



COMPRESSED AIR TREATMENT

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 “Made in Germany”. 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.

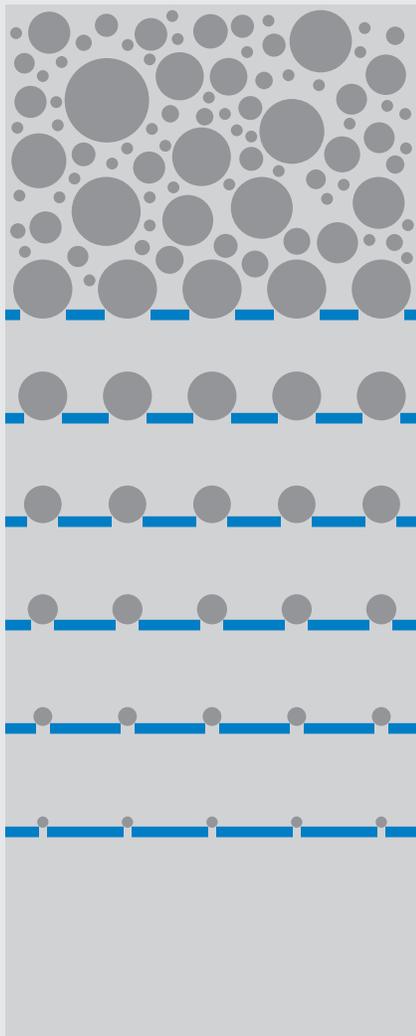
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Quality air pays off:

BOGE compressed air treatment

THE CLEAN UP! FROM AIR TO BOGE QUALITY AIR.



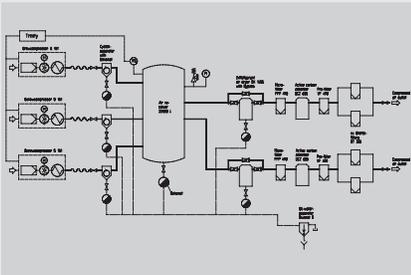
Compressed air is a versatile medium. It is widely used throughout industry and, for example, can be found in workshops and garages where untreated air is acceptable or the specialist industries where the demanding environments of the pharmaceutical and food sectors require absolutely dry, oil-free and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

Compressed air users rely on quality air from BOGE wherever the safe and efficient treatment 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 cubic foot of untreated ambient air can contain up to 4 million airborne particles as well as 50 – 80% water vapor 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 44 million dirt particles is reached. Optimally treated BOGE compressed air is dry, dust-free, oil-free and if required sterile.

Knowing the right answer: There are some industry sectors that cannot accept anything less than high quality compressed air. Such industries can rely on BOGE to provide specialist professional advice in the selection of the correct air treatment system to suit their specific needs and, to meet the required air quality in the most cost effective manner!

THE RIGHT BALANCE: ADVANTAGES OF BOGE COMPRESSED AIR TREATMENT.



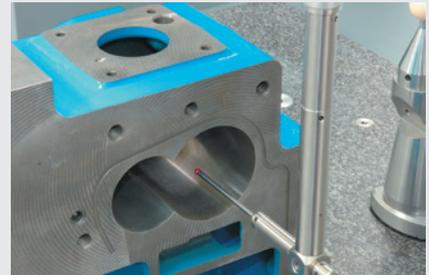
CAREFUL PLANNING AND ADVICE

When it comes to selecting the right type of air treatment, specialist advice is crucial because an incorrectly dimensioned system can easily generate unnecessary costs in the long run. You can count on the BOGE know-how: a thorough system analysis ensures that the installed air treatment exactly meets the site requirements.



OPTIMAL COST-BENEFIT RATIO

Compressed air treatment is a necessary cost in a compressed air system and so the chosen system should produce an optimal cost-benefit ratio. An oversized or undersized air treatment system is likely to result in unnecessary costs or jeopardize the operating integrity of the system. 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 wear parts ensures the BOGE air treatment systems are as efficient and reliable as our demanding customers rightfully expect. The BOGE manufacturing process also meets on-going quality standards – from inspection of purchased parts to final inspection and testing of each product. And, when it comes to product development, BOGE ranks among the first for German engineering: time after time we are recognized as trendsetters in the industry thanks to our innovations many of which have Worldwide patents.

From need to solution: System Planning with BOGE

| Application for compressed air | Quality Class*** | | | Aircompressor |
|---|------------------|-------|-----|---|
| | Dust | Water | Oil | |
| <ul style="list-style-type: none"> General industrial air Blow-down air | — | — | — | BOGE- SCREW OR PISTON COMPRESSOR |
| <ul style="list-style-type: none"> Sandblasting Simple painting work | 3 | — | — | |
| <ul style="list-style-type: none"> Conveying air General factory air High-quality sandblasting Simple paint spraying | 3 | 4 | 5 | |
| <ul style="list-style-type: none"> Pneumatic tools Control air Paint spraying Air Conditioning Fluidics Measuring and control systems | 1 | 4 | 1 | |
| <ul style="list-style-type: none"> Dental laboratory Photographic laboratory | 1 | 4 | 1 | |
| <ul style="list-style-type: none"> Control air Instrument air Pneumatics High-quality paint spraying Surface finishing Breathing air | 1 | 1-3 | 1 | |
| <ul style="list-style-type: none"> Medical system Breathing air High quality conveying air Food industry | 1 | 3-4 | 1 | |
| <ul style="list-style-type: none"> Breweries Dairies Pharmaceutical industry | 1 | 1-3 | 1 | |

| Cyclone-separator* | Pre-filter** | Refrigerant-dryer | Microfilter | Membrane dryer | Adsorption dryer | Pre-filter | Activated carbon filter | Activated carbon adsorber | Sterile filter |
|--------------------|--------------|-------------------|-------------|----------------|------------------|------------|-------------------------|---------------------------|----------------|
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| or | | | • | • | | | | • | • |

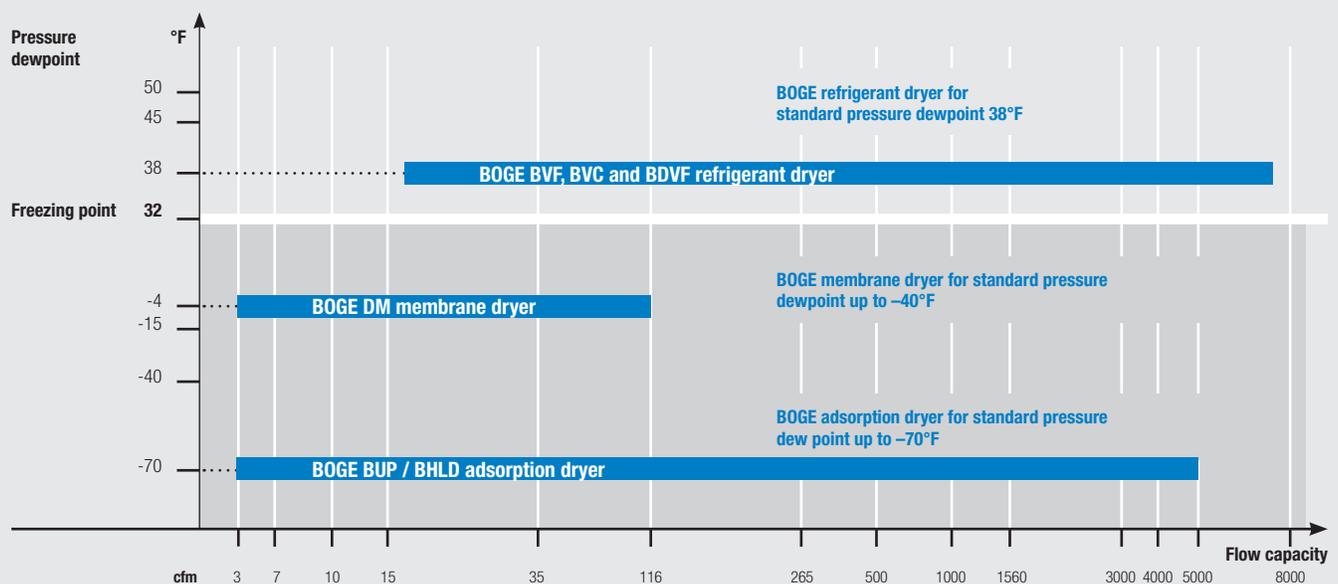
* Only for compressors without compressed air receiver
 ** Coarser impurities separated out to extend service life of microfilter
 ***ISO 8573-1:1991

The right system for your requirements: Based on your air quality requirements BOGE will take care of selecting the appropriate air treatment products to provide an optimal solution from initial assessment to system design. You are invited to contact our experts for a consultation!

