



ADVANCED POWER TECHNOLOGY



Prefabricated Data Centre Modules Brochure

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WHY MODULAR?

Advanced Power Technology have a Range of Full-Scale Modular Offerings Designed to your Exact Specification

Although not new, prefabricated solutions are a disruptive technology, changing the way we approach the design and deployment of IT Infrastructure. This change is being driven by the growing requirements for edge computing, an application for which prefab solutions are suited. Prefabricated data centres can remove time, complexity and cost from facility upgrades, enabling industry to address the unpredictable nature of growth, while also delivering on efficiency and resilience.

All-In-One Modules House the Entire Data Centre Physical Infrastructure and are Completely Assembled and Tested off Site Before Delivery

- Realise revenue or production sooner by deploying quickly, anywhere in the world
- Deploy in remote areas, or on brown field sites, with limited construction support
- Allows flexibility to change data center growth as demands change
- Decrease risk with a pre-engineered, fully managed system
- Re-purpose valuable space for core business
- Provide physical security to critical data
- Reduce Complexity
- Increase Efficiency

Up To 45% Reduction in Energy Costs when Compared to a Facilities Install

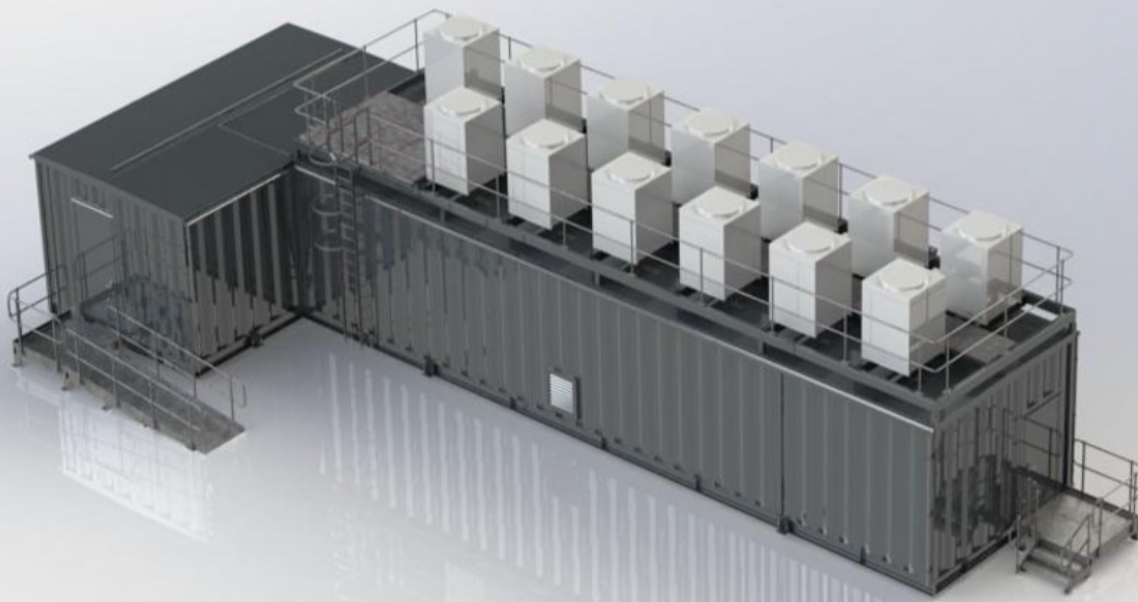


WHAT'S INCLUDED?

Put Simply, Everything you need to Create the Perfect Environment for your Critical Equipment

- A range of High Efficiency Cooling Options
- Back Up Power UPS , Switchgear and Generators
- Security elements such as Access Control and CCTV systems
- Racks – Thermal Containment – Raised Access Flooring
- Data Centre Infrastructure Management Software
- Fire Suppression Systems
- Power Distribution

Our Custom Solutions can be Specified and Delivered to your Exact Requirement
See the below Example Designs and Internal Images:



