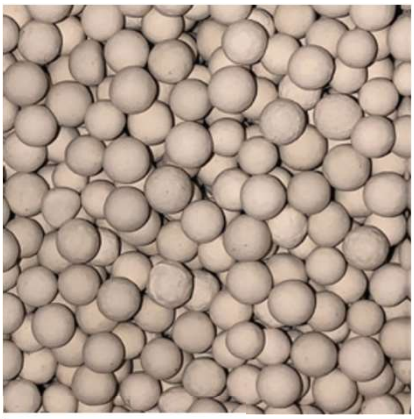
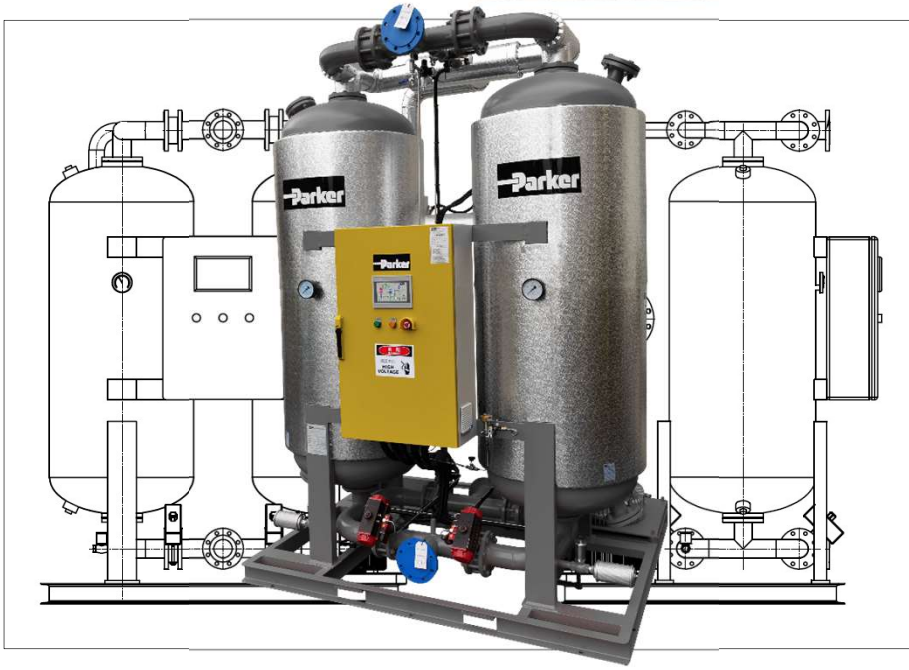
Clean, Dry Compressed Air
Blower Regeneration
VDB Series

VDB600 – VDB5800





Adsorption Dryers
Whether a compressed air user wants to control the growth of microorganisms (essential for direct and in-direct contact applications in the food, beverage & pharmaceutical industries), ensure air used for critical applications / instrumentation is free from water contamination or has external piping where low ambient temperature can cause condensation, adsorption dryers are the go to dryer technology.

There are many different adsorption dryer technologies available and whilst they all reduce water from the compressed air in the same way, they differ in the way they regenerate the desiccant material.

Blower Regeneration Adsorption Dryers
Blower regeneration dryers do not use process air to regenerate the adsorbent desiccant material, instead they use ambient air for both regeneration and cooling (reducing energy consumption and process air loss).
For regeneration, the ambient air is heated and push across the desiccant bed using a blower. To cool the desiccant and ensure it is at the optimum temperature for adsorption, the heat source is simply removed, and the desiccant cooled to ambient temperature.
Blower regeneration dryers can be supplied with purge cooling or zero loss cooling utilise existing water sources on site (cooling or chilled water).

Advantages

- Parker VDB dryers provide a constant outlet dewpoint in accordance with ISO8573-1
- Air quality is enhanced when installed with Parker OIL-X High Efficiency Coalescing pre-filtration and General Purpose Dry Particulate post filtration
- No process air is used during regeneration & cooling of the desiccant material, reducing energy consumption
- Regeneration under blower further improves energy efficiency
- Can utilise existing water source on site to further reduce energy consumption by using loop cooler to replace purge cooling.
- Thermal insulation for reduction of heat loss and touch protection fitted as standard
- Full feature PLC control with dewpoint display and Energy Saving Technology fitted as standard
- Large flow capacities

