

Desiccant Dryers



pneumatech
Pure air . Pure gas

HEATLESS DRYERS



At Ash Air, it isn't just about the products. We're passionate about performance and service, with more than 40 qualified engineers working throughout the country providing unsurpassed compressed air solutions.

Broad product portfolio of robust compressors & tools

Decades of experience & innovation since 1979

24/7 service support with back up and hire equipment

"We are committed to being the easiest company to deal with in the air compressor and vacuum industry. Anywhere, Anytime. 24/7."

Energy Saving Solution

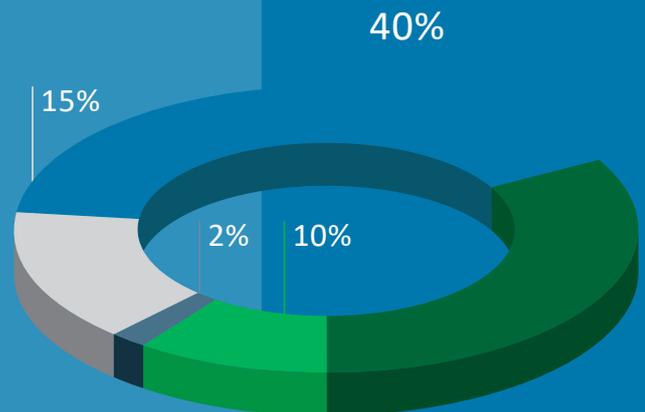
-  10,200 serviceable units
-  3.4 MWh potential yearly energy savings identified by leak detection
-  6015 kW combined power of VSD compressors installed
-  54.5 km AIRnet piping installed
-  6 MWh saved with AIRnet and VSD each year
-  4.2 MTon CO2 emissions eliminated each year

Control and Monitor your Dryer

The Purelogic™ Central Controller is the ideal complement to your Pneumatech desiccant dryers. This state-of-the-art control solution will provide optimal control and monitoring of your machines, increased reliability and reduced energy use.



Potential Energy Savings with Purelogic™ Controller



-  Investment
-  Dryer energy cost
-  Installation
-  Indirect energy cost
-  Maintenance & repair

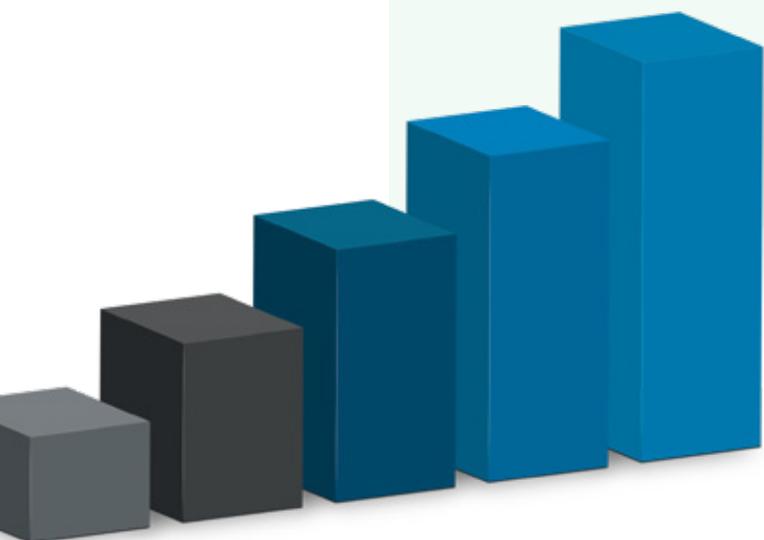


Purelogic™ Features

- Trending, counters and service indicators.
- Preventive maintenance warnings.
- Remote web monitoring capabilities.
- Robust & easy to use key pad.
- Remote start/stop capabilities.
- Automatic restart after power failure.

