

AIR TAK

Compressed Air System Products

Heatless Regenerative Air Dryers

**Compressed Air System
Products That Save Energy
& Improve Operations**



Heatless Regenerative Air Dryers

"HLD" Heatless Regenerative Air Dryers

Air/Tak Heatless Regenerative Dryers deliver the dry, clean air that keeps sensitive pneumatic equipment in peak operating condition. Engineered to deliver continuous supply of dry air, -40°F pressure dewpoint.



HLD-25 through HLD-70 models are wall-mounted units and optional floor-mounted are available.

Air/Tak HLDs efficiently deliver a continuous supply of super dry compressed air to downstream point-of-use. They employ the fundamental and dynamic relationship between desiccant adsorption and regeneration in a twin-tower design.

On-Line Tower 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 dew point is -40°F (or better) at line pressure.

Off-Line Tower Function

A small amount of the 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 with Touch Screen Control Panel

To ensure that you will have a constant supply of dry air, the programmable solid-state controller accurately controls the switching valves to sequence the desiccant towers through drying, depressurization, regeneration, and repressurization. Indicating lights and the digital display indicate the state of each tower and the elapsed time.

A four-button keypad can be used to select or change:

- Cycle times
- Manual step mode for diagnostics
- System demand schedule (demand as a function of work shift and weekday or weekend).



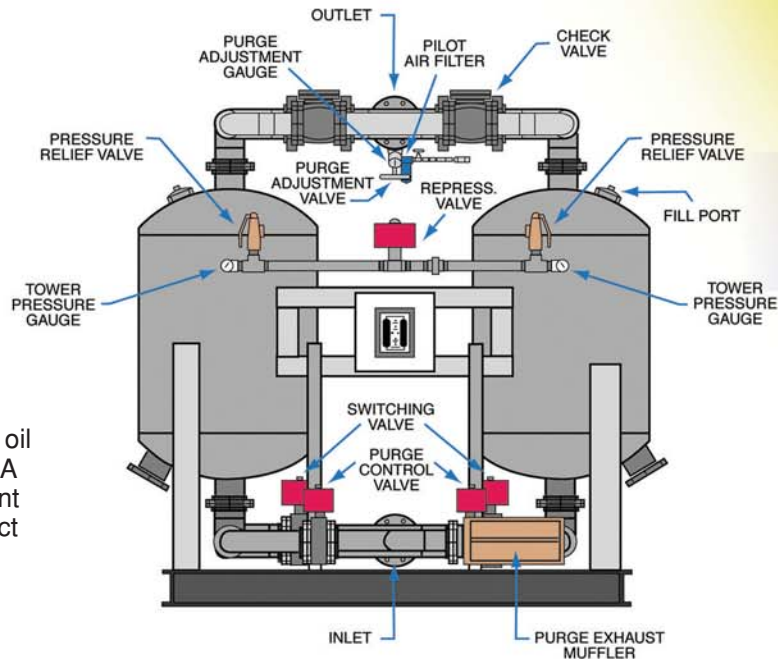
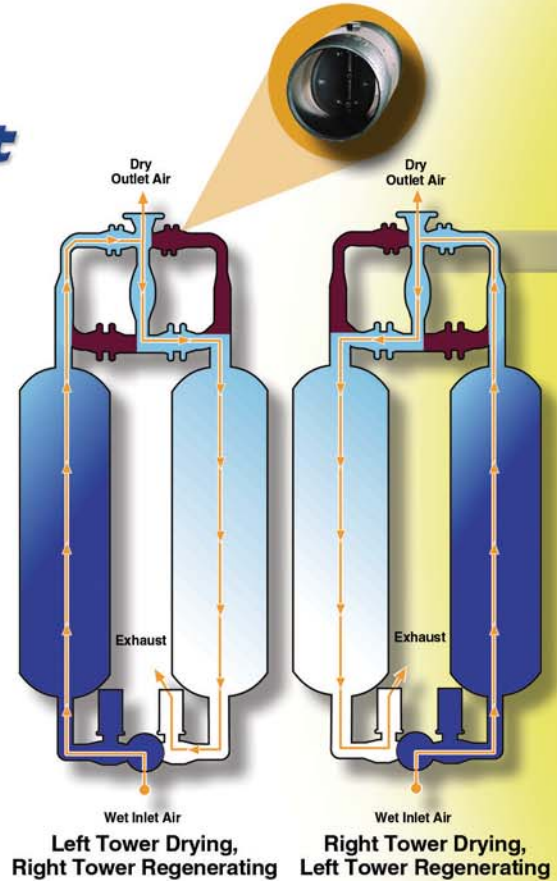
Super Dry, Clean Air for Sensitive Equipment

Water, lubricant vapors and condensate can play havoc with your equipment. Over time, this results in high operating and maintenance costs, including premature equipment replacement.

