



Product
Brochure
Commercial Refrigeration



**Cold Room /
Storage**



**Industrial
Refrigeration**



**Commercial
Refrigeration**



**Transport
Refrigeration**



**Ammonia
Refrigeration**



Incepted in the year 1980, Bharat Refrigerations Pvt Ltd has strived its utmost to provide solution to the cooling needs and requirements of our valued customers. Designed in compliance with verified industry standard, our products are widely acknowledged for maximum cooling efficiency, low power consumption and longer service life. Bharat Refrigerations Pvt Ltd has been taken over by Ice Make Refrigeration Limited in December 2016, to serve its Valued Customers by providing total cooling solution & better after-sales services in southern part.

Bharat Refrigerations is committed to help you to meet the demands of foods safety, energy efficiency and reliable performance. We ensure these to you through our competitive pricing, professional advice and innovative design.

About Us



Customer Focus



Honour Commitments



Embrace Innovation



Responsive Service



Building Trust



Believe in Solution



Transparency



Listen to Your Needs



The Core of **Quality EXPERIENCE**

Outcome can communicate the actual quality of experience

Our skill, experience, dedication and quality - may be hard to measure. Yet these intangible characteristics have helped us to enhance our reputation and brand with our customers.

Why Bharat Refrigerations?

We are in the business of exploring new frontiers with innovative ideas in providing complete cooling solutions for total customer satisfaction.



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Bharat Refrigerations provides fully automatic combo type incubation chambers with heating and cooling both process together in a single chamber.



Curd Incubation Chamber



Unit



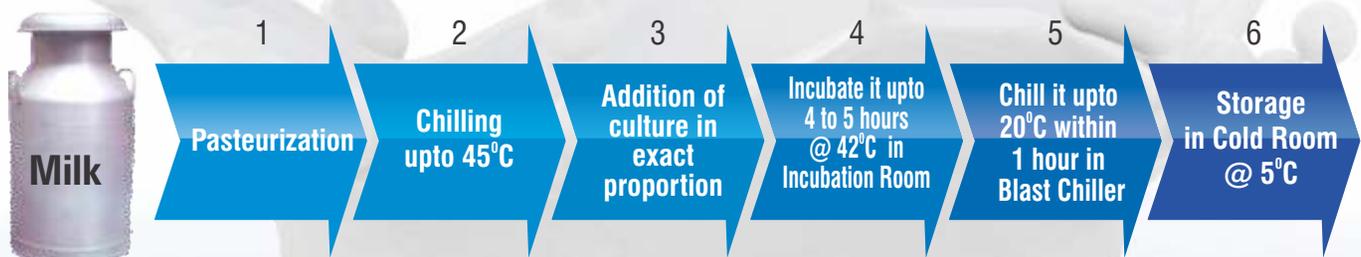
// Are you finding the procedure to produce best quality curd ?

- In our Indian culture, 'dahi' (Gujarati, Marathi, Nepali, Punjabi, Urdu), 'dohi' (Oriya), Mosou (Kannada) or Thayir (Tamil) is the yogurt of India, known for its characteristic, sweet-tart taste and semi-solid consistency. It is also Religiously as well as Scientifically proven good for health.

But

- We can't retain its taste and quality equal due to variations in Indian weather conditions and slight deviations in procedure.

So, as a solution for that, Bharat Refrigerations provides you exact methodology with appropriate temperature conditions on basis of our wide experience and some expert's advice



- Stage No.4 and 5 in above method is most important.
- Bharat Refrigerations offers you exact solution for Stage No.4 and 5 and of course for Stage No.6 also.
- We offer you Incubation room with hot unit (as shown in photograph above) which can maintain 42°C with 1°C deviation for Stage No.4
- For Stage No.5 our Blast Chiller is useful to chill the culture up to 20°C within 1 hour.
- At last, for Stage No.6 you can use our regular Cold Room.

If you will prepare curd according to above procedure, you will get curd with same taste and quality in every season which can maintain its quality for long time and you can prepare delicious Indian Items like Lassi, Raita, Shrikhand, Kari etc.



Mini Curd Incubation Chamber

Sr. No.	Model	Incubation Capacity (litre)	Blast Chilling (litre)	Size (inch) (W x D x H)	Body Type	Incubation	Blast Chilling
1	MI-360	360	150	44" x 32" x 67"	Combo - Portable Mini	Yes	Yes
2	MI-650	665	300	44" x 33" x 80"	Combo- Portable Mini	Yes	Yes
3	WI-500	2500	500	104.5" x 139" x 109"	Walk-in Type	Yes	Optional
4	WI-650	2500	650	104.5" x 139" x 109"	Walk-in Type	Yes	Optional
5	WI-1000	3500 to 4000	1000	139" x 162" x 109"	Walk-in Type	Yes	Optional
6	WI-1200	3500 to 4000	1200	139" x 162" x 109"	Walk-in Type	Yes	Optional
7	WI-1500	3500 to 4000	1500	139" x 162" x 109"	Walk-in Type	Yes	Optional

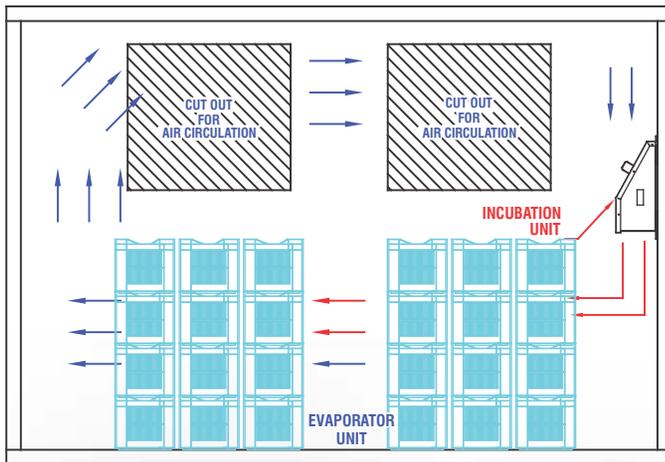
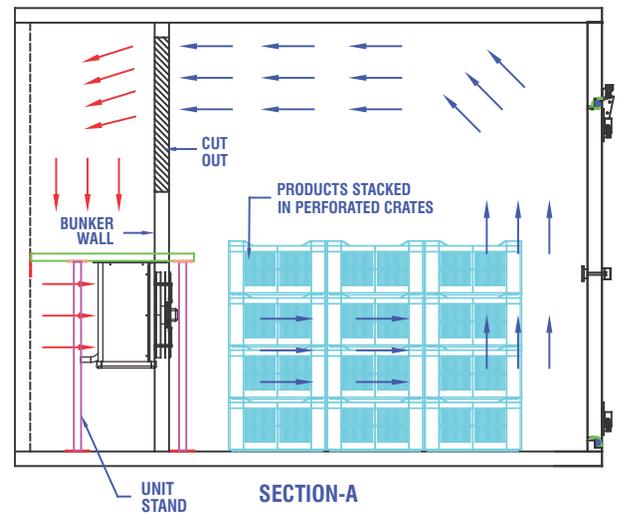
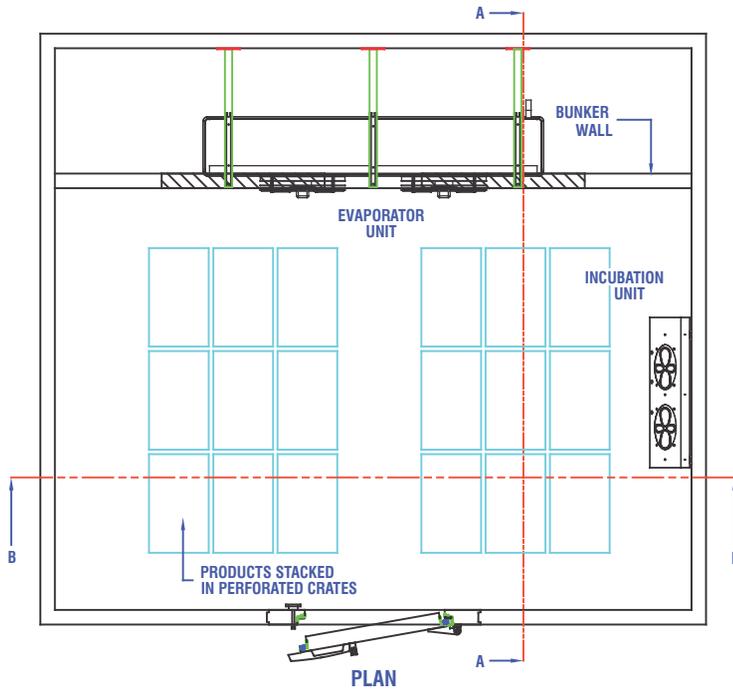
Note:

