

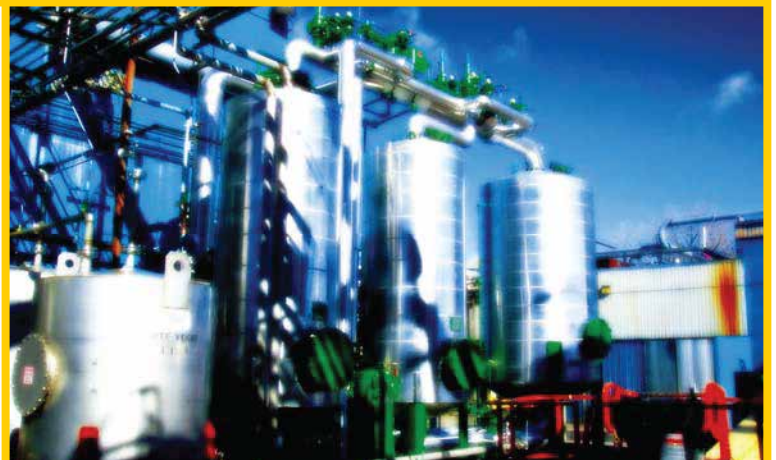
LECTRODRYER

ADSORPTION TECHNOLOGY EXPERTS



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TYPE GAS-B INDUSTRIAL GAS DRYERS



TYPE B LECTRODRYER FOR PROCESS GAS PURIFICATION

The Type GAS-B Lectrodryer is specially designed for general process air and gas service, dissociated ammonia service, removal of moisture from cylinder gasses, and for the removal of non-condensable contaminants from all process gas. It is a solid adsorption heat-activated gas dryer in a dual tower design that provides efficient and continuous operation. And it is economical because the GAS-B was carefully developed to offer low first cost, low operating cost and requires little or no maintenance.

The type Gas-B Lectrodryer is available in a full range of sizes and capacities to meet the individual drying needs of your particular operation.

Standard Type Gas-B Features:

- Allen Bradley PLC (Except GAS-B-12)
- Electric reactivation heaters to utilize the optimum capacity of the desiccant
- Heaters are designed with low-watt density and thermostatic over-temperature for added durability (except Gas-B-12).
- Lubricate 4-way plug valves with an interlocking valve drive mechanism with air piston operator and solenoid controls.
- No copper or brass in contact with process stream.
- Dial thermometer measures reactivation exhaust temperatures.
- Calibrated direct-reading purge flow meter with adjustable micrometer valve and reactivation indicator lights.
- Carbon steel pressure vessels.
- Relief valves on each adsorber.
- Locally mounted pressure gages
- ASME Code designed except GAS-B-12 (not stamped)

Here's how the Type Gas-B Lectrodryer works

When one column dries the gas as it passes through, the other column is reactivated by a small portion of the dried outlet gas at the same time. This procedure is then reversed on a predetermined time cycle to provide through removal of water and various other constituents.

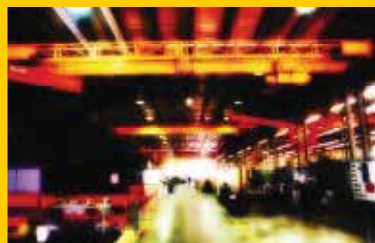
The cycling state is continuous and fully automatic. No manual attention is required for switching adsorbed columns. The positive-drive, 4-way valves automatically reverse the adsorbers. The controls are handled by a programmable logic controller (PLC) which allows a full range of adjustments and

options. And because the GAS-B has so few moving parts, there is less chance of a malfunction. Nor does the GAS-B require the time-consuming and costly adjustments that are necessary with other gas drying units.

By using specialized adsorbents, like molecular sieve, the GAS-B can also dry air and gas to very low moisture contents below -100°F . And it can remove even the slightest trace of non-condensable contaminants such as residual ammonia, carbon dioxide, hydrogen sulfide, carbonyl sulfide, and various mercaptans from other fluids.

Specifications

| Model | Length | Width | Height | Weight (lbs.) | Heater (KW) | Purge (SCFM) | Connection |
|-----------|--------|-------|--------|---------------|-------------|--------------|--------------|
| GAS-B-12 | 32" | 18" | 34" | 200 | 0.5 | 0.5 | 3/8" |
| GAS-B-27 | 50" | 18" | 67" | 500 | 1.0 | 1.1 | 3/4" or 1" |
| GAS-B-40 | 56" | 22" | 67" | 700 | 1.4 | 1.8 | 1" or 1 1/2" |
| GAS-B-75 | 56" | 22" | 87" | 850 | 2.3 | 3.0 | 1" or 1 1/2" |
| GAS-B-100 | 59" | 22" | 72" | 950 | 3.0 | 4.0 | 1 1/2" or 2" |
| GAS-B-135 | 59" | 22" | 89" | 1200 | 4.0 | 5.5 | 1 1/2" or 2" |
| GAS-B-165 | 59" | 22" | 78" | 1400 | 4.5 | 6.5 | 1 1/2" or 2" |
| GAS-B-210 | 59" | 22" | 93" | 1600 | 5.0 | 8.5 | 1 1/2" or 2" |
| GAS-B-365 | 66" | 30" | 102" | 3200 | 10.0 | 15.0 | 2" or 3" |



