



SITE ENGINEERING

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Cray XT3 SITE PREPARATION GUIDE

For questions and comments contact:
Site Engineering at "site@cray.com"

PRELIMINARY

| | | | | | | | |
|------|-------|-------|-------|--|--|--|--|
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| DATE | 10/04 | 11/04 | 12/04 | | | | |
| APVD | RDH | RDH | RDH | | | | |

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Cray XT3

A Cray XT3 is an air-cooled cabinet containing processor nodes and switches. Included in this cabinet is the power and cooling support. The Cray XT3 is a balanced MPP (massively parallel processing) supercomputer.

Cray XT3 ENVIRONMENTAL REQUIREMENTS

| CHARACTERISTIC | SPECIFICATION |
|---|--|
| TEMPERATURE (AMBIENT AIR): Operating* Non-Operating | 50 to 80° F (10 to 27° C) 32 to 140°F (0 to 60° C) |
| TEMPERATURE (UNDERFLOOR AIR): Nominal Range | 55° F (13° C) 50 to 60° F (10 to 16° C) |
| RELATIVE HUMIDITY (AMBIENT AIR): Operating* Non-Operating | 30 to 65% Non-condensing 5 to 80% Non-condensing |
| RELATIVE HUMIDITY (UNDERFLOOR AIR): Operating | 60 to 90% Non-condensing |
| ALTITUDE: Operating Non-Operating | 0 to 10,000 ft. (0 to 3048 m) 0 to 40,000 ft. (0 to 12,192 m) |

*An operating temperature range of 64-77° F (18-25° C) and a relative humidity of 30-50% noncondensing is recommended.

Cray XT3 SPECIFICATIONS (Each Cabinet)

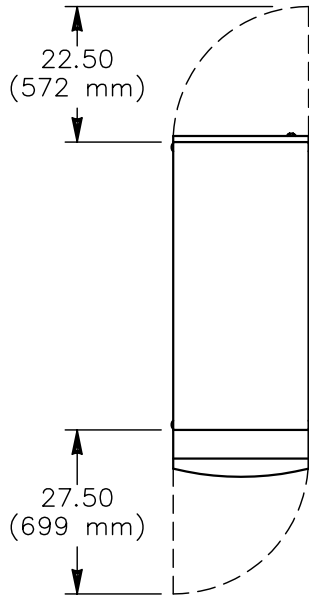
| CHARACTERISTIC | SPECIFICATION |
|------------------------------------|---|
| HEIGHT: | 80.50 in. (2045 mm) |
| WIDTH: | 22.50 in. (572 mm) |
| DEPTH: | 56.75 in. (1441 mm) |
| WEIGHT: (Maximum) | 1529 lbs. (694 kg) |
| SHIPPING WEIGHT: (Maximum) | 1685 lbs. (764 kg) |
| ACCESS REQUIREMENTS: | |
| Front | 36.00 in. (914 mm) |
| Rear | 36.00 in. (914 mm) |
| Side | none |
| ACOUSTICAL NOISE LEVEL: | 75 dba at 3.3 ft (1.0 m) |
| HEAT DISSIPATION TO AIR: (Maximum) | 49.47 Kbtu/hr (14.50 kW) * |
| COOLING REQUIREMENT: | Air cooled |
| AIR FLOW: | 3000 cfm (1.41 m3/s) (Intake: bottom, Exhaust: top) |
| VOLTAGE: | |
| Nominal | North American/Japan International |
| Tolerance | 200/208 VAC 400 VAC |
| | 185-220 VAC 380-415 |
| FREQUENCY: | 60 or 50 Hz |
| PHASES: | 3 Phase |
| POWER REQUIREMENT: (Maximum) | 14.80 kVA (14.50 kW) |
| HOLD-UP TIME: | 16 milliseconds |
| POWER CIRCUIT: | |
| | North American/Japan International |
| | HUBBELL 4100C9W ** HUBBELL 532C6W ** |
| POWER CIRCUIT SIZE: | |
| | 80 AMP at 200/208 VAC (3 Phase & Ground) |
| | 32 AMP at 400 VAC (3 Phase, Neutral, & Ground) |

* Power number shown represents 2.4 GHz Opteron processors with 1 GB of RAM on each processor. For future upgrades to “dual core” Opteron processors, the maximum cabinet power is estimated at 17.50 kW.

