

ECOTROC® AT-HP | KSI ECOCLEAN® HP High-pressure Adsorption Dryer, Activated Carbon Adsorber and Filter

For economical processing through high-pressure compressed air applications



Rev 02_1019



up to
500
bar

Mechanical engineering competence „Made in Germany“

Maximum mechanical engineering competence and production „Made in Germany“ guarantee a safe and reliable preparation of compressed air in the standard range from 50 bar to 450 bar (on request up to 500 bar).

The **ECOTROC® ATKN-HP** series continues the globally successful **ECOTROC® ATK** adsorption dryer series. The design and the process engineering of the ATK-HP series are thus proven.

In addition to adsorption dryers, compressed air filters are also among the most important components in the high-pressure range, both for the simplest and the most complex installations. With housings made of aluminium and stainless steel as well as filters and filter elements for pressure stages up to 450 bar (up to 500 bar on request), the KSI also sets standards with the **KSI ECOCLEAN®** series.

The high-pressure components in industrial supplier quality provide a safe and compact system solution with the KSI-typical, excellent price/performance ratio.

The ECOTROC®ATKN-HP Plus-Effects +++

- + the new benchmark in the cost-benefit ratio
- + compact design
- + premium high-pressure fittings
- + weld seam-free stainless steel containers
- + internal self-cleaning dust filter
- + stainless steel towers with 3-bed filling
- + preloaded desiccant bed
- + low-maintenance fittings
- + maximum service life and service life
- + robust, torsion-resistant construction and design
- + high-quality components => long service life
- + intelligent control => comfortable operability & operation
- + high service and maintenance friendliness => minimized service costs
- + with compressor synchronisation control as standard
- + upper valve unit incl. variable purge air nozzle

ECOTROC® AT-HP

High-pressure Adsorption Dryer and Activated Carbon Adsorber



Scope of supply AT-HP

ATKN-HP (heatless regenerated) and
ATON-HP (heatless regenerated, oilfree):

including:

- prefilter **KSI ECOCLEAN®** HP-SMA
- afterfilter **KSI ECOCLEAN®** HP-DMF
- electrical control **ECOMATIC**
including compressor synchronizing circuit
- **ATON-HP**: residual oil content up to $< 0,003 \text{ mg/m}^3$ at 20°C
capacity dew point: -20°C up to -70°C
(-40°C standard)

ATCN-HP activated carbon adsorber:

including:

- afterfilter **KSI ECOCLEAN®** HP-DMF
- residual oil content up to $< 0,003 \text{ mg/m}^3$ at 20°C

Delivery options*

- **ATKN-HP** heatless regenerated high-pressure adsorption dryer
- **ATCN-HP** high-pressure activated carbon adsorber
- **ATON-HP** heatless high-pressure adsorption dryer with activated carbon adsorber

*higher capacities and temperatures on request.

ATKN-HP 450

- + weld seam-free stainless steel vessels for working pressure stages up to PN450
- + vessel closure with double O-ring
- + preloaded and fixed desiccant bed
- + internal, self-cleaning dust filter
- + stainless steel vessels with 3-bed filling
- + dew point sensor for pressure dew point measurement PN450
- + start-up device PN450
- + high performance silencer
- + check valve unit with adjustable nozzle FHP60 B450
- + pre- and afterfilter made of stainless steel (1.4401)
- + automatic condensate drain up to 500bar
- + detachable lifting lugs
- + standard frame also available in shock-resistant design up to 15g
- + frame with powder coating also available with seawater resistant design
- + vibration damping machine feet



Upper valve unit with adjustable purge air nozzle

ECOTROC® AT-HP

High-pressure Adsorption Dryer and Activated Carbon Adsorber – up to 50 bar



The types



ECOTROC® AT-HP 50

50 bar · up to 1285 m³/h

Type	Type	Type	Capacity*
ATKN-HP50	ATCN-HP50	ATON-HP50	m³/h
ATKN10-HP50	ATCN10-HP50	ATON10-HP50	40
ATKN20-HP50	ATCN20-HP50	ATON20-HP50	81
ATKN30-HP50	ATCN30-HP50	ATON30-HP50	160
ATKN40-HP50	ATCN40-HP50	ATON40-HP50	213
ATKN50-HP50	ATCN50-HP50	ATON50-HP50	305
ATKN60-HP50	ATCN60-HP50	ATON60-HP50	410
ATKN70-HP50	ATCN70-HP50	ATON70-HP50	640
ATKN80-HP50	ATCN80-HP50	ATON80-HP50	900
ATKN90-HP50	ATCN90-HP50	ATON90-HP50	1285

