

DMP Colloid Mill Bearing Cooling system - standard on all new mills.

Basically, this Cooling System is simply a radiator for the mill to convert it from “Air Cooled” to “Water Cooled” so it won’t matter what you want to do or how hot the weather is, it always runs the same. Some plants operate in cooler climates, so this may not be needed but it always makes the mill run cool consistent temperature.

Benefits:

Consistent temperature:

Constant temperature also means consistent gap. On an older Dalworth mill, If you test particle size 5 min. into a run and then 1:45 min. later you will get a huge difference because as the shaft grows .020", and the plate gap gets smaller .020". With the cooling system, the mill stays at around 140F and the gap stays where you set it. No more guessing or averaging.

Increased Bearing & Seal life:

Our new mill cooling system was developed for Dalworth mills that are in an environment that contributes to extreme mill bearing temperatures. These mills seeing bearing temperatures exceeding 275F have been determined by the bearing and seal manufacturers to contribute to the premature failure of the bearings and seals. However, it has been proven that the cooler these mills run the better. Remember, the temperature of the shaft in the mill runs hotter than the actual temperature gauge reads. When flushing the mill with these high shaft temperatures, the solution turns to steam in front of the inner seals which is very hard on Viton seals, frequently leading to failure. We have installed the cooling systems on several mills and everyone reports improved reliability, longer maintenance cycles and easier operation.

Simpler Operation:

There is no more "warmup" required because the mill will run approximately 120-140F with this cooling system installed. All other procedures stay the same. In many cases this system has paid for itself the first year by reducing repair costs and reducing down time. One customer was damaging the inner seal every two weeks and after adding this cooler unit they ran 60,000 Tonnes with a failure. The cooling system ONLY cools the bearings & seals, including the mechanical seal. It does not affect the product housing or the pre-heat jacket. That all stays the same. Dalworth has always recommended turning off the mill preheat after you start milling because it made the mills run hotter but with the cooling system, this no longer matters. Preheat on or off during milling will no longer affect the mill temperature. Always operate cooler while mill is running.

Simple Installation:

This DMP COOLING SYSTEM is self-contained. It simply needs the 2 hoses attached to the mill and plugged in with the mill lubricator. Then fill it with 3 gallons ETHYL GLYCOL/WATER MIX in the cooler reservoir and it is ready.

FAQ: CAN THIS BE ADDED TO OLDER MILLS & WHAT DOES THE RETROFIT REQUIRE?

DMP COOLING SYSTEM parts are as follows;

- 1- DMP COOLING UNIT w/ GEAR PUMP and 6' supply & return hoses
- 1- DMP S/S COOLING SLEEVE w/ O-RINGS
- 1- DMP INNER BEARING SPACER
- 1- DMP FLUSH LINE

The upgrade will replace internal Dalworth steel parts with new DMP stainless steel parts, the cooling sleeve and one additional inner bearing spacer. The Dalworth bracket will need to be in good condition. It will be honed and deburred to insure proper sealing of the O-rings. After installing the cooling sleeve, the bracket will be pressure tested to ensure the system is sealed. The temperature gauge will be relocated and the flush line from the Yellow valve will be redirected to the new cooling sleeve to improve proper flushing of the mechanical seal. The original mill operation stays the same other than turning on and off the cooling unit as you do the oiler. The parts required to service the mill stays the same. The changes will not be noticeable until you run the mill and see the bearing temperature runs in the manufacturer's suggested range.

After upgrading your mill, reconditioning your DALWORTH MP-10SE will be the same, so no new parts to worry about ordering. The same small O-rings that normally install on the Dalworth mechanical seal adaptor are now used on the "DMP COOLING SLEEVE." With new O-rings, install the COOLING SLEEVE the same way as the old mechanical seal adaptor went in, paying close attention to the threaded coolant supply port to be sure the O-ring is not damaged as it slides past. Lubriplate assembly lube is recommended IN THE BORE AND ON THE O-RINGS, but the standard DTE ISO 150 bearing oil will work as well.

After the upgrade is completed, the mill is assembled in the normal manor, no extra labor. We will use a second "Inner Bearing Spacer" before the Inner Bearing is installed. Install the "Inner bearing", then the original "Inner Bearing spacer" and "Inner seals" per the instructions from Dalworth Machine Products. After the mill is fully assembled, install the cooler supply & return hoses and top off the coolant reservoir before starting the mill.

TOTAL COST WITH INSTALLATION & TESTING

\$3,595.00



Specifications:

Factory set at 50 psi adjustable to 80 psi

3 gallon reservoir

115 or 230vac / 1 ph-50 / 60Hz

5.6 / 2.8 amp: 60 Hz

15,000 BTU

Dimensions: 23" L x 11" W x 20" H

1/4 FNPT (water in /out)

R1200 G: Rotary GEAR Pump