COMET
PLASTIC EQUIPMENT, LLC

Honeycomb Matrix Dryer/Hopper Combo

Combines dehumidifying and drying into a single unit.

The energy efficient CDD series honeycomb matrix drying system combines dehumidifying and drying into a single unit, offering the latest in matrix rotor drying technology. A rotor slowly turns while a cycle of dehumidification, regeneration and cooling is repeated simultaneously providing a lower dewpoint than desiccant, compressed air, or vacuum dryers.

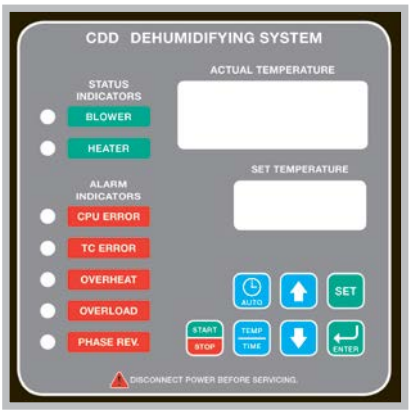
Because this closed-loop design operates in a continuous drying mode, it eliminates the risk of moisture re-absorption, keeping atmospheric moisture away from the freshly regenerated desiccant bed to eliminate dewpoint spikes during bed changeover.

The CDD is suitable for any hygroscopic resin such as PA, PC, PBT, PET and nylon drying applications involving large quantities of hygroscopic material.

CDD-160U/120H

Standard Features

- Each model combines dehumidifying and drying functions into a single unit.
- The honeycomb rotor provides continuous closed-loop drying and requires less maintenance while eliminating contamination problems associated with desiccant beds.
- Under ideal conditions, maintains a dehumidified dry air dewpoint of at least -40°F (-40°C) or lower.
- Insulated drying hopper features down-blowing dry air and cyclone exhaust improving drying efficiency and reducing energy consumption.
- The dehumidifying section of the CDD features two coolers ensuring low return air temperatures and a low dewpoint.
- Space-saving, compact size for ease of movement.
- Microprocessor control system.



Control Panel

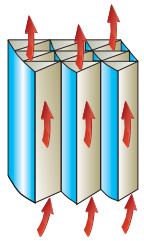
Options

- Dewpoint monitor to set the temperature values between -40° to +50°F (-40° to +10°C) depending on the plastic material, saving 0~10% total power consumption.
- Suction box and hopper loader for convenient material conveying.
- PLC control plus LCD touch screen for convenient centralized control.
- Regenerative plate heat exchanger to save 3-6% total power consumption.
- Drying plate heat exchanger to save 0~19% power consumption.
- Controllable drying capacity function. Once the name of the dried plastics material and per hour volume used is set, the system adjusts the air volume and consumption automatically. The volume used per hour can be set 40-100% of drying capacity saving total power consumption of 0~35%.

CDD Series

What is a Honeycomb Rotor?

The main section of the honeycomb rotor is made of ceramic fiber and organic additives that are sintered under a high temperature with a molecular sieve and silica gel acting as the bonding material binding it to the inside of the honeycomb, thus forming the honeycomb-like structure.

