PAC200 Cryogenic Probe System

This guide contains information to help prepare your facility for the arrival of your PAC200 probe system.

Probe System Requirements

Utilities	Clean dry air (CDA)	• Filtered, dry and oil-free • Minimum 6 bar to 8 bar maximum • Flow rate insignificant • 8 mm hose (US 5/16”)
	Dry Nitrogen (N_2) input	• Class 5 or better, input 2 bar; 280 l per purging cycle, tube Ø 8mm OD
	Liquid Nitrogen (LN_2) input	Optional with automatic refill option. • Pressure: 0.5 bar to 1.0 bar overpressure • 1x G 3/8" outside thread (connection point: LN_2 dewar armatures at 1.0 m to 1.3 m above floor level)
	Helium option	Helium gas (dewar) option, only required for LHe dewar: • Class 5 or better • 1.2 bar (precision pressure regulator suitable for low-flow condition is required) • Flow rate insignificant • 6mm OD hose
Power	Station	• 3 phase: 230/400 VAC 50/60 Hz or 120/208 VAC 50/60 Hz with transformer
	Protection class	• I (IEC 61140)
	Transient overvoltage	• Overvoltage category II (IEC 60364-4-443) • Short circuit current rating: 10 kA (UL508A)
	Main power connection	• For 230/400 VAC: – Direct connection without plug – 3x 20A IEC60269 class gG (lead fuses) For 120/208 VAC with transformer: **NOTE** *This equipment shall be installed only within ordinary, indoor, non-hazardous use installations in accordance with ANSI/NFPA 70, National Electrical Code® (NEC)* – Direct connection without plug incl. disconnect according to NEC – 3x50A class J (lead fuses)
	Pre-pump	• CEE 7/7 SCHUKO Grounded (250 V, 16 A plug, P-N-G) or NEMA 5-20 (120 V, 20 A plug, P-N-G)

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<table>
<tr><td rowspan="7">Environmental Conditions</td><td>Humidity</td><td>• Tool area: 25% to 60%
• Support equipment area: 25% to 60%</td></tr>
<tr><td>Temperature</td><td>• Operating range: 19° C to 24° C
• Target temperature: 22°C
NOTE
Keep electronics rack side ventilators and air expellers clear for air circulation.</td></tr>
<tr><td>Pollution level</td><td>• 1 (IEC 60664)</td></tr>
<tr><td>Clean room class</td><td>• Class 7 corresponding to DIN EN ISO 14644-1</td></tr>
<tr><td>Vibrations</td><td>The facility should be free of vibrations caused by other equipment.</td></tr>
<tr><td colspan="2">WARNING
The use of an oxygen sensor with an alarm is mandatory!
Release of nitrogen or helium gas imposes a potential danger due to oxygen depletion in the working environment. An oxygen-deficient atmosphere can lead to rapid asphyxiation, causing loss of consciousness and potentially resulting in serious injury or death.
Consult your safety and facilities department to ensure that venting in your working environment is adequate to dissipate any nitrogen or helium buildup.</td></tr>
<tr><td rowspan="2">Exhaust</td><td rowspan="2">Cryogenic system</td><td>• 3/4-inch hose (connection point: pump rack)</td></tr>
<tr><td>Optional with refill option: 2x G 1/2-inch inside thread (connection point: LN_2 dewar armatures).
NOTE
Sound absorbers are installed when delivered, but the exhaust hoses can also be connected to an exhaust system.</td></tr>
<tr><td>Dimensions (WxDxH)</td><td>Vacuum system</td><td>• 3/4-inch hose (connection point: pre-pump)</td></tr>
<tr><td rowspan="4">Dimensions (WxDxH)</td><td>Probe station</td><td>• Dimensions are dependent on configuration
• Maximum size: 1880 x 1873 x 2000 mm (74 x 74 x 79 inches)</td></tr>
<tr><td>Electronics rack</td><td>• 607 x 811 x 2100 mm (24 x 32 x 83), with connectors installed</td></tr>
<tr><td>Pump rack</td><td>• 580 x 550 x 1000 mm (23 x 22 x 39 inches), with connectors installed</td></tr>
<tr><td>Dewar(s)</td><td>• 600 x 600 x 1500 mm (24 x 24 x 59 inches)</td></tr>
<tr><td rowspan="3">Weight</td><td>Probe station</td><td>• 1050 kg (2315 pounds)</td></tr>
<tr><td>Electronics rack</td><td>• 300 kg (661 pounds)</td></tr>
<tr><td>Pump rack</td><td>• 100 kg (220 pounds)</td></tr>
<tr><td rowspan="3">Shipping Dimensions (WxDxH)</td><td>Probe station</td><td>• Dimensions: 2200 x 1790 x 2320 mm (87 x 70 x 91 inches)</td></tr>
<tr><td>Electronics rack</td><td>• Dimensions: 1050 x 1170 x 2330 mm (41 x 46 x 90 inches)</td></tr>
<tr><td>Accessories</td><td>• Dimensions: 2230 x 1760 x 1950 mm (88 x 69 x 77 inches)</td></tr>
<tr><td rowspan="4">Shipping Weight</td><td colspan="2">NOTE
A forklift with minimum 1.3 m forks and a 1.5 ton lifting capacity is required.</td></tr>
<tr><td>Probe station</td><td>• Weight: 1500 kg (3307 pounds)</td></tr>
<tr><td>Electronics rack</td><td>• Weight: 420 kg (926 pounds)</td></tr>
<tr><td>Accessories</td><td>• Weight: 720 kg (1587 pounds)</td></tr>
</table>