*related to 1 bar (abs.) and 20°C at 50 bar g operating pressure

Correction factors for the complete series

Type	bar	30°C	35°C	40°C	45°C	50°C
ATK-HP50						
	26	0,53	0,52	0,41	0,31	0,26
	38	0,78	0,76	0,59	0,46	0,36
	50	1,02	1,00	0,78	0,6	0,48
ATK-HP250						
	125	0,51	0,50	0,39	0,3	0,24
	185	0,77	0,75	0,59	0,45	0,36
	250	1,02	1,00	0,78	0,6	0,48
ATK-HP350						
	140	0,41	0,40	0,31	0,24	0,19
	245	0,71	0,70	0,55	0,42	0,34
	350	1,02	1,00	0,78	0,6	0,48
ATK-HP450						
	320	0,73	0,71	0,56	0,43	0,34
	390	0,87	0,86	0,67	0,51	0,41
	450	1,02	1,00	0,78	0,6	0,48

Higher capacities and temperatures on request.

ECOTROC® AT-HP

High-pressure Adsorption Dryer and Activated Carbon Adsorber – Pressure Stages 250 – 350 – 450 bar



The types



ECOTROC® ATKN-HP450

Higher capacities and temperatures on request.

ECOTROC® AT-HP 250 250 bar · up to 820 m³/h

Type	Type	Type	Capacity*
ATKN-HP250	ATCN-HP250	ATON-HP250	m³/h
ATKN15-HP250	ATCN15-HP250	ATON15-HP250	85
ATKN25-HP250	ATCN25-HP250	ATON25-HP250	115
ATKN35-HP250	ATCN35-HP250	ATON35-HP250	170
ATKN45-HP250	ATCN45-HP250	ATON45-HP250	225
ATKN55-HP250	ATCN55-HP250	ATON55-HP250	460
ATKN65-HP250	ATCN65-HP250	ATON65-HP250	620
ATKN75-HP250	ATCN75-HP250	ATON75-HP250	710
ATKN85-HP250	ATCN85-HP250	ATON85-HP250	820

*related to 1 bar (abs.) and 20°C at 250 bar g operating pressure

ECOTROC® AT-HP 350 350 bar · up to 1120 m³/h

Type	Type	Type	Capacity*
ATKN-HP350	ATCN-HP350	ATON-HP350	m³/h
ATKN15-HP350	ATCN15-HP350	ATON15-HP350	120
ATKN25-HP350	ATCN25-HP350	ATON25-HP350	155
ATKN35-HP350	ATCN35-HP350	ATON35-HP350	235
ATKN45-HP350	ATCN45-HP350	ATON45-HP350	315
ATKN55-HP350	ATCN55-HP350	ATON55-HP350	640
ATKN65-HP350	ATCN65-HP350	ATON65-HP350	840
ATKN75-HP350	ATCN75-HP350	ATON75-HP350	960
ATKN85-HP350	ATCN85-HP350	ATON85-HP350	1120

*related to 1 bar (abs.) and 20°C at 350 bar g operating pressure

ECOTROC® AT-HP 450 450 bar · up to 1380 m³/h

Type	Type	Type	Capacity*
ATKN-HP450	ATCN-HP450	ATON-HP450	m³/h
ATKN15-HP450	ATCN15-HP450	ATON15-HP450	155
ATKN25-HP450	ATCN25-HP450	ATON25-HP450	205
ATKN35-HP450	ATCN35-HP450	ATON35-HP450	305
ATKN45-HP450	ATCN45-HP450	ATON45-HP450	405
ATKN55-HP450	ATCN55-HP450	ATON55-HP450	780
ATKN65-HP450	ATCN65-HP450	ATON65-HP450	980
ATKN75-HP450	ATCN75-HP450	ATON75-HP450	1180
ATKN85-HP450	ATCN85-HP450	ATON85-HP450	1380