The Type Gas B offers continuous service

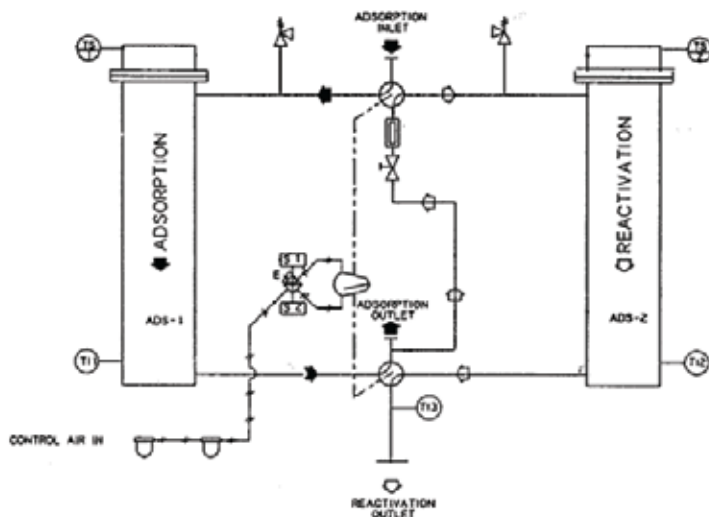
GAS-B-12 to GAS-B-40 are available for normal operation from a 110 volt, 1 phase, 60 cycle power supply. The larger units, GAS-B-75 to GAS-B-365, are available for operation from a 440 volt, 3 phases, 60 Hz cycle supply. All electrical enclosures are NEMA 1 as standard. All electrical equipment is mounted in a single enclosure for easy accessibility.

Normal operation is fully automatic requiring a 40 to 150 PSIG compressed air supply for operation of pneumatic controls.

Optional Features

- Semi-automatic controls
- NEMA 4, 12, and 7
- Special voltages or 50 Hz electrical
- Tranflow or non-lubricated valves
- Oversize piping for reduced pressure drop
- Nitrogen purge
- Diagnostics package with switch failure, heater failure, and over-temperature detection with alarm contacts.
- ASME Code stamp for 150 PSIG

TYPICAL FLOW DIAGRAM



Drying Cycle

Wet gas enters the type GAS-B Lectrodryer at the top 4-way valve. Flow is directed to the left tower (1) and is dried passing down through the desiccant bed. The dry gas exits 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.

Sizing of type GAS-B Lectrodryers

The selection of a particular type GAS-B Lectrodryer for an application is somewhat more complex than the selection of a compressed air dryer. The various parameters that affect the sizing of the type GAS-B Lectrodryer are many. Because of the complex nature of the selection of this type Lectrodryer, each problem should be handled individually. We, therefore, solicit your specific applications outlining, in general, the following information:

What is the gas to be treated? What is its pressure? What is its temperature? Is continuous or intermittent operation required? If intermittent, for how long a period is drying needed with how long a "down" time?

What constituent is to be removed? If it is water vapor, will the gas be saturated at the pressure and temperature in #1? If other than water vapor, what is the material and what is its inlet concentration? Is more than one constituent to be removed from this process flow?

What utilities are available for operation of the equipment? What electric power, cooling water, steam, natural gas, compressed air, if so, what pressure? Are any special features desired - fully automatic, semi-automatic, weather-proof or explosion-proof electrical equipment, other?

All these items are contained on our questionnaire available by e-mail or fax; it is also downloadable at our web site. Receipt of this information will permit our engineers to evaluate your problem thoroughly, to make an evaluation and recommendation, along with a quotation.



LECTRODRYER HAS THE SOLUTION FOR ALL COMPRESSED AIR AND GAS DRYING 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

Regenerative Adsorption Dryer

Typical applications:

Drying compressed air for instruments; purging of refrigeration coils, compressors, and systems; drying air for ozone generators; vacuum-breaking operations controlled atmosphere gas



Features:

Carbon steel pressure vessels with ASME Code (where applicable) for up to 150 PSIG Stainless steel perforated metal desiccant support and inlet flow diffuser, sheathed or non sheathed heating element in which each adsorber vessel with thermostatic over temperature protection in the heater bundle, two 4-way lubricated plug valves with air piston operator and solenoid valve controls, thermal pressure relief valves, pressure gages, dial thermometer in the purge outlet, 110 volt controls and NEMA 1 electrical enclosures.

Optional Features:

Special controls and electrical enclosures.

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.



Lube Oil / Air Tanks

Lectrobreather tank vent dryers prevent atmospheric moisture from entering storage during "breathing" due to ambient temperature changes and draining periods. Valuable oils and chemical solutions remain free of water contamination.



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