



Regenerative Air Dryers

GPS - Heatless

GEH - External Heated

GIH - Internal Heated

GBS - Heated Blower Purge

5-YEAR HEATER WARRANTY

-40°F PRESSURE DEWPOINT

INCOGNITO SHEATH HEATER

HEAVY DUTY INDUSTRIAL

ELECTRONIC DRAIN

SAVING ENERGY

PRESSURE DEWPOINT

5-YEAR HEATER WARRANTY

INDUSTRIAL

Design Features & Benefits

Industry Leading Warranty

In an effort to express our high quality standards utilized in the design & manufacture of desiccant air dryers, Great Lakes Air has standardized on an industry leading equipment Warranty. 5-Year coverage for any heating element and 2-Years for any additional components excluding only regular maintenance items. For detailed warranty coverage and requirements consult the regenerative warranty publication.

Desiccant Support Screens

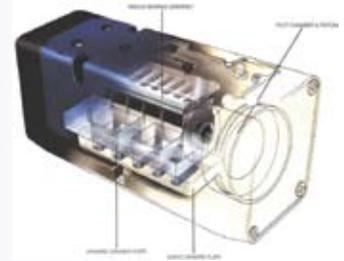


The Great Lakes Air desiccant support screens are fabricated from heavy gauge perforated stainless steel. The perforation pattern is designed to retain the desiccant bed while allowing small particles to pass, this prevents particle buildup and high pressure drops. Screens with tighter perforations or wire mesh covers run a high probability of damage from pressure drop. The screens are 100% welded construction, with no epoxy bonding.

Solenoid Control Valves



Great Lakes Air regenerative dryers use a ceramic type directional control valve that does not have a gap between the plates for dirt and oil to accumulate. A pair of sliding ceramic plates form a nearly perfect almost indestructible seal. The plates wipe themselves clean, shrugging off contaminants or desiccant dust that would destroy ordinary valves. Years of proven field service has verified valve life of 150 million cycles even under adverse and severe industrial conditions.

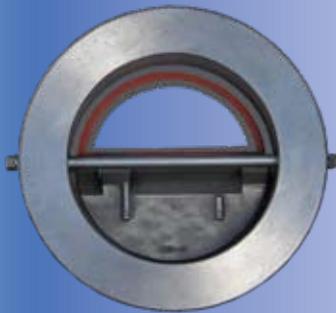


Process Check Valves

Great Lakes Air desiccant dryers use all stainless steel poppet type check valves for process lines 1/2" through 1-1/2". The valve has a high flow design for low pressure drop. The all stainless steel construction produces extraordinary service life.



Process Lines 2" and larger use a wafer type check valve which has all stainless steel internals and a vulcanized sealing seat. The seat is located on the trailing edge of the process flow protecting it from the damaging desiccant dust.



Over time all valve seals experience wear. If a valve design uses the sealing medium as a hinge or sealing surface, failure can occur depressurizing the entire system. The Great Lakes Air wafer style check valve utilizes the soft seat only to ensure a bubble tight seal, the primary sealing surface is metal to metal thus removing the probability of a catastrophic failure.

Digital Sequence Controller

The Digital Sequence Controller is designed for flexibility, adjustability, maintenance, and troubleshooting. The unit can operate in standard cycles or in a shortened test mode, the timing sequences can be manually advanced by a qualified technician for troubleshooting. The controller has multiple modes that can be switched between heat type and heatless control cycles.



Made With Pride in the U.S.A.

Great Lakes Air is proud to manufacture all of its compressed air and gas equipment in Michigan. We offer our customers a steady stream of reasonably priced high quality industrial products with a proven history of performance. Readily available replacement components and maintenance items are locally available through the Great Lakes Air distribution system. Consider the quality and durability of American made products when choosing a manufacturer.

Optional Features & Benefits

Electrical Systems

Great Lakes Air regenerative dryers have a standard electrical rating of NEMA 12. The following electrical classifications are available:

NEMA 4	Watertight,
NEMA 4X	Watertight & Corrosion Resistant
Hazardous Location	Class 1 Div. 1
Hazardous Location	Class 1 Div. 2 (Z-Purge Package)

Bypass Packages

Great Lakes Air offers packaged systems for turn key installations. Packages include:

- Mounted Filters
- Mounted Filters with skid 3 valve bypass
- Mounted Filters with component 9 valve bypass
- Mounted Parallel filters with isolation valves & bypass

Dewpoint Demand Controller

The Dewpoint Demand System eliminates wasted energy from dryer system with fluctuating or low load conditions. The dewpoint system senses the discharge dewpoint of the on-line desiccant bed and determines the maximum allowable drying cycle. If a dryer was sized for continuous full load conditions, the desiccant would reach the end of its useful cycle in four hours for heat type dryers, or ten minutes for heatless dryers.