- Room Temperature while Heating 32°C to 45°C
- Room Temperature while Cooling 2°C to 8°C
- Incubation Batch Time (Approx.) 4 to 5 Hours
- Curd Loading Temperature 40°C to 42°C
- Curd Final Temperature after Chilling 18°C to 20°C
- Blast Chilling Time (Approx.) 1.5 Hour (42°C to 18°C)

* Auto-control of Incubation Chamber based on pH rather than time is optional.

* Above timing and temperature is provided considering basic packing of curd like pouch or cups stacked in perforated crates which can vary depending upon packing type and loading temperature of curd.

* We prefer both incubation and blast chilling separate rather than combo type in case of walk-in type models.



What is Bunker Wall?

Bunker wall is an insulated partition wall put in front of evaporator to guide the inlet air to evaporator. This wall will provide maximum chilled air to the product. It is used to improve the efficiency of heat exchanger and get better productivity.



Producing ice cream mix requires a high degree of flexibility and efficiency, with the need to handle a variety of dry and liquid ingredients, adapt to seasonal demand fluctuations and create an innovative and varied product portfolio. Successful mix preparation requires knowledge of many different aspects of production, including freezing, handling, homogenization and pasteurization as well as an understanding of how these processes affect your ingredients. To ensure the highest quality ice cream without compromising integrity, uniform mixing of dry and liquid ingredients require optimal dispersion and operational efficiency. Temperatures and timing along with precise control and gentle handling is critical to safeguard product quality.

Bharat Refrigerations offers a complete range of equipment for ice cream mix preparation, especially designed for small and medium scale Ice cream industry.

Complete Solution of Ice Cream Process Plant



Ice Cream Mix Plant



Functional Details of Ice Cream Mix Plant

Sr No.	Equipment Name	Optional/ Compulsory	Made By	Functionality	Temperature
1	Hot Water Generator /Gas Burner	Optional	Outsourced	To generate hot water for heating the ice cream mix in the pasteurizer	-
2	Pasteurizer	Compulsory	Bharat Refrigerations	Pasteurizer will heat the ice cream mix from ambient temperature to 70-80°C	35°C to 80°C
3	Filter	Compulsory	Outsourced	Filter is used to filter out the waste particles	-
4	Mix Pump	Compulsory	Outsourced	Mix Pump is used for pumping the mix from Pasteurizer to Homogenizer	-
5	Homogenizer	Compulsory	Outsourced	Homogenizer is used to improve the viscosity, taste and texture of ice cream mix	70°C to 75°C
6	PHE	Compulsory	Outsourced	PHE is used to reduce the temperature of ice cream mix	75°C to 10°C
7	Cooling Tower	Compulsory	Outsourced	Cooling Tower will reduce the temperature of ice cream mix from 80°C to 40°C with single stage PHE	75°C to 40°C
8	Cooling Tower Pump	Compulsory	Outsourced	Cooling Tower Pump will circulate water from Cooling Tower to PHE	-
9	Chilling Plant	Optional	Bharat Refrigerations	Chiller will reduce the temperature of ice cream mix from 40°C to 10°C with two stage PHE	40°C to 10°C
10	Ageing Vat	Compulsory	Bharat Refrigerations	Ageing Vat keeps the mix well blended and prevents separation of the ingredients to increase the thickness of mix, which in turn improves flavour, creaminess, texture, overrun and melting resistance of ice cream	10°C to 4°C
11	Flavour Tank	Optional	Bharat Refrigerations	Flavour Tank is used to add flavour in the ice cream mix	4°C
12	Continuous Freezer	Compulsory	Outsourced	Continuous freezer is one that produces ice cream without interruption. Unlike the batch freezer, the continuous freezer doesn't specialize in making short runs of various different types of ice cream flavors.	4°C
13	Fruit Feeder	Optional	Outsourced	Fruit Feeder is designed to add ingredients like fruits & nuts into the ice cream mix	4°C
14	Packing Machine	Optional	Outsourced	Packing Machine is used to pack the ice cream mix in various packaging modes like cup, cone & bulk packs	4°C
15	Tunnel Hardener	Compulsory	Bharat Refrigerations	Tunnel Hardner is used to harden the ice cream up to -40°C	4°C to -35°C
16	Cold Storage	Compulsory	Bharat Refrigerations	Cold Storage is used to store the hardened ice cream from Hardner	-18°C to -22°C
17	Reefer Van	Optional	Bharat Refrigerations	Reefer Van is used to supply the ice cream from Factory to Market/Customer	-18°C to -22°C
18	Control Panel	Compulsory	Bharat Refrigerations	Common control panel will be provided for controlling all the equipments from one location	-
19	SS Piping	Optional	Bharat Refrigerations	Interconnected Piping with SS-304	-

Note : • SS Piping is optional. if customer wants to do it locally, it is possible

- CIP piping is also in customer scope
- "PHE : **Single Stage** - Cooling by Cooling Tower only
Two Stage - Cooling by Cooling Tower & Chiller "
- For Outsourced Products: Commercial, Service & Warranty will be as per supplier
- Outsourced products are optional. Customer can purchase directly from supplier



Bharat Refrigerations offers Bulk Milk Chiller with capacity from 250 Ltr to 10000 Ltr, which is used to cool milk at 4°C and to maintain freshness of milk.