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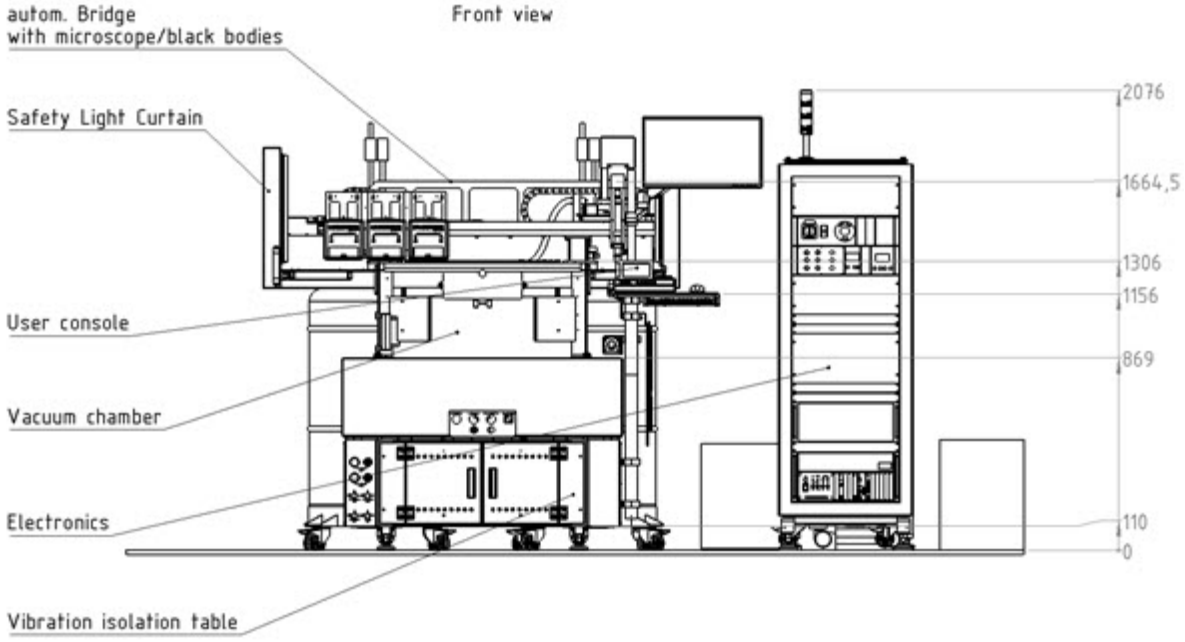
Dimensions (in mm)