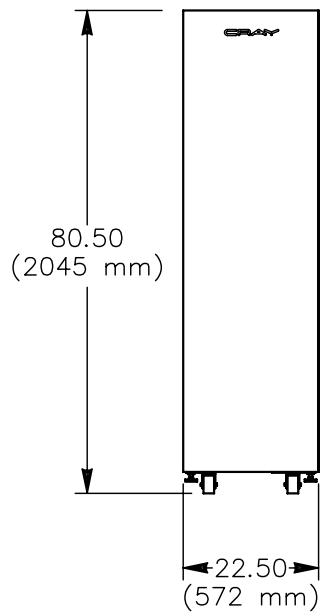
** At the customer’s option, the cabinet may be direct wired.

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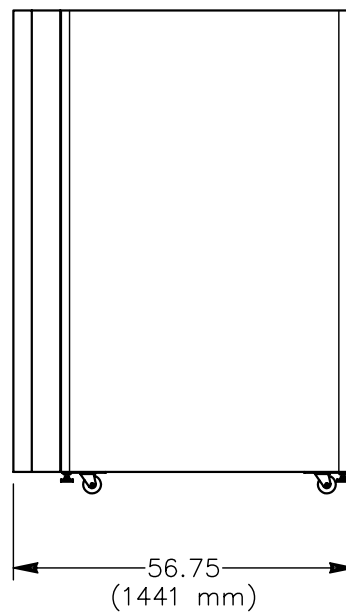
Plan View