MTD-250/500



MTD-3000/5000/10000



Dump Tank



MTD-1000



MTD-1500/2000



Refrigeration Unit:
Split type for MTD 1500/2000/3000/5000/10000

Cooling & Maintaining Milk Quality At 4°C

The most important part of a milk collecting centre is the bulk milk chiller (BMC). When the milk is extracted, it is at around 37°C. If the milk continues to remain at room temperature after extraction, bacterial growth will affect the quality of the milk. The BMC is meant to cool the milk to 4°C in a prescribed time. The BMC is available in different shapes and sizes depending on the amount of milk to be cooled and the system of cooling.

Solution for Bacteria Free Milk Storage at Dairy & Milk Collection Center

Special Features

- Faster cooling owing to direct expansion
- Durable tank made of AISI 304 SS
- Digital temperature controller
- Energy conscious
- Robust design
- Hermetic / Sealed compressor
- Occupies minimum space
- Designed to be user-friendly

Evaporator Cooling Tank For Faster Cooling



Dimple Jacket Plate

In the direct expansion (DX) type, the refrigeration system directly extracts the heat via evaporator (**Dimple Jacket**) which is a part of the bottom side of the cooling tank. The tank is insulated to maintain the temperature and is provided with an agitator for uniform distribution and cooling of milk. Efficient evaporator ensures quick and trouble-free cooling and space-saving installation. A high cooling capacity is guaranteed and freezing is prevented for small amount of milk. The tank is made of stainless steel completely welded and polished with proper outlet for ease of milk draining and cleaning.

INSULATION

Thickness 75mm PUF Insulation CFC free. Density 38 Kg/m³ ±2 kg, PUF pouring in whole body by Imported Automatic Machine.

STIRRER

Gear motor with auto-control by timer
i.e.:- Works for 20 minutes with an interval of 5 minutes

FACILITY TO MEASURE MILK VOLUME

Dip-stick with dip-stick chart is provided to measure quantity of milk in the tank.

REFRIGERATION UNIT

- Designed to work even at ambient temperature at 45°C in Indian weather condition
- Minimum sound & easy to maintain
- Designed in such a way to ensure optimum temperature retention - temperature gain of only 3°C over a 12 hour period (without door opening), after switching-off the working unit once the product reaches 2°C.

Technical Specification

Description	Unit	MTD-250	MTD-500	MTD-1000	MTD-1500	MTD-2000	MTD-3000	MTD-5000	MTD-10000
Tank Capacity	Ltr.	250	500	1000	1500	2000	3000	5000	10000
Dimension - Length	Inch	35	51	97	109	109	110	110	156
Width	Inch	28	35	35	58	58	63 (OD)	71 (OD)	91 (OD)
Height	Inch	63	63	62	36	46	71	79	98
No. Of Door		1	1	2	1	1	1	1	1
No. Of Agitator		1	1	1	1	2	1	1	2
Body Type		Horizontal-Rectangular	Horizontal-Rectangular	Horizontal-Rectangular	Semi-cylindrical	Semi-cylindrical	Cylindrical -Closed	Cylindrical -Closed	Cylindrical -Closed
Power Input (kW)		1.2	2.7	4.5	5.9	6	7.8	11.8	23.6
Power Supply		1ph	1ph	1/3ph	3ph	3ph	3ph	3ph	3ph
Pull Down Time*		5 Hr	5 Hr	5 Hr	5 Hr	6 Hr	6 Hr	6 Hr	6 Hr

*Performance designed for 2 milkings and above

Pasteurization is a process of heating treatment to kill disease-carrying germs in milk and ice cream mix without affecting their nutritional and natural qualities. After heating, the milk or ice cream mix remains at a high temperature for the time required to kill all germs and then quickly chilled to store at 4°C.

Bharat Refrigerations Batch Pasteurizer is an electric pasteurizer that can be used to heat milk and ice cream mix. This Batch Pasteurizer is easy to use, simple to manage and ideal for milk plants and ice cream manufacturing plants. Its jacketed stainless steel pan gives better control over heating. Steam from the boiler heats the space between the outer jacket and inner pan to give more uniform heating and avoid localised burning of the product. Also it is fitted with an agitator for constant mixing.



Special Features

- Reduces total bacterial count
- Improved distribution of flavouring and colour
- Melting and uniform suspension of fats in the mixture
- Hydrates proteins and stabilizers, if dried ingredients are used
- Large volume of milk can be processed continuously
- Automatic precision control assures effective pasteurization
- The equipment requires a relatively small area of floor and plant space
- The closed unit keeps the processing losses to a minimum



