

Cole-Parmer®

CG-400/CG-450 Freezer/Mill®

Cryogenic Grinder Designed Milling for Tough and Temperature Sensitive Samples

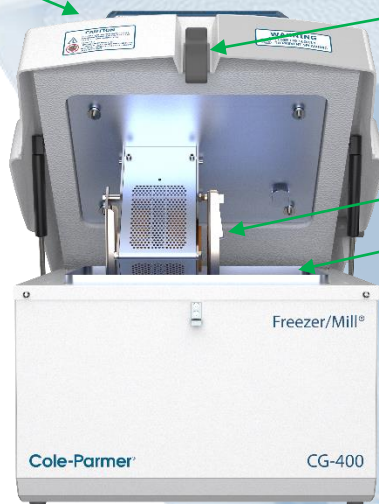
Quick Start Guide

For 115V (04500-40, 04500-41) and 230V (04577-92, 04577-93)



For Product Information

Touchscreen
(USB Port back
of Controller)



Latch

Grinding Chamber

LN Tub

AC Inlet and
ON/OFF Switch
(back of unit)

How To Operate CG-400/CG-450 Freezer/Mill

Set up the CG-400/CG-450 FM in a well ventilated, unconfined space. The Freezer/Mill should be run on an open countertop, in ambient air, with recommended maximum relative humidity 70% from 5°C – 31°C (40°F – 88°F).

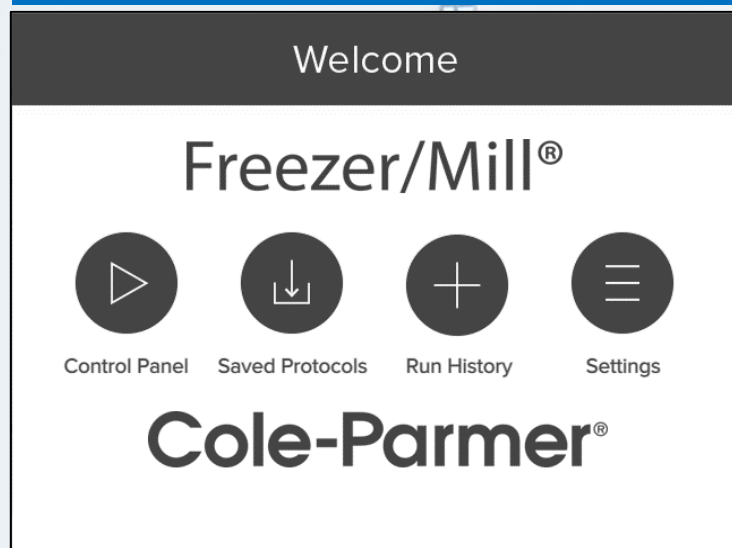
When working with liquid nitrogen directly or indirectly, the LN Tank valve or hose, or chilled Freezer/Mill components, cryogenic gloves must be worn to protect hands. A face shield is recommended to protect eyes from possible splashing. Wear the proper protection equipment (PPE).

Step 1. Connect the powercord to the AC Inlet located at the back of unit. Power On the CG-400/CG-450 FM. When the power is switched ON at the back of the mill, "FreezerMill" appears during start-up as the software loads. Then the screen will switch to the **Home Screen**. From the Home screen the Control Panel, Saved Protocols, Run History, and Settings can be accessed by touching the buttons displayed.

Step 2. Fill the tub manually with liquid nitrogen to the fill mark (approx. 2 inches below lip of the tub).

Always close the lid slowly to avoid splashing of LN and latch down. It is normal to see a visible vapor stream exiting the vent at the rightside of the unit. Do not block the vent.

