



Heatless desiccant dryers

# Karst Modular Desiccant Dryers



# Features and benefits

All models

## Superior reliability

- ✓ Proven electronic control with indication of performance
- ✓ Extruded aluminum with anodization and epoxy painting
- ✓ NEMA 3/IP54 Protection (also suitable for outdoor installation)

## Total Cost of Investment

- ✓ Point Of Use design to treat only the required air
- ✓ Conservative pressure drop 0,2 Barg
- ✓ Lower compressed air cost with optional EMS
- ✓ Purge reduction on compressed air demand (on/off-load)
- ✓ Compact, space saving

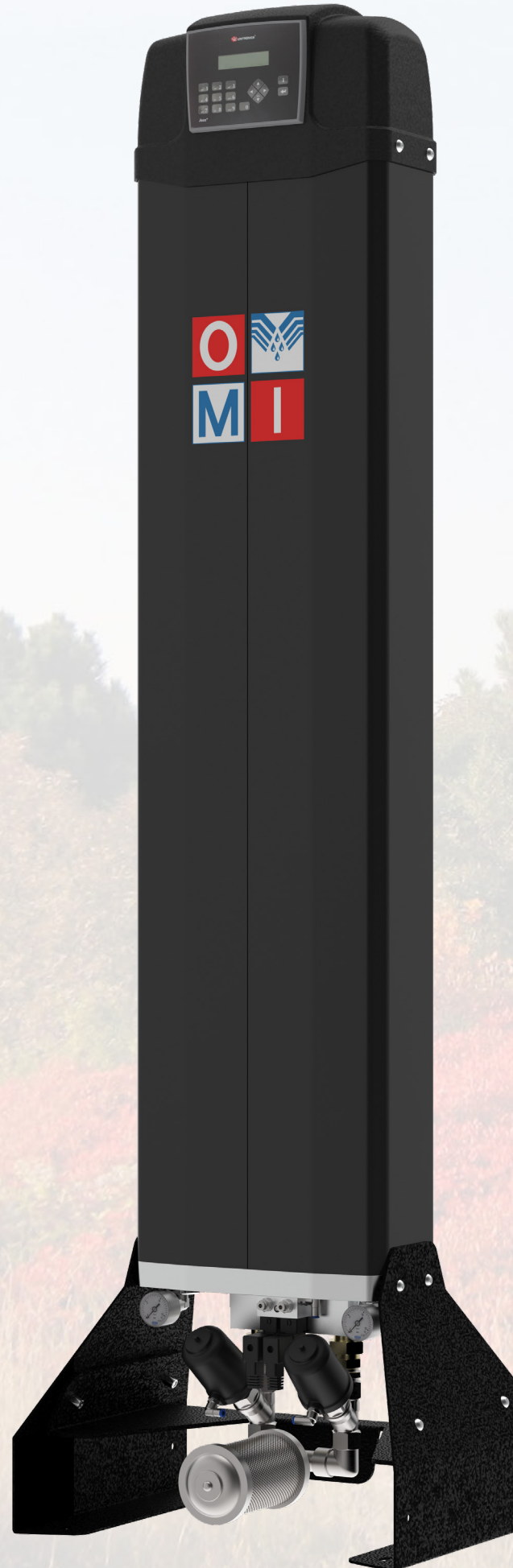
## Ease of use and serviceability

- ✓ User-friendly electronic interface with alarm indicators\*
- ✓ Quick installation
- ✓ Low noise at Point of Use
- ✓ Simplified maintenance
- ✓ Preventative maintenance alerts\*
- ✓ Maintenance kits available

\* Not presents in smaller units, see Controller options table for further information

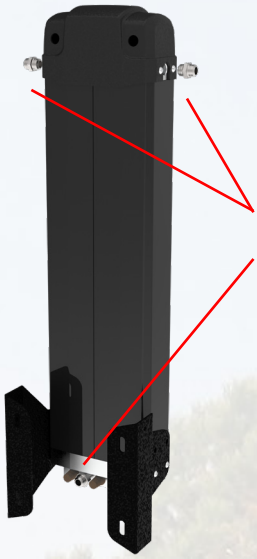
## Performance improvement from previous KDD models

- ✓ Extended rated pressure range from 4 to 14 Barg
- ✓ Increased air flow range coverage up to 300 m<sup>3</sup>/h
- ✓ Guaranteed class 2 (-40°C) and optionally class 1 (-70°C)\* dew point
- ✓ Can be purchased with pre and post filters to provide constant High Air Quality (option)



# Features and benefits

KMD 5 ÷ 25



## Flexible solution, easy to install

- Connection piping can come from right or left
- ✓ Air outlet can be from both sides (two ports)
  - ✓ Air inlet is in the back of the unit low end

In addition to standard vertical installation with low footprint, small KMD models can be:

- ✓ Wall mounted (feet can be rotated by 90°)
- ✓ Installed horizontally (desiccant media is spring located)