If a system were completely loaded, the on-line tower would reach the end of its useful adsorption cycle just as the off line tower was completing its regeneration. In low load conditions the Dewpoint Demand Controller holds the on-line tower in the drying position, and allows the other fully regenerated tower to hold in a standby mode consuming no energy until it is required, as the on-line tower reaches the end of its useful adsorption cycle. In low load conditions, heated dryer systems can continue to dry a facilities compressed air for days while expending no purge air or energy at all.



Common System Additions

•High Dewpoint Alarm

Adds a high dewpoint display with adjustable setpoint.

•Mode Indicating Lights

Local indication of dryer cycle status

•Heater Overtemperature Alarm

Adds an alarm display if the high limit temperature controller has been activated.

•Cold Weather Packages

Upgrades a standard package to operate in ambient conditions below freezing.

•Engineered Packages

Custom packages designed to meet submitted engineering specifications for the most demanding applications.

•Stainless Steel Control Tubing

Upgrades a standard package to SS Control Tubing

Capacity Correction Data

Compressed Air Dryers normally specify inlet flow rates in SCFM (*Standard Cubic Feet per Minute*) @ 100 PSIG (*Pounds per Square Inch Gauge*) and 100°F inlet. Any deviation from this rating must be corrected. Use the proposed SCFM flow into the dryer and multiply it by the factor located at the intersection of your actual operating conditions.

		Dryer Inlet Temperature °F (maximum)						
		80	90	100	105	110	115	120
Dryer Inlet Pressure PSIG (Minimum)	60	0.84	1.15	1.53	1.74	2.02	2.31	2.68
	70	0.75	1.01	1.35	1.54	1.78	2.04	2.32
	80	0.67	0.90	1.21	1.38	1.60	1.83	2.12
	90	0.60	0.82	1.09	1.24	1.44	1.65	1.91
	100	0.55	0.75	1	1.14	1.32	1.51	1.75
	110	0.51	0.69	0.92	1.05	1.21	1.39	1.61
	115	0.49	0.66	0.88	1.00	1.16	1.33	1.54
	120	0.47	0.64	0.85	0.97	1.12	1.28	1.49
	125	0.45	0.61	0.82	0.93	1.08	1.24	1.43
	130	0.44	0.59	0.79	0.90	1.04	1.19	1.38
140	0.41	0.55	0.74	0.84	0.98	1.12	1.30	

Example Calculation

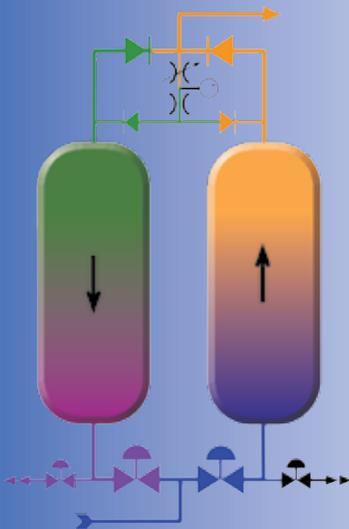
Dryer Inlet: 480 SCFM
110°F
100 PSIG

Correction Factor: 1.32
Corrected Flow 1.32 x 480=633

Select a dryer with a standard capacity of 633 SCFM or larger.

GPS Series Heatless Dryers

Compressed air enters the dryer and is directed to a tower by the inlet valves. It then proceeds up through the tower, gives up its moisture and then exits through the outlet check valve. A portion of the dry air called "purge" is metered and expanded to atmospheric pressure through an orifice assembly. The purge air enters the regeneration tower through the purge check valve, the purge air then utilizes a result of the adsorption process called **Heat of Adsorption** to facilitate regeneration of the desiccant. The moisture is picked up by the purge air and exits to the atmosphere through the purge exhaust valve and muffler. The drying and regenerating cycles occur simultaneously for 5 minutes. Just prior to the end of the 5 minute cycle the purge valve closes and the regeneration tower repressurizes before the inlet valves invert and the process starts again.



