
Drain the coolant from auto gas systems

HPR130 or HPR260 Auto gas systems

1. Turn OFF the power, and remove the return coolant hose (red tape) from the pump and put it in a 20 liter (5 gallon) container.



2. Turn ON the pump manually using the manual pump control button on your CNC screen.

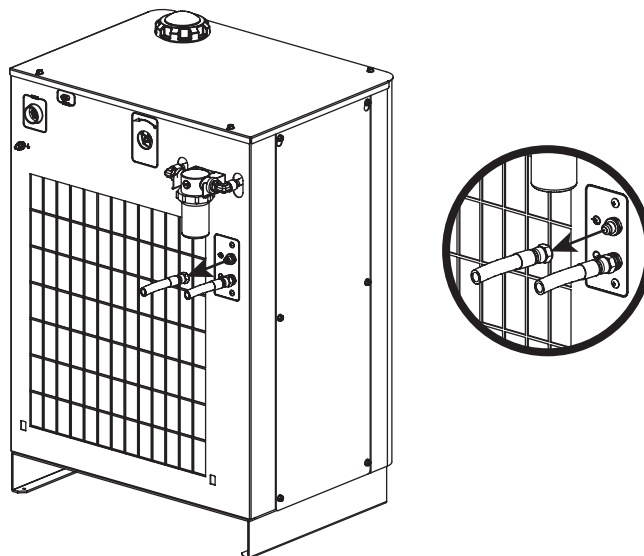


3. Turn OFF the pump when the coolant stops flowing.

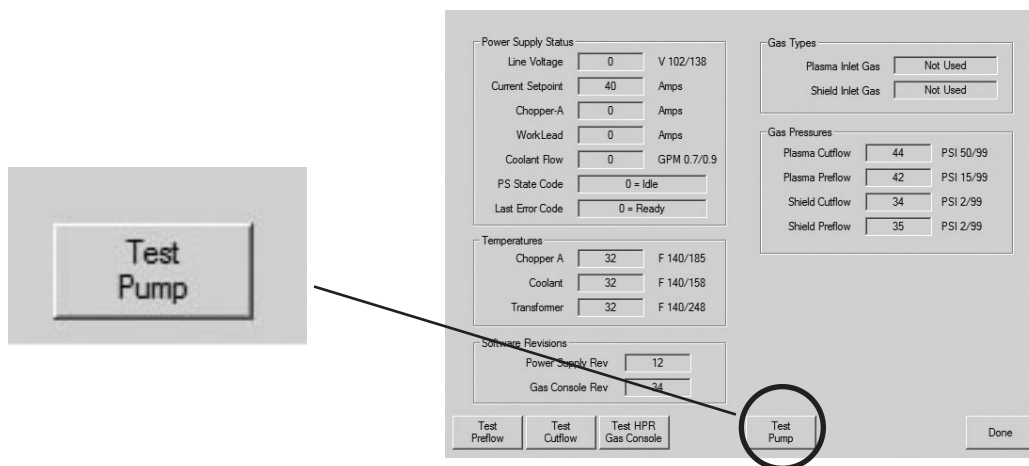
HPR AND HSD COOLANT-PUMP MOTOR REPLACEMENT

HPR400 Auto gas systems

1. Turn OFF the power, and remove the return coolant hose (red tape) from the pump and put it in a 20 liter (5 gallon) container.



2. Turn ON the pump manually, using the manual pump control button on your CNC screen.

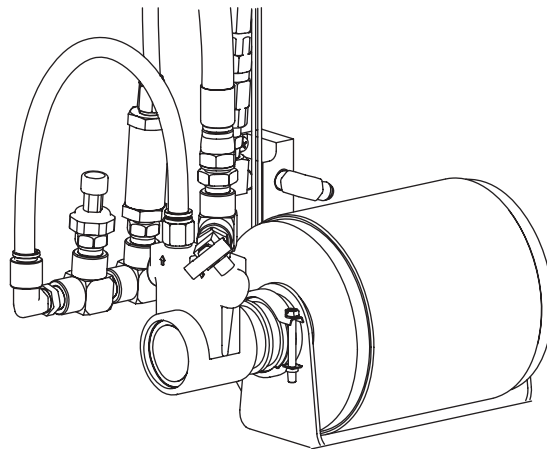


3. Turn OFF the pump when the coolant stops flowing.
4. This cycle may have to be repeated several times to pump out all the coolant.

