

THE P-PURIFICATION SYSTEM

For air and gas of the highest quality

- › **200 – 3500 l/min**
- › **140 – 420 bar**
- › FOR PURIFICATION OF AIR, N₂ AND RARE GASES
- › GENERATES PUREST BREATHING AIR, INDUSTRIAL AND MEDICAL AIR



The P-purification system from BAUER guarantees totally reliable air and gas purification for the application in question.

No matter whether you count on the purest breathing air as a diver or firefighter or if you have to trust in perfectly purified process air in the industrial field:

More than 65 years of BAUER experience in purification, intensive research and the toughest material tests guarantee uncompromising quality and absolute safety.

No compromise regarding safety!

THE SAFETY CONCEPT

Safety starts with processing quality

- › BAUER manufactures filter housings only from special aluminium alloys or chemically nickel-plated high-strength steel. This guarantees that the filter housings resist safely the highest pressures up to 500 bar and thousands of filling cycles.
- › Starting from the raw material up to the final filter housing the manufacturing process is subject to perfect control supervised by TÜV and documented with stamped material and production numbers. BAUER KOMPRESSOREN is certified as a manufacturer in accordance with the EU pressure vessel directive.



Production- and material numbers guarantee a perfect production control

ONLY THE ORIGINAL PROVIDES SAFETY

owing to the perfect technical matching of each filter cartridge to the respective purification system.

- › Only original cartridges made by BAUER guarantee that oil, humidity or hydrocarbons in the compressed air are completely removed.
- › The limiting values of BAUER purification systems comply with and exceed all major national and international standards such as DIN EN 12021 and medical air acc. to European Pharmacy Requirements.

- › Only the most appropriate filter media of the highest quality are used.
- › In the BAUER Testing- and Research Centre the composition for the respective application is calculated, optimized and extensively tested.



Final separator assembly at BAUER

CHEAP CAN BECOME EXPENSIVE

Self-filled cartridges or cartridges from third-party manufacturers not only threaten your health by showing poor filter performances, but also damage downstream systems by corrosion, icing and soiling.

- › To achieve a germfree and unsaturated condition, a filter cartridge can only be filled under industrial production conditions.
- › Mechanical filling guarantees exact dosing and piling to create the perfect cross-flow of the cartridge for optimum air purification.
- › The balance of carbon and molecular sieve of BAUER original cartridges is adjusted perfectly.
- › After filling the cartridges are vacuumized and the density is checked.

Sophisticated technology for perfect air and gas quality

Taking a look inside a P-purification system will convince you of the high degree of effort BAUER puts into its design-engineering in order to guarantee that only ultrapure air and gases leave the filter housing.

1 The compressed air

from the compressor block is delivered to the final separator. The separator effectively separates oil- and water droplets.

2 The condensate

from the oil- and water droplets is collected at the bottom of the filter housing and is removed via the condensate drain valve.

3 The pre-purified air

flows from the bottom of the vessel through the molecular sieve, which adsorbs the remaining gaseous water. The pores of the granulate are minute in diameter in order to provide continuous filtration and total removal of the water molecules.

