

BOGE AIR. THE AIR TO WORK.



REFRIGERATED AIR DRYERS DS-2 N & BSD-Series

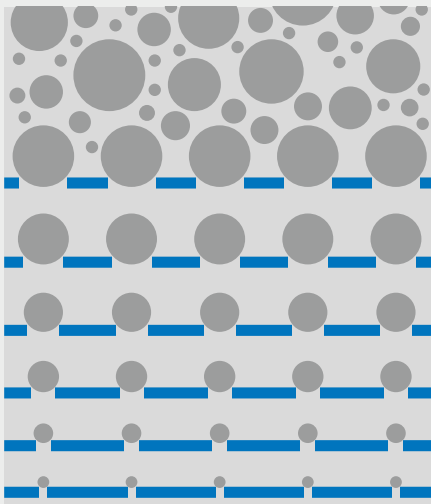
Over 100,000 compressed air users expect more when it comes to their compressed air supply.

BOGE air provides them with the air to work.

If it is BOGE AIR then you can be assured that it is quality air. This not only applies to the first class energy efficient compressed air systems manufactured by BOGE, but also to the top quality compressed air treatment products. BOGE compressed air treatment products have been designed to work in perfect harmony with the compressor range to provide the optimal, most effective and efficient compressed air quality with options available to meet the highest air quality requirements.

Quality air pays off: BOGE compressed air treatment.

THE CLEAN UP! FROM AIR TO BOGE QUALITY AIR.

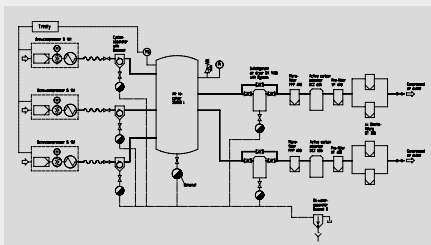


Compressed air is a versatile medium. It is widely used throughout industry and, for example, can be found in workshops and garages where untreated air is acceptable or the specialist industries where the demanding environments of the pharmaceutical and food sectors require absolutely dry, oil-free and often sterile compressed air.

Compressed air users rely on quality air from BOGE wherever the safe and efficient purification of the compressed air is required. Our compressed air specialists will do their utmost to configure a customized air treatment system to meet any given set of criteria.

1 m³ of untreated ambient air can contain up to 180 million particles of dirt as well as 50 - 80% water vapour and oil in the form of unburned hydrocarbons. During the compression process the concentration of these particles increases: at a pressure of 150 psi, for example, an eleven-fold value of 2 billion dirt particles is reached. Optimally treated BOGE compressed air is dry, dust-free, oil-free and if required, sterile.

THE RIGHT BALANCE: ADVANTAGES OF BOGE COMPRESSED AIR TREATMENT.



CAREFUL PLANNING AND ADVICE

An incorrectly dimensioned system can easily generate high costs in the long run. Our BOGE professionals therefore provide a thorough system analysis to ensure that the installed air treatment exactly meets the site requirements.



OPTIMAL COST-BENEFIT RATIO

Every compressed air treatment results in costs which should produce an optimal cost-benefit ratio. BOGE's range of air treatment products ensures that there is a cost effective customized solution for every application.



QUALITY "MADE IN GERMANY"

The use of high quality materials and a reduced number of wearing parts ensures the BOGE air treatment systems are very efficient and reliable. BOGE is committed to the highest standards in development and manufacture, and we stand by this!

Refrigerant compressed air dryers

DS 25-2 N to DS 250-2 N

Flow capacity: 0.7 – 7.1 m³/min, 25 – 250 cfm

Max. operating pressure: up to 230 psi (200 psi starting at DS 200-2 N)



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 ranges. In conjunction with economical power consumption this means that no other product can compete with the low running costs.

EASY TO MAINTAIN

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.

PROVEN QUALITY

These dryers incorporate proven and field tested components. The intelligent layout of the sturdy heat exchanger is a guarantee of reliability and energy saving operation.

DIGITAL CONTROL

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.

