



BLISS

## Bliss OP><FLO™ **Air Cooler**

The “Simple Excellence” of the OP><FLO™ Air Cooler is in its highly efficient design, which produces a uniformly cooled product with a low operating and installation cost compared to other conventional type coolers.

ONECPM.COM



The circular solution to counterflow cooling

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# OP><FLO™ Air Cooler **Theory**

**Circular design  
allows for  
uniform cooling.**



## **Simple Excellence**

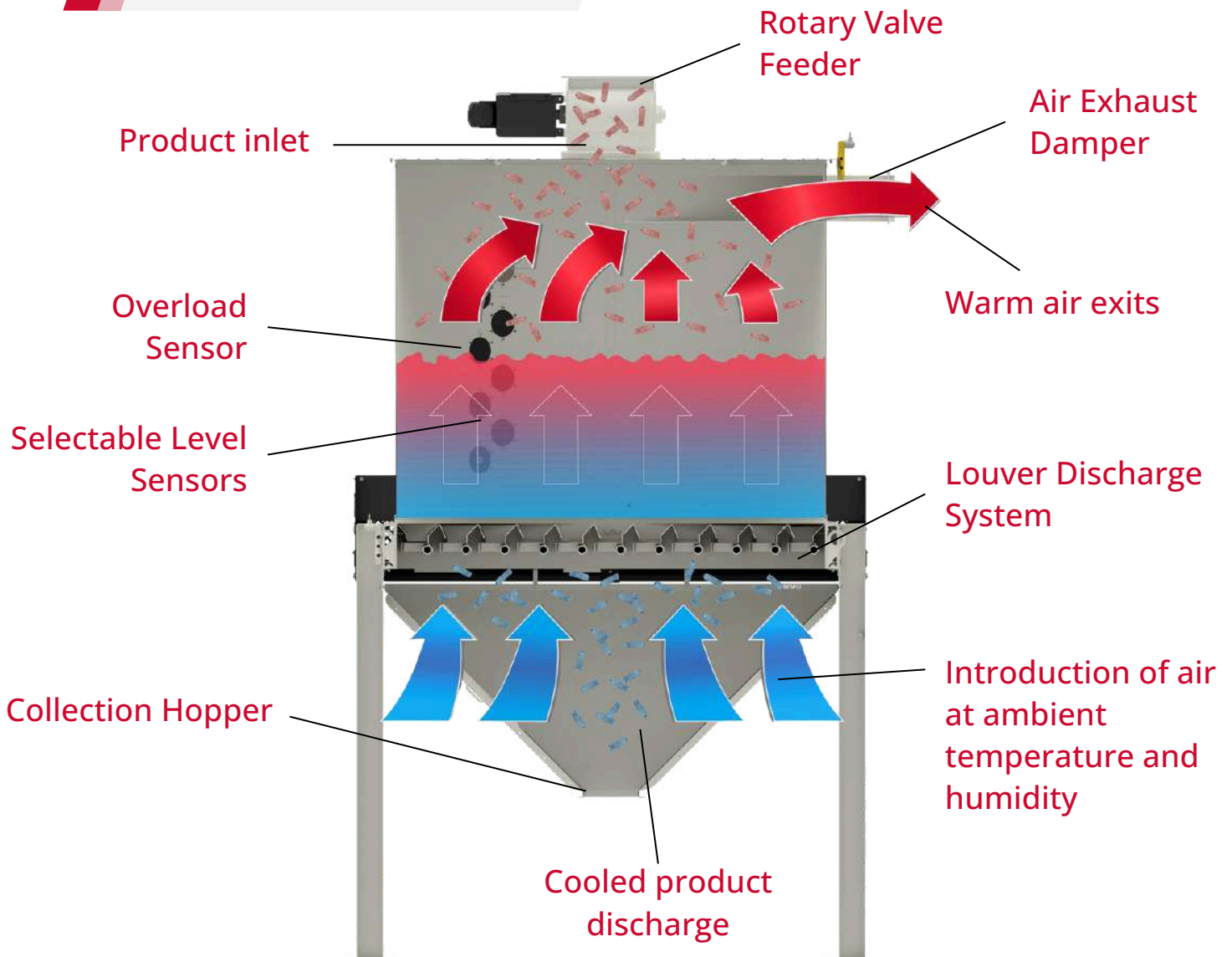
Bliss Coolers are available in our field-proven circular cooling chamber design, the industry's leading technology. The circular design enables product to be evenly distributed throughout the unit, increasing cooling uniformity. The round design eliminates all poorly filled corners. A distinct advantage of this cooling process is the compact “footprint”, or base size. Most system installations encounter limited space situations and the minimal “footprint” with the OP><FLO™ Air Cooler provide invaluable versatility in system design.

