



## DMR - SERIES

Desiccant Mobile Rotor  
Drying of free-flowing granular plastic materials



# DMR Desiccant Mobile Rotor

## Introduction

DMR-desiccant mobile rotor series ensure maximum energy efficiency and flexibility for small and medium size applications. The compact dryer supplies air flows from 30-90 m<sup>3</sup>/h with a constant dew point of -35°C or better thanks to the desiccant rotor technology. Structure of the desiccant rotor is guaranteeing large absorbing capacity and no dust emission.

## Standard features & advantages

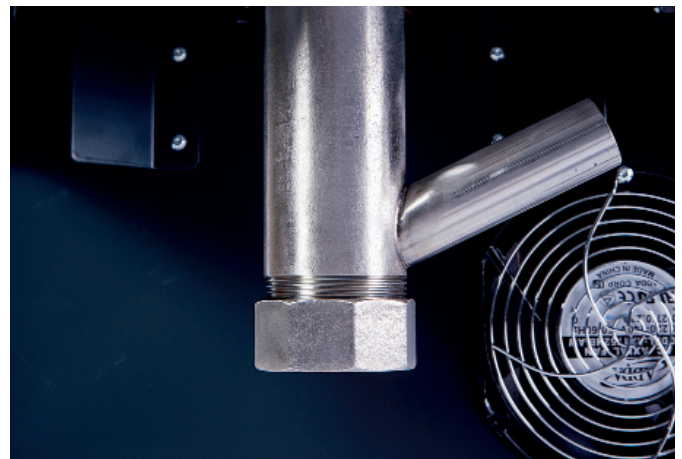
- PLC control
- Desiccant rotor technology supplying constant dew point
- No cooling water and compressed air needed
- Performance booster 3 levels
- Range of drying temperature 60-140°C
- Labotek Energy Saving System (LESS)
- Small footprint of only 0.60 m<sup>2</sup>
- Extra insulated drying hopper made of stainless steel AISI 304
- Removable air distributor
- Drying hopper capacities of 40, 75, 110, 200 and 300 litres
- Manual slide valve below drying hopper
- Stainless steel catch box with drain port
- 3 phase power supply
- Dew point connection gate
- Drying hopper lid prepared for Labotek Mini-Feed or SVR 1.5 - 3
- Start / stop timer
- Material database
- Comprehensive 3 year warranty, excluding wear parts

## Optional features

- Conveying units to & from DMR
- Conveying with dry air from DMR (Closed loop)
- Built-in dew point sensor
- High / low temperature version 40-180°C (cooling water needed)
- Tropical execution for high ambient conditions
- Alarm lamp/acoustic
- Volatile trap



PLC control is standard on the DMR range.



Slide valve and catchbox with drain port is standard on the DMR range.



Extra insulated stainless steel drying hopper, supplied with removable air distributor for easy cleaning.

