

Infrared Rotary Dryer/Crystallizer

Reduces energy usage, footprint, maintenance and in-process inventory.

No troublesome interior agitators to stress resin.

The NOVATEC IRD crystallizes and dries virgin PET and PCR from thin sheet and film in one continuous operation. The unique tumbling action of the resin in the rotating drum quickly exposes all resin surfaces to the IR heat source and guarantees thorough, fast processing. The IRD eliminates the high maintenance and extended start up and change over time associated with conventional crystallizers. There is no need for high volume, bulky desiccant dryers and hoppers.

- Uses up to 65% less energy than conventional desiccant systems
- Fast return on investment
- Provides efficient conversion of amorphous PET resin into a crystallized form
- Crystallizes and dries material in 8-13 minutes
- No need for bulky desiccant dryers and hoppers
- Faster start-up and quick changeover results in more production time
- Reduced "in-process" inventory
- Critical resin properties are maintained because of the short exposure to heat
- Resin particles are dried more efficiently from the inside to the outside



ISO 9001: 2000

This overview shows how the NOVATEC IRD works.

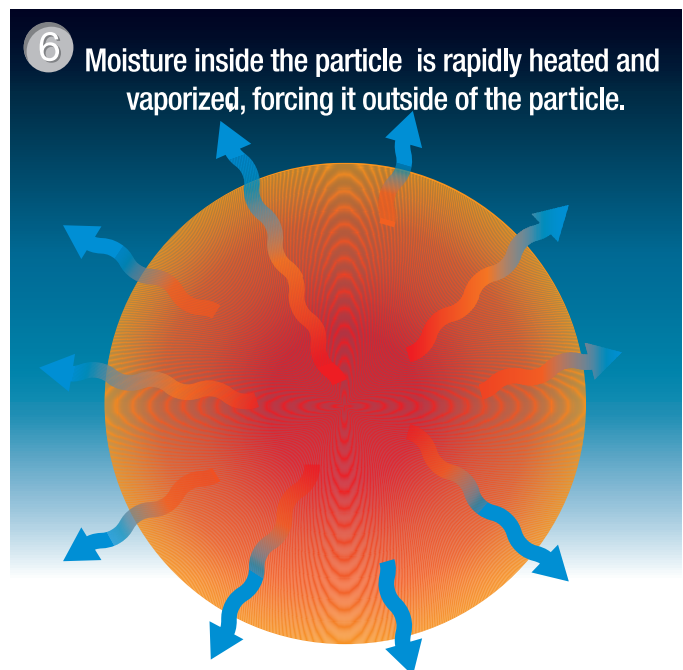
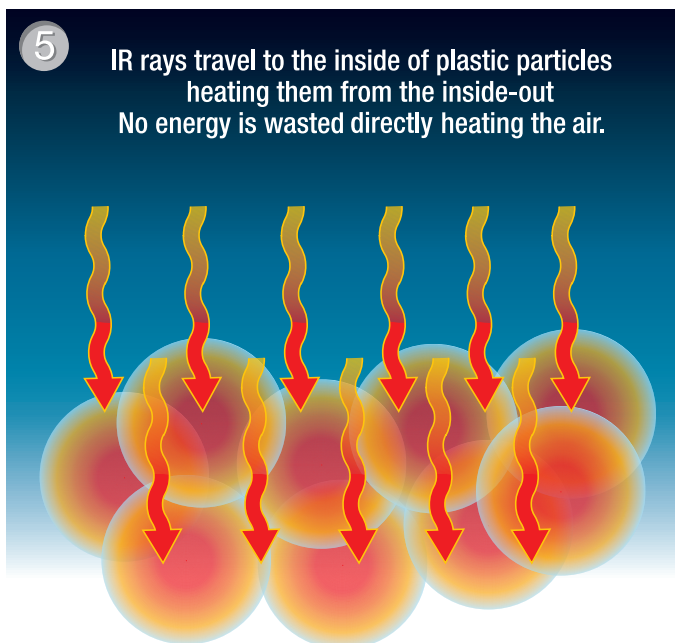
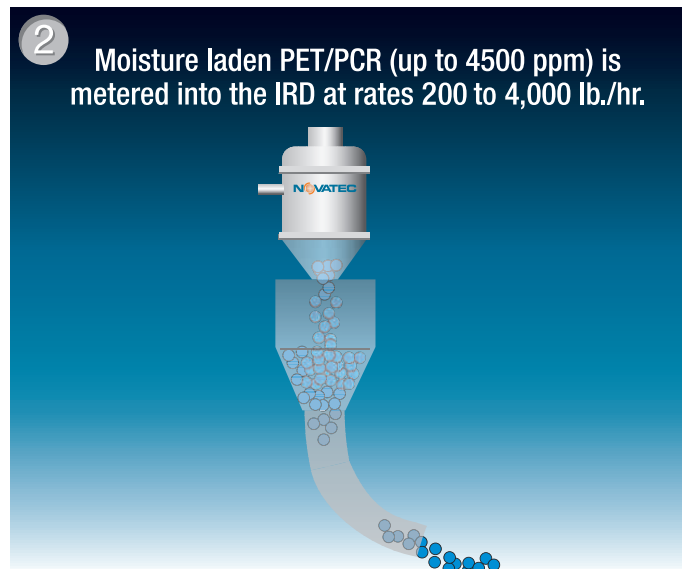
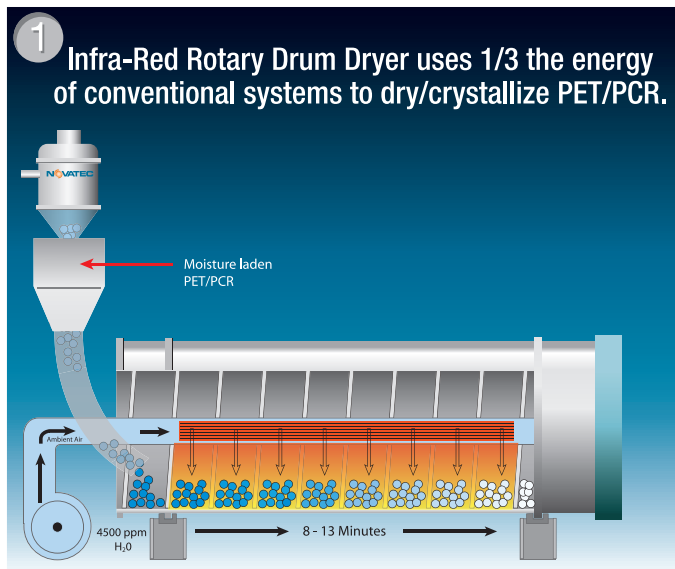
Moisture-laden PET and PCR is fed into the rotary drum inlet of the IRD using a standard NOVATEC resin loading system. Special provisions can be made for loading low bulk density PCR.

