

Advanced Temperature Test (ATT) Systems

C60 Thermal System: -60°C to +300°C

This guide defines the facility requirements for operation of your ATT Systems thermal system. The thermal system discussed here is compatible with 200 and 300 mm systems.



NOTE

Operation at negative temperatures requires a shielded system.

Thermal System Requirements

Clean Dry Air
(CDA)



WARNING

Operating the system without sufficient air pressure or flow can cause significant component damage. The control unit and the chiller must be connected to common ground.

FormFactor does not endorse or recommend using nitrogen instead of CDA for thermal system operation with any FormFactor system due to the risk of oxygen depletion in the working environment. If your testing configuration requires the use of nitrogen instead of CDA for MicroChamber purge, time in Quick Purge mode should be controlled. Discuss your setup with your safety and facilities departments to ensure that the oxygen flow in your working environment is adequate to dissipate any nitrogen build up. The use of oxygen sensor alarms is also recommended. For MicroChamber purge requirements, refer to your probe station Facility Planning Guide.

Standard chiller	Cooling medium	<ul style="list-style-type: none"> ISO 8573.1 Class 1.3.1 (-20°C dew point, oil less than 0.01 mg/m³)
	Temperature	<ul style="list-style-type: none"> Minimum: 5°C Maximum: 30°C
	200 mm	<ul style="list-style-type: none"> 550 l/min (19.4 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage 10 mm OD push-in tube connection
	300 mm	<ul style="list-style-type: none"> 650 l/min (23.0 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage 10 mm OD push-in tube connection
CDA saving chiller	Cooling medium	<ul style="list-style-type: none"> ISO 8573.1 Class 1.1.1 (-80°C dew point, oil less than 0.01 mg/m³)
	Temperature	<ul style="list-style-type: none"> Minimum: 5°C Maximum: 30°C
	300 mm	<ul style="list-style-type: none"> 500 l/min (17.7 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage 315 l/min (11.1 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage in ECO mode down to -40°C 10 mm OD push-in tube connection

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Power	Controller	<ul style="list-style-type: none">• Single phase: 100-127 VAC, 50/60 Hz: 1600 VA / 12 A – or – (200) 208-240 VAC, 50/60 Hz: 2200 VA / 10 A• Source:<ul style="list-style-type: none">– North American: NEMA L6-15 for 208-240 VAC– Europe: CEE VII (Schuko)– Other: consult factory
	Chiller	<ul style="list-style-type: none">• Dedicated versions:<ul style="list-style-type: none">– Single phase: 220-240 VAC 50Hz– Single phase: 200-220 VAC 60Hz (200VAC 50Hz)• 2350 VA• Source:<ul style="list-style-type: none">– North American: NEMA L6-20 for 208-220 VAC– Europe: CEE VII (Schuko)– Other: consult factory
Environmental Conditions	Site requirements	<ul style="list-style-type: none">• For indoor use only• Installation site ≤ 2000 m altitude• Installed on a level, even with surface• For air-cooled units, maintain 200 mm clearance above and around the unit to allow air circulation. Allow 400 mm clearance around the front and back sides of the chiller.• The unit should be located so as not to restrict access to the mains power switch• Mains voltage should be $\pm 10\%$ of the rated value
	Ambient temperature	<ul style="list-style-type: none">• +18°C to +28°C
	Relative humidity	<ul style="list-style-type: none">• 20% to 60%
	Seismic restraints	Optional seismic restraints are available for ATT thermal systems which include a chiller. To use the seismic restraints, 3 anchor bolts must be embedded in the floor at the customer site for seismic restraint use. See your ATT user documentation for details on placement.
Communications	RS-232	
Dimensions (WxDxH)	Chiller	See Chiller on page 4.
	Controller	See Controller on page 3.
Weight	Chiller	<ul style="list-style-type: none">• ~180 kg (397 pounds)
	Controller	<ul style="list-style-type: none">• ~11 kg (24 pounds)
	Two people are required to roll the chiller from the crate.	
Shipping Dimensions (WxDxH)	Chiller crate	<ul style="list-style-type: none">• 1000 x 900 x 1700 mm (39 x 35 x 70 in.)
	Controller box	<ul style="list-style-type: none">• 550 x 500 x 300 mm (22 x 22 x 11 in.)
Shipping weight	Chiller and crate	<ul style="list-style-type: none">• ~330 kg (728 pounds)
	Controller and box	<ul style="list-style-type: none">• ~18 kg (40 pounds)

