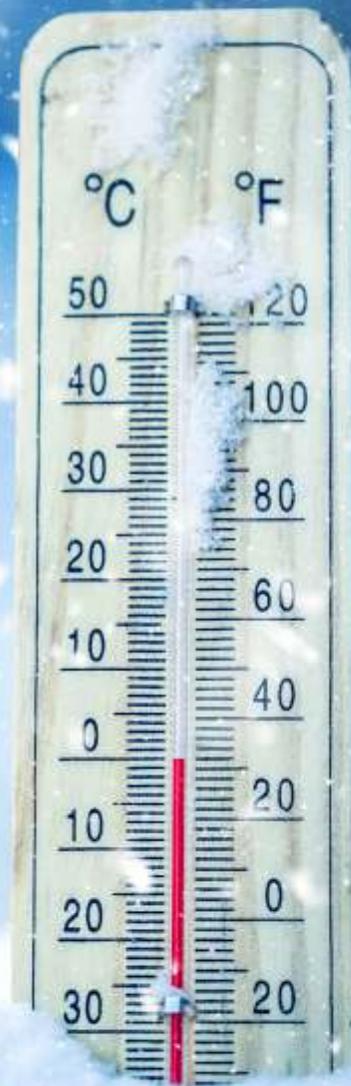




# Industrial & Commercial Refrigeration Equipment



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 of India.

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



Responsive Service



Transparency



Honour Commitments



Building Trust



Listen to Your Needs



Embrace Innovation



Believe in Solution

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Bharat Refrigerations is a leading manufacturer and supplier of highly efficient Cold Room and Storage that is easy to operate and better in performance. This tailor-made product range is built with premium quality range of material in standard size and customised specification to fulfil our customer needs. These Cold Rooms are well insulated, highly efficient and precisely designed to cater to a wide temperature range from +15°C to -40°C.



## Applications: Industries such as



Fruits & Vegetables



Pharmaceutical & Chemical



Ice Cream



Dry Fruits & Spices



Meat & Fish



Bakery Products



Frozen Food



Floriculture

## Total Cold Chain Solution



## Technical Specification

- Thickness** : 60, 80, 100, 125 & 150 mm
- Surface** : GI Pre-Painted Sheet, S.S. Sheet (Grade
- Material** : 304/316 & Surface finish 2B & Mate), GI Plain Sheet, Plain Galvanized Iron. (Inside & Outside different metal can be placed as per your requirement)
- Floor** : (A) For Kota stone or Concrete floor, PUF Slab with both side tar felt coated.  
 (B) For Kota Stone or Concrete floor, PUF Panel with Metal Surface at Both Side. Where Panel fits together with camlock to prevent heat loss.  
 (C) Aluminium Chequered Plate with Marine Ply.  
 (D) FRP Cladding on floor
- Door** : (A) Flush Type Swing Door with FRP Profile, Imported Hardware, Push Type Gasket & replaceable heater for easy door operation & long life  
**Opening Size:** 24"x72", 30"x72", 34"x78", 46"x84" (Door Opening W x H)  
 (B) Overlap Type Swing door with frame and metal covering by using heavy duty hardware for better strength  
**Opening Size:** 46"x84", 49"x84", 54"x84", 60"x90" (Door Opening W x H)
- Room Size** : (A) Length & Width Minimum 1.78 mtr and Bigger size 0.146 mtr in multiples as per requirement  
 (B) Standard Height :  
 60 mm - 2.47 mtr, 80 mm - 2.51 mtr,  
 100 mm - 2.55 mtr, 125 mm - 2.60 mtr,  
 150 mm - 2.65 mtr, Single Panel Height upto 12 mt and above as per your requirement.

## Accessories



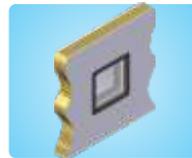
**Sliding Door:-**  
 Opening Size  
**Width** : 1000/1200/1500/1800 mm  
**Height** : 2100 to 3000 mm  
**Thickness** : 80 mm  
**Panel Surface Material** : Both side GIPP or S.S as per requirement



**Hatch Window:-**  
 Opening Size (WxH): 20"x20", 24"x24", 30"x30"  
 Different size hatch window with sturdy frame for easy material movement in high turnover ice cream and dairy industries.