*related to 1 bar (abs.) and 20°C at 450 bar g operating pressure

KSI ECOCLEAN® HP

High-pressure Filter



The KSI ECOCLEAN® HP Plus-Effects +++

- + extremely robust and durable
 - ▶ aluminum housing up to 50 bar
 - ▶ enclosures with higher pressure ratings up to 450 bar are available in two stainless steel versions:
Standard: V2A (1.4301) Premium: V4A (1.4404)
- + approved up to 500 bar
- + optional with differential pressure indicator up to 420 bar
- + optionally with electric condensate drain up to 500 bar
- + with double O-ring seal on the housing to protect the thread ▶ more service friendliness



High-pressure filter up to 50 bar

Scope of supply

Compressed air filter consisting of:

KSI ECOCLEAN® aluminum filter housing incl. filter element
ball valve - high pressure



Replacement element

Typ Type	Leistung* Capacity*		Abmessungen (mm) Dimensions (mm)			Anschluss Connection	Prod. Grp.	Replacement element	
	m³/h	cfm	A	B	C			Element Element	Prod. Grp.
FHP007 ▶	433	255	250	30	110	1/2"	014	FE007HP ▶	114
FHP010 ▶	683	402	250	30	110	3/4"	014	FE010HP ▶	114
FHP018 ▶	1244	732	250	30	110	1"	014	FE018HP ▶	114
FHP047 ▶	1720	1012	535	45	160	1 1/2"	014	FE047HP ▶	114
FHP070 ▶	2440	1436	535	45	160	1 1/2"	014	FE070HP ▶	114
FHP094 ▶	3013	1774	715	45	160	2"	014	FE094HP ▶	114
FHP150 ▶	4873	2868	715	45	160	2"	014	FE150HP ▶	114

▶ = Abscheidegrad | filtration-grade: Beispiel Bestellnummer für FHP018 mit 1 Mikron Abscheidung: FHP018MFO | Example order code for FHP018 with 1 micron efficiency: FHP018MFO

* bei 50 bar und 20°C | at 50 bar and 20°C

Korrekturfaktoren | Correction factors

Korrekturfaktoren | Correction factors 50 bar

Arbeitsdruck Working pressure	bar	ü	g	20	30	40	50
Faktor factor	0,43	0,64	0,84	1			

Multiplizieren Sie bitte die Leistung des Filters mit dem Korrekturfaktor in den oberen Tabellen.

Beispiel: Leistung Typ FHP94-B50SMA bei 40 bar ü - Leistung nominal (3152 m³/h) x Faktor (0,9) = Leistung korrigiert (2837 m³/h)

Please multiply the capacity of the filter by the correction factor in the above table.

Example: Capacity type FHP94-B50 at 40 bar g - Capacity nominal (3152 m³/h) x Factor (0,9) = Capacity corrected (2837 m³/h)

KSI ECOCLEAN® HP

High-pressure Filter –

Pressure Stages 250 – 350 – 450 bar



V2A
stainless
steel



Scope of supply
Compressed air filter consisting of:
KSI ECOCLEAN® stainless steel filter housing incl. filter element
ball valve - high pressure

High-pressure filter up to 250 bar

Typ	Leistung*		Abmessungen (mm)				Anschluss	Prod.
Type	Capacity*		Dimensions (mm)				Connection	Grp.
	m³/h	cfm	A	B	C	D		
FHP50-B250 ▶ V2A	256	151	212	25	95	95	3/8"	014
FHP60-B250 ▶ V2A	448	264	212	25	95	95	1/2"	014
FHP80-B250 ▶ V2A	840	494	300	25	133	125	3/4"	014
FHP100-B250 ▶ V2A	1296	763	300	25	133	125	1"	014

Replacement element

Element	Prod.
Element	Grp.
FEHP3711 ▶	114
FEHP3711 ▶	114
FEHP5111 ▶	114
FEHP7111 ▶	114

▶ = Abscheidegrad | filtration-grade

Beispiel Bestellnummer für FHP50-B250 mit 1 Mikron Abscheidung: FHP50-B250MFOV2A | Example order code for FHP50-B250 with 1 micron efficiency: FHP50-B250MFOV2A

High-pressure filter up to 350 bar

Typ	Leistung*		Abmessungen (mm)				Anschluss	Prod.
Type	Capacity*		Dimensions (mm)				Connection	Grp.
	m³/h	cfm	A	B	C	D		
FHP50-B350 ▶ V2A	288	170	212	25	95	95	3/8"	014
FHP60-B350 ▶ V2A	504	297	212	25	95	95	1/2"	014
FHP80-B350 ▶ V2A	945	556	300	25	133	125	3/4"	014
FHP100-B350 ▶ V2A	1458	858	300	25	133	125	1"	014