Sensors monitor the material level in the supply hopper to ensure continuous operation and the entire process is controlled by a SIEMENS Touch Panel PLC.

The rotating drum gently transports the material through the length of the drum using an internal helix. The drum is fitted with "tumbler fins" ensuring that all surfaces of the material are quickly exposed to the rays from the banks of IR heaters. This guarantees fast crystallization and drying.

Energy costs are reduced by up to 65% because infrared rays are so much more efficient at crystallizing/drying the material than a conventional desiccant system. The lower energy costs translate into an excellent return on investment.

There is no need for high volume, bulky desiccant dryers and hoppers that are required with conventional crystallizing systems. The traditional crystallizer unit, by necessity, has a height that sometimes requires plant modification. The separate dryer, with the capacity of the extruder, adds to the total cost and footprint and greatly increases energy usage.



The IRD crystallizes and dries in one operation. A low cfm dryer connected to a buffer hopper, holding about one hour of extruder production capacity, is used to further reduce the resin moisture content to the final level (as low as 50 ppm) while waiting to be processed. The total energy required to operate the IRD system is far less than using a conventional crystallizer plus a large desiccant dryer.

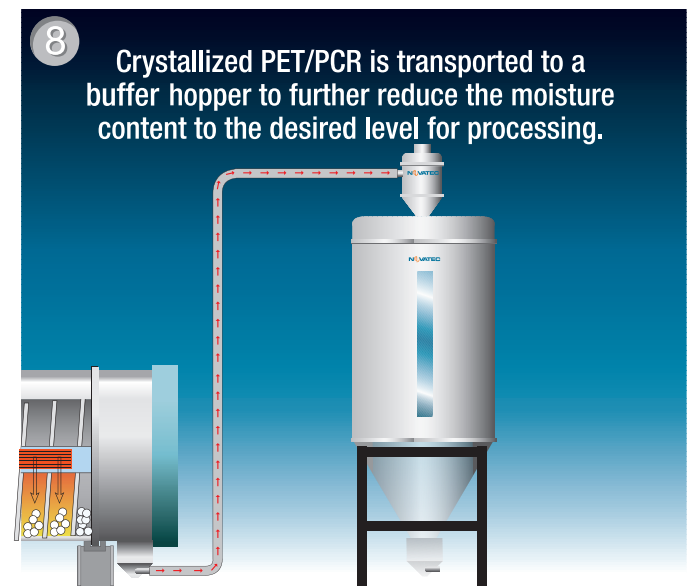
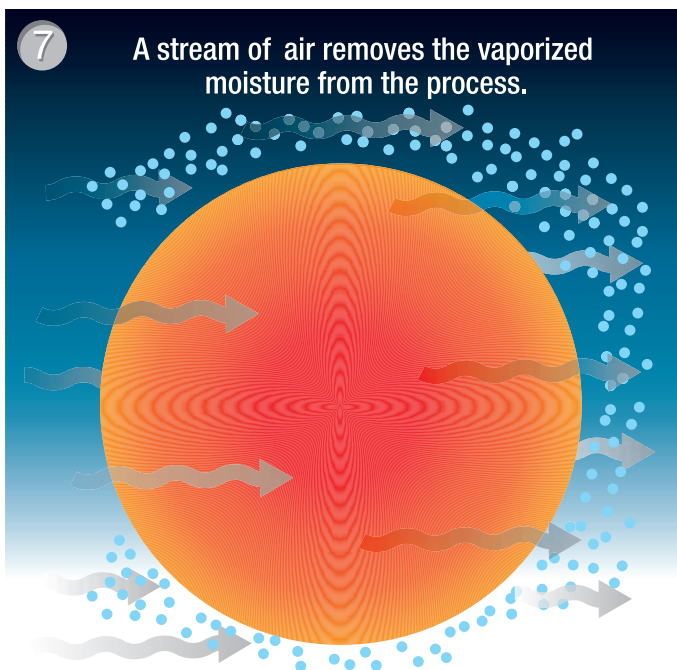
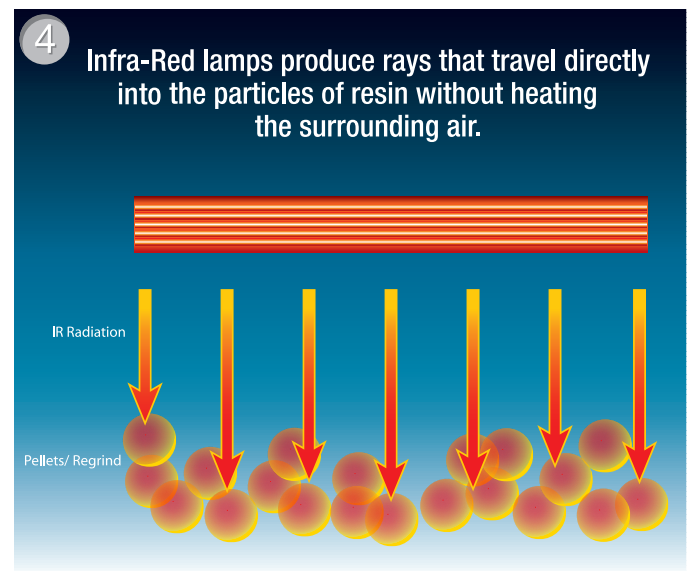
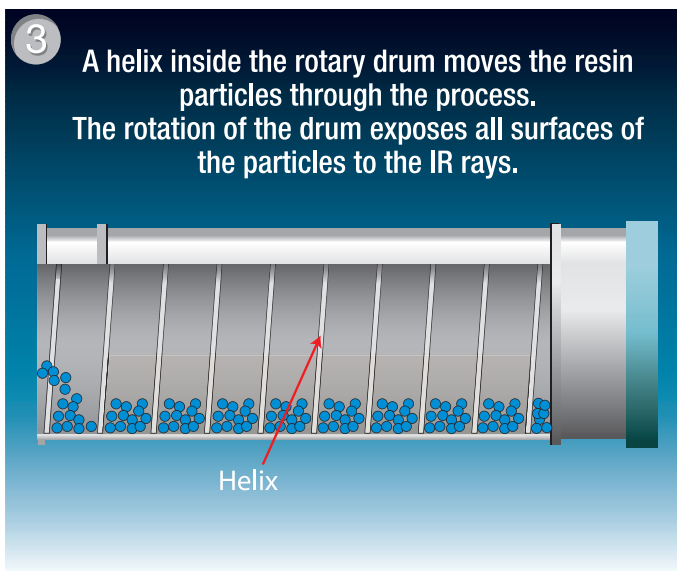
IRD start-up time is minimal so processors are operating faster from a cold startup. Material change over and cleanout is accomplished faster than with conventional systems, translating into reduced material waste and more production time.

