

KAP- / VERTICUS - RANGE

STATIONARY UNITS FOR
FIREFIGHTING



260 - 1.480 l/min

Up to 420 bar

When firefighters are concentrating all efforts into saving people's lives, health and possessions, then there's only one thing that counts with fire: an uncompromising, reliable supply of pure breathing air.

For the past 60 years BAUER, as their partner, has been supplying the fire brigade and disaster prevention with breathing air compressors that are legendary as in regards to their reliability and durability.

THE KAP- / VERTICUS RANGE

FILLING SPECIALISTS FOR ALL PURPOSES

The wide range of BAUER-units offers the right solution for each purpose and need

Thanks to the **four-stage compressor blocks** and **robust industrial bearings** with lifetime expectancies of **more than 30.000 hours**, the VERTICUS- and KAP- range units can be **run continuously** without restrictions. All coolers, filters, valves and pipes are manufactured in **corrosion-free materials**. High-performance axial fans and a cleverly devised cooling air supply in the sound-proof silent units ensure an **optimum supply of cooling air**, a requirement necessary for a reliable application even under the most difficult external climatic conditions. The unit's design guarantees **good accessibility** for all routine **maintenance work**.

The VERTICUS range's **efficient housing sound insulation** permits trouble-free use even in a particularly sound-sensitive environment.



Up to 420 bar

KAP- / VERTICUS - Range

260 - 680 l/min

Extremely compact powerful stationary filling centres.

Scope of supply: 4 filling devices and B-Control to monitor and control all important compressor functions. The Verticus 5 - range: equipped with super silent housing.

Optional: bigger or additional filter housings, SECURUS filter monitoring, external filling panels and storage systems. Remote control, -monitoring of one or several units in interconnected operation via B-Messenger is possible.



KAP- / VERTICUS F - Range

450 l/min

High-performance open or acoustically insulated units with the best price-performance ratio:

The new 15.1 compressor block delivers 450 litres per minute. Otherwise technically identical to the standard VERTICUS range, the F-unit range offers a particularly good price-performance ratio thanks to the use of a conventional star-delta control.



KAP-H-Range

450 - 680 l/min

Horizontal design for operation on heavy seas and extreme inclinations

The low centre of gravity and the block design allow the operation even on heavy seas.

Scope of supply similar to KAP-range, however, with P 41 DUO filter system and without filling devices.



KAP-DAH - Range

450 - 680 l/min

Diesel driven unit for self-sufficient use in remote areas

Robust and low-maintenance diesel motor, particularly unsusceptible at high temperatures.

Same fuel with mobile use on diesel driven trucks and pick-ups.



KAP-23 / 220 - Range

650 - 1480 l/min

Unlimited performance for high-damage incidents

The performance of the stationary KAP-range can meet every requirement. Designed and built for heavy continuous operation.

We plan custom-made system solutions with external filling panels, air purification systems and storage solutions for you.

Up to 420 bar

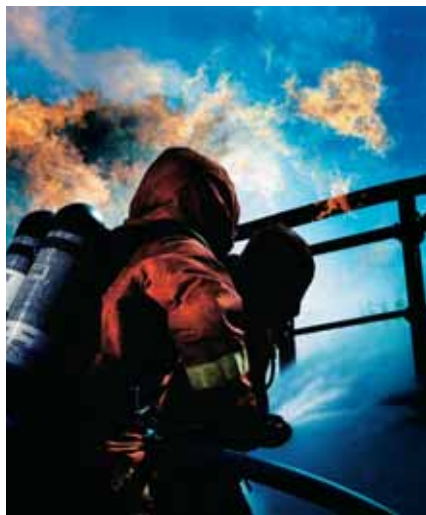
BAUER SYSTEM TECHNOLOGY

FOR A SOLUTION TAILORED TO THE CUSTOMER

BAUER'S High Pressure System Technology

enables every fire fighting unit to tailor a unit according to their requirements.

This process begins at the conceptual stage and in the design and development of the compressor unit. BAUER perceives the design, development and evolution of its machines as a partnership between manufacturer and user. This philosophy is continuous in the approach to provision of spare parts, long-term maintenance contracts and product support to ensure every customer a first class service.