4 The molecular sieve

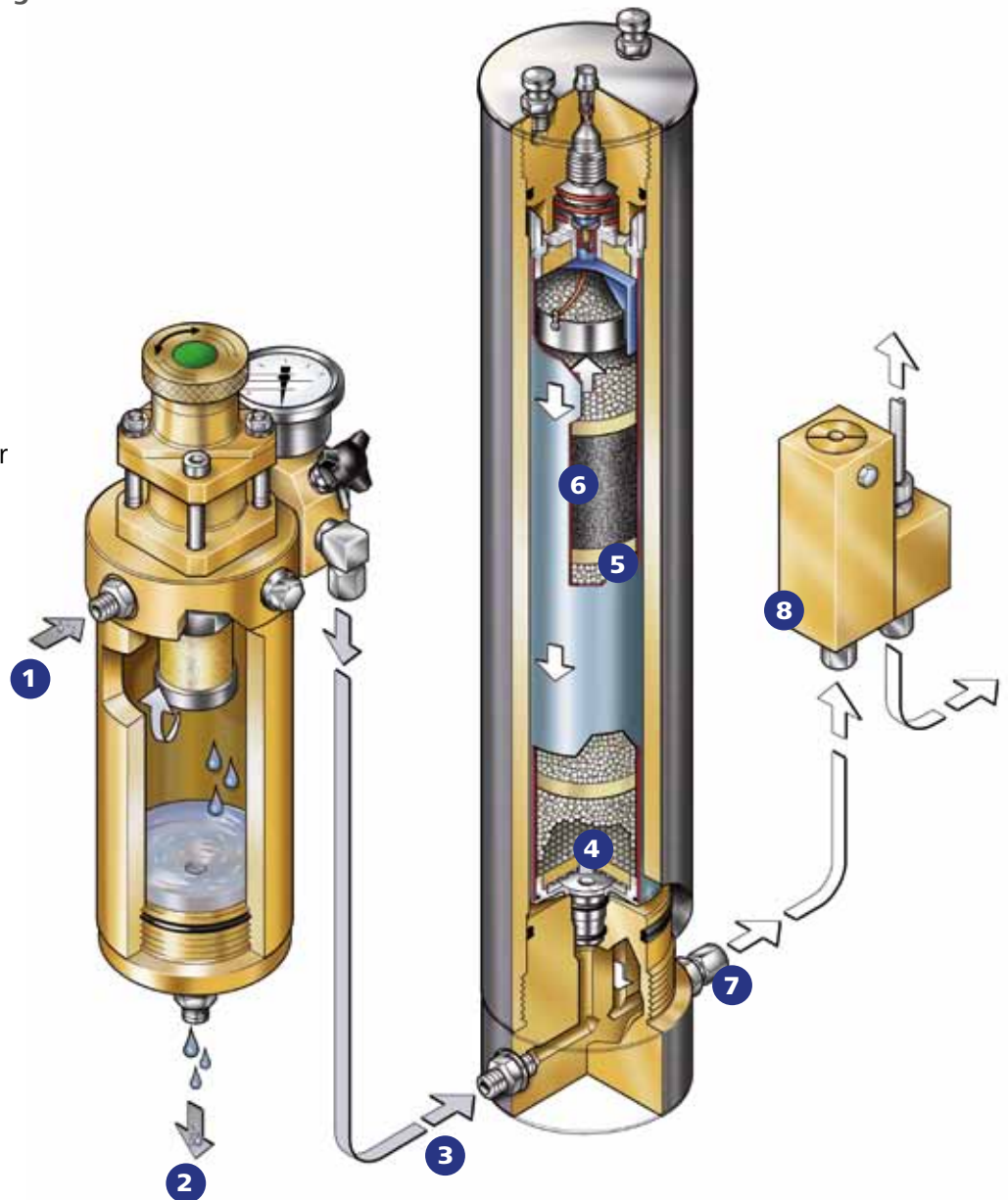
matches perfectly the granulate and pore size for the purification system. This is the only way to comply with the strict limiting values of all the relevant standards for breathing air, industrial and medical air.

5 The particle filter discs

retain all coarse impurities and microparticles.

6 An activated carbon layer

reliably binds all harmful organic impurities such as oil vapour and hydrocarbon compounds.



7 Purest air or gas

leaves the filter cartridge and is ready for the application..

8 The pressure maintaining valve

keeps the filter housing continuously under pressure, thus raising

the partial pressure on the molecular sieve and slowing down the flow through the cartridge for a more highly effective purification. Pressure variations are reduced, too - a positive effect on the life time of the filter housing and the overall operational safety.

SECURUS - The monitoring of your purification system

All filter cartridges have a limited life which must be observed in all events. The patented SECURUS system takes over the extremely important responsibility of monitoring the cartridge life for you.