Installation requirements

Standard dryers are designed to operate at ambient or room temperatures of between +41°F and +122°F. Sufficient clearance must be provided on all sides of the refrigerant compressed air dryer to ensure good cooling air circulation. A suitably dimensioned drainage pipe must be installed to remove condensate.

Installation data

Flow capacity is based on the compressor's air intake (+68°F and 14.5 psi):

Compressed air temperature +100°F (max. +150°F possible), operating pressure 100 psi, ambient temperature +100°F (max. +122°F possible), pressure dew point +37°F (different pressure dew points are possible). Technical data according to DIN ISO 7183. Differing values on request.

Equipment:

- Digital control with potential-free alarm contact
- Innovative heat exchanger with integrated demister
- Power plug up to DS 250-2 N
- Time controlled drain
- Wall mounting possible up to DS 50-2 N
- Refrigerant type R134a

Options:

- Electronic level controlled condensate drain

The new DS-2 series from BOGE has now raised the bar for refrigerant dryers:

Thanks to the fully intergrated 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 CO₂ balance isn't to be sneezed at either.

BOGE Type	Electrical (V/Ph/Hz)	Flow capacity		max. pressure		Electr. power consumption*		Weight		Dimensions W x D x H (inch)	Compressed air connection NPT
		cfm	m ³ /min	psi	bar	hp	kW	lbs	kg		
DS 25-2 N	115/1/60	25	0.7	230	16	0.26	0.19	55	25	12 x 17 x 24	1/2"
DS 35-2 N	115/1/60	35	1.0	230	16	0.25	0.18	77	35	13 x 23 x 26	3/4"
DS 50-2 N	115/1/60	50	1.4	230	16	0.27	0.20	79	36	13 x 23 x 26	3/4"
DS 75-2 N	115/1/60	75	2.1	230	16	0.49	0.36	101	46	16 x 27 x 31	1"
DS 75-2 N	230/1/60	75	2.1	230	16	0.49	0.36	101	46	16 x 27 x 31	1"
DS 100-2 N	115/1/60	100	2.8	230	16	0.50	0.37	101	46	16 x 27 x 31	1"
DS 100-2 N	230/1/60	100	2.8	230	16	0.50	0.37	101	46	16 x 27 x 31	1"
DS 125-2 N	115/1/60	125	3.5	230	16	0.52	0.38	104	47	16 x 27 x 31	1"
DS 125-2 N	230/1/60	125	3.5	230	16	0.52	0.38	104	47	16 x 27 x 31	1"
DS 150-2 N	115/1/60	150	4.3	230	16	0.76	0.56	117	53	16 x 27 x 31	1 1/2"
DS 150-2 N	230/1/60	150	4.3	230	16	0.76	0.56	117	53	16 x 27 x 31	1 1/2"
DS 175-2 N	115/1/60	175	5.0	230	16	0.94	0.69	121	55	16 x 27 x 31	1 1/2"
DS 175-2 N	230/1/60	175	5.0	230	16	0.94	0.69	121	55	16 x 27 x 31	1 1/2"
DS 200-2 N	230/1/60	200	5.7	200	14	1.24	0.91	198	90	18 x 31 x 38	1 1/2"
DS 250-2 N	230/1/60	250	7.1	200	14	1.24	0.91	198	90	18 x 31 x 38	1 1/2"

* at 60 Hz, an ambient temperature of 100°F, inlet temperature of 100°F, 100 psi operating pressure

Conversion factors

According to DIN ISO 7183, refrigerant dryers are designed for 100 psi operating pressure, an ambient temperature of 100°F and an inlet temperature of 100°F. For different operating pressures and temperatures, the following conversion factors should be used.

