

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 m³/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

- Siemens PLC control
- Desiccant rotor technology supplying constant dew point
- No cooling water needed
- Range of drying and compressed air 60-140°C
- Labotek Energy Saving System (LESS)
- Start/stop timer
- Small footprint of only 0.60 m²
- Extra insulated drying hopper made of stainless steel AISI 304
- Removable air distributor
- Drying hopper capacities of 40, 75 & 110 litres
- Manual slide valve below drying hopper
- Stainless steel catch box with drain port
- 3 phase power supply
- Dew point connection gate
- A separate over temperature thermostat
- Drying hopper lid prepared for Labotek Mini-Feed or SVR 1.5 - 3
- Comprehensive 3 year warranty, excluding wear parts

Optional features

- Conveying units to & from DMR
- Conveying with dry air from DMR (Closed loop)
- Data logging and communication with IMM
- Built-in dew point sensor
- Low temperature version 40-140°C (cooling water needed). High temperature version 60-180°C (cooling water needed).
- Tropical execution for high ambient conditions
- Alarm lamp/acoustic
- Volatile trap



Siemens 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

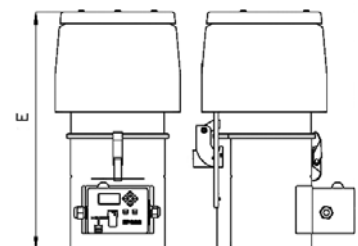
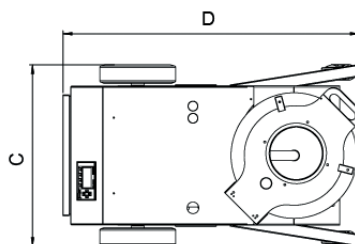
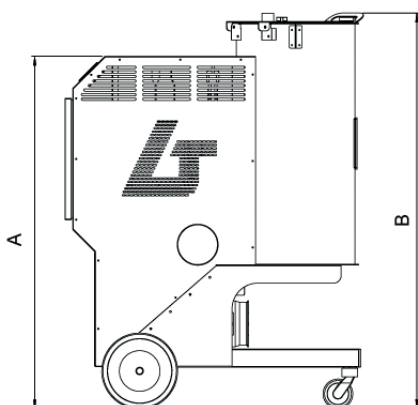
DMR Drying capacity table

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

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 / 75 / 40	33/23/12	22/15/8	17/11/6	22/15/8	22/15/8
Energy kWh based on those outputs - 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



DMR Dimensions

DMR Technical Specifications

	DMR 40	DMR 75	DMR 110
Supply voltage	3 ~50-60 Hz, 380-440 V		
Installed power [kW]	4.9/5.3	5.1/5.5	5.5/5.5
Blower motor, drying			
3-phase 50/60 Hz [kW]	0.2/0.23	0.4/0.48	0.4/0.48
Air volume [m ³ /h] 50/60 Hz	30/36	40/48	75/90
Water column [mm]	1400/1680	1400/1680	1400/1680
Blower motor, regeneration			
3-phase 50/60 Hz [kW]	0.2/0.23		
Dew point temp. [°C]	-35		
Heating element drying [kW]	3.0	3.0	3.0
Heating element drying [kW] (HT)	3.0	3.0	3.0
Heating element regeneration [kW]	1.5		
Cooling water requirement (HT version)			
Noise level (dBA)	58	58	58
Raw material hopper			
Capacity/litres	40	75	110
Connecting cable [m]	3		
Net weight [kg]	140	160	170
Shipping weight [kg]	180	200	210
Shipping Dimensions [mm]	1200 x 800 x 1750	1200 x 800 x 1750	1200 x 800 x 2100
Shipping volume [m ³]	1.68	1.68	2.2
Standard version LT#	160020	160030	160040

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
Alarm lamp, acoustic	217000
Dew point measuring (built-in)	217003
Dry air conveying	217004

Type DMR	40	75	110
A	1162	1162	1162
B	1305	1420	1635
C	600	600	600
D	976	1090	1090
Mini-Feed	15	30	60/120
E	451	492	588



The DMR 110 is compact with only 0.6 m² footprint



Labotek A/S
Stroebjergvej 29
DK-3600 Frederikssund

Representative

+45 4821 8411
info@labotek.dk
www.labotek.com