

THE SECCANT RANGE

Regenerative dryer for air and gas

- › 1500 – 3500 l/min
- › 90 – 420 bar

- › EASY INTEGRATION
- › B-CONTROL COMPRESSOR CONTROL
- › OPTIONAL FILTER MONITORING
- › GAS-TIGHT HELIUM CONSTRUCTION



Drying air and gases economically. At high pressures and high throughput. This is the strong point of the SECCANT regenerative dryer from Bauer.

For dehumidifying and purifying air, nitrogen and rare gases, the SECCANT regenerative dryers offer a tailor-made system solution for every application. For solutions requiring absolute continuous operation, where the processes do not permit any interruption, can also be used in combination with a bypass filter system from BAUER.

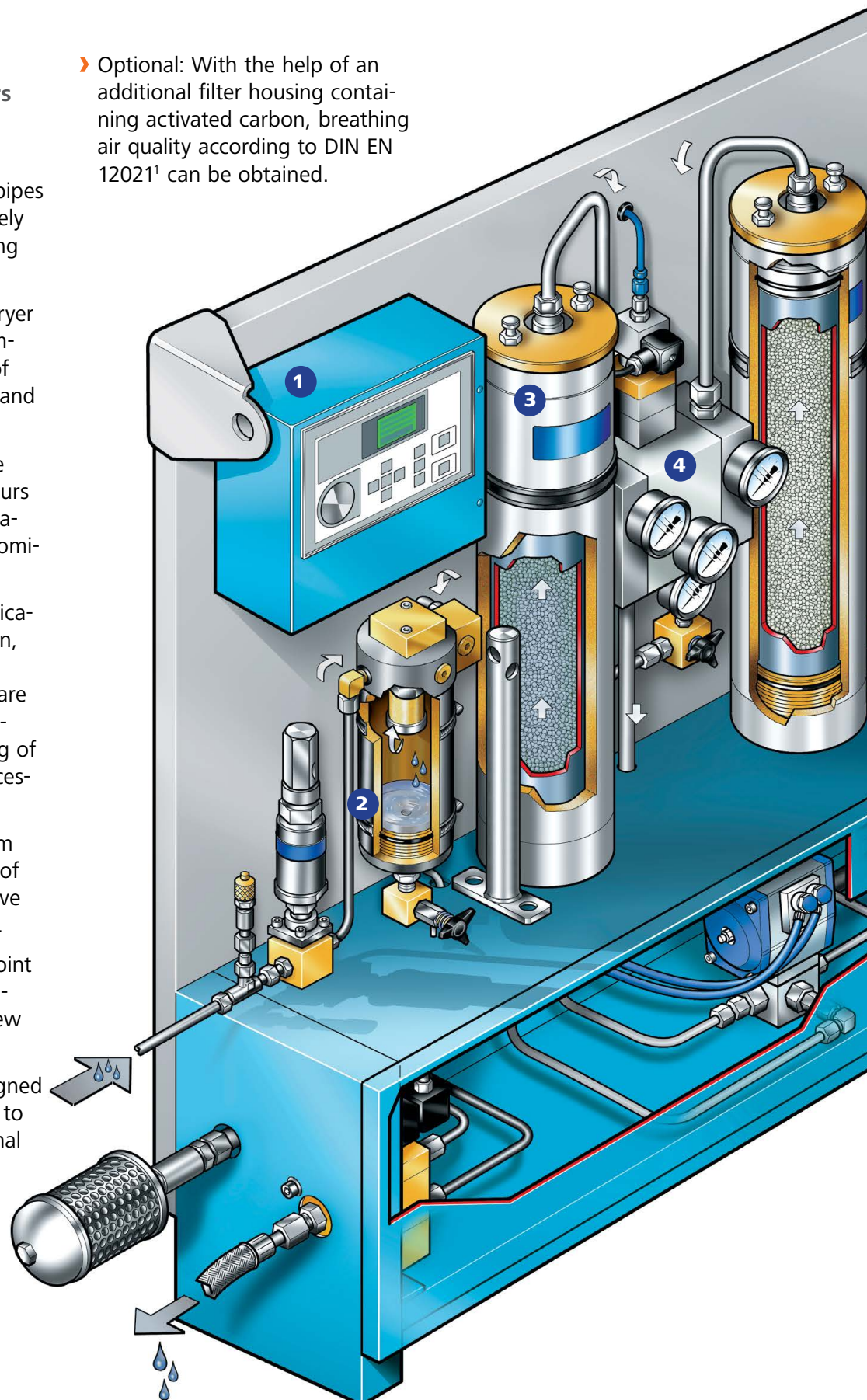
By means of an external control room, online control and online monitoring of SECCANT and the compressor unit can be implemented.

