ECOTROC® ATC

High-end Activated Carbon Adsorber

Rev 02_1024

Solution for adsorption of oil vapour from compressed air and gases

When quality is the decisive factor

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-APN** aluminium version and the **ATC** standard welded version.

Versions and options

- **ECOTROC® ATC-APN** for volume flows from 5 m³/h up to 220 m³/h
- **ECOTROC® ATCN** for volume flows from 150 m³/h up to 1200 m³/h
- **ECOTROC® ATC** for volume flows from 1550 m³/h up to 3050 m³/h
- activated carbon adsorber **ECOTROC® ATC** can be combinated with KSI adsorption dryers **ECOTROC® ATK** to the system solution called **ECOTROC® ATO**

The ECOTROC®ATC Plus-Effects +++

+ optimized adsorption of oil vapour (carbon hydroxides)
+ highly activated carbon for air and gases ensures maximum efficiency
+ optimized volume flow diversion through the whole activated carbon bed
+ residual oil up to maximum 0,003 mg/m³
+ oil indicator monitors the saturation stage, standard from model **ATCN 15** and larger (optional for **ATC-APN)**
+ easy access to all components simplifies maintenance
+ 8.000 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.

- activated carbon adsorber **ECOTROC® ATCN/ATC** can be designed for higher capacity demands and for high-pressure applications up to 500 bar

ECO**TROC**® ATC

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Effective 3-stage-process

1. Prefiltration

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

2. Adsorption

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

3. Postfiltration

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

Scope of supply and performance levels

ECOTROC® ATC-APN 1 – 13
ready-to-use activated carbon adsorber
including
· postfilter **KSI ECOCLEAN®** DMF
· pressure gauge for displaying the operating pressure
capacity volume flow: up to 220 m³/h*
residual oil content up to: ‹ 0,003 mg/m³

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

ECOTROC® ATCN 15 – 110
ready-to-use activated carbon adsorber
including
· postfilter **KSI ECOCLEAN®** DMF
· pressure gauge for displaying the operating pressure
- oil test indicator
capacity volume flow: up to 1200 m³/h*
residual oil content up to: ‹ 0,003 mg/m³

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

ECOTROC® ATC 155 – 305
ready-to-use activated carbon adsorber
including
· pressure gauge for displaying the operating pressure
- oil test indicator
capacity volume flow: up to 3050 m³/h*
residual oil content up to: ‹ 0,003 mg/m³

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

ECO**TROC**® ATC

High-end Activated Carbon Adsorber

Specifications

Type	Capacity*		Dimensions (mm)					Connection	Conncetion	Weight
	m³/h	cfm	A	B(1)	B(2)	C	D	Inlet	Outlet	kg
ATC-APN 1	5	3	594	535	/	246	180	1/4“	3/8“	7
ATC-APN 2	10	6	694	635	/	246	180	1/4“	3/8“	8
ATC-APN 3	20	12	794	735	/	246	180	1/4“	3/8“	9
ATC-APN 4	35	21	832	767	/	312	210	1/2“	3/8“	16
ATC-APN 6	50	29	933	867	/	312	210	1/2“	3/8“	17
ATC-APN 7	60	35	1033	967	/	312	210	1/2“	1/2“	20
ATC-APN 8	70	41	931	860	/	374	250	1/2“	1/2“	27
ATC-APN 9	90	53	1071	1000	/	374	250	1/2“	1/2“	30
ATC-APN 10	110	65	1251	1120	/	374	250	1/2“	1/2“	34
ATC-APN 11	140	80	1008	928	686	381	542	1“	1“	56
ATC-APN 12	180	110	1148	1068	686	381	542	1“	1“	62
ATC-APN 13	220	130	1328	1248	686	381	542	1“	1“	70
ATCN 15	150	88	1202	1182	731	696	575	1“	1“	85
ATCN 18	180	106	1382	1362	911	696	575	1“	1“	94
ATCN 25	250	147	1806	1786	1335	696	575	1“	1“	104
ATCN 34	340	200	1540	1511	1047	696	700	1 1/2“	1 1/2“	188
ATCN 45	480	283	1639	1610	1145	696	700	1 1/2“	1 1/2“	201
ATCN 55	600	353	2099	2070	1605	696	700	1 1/2“	1 1/2“	261
ATCN 75	820	483	1819	1783	1207	860	845	2“	2“	393
ATCN 90	1000	589	2119	2083	1507	860	845	2“	2“	471
ATCN 110	1200	706	2219	2183	1607	860	845	2“	2“	497
ATC 155	1550	912	2112	2012	158	698	700	DN 80	DN 80	375
ATC 185	1850	1089	2122	2022	148	749	700	DN 80	DN 80	435
ATC 205	2050	1207	2133	2033	137	800	726	DN 80	DN 80	494
ATC 245	2450	1442	2328	2218	222	865	850	DN 100	DN 100	570
ATC 305	3050	1795	2340	2230	210	926	853	DN 100	DN 100	695