**Pressure Ventilator:-**  
 Tri-action pressure ventilator with/without heater to balance pressure and vacuum inside cold room.



**View Port:-**  
 12"x12" View port with three layer argon filled, toughen glass which can be visible up to 2°C inside the cold room.



**Strip Curtain:-**  
 Semi transparent PVC strip curtain for negative temperature application to prevent heat loss and ultimately the power.



Wall Guard



Door Accessories



LED Vapour proof bulk head



High-Low Temperature Alarm



Inside Safety Alarm

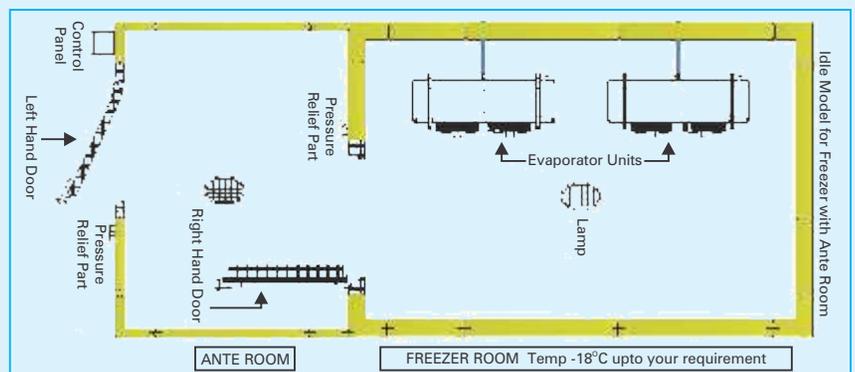


Door with Kick Plate



Ramp with Chequered Plate

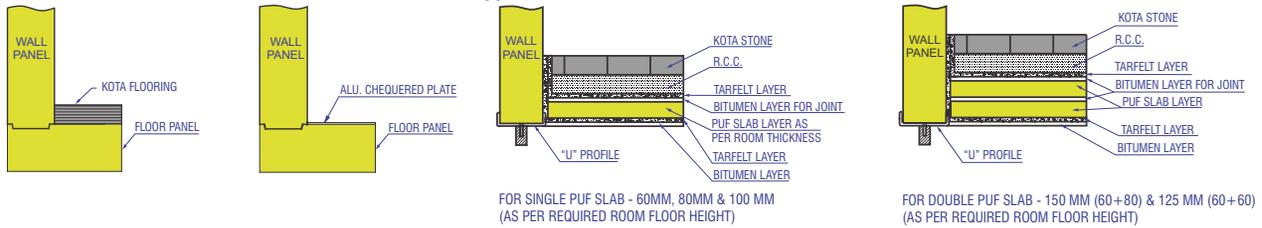
## 3D / Plan View of Ice Cream Cold Room



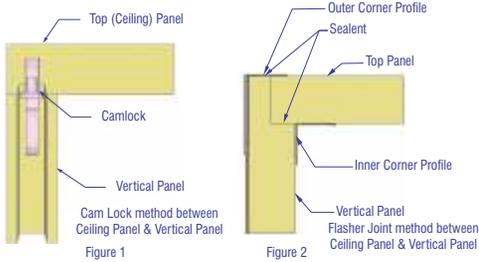
Note : For Positive temperature Ante Room is not Compulsory