QUALITY CLASSES ACCORDING TO ISO 8573-1:2001

| CLASS | Solid impurities (Max. particle size per m ³) | | | | Humidity (Max. pressure dewpoint) | | ppm Max. oil content | |
|---|---|----------------|----------------|----------------|--|----------|---------------------------|------------------|
| | Max. particle size in µm | | | | °C | °F | mg/m ³ | ppm/w/w |
| | <= 0,1 | 0,1 < d <= 0,5 | 0,5 < d <= 1,0 | 1,0 < d <= 5,0 | | | | |
| 0 | as specified by user | | | | | | | |
| 1 | A/R | 100 | 1 | 0 | <= -70°C | <= -94°F | <= 0,01 mg/m ³ | <= 0.008 ppm/w/w |
| 2 | A/R | 100,000 | 1,000 | 10 | <= -40°C | <= -40°F | <= 0,1 mg/m ³ | <= 0.08 ppm/w/w |
| 3 | A/R | A/R | 10,000 | 500 | <= -20°C | <= -4°F | <= 1 mg/m ³ | <= 0.8 ppm/w/w |
| 4 | A/R | A/R | A/R | 1 000 | <= +3°C | <= +37°F | <= 5 mg/m ³ | <= 4 ppm/w/w |
| 5 | A/R | A/R | A/R | 20 000 | <= +7°C | <= +45°F | — | — |
| 6 | — | — | — | — | <= +10°C | <= +50°F | — | — |
| Classes 6 and 7 are defined according to the maximum particle size and maximum density. Class 6: d <= 5 µm and density <= 5 mg/m ³ Class 7: d <= 40 µm and density <= 10 mg/m ³ | | | | | Classes 7 to 9 are defined according to their liquid water content. Class 7: C _w <= 5 mg/m ³ Class 8: 0.5 g/m ³ < C _w <= 5 mg/m ³ Class 9: 5 g/m ³ < C _w <= 10 mg/m ³ | | | |

BOGE COMPRESSED AIR DRYERS



BVF, BVC, BDVF = Refrigerant dryer
DM = Membrane dryer
BUP, BHLD = Adsorption dryer, heatless

Refrigerant Dryers **BVF 10 – BVF 1200** **BVC 1250 – BVC 2000**

Flow capacity: 10 – 2000 cfm



RELIABLE PRESSURE DEWPOINT

The all new BVF series dryers are built with a variable flow heat exchanger, which allows desired dewpoint performance regardless of flow variations. Typically, other dryers with mechanical moisture separators lose performance as compressed air velocities decrease substantially or increase.

QUAD CELL HEAT EXCHANGER

The specially-designed single heat exchanger represents an innovative concept with an integral pre-cooler, reheater, evaporator, high efficiency, multi-stage separator with a built-in stainless steel demister. Also incorporates a quiet zone to prevent re-entrainment of collected condensation. Unlike the competition, the BVF's demister is easily removable and cleanable.

ENERGY EFFICIENT

All Dryers are characterized by their extremely low pressure differential due to the 1-2-3 punch in eliminating moisture from the air-stream. This low pressure loss across the dryer results in savings for our customers. For every 2-psi drop that is prevented the dryer saves 1% in energy costs. The BVF series dryer therefore realizes savings where potentials are highest and at the same time develops further savings potential that traditional dryers cannot reach.

ENVIRONMENTALLY FRIENDLY COOLANT

The R134a refrigerant does not have any ozone depleting characteristics. It is safe for normal handling as it is non-toxic, non-flammable and non-corrosive. The BVC units use environmentally friendly R-407c refrigerant. That, in conjunction with the use of recyclable materials and the built-in energy efficiency provides a true environmentally friendly product for the drying of compressed air.

Installation instructions

To install the standard designed dryers, the room and/or ambient temperature may not exceed 120°F and not fall below 35°F. Sufficient clearance must be provided on all sides of the dryer to ensure good cooling air circulation. A suitably dimensioned drainage pipe must be installed to remove condensate.

Design conditions

The flow capacity rate is determined in relation to the air intake condition of the compressor (70°F and 14.7psi): Compressed air temperature 100°F (max. 140°F possible), operating pressure 100psi, ambient temperature 80°F (max. 120°F possible), pressure dew point 38°F (higher dew points possible).

Options:

- Standard bypass line
- Special voltages

The most efficient method of drying compressed air: when compressed air is cooled near to freezing point, water and oil vapors create condensate. This method of drying is expensive to the end user as it uses energy and creates pressure losses. Because of its energy saving components, BVF series is capable of substantially reducing such costs over the entire lifetime of the compressed air system by combining savings potentials with maximum reliability.

| BOGE Model | Flow Capacity | | Max. Operating Pressure psig | Pressure Differential At full load | | Electr. Power Consumption | | Installed Power | | Compressed Air Connection | Cooling Air Requirement | | Dimensions H x W x D In. | Weight lbs. |
|------------|---------------------|------|---------------------------------|------------------------------------|------|---------------------------|------|-----------------|-------|---------------------------|-------------------------|------|-----------------------------|----------------|
| | m ³ /min | cfm | | bar | psig | kW | hp | kW | hp | | m ³ /h | cfm | | |
| BVF-10 | 0.28 | 10 | 200 | .34 | 5 | 0.15 | 0.20 | 0.37 | 0.49 | 1/2" | 399 | 235 | 15 x 16 x 16 | 71 |
| BVF-15 | 0.42 | 15 | 200 | .34 | 5 | 0.15 | 0.20 | 0.37 | 0.49 | 1/2" | 399 | 235 | 15 x 16 x 16 | 74 |
| BVF-25 | 0.71 | 25 | 200 | .34 | 5 | 0.15 | 0.20 | 0.37 | 0.49 | 1/2" | 399 | 235 | 15 x 16 x 16 | 76 |
| BVF-40 | 1.13 | 40 | 200 | .34 | 5 | 0.24 | 0.25 | 0.60 | 0.80 | 3/4" | 425 | 250 | 15 x 16 x 16 | 78 |
| BVF-50 | 1.42 | 50 | 200 | .34 | 5 | 0.24 | 0.25 | 0.60 | 0.80 | 3/4" | 425 | 250 | 15 x 16 x 16 | 80 |
| BVF-60 | 1.70 | 60 | 200 | .34 | 5 | 0.24 | 0.33 | 0.86 | 1.15 | 3/4" | 425 | 250 | 15 x 16 x 16 | 102 |
| BVF-75 | 2.12 | 75 | 200 | .34 | 5 | 0.24 | 0.33 | 0.86 | 1.15 | 1" | 425 | 250 | 22 x 24 x 18 | 124 |
| BVF-100 | 2.83 | 100 | 200 | .34 | 5 | 0.52 | 0.5 | 1.33 | 1.80 | 1" | 510 | 300 | 22 x 24 x 18 | 138 |
| BVF-125 | 3.54 | 125 | 200 | .34 | 5 | 0.71 | 0.75 | 1.72 | 2.30 | 1" | 765 | 450 | 22 x 24 x 18 | 156 |
| BVF-150 | 4.25 | 150 | 200 | .34 | 5 | 0.71 | 0.75 | 1.72 | 2.30 | 1" | 765 | 450 | 22 x 24 x 18 | 162 |
| BVF-200 | 5.66 | 200 | 200 | .34 | 5 | 0.99 | 1 | 1.98 | 2.65 | 1 1/2" | 1206 | 710 | 30 x 36 x 25 | 240 |
| BVF-250 | 7.08 | 250 | 200 | .34 | 5 | 1.11 | 1.25 | 3.10 | 4.15 | 1 1/2" | 1818 | 1070 | 30 x 36 x 25 | 332 |
| BVF-300 | 8.50 | 300 | 200 | .34 | 5 | 1.40 | 1.5 | 3.58 | 4.80 | 2" | 1818 | 1070 | 30 x 36 x 25 | 345 |
| BVF-400 | 11.33 | 400 | 200 | .34 | 5 | 1.56 | 2 | 4.85 | 6.50 | 2" | 3687 | 2170 | 45 x 34 x 45 | 567 |
| BVF-500 | 14.16 | 500 | 200 | .34 | 5 | 2.30 | 3 | 6.53 | 8.75 | 2" | 3687 | 2170 | 45 x 34 x 45 | 582 |
| BVF-600 | 17.00 | 600 | 200 | .34 | 5 | 2.92 | 3.5 | 6.76 | 9.05 | 3" | 3687 | 2170 | 45 x 34 x 45 | 598 |
| BVF-800 | 22.65 | 800 | 200 | .34 | 5 | 2.92 | 5 | 6.81 | 9.13 | 3" | 7204 | 4240 | 48 x 38 x 64 | 790 |
| BVF-1000 | 28.32 | 1000 | 200 | .34 | 5 | 3.39 | 6 | 6.84 | 9.15 | 3" | 7204 | 4240 | 48 x 38 x 64 | 800 |
| BVF-1200 | 33.98 | 1200 | 200 | .34 | 5 | 4.03 | 7.5 | 10.98 | 14.70 | 3" | 8325 | 4900 | 48 x 38 x 64 | 852 |
| BVC-1250* | 35.40 | 1250 | 200 | .34 | 5 | 5.97 | 8.5 | 5.60 | 7.50 | 3" | 8325 | 3600 | 60 x 26 x 81 | 1450 |
| BVC-1600* | 45.31 | 1600 | 200 | .34 | 5 | 7.46 | 10 | 7.7 | 9.25 | 4" FLG | 9175 | 4400 | 60 x 26 x 81 | 1700 |
| BVC-2000* | 56.63 | 2000 | 200 | .34 | 5 | 9.69 | 13 | 10.5 | 12.75 | 4" FLG | 9514 | 5600 | 60 x 26 x 81 | 1900 |