## **The Op-Flo Principle**

The Op-Flo (Opposite Flow) or Counterflow process is the refined technology of exposing processed product to an upward moving stream of ambient airflow. As the air rises through the product, it is warmed, increasing the moisture carrying capability of the air. The product just entering at the top of the cooling chamber is exposed to the warmest air available within the cooler—minimizing temperature shock. The product exiting the bottom of the unit is cooled to within 5-10° of the ambient air temperature. The product and air have “opposite flows”. The gradual heat transfer greatly enhances the product quality and reduces stressing and fines.

# OP><FLO™ Air Cooler **Theory**

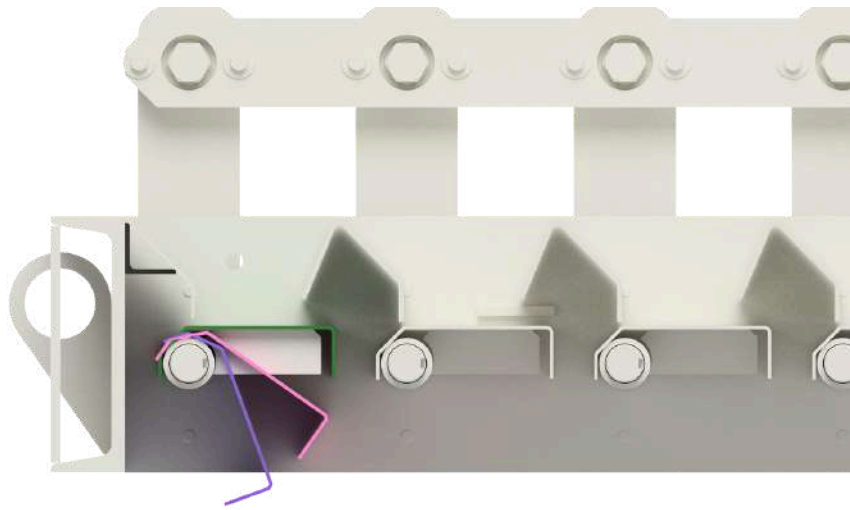
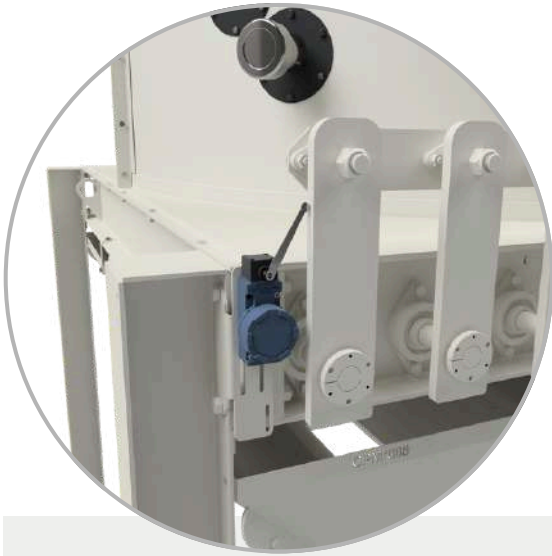
## **PARTS & AIRFLOW**