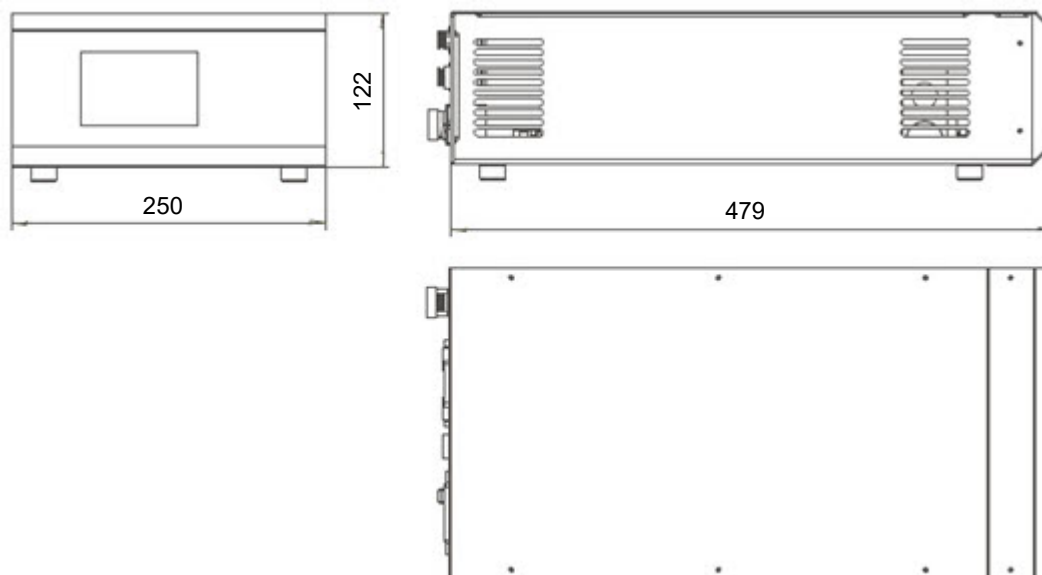
* Standard Ambient Temperature And Pressure (SATP)

Dimensions (in mm)

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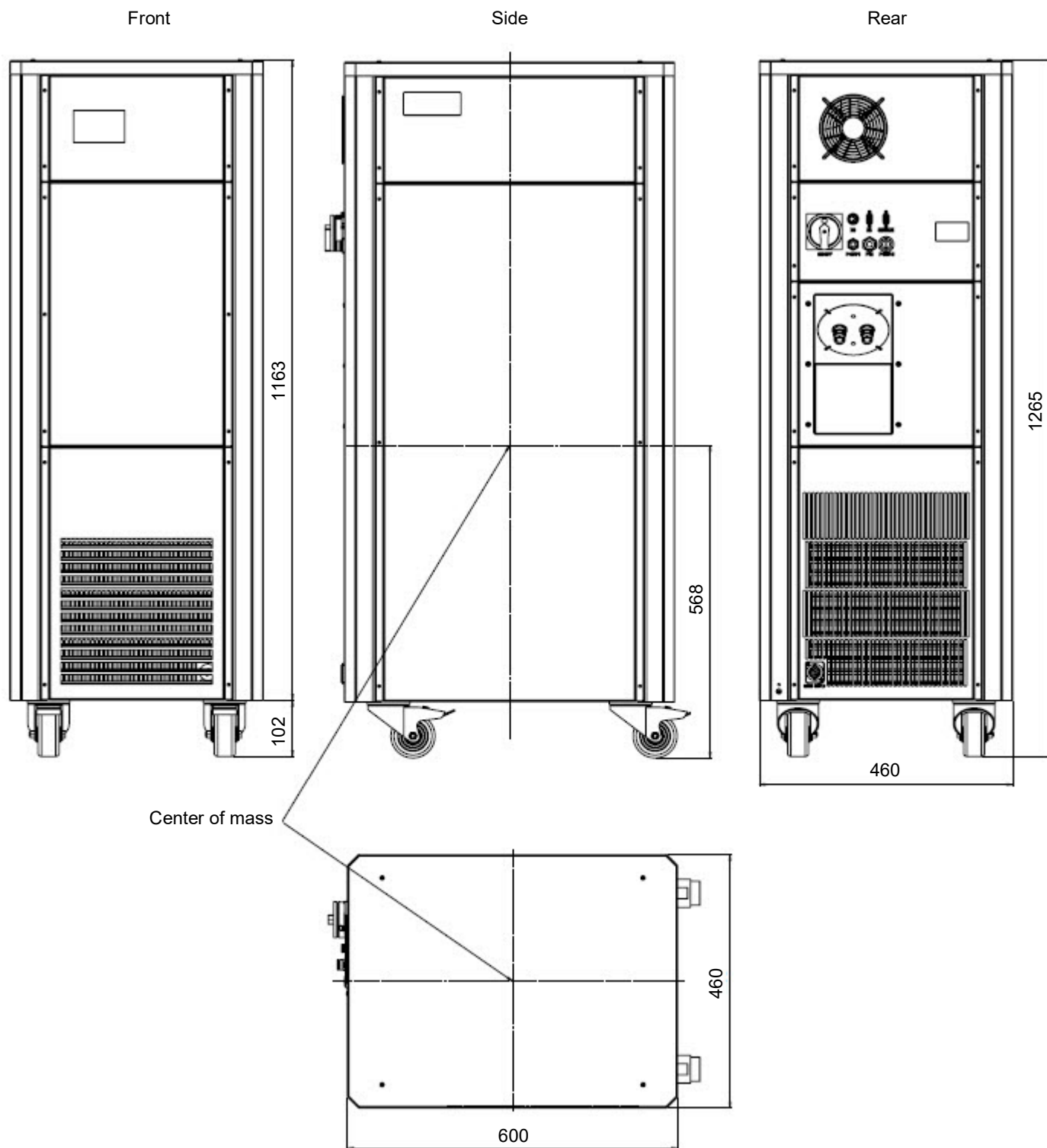
Controller



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Chiller



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