Standard Design Features

- NEMA 12 Electrical
- Illuminated On/Off Power Switch
- Tower Pressure Gauges
- OSHA Approved Mufflers
- ASME Relief Valves
- Control Air Filter
- Desiccant Fill & Drain Ports
- Adjustable Purge Flow w/ Indicator



Model Number	Capacity	Available Voltage	In / Out	Desiccant Weight	Purge Rate	Dimensions		
						Height	Width	Depth
GPS-25-116	25	120-1-60 / 100-1-50 12 or 24 Volts DC	1/2"	25	3.8	33	40	10
GPS-35-116	35		1/2"	35	5.3	33	40	10
GPS-50-116	50		3/4"	50	7.5	49	42	10
GPS-75-116	75		1"	75	11	65	52	12
GPS-100-116	100		1"	100	15	65	52	12
GPS-125-116	125		1"	125	19	65	52	12
GPS-175-116	175		1-1/2"	175	26	67	55	16
GPS-250-116	250		1-1/2"	250	38	67	57	17
GPS-350-116	350		1-1/2"	350	53	68	59	20
GPS-500-116	500		2"	500	75	77	62	22
GPS-650-116	650		2"	650	97	85	69	27
GPS-800-116	800		3"	800	120	79	72	32
GPS-1000-116	1000		3"	1000	150	88	77	32
GPS-1250-116	1250		3"	1250	188	82	79	40
GPS-1400-116	1400		3"	1400	210	82	79	40
GPS-1600-116	1600		4" Flg.	1600	240	98	87	43
GPS-1800-116	1800		4" Flg.	1800	270	100	92	43
GPS-2000-116	2000		4" Flg.	2000	300	112	95	48
GPS-2250-116	2250		4" Flg.	2250	337	114	95	48
GPS-2500-116	2500		6" Flg.	2500	350	116	104	52
GPS-2750-116	2750	6" Flg.	2750	385	118	108	52	
GPS-3000-116	3000	6" Flg.	3000	420	120	110	56	

Notes: Capacity = SCFM @ 100°F inlet, 100°F ambient & 100 PSIG
Purge rates are specified in SCFM
Purge rates reflect 100% loaded systems and or systems without Dewpoint Demand Control
Dimensions and specifications are subject to change without notice.
Connections are NPT unless otherwise noted.

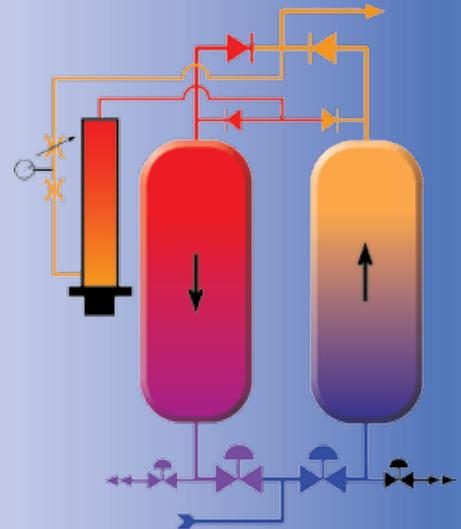
GEH Series Externally Heated Dryers

Compressed air enters the dryer and is directed to a tower by the inlet valves. It then proceeds up through the tower, gives up its moisture and then exits through the outlet check valve. A portion of the dry air called "purge" is metered and expanded to atmospheric pressure through an orifice assembly. The purge air enters a circulation chamber where it is heated and its moisture holding capacity is increased. The purge air also transfers heat to the desiccant in the regeneration tower by entering the tower through the purge check valve. As the desiccant temperature increases it releases the previously adsorbed moisture. The moisture is picked up by the heated purge air and exits to the atmosphere through the purge exhaust valve and muffler. The drying and regenerating cycles occur simultaneously for 4 hours. The regeneration cycle begins with 2.5 hours of heating and 1.4 hours of cooling, then the tower repressurizes before the inlet valves invert and the process starts again.