## Panel Construction Configuration

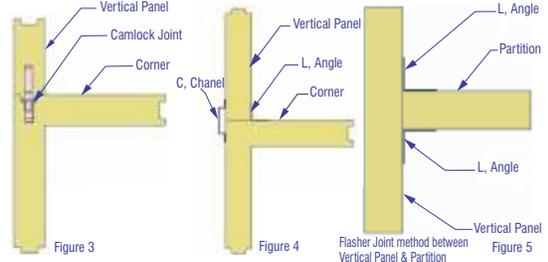
### Types of Cold Room Floor



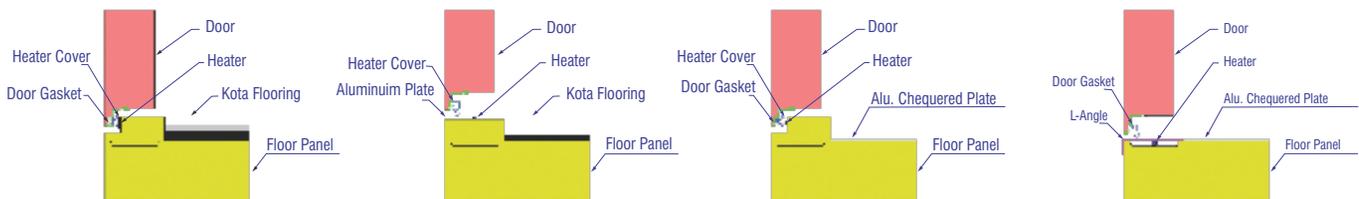
### Vertical & Top Panel Joining Method



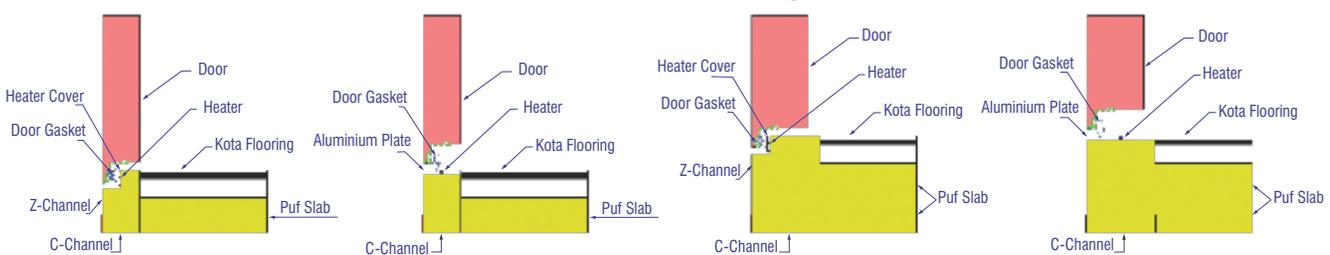
### Corner-Vertical Panel Joining Method



