



MRD SERIES RAILWAY DRYER

Manufacturing Forward





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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Usage of compressed dryer air is highly important for sustaining reliable, cost-effective, and trouble-free working conditions in railway systems.

In railway systems compressors generally stayed underneath the train. Naturally, they intake the air from the surrounding which contains dust, water, and oil as a contaminant. When the air is compressed, the contaminants also stay inside the compressed air and with subsequent cooling water condensate in the airline system. That liquid form of water and dust particles coming from the surrounding area, mixed with lubricating oil of compressor or the oil which comes from the surrounding air and create sludgy acidic condensate. That condensate follows the airline and directly goes through the pneumatic systems like pneumatic train doors, brakes, horns, and pantographs. The importance of the dryer and filter become predominated at that point. Without these drying and filtration procedures create malfunctioning of the system followed by unwanted maintenance procedures.

Mikropor overcomes these problems with the new engineered Mikropor Railway Dryer - MRD Series. Modular type desiccant air dryer supply -40°C dew point compressed air with a help of high-efficiency pre-filtration and dust filtration system after the adsorption chambers. At the very beginning, the water separator removes excess liquified water from the compressed air. The remaining water, oil, and particles inside the air will be removed by the relative pre-filter. With these pre-filters particles can down to 1 micron and oil removed down to 0.01-micron level.

After the filtration, compressed air enters one of the modules which is filled with adsorbent granules. These special granules absorb the water and water vapor in the compressed air and help to supply -40°C dew point dry compressed air to the system. After a while, these granules are getting saturated, and it requires regeneration. At that point drying procedure switch to the other adsorbent chamber and the first chamber regenerates the granules using the pressure swing adsorption method (PSA). With continuing this cycle continuous dried compressed air is supplied to the system.



Modular type desiccant air dryer: Supply -40°C dew point compressed dry air with PSA method.



Most of the liquid water, oil and dust contaminations are removed with pre-filtration system.

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Application Areas

MRD System is applicable to use in railway/metro vehicles, high-speed trains, regional & commuter trains, locomotives, etc. It could be used in the system like;

- Braking System
- Pneumatically Operated Doors
- Pantograph Operation
- Track Cleaning
- Maintenance



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Advantages of MRD Series

- High-efficiency air treatment system with pre-filtration for bulk water, oil and particles
- Compact, lightweight modular design
- Low noise emission
- Wide operating temperature range
- Immediately ready for operation even in cold conditions
- It could be used oil-free compressors and also oil-lubricated compressor

MRD-01 Model - Technical Specifications

Nominal Air Flow Rate	0.75 Nm ³ /min	Heater	24 W
Max. Operating Pressure	10 barg	Supply Voltage	24 VDC
Min. Operating Pressure	4 barg	Connection Size	1/2"
Max. Working Temperature	50°C @7 bar	X-Y-P Filters- GO	GO100
Min. Working Temperature	-40°C	Water Separator-GWS	G100WS

MRD-02 Model - Technical Specifications

Nominal Air Flow Rate	1.5 Nm ³ /min	Heater	24 W
Max. Operating Pressure	10 barg	Supply Voltage	24 VDC
Min. Operating Pressure	4 barg	Connection Size	1/2"
Max. Working Temperature	50°C @7 bar	X-Y-P Filters- GO	GO100
Min. Working Temperature	-40°C	Water Separator-GWS	G100WS

Reference Conditions

Inlet Compressed Air Pressure (bar)	Inlet Compressed Air Temp. (°C)	Ambient Temp. (°C)
7 barg	35°C	25°C

Correction Factors for MRD Series

Inlet Temperature (°C)	F1	Pressure (bar)	F2
20	1	4.5	0.69
25	1	5	0.75
30	1	6	0.88
35	1	7	1
40	0.80	8	1.12
45	0.73	9	1.25
50	0.59	10	1.25



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