Replacement element

Element	Prod.
Element	Grp.
FEHP3711 ▶	114
FEHP3711 ▶	114
FEHP5111 ▶	114
FEHP7111 ▶	114

▶ = Abscheidegrad | filtration-grade

Beispiel Bestellnummer für FHP50-B350 mit 1 Mikron Abscheidung: FHP50-B350MFOV2A | Example order code for FHP50-B350 with 1 micron efficiency: FHP50-B350MFOV2A

High-pressure filter up to 450 bar

Typ	Leistung*		Abmessungen (mm)				Anschluss	Prod.
Type	Capacity*		Dimensions (mm)				Connection	Grp.
	m³/h	cfm	A	B	C	D		
FHP50-B450 ▶ V2A	320	188	212	25	95	95	3/8"	014
FHP60-B450 ▶ V2A	560	330	212	25	95	95	1/2"	014
FHP80-B450 ▶ V2A	1050	618	300	25	133	125	3/4"	014
FHP100-B450 ▶ V2A	1620	954	300	25	133	125	1"	014

Replacement element

Element	Prod.
Element	Grp.
FEHP3711 ▶	114
FEHP3711 ▶	114
FEHP5111 ▶	114
FEHP7111 ▶	114

▶ = Abscheidegrad | filtration-grade

Beispiel Bestellnummer für FHP80-B450 mit 1 Mikron Abscheidung: FHP80-B450MFOV2A | Example order code for FHP80-B450 with 1 micron efficiency: FHP80-B450MFOV2A

KSI ECOCLEAN® HP

High-pressure Filters –

Pressure Stages 250 – 350 – 450 bar



Scope of supply

Compressed air filter consisting of:

KSI ECOCLEAN® stainless steel filter housing incl. filter element
ball valve - high pressure

High-pressure filter up to 250 bar

Typ Type	Leistung* Capacity*		Abmessungen (mm) Dimensions (mm)				Anschluss Connection	Prod. Grp.	Replacement element	
	m³/h	cfm	A	B	C	D			Element	Prod. Grp.
FHP50-B250 ▶ V4A	256	151	212	25	95	95	3/8"	014	FEHP3711 ▶	114
FHP60-B250 ▶ V4A	448	264	212	25	95	95	1/2"	014	FEHP3711 ▶	114
FHP80-B250 ▶ V4A	840	494	300	25	133	125	3/4"	014	FEHP5111 ▶	114
FHP100-B250 ▶ V4A	1296	763	300	25	133	125	1"	014	FEHP7111 ▶	114

▶ = Abscheidegrad | filtration-grade

Beispiel Bestellnummer für FHP50-B250 mit 1 Mikron Abscheidung: FHP50-B250MFOV4A | Example order code for FHP50-B250 with 1 micron efficiency: FHP50-B250MFOV4A

High-pressure filter up to 350 bar

Typ Type	Leistung* Capacity*		Abmessungen (mm) Dimensions (mm)				Anschluss Connection	Prod. Grp.	Replacement element	
	m³/h	cfm	A	B	C	D			Element	Prod. Grp.
FHP50-B350 ▶ V4A	288	170	212	25	95	95	3/8"	014	FEHP3711 ▶	114
FHP60-B350 ▶ V4A	504	297	212	25	95	95	1/2"	014	FEHP3711 ▶	114
FHP80-B350 ▶ V4A	945	556	300	25	133	125	3/4"	014	FEHP5111 ▶	114
FHP100-B350 ▶ V4A	1458	858	300	25	133	125	1"	014	FEHP7111 ▶	114

▶ = Abscheidegrad | filtration-grade

Beispiel Bestellnummer für FHP50-B350 mit 1 Mikron Abscheidung: FHP50-B350MFOV4A | Example order code for FHP50-B350 with 1 micron efficiency: FHP50-B350MFOV4A

High-pressure filter up to 450 bar

Typ Type	Leistung* Capacity*		Abmessungen (mm) Dimensions (mm)				Anschluss Connection	Prod. Grp.	Replacement element	
	m³/h	cfm	A	B	C	D			Element	Prod. Grp.
FHP50-B450 ▶ V4A	320	188	212	25	95	95	3/8"	014	FEHP3711 ▶	114
FHP60-B450 ▶ V4A	560	330	212	25	95	95	1/2"	014	FEHP3711 ▶	114
FHP80-B450 ▶ V4A	1050	618	300	25	133	125	3/4"	014	FEHP5111 ▶	114
FHP100-B450 ▶ V4A	1620	954	300	25	133	125	1"	014	FEHP7111 ▶	114