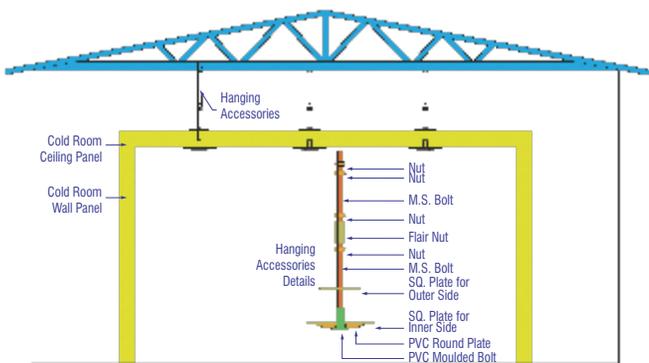
### Door on Floor Panel Design



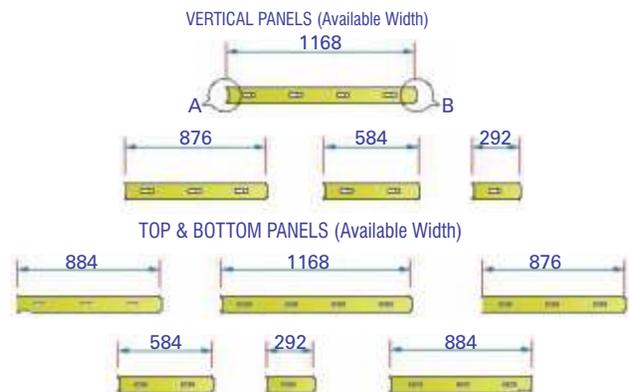
### "C" & Z Channel Door Design



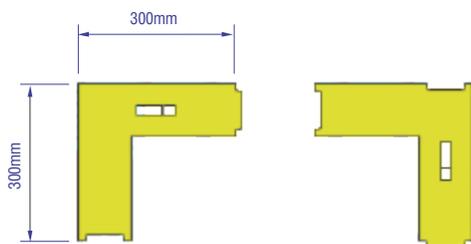
### Ceiling Panel Hanging Method



### Panel Width Size



### Corners



### Panel Joints



## Available Cold Room Size

### Standard Length & Width (with common thickness)

Inch	Feet	Meter	Inch	Feet	Meter									
41.25"	3' - 5.25"	1.05	282.75"	23' - 6.75"	7.18	524.25"	43' - 8.25"	13.32	765.75"	63' - 9.75"	19.45	1007.25"	83' - 11.25"	25.58
47"	3' - 11"	1.19	288.5"	24' - 0.5"	7.33	530"	44' - 2"	13.46	771.5"	64' - 3.5"	19.6	1013"	84' - 5"	25.73
52.75"	4' - 4.75"	1.34	294.25"	24' - 6.25"	7.47	535.75"	44' - 7.75"	13.61	777.25"	64' - 9.25"	19.74	1018.75"	84' - 10.75"	25.88
58.5"	4' - 10.5"	1.49	300"	25'	7.62	541.5"	45' - 1.5"	13.75	783"	65' - 3"	19.89	1024.5"	85' - 4.5"	26.02
64.25"	5' - 4.25"	1.63	305.75"	25' - 5.75"	7.77	547.25"	45' - 7.25"	13.9	788.75"	65' - 8.75"	20.03	1030.25"	85' - 10.25"	26.17
70"	5' - 10"	1.78	311.5"	25' - 11.5"	7.91	553"	46' - 1"	14.05	794.5"	66' - 2.5"	20.18	1036"	86' - 4"	26.31
75.75"	6' - 3.75"	1.92	317.25"	26' - 5.25"	8.06	558.75"	46' - 6.75"	14.19	800.25"	66' - 8.25"	20.33	1041.75"	86' - 9.75"	26.46
81.5"	6' - 9.5"	2.07	323"	26' - 11"	8.2	564.5"	47' - 0.5"	14.34	806"	67' - 2"	20.47	1047.5"	87' - 3.5"	26.61
87.25"	7' - 3.25"	2.22	328.75"	27' - 4.75"	8.35	570.25"	47' - 6.25"	14.48	811.75"	67' - 7.75"	20.62	1053.25"	87' - 9.25"	26.75
93"	7' - 9"	2.36	334.5"	27' - 10.5"	8.5	576"	48'	14.63	817.5"	68' - 1.5"	20.76	1059"	88' - 3"	26.9
98.75"	8' - 2.75"	2.51	340.25"	28' - 4.25"	8.64	581.75"	48' - 5.75"	14.78	823.25"	68' - 7.25"	20.91	1064.75"	88' - 8.75"	27.04
104.5"	8' - 8.5"	2.65	346"	28' - 10"	8.79	587.5"	48' - 11.5"	14.92	829"	69' - 1"	21.06	1070.5"	89' - 2.5"	27.19
110.25"	9' - 2.25"	2.8	351.75"	29' - 3.75"	8.93	593.25"	49' - 5.25"	15.07	834.75"	69' - 6.75"	21.2	1076.25"	89' - 8.25"	27.34
116"	9' - 8"	2.95	357.5"	29' - 9.5"	9.08	599"	49' - 11"	15.21	840.5"	70' - 0.5"	21.35	1082"	90' - 2"	27.48
121.75"	10' - 1.75"	3.09	363.25"	30' - 3.25"	9.23	604.75"	50' - 4.75"	15.36	846.25"	70' - 6.25"	21.49	1087.75"	90' - 7.75"	27.63
127.5"	10' - 7.5"	3.24	369"	30' - 9"	9.37	610.5"	50' - 10.5"	15.51	852"	71'	21.64	1093.5"	91' - 1.5"	27.77
133.25"	11' - 1.25"	3.38	374.75"	31' - 2.75"	9.52	616.25"	51' - 4.25"	15.65	857.75"	71' - 5.75"	21.79	1099.25"	91' - 7.25"	27.92
139"	11' - 7"	3.53	380.5"	31' - 8.5"	9.66	622"	51' - 10"	15.8	863.5"	71' - 11.5"	21.93	1105"	92' - 1"	28.07
144.75"	12' - 0.75"	3.68	386.25"	32' - 2.25"	9.81	627.75"	52' - 3.75"	15.94	869.25"	72' - 5.25"	22.08	1110.75"	92' - 6.75"	28.21
150.5"	12' - 6.5"	3.82	392"	32' - 8"	9.96	633.5"	52' - 9.5"	16.09	875"	72' - 11"	22.22	1116.5"	93' - 0.5"	28.36