Standard Design Features

- NEMA 12 Electrical
- Illuminated On/Off Power Switch
- Tower Pressure Gauges
- OSHA Approved Mufflers
- ASME Relief Valves
- 5-Year Heater Warranty
- Insulated Heater & Purge Piping
- 16 Watt /In² Incoloy Sheath Heater
- Heater over-temp hi-limit system
- Control Air Filter
- Desiccant Fill & Drain Ports
- Adjustable Purge Flow w/ Indicator



Model Number	Capacity	Available Voltage	In / Out	Desiccant Weight	Purge Rate	Heater Kw	Average Heater Kw/H	Dimensions		
								Height	Width	Depth
GEH-100-□	100	460-3-60 / 380-3-50 230-3-60 / 200-3-50	1"	140	7.0	1.5	0.39	69	49	23
GEH-125-□	125		1"	175	8.8	1.5	0.49	69	49	23
GEH-175-□	175		1-1/2"	245	12.2	2.5	0.69	73	52	25
GEH-250-□	250		1-1/2"	350	17.5	3	0.98	73	52	26
GEH-350-□	350		1-1/2"	490	24.5	3	1.37	77	60	27
GEH-500-□	500		2"	700	35.0	5	1.96	85	68	29
GEH-650-□	650		2"	910	45.5	6	2.55	86	77	33
GEH-800-□	800		3"	1120	56.0	8	3.14	88	80	39
GEH-1000-□	1000		3"	1400	70.0	10	3.92	90	82	40
GEH-1250-□	1250		3"	1750	87.5	12	4.90	97	90	41
GEH-1400-□	1400		3"	1960	98.0	15	5.49	100	95	41
GEH-1600-□	1600		4" Flg.	2240	112	15	6.27	105	95	50
GEH-1800-□	1800		4" Flg.	2530	126	18	7.06	105	98	52
GEH-2000-□	2000		4" Flg.	2800	140	18	7.84	108	100	52
GEH-2250-□	2250		4" Flg.	3150	157	20	8.82	110	105	57
GBS-2500-□	2500		6" Flg.	3500	175	24	9.80	115	105	58
GBS-2750-□	2750		6" Flg.	3850	192	24	10.78	125	108	60
GBS-3000-□	3000		6" Flg.	4200	210	33	11.76	125	110	60
GBS-3500-□	3500		6" Flg.	4900	245	33	13.72	132	112	65
GBS-4000-□	4000		6" Flg.	5600	280	36	15.68	132	115	65

Notes: Capacity =SCFM @ 100°F inlet, 100°F ambient & 100 PSIG
Purge rates are specified in SCFM
Average kW/H heater ratings incorporate actual heating load, and heating cycle time factors.
Purge & kW rates reflect 100% loaded systems and or systems without Dewpoint Demand Control
Dimensions and specifications are subject to change without notice.
Connections are NPT unless otherwise noted.
"□" Symbol reflects missing voltage designation

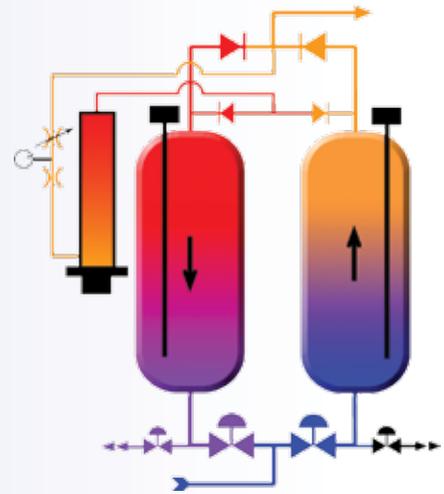
GIH Internal Heater Dryers

Compressed air enters the dryer and is directed to a tower by the inlet valves. It then proceeds up through the tower, gives up its moisture, and then exits through the outlet check valve. A portion of the dry air called "purge" is metered and expanded to atmospheric pressure through an orifice assembly. The purge air enters a circulation chamber where it is heated and its moisture holding capacity is increased. The purge air also transfers heat to the desiccant bed in addition to the internal heating rods as it enters the tower through the purge check valve. As the desiccant temperature increases it releases the previously adsorbed moisture. The moisture is picked up by the heated purge air and exits to atmosphere through the purge exhaust valve and muffler. The drying and regenerating cycles occur simultaneously for 4 hours. The regeneration cycle begins with 2.5 hours of heating and 1.4 hours of cooling, then the tower repressurizes before the inlet valves invert and the process starts again.



