

# Blower purge/ Zero purge adsorption dryers

## PB 760-7400 HE (P/ZP)



The Pneumatech PB 760-7400 HE delivers a low PDP of  $-40^{\circ}\text{C}/-40^{\circ}\text{F}$  as standard ( $-70^{\circ}\text{C}/-94^{\circ}\text{F}$  optional) with minimal lifecycle costs. The range comes in blower purge and two zero purge variants, each offering flows up to  $12,600\text{ m}^3/\text{hr}$ . The PB HE keeps your operating costs to a minimum thanks to the superior efficiency of its multiple layered high-efficiency desiccant, its advanced Purelogic™ Touch control features, and its new and unique Smart Cycle Control algorithm.

### Adsorption dryer technology

Adsorption dryers remove moisture from compressed air by passing it through one of two towers filled with desiccant. When the desiccant in one tower is saturated, PB HE dryers use heated blower purge air to remove the moisture from the adsorbent material (while the other tower handles the drying). That means they have no purge loss during regeneration. The zero purge variants reduce lifecycle costs even further by also eliminating purge loss during cooling.

### Features and benefits:

- Smart Cycle Control algorithm delivers energy savings at partial load without dew point sensor (optional)
- Advanced energy management for low operating costs with compressor synchronization and optional PDP control, regeneration & cooling temperature control, and purge nozzle optimization
- Optimal control and monitoring thanks to Purelogic™ Touch Controller
- High quality, high-efficiency, long-life desiccant ensures a PDP of  $-40^{\circ}\text{C}/-40^{\circ}\text{F}$  as standard ( $-70^{\circ}\text{C}/-94^{\circ}\text{F}$  as option)
- Minimal risk of crushed desiccant thanks to the sonic nozzle and the large welded vessels
- Counter-current regeneration for optimal energy efficiency and guaranteed dry air
- In-house developed and endurance tested components ensure high reliability and low maintenance (four-way and switching valves)
- The electric heater's design and stainless-steel, insulated build ensure optimal flow, energy efficiency and a long lifetime
- Compact base frame with forklift slots designed to save floor space
- Galvanized pipes with flanged connections simplify maintenance and minimize the risk of leakage

### General Specifications

- Blower purge & zero purge adsorption dryers: welded vessel design
- Dew points achievable:  $-40^{\circ}\text{C}/-40^{\circ}\text{F}$  &  $-70^{\circ}\text{C}/-94^{\circ}\text{F}$
- Pressure range: 4.5-10 barg/65-145 psig; PB 4450 & 7400 HE 4.5-9 barg/130 psig (4.5-14.5 barg/65-210 psig available upon request for all models)
- Ambient temperature range:  $1-40^{\circ}\text{C}/34-104^{\circ}\text{F}$  (for temperatures above  $40^{\circ}\text{C}$  and up to  $55^{\circ}\text{C}$ , see high ambient temperature option)
- Inlet temperature range:  $1-45^{\circ}\text{C}/34-113^{\circ}\text{F}$  (for temperatures above  $45^{\circ}\text{C}$ , see high inlet temperature option)
- Power supply: 400 VAC 50 HZ; 440-460 VAC 60 HZ

## 3 versions to meet your needs

Choose the PB HE that works best for you:

- 1 Purge models with standard cooling, using a small amount of dry air.
- 2 Zero purge models with open loop cooling, using a blower to cool down with ambient fresh air. This is more energy-efficient compared to standard cooling as no compressed air is lost. It is also the ideal choice for moderate climates.
- 3 Zero purge models with closed loop cooling, using an additional air or water cooler. The cooling air runs in a closed loop, preventing the desiccant to become pre-saturated with moisture from the ambient air. This is the best choice for hot and humid climates.

## Technical specifications for PB 760-7400 HE (standard version, PDP -40°C)

Specifications	Unit <sup>(3)</sup>	PB 760 HE	PB 1000 HE	PB 1350 HE	PB 2050 HE	PB 2650 HE	PB 3400 HE	PB 4450 HE	PB 5300 HE	PB 7400 HE
Cooling mode	-	Purge	Purge	Purge	Purge	Purge	Purge	Purge	Purge	Purge
Nominal flow at dryer inlet <sup>(1)</sup>	l/s	360	480	630	970	1260	1600	2100	2500	3500
	m <sup>3</sup> /h	1296	1728	2268	3492	4536	5760	7560	9000	12600
Avg purge air consumption	%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Pressure drop over the dryer	barg	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.2	0.2
	psig	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.9	2.9
Inlet and outlet connections	DN acc to DIN2633 PN16	80	80	80	100	100	150	150	150	200
Optional pre & after filter sizes <sup>(2)</sup>	Fine filter	PMH G 1529	PMH G 2125	PMH G 2550	FF 3 G HE	FF 4 G HE	FF 5 G HE	FF 6 G HE	FF 7 G HE	FF 8 G HE
	Super fine filter	PMH C 1529	PMH C 2125	PMH C 2550	FF 3 C HE	FF 4 C HE	FF 5 C HE	FF 6 C HE	FF 7 C HE	FF 8 C HE
	Dust filter	PMH S 1529	PMH S 2125	PMH S 2550	FF 3 S HE	FF 4 S HE	FF 5 S HE	FF 6 S HE	FF 7 S HE	FF 8 S HE
Mass	Kg	1663	1741	2130	3009	3660	4862	5592	6682	8655
	Lb	3666	3838	4696	6634	8069	10719	12328	14731	19081
Height	mm	2585	2585	2707	2717	2700.6	2591	2587.5	2631	2990
	Inch	101.7	101.7	106.6	107	106.3	102	101.8	103.6	117.7
Width	mm	960	960	948	1000	1715.6	2374	2448.5	2629	2739
	Inch	37.8	37.8	37.3	39.4	67.5	93.5	96.4	103.5	107.8
Length	mm	1776	1776	1884	2359	2382	2448.5	2874.5	2458.5	3532
	Inch	69.9	69.9	74.2	92.9	93.8	96.4	113.1	96.8	139

(1) Flow is measured at reference conditions: 1 bara and 20°C at operating pressure of 7 barg, 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 and for other filters models

(3) For ZP (zero purge) units consult the AML

## Options

- Maximum working pressure 14.5 barg/210 psig
- PDP sensor and control
- 2<sup>nd</sup> PDP read-out
- -70°C/-94°F pressure dew point (zero purge versions)
- In and outlet filters
- High inlet temperature variant
- High ambient temperature variant
- Dryer tower insulation
- Purge nozzle optimization
- Blower inlet filter
- External pilot air connection for low pressure inlet
- Flanged connection (Ansi flanges)
- Wooden packaging