Adjustment Leg



Control Panel



Heater Case



Heater



Spray Ball

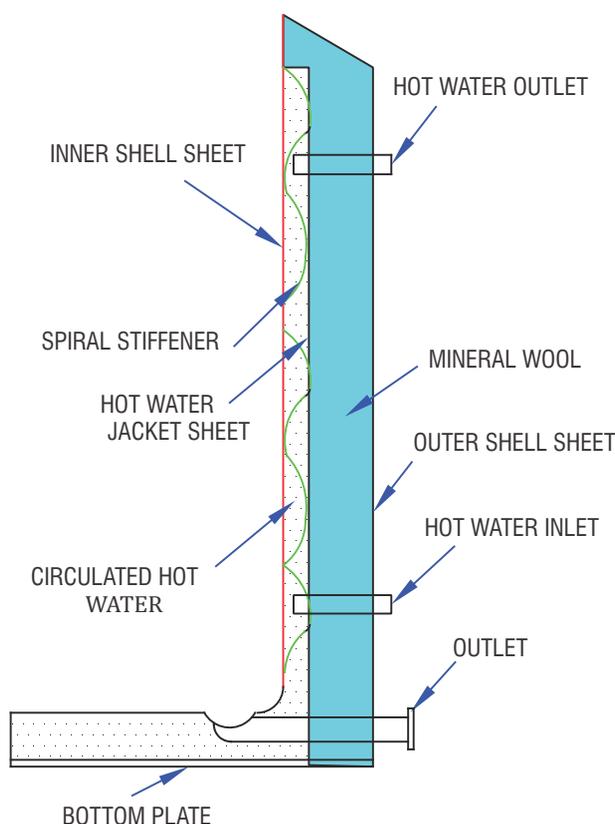


Viewport

Technical Specification

Description	IPT-100	IPT-200	IPT-300	IPT-500	IPT-750	IPT-1000	IPT-1500
Net Capacity	100 Ltr.	200 Ltr.	300 Ltr.	500 Ltr.	750 Ltr.	1000 Ltr.	1500 Ltr
Gross Capacity	115	319	533	780	1034	1034	1540
Outer Size(mm)(OD x H) with Heater & Hot Water Type	760 x 760	910 x 910	1010 x 910	1160 x 1010	1310 x 1110	1410 x 1185	1510 x 1460
LID	Door with hinge, 02 No.	Door with hinge, 02 No.	Door with hinge, 02 No.	Door with hinge, 02 No			
Outer Shell Material	S.S. 304	S.S. 304	S.S. 304	S.S. 304	S.S. 304	S.S. 304	S.S. 304
Inner Shell Material	S.S. 304	S.S. 304	S.S. 304	S.S. 304	S.S. 304	S.S. 304	S.S. 304
Jacket Material (Hot Water Type)	S.S. 304 3mm	S.S. 304 3mm	S.S. 304 3mm	S.S. 304 3mm	S.S. 304 3mm	S.S. 304 3mm	S.S. 304 3mm
Inner Shell Thickness (mm)	3mm	3mm	3mm	4mm	4mm	4mm	4mm
Outer Shell Thickness (mm)	1.6mm	1.6mm	1.6mm	1.6mm	2mm	2mm	2mm
Jacket Volume (Ltr)	61	89	108	149	198	234	299
Insulation (Mineral Wool)	75mm	75mm	75mm	75mm	75mm	75mm	75mm
Leg Height	12 Inch	12 Inch	12 Inch	12 Inch	12 Inch	12 Inch	12 Inch
Motor HP (3ph)	0.25 HP	0.5 HP	0.5 HP	1 HP	1.5 HP	1.5 HP	1.5 HP
Gear Motor RPM	50 RPM	70 RPM	70 RPM	70 RPM	70 RPM	70 RPM	70 RPM
Product Inlet Diameter	25mm	25mm	25mm	25mm	25mm	25mm	25mm
Product Outlet Diameter	38mm	38mm	38mm	38mm	38mm	38mm	38mm
Heater/Burner	3 kW - 02 No.	3 kW - 03 No.	4 kW - 03 No.	6 kW - 03 No.	9 kW - 03 No.	12 kW - 03 No.	18kW - 03 No.
Burner	Yes	Yes	Yes	Yes	NA	NA	NA

SECTION VIEW OF PASTEURIZER WITH HOT WATER JACKET



Bharat Refrigerations Ageing Vat is used to cool down ice cream mix and to maintain temperature at around 4°C. Slow agitation allows the complete ageing of the ice cream mix.

Bharat Refrigerations Ageing Vat keeps the mix well blended, prevents separation of the ingredients and increases the thickness of mix, which in turn improves flavour, creaminess, texture, overrun and melting resistance of ice cream. Bharat Refrigerations Ageing Vat is essential to prepare large quantities of mix for the top quality fresh ice cream.



IAV-500

Special Features

- Compact design
- Easy operation & user-friendly
- Automatic precision control assures quality ageing of mix
- The equipment requires a relatively small amount of floor and plant space
- The closed unit keeps the processing losses to a minimum



IAV-200

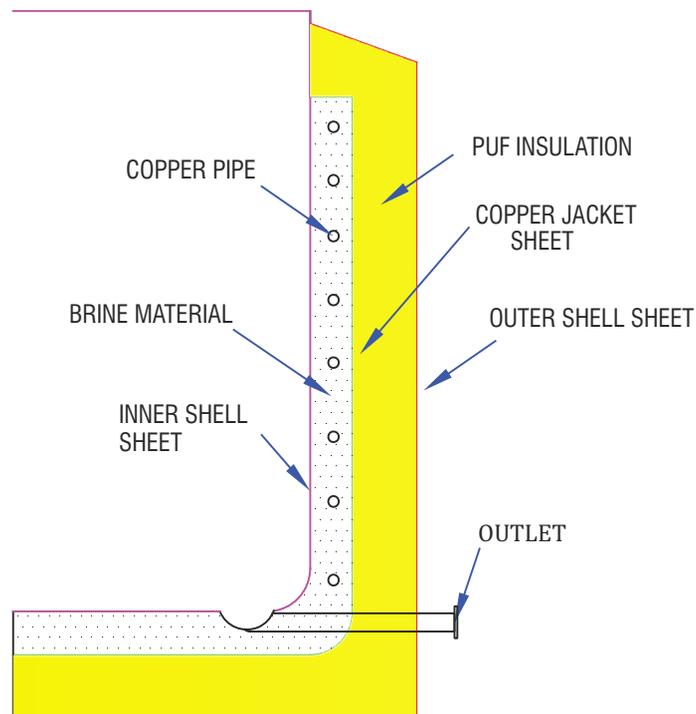


IAV-2000

Technical Specification

Description	IAV-100	IAV-200	IAV-300	IAV-500	IAV-750	IAV-1000	IAV-1500	IAV-2000
Net Capacity	100 Ltr	200 Ltr	300 Ltr	500 Ltr	750 Ltr	1000 Ltr	1500 Ltr	2000 Ltr
Gross Capacity	100	250	315	515	785	1020	1560	2040
Outer Size(mm) (OD x H) (COPPER)	650x975	950x1135	1050x1135	1200x1235	1350x1335	1450x1410	1550x1685	1600x1935
Outer Size(mm) (OD x H) (DIMPLE)	720x925	870x1085	970x1085	1120x1185	1270x1285	1370x1360	1370x1635	1520x1885
MOC	S.S 304	S.S 304	S.S 304					
Inner Shell Thickness (mm)	2mm	2mm	2mm	2mm	2mm	2mm	2mm	2mm
Intermediate Jacket S.S 304	1.6mm	1.6mm	1.6mm	1.6mm	2mm	2mm	2mm	2mm
Outer Shell Thickness (mm)	1.6mm	1.6mm	1.6mm	1.6mm	2mm	2mm	2mm	2mm
LID	Door with hinge, 02 No.	Door with hinge, 02 No. Dia. 450mm	Cone Type with single manhole Dia. 450mm	Cone Type with single manhole				
Jacket Volume Dimple (Ltr.)	9	17	20	28	37	44	60	74
Jacket Volume Copper Coil (Ltr.)	65	94	110	151	198	235	317	387
PUF Insulation	75mm	75mm	75mm	75mm	75mm	75mm	75mm	75mm
Motor HP (3ph)	0.25	0.5	0.5	1	1	1.5	1.5	1.5
Gear RPM	14 RPM	14 RPM	14 RPM	14 RPM	14 RPM	14 RPM	14 RPM	14 RPM
Product Outlet Size	38mm	38mm	38mm	38mm	38mm	38mm	51mm	51mm
Product Inlet Size	25mm	25mm	25mm	25mm	25mm	25mm	38mm	38mm
Connected Load	2.25 kW	2.25 kW	2.25 kW	2.7 kW	4.5 kW	5.9 kW	9 kW	11.8 kW

SECTION VIEW OF AGEING VAT WITH COPPER JACKET



Bharat Refrigerations manufactures wide range of Ice Candy Production Machine using high quality material & advanced technology which is to be used for the production of Ice Candies.