* BVC is the BOGE Variable Control. Consult Factory for more information on Water Cooled Power consumption and Dimensions.

| | | | | | | | | | | |
|-------------------------|----------------|------|------|------|------|------|------|------|------|------|
| Inlet Air Pressure | psig | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| Factor | f ₁ | 0.85 | 0.95 | 1 | 1.07 | 1.13 | 1.18 | 1.20 | 1.22 | 1.24 |
| Inlet Air Temperature | °F | 80 | 90 | 100 | 110 | 120 | 140 | | | |
| Factor | f ₂ | 1.5 | 1.21 | 1.00 | 0.82 | 0.72 | 0.61 | | | |
| Ambient Air Temperature | °F | 70 | 80 | 90 | 100 | 110 | 115 | 120 | | |
| Factor | f ₃ | 1.10 | 1.07 | 1.05 | 1.00 | 0.94 | 0.85 | 0.65 | | |
| Pressure Dew Point | °F | 38 | 41 | 45 | 50 | | | | | |
| Factor | f ₄ | 1.00 | 1.12 | 1.17 | 1.22 | | | | | |

Example (giving flow 100 scfm)

| | | | | | | | | | |
|---|----------------|----------|---|------|--|--|--|--|--|
| Volume Flow | 100 scfm | Factor | | | | | | | |
| Inlet Pressure | f ₁ | 125 psig | = | 1.00 | | | | | |
| Inlet Temperature | f ₂ | 100°F | = | 1.21 | | | | | |
| Ambient Temperature | f ₃ | 90°F | = | 1.07 | | | | | |
| Pressure Dew Point | f ₄ | 38°F | = | 1.00 | | | | | |
| $= \frac{\text{SCFM}}{(f_1) \times (f_2) \times (f_3) \times (f_4)} = \frac{100}{(1.00) \times (1.21) \times (1.07) \times (1.00)} = 112.00 - \text{SCFM} = \text{BVF-125}$ | | | | | | | | | |

Refrigerant Dryers

BDVF 800 – BDVF 4000 Series

Flow capacity: 800 – 4000 cfm



SOLID PERFORMANCE

With the Introduction of BOGE's new Digital Scroll refrigerated air dryers, the bar has been raised and a new performance standard has been set for Cycling dryers. The user no longer has to accept dryers with a large, heavy footprint, circulating pumps, unpredictability and uncontrollable Dew Points as found in typical cycling dryers utilizing 30 year old technology. The BOGE Digital Scroll is 40% lighter and 32% more efficient than typical thermal mass designs.

FLEXIBILITY AND CONTROL

BOGE's Digital Scroll is a truly energy efficient dryer design that provides the precise dew point control that industrial processes demand. The Digital Scroll is available in SingleCel modules ranging from 800 scfm to 2000 scfm and Multicel models ranging from 2500 scfm to 4000 scfm offering total installation flexibility to meet your specific needs.

DIGITAL SCROLL TECHNOLOGY

The Digital Scroll operates in two stages - the "loaded state", when the solenoid valve is normally closed and "unloaded state", when the solenoid valve is open. During the loaded state, the compressor operates like a standard scroll and delivers full capacity and mass flow. However, during the unloaded state, there is no capacity and no mass flow through the compressor. It provides variable capacity output from 0% to 100% seamlessly.

END USER BENEFITS

The Digital Scroll has more consistent performance during load variations and fan cycling to prevent freeze-ups. Because of this the dryer can maintain a steady pressure dew point at all loads, thus ensuring dry clean air at the point of use. That, coupled with a small footprint and lightweight design makes the Digital Scroll appealing in all applications.

Installation instructions

To install the standard designed dryers, the room and/or ambient temperature may not exceed 120°F and not fall below 35°F. Sufficient clearance must be provided on all sides of the dryer to ensure good cooling air circulation. A suitably dimensioned drainage pipe must be installed to remove condensate.

Design conditions

The flow capacity rate is determined in relation to the air intake condition of the compressor (70°F and 14.7psi): Compressed air temperature 95°F (max. 140°F possible), operating pressure 100psi, ambient temperature 80°F (max. 120°F possible), pressure dew point 38°F.

Options:

- Standard bypass line
- Water cooled
- Multicel plug and play installation

Energy Efficient Cycling Refrigerated Air Dryer: BOGE's new Digital Scroll is a truly energy efficient dryer design that provides precise dew point control that industrial processes demand. The Digital Scroll is used in both heavy industrial to high technology environments. There is true, sustainable energy savings with capacity control between 0% - 100% and models ranging from 800 to 4000 scfm.

| BOGE Model | Flow Capacity | | Max. Operating Pressure psig | Pressure Differential At full load | | Electr. Power Consumption | | Installed Power | | Compressed Air Connection | Cooling Air Requirement | | Dimensions H x W x D in. | Weight lbs. |
|------------|---------------------|------|---------------------------------|------------------------------------|------|---------------------------|------|-----------------|------|---------------------------|-------------------------|-------|-----------------------------|----------------|
| | m ³ /min | cfm | | bar | psig | kW | hp | kW | hp | | m ³ /h | cfm | | |
| BDVF-800 | 22.65 | 800 | 150 | 0.34 | 5 | 2.98 | 4 | 4.10 | 5.50 | 3" FLG | 4077 | 2400 | 60 x 26 x 81 | 950 |
| BDVF-1000 | 28.32 | 1000 | 150 | 0.34 | 5 | 3.73 | 5 | 4.70 | 6.30 | 3" FLG | 5097 | 3000 | 60 x 26 x 81 | 1100 |
| BDVF-1250 | 35.40 | 1250 | 150 | 0.34 | 5 | 4.47 | 6 | 5.10 | 6.84 | 3" FLG | 6116 | 3600 | 60 x 26 x 81 | 1450 |
| BDVF-1600 | 45.31 | 1600 | 150 | 0.34 | 5 | 6.34 | 8.5 | 6.90 | 9.25 | 4" FLG | 7476 | 4400 | 60 x 26 x 81 | 1700 |
| BDVF-2000 | 56.63 | 2000 | 150 | 0.34 | 5 | 7.83 | 10.5 | 9.50 | 12.7 | 4" FLG | 9514 | 5600 | 60 x 26 x 81 | 1900 |
| BDVF-2500 | 71.00 | 2500 | 150 | 0.34 | 5 | 9.69 | 13 | 10.2 | 13.7 | 4" FLG | 12232 | 7200 | 79 x 70 x 81 | 3400 |
| BDVF-3200 | 90.61 | 3200 | 150 | 0.34 | 5 | 12.68 | 17 | 13.8 | 18.5 | 6" FLG | 14952 | 8800 | 79 x 70 x 81 | 3900 |
| BDVF-4000 | 113.3 | 4000 | 150 | 0.34 | 5 | 15.66 | 21 | 18.9 | 25.3 | 6" FLG | 19028 | 11200 | 79 x 70 x 81 | 4300 |

*MultiCel available in models BDVF2500 – 4000.
Water-cooled available and changes Dryer Depth to 55".

Compressed air drying can be extremely cost effective:

Due to its efficient and cost effective control the BDVF series provide absolutely energy efficient compressed air drying. The truly energy efficient dryer design provides the precise dew point control that industrial processes demand. Large reductions in equipment weight and advances in technology provide for significant energy savings over typical thermal mass designs.

Capacity Correction Factors

| | | | | | | | | | | |
|-------------------------|----------------|------|------|------|------|------|------|------|------|------|
| Inlet Air Pressure | psig | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| Factor | f ₁ | 0.85 | 0.95 | 1 | 1.07 | 1.13 | 1.18 | 1.20 | 1.22 | 1.24 |
| Inlet Air Temperature | °F | 80 | 90 | 100 | 110 | 120 | 140 | | | |
| Factor | f ₂ | 1.5 | 1.21 | 1.00 | 0.82 | 0.72 | 0.61 | | | |
| Ambient Air Temperature | °F | 70 | 80 | 90 | 100 | 110 | 115 | 120 | | |
| Factor | f ₃ | 1.10 | 1.07 | 1.05 | 1.00 | 0.94 | 0.85 | 0.65 | | |
| Pressure Dew Point | °F | 38 | 41 | 45 | 50 | | | | | |
| Factor | f ₄ | 1.00 | 1.12 | 1.17 | 1.22 | | | | | |

Example (giving flow 2000 - scfm)

| | | | |
|---------------------|-------------------------|--------|------|
| Volume Flow | 2000 scfm | Factor | |
| Inlet Pressure | f ₁ 100 psig | = | 1.00 |
| Inlet Temperature | f ₂ 90°F | = | 1.21 |
| Ambient Temperature | f ₃ 80°F | = | 1.07 |
| Pressure Dew Point | f ₄ 38°F | = | 1.00 |

$$= \frac{\text{SCFM}}{(f_1) \times (f_2) \times (f_3) \times (f_4)} = \frac{2000}{(1.00) \times (1.21) \times (1.07) \times (1.00)} = 1,545 - \text{SCFM} = \text{BDVF-1600}$$

Membrane dryers

DM 10 Plus to DM 116 Plus

Flow capacity: 11 – 116 cfm

Max. operating pressure: 100 – 220 psig



TWIST 60 TECHNOLOGY

Twist 60 represents the unique arrangement of membrane fibers when winding. Providing the lowest purge consumption, leading to lower energy costs.

