

CCR Closed-Loop Crystallizer

Converts amorphous PET pellets and regrind to a usable crystalline state for drying.

Comet's CCR closed-loop crystallizer enables you to convert amorphous PET pellets and regrind material to a crystalline state to prevent clumping and material degradation from occurring.

The system consists mainly of heating elements and an insulated hopper with an agitating screw. Once uncrystallized PET is fed into the hopper, the agitating screw begins slowly rotating, blending the material while heating it to convert the material to a crystallized state, ready for drying and dehumidifying. After the material has been crystallized, it can then be conveyed to a surge bin for later use or directly into a drying hopper.

Standard Features

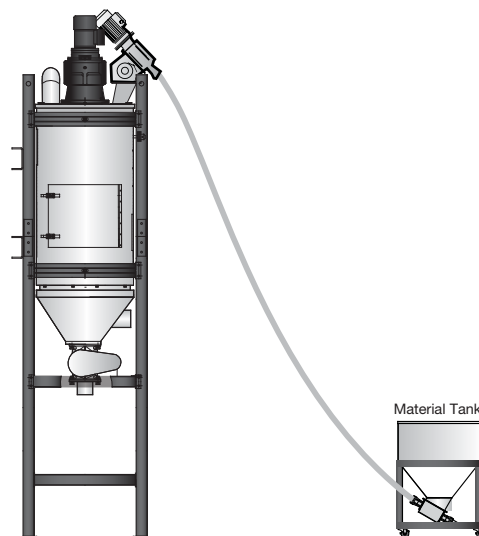
- Constant, fixed speed agitator keeps amorphous PET material moving to prevent clumping as it is heated during the crystallization process.
- Simplifies and improves drying efficiency (even under high temperatures).
- Cyclone dust collector collects dusty resin and reduces filter bag changing, extending the lifespan of the bag.
- Double overheat protectors reduce the possibility of either mechanical or man-made heating problems.
- Tightly sealed rotary valve enables accurate, crystallized material output.
- Material level switch accurately detects the material level making operation more reliable.
- Negative pressure tester (excluding CCR-1600U) immediately tests filter ventilation and also cleans the filter to avoid blockage. An alarm sounds when the negative pressure is higher than the set value.

Accessory Options

- Accumulator with dehumidifier for direct dehumidification.
- Safety ladder for CCR-900U and above models.
- Auto loader, hopper receiver, magnetic base, and suction box for material conveying.
- Feed screw for stable, even conveying of uncrystallized material.
- External stainless steel pipeline.