The DMR 40 fitted with optional Mini-Feed 15 vacuum hopper loader



DMR 200



## DMR drying capacity table

| Grade | Raw material description          | Recom-<br>mended<br>dry<br>time [h] | Recom-<br>mended<br>drying<br>temp. °C | Drying capacity kg/h<br>at bulk density 0.6 kg/l |            |         |         |         |
|-------|-----------------------------------|-------------------------------------|----------------------------------------|--------------------------------------------------|------------|---------|---------|---------|
|       |                                   |                                     |                                        | DMR 40                                           | DMR 75     | DMR 110 | DMR 200 | DMR 300 |
| ABS   | Acrylonitrilebutadiene-styrene    | 2-3                                 | 80                                     | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PA    | Polyamide 6/6.6/10/11/12          | 3-4                                 | 75-80                                  | 8-6                                              | 15-11.25   | 22-16.5 | 40-30   | 60-45   |
| PBT   | Polybutylene therephtalate        | 3                                   | 120                                    | 8                                                | 15         | 22      | 40      | 60      |
| PC    | Polycarbonate                     | 2-3                                 | 120                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PE    | Polyethylene                      | 1-2                                 | 80-90                                  | 24-12                                            | 45-22.5    | 66-33   | 120-60  | 180-90  |
| PE    | Polyethylene, black               | 2-4                                 | 70-90                                  | 12-6                                             | 22.5-11.25 | 33-16.5 | 60-30   | 90-45   |
| PEC   | Polyestere carbonate              | 4-5                                 | 130                                    | 6-5                                              | 11.25-9    | 16.5-13 | 30-25   | 45-37.5 |
| PEEK  | Polyaryletherketone               | 2-3                                 | 150                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PEI   | Polyetherimide                    | 3-4                                 | 150                                    | 8-6                                              | 15-11.25   | 22-16.5 | 40-30   | 60-45   |
| PET   | Polyethylene terephthalate        | 4-6                                 | 170-180                                | 8.5-6                                            | 16-11      | 23-16   | 42.5-30 | 63.5-45 |
| PETG  | Polyethylene terephthalate glycol | 4                                   | 66                                     | 8.5                                              | 16         | 23      | 42.5    | 63.5    |
| PETP  | Thermoplastic polyestere          | 2-3                                 | 120                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PI    | Polyimide                         | 2-3                                 | 120                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PMMA  | Methylmethacrylate polymer        | 2-3                                 | 80                                     | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| POM   | Polyacetal                        | 2-3                                 | 100                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PP    | Polypropylene                     | 1-2                                 | 80-90                                  | 24-12                                            | 45-22.5    | 66-33   | 120-60  | 180-90  |
| PPO   | Polyphenylene oxide               | 2                                   | 110                                    | 12                                               | 22.5       | 33      | 60      | 90      |
| PPS   | Polyphenylene sulphide            | 3-4                                 | 150                                    | 8-6                                              | 15-11.25   | 22-16.5 | 40-30   | 60-45   |
| PPSU  | Polyether sulfone                 | 3-4                                 | 120                                    | 8-6                                              | 15-11.25   | 22-16.5 | 40-30   | 60-45   |
| PS    | Polystyrene                       | 1-2                                 | 80                                     | 24-12                                            | 45-22.5    | 66-33   | 120-60  | 180-90  |
| PSU   | Polysulfone                       | 2-3                                 | 130                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PUR   | Polyurethane                      | 2-3                                 | 90-100                                 | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| PVC   | Polyvinyl chloride                | 1                                   | 70                                     | 24                                               | 45         | 66      | 120     | 180     |
| SAN   | Styrene acrylonitrile             | 2-3                                 | 80                                     | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| SB    | Styrene butadiene (high impact)   | 1-2                                 | 80                                     | 24-12                                            | 45-22.5    | 66-33   | 120-60  | 180-90  |
| TPE   | Polyester elastomer               | 2-3                                 | 110                                    | 12-8                                             | 22.5-15    | 33-22   | 60-40   | 90-60   |
| TPR   | Thermoplastic rubber              | 3                                   | 75                                     | 8                                                | 15         | 22      | 40      | 60      |

The above capacity table states recommended values only, based on the drying of the specific materials down to a residual moisture content of 0.02% which, however, will vary depending on the type of material. The capacities are based on a general bulk density of 0.6 with the exception of PET and PETG to which a bulk density of 0.85 respectively forms basis.

## DMR energy calculation for drying various materials

| Material type:                                            | ABS         | PC          | PA6.6       | PBT         | PMMA        |
|-----------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Drying temperature                                        | 80°C        | 120°C       | 80°C        | 120°C       | 90°C        |
| Drying time                                               | 2 hours     | 3 hours     | 4 hours     | 3 hours     | 3 hours     |
| Output in kg/h<br>DMR 110 / 75 / 40                       | 33/23/12    | 22/15/8     | 17/11/6     | 22/15/8     | 22/15/8     |
| Energy kWh based<br>on those outputs<br>DMR 110 / 75 / 40 | 1.9/1.8/1.5 | 2.1/1.9/1.7 | 2.0/1.8/1.6 | 2.2/2.0/1.7 | 2.0/1.8/1.6 |