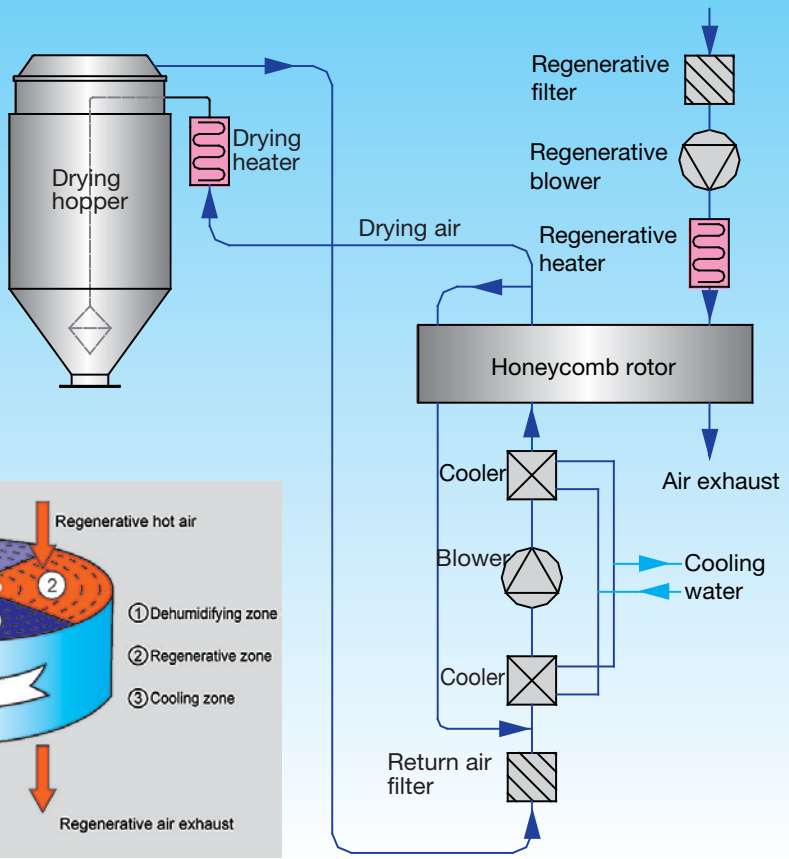


Detail of Matrix

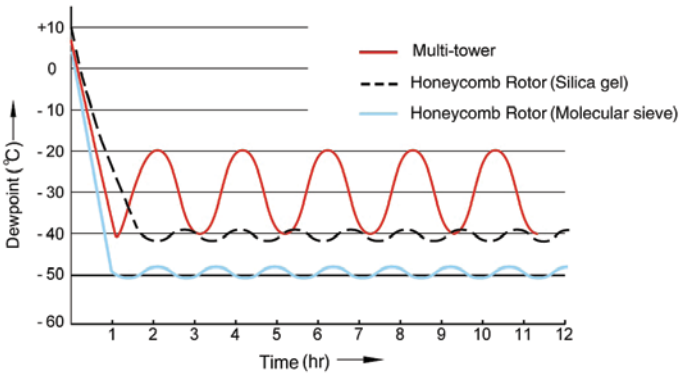
A honeycomb rotor is superior to common desiccant or rotary molecular sieves because over time, desiccant beads will produce dust in the processed air to the drying hopper and contaminate the plastic material. The honeycomb rotor is easy to clean and has a long service life. It does not saturate like molecular sieves that require regular replacement.

