

PRODUCTDATASHEET

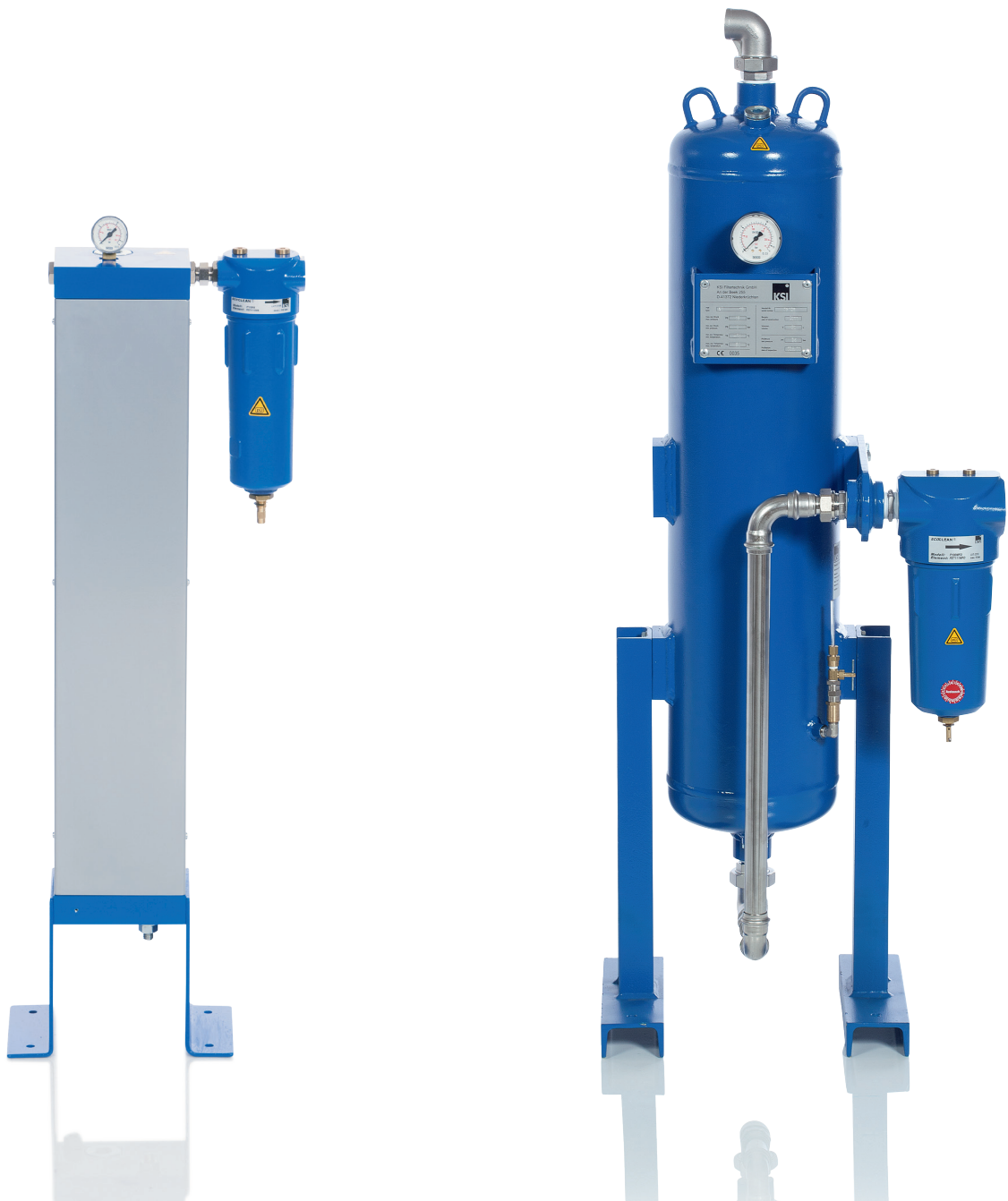
KSI Filtertechnik GmbH · Siemensring 54-56 · D-47877 Willich | Tel. +49 · 2154 · 89108-0 · Fax +49 · 2154 · 89108-282 | www.ksi.eu · mail@ksi.eu

ECOTROC® ATC

High-End Activated Carbon Adsorber

Solution for adsorption of oil vapour from compressed air and gases

Activated carbon adsorbers are used in processes where high quality and safety needs to be guaranteed.