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Scope of application

Installation location	Internal installation in non aggressive atmospheres;
Max. ambient humidity	25% rel. hum. at 40° C 37% rel. hum. at 35° C 50% rel. hum. at 30° C 70% rel. hum. at 25° C 90% rel. hum. at 20° C
Max. ambient temperature	50 ° C
Min. ambient temperature	1.5 ° C;
Installation location Operating pressure	4 to 10 barg
Flow medium	Compressed air

Approvals for pressure equipment

SELO (China Stamp), ASME VIII, DOSH, MOM

Quality assurance

Development / manufacture	DIN EN ISO 9001, DIN EN ISO 14001

Air purity class as per ISO 8573-1:2010

Moisture (gaseous)	Class 3 (PDP -20 ° C), class 2 (PDP -40 ° C)

Electrical connection

Standard mains voltage	380~440 V, 50/60 Hz, 3ph
Protection class	IP54

Correction Factors

Minimum Inlet Pressure	**bar g**	**4.5**	**5**	**6**	**7**	**8**	**9**	**10**
	psi g	**58**	**73**	**87**	**100**	**116**	**131**	**145**
CFT		**0.63**	**0.77**	**0.89**	**1**	**1.14**	**1.28**	**1.4**

Maximum Inlet Temperature	**° C**	**30**	**35**	**38**	**40**	**45**	**50**
	° F	**86**	**95**	**100**	**104**	**113**	**122**
CFT		**1.5**	**1.16**	**1**	**0.88**	**0.68**	**0.53**

Example Calculations

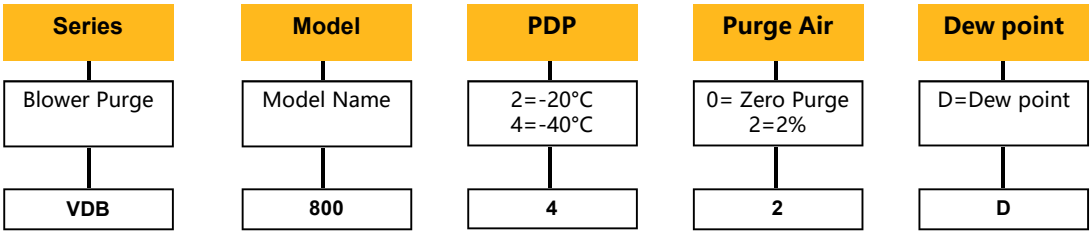
VDB460040D00 corrected for 8 bar + 45° C

Corrected Capacity = (Rated Capacity) x (Pressure Correction) x (Temperature Correction)

= (130 m³/min) x (1.14) x (.68)

= 100 m³/min

Dryer Coding Examples



Technical Data

2% Purge Air

Model	Flow Rate m3/min @ 7 bar g	Installed Power kW	Connect	Height mm	Width mm	Depth mm	Weight KG
VDB600	17	13.5	DN65	2128	1380	1050	1000
VDB800	23	19	DN65	2425	1500	1250	1150
VDB950	27	23.5	DN80	2550	1650	1300	1350
VDB1200	34	29.5	DN80	2420	1800	1410	1620
VDB1600	45	40	DN100	2920	2040	1650	2160
VDB2000	55	53	DN100	2480	2500	1850	2700
VDB2300	65	63	DN125	2480	2500	1850	3240
VDB3100	87	79	DN150	2700	2900	2150	4320
VDB3900	110	101	DN150	2850	2900	2150	5400
VDB4600	130	116	DN150	3280	3380	3080	6480
VDB5800	160	154.7	DN200	3410	3520	3180	8100

Zero Purge Air

Model	Flow Rate m3/min @ 7 bar g	Installed Power kW	Connect	Height mm	Width mm	Depth mm	Weight KG
VDB600	17	15	DN65	2300	1420	1090	1150
VDB800	23	19.6	DN65	2600	1800	1400	1320
VDB950	27	24.7	DN80	2820	2000	1500	1650
VDB1200	34	31.5	DN80	2700	2040	1650	1980
VDB1600	45	38	DN100	2750	2040	1650	2640
VDB2000	55	44	DN100	2800	1850	2500	3300
VDB2300	65	62	DN125	2785	2650	2100	3960
VDB3100	87	77	DN150	2850	2900	2400	5280
VDB3900	110	92	DN150	3060	2900	2400	6600
VDB4600	130	104	DN150	3250	3100	2400	7920
VDB5800	160	135	DN200	3300	4500	3000	9900

m^3 relating to 1 bar(a) and 20 °C; relating to the suction performance of the compressor, compression at 7 bar and 38 °C dryer inlet temperature, at 38 °C ambient temperature, 60 % relative humidity.

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