



Heatless Regenerative Compressed Air Dryers

Compressed Air System Products

Made in America



AIR/TAK Heatless Regenerative Air Dryers

Compressed Air System Products That Save Energy & Improve Operations. Super Dry, Clean Air for Sensitive Equipment.

AIR/TAK Heatless Regenerative Air Dryers deliver the dry, clean air that keeps sensitive pneumatic equipment in peak operating condition.

Engineered to deliver a continuous supply of dry air, -40°F pressure dew point.

Water, lubricant vapors and condensate can wreak havoc on your equipment. Over time, this results in high operating and maintenance costs.

AIR/TAK's HLDs help keep your equipment in prime operating condition. You lose less energy, save in operating costs, and maintain the investment in your equipment for a significantly longer period of time.

AIR/TAK HLDs efficiently deliver a continuous supply of super dry air to downstream point-of-use, utilizing the fundamental and dynamic relationship between desiccant adsorption and regeneration in a twin-tower design.



HLD-200-A

ON-LINE TOWER DRYING FUNCTION:

Wet compressed air enters the on-line tower and passes through the desiccant bed. AIR/TAK's adsorbent desiccant has a low vapor pressure and a high surface area. The desiccant attracts and holds the water vapor. Enough water vapor is adsorbed so that the outlet air dew point is -40°F (or better) at line pressure.

OFF-LINE TOWER PURGE FUNCTION:

A small amount of dried purge air from the first tower is diverted to the off-line tower. Here, the "purge air" is expanded to atmospheric pressure. This expansion increases the air's capacity to remove the adsorbed moisture from the desiccant, therefore regenerating the off-line tower.

AUTOMATIC PRECISION TIMING SYSTEM CONTROL PANEL

To ensure that you will have a constant supply of dry air, a programmable solid-state controller accurately controls the switching valves to sequence the desiccant towers through drying, depressurization, regeneration and repressurization. Indicator lights and the two line digital display clearly show the operation state of each tower and the elapsed time of the function in progress.

A FOUR-BUTTON NAVIGATION KEYPAD CAN BE USED TO SELECT OR CHANGE:

- Cycle Times
- Manual Step Mode for Diagnostics
- Turn on or off optional features
- System demand schedule (demand as a function of work shift and weekday or weekend)
- Resettable hour meter to help with maintenance

STANDARD FEATURES:

- On/Off Switch
- Tower Indicator Lights
- Solid-State Two-Line Display Digital Controller
- Purge Adjustment Valve
- Purge Control Pressure Gauge
- Purge Control Valve(s)
- Purge Exhaust Muffler(s)
- Tower Pressure Gauges
- Tower Pressure Relief Valves
- Check Valves
- 4-Way Automatic Switching Valve (Models HLD-25 thru HLD-70)
- Pneumatically Actuated AquaMatic™ Valves (HLD-100 thru HLD-350)
- Pneumatically Actuated Switching Valves (Models HLD-500 and above)
- Pilot Air Filter and Control Valve (Models HLD-100 and above)
- Pilot Air Switching Valves (Models HLD-100 and above)
- ASME Coded Vessels (Models HLD-200 and above)
- Activated Alumina Desiccant
- Desiccant Fill and Drain Ports
- Stainless Steel Air Diffuser Screens
- NEMA 4 Enclosure
- 115V Control Circuit
- Structural Steel Frame
- Wall Mountable (Models HLD-25 thru HLD-70)

OPTIONAL FEATURES:

- Flex Power Purge System (FPPS) Dew Point Demand
- High Humidity Warning Circuitry
- Fail-to-Switch Warning Circuitry
- Audible Alarm
- Moisture Indicator
- PAK's (Pre Assembled Kits)
- Prefilter (Recommended)
- Afterfilter (Recommended)
- Bypass Piping
- Voltages: 110/50/1, 230/60/1, 12 & 12VDC
- NEMA 7 Explosion proof
- High Pressure Models

HEATLESS REGENERATIVE AIR DRYER SIZING CHART
 Rated Capacities (SCFM), 100°F Inlet, -40°F Pressure Dew Point

MODEL NO.	75 PSIG	100 PSIG	125 PSIG	150 PSIG	In/Out Connections
HLD-25	20	25	28	30	½"
HLD-35	27	35	39	42	½"
HLD-50	39	50	55	60	¾"
HLD-70	55	70	77	84	¾"
HLD-100	78	100	110	120	1"
HLD-150	117	150	166	180	1"
HLD-200	156	200	221	240	1 ½"
HLD-250	196	250	276	300	1 ½"
HLD-350	274	350	386	419	1 ½"
HLD-500	391	500	552	599	2"
HLD-650	508	650	717	779	2"
HLD-800	626	800	883	959	2 ½"
HLD-1000	782	1,000	1,104	1,198	3"
HLD-1250	978	1,250	1,380	1,498	3"
HLD-1500	1,173	1,500	1,655	1,797	3"
HLD-2000	1,564	2,000	2,207	2,397	3"
HLD-2500	1,955	2,500	2,759	2,996	4"

Consult factory for sizes above 2,500 SCFM & Pressures above 150 PSIG
 Connections 2 ½" or less are NPT, 3" and above are flanged

SPECIFICATIONS:

- 70 PSIG Minimum Working Pressure
- 150 PSIG Maximum Working Pressure
- 120°F Maximum Inlet Temperature
- Dryer Vessels: ASME Code, Section VIII and latest addenda (Models HLD-200 and above)
- Exterior Finish: Industrial Enamel
- Standard Purge Air Rate: 14.7%

RECOMMENDED EQUIPMENT FOR OPTIMUM PERFORMANCE:

- AIR/TAK recommends a coalescing prefilter to protect the desiccant against damage from liquid oil and water, as well as solid contaminants. Also, a particulate afterfilter is recommended to protect downstream equipment from desiccant dust in the outlet air.
- AIR/TAK offers a full range of coalescing and particulate filters to help protect your equipment investment.