Standard Design Features

- NEMA 12 Electrical
- Illuminated On/Off Power Switch
- Tower Pressure Gauges
- OSHA Approved Mufflers
- ASME Relief Valves
- 5-Year Heater Warranty
- Insulated Heater & Purge Piping
- 16 Watt /In² Incoloy Sheath Ex-Heater
- 9 Watt /In² SS Sheath In-Heaters
- Heater over-temp hi-limit system
- Control Air Filter
- Desiccant Fill & Drain Ports
- Adjustable Purge Flow w/ Indicator
- Silencing Blower Intake Filter



Model Number	Capacity	Available Voltage	In / Out	Desiccant Weight	Purge Rate	Tank Heater Kw	Purge Heater Kw	Avg. Heater Kw/H	Dimensions		
									Height	Width	Depth
GIH-100-□	100	460-3-60 / 380-3-50 230-3-60 / 200-3-50	1"	150	4	1.6	0.83	0.44	71	59	23
GIH-125-□	125		1"	190	5	1.6	0.83	0.55	78	62	23
GIH-175-□	175		1-1/2"	265	7	2.4	1.33	0.77	83	62	25
GIH-250-□	250		1-1/2"	375	10	3.2	1.50	1.10	87	65	26
GIH-350-□	350		1-1/2"	525	14	4.0	1.50	1.54	95	70	27
GIH-500-□	500		2"	750	20	4.8	2.50	2.20	97	80	29
GIH-650-□	650		2"	975	26	4.8	3.00	2.85	98	85	33
GIH-800-□	800		3"	1200	32	5.6	4.00	3.51	98	95	39
GIH-1000-□	1000		3"	1500	40	7.0	5.00	4.39	102	96	40
GIH-1250-□	1250		3"	1875	50	11.2	6.00	5.49	104	98	41
GIH-1400-□	1400		3"	2100	56	14.0	8.00	6.15	104	100	41
GIH-1600-□	1600		4" Flg.	2400	64	16.0	8.00	7.02	108	100	50
GIH-1800-□	1800		4" Flg.	2700	72	16.0	10.0	7.90	110	104	52
GIH-2000-□	2000		4" Flg.	3000	80	20.0	12.0	8.78	110	104	52
GIH-2250-□	2250		4" Flg.	3375	90	20.0	12.0	9.88	110	106	57
GIH-2500-□	2500		6" Flg.	3750	100	36.0	15.0	10.9	112	107	58
GIH-2750-□	2750		6" Flg.	4125	110	36.0	15.0	12.1	114	108	60
GIH-3000-□	3000		6" Flg.	4500	120	36.0	15.0	13.2	117	108	60
GIH-3500-□	3500		6" Flg.	5250	140	42.0	18.0	15.4	118	112	65
GIH-4000-□	4000		6" Flg.	6000	160	42.0	20.0	17.6	120	115	65

Notes: Capacity =SCFM @ 100°F inlet, 100°F ambient & 100 PSIG
Purge rates are specified in SCFM
Average kW/H heater ratings incorporate an actual total operational heating load, with heating cycle time factors.
Purge & kW rates reflect 100% loaded systems and or systems without Dewpoint Demand Control
Dimensions and specifications are subject to change without notice.
Connections are NPT unless otherwise noted.
"□" Symbol reflects missing voltage designation

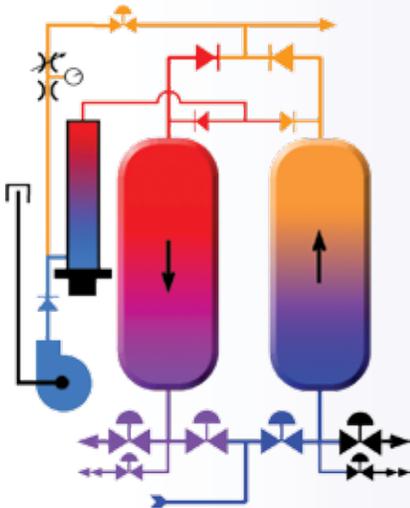
GBS External Heated Blower Purge Dryers

Compressed air enters the dryer and is directed to a tower by the inlet valves. It then proceeds up through the tower, gives up its moisture, then exits through the outlet check valve. A regenerative blower creates a purge stream that is heated by a circulation heater increasing its moisture holding capacity while transferring heat to the desiccant bed. The moisture is picked up by the heated purge air, and exits to the atmosphere through the purge exhaust valve and muffler. The drying and regenerating cycles occur simultaneously for 4 hours. The regeneration cycle begins with 2.5 hours of heating and 1.4 hours of cooling, then the tower repressurizes before the inlet valves invert and the process starts again. Blower Purge dryers use wet ambient air for regeneration that can cause dewpoint to fluctuate with seasonal ambient conditions. The standard **Tri-Mode** operating feature allows the GBS dryer to overcome seasonal dewpoint spikes

Blower Only Mode: Standard operating with dewpoint fluctuations by season.

