

Dessicant Dryers

DB - SERIES

BENEFITS AND FEATURES

- External-heat regeneration system
- No loss of compressed air for regeneration or cooling
- Pressure drop lower than 0.1 bar at full capacity
- Sophisticated PLC control and communication unit
- Parallel drying phase for steady dewpoint performance
- Low maintenance and long-life desiccant

Design specifications of DB series:

- Fully-automatic and continuous cycle control
- Steel support frame with foundation holes
- Pressure vessels according to various industrial designs, codes and regulations
- „Heavy-duty“ blower system
- Easy-access to the heating system and the single-replaceable elements
- Control box with IP54 rating
- Temperature and pressure indicators on both vessels
- Compressor Start-Stop function linked into drying cycle
- Dewpoint-controlled cycle with indication and dewpoint setting
- PLC (Siemens S-series) controls offering:
 - Fully automatic cycle
 - Alarm indication for all important dryer functions
 - Memory of alarm history
 - Fast-run cycle test
 - Display of required service intervals
 - Communication port to remote systems (optional)
- Thermal insulation of all hot parts
- Top-to-bottom flow direction avoiding fluidisation of adsorbent bed



- Epoxy painting RAL 9001
- All butterfly valves for lowest pressure drop

Available options according to customer specifications

- Installed filtration package
- By-pass over complete dryer
- Different PLC types
- Outdoor installation
- Pressure dewpoint -70°C
- Steam regeneration system
- Other options available on request

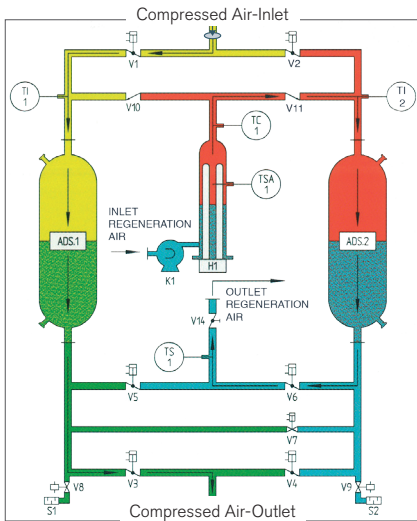
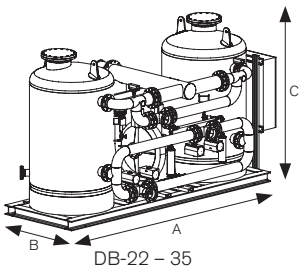
General Data	
Medium	Compressed air
Housing	Steel support frame
Colour	Epoxy-painting RAL 9001 (white)
Location	Indoors

Design data	Min.	Nom.	Max.
Operating pressure	5 bar (g)	7 bar (g)	10 bar (g)
Inlet temperature	+5°C	+35°C	+45°C
Ambient temperature	+0°C	+25°C	+35°C @60% RH +30°C @80% RH

Model	Flow Rate* 20°C/1 bar(a)	Dimensions			Weight	Connection (Flange)	el. Connection	Power		Power Consumption**
		Width	Depth	Height				Fan	Heating	
	m³/h	mm			kg		V/Ph/Hz	kW		kW
DB-22	710	2,160	1,590	2,925	1,400	DN 80	400/3/50	3	9	6.6
DB-23	985	2,230			1,500				13.2	9
DB-24	1,675				2,000				21.3	15
DB-25	2,180				2,420				2,400	32.4
DB-26	2,595	2,730	1,890	2,985	2,900	DN 100		5.5	40.8	23
DB-27	3,385	2,830			3,500				55.8	29.8
DB-28	4,620	3,640	2,550	3,270	4,700	DN 150		7.5	66.3	40.6
DB-29	5,540	3,840	2,450		5,900				80.1	49.1
DB-30	6,860	3,940	2,520		6,900				96.9	60.4
DB-31	8,310	4,040			7,700				102	74.8
DB-32	9,370	5,380	2,425	3,035	10,500	DN 200		11	114	84.1
DB-33	10,885			11,500	132				98.1	
DB-34	11,915	5,580	2,545	3,085	12,500	15	144	107.3		
DB-35	13,550	5,625	2,595		13,500		162	121.4		

* ISO 7183, based on the intake volume of the compressor at +20°C and 1 bar (a), operating pressure 7 bar (g), inlet temperature +35°C, ambient or cooling water temperature +25°C, pressure dew point -40°C / 100% RH

** Power consumption at full load (design conditions) | Technical data and specifications are subject to change without prior notice.



Drying and regeneration principle

Drying and regeneration cycle of DB dryers:

- Drying time is 6 hours minimum.
- The dewpoint controller will extend until complete saturation is reached
- Depressurisation time lasts 10 minutes
- Heating period is temperature controlled and depends on the load
- Cooling with ambient air during 75 minutes
- Pressurisation time of regenerated adsorber lasts 10 minutes
- Stand-by time until adsorption time of drying adsorber is completed
- Change-over period of parallel drying for 10 minutes

Top to bottom flow direction in all cycle phases offers the following advantages:

- No desiccant fluidisation at compressor start-up
- The fan is not loaded with warm, humid and dusty regeneration air
- No ambient moisture reaches the outlet of the dryer
- No compressed air is needed to support the cooling process
- Compression heat of the fan is used for regeneration

Correction factors for inlet temperature and operating pressure (F_i)

Inlet temperature		Inlet pressure bar (g)					
		5	6	7	8	9	10
°C	30	0.97	1.13	1.30	1.49	1.62	1.78
	35	0.69	0.85	1.00	1.12	1.25	1.37
	40	0.43*	0.60	0.74	0.85	0.95	1.02

For other operating conditions or special conditions please contact your local sales representative.

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