

Central Drying/Conveying Systems

Central Dryer Series : 200-5000 lb./hr. (90-2272 kg/hr)

Central Drying/Conveying Systems reduce operating costs, increase production, improve product quality and produce excellent payback.

You Are A Good Candidate for Central Drying/Conveying If...

- You have dryers on 10 or more machines
- You have a single material that requires drying and it is required at multiple machines
- You have frequent material changes on your machines
- You use more material types than you have machines
- You have dryer to dryer quality issues when drying the same material
- You want to expand, but do not have sufficient space



7" High Resolution Color Touch Screen Standard.

A Central Drying/Conveying System helps processors overcome serious issues, often saving hundreds of thousands of dollars per year

OverDry Protection Standard

Eliminates over-drying of moisture-sensitive resins, like nylons.

Faster Changeover Times

Increases machine uptime and production.

Minimizes Labor and Floor Space

Removes press-side dryers, hoppers, gaylords and forklifts from the production floor.

Easy Access Maintenance

All maintenance can be performed from front of dryer.

Clear Text Messages

No confusing codes that have to be looked up.

Intelligent Regeneration

Constantly monitors regen inlet and outlet temperatures and controls them to optimize energy and dew point performance.

Variable Frequency Drive

Dryers from -1600 through -5000 employ a variable frequency drive that automatically optimizes the regen blower speed.

Proven Fast Payback of Investment

A plant survey can compare your current costs to estimated costs with a Central System and prove the payback you can expect.

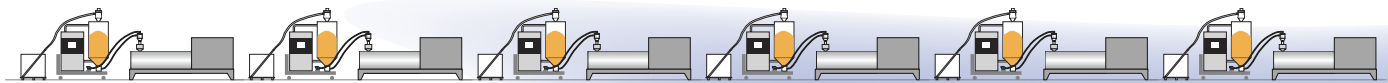
Standards that Others Call Options!

- Data trending of processes
- 7-Day Timer with Auto START/STOP
- After-cooler w/ plasticizer drain
- Dew point analyzer
- High heat capability
- Phase detection on all portable dryers
- Reliable chain drive
- Filter maintenance alarm
- Alarm light
- Disconnect switch

***An Integrated Central Conveying System Helps Improve Product Quality & Increases Machine Up-Time
The annual payback can range up to \$400,000 or more per year***

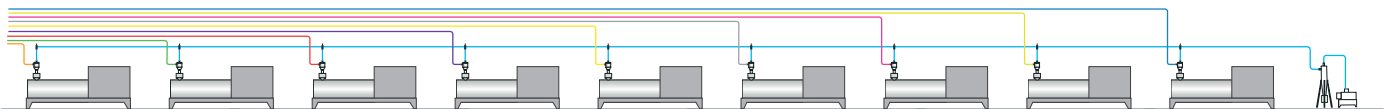
Press Side vs. Central Drying

Processor problems with press side drying



- Approximately 75 sq. ft. per station is wasted with dryer, hopper and gaylord.
- Energy lost with dryer and loader at every station.
- Process variations occur with different dryers reducing quality.
- Extra labor and equipment to keep machines supplied with material.
- Every material changeover can cost 2 or more hours of lost production.
- Inevitable loss of material when changing gaylords or materials.

A Central Drying/Conveying System provides solutions



- Optimum drying of multiple materials using a central source for dry air.
- Process stability with central dryer and proper air flow/temperature at each hopper.
- Increases floor space for more machines and greater production.
- Reduced energy costs and possibility of energy rebates.
- Reduced labor and maintenance.
- Fast material changeover greatly increases process machine uptime.
- Material selection with automatic identification reduces material waste and rejects.

Typical process audit results show huge Payback for Central Drying/Conveying

Based on 12 machines – Average material rate = 200 pph - Drying Nylon/ABS/PC

When we do an energy audit, we find that press side dryers are typically rated for double the throughput for which they are actually being used. That means that processors are using the energy to dry 400 lb./hr. but are only drying 200 lb./hr.