ICCP-9



ICCP-15



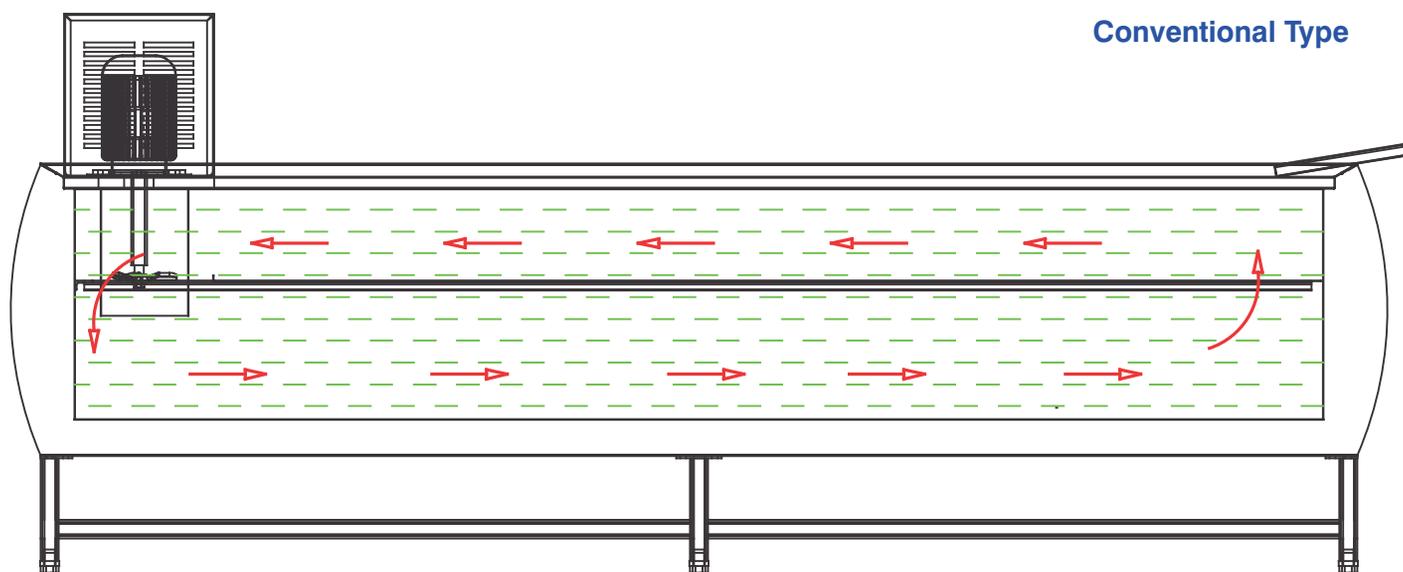
ICCP-20



ICCP-40



Process Diagram



Specifications

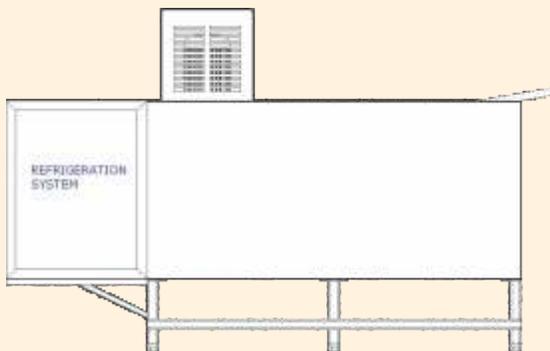
Model	ICCP-4	ICCP-6	ICCP-9	ICCP-15
Capacity / Hr	192 Candy	288 Candy	432 Candy	720 Candy
Outer Size (LxWxH)	54"x26"x26"	67"x33"x26"	78"x33"x26"	115"x33"x26"
Inner Tank Size (LxWxH)	47"x19"x23"	60"x26"x23"	71"x26"x23"	108"x26"x23"
Functional Area in Inch(LxWxH)	33"x19"x8"	46"x26"x8"	57"x26"x8"	94"x26"x8"
Power Consump. (kW)	3.0	4.1	5.4	8.6
Brine Storage Capacity (Approx)	340 Ltrs	650 Ltrs	700 Ltrs	1080 Ltrs

Model	ICCP-20	ICCP-32	ICCP-40
Capacity / Hr	960 Candy	1536 Candy	1920 Candy
Outer Size in Inch (LxWxH)	115"x39"x26"	169"x39"x26"	203"x39"x26"
Inner Tank Size in Inch (LxWxH)	108"x32"x23"	162"x32"x23"	196"x32"x23"
Functional Area in Inch(LxWxH)	94"x32"x8"	148"x32"x8"	182"x32"x8"
Power Consump. (kW)	10.6	16.9	20.2
Brine Storage Capacity (Approx)	1330 Ltrs	1990 Ltrs	2400 Ltrs

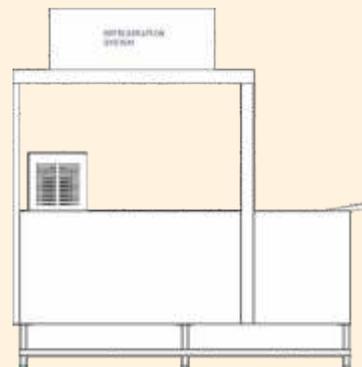
- **SOLID WASTE FREE CLEAN BRINE DUE TO BRINE FILTER**
- **BELTLESS AGITATOR**
- **WELL DESIGNED FOR BRINE CIRCULATION TO MAINTAIN UNIFORM TEMPERATURE**

Application : Ice Candy, Roll-Cut Ice cream Production
 Temp : -26°C to -30°C
 Body : Outer - S.S. Grade 304 Thickness 1 mm, Inner - S.S. Grade 316 Thickness 1.2 mm
 Pull Down Time : Ice cream base freezing time 20 to 30 minute approx. (Mix Inlet temp -4°C to -6°C) Water base flavor freezing time 30 to 35 minute approx. (Mix Inlet temp +10°C to +14°C)
 Conditions : Water flow rate as per required capacity in case of water-cooled system.

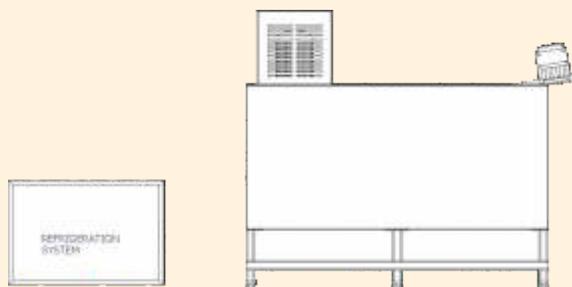
Refrigeration System Can Be Installed As Per Requirement