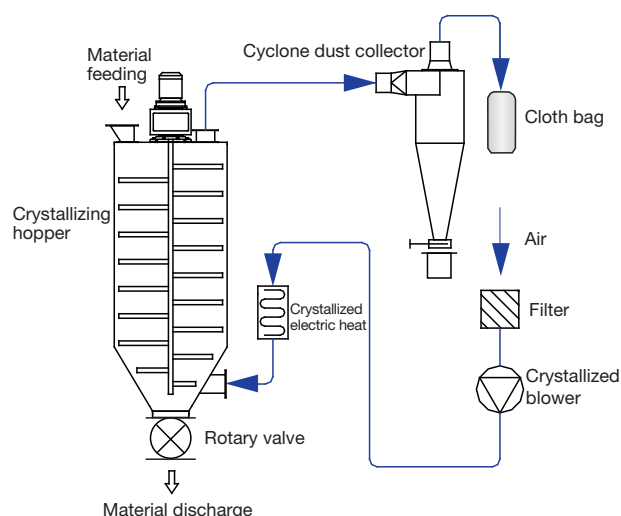
Inner Structure



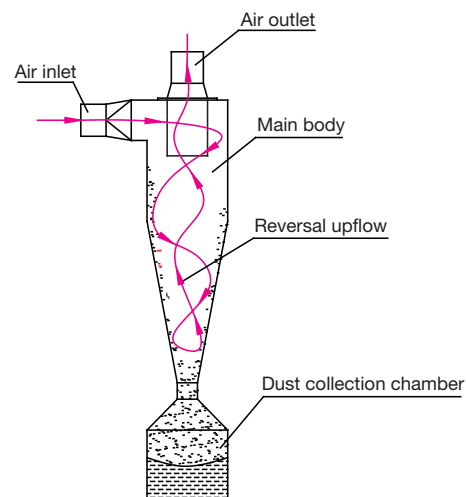
Optional Feed Screw

Working Principle

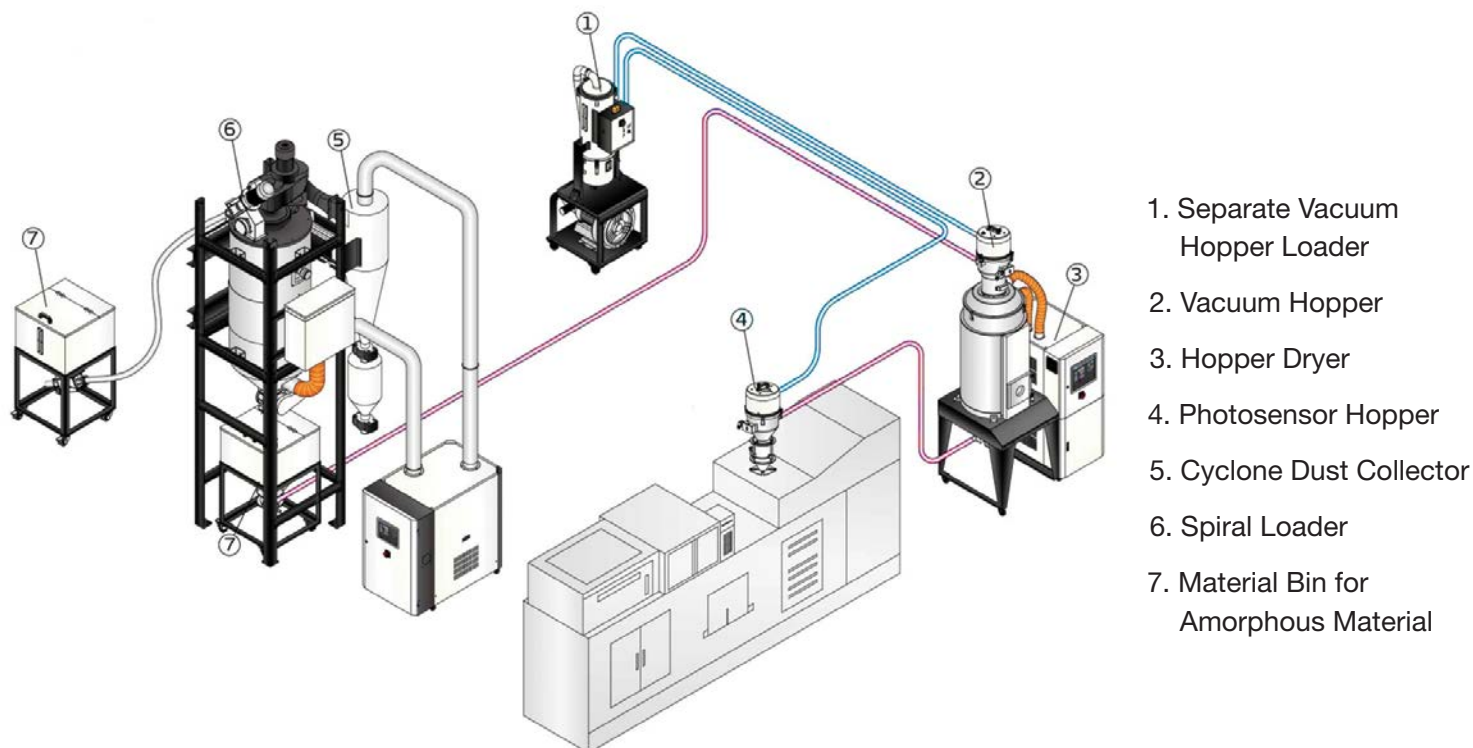
Comet's CCR crystallizer monitors both the level and temperature of the resin at the top of the hopper, automatically regulating the speed the material moves through the hopper so every pellet is crystallized before discharge. Once material begins loading, the CCR automatically starts agitating and heating the amorphous material. The agitator screw gently blends the material to prevent clumping and material degradation during the crystallization process. A temperature sensing probe detects when the crystallized temperature value has been achieved. This may take several minutes or up to an hour depending on the properties of the material to be crystallized. As the material level in the hopper gradually decreases, a high temperature loader begins re-supplying amorphous material to keep the hopper full so that the crystallization process will repeat in a closed loop.