ENERGY EFFICIENT

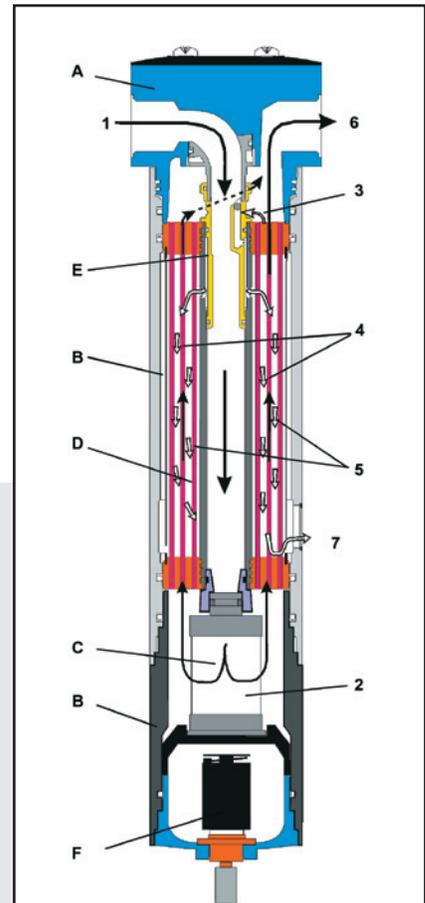
As the membrane dryer does not have a motor or any moving parts it does not need any additional energy eliminating unnecessary energy costs.

INTEGRATED COMPRESSED AIR FILTER

A standard integrated nano compressed air filter is included to provide technically oil free compressed air.

ENVIRONMENTALLY FRIENDLY

The membrane dryer does not contain any CFCs and is therefore neither ozone depleting nor does it have any impact on the environment.



Membrane Dryer Layout

- A:** Head (inlet / outlet)
- B:** Filter housing
- C:** Nano-filter
- D:** Membrane element including main body
- E:** Nozzle with adapter
- F:** Float drain

(1) Saturated compressed air enters via the dryer cap (A) and flows down the central tube (D). **(2)** The Nano-filter (C) removes any remaining aerosols and particles, separated condensate is drained (F). The saturated compressed air flows through the inside of the membranes. **(3)** A part of the compressed air is diverted and expands to atmosphere at the nozzle (E). **(4)** This very dry purge air is lead across the outside of the membranes (D). **(5)** Thus the saturated compressed air flows on the inside and the dry purge air on the outside. Due to the differences in humidity, moisture diffuses from the compressed air to the purge air. **(6)** The dry compressed air exits. **(7)** The purge air escapes to the atmosphere.

Pressure dew point reduction in a compact package: the BOGE membrane dryer is used where the pressure dew point needs to be reduced between 68 and 130°F. It requires little space and can be installed at minimal cost ideally for point of use dry air.

| BOGE Model | Operating Pressure | | Dryer Inlet Conditions | | Outlet PDP | Purge l/min | Dryer Outlet scfm | Dryer Outlet | | Compressed Air Connection | Dimensions H x W x D in. | Weight lbs. |
|------------|--------------------|------|------------------------|--------|------------|-------------|-------------------|--------------|--------|---------------------------|--------------------------|-------------|
| | bar | psig | pdp inlet | scfm | | | | l/min | scfm | | | |
| DM 02 | 7 | 100 | 100F | 1.83 | 65F | 5.10 | 0.18 | 46.73 | 1.65 | 1/4" | 10.43 x 1.81 x 1.06 | 1.74 |
| | | | 100F | 0.98 | 35F | 4.81 | 0.17 | 22.94 | 0.81 | 1/4" | 10.43 x 1.81 x 1.06 | 1.74 |
| | | | 100F | 0.58 | -20F | 4.81 | 0.17 | 11.61 | 0.41 | 1/4" | 10.43 x 1.81 x 1.06 | 1.74 |
| DM 04 | 7 | 100 | 100F | 3.66 | 65F | 9.91 | 0.35 | 93.74 | 3.31 | 1/4" | 12.40 x 1.81 x 1.06 | 1.92 |
| | | | 100F | 2.07 | 35F | 9.91 | 0.35 | 48.71 | 1.72 | 1/4" | 12.40 x 1.81 x 1.06 | 1.92 |
| | | | 100F | 1.33 | -20F | 9.91 | 0.35 | 27.75 | 0.98 | 1/4" | 12.40 x 1.81 x 1.06 | 1.92 |
| DM 06 | 7 | 100 | 100F | 5.49 | 65F | 14.73 | 0.52 | 140.75 | 4.97 | 1/4" | 13.98 x 1.81 x 1.06 | 2.07 |
| | | | 100F | 3.10 | 35F | 14.73 | 0.52 | 73.07 | 2.58 | 1/4" | 13.98 x 1.81 x 1.06 | 2.07 |
| | | | 100F | 2.00 | -20F | 14.73 | 0.52 | 41.91 | 1.48 | 1/4" | 13.98 x 1.81 x 1.06 | 2.07 |
| DM 07 | 7 | 100 | 100F | 7.32 | 65F | 15.29 | 0.54 | 192.01 | 6.78 | 1/4" | 16.34 x 1.81 x 1.06 | 2.27 |
| | | | 100F | 4.13 | 35F | 15.29 | 0.54 | 97.14 | 3.43 | 1/4" | 16.34 x 1.81 x 1.06 | 2.27 |
| | | | 100F | 2.63 | -20F | 15.29 | 0.54 | 59.19 | 2.09 | 1/4" | 16.34 x 1.81 x 1.06 | 2.27 |
| DM 10 | 7 | 100 | 100F | 10.45 | 65F | 30.02 | 1.06 | 265.92 | 9.39 | 3/8" | 17.00 x 2.95 x 1.10 | 4.13 |
| | | | 100F | 5.89 | 35F | 30.02 | 1.06 | 136.79 | 4.83 | 3/8" | 17.00 x 2.95 x 1.10 | 4.13 |
| | | | 100F | 3.85 | -20F | 30.02 | 1.06 | 79.01 | 2.79 | 3/8" | 17.00 x 2.95 x 1.10 | 4.13 |
| DM 11 | 7 | 100 | 100F | 11.00 | 65F | 29.74 | 1.05 | 281.78 | 9.95 | 3/8" | 19.76 x 2.95 x 1.10 | 4.63 |
| | | | 100F | 6.20 | 35F | 31.15 | 1.10 | 144.43 | 5.10 | 3/8" | 19.76 X 2.95 X 1.10 | 4.63 |
| | | | 100F | 3.90 | -20F | 31.15 | 1.10 | 79.30 | 2.80 | 3/8" | 19.76 X 2.95 X 1.10 | 4.63 |
| DM 15 | 7 | 100 | 100F | 14.60 | 65F | 39.65 | 1.40 | 373.82 | 13.20 | 3/8" | 22.19 x 2.95 x 1.10 | 5.07 |
| | | | 100F | 8.25 | 35F | 39.65 | 1.40 | 193.99 | 6.85 | 3/8" | 22.19 x 2.95 x 1.10 | 5.07 |
| | | | 100F | 5.20 | -20F | 39.65 | 1.40 | 107.62 | 3.80 | 3/8" | 22.19 x 2.95 x 1.10 | 5.07 |
| DM 22 | 7 | 100 | 100F | 22.00 | 65F | 59.47 | 2.10 | 563.57 | 19.90 | 3/4" | 22.57 x 3.94 x 1.34 | 7.72 |
| | | | 100F | 12.40 | 35F | 59.47 | 2.10 | 291.70 | 10.30 | 3/4" | 22.57 x 3.94 x 1.34 | 7.72 |
| | | | 100F | 7.90 | -20F | 59.47 | 2.10 | 164.26 | 5.80 | 3/4" | 22.57 x 3.94 x 1.34 | 7.72 |
| DM 30 | 7 | 100 | 100F | 29.30 | 65F | 79.30 | 2.80 | 750.48 | 26.50 | 3/4" | 24.59 x 3.94 x 1.34 | 8.38 |
| | | | 100F | 16.50 | 35F | 79.30 | 2.80 | 387.98 | 13.70 | 3/4" | 24.59 x 3.94 x 1.34 | 8.38 |
| | | | 100F | 10.50 | -20F | 79.30 | 2.80 | 218.06 | 7.70 | 3/4" | 24.59 x 3.94 x 1.34 | 8.38 |
| DM 39 | 7 | 100 | 100F | 38.30 | 65F | 118.94 | 4.20 | 965.71 | 34.10 | 3/4" | 27.35 x 3.94 x 1.34 | 9.04 |
| | | | 100F | 24.20 | 35F | 118.94 | 4.20 | 566.40 | 20.00 | 3/4" | 27.35 x 3.94 x 1.34 | 9.04 |
| | | | 100F | 16.00 | -20F | 118.94 | 4.20 | 334.18 | 11.80 | 3/4" | 27.35 x 3.94 x 1.34 | 9.04 |
| DM 49 | 7 | 100 | 100F | 49.30 | 65F | 150.10 | 5.30 | 1246.08 | 44.00 | 3/4" | 29.98 x 3.94 x 1.34 | 9.75 |
| | | | 100F | 28.90 | 35F | 150.10 | 5.30 | 668.35 | 23.60 | 3/4" | 29.98 x 3.94 x 1.34 | 9.75 |
| | | | 100F | 19.00 | -20F | 150.10 | 5.30 | 387.98 | 13.70 | 3/4" | 29.98 x 3.94 x 1.34 | 9.75 |
| DM 59 | 7 | 100 | 100F | 58.10 | 65F | 133.10 | 4.70 | 1512.29 | 53.40 | 1 1/2" | 31.30 x 5.74 x 1.89 | 20.00 |
| | | | 100F | 35.50 | 35F | 181.25 | 6.40 | 824.11 | 29.10 | 1 1/2" | 31.30 x 5.74 x 1.89 | 20.00 |
| | | | 100F | 23.50 | -20F | 181.25 | 6.40 | 484.27 | 17.10 | 1 1/2" | 31.30 x 5.74 x 1.89 | 20.00 |
| DM 89 | 7 | 100 | 100F | 89.50 | 65F | 266.21 | 9.40 | 2268.43 | 80.10 | 1 1/2" | 36.80 x 5.74 x 1.89 | 22.44 |
| | | | 100F | 53.30 | 35F | 266.21 | 9.40 | 1243.25 | 43.90 | 1 1/2" | 36.80 x 5.74 x 1.89 | 22.44 |
| | | | 100F | 35.30 | -20F | 266.21 | 9.40 | 733.49 | 25.90 | 1 1/2" | 36.80 x 5.74 x 1.89 | 22.44 |
| DM 116 | 7 | 100 | 100F | 116.00 | 65F | 368.16 | 13.00 | 2916.96 | 103.00 | 1 1/2" | 42.75 x 5.74 x 1.89 | 24.86 |
| | | | 100F | 71.10 | 35F | 359.66 | 12.70 | 1653.89 | 58.40 | 1 1/2" | 42.75 x 5.74 x 1.89 | 24.86 |
| | | | 100F | 46.80 | -20F | 356.83 | 12.60 | 968.54 | 34.20 | 1 1/2" | 42.75 x 5.74 x 1.89 | 24.86 |