Working Principle

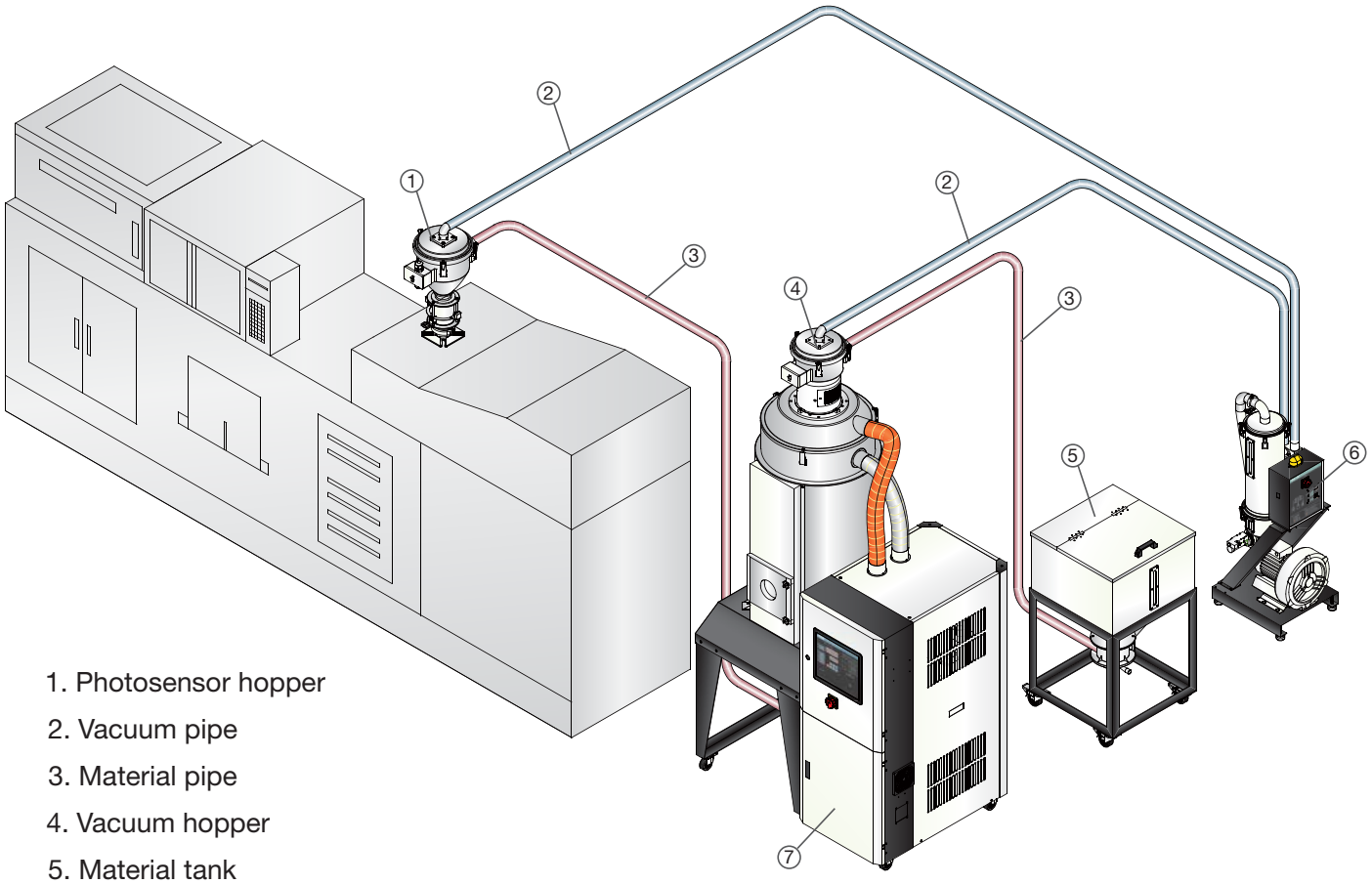
After cooling, damp hot air from the dry material hopper is blown into the honeycomb rotor. The moisture of the return air is quickly absorbed by molecular sieves when passing through the numerous holes within the honeycomb rotor. When it comes out of the rotor, it forms a low dry air dewpoint. Regenerating and dehumidifying have a similar principle and run simultaneously. The only difference is that the two process blowing actions are in opposite directions.



Dewpoint Curves

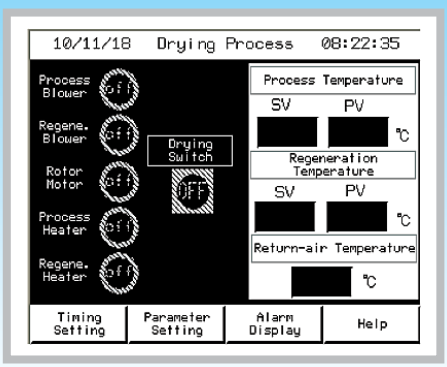


Application

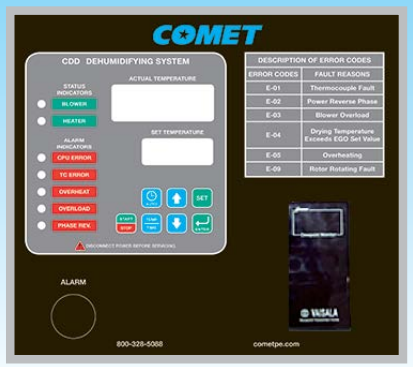


1. Photosensor hopper
2. Vacuum pipe
3. Material pipe
4. Vacuum hopper
5. Material tank
6. Separate vacuum loader
7. CDD

Optional Accessories



PLC Touch Screen Control
(LCD optional)



Standard Control (installed on machine)
(Dewpoint Meter optional)