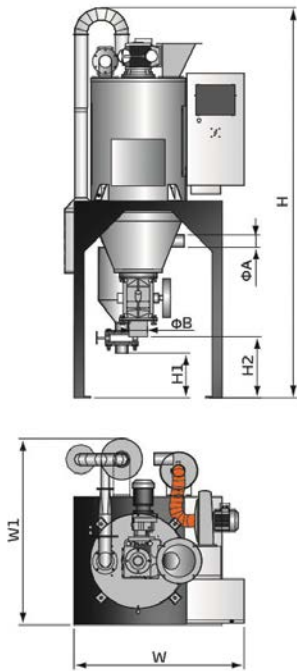
Working Principle



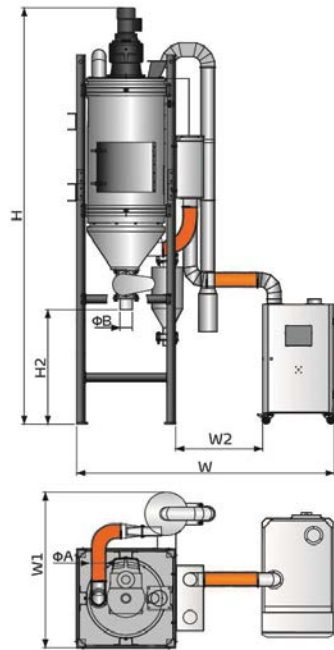
Cyclone Dust Collector Working Principle



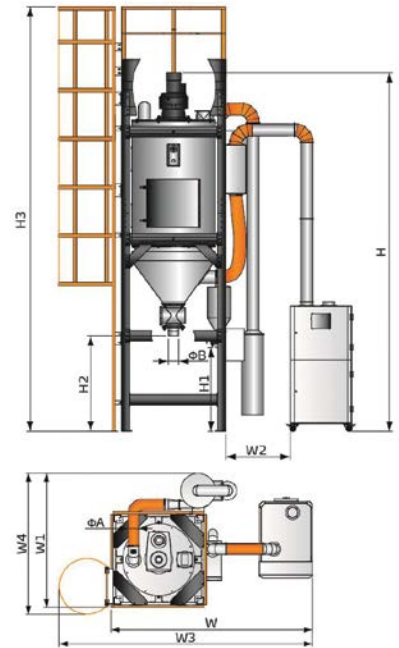
Outline Drawings (specification on back)