Air/Tak 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.

Standard Features:

- On/Off Switch • Tower Indicator Lights
 - 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*
 - Pneumatically Actuated Switching Valves**
 - Pilot Control Valve**
 - Pilot Control Air Filter** • Pilot Air Switching Valves**
 - ASME Coded Vessels***
 - Activated Alumina Desiccant
 - Desiccant Fill and Drain Ports
 - Stainless Steel Air Diffuser Screens
 - NEMA 4 Enclosure
 - Solid State Timer
 - 115-1-60 Control Circuit
 - Structural Steel Frame
- * Models HLD-25 through 350
 **Models HLD-500 through 6250
 *** Models HLD-200 through 6250;
 these models are backed by a 5-year
 pro-rated warranty



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. A particulate afterfilter, which removes any desiccant dust from the outlet air, is recommended to protect downstream equipment.

Air/Tak offers a full range of coalescing and particulate filters to help protect your equipment investment.



- Flex Power Purge System
- High Humidity Warning Light
- Fail-to-Switch Warning Light
- Audible Alarm
- Moisture Indicator
- PAKs
- Prefilter (recommended)
- Afterfilter (recommended)
- Bypass Piping
- Voltages: 110-50-1, 230-60-1, 12 & 24 VDC
- NEMA 7
- High Pressure Models
- Min. Working Pressure: 70 PSIG
- Max. Working Pressure: 150 PSIG
- Max. Inlet Temperature: 120°F
- Dryer Vessels: ASME Code, Section VIII and latest addenda (200-6250 SCFM)
- Exterior Finish: Industrial Enamel
- Standard Purge Rate: 14.7%

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Flex Power Purge System

Reduce energy costs by saving up to 80% of purge air!

Air/Tak's Flex Power Purge System can save up to 80% of purge air when operating conditions change and/or a constant -40°F dew point is not required.

You simply set the desired pressure dew point (PDP) and the Flex Power Purge System does the rest! It automatically senses the moisture content (pressure dew point) of the air at the outlet of the dryer. When the moisture reaches the maximum desired dew point, the next cycle is initiated.

In addition, the Flex Poser Purge System includes a High Humidity Warning Light. You simply set the High Humidity alarm contact set point 15°F to 20°F higher than the pressure dew point to signal unacceptable high pressure dew point levels.

For added convenience and productivity, **Air/Tak** has engineered the Flex Power Purge System so that it can be easily isolated and serviced while the dryer is still in operation.



Features

- Thin Film Polymer Moisture Sensor
- Microprocessor Based Transmitter
- Auto-calibrating Software
- Microprocessor Based Controller
- Two Alarm Contacts-Adjustable Set Points
- Dual 4-Digit LCD Displays

Specifications

- Sensor Moisture Range: -112°F to 68°F PDP
- Accuracy: + 3.5°F (at dewpoints to -76°F)
- Housing Classification: IP 65 (MENA 4)

HLD-PAK Heatless Regenerative Air Dryer Packages

Air/Tak 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:

- They come complete and ready to install.
- No costly separate filter installation or additional piping required.
- Completely equipped with all 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
- Coalescing Prefilter with Automatic Drain Valve
- Particulate Afterfilter
- Differential Pressure Indicators or Gauges on both Filters

HLD-PAK Plus I

Same as HLD-PAK, and also comes with:

- Three-Valve Bypass
- Visual Moisture Indicator

HLD-PAK Plus II

Same as HLD-PAK, and for ultimate flexibility and control, complete with:

- Flex Power Purge System
- High Humidity Warning Light
- Fail-to-Switch Warning Light
- Three-Valve Bypass



"SHLD"

Small Heatless Regenerative Air Dryers

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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.

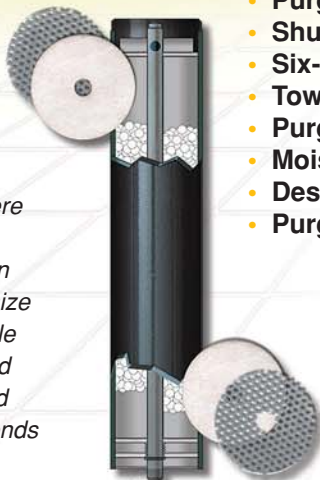
The inlet air flows past the lower shuttle valve to the right tower. Here, the desiccant in the right tower adsorbs moisture from the air. The dry air then flows past the upper shuttle valve to the dryer outlet.

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

- 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.)

