

TITAN INDUSTRIAL HVAC SYSTEMS

7800 La Porte Freeway, Houston, TX 77012 | Lic: TACLA-65390T

COMMERCIAL & INDUSTRIAL HVAC PROPOSALS

Date: September 23, 2026

Project: Modular Direct Expansion (DX) and Glycol Cooling Infrastructure

Prepared For: Apex Data Systems LLC

1. SYSTEM DESIGN & CAPACITY:

- Total Capacity: 2,000 kW IT Load distributed across modular pods.
- Cooling Plant: (20) 35-Ton Perimeter Precision Air Conditioner (CRAC) units utilizing dual-circuit scroll compressors and remote roof-mounted glycol dry coolers.
- Redundancy: N+2 modular architecture allowing seamless hot-swappable component maintenance.

2. AIRFLOW & FILTRATION:

- Upflow air delivery with underfloor pressurized plenum. Each CRAC unit equipped with EC fan arrays and electronic expansion valves (EEV).
- Redundant humidification and dehumidification canisters for precise humidity control (45% RH +/- 5%).

3. ELECTRICAL & PIPING:

- Glycol Piping: Type L copper piping with silver-brazed joints, pressure-tested to 250 PSI, insulated with Armaflex phenolic foam.
- Electrical: Dedicated multi-pole distribution panels with shunt trip breakers linked to gaseous fire suppression systems.

4. PRICING & INVESTMENT SUMMARY:

- Total Turnkey Investment (20 CRAC Units, Dry Coolers, Piping, Electrical & Commissioning): \$1,280,000
- Timeline: 18 weeks (Fast-track deployment).
- Warranty: 1-year standard warranty on all mechanical parts.