Working pressure		psi	45	75	100	130	160	190	220	230
nominal airflow correction factors	60 Hz	f1	0.69	0.90	1	1.18	1.23	1.30	1.37	1.4
Ambient temperature		F°	68	77	86	95	104	113	122	
nominal airflow correction factors	60 Hz	f2	1.04	1	0.94	0.90	0.85	0.80	0.75	
Air inlet temperature		F°	86	95	104	113	122	131	140	150
nominal airflow correction factors	60 Hz	f3	1.18	1	0.76	0.62	0.49	0.39	0.38	0.36
Pressure dew point		F°	37	41	45					
nominal airflow correction factors	60 Hz	f4	1	1.27	1.39					

case 1) Model nominal flow: $V_{nom}, V_{nom} * f1 * f2 * f3 * f4 =$ new flow rate of the nominal model @ working conditions

Refrigerant compressed air dryers

BSD 325 to BSD 6000

Flow capacity: 325 – 6000 SCFM

Dual mode cycling or non-cycling operation

325 to 6000 SCFM Models come with integrated energy saving cycling feature



RELIABLE PRESSURE DEW POINT

The pressure dew point is conveniently displayed in the control. A reliable pressure dew point provides a consistently high quality compressed air.

INTEGRATED ELECTRONIC LEVEL CONTROLLED ZERO AIR LOSS CONDENSATE DRAIN

BSD 325 – BSD 6000 models are fitted with an integrated electronic zero-air loss condensate drain as standard. The condensate drain system is compactly integrated in the heat exchanger.



INTELLIGENT DESIGN

These dryers incorporate proven and field tested components. The intelligent layout of the sturdy heat exchanger assembly is a guarantee for energy-saving operation. The complete inner workings are easily accessible for routine inspections.

ENVIRONMENTALLY FRIENDLY COOLANT

The R407c coolant used is ozone neutral and, in conjunction with the recyclable materials and the high energy efficiency, ensures maximum conservation of resources and is environmentally compatible with refrigerant dryer operation.

Installation requirements

Standard dryers are designed to operate at ambient or room temperatures of between +41°F and +122°F. Sufficient clearance must be provided on all sides of the refrigerant compressed air dryer to ensure good cooling air circulation. A suitably dimensioned drainage pipe must be installed to remove condensate.

Installation data

Flow capacity is based on the compressor's air intake (+68°F and 14.5 psi):

Compressed air temperature +100°F (max. +150°F possible), operating pressure 100 psi, ambient temperature +100°F (max. +122°F possible), pressure dew point +37°F. Technical data according to ISO 7183.

Equipment:

- Illuminated operating switch
- Heat exchanger with demister
- Electronic level controlled zero air loss condensate drain
- Serial, MODBUS-compatible RS 485 interface on the rear of the control
- Signals can be transmitted to an external master display
- Remote control option
- Refrigerant type R407c

ENERGY SAVING CYCLING FEATURE

BSD 325 – BSD 6000 Dryers have an integrated energy-saving cycling function. The temperature measurements obtained are transmitted by the various sensors to the dryer control. The self teaching algorithm of this control then regulates when the dryer is switched on and off. Dryer can also be set to operate in non-cycling mode.

Compressed air drying can be so convenient: Due to the effective control, the BSD Series enables absolutely cost-efficient compressed air drying. Their extremely low pressure loss due to the generously designed components prevents overcompression. Compressor energy savings of 5 percent are achieved for every 10 psi of pressure saved. Displaying energy use helps the operator to fully exploit the greatest saving potential and arrive at the most efficient way to obtain dry compressed air.

