ExhaustFlow Technologies
Simple Science

Air Recirculation is stealing your Data Centers Cooling Capacity and Efficiency

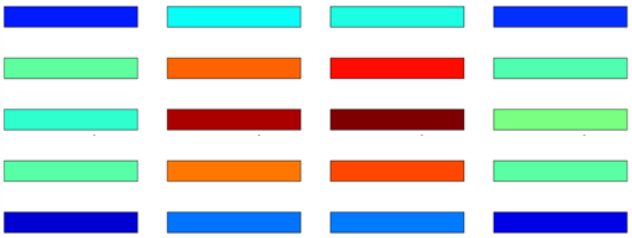
- **Design ambient is NOT the same as condenser intake temperature!**
- High heat rejection densities and compact mechanical yards create air recirculation loops.
- Data centers demand large amounts of critical cooling capacity within tight equipment layouts.
- Actual intake temperatures exceed ambient—often by 10–30°F.
- **Capacity, efficiency, and redundancy are all compromised.**

ExhaustFlow Technologies Solution

ExhaustFlow Technologies (EFT) offers a patented integrated base system for air-cooled chillers and dry coolers for Data Centers designed to eliminate recirculation, stabilize coil entering conditions, and provide predictable, high-efficiency performance under all operating modes. Unlike traditional airflow remedies, EFT delivers consistent results without oversizing chillers or expanding mechanical-yard footprints.

The EFT system captures and routes ambient air from outside the recirculation region. By displacing hot discharge air and preventing re-entrainment, EFT maintains uniform inlet temperature conditions at the coils. We provide the air necessary for operation as if it were a stand-alone chiller with no other interference. The system minimizes hot spots across dense chiller arrays to stabilize plant performance. This provides greater capacity, efficiency, and redundancy.

4x5 (Qty 20) AC Chiller Plant Colored by Intake Temp. W/O EFT



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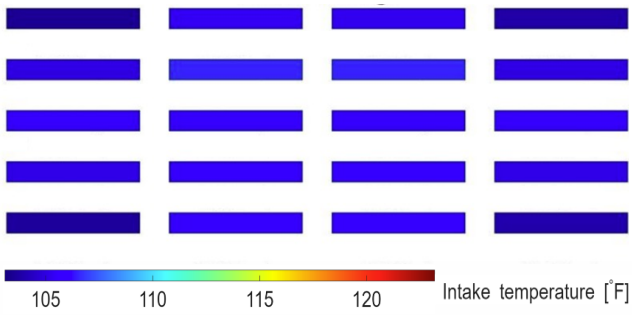

CONVENTIONAL APPROACH TO AIR RECIRCULATION	TRADE-OFF	RESIDUAL RISK
Oversized Chillers	Increased capital cost, footprint, and power	Does not solve the issue; recirculation persists
Increase Spacing and Elevation	Increased site footprint and infrastructure cost	Does not solve the issue; effectiveness will be layout and wind dependent.
More Chillers	Increased capital cost, footprint, and power	Does not solve the issue; capacity and efficiency still degrade
No Action Taken	-	Unpredictable performance and major operational risk

EFT Benefits

- ExhaustFlow Technologies (EFT) improves data center chiller plant performance by mitigating air recirculation without oversizing equipment, increasing power using water, or modifying electrical infrastructure. Designed for mission-critical, high-density, and space-constrained installations. **Key benefits include:**
- Up to **25% chiller capacity increase**
- Up to **30% efficiency improvement (kW/ton)**
- **Lower electrical demand** (reduced Input kW, MCA, MOP)
- **Reduced generator sizing** (lower full-load kW/ton)
- **Reduced footprint** (tighter clearance requirements, smaller chillers, fewer overall chillers)
- **Shielding from generator exhaust plumes**
- **Increased equipment reliability and plant redundancy**

For more information, contact: **info@eflowt.com**

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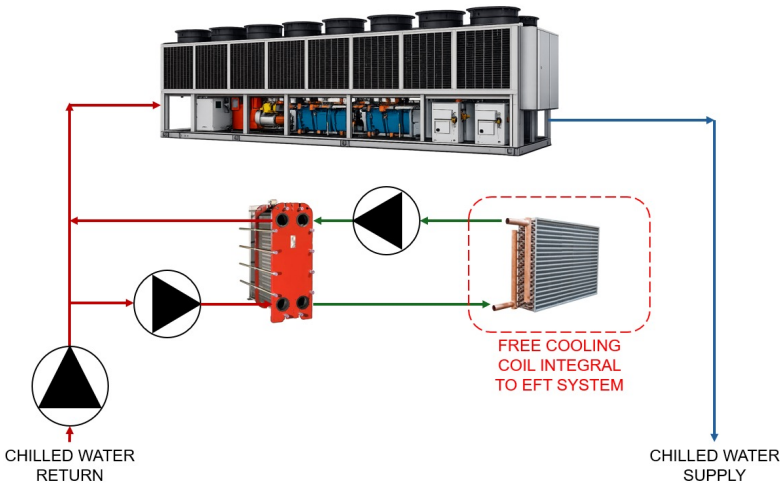
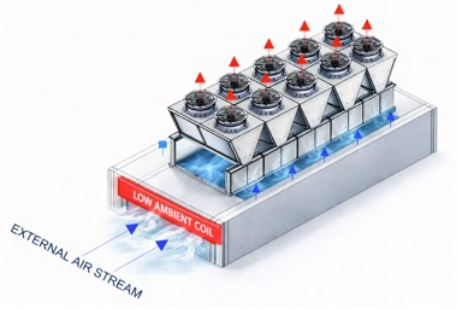
Optional Integrated Free Cooling Package

- Integral low-ambient free cooling coils can be incorporated directly into the ExhaustFlow Technologies (EFT) system.
- Ideal for mild and cold climates, where free cooling operation can significantly improve overall plant energy efficiency.
- **Enables glycol reduction or elimination** from the main chilled water loop, improving heat transfer efficiency and reducing pumping power.
- Enhances low-ambient operation, supporting reliable chiller startup and stable operation during cold weather.
- Replaces traditional chiller-mounted free cooling coils, **reducing chiller first cost while improving performance at both low and high ambient conditions.**



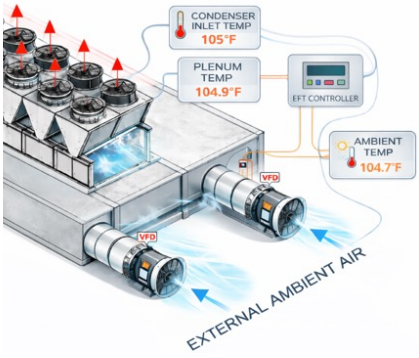
Retrofit Solutions

- Existing problem sites can be evaluated to identify airflow limitations and performance constraints.
- Well suited for retrofit and corrective applications, particularly where hot-air recirculation limits capacity or efficiency.
- Integrates directly with existing equipment layouts, **without modification to chiller internals or controls.**
- Often utilizes existing dunnage, **avoiding major structural or roof modifications.**



Controls Platform

- An optional controls platform can be provided by ExhaustFlow Technologies.
- The EFT controller monitors condenser inlet, plenum, and ambient temperatures to optimize fan speeds and airflow.
- **No modification to existing chiller controls is required—the EFT system operates independently and integrates non-intrusively.**
- The controls platform may be provided by EFT or implemented using approved third-party controls, depending on project requirements and site standards.



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