

PURGE QUICK START GUIDE – REFER TO OPERATOR’S MANUAL FOR MORE INFO.

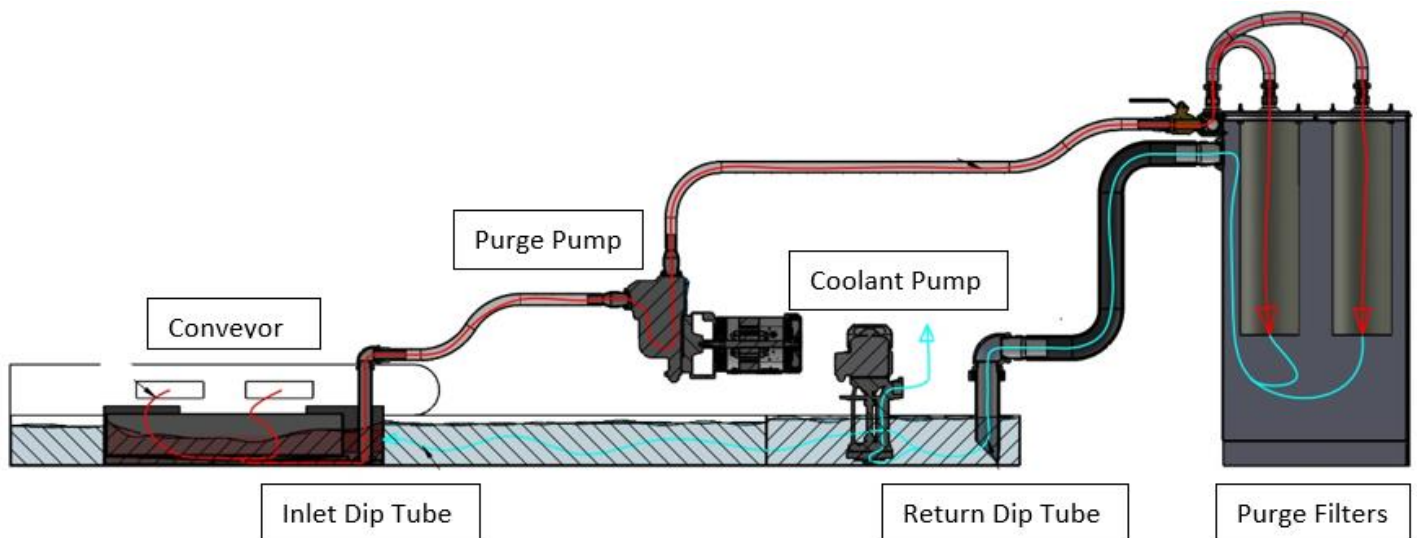
WARNING – PUMP MUST BE PRIMED BEFORE USE

The MP-PURGE filtration system is intended to be used on machines with filtering chip conveyors or chip screen baskets running water-based coolant or oil. It is not intended to replace a filtering conveyor, but to be used as secondary, finer filtration to clean up all the sludge and debris that accumulates throughout the tank.

MP Systems recommends placing the suction point (inlet dip tube) either close to the outlet of the chip conveyor, where coolant and debris first enter the tank, or in the path of coolant flow after the conveyor. In less than ideal cases where some of the debris may be missed, the Purge will still provide an excess of clean coolant directly to the clean side of the machine tool tank where the coolant pumps are located. Because of the Purge’s high flow rate, it will eventually capture the debris that is kept in suspension and provide the machine with cleaner coolant conditions and less downtime.

The Purge tank requires roughly 24” x 24” of floor space that is located next to the coolant tank pump chamber to allow for proper return hose routing.

The Purge pump can be mounted remotely and should be located as close to the inlet dip tube as possible and where location is convenient. The pump can either sit directly on the floor or be mounted on the coolant tank if space allows.



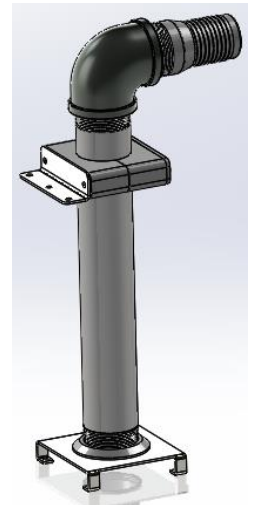
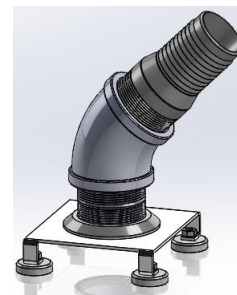
1. Install Inlet and Return Dip Tubes.

