



INFRARED ROTARY DRYER

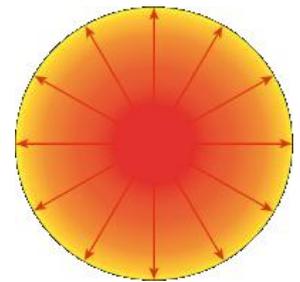


The infrared rays that penetrate and reflect from the material do not affect the organization of the material, but the absorbed tissue will be converted into heat energy due to molecular excitation, which causes the temperature of the material to rise quickly.

Heat to the core. By means of short-wave infrared light the material is heated directly from the inside

From the Inside to the outside. The energy in the core heats the material from the inside out, so the moisture is driven from the inside to the outside of the material .

Evaporation of moisture. The additional air circulation inside the dryer removes the evaporated moisture from the material.



$T_{\text{Particle}} > T_{\text{Ambient}}$

IRD Technology: Heating from the inside.

MACHINE FEATURE



Always in
motion



Instant
Start



Dry in
minutes



Lower
energy cost



Easy clean
&change material



Siemens PLC
Control

HOW TO WORK

1) At first step, the only target is to heat up the material to a preset temperature.

Adopt relatively slow speed of drum rotating, the Infrared lamps power of the dryer will be at a higher level, then the PET chips/flakes will have a fast heating till the temperature rises to the preset temperature.

2) Crystallization step

Once the material gets to the critical crystallization temperature, the speed of the drum will be increased to a much higher rotating speed to avoid the clumping of the material. At the same time, the infrared lamps power will be increased again to finish the crystallization and drying. Then the drum rotating speed will be slowed down again. Normally the drying and crystallization process will be finished after 15-20mins. (The exact time depends on the property of material)

3) After finishing the crystallization processing, the IR Drum will automatically discharge the material and refill the drum for the next cycle.

The automatic refilling as well as all relevant parameters for the different temperature ramps is fully integrated in the state-of-the-art Touch Screen control. Once parameters and temperature profiles are found for a specific material, these settings can be saved as recipes in the control system.



ALWAYS IN MOTION

Rotation: The permanent rotation of the drum keeps the material moving.

Uniform: The special adapted helix and the mixing elements of the material. Clumping can be avoided and the material is heated homogeneously.

Gentle: Low rotational speed of the drum avoids damage to the material

ADVANCE WE MAKE

- >> Limiting the hydrolytic degradation of the viscosity.
 - >> Prevent increasing AA levels for materials with food contact
 - >> Increasing the capacity of the production line up to 50%
 - >> Improvement and make the product quality stable-- Equal and repeatable input moisture content of the material
-
- ☑ Up to 60% less energy consumption than Desiccant dryer system
 - ☑ Instant start-up and quicker shut down
 - ☑ No segregation of products with different bulk densities
 - ☑ Independent temperature and drying time set
 - ☑ Easy clean and change material
 - ☑ Uniform crystallization
 - ☑ No pellets clumping & stick
 - ☑ Carefully material treatment

APPLICATION ON PET



PET Masterbatch



rPET Pelletizing



PET Preform



PET Sheet



rPETbottle Flakes



POY Fiber



PET Nonwoven



Staple Fiber

APPLICATION OTHERS

PET: Crystallization and drying

Biodegradable materials : PLA/PBAT/PBS drying and crystallization.

PETG: Virgin and recycling material drying. **PPSU:** Drying of PPSU. **PEI:** Drying of PEI

PEEK: Drying of PEEK

TPEE: Drying of TPEE

ABS/PC: Virgin and recycling material heating.

PE/PP: Heating of PE/PP.

PVC: Heating of **PVC:** Drying of various plastic. Chips, pellets and fibers

MACHINE IN CUSTOMERS' FACTORY



MECHANICAL SPECIFICATIONS

Type	Machine size (L*W*H mm)	Dehumidying (KW)	Drum (KW)	Cooling fan (KW)	Infrared (KW)	Capacity (KG/H)
IRD-600X1000	2403*1250*2236	0.55	0.75	0.25	12	60-80
IRD-1200X1000	2572*1450*2954	0.75	1.5	0.75	25	100-150
IRD-1200×1500	3050*1450*3060	1.1	2.2	1.1	35	150-200
IRD-1200×2000	3600*1450*3210	0.75	2.2	0.75	42	250-300
IRD-1400X2000	3465*1600*3581	4	4	4	60	450-550
IRD-1800×2000	4067*2100*3940	7.5	1.5*2	0.75	90	1200-1500

LAB FOR TEST

Experienced engineer will make the test. Your employees are cordially invited to participate in our joint trails. Thus you have both the possibility to contribute actively and the opportunity to actually see our products in operation.



Infrared dryer

Infrared drying technology offers the ability to dry and crystallize materials in minutes, compared to hours with conventional drying equipment which reduces change over times significantly and reduces energy consumption at almost 45-50%...

Factory Test Center

Our factory has build Test Center. In our Test center, we can perform continuous or discontinuous experiments for customer's sample material. Our equipment is furnished with comprehensive automation and measurement technology.

- ✓ We can demonstrate --- Conveying/Loading, Drying& Crystallization, Discharging.
- ✓ Drying and crystallization of material to determine residual moisture, residence time, energy input and material properties.
- ✓ We can also demonstrate performance by subcontracting for smaller batches.
- ✓ In accordance with your material and production requirements, we can map out a plan with you.

THANKS FOR READING

SUGAR WANG: +86 1377 328 0065 (WhatsApp / Wechat)

SALES MANAGER

Email: SALES@LDMACHINERY.COM SUGAR@ODEMADE.COM

Website: WWW.LD-MACHINERY.COM