BOGE DT refrigerant compressed air dryer

Maximum efficiency and reliability

What sets the refrigerant dryers from our new DT series apart is their outstanding efficiency: an innovative all-in-one aluminium heat exchanger combines the components air/air heat exchanger, evaporator and condensate drain.
The top-down process in the air/air heat exchanger maximises heat transfer. Low flow speed, much lower power consumption and a stable dew point – these models know what matters in practice.

Passionate about sustainability

All models come with the environmentally-friendly and future-proof refrigerant R 513 A as standard, which means they meet all the requirements of the F-Gas Regulation (EU 517:2014) with a Global Warming Potential of just 631. As the refrigerant circuit is hermetically sealed, all of the models are exempt from the annual leak tightness test! This makes the DT series the best choice if operating costs, climate and environmental protection are high on your list of priorities.

Steady pressure dew point in changeable conditions

What's the point of having the best refrigerant dryer if the dew point isn't steady? It is the hot gas/bypass valve in these models that keeps the evaporating temperature and pressure constant – no matter how high the mercury rises.
The result: no more ice in the evaporator (the hot gas feed prevents this), but rather a steady pressure dew point in variable environmental conditions.

Visual control: the new standard

All standard models (DT 4 to DT 140) feature an electronic control with LED status display for quickly checking the pressure dew point. The fan is intelligently controlled by temperature sensor (up to DT 52) or pressure sensor (from DT 62).
A condensate drain with level control, a floating alarm contact and a Modbus RTU/ RS 485 interface also feature as standard and offer external control and monitoring options.

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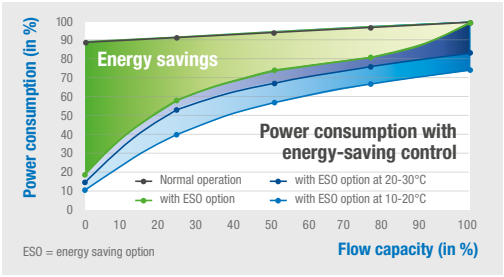
Maximum energy savings

The energy savings can be even further optimised from model DT 52: the digital control takes charge with its energy-saving mode. The temperature of the dew point is continually monitored and displayed on the screen. Once the pressure dew point is reached at low load, the electronic control switches off the compressor and restarts it when the temperature of the dew point rises above the setpoint. This option means that the energy consumption is virtually proportionally matched to the thermal load itself. This is the most consistent way of saving energy!



BOGE model	Flow capacity		Maximum operating pressure	Electrical power consumption*		Refrigerant quantity R 513 A**	Global warming potential CO_2-equivalent	Dimensions W x D x H	Weight	Compressed air connection
				50 Hz	60 Hz					
	m³/min	m³/h	bar	kW	kW	kg	t	mm	kg	
DT 4	0.4	24	16	0.11	0.12	0.12	0.08	350x450x490	19	1/2"
DT 7	0.7	42	16	0.18	0.19	0.17	0.11	350x450x490	21	1/2"
DT 9	0.9	54	16	0.21	0.23	0.20	0.13	350x450x490	24	1"
DT 14	1.4	84	16	0.30	0.34	0.19	0.12	350x450x490	27	1"
DT 18	1.8	108	16	0.30	0.36	0.20	0.13	350x450x490	28	1"
DT 26	2.6	156	16	0.65	0.73	0.23	0.15	450x600x550	39	1"
DT 32	3.2	192	16	0.55	0.60	0.30	0.19	450x600x550	44	1 1/2"
DT 40	4.0	240	16	0.80	0.75	0.35	0.22	450x600x550	45	1 1/2"
DT 52	5.2	312	16	0.95	0.95	0.40	0.25	510x790x860	62	1 1/2"
DT 62	6.2	372	16	0.90	0.90	0.50	0.32	510x790x860	64	1 1/2"
DT 80	8.0	480	16	1.40	1.25	0.74	0.47	510x790x860	75	1 1/2"
DT 100	10.0	600	16	1.50	1.60	0.90	0.57	510x790x860	83	1 1/2"
DT 120	12.0	720	16	1.80	2.00	1.40	0.88	580x790x880	106	2"
DT 140	14.0	840	16	2.10	2.20	1.56	0.98	580x790x880	109	2"

* All of the above details refer to DIN ISO 7183, at 25°C ambient temperature, 35°C inlet temperature and 7 bar operating pressure.
** GWP value for R 513 a (631) as per CE 517/2014/ (AR4) All DT models feature a hermetically sealed refrigerant circuit as per the F-Gas Regulation

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 temperature	°C	**25**	30	35	40	45	50							
Factor	f_1	**1.00**	0.96	0.90	0.82	0.72	0.60							
Inlet temperature	°C	< 30	30	**35**	40	45	50	55	60	65				
Factor	f_2	1.20	1.12	**1.00**	0.83	0.69	0.59	0.50	0.44	0.39				
Intake pressure	bar	4	5	6	**7**	8	9	10	11	12	13	14	15	16
Factor	f_3	0.77	0.86	0.93	**1.00**	1.05	1.10	1.14	1.18	1.21	1.24	1.27	1.30	1.33
Pressure dew point	°C	**3**	5	7										
Factor	f_4	**1.00**	1.09	1.19										

Example: (for dew point 3°C)

Volumetric flow rate	m³/h	108		Factor
Ambient temperature (f_1)	°C	40	=	0.82
Inlet temperature (f_2)	°C	50	=	0.59
Intake pressure (f_3)	bar	8	=	1.05
Pressure dew point (f_4)	°C	3	=	1

$$= \frac{V}{f_1 \times f_2 \times f_3 \times f_4} = \frac{108}{0.82 \times 0.59 \times 1.05 \times 1} = 212 = \textbf{DT 40}$$

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