

NovaWheel PowerGuard Dryers are designed for optimal drying of a wide range of resins. Patented energy savings with Adaptive Process Heating Control and Regeneration Optimization.

This innovative drying system enables processors of all resins to significantly reduce initial cost, equipment footprint, maintenance, and energy costs compared to other drying systems.



- ★ **NWPG Patented System Ensures Maximum Efficiency and Minimum Energy Usage**
A modified NovaWheel™, an electric or 90% efficient gas-fired process heater, a cyclone and a color touch screen with Adaptive Process Heating Control and Regeneration Optimization Control ensure maximum efficiency.
- ★ **Proprietary Technology Saves Up To 30+% On Energy Costs**
NWPG Adaptive Control and Regeneration Optimization automatically adjusts air inlet temperatures, blower speed and wheel speed, based on hopper return air temperature, to save energy and ensure consistent drying. Return air temperature is the most reliable indication of material dryness. Continuous feedback from the return air sensor is utilized for automatic adjustment of process settings, providing optimum energy efficiency and uniform drying regardless of initial material temperature, dryness, or throughput rate.
- ★ **Regeneration Optimization**
Variable Frequency Drives on Process Blower and Wheel Speed reduce regeneration energy by up to 30%
- **Maintenance and Footprint Reduction of Over 50%**
NWPG reduces maintenance because it has fewer moving parts, no valves and has a much smaller footprint compared to conventional dual-bed dryers.
- **Each System Matched to Processing Needs**
Instead of a “one design fits all needs” approach, NWPG Systems are matched to your individual requirements.
- **Central Dryer Packages**
Available in all sizes.



10.4" Color Touch Screen Control
Standard on all NWPG Dryers

Plus

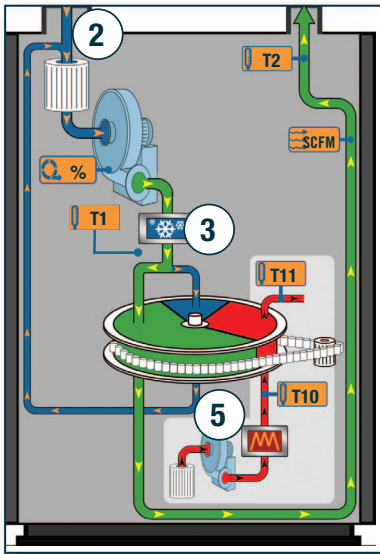
- Vaisala dew point sensor on process air outlet.
- Pre-cooler (Return air)
- 2-Year warranty.

How It Works

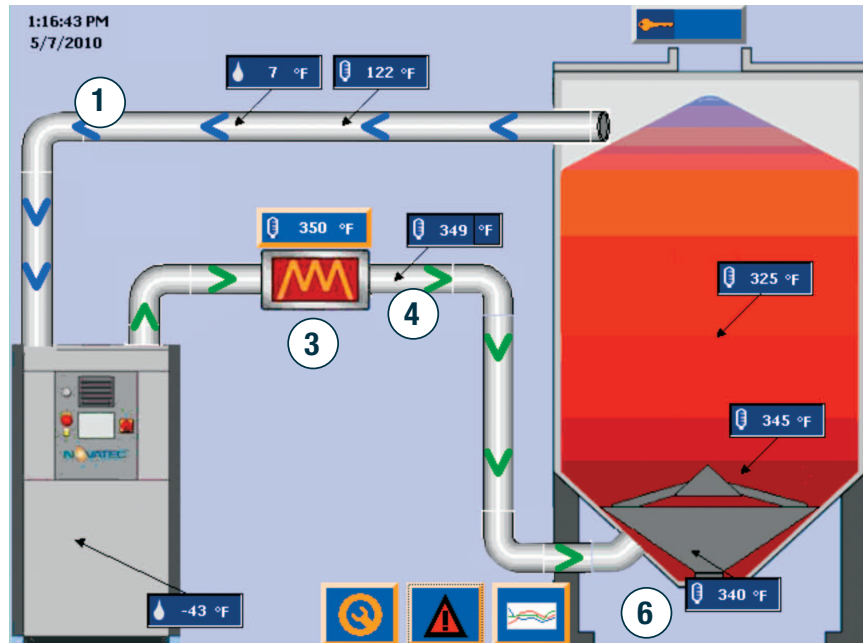
NovaWheel™ PowerGuard™ Systems with Adaptive Control and Regeneration Optimization ensures process consistency, reduces energy usage and eliminates the need for operator intervention.

Key components of the NovaWheel PowerGuard system:

- A modified NOVATEC NovaWheel desiccant wheel dryer includes PLC control with Adaptive Process Heating Control and Regeneration Optimization.
- A multi-zone single flow drying hopper.
- An electric or 90% efficient gas-fired process heater.
- A cyclone dust collector.



