

# Refrigeration Compressed Air Dryer

**BOREAS**



**c**  **us**  
**LISTED**  
**SA 10724**

**Member of**  
  
**CAGI**  
AND GAS INSTITUTE®



## Why treat compressed air?

Compressed air is an important and indispensable drive and process medium in almost all productive and treatment ranges: something natural which should be there in any case. Therefore, treatment of compressed air is important for your operating expenses since the total costs are considerably influenced by it.

## There is more to compressed air than just compressing air

Compressed air is generated by compressing ambient air. This often contains contaminants and in all cases humidity in the form of water vapour, which can condense in the compressed air in an uncontrolled way. It will then lead to operation failures and to considerable costs which can be avoided, however.

## BOREAS: reliable and safe

The refrigeration compressed air dryers BOREAS DSM series are produced with 3 housing sizes and 10 types in total. They are therefore the optimal and appropriate solution for each field of application. These dryers are available air- or water-cooled for capacities from 1,200 to 7,400 cfm of airflow. BOREAS dryers can optionally be equipped

with ultrasonic, a pressure dew point monitoring system containing a dew point sensor directly placed at the compressed air outlet. This sensor generates an alarm when a programmed limiting value is exceeded. The microprocessor controlled SAB-processor is a standard equipment.

## Responsibility and warranty

When it comes to quality, we do not make any compromises. Intelligent, perfected technology of the best quality: that's our strength and the basis of our success. We have very simple and clear principles which are written down in the Quality Control Manual in accordance with DIN EN ISO 9001.

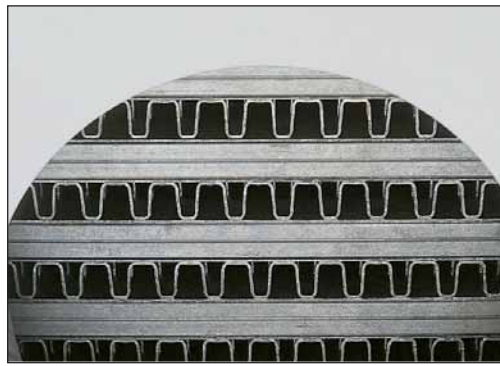
CAGI ADF 100 is taken as a standard for the evaluation of the given performance data of refrigeration compressed air dryers.

„Certified Performance – Certified Safety“ means more than just standards - all performance data are constantly tested and confirmed by the independent „Fraunhofer“-Institute. In addition to this our equipment is subject to security inspections of cUL.



## The BOREAS DSM series and its significant advantages:

- Low pressure drop due to large flow channels
- Pollution repellent aluminium plates
- Cyclone separator
- Microprocessor controlled zero loss drain
- SAB-Processor SP 3
- Constant pressure dew point by means of thermostatic expansion valve and power control
- Electronic control of major functions by state-of-the-art technology
- Space-saving installation by front operating elements, condensate drain and cooling air inlet
- Application of solid, fully hermetic refrigerant compressors
- Galvanised, stove-enamel sheet steel case in modern industrial design
- No TÜV-approval required
- cUL approval



Aluminium heat exchangers with large flow channels

### SAB-Processor SP 3

The microprocessor controlled monitoring system SAB-processor SP 3 controls operating data such as:

Current temperatures values · Alarms · Operating hours

It records and stores:

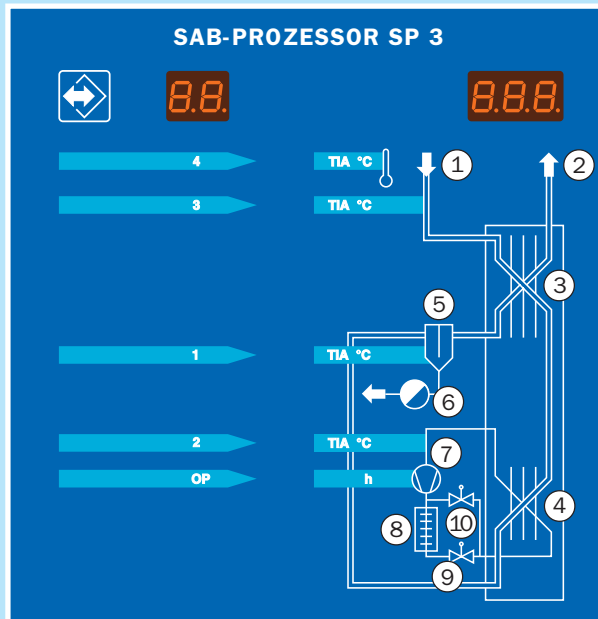
The development of the temperatures over the last 24 hours of operation · The previous 8 alarm messages including date, time and the corresponding temperature · The temperature development prior to the last alarm · Total of alarm and fault messages since commissioning · Date and time of commissioning.

Dry contacts for pressure dew point-alarm and general-alarm.