Units for compression of breathing air

Pressure range:

225 to 420 bar

F.A.D.:

260 to 1.480 l/min

Design:

Open Configuration or Super Silent (Enclosed)

Systems for purification of breathing air

AEROGUARD

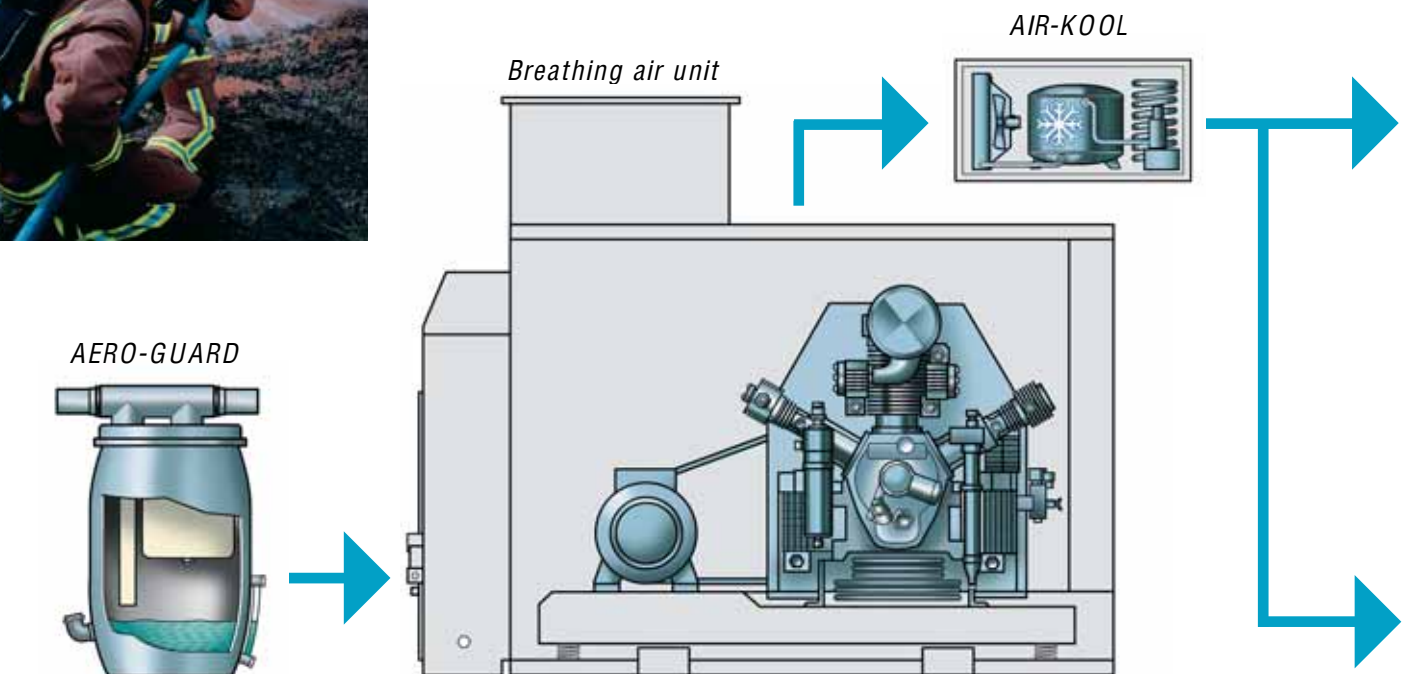
Removal of CO₂ prior to compression at intake side.

P-FILTER SYSTEMS

Generation of breathing air according to DIN EN12021 by efficient removal of humidity, oil, CO and solid particle contaminants.

SECCANT Regenerative Dryer

Made for continuous operation and efficient, economic purification air and gas.



Purification

Compression

Purification



Systems for storage of high pressure air

Storage systems up to 420 bar

with 50 or 80 l* water volume **.

Units are available as single unit or as an extendable modular system to provide the required storage capacity. Dependant upon physical limitations, various configurations can be provided to optimize the utilization of available space.