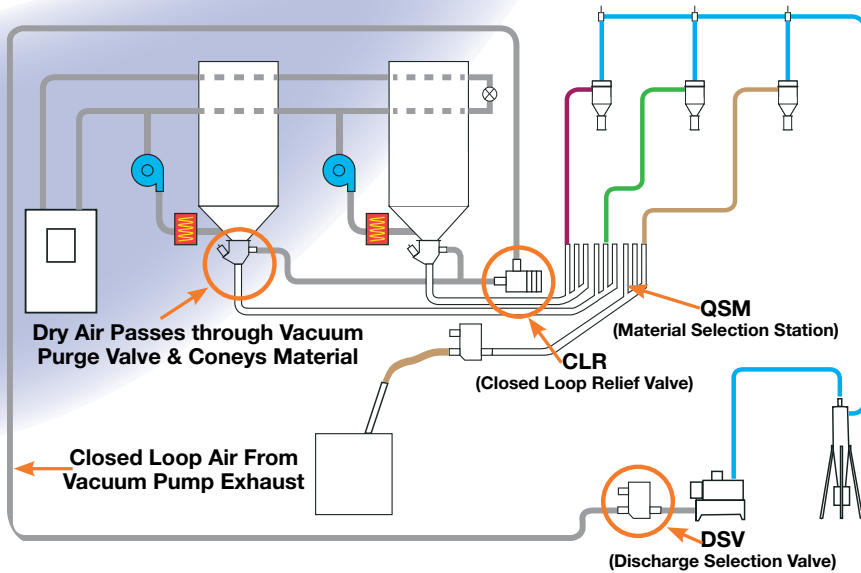
| | Press-Side Cost (per year) | Central Dry/Convey Cost (per year) |
|--|-------------------------------|---------------------------------------|
| EXAMPLE: | | |
| Energy Costs: \$.10/kwh x 11 kw x 8000 hr./yr. x 12 (400pph) dryers = | \$108,000 | \$41,000 |
| Material Changes: Press-side dryers require 30 minutes to 4 or 5 hours for material changeover. | | |
| Based on 2 hour average x 3 changes/machine/week x \$50/hr. = | \$180,000 | \$22,500 |
| Labor: Central Conveying typically eliminates at least one material handler/12 machines = | \$ 30,000 | \$0 |
| | <u>\$318,000</u> | <u>\$63,500</u> |

Central Drying/Conveying System Payback = \$254,500/yr.!

Quick material change greatly increases process machine uptime.
Include Auto ID with Material Selection and reduce spillage and misdirected materials for even greater payback.

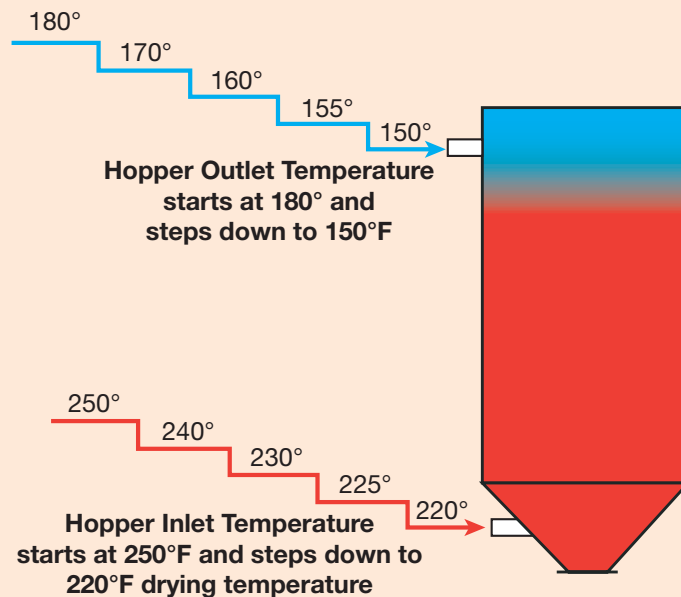
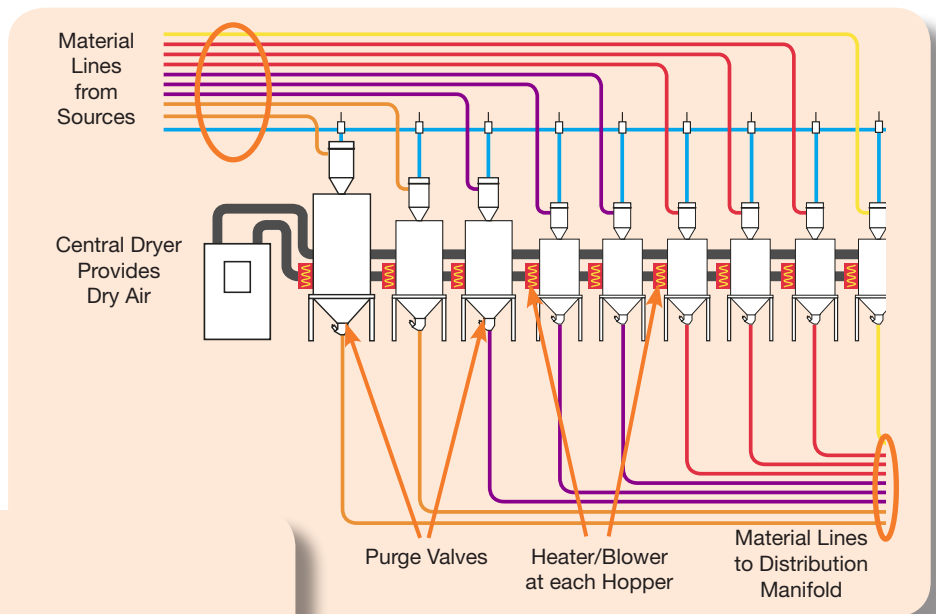
How Central Drying Works

