

BOGE refrigerant compressed air dryer

The low-energy dryer

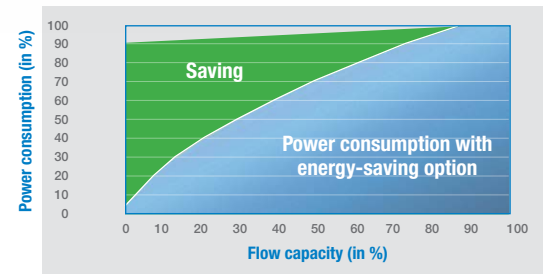
When it comes to saving energy, BOGE's new compressed air refrigerant dryers coolly run away from the competition: flexible and smart, they always adapt to whatever you need. Once the required pressure dew point has been reached, the cooling compressor automatically switches to power saving mode. The frequency-controlled fan (available from DS 1400-2 N) 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 extremely economical with environmentally-friendly and future-proof refrigerant R 513 A (GWP: 631), and complies with the requirements of the United States Environmental Protection Agency SNAP Rules 20 & 21 and European F-Gas Regulation (EU 517/2014). This makes the DS series the best choice to protect your investment, the climate and the environment.



Touchscreen control (from DS 700-2 N)

The high-resolution, clearly laid out and user-friendly 3.5" touch screen (from DS 700-2 N up to DS 1000-2 N) as well as the 4.3" touch screen (from DS 1400-2 N upwards) allows you to easily adjust the energy consumption to the actual operating conditions in order to minimize 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 analyze data.



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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 optimized air flow. The condensate drain with electronic level control, compactly integrated in the heat exchanger, operates without loss.

Other advantages (from DS 1400-2 N):

- 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 (DS 2000-2 N) for flexible connection options

BOGE Type	Flow capacity		Max. pressure		Electr. Power consumption		Refrigerant quantity R 513 A (GWP: 631)	CO ₂ equivalent	Cooling air demand	Dimensions B x T x H	Weight	Compressed air connection
	cfm	m ³ /min.	psi	bar	hp	kW						
DS 325-2 N	353	10.0	200	14	3.04	2.27	3.53	1.09	2,000	27.7 x 45.3 x 53.7	452	2" Female NPT
DS 400-2 N	426	12.1	200	14	3.04	2.27	3.53	1.09	2,000	27.7 x 45.3 x 53.7	452	2" Female NPT
DS 500-2 N	537	15.2	200	14	3.20	2.39	2.87	0.97	2,800	27.7 x 45.3 x 53.7	463	2" Female NPT
DS 700-2 N	674	19.1	200	14	3.73	2.78	4.41	1.43	5,000	27.7 x 45.3 x 55.5	573	3" Male NPT
DS 800-2 N	798	22.6	200	14	4.32	3.21	4.41	1.43	5,000	27.7 x 45.3 x 55.5	578	3" Male NPT
DS 1000-2 N	923	26.1	200	14	5.63	4.20	4.41	1.43	5,000	27.7 x 45.3 x 55.5	582	3" Male NPT
DS 1400-2 N	1,473	39.6	200	14	5.97	4.44	5.95	1.49	4,900	38.3 x 50.7 x 80.9	838	4" ANSI 150 lbs
DS 1600-2 N	2,019	45.3	200	14	8.66	6.46	4.40	1.60	5,900	38.3 x 50.7 x 80.9	926	4" ANSI 150 lbs
DS 2000-2 N	2,424	57.2	200	14	12.31	9.17	16.76	4.35	6,600	47.4 x 77.7 x 80.9	1,609	6" ANSI 150 lbs
DS 2400-2 N	2,778	78.7	200	14	17.55	13.08	15.43	4.01	8,200	47.4 x 77.7 x 80.9	1,698	6" ANSI 150 lbs
DS 3800-2 N	3,660	103.6	200	14	18.01	13.42	16.76	4.35	12,500	47.4 x 77.7 x 80.9	1,874	6" ANSI 150 lbs
DS 5000-2 N	4,814	136.3	200	14	20.45	15.24	33.07	7.74	16,000	59.7 x 99.6 x 80.3	2,359	8" ANSI 150 lbs
DS 6000-2 N	5,816	164.7	200	14	24.62	18.34	28.66	7.40	19,500	59.7 x 99.6 x 80.3	2,668	8" ANSI 150 lbs

Stated flows are for operation at 100 psi(g) (7bar(g)) with reference to 68°F (20°C), 14.5 psi(a) (1 bar(a)), 0% relative water vapor pressure, 100°F (38°C) ambient air temperature and 100°F (38°C) air inlet temperature. Electric voltage 460 V / 3 Ph /60 Hz.

Conversion factors

Maximum ambient temperature	°F	60	70	80	90	100	110	120	122					
Correction factor	f ₁	10.4	1.04	1.04	1.03	1	0.93	0.81	0.78					
Maximum inlet temperature	°F	80	85	90	95	100	110	120	130	140	149			
Correction factor	f ₂	1.56	1.47	1.3	1.15	1	0.78	0.62	0.45	0.4	0.36			
Minimum inlet pressure	psi g	45	60	70	80	90	100	115	130	145	160	175	190	203
Correction factor	f ₃	0.69	0.81	0.86	0.92	0.97	1	1.04	1.08	1.1	1.14	1.15	1.18	1.18

Example: (for pressure dew point 44,5°F)

Flow capacity	CFM	2000	Faktor
Ambient temperature	°F	80	= 0.96
Inlet temperature	°C	110	= 0.81
Inlet pressure	psi g	145	= 1.1

$$\frac{V}{f_1 \times f_2 \times f_3} = \frac{2000}{1.04 \times 0.78 \times 1.1} = 2241 = \text{DS 2400-2 N}$$

ISO 8573-1 Class 5 for water means pressure dewpoint is equal to or less than 44.5°F (7°C) at design conditions.

Inlet pressure is with reference to 68°F (20°C), 14.5 psi a (1 bar a), 0% relative water vapor pressure.