Purelogic™ Benefits

- Easy to use – the Purelogic™ controller incorporates a 3.5" high-definition color display with a multilingual user interface, clear icon indications and Ethernet connectivity.
- Control & monitoring – the Purelogic™ controller displays the dew point and relative humidity.
- Energy-efficient – the Purelogic™ controller will drive down your energy consumption and reduce your costs.



Why choose a Desiccant Dryer for your Operations?

Our innovative desiccant dryers give customers efficient protection against the presence of any humidity in the air, which often is the source of:

- Corrosion, pollution and leakage of pipes.
- Decreased efficiency of equipment/tools.
- Freezing of water in pipes.

A desiccant or adsorption dryer uses desiccant material to adsorb and remove the humidity from compressed air. With this method, a pressure dew point as low as $-70^{\circ}\text{C}/-100^{\circ}\text{F}$ can be reached.

A desiccant dryer should be used when the ambient temperature goes below freezing point, to avoid ice forming in pipes and applications.



Quality Air Solutions to Improve your Productivity and Efficiency

Maximizing your productivity is one of Pneumatech's core objectives. Our superior solutions add value to your production processes while consuming the least energy possible.

Our refrigerated dryers are extremely reliable to keep your production up and running optimally.

Innovative and Efficient

Pneumatech offers four different desiccant dryer technologies. Heatless dryers (PH) have the lowest initial investment cost, while zero-purge adsorption dryers (PB ZP) the lowest lifecycle cost. Blower purge (PB) dryers balance between both. More information about heated and zero pruge models are available on request.



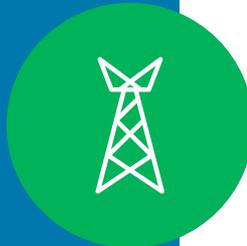
Food & Beverage

Pneumatech desiccant dryers are used worldwide for filling equipment for drinks, closing and checking devices, piping transportation, bulk packing systems, palletting machinery, and graining and peeling processes.



Electronics

Compressed air is indispensable for the electronics industry. As a power source, it does not interfere with electrical monitoring equipment.



Power Generation

In vapor-sensitive environments in the power generation industry it is crucial to keep liquids away from electrical applications, to reduce the risk of short circuits, electrical shocks or reduced production efficiency.



General Industry

Pneumatech desiccant dryers are used within most small or large industries to secure the packaging of products, product assembling, surface cleaning or air supply to machinery.



Oil & Gas

Compressed air is often the only power source in some oil & gas facilities as it can be used where other energy types cannot, due to explosion hazard or fire risk.

PH Heatless Desiccant Dryers

Incorporating high-quality components, PH heatless desiccant dryers provide you with clean, dry air to extend the life of your equipment and products. Heatless desiccant dryers use the compressed air to remove any moisture from the desiccant material.

- Long contact time, low bed velocity, minimal leakage.
- High reliability and robust design.
- Low noise levels when purging.



What Makes our Desiccant Dryers so Unique?

- Purelogic™ advanced control with remote start/stop and web monitoring standard on all models.
- Quality butterfly and check valves with SST discs.
- Low kW centrifugal blower with safety alarm.
- Tower switching based on real-time dew point.
- Galvanized piping with flanged connections.
- High-quality, 2-way pilot-operated inlet switching valves.
- Free contact to link dryer operation to compressor load cycles.
- Adjustable purge control (not for CE markets).



PH 2 - 45 HE - Extruded Profile Heatless Adsorption Dryers

Features & Benefits

- ▶ Advanced energy management for lowest operating costs
 - Compressor synchronization
 - Purge nozzle optimization (optional)
 - PDP control (optional)
- ▶ High-quality, high-efficient desiccant, selected for the right application – molecular sieves
- ▶ Spring-loaded cartridges, hence minimizing the risk of crushed desiccant
- ▶ Counter-current regeneration for optimal energy efficiency and guaranteed dry air
- ▶ Designed for transportability & mountability
 - Dryer can be installed vertically or horizontally
 - Wall-mounting kit (optional)
- ▶ In & outlet can be reversed
- ▶ Low noise levels while purging
- ▶ High reliability and robust design