▶ = Abscheidegrad | filtration-grade

Beispiel Bestellnummer für FHP80-B450 mit 1 Mikron Abscheidung: FHP80-B450MFOV4A | Example order code for FHP80-B450 with 1 micron efficiency: FHP80-B450MFOV4A

KSI ECOCLEAN® DPN-HP

Differenzdruckanzeiger Hochdruck
(bis 420 bar Betriebsdruck)

*Differential pressure gauge high pressure
(up to 420 bar operating pressure)*



Bestell-Nr.	für Filtertypen	Prod.
Order code	for filter types	Grp.
DPN-HP450	FHP50-B450 – FHP100-B450	099

KONDRAIN® HP

Zeitgesteuerter und niveaugeregelter
Kondensatableiter · Hochdruck

*Time controlled and level controlled
condensate drains · high pressure*

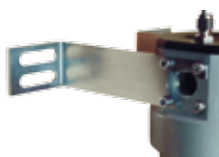


Bestell-Nr.	Typen	Prod.
Order code	Types	Grp.
KMT-HP	zeitgesteuert / <i>time controlled</i>	510
KN-HP	niveaugeregelt / <i>level controlled</i>	510

KSI ECOCLEAN® WH-HP

Wandhalterung Hochdruck

Wall mounting brackets - high pressure



Bestell-Nr.	für Filtertypen	Prod.
Order code	for filter types	Grp.
WH-HP50	FHP007 – FHP150	099
WH-HP250-450	FHP50-B(bar) – FHP100-B(bar)	099

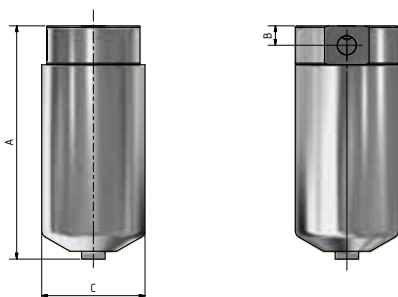
**Filterelemente auch als
Wasserabscheider lieferbar |
filter elements also available
as water separators**



FHP () WS

Spezifikationen	VF25	FF5	MFO	MF1	SMA	Specifications
Partikelfiltration	25 Mikron	5 Mikron	1 Mikron	0,1 Mikron	0,01 Mikron	Particle removal
Max. Restölgehalt bei 20°C	10 mg/m ³	5 mg/m ³	0,5 mg/m ³	0,1 mg/m ³	0,01 mg/m ³	Residual oil content at 20°C
Temperaturbereich	1,5 °C – 65 °C					Operating temperature range
	CA					
Max. Restölgehalt bei 20°C	0,003 mg/m ³					Residual oil content at 20°C
Temperaturbereich	30°C effekt. <i>effect.</i>					Operating temperature range
Max. Arbeitsdruck	FHP007 – FHP150: 50 bar ü/g FHP50-B250 – FHP100-B250: 250 bar ü/g FHP50-B350 – FHP100-B350: 350 bar ü/g FHP50-B450 – FHP100-B450: 450 bar ü/g					Max. working pressure
Material Gehäuse	FHP007 – FHP150: Aluminium FHP50-B250 – FHP100-B450: Edelstahl <i>stainless steel</i> (1.4301 / 1.4404)					Housing material

Maßzeichnungen | Dimensional drawings



Korrekturfaktoren | Correction factors

Korrekturfaktoren Correction factors						
Arbeitsdruck Working pressure	bar ü g	250	300	350	400	450
Faktor factor		0,8	0,85	0,9	0,95	1

Multiplizieren Sie bitte die Leistung des Filters mit dem Korrekturfaktor in den oberen Tabellen.
Beispiel: Leistung Typ FHP80-B350 bei 250 bar ü - Leistung nominal (1030 m³/h) x Faktor (0,9) = Leistung korrigiert (927 m³/h)
Please multiply the capacity of the filter by the correction factor in the above table.
Example: Capacity type FHP80-B350 at 250 bar g - Capacity nominal (1030 m³/h) x Factor (0,9) = Capacity corrected (927 m³/h)