Closed Loop Conveying System Air Illustration



- The central dryer is your single source for -40° dew point air.
- A heater/blower at each hopper provides proper air flow and drying temperature.
- Dry air conveying or dry air purging of lines is available.
- Integrated central conveying system with auto ID of materials minimizes waste.
- Change materials in minutes ... not hours for increased production time.

Multiple Materials - Central Drying with Closed Loop Dry Air Convey



OverDry Protection

Monitors hopper outlet temperature and adjusts hopper inlet temperature when hopper is not utilized at full throughput capacity to avoid over-drying of resin

Central Drying Assemblies

(Material-specific drying hoppers)



See CDA2 data sheet for complete CDA specifications

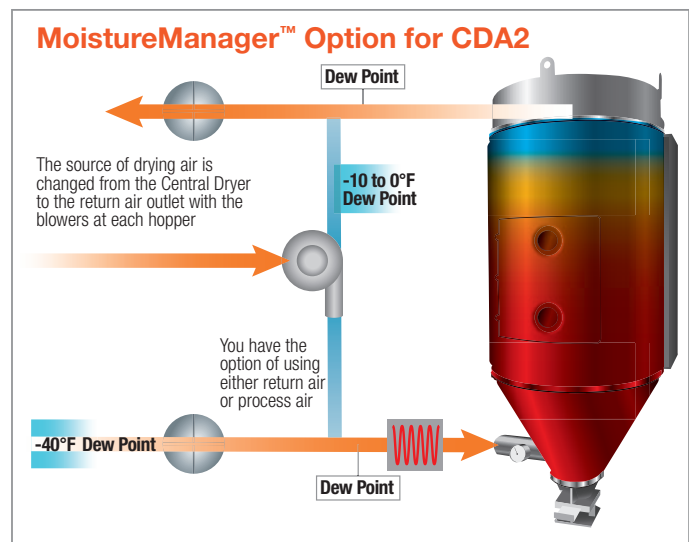


Modular design enables easy installation.

The NovaWheel™ Central Dryer provides -40° dew point air to multiple CDA2 units to custom dry several resins in varying quantities. Each CDA2 includes a stand-mounted insulated hopper equipped with an adjustable heater (up to 350°F) and blower unit correctly sized for the hopper.



Closed loop manifold provides -40° dew point dry air to hoppers and returns moisture laden air to central dryer.



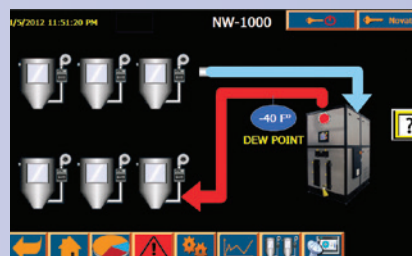
MoistureManager Option often used in conjunction with OverDry Protection to maximize drying control.

Choices for Central Drying Control

1- Program drying parameters at each central drying hopper control.
(Number of dryers and hoppers optional)



2- Add optional control module to 1 central dryer and control up to 16 central drying hoppers from central dryer.



3- Complete access/control of central drying and conveying - See FlexXpand with NovaNet Data Sheet

FlexXpand™ Control with NovaNet™ Communications

Provides central access to all components of a NOVATEC central drying, conveying system.



Control of up to 4 Central Dryers, 48 drying hoppers and 160 Material Receivers on drying hoppers, blenders and process machines.



Auto ID proofing for up to 73 material sources



Control up to 20 Vacuum Pumps



Central drying with central blending and conveying



Access up to 12 Silos with ID Proofing



Access up to 2 Railcar Unloading Systems

FlexXpand™ NovaNet™ Touch Screen PLC's

Provide Full Central/Remote Control and Access

These touch screen controls allow you to program and monitor all material loading and can be accessed via web browser by any networked computer, or via VCN App by a networked Smartphone or Tablet.



See data sheets on controls and material selection for complete specifications.