Maintenance on the NOVATEC infrared rotary dryer/crystallizer is minimal. There are no rotating agitators to bend and break and no large desiccant dryer and hopper with their associated maintenance.

The NOVATEC IRD system is designed to overcome difficulties associated with previous designs.

Our drying technology center in Baltimore is available to demonstrate actual drying/crystallizing results using customer-supplied material.

Contact NOVATEC for further information.



Nominal Dimensions

Model Number	IRD-500	IRD-1000	IRD-1500	IRD-3000	IRD-4000
Throughput capacities*	200-800 lb./hr. 90-360 kg/hr.	500-1500 lb./hr. 227-680 kg/hr.	650-1500 lb./hr. 295-680 kg/hr.	1500-4000 lb./hr. 680-1820 kg/hr.	2200-4000 lb./hr. 1000-1820 kg/hr.
L x W x H	10 x 3.5 x 7 ft. 3 x 1.1 x 2.1 m	13 x 5 x 7 ft. 4 x 1.5 x 2.1 m	17 x 5 x 7 ft. 5.2 x 1.5 x 2.1 m	17 x 7 x 8 ft. 5.2 x 2.1 x 2.4 m	20 X 8 X 10 ft. 6.1 x 2.4 x 3 m

* Depending upon bulk density of material.



View of helix showing tumbler fins that ensure all surfaces of material are exposed to IR rays.



Internal view of IR lamps.

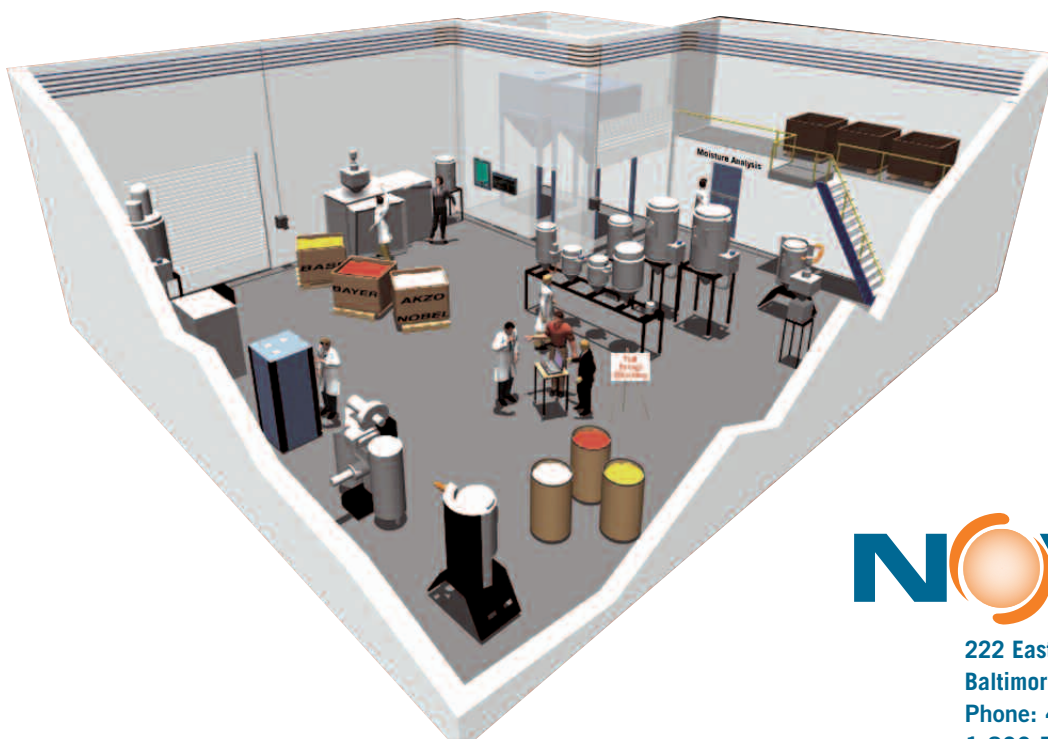


Component module in standard operating position.



Component module rolls out for easy lamp maintenance.

Drying Technology Center



At our new 4,000 square foot Drying Technology Center, we have the most up-to-date and comprehensive array of resin drying equipment available on the market today. We can run a test on your PET/PCR in the NOVATEC IRD or we can perform a drying test on other resins in one of our five types of dryers.

You will get complete results of your resin drying test to help you decide which NOVATEC dryer is best for your application.

Contact us to arrange for your visit.

NOVATEC

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The IRD System is protected by multiple U.S. and international patents