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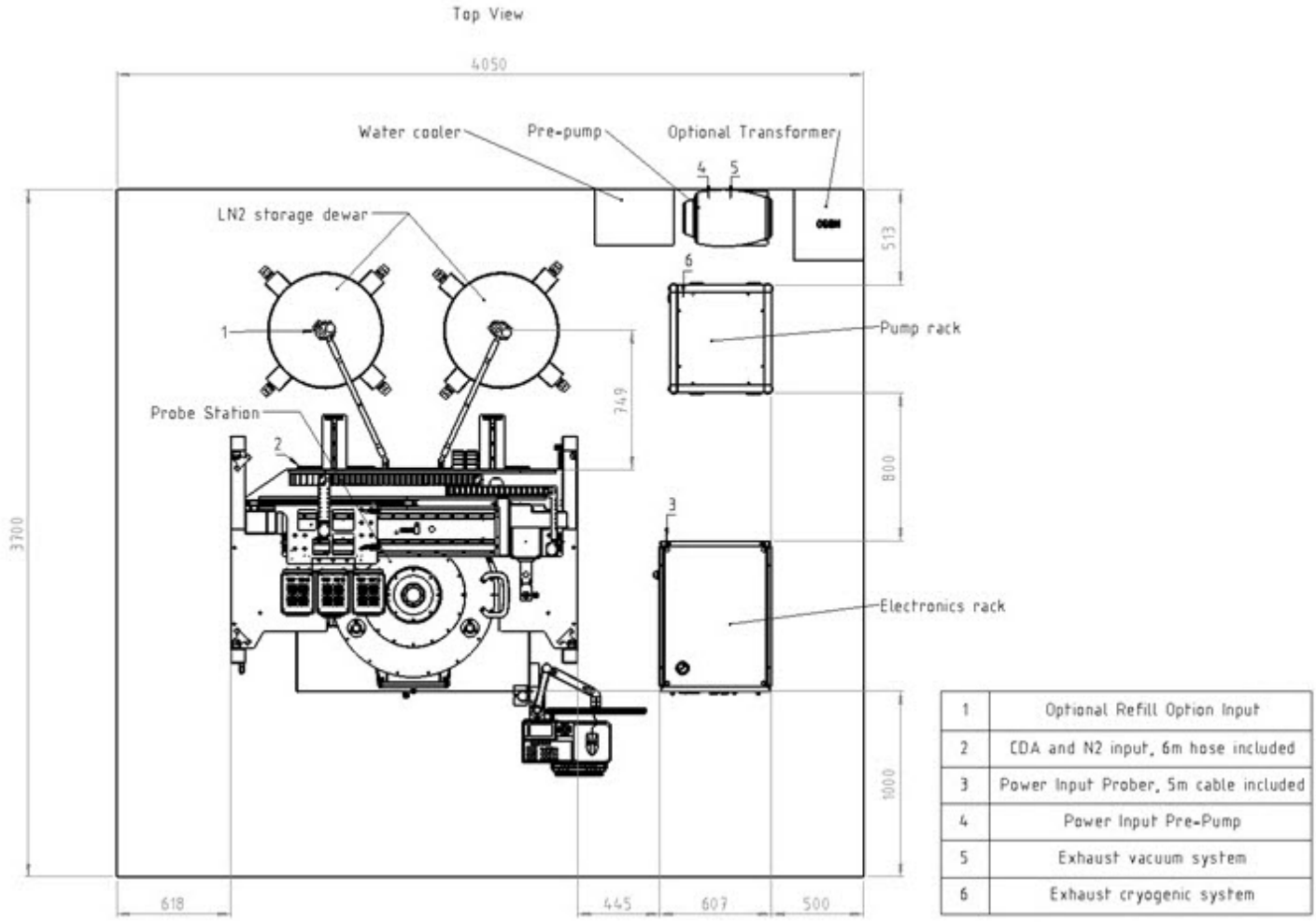

1	Optional Refill Option Input
2	CDA and N2 input, 6m hose included
3	Power Input Prober, 5m cable included
4	Power Input Pre-Pump
5	Exhaust vacuum system
6	Exhaust cryogenic system

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