Manufacturing Forward

kW Saver

MEHD SERIES EXTERNALLY HEATED TYPE DESICCANT COMPRESSED AIR DRYERS

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Mikropor began its journey in 1987 with a passion to create "Tomorrow's Technology" and has become one of the leading manufacturers of atmospheric air filtration solutions and compressed air treatment systems for a variety of industries.

By closely following the latest developments in technology, Mikropor's "Best in Class" products and solutions are appreciated by customers in more than 100 countries.

The company's sustainable growth has been provided by its passion for innovation and commitment to quality, as well as its dedication to technology. Mikropor is an environmentally conscious company that values people, while developing products that extend the needs and expectations of customers.

With this mission, Mikropor continues to become one of the most recognized brands in the world by expanding its global penetration in the field of technological filtration and contributes to a healthier planet.

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Externally heated compressed air dryers are highly advantageous for high-performance dry air production. Since dry air is used in the regeneration process at a much lower rate (~6%) than in heatless dryers, energy consumption is optimized. In this way, production and operating costs are reduced. Thanks to high strength and long-life components and high-engineered design, the pressure drop is kept at a minimum level. However, it increases system efficiency. The advanced controller helps to optimize the dryer's performance and provides instant display and operation. They are available in different capacities, allowing them to adapt to various industrial applications. In addition, their low energy consumption makes them a sustainable option. It performs high performance even in applications with critical levels such as -40°C (-40°F) dew point and performs drying efficiently. Externally heated compressed air dryers are ideal systems for industrial applications requiring energy efficiency, low production costs, and high performance.

Working Principle

Externally heated compressed air dryers are systems based on the PSA operating principle, using an external heater to dry the compressed air. The working principle of these dryers can be explained as follows respectively:

1. Drying of Compressed Air: During the drying process, the compressed air enters the active regeneration tower where it is dried by the adsorption method. The adsorbent in the tanks absorbs the moisture in the air and the compressed air is dehumidified and dried to -40°C (-40°F) dewpoint levels.

2. Regeneration: After the adsorbent in the drying tower is saturated with moisture, it needs to be renewed (regeneration). For this process, the towers are switched between the towers, while the drying tower switches to regeneration, the other tower in regeneration switches to drying. In the regeneration process of the externally heated dryers, the compressed air is heated using an external heater, and the regeneration process is started.

3. Cooling: The heated tank is cooled by passing compressed dry air and the tank is ready for the next process again. This cycle continues throughout the production.

4. Tower Change and Continuous Operation: After the regeneration process is completed, the towers are switched again. In this way, a continuous cycle is provided between the two towers, thus achieving uninterrupted dry air flow.

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Advantages

High Energy Efficiency: In externally heated systems, on average less than 6% less compressed dry air is used, as the air used for regeneration is heated. This results in higher energy savings and lower operating costs for externally heated dryers than heatless dryers.

Low Pressure Drop: During regeneration processes, the pressure drop is kept to a minimum thanks to the optimized and tested design.

Instant PSA Monitoring with Advanced Controller System: Advanced controller system optimizes PSA performance and provides management with instant monitoring.

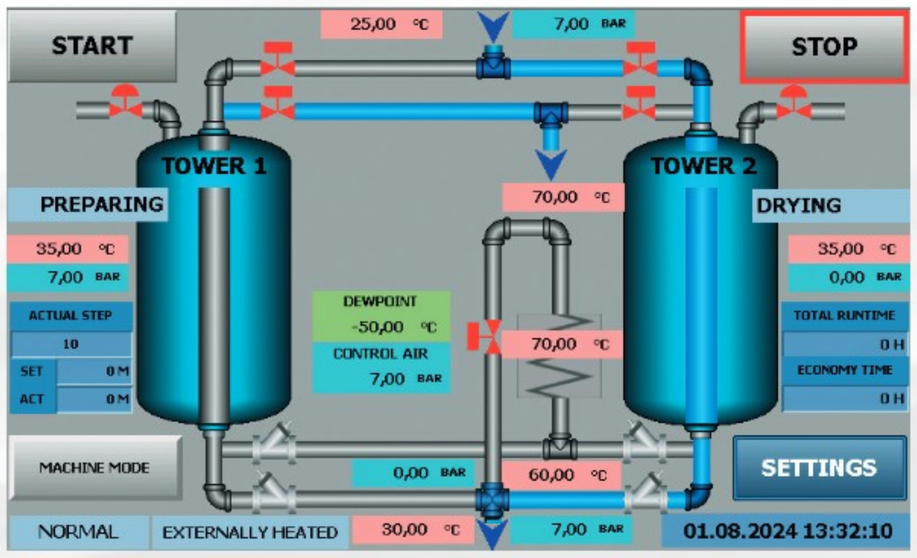
Flexible Use Capacity: Flow rate performance is available in various capacities (850Nm^3/h (500scfm) - 10800Nm^3/h (6000scfm)), thus adapting to different application needs.

Long Life and Durable Components: Durable stainless steel components designed for high-temperature applications ensure long life and reliability.

High Performance in Critical Applications: Provides high performance in a variety of applications at critical levels, such as -40°C (-40°F) dew point, thus virtually eliminating moisture in the system.

Advanced Controller System

HMI touch screen PLC system is used as a standard controller system for MEHD Externally Heated Dryers. Instant display and control of PSA parameters and production performance can be provided with high reliability.



HMI Touch Screen PLC

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Technical Data

Model	Capacity	
	(m^3/h)	(cfm)
MEHD-500	850	500
MEHD-600	1000	600
MEHD-1000	1800	1000
MEHD-1250	2200	1250
MEHD-1500	2700	1500
MEHD-1800	3200	1800
MEHD-2000	3600	2000
MEHD-2500	4400	2500
MEHD-3000	5000	3000
MEHD-4000	7200	4000
MEHD-5000	8800	5000
MEHD-6000	10800	6000

Performance Data		
Max. Working Pressure (bar)	Pressure Drop (mbar)	Voltage
10	≤ 130	460V/3Ph/60Hz
		400V/3Ph/50Hz

* The capacity flow values given are based on a pressure of 7 barg and atmospheric air suction reference conditions of 20°C and 1 bar according to ISO7183 standard.

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