*bezogen auf 1 bar (abs.) und 20°C bei 7bar ü Betriebsdruck | calculated at 1 bar (abs.) and 20°C at 7bar g working pressure

Corrections 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

Multiply the power of the adsorber by the correction factor in the table above and you will get the corrected power.

Higher inlet temperatures on request.

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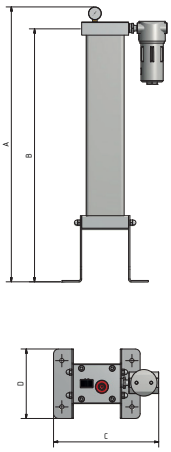
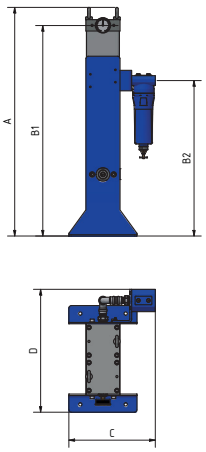
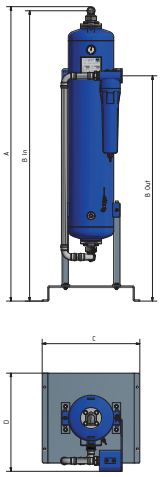
Dimensional drawings



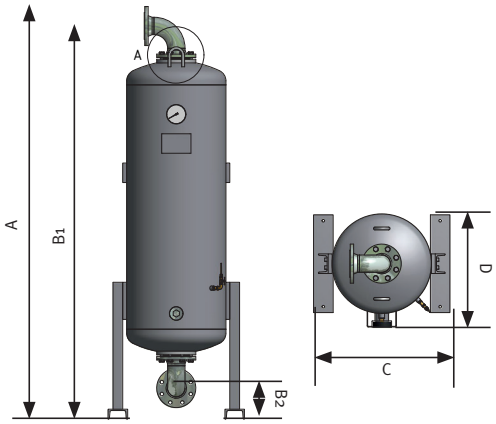
ATC-APN 1 – ATC-APN 10



ATC-APN 11 – ATC-APN 13



ATCN 15 – ATCN 110



ATC 155 – ATC 305

Field of application

Field of application	Installation inside in non-aggressive atmosphere
Residual oil amount at 20°C	0,003 mg/m³
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 (ATC-APN 10 + ATC-APN 13: max. 13,5 bar g)
Medium	compressed air and gases

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

Technical features

According to Council directives 2014/29/EU on simple pressure vessels and directive 2014/68/EU on pressure equipment.

Adsorbers of KSI product line ECOTROC® ATC undergo a conformity assessment while construction according to annex I.

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), 2014/29/EU (Simple Pressure Vessels), 2014/68/EU (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 2014/68/EU, module B+D (categorie IV)**
other	**ASME**
according to classification	**ATC-APN 1 to 3 par. 3 art. 4**
DGRL 2014/68/EU	**ATC-APN 4 to 13 category I**
fluid group	**2**

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**

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