Portable honeycomb matrix compact dryer, with loading, combines dehumidifying plastic resin and conveying into a single unit.

Comet's CCD series compact honeycomb matrix dryers incorporate drying and dehumidifying coupled with a portable two-stage conveying package (optional three-stage) for mobile drying on demand. The honeycomb matrix rotor allows dehumidifying, regenerating and cooling cycles to occur at the same time while delivering a dewpoint of -40°F (-40°C) or an optional -50°F (-45.5°C) if required. This series of dryers is especially suitable for drying material with high hygroscopicity such as PA, PC, PBT, and PET.

Standard Features

- Stainless steel construction for all material contact parts.
- Twin condensers and a mounted return air filter quickly and accurately cool down regenerative air.
- PID microprocessor temperature controller with regenerative temperature settings, real-time displays, and 7-day timer.
- Feeding system equipped with a shut-off valve to ensure no material is left in the conveying line.
- Insulated stainless steel drying hopper utilizes a down blowing design with cyclonic air exhaust to avoid heat loss and improve drying efficiency.
- Timing belt drive eliminates slippage and broken drive teeth often found with chain drive designs.
- Double water cooler ensures a lower return air temperature and dewpoint value.
- Drying temperatures up to 320°F (160°C), up to 35% operating savings.



Dewpoint Monitor on the Control



Portable Dewpoint Monitor



Energy Saving HMI Touch Control

Options

- A dewpoint monitor on the control sets the regeneration temperature automatically and lowers the regenerative heater's power consumption by as much as 10%.
 - A portable dewpoint monitor is a convenient way to test dewpoint temperatures on different machines.
- The HMI energy consumption adjustment control saves up to 41% total power consumption and is convenient for machines running on automatic. Dewpoint values can be set between -40°F (-40°C) to 50°F (10°C based on the requirements of the plastic material, saving up to 0~10% of total power consumption.
 - Three-stage conveying for feeding two injection molding machines.
- A polished surface is available inside the hopper to prevent material contamination.



PLASTIC EQUIPMENT,





What is a Honeycomb Rotor?



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 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, forming the honeycomb-like structure. The moisture of the return air is quickly absorbed by molecular sieves when passing through the numerous holes (matrix) 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.

The honeycomb rotor is easy to clean and has a long service life. It does not saturate like molecular sieves that require regular replacement.



System Flow Chart



Working Principle

Honeycomb Rotor Dehumidifier: The honeycomb rotor is divided into three zones; dehumidifying, regenerative and cooling. As humid, ambient air flows in the dehumidifying zone, moisture content deposits on the silica gel surface of the rotor, the dry air is delivered by the fan to the outlet. When the dehumidifying zone becomes saturated, it very slowly rotates at a rotation speed optimum for the condition set by a gear motor. Saturated air is drawn into the hon-eycomb matrix of the rotor through the return air filter by the process blower. When the air passes through the matrix, moisture in the air is absorbed and dry air is discharged from the process outlet. The absorbed moisture is rotated by the rotor into the dehumidifying zone. At the same time, cool air is drawn from the opposite side through the regeneration filter, heated, and enters the regenerative zone of the rotor and exhausted to the outside. The continuous cycle of dehumidifying, regeneration and cooling make it possible to create a steady dehumidifying effect.

Suction: Material is drawn into the dryer from a storage bin or other container. When the magnetic reed switch detects there is no material, the suction motor runs to produce a vacuum inside the vacuum hopper. Raw material in storage bins is drawn into the hopper loader due to the difference in air pressure. When the material suction is complete, the motor stops. Gravity causes the raw material to drop into the drying hopper barrel. After drying, the raw material is removed to the hopper via a photosensor installed on the molding machine or hopper loader.