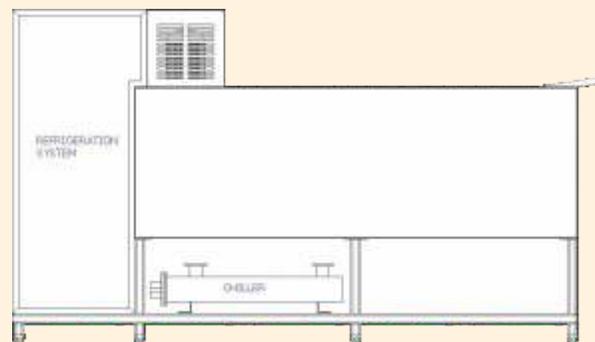
Option A : Left / Right Side



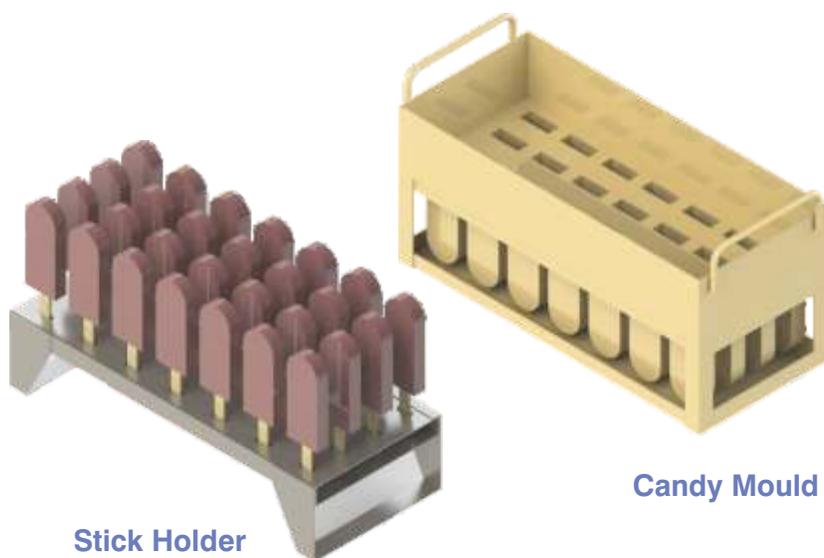
Option B : Top Side



Option C : Split Side



Option D : Water-Cooled Type



Stick Holder

Candy Mould

Mould Design We Consider

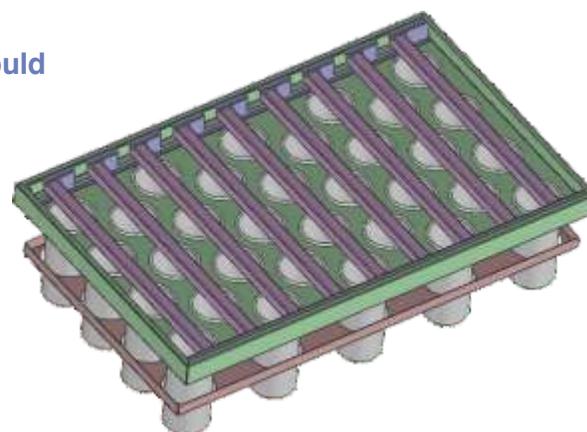
Mould Size : 17.5" x 7.25" x 9" (L x W x H)

Stick Holder : 16" x 6.75" x 8.5"

Contains : 24 Cavity/Mould

Tray For Roll-Cut Type Candy Mould

S.S Tray is provided for those who make Roll-Cut Type Candy. It makes operating easy while working, as the Mould is held by S.S Pipe & angle of Tray.



Defrosting Cum Choco Coating Tank



IDM-I



IDM-II

DEFROSTING CUM CHOCO COATING TANK	
Body	Outer - S.S Grade 304, Inner - S.S Grade 304
Size (L x W x H)	• Single : 27" x 14" x 34.5" • Double : 27" x 23.25" x 34.5"
Temperature	+30°C to +50°C
Insulation	38 mm PUF Insulation
Mounted	Mounted with S.S Stand - Grade 304
Application	<ul style="list-style-type: none"> • For uniform Demoulding of Candy from Mould • Making Uniform Layer of Choco on each Moulded Candy
Heater	1.5 kW
Capacity	1 Mould and 2 Mould

Special Features :

- Life of Heater is long lasting as it is not in touch with Brine.
- IDM-I stands for Single Mould and IDM-II stands for Double Mould

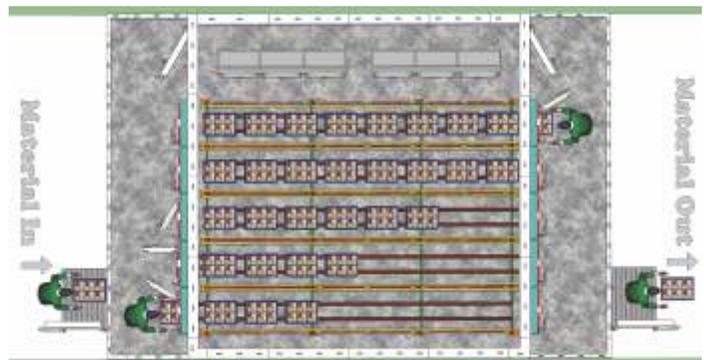
Hardener - Deep Freezer / Static Type



Sr. No.	Model	Ltr / Batch	Storage Cap. (Ltr.)	Size (Inch)	Nali / 20 Ltr.	Power Cons. / Hr	Power Supply
01	IH - 200	200	570	72 x 30 x 37	10	1.25	1ph
02	IH - 300	320	820	96 x 30 x 37	16	1.5	1ph

Application : Ice Cream, Ice Candy and Frozen Food Hardening
Temperature : -22°C to -26°C
Body Type : Outer & Inner - precoated G.I.
 Top & Door - S.S. 410 magnetic, Inner Bottom - S.S. 304
Pull Down Time : 6 to 8 Hrs approx.

Blast Freezer



Application : Multi-Door Design is effective when freezing or hardening of Product is done with storage in crates and trolley.
Product : Ice Cream, Meat, Chicken, Ready to Cook & Ready to eat products
Temperature : -25°C to -38°C
Capacity : 200 Kg to 2000 Kg

Hardener - Forced Draft / Tunnel Type



H-10



H-20



H-30

Model	H - 10	H - 20	H - 30	H - 39	H - 45
Body size in inch (W x H x D)	58.5 x 35.5 x 88	58.5 x 41.25 x 88	58.5 x 58.5 x 88	58.5 x 58.5 x 112	58.5 x 58.5 x 128
Functional Area in inch (W x H x D)	23 x 15 x 80 1 Nos.	23 x 15 x 80 2 Nos.	23 x 15 x 80 3 Nos.	23 x 15 x 104 3 Nos.	23 x 15 x 120 3 Nos.
No. of Windows (Both Side)	1	2	3	3	3
* Stand Height	10"	10"	10"	10"	10"
Moulds Capacity	10	20	30	39	45
Storage Capacity (Ltrs)	450 Ltr	900 Ltr	1350	1770 Ltr	2100 Ltr
Standard Model					
Power Input(kW)	4.1	5.4	6.9	8.6	8.6
** Cooling Cap.	0.52 TR	0.7 TR	1 TR	1.52 TR	1.52 TR
Two Stage Model / Cascade type Ref. System					
Power Input(kW)	7	8.8	10.8	13.6	13.6
** Cooling Cap.	0.75 TR	1 TR	1.30 TR	2 TR	2 TR