- 1 1/4" Inlet – Close to chip conveyor outlet, where coolant and debris first enter the tank.
 - The idea is to pick up and filter the dirty coolant right as it enters the tank before the debris has a chance to settle.
 - A minimum coolant level of 4" at lowest is required. 5" or more is preferred.
 - Can usually be installed in spare coolant pump opening in tank or a hole may need to be cut out.
 - A 1 3/4" hole saw may be required. Refer to hole saw guide for more info.

- When possible, use the supplied dip tube pipe assembly and green clamp to fasten to tank top. ----->

- If there is not a suitable place to fasten the standpipe and clamp, install supplied magnets to bottom of the low level plate and reconfigure plumbing to allow for proper dip tube placement and hose routing. ----->

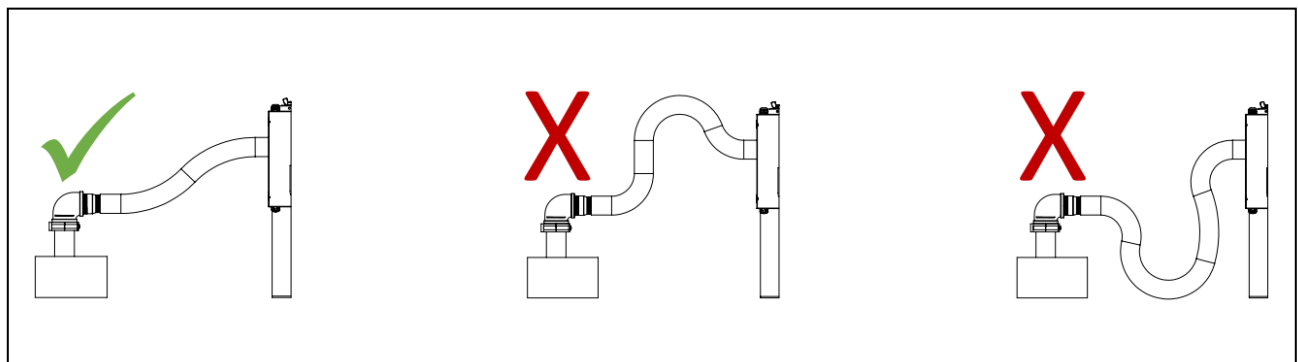
Ensure hose is routed and secured properly



- 2 1/2" Return Dip Tube – Opposite side from Inlet, near coolant pumps to create counterflow back to inlet.
 - Can usually be installed in a spare coolant pump opening.
 - A 3" hole saw may be required to cut hole in tank. Refer to hole saw guide.
 - Ensure 45 cut opening on pipe is facing proper direction for flow.

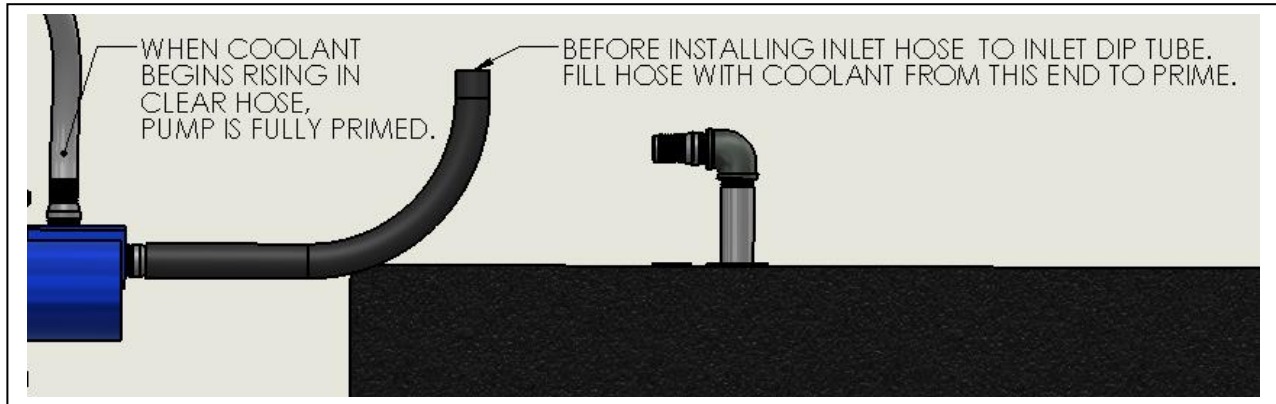
2. Attach hoses and tighten clamps

- 1 1/4" Inlet hose should be as short as location allows and run along floor.
- 1 1/4" Pump outlet hose to purge inlet manifold. Again, keep as short as possible.
- 2 1/2" Return hose should have a nice gradual slope downwards towards tank.
 - The Purge uses a gravity-based return. Because of this, the hose must be as short as possible and have a continuous downward slope. If the hose goes under the tank level or over the top of the Purge, it can block the flow of coolant, causing an alarm.
 - **Return hose MUST NOT be positioned higher than overflow port on purge tank.**
 - **Overflow port on purge tank MUST BE higher than return dip tube in machine tank.**



