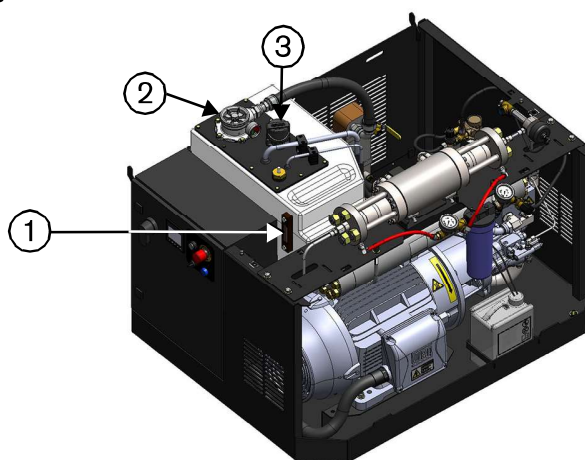


Hydraulic system

- Replace the hydraulic filter element:
 - ❑ every 1,500 hours.
 - ❑ when the needle on the hydraulic gauge is in the red zone while the pump is at stable temperature.
 - Replace the hydraulic fluid:
 - ❑ every 3,000 hours.
 - ❑ if the hydraulic fluid is dark or milky in color or has a strong odor.
 - ❑ if a test laboratory finds the quality is unsatisfactory.
- Refer to [Check the hydraulic fluid quality](#) on page 31.

Replace the hydraulic filter element



1 Sight gauge

2 Filter head

3 Filler cap

Parts, tools, and materials

Hydraulic filter element

Antiwear (AW) mineral oil or synthetic hydraulic fluid, ISO viscosity grade (VG) 32 or 46

Torque wrench

15/16-inch crowfoot wrench or socket

Recommended materials

Clean funnel

Clean towels

Do this task when the pump is not operating.

- 1. Remove the top cover and the front panel from the pump.
- 2. Remove the used filter element from the filter head.



Use a 15/16-inch crowfoot wrench or a socket if the filter element is too tight to remove by hand.

- 3. Put clean hydraulic fluid on the gasket of the new filter element.
- 4. Twist the filter element into the filter head.
- 5. Use a torque wrench to tighten the filter to a value between 13.5 N·m and 16 N·m (10 lbf·ft and 12 lbf·ft).
- 6. Turn **ON** the pump in pierce-pressure mode.
- 7. Look at the sight gauge to check the hydraulic fluid level. Add hydraulic fluid, if necessary.

Add hydraulic fluid


CAUTION

Do not put too much hydraulic fluid in the tank.



The capacity of the hydraulic fluid tank is 120 L (32 gallons).



Parts, tools, and materials

Antiwear (AW) mineral oil or synthetic hydraulic fluid, ISO viscosity grade (VG) 32 or 46

Recommended materials

Clean funnel

Do this task when the pump is not operating.

- 1. Make sure that the drain valve is closed.
- 2. Remove the top cover and the front panel from the pump.
- 3. Remove the filler-breather cap on top of the hydraulic fluid tank.
- 4. Fill the tank with hydraulic fluid until the fluid is at the top mark on the sight gauge.
- 5. Install the filler-breather cap.

Replace the hydraulic fluid

 CAUTION	Do not put too much hydraulic fluid in the tank.
	If it is not practical to analyze a sample of the hydraulic fluid, Hypertherm recommends replacing the hydraulic fluid every 3,000 hours.



Parts, tools, and materials

Hydraulic fluid replacement kit

Antiwear (AW) mineral oil or synthetic hydraulic fluid, ISO viscosity grade (VG) 32 or 46

Clean towels

Siphon or siphon pump

Torque wrench

15/16-inch crowfoot wrench or socket

Recommended materials

Clean funnel

Container for used hydraulic fluid

Isopropyl alcohol

Do this task when the pump is not operating.

1. Remove the top cover and the front panel from the pump.
2. Remove the filler cap or the filter head.
3. Use a siphon or a siphon pump to remove the hydraulic fluid from the tank.
4. Disconnect the lower ends of the hydraulic hoses that enter the top of the tank.
5. Remove the filter element and install a new element. Refer to [Hydraulic system](#) on page 68 for instructions.
6. Disassemble the hydraulic tank cover.
 - a. Disconnect the fluid level-and-temperature sensor cable.
 - b. Disconnect the hydraulic hose from the filter.
 - c. Remove the 2 hoses that pass through the cover.
 - d. Use a 7/16-inch open-ended wrench to remove the bolts and washers (10 each) from the tank cover.
7. Clean the inner surfaces of the tank with clean towels. Make sure that no debris is left in the bottom of the tank.

 CAUTION	Remove all towels from the tank before putting hydraulic fluid in it.
	Do not use soap, detergent, or solvents. Isopropyl alcohol can be used to clean the tank.