DATA SHEET
Filter sets and inserts for condensate separators (oil/water) – Wortmann drukomat® / WO series and compatible models

1. Product and manufacturer identification

- **Product name:** Alternative filter sets (adsorption cartridges with activated carbon, two-layer pre-filters and vent filters) for condensate separators
- **Intended use:** Compatible replacement parts for condensate separators of the brands Wortmann (drukomat, WO), Zander (ecosep S, WT), Kaeser (WO), Hankison (HS) and Sabroe (Divisor)
- 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 and inserts are intended for treating the condensate produced during the generation of compressed air in piston and screw compressors. They provide mechanical and adsorptive separation of free and dispersed compressor oil from the water as well as from the vent circuit before the water is discharged into the public sewer system.

- **Vent carbon filter (air side):** A cartridge with activated carbon in the expansion and venting chamber removes oil mist from the outgoing air when the condensate enters under pressure.
- **Stage 1 – Two-layer graded pre-filter (PES + PP melt-blown, for the drukomat 15–60 series and equivalents):**
  - **Upper layer (50 % PES):** Resilient polyester fibres capture coarse mechanical impurities (rust, scale, dust) and free oil, prevent compaction and distribute the water flow evenly.
  - **Lower layer (50 % PP melt-blown):** Fine oleophilic polypropylene microfibres capture finely dispersed oil droplets and protect the downstream carbon cartridges from exhaustion as much as possible.
- **Stage 2 – Main adsorption filter (AC):** A filter cartridge in a rigid, permeable 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, compatibility and composition of the items

A) Main adsorption carbon filters (AC)

Ref. type	Wortmann drukomat	Wortmann WO	Zander ecosep S	Zander WT	Kaeser WO	Hankison HS	Sabroe Divisor	Composition
AF1-W1W	**drukomat 1**	–	**ecosep S 1**	–	–	**HS60 - HS120**	–	1× AC main filter
AF1-WZ01W	**drukomat 2 - 15**	**WO I - WO II**	**ecosep S 2 - S 15**	**WT 1 - WT 2**	**WO I - WO II**	**HS140 - HS900**	**Divisor IE - IIE**	1× AC main filter
AF2-WZ01W	**drukomat 30**	**WO III**	**ecosep S 30**	**WT 3**	**WO III**	**HS1800**	**Divisor IIIE**	2× AC main filter
AF4-WZ01W	**drukomat 60**	**WO IV**	**ecosep S 60**	**WT 4**	**WO IV**	**HS3600**	**Divisor IVE**	4× AC main filter

B) Vent filters (air side)

Ref. type	Wortmann drukomat	Wortmann WO	Zander ecosep S	Zander WT	Kaeser WO	Hankison HS	Sabroe Divisor	Composition
AF-WZ01L	**drukomat 1 - 60**	**WO I - WO IV**	**ecosep S 1 - S 60**	**WT 1 - WT 4**	**WO I - WO IV**	**HS60 - HS3600**	**Divisor IE - IVE**	1× AC vent filter

C) Two-layer pre-filters (PES + PP melt-blown)

Ref. type	Wortmann drukomat	Wortmann WO	Zander ecosep S	Zander WT	Kaeser WO	Hankison HS	Sabroe Divisor	Composition
AF1-WZV	**drukomat 15 - 30**	**WO I - WO III**	**ecosep S 15 - S 30**	**WT 1 - WT 3**	**WO I - WO III**	**HS900 - HS1800**	**Divisor IE - IIIE**	1× two-layer pre-filter (PES/PP)
AF2-WZV	**drukomat 60**	**WO IV**	**ecosep S 60**	**WT 4**	**WO IV**	**HS3600**	**Divisor IVE**	2× two-layer pre-filter (PES/PP)

(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. Common technical parameters and operating limits

Parameter	Specification
Pre-filter design (stage 1)	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 filter (AC)	Granulated activated carbon in a permeable polyester (PES) casing
Working pressure	Pressure-free gravity flow through the filter stage (condensate inflow into the decompression chamber may be pressurised up to 16 bar)
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) < 10–15 mg/l (with correct sizing of the unit and compliance with the operating conditions)

5. Installation and maintenance instructions

1. **Preparation before installation:** Before inserting into the separator, the main water-side cartridges 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. The vent carbon filter (AF-WZ01L) is not soaked – it is always inserted dry.
2. **Filter replacement:** Close the condensate inlet, remove the exhausted filters from the separator chambers, let them drip briefly and place them in a leak-proof container for hazardous waste.
3. **Fitting new filters:** Place the main carbon cartridges into the outlet / lower chamber (for multi-chamber models drukomat 30 and drukomat 60, evenly into all chambers) and seat them carefully down to the stop so that they fit tightly and the condensate cannot bypass them. For models equipped with a pre-filter (drukomat 15–60 and equivalents), 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). Insert the dry vent filter into the venting tower.
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 taking a sample from the test valve and visually comparing the turbidity. 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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6. 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.

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7. 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.

The names Wortmann®, drukomat®, Zander®, ecosep®, Kaeser®, Hankison®, Sabroe® and Divisor® are registered trademarks of the respective companies and are used here solely for the purpose of unambiguously identifying the compatibility of the replacement part.