General Specifications

- ▶ Heatless adsorption dryers: extruded profile design
- ▶ Dew points achievable: -40°C/-40°F & -70°C/-94°F
- ▶ Pressure range: 4-16 bar/58-232 PSI
- ▶ Ambient temperature range: 1-50°C/34-122°F
- ▶ Inlet temperature range: 1-60°C/34-140°F
- ▶ Power supply: 230V 50/60Hz



Options



Purge nozzle optimization



Wall mounting kit



PDP sensor kit



Incorporating high-quality components, PH heatless adsorption dryers provide you with clean, dry air to extend the life of your equipment and products. Heatless adsorption dryers use dry, expanded purge air to remove moisture from the desiccant material.

PH 2-45 HE adsorption dryers are capable of drying air to a PDP of -70°C/-94°F, simply by reducing the flow, thanks to the use of carefully selected molecular sieves. The desiccant is housed in a

robust extruded aluminum body, which can operate until 16 bar/232 PSI (fatigue load). The dryers are equipped with a mounted pre-filter and an integrated after-filter as standard, can be installed vertically and can also be wall-mounted with a specially designed wall-mounting kit (optional).

The controller ensures the lowest operational costs thanks to compressor synchronization and the optional PDP control.

Technical specifications for PH 2 HE up to PH 45 HE (standard version, PDP -40 °C)

Specification	Unit	PH 2 HE	PH 3 HE	PH 4 HE	PH 5 HE	PH 6 HE	PH 11 HE	PH 15 HE	PH 20 HE	PH 25 HE	PH 35 HE	PH 45 HE
Nominal volume flow at dryer inlet ⁽¹⁾	l/s	1	1.5	2	2.5	3	5	7	10	12	17	22
	m ³ /hr	4	5	7	9	11	18	25	36	43	61	79
Average purge air consumption	%	18	18	18	18	18	18	18	18	18	18	18
Inlet and outlet connections	G	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
	NPT	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Pressure drop at max. flow	Bar	0.012	0.05	0.075	0.11	0.185	0.01	0.04	0.075	0.125	0.21	0.34
	PSI	0.17	0.73	1.09	1.60	2.68	0.15	0.58	1.09	1.81	3.05	4.93
Included pre-filter size	High efficiency coalescing filter	Mini 3 C HE	1 C HE	1 C HE	1 C HE	1 C HE	1 C HE	1 C HE				
Mass	Kg	7	8	9	10	11	19	22	25	29	35	44
	Lb	15.5	17.6	19.8	22	24.2	41.9	48.5	55.1	63.9	77.1	97
Height	mm	540	590	720	835	855	640	725	875	1015	1270	1505
	inch	21.2	23.2	28.3	32.8	33.6	25.1	28.5	34.4	39.9	50	59.2
Width	mm	197	197	197	197	197	320	320	320	320	320	320
	inch	7.7	7.7	7.7	7.7	7.7	12.5	12.5	12.5	12.5	12.5	12.5
Length	mm	106	106	106	106	106	149	149	149	149	149	149
	inch	4.1	4.1	4.1	4.1	4.1	5.8	5.8	5.8	5.8	5.8	5.8

1. Flow is measured at reference conditions: 1 Bar(a) and 20°C at operating pressure of 7 bar (g), inlet temperature 35°C & std PDP of -40°C at the outlet.

Flow correction factors due to air inlet pressure Kp

Operating pressure	Bar(g)	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi (g)	58	72	87	100	116	130	145	160	174	189	203	218	232
Pressure correction factor	Kp	0.62	0.75	0.87	1	1.12	1.25	1.37	1.5	1.62	1.75	1.87	2	2.12

Flow correction factors due to air inlet temperature Kt

Temperature	°C	20	25	30	35	40	45	50
	°F	68	77	86	95	104	113	122
Temperature correction factor	Kt	1.07	1.06	1.04	1	0.88	0.67	0.55