### **Electric and Air Operated**

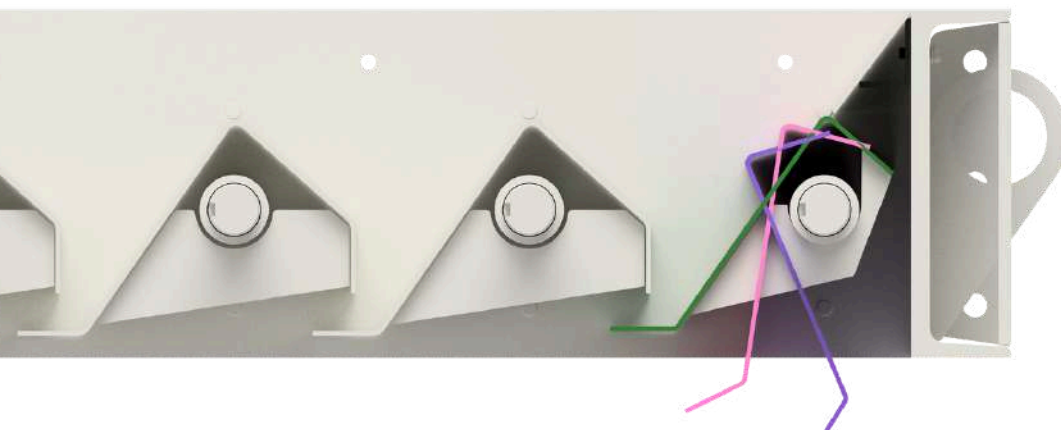
The OP><FLO™ Air Cooler can be used in a number of product applications, including the following: pet food, fish food, livestock feed pellets, soy collets, meat and bone meal, wood pellets, plastic, dried fruit, berries and flaked grains. The Dryer/Cooler is used in applications requiring high moisture removal. Products differ in size and shape from granular meals to pellets and chips.

# OP><FLO™ Air Cooler **Quality Features**



## **Louver Discharge System and Fixed Grid Floor**

Our Fixed Grid Floor resembles an upside-down "V". This design carries the weight more efficiently than a horizontal surface. There is little to no weight bearing on the louvers. The louvers resemble a pivoting stairstep that allows product to flow when closed. The discharge system works equally well on 1/8" diameter pellets as it does on 1" diameter x 4" long cubes. The design also allows for complete clean-out at the end of a production run. Once the product leaves the fixed grid floor it flows through a single layer of moveable panels controlling the discharge. Louvers pivot on heavy-duty re-greaseable bearing powered by air cylinders or electric motors.



**Full or live action discharge floors available.**



## Optional Air Damper at Cooler Exhaust

The Air Damper is operated by a level sensor in the cooling chamber. The damper is in the closed position at the start and the end of a production run. This keeps the full air flow from shocking, stressing and degrading the product. Also, it allows for complete product clean out.



## Selectable Level Sensors

Bliss Coolers feature automated level sensors that activate when the bed level reaches the preselected depth. Once activated, the sensors operate the louvers allowing product to be released. A “fail-safe” detector is permanently mounted near the top of the cooler for prevention of an overflow if sensors are not set properly.



# OP><FLO™ Air Cooler **Summary**



## Simple Excellence — Simply Stated

- Low operating cost (50% energy savings)
- Low maintenance
- Low product degradation
- Low condensation in cooling chamber
- Minimal space requirement (per ton of capacity)
- Minimal contamination — total cleanout on louver discharge system
- Low electrical requirement
- 1 HP — S.S. feeder
- 2 HP Leveler
- 1/2 HP or 3/4 HP — Louver discharge system
- Electric and air-operated units available
- Low product shock — stress (tempered evaporation cooling)
- Low profile discharge systems available (custom fabricated to customer's requirements)
- Electric control panels available for operational control and measurement of a wide variety of variables
- Minimal "caking" of sticky product at start-up
- Cooling/drying many products efficiently
- Flow rates adjustable from control room
- Multiple product sizes adjustable from control room
- Multiple sensors for multiple sizes of product
- Rotary valve feeder helps control air distribution
- Proven field testing ensures proper sizing of your cooler
- Capacities 1-105 TPH available
- Low investment and installation cost
- Minimal working parts
- Cooler/dryer units available