ASSURED PROTECTION AGAINST DAMAGE

- › With SECURUS it is impossible to overuse the filter cartridge.
- › The SECURUS system gives timely warning of the exhaustion of the cartridge capacity. This safety buffer is made possible by means of the patented sensor technology, which is integrated into the filter cartridge.
- › SECURUS indicates on the display of the electronic compressor B-CONTROL or on the control panel the necessity for cartridge change in good time.
- › If the filter cartridge has not been changed in spite of its complete saturation, SECURUS automatically switches the compressor off in time, thus preventing corrosion damage due to humidity in the downstream system.

ECONOMIC OPERATION

Owing to the increased life span of the filter cartridge considerable cost savings can be achieved by the operator.

- › The cartridge can be used until complete saturation, without any safety reserve.

OPERATION IS CHILD'S PLAY

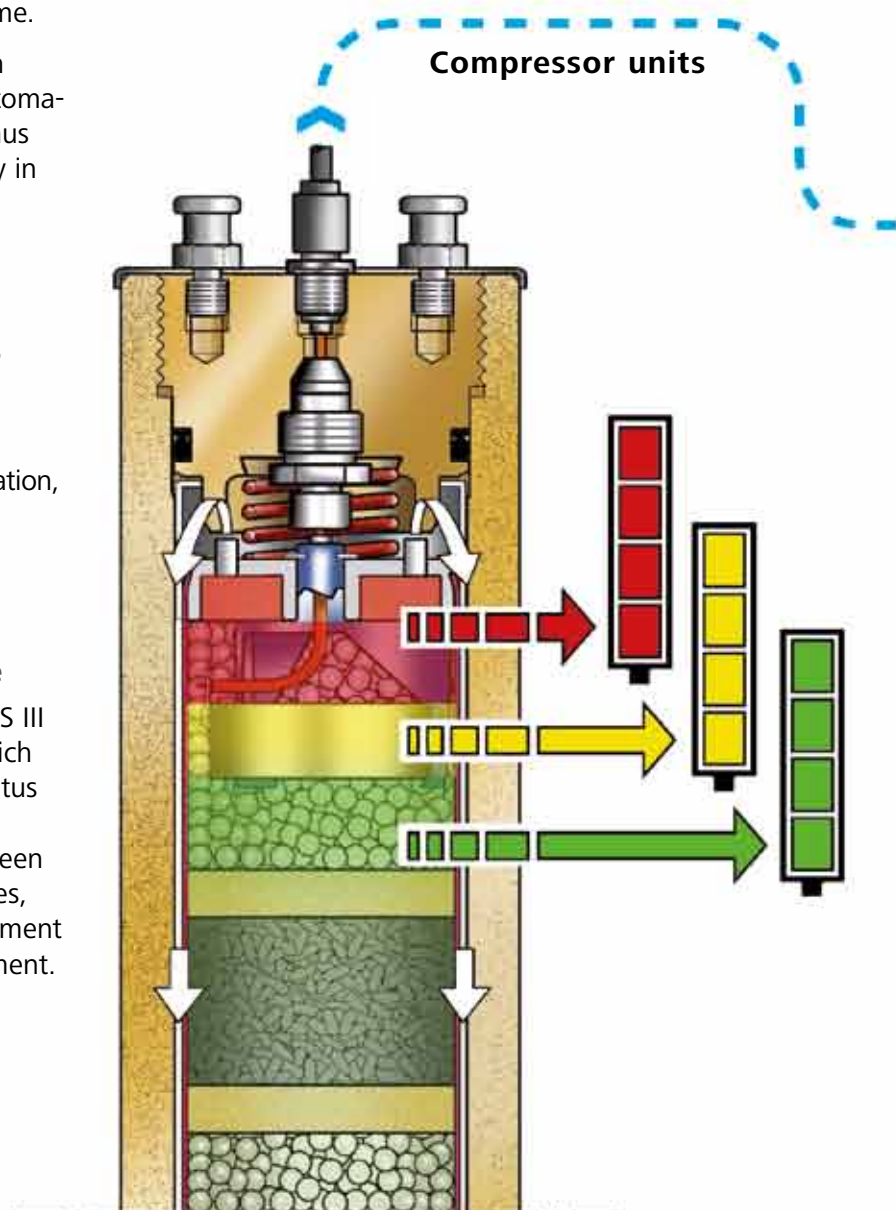
Indication of the cartridge status at a glance

