

BOGE refrigerant compressed air dryer

The low-energy dryer

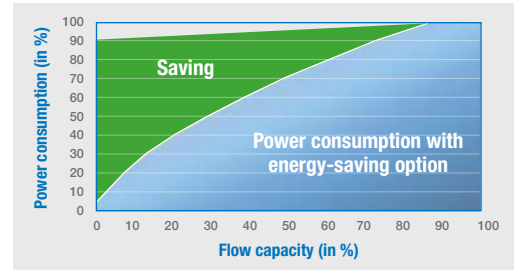
When it comes to saving energy, BOGE's new compressed air refrigerant dryers coolly run away from the competition: flexible and smart, they always adapt to whatever you need. Once the required pressure dew point has been reached, the cooling compressor automatically switches to power saving mode. The frequency-controlled fan (available from DS 460-2) also reduces energy consumption – by up to 25%! Pressure losses are effectively kept to a minimum, and the low refrigerant requirement together with its low global warming potential result in a delightfully low CO₂ footprint. Sustainability comes first!



**ECONOMICAL
AS STANDARD**

Programmed to save energy

Economy is in the DNA of these models: the smart control automatically switches off the refrigerant compressor at partial load or in favourable ambient conditions according to seasonal fluctuations. The incoming compressed air is then cooled by the cold reserve stored in the heat exchanger. The compressor only starts up again when the compressed air has reached a certain temperature level. Which for you means savings right from the outset.



Born to be sustainable

The lower the global warming potential (GWP) of the refrigerant and the lower the requirement, the better for the environment! That is why all of the models of the DS series feature a sealed refrigerant circuit, which is not only extremely economical with environmentally-friendly and future-proof refrigerant R 513 A, but it also exempts you from the annual leak tightness test stipulated in F-Gas Regulation EU517/2014 – double the savings!



Touchscreen control (from DS 460-2)

The high-resolution, clearly laid out and user-friendly 4.3" touch screen allows you to easily adjust the energy consumption to the actual operating conditions in order to minimise the power consumption of the dryer. Temperature fluctuations are automatically sent to the control, thus lowering consumption and costs – at a constant pressure dew point. A modbus RTU, TCP and USB port make it easier to analyse data.



BOGE refrigerant compressed air dryer

The low-energy dryer

The tried-and-tested, high quality components have been specifically developed for efficient drying, as have the patented design of the heat exchanger and the optimised air flow. The condensate drain with electronic level control, compactly integrated in the heat exchanger, operates without loss.

Other advantages (from DS 460-2):

- Electronic hot gas/bypass valve for quick, efficient control, dew point resistant
- High and low pressure gauge, pressure can be read off directly, installation guide
- LED status bar directly indicates the operating status
- Clamping flange (from DS 750-2) for flexible connection options

BOGE Type	Flow capacity		Electrical power consumption*		Installed power consumption*		Pressure difference at full load		Refrigerant quantity R 513 A kg	Refrigerant R 513 A as CO ₂ equivalent t	Dimensions W x D x H mm	Weight kg	Compressed air connection
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
	m ³ /min	m ³ /min	kW	kW	kW	kW	bar	bar					
DS 120-2	12	13	1.32	1.72	2.90	3.50	0.11	0.13	1.90	1.09	703x1150x1360	205	G 2
DS 140-2	14	15	1.32	1.72	2.90	3.50	0.15	0.18	1.90	1.09	703x1150x1360	205	G 2
DS 180-2	18	19	1.51	1.82	3.50	4.20	0.16	0.19	1.70	0.97	703x1150x1360	210	G 2
DS 220-2	22	24	1.79	2.20	4.20	5.30	0.09	0.11	2.50	1.43	703x1150x1410	260	G 2 1/2
DS 260-2	26	28	2.05	2.52	4.80	6.00	0.13	0.16	2.50	1.43	703x1150x1410	262	G 2 1/2
DS 300-2	30	32	2.62	3.27	6.20	7.60	0.17	0.20	2.50	1.43	703x1150x1410	264	G 2 1/2
DS 350-2	35	37	3.22	4.03	6.60	9.00	0.24	0.28	2.50	1.43	703x1150x1410	270	G 2 1/2
DS 460-2	46	50	3.22	3.93	7.80	9.00	0.16	0.19	2.60	1.49	973x1287x2050	380	DN 100
DS 520-2	52	56	4.55	5.58	8.90	10.40	0.22	0.25	2.80	1.60	973x1287x2050	380	DN 100
DS 630-2	63	70	4.55	5.56	10.00	11.70	0.23	0.28	2.80	1.60	1205x1974x2055	730	DN 100
DS 750-2	75	83	6.52	7.97	15.00	18.00	0.17	0.20	7.60	4.35	1205x1974x2055	730	DN 150
DS 900-2	90	99	9.05	11.05	20.20	24.20	0.23	0.27	7.00	4.01	1205x1974x2055	770	DN 150
DS 1200-2	120	133	9.05	11.03	20.20	24.20	0.21	0.26	7.60	4.35	1205x1974x2055	850	DN 150
DS 1500-2	150	166	11.17	13.58	26.20	31.00	0.21	0.25	13.50	7.74	1517x2529x2040	1070	DN 200
DS 1800-2	180	200	13.12	16.00	29.80	35.10	0.23	0.27	13.00	7.45	1517x2529x2040	1210	DN 200

* All of the above details refer to DIN ISO 7183, at 20°C ambient temperature, 35°C inlet temperature and 7 bar operating pressure

Conversion factors

Refrigerant dryers are designed in accordance with DIN ISO 7183 for 7 bar operating pressure, an ambient temperature of +25°C and an inlet temperature of +35°C. The maximum operating pressure is 14 bar. The following conversion factors are to be applied if the operating pressures or temperatures vary.

Ambient/cooling water temperature	°C	20	25	30	35	40	45	50					
Factor	f ₁	1.03	1.00	0.96	0.93	0.88	0.82	0.72					
Inlet temperature	°C	30	35	40	45	50	55	60	65				
Factor	f ₂	1.23	1.00	0.81	0.67	0.55	0.41	0.38	0.34				
Intake pressure	bar	3	4	5	6	7	8	9	10	11	12	13	14
Factor	f ₃	0.69	0.80	0.88	0.96	1.00	1.04	1.08	1.10	1.14	1.15	1.18	1.18
Pressure dew point	°C	3	5	7									
Factor	f ₄	1.00	1.11	1.23									

Example: (for dew point 3°C)

Volumetric flow rate	m ³ /h	1300	Factor	
Ambient temperature (f ₁)	°C	30	=	0.96
Inlet temperature (f ₂)	°C	40	=	0.81
Intake pressure (f ₃)	bar	10	=	1.10
$= \frac{V}{f_1 \times f_2 \times f_3 \times f_4} = \frac{1300}{0.96 \times 0.81 \times 1.10 \times 1} = 1513 = \text{DS 260-2}$				