Front View



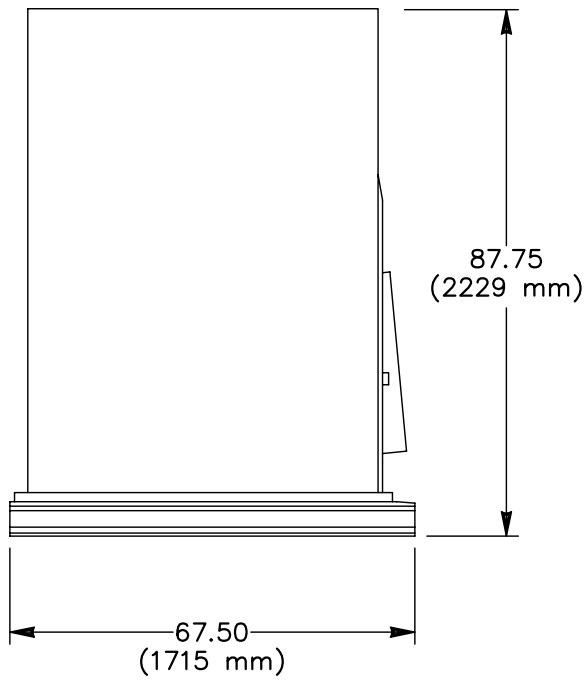
Side View



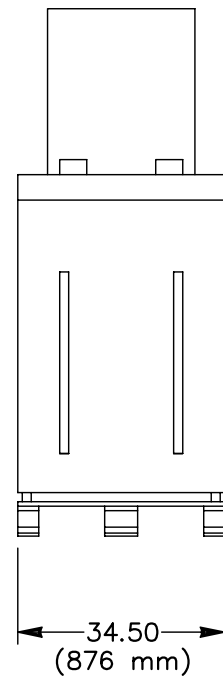
Cray XT3 Cabinet

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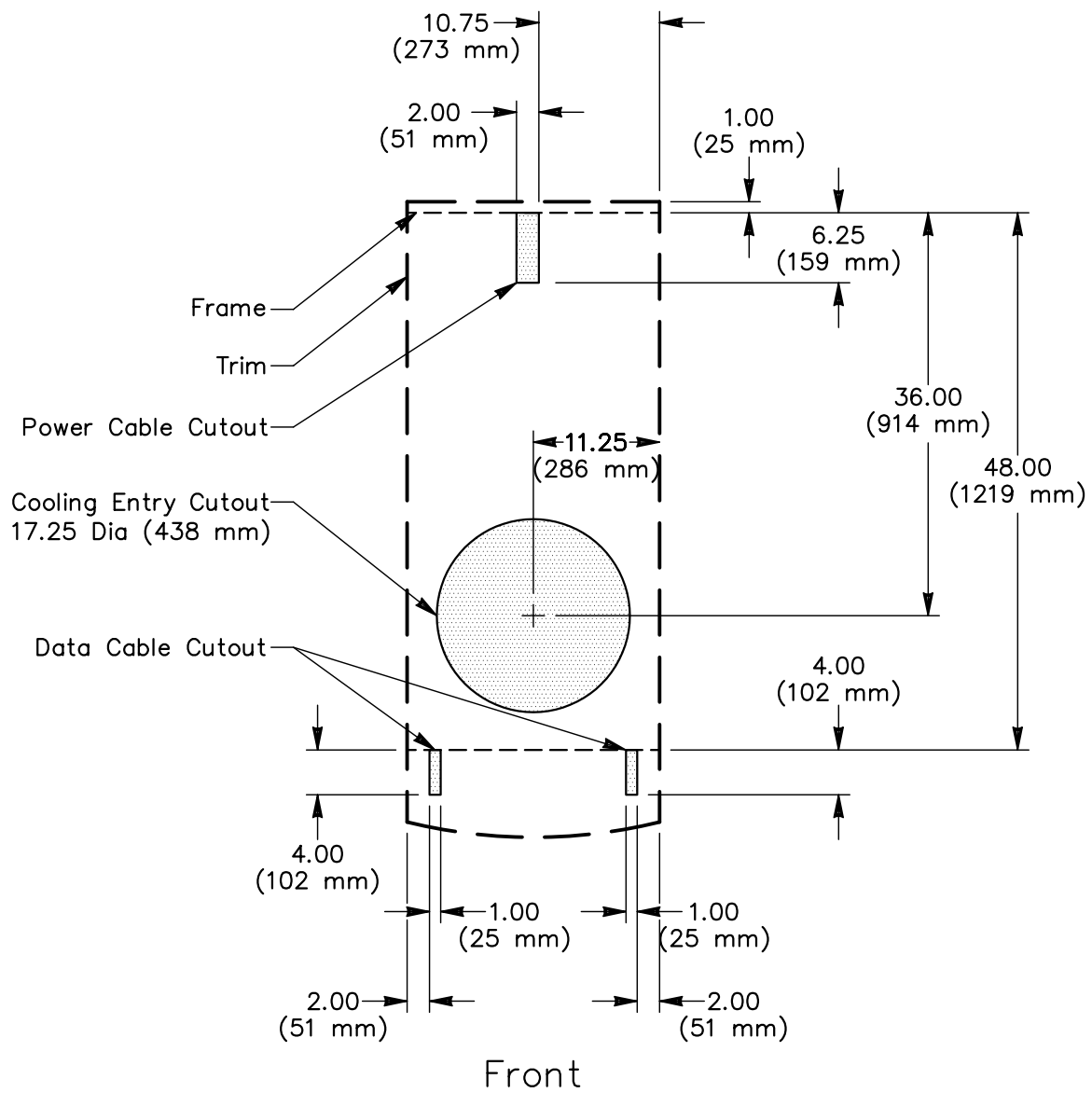
Side View



End View



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Cray XT3 Cabinet Floor Cutouts

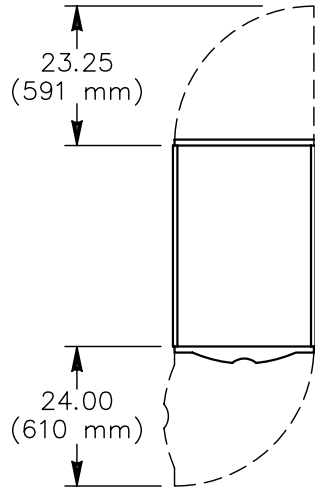
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Cray DDN Disk SPECIFICATIONS (Each Cabinet)