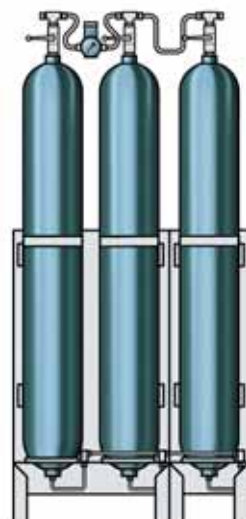
* only up to 300 bar

** geometric volume

AEROTEST



Switch over device



Storage bank

System for distribution of breathing air

Switch over device

for maximum rate cylinder filling. Switch on of unit only for topping up of storage cylinders.

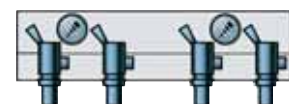
Pressure reducing panels: for constant regulation of outlet pressure.

Filling panels

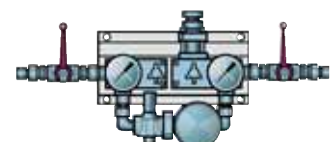
Available in a great variety of standard configurations to satisfy every need with options for switch over device to facilitate two separate pressure ranges.



Filling panel



Pressure reducing panel



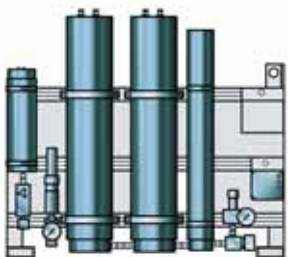
AIR-KOOL refrigeration dryer

Efficient drying of air for increasing the filter cartridge lifetime and effective resistance to corrosion of piping and components.

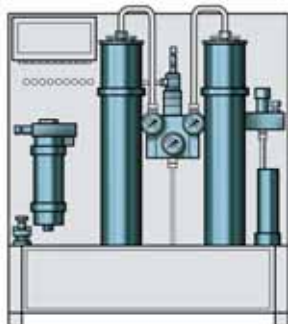
AEROTEST SIMULTAN HP

Portable air test laboratory to carry out testing of the breathing air quality e.g the new, strict DIN EN 12021 standards.

P-Filter System



SECCANT



FILTER SYSTEMS MADE BY BAUER

NO COMPROMISE REGARDING SAFETY !

Safety starts with processing quality.

BAUER manufactures **filter housings** only from costly **special aluminium alloy** or **tempered high-alloy steel**. This guarantees that the filter housings survive the **highest** of **pressures** up to 500 bar with tens of **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**.



Production- and material numbers guarantee a perfect production control

Your life is at risk with fake cartridges!

Only **original cartridges** made by BAUER guarantee that **oil, humidity** or **hydrocarbons** in the compressed air are **completely removed**. The **limiting values** of BAUER filter 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**.

Those, who buy cheap, buy expensive!

To achieve a **germfree** and **unsaturated** condition, a filter cartridge can only be filled under industrial production conditions. The **balance** of carbon and molecular sieve of BAUER original cartridges is **adjusted perfectly**.

Mechanical filling guarantees **exact dosing** and **piling** to create the perfect cross-flow of the cartridge for **optimum air purification**.

After filling the cartridges are vacuumized and the density is checked.

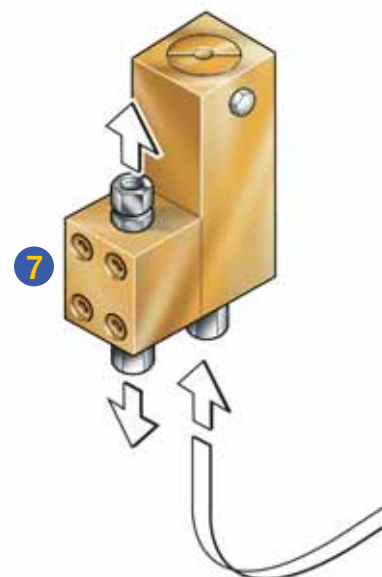
Replacement cartridges from **uncontrolled sources** **threaten** your **health** not only creating poor filter performance and icing of the breathing regulator, but also producing **corrosion**, which will rapidly **ruin** the **equipment**.



Final separator assembly at BAUER



The quality seal of an original BAUER cartridge stands for purest breathing air



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

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 granules are minute in diameter in order to provide continuous filtration and total removal of the water

molecules.

The molecular sieve used by BAUER matches perfectly the granule and pore size for the filter system. This is the only way to comply with the strict limiting values of breathing air norms.

