



PTIMUM

Data Cooling Ltd

OPT Mid-Range series provides flexible, high-efficiency cooling for small to medium data centres, edge aggregation sites, and expanding IT environments. Available in 50 kW and 100 kW capacities, these air-cooled inverter chillers deliver stable chilled water for CRAH units, close-coupled cooling, or chilled-water rack systems where loads sit between roughly 40–120 kW IT.

Designed for reliability, part-load efficiency, and ease of integration, the OPT50 and OPT100 offer a practical step up from smaller units while remaining compact enough for restricted plant rooms or outdoor installations. They support modular growth, redundancy strategies, and continuous 24/7 operation typical of modern small data centres.

Key Benefits for Small & Medium Data Centre Applications

- Flexible capacity options to match current loads and future growth
- High part-load efficiency that helps control energy use and PUE
- Precise temperature control for stable IT environments
- Compact footprint relative to larger process chillers
- Wide operating range and robust design for continuous duty
- Low-noise operation suitable for urban or co-located sites
- Easy BMS integration and Master/Slave capability for redundancy

Shared Features Across the Range

- Full inverter scroll compressor technology
 - Optimised brazed plate or high-efficiency shell-and-tube heat exchangers
 - EC or high-efficiency axial fans
 - Master/Slave and advanced BMS connectivity options
 - Electronic expansion valve and precision controls
 - Cooling-only configuration optimised for process and IT duty
 - Optional hydronic kits, free-cooling enhancements, and high-temperature kits
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Comparison Table

Model	Nominal Cooling Capacity	Approx. Power Input	EER (up to)	SEER (up to)	Refrigerant	Approx. Sound Pressure	Typical Application
OPT50	50 kW	~16–17 kW	3.0–3.1	5.3–5.4	R-32	Low-noise design	Small data centres, edge aggregation sites
OPT100	100 kW	~33–35 kW	2.9–3.0	5.2–5.3	R-32	Optimised low noise	Medium small data centres, multi-rack sites

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

OPT50 – 50 kW

Flexible capacity for growing small data centres and edge sites

The OPT50 delivers reliable mid-range cooling in a compact package. It is well suited to facilities that have outgrown smaller units but do not yet require full-scale process chillers. Inverter technology provides smooth capacity modulation and strong part-load efficiency.

Key Specifications

- Nominal cooling capacity: 50 kW
- Power input (nominal): ~16–17 kW
- EER: up to ~3.0–3.1
- SEER: up to ~5.3–5.4
- Refrigerant: R-32
- Capacity control: Full inverter (smooth modulation down to low percentages)
- Layout: Optimised single- or dual-circuit design
- Sound levels: Low-noise design suitable for data centre environments
- Connectivity: BMS-ready, Master/Slave capability
- Operating flexibility: Wide ambient range with options for higher leaving water temperatures typical of efficient data centre systems

Best for: Small data centres with moderate rack density, edge aggregation nodes, multi-rack IT rooms requiring reliable primary or redundant cooling.

OPT100 – 100 kW

Scalable mid-range solution for expanding small data centres

The OPT100 provides substantial capacity while retaining the efficiency, compactness, and control precision needed for small-to-medium data centre applications. It supports modular installations and can be configured for redundancy or future expansion.

Key Specifications

- Nominal cooling capacity: 100 kW
- Power input (nominal): ~33–35 kW
- EER: up to ~2.9–3.0
- SEER: up to ~5.2–5.3
- Refrigerant: R-32
- Capacity control: Full inverter technology for precise matching of IT load
- Layout: Efficient multi-circuit or optimised single-circuit design
- Sound levels: Optimised low-noise configuration
- Connectivity: Advanced BMS integration, optional remote monitoring
- Options: High-temperature kit, inverter pump kits, free-cooling enhancements

Best for: Growing small data centres, multi-rack or multi-room IT environments, primary cooling for sites approaching 80–120 kW IT load, or N+1 redundancy pairings.

Why Choose the OPT Mid-Range for Small Data Centres?

These units bridge the gap between compact mini chillers and large process equipment. They deliver:

- Right-sized capacity that avoids the inefficiency of oversized plant
- Strong part-load performance that reduces operating costs
- Compact installation that maximises usable space
- High reliability for continuous data centre duty
- Straightforward integration with existing or new chilled-water systems

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

Company Contact

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