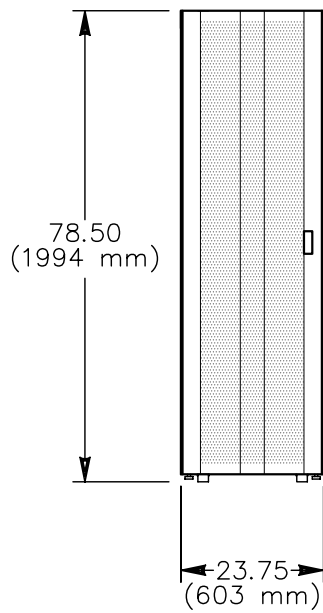
| CHARACTERISTIC | SPECIFICATION |
|------------------------------------|--|
| HEIGHT: | 78.50 in. (1994 mm) |
| WIDTH: | 23.75 in. (603 mm) |
| DEPTH: | 37.25 in. (946 mm) |
| WEIGHT: (Maximum) | 1300 lbs. (590 kg) |
| SHIPPING WEIGHT: (Maximum) | 1600 lbs. (726 kg) |
| ACCESS REQUIREMENTS: | |
| Front | 36.00 in. (914 mm) |
| Rear | 36.00 in. (914 mm) |
| Side | none |
| ACOUSTICAL NOISE LEVEL: | 65 dba at 3.3 ft (1.0 m) |
| HEAT DISSIPATION TO AIR: (Maximum) | 21.02 Kbtu/hr (6.16 kW) |
| COOLING REQUIREMENT: | Air cooled |
| AIR FLOW: | (Intake: front, Exhaust: rear) |
| VOLTAGE: | |
| Nominal | North American/Japan International |
| Tolerance | 200/208 VAC 230 VAC |
| | 185-264 VAC 185-264 VAC |
| FREQUENCY: | 60 or 50 Hz |
| PHASES: | 1 Phase |
| POWER REQUIREMENT: (Maximum) | 6.48 kVA (6.16 kW) |
| HOLD-UP TIME: | 16 milliseconds |
| POWER CIRCUIT: (4 required) | |
| | North American/Japan International |
| | HUBBELL L6-20R IEC 309 |
| POWER CIRCUIT SIZE: (4 required) | |
| | 20 AMP at 200/208 VAC |
| | 16 AMP at 230 VAC |

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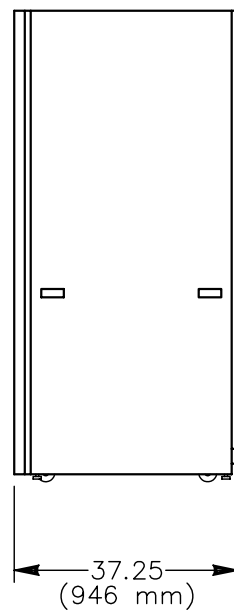
Plan View



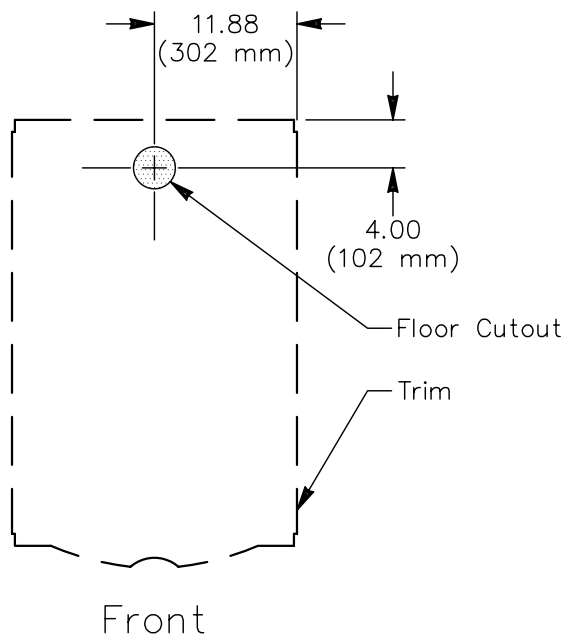
Front View



Side View



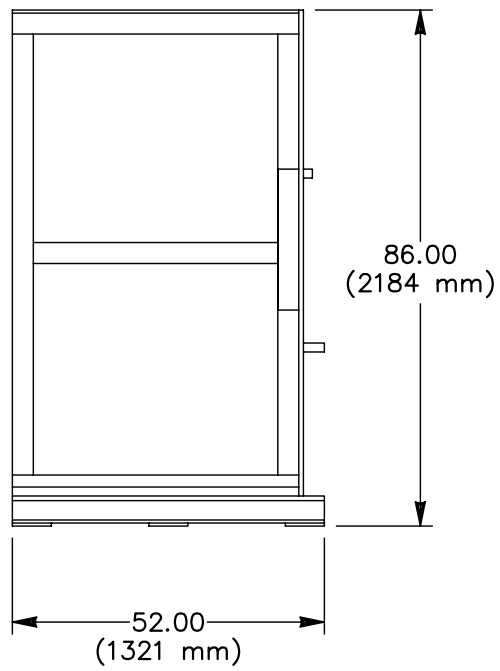
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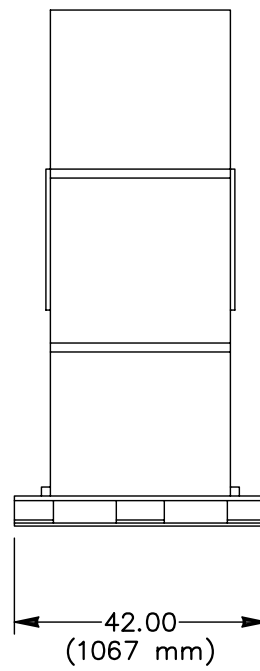
Cray DDN Disk Cabinet Floor Cutout