| Pressure Correction Factors | | | | | | | | | |
|-----------------------------|------|------|------|------|------|------|------|------|------|
| Pressure | 60 | 75 | 90 | 100 | 115 | 130 | 145 | 160 | 175 |
| Factor | 0.39 | 0.57 | 0.78 | 1.00 | 1.19 | 1.40 | 1.62 | 1.87 | 2.11 |

Adsorption dryers **BHLD 80 to BHLD 5000**

Adsorption dryer units

Flow capacity: 80 – 5000 cfm



Adsorption dryer

BHLD

heatless adsorption dryers with pre-and after-filters

MICROPROCESSOR CONTROL

The microprocessor control enables energy efficient control of the adsorption dryer. Optional dew point control reduces the regeneration air volume depending on temperature, pressure and output quantity.

FUNCTION DISPLAY

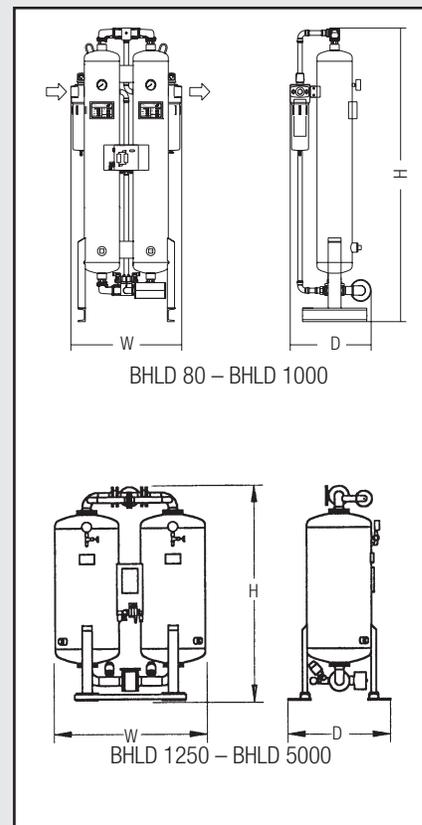
A functional display at the front of the control cabinet permanently indicates operational status. The ten-minute cycle can save up to six percent of energy. The compressor synchronizing control can also offer further energy savings potential.

FILTRATION

The entire range is equipped with both pre and after filter as standard. Even before drying, all solids and aerosols up to 0.01 ppm are removed from the compressed air supply – assuring best possible quality.

LOW RESIDUAL OIL CONTENT

The BHLD series can be equipped with an activated carbon adsorber to ensure a residual oil content of only 0.003 ppm – for the highest quality compressed air.



The all-in one package for dry compressed air: The ideal solution for compressed air pressure dew points below 38°F. The heatless BOGE adsorption dryers can reach dew points of -70°F (standard -40°F). The twin tower system allows regeneration simultaneously with the adsorption eliminating the need for any external power supply.

| BOGE Model | Capacity | | Dimensions H/W/D | Compressed Air Connection | Voltage standard | Weight lbs. |
|-------------|-------------------|------|------------------|---------------------------|------------------|-------------|
| | m ³ /h | cfm | in. | | | |
| BHLD - 80 | 136 | 80 | 77 x 30 x 24 | 3/4" FLG | 110V/60HZ | 384 |
| BHLD - 100 | 170 | 100 | 77 x 30 x 24 | 1" FLG | 110V/60HZ | 550 |
| BHLD - 150 | 255 | 150 | 85 x 34 x 24 | 1" FLG | 110V/60HZ | 600 |
| BHLD - 200 | 340 | 200 | 86 x 34 x 24 | 1½" FLG | 110V/60HZ | 850 |
| BHLD - 250 | 425 | 250 | 87 x 46 x 30 | 1½" FLG | 110V/60HZ | 975 |
| BHLD - 300 | 510 | 300 | 87 x 46 x 30 | 1½" FLG | 110V/60HZ | 1050 |
| BHLD - 350 | 595 | 350 | 89 x 46 x 30 | 2" FLG | 110V/60HZ | 1100 |
| BHLD - 450 | 765 | 450 | 91 x 50 x 30 | 2" FLG | 110V/60HZ | 1200 |
| BHLD - 500 | 850 | 500 | 91 x 50 x 30 | 2" FLG | 110V/60HZ | 1250 |
| BHLD - 600 | 1019 | 600 | 91 x 50 x 30 | 2" FLG | 110V/60HZ | 2000 |
| BHLD - 750 | 1274 | 750 | 93 x 66 x 40 | 3" FLG | 110V/60HZ | 2700 |
| BHLD - 1000 | 1699 | 1000 | 98 x 70 x 40 | 3" FLG | 110V/60HZ | 3900 |
| BHLD - 1250 | 2124 | 1250 | 98 x 70 x 40 | 3" FLG | 110V/60HZ | 4090 |
| BHLD - 1500 | 2549 | 1500 | 109 x 93 x 50 | 4" FLG | 110V/60HZ | 5500 |
| BHLD - 2000 | 3398 | 2000 | 109 x 93 x 50 | 4" FLG | 110V/60HZ | 6000 |
| BHLD - 2500 | 4248 | 2500 | 115 x 112 x 60 | 4" FLG | 110V/60HZ | 6800 |
| BHLD - 3000 | 5097 | 3000 | 120 x 120 x 70 | 6" FLG | 110V/60HZ | 9000 |
| BHLD - 3500 | 5947 | 3500 | 125 x 120 x 70 | 6" FLG | 110V/60HZ | 9600 |
| BHLD - 4000 | 6796 | 4000 | 128 x 120 x 75 | 6" FLG | 110V/60HZ | 10500 |
| BHLD - 4500 | 7646 | 4500 | 130 x 130 x 80 | 6" FLG | 110V/60HZ | 11000 |
| BHLD - 5000 | 8495 | 5000 | 135 x 130 x 80 | 6" FLG | 110V/60HZ | 12300 |

Capacity correction factors for system air pressure (C₁)

| | | | | | | | | | | |
|------------------------|------|------|------|------|-----|------|------|------|------|------|
| System Pressure (psig) | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
| Correction Factor | 0.65 | 0.73 | 0.82 | 0.91 | 1 | 1.09 | 1.18 | 1.27 | 1.35 | 1.44 |

Capacity correction factors for inlet air temperature (C₂)

| | | | | | | | | |
|------------------------|-----|------|-----|-----|-----|-----|-----|-----|
| Inlet Temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 | 115 | 120 |
| Correction Factor | 1.2 | 1.15 | 1.1 | 1 | 0.9 | 0.8 | 0.7 | 0.6 |

*For inlet temperatures above 100°F, molecular sieve desiccant is required.