PRODUCT DATASHEET

ECOTROC® ATC · Activated carbon adsorber

When quality is everything

Oil aerosoles up to 0,01 mg/m³ can be extracted by filtration technology. If higher quality compressed air is required oil vapour can be adsorbed by a classical **ECOTROC®** activated carbon adsorber. The result is an exceptional high air quality with a residual oil content down to 0,003 mg/m³. The **ECOTROC® ATC** product group can be divided into the lighter **ATC-AP** aluminium version and the **ATC** standard welded version.

Function

Pre-filtration

The flow optimized pre-filter **ECOCLEAN® SMA** extracts solid and fluid components (oil aerosoles) from the compressed air/compressed gas according to ISO 8573.1 class 1.

Adsorption

The pre-filtered compressed air passes through a flow divider from the top end of the adsorption vessel through the activated carbon. Physically justified adhesion forces cause the adsorption of carbon hydroxides (oil vapour) onto the huge inner surface of the special activated carbon.

plug-in-ready activated carbon adsorber

including:

- Final-filter **ECOCLEAN® MFO** (up to ATC 110)

Capacity volume flow: up to 3050 m³/h*

max. inlet temperature: 35°C

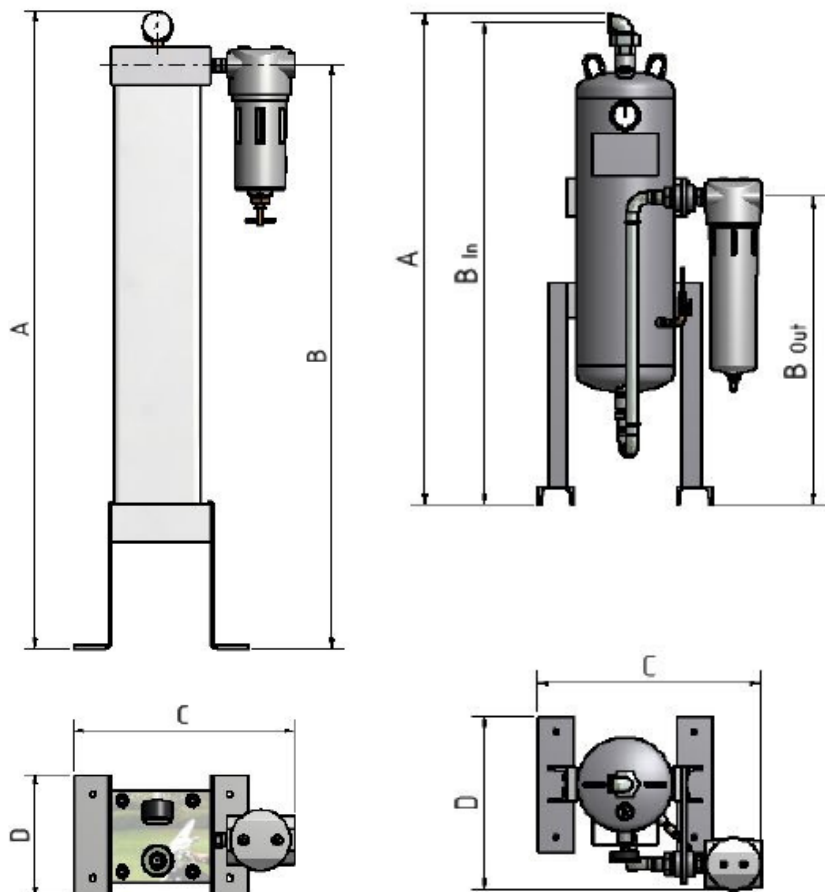
Residual oil amount up to: < 0,003 mg/m³

* refer to 1 bar (abs.) 20°C at 7 bar g operating pressure

higher volume flows on demand

Final filtration

The compressed air reaches the bottom end of the adsorption vessel after flowing through the whole activated carbon bed and enters the **ECOCLEAN® MFO** final filter for the final filtration of residual particles. Afterwards, high purity compressed air is available for further use.