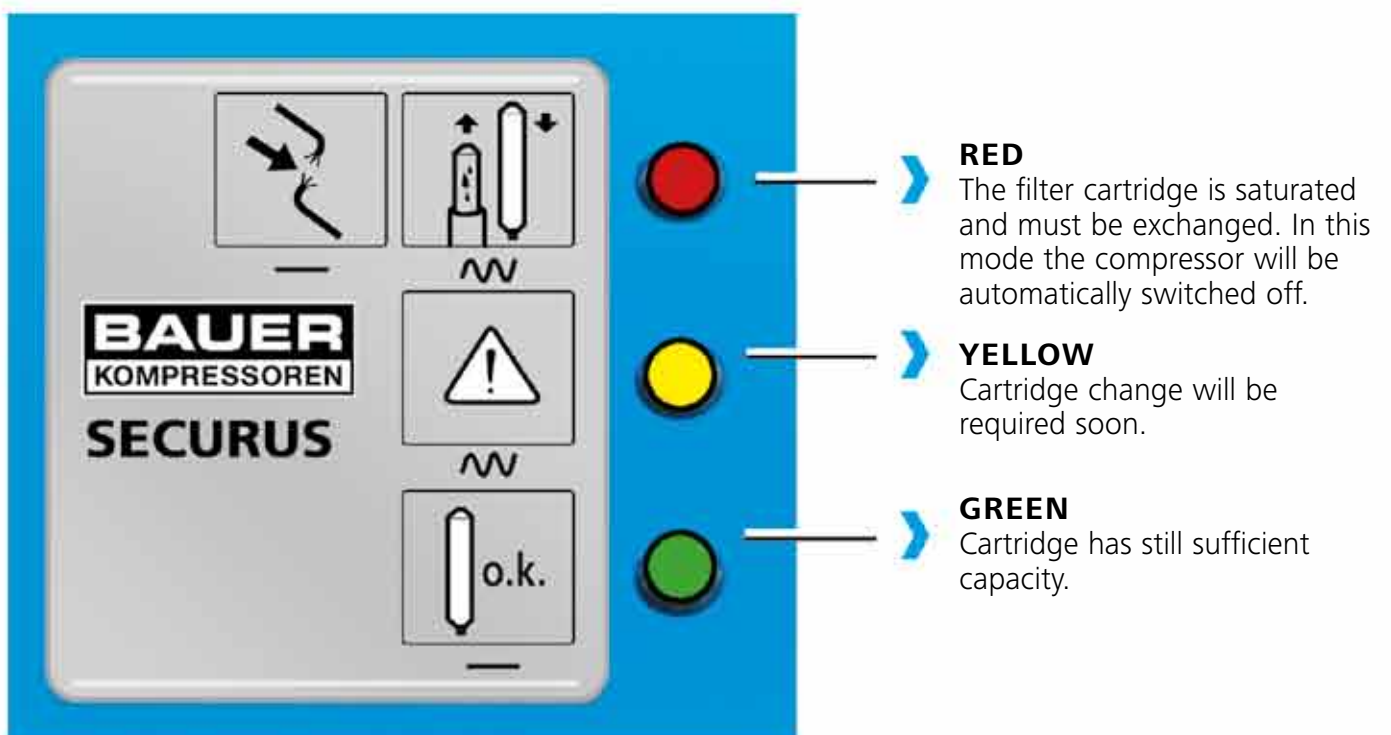
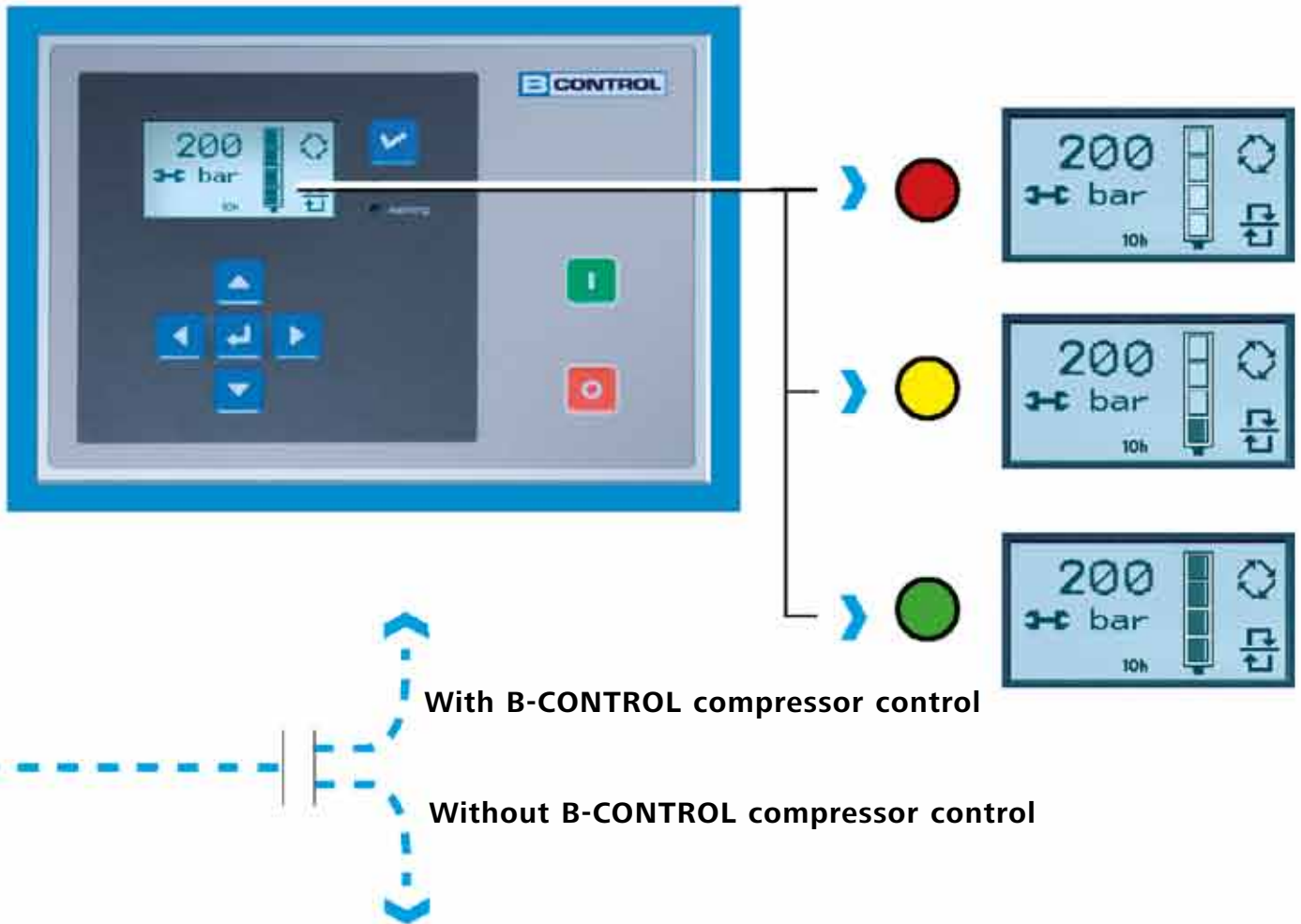
- › Mobile units, and those of the MINI-VERTICUS III range have a control and monitoring unit which provides information about the saturation status according to the traffic light principle: In case of sufficient cartridge capacity, the green segment of the threepart indication illuminates, some hours before saturation, the yellow segment is illuminated, and at saturation, the red segment.