Replace the motor

Remove the pump/motor assembly

1. Disconnect all hoses and wires from the pump/motor assembly.
2. Remove the pump and motor from the power supply.
3. Loosen the clamp that secures the pump to the motor. Discard the old clamp.
4. Remove the pump from the motor.



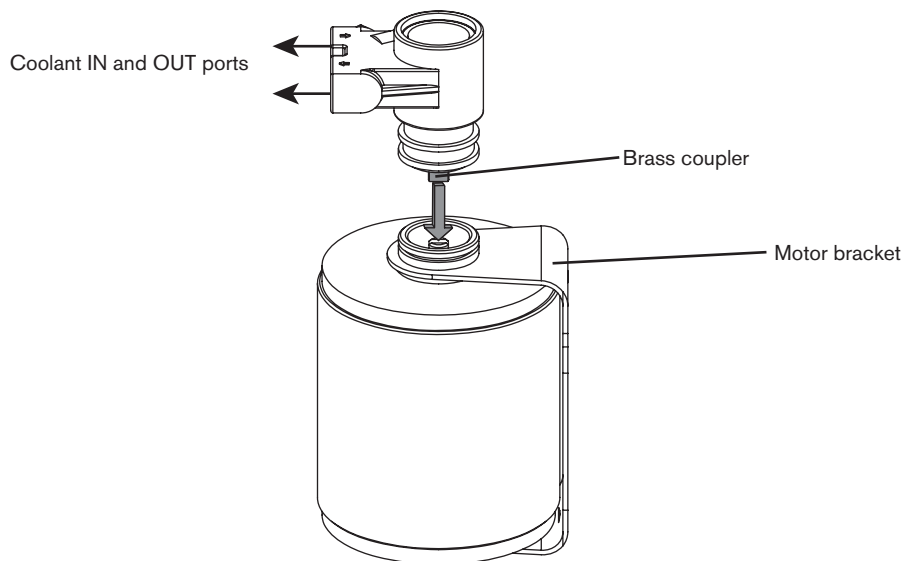
HPR pump/motor assembly

Install the pump onto the new motor

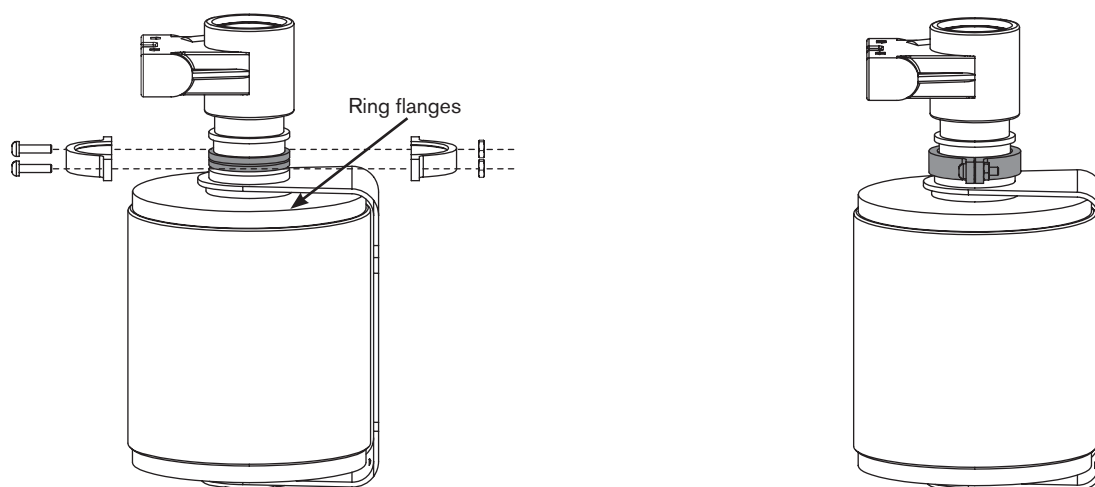
Notes: the motor should be vertical when you re-attach the pump. This will help assure that the pump and motor flanges are flush against each other. If the new pump is attached when the motor is horizontal, the alignment may be off. This will cause excessive vibration and shorten the life of the pump and motor.