156.25"	13' - 0.25"	3.97	397.75"	33' - 1.75"	10.1	639.25"	53' - 3.25"	16.24	880.75"	73' - 4.75"	22.37	1122.25"	93' - 6.25"	28.51
162"	13' - 6"	4.11	403.5"	33' - 7.5"	10.25	645"	53' - 9"	16.38	886.5"	73' - 10.5"	22.52	1128"	94'	28.65
167.75"	13' - 11.75"	4.26	409.25"	34' - 1.25"	10.39	650.75"	54' - 2.75"	16.53	892.25"	74' - 4.25"	22.66	1133.75"	94' - 5.75"	28.8
173.5"	14' - 5.5"	4.41	415"	34' - 7"	10.54	656.5"	54' - 8.5"	16.68	898"	74' - 10"	22.81	1139.5"	94' - 11.5"	28.94
179.25"	14' - 11.25"	4.55	420.75"	35' - 0.75"	10.69	662.25"	55' - 2.25"	16.82	903.75"	75' - 3.75"	22.96	1145.25"	95' - 5.25"	29.09
185"	15' - 5"	4.7	426.5"	35' - 6.5"	10.83	668"	55' - 8"	16.97	909.5"	75' - 9.5"	23.1	1151"	95' - 11"	29.24
190.75"	15' - 10.75"	4.85	432.25"	36' - 0.25"	10.98	673.75"	56' - 1.75"	17.11	915.25"	76' - 3.25"	23.25	1156.75"	96' - 4.75"	29.38
196.5"	16' - 4.5"	4.99	438"	36' - 6"	11.13	679.5"	56' - 7.5"	17.26	921"	76' - 9"	23.39	1162.5"	96' - 10.5"	29.53
202.25"	16' - 10.25"	5.14	443.75"	36' - 11.75"	11.27	685.25"	57' - 1.25"	17.41	926.75"	77' - 2.75"	23.54	1168.25"	97' - 4.25"	29.67
208"	17' - 4"	5.28	449.5"	37' - 5.5"	11.42	691"	57' - 7"	17.55	932.5"	77' - 8.5"	23.69	1174"	97' - 10"	29.82
213.75"	17' - 9.75"	5.43	455.25"	37' - 11.25"	11.56	696.75"	58' - 0.75"	17.7	938.25"	78' - 2.25"	23.83	1179.75"	98' - 3.75"	29.97
219.5"	18' - 3.5"	5.58	461"	38' - 5"	11.71	702.5"	58' - 6.5"	17.84	944"	78' - 8"	23.98	1185.5"	98' - 9.5"	30.11
225.25"	18' - 9.25"	5.72	466.75"	38' - 10.75"	11.86	708.25"	59' - 0.25"	17.99	949.75"	79' - 1.75"	24.12	1191.25"	99' - 3.25"	30.26
231"	19' - 3"	5.87	472.5"	39' - 4.5"	12	714"	59' - 6"	18.14	955.5"	79' - 7.5"	24.27	1197"	99' - 9"	30.4
236.75"	19' - 8.75"	6.01	478.25"	39' - 10.25"	12.15	719.75"	59' - 11.75"	18.28	961.25"	80' - 1.25"	24.42	1202.75"	100' - 2.75"	30.54
242.5"	20' - 2.5"	6.16	484"	40' - 4"	12.29	725.5"	60' - 5.5"	18.43	967"	80' - 7"	24.56	1208.50"	100' - 8.5"	30.69
248.25"	20' - 8.25"	6.31	489.75"	40' - 9.75"	12.44	731.25"	60' - 11.25"	18.57	972.75"	81' - 0.75"	24.71	1214.25"	101' - 2.25"	30.84
254"	21' - 2"	6.45	495.5"	41' - 3.5"	12.59	737"	61' - 5"	18.72	978.5"	81' - 6.5"	24.85	1220"	101' - 8.0"	30.98
259.75"	21' - 7.75"	6.6	501.25"	41' - 9.25"	12.73	742.75"	61' - 10.75"	18.87	984.25"	82' - 0.25"	25	1225.75"	102' - 1.75"	31.13
265.5"	22' - 1.5"	6.74	507"	42' - 3"	12.88	748.5"	62' - 4.5"	19.01	990"	82' - 6"	25.15	1231.5"	102' - 7.5"	31.28
271.25"	22' - 7.25"	6.89	512.75"	42' - 8.75"	13.02	754.25"	62' - 10.25"	19.16	995.75"	82' - 11.75"	25.29	1237.25"	103' - 1.25"	31.42
277"	23' - 1"	7.04	518.5"	43' - 2.5"	13.17	760"	63' - 4"	19.3	1001.5"	83' - 5.5"	25.44	1243"	103' - 7"	31.57