Example Compressed air to be dried to -40°

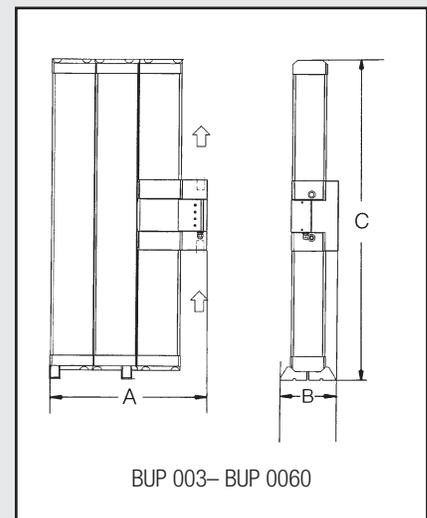
| | | | |
|-------------------------|----------|---|--|
| | | a) To calculate the specific dryer capacity | |
| Given Flow | 350 scfm | | |
| Min. operating pressure | 120 psig | | |
| Max. inlet temperature | 100 °F | | |
| Pressure dew point | -40 °F | | |
| | | $= \frac{\text{eff. capacity}}{\text{factor from table}} = \frac{350 \text{ scfm}}{1.18 \times 1.0} = 296.6 \text{ - SCFM} = \text{Model BLHD - 300}$ | |

Heatless adsorption dryer

BUP 0003 to BUP 0060

Flow capacity: 3 – 60 cfm

Max. operating pressure: 250 psi



INLET AND OUTLET VALVES

The generously dimensioned inlet and outlet valves ensure a lower pressure differential across the dryer. Energy savings are therefore possible due to tighter operating pressure band.

REGENERATION

The twin tower system allows regeneration simultaneously with the adsorption eliminating the need for any external power supply. The wet tower is purged via a stream of dry air that is finally vented to atmosphere.

FILTRATION

The entire range is equipped with both pre and after filter as standard. Even before drying, all solids and aerosols up to 0.01 μm are removed from the compressed air supply – assuring best possible quality.

DEW POINT CONTROL

The entire series is available with dew point control that minimizes the regeneration air volume depending on temperature, pressure and output quantity thus reducing operating costs.

The easy way to dry compressed air: The standard BOGE adsorption dryers achieve a pressure dew point of -40°F. They can be configured to reach -70°F. Such dewpoints eliminate the risk of downstream condensate especially in the case of an external air line. Adsorption dryers do not contain any CFCs and are therefore neither ozone depleting nor do they have any impact on the environment.

| BOGE Model | Capacity* | | Regeneration Air (14.5 psi. +68°F) | | Air Outlet (minimal) (14.5 psi. +68°F) | | Pressure Loss New Condition psi | Dimensions H/W/D in. | Compressed Air Connection | Weight lbs |
|------------|-----------|-----|------------------------------------|------|--|------|------------------------------------|-------------------------|---------------------------|---------------|
| | m³/h | cfm | m³/h | cfm | m³/h | cfm | | | | |
| BUP 0003 | 5 | 3 | 0.85 | 0.5 | 4.1 | 2.4 | .94 | 12 x 5 x 14 | ½" NPT | 15 |
| BUP 0005 | 10 | 5 | 1.70 | 1.0 | 8.1 | 4.8 | 1.37 | 12 x 5 x 23 | ½" NPT | 24 |
| BUP 0010 | 15 | 10 | 2.55 | 1.5 | 12.2 | 7.2 | 1.67 | 12 x 5 x 34 | ½" NPT | 33 |
| BUP 0015 | 25 | 15 | 4.25 | 2.5 | 20.3 | 11.9 | 3.63 | 12 x 5 x 55 | ½" NPT | 53 |
| BUP 0020 | 35 | 20 | 5.95 | 3.5 | 28.4 | 16.7 | 1.09 | 21 x 7 x 26 | 1" NPT | 64 |
| BUP 0030 | 50 | 30 | 8.50 | 5.0 | 40.6 | 23.9 | 1.45 | 21 x 7 x 36 | 1" NPT | 84 |
| BUP 0040 | 65 | 40 | 11.10 | 6.5 | 52.8 | 31.1 | 1.81 | 21 x 7 x 46 | 1" NPT | 106 |
| BUP 0050 | 80 | 50 | 13.60 | 8.0 | 65.0 | 38.2 | 2.47 | 21 x 7 x 56 | 1" NPT | 125 |
| BUP 0060 | 100 | 60 | 17.00 | 10.0 | 61.3 | 36.0 | 3.63 | 21 x 7 x 66 | 1" NPT | 147 |

Design: BUP 0003 - BUP 0060, Correction factor f

| Temperature | Operating pressure psi | | | | | | | | | | | | |
|-------------|------------------------|------|------|-------------|------|------|------|------|------|------|------|------|------|
| | 58 | 73 | 87 | 102 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| 77°F | 0.69 | 0.82 | 0.96 | 1.10 | 1.24 | 1.38 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| 86°F | 0.69 | 0.82 | 0.96 | 1.10 | 1.24 | 1.38 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| 95°F | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 | 1.26 | 1.38 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| 104°F | 0.48 | 0.58 | 0.68 | 0.77 | 0.87 | 0.96 | 1.06 | 1.16 | 1.25 | 1.35 | 1.45 | 1.50 | 1.50 |
| 113°F | 0.38 | 0.45 | 0.53 | 0.60 | 0.68 | 0.75 | 0.83 | 0.90 | 0.98 | 1.05 | 1.13 | 1.20 | 1.28 |
| 122°F | 0.30 | 0.36 | 0.42 | 0.48 | 0.54 | 0.60 | 0.66 | 0.72 | 0.78 | 0.84 | 0.90 | 0.96 | 1.02 |

Example Compressed air to be dried.

| | | |
|-------------------------|----------|--|
| Volume Flow | 350 scfm | <p>a) To calculate the specific dryer capacity</p> $= \frac{V_{\text{corr}}}{V_{\text{norm}}} = \frac{V_{\text{norm}}}{f} = \frac{34 \text{ cfm}}{1.38} = \mathbf{24.6 \text{ cfm}}$ |
| Min. operating pressure | 150 psig | |
| Max. inlet temperature | 100 °F | |
| Pressure dew point | 1.38 | |

Selected type BUP 0003.

Cyclone separator Z 20 to Z 375



LAYOUT

The cyclone separator is ideally suited as a bulk water separator when located before a refrigerant dryer or directly after the compressor if no air receiver is used; or if it is placed at a distance; or if the compressed air supply pipe is mounted vertically.

EFFICIENCY

Apart from the drain, the cyclone separator operates wear free because there are no moving parts which means increased output of the compressed air treatment system.



MINIMAL PRESSURE LOSS

There is a minimal pressure loss across a cyclone separator which means that operating pressure is always optimized – saving energy.

Drains

A time controlled condensate drain is fitted as standard. An electronically level controlled, zero-loss, BOGEmat condensate drain can be fitted as an option assuring increased compressed air treatment safety and lower energy costs.

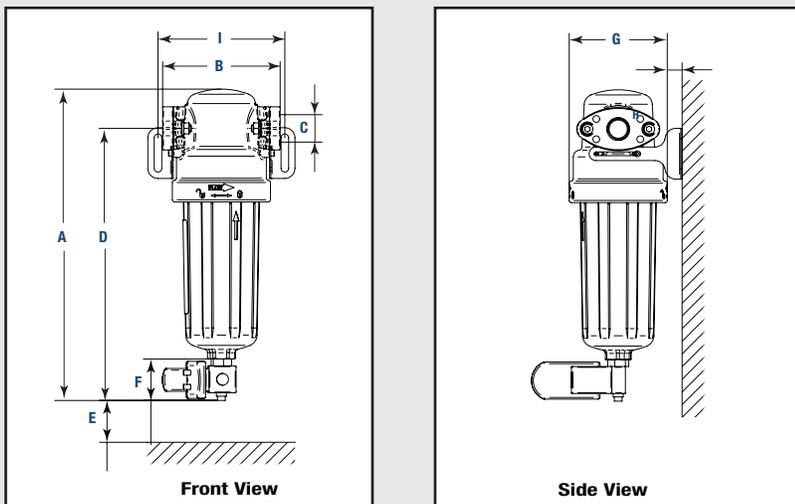


Flow Optimized Design

Operating principle

DF-C Cyclone Separators deliver high separation efficiency at low pressure drop through an optimal flow-path design. An innovative insert in the cyclone head creates centrifugal action that forces liquid and particulate to the housing wall. Friction with the housing causes the liquid and particulate to lose part of their kinetic energy and drop out of the higher moving airstream. Collected condensate is removed by a time controlled condensate drain, while the purified compressed air or gas exits to the industrial application downstream.

