AKM 1-8

Activated carbon adsorber for the efficient purification of compressed air

AKM 1-8 activated carbon adsorbers purify pre-dried, industrial compressed air reliably and efficiently down to a remaining oil content of 0,003mg/m³. The units are constructed in a compact manner and designed to be wall-mounted or free-standing with built-on after filters. They are equipped with built-on pre- and after filtration and are sized for volumetric flows of up to 86 m³/h (suction capacity of the compressor referring to a compression of 7 bar_e).
Pre-dried compressed air flows from top to bottom through a single aluminium profile chamber containing high-quality activated carbon: Any remaining oil-aerosols and oil-vapours, including odours and tastes, are removed by the active surface area of the highly-porous activated carbon to produce high-quality, clean compressed air.
Finally, the treated compressed air exits via the validated GL after-filter into the downstream compressed air network. Using an oil-indicator tube supplied as standard, quality checks can be carried out periodically. The lifetime of the activated carbon filling can vary and is dependent on the contamination type and quantity and the relative humidity of the compressed air. Customary lifetimes for industrial applications range from 8 to 10.000 operating hours, which can be verified using a colour-change indicator to simplify planning requirements.

Performance overview:

Model	Nominal pipe size[1]	Nominal flow rate[2]
AKM 1	1/4	8
AKM 2	1/4	15
AKM 3	1/4	25
AKM 4	1/4	35
AKM 6	1/2	56
AKM 7	1/2	72
AKM 8	3/4	86

1: Nominal pipe size is accordance with DIN ISO 228 (BSP-P)

2: Volumetric flow rate in m³/h, relating to 1 bar_a and 20 °C. Subsequently compressed to 7 bar_e, at 35 °C inlet temperature to the adsorber. Relative humidity < 20 %.
Where minimum operating pressure and inlet temperature deviate, the actual flow rate should be multiplied by the correction factor f to arrive at the required nominal flow and thus the correct size of dryer.

Scope of supply:

Activated carbon adsorber - ready for installation, including oil-indicator and GL after filter.

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Product Specification

AKM 1-8 Activated Carbon Adsorber

Ordering – and performance data

Model	Order No.	Volumetric flow[1] in m³/h	Nominal pipe size[2]	After-filter	Nominal Pressure in bar_e	Nominal Temp. °C
AKM 1	A1/16A2-G	8	1/4	GL2ZLH	16	50
AKM 2	A2/16A2-G	15	1/4	GL2ZLH	16	50
AKM 3	A3/16A2-G	25	1/4	GL2ZLH	16	50
AKM 4	A4/16A2-G	35	1/4	GL2ZLH	16	50
AKM 6	A6/16A2-G	56	1/2	GL5ZLDH	16	50
AKM 7	A7/16A2-G	72	1/2	GL5ZLDH	16	50
AKM 8	A8/16A2-G	86	3/4	GL7ZLDH	16	50

[1] m³/h, relating to 1 bar_a and 20 °C at the compressor suction capacity. Subsequently compressed to 7 bar_e and 35 °C inlet temperature to the Adsorber at < 20 % relative humidity.
[2] In accordance with DIN ISO 228 (BSP-P); alternative ANSI B 1.20.1 (NPT-F).

Operating range

Site selection	Frost-free indoor installation in a non-hazardous environment
Ambient temperature	1.5 to 50 °C
Compressed air inlet temperature	25 to 50 °C
Operating pressure	5 to 16 bar_e
Medium	Compressed air and gaseous nitrogen

Materials of construction

Filters	See product-specification regarding GL filter ref: ZL
Pressure vessels	Aluminium
Piping	Aluminium
Seals	NBR
Adsorber filling	100 % Activated carbon

Pressure vessel approvals

EU	Approval for fluid group 2 in accordance with the Pressure Equipment Directive 97/23/EC: Product range AKM 1 and 2 in accordance with article 3, paragraph 3; product range AKM 3 to 8 in accordance with category I (module A).
USA	Approval to ASME VIII Div. 1 not required
AUS	Approval to AS1210 not required
GUS	TR (formerly GOST-R)

Product Specification

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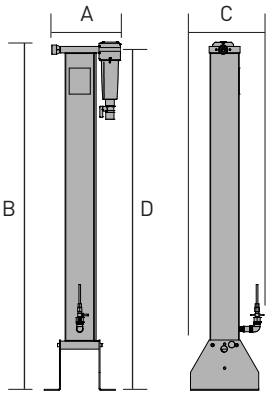
Dimensions in mm. Weight in kg

Model	A	B	C	D	Weight
AKM 1	236	400	225	376	6
AKM 2	236	575	225	551	7.5
AKM 3	236	825	225	801	10
AKM 4	236	1075	225	1051	12
AKM 6	347	1203	300	1097	25.5
AKM 7	347	1428	300	1322	30
AKM 8	347	1628	300	1522	33.5



Quality assurance

Development/Manufacture	DIN EN ISO 9001, DIN EN ISO 14001

Correction factors (f) in accordance with the actual minimum operating pressure in bar_e

Minimum operating pressure in bar_e	Inlet temperature to the adsorber in °C			
	35	40	45	50
5	0.75	0.64	0.56	0.38
6	0.89	0.76	0.67	0.45
7	1.00	0.85	0.75	0.50
8	1.13	0.92	0.81	0.54
9	1.26	1.07	0.95	0.63
10	1.31	1.11	0.98	0.65
11	1.36	1.16	1.02	0.68
12	1.49	1.27	1.12	0.74
13	1.62	1.38	1.22	0.81
14	1.70	1.45	1.28	0.85
15	1.79	1.52	1.34	0.90

Example: maximum inlet volumetric flow of 32 m³/h, at a minimum pressure of 8.3 bar_e and 35 °C inlet temperature: 32 m³/h : 1.13 = 28.3 m³/h – suitable model AKM 4.

Air quality classes, in accordance with ISO 8573-1:2010

Particulate	Class 2
Humidity (gaseous)	-
Total oil contamination	Class 1

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Product key

Series	Range*	Nominal pressure	Version	Generation	Connections*
A	1 - 8	/16	A	2	– G
A	1 - 8	/16	A	2	– N
Examples					
A	3	/16	A	2	– G
AKM 3 standard version with G1 1/4" (BSP-P) connections					
A	8	/16	A	2	– N
AKM 75 with G3/4" NPT connections					

* variable information

Service-kits: Preventative maintenance kits

Order No.	Suitability	Maintenance interval	Scope of supply
SKA1-A4	AKM 1 - AKM 4	12 month	Perforated screens and filter elements
SKA6-A7	AKM 6 - AKM 7	12 month	Perforated screens and filter elements
SKA8	AKM 8	12 month	Perforated screens and filter elements
P02/ZR	AKM 1 - AKM 8	when necessary	Indicator-tube for oil-indicator OP01/18AK

DESPACs: Amount of required dessicant packs for each model - for preventive maintenance after 12 months

Order No.	AKM 1	AKM 2	AKM 3	AKM 4	AKM 6	AKM 7	AKM 8
DESPAC3AK	1	1	1	1	2	2	
DESPAC10AK							1

Loose accessories

Order No.	Description	Suitability
VASVPB/K1-K4/08	Start-up device G1/4i	AKM 1 - AKM 4
VASVPB/K6-K7/15	Start-up device G1/2i	AKM 6 - AKM 7
VASVPB/K8/20	Start-up device G3/4i	AKM 8

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