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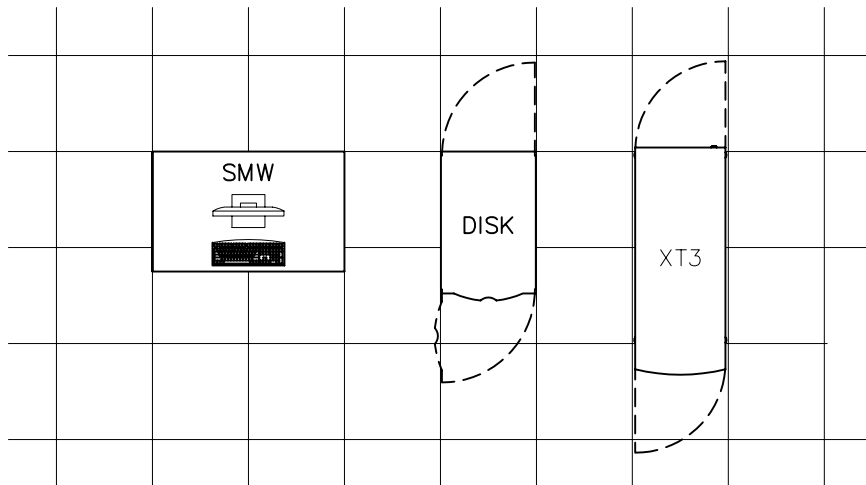
Side View