BOGE Type	Electrical (V/Ph/Hz)	Flow capacity		max. pressure		Electr. power consumption*		Weight		Dimensions W x D x H (inch)	Compressed air connection
		cfm	m³/min	psi	bar	hp	kW	lbs	kg		
BSD 325	230/3/60	325	9.2	200	14	1.37	1.86	320	145	27.8 x 41.2 x 41.9	2" NPT
BSD 325	460/3/60	325	9.2	200	14	1.37	1.86	320	145	27.8 x 41.2 x 41.9	2" NPT
BSD 400	230/3/60	400	11.3	200	14	1.93	2.62	320	145	27.8 x 41.2 x 41.9	2" NPT
BSD 400	460/3/60	400	11.3	200	14	1.93	2.62	320	145	27.8 x 41.2 x 41.9	2" NPT
BSD 500	460/3/60	500	14.2	200	14	2.34	3.18	342	155	27.8 x 41.2 x 41.9	2" NPT
BSD 500	460/3/60	500	14.2	200	14	2.34	3.18	342	155	27.8 x 41.2 x 41.9	2" NPT
BSD 700	460/3/60	700	19.8	200	14	3.47	4.72	529	240	31.7 x 45.9 x 51.8	3" NPT
BSD 800	460/3/60	800	22.7	200	14	3.51	4.77	529	240	31.7 x 45.9 x 51.8	3" NPT
BSD 1000	460/3/60	1000	28.3	200	14	3.63	4.94	551	250	31.7 x 45.9 x 51.8	3" NPT
BSD 1200	460/3/60	1200	34.0	200	14	4.96	6.75	816	370	39.6 x 43.2 x 66.5	3" NPT
BSD 1400	460/3/60	1400	39.6	200	14	4.88	6.64	1080	490	39.6 x 43.2 x 66.5	4" ANSI
BSD 1600	460/3/60	1600	45.3	200	14	5.49	7.47	1279	580	39.6 x 65.2 x 67.8	4" ANSI
BSD 2000	460/3/60	2000	56.6	200	14	7.77	10.57	1477	670	39.6 x 65.2 x 67.8	6" ANSI
BSD 2400	460/3/60	2400	68.0	200	14	9.18	12.48	1521	690	39.6 x 65.2 x 67.8	6" ANSI
BSD 3000	460/3/60	3000	85.0	200	14	12.21	16.61	1609	730	39.6 x 65.2 x 80.6	6" ANSI
BSD 3800	460/3/60	3800	107.6	200	14	14.61	19.87	1830	830	39.6 x 65.2 x 80.6	6" ANSI
BSD 5000	460/3/60	5000	141.6	200	14	18.77	25.53	2425	1100	39.6 x 88.9 x 86.9	8" ANSI
BSD 6000	460/3/60	6000	169.9	200	14	23.64	32.15	2624	1190	39.6 x 88.9 x 86.9	8" ANSI

* at 60 Hz, an ambient temperature of 100°F, inlet temperature of 100°F, 100 psi operating pressure

Conversion factors

According to DIN ISO 7183, refrigerant dryers are designed for 100 psi operating pressure, an ambient temperature of 100°F and an inlet temperature of 100°F. For different operating pressures and temperatures, the following conversion factors should be used.

Working pressure	psi	45	58	75	87	100	116	130	145	160	175	190	203
nominal airflow correction factors	f1	0.74	0.83	0.9	0.96	1	1.04	1.07	1.08	1.11	1.12	1.14	1.15
Ambient temperature	F°	68	77	86	95	104	113	122					
nominal airflow correction factors	f2	1.06	1	0.95	0.9	0.83	0.77	0.72					
Air inlet temperature	F°	86	95	104	113	122	131	140	150				
nominal airflow correction factors	f3	1.23	1	0.84	0.7	0.59	0.5	0.45	0.4				
Pressure dew point	F°	37	41	45	50								
nominal airflow correction factors	f4	1	1.1	1.21	1.4								

case 1) Model nominal flow: $V_{nom} \cdot f1 \cdot f2 \cdot f3 \cdot f4$ = new flow rate of the nominal model @ working conditions

BOGE Compressors

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Best
Of
German
Engineering

In more than 120 countries worldwide customers from mechanical engineering, industry and trade trust the BOGE know-how in planning, development and production of high quality compressed air systems. Already in its fourth generation, the family-owned company puts all its experience in the development of innovative solutions and outstanding efficient products for the compressed air industry.

Rightly, therefore, the last name of the founder Otto Boge stands for „Best Of German Engineering“ today. Who puts emphasis on German engineering skills, highest safety, reliable services and energy efficiency, accesses quality products from BOGE because they have been supplying „the air to work“ for more than 100 years.

OUR RANGES OF SERVICES INCLUDE THE FOLLOWING:

- Energy efficient systems development
- Plant Design and engineering
- Industry 4.0 solutions, system control and visualization
- High Speed Turbo compressors
- Oil-free piston, screw and scroll compressors
- Oil injected screw compressors and oil lubricated piston compressors
- Compressed air treatment
- Compressed air distribution and storage
- Compressed air accessories
- Compressed air service
- Nitrogen and oxygen generators