PRODUCT DATASHEET

ECOTROC® ATC · Activated carbon adsorber

Capacities and dimensions

| Type | Capacity* | | Dimensions (mm) | | | Connection | |
|-----------|-------------------|------|-----------------|-----|-----|------------|--------|
| | m ³ /h | cfm | H | B | T | inlet | outlet |
| ATC-AP 1 | 5 | 3 | 545 | 235 | 120 | 1/4" | 3/8" |
| ATC-AP 2 | 10 | 6 | 645 | 235 | 120 | 1/4" | 3/8" |
| ATC-AP 3 | 20 | 12 | 745 | 235 | 120 | 1/4" | 3/8" |
| ATC-AP 4 | 35 | 21 | 832 | 291 | 160 | 3/8" | 3/8" |
| ATC-AP 6 | 50 | 29 | 932 | 291 | 160 | 3/8" | 3/8" |
| ATC-AP 7 | 60 | 35 | 1032 | 291 | 160 | 3/8" | 1/2" |
| ATC-AP 8 | 70 | 41 | 924 | 363 | 180 | 1/2" | 1/2" |
| ATC-AP 9 | 90 | 53 | 1064 | 363 | 180 | 1/2" | 1/2" |
| ATC-AP 10 | 110 | 65 | 1244 | 363 | 180 | 1/2" | 1/2" |
| ATC 15 | 150 | 88 | 1140 | 508 | 404 | 1" | 1" |
| ATC 18 | 180 | 106 | 1300 | 508 | 404 | 1" | 1" |
| ATC 22 | 210 | 124 | 1420 | 508 | 404 | 1" | 1" |
| ATC 34 | 340 | 200 | 1416 | 460 | 606 | 1 1/2" | 1 1/2" |
| ATC 45 | 480 | 283 | 1566 | 460 | 606 | 1 1/2" | 1 1/2" |
| ATC 55 | 600 | 353 | 1976 | 460 | 606 | 1 1/2" | 1 1/2" |
| ATC 75 | 820 | 483 | 1686 | 582 | 732 | 2" | 2" |
| ATC 90 | 1000 | 589 | 1936 | 582 | 732 | 2" | 2" |
| ATC 110 | 1200 | 706 | 2086 | 582 | 732 | 2" | 2" |
| ATC 155 | 1550 | 912 | 2112 | 698 | 578 | DN 80 | DN 80 |
| ATC 185 | 1850 | 1088 | 2117 | 749 | 629 | DN 80 | DN 80 |
| ATC 205 | 2050 | 1206 | 2127 | 800 | 680 | DN 80 | DN 80 |
| ATC 245 | 2450 | 1442 | 2325 | 865 | 803 | DN 100 | DN 100 |
| ATC 305 | 3050 | 1794 | 2340 | 926 | 803 | DN 100 | DN 100 |

*refer to 1 bar (abs.) and 20°C at 7 bar g operating pressure, 35°C inlet temperature

Higher volume flow / higher operating pressure on demand

Correction factors

| Correction factors operating pressure | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|-----|-----|------|------|------|------|---|------|------|------|------|------|------|------|-----|------|------|------|------|------|-----|------|------|------|------|
| bar g | 4 | 4,5 | 5 | 5,5 | 6 | 6,5 | 7 | 7,5 | 8 | 8,5 | 9 | 9,5 | 10 | 10,5 | 11 | 11,5 | 12 | 12,5 | 13 | 13,5 | 14 | 14,5 | 15 | 15,5 | 16 |
| F(p) | 0,6 | 0,7 | 0,74 | 0,82 | 0,89 | 0,97 | 1 | 1,08 | 1,11 | 1,16 | 1,22 | 1,29 | 1,36 | 1,42 | 1,5 | 1,57 | 1,63 | 1,69 | 1,75 | 1,83 | 1,9 | 1,96 | 2,03 | 2,1 | 2,14 |

| Correction factors inlet temperature | | | | | | | | | |
|--------------------------------------|-----|-----|------|----|------|------|------|------|------|
| °C | <25 | 25 | 30 | 35 | 38 | 40 | 45 | 48 | 50 |
| F(t) | 1,2 | 1,1 | 1,09 | 1 | 0,84 | 0,78 | 0,72 | 0,65 | 0,58 |

Please multiply the dryer's capacity with the correction factors in the table above to get the correct capacity.