Carefully remove any burrs or raised metal from the pump to make sure the pump will seat correctly and be aligned properly with the new motor.

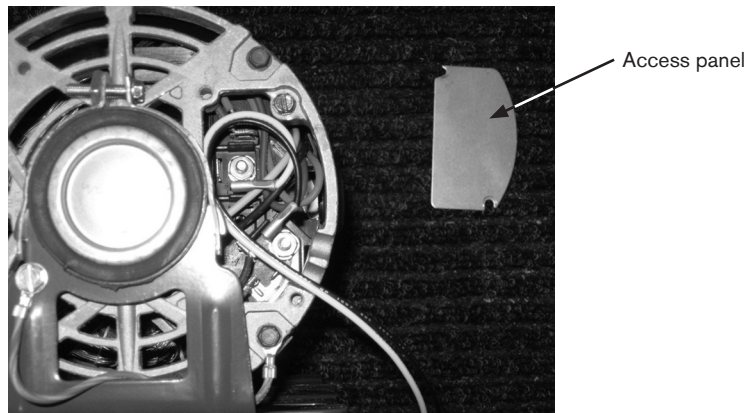
1. Align the brass coupler with the slot in shaft of the motor. Install the pump while making sure the brass coupler fits into the slot in the shaft of the motor. Orient the pump as shown below. The coolant IN and OUT ports on the pump should be facing the opposite direction of the motor bracket



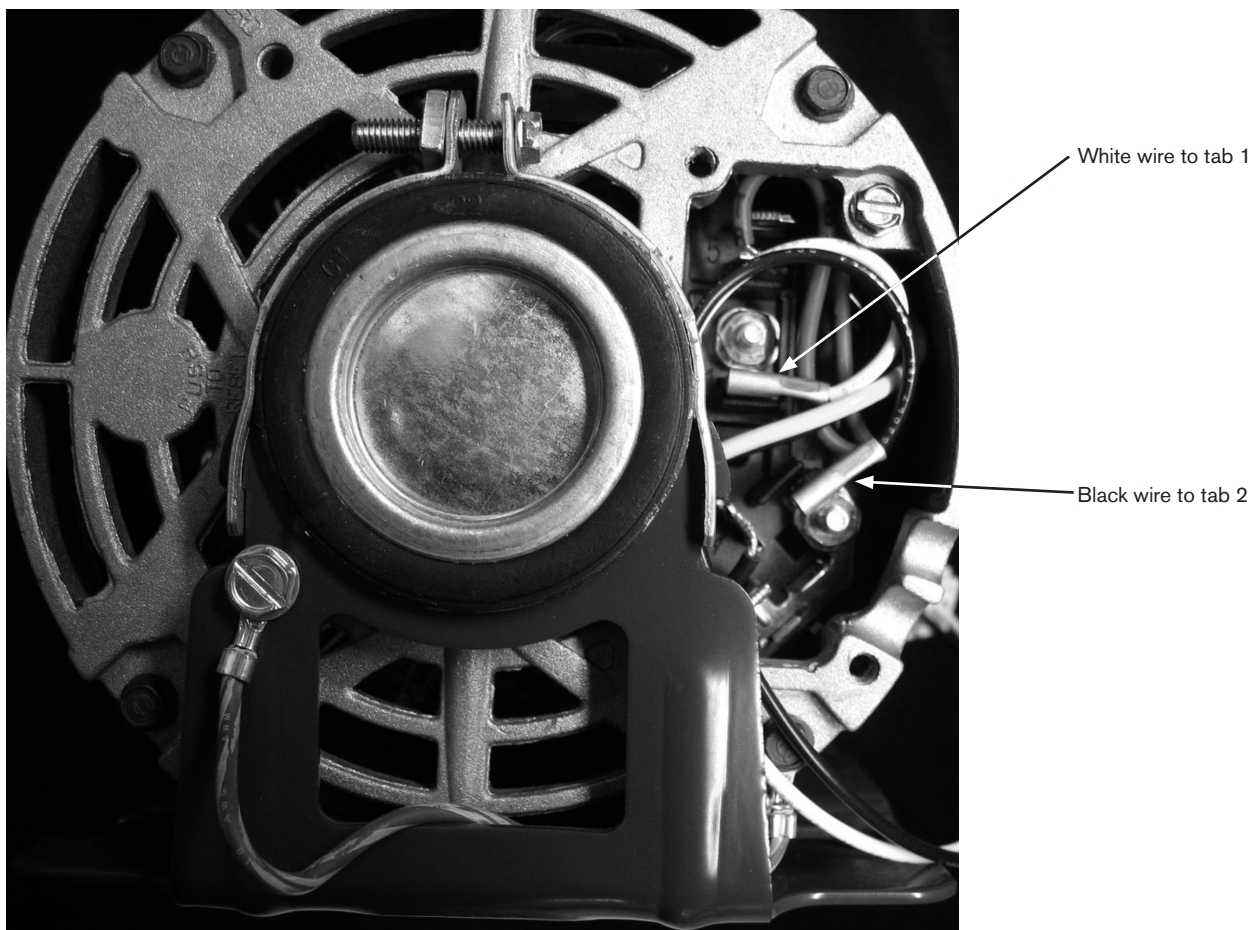
2. Make sure that the ring flange on the pump and the motor are flush against each other and attach the 129471 clamp around the entire circumference of the pump and motor flanges. Secure the clamp bolts using 29-30 inch-pounds of torque.