4 Particle filter

holds all impurities and particles.

5 An activated carbon layer

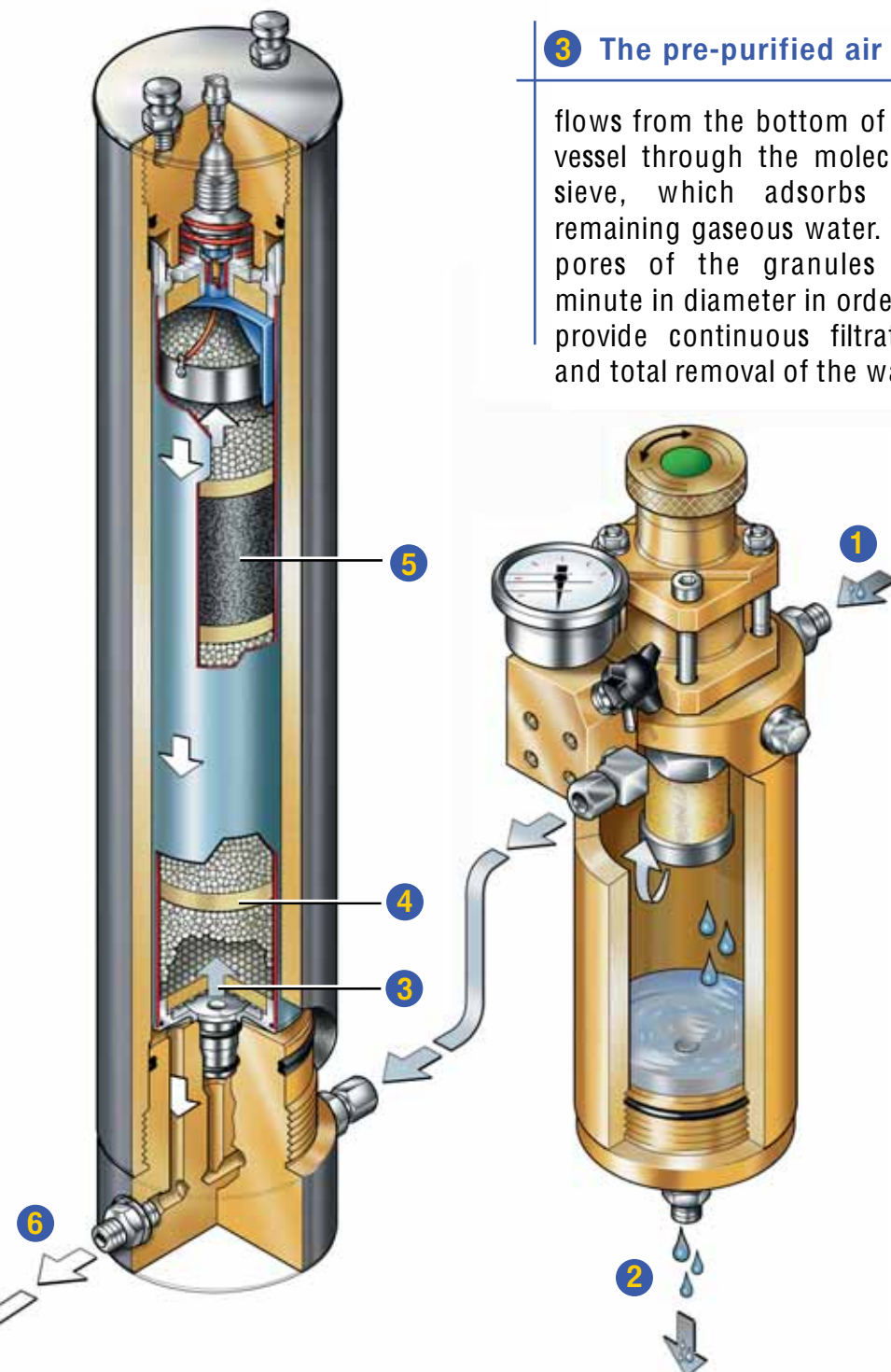
for breathing air applications removes all organic impurities such as oil vapour and hydrocarbons.

6 Purest air or gas

leave the filter cartridge and are ready for the application.