3. Prime Pump & Fill Purge Tank

- Ensure 1 1/4" inlet hose is attached to the inlet of pump and the clamp is tightened securely.
- Fill the 1 1/4" hose from opposite end, so coolant fills both the hose and pump casting completely from inlet side. You should be able to see coolant rising out of pump outlet hose when full.
- Note: Use a funnel to fill hose. You can also use a large zip tie to secure the open hose end over coolant tank to catch any spilled coolant while filling hose.
- Using the same coolant that will be used in the machine's coolant tank, fill the purge tank until coolant begins flowing out of the overflow return hose and into machine tank.



4. Install Power

- Purge kit contains power cable, circuit breaker, twist lock plug, and all necessary connectors.
- Following local electrical codes, install 3phase power to 208-230VAC line (480V optional).
- The Purge is phased Red, White, Black.
- Power can easily be pulled from bottom of machine tool breaker in most cases.
- Connect twist lock plug into receptable on bottom of CDR electrical panel.

5. Start system and do preliminary check.

- Motor rotation. Pump motor should rotate clockwise when looking at fan.
- Set Flow Rate. Depending on tank and pump configuration, the Purge flowrate can be set between 30-60 gallons per minute of flow. Smaller tanks require less flow, larger tanks require higher flow. Larger debris also requires higher flow to ensure it is captured and filtered before settling. Flow rate of purge should exceed total flow rate of all pumps in machine coolant tank. This ensures a constant backflow of clean coolant form the purge return dip tube in the coolant pump chamber, through the screen, and back towards purge inlet.
- Check Return Flow. After turning the purge on, ensure that the return hose is flowing freely and routed properly to ensure that it can handle the flow rate set in on the purge system.
 - If return hose is routed in a way that will not allow adequate flow back to machine tank, an alarm will occur on the purge control. Adjust hose routing or raise purge tank to fix.

HOLE SAW GUIDE

When installing MP Systems products, the correct location of the dip tubes is important to a successful install. The best way to do this is to use a preexisting hole in the tank can be used to pass the various pipes through the tank top. This is not only quick and easy, but also gives you a perfect window to be able to see what is going on in your tank for troubleshooting. Sometimes, this is simply not an option and a hole must be drilled in the tank.

If you find yourself in a pinch, most hardware stores like Home Depot or Lowes will have the required hole saws available, you will want to find a **bi-metallic hole saw** like a Milwaukee or Lenox depending on which store you go to. These tend to be the best option in a hurry, however they will wear out, so if you have a lot of holes to drill, it may be wise to purchase more than one.

If you know ahead of time that you will need them, then they can be ordered from McMaster, or MP Systems stocks and can ship a kit with all the necessary components.

| HIGH PRESSURE | PURGE | CDR | PIPE SIZE | HOLE SAW | McMaster | MP Systems |
|---------------|-------|-----|-----------|--------------|-----------|-----------------|
| X | X | X | 1 1/4" | 1 3/4" | 3789A29 | AK HOLE SAW KIT |
| | | X | 1 1/2" | 2" | 3789A33 | AK HOLE SAW KIT |
| | | X | 2" | 2 1/2" | 3789A39 | AK HOLE SAW KIT |
| | X | | 2 1/2" | 3" | 3789A45 | AK HOLE SAW KIT |
| X | X | X | ALL | ARBOR | 3789A61 | AK HOLE SAW KIT |
| X | X | X | ALL | PIN 3/16 X 2 | 97395A618 | AK HOLE SAW KIT |

Cutting a hole in sheet metal seems like a common task, however doing it right will not only be safer, but can also improve tool life, cut speed, and cut quality (clean vs. jagged edges).

1. Start by measuring twice. Use the green pipe clamp for the dip tube you are installing to help layout where the hole needs to be drilled, as well as where the fasteners will need to go for the clamp. Use a center punch to locate the holes and prevent drill drift.
2. Use the appropriate size drill to make a pilot hole in the center of the cut. ***NOTE*** Only the drill should be used at this point, do not use the drill bit while attached to the hole saw. When the drill breaks through, you can damage the hole saw by “punching” the sheet metal and breaking or bending the teeth.
3. Install the blank pin in the arbor, then thread on the hole saw. (In a pinch, an old drill bit installed backwards can work as a guide too) Be sure to set your drill to low speed and change from drilling to torque mode.
4. Apply cutting fluid and begin cutting, feathering the trigger to maintain a moderate speed.
5. Be sure to continuously add cutting fluid to keep the hole saw cool and lubricate the cut.