3. Reconnect all hoses and wires to the pump and motor assemblies.
4. Remove the access panel on the motor.



5. Use the wire group supplied with this kit to connect the white wire to tab number 1 and the black wire to tab number 2.



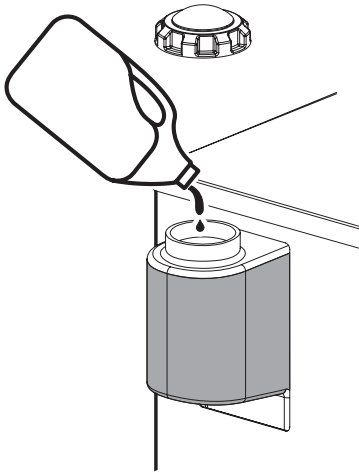
6. Re-install the pump/motor assembly in the power supply.

Fill the power supply with coolant

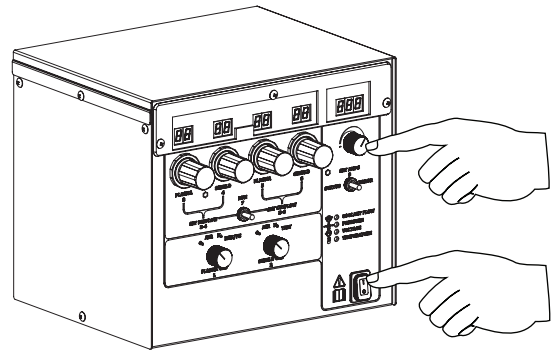
HPR130 or HPR260 manual gas system

All systems will take 11.4 – 15.1 liters (3 to 4 gallons) of coolant depending on the length of the torch leads and if the system has a local or remote ignition console.

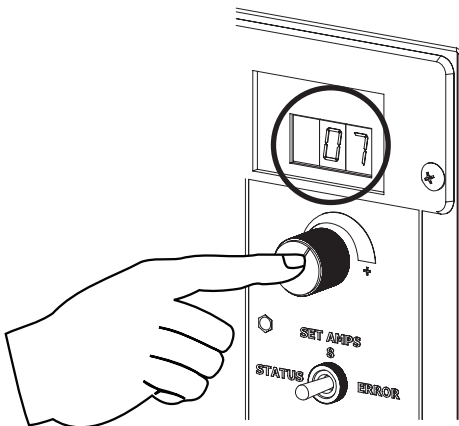
1. Add coolant to the power supply until the tank is full.



