

BOGE adsorption dryer DAV-2

Maximum efficiency at high flow

Where large volume flows meet particularly high demands on compressed air quality (production plants in the pharmaceutical, electrical and automotive industries), BOGE adsorption dryers are the technology of choice: while the moisture is bound to the surface of the high-quality two-bed desiccant filling in a vessel (adsorption), the other vessel regenerates. During the regeneration process, ambient air is drawn from the bottom to the top of the vessel over the desiccant bed via a heater by vacuum and the stored moisture is discharged to the outside. As regeneration takes place at negative pressure, no purge air needs to be removed from the already dried process air. As a result, the DAV dryers consume up to 25% less energy compared to heatless systems.

SIMPLE AND EFFICIENT.



Thermal insulation

The thermal insulation of the DAV models minimises heat loss – ideal for low room temperatures or outdoor installation at low ambient temperatures. Connection sizes from DN 50 and a larger vessel diameter additionally reduce the differential pressure. This reduces energy consumption by approx. 4%. A positive side effect: The risk of injury from hot surfaces is eliminated, permanent contact protection and an insulated vessel shell ensure maximum safety.



Intelligent control system

The standard LCD touch screen control with 7" TFT 16:9 colour display, dew point display and energy saving technology provides an excellent overview thanks to the integrated R&I flow chart and visual display. An internal memory permanently records the measurement data and facilitates evaluation with curve diagrams during installation and maintenance. The USB interface on the switch cabinet allows software to be updated or logs to be downloaded without having to open the cabinet, which saves a lot of time.



Simpler maintenance

In the interest of better accessibility, all components – control system, valves and pressure gauges – have been compactly combined in the switch cabinet. Other obvious advantages: filter maintenance at eye level, simplified inspection of the screen bowl as well as easier filling and emptying of the desiccant. Also included: transport holes for forklift trucks and eyelets for transporting by crane.



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DAV dryers offer a high-performance coalescing filter for pre-filtration and universal dry particle filters for post-filtration as standard. They thus achieve classification level 2.2.2 (particles, moisture and oil) according to ISO 8573-1:2010. Optional pressure dew points of -20°C (2.3.2) or -70°C (2.1.2) can be achieved. A water-resistant, highly efficient silica gel acts as the desiccant, guaranteeing a long service life. The standard dew point control also allows the extension of the adsorption cycle.



BOGE type	Flow capacity*		Average power kW	Connection	Dimensions W x D x H mm	Weight (without filter) kg
	m³/min.	m³/h				
DAV 75-2	7.5	450	3.6	DN 50	1222 x 1219 x 2029	730
DAV 105-2	10.2	610	5.3	DN 50	1222 x 1219 x 2029	760
DAV 135-2	13.3	800	6.8	DN 50	1222 x 1219 x 2379	860
DAV 195-2	19.5	1170	9.5	DN 80	1692 x 1412 x 2151	1290
DAV 245-2	24.5	1470	12.8	DN 80	1692 x 1412 x 2301	1400
DAV 345-2	34.2	2050	16.8	DN 80	1692 x 1462 x 2751	1810
DAV 510-2	50.8	3050	25.4	DN 100	2115 x 1702 x 2692	2540
DAV 620-2	61.7	3700	30.8	DN 100	2115 x 1702 x 2692	2830
DAV 845-2	84.2	5050	41.8	DN 150	2582 x 1910 x 3210	4205
DAV 1010-2	100.8	6050	52.6	DN 150	2582 x 1910 x 3460	4635
DAV 1220-2	121.7	7300	58.5	DN 150	2782 x 2010 x 3450	5280

* Nominal volume flow refers to suction conditions at 1 bar(a) and 20°C ambient conditions, inlet temperature 35°C, operating pressure at dryer inlet 7 bar(g), pressure dew point at outlet -40°C.

Correction factors for deviating pressures and temperatures

Inlet temperature	°C	25	30	35	40				
Correction factor	f ₁	0.80	0.91	1.00	1.80				
Operating pressure	bar	4	5	6	7	8	9	10	11
Correction factor	f ₂	2.00	1.39	1.18	1.00	0.99	0.87	0.79	0.56
Pressure dew point	°C	-20	-25	-40	-70				
Correction factor	f ₃	0.95	0.95	1.00	upon request				

Design example

Volumetric flow rate (V)	m³/h	3000	Factor	
Max. inlet temperature (f ₁)	°C	30	=	0.91
Min. operating pressure (f ₂)	bar	5	=	1.39
Pressure dew point (f ₃)	°C	-25	=	0.95
				$= V \times f_1 \times f_2 \times f_3 = 3000 \times 0.91 \times 1.39 \times 0.95 = 3605 = \text{DAV 620-2}$