Maintenance free filtration: The BOGE heavy-duty cyclone separators take liquids, aerosols and solids from the compressed air. Based on the law of inertia they operate with practically no maintenance – ideally suited for compressed air systems without an air receiver when directly installed downstream of the compressor.



| size | Flow Rate** scfm | Volume gal | Weight lbs. | Dimensions (inches) | | | | | | | | |
|-------|---------------------|---------------|----------------|---------------------|------|--------------|------|------|------|------|--------------|-----|
| | | | | A | B | C in fopt | D | E | F | G | H min/max | I |
| Z20N | 80 | 0.106 | 3.5 | 11.14 | 4.06 | ½" | 9.6 | 4.53 | 1.93 | 3.35 | 0.88 / 2 | 4.2 |
| Z35N | 140 | 0.304 | 5.9 | 14.51 | 5.5 | ½" | 12.7 | 7.1 | 1.93 | 4.6 | 0.88 / 2.8 | 5.9 |
| Z53N | 210 | 0.304 | 5.9 | 14.51 | 5.5 | 1" | 12.7 | 7.1 | 1.93 | 4.6 | 0.88 / 2.8 | 5.9 |
| Z75N | 300 | 1.32 | 6.4 | 22.5 | 7.5 | 1½" | 20 | 9.8 | 1.93 | 6.3 | 0.88 / 13.56 | 7.5 |
| Z125N | 490 | 1.32 | 6.4 | 22.5 | 7.5 | 2" | 20 | 9.8 | 1.93 | 6.3 | 0.88 / 13.56 | 7.5 |
| Z188N | 720 | 1.32 | 6.4 | 22.5 | 7.5 | 2" | 20 | 9.8 | 1.93 | 6.3 | 0.88 / 13.56 | 7.5 |

** Nominal flow at 100 psig, scfm related to 14.7 psia.

| Capacity Correction Factors | | | | | | | |
|---|------|------|------|------|------|------|------|
| System Air Pressure (psig) | 15 | 30 | 45 | 60 | 75 | 90 | 100 |
| Correction Factor | 0.26 | 0.39 | 0.52 | 0.65 | 0.78 | 0.91 | 1 |
| Capacity Correction Factors (continued) | | | | | | | |
| System Air Pressure (psig) | 115 | 130 | 150 | 175 | 200 | 225 | 250 |
| Correction Factor | 1.13 | 1.27 | 1.44 | 1.6 | 1.87 | 2.09 | 2.31 |

Capacity based on 100 psig inlet pressure; 14.7 psia and 68 °F ambient conditions.

Particulate filters **BDF 0120** to **BDF 2500**

Microfilter and Activated Carbon Filters



Pre-filter **BV**

EFFICIENT

BOGE pre-filters are 99.99 percent efficient based on 3 μm , thus providing optimal conditions for further compressed air treatment.

LAYOUT

It is recommended that a pre-filter is positioned upstream of the compressed air dryer and the microfilter. They are essential when ambient air is extremely dusty or when high oil carry over is a risk.



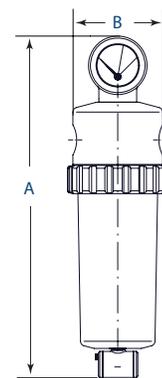
Microfilter **BM** and active carbon filter **BA**

EFFICIENT

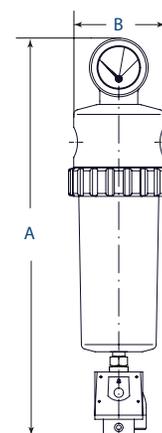
BOGE microfilters are 99.99 percent efficient based on 0.01 μm . The residual oil content after a microfilter is 0.01 ppm, and reduced to 0.005 ppm when used in combination with active carbon filters.

LAYOUT

Microfilters with or without active carbon filters are best used as main filters in the compressed air line or as point of use filters.



Standard Filter
with Float-Type Condensate
Drain Valve



Standard Filter w/Optional
Zero Air-Loss Condensate
Drain Valve

Differential pressure and efficiency

| | BM Series | BA Series | BV Series |
|--|---|----------------------------------|--|
| Differential pressure in clean condition | Δp 1.3 psid | Δp 1.45 psi | Δp 0.7 psi |
| Efficiency | 99.99999 % relative to 0.01 μm Residual oil content max. 0.01 ppm | Residual oil content = 0.003 ppm | 90% on ISO fine dust Residual Oil content 1 ppm |

Higher pressures and capacities are available upon request

For ultra clean compressed air in extreme conditions: Compressed air treatment is achieved in several stages. Pre-filters are used to separate coarse impurities from the compressed air. Smaller solids and oil can be removed by means of microfilters. Finally active carbon filters are used to clean oil vapors, aromatics, flavorings and odors from the compressed air. This assures oil free and clean compressed air even in extreme conditions!

| Model | Capacity scfm | Connection in. inpt | Element | | Dimensions (in) | | Weight lbs. | Filter Element type |
|---------------------------|------------------|------------------------|---------|----------|-----------------|-----|----------------|------------------------|
| | | | size | quantity | H | W | | |
| BDF Series Filters | | | | | | | | |
| BDF 0120 | 70 | 1/2" | 0120 | 1 | 13.5 | 4.5 | 2 | BM,BV |
| BDF 0210 | 123 | 3/4" | 0210 | 1 | 14.5 | 6 | 5 | BM,BV |
| BDF 0320 | 188 | 1" | 0320 | 1 | 17.5 | 6 | 5 | BM,BV,BA |
| BDF 0450 | 264 | 1 1/4" | 0450 | 1 | 23 | 7.5 | 12 | BM,BV |
| BDF 0600 | 353 | 1 1/2" | 0600 | 1 | 23 | 7.5 | 12 | BM,BV |
| BDF 0750 | 441 | 2" | 0750 | 1 | 23 | 7.5 | 12 | BM,BV |
| BDF 1100 | 647 | 2" | 1100 | 1 | 30 | 7.5 | 16 | BM,BV,BA |
| BDF 1700 | 1000 | 2 1/2" | 2030 | 1 | 37 | 7 | 29 | BM,BV,BA |
| BDF 2500 | 1500 | 3" | 3030 | 1 | 47 | 7 | 31 | BM,BV,BA |

Filter capacity based on nominal operating conditions at 100 psig inlet pressure at 100°F as per ISO 12500
 Maximum operating pressure 250 psig
 Maximum operating inlet temperature 150°F

Conversion factor f at other operating pressures

| PSI Over-pressure | 15 | 30 | 45 | 60 | 75 | 90 | 100 | 130 | 150 | 160 | 175 | 190 | 200 | 220 |
|-------------------|------|------|-----|-----|------|-----|-----|-----|-----|-----|-----|------|-----|-----|
| f = | 0.25 | 0.36 | 0.5 | 0.6 | 0.75 | 0.9 | 1 | 1.2 | 1.4 | 1.5 | 1.6 | 1.75 | 1.9 | 2 |

Higher pressures and capacities are available upon request

Filter types

| BV - Particulate / Coalescing Filter | | |
|---|--------------|-------------------------|
| Initial Dp | Residual Oil | Particle Retention Rate |
| 0.7 (psid) | 1 ppm | 90% on ISO fine dust |
| BM - Coalescing Filter | | |
| Initial Dp | Residual Oil | Particle Retention Rate |
| 1.3 (psid) | 0.004 ppm | 99.9999% on .01 micron |
| BA - Activated Carbon Filter | | |
| Initial Dp | Residual Oil | Particle Retention Rate |
| 1.45 (PSID) | <0.003 ppm | N/A |

BOGE condensate drains



Float operated condensate drains

NO COMPRESSED AIR LOSSES

Float operated drains only open when there is condensate to remove. That means that compressed air losses are avoided.

SIMPLE OPERATING PRINCIPLE

Float operated drains work very simply however they are more sensitive to dirt and require regular maintenance.



Bekomat electronic level-controlled condensate drains

ZERO COMPRESSED AIR LOSSES

An electronic sensor ensures the drain only works when there is condensate to discharge – this is done without any air losses. The intelligent electronic controller ensures loss free discharge and also monitors the condition of the drain.

CONTROL FUNCTION

An LED display indicates the operating condition of the drain. A potential free contact (not available in Bekomat 31) allows remote monitoring – for high operating safety.

Level controlled condensate drains: Condensate is a by-product of compressing air. The amount produced depends entirely on humidity, ambient temperatures and the volume of air generated. Condensate is produced in different quantities in different places within the compressed air network, i.e. when the temperature of the compressed air falls below the pressure dew point. Due to their absolute reliability BOGE condensate drains stand for safe and efficient condensate management.

Electronic level controlled

| BOGE Model | Max. compressor output cfm | Max. dryer output cfm 100% saturated | use for | Dimensions W x H in. | Connection In/Out |
|---------------|-------------------------------|---|---------|-------------------------|----------------------|
| Bekomat 31 | 100 | 200 | a, b | 6.5 x 4.6 | NPT 1/2 / BSP 1/4 |
| Bekomat 32 | 225 | 450 | a, b | 6.7 x 5.0 | NPT 1/2 / BSP 1/4 |
| Bekomat 33 | 500 | 1000 | a, b | 8.3 x 6.2 | NPT 1/2 / BSP 1/2 |
| Bekomat 13 | 1300 | 2600 | a | 8.4 x 6.4 | NPT 1/2 / BSP 1/2 |
| Bekomat 14 | 5400 | 10800 | a | 9.9 x 7.1 | NPT 3/4 / BSP 1/2 |
| Bekomat 16 CO | 50000 | 100000 | a, b | 11.3 x 11 | NPT 3/4 / BSP 1/2 |

a = condensate with oil

b = oilfree, aggressive condensate

BOGE Oil/Water Separator



LARGE OVERFLOW

The large overflow is designed to prevent emulsions from impairing the function of the oil/water separator. Oil backup in the filter is thus avoided.