Inside NovaWheel PowerGuard Dryer



Patented NWPG Adaptive Control and Regeneration Optimization automatically adjusts air inlet temperatures, blower and wheel speed, based on hopper return air temperature, saving energy, ensuring process stability and consistent drying.
** Hopper temperature sensors are for monitoring/trending purposes only and do not control the drying process.*

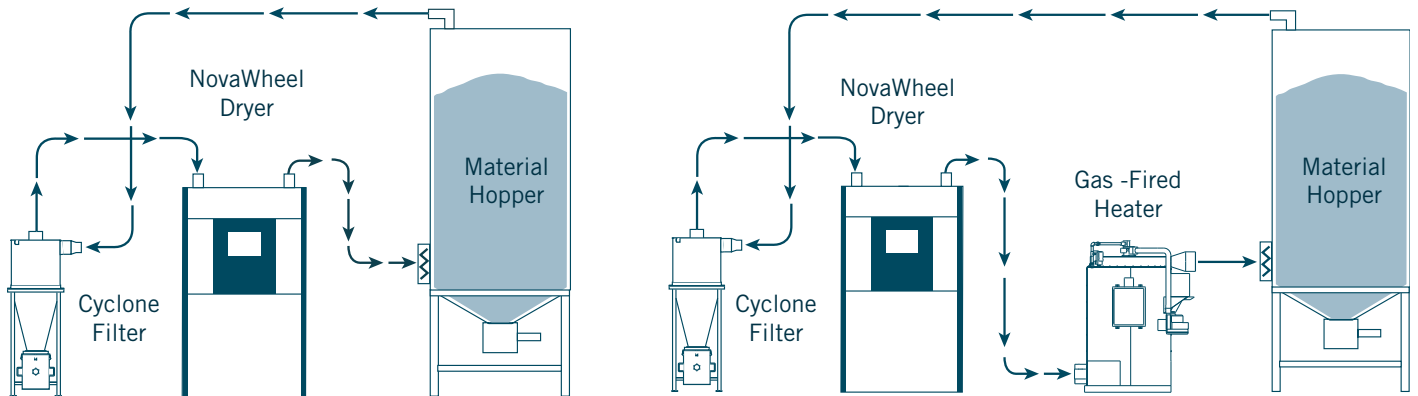
The Keys To Efficiency

Automatic adjustment of process temperature and blower speed ensures process consistency, constant material temperature with minimum energy usage.

- 1 - The NWPG Adaptive Control system monitors hopper return air temperature to optimize air temperature in the upper portion of the hopper through heater and blower speed adjustments, to reduce energy consumption. Patent # 6,951,065,B2
- 2 - Within the dryer, the air is filtered and then enters a blower.
- 3 - The air is cooled before passing through the desiccant wheel and subsequently re-heated before entering the bottom of the hopper.
- 4 - Air flow and inlet air temperature are constantly monitored and controlled through the Adaptive Control and Regeneration Optimization Control using the feedback from the hopper return air temperature.
- 5 - Regeneration Optimization use a variable frequency drive to control blower and desiccant wheel speed. Patent # 5,688,305
- 6 - Guaranteed constant temperature of material exiting the hopper.

Choice of Configurations

Large volume processors profit most from the NWPG system.



Choose either electric or our patented, Gas-Fired process heater with 90% thermal efficiency. An optional self cleaning “pulse” type dust collector is available.

Hands-Free, Automatic Operation



- Large 10.4” color touch screen makes initial set-up easy.
- Provides at-a-glance indications of temperature and blower parameters.
- Monitors all dryer functions including bed temperature,

percent of process air flow and process/regeneration temperatures.

** Hopper temperature sensors are for monitoring/trending purposes only and do not control the drying process.*

Ethernet Connection Provides Constant Monitoring

- Ethernet connection allows access to system through any PC, anywhere.
- System alarms can be emailed to any email account on a PC, Blackberry or SmartPhone.



| PowerGuard 10.4” Touch Screen Color Control Features | |
|--|------------|
| Color Touch Screen 10.4” | Standard |
| Control Temperature #1 | Standard |
| Second Set-point | Standard |
| Over-temperature Alarm and Shutdown | Standard |
| Real Time Clock | Standard |
| Seven Day Timer | Standard |
| Auto Start/Stop | Standard |
| High/Low Temperature Alarm | Standard |
| Warning and Error Messages | Standard |
| Battery Backup | Standard |
| EEPROM | Standard |
| Calibration Feature and Set Point Secure | Standard |
| Set Deviation Limits | Standard |
| Language Capabilities | Standard |
| Diagnostics | Standard |
| Adjust PID Settings | Standard |
| NEMA 12 Enclosure | Standard |
| Loader Operation | Standard |
| Communications Capability | |
| Ethernet | Standard** |
| Modbus | Optional* |
| Modem | Optional* |
| MPI | Optional* |
| Profibus | Optional* |
| DeviceNet | Optional* |
| ASI | Optional* |