HEATLESS REGENERATIVE AIR DRYERS

Rated Capacities, (SCFM) -40°F PDP

Dimensions, & Weights, (Inches & Pounds)

MODEL NO.	75 psig	100 psig	125 psig	150 psig	In/Out Connections ₃	Dimensions			Total Weight (lbs.) ₄
						Height	Width	Depth	
HLD-25	20	25	28	30	1/2	24 1/2	26 1/2	12 3/4	110
HLD-35	27	35	39	42	1/2	29	26 1/2	12 3/4	110
HLD-50	39	50	55	60	3/4	35-1/2	30 1/2	17	150
HLD-70	55	70	77	84	3/4	41	30 1/2	17	210
HLD-100	78	100	110	120	1	46	34	17	240
HLD-150	117	150	166	180	1	39	41 1/2	17	265
HLD-200	156	200	221	240	1 1/2	65	34	35	625
HLD-250	196	250	276	300	1 1/2	79	34	35	750
HLD-350	274	350	386	419	1 1/2	65	38	35	875
HLD-500	391	500	552	599	2	95	38	27	1350
HLD-650	508	650	717	779	2	94	42	29	1600
HLD-800	626	800	883	959	2 1/2	100	51	40	2000
HLD-1000	782	1000	1104	1198	3	102	55 1/2	40	2650
HLD-1250	978	1250	1380	1498	3	109	68	40	3000
HLD-1500	1173	1500	1655	1797	3	94	72	42	3500
HLD-2000	1564	2000	2207	2397	3	111	66	42	4600
HLD-2500	1955	2500	2759	2996	4	116	78	55	5100
HLD-3000	2346	3000	3311	3595	4	113	99	57 1/2	6500
HLD-3500	2740	3500	3863	4194	4	117	99	58	8000
HLD-4500	3520	4500	4966	5392	6	136	105	58	10,000
HLD-5500	4300	5500	6070	6591	6	125	105	58	13,000
HLD-6250	4885	6250	6898	7489	6	138	116	58	15,500

Notes: 1) Based upon 100 PSIG (6.9 bar) inlet air pressure, 100°F (38°C) inlet air temperature and -40°F (40°C) pressure dewpoint.
 2) Dimensions and specifications subject to change without notice.
 3) Connections 2-1/2" or less are NPT, 3" or larger are flanged 4) Weight includes desiccant

SMALL HEATLESS REGENERATIVE AIR DRYERS

Capacities, & Dimensions, (Inches & Pounds)

Model No.	Normal Capacity ₁	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 (38°C) inlet air temperature and -40°F (40°C) pressure dewpoint.
 2) Dimensions and specifications subject to change without notice.

HLD-PAK Heatless Regenerative Air Dryer Packages

Model No.	Prefilter	Afterfilter	In/Out Conn.	Dimensions, (Inches)			Total Weight (lbs.)
				Height	Width	Depth	
HLD-PAK-25	F04-C60	F04-P60	1/2	25	44	14	120
HLD-PAK-35	F04-C60	F04-P60	1/2	29	44	14	125
HLD-PAK-50	F04-C60	F04-P60	1/2	36	51	19	160
HLD-PAK-70	F06-C120	F06-P120	3/4	41	51	19	220
HLD-PAK-100	F10-C150	F10-P150	1	46	34	25	280
HLD-PAK-150	F10-C150	F10-P150	1	40	37	25	305
HLD-PAK-200	F14-C350	F14-P350	1 1/2	67	34	43	700
HLD-PAK-250	F14-C350	F14-P350	1 1/2	79	34	43	850
HLD-PAK-350	F14-C350	F14-P350	1 1/2	70	38	43	1000
HLD-PAK-500	F20-C700	F20-P700	2	95	38	46	1500
HLD-PAK-650	F20-C700	F20-P700	2	94	42	50	1800
HLD-PAK-800	F24-C900	F24-P900	2 1/2	100	48	70	2200
HLD-PAK-1000	F30-C1300	F30-P1300	3	106	52	70	2900
HLD-PAK-1250	FF30K-TC	FF30K-IU	3	109	56	70	3600
HLD-PAK-1500	FF30K-TC	FF30K-IU	3	94	62	72	4200
HLD-PAK-2000	FF40L-TC	FF40L-IU	4/3	111	62	82	5400
HLD-PAK-2500	FF60M-TC	FF60M-IU	6/4	102	70	107	6100

Notes: 1) Based upon 100 PSIG (6.9 bar) inlet air pressure, 100°F (38°C) inlet air temperature and -40°F (40°C) pressure dewpoint. 2) Dimensions and specifications subject to change without notice.

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