End View

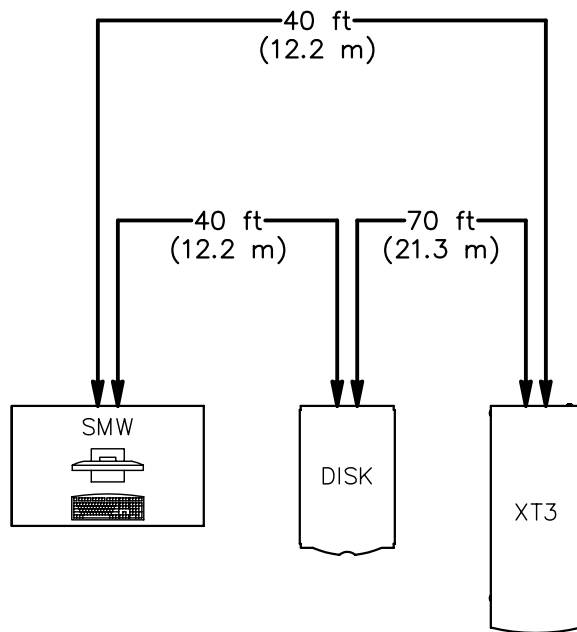


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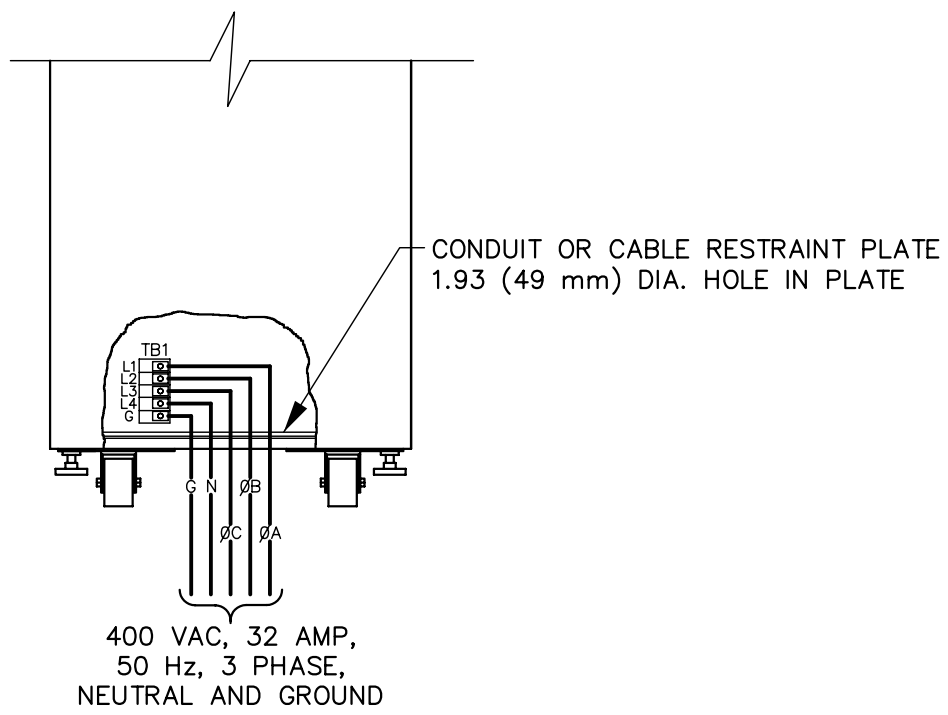
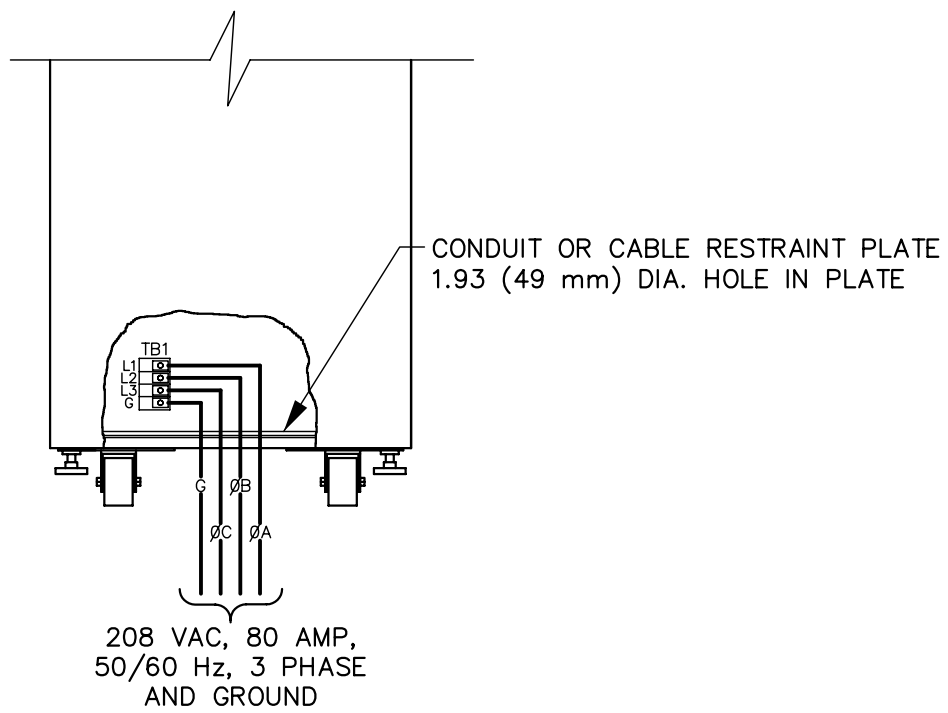
Cray XT3 Standard Layout

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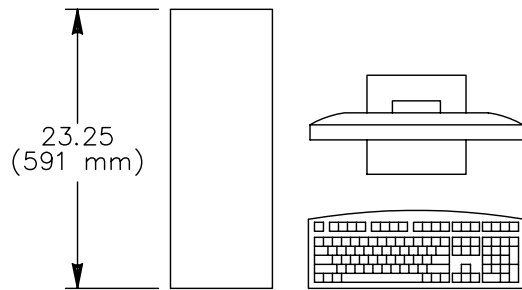


Cray XT3 Separation Limits

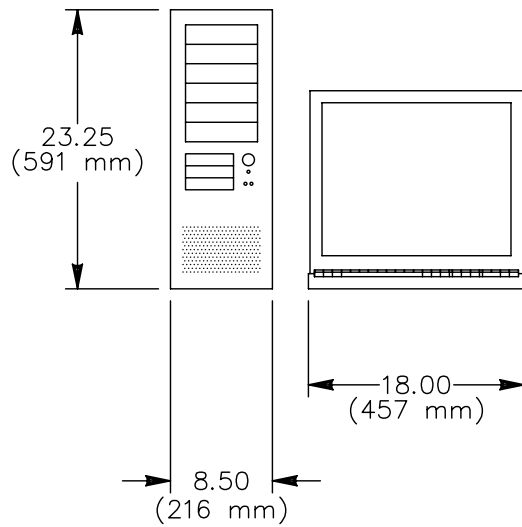
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Plan View



Front View



Side View

