

ecodry K-MT 35-95

Efficient compressed air adsorption dryers



K-MT 35-95 heatless adsorption dryers are designed to dry industrial compressed air reliably and efficiently down to a pressure dew point of -70°C . The units are constructed in a compact manner and designed to be free-standing. They are equipped with built-on pre- and after filtration and are sized for volumetric flows of up to $940\text{ m}^3/\text{h}$ (suction capacity of the compressor referring to a compression of 7 bar_e).

Compressed air first enters the validated GL pre-filter. Continuing on, the air flows into one of two twin-vessels; both filled with molecular sieve - a renowned drying-agent, where the air is dried. During the drying process, the second vessel undergoes regeneration: At the start of the drying-cycle, this vessel is open to atmosphere and a small proportion of dried compressed air passes through the adsorption bed, transporting the humidity out. When this procedure is complete, the vessel is re-pressurised in readiness to repeat the drying procedure. Continuous, uninterrupted operation is maintained utilising so-called pressure-swing technology together with individually operated main- and exhaust valves. Dry compressed air finally exits via a validated GL after-filter preventing the migration of particles into the downstream compressed air network.



The K-MT 35-95 adsorption dryer series operates a fixed, timed, changeover-cycle between the two dryer vessels. Where the application calls for a unit able to cope with variations in operating pressure and load, the installation of a dew point sensor at the outlet of the dryer is available as an option: In such an operating mode, the changeover-cycle between vessels only takes place when required, and is

dependent on the required dew-point being achieved: Only on reaching this adjustable set-point does changeover to the pre-dried vessel occur. This feature enables the drying phase to be lengthened and thus avoids the unnecessary use of purge air for regeneration.

Compressed air can be selectively dried to meet a dew point of -25°C up to -70°C .

Scope of supply:

Adsorption dryer - ready for installation, including GL pre- and after filters; available with dew point dependent switching (DDS) as an option.

Product Specification

ecodry K-MT 35-95 adsorption dryer series

Ordering – and performance data

Model	Order No.	Volumetric flow ¹⁾ in m³/h	Nominal pipe size ²⁾	Pre-filter	After-filter	Nominal pressure in bar _e	Nominal temp. °C
K-MT 35	K35/16D2-G230M	350	1 1/2	GL11XLD	GL11ZLDH	16	50
K-MT 45	K45/16D2-G230M	420	1 1/2	GL12XLD	GL12ZLDH	16	50
K-MT 60	K60/16D2-G230M	620	2	GL13XLD	GL13ZLDH	16	50
K-MT 75	K75/16D2-G230M	750	2	GL13XLD	GL13ZLDH	16	50
K-MT 95	K95/16D2-G230M	940	2 1/2	GL14XLD	GL14ZLDH	16	50

¹⁾ m³/h, referring to 1 bar_a and 20°C at compressor suction capacity. Subsequently compressed to 7 bar_e and 35 °C inlet temperature to the dryer at 100% relative humidity – for pressure dew points of -25 °C and -40 °C.

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

Optional dew point sensor ZHM100

Pressure dew point at 7 bar _e	-40 °C ex-factory setting; adjustable via the menu from -25 to -70 °C in 5 deg.C. steps
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Electrical connections

Mains voltage	230 V, 50-60 Hz
Protection class	IP65

Materials of construction

Filters	See product-specification regarding GL filter ref: XL and GL filter ref: ZL
Pressure vessels	Normal steel, welded
Valve blocks	Aluminium
Piping	Steel, zinc-coated
Seals	NBR
Filling	100% Molecular sieve

Pressure vessel approvals

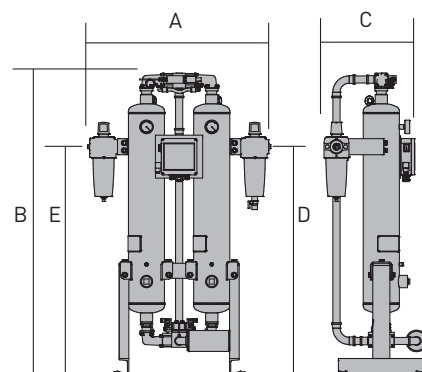
EU	Approval for fluid group 2 in accordance with the Pressure Equipment Directive 97/23/EC, module B+D: model K-MT35 in accordance with category II; product range K-MT45 to 95 in accordance with category III.
AUS	AS1210
GUS	TR (formerly GOST-R)

Product Specification

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Dimensions (mm) and weight (kg)

Model	A	B	C	D	E	Weight
K-MT 35	830	1810	585	1320	1320	210
K-MT 45	860	1820	605	1320	1320	249
K-MT 60	910	1870	635	1320	1320	277
K-MT 75	1020	2000	640	1515	1515	408
K-MT 95	1020	2020	670	1515	1515	510



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

For a pressure dew point from -25 °C to -40 °C	Inlet temperature to the dryer in °C					
	25	30	35	40	45	50
Minimum operating pressure in bar _e						
5	0.80	0.79	0.75	0.64	0.61	0.59
6	0.92	0.91	0.89	0.78	0.73	0.67
7	1.03	1.02	1.00	0.91	0.82	0.79
8	1.16	1.15	1.13	1.00	0.94	0.86
9	1.30	1.28	1.26	1.08	1.03	0.99
10	1.39	1.37	1.31	1.16	1.07	1.03
11	1.52	1.49	1.36	1.24	1.10	1.07
12	1.61	1.61	1.49	1.36	1.23	1.18
13	1.75	1.75	1.62	1.47	1.35	1.29
14	1.89	1.89	1.71	1.57	1.46	1.38
15	2.00	2.00	1.79	1.67	1.57	1.46
For a pressure dew point from -70 °C (at max. 35 °C inlet temperature, 100 % relative humidity & with gas-tight piping)						
0.53						

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 K-MT 35 for a pressure dew point of -25 °C or -40 °C;
 318.6 m³/h : 0.53 = 601.1 m³/h – suitable model K-MT 60 for a pressure dew point of -70 °C.

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

Particulate	Class 2
Humidity / (gaseous)	Class 2 and Class 1 (depending upon sizing and dew point setting)
Total oil contamination	Class 2

Product Specification

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Product key

Series	Range*	Nominal pressure	Version	Generation	Connections*	Mains voltage*	Controls	Options*
K	35 - 95	/16	D	2	- G	230	M	T
Examples								
K	35	/16	D	2	- G	230	M	
K-MT 35 standard version with G1 1/2" (BSP-P) connections, 230V/50-60Hz Multitronic -plus control.								
K	75	/16	D	2	- G	230	M	T
K-MT 75 with G2" (BSP-P) connections, 230V/50-60Hz Multitronic -plus control and dew point sensor ZHM100.								

* variable information

Service-kits: Preventative Maintenance Kits

Order No.	Suitability	Maintenance interval	Scope of supply
SKK35/D2/12	K-MT 35	12 and 36 month	Re-set module, Silencer, Filter elements and Pilot valves
SKK45/D2/12	K-MT 45	12 and 36 month	
SKK60-K75/D2/12	K-MT 60 to K-MT 75	12 and 36 month	
SKK95/D2/12	K-MT 95	12 and 36 month	
SKK35/D2/24	K-MT 35	24 and 48 month	Re-set module, Silencer, Filter elements, Solenoid-coils, Pilot valves, Inlet-, Outlet- and Non-return valves with corresponding O-rings
SKK45/D2/24	K-MT 45	24 and 48 month	
SKK60-K75/D2/24	K-MT 60 to K-MT 75	24 and 48 month	
SKK95/D2/24	K-MT 95	24 and 48 month	

DESMIX: Required desiccant pack for each model - for preventive maintenance after 48 months

Order No.	Suitability
K-MT35DESMIX	K-MT 35
K-MT60DESMIX	K-MT 45 and K-MT 60
K-MT75DESMIX	K-MT 75
K-MT95DESMIX	K-MT 95

Loose accessories

Order No.	Function	Suitability	Order No.	Function	Suitability
VASDPD/K1-K95	Dew point measurement	K-MT 35 to K-MT 95	VASVPB/K25-K45/40	Start-up device G1 1/2i	K-MT 35 to K-MT 45
VASMBS420	Signal duplicator 4-20 mA	K-MT 35 to K-MT 95	VASVPB/K60-K75/50	Start-up device G2i	K-MT 60 to K-MT 75
VASFSS/K10-K15	Fine filter muffler	K-MT 35 to K-MT 15	VASVPB/K95/65	Start-up device G2 1/2i	K-MT 95
VASFSS/K35-K60	Fine filter muffler	K-MT 35 to K-MT 60	VASRGR/K10-K95	Regeneration gas return	K-MT 35 to K-MT 95
VASFSS/K75-K95	Fine filter muffler	K-MT 75 to K-MT 95	VASNOZ/K1-K95	Nozzle kit	K-MT 35 to K-MT 95

EMEA Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

US Product Information Centre

Toll-free number: 1-800-27 27 537

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