

LECTRODRYER

ADSORPTION TECHNOLOGY EXPERTS



TYPE T Adsorption Dryers



For Continuing Drying of Compressed Air

The Type-T Lectrodryers are dual adsorber units for the continuous or intermittent drying of compressed air. They combine economy with high performance standards. They utilize regenerative type desiccants such as activated aluminas, silica gels, and molecular sieves. They are fully automatic in operation requiring no manual attention. A full range of sizes is available up to 4000 SCFM.

Type-T Lectrodryers can also be used for drying gases where the purging gas can be wasted or returned to the suction of the compressor for recycling.

Positively driven lubricated 4-way plug valves interconnect the two adsorbers for trouble free switching operation. No check valves are included, which could, in time, be subject to excessive leakage or maintenance problems. The air piston operator that powers the switching mechanism is generously sized to operate on air pressures as low as 30% of the customer's normal working pressures.

Internal electric heaters are used for the most efficient transfer of reactivation heat to the desiccant bed.

Electric heaters provide energy for reactivation of the desiccant and are removable without bed disturbance. This allows the changeout of the adsorbent if it is ever needed simply by opening a nozzle and allowing the free flowing material to drain by gravity. Refilling is accomplished merely by the use of a fill nozzle at the top of the tower.

Similarly, in the unlikely event of a heater burnout, the changeout of the heater element is also a simple operation. The heater terminals are disconnected and a few flange bolts are removed so that the heater itself can be removed as a single unit. Replacing of the new or repaired heater is the simple reverse procedure. Potential down time is kept to a minimum.

Since the heater elements, which can reach temperatures in excess of 800°F, are not in contact with the desiccant particles, there is no chance of scorching the adsorbent which could cause loss of overall capacity.

The Type-T Lectrodryer uses a purge flow type of reactivation. No other source of purging air, such as a blower, is required.

Reactivation purging is counter-current to the drying flow so that adsorbed moisture is driven out the entrance to the bed. This keeps the leaving section in a highly reactivated state allowing very low dewpoints to be obtained. The use of a dry air purge permits lower reactivation temperatures. This, in turn extends the life of the desiccant and the equipment itself.

The primary cause of desiccant dusting in equipment of this type is pressure shock. In the Type-T Lectrodryer, depressurization after switchover is at a controlled rate to avoid lifting of the bed. After the cooling period of reactivation, an automatic valve in the reactivation exhaust is closed up to allow the lower to be repressurized so that there is no pressure bump at switchover time.

TYPICAL SPECIFICATIONS* *Subject to change without notice*

| MODEL | LENGTH | WIDTH | HEIGHT | WEIGHT | HEATER | PURGE | CONNECTIONS |
|-------|--------|-------|--------|--------|---------|---------|-------------|
| T-1 | 39" | 19" | 45" | 500# | 1.0 KW | 3 CFM | 3/4" or 1" |
| T-2 | 43" | 24" | 84" | 740# | 2.0 KW | 6 CFM | 1" or 1½" |
| T-4 | 43" | 24" | 84" | 1125# | 4.0 KW | 12 CFM | 1" or 1½" |
| T-6 | 50" | 32" | 85" | 1875# | 6.0 KW | 18 CFM | 1½" or 2" |
| T-8 | 50" | 32" | 85" | 2190# | 8.0KW | 25 CFM | 1½" or 2" |
| T-12 | 73" | 32" | 96" | 2280# | 12.0 KW | 35 CFM | 2" or 3" |
| T-15 | 75" | 32" | 96" | 2500# | 15.0 KW | 45 CFM | 2" or 3" |
| T-18 | 78" | 32" | 96" | 2800# | 18.0 KW | 55 CFM | 2" or 3" |
| T-22 | 82" | 32" | 96" | 3100# | 22.0 KW | 65 CFM | 3" or 4" |
| T-26 | 93" | 43" | 109" | 3500# | 26.0 KW | 80 CFM | 3" or 4" |
| T-30 | 95" | 43" | 109" | 3900# | 30.0 KW | 90 CFM | 4" or 6" |
| T-35 | 95" | 43" | 109" | 4400# | 35.0 KW | 105 CFM | 4" or 6" |



Type T Lectrodryer

STANDARD FEATURES

The standard Type-T Lectrodryer features include carbon steel pressure vessels with ASME Code Stamping for 150 PSIG, stainless steel perforated metal desiccant support and inlet flow diffuser, sheathed heating element in a tube in each adsorber vessel with thermostatic over-temperature protection in the heater bundle, initial charge of desiccant in place, desiccant fill and drain nozzles; two 4-way lubricated plug valves with hair piston operator and solenoid valve controls, thermal pressure relief valves, pressure gages, purge flow meter, purge adjustment valves, dial thermometer in purge outlet, purge exhaust muffler, repressurization valve, 110 volt controls with control transformer where necessary; timer, heater contactors, reactivation heating pilot light, and pressure switch interlocks, and NEMA 1 electrical enclosures.

The models T-1 and T-2 are for operation from 110 volt, 1 phase, 60 cycle power supply; all others are for operation from a 440 volt, 3 phase, 60 cycle power supply. No utilities other than electric power required.