### Compressed air dryer BOREAS DSM

- 1 Compressed-air inlet
- 2 Compressed-air outlet
- 3 Air-to-air heat exchanger
- 4 Refrigerant-to-air heat exchanger
- 5 Condensate separator
- 6 Microprocessor controlled condensate drain
- 7 Hermetically sealed refrigerant compressor
- 8 Refrigerant condenser
- 9 Thermostatic expansion valve
- 10 Refrigerant capacity control

\* All BOREAS DSM dryers are equipped with **ultram** as standard - the automatic level controlled, zero air loss electronic condensate drain, coated for use with oilfree aggressive condensate.





## Technical data Boreas DSM

| Model          | Volume flow<br>cfm | Cooling air<br>cfm | Power consumption<br>kW | Max. working pressure<br>psig | Pressure drop<br>psig | Air connection<br>ANSI Flange | Condensate drain | Refrigerant | Weight<br>lbs. |      |
|----------------|--------------------|--------------------|-------------------------|-------------------------------|-----------------------|-------------------------------|------------------|-------------|----------------|------|
| Housing Type 1 | SD 1200 A60        | 1200               | 5880                    | 3.78                          | 150                   | 2.9                           | 4"               | 3/4"        | R 134 a        | 948  |
|                | SD 1400 A60        | 1400               | 5880                    | 4.44                          | 150                   | 3.1                           | 4"               | 3/4"        | R 134 a        | 992  |
|                | SD 1600 A60        | 1600               | 5880                    | 5.28                          | 150                   | 3.6                           | 4"               | 3/4"        | R 134 a        | 1014 |
|                | SD 2000 A60        | 2000               | 5500                    | 6.84                          | 150                   | 2.3                           | 6"               | 3/4"        | R 134 a        | 1322 |
|                | SD 2400 A60        | 2400               | 5500                    | 7.56                          | 150                   | 3.2                           | 6"               | 3/4"        | R 134 a        | 1345 |
| SD 3000 A60    | 3000               | 5500               | 9.84                    | 150                           | 3.6                   | 6"                            | 3/4"             | R 134 a     | 1422           |      |
| 2              | SD 4000 W60        | 4000               | water cooled            | 11.3                          | 150                   | 3.1                           | 8"               | 3/4"        | R 134 a        | 2227 |
|                | SD 5000 W60        | 5000               | water cooled            | 13.8                          | 150                   | 3.1                           | 8"               | 3/4"        | R 134 a        | 2602 |
| 3              | SD 6200 W60        | 6200               | water cooled            | 20.0                          | 150                   | 3.0                           | 10"              | 3/4"        | R 134 a        | 3212 |
|                | SD 7400 W60        | 7400               | water cooled            | 23.5                          | 150                   | 3.0                           | 10"              | 3/4"        | R 134 a        | 3674 |

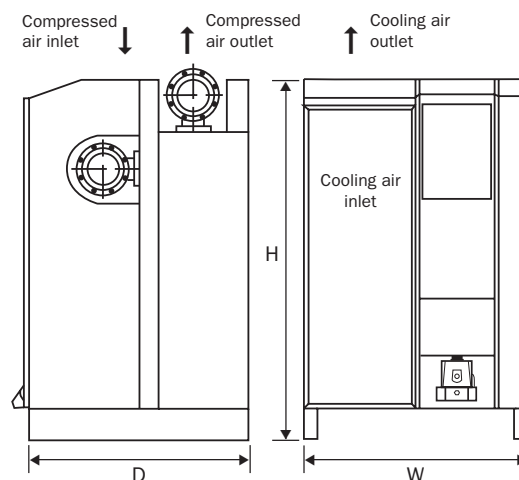
| Main Dimensions | Width inches | Height inches | Depth inches |
|-----------------|--------------|---------------|--------------|
| Housing Type 1  | 48           | 75            | 48           |
| Housing Type 2  | 88           | 75            | 48           |
| Housing Type 3  | 88           | 93            | 59           |

### Standard equipment

- Fully hermetic and maintenance-free refrigerant compressor
- Refrigerant condenser
- Aluminium air/air and refrigerant/air-heat exchanger
- Maintenance-free separator
- Electronically level-controlled condensate drain, ultramat
- Refrigerant capacity control
- Thermostatic expansion valve
- Insulation free of CFC
- Galvanised, stove-enamel sheet steel case
- Dry contact for general alarm
- Dry contact for dew point alarm
- Working hour meter

### Special equipment

- Standard bypass feeder
- Special varnish
- 50 Hz operation
- Water cooled condenser
- Energy saving application
- ultrasonic
- Antifreezing indoor installation



### Product range:

|                              |                |
|------------------------------|----------------|
| Cyclone Separator:           | 70 – 8,600 cfm |
| High-capacity filters:       | 3 – 16,000 cfm |
| Compressed air fridge dryer: | 5 – 7,400 cfm  |
| Adsorption dryer:            |                |
| – ultrapac 2000              | 3 – 60 cfm     |
| – ultrapac classic           | 3 – 5,000 cfm  |
| – oilfreepac                 | 3 – 5,000 cfm  |
| Condensate Management:       |                |
| – ultramat condensate drains |                |
| – ultrasep superplus UFS-SP  | 75 – 4,000 cfm |

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