Flow correction factors due to pressure dew point Kdp

Dew point	°C	-40	-70
	°F	-40	-94
Dew point correction factor	Kdp	1	0.7

PH 55 - 550 HE - Extruded Profile Heatless Adsorption Dryers

Features & Benefits

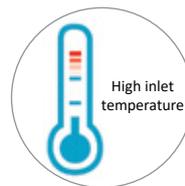
- ▶ Advanced energy management for lowest operating costs
 - Compressor synchronization
 - Purge nozzle optimization
 - PDP control (optional)
- ▶ Best-in-class performance thanks to unique valve and exhaust design (patent pending)
 - Lowest pressure drop during drying
 - Lowest purge loss by ensuring maximum purge air expansion during regeneration
- ▶ Low noise levels during purge and blow-off
- ▶ Spring-loaded desiccant, minimizing the risk of crushing
- ▶ Counter-current regeneration for optimal energy efficiency and guaranteed dry air
- ▶ Designed for transportability & mountability
 - Wall-mounting kit for PH 55-190 HE (optional)

General Specifications

- ▶ Heatless adsorption dryers: extruded profile design
- ▶ Dew points achievable: -20°C/-3°F; -40°C/-40°F & -70°C/-94°F
- ▶ Pressure range: 4-14 bar/58-203 PSI
- ▶ Ambient temperature range: 1-45°C/34-113°F
- ▶ Inlet temperature range: 1-50°C/34-122°F (For temperatures up to 60°C/140°F: see HIT option)

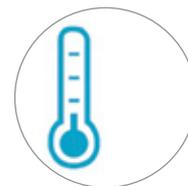


Options

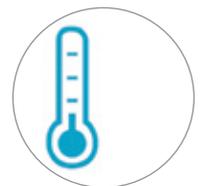


High inlet temperature

High inlet



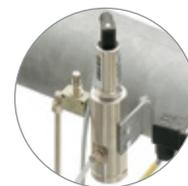
PDP -20°C



PDP -70°C



Wall mounting kit



PDP control



Purelogic controller



IP65 protection



PH 55-550 HE adsorption dryers are available in 3 PDP variants: -20°C/-4°F, -40°C/-40°F and -70°C/-94°F, each optimized to provide the lowest purge loss. The unique manifold (patent pending) includes pilot air controlled 3/2-way valves, which switch fast and reliably.

The pressure drop over the valves is reduced to a minimum. This does not only result in a low pressure drop over the dryer, but also ensures

maximum purge air expansion during regeneration. The latter makes that the purge consumption of the dryers has been reduced significantly.

The desiccant is spring-loaded and housed in a robust extruded aluminum body, which can operate up to 14 bar/203 PSI (fatigue load). The dryers are equipped with a mounted pre-filter and after-filter as standard and can also be wall-mounted with a specially designed wall-mounting kit (optional).

Technical Specifications for PH 55 HE up to PH 550 HE (standard version, PDP -40 °C)												
Specification	Unit	PH 55 HE	PH 75 HE	PH 95 HE	PH 120 HE	PH 140 HE	PH 190 HE	PH 230 HE	PH 275 HE	PH 350 HE	PH 420 HE	PH 550 HE
Nominal volume flow at dryer inlet ⁽¹⁾	l/s	25	35	45	55	65	90	110	130	165	195	260
	m ³ /hr	90	126	162	198	234	324	396	468	594	702	936
Regeneration air consumption average at max. flow	%	16.5	16.5	16.5	16	16	16.5	16.5	16.5	16.5	17	17
Connection inlet/outlet	G	1/2"	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"
	NPT	1/2"	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"
Pressure drop at max. flow	Bar	0.031	0.065	0.114	0.18	0.278	0.114	0.18	0.278	0.18	0.278	0.278
	PSI	0.45	0.94	1.65	2.61	4.03	1.65	2.61	4.03	2.61	4.03	4.03
Included pre & after filter size	High efficiency coalescing filter	3 C HE	4 C HE	5 C HE	5 C HE	6 C HE	6 C HE	6 C HE	7 C HE	8 C HE	8 C HE	9 C HE
	Particulate filter	3 S HE	4 S HE	5 S HE	5 S HE	6 S HE	6 S HE	6 S HE	7 S HE	8 S HE	8 S HE	9 S HE
Height	mm	1205	1205	1495	1495	1835	1495	1495	1835	1495	1835	1835
	inch	47.4	47.4	58.9	58.9	72.2	58.9	58.9	72.2	58.9	72.2	72.2
Width	mm	807	827	847	847	877	907	906	907	907	907	985
	inch	31.8	32.6	33.3	33.3	34.5	35.7	35.7	35.7	35.7	35.7	38.8
Length	mm	394	394	394	394	394	564	564	564	734	734	929
	inch	15.5	15.5	15.5	15.5	15.5	22.2	22.2	22.2	28.9	28.9	36.6
Mass	KG	100	109	128	140	165	217	234	276	331	389	500
	Lb	220.5	240.3	282.2	308.6	363.8	478.4	515.9	608.5	729.7	857.6	1102.3