Application : Ice Cream / Ice Candy & Frozen Food Hardening

Temp : Option A : **Heavy Duty** -26°C to -30°C
Option B : **Cascade Type** -26°C to -40°C

Body : Option A : Outer & Top Door - GIPP, Inner - S.S. Grade 304,
Inner Structure - S.S. Grade 202 Pipe & Angle
Option B : Fully S.S. Grade 304, Inner Structure - S.S. Grade 202

Hardening Time : • Ice Candy-15 minutes • Ice cream Cup & Cone-45 minutes
• 1/2 Ltr Family Pack-1.3 hrs • 1 Ltr-2.0 hrs • 4 Ltr Bulk-4 hrs • 20 Ltr Nali-6 hrs

* Total height = Body height + Cond. Unit Height + Stand height

** Cooling capacity based on:

Standard Model - Eva. Temp. -32°C and Cond. Temp. 50°C,

Two Stage Model - Eva. Temp. -37°C and Cond. Temp. 25°C

Bharat Refrigerations Blast Freezer/Chiller is the essential system to extend the shelf-life of food by instant freezing/chilling. These machines are designed to meet customer's requirement to improve quality and organization of the work in hotel-restaurants, confectioneries, bakeries and ice-cream shops. These machines also help food meet the hygiene standards, preserving the quality of food and reducing food wastage.



// Main Features:

- Time Saving
- Purchasing Cost Saving
- Less Weight Loss
- Less Dehydration
- Wider Menu

// Applications:

- Hotel & Restaurant
- Bakery & Confectionaries
- Ice Cream

// Blast Freezing:

Maintaining the Quality (Colour, Taste, Fragrance and Feel) of food is possible only if freezing is done quickly.

Bharat Refrigerations Blast Freezer is here with the solution, during the freezing process, the water molecules turn into small crystals with quickly pulling down the temperature of food from 0°C to -26°C in approximately 5-6 hours and it is sufficient time to obtain micro-crystallization for maintaining quality of food. It is served fresh without loss of liquid and flavour after defrosting.

// Blast Chilling:

The precise condition for the bacterial growth in food is at the temperature between 10°C to 70°C. The cooked food left down to cool slowly, to be served later, loses its quality along with the bacterial growth.

Bharat Refrigerations Blast Chiller is here with the solution to lower the temperature of food at the core that just have been cooked, down to 4°C in approximately 90 Minutes, reducing bacterial growth and dehydration of foods. The final output of food will be served with same quality, colour, aroma and extended shelf life.



Benefits:

- Reduce the deterioration of products during the freezing process
- Increase the shelf life of the food product
- Maintain food quality including flavour, texture, colour, aroma and nutrients
- Save money by making use of seasonal and bulk offers
- Save labour by enabling larger batch production
- Reduce waste of less used products and preserve for later
- Add new products to menu
- Be prepared and store during less busy periods
- Assist in the improvement of service and kitchen organisation

Specifications:

Description	Blast Freezer		Blast Chiller	
Model	IBF - 50/6	IBF - 100/12	IBC - 50/6	IBC - 100/12
Size (H x W x D)	66" x 38" x 40"	89" x 38" x 40"	66" x 38" x 40"	89" x 38" x 40"
Storage Capacity	50 KGs	100 KGs	50 KGs	100 KGs
Application	To Freeze Restaurant kitchen Foods and Ready to eat Food		To Chill Restaurant kitchen Foods and Ready to eat Food	
Temperature	-22°C to -26°C	-22°C to -26°C	4°C	4°C
Ref. Unit Capacity in BTU	4000 BTU*	6000 BTU*	9000 BTU**	16000 BTU**
Refrigerant	R404	R404	R22	R22
Pull Down Time	4 to 5 Hrs (From 10°C to -18°C)		90 Minutes (From 70°C to 10°C)	
Material of Construction	OUTER DOOR - S.S 202, INNER - S.S. 304		OUTER DOOR - S.S 202, INNER - S.S. 304	
Connected Load	1.7 UNIT	2.5 UNIT	1.7 UNIT	2.5 UNIT
No. of Pans	6 (2/1*65 mm)	12 (2/1*65 mm)	6 (2/1*65 mm)	12 (2/1*65 mm)

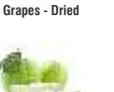
Cooling Capacity based on Conditions

* Eva. Temp.-27°C & Cond. Temp.+50°C

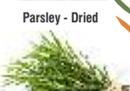
** Eva. Temp.-2°C & Cond. Temp.+50°C



Vegetables & Fruits

					
Apple - Fresh	Apple - Dried	Potato - Fresh	Potato - Dehydrated	Nectarine - Fresh	Nectarine - Dried
					
Banana - Dried	Banana - Fresh	Corn - Dehydrated	Corn - Fresh	Papaya - Dried	Papaya - Fresh
					
Dates - Fresh	Dates - Dried	Tomato - Fresh	Tomato - Dried	Plum - Fresh	Plum - Dried
					
Fig - Dried	Fig - Fresh	Red Pepper - Dried	Red Pepper - Fresh	Cabbage - Dried	Cabbage - Fresh
					
Grapes - Fresh	Grapes - Dried	Carrot - Fresh	Carrot - Dried	Sweet Potato - Fresh	Sweet Potato - Dried
					
Guava - Dried	Guava - Fresh	Scallions - Dried	Scallions - Fresh	Spinach - Dried	Spinach - Fresh
					
Mango - Fresh	Mango - Dried	Celeriac - Fresh	Celeriac - Dried	Capsicum - Fresh	Capsicum - Dried

Herbs & Agricultural Products

			
Basil - Fresh	Basil - Dried	Sage - Fresh	Sage - Dried
			
Dill - Dried	Dill - Fresh	Tarragon - Dried	Tarragon - Fresh
			
Fennel Seeds - Fresh	Fennel Seeds - Dried	Tea - Fresh	Tea - Dried
			
Lovage Seeds - Dried	Lovage Seeds - Fresh	Thyme - Dried	Thyme - Fresh
			
Mint - Fresh	Mint - Dried	Mushroom - Fresh	Mushroom - Dried
			
Parsley - Dried	Parsley - Fresh	Rose - Dried	Rose - Fresh
			
Rosemary - Fresh	Rosemary - Dried	Tobacco - Fresh	Tobacco - Dried

Bharat Refrigerations providing total cooling solution for various industry segments, now offers an innovative HEAT PUMP FOOD DEHYDRATOR to improve food preservation technique for quality and to reduce wastage of horticulture and floriculture produces, as well as it can be an eventual preserving technology for sustainable development and rural empowerment. Small and marginal food processing entrepreneurs and farmers can take advantage by drying their produces like fruits, vegetables, spices, herbs and other food products.

What is HEAT PUMP FOOD DEHYDRATOR?

A device that transfer heat from a colder area (ambient temperature) to a hotter area (drying chamber) by using mechanical energy (refrigeration technology).