# OP><FLO™ Air Cooler **Features**



**Conveniently located door** provides excellent access to interior.

**Circular design** provides unmatched cooling consistency utilizing 30 to 60 inch product bed depth.

**Compact** footprint or base sizes are ideal for limited space installations.



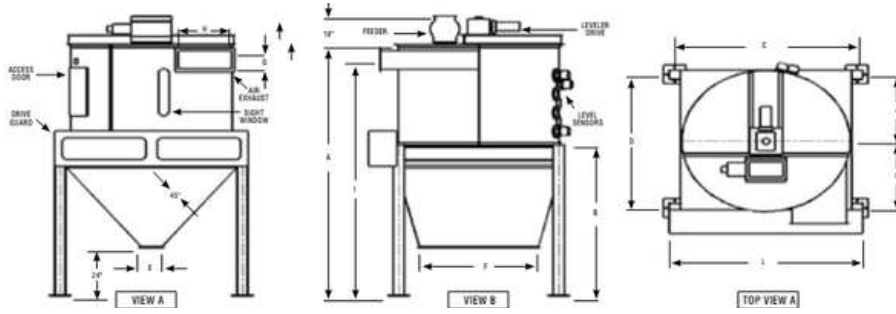
**Heavy-duty fixed grid floor** is the field proven low maintenance solution. Full or live action discharge floors available.