*1. Flow is measured at Reference Conditions: 1 Bar(a) and 20°C at operating pressure of 7 bar (g), inlet temperature 35°C & std PDP of -40°C at the outlet

Flow correction factors due to air inlet pressure													
Operating pressure	Bar(g)	4	5	6	7	8	9	10	11	12	13	14	14.5
	psi (g)	58	72	87	100	116	130	145	160	174	189	203	210
Pressure correction factor	Kp	0.62	0.75	0.87	1	1.12	1.25	1.37	1.5	1.62	1.75	1.87	1.93

Flow correction factors due to air inlet temperature									
Temperature	°C	20	25	30	35	40	45	50	
	°F	68	77	86	95	104	113	122	
Temperature correction factor	Kt	1	1	1	1	0.84	0.67	0.55	

Flow correction factors due to pressure dew point			
Dew point	°C	-40	-70
	°F	-40	-94
Dew point correction factor	K _{dp}	1	0.7

PH 760 - 3390 HE - Welded Vessel Heatless Adsorption Dryers

Features & Benefits

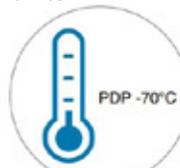
- ▶ Available in three standard variants
 - With Standard DC1 Controller (PDP Control optional)
 - With Purelogic™ (PDP control std available)
 - With Pneumatic Controller (no need of electricity for the installation and no PDP control possible)
- ▶ Lowest possible pressure drop thanks to innovative open silencer design
- ▶ Improved performance with reduced purge rate to 16% across the complete range
- ▶ Advanced energy management for lowest operating costs
 - PDP control - (std with Purelogic™ and optional with DC1 Controller)
 - Compressor synchronization
 - Purge nozzle optimization (optional)

General Specifications

- ▶ Heatless adsorption dryers: welded vessel design
- ▶ Dew points achievable: -40°C/-40°F & -70°C/-94°F
- ▶ Pressure range: 4-9 barg/58-130 psig (14 barg/203 psig variant available as separate variant)
- ▶ Ambient temperature range: 1-50°C/34-122°F
- ▶ Inlet temperature range: 1-55°C/34-131°F (For temperatures up to 60°C/140°F:
- ▶ Power supply: 230V 50/60Hz & 115V 50/60Hz



Variants



PDP -70°



14.5 Bar(g)

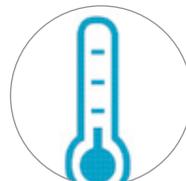


Purelogic™



Pneumatic controlled

Options



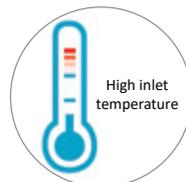
In and outlet filters



Vessel Safety valves



Wooden Packaging



High inlet temperature



Purge nozzle optimization



PDP Control for DC1 controller variants (std with Purelogic™ Controller)



PH 760-3390 HE adsorption dryers are capable of drying air to a PDP of -40°C/-40°F as standard and -70°C/-94°F as option for higher flows up to 5760 m³/hr/3390 cfm. The desiccant is housed in welded vessels, which are coated and can operate up to 9 barg/130 psig (fatigue load) with std variant and up to 14,5 barg/203 psi with high pressure variant (fatigue load).