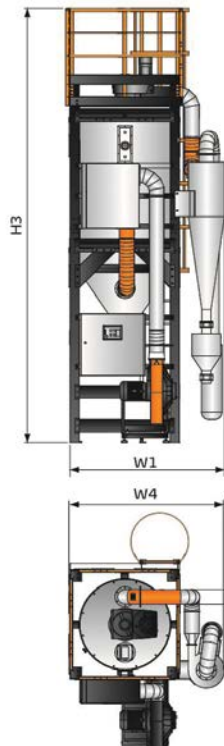
CCR-160U



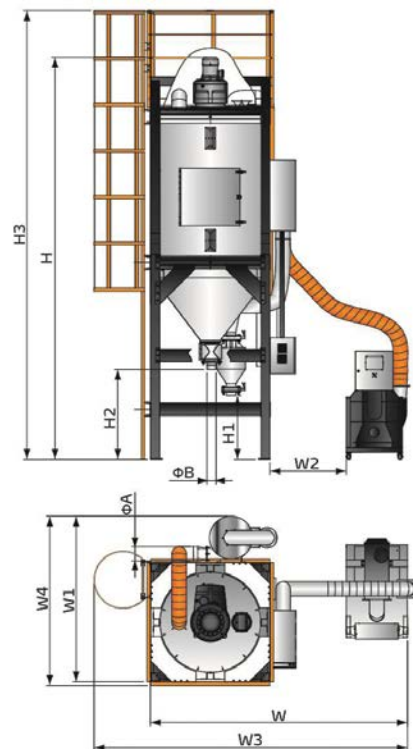
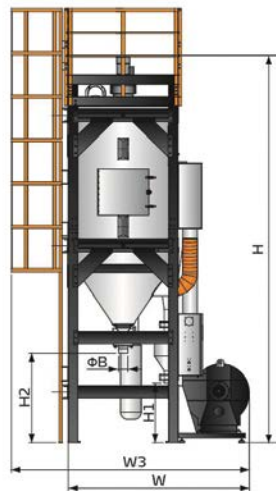
CCR-450U



CCR-900U
(with optional maintenance ladder)



CCR-1600U
(with optional maintenance ladder)



CCR-2500U
(with optional maintenance ladder)

Specifications

Model		CCR-160U	CCR-450U	CCR-900U	CCR-1600U	CCR-2500U
Heater Power (kW)		12	24	48	96	128
Blower Power (kW, 50/60Hz)		0.55	2.2	3	7.5	15
Blending Motor Power (kW, 50/60Hz)		0.25	0.55	1.5	2.2	4
Max. Throughput	(kg/hr)	50	150	300	500	750
	(lb/hr)	110	331	661	1102	1653
Hopper Capacity	(kg/hr)	160	450	900	1600	2500
	(gal)	42.3	118.9	237.8	422.7	660.4
Dimensions						
H	(mm)	2380	3850	4450	5350	5710
	(in)	93.7	151.6	179.1	210.6	224.8
H1	(mm)	280	720	1040	820	890
	(in)	11	28.3	40.9	32.2	35
H2	(mm)	380	1060	1185	1240	1270
	(in)	15	41.7	46.7	48.8	50
H3	(mm)	—	—	5260	6010	6260
	(in)	—	—	207	236.6	246.5
W	(mm)	1040	2370	2890	2510	3700
	(in)	40.9	93.3	113.8	98.8	145.7
W1	(mm)	1140	1440	1930	2190	2350
	(in)	44.9	56.7	76	86.2	92.5
W2	(mm)	—	800	800	—	800
	(in)	—	31.5	31.5	—	31.5
W3	(mm)	—	—	3640	3295	4400
	(in)	—	—	143.3	129.7	173.2
W4	(mm)	—	—	2020	2200	2360
	(in)	—	—	79.5	86.6	92.9
ØA (inch)		3	5	6	8	8
ØB (inch)		4	4	5	5	5
Weight	(kg)	235	500	865	2290	2790
	(lbs)	518	1,102	1,907	5,049	6,151

Note: 1. Above maximum processing capacity is based on uncrystallized PET material of 0.85kg/L in density and 3-5mm in diameter.
2. Power: 3ØP, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

We reserve the right to change specifications without prior notice.

PET Facts

PET plastic does not contain BPA. Most single-serve plastic bottles, including those for water, soft drinks and juices, industrial yarns, industry thread, heat-resistant dishware, etc. are made with PET. This material is globally recognized as a safe, recyclable packaging material. Numerous tests have created a broad scientific consensus that PET is non-toxic and is a safe material for the storage of food and beverages. Facts on PET supports the efforts of regulators to ensure that plastics are safe for the public through scientific testing and analysis.