7 The pressure maintaining valve

keeps the filter housing continuously under pressure to increase the partial pressure on the molecular sieve. So the speed of the flow through the cartridge is reduced, which increases the purification effect even more. Load cycles are reduced, too - a positive effect on the lifetime of the filter housings and the operating safety.



SECURUS FILTER MONITORING

THE BODYGUARD OF YOUR FILTER SYSTEM

SECURUS protects against damage:

All filter cartridges have a limited life, which must be monitored.

The patented SECURUS system takes away from you the important but annoying responsibility of monitoring the cartridge for the necessary timely replacement.

With SECURUS it is impossible to overuse the filter, which would damage the following system with oil and water.

This can only be achieved with a patented 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.

Competitors systems, which are available in the market, which are fitted after the purification system, provide false safety!

They only warn the user when it is too late: When the cartridge is already damaged and impurities have occurred.

SECURUS helps to save money:

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

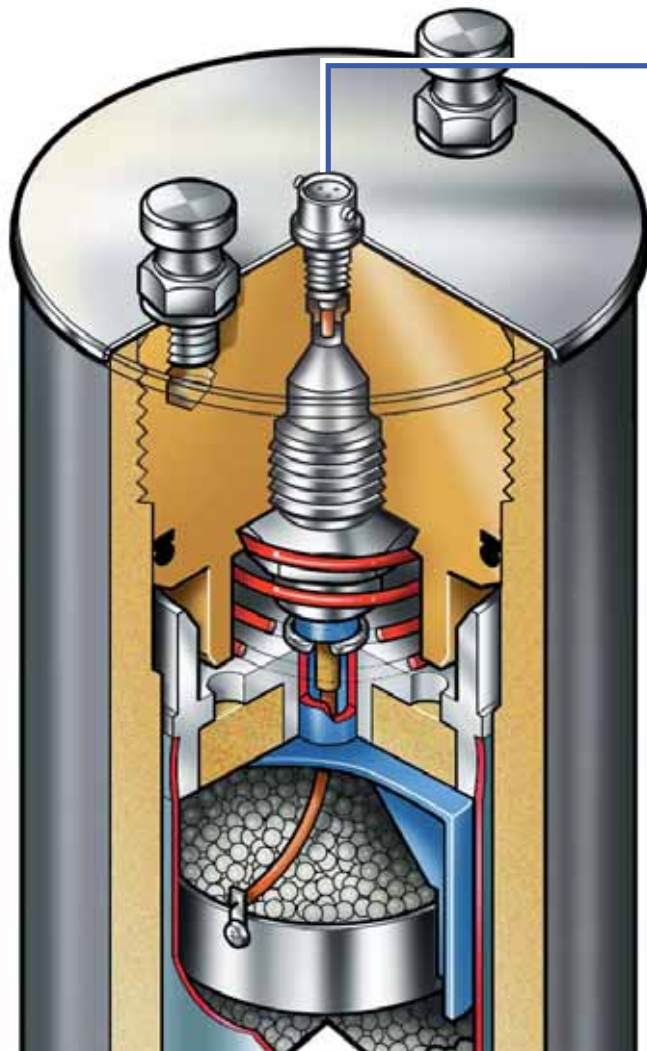
SECURUS is simple to operate

Mobile units, and those of the KAP/VERTICUS-F-Range have a control- and monitoring unit, which provides information about the saturation status of the cartridge, similar to a traffic light.

SECURUS and B-Control: full control - even online.

If the VERTICUS range is equipped with the SECURUS option, all messages are shown on the display of the electronic compressor B-CONTROL.

Operators, who make use of the new B-MESSENGER can receive information via SMS on their mobile telephone, via fax or even online via email!





with B-CONTROL compressor control



Compressor units

without B-CONTROL compressor control



SECURUS-System

RED
The filter cartridge is saturated and must be exchanged. In this mode the compressor will be automatically switched off.

YELLOW
Cartridge change will be required soon.

GREEN
Cartridge has still sufficient capacity.

BAUER STORAGE SYSTEMS AND FILLING PANELS

FOR CUSTOM-MADE BREATHING AIR SUPPLY

High pressure tanks ensure air is available at all times.