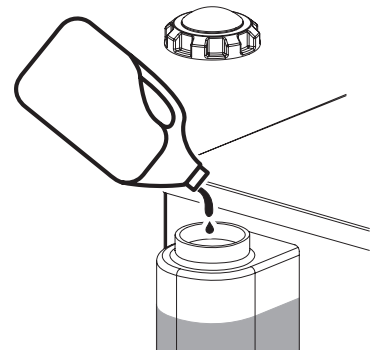
2. Press and hold the current selection knob (8) and press power switch on the gas console. The pump will run continuously while (8) is pressed.



3. The current display shows the flow rate. When the flow rate is constant and greater than 0.6 gpm, release the knob. The display will show the current again. The pump will continue to run.



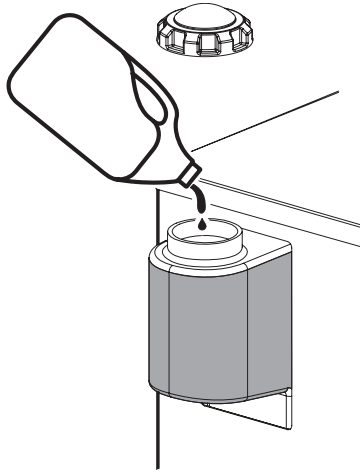
4. Turn OFF the system and add coolant to the power supply until the tank is full. Replace the filler cap.



HPR AND HSD COOLANT-PUMP MOTOR REPLACEMENT

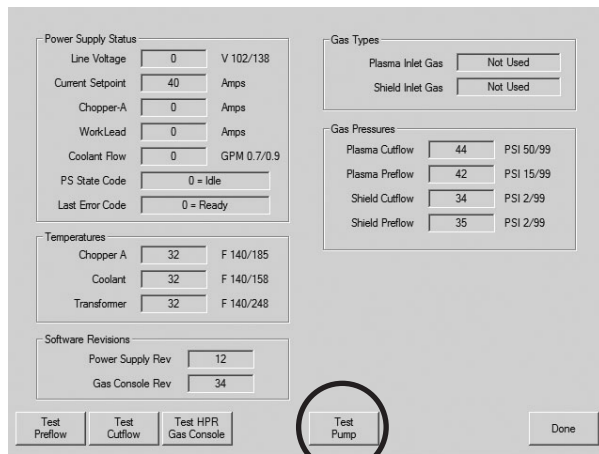
HPR130 or HPR260 auto gas system

1. Add coolant to the power supply until the tank is full.

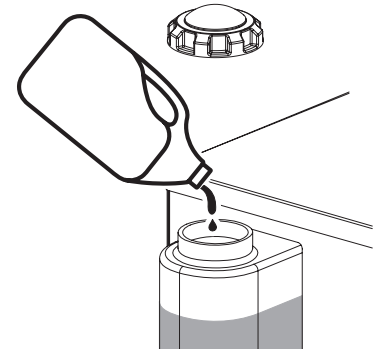


2. Turn ON the power supply using the remote ON/OFF switch or the CNC.

3. Locate the CNC screen for manual pump control. The pump needs to run to fill the leads.



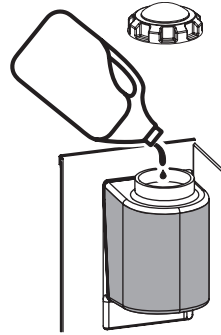
4. Turn OFF the system and add coolant to the power supply until the tank is full. Replace the filler cap.