Application







CCD Hermetic



CCD Semi-Open

Specifications

	Hermetic Design								Semi-Open Design				
CCD Model	40U/ 40H	80U/ 40H	120U/ 120H	160U/ 120H	230U/ 120H	300U/ 200H	450U/ 200H	600U / 400H	750U / 400H	900U / 700H	1200U / 700H		
Drying System													
Drying Heater Power (kW)	6	4	6	6	6	12	12	18	18	24	24		
Drying Blower Power (kW)	0.12	0.12	0.75	0.75	0.75	1.5	1.5	3.75/4.5	3.75/4.5	7.5/8.6	7.5/8.6		
Hopper Capacity (L)	40	80	120	160	230	300	450	600	750	900	1200		
Dehumidifying System													
Regenerative Heater Power (kW)	3	3	4	4	4	4	4	7.2	7.2	10	10		
Regenerative Blower Power (kW)	0.12	0.12	0.4	0.4	0.4	0.4	0.4	0.75/0.9	0.75/0.9	1.5/1.8	1.5/1.8		
Dehumidified Air Quantity (m ³ /hr)	40	40	120	120	120	200	200	400/450	400/450	700/780	700/780		
Feeding System													
Feeding Blower Power (kW)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.75	3.75		
Dia. of Material Pipe (inch)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2		
CHR-U-E Hopper (L)	3	6	6	6	12	12	12	12	12	24	24		
CHR-U Hopper (L)	3	6	6	6	12	12	12	12	12	24	24		
				Dir	nension	S							
(inch) Height (mm)	65.8	68.9	77	82.8	82.8	85	88.6	93.7	102.8	103.9	120.9		
	1672	1751	1957	2102	2102	2160	2350	2380	2610	2640	3070		
(inch) Width (mm)	41.4	42	44.3	44.3	44.2	57.5	57.5	68.7	68.7	84.3	84.3		
	1051	1066	1125	1125	122	1460	1460	1745	1745	2140	2140		
(inch) Depth (mm)	28.9	28.9	28.9	28.9	28.9	40.2	40.2	49.4	49.4	54.3	54.3		
	734	734	734	734	734	1020	1020	1255	1255	1380	1380		
(lbs) Weight _(kg)	650	717	750	860	926	1,236	1,312	1,411	1,521	1,874	1,984		
	295	325	340	390	420	565	595	640	690	850	900		

Note: 1. Dry plastic material with a dewpoint tem of \leq -4°F (-20°C) to completely dry. When the ambient temperature is \leq -13°F (-25°C) and relative humidity is

 \leq -60%, the dry air dewpoint is < -40°F (-40°C).

2. Power: 3Ø, 230/400/460/575VAC, 50/

We reserve the right to change specifications without prior notice.



Drying Capacity

	Drying	Drying	Drying Capacity (kg/hr)											
Material	Temp.	Time (Hr)	40U / 40H	80U / 40H	120U/ 120H	160U/ 120H	160U/ 120H	230U/ 120H	300U/ 200H	450U/ 200H	600U/ 400H	750U/ 400H	900U/ 700H	1200U/ 700H
ABS	80	2-3	16		27		35		105		210		355	
СА	75	2-3	12		22		30		90		180		295	
САВ	75	2-3	12		22		30		90		180		295	
СР	75	2-3	16		27		35		106		210		355	
LCP	150	4	11		20		27		80		160		365	
РОМ	100	2	24		40		53		160		320		530	
PMMA	80	3	17		29		38		115		230		383	
IONOMER	90	3-4	10		17		22		66		133		220	
PA6 / 6.6 / 6.10	75	4-6	9		14		19		58		115		192	
PA11	75	4-5	10		17		23		69		138		230	
PA12	75	4-5	10		17		23		69		138		230	
PC	120	2-3	19		31		41		124		250		413	
PU	90	2-3	17		29		38		115		230		383	
PBT	130	3-4	13		23		31		93		186		310	
PE	90	1	47		80		106		318		637		1062	
PEI	150	3-4	11		20		27		80		160		265	
PET	160	4-6	11		19		25		75		150		300	
PETG	70	3-4	11		20		27		80		160		300	
PEN	170	5	13		23		30		90		180		300	
PES	150	4	13		23		30		90		900		300	
PMMA	80	3	17		29		28		115		230		385	
PPO	110	1-2	19		33		44		133		265		440	
PPS	150	3-4	11		20		27		80		160		265	
PI	120	2	24		40		53		160		320		530	
PP	90	1	39		66		88		265		530		885	
PS (GP)	80	1	39		66		88		265		531		885	
PSU	120	3-4	12		22		29		85		173		290	
PVC	70	1-2	19		33		44		135		265		442	
SAN (AS)	80	1-2	19		33		44		135		265		442	
TPE	110	3	18		30		40		125		250		413	

Notes: 1. Use separated drying hopper. 2. Moisture content lower than 0.005% after drying when in 68°F (20°C) ambient temperature and 65% relative humidity.



7655 Enterprise Dr., Suite A3 Riviera Beach FL 33404 800-328-5088 Fax: 561-841-0400