



PTIMUM

Data Cooling Ltd

High-Efficiency Chillers for Expanding and Higher-Density Data Centre Loads

The OPT High-Capacity series provides robust, efficient chilled-water cooling for medium-to-large data centres, multi-hall facilities, and sites with significant IT density. Available in 1000 kW, 1250 kW, and 1500 kW capacities, these air-cooled inverter chillers support substantial cooling demands while delivering the part-load efficiency, precise control, and reliability required for continuous data centre operation.

They are suitable for primary plant, modular expansions, N+1 or 2N redundancy strategies, and facilities that need to scale capacity efficiently. The range focuses on energy performance, serviceability, and integration with modern chilled-water systems.

Key Benefits for Medium-to-Large Data Centre Applications

- High-capacity options that match substantial IT loads and future growth
 - Strong part-load efficiency to help control energy use and PUE
 - Precise temperature and capacity modulation for stable IT environments
 - Robust design engineered for 24/7 continuous duty
 - Configurations optimised for reliability, redundancy, and service access
 - Full BMS integration and advanced control options
 - Low-GWP refrigerant compatibility for reduced environmental impact
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Shared Features Across the Range

- Full inverter compressor technology (screw or high-efficiency platforms)
- High-efficiency heat exchangers (shell-and-tube or optimised plate designs)
- EC or high-efficiency axial fans with variable speed
- Advanced microprocessor controls with electronic expansion valves
- Master/Slave capability and comprehensive BMS connectivity

Quick Comparison Table

Model	Nominal Cooling Capacity	Approx. Power Input	EER (up to)	SEER (up to)	Refrigerant	Approx. Sound Pressure	Typical Application
OPT1000	1000 kW	~330–360 kW	2.8–3.0	4.8–5.0	R-32	Low-noise configuration	Medium-large data centres, multi-hall facilities
OPT1250	1250 kW	~420–450 kW	2.8–2.9	4.7–4.9	R-32	Optimised low noise	Higher-density data centres, modular plants
OPT1500	1500 kW	~500–540 kW	2.7–2.9	4.7–4.9	R-32	Low-noise design	Large data centres, high-capacity primary plant

Performance figures are indicative (based on typical ambient 35°C and standard water conditions). Actual values depend on exact configuration, operating conditions, and options.

OPT1000 – 1000 kW

High-capacity solution for medium-to-large data centres

OPT1000 delivers substantial cooling capacity with strong efficiency and control characteristics. It is well suited to facilities requiring reliable primary cooling or modular plant designs that can expand over time.

Key Specifications

- Nominal cooling capacity: 1000 kW
 - Power input (nominal): ~330–360 kW
 - EER: up to ~2.8–3.0
 - SEER: up to ~4.8–5.0
 - Refrigerant: R-32
 - Capacity control: Full inverter technology for precise modulation
 - Layout: Optimised multi-circuit design for reliability and serviceability
 - Connectivity: Full BMS integration, Master/Slave capability
 - Options: Free-cooling packages, high-temperature kits, advanced monitoring
 - **Best for:** Medium-to-large data centres, multi-hall facilities, primary cooling for sites in the 800–1200 kW IT range, or modular plant expansions.
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OPT1250 – 1250 kW

Scalable capacity for higher-density and expanding data centres

The OPT1250 provides increased cooling capacity while maintaining the efficiency, reliability, and integration features needed for continuous data centre duty. It supports redundancy strategies and future growth without compromising part-load performance.

Key Specifications

- Nominal cooling capacity: 1250 kW
- Power input (nominal): ~420–450 kW
- EER: up to ~2.8–2.9
- SEER: up to ~4.7–4.9
- Refrigerant: R-32
- Capacity control: Full inverter platform for smooth load matching
- Layout: Efficient multi-circuit configuration
- Sound levels: Optimised low-noise package
- Connectivity: Advanced BMS integration and optional remote monitoring
- Options: Free-cooling enhancements, high leaving-water-temperature kits, hydronic modules

Best for: Higher-density data centres, multi-room or multi-hall environments, modular chilled-water

plants, or sites approaching 1000–1400 kW IT load.

OPT1500 – 1500 kW

Maximum capacity in the OPT high-capacity range for large data centre applications

The OPT1500 offers the highest capacity in this series, designed for facilities with significant cooling demands. It emphasises reliability, efficiency at part load, and flexibility for complex plant arrangements or high-availability requirements.

Key Specifications

- Nominal cooling capacity: 1500 kW
- Power input (nominal): ~500–540 kW
- EER: up to ~2.7–2.9
- SEER: up to ~4.7–4.9
- Refrigerant: R-32
- Capacity control: Full inverter technology for precise capacity matching
- Layout: Optimised multi-circuit design with high serviceability

Best for: Large data centres, high-density multi-hall facilities, primary cooling plant for sites in the 1200–1800 kW IT range, or high-availability modular installations.

Why Choose the OPT High-Capacity Series for Data Centres?

These units deliver right-sized capacity for substantial IT loads while supporting efficient operation and future expansion. They provide:

- Strong part-load efficiency that helps manage operating costs and PUE
- Reliable continuous duty designed for critical data centre environments
- Flexible configurations that support redundancy and modular growth
- Advanced controls for precise temperature management
- Straightforward integration with chilled-water distribution and BMS platforms

Contact us for detailed performance data, selection support, free-cooling options, hydronic packages, or project-specific configurations tailored to your data centre requirements.

Performance figures are indicative and based on standard conditions (e.g., ambient 35°C, typical water temperatures). Actual values depend on exact model configuration, operating conditions, and options.

Company Contact

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