Heatless Regenerative Air Dryer Packages

HLD-PAK

Heatless Regenerative Air Dryer Packages are the perfect solution for customers who need clean, dry compressed air in a convenient and easy-to-install package. These high-value HLD-PAK packages offer several advantages:

- Complete and ready to install
- No costly separate filter installation or additional piping required
- Equipped with the features you need to produce clean, dry air
- Choose from three different package options to get up and running quickly and efficiently

HLD-PAK

Complete with:

- Heatless Regenerative Air Dryer
- Pre-Piping of Coalescing Prefilter with Differential Pressure Gauge and Automatic Drain Valve
- Pre-Piping of Particulate Afterfilter with Differential Pressure Gauge

HLD-PAK I

Same as PAK including:

- Three-Valve-Bypass Piping
- Visual Moisture Indicator

HLD-PAK II

Same as PAK including:

- Flex Power Purge System (FPPS) with High Humidity Warning Light Circuitry (HHL)
- Fail-To-Switch Warning Light
- Three-Valve Bypass Piping



AIR/TAK has been designing and manufacturing quality Compressed Air System products since 1979. All of our products are "American Made" in the United States at our manufacturing facility in Pennsylvania. No products are outsourced. As a third generation family-owned business, AIR/TAK employees have proudly built a reputation for delivering quality products, value, and superior customer service to our valued customers.

FULL LINE OF COMPRESSED AIR PRODUCTS

- Heatless Regenerative Compressed Air Dryers
- Heated Desiccant Compressed Air Dryers
- Refrigerated Air Dryers
- Deliquescent Dryers
- Mist Eliminators
- Custom Engineered Products

From small point-of-use dryers, to large, custom engineered compressed air dryers for the most demanding industrial applications, let an AIR/TAK dryer specialist assist in meeting your air or gas drying requirements.

We have the capabilities to customize products for even the most unique applications.

Our engineering staff will assist in the custom design, engineering and build of your compressed air treatment equipment and compressed natural gas production equipment to fit your applications to exact specifications for superior performance and energy savings.

"SHLD"

Small Heatless Regenerative Air Dryers

AIR-TAK

Compressed Air System Products

Compact Size, High-Performance Small Heatless Regenerative Air Dryers

Air/Tak Small Heatless Regenerative Air Dryers are the perfect choice when smaller flow rates are needed or for point-of-use applications such as instrumentation, auto body work, painting or powder coating.

Compact and durable in construction, these small dryers are high performance, field-proven units:

- Provide Constant -40°F Pressure Dew Point to Maintain Super Dry Conditions
- Engineered to Deliver Continuous Supply of Dry Air
- Operate Automatically with Precision Timing System

Air/Tak has designed the Small Heatless Regenerative Air Dryers for maximum flexibility. They can be wall or base mounted. Various models are also available to meet many customer electrical requirements. Installation is quick and easy.



Model SHLD-25

Precision Timing Ensures Constant Supply of Clean, Dry Compressed Air

Air/Tak Small Heatless Regenerative Air Dryers are highly efficient, using synchronized valves and continuous two-minute cycles to produce a constant supply of clean, dry air.

The process begins with inlet air flowing to the switching valves. The electric timer completes a circuit allowing inlet air to flow to and open the left purge valve.

The inlet air flows past the lower shuttle valve to the right tower. Here, the desiccant in the right tower adsorbs moisture from the air. The dry air then flows past the upper shuttle valve to the dryer outlet.

A small portion of the dried air flows through the adjustable purge orifice and expands to approximately atmospheric pressure. The expanded air flows through the desiccant in the left tower where it picks up moisture. This regenerates the left tower.

After 50 seconds, the timer causes the left purge valve to close. Within 10 seconds, the timer completes another circuit, causing the right purge valve to open. The left tower now dries the air while the right tower is regenerated. The cycle repeats every two minutes.

Air/Tak Small Heatless Regenerative Air Dryers are designed to deliver high performance, even during severe operating conditions. Felt disks in the towers minimize dust buildup, while the overall rugged spring compacted construction extends desiccant life.



- Switching Valves
- Electric Timer
- Purge Valves
- Shuttle Valves
- Six-foot Power Cord
- Tower Pressure Gauges
- Purge Mufflers
- Moisture Indicator
- Desiccant-packed Towers
- Purge Adjustment Screw
- Inlet Air Pressure: 60 PSIG (min.) to 150 PSIG (max.)
- Multiple Ports: .. 3 Inlet and 3 Outlet ports for a variety of piping options
- Port Size: 1/2 – 14 NPTF
- Outlet Pressure Dew Point:.....-40°F
- Power Consumption: 10 Watts
- Enclosure:..... NEMA 1
- Voltage: 115-60-1

SMALL HEATLESS REGENERATIVE AIR DRYERS Capacities, & Dimensions, (INCHES & POUNDS)

Model No.	Normal Capacity,	Height	Width	Depth	Weight (lbs.)
SHLD-10	10 SCFM	18 1/2	10	5 1/4	17
SHLD-25	25 SCFM	22 1/4	10	5 1/4	24
SHLD-50	50 SCFM	27 3/4	10	5 1/4	44

Notes: 1) Based upon 100 PSIG (6.9 bar) inlet air pressure, 100°F (39°C) inlet air temperature and -40°F (40°C) pressure dewpoint
2) Dimensions and specifications subject to change without notice.

- NEMA 7
- Voltages: 100-50-1, 230-60-1, 240/220-50-1, 12 & 24 VDC
- Basic Unit (without inlet pressure gauges and moisture indicator.)