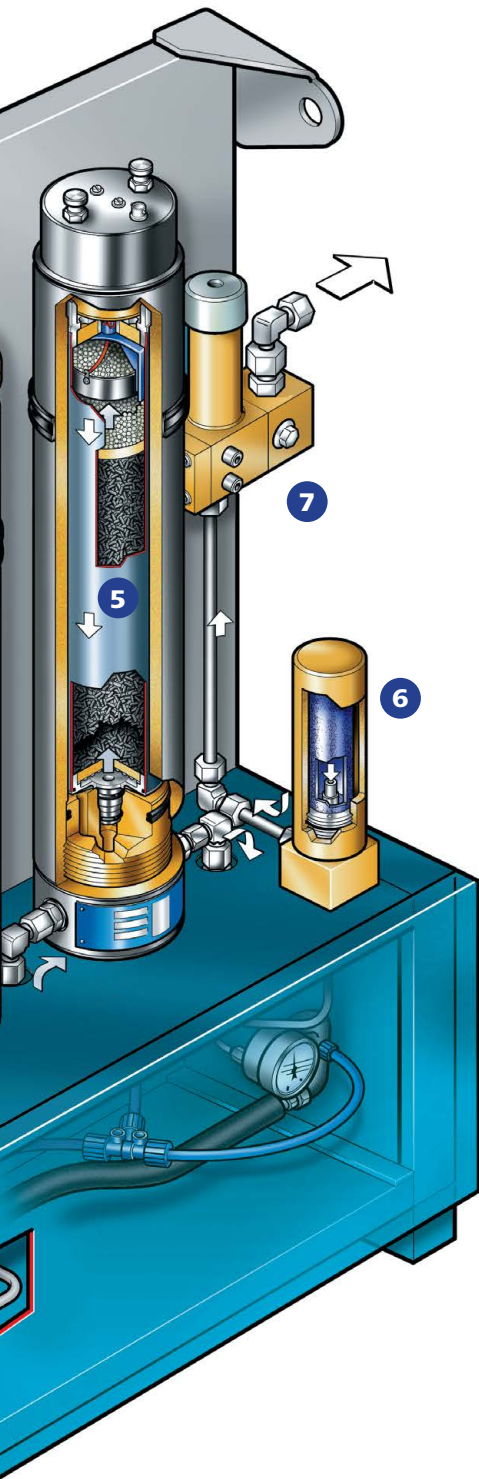
Low-maintenance operation for more economic efficiency

The regenerative dryer **SECCANT** from **BAUER** offers efficiency and safety when purifying air and gases.

- › All downstream consumers, pipes and valves are highly effectively protected from corrosion, icing and soiling.
- › The SECCANT regenerative dryer offers a gas purity which complies with the requirements of sensor technology, medicine and ultrapure gas applications.
- › Owing to the long service life of the cartridges of 2,000 hours and a minimal number of wearing parts, use is highly economically efficient.
- › When using with "inline applications" in continuous operation, a very high unit availability is guaranteed. Filter cartridges are regenerated instead of consumed. Thus, frequent changing of the filter cartridges is not necessary.
- › Regenerated gas is taken from the process gas (approx. 5% of throughput) and does not have to be provided for separately.
- › Optionally, a pressure dew point monitoring system and a real-time display of the current dew point is supported.
- › The pressure vessels are designed and manufactured according to most national and international specifications.

- › Optional: With the help of an additional filter housing containing activated carbon, breathing air quality according to DIN EN 12021¹ can be obtained.





- 1 B-CONTROL**
- 2 CONDENSATE SEPARATOR**
- 3 DRYER CHAMBERS**
- 4 CHANGE-OVER MODULE**
- 5 PURIFIER**
- 6 PARTICLE FILTER**
- 7 PRESSURE MAINTAINING VALVE**

1 The B-CONTROL

fully automatically controls all processes such as cycle times, pressure compensation, change-over and condensate draining. The large, eight line LCD display with free language choice* provides information on all important parameters.

* 13 languages at present

2 The condensate separator

removes condensed water and oil drops from the incoming flow of process gas/air.

3 The dryer chambers

are connected in a push-pull operation. The incoming process gas/air flow is dried in the first chamber (e.g. in left fig.) at the same time as the second chamber is being regenerated (e.g. in right fig.) using a partial stream with already dried gases/air.

The regenerated gas/air is channelled through the charged adsorption medium and regenerates the absorber with the help of the partial decrease of line steam pressure.

4 The change-over module

consists of main stream - as well as regeneration stream check valves and compensates the pressure between the drying chambers with a well designed change-over.

5 The filter housing

with activated carbon removes oil vapour and hydrocarbons from the process gas/air stream. The treated air corresponds in quality to pure air in accordance with DIN EN 12021¹.

(Standard scope of supply of the SECCANT 3A / 4A range).

6 The particle filter

filters all particles from dried and deoiled gas.