CDD Series

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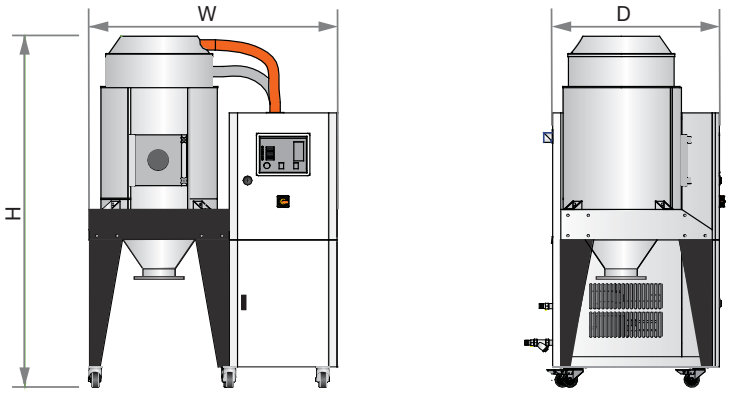
Outline Drawings



Specifications

Model	Regen. Heater (kW)	Regen. Blower (kw, 50/60Hz)	Process Heater (kW)	Process Blower (kW, 50/60Hz)	Dry Air Capacity (m^3/hr, 50/60Hz)	Insulated Hopper Gallon *(Liter)*	Dimensions H x W x D Inch *(mm)*	Weight Lb *(kg)*
20U / 40H	3 / 3	0.12 / 0.12	4	0.18 / 0.18	40 / 45	5.5 *(20)*	49.6 x 37.8 x 33.9 *(1260 x 960 x 860)*	331 *(150)*
40U / 40H	3 / 3	0.12 / 0.12	4	0.18 / 0.18	40 / 45	10.6 *(40)*	49.6 x 37.8 x 33.9 *(1260 x 960 x 860)*	364 *(165)*
80U / 40H	3 / 3	0.12 / 0.12	4	0.18 / 0.18	40 / 45	21 *(80)*	65 x 41.7 x 33.9 *(1650 x 1060 x 860)*	419 *(190)*
120U / 80H	3 / 4	0.4	6	0.75	80	31.7 *(120)*	70 x 42.3 x 33.7 *(1780 x 1075 x 855)*	551 *(250)*
160U / 80H	3 / 4	0.4	6	0.75	80	42.3 *(160)*	68.5 x 48 x 33.7 *(1740 x 1220 x 855)*	562 *(255)*
160U / 120H	3 / 4	0.4	6	0.75	120	42.3 *(160)*	68.5 x 48 x 33.7 *(1740 x 1220 x 855)*	584 *(265)*
230U / 120H	3 / 4	0.4	6	0.75	120	60.8 *(230)*	79 x 48 x 33.7 *(2010 x 1220 x 855)*	650 *(295)*
300U / 200H	4 / 6	0.4	12	1.5	200	79.3 *(300)*	80.3 x 57 x 41.3 *(2040 x 1450 x 1050)*	976 *(420)*
450U / 200H	4 / 6	0.4	12	1.5	200	118.9 *(450)*	96 x 57 x 41.3 *(2440 x 1450 x 1050)*	1213 *(550)*
600U / 400H	7.2 / -	0.75	18	3.75	400	158.5 *(600)*	93.7 x 68.7 x 49.4 *(2380 x 1745 x 1255)*	1367 *(620)*
750U / 400H	7.2 / -	0.75	18	3.75	400	198 *(750)*	102.8 x 68.7 x 49.4 *(2610 x 1745 x 1255)*	1433 *(650)*
900U / 700H	10 / -	1.5	24	7.5	700	237.8 *(900)*	104 x 84.3 x 54.3 *(2640 x 2140 x 1380)*	1830 *(830)*
1200U / 700H	10 / -	1.5	24	7.5	700	317 *(1200)*	121 x 84.3 x 54.3 *(3070 x 2140 x 1380)*	1918 *(870)*

Notes: *Plastic material can be fully dried by dried air with dewpoint temperature of ± -4°F (-20°C) (*

Power: 3Ø, 230/ 400 / 460 / 575VAC, 50/60Hz

We reserve the right to change specifications without prior notice.

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