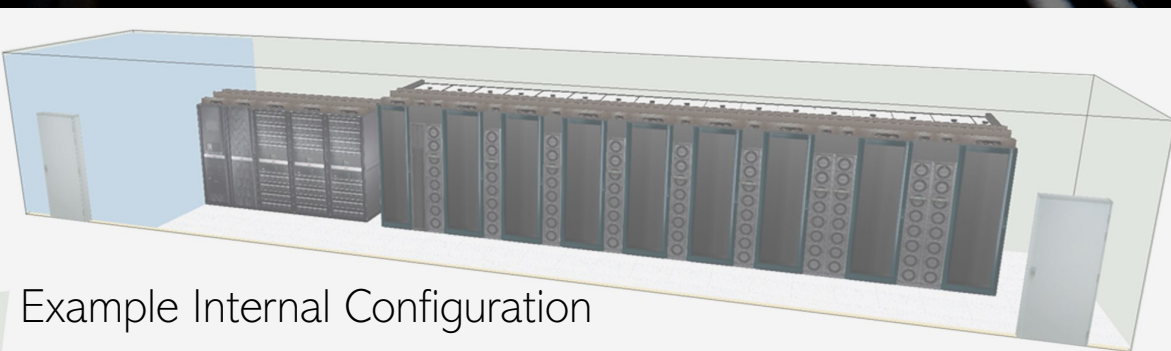
350kW HPC Pod with Roof Mounted Cooling - Deployed Within 9 Weeks



Cold Aisle



Plant Room



Example Internal Configuration

Enclosure Specifications

- Our custom enclosures are scaled to suit your requirements
- Sized to allow fixed racking with ample room to mount and remove IT kit
- These enclosures are stackable and can be bayed
- Optional pant room that can double as a build area if appropriately sized
- Fully welded, double skinned, steel construction with 60 minutes fire resistance
- Insulated to give minimum U value of $0.60\text{W/m}^2\text{K}$
- 2 No. access doors with steps and ramp access
- Approximately 3° pitched roof with gutter system
- C3 or C4 standard coating with two pack acrylic paint
- Can be installed upon anti vibration Tico Pads to isolate the internals

Power Options

- We supply a full range of UPS from leading manufactures, sized appropriately for your application
- We offer various levels of resilience. 2N, N+1, internal redundancy and scalable systems
- We also supply generators appropriate for each application

Cooling Options

- Free cooling technology - For the highest efficiencies possible on lower density applications
- Direct Expansion - In-Row Cooling - For fast deploy high density racks and HPC applications - Roof mounted chiller options to reduce footprint
- Chilled water with free cooling - Providing efficient cooling for larger installs
- Direct to chip liquid cooling - For the absolute highest efficiencies at high densities
- External cooling apparatus can be mounted on the top, adjacent to, or on the side

Fire Systems

- HSSD Fire Detection System
- NOVEC Extinguishant
- Double Knock
- Smoke Ventilation

Software Management Systems (DCIM)

- EcoStruxure IT Expert (Cloud based DCIM)
- StruxureWare Data Centre Expert (On-Prem DCIM)
- EcoStruxure Asset Advisor 24/7 Remote Support

Building & Commissioning

- Our solutions are built in the UK
- The internal systems can be commissioned and tested in the factory before the solution is delivered to site
- Each enclosure is wider than a normal ISO container, but can still be transported on UK roads
- Depending on the size of the facility enclosures can be bayed together onsite
- External chillers may require on site installation depending on their design
- The enclosures are designed to be craned and positioned multiple times should relocation be necessary
- Available in a variety of styles and finished to match the surrounding environment

Installation & Ground Works

- APT can provide details of point loading, total solution weight and dimensions for groundworks to be prepared by others
- We can recommend contractors or fully manage the groundworks as part of the turn key solution
- APT can advise on, or bring the necessary power to the install as part of the solution if required

Testing & Training

- Full system testing can be performed at the factory or on site
- Load testing of both the UPS and Cooling with the manufactures engineers
- It will be necessary to conduct certain tests once the solution is landed, these tests include integrity tests for the fire systems and BMS integration tests
- APT will provide full training for relevant staff once the solution is commissioned

Warranties & Maintenance Schedules

- Full range of maintenance packages are available on all systems
- 24/7 Remote monitoring available

Lead-times

- Depending on the complexity, we estimate a twelve week build time following final design sign off



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