Blower Polishing Mode: Uses 2.6% compressed air purge during the cooling cycle and produces a stable -40 dewpoint.

External Heated: Uses 7.0% compressed air purge and produces a stable -40 dewpoint. This mode is ideal for performing blower maintenance.



Standard Design Features

- Tri-Mode Operating System
- NEMA 12 Electrical
- Illuminated On/Off Power Switch
- Tower Pressure Gauges
- OSHA Approved Mufflers
- ASME Relief Valves
- 5-Year Heater Warranty
- Insulated Heater & Purge Piping
- 16 Watt /In² Incoloy Sheath Heater
- Heater over-temp hi-limit system
- Control Air Filter
- Desiccant Fill & Drain Ports
- Adjustable Purge Flow w/ Indicator
- Silencing Blower Intake Filter
- Regenerative Blower
- Blower Thermal Overload



Model Number	Capacity	Available Voltage	In / Out	Desiccant Weight	Blower HP	Heater Kw	Avg. Heater Kw/H	Dimensions		
								Height	Width	Depth
GBS-100-□	100	460-3-60 / 380-3-50 230-3-60 / 200-3-50	1"	150	0.75	4	1.68	70	64	32
GBS-125-□	125		1"	200	0.75	4	1.68	70	64	32
GBS-175-□	175		1-1/2"	300	0.75	4	1.68	73	74	38
GBS-250-□	250		1-1/2"	400	1.4	10	4.14	73	74	41
GBS-350-□	350		1-1/2"	550	1.4	10	4.14	80	74	41
GBS-500-□	500		2"	750	1.4	12	4.14	86	87	42
GBS-650-□	650		2"	1000	2.0	16	7.00	86	94	45
GBS-800-□	800		3"	1200	2.0	16	7.00	89	98	45
GBS-1000-□	1000		3"	1500	3.4	24	9.97	89	110	52
GBS-1250-□	1250		3"	1900	3.4	24	9.97	92	110	55
GBS-1400-□	1400		3"	2100	4.0	30	14.00	100	110	58
GBS-1600-□	1600		4" Flg.	2400	4.0	30	14.00	110	120	62
GBS-1800-□	1800		4" Flg.	2700	4.0	30	14.00	110	126	62
GBS-2000-□	2000		4" Flg.	2800	5.7	44	18.26	114	128	66
GBS-2250-□	2250		4" Flg.	3150	5.7	44	18.26	117	128	66
GBS-2500-□	2500		6" Flg.	3500	7.7	56	23.13	126	132	78
GBS-2750-□	2750		6" Flg.	3850	7.7	56	23.13	126	132	80
GBS-3000-□	3000		6" Flg.	4200	9.0	67	28.00	126	136	80
GBS-3500-□	3500		6" Flg.	4900	9.0	67	28.00	135	146	87
GBS-4000-□	4000		6" Flg.	5600	11.2	77	33.04	135	155	87

Notes: Capacity =SCFM @ 100°F inlet,100°F ambient & 100 PSIG
 Average kW/H heater ratings incorporate actual heating load, and heating cycle time factors.
 Purge & kW rates reflect 100% loaded systems and or systems without Dewpoint Demand Control
 Dimensions and specifications are subject to change without notice.
 Connections are NPT unless otherwise noted.
 Custom design configurations available
 "□" Symbol reflects missing voltage designation

Other Products from Great Lakes Air



GTX Series Cycling
Refrigerated Air Dryer



GRF Series Non Cycling
Refrigerated Air Dryer



Nitrogen Generators

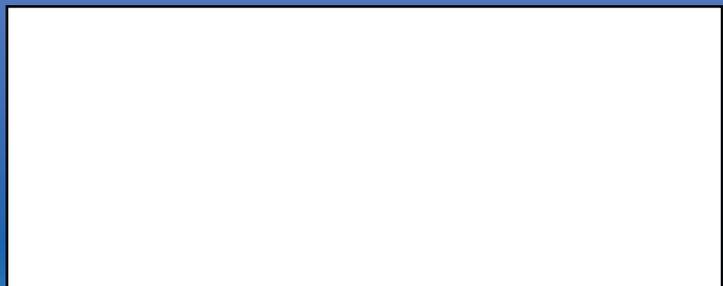


Compressed Air
Filtration



Condensate
Drain Systems

Distributed By:



Great Lakes Air Products, Inc.
5861 Commerce Drive
Westland, MI 48185-7689 USA
Ph: 734-326-7080 • Fx: 734-326-5910
www.glair.com