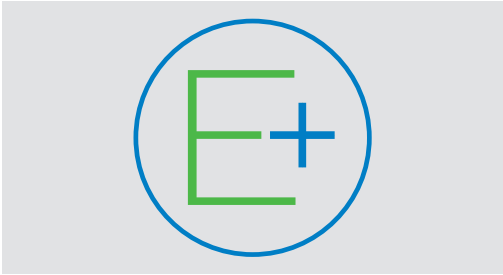
BOGE Refrigerant Dryers

Efficient, flexible, economical

Compressed air purification equipment must deliver uncompromising performance and reliability while providing the right balance of air quality with the lowest cost of operation. The DS range of refrigerant compressed air dryers is designed with energy efficiency and the environment in mind. The products are designed not only to minimise the use of compressed air and electricity in their operation, but also to significantly reduce the operational costs of the compressor installation by minimising pressure loss. The innovative control features automatically and continuously adjusts dryer operation to effectively match operating conditions, ensuring optimum performance while minimising operating costs.

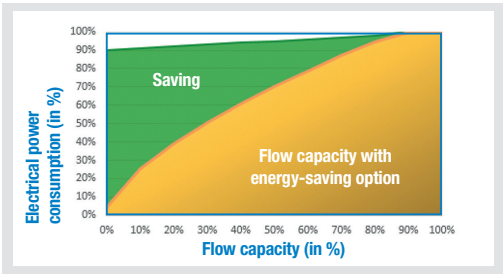
Highly efficient components

All internal components have proved effective in practice and are specially designed for efficient drying. The same applies to the patented heat exchanger design and the optimised airflow. The electronically level-controlled condensate drain (integrated in the heat exchanger to save space) ensures zero-loss drainage. What's more, the scroll coolant compressor requires up to 20% less energy than similar systems.



Integrated energy-saving function

The patented heat exchanger design features a robust all-in-one aluminum design, with no interconnecting tubing. The flow path of the heat exchanger has been designed to optimise its performance. In particular, large volumes allow low air velocity through the heat exchanger section resulting in high exchange efficiency and low pressure drops. Contributing to the lowest real operating costs.



Intelligent control

The intelligent multifunction control system is key to optimising performance. The controller continuously monitors the demand placed on the dryer while a sophisticated algorithm continuously adapts the operation of the dryer for optimum energy efficiency while minimising dewpoint spikes common to traditional thermal mass dryers. A potential-free alarm contact allows you to monitor dewpoint as well as alarm messages.

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The standard energy saving capability is just one feature of the product. BOGE DS series refrigerant compressed air dryers also impress with a highly efficient heat exchanger which ensures minimal pressure drops. Also the low differential pressure allows for a low input pressure – yet another opportunity to save energy. All models achieve constant pressure dew points of 3°C and are able to operate effectively even at ambient temperatures of 50°C. Thanks to their intelligent control functions, you can rest assured your compressed air is being dried in the most economical manner.

BOGE Type	Flow Capacity			Maximum Pressure	Pressure Difference at Full Load		Power Consumption		Installed Capacity		Compressed Air Connection	Cooling Air Volume		Dimensions W x D x H	Weight
	m³/min	m³/h	cfm	bar	bar	psig	kW	PS	kW	PS		m³/h	cfm	mm	kg
DS 120	12.00	720	424	14	0.130	1.885	1.13	1.54	2.38	3.42	G 2	2800	1646	706x1046x1064	145
DS 140	14.00	840	494	14	0.180	2.610	1.14	1.55	2.38	3.42	G 2	2800	1646	706x1046x1064	145
DS 180	18.00	1080	636	14	0.230	3.335	1.46	1.99	3.02	4.11	G 2	4000	2352	706x1046x1064	155
DS 220	22.00	1320	777	14	0.090	1.305	1.68	2.28	3.41	4.64	G 2 1/2	7050	4145	806x1166x1316	230
DS 260	26.00	1560	918	14	0.130	1.885	2.19	2.98	4.47	6.08	G 2 1/2	7050	4145	806x1166x1316	240
DS 300	30.17	1810	1065	14	0.170	2.465	2.41	3.28	5.27	7.17	G 2 1/2	7050	4145	806x1166x1316	245
DS 350	35.00	2100	1236	14	0.240	3.480	3.06	4.16	6.26	8.51	G 2 1/2	7050	4145	806x1166x1316	250
DS 460	46.00	2760	1624	14	0.140	2.030	3.14	4.27	6.26	8.51	DN 100	7050	4145	1007x1245x1723	470
DS 520	52.00	3120	1836	14	0.180	2.610	3.54	4.81	7.46	10.15	DN 100	7050	4145	1007x1245x1723	490
DS 630	63.00	3780	2225	14	0.260	3.770	4.64	6.31	9.92	13.49	DN 100	14100	8291	1007x1657x1810	580
DS 750	75.00	4500	2648	14	0.160	2.320	5.73	7.79	11.32	15.40	DN 150	14100	8291	1007x1657x1810	670
DS 900	90.00	5400	3178	14	0.230	3.335	7.63	10.38	16.26	22.11	DN 150	19000	11172	1007x1657x1810	690
DS 1200	120.00	7200	4237	14	0.230	3.335	8.92	12.13	19.26	26.19	DN 150	19000	11172	1007x1657x1807	830
DS 1500	150.00	9000	5297	14	0.200	2.900	12.35	16.80	25.64	34,87	DN 200	28500	16758	1007x2257x2208	1100
DS 1800	180.00	10800	6356	14	0.260	3.770	15.96	21.71	31.04	42.21	DN 200	28500	16758	1007x2257x2208	1190

Conversion factors

Refrigerant dryers are constructed – in complying with DIN EN ISO 7183 – for 7 bar operating pressure, an ambient temperature of 25 °C and an inlet temperature of 35 °C. For varying operating pressures and temperatures, please adhere to the following conversion factors.

Intake and coolant temperature	°C	20	**25**	30	35	40	45	50						
Nominal airflow correction factors	f_1	1,06	**1,00**	0,94	0,88	0,82	0,76	0,70						
Air inlet temperature	°C	30	**35**	40	45	50	55	60						
Nominal airflow correction factors	f_2	1,21	**1,00**	0,84	0,70	0,59	0,49	0,41						
Working overpressure	bar	3	4	5	6	**7**	8	9	10	11	12	13	14	
Nominal airflow correction factors	f_3	0,74	0,83	0,90	0,96	**1,00**	1,03	1,06	1,08	1,10	1,12	1,13	1,14	
Pressure dew point	°C	**3**		5					10					
Nominal airflow correction factors	f_4	**1,00**		1,10					1,40					

Example (for a pressure dew point of 3 °C (f_4)):

Volume flow rate	m³/h	5000		Factor
Ambient temperature (f_1)	°C	30	=	0,94
Inlet temperature (f_2)	°C	40	=	0,84
Operating pressure (f_3)	bar	10	=	1,08

$$= \frac{V}{f_1 \times f_2 \times f_3} = \frac{5000}{0{,}94 \times 0{,}84 \times 1{,}08} = 5863 = \textbf{DS 1200}$$

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