Optional features include switch failure alarm circuit; heater failure alarm circuit, high humidity alarm circuit, high temperature alarm circuit, pilot lights for each alarm circuit, when more than one alarm is selected, Lectrolod humidity controls, color grade moisture indicator NEMA 4, 12, and 7 electrical enclosures, non-lubricated 4-way valves, dial thermometers in each tower, 4-way by-pass valve, low air pressure cut-off and special custom features as specified. Pre-filters and After-filters are also available.

SIMPLE CONTROL SYSTEMS

The reversing of air flow through the two adsorber towers is done with 4-way valves that are positive in operation. Dependable adjustable timer provides extra flexibility. In the event of power failure, the unit will "fail safe," meaning that the air flow will continue.



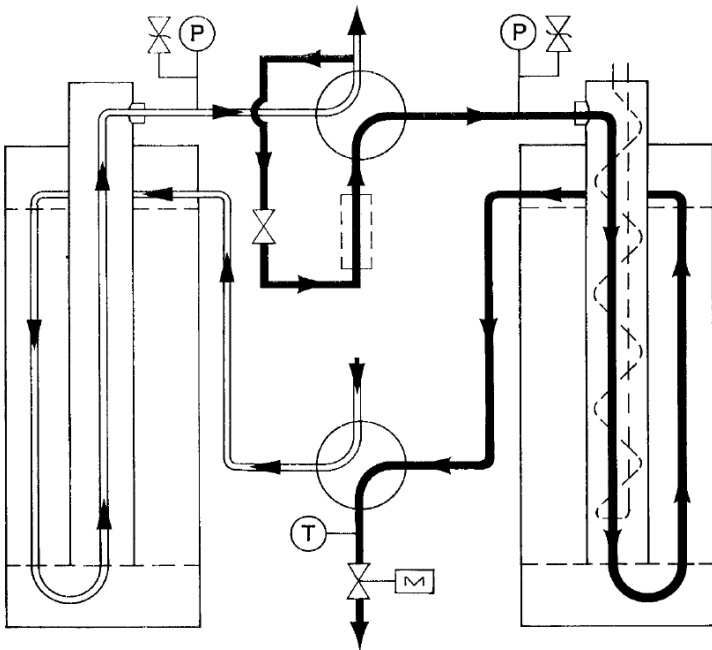
TYPE-T LECTRODRYER DRYING CYCLE

Wet air enters the Type T Lectrodryer at the bottom of the 4-way valve as shown. It is directed to the left tower and is dried in passing down through the desiccant bed. The dry air goes up through the heater tube and exits at the top 4-way valve.

A portion of this dry outlet air, represented by the solid line, is expanded through the reactivation control valve for purging. This flow goes down through the heater tube where the alloy sheathed heater is energized and proceeds up through the desiccant bed, exhausting through the bottom 4-way valve.

At the end of the heating period, the heater is de-energized with the purge flow continuing to help cool the bed. Just before switchover time, the reactivation exhaust is shut off and pressure is equalized.

Routine maintenance checking of the reactivation procedure is made with the dial thermometer in the reactivation exhaust where the most significant and reliable temperature can be measured.



LECTRODRYER HAS THE SOLUTION FOR ALL CNG DRYER PROBLEMS

Lectrodryer offers a complete range of drying and purification equipment:
For atmospheric or high pressure conditions
For very small or very large air volumes
For air, gases, and certain organic fluids

Lectrodryer offers a complete range of drying equipment of the CNG industry. For over 60 years Lectrodryer has been considered the leader in adsorption technology.

Today, Lectrodryer maintains an efficient and productive manufacturing facility in Richmond, KY. Strict quality control coupled with in-house engineering and advanced manufacturing techniques enable Lectrodryer to service any CNG application.

In addition to the GAS-CC-CNG Lectrodryer described in this brochure, Lectrodryer can offer a wide range of equipment for CNG service. Lectrodryer can also custom design dryers to meet your specific requirements.

Purge Type CNG Dryers

- Lower initial cost
- Recycle purge to inlet of compressor
- Dewpoints as low as -100°F can be achieved.

High Pressure Heatless or Heated CNG Dryers

- Pressure up to 6000 PSIG
- Purge or non-purge heated type
- Designed for any flow range

Refrigeration-Type Industrial Gas Dryer

Typical Application:

Low pressure situations for controlling atmospheric gases.

Features:

Power-on light, high temperature warning light, on/off switch, refrigeration analyzer gage, gas-out gage, gas-in temperature gage, low suction pressure cut-out, high head pressure cut-out, hot gas bypass capacity control, start push button pump down shut off cycle, oil pressure control, and suction accumulator.

Optional Features:

Special control and electrical enclosures.



Lectrodryer Filters

The Lectrodryer type SF and type F filters provide high efficiency filtration with ten sizes available in each type for flows to 8400 SCFM, larger sizes available on application. Both types have a high level filter efficiency of 99.985% retention (0.015 DOP penetration) for filtration to a 0.3 micron particle size and smaller.



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