**Rotary valve feeding system and product leveler** provide even product distribution for a uniform bed depth.

**Sightglass and optional light conveniently located** for internal inspection of cooler.

# OP><FLO™ Air Cooler Specifications



COOLER MODEL	BIN DIA.	EST. WEIGHT (LBS)	OVERALL HEIGHT	LEG HEIGHT	LEG CENTER TO CENTER	LEG CENTER TO CENTER	HOPPER OUTLET	HOPPER OUTLET	EXHAUST HEIGHT	EXHAUST WIDTH	EXHAUST CNTR. HT.	PLAN LENGTH	PLAN LENGTH	GUARD LENGTH
5-344	43-1/2"	1,500	117-1/16"	59"	53"	45"	11"	24"	5"	13-1/2"	110-7/8"	37-1/4"	34-11/16"	57"
5-435	43-1/2"	1,800	128-13/16"	59"	53"	45"	11"	24"	6"	13-1/2"	122-1/8"	37-1/4"	34-11/16"	57"
5-526	43-1/2"	1,700	139-11/16"	59"	53"	45"	11"	24"	6"	16-1/2"	134"	37-1/4"	35-5/8"	57"
6-494	52"	2,000	122-9/16"	63-3/8"	61-1/2"	53-1/2"	11"	32"	6"	16-1/2"	122-9/16"	41-1/2"	38-3/4"	65-1/2"
6-615	52"	2,100	134-13/16"	63-3/8"	61-1/2"	53-1/2"	11"	32"	7"	17"	134"	41-1/2"	38-15/16"	65-1/2"
6-746	52"	2,200	146-15/16"	63-3/8"	61-1/2"	53-1/2"	11"	32"	7"	20"	139-3/4"	41-1/2"	39-13/16"	65-1/2"
7-674	60-1/2"	2,800	128-1/16"	67-5/8"	70"	62"	11"	40"	7"	20"	128-1/16"	45-3/4"	46-1/16"	74"
7-835	60-1/2"	2,800	140-9/16"	67-5/8"	70"	62"	11"	40"	7"	22"	130-3/8"	45-3/4"	43-11/16"	74"
7-1006	60-1/2"	3,000	153-5/16"	67-5/8"	70"	62"	11"	40"	8"	24"	145-5/8"	45-3/4"	44-3/16"	74"
8-874	69"	3,500	133-9/16"	71-7/8"	78-1/2"	70-1/2"	11"	50"	8"	21"	126"	50"	46-5/16"	82-1/2"
8-1085	69"	3,700	146-1/16"	71-7/8"	78-1/2"	70-1/2"	11"	50"	8"	25"	138-3/8"	50"	47-15/16"	82-1/2"
8-1306	69"	3,900	159-3/16"	71-7/8"	78-1/2"	70-1/2"	11"	50"	8"	31"	151-1/2"	50"	48-7/8"	82-1/2"
9-1094	77-1/2"	4,400	138-13/16"	75"	87"	79"	12"	58"	8"	28"	131-1/4"	54-1/4"	51-1/8"	91"
9-1365	77-1/2"	4,800	152-1/16"	75"	87"	79"	12"	58"	8"	31"	144-1/2"	54-1/4"	52-1/2"	91"
9-1646	77-1/2"	4,800	165-5/16"	75"	87"	79"	12"	58"	9"	35"	157-1/4"	54-1/4"	53-1/8"	91"
10-1344	88"	5,500	144-9/16"	79-1/2"	97-1/2"	85-1/2"	12"	66"	9"	29"	136-3/8"	58-1/2"	55-3/16"	101-1/2"
10-1685	88"	5,700	158-1/16"	79-1/2"	97-1/2"	85-1/2"	12"	66"	9"	36"	149-7/8"	58-1/2"	56-15/16"	101-1/2"
10-2026	88"	5,900	170-5/8"	79-1/2"	97-1/2"	85-1/2"	12"	66"	10"	36"	162"	58-1/2"	56-15/16"	101-1/2"
11-1624	94-1/2"	6,900	150-3/16"	84"	106"	94"	12"	74"	9"	34"	142"	62-3/4"	59-7/8"	112"
11-2035	94-1/2"	7,200	164-3/16"	84"	106"	94"	12"	74"	10"	39"	155-1/2"	62-3/4"	61-1/16"	112"
11-2446	94-1/2"	7,500	178-1/16"	84"	106"	94"	12"	74"	12"	39"	168-3/8"	62-3/4"	61-1/16"	112"
12-1934	103"	8,500	154-3/8"	87"	114-1/2"	102-1/2"	14"	82"	10"	37"	145-7/8"	67"	63-15/16"	120-1/2"
12-2415	103"	8,800	168-11/16"	87"	114-1/2"	102-1/2"	14"	82"	12"	39"	159-1/4"	67"	64-1/2"	120-1/2"
12-2896	103"	9,100	182-3/4"	87"	114-1/2"	102-1/2"	14"	82"	12"	45"	173-1/4"	67"	65-5/8"	120-1/2"
13-2284	111-1/2"	9,800	159-1/2"	91"	123"	111"	14"	90"	12"	38"	150"	71-1/4"	67-3/8"	129"