The Touchscreen Display

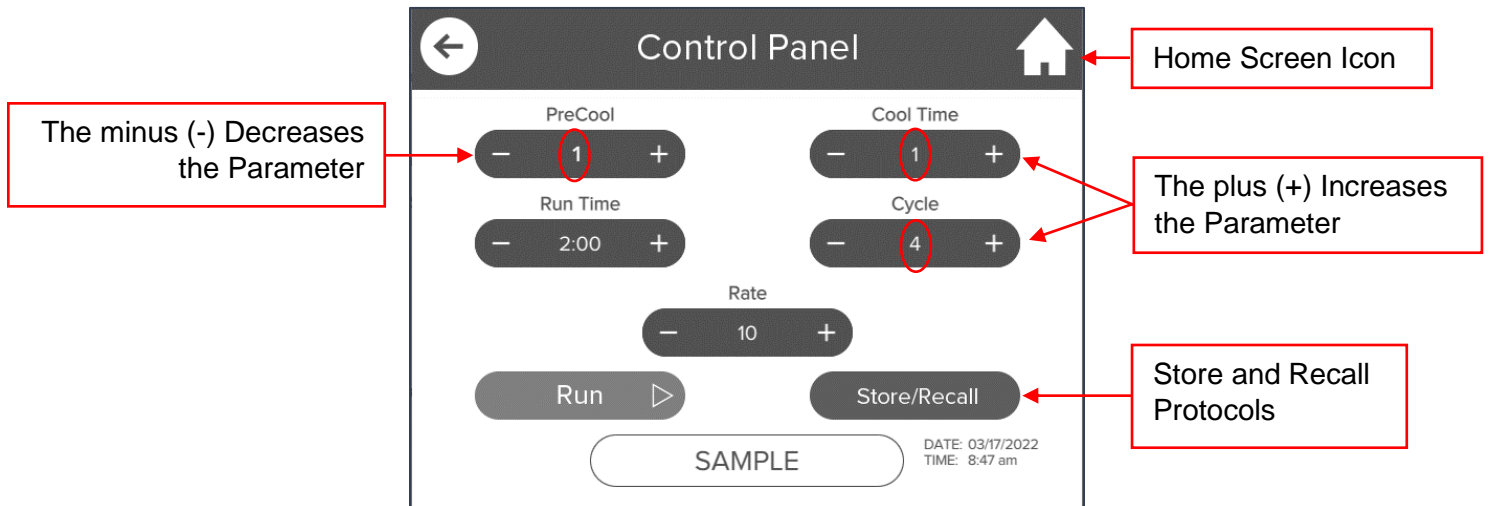


From the Home Screen the Control Panel, Saved Protocols, and Run History, and Settings can be accessed by the user.

Programmable operating commands through a series of touchscreen displays. USB to imports/export saved protocols, run history, diagnostic data, or upgrade the system software.

Changing the Parameters

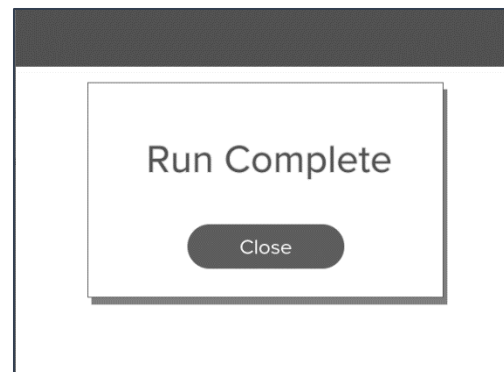
To change parameters (pre-cool time, run time, cool time, cycles and rate), touch the plus (+) and minus (-) buttons **CONTROL PANEL** screen. (10 minute pre-cool time is recommended.) To pause the program, touch the PAUSE button. To continue the program, touch the RESUME button. To abort the program, touch the STOP button.



During a run a green check mark is placed next to a field when complete.



When the grinding program has ended, the screen will display Run Complete.



Our Application Specialists at Cole-Parmer are here to help with advice on accessories and grinding protocols.

Call USA Tel: +1.800.323.4340 or techinfo@coleparmer.com