## Microprocessor

- ✓ Simple to use
- ✓ Compact, fit the small units
- ✓ Cycle time indication
- ✓ Right/left tower drying/regeneration indication
- ✓ Intuitive interface, simple navigation, Easy-of-Use



# Features and benefits

KMD 40 ÷ 300



## Flexible solution, easy to install

- ✓ Air inlet and outlet are in the back of the unit  
Connection piping can come from right or left

# Features and benefits

KMD 40 ÷ 300

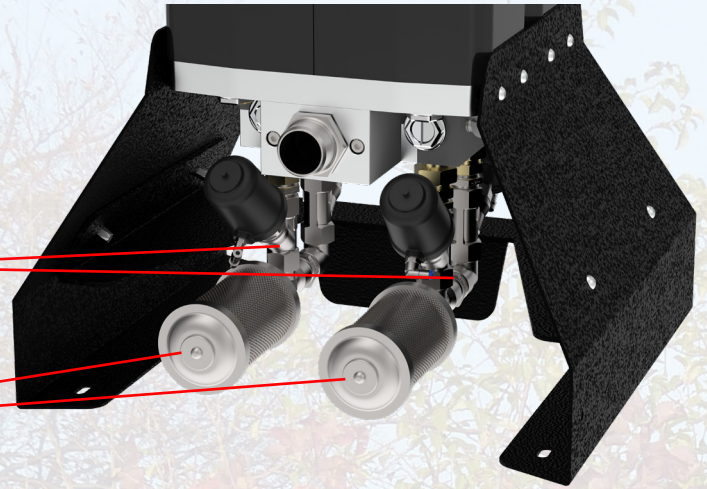
## Reliability, long life

(service every 3 years)

Pneumatic purge valves, used also on well proven OMI Large Heatless range

## Low noise at Point-of-Use

Purge mufflers < 75 dBA



## Quick visual reading

Pressure gauges

## Long life

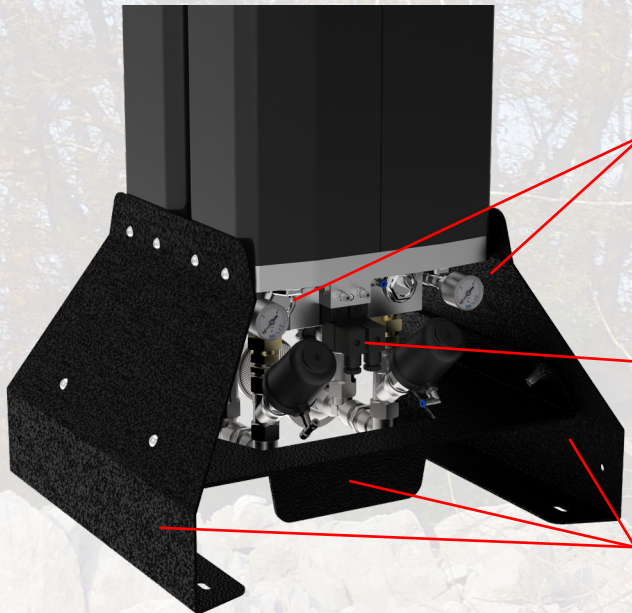
(service every 3 years)

Solenoid control valve

## Safe, easy to move and install

Feet with forklifting provisions

Protection of Noise mufflers



## EMS Option (Energy Management System)

With this option the unit is provided with a High Precision Dew Point sensor connected to the Digital Controller.

EMS adjust the operation of the dryer according the outlet air Dew Point Temperature measured by the sensor (EMS take over compressor off load interlock function)

EMS Return Of Investment can be less than 1 year, reducing Total Cost of Ownership



# New digital controller

KMD 40 ÷ 300



## Preventative maintenance alerts

- ✓ Alerts based on running hours
- ✓ Maintenance alerts for:
  - ✓ Filter Element Change-out
  - ✓ Muffler Replacement
  - ✓ Valve replacement
  - ✓ Desiccant Change-out
  - ✓ Dew point sensor service (only with EMS)

Proactive maintenance for dryer reliability and customer uptime

## Connectivity

- ✓ Modbus-Ready
- ✓ RS-485 communications:
  - ✓ Easier integration into a wide variety of DCS systems
  - ✓ Remote alarm
  - ✓ Communicates common alarm through Modbus

Intuitive interface, simple navigation, Easy-of-Use

## Compressor Interlock function

- ✓ Reduce the timing of the purge cycle based on compressed air demand
- ✓ The controller monitors the cycle rate of the air compressor load/unload to effectively reduce timing of purge  
(When more than one compressor is connected to KMD the on/off relay of compressor with the lowest pressure set point, must be used)



# Correction Factors

FC1 - Correction factor for working pressure											
Minimum inlet pressure											
bar	4	5	6	7	8	9	10	11	12	13	14
psi	58	73	87	102	116	131	145	160	174	188,5	203
FC1	0,62	0,75	0,87	1	1,12	1,25	1,38	1,50	1,62	1,75	1,87