13-2835	111-1/2"	10,100	174-1/4"	91"	123"	111"	14"	90"	13"	42"	164-1/8"	71-1/4"	68-9/16"	129"
13-3396	111-1/2"	10,600	188-3/4"	91"	123"	111"	14"	90"	13"	50"	178-5/8"	71-1/4"	69-15/16"	129"
14-2624	120"	11,800	164-13/16"	95"	131-1/2"	119-1/2"	14"	100"	12"	48"	155-3/8"	75-1/2"	73-5/16"	137-1/2"
14-3275	120"	12,100	179-3/4"	95"	131-1/2"	119-1/2"	14"	100"	13"	48"	169-3/4"	75-1/2"	73-5/16"	137-1/2"
14-3936	120"	12,600	194-1/2"	95"	131-1/2"	119-1/2"	14"	100"	14"	50"	184-1/8"	75-1/2"	73-11/16"	137-1/2"
15-3004	128-1/2"	13,800	189-3/16"	98"	140"	128"	16"	110"	13"	42"	159"	79-3/4"	78-13/16"	146"
15-3755	128-1/2"	14,100	184-7/16"	99"	140"	128"	16"	110"	14"	50"	173-1/4"	79-3/4"	81-3/16"	146"
15-4506	128-1/2"	14,800	199-9/16"	99"	140"	128"	16"	110"	15"	56"	188-3/8"	79-3/4"	82-1/4"	146"
16-3414	137"	16,100	175-9/16"	103"	148-1/2"	136-1/2"	16"	120"	14"	46"	165"	84"	83-1/4"	154-1/2"
16-4275	137"	16,600	190-15/16"	103"	148-1/2"	136-1/2"	16"	120"	14"	55"	180-3/8"	84"	85-11/16"	154-1/2"
16-5126	137"	17,100	206-1/4"	103"	148-1/2"	136-1/2"	16"	120"	16"	62"	194-3/4"	84"	86-11/16"	154-1/2"
17-3854	145-1/2"	18,600	182-5/16"	107"	157"	145"	16"	126"	15"	50"	171-1/4"	88-1/4"	87-1/2"	163"
17-4815	145-1/2"	19,100	198-7/16"	107"	157"	145"	16"	126"	16"	58"	186-7/8"	88-1/4"	89-3/4"	163"
17-5776	145-1/2"	19,600	214-11/16"	107"	157"	145"	16"	126"	18"	62"	202-1/8"	88-1/4"	90-7/16"	163"
18-4314	154"	21,100	185-5/16"	110"	165-1/2"	153-1/2"	18"	130"	16"	54"	173-3/4"	92-1/2"	95"	171-1/2"
18-5395	154"	21,600	201-7/16"	110"	165-1/2"	153-1/2"	18"	130"	16"	60"	189-7/8"	92-1/2"	96-5/8"	171-1/2"
18-6476	154"	22,100	213-11/16"	110"	165-1/2"	153-1/2"	18"	130"	18"	62"	201-1/8"	92-1/2"	97-1/16"	171-1/2"
19-4804	162-1/2"	22,600	189-5/16"	114"	174"	162"	18"	144"	16"	58"	177-3/4"	96-3/4"	99-3/8"	180"
19-6005	162-1/2"	23,100	208-3/16"	114"	174"	162"	18"	144"	18"	60"	195-5/8"	96-3/4"	99-15/16"	180"
19-7206	162-1/2"	23,600	222-3/16"	114"	174"	162"	18"	144"	20"	62"	208-5/8"	96-3/4"	100-7/16"	180"
20-5314	171"	24,100	199-5/16"	118"	182-1/2"	170-1/2"	20"	150"	20"	58"	185-3/4"	101"	102-1/2"	188-1/2"
20-6655	171"	24,600	212-3/16"	118"	182-1/2"	170-1/2"	20"	150"	22"	60"	197-5/8"	101"	103-1/8"	188-1/2"
20-7986	171"	25,100	224-3/16"	118"	182-1/2"	170-1/2"	20"	150"	22"	62"	209-5/8"	101"	103-3/4"	188-1/2"
21-5854	179-1/2"	26,100	204-3/16"	120"	191"	179"	24"	160"	22"	60"	189-5/8"	105-1/4"	106-3/16"	197"
21-7325	179-1/2"	26,600	214-3/16"	120"	191"	179"	24"	160"	22"	62"	199-5/8"	105-1/4"	106-7/8"	197"
21-8806	179-1/2"	27,100	230-3/16"	120"	191"	179"	24"	160"	22"	62"	215-5/8"	105-1/4"	106-7/8"	197"



From the food you eat to the fuels you require, CPM plays an important role in building a better world. Our experienced team and family of trusted brands are working together to make our planet a better place to live.

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