**PART 1 - GENERAL**

1.1 Work Included:

1. Condair DA Series Electric Desiccant Dryer(s) as indicated on drawing[s] and as indicated on schedule[s].
2. Complete and operable dehumidification system [which meets applicable building codes]
3. Equipment start-up and project inspection by qualified factory trained representative.

1.2 Quality Assurance:

1. Certifications, C-UL US Listed.
2. ISO 9001
3. ANSI/NFPA 70 - National Electrical Code.

1.3 Related Sections:

1. 23[ ] Mechanical General
2. 23[ ] Ducting Installation
3. 23[ ] Ducting Requirements
4. 23[ ] Control System

1.4 Submittals:

1. Submit product data under provisions of Section 23. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes. Include rated capacities, operating weights, furnished specialties, and accessories.
2. Submit manufacturer's installation instructions.
3. Submit operation and maintenance data.
4. Submit coordination drawings. Detail fabrication and installation of dehumidifiers. Detail dehumidifiers and adjacent equipment. Show support locations, type of support, weight on each support, and required clearances.
5. Submit wiring diagrams including power, signal, and control wiring. Differentiate between manufacturer-installed and field-installed wiring.

1.5 Schedules:

1. Refer to information contained in schedule[s] attached to this specification.
2. Dehumidifiers to be of type, capacity, and arrangement as listed in schedule[s].
3. Include accessories listed in schedule[s] and those accessories required for type of unit.

**DESICCANT DEHUMIDIFIER - MODEL CONDAIR DA SERIES**

**PART 2 - PRODUCTS**

2.1 Provide Condair DA Series Electric Desiccant Dryer that dries the process air stream. Packaged unit, floor mounted, desiccant dehumidifier using self-regulating PTC electric regeneration heaters. Resistive element technology, incoloy heating element, boiler steam (pressure steam), infrared heating element or Direct Gas Fired technology not acceptable.

2.2 Unit[s] to be complete with:

1. Touchscreen controller with standard building automation:
	1. Intuitive touchscreen control with color graphic user interface.
	2. Standard building automation communication protocols Modbus.
	3. Modbus TCP board for PLC or Modbus RTU RS485 board for PLC.
	4. BACnet MS/TP or BACnet IP is available through factory installed gateway module.
	5. Electronics to be mounted within unit cabinet and to be isolated from system airflow.
2. Packaged system:
	1. Operational Ambient conditions between 0-100%RH non-condensing and 5 to 40°C (41 to 104°F).
	2. Packaged unit single cabinet in a durable, Magnelis, powder painted to RAL 9006, corrosion resistant cabinet. Double walled cabinet housing insulated fill 30 mm (1 ¼”) non-combustible mineral wool material. Stainless Steel housings available on request.
	3. All service connections conveniently located for easy installation.
	4. Zero Top and Back side clearance requirement for minimal installation footprint.
	5. Use of self-regulating PTC heaters for regeneration.
	6. Fans housed inside of cabinetry for reduced operating noise.
	7. Separate process and reactivation direct driven fans powered by EC motor, common shaft or belt driven fans are not accepted
	8. Unit fans are designed to push air to prevent wheel heat exposure in the supply side and in the pre-reactivation side by pushing air for regeneration.
	9. Unit to include integral filter housing section allowing access for filter replacement service.
	10. Unit to include maintenance free bearing.
	11. Fully C-UL-US listed.
3. Silica Gel desiccant rotor:
	1. Vertically mounted with horizontal airflow.
	2. Equipped with an inductive rotor guard.

2.3 Optional Accessories

1. Refer to 'Option schedule'

**PART 3 - EXECUTION**

3.1 Installation:

1. Install dehumidifiers per manufacturers' instructions.
2. Install with required clearance for service and maintenance.

3.2 Accessories:

1. Install accessories in accordance with manufacturer's recommendations.

3.3 Commissioning, Testing, and Adjusting:

1. Manufacturer’s Field Service: Engage a factory-authorized service representative to inspect field assembled components and equipment installation, including piping and electrical connections as required. Start-up of dehumidifier to be by factory trained technician.
2. Test Results: Reported in writing to the engineer.
	1. Leak Test: After installation, charge the system and test for leaks. Repair leaks and retest until no leaks exist.
	2. Operational Test: After electrical circuity has been energized, start units to confirm proper operation. Remediate any malfunctioning units and retest.
	3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
	4. Training:
3. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain dehumidifiers.
	1. Train Owner's maintenance personnel on procedures and schedules for starting and stopping, troubleshooting, servicing, and maintaining equipment and schedules.
	2. Review data in maintenance manuals.
	3. Schedule training with Owner, through the engineer, with at least seven days advance notice.
	4. Protection and Cleaning:
4. Protect dehumidifiers system components from damage until the date of substantial completion.
5. Repair or replace damaged components that cannot be repaired.
6. Remove temporary protective coverings and excess materials.