

## Heat Exchanger Cooling Option—H1000 Series

## Specifications

### Introduction

Micromanipulator's H1000 Series Thermal Chuck System is an integrated system to maximize your options. Choose a Thermal Chuck *and* a Temperature Control System (operate either an AC or DC Heat Controller). Next choose desired heat exchanger (cooling to ambient or rapid cooling of the thermal chuck below the cool setpoint). Then choose the Cooling Option (either above ambient with user-supplied cooling water or rapid cool down to 0 degrees C). This specification sheet features the Heat Exchanger Cooling option which eliminates the need for an external water supply and drain.

The Model C1000-V1(V2)-HE Cooling Option for the H1000 Thermal Chuck System is a self-contained on/off Cooling Option designed to rapidly cool the thermal chuck below a cool setpoint.

The C1000-V1(V2)-HE Cooling Option includes a cooling module and utilizes a self-contained heat exchanger which eliminates the need for an external water supply and drain.

### Features

- The C1000 Cooling Module contains the display and control electronics for the cooling option and mounts within the space provided in the Heat Controller chassis.
- The Heat Exchanger contains the fluid reservoir, pump and control valves. It may be placed on a surface or rack mounted with the optional rack mount kit.
- The power for the Cooling Module is supplied by either the AC or DC Heat Controller, eliminating the need for a separate power cord. The Heat Exchanger has a separate power cord.

- The Cooling Module provides on/off control of the cooling water from the Heat Exchanger and uses compressed air to automatically purge the thermal chuck when the cool "set point" temperature is reached.
- The Cooling Module allows the user to manually purge the thermal chuck as desired.
- The Cooling Module includes a built-in RS-422 interface. RS-232 and IEEE-488 interfaces are available options.
- Optional temperature control software enables programmable heat, cool and soak cycles and sequencing.
- The self-contained heat exchanger has sufficient cooling capacity to provide rapid cool down of the thermal chuck to within 5° C of ambient temperature.
- The heat exchanger is available to operate with 115 VAC (V1) or 230 VAC (V2) power.
- All hoses feature self-sealing quick connect couplings for easy hookup without spillage problems associated with conventional hose fittings.

### Specifications

#### Performance

- Cooling Control: ON/OFF
- Typical ramp rate from 400° to 30° C (25° C ambient temperature)
  - 6" (150mm) coaxial chuck: < 12 minutes
  - 8" (200mm) coaxial chuck: < 20 minutes

#### Physical data

- Cooling Module - 4 lb (1.8 kg)  
8.5" x 3.25" x 14" (22cm x 8.25cm x 36cm) WxHxD
- Heat Exchanger - 70 lb (31.75 kg) when full 17" x 10.5" x 22" (43cm x 26cm x 55cm) WxHxD
- Hoses/Cable: 10' (304cm) long



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