FULL CONTROL

The electronic compressor B-CONTROL II even allows for an online status request.

- › If the VERTICUS range or large-scale units are equipped with the SECURUS option, all messages are shown as text on the display of the electronic compressor B-CONTROL II.
- › Operators who make use of the B-MESSENGER can even receive information via SMS on their mobile telephone.





With system technology for a customized solution

- › Mobile and stationary compressor units from Junior II up to VERTICUS 5 are equipped with P-purification systems of different capacities according to the model type. Some can be upgraded with additional or larger filter housings.
- › Large units from the K22 up to the K28 type need a separate P-purification system on the panel.
- › All units, both mobile and stationary can be combined with P-purification systems on the panel depending on the requirements and applications, e.g. interconnected operation.
- › Apart from the purification systems on the panel all purification systems are available for direct mounting on the compressor unit, also for upgrading of existing units depending on the maximum flow rate.
- › Our departments projecting as well as sales are eager to support you with their know-how for the correct choice of your air-/gas purification system. So you can be sure to receive an economic and technically customized solution for your application.



Integrated purification systems



P21 (TRIPLEX)



P 21



P 31



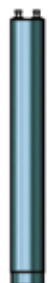
P41



P41



P61



P81

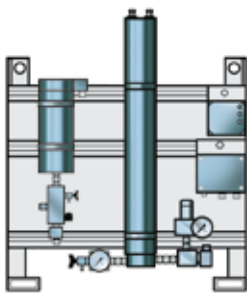


P61

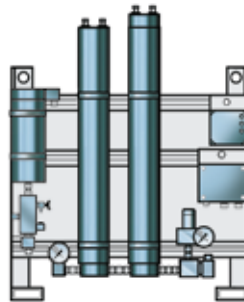


P41

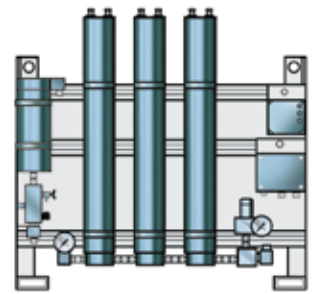
additional external purification systems - modular design on the panel.



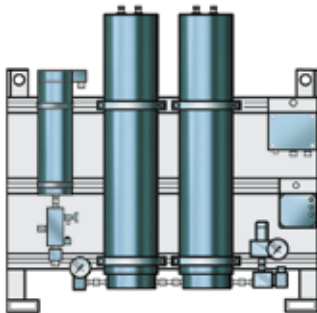
Purification system P60



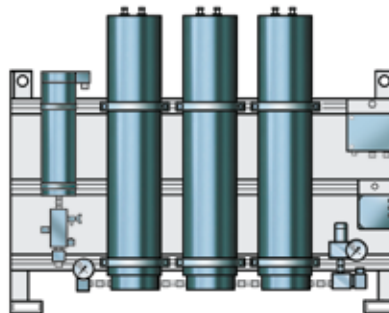
Purification system P80



Purification system P100



Purification system P120



Purification system P140

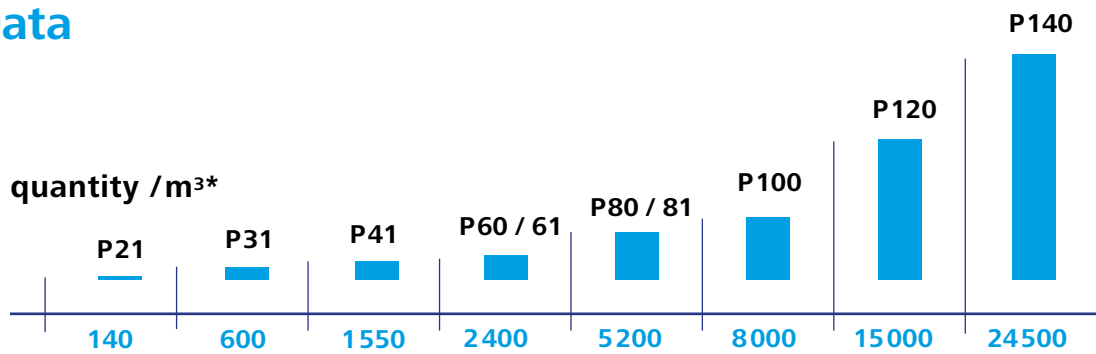
| Purification system for | P21 | P31 | P41 | P60 | P61 | P80 | P81 | P100 | P101 | P120 | P140 | SECURUS ¹⁾ |
|-------------------------------|-----|-----|-----|-----|-----|-----------------|-----|-----------------|------|-----------------|------|-----------------------|
| JUNIOR II / OCEANUS | ● | | | | | | | | | | | |
| CAPITANO 140 | ● | ○ | ○ | | | | | | | | | ○ |
| MARINER 200 / 250 | ● | ○ | ○ | | | | | | | | | ○ |
| MARINER 320 | | ● | ○ | | | | | | | | | ○ |
| MINI VERTICUS II | | | ● | | ○ | | | | | | | ○ |
| VERTICUS 5 / KAP | | | ● | | ● | | ○ | | | | | ○ |
| K 22 range | | | | | | ● ²⁾ | | ● ²⁾ | | ○ | ○ | ○ |
| K 23 range | | | | | | | | | | ● ²⁾ | ○ | ○ |
| K 25 / 28 range | | | | | | | | | | | ○ | ○ |
| K 26 / 52 range ³⁾ | | | | | | | | | | | ○ | ○ |