### Standard Height (with common thickness)

Height	Thickness	60 mm					
		PUF Slab			Alu. Checkered		
		Wall Panel	Inch	Feet	Meter	Inch	Feet
St. Height-1	92.5	94.9	7'-10.9"	2.4101	97.22	8'-1.2"	2.47
St. Height-2	112	114.4	9'-6.4"	2.91	116.7	9'-8.7"	2.96
Maximum single panel	472.5	242.2	20'-2.4"	6.1576	244.7	20'-4.7"	6.22

Height	Thickness	80 mm					
		PUF Slab			Alu. Checkered		
		Wall Panel	Inch	Feet	Meter	Inch	Feet
St. Height-1	92.5	95.6	7'-11.6"	2.43	98.8	8'-2.8"	2.51
St. Height-2	112	115.1	9'-7.1"	2.92	118.3	9'-10.3"	3
Maximum single panel	472.5	243.1	20'-3.1"	6.18	246.3	20'-6.3"	6.26

Height	Thickness	100 mm					
		PUF Slab			Alu. Checkered		
		Wall Panel	Inch	Feet	Meter	Inch	Feet
St. Height-1	92.5	96.4	8'-0.4"	2.45	100.39	8'-4.4"	2.55
St. Height-2	112	115.9	9'-7.9"	2.94	119.9	9'-11.9"	3.05
Maximum single panel	472.5	243.9	20'-3.9"	6.20	247.9	20'-7.9"	6.30

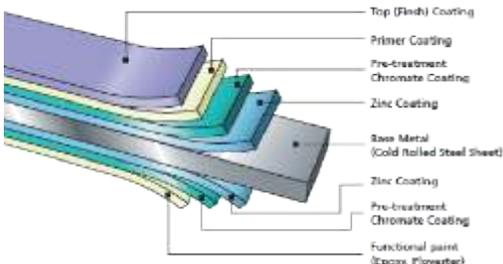
Height	Thickness	125 mm					
		PUF Slab			Alu. Checkered		
		Wall Panel	Inch	Feet	Meter	Inch	Feet
St. Height-1	92.5	97.4	8'-1.4"	2.48	102.34	8'-6.3"	2.60
St. Height-2	112	116.9	9'-8.9"	2.97	121.8	10'-1.8"	3.09
Maximum single panel	472.5	244.9	20'-4.9"	6.22	249.8	20'-9.8"	6.35

