

## BOGE DS-2 Refrigerant Dryers Outstanding efficiency meets top CO<sub>2</sub> balance!

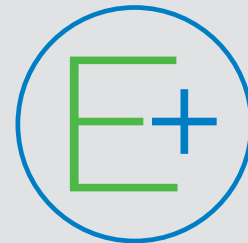
The new DS-2 series from BOGE has now raised the bar for refrigerant dryers: Thanks to the fully integrated design of its highly efficient heat exchanger, the DS-2 upstages all other refrigerant dryers in terms of energy efficiency – with significantly reduced refrigerant consumption. The overall operating costs are indeed unbeatable, and the CO<sub>2</sub> balance isn't to be sneezed either. It is not by chance that the new DS-2 models are designed for both 50 and 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 minimizes 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.



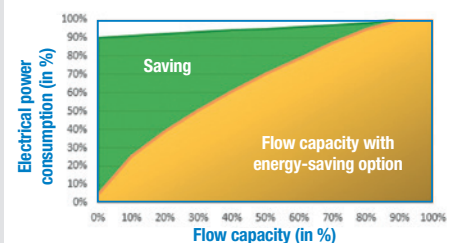
### Dual-frequency design

With these models it does not matter where they are installed: Offering dual frequency as standard, this series is designed for use all over the world – whether 50 or 60 Hz is required. Maximum flexibility is also ensured thanks to the wide range of recommended ambient temperatures (5-50°C) and inlet temperature (5-65°C).

**50/60 Hz**  
DUAL-FREQUENCY

### 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 m<sup>3</sup>/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		Max. Pressure	Electric power consumption*		Refrigerant required R 134a	Dimensions	Weight	Compressed air connection
	m <sup>3</sup> /min			kW					
	50 Hz	60 Hz	bar	50 Hz	60 Hz				
DS 4-2	0,40	0,47	16	0,13	0,16	0,14	300 x 400 x 600	25	1/2"
DS 7-2	0,70	0,78	16	0,14	0,17	0,15	300 x 400 x 600	25	1/2"
DS 9-2	0,90	1,00	16	0,15	0,18	0,15	300 x 400 x 600	26	1/2"
DS 14-2	1,40	1,60	16	0,15	0,19	0,17	330 x 550 x 665	36	3/4"
DS 18-2	1,80	2,07	16	0,16	0,20	0,18	330 x 550 x 665	37	3/4"
DS 26-2	2,60	2,93	16	0,29	0,36	0,33	400 x 630 x 795	47	1"
DS 32-2	3,20	3,63	16	0,30	0,37	0,34	400 x 630 x 795	47	1"
DS 40-2	4,00	4,53	16	0,31	0,38	0,35	400 x 630 x 795	48	1"
DS 52-2	5,20	6,02	16	0,46	0,56	0,39	400 x 630 x 795	55	1 1/2"
DS 62-2	6,20	7,15	16	0,57	0,69	0,40	400 x 630 x 795	57	1 1/2"
DS 80-2	8,00	9,25	14	0,73	0,90	0,74	450 x 720 x 970	102	1 1/2"
DS 100-2	10,00	11,48	14	0,74	0,91	0,75	450 x 720 x 970	102	1 1/2"

\* all data referring 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	Inlet temperature	°C	30	35	40	45	50	55	60	65
Correction factor	f <sub>1</sub>	1,00	0,93	0,88	0,82	0,75	0,69	Correction factor	f <sub>2</sub>	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	Pressure dew point	°C	3	5	7
Correction factor	f <sub>3</sub>	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	Correction factor	f <sub>4</sub>	1,00	1,11	1,24

**Example for dew point 3°C [f<sub>4</sub>]:**

Free air delivery [V]:	90 m <sup>3</sup> /h																			
Ambient temperature [f <sub>1</sub> ]:	35 °C	=	0,88																	
Inlet temperature [f <sub>2</sub> ]:	45 °C	=	0,68																	
Pressure [f <sub>3</sub> ]:	13 bar	=	1,15																	
Pressure dew point [f <sub>4</sub> ]:	3 °C	=	1,00																	

$$= \frac{V}{f_1 \times f_2 \times f_3 \times f_4} = \frac{90}{0,88 \times 0,68 \times 1,15 \times 1} = 131 \rightarrow \text{DS 26-2}$$