Higher inlet temperatures on demand

PRODUCT DATASHEET

ECOTROC® ATC · Activated carbon adsorber

Field of application

| | |
|------------------------------------|--|
| Field of application | Installation inside in non-aggressive atmosphere |
| Residual oil amount at 20°C | 0,003 mg/m ³ |
| Relative humidity | 100% (under the precondition of an upstream refrigeration dryer) |
| Ambient temperature max. | 50°C |
| Ambient temperature min. | +2°C |
| Operating pressure | 4 to 16 bar g |
| Medium | Compressed air and gases |

* refer to 1 bar (abs.) 20°C at 7 bar operating pressure

Technical features

According to Council directives 87/404/EWG on simple pressure vessels and directive 97/23/EWG on pressure equipment.

Dryers of KSI product line ECOTROC® ATC undergo a conformity assessment while construction according to annex III module B + D.

Following norms and manufacturing processes are basis for the production:

DIN EN ISO 12100, DIN EN 1050, DIN EN 50081, DIN EN 50082, DIN EN 60204, DIN EN ISO 9001:2008 (Total Quality Management), 87/404/EWG (Simple Pressure Vessels), 97/23/EWG (Pressure Equipment Directives), TR B'en (Technical Directives Pressure Vessels), GSG (Equipment Safety Act), 9. GSGV (9th Regulation for Equipment Safety), 2006/42/EG

Approvals for Pressure Equipment

| | |
|--------------|--|
| EU | Approved for fluid group 2 according to Pressure Equipment Directive 97/23/EG, module B+D (categorie IV) |
| Other | ASME |

Quality Management

| | |
|-------------------------------|-----------------|
| Development/Production | DIN EN ISO 9001 |
|-------------------------------|-----------------|

Air purity class according to ISO 8573-1:2010

| | |
|---------------------------|---------|
| Solid particles | Class 2 |
| Humidity (gaseous) | - |
| Total oil | Class 1 |

PRODUCT DATASHEET

ECOTROC® ATC · Activated carbon adsorber

Maintenance

Following regulations for maintenance guarantee a secure and trouble-free use and should be obeyed by the customer.

| | | |
|----------------|----------------------|------------------------------|
| daily | Adsorber + filters: | Visual and function control |
| monthly | Oil indicator: | Measure residual oil |
| annual | Final-filterelement: | Exchange |
| | Activated carbon: | Exchange |
| | Sealings: | Exchange |
| | Sieves: | Clean, exchange if necessary |

Versions and options

- **ECOTROC® ATC-AP** for volume flows from 3 cfm up to 65 cfm
- **ECOTROC® ATC** for volume flows from 88 cfm up to 1794 cfm
- Activated carbon adsorbers **ECOTROC® ATC** can be mounted ex works to a KSI adsorption dryer **ECOTROC® ATK** as a systematic solution labelled as **ECOTROC® ATO**
- Activated carbon adsorbers **ECOTROC® ATC** can be delivered in higher capacities and for middle and high pressure applications (up to 500 bar) on demand

The ECOTROC® ATC Plus Effect +++

- + optimized adsorption of oil vapour (carbon hydroxides)
- + highly activated carbon for air and gases deliver maximum efficiency
- + optimized volume flow diversion through the whole activated carbon bed
- + residual oil amount up to maximum 0,003 mg/m³
- + oil indicator monitors the saturation stage, from models **ATC 15** onwards
- + easy access to all components simplifies maintenance
- + 10.000 hours activated carbon life time*

*The activated carbon life time depends on the quality and the relative humidity of the medium as well as on the type of compressor.