7 The pressure maintaining valve

ensures, in the event of fluctuating final pressures, an optimal working pressure in the filter housing, allowing for an efficient adsorption of the oil and water molecules.



The quality seal of an original BAUER cartridge for pure breathing air according to DIN EN 12021¹.

¹ Assuming proper maintenance and installation of the systems in accordance with operating instructions/operating manuals, and using the BAUER AERO-GUARD in cases where intake air CO₂ concentration exceeds the levels required by the applicable breathing air standard.

B-CONTROL, the centre of communication

Continuous control maintains operational security

- › B-CONTROL fully automatically monitors and controls all SECCANT'S internal functions like
 - Operating hours
 - Operating reports
 - SECURUS (optional)
 - Pressure dew point (optional)
- › At the same time SECCANT'S B-CONTROL communicates with the compressor's respective unit control: At start and stop the compressor unit sends SECCANT an On/Off signal. SECCANT permanently monitors itself during operation and sends the compressor a release signal.
- › If a release signal is not received, the compressor is automatically stopped.
- › If the compressor unit is equipped with a B-CONTROL II control and connected to SECCANT via a CAN-Bus, online control and online monitoring of SECCANT and the compressor unit can be realised via an external control room.
- › As an SPC control B-CONTROL ensures the unit can be programmed according to customer requirements.

B-MESSENGER informs the operator online

- › via SMS on his/her mobile phone or via email about all important compressor data. About pending maintenance work, for example or malfunction.

The SECURUS system (optional) reliably monitors the service life of the cartridge.

- › With SECURUS it is impossible to overuse the filter.
- › This can only be achieved with a sensor technology, which is integrated in the filter cartridge. The integrated sensor indicates the necessity for cartridge change prematurely, warning in time about the exhaustion of the cartridge capacity and, finally switches the compressor off.



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- 1 On/Off signal from the compressor unit to SECCANT
- 2 Stand by report from SECCANT to the compressor unit
- 3 Status report from SECCANT to the B-CONTROL II of the compressor unit
- 4 Forwarding of operating reports by B-MESSENGER via email or SMS



Custommade solutions with system engineering

The appropriate configuration for each purpose.

The four models 3, 3A, 4 and 4A of BAUER'S SECCANT range offer a custom-made system solution for dehumidification as well as purifying air, inert gases and rare gases.

When wiring in the conventional way up to three compressors can be connected to the SECCANT, when using a CAN-Bus as many compressors needed to obtain the maximum flow rate be connected.

Interconnected operation can be achieved with help of the B-CONTROL using a CAN-Bus.

Two SECCANT and 2 compressors may be installed in crosswise operation. Thus, allowing for maintenance mode, all possible combinations between connected compressors and SECCANT.

For strictly continuous operation solutions, there is also the possibility of a combination using a BAUER P range bypass filter system.

For drying and removing oil from valuable rare gases, a gastight version is available with encapsulated safety valves and recirculation of the regeneration gas.

For optimizing the throughput, the regeneration intervals can be adjusted dependent upon the humidity of the gas.

VERTICUS Range



K22 Range



K23 Range



K25 /28 Range





SECCANT 3 / 3A

Bypass Filter System



SECCANT 4 / 4A

Storage System



User

Technical Data

SECCANT	3	3A	4	4A
Flow rate max. l/min / scfm	1500 /55	1500 /55	3500 /129	3500 /129
Nominal pressure bar /psig	90-420 1300 - 6100	90-420 1300 - 6100	90-400 1300 - 5800	90-400 1300 - 5800
Dimensions D x W x H /cm	26 x 115 x 126	26 x 135 x 126	26 x 165 x 129	26 x 165 x 129
Weight kg	150	182	330	360
Air-/gas connection Ø mm	10	10	12	12
Condensate connection Ø mm	15	15	10	10
Electric supply Hz / V	1phase 50/60 Hz 230 V / 400 V or 24 V DC			
Regeneration air/gas volume % of the compressor flow	5	5	5	5
Filter change intervals (drying) h	2000	2000	2000	2000
Pressure dew point °C	< -20	< -20	< -20	< -20
Particle size µm	1	1	1	1
Residual oil content mg/m ³	- ¹	< 0,3	- ¹	< 0,3

Purification focus on:	Breathing air acc. to DIN EN 12021 ²	Medical air acc. to European Pharma- cy Regulations	Industrial air	Industrial air acc.to DIN EN ISO 8573-1, Oil content class 3 Humidity class 3	Nitrogen / Rare gases
SECCANT 3			●		
SECCANT 3A	●	●		●	●
SECCANT 4			●		
SECCANT 4A	●	●		●	●

¹ No oil removal

² Assuming proper maintenance and installation of the systems in accordance with operating instructions/ operating manuals, and using the BAUER AERO-GUARD in cases where intake air CO₂ concentration exceeds the levels required by the applicable breathing air standard.

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Subject to technical modifications