

AKM 10-95

Activated carbon adsorber for the efficient purification of compressed air



AKM 10-95 activated carbon adsorbers purify pre-dried, industrial compressed air reliably and efficiently down to a remaining oil content of 0,003 mg/m³. The units are constructed in a compact manner and designed to be 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 940 m³/h (suction capacity of the compressor referring to a compression of 7 bar_a). Pre-dried compressed air flows from top to bottom through a single vessel 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 10	1	105
AKM 15	1	145
AKM 20	1	200
AKM 25	1 1/2	255
AKM 35	1 1/2	350
AKM 45	1 1/2	420
AKM 60	2	620
AKM 75	2	750
AKM 95	2 1/2	940

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_a, 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.

Product Specification

AKM 10-95 Activated Carbon Adsorber

Ordering – and performance data

Model	Order No.	Volumetric flow ¹⁾ in m ³ /h	Nominal pipe size ²⁾	After-filter	Nominal Pressure in bar _e	Nominal Temp. °C
AKM 10	A10/16A2-G	105	1	GL9ZLDH	16	50
AKM 15	A15/16A2-G	145	1	GL9ZLDH	16	50
AKM 20	A20/16A2-G	200	1	GL9ZLDH	16	50
AKM 25	A25/16A2-G	255	1 1/2	GL11ZLDH	16	50
AKM 35	A35/16A2-G	350	1 1/2	GL11ZLDH	16	50
AKM 45	A45/16A2-G	420	1 1/2	GL12ZLDH	16	50
AKM 60	A60/16A2-G	620	2	GL13ZLDH	16	50
AKM 75	A75/16A2-G	750	2	GL13ZLDH	16	50
AKM 95	A95/16A2-G	940	2 1/2	GL14ZLDH	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)

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	Normal steel, welded
Piping	Steel, zinc-coated
Seals	NBR
Adsorber filling	100 % Activated carbon

Pressure vessel approvals

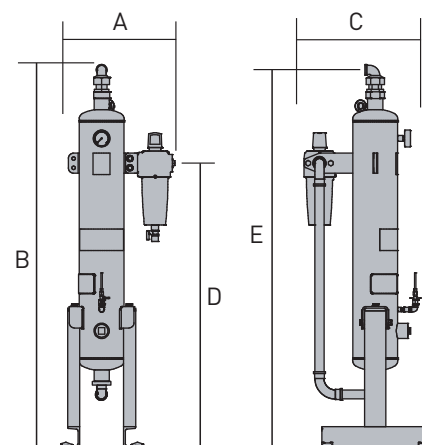
EU	Approval for fluid group 2 in accordance with the Pressure Equipment Directive 97/23/EC, Module B+D: Product range AKM10 to 35, in accordance with category II; Product range AKM 45 to 95 in accordance with category III.
AUS	AS1210
GUS	TR (formerly GOST-R)

Product Specification

AKM 10-95 Activated Carbon Adsorber

Dimensions in mm. Weight in kg

Model	A	B	C	D	E	Weight
AKM 10	420	1450	480	1070	1425	59
AKM 15	420	1780	480	1320	1755	70
AKM 20	340	1550	480	1160	1530	70
AKM 25	360	1785	515	1320	1755	82
AKM 35	370	1805	515	1320	1770	92
AKM 45	400	1830	535	1320	1795	109
AKM 60	460	1930	615	1320	1890	140
AKM 75	480	2010	615	1515	1970	172
AKM 95	520	2080	645	1515	2030	215



Quality assurance

Development/Manufacture	DIN EN ISO 9001, DIN EN ISO 14001
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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 360 m³/h at a minimum pressure of 8.3 bar_e and 35 °C inlet temperature:
 360 m³/h : 1.13 = 318.6 m³/h – suitable model AKM 35.

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

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

Product Specification

AKM 10-95 Activated Carbon Adsorber

Product key

Series	Range*	Nominal pressure	Version	Generation	Connections*
K	10 to 95	/16	A	2	- G
Examples					
A	75	/16	A	2	-G
AKM 75 with G2i (BSP-P) connection					

* variable information

Service kits: Preventative maintenance kits

Order No.	Suitability	Maintenance interval	Scope of supply
CP3025ZL	AKM 10 to AKM 20	12 month	Filter element, housing o-ring
CP3040ZL	AKM 25 to AKM 35	12 month	
CP4040ZL	AKM 45	12 month	
CP4050ZL	AKM 60 to AKM 75	12 month	
CP4065ZL	AKM 95	12 month	
P02/ZR	AKM 10 to AKM 95	When necessary	Indicator-tube for oil-indicator OP01/18AK

DESPACs:

Required quantity of activated carbon packs per model for preventative maintenance after 12 months

Order No.	AKM 10	AKM 15	AKM 20	AKM 25	AKM 35	AKM 45	AKM 60	AKM 75	AKM 95
DESPAC3AK		1	2	1		1			
DESPAC10AK	1	1	1	2	3	3	5	7	9

Loose accessories

Order No.	Function	Suitability
VASVPB/K10-K20/25	Start-up device G1i	AKM 10 to AKM 20
VASVPB/K25-K45/40	Start-up device G1 1/2i	AKM 25 to AKM 45
VASVPB/K60-K75/50	Start-up device G2i	AKM 60 to AKM 75
VASVPB/K95/65	Start-up device G2 1/2i	AKM 95