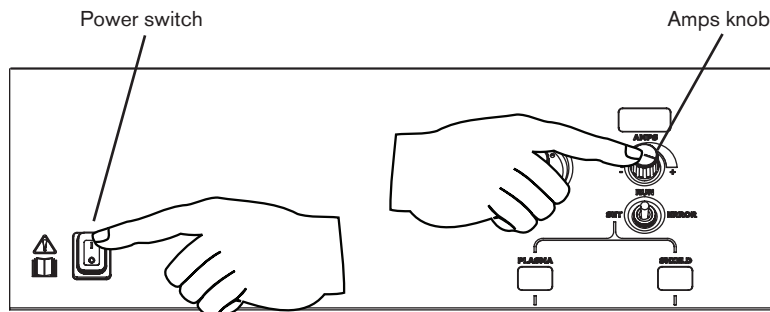
Fill the HSD power supply with coolant (all systems)

The system will take 11.4 – 15.1 liters (3 to 4 gallons) of coolant depending on the length of the torch leads and whether the system has a local or remote ignition console.

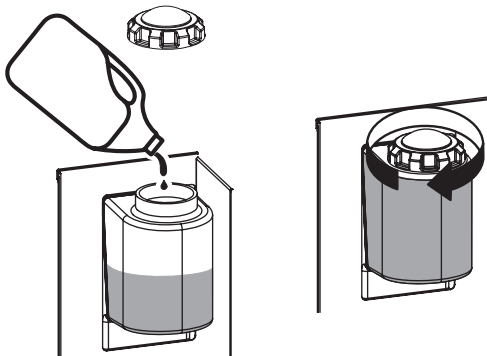
1. Add coolant until the tank is full.



2. Press and hold the Amps knob on the power supply control panel and turn ON the power to the power supply. This allows the user to override the 5-second pump time-out and fill the torch leads with coolant for the first time. Release the amps knob after 60 seconds. If the coolant flow switch is satisfied, the pump will continue to run and you are done. If the pump turns off, turn OFF the power to the power supply and repeat the process.



3. The level of coolant in the tank will have dropped. Add coolant until the tank is full and replace the filler cap.



Fill the HPR400 cooler with coolant (all systems)

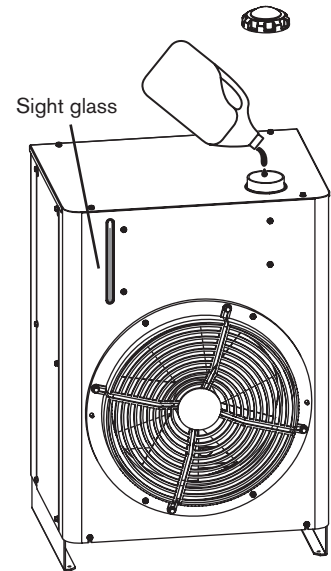
The cooling system's capacity is 15.5 to 34.5 liters (4 to 9 gallons) of coolant, depending on the length of the torch leads and coolant hoses.

Caution: Using the wrong coolant can cause damage to the system. Refer to *torch coolant requirements* in this section for more information.



Do not over fill the coolant tank.

1. Remove the filler cap and add coolant until the level in the sight glass reaches full.
2. Turn ON the power supply using the remote ON/OFF switch or the switch on the gas console. The coolant level in the tank will drop as the coolant circulates through the system, and an error code (060 or 093) may occur.
3. Turn OFF the power.
4. Add coolant to the cooler until the level in the sight glass reaches full, and turn ON the power.
5. Repeat this process as many times as necessary, until the pump can be run continuously. This will allow coolant to completely fill the coolant loop and purge any air from the system.
6. Replace the filler cap.



© Copyright 2009 Hypertherm, Inc.
All Rights Reserved

Hypertherm, HPR130, HPR260, HPR400 HSD130 and HyPerformance are trademarks of Hypertherm, Inc. and may be registered in the United States and/or other countries.

Hypertherm[®]

Hypertherm, Inc.
Hanover, NH 03755 USA
603-643-3441 Tel

Hypertherm (S) Pte Ltd.
417847, Republic of Singapore
65 6 841 2489 Tel

**Hypertherm (Shanghai)
Trading Co., Ltd.**
PR China 200052
86-21 5258 3330 /1 Tel

Hypertherm Europe B.V.
4704 SE Roosendaal, Nederland
31 165 596907 Tel

HYPERTHERM BRASIL LTDA.
Guarulhos, SP - Brasil
55 11 6409 2636 Tel

www.hypertherm.com