BOGE DS-2 Refrigerant Dryers

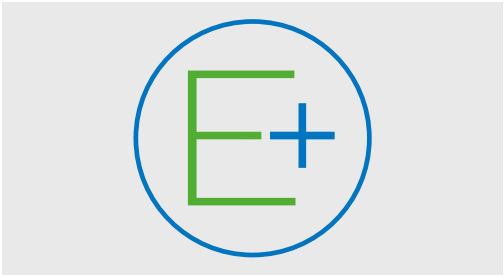
Outstanding efficiency meets top CO_2 balance!

The new DS-2 series from BOGE has now raised the bar for refrigerant dryers: Thanks to the fully integrated design of its highly efficient heat exchanger, the DS-2 upstages all other refrigerant dryers in terms of energy efficiency – with significantly reduced refrigerant consumption. The overall operating costs are indeed unbeatable, and the CO_2 balance isn't to be sneezed at either. It is not by chance that the new DS-2 models are designed for both 50 an 60 Hz (230 V) – there is no problem with using them anywhere in the world.

ENERGY-SAVING-OPTION

Efficient Drying

The new DS-2 series features a high-efficiency aluminium heat exchanger, which minimises performance losses in the refrigeration circuit while requiring less refrigerant than comparable products. In conjunction with economical power consumption this means that no other product can compete with the low running costs.

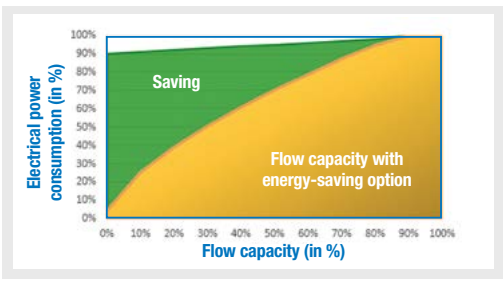


Towards a sustainable future

All models use the environmentally friendly and future-proof R-513A refrigerant as standard. With a GWP (Global Warming Potential) of 573, it fulfils the requirements of f-gas regulation EU 517/2014 and ensures optimum service reliability. DS-2 models are the best choice for protecting your investment, the climate and the environment.

Energy-saving option

Although all DS-2 models are extremely undemanding in terms of energy consumption under partial load, the models with capacities of 2.6 m³/min and above go one better: If required, they can reduce power consumption even further by cooling the compressed air entering the system by the mass of the heat exchanger in partial load mode.



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The operating principle

In the fully integrated high-performance aluminium heat exchanger the various parts spring into action one after the other: an air/air section, an air/refrigerant section, a high-efficiency demister condensate drain and a moisture collection container. If required, the condensate produced is discharged from the system in a final step via an electronically level-regulated condensate outlet.

To facilitate inspection and maintenance, the side panels can be removed, and the dryer does not have to be opened to access the condensate drain.

All models in the new series come with digital control, including functions that were previously subject to an extra charge in some cases. However, in everyday operation they soon pay for themselves – such as the status display, the potential-free alarm contact or the maintenance reminder.

An overview of the new BOGE DS-2 refrigerant dryers

BOGE type	Flow capacity m³/min		Max. Pressure	Electric power consumption* kW		Refrigerant required R 513 A	R-513A refrigerant as CO_2-equivalent	Dimensions	Weight	Compressed air connection
	50 Hz	60 Hz	bar	50 Hz	60 Hz	kg	t	W x H x D (mm)	kg	BSPP-F acc.
DS 4-2	0.40	0.47	16	0.13	0.16	0.16	0.09	300 x 400 x 600	25	1/2"
DS 7-2	0.70	0.78	16	0.14	0.17	0.16	0.09	300 x 400 x 600	25	1/2"
DS 9-2	0.90	1.00	16	0.15	0.18	0.16	0.09	300 x 400 x 600	26	1/2"
DS 14-2	1.40	1.60	16	0.15	0.19	0.24	0.14	330 x 550 x 665	36	3/4"
DS 18-2	1.80	2.07	16	0.16	0.20	0.24	0.14	330 x 550 x 665	37	3/4"
DS 26-2	2.60	2.93	16	0.29	0.36	0.34	0.19	400 x 630 x 795	47	1"
DS 32-2	3.20	3.63	16	0.30	0.37	0.34	0.19	400 x 630 x 795	47	1"
DS 40-2	4.00	4.53	16	0.31	0.38	0.34	0.19	400 x 630 x 795	48	1"
DS 52-2	5.20	6.02	16	0.46	0.56	0.40	0.23	400 x 630 x 795	55	1 1/2"
DS 62-2	6.20	7.15	16	0.57	0.69	0.40	0.23	400 x 630 x 795	57	1 1/2"
DS 80-2	8.00	9.25	14	0.73	0.90	0.60	0.34	450 x 720 x 970	102	1 1/2"
DS 100-2	10.00	11.48	14	0.74	0.91	0.60	0.34	450 x 720 x 970	102	1 1/2"

All DS-2 models have a hermetically sealed refrigerant circuit in accordance with the f-gas regulation.

*all data refering to DIN ISO 7183. an ambient temperature of 20°C. inlet temperature of 35°C and 7 bar operating pressure

Correction factors f for varying operating pressures and temperatures

Ambient/cooling water temperature	°C	**25**	30	35	40	45	50
Correction factor	f_1	**1.00**	0.93	0.88	0.82	0.75	0.69

Inlet temperature	°C	30	**35**	40	45	50	55	60	65
Correction factor	f_2	1.23	**1.00**	0.83	0.68	0.57	0.47	0.44	0.42

Operating pressure	bar	3	4	5	6	**7**	8	9	10	11	12	13	14	15	16
Correction factor	f_3	0.73	0.83	0.90	0.95	**1.00**	1.03	1.07	1.09	1.12	1.13	1.15	1.17	1.18	1.19

Pressure dew point	°C	**3**	5	7
Correction factor	f_4	**1.00**	1.11	1.24

Example for dew point 3 °C [f_4]:

Free air delivery [V]: 90 m³/h
Ambient temperature [f_1]: 35 °C = 0.88
Inlet temperature [f_2]: 45 °C = 0.68
Pressure [f_3]: 13 bar = 1.15
Pressure dew point [f_4]: 3 °C = 1.00

$$= \frac{V}{f_1 \times f_2 \times f_3 \times f_4} = \frac{90}{0.88 \times 0.68 \times 1.15 \times 1} = 131 \longrightarrow \text{DS 26-2}$$

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