All dryers can be equipped with 2 coalescing prefilters before and 1 particulate filter after the dryer (optional). Thanks to ingeniously designed mechanical components i.e open type of silencers

and large vessels, PH 760-3390 HE range offers highest performance with lowest pressure drop and improved purge loss of 16%.

Considering different needs of the customers, the PH 760-3390 HE range offers 3 different controller for different requirements. DC 1 Controller version has a basic controller with required controls and monitoring such as Service Alarm, General alarm relay, synchronization control and optional dew point control whereas Purelogic™ controller version will have the Purelogic™ as central brain of the adsorption dryer.

Technical specifications for PH 760 HE up to PH 3390 HE (standard version, -40 PDP °C)							
Specification	Unit	PH760 HE	PH1020 HE	PH1330 HE	PH2060 HE	PH2670 HE	PH3390 HE
Max volume Flow at Dryer Inlet(1)	l/s	330	480	630	970	1260	1600
	m ³ /hr	5760	1728	2268	3492	4536	5760
Regeneration Air Consumption average at max. flow	%	16	16	16	16	16	16
Pressure Drop over Dryer excluding Filters	Bar	0.15	0.15	0.15	0.15	0.15	0.15
	PSI	2.18	2.18	2.18	2.18	2.18	2.61
Inlet and outlet connections	DIN PN16	DN80	DN80	DN80	DN100	DN100	DN150
Optional Pre & After Filter Sizes ⁽²⁾	General purpose coalescing filter	PMH G 1529	PMH G 1529	G 1F	G 2F	G 3F	G 4F
	High efficiency coalescing filter	PMH C 1529	PMH C 1529	C 1F	C 2F	C 3F	C 4F
	Particulate filter	PMH S 1529	PMH S 1529	S 1F	S 2F	S 3F	S 4F
Mass	Kg	1220	1300	1620	2651	3100	4600
	Lb	2690	2866	3571	5844	6834	10141
Height	mm	2549	2549	2604	2671	2653	2576.5
	inch	100.3	100.3	10.5	105.1	104.4	101.4
Width	mm	822	822	822	1000	1026	1417
	inch	32.3	32.3	32.3	39.3	40.3	55.7
Length	mm	1776	1776	1884	2359	2472	2788
	inch	69.9	69.9	74.1	92.8	97.3	109.7

*1. Flow is measured at Reference Conditions: 1 Bar(a) and 25°C at operating pressure of 7 bar (g), inlet temperature 35°C & std PDP of -40°C at the outlet
 *2. Filters are sized at reference conditions. Consult the AML of the filters for sizing outside the reference conditions.

Globally present. Globally certified.

Pneumatech was founded in Kenosha, Wisconsin, USA in 1966 and has grown continuously. At the start of this century Pneumatech expanded into compressed air and gas treatment and industrial nitrogen generation markets. It currently has production sites in the USA, Europe and China. In 2010 Pneumatech received ISO 9001 and ISO14001 certification, and OHSAS 18001 certification in 2011.

pneumatech



Piston Compressors



Screw Compressors



Nitrogen & Dryers



Portable Compressors & Generators



Air Tools



Vacuum Pumps

Ash Air: Compressed Air Solutions Specialists

The team at Ash Air is passionate about the performance of their products and services, with more than 40 qualified engineers working throughout the country providing unsurpassed compressed air solutions. We look after New Zealand's air compressors and vacuum pumps, from the smallest to largest companies. 9,500+ businesses have trust us to set-up, upgrade, and look after their compressed air systems.

We are available 24/7 when and where you need us, with 13 strategically located service centres in New Zealand, so you'll never be caught without the back up you need.