A **perfectly designed storage solution** adapted to the compressor **guarantees constant availability of breathing air**, even in the case of a larger demand on short notice, independent of whether the compressor is running.

Yet another advantage: The unit only switches on if the pressure in the tank drops below the specified minimum value. Thanks to the **low number of load cycles** the **durability** of the unit's components like the filter housing or final separator, are subject to pressure fluctuations, **increase accordingly**.

In the course of **unit planning** and **consulting** our service team will naturally calculate the **custom-made storage solution** for your respective **unit size** and **individual filling requirement**.



Complete solution with storage tanks

Simplyfied formula for configuration of high pressure storage systems taking into consideration the compressor's 4 switch-on cycles per hour.

$$V_{(l)} = \frac{V_k \times 4}{\Delta p}$$

V_k (l/min) = volume of flow/delivery of the compressor in litres/min (F.A.D)

$V_{(l)}$ = storage volume in litres (water capacity)

Δp (bar) = ON/OFF switch differential (range of pressure fluctuation) in bar

Free air delivery of compressor [l/min]	referring to a pressure hysteresis of Δp (bar)							
	20 bar		30 bar		40 bar		50 bar	
	For- mulated storage cyl.size [l]	Recom- mended storage container Units x l	For- mulated storage cyl.size [l]	Recom- mended storage container Units x l	For- mulated storage cyl.size [l]	Recom- mended storage container Units x l	For- mulated storage cyl.size [l]	Recom- mended storage container Units x l
100	20	1 x 50	13	1 x 50	10	1 x 50	8	1 x 50
200	40	1 x 50	27	1 x 50	20	1 x 50	16	1 x 50
300	60	1 x 50	40	1 x 50	30	1 x 50	24	1 x 50
400	80	2 x 50	53	1 x 50	40	1 x 50	32	1 x 50
500	100	2 x 50	67	2 x 50	50	1 x 50	40	1 x 50
600	120	3 x 50	80	2 x 50	60	1 x 50	48	1 x 50
700	140	3 x 50	93	2 x 50	70	2 x 50	56	1 x 50
800	160	3 x 50	107	2 x 50	80	2 x 50	64	1 x 50
900	180	4 x 50	120	3 x 50	90	2 x 50	72	2 x 50
1000	200	4 x 50	133	3 x 50	100	2 x 50	80	2 x 50
1100	220	4 x 50	147	3 x 50	110	2 x 50	88	2 x 50
1200	240	5 x 50	160	3 x 50	120	3 x 50	96	2 x 50
1300	260	5 x 50	173	4 x 50	130	3 x 50	104	2 x 50
1400	280	6 x 50	187	4 x 50	140	3 x 50	112	2 x 50
1500	300	6 x 50	200	4 x 50	150	3 x 50	120	3 x 50
1600	320	6 x 50	213	4 x 50	160	3 x 50	128	3 x 50
1700	340	7 x 50	227	4 x 50	170	3 x 50	136	3 x 50
1800	360	7 x 50	240	5 x 50	180	4 x 50	144	3 x 50
1900	380	8 x 50	253	5 x 50	190	4 x 50	152	3 x 50
2000	400	8 x 50	267	5 x 50	200	4 x 50	160	3 x 50
2500	500	10 x 50	333	7 x 50	250	5 x 50	200	4 x 50
3000	600	12 x 50	400	8 x 50	300	6 x 50	240	5 x 50
3500	700	14 x 50	467	9 x 50	350	7 x 50	280	6 x 50
4000	800	16 x 50	533	11 x 50	400	8 x 50	320	6 x 50
4500	900	18 x 50	600	12 x 50	450	9 x 50	360	7 x 50
5000	1000	20 x 50	667	13 x 50	500	10 x 50	400	8 x 50

Recommended HP Storage cylinder sizes taking into consideration 4 compressor switch cycles per hour depending on compressor delivery and the different ON/OFF switch differentials.

Filling panels - BAUER'S building block system for implementing the most diverse installation requirements and filling capacities

BAUER'S filling panels can be **mounted** on a **wall**, even physically apart in a **separate room**.

Numerous filling panels can be **connected** to each other **in a row**. In the case of a higher filling demand, **more** filling panels **can be mounted at a later date** without any problem.

