

# 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 temperatur 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, 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	Recommended dry time [h]	Recommended drying temp. °C	Drying capacity kg/h at bulk density 0.6 kg/l			
				DMR 40	DMR 110	DMR 200	DMR 300
ABS	Acrylonitrilebutadiene-styrene	2-3	80	12-8	33-22	60-40	90-60
PA	Polyamide 6/6.6/10/11/12	3-4	75-80	8-6	22-16.5	40-30	60-45
PBT	Polybutylene terephthalate	3	120	8	22	40	60
PC	Polycarbonate	2-3	120	12-8	33-22	60-40	90-60
PE	Polyethylene	1-2	80-90	24-12	66-33	120-60	180-90
PE	Polyethylene, black	2-4	70-90	12-6	33-16.5	60-30	90-45
PEC	Polyester carbonate	4-5	130	6-5	16.5-13	30-25	45-37.5
PEEK	Polyaryletherketone	2-3	150	12-8	33-22	60-40	90-60
PEI	Polyetherimide	3-4	150	8-6	22-16.5	40-30	60-45
PET	Polyethylene terephthalate	4-6	170-180	8.5-6	23-16	42.5-30	63.5-45
PETG	Polyethylene terephthalate glycol	4	66	8.5	23	42.5	63.5
PETP	Thermoplastic polyester	2-3	120	12-8	33-22	60-40	90-60
PI	Polyimide	2-3	120	12-8	33-22	60-40	90-60
PMMA	Methylmethacrylate polymer	2-3	80	12-8	33-22	60-40	90-60
POM	Polyacetal	2-3	100	12-8	33-22	60-40	90-60
PP	Polypropylene	1-2	80-90	24-12	66-33	120-60	180-90
PPO	Polyphenylene oxide	2	110	12	33	60	90
PPS	Polyphenylene sulphide	3-4	150	8-6	22-16.5	40-30	60-45
PPSU	Polyether sulfone	3-4	120	8-6	22-16.5	40-30	60-45
PS	Polystyrene	1-2	80	24-12	66-33	120-60	180-90
PSU	Polysulfone	2-3	130	12-8	33-22	60-40	90-60
PUR	Polyurethane	2-3	90-100	12-8	33-22	60-40	90-60
PVC	Polyvinyl chloride	1	70	24	66	120	180
SAN	Styrene acrylonitrile	2-3	80	12-8	33-22	60-40	90-60
SB	Styrene butadiene (high impact)	1-2	80	24-12	66-33	120-60	180-90
TPE	Polyester elastomer	2-3	110	12-8	33-22	60-40	90-60
TPR	Thermoplastic rubber	3	75	8	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 DMR 110 / 40	33/23/12	22/15/8	17/11/6	22/15/8	22/15/8
Energy kWh based on those outputs DMR 110 / 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 m<sup>2</sup> footprint

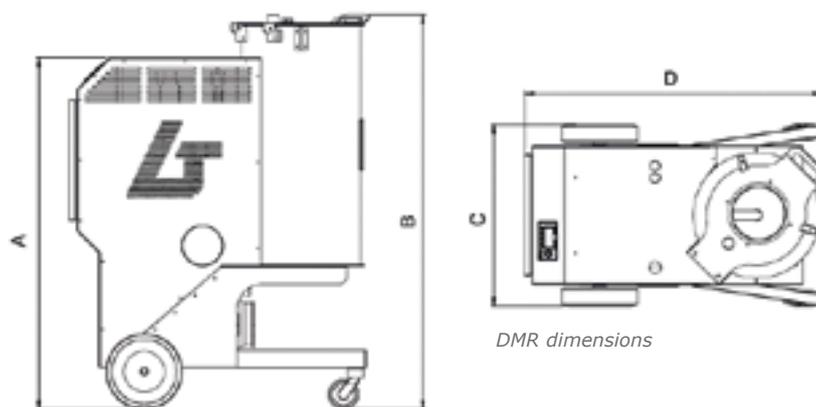


## DMR technical specifications

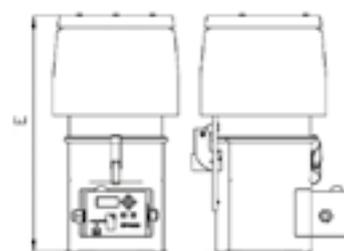
	DMR 40	DMR 110	DMR 200	DMR 300
Supply voltage	3 ~380-415 V / 50 Hz (Not available in 460-480 V / 60 Hz)			
Installed power [kW]	4.9/5.3	5.1/5.5	13.9/16.7	13.9/16.7
Blower motor, drying				
3-phase 50 Hz [kW]	0.2/0.23	0.37 / 0.43	1.1 / 1.3	1.1 / 1.3
Air volume [m³/h] 50 Hz	30/36	75/90	100/120	150/180
Water column [mm]	1400/1680	1400/1680	1400/1680	1400/1680
<b>Blower motor, regeneration</b>				
3-phase 50 Hz [kW]	0.2/0.23	0.2/0.23	0.6/0.75	0.6/0.75
Dew point temp. [°C]	-35	-35	-35	-35
Heating element drying [kW]	3.0	3.0	9.0	9.0
Heating element drying [kW] (HT)	3.0	3.0	9.0	9.0
Heating element regeneration [kW]	1.5	1.5	3.0	3.0
Cooling water requirement (HT version)	Yes	Yes	Yes	Yes
Noise level (dBA)	58	58	65	65
<b>Raw material hopper</b>				
Capacity/litres	40	110	200	300
Connecting cable [m]	3	3	3	3
Net weight [kg]	140	170	238	268
Shipping weight [kg]	180	210	368	388
Shipping dimensions [mm]	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	2.2	3.9	3.9
Standard version LT#	170020	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



Type DMR	40	110	200	300
A	1162	1162	1320	1320
B	1305	1635	1904	2264
C	600	600	800	800
D	976	1090	1353	1353
Mini-Feed	15	60/120	60/120	60/120
E	451	588	588	588





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