DATA SHEET
Filter sets and cartridges for condensate separators (oil/water) – Donaldson Ultrasep® AS-P / UFS-SP N series

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1. Product and manufacturer identification

- **Product name:** Alternative filter sets and activated carbon adsorption cartridges for condensate separators
- **Intended use:** Compatible replacement parts for condensate separators of the Donaldson Ultrasep® AS-P series (5, 10 N, 15 N, 30 N, 60 N, 120 N, 240 N) and structurally identical units of the UFS-SP N series
- 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[1][2]

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2. Description and function of filtration

The filter sets and cartridges are intended for treating the condensate produced during the generation of compressed air in piston and screw compressors. After the free oil has been separated in the sedimentation and gravity chamber of the separator, the filter stage captures the residual dispersed compressor oil droplets before the water is discharged into the public sewer system.[1]

- **Stage 1 – Two-layer graded pre-filter (PES + PP melt-blown, depending on the design of the particular model):**
  - **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.[1]

3. Overview of variants, compatibility and composition of the sets (Donaldson Ultrasep® AS-P)

Compatible units (Donaldson / Ultrafilter)	Alternative designation	Composition of the filter set
Ultrasep® AS-P 5	UFS-SP 5	1× two-layer pre-filter (PES/PP), 1× AC main carbon filter
Ultrasep® AS-P 10 N	UFS-SP 10 N	1× two-layer pre-filter (PES/PP), 1× AC main carbon filter
Ultrasep® AS-P 15 N	UFS-SP 15 N	1× two-layer pre-filter (PES/PP), 1× AC main carbon filter
Ultrasep® AS-P 30 N	UFS-SP 30 N	2× two-layer pre-filter (PES/PP), 2× AC main carbon filter
Ultrasep® AS-P 60 N	UFS-SP 60 N	2× two-layer pre-filter (PES/PP), 2× AC main carbon filter
Ultrasep® AS-P 120 N	UFS-SP 120 N	4× two-layer pre-filter (PES/PP), 4× AC main carbon filter
Ultrasep® AS-P 240 N	UFS-SP 240 N	8× two-layer pre-filter (PES/PP), 8× AC main carbon 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.)

4. 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 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 10 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) < 10–20 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 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.
2. **Filter replacement:** Close the condensate inlet, remove the exhausted filters from the filter 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 lower part of the filter chambers (for multi-chamber models 30 N, 60 N, 120 N and 240 N, evenly into all chambers) and seat them carefully so that they fit tightly and the condensate cannot bypass them. Place the two-layer pre-filters on top of them 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 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.

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