

# 1 KOOLANCE RP-452X2 Rev.2.0 Installation Guide v 1.0

The Koolance RP-452X2 is designed for one or two PMP-450 or PMP-450S pumps (not included). It mounts into two consecutive 5.25" computer drive bays using the included screws.

## Pump Disassembly

The pumps must be disassembled for installation. Unscrew the large ribbed collar on each pump by hand.



Remove the original pump o-ring and ribbed outer collar. These are not used with the RP-452X2.

Original pump o-ring (not used)



## Pump Installation



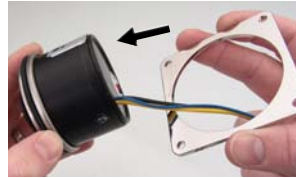
Unscrew the metal bracket from the side you wish to install the first pump.

Beneath the metal bracket is a black rubber o-ring. Keep this for later use.



Place the Koolance black o-ring (removed from the RP-452X2 or pump blocker) around the rim of the pump motor. Do NOT use the original pump's o-ring.

The pump is now ready to be installed into the RP-452X2.



Slide the metal bracket around the rear of the pump. The pump's wiring should go INSIDE this metal ring.



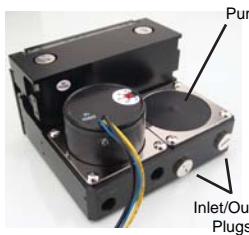
Gently screw the pump to the RP-452X2 by tightening its metal bracket. To prevent leaks, be sure the o-ring stays clean and properly aligned during installation.



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To mount the second pump, repeat the above process for the other pump location on the RP-452X2.

## Operation with One Pump



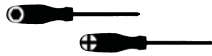
Pump Blocker

Inlet/Outlet Plugs

The RP-452X2 is shipped with one pump side "blocked". Leave this in place with its o-ring and metal bracket if you are only installing one pump.

In addition, the inlet and outlet of this pump must stay plugged on the rear nozzle ports to prevent leaking.

## Combining the Reservoirs

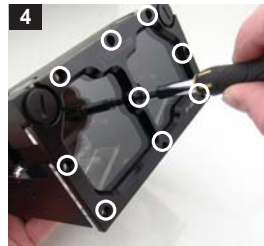


Both reservoirs can be merged into a single larger tank by removing the bottom connection plug. This is done by unscrewing the front metal plate beneath the RP-452X2, removing the plug, and replacing the metal plate. (Be sure the black o-ring stays in place during this process.)



O-ring

Remove Plug



Also for serial operation, an acrylic bypass piece is included for optional installation. This can improve performance by preventing coolant from entering the reservoir twice. With this installed, the reservoirs can also be combined (see page 3).

Unscrew the front aluminum bezel and remove the bezel and acrylic window. **Try to keep both reservoir o-rings in place behind the window.**



Unscrew and remove the acrylic piece from the left front reservoir (P2 side).



Install the acrylic bypass piece in the left front reservoir (P2 side). Tighten with included screws and replace the front window and aluminum bezel.

## Serial and Parallel Pump Operation



For parallel operation, the inlet and outlet of each pump (P1 and P2) are used separately. Each pump simply uses its own reservoir.

For serial operation, the rear outlet from pump one (P1) will directly connect to the inlet of pump two (P2). A 180-degree connecting pipe is included to make this easier.



## LED Lighting (Optional)

There are two holes on each side of the acrylic for 3mm wide LED lights (sold separately).

Slide each LED into the small receptacles in the edge of the acrylic. A small drop of hot glue can help hold each LED in place.