

Technical data for the BOGE DR series of Refrigerant Dryers

Flow capacity 0.33 – 27.5 m³/min., 12 – 972 cfm

BOGE Type	Flow capacity		max. Pressure differential at full load				Electr. power consumption		Electr. power supply		Compressed air connection		Cooling air required		Dimensions		Weight	
	m ³ /min	m ³ /h	cfm	bar	bar	psig	kW	HP	V/Hz	60 Hz			m	m ³ /h	cfm	W x D x H (mm)	kg	
DR 3	0.33	20	12	16	0.06	0.9	0.15	0.20	230	230	G 1/2	380	224	310x450x450	25			
6	0.58	35	21	16	0.15	2.1	0.16	0.22	230	230	G 1/2	380	224	310x450x450	26			
8	0.83	50	29	16	0.19	2.7	0.22	0.30	230	230	G 1/2	320	188	310x450x450	27			
11	1.08	65	38	16	0.22	3.1	0.24	0.33	230	230	G 1/2	320	188	310x450x450	28			
17	1.75	105	62	16	0.22	3.1	0.35	0.48	230	230	G 1/2	260	153	310x450x450	31			
21	2.08	125	74	16	0.28	4.0	0.44	0.60	230	230	G 1/2	260	153	310x450x450	32			
25	2.50	150	88	14	0.28	4.0	0.45	0.61	230	-	G 1	650	383	500x710x740	59			
30	3.00	180	106	14	0.14	2.0	0.56	0.76	230	-	G 1 1/2	650	383	500x710x740	60			
50	5.00	300	177	14	0.28	4.0	0.90	1.22	230	-	G 1 1/2	1300	765	500x710x740	79			
60	6.00	360	212	14	0.16	2.3	0.95	1.29	230	-	G 1 1/2	1300	765	500x710x740	80			
75	7.50	450	265	14	0.24	3.4	1.08	1.47	230	-	G 1 1/2	900	530	500x710x740	85			
91	9.17	550	324	14	0.18	2.6	1.25	1.70	400	-	G 2	2700	1589	500x850x970	90			
108	10.83	650	383	14	0.24	3.4	1.30	1.77	400	-	G 2	2700	1589	500x850x970	92			
125	12.50	750	442	14	0.19	2.7	1.50	2.04	400	-	G 2	2700	1589	500x850x970	117			
141	14.16	850	501	14	0.18	2.6	1.77	2.41	400	-	G 2	2700	1589	500x850x970	121			
180	17.75	1065	627	16	0.30	4.3	2.56	3.48	400	-	G 2 1/2	3100	1825	900x800x1230	176			
190	18.50	1110	654	16	0.28	4.0	2.80	3.81	400	-	G 2 1/2	2600	1530	900x800x1230	181			
225	22.50	1350	795	16	0.16	2.3	2.95	4.01	400	-	G 2 1/2	2600	1530	900x800x1230	186			
235	23.50	1410	830	16	0.19	2.7	3.10	4.22	400	-	G 2 1/2	2600	1530	900x800x1230	191			
275	27.50	1650	972	16	0.31	4.4	3.25	4.42	400	-	G 2 1/2	2600	1530	900x800x1230	197			

Installation Requirements

For standard dryer designs, the room temperature and ambient temperature must not exceed +50 °C or fall below +2 °C. Sufficient clearance must be provided on all sides of the dryer to ensure good circulation of the cooling air. A suitably dimensioned drainage pipe must be installed to remove condensate.

Explanations / Installation data

- Flow capacity is based on the compressor's air intake (+20 °C and 1 bar)
- Compressed air temperature +35 °C (max. +65 °C or +70 °C is possible)
- Operating pressure 7 bar (max. 14/16 bar is possible)
- Ambient temperature +25 °C (max. +50 °C is possible)

- Pressure dewpoint +3 °C (different pressure dewpoints are possible) measured at dryer outlet

Technical data according to DIN ISO 7183.

For higher pressures and temperatures, different pressure dewpoints, and dryer capacities for values differing from DIN ISO 7183, available upon request.

Refrigeration system: Complete refrigeration system with fully hermetic, refrigerant compressor.

Condensate drainage: Bekomat

Equipment:

- Operating switch (illuminated)
- Additional mains disconnecting device from DR 91
- Pressure dew point indicator
- Wall mounting possible (DR 3 to DR 21)
- Power plug up to DR 75
- Terminal box from DR 91
- Heat exchanger with demister
- Energy-saving control from model DR 25 onwards (with up to 90% savings)

Options:

- On models DR 3 to DR 275:
 - Bypass assembly
 - Potential-free error message, Status message and Remote On/Off
 - Special voltages
 - Water-cooling (from model DR 180 onwards)
 - Internal frost protection (down to -10 °C from model DR 25 onwards)

Conversion factors

According to DIN ISO 7183, refrigerant dryers are designed for 7 bar operating pressure, an ambient temperature of 25 °C and an inlet temperature of 35 °C. For different operating pressures and temperatures, the following conversion factors should be used.

Ambient/cooling water temperature	(°C)	25	30	35	40	45	50										
Factor	f ₁	1	0.97	0.94	0.87	0.75	0.62										
Inlet temperature	(°C)	30	35	40	45	50	55	60	65	70							
Factor	f ₂	1.28	1	0.88	0.75	0.58	0.48	0.44	0.42	0.40							
Operating pressure	(bar)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Factor	f ₃	0.6	0.7	0.8	0.88	0.94	1	1.04	1.06	1.09	1.1	1.12	1.14	1.15	1.16	1.17	

Example (for dewpoint 3°C)

Delivery volume	m ³ /h	750	Factor			
Ambient temperature (f ₁)	°C	40	= 0.87	=	$\frac{V}{f_1 \times f_2 \times f_3}$	= $\frac{750}{0.87 \times 0.75 \times 1.14}$ = 1008 DR 180
Inlet temperature (f ₂)	°C	45	= 0.75			
Operating overpressure (f ₃)	bar	13	= 1.14			