● standard scope of supply of breathing air compressors | ○ optional

1) only as of P 41- not for units with combustion engine 2) standard scope of supply for breathing air units 3) not for all flow ranges

Technical Data

Processable air quantity /m³*



| | | | | | | | | |
|-------------------------------------|-------------------|------------------|-------------------|-------------------|---------------------|----------|----------------------|----------------------|
| Filter housings No. of | 1 | 1 | 1 | 1 | 2/3 | 1080x260 | 2/3 | 3/4 |
| Max. flow l/min | 200 | 350 | 450 | 680 | 1000 | x10002/3 | 2200 | 3500 |
| Nominal pressure bar | 140-350 | 140-350 | 90-420 | 90-420 | 90-420 | 2200 | 90-350 | 90-350 |
| Dimensions L x W x H / mm | 160 x110 x 380 | 160 x10 x 380 | 160 x110 x 380 | 530 x120 x 600 | 780 x 260 x 1000 | 90-350 | 1080 x 260 x 1000 | 1230 x 260 x 1000 |
| Weight kg | 5 | 10 | 18 | 20/60 | 30/70 | 40/90 | 140 | 180 |

The P-range of BAUER air- and gas purification adsorbs according to the cartridge type chosen:

Residual humidity (H₂O) - oil vapour - gas traces on hydrocarbon basis (CxHy), carbon monoxide (CO)

All purification systems can be equipped with different BAUER cartridges. * referring to PN 300 and ambient temperature +20°C

| Purification focus on | Drying De-oiling | Drying De-oiling SECURUS | Drying De-oiling SECURUS CO-conversion | De-oiling | De-oiling Drying SECURUS | CO ₂ removal with AERO-GUARD |
|---|---------------------|--------------------------------|---|-----------|--------------------------------|---|
| Breathing air acc. to DIN EN 12021 | ● | ○ | ○ ¹⁾ | | | ● ²⁾ |
| Medical air acc. to European Pharmacy Regulations | ● | ○ | ○ ³⁾ | | | ● ²⁾ |
| Purest air for cryogenic applications acc. to MILR81202D / DEF Std. 58-96 | | | ● ³⁾ | | | ● |
| Industrial air, simple e.g. brake testing | ● | | | | | |
| Industrial air acc. to DIN EN ISO 8573-1 Oil content class 3 Particles and humidity class 3 | ● | ○ | | | | |
| Nitrogen | ● | | | ● | ○ | |
| Rare gases | | | | ● | ○ | |

● required to fulfill the regulations | ○ recommended

1) for units with combustion engine if applicable 2) with AERO-GUARD if intake air has a high CO₂ content

3) if intake air has a high CO content (> 5ppm)

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DIN EN ISO 9001

P-SYSTEM-E

04.11 PR 0056

Subject to technical modifications