Height	Thickness	150 mm					
		PUF Slab			Alu. Checkered		
		Wall Panel	Inch	Feet	Meter	Inch	Feet
St. Height-1	92.5	98.4	8'-2.4"	2.50	104.3	8'-8.3"	2.65
St. Height-2	112	117.9	9'-9.9"	2.99	123.8	10'-3.8"	3.14
Maximum single panel	472.5	245.9	20'-5.9"	6.25	251.8	20'-11.8"	6.40

PUF Thickness (mm)	Recomm -ended Temp. Degree @ 32°C Ambient Temp.	Weight						Thermal Conductivity 'K' Value W/mK	Thermal Transmittance 'U' Value W/m²K	Thermal Resistance 'R' Value m²K/W	Thermal Transmittance 'U' Value K.Cal/m²K	Thermal Resistance 'R' Value m²K/K.Cal
		Wall & Ceiling		Floor Panel		Alu. Checkered Floor <small>NOTE for Alu. Checkered floor: The above is actual panel weight with one side GPP 0.45 mm thk. &amp; other side 9 mm marine ply with 2 mm Al. checkered plate and it includes accessories!</small>						
		Floor bare slab		Floor Panel								
		Kg/Sq.ft	Kg/Sq.mtr	Kg/Sq.ft	Kg/Sq.mtr							
60	+20 to +2	0.9	9.67	0.25	3	2.5	27	0.022	0.3521	2.84	0.3018	3.31
80	+2 to -8	1	10.82	0.35	4	2.6	28	0.022	0.2679	3.73	0.2296	4.36
100	-8 to -18	1.06	11.3	0.425	5	2.7	29	0.022	0.2163	4.62	0.1854	5.39
125	-18 to -27	1.2	12.72	0.525	6	2.85	31	0.022	0.1721	5.81	0.1475	6.78
150	-27 to -50	1.25	13.45	0.65	7	3	32	0.022	0.1459	6.85	0.1251	7.99

Thermal Flux (Heat loss per m² wall area) at different Δ T											
Panel Thickness (mm)	Temp. Difference °C	W/m²						K.cal / m²			
		60	80	100	125	150	60	80	100	125	150
		60	80	100	125	150	60	80	100	125	150
1		0.3521	0.2679	0.2163	0.1721	0.1459	0.3018	0.2296	0.1854	0.1475	0.1251
10		3.5205	2.6797	2.1631	1.7556	1.4596	3.0174	2.2968	1.8540	1.5047	1.2510
15		5.2808	4.0196	3.2446	2.6335	2.1894	4.5262	3.4452	2.7810	2.2572	1.8766
20		7.0411	5.3595	4.3262	3.5113	2.9192	6.0349	4.5936	3.7080	3.0095	2.5021
25		8.8014	6.6993	5.4077	4.3891	3.6491	7.5437	5.7419	4.6350	3.7619	3.1276
30		10.5617	8.0391	6.4893	5.2670	4.3789	9.0524	6.8903	5.5620	4.5143	3.7531
35		12.3219	9.3790	7.5708	6.1447	5.1087	10.5611	8.0387	6.4890	5.2667	4.3786
40		14.0822	10.7189	8.6524	7.0226	5.8384	12.0699	9.1871	7.4159	6.0191	5.0041
45		15.8424	12.0587	9.7340	7.9004	6.5682	13.5786	10.3356	8.3430	6.7714	5.6296
50		17.6028	13.3986	10.8155	8.7782	7.2980	15.0873	11.4840	9.2699	7.5238	6.2551
55		19.3631	14.7385	11.8971	9.6561	8.0278	16.5961	12.6324	10.1970	8.2762	6.8806
60		21.1239	16.0784	12.9786	10.5339	8.7576	18.1053	13.7808	11.1239	9.0286	7.5062
65		22.8836	17.4182	14.0602	11.4117	9.4874	19.6135	14.9292	12.0510	9.7810	8.1317
70		24.6439	18.4382	15.1417	12.2896	10.2172	21.1223	15.8034	12.9779	10.5334	8.7572
80		28.1644	21.4377	17.3048	14.0452	11.6769	24.1397	18.3743	14.8320	12.0382	10.0082