All filling panels are **easy to install**.

Our range of standard filling panels:

4xPN 200 connections
with 4 filling hoses or
4 direct connections.

4xPN 300 connections
with 4 filling hoses or
4 direct connections.

**2xPN 200 connections +
2xPN 300 connections**
with switch over

**2xPN 200 connections +
2xPN 300 connections**
with pressure reducer



Example: filling panel with 4 filling hoses (2 x PN 200, 2 x PN 300)

Other equipment and versions on request!

Optional:

B-CONTROL

Operating panel for remote compressor control.

Switch-over device

The air overflows directly from the storage bank into the high pressure tanks.

If the pressure needs to be topped up, the compressor is automatically switched on to fill the tanks directly.

Only after having reached the required bottle pressure do the storage tanks get refilled.



Example: filling panel with 10 filling hoses (4 x PN 200, 6 x PN 300)

TECHNICAL DATA

1) Model max. 330 bar	Comp.- stages	2) FAD l/min	RPM min ⁻¹	3) Filling time min	Motor		Filter system	4) Dimensions cm			Weight net kg
					kW	HP		L	W	H	
VERTICUS 5 - Range 420 bar											
V12.14-5.5-5 ⁴⁾	4	260	1185	0,77	5,5	7,5	P61 or P81	148	83	152	395
V12.14-7.5-5 ⁴⁾	4	320	1470	0,63	7,5	10					400
V15.1-7.5-5	4	370	1050	0,54	7,5	10					430
V15.1-11-5F	4	450	1320	0,44	11	15	P41				340
V15.1-11-5 ⁴⁾	4	450	1320	0,44	11	15	P61 or P81				440
V18.1-11-5	5	520	1140	0,38	11	15					455
V150-11-5	4	540	1230	0,37	11	15					440
V18.1-15-5	5	600	1320	0,33	15	20					465
V180-15-5	4	680	1400	0,29	15	20					455
KAP - Range 420 bar											
KAP 12.14-5.5-5 ⁴⁾	4	260	1185	0,77	5,5	7,5	P61 or P81	114	83	152	305
KAP 12.14-7.5-5 ⁴⁾	4	320	1470	0,63	7,5	10					310
KAP 15.1-7.5-5	4	370	1050	0,54	7,5	10					340
KAP 15.1-11-5F	4	450	1320	0,44	11	15	P41				340
KAP 15.1-11-5 ⁴⁾	4	450	1320	0,44	11	15	P61 or P81				350
KAP18.1-11-5	5	520	1140	0,38	11	15					365
KAP 150-11-5	4	540	1230	0,37	11	15					350
KAP18.1-15-5	5	600	1320	0,33	15	20					375
KAP 180-15-5	4	680	1400	0,29	15	20					365
KAP H - Range											
KAP 15.1-11-H	4	450	1320	0,44	11	15	P61 oder P81	165	78	90	370
KAP 150-11-H	4	540	1230	0,37	11	15					370
KAP 180-15-H	4	680	1400	0,29	15	20					850
KAP - DAH-Range											
KAP 15.1-14-DAH	4	450	1320	0,44	14	19	P61	165	78	90	500
KAP 150-16-DAH	4	540	1230	0,37	16	22	P61				500
KAP 180-18-DAH	4	680	1400	0,29	18	24	P81				516
KAP - Range -220/23 420 bar											
KAP 220 - 20 E	4	650	980	0,31	15	20	P80	214	72	132	490
KAP 220 - 25 E	4	800	1180	0,25	18,5	25	P80				510
KAP 220 - 30 E	4	950	1320	0,21	22	30	P100				570
KAP 23 - 40 E	4	1300	1200	0,15	30	40	P120	226	87	132	760
KAP 23 - 50 E	4	1480	1400	0,14	37	50	P120				780
KAP 220 - 30 - 420	4	880	1180	0,25	22	30	P100-420	214	72	132	570

- 1) also available with switch over device
330 / 225 bar = HU type
- 2) Cylinder filling from 0 to 200 bar
- 3) Filling rate for 1 l cylinder capacity from 0 to 200 bar
- 4) KAP 220/23 without filter system



VERTICUS G-FW - E 5.05 3,0 St Subject to technical modifications

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