Various Drying Methods - Energy and Economy Comparison Table

Heat energy required to evaporate 100 kg of water is 225000 kJ or 2.6 kW for 24 hour

Fuel Type	Electric	Coal	Diesel	NG	LPG	Electric
Heating Mode	Electric heating	Coal Boiler	Oil-fired Boiler	Gas Boiler	Gas Boiler	Heat pump
Heat Value	3600 kj/kwh	23027 kj/kg	33494 kj/L	36006 kj/m3	46860 kj/kg	3600 kj/kwh
Thermal Efficiency	95%	30%	85%	85%	90%	450%
Effective Thermal Value	3420 kj/kwh	6908 kj/kg	28470 kj/kg	30605 kj/kg	42174 kj/kg	16200 J/kwh
Fuel Price	7 ₹/kwh	5 ₹/kg	65 ₹/L	55 ₹/m3	60 ₹/kg	7 ₹/kwh
Fuel Consumption (Unit)	62.79 kwh	32.57 kg	7.9 L	7.35 m3	5.34 kg	13.89 kwh
Fuel Consumption (Cost)	439.5 ₹	163 ₹	513.5 ₹	404.25 ₹	320 ₹	97.23 ₹
Labor Management, Warehousing Cost	Low	High	High	High	Low	Low
Safety Performance	Unsafe	Unsafe	Unsafe	Unsafe	Safe	Safe
Environmental Pollution	None	Very serious	More serious	More serious	Light pollution	None
Life of Equipment	5-8 years	6-9 years	6-9 years	6-9 years	8-12 years	10-15 years

Application

Drying Fruits:

Apples, Apricots, Bananas, Coconuts, Dates, Figs, Grapes, Peaches, Pears, Pineapples, Plums, Breadfruit, Mango, Papaya, Nectarines, Jack Fruits, Guava, Pomegranate, Orange, Berry Fruits, Prunes, Cherries, Amla Fruit.

Drying Vegetables:

Cabbage, Carrot, Cauliflower, Beets, Corn, Radishes, Spinach, Potato, Tomato, Sweet Potato, Water Melon, Celeriac, Celery, Collards, Lettuce, Beans, Cucumbers, Garlic, Onions, Peppers, Sweet Corns, Okra, Coriander/cilantro, Cluster Beans, Asparagus, Pickled Cucumbers, Bulbous Root, Marrow.

Drying Agriculture Products:

Rose, Chrysanthemum, Mushroom, Edible Fungus, Tobacco Leaf, White Fungus, Red Pepper, Daylily, Capsicum, Herbs, Horseradish, Winter Squash.

Drying Herbs:

Basil, Dill, Fennel, Lavage, Mint, Oregano, Parsley, Rosemary, Sage, Savoury, Scented, Geraniums, Tarragon, Thyme, Tea.

Drying Seafood:

Sea Fish, Squid, Shrimp, Sea Ear, Trepan, Cuttlefish, Hippocampi

Drying Food:

Sausage, Preserved Pork, Smoke Fish, Rice, Noodle, Bean Curd Sticks, Cooked Food

Working Principle

Conventionally, materials are dried either in the field (sun drying) or using high temperature dryers (Electric, Gasfired, etc.) Successful outdoor drying depends upon good weather. High temperature drying can damage the nutrient content, Specialty crops such as Flower, Herbs, Echinacea, fruits etc., need to be dried at low temperature (30°C to 45°C) for product quality optimization. This is an important consideration as they have a relatively high commercial value. Heating ambient air to use for drying is a simple and cost effective procedure but at higher ambient air relative humidity, it is not possible to dry products at low allowable maximum temperature condition. High temperature drying deteriorates the material structure and can render it unsuitable for further use. Low temperature drying of specialty crops reduces the risk of loss in Nutrient content and damage to physical properties. Bharat Refrigerations Dehydration Dryer incorporate with two systems:

1. Heat Pump
2. Dehumidifier

Heat Pump functions to add the latent and sensible heat with low energy consumption. The running cost comparison of various system is shown in Table.

Dehumidifier functions to remove moisture from drying chamber to maintain low relative humidity.

Premium Drying Quality 	Clean, Hygienic & Easy to Operate 	Exact Control of Temperature and Humidity 	PLC Base Controlling 	Retain High Nutrition Intact 	Highest Efficiency in Drying 	Occupies Minimum Space
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Features

1. Energy saving & environmental protection

Saving operating cost, no heat loss (insulation chamber and recirculation of hot air), low noise

2. Exact control of temperature and humidity

Required drying temperature varies according to the produce and heat pump controls drying temperature between 30°C to 75°C and relative humidity below 25%

Technical Specifications:

Model	Fresh (Wet) Product Capacity (kg)	Power Supply	Connected Power (kW)	Heating Capacity (kW)	Cooling Capacity (kW)	Dehumidification Capacity (L/H)	Usable Tray Area (m ²)	Dimension of Dryer (mm)
HPD0020	20 to 60	1ph, 230V	1	2.3	1.7	2.5	3.9	2100 x 812 x 991
HPD0050	50 to 100	1ph, 230V / 3ph, 400V	2	5.5	3.6	5	9	2581 x 1183 x 1180
HPD0100	100 to 250	3ph, 400V	2.8	8	5	8	17	2743 x 1778 x 1270
HPD0300	300 to 450	3ph, 400V	5.15	16	10	16	47	3170 x 2060 x 2200
HPD0500	500 to 750	3ph, 400V	9	24	16	25	95	5600 x 2060 x 2200
HPD0700	700 to 900	3ph, 400V	10.5	30	20	32	126	5900 x 2060 x 2200
HPD1000	1000 to 1400	3ph, 400V	18	55	40	64	158	5900 x 3150 x 2200

* Product capacity is the fresh (wet) product loading capacity and it depends on product condition

** Connected power, heating capacity and cooling capacity is given at 12°C evaporating temperature And 60°C condensing temperature

Cold Room / Storage

- Cold Room PUF Panels (Discontinuous Type) 60, 80, 100, 125 & 150 mm
- Cold Room Door
- Solar Cold Room
- Glass Door Display Chiller
- Condensing Unit (Air/Water Cooled)
- Evaporator Unit
- Control Panel for Cold Room
- Curd Incubation Chamber
- Ripening Chamber
- Pre-Cooling Chamber
- Blast Freezer & Chiller

Ammonia Refrigeration

- Turnkey Projects for Cold Stores
- Water Chillers for Dairy
- Glycol Chillers for milk deep chilling for dairy
- Glycol chillers for beverage plants
- Glycol chillers for brewery plants
- Water Chillers for Pharma
- LP Receivers with Ammonia Pumps for retrofit plants
- Ice Accumulating Coils
- Atmospheric Condensers

Industrial Refrigeration

- Water Chilling Plant
- Brine Chilling Plant
- Oil Chilling Plant
- Air Chilling Plant
- Ice Building Tank (IBT)

Transport Refrigeration

- Refrigerated Vehicle (GRP)
- Refrigerated Van - Eutectic (GRP)
- Detachable Mobile Container (GRP)
- Bunk House
- Dry Insulated Container (GRP)

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