The DMR 200/300 is compact  
with only 0.9 m² footprint

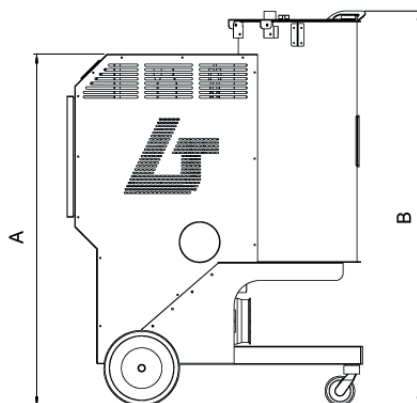


## DMR technical specifications

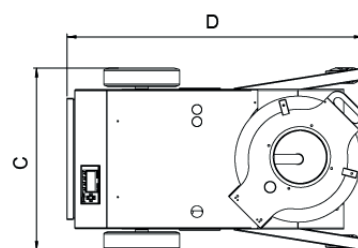
|                                        | DMR 40                                                    | DMR 75            | DMR 110           | DMR 200            | DMR 300            |
|----------------------------------------|-----------------------------------------------------------|-------------------|-------------------|--------------------|--------------------|
| Supply voltage                         | 3 ~380-415 V / 50 Hz (Not available in 460-480 V / 60 Hz) |                   |                   |                    |                    |
| Installed power [kW]                   | 4.9/5.3                                                   | 5.1/5.5           | 5.1/5.5           | 13.9/16.7          | 13.9/16.7          |
| <b>Blower motor, drying</b>            |                                                           |                   |                   |                    |                    |
| 3-phase 50 Hz [kW]                     | 0.2/0.23                                                  | 0.4/0.48          | 0.4/0.48          | 1.3/1.56           | 1.3/1.56           |
| Air volume [m³/h] 50 Hz                | 30/36                                                     | 40/48             | 75/90             | 100/120            | 150/180            |
| Water column [mm]                      | 1400/1680                                                 | 1400/1680         | 1400/1680         | 1400/1680          | 1400/1680          |
| <b>Blower motor, regeneration</b>      |                                                           |                   |                   |                    |                    |
| 3-phase 50 Hz [kW]                     | 0.2/0.23                                                  |                   |                   | 0.6/0.75           | 0.6/0.75           |
| Dew point temp. [°C]                   | -35                                                       |                   |                   |                    |                    |
| Heating element drying [kW]            | 3.0                                                       | 3.0               | 3.0               | 9.0                | 9.0                |
| Heating element drying [kW] (HT)       | 3.0                                                       | 3.0               | 3.0               | 9.0                | 9.0                |
| Heating element regeneration [kW]      | 1.5                                                       |                   |                   | 3.0                | 3.0                |
| Cooling water requirement (HT version) | Yes                                                       |                   |                   |                    |                    |
| Noise level (dBA)                      | 58                                                        | 58                | 58                | 65                 | 65                 |
| <b>Raw material hopper</b>             |                                                           |                   |                   |                    |                    |
| Capacity/litres                        | 40                                                        | 75                | 110               | 200                | 300                |
| Connecting cable [m]                   | 3                                                         |                   |                   |                    |                    |
| Net weight [kg]                        | 140                                                       | 160               | 170               | 238                | 268                |
| Shipping weight [kg]                   | 180                                                       | 200               | 210               | 368                | 388                |
| Shipping dimensions [mm]               | 1200 x 800 x 1750                                         | 1200 x 800 x 1750 | 1200 x 800 x 2100 | 1100 x 1600 x 2255 | 1100 x 1600 x 2265 |
| Shipping volume [m³]                   | 1.68                                                      | 1.68              | 2.2               | 3.9                | 3.9                |
| Standard version LT#                   | 170020                                                    | 170030            | 170040            | 170050             | 170060             |

## DMR options

| Description                      | LT no  |
|----------------------------------|--------|
| Tropical model                   | 217001 |
| Volatile trap                    | 217002 |
| Process air cooler in LT version | 217005 |
| Process air cooler in HT version | 217006 |
| Mini-Feed 15 Hopper Loader       | 130300 |
| Mini-Feed 30 Hopper Loader       | 130301 |
| Mini-Feed 60 Hopper Loader       | 130302 |
| Mini-Feed 120 BL Hopper Loader   | 130313 |
| Alarm lamp, acoustic             | 217000 |
| Dew point measuring (built-in)   | 217003 |
| Dry air conveying                | 130319 |

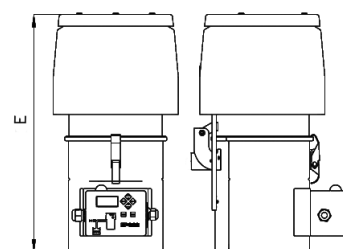


DMR dimensions



| Type DMR         | 40        | 75        | 110           | 200           | 300           |
|------------------|-----------|-----------|---------------|---------------|---------------|
| A                | 1162      | 1162      | 1162          | 1320          | 1320          |
| B                | 1305      | 1420      | 1635          | 1904          | 2264          |
| C                | 600       | 600       | 600           | 800           | 800           |
| D                | 976       | 1090      | 1090          | 1353          | 1353          |
| <b>Mini-Feed</b> | <b>15</b> | <b>30</b> | <b>60/120</b> | <b>60/120</b> | <b>60/120</b> |
| E                | 451       | 492       | 588           | 588           | 588           |

Mini-Feed dimensions



**3 years  
warranty**

Labotek offers 3 years warranty  
- excluding wear parts

**Labotek A/S**  
Stroebjergvej 29  
DK-3600 Frederikssund

+45 4821 8411  
[info@labotek.dk](mailto:info@labotek.dk)  
[www.labotek.com](http://www.labotek.com)

Representative