



# Adsorption Dryers

Pneumatech offers four different adsorption dryer technologies. Heatless dryers (PH) have the lowest initial investment cost, while zero-purge adsorption dryers (PB ZP) the lowest lifecycle cost. Heater purge (PE) and blower purge (PB) dryers balance between both.

No matter what your preference is, Pneumatech guarantees stable, dry air at the lowest operating costs and with excellent control and monitoring capabilities for each dryer you select.

**PB 700 - 6350 HE (P/ZP) -**  
Blower purge / zero purge adsorption dryers

# PB 700 - 6350 HE (P/ZP) - Blower purge / zero purge adsorption dryers

## Features & Benefits

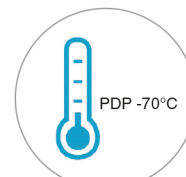
- ▶ Advanced energy management for lowest operating costs
  - Compressor synchronization
  - PDP control
  - Regeneration & cooling temperature control
  - Purge nozzle optimization (optional)
- ▶ Zero-purge variants with cooling in closed loop
  - Lowest life-cycle costs
  - Excellent performance at high ambient temperatures
  - Frequency controlled blower to guarantee optimal cooler performance
- ▶ High-quality, high-efficient desiccant, selected for the right application
  - PDP -40°C/-40°F (std): silica gel + activated alumina
  - PDP -70°C/-94°F and HIT (optional): activated alumina & molecular sieves
- ▶ Minimal risk of crushed desiccant thanks to the sonic nozzle and the large vessel diameter
- ▶ Counter-current regeneration for optimal energy efficiency and guaranteed dry air
- ▶ High reliability and robust design
- ▶ Low noise levels while purging
- ▶ Designed for transportability
- ▶ Optimal control and monitoring thanks to the Purelogic™ controller

## General Specifications

- ▶ Blower purge & zero purge adsorption dryers: welded vessel design
- ▶ Dew points achievable: -40°C/-40°F & -70°C/-94°F (only with Zero Purge variants)
- ▶ Pressure range: 4-10 bar/58-145 PSI (14.5 Bar/ 210 PSI available on request)
- ▶ Ambient temperature range: 1-45°C/34-113°F (For temperatures above 40°C and up to 55°C see High Ambient Temp. option)
- ▶ Inlet temperature range: 1-45°C/34-113°F (For temperatures above 45°C see HIT option)
- ▶ Power supply: 400V 50Hz; 440-460V 60Hz



## Options



**-70°C PDP variant available**  
(only for ZP variants)



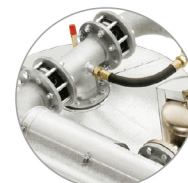
**Insulated vessels**  
(std on -70°C PDP Variant and on Zero Purge Variants)



**Inlet Blower Filters**



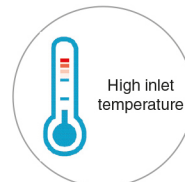
**2nd PDP read out**



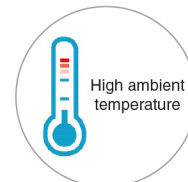
**Purge nozzle optimization**



**External pilot air connection for low pressure inlet**



**High inlet temperature variant**  
(not applicable on -70°C PDP)



**High ambient temperature variant**



**In and outlet filters**



**Vessel safety valves**



**Wooden packaging**



PB dryers are for customers who focus on energy efficiency and low lifecycle costs, while maintaining the highest standards in air purity. Pneumatech extends its PB dryer range to flows up to 10800 m<sup>3</sup>/h with both blower purge and zero purge variants.

PB dryers use heated blower purge air to remove moisture from the desiccant material and have therefore no purge loss during regeneration. The Zero Purge variants reduce life cycle cost even further by also eliminating purge loss during cooling. The cooling phase happens in a closed loop, hereby minimizing the performance impact at high ambient temperature and relative humidity.

PB 700-6350 HE ZP dryers are capable of drying air to a PDP of -40°C/-40°F as standard and -70°C/-94°F as option. The desiccant is housed in welded vessels, which are coated and can operate up to 10 bar/145 PSI (fatigue load). All dryers can be equipped with 2 coalescing pre-filters before and 1 particulate filter after the dryer.

Operating costs are reduced to the absolute minimum thanks to PDP control, regeneration & cooling temperature control and compressor synchronization; which are all integrated in the Purelogic™ controller. The Purelogic™ also ensures maximum reliability by monitoring the most important parameters of the dryer and offers impressive control and monitoring capabilities.