EFFICIENCY

BOGE oil/water separators are available in a number of sizes. They require no energy nor very much maintenance.



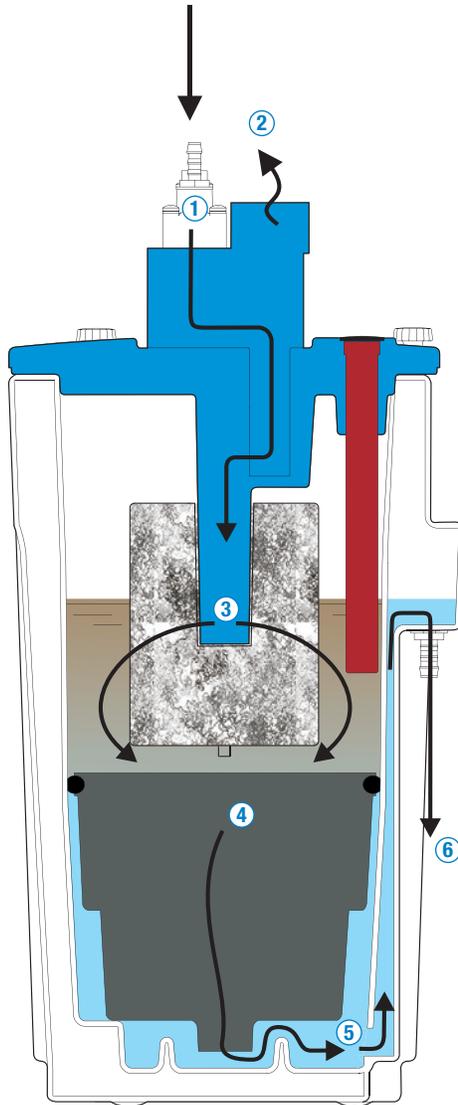
SIMPLIFIED SERVICE / NO MESS

Our cartridge based system is lightweight and easy to change making service quick and efficient. This system also allows the exterior of the unit to remain clean and dry without making an oily mess.

Unique Adsorption Material

Condensate separation takes place in the QWIK-PURE without using an activated carbon. Instead, we have opted for a unique filling material that has not only increased performance, but is by far lighter and cleaner than traditional oil/water separators on the market today.

Superior Condensate Separation Technology: Legislation demands that compressor condensate must be treated prior to discharge into a foul water network. In the case of a simple suspension, oil or emulsions can be separated from water by superior condensate separation technology, on site, by using a cost effective BOGE oil/water separator.



THE OPERATING PRINCIPLE: YOUR GUARANTEE FOR COST-EFFECTIVE CONDENSATE TREATMENT

The oil contaminated condensate flows under pressure into the newly designed pressure relief chamber. ① Here, the pressure is released without creating turbulence downstream ② of the condensate inlet. The oil contaminated condensate flows into the high volume pre-filter ③, which is characterized by its ideal flow pattern from the inside to the outside. Here the remaining oil droplets are bound to the pre-filter. It also deals with any residual floating oil in the upper chamber.

As the pre-treated condensate enters the main cartridge the remaining oil is absorbed and locked into our advanced filter material where it cannot escape. ④ The condensate is now fully treated and flows around the lower chamber wall toward the clean water outlet. ⑤

The final result is purified water suitable for discharge directly into the sewer system. ⑥ Thanks to the cartridge technology, filter replacement is both quick and clean; and all without the use of activated carbon.

| BOGE Type | Compressor Performance | | Piston Compressor | | Rotary Screw Compressor | | | Dimensions |
|---------------|------------------------|-----------------|-------------------|----------------|-------------------------|------------------|----------------------|-------------|
| | Compressor hp | Compressor scfm | Mineral Oils | Synthetic Oils | Mineral Oils | PAO/Diester Oils | Polyglycol/Synthetic | D x H in. |
| QWIK-PURE 25 | 25 | 113 | 50 | 50 | 25 | 50 | 50 | 7.9 x 20.7 |
| QWIK-PURE 50 | 50 | 225 | 100 | 100 | 50 | 100 | 100 | 15.2 x 23.4 |
| QWIK-PURE 100 | 100 | 450 | 200 | 350 | 100 | 200 | 200 | 18.1 x 24 |
| QWIK-PURE 200 | 200 | 900 | 350 | | 200 | 350 | 2 X 200 | 23.2 x 43.7 |
| QWIK-PURE 350 | 350 | 1575 | | | 350 | 2 X 350 | 2 X 350 | 28.3 x 46.5 |

The cartridge lifetime is typically 6 months or 3000 operating hours depending on type of compressor employed, compressor lubricant, compressor load, ambient temperature, compressed air temperature and various other conditions.

READY FOR ACTION WORLDWIDE:

BOGE Service Support – Worldwide



BOGE
COMPRESSED AIR SYSTEMS

SERVICE

Service / Maintenance

Service support solutions including contracts covering repair and even warranty extension. Routine maintenance according to our flat rate service plan as well as inspection and breakdown cover.

Extended Warranty

Extension of your factory warranty up to 5 years with the BOGE best^{cair}: for total security and back-up.

Maintenance & Repair

Options include; long-term fixed cost maintenance plans, a flat rate for all types of service and spare parts with a possible warranty extension up to 5 years.

Commissioning

Connection and adjustment of all equipment at your facility: a fast and dependable service delivered by qualified BOGE service technicians. Full installation on request.

24 Hour Helpline

Emergency helpline for trouble shooting and technical support: available any time around the clock!

COMPRESSED AIR FLAT RATE

A comprehensive service plan created to satisfy your individual requirements: e.g. taking responsibility for the compressed air station at your facility including complete plant management for a monthly flat rate irrespective of hours of operation (energy costs not included).

FLEXIBLE SERVICE

This BOGE service program has been developed to adapt to each customer's unique requirements. It is our objective to create a tailor-made BOGE service package covering inspection, service and breakdown, with customized warranty arrangements as well as complete all-in service contracts.

Please contact us to help you determine the type of service best suited to meet your needs: Just email us at usa@boge.com or call us +1 770.874.1570 – our service specialists will be in touch with you shortly!

Service your added value! Maximized reliability and economic efficiency are not the only technical advantages that BOGE has to offer. Our comprehensive service support program will ensure your BOGE compressed air system remains in tip top condition. Wherever you need us, whatever we can do for you: BOGE Service Support is always readily available close by – competent, to the highest standards, and always one step ahead.



BOGE CAIRPLAN

BOGE bestcair enables you to extend your factory warranty up to 5 years: 1 years factory warranty with 4 years additional bestcair warranty – the choice is yours. Furthermore, bestcair ensures manufacturer's recommended maintenance schedule of new and existing equipment at the specified service intervals.

BOGE ORIGINAL PARTS

Only original BOGE spare parts have the manufacturer's technological edge. You can be confident when opting for BOGE original spare parts in the service of your BOGE compressed air system will ensure that the integrity of the compressor is maintained, efficiency is retained and your peace of mind is sustained.

ALWAYS NEARBY

BOGE has a network of dedicated service technicians and certified partners at its disposal to help you worldwide with your installation, upgrading, commissioning or approval, maintenance, repair, or inspection: You can rely on the know-how and experience of our qualified experts – at all times.

Hotline Mobile Service: 1.770.874.1570



EMERGENCY ASSISTANCE

In the case of an emergency where immediate technical support is required, the BOGE product support trouble shooters or the BOGE Helpline team are available to you 24/7.

BOGE Helpline: 1.770.874.1570

AIR AUDITS

By analyzing your existing compressed air system, our energy efficiency experts can identify where savings can be made. The BOGE AIRreport includes measurement of: dew point control, vibration control, leakage, noise, oil check and TAN check.

TRAINING COURSES

The BOGE Compressed Air College was established in order to train and certify internal employees and external partners as qualified BOGE Service Technicians. Attendance of training courses held in the in-house training center further assist in refreshing existing BOGE Service Technician's knowledge at regular intervals.

For four generations, customers from mechanical engineering, industry and trade have relied on BOGE know-how when it comes to planning, developing and manufacturing compressed air systems. They are fully aware of the fact that BOGE AIR is more than just ordinary compressed air: utmost safety, outstanding efficiency, excellent quality, maximized flexibility along with dependable service are the ingredients to transform BOGE AIR into air to work with – in Germany, in Europe and in more than 80 countries around the world.

Our ranges of services include the following:

- Energy efficient systems development
- Plant design and engineering
- System control and visualizing
- Oil-free piston, screw compressors
- Oil injected screw compressors
and oil lubricated piston compressors
- Compressed air treatment
- Compressed air distribution and storage
- Compressed air accessories
- Compressed air service



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