DATA SHEET
Filter sets for condensate separators (oil/water) – ÖWAMAT® series and compatible models

1. Product and manufacturer identification

- **Product name:** Alternative filter sets (two-layer pre-filters and adsorption carbon cartridges) for condensate separators
- **Intended use:** Compatible replacement parts for gravity condensate separators of the BEKO / BOGE ÖWAMAT® 1–8 and 20 series and structurally identical units of the brands KAESER, Atlas Copco, Ecoair, Schneider and Quincy
- Manufacturer: Carbon Filters – Antonín Kohoutek, U Blaženky 2616/12, 150 00 Prague 5, Czech Republic
- **Company ID (IČO):** 16643518
- **Contact:** tel.: +420 608 208 771 | e-mail: info@carbonfilters.cz | web: www.carbonfilters.cz
- **Country of origin:** Made in the Czech Republic

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2. Description and function of multi-stage filtration

The filter sets are intended for treating the condensate produced during the generation of compressed air in piston and screw compressors. They ensure reliable separation of free and dispersed oil before the water is discharged into the public sewer system.

- **Stage 1 – Two-layer graded pre-filter (PES + PP melt-blown):**
  - **Upper layer (50 % PES):** Resilient polyester fibres capture coarse mechanical impurities (rust, scale, dust) and free oil. They prevent the carbon from compacting and distribute the water flow evenly.
  - **Lower layer (50 % PP melt-blown):** Fine oleophilic polypropylene microfibres also capture finely dispersed oil droplets and protect the downstream carbon stage from exhaustion as much as possible.
- **Stage 2 – Main adsorption filter (AC):** A filter cartridge in a rigid polyester (PES) casing, filled with highly active carbon, which adsorbs residual dispersed oil and reduces the content of non-polar extractable substances (NEL) below the legal limits.

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3. Overview of variants and composition of the sets

Size / base model	Reference BEKO OEM number (indicative)	Composition of the set
ÖWAMAT® 1 / 2	4027548 / XVKT02AF1	1× pre-filter (PES/PP), 1× AC main filter
ÖWAMAT® 3	4027549 / XVKT03AF1	1× AC main filter
ÖWAMAT® 4	4027550 / XVKT04AF1	1× pre-filter (PES/PP), 1× AC main filter
ÖWAMAT® 5	4027551 / XVKT05AF1	2× AC main filter
ÖWAMAT® 5R	4027552 / XVKT05RF1	1× pre-filter (PES/PP), 1× AC main filter
ÖWAMAT® 6	4027553 / XVKT06AF1	2× pre-filter (PES/PP), 2× AC main filter
ÖWAMAT® 8	4027554 / XVKT08AF1	2× pre-filter (PES/PP), 2× AC main filter
ÖWAMAT® 20	4027555 / XVKT20AF1	1× AC main filter

(Note: PES/PP = two-layer pre-filter of polyester / oleophilic polypropylene melt-blown in a PES casing; AC = adsorption cartridge with activated carbon in a PES casing.)

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4. Cross-reference compatibility table

Set size	BEKO / BOGE	KAESER	Atlas Copco	Ecoair	Schneider	Quincy
Size 1 / 2	ÖWAMAT® 1 / 2	Aquamat® 1 / 2	OSW 5 / OSW 11	-	OWATEC 10/40	WIS 1 / WOS 2
Size 3	ÖWAMAT® 3	Aquamat® 3	-	TS 3	–	WOS 3
Size 4	ÖWAMAT® 4	Aquamat® 4	OSW 30	TS 4	OWATEC 130	WOS 4
Size 5	ÖWAMAT® 5	Aquamat® 5	-	TS 15	-	WOS 5
Size 5R	ÖWAMAT® 5R	Aquamat® 5R	OSW 55	-	OWATEC 175	WOS 5R
Size 6	ÖWAMAT® 6	Aquamat® 6	OSW 110	TS 16	OWATEC 250	WOS 6
Size 8	ÖWAMAT® 8	Aquamat® 8	OSW 315	–	–	WOS 8
Size 20	ÖWAMAT® 20	Aquamat® 20	–	TS 60	–	–

5. Common technical parameters and operating limits

Parameter	Specification
Pre-filter design	Two-layer graded depth filtration: 50 % polyester fibres (PES – upper layer) + 50 % oleophilic polypropylene melt-blown (PP – lower layer) in a permeable polyester (PES) casing
Filter material and casing of the main	Granulated activated carbon in a permeable polyester (PES) casing

filter (AC)	
Working pressure	Pressure-free gravity flow through the filter stage (atmospheric pressure)
Condensate operating temperature	+5 °C to +45 °C (the unit must not be exposed to frost)
Suitable oil types	Mineral oils, synthetic oils based on PAO and esters
Unsuitable medium	Stable emulsions (milky, non-separable condensate), polyglycol (PAG) oils, solvents and aggressive chemicals
Outlet water quality	Residual oil content (NEL) < 10–20 mg/l (when the operating conditions are observed and the filters are replaced on time)

6. Installation and maintenance instructions

1. **Preparation before installation:** Before inserting into the separator, the cartridge with activated carbon must be soaked in clean water for 24 hours. This displaces the air from the pores of the carbon, washes out fine carbon dust and ensures an even flow of condensate.
2. **Filter replacement:** Close the condensate inlet, remove the exhausted filters and place them in a leak-proof container for hazardous waste.
3. **Fitting new filters:** Insert the main carbon cartridge first (for conical types, press it evenly down to the stop by hand so that it fits tightly against the chamber walls and the condensate cannot bypass it). Then insert the two-layer pre-filter with the correct side up (polyester layer on top, melt-blown layer at the bottom, as marked on the bag).
4. **Start-up:** Fill the separator chamber with clean water up to the overflow level and open the condensate inlet.
5. **Operational check:** Check the quality of the outflowing water at least once a week by visually comparing the turbidity of a sample from the test tap. Replace the filters after 12 months of operation at the latest, or immediately if the turbidity of the outlet water increases or the level in the tank rises.

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7. Storage and disposal

- **Storage:** Store in the closed packaging in a dry place at a temperature of +5 °C to +35 °C. Protect from direct sunlight, moisture and fumes of chemicals or solvents. The shelf life is 24 months from the date of manufacture.
- **Disposal:** Used filters saturated with compressor oil are hazardous waste (waste catalogue code 15 02 02* – absorbents, filter materials, wiping cloths and protective clothing contaminated by hazardous substances) and must be handed over to an authorised person for disposal in accordance with the Waste Act.

8. Manufacturer's declaration

The manufacturer Carbon Filters – Antonín Kohoutek declares that, when professionally installed and operated under the specified operating conditions, the listed products are a fully functional replacement for the original parts and reduce the content of petroleum substances in the condensate below the usual limits of sewer regulations.

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