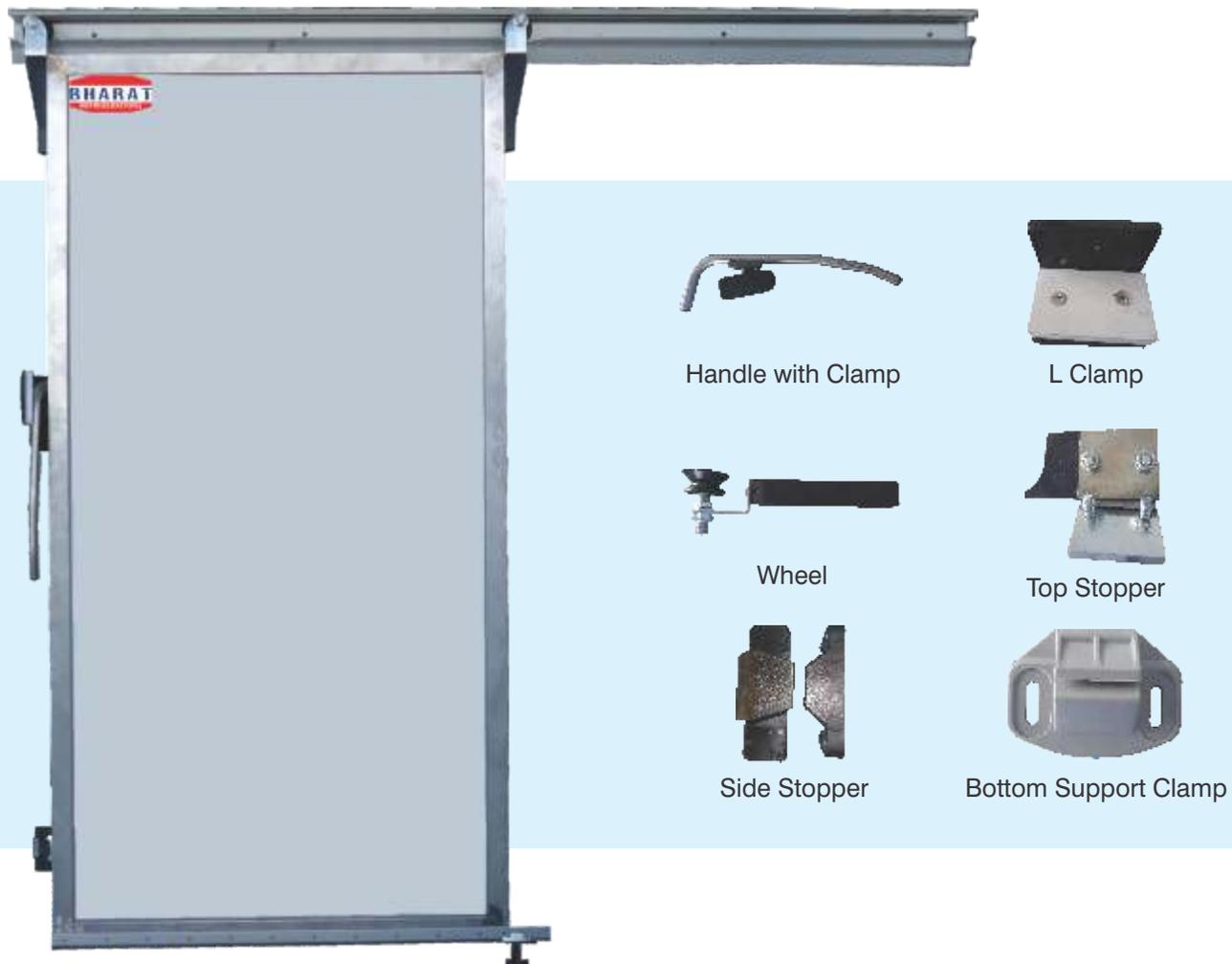
## Technical Specifications of PUF Panels

Sr.No.	PARAMETERS	