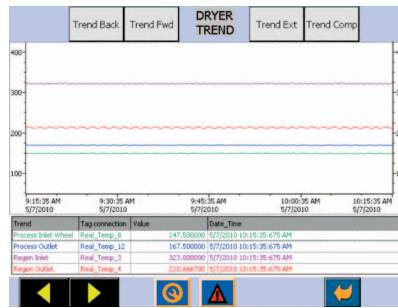
*As a PLC based option ** With embedded web page

Four Screens Show Real Time Trending On 14 Drying Parameters

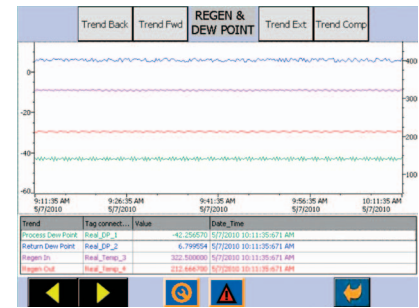
All of the Optimization and Adaptive Control features of NovaWheel PowerGuard dryers are controlled automatically and trending screens are provided for tracking purposes. The trending information can be downloaded, providing permanent quality assurance records and exported through Ethernet.

The trending screens are invaluable to allow the controls to monitor the performance and make any adjustments automatically.

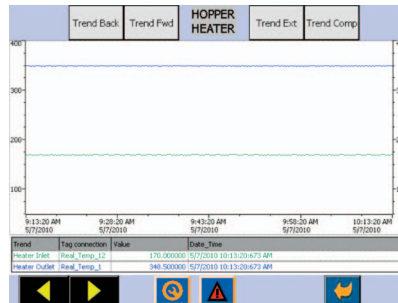
This combination of patented energy-saving features is provided on NWPG dryers only by Novatec. The result is process consistency with none of the power surges and dew point variation associated with the regeneration process in dual bed dryers. Energy savings are unparalleled with total energy usage is as low as 60-70 watts/kg. These factors are increasingly important to processors.



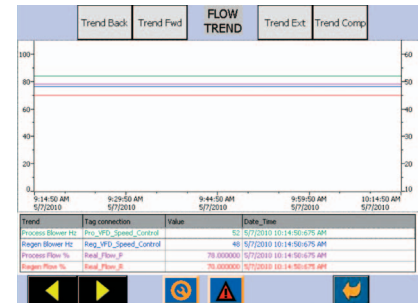
DRYER TREND



REGEN & DEW POINT



HOPPER HEATERS



FLOW TREND

Specifications

| Dryer Model Number | *Throughput | | Cabinet Size | | | | | | Air Connection Diameter | | Cyclone Part # Air-Flow | Process Air Cooling Coil on Stand | Coolong Coil on Stand w/ Plastizer Trap |
|--------------------|-------------|--------|--------------|-------|--------|-------------------------|-------------------------|-----|-------------------------|----|---|-----------------------------------|---|
| | lb./hr. | kg/hr. | Width | Depth | Height | Air Connection Diameter | Air Connection Diameter | | | | | | |
| | | | in. | cm | in. | cm | in. | cm | in. | cm | | | |
| NWPG-600 | 600 | 273 | 46 | 117 | 63 | 160 | 99 | 251 | 6 | 15 | CDC-60 400 cfm 1275 m ³ /hr. | CC-4S | CCP-4S |
| NWPG-800 | 800 | 364 | | | | | | | 8 | 20 | CDC-80 750 cfm 1275 m ³ /hr. | CC-7S | CCP-7S |
| NWPG-1000 | 1000 | 455 | | | | | | | 8 | 20 | CDC-100 1500 cfm 2550 m ³ /hr. | CC-8S | CCP-8S |
| NWPG-1300 | 1300 | 591 | | | | | | | | | CDC-120 3000 cfm 5100 m ³ /hr. | CC-9S | CCP-9S |
| NWPG-1600 | 1600 | 727 | 65 | 165 | 898 | 224 | 115 | 292 | 8 | 20 | CC-8S | CCP-8S | |
| NWPG-1800 | 1800 | 818 | | | | | | | | | | | |
| NWPG-2300 | 2300 | 1045 | 77 | 196 | 106 | 269 | 115 | 292 | 12 | 30 | CC-9S | CCP-9S | |
| NWPG-3000 | 3000 | 1364 | | | | | | | | | | | |
| NWPG-3800 | 3800 | 1727 | | | | | | | | | | | |
| NWPG-5000 | 5000 | 2273 | | | | | | | | | | | |

Voltage: Standard 460/3/60.

*Nominal throughput based on polycarbonate pellets @38 lb./ft³

Options: Show as separate line item on order. See price list #104.

Alternate Voltage: 415/3/50 (no charge) 575/3/60 (See price list #104)

Accessories: Show as separate line item on order. Shipped separately - see price list #104.

Cooling Coils: See part numbers in chart above.

Central Dryer Models: (No process heater/contactors - P/L #104). All sizes available as Central Dryer models - add -C after standard ITPS model number.