#### Technical specifications for PB 700 HE up to PB 6350 HE (standard version, PDP -40 °C)

Specification	Unit	PB700 HE	PB850 HE	PB1150 HE	PB1800 HE	PB2350 HE	PB2950 HE	PB3800 HE	PB4650 HE	PB6350 HE	PB700 HE ZP	PB850 HE ZP	PB1150 HE ZP	PB1800 HE ZP	PB2350 HE ZP	PB2950 HE ZP	PB3800 HE ZP	PB4650 HE ZP	PB6350 HE ZP
Cooling Mode	-	Purge	Purge	Purge	Purge	Purge	Purge	Purge	Purge	Purge	Zero Purge	Zero Purge	Zero Purge	Zero Purge	Zero Purge	Zero Purge	Zero Purge	Zero Purge	Zero Purge
Nominal volume flow at dryer inlet <sup>(1)</sup>	l/s	330	400	550	850	1100	1400	1800	2200	3000	330	400	550	850	1100	1400	1800	2200	3000
	m <sup>3</sup> /hr	1188	1440	1980	3060	3960	5040	6480	7920	10800	1188	1440	1980	3060	3960	5040	6480	7920	10800
Avg. purge air consumption	%	2%	2%	2%	2%	2%	2%	2%	2%	2%	0	0	0	0	0	0	0	0	0
Pressure drop over dryer	Bar	0.12	0.12	0.12	0.12	0.12	0.1	0.16	0.22	0.18	0.12	0.12	0.12	0.12	0.12	0.1	0.16	0.22	0.18
	PSI	1.74	1.74	1.74	1.74	1.74	1.45	2.32	3.19	2.61	1.74	1.74	1.74	1.74	1.74	1.45	2.32	3.19	2.61
Inlet and outlet connections	DN PN 16	80	80	80	100	100	150	150	150	200	80	80	80	100	100	150	150	150	200
Optional pre & after filter sizes <sup>(2)</sup>	General purpose coalescing filter	10 G HE	10 G HE	G 1F	G 2F	G 3F	G 4F	G 5F	G 6F	G 7F	10 G HE	10 G HE	G 1F	G 2F	G 3F	G 4F	G 5F	G 6F	G 7F
	High efficiency coalescing filter	10 C HE	10 C HE	C 1F	C 2F	C 3F	C 4F	C 5F	C 6F	C 7F	10 C HE	10 C HE	C 1F	C 2F	C 3F	C 4F	C 5F	C 6F	C 7F
	Particulate filter	10 S HE	10 S HE	S 1F	S 2F	S 3F	S 4F	S 5F	S 6F	S 7F	10 S HE	10 S HE	S 1F	S 2F	S 3F	S 4F	S 5F	S 6F	S 7F
Mass	Kg	1190	1300	1620	2600	3040	4200	4800	5750	7800	1370	1490	1830	2840	3340	4550	5150	6100	8150
	Lb	2624	2866	3571	5732	6702	9259	10582	12677	17196	3020	3285	4034	6261	7363	10031	11354	13448	17968
Height	mm	2558	2558	2612	2702	2681	2488	2548	2548	2793	2558	2558	2612	2702	2681	2548	2548	2548	2893
	inch	100.7	100.7	102.8	106.4	105.6	98.0	100.3	100.3	110.0	100.7	100.7	102.8	106.4	105.6	100.3	100.3	100.3	113.9
Width	mm	1024	1024	1024	1175	1175	2373	2400	2792	2834	1351	1351	1428	1530	1530	2779	2825	3009	3053
	inch	40.3	40.3	40.3	46.3	46.3	93.4	94.5	109.9	111.6	53.2	53.2	56.2	60.2	60.2	109.4	111.2	118.5	120.2
Length	mm	1764	1764	1884	2359	2472	2809	2830	2993	3385	1764	1764	1884	2359	2472	3122	3197	3197	3792
	inch	69.4	69.4	74.2	92.9	97.3	110.6	111.4	117.8	133.3	69.4	69.4	74.2	92.9	97.3	122.9	125.9	125.9	149.3

- 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.
- Filters are sized at reference conditions. Consult the AML of the filters for sizing outside the reference conditions.

#### Correction factor Kp x Kt for PDP-40

T inlet	Working pressure Bar(PSI)						
°C (°F)	4.5 (65)	5 (73)	6 (87)	7 (102)	8 (116)	9 (131)	10 (145)
<=20 (68)							
25 (77)	0.89	"1,00"					
30 (86)	0.74	0.87					
35 (95)	0.59	0.7	0.88				
40 (104)	0.42	0.5	0.62	0.71	0.8	0.89	0.98
45 (113)	0.29	0.34	0.43	0.49	0.55	0.61	0.67

Notes for PDP-40 variants

- Correction factor are for 100% saturated compressed air
- For temperatures above 45 deg C see HIT-variant



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