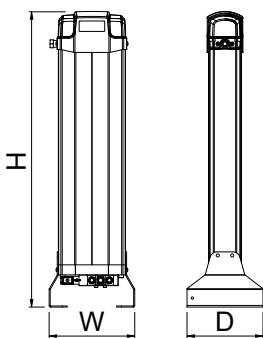
FC2 - Correction factor for inlet air temperature							
Maximum inlet temperature							
°C	20	25	30	35	40	45	50
°F	68	77	86	95	104	113	122
FC2	1,18	1,15	1,09	1	0,88	0,72	0,52

FC3 - Correction factor for pressure dewpoint		
Class 1 option		
°C	-70	Apply this correction factor only on KMD models from 40 to 300 with Class 1 dewpoint option
°F	-100	
FC3	0,8	

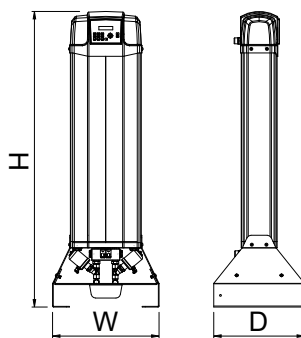
Calculation of the dryer REAL FLOW RATE = nominal dryer flow rate x [FC1] x [FC2] x [FC3]

# Weights and Dimensions

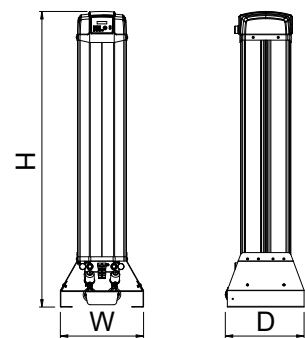
Model	Connections	Dimensions						Weight	
		Width (W)		Depth (D)		Height (H)		kg	lbs
	BSPP	mm	in	mm	in	mm	in		
KMD 5	3/8"	238	9,4	212	8,4	423	16,7	11	24,2
KMD 15		238	9,4	212	8,4	823	32,4	18	39,7
KMD 25		238	9,4	212	8,4	1073	42,2	27	59,5
KMD 40	3/4"	475	18,7	405	15,9	968	38,1	44	97,0
KMD 55		475	18,7	405	15,9	1118	44,0	50	110,2
KMD 80		475	18,7	405	15,9	1318	51,9	60	132,3
KMD 120	1"	475	18,7	405	15,9	1673	65,9	73	160,9
KMD 160		475	18,7	405	15,9	1873	73,7	90	198,4
KMD 200	1 1/2"	536	21,1	495	19,5	1705	67,1	177	390,2
KMD 250		536	21,1	495	19,5	1905	75,0	180	396,8
KMD 300		536	21,1	495	19,5	1905	75,0	188	414,5



KMD 5 - 25



KMD 40 - 160



KMD 200 - 300

# Suggested Filtration

Dryer model		Suggested filter	
	Connections		Connections*
KMD5	3/8"	AF30	3/8"
KMD15			
KMD25			
KMD40	3/4"	AF75	3/4"
KMD55			
KMD80			
KMD120	1"	AF190	1"
KMD160			
KMD200			
KMD250	1 1/2"	AF260	1"
KMD300		AF400	

\* You may need some adaptors in order to match dryers and filters connections.



Pre-filter (Filtration grade)		Dryer		Post-filter (Filtration grade)	Applications
HF	⇒	KMD Series	⇒	PF + HF + Sterile filter**	Pharmaceutical and food/beverage industry (direct contact*)
			⇒	PH + HF + CF	Chemical industry, laboratories, painting, automotive and manufacturing of semiconductors
			⇒	PH + HF	Petrochemical plants, applications in cold environments (external pipes), textile industry

\* Refers to applications where compressed air is in direct contact with raw materials because a lower dew point guarantees less germ proliferation.

\*\* For further details on Sterile filters please contact our technical department

Filtration grades		ISO 8573-1 Max solid dimension intercepted		ISO 8573-1 Max oil concentration (included steam)	
		µm	Class	mg/m³	Class
QF	Pre-filter suitable for the removal of solid particles. The strong mechanical resistance makes this filter the ideal initial protection of a compressed air system to retain impurities.	1	3	-	-
PF	Interception type filters suitable for solid and oil particles. These filters, by means of the impact, interception and coalescing principles, compel the submicronic liquid particles, which from the inside strain through the element, to collide and thus become larger micro droplets, which will drip to the bottom of the filter housing.	0,1	2	0,1	2
HF		0,01	1	0,01	1
CF	The activated carbon filter through the adsorption process attracts all odors and vapors left after desoiling and keep them on the surface of the activated carbon grain molecules. The element is made by thick activated carbon layer covered by fiber coating kept in place by an inside and outside stainless steel wall.	-	-	0,003	1



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