

Metallography Abrasive Cutting Machine

This Cutting Machine Medium is used in metallurgical lab for cutting the selected portion of the component as cut sample for mounting it in the mould and viewing the micro structure, case depth, surface finish and edge retention without affecting the original property.



1. Cutting Handle
2. FRP Cover
3. User panel
4. Main power switch
5. Coolant tank
6. Leg Bush

Description

1. The cutter features 3 HP and 3-Phase motor running at 2880 rpm (no load) with an overload relay protection, 60 mm cutting capacity with vices, light alloy chassis, manually controlled cutting, totally enclosed in a mould reinforced FRP hood.
2. Coolant system includes 1/3 HP motor pump with 3/4" hose complete with tank.
3. A corrosion proof FRP hood minimizes noise during operation. LED light provides a safe observation of the cutting process in detail.
4. An electrical interlock, coupled to the protective hood, disconnects the power when the hood is raised.
5. The machine has been constructed with best materials to give you long trouble free service.

Coolant system

1. Keep the coolant system beneath the cutter.
2. Take 3/4" hose and connect the inlet of the cut off machine to the coolant pump by threading the nut which is in the hose. Tighten the nut using 30-32 double end spanner.
3. Connect the coolant supply and return hoses smoothly (i.e.) without making close bend curves to prevent sediment accumulating in any section.

4. Remove the reservoir lid. Fill the tank to just below the top baffle (below 5 mm from top) with 95% of de-mineralized water and 5 % of coolant oil. Then close the lid.
5. Press the Coolant Pump button and allow the pump to run for few minutes. This procedure ensures adequate mixing of the coolant oil.

Operation

Before running the machine, check the following things:

1. Ensure that the cut off wheel is placed in the Spindle.
2. Check the electrical connection is properly done (Proper earth, 3- phase connection with neutral).
3. The sample is placed between 2 vices. For placing the sample refer (sample fixing). Ensure that the sample is placed in such a way that it is immovable during operation. Never use hammers to lock the job.
4. After ensuring the above steps switch the power button on, which is on the front side of the machine.
5. Confirm that the clamped sample is immovable, and then close the hood. The coolant should not be switched on unless the hood is completely closed. Never use hammers to lock the job.
6. First press the Coolant push button and then press the cutting push button and start cutting. Before this, check that the STOP button (red push button) is in the released condition (OFF position).
7. The STOP push button may be pushed at any time to stop the operation of the spindle and pump.
8. Slowly feed the wheel into the sample using the cutting lever. Cut the sample by moving the cutting lever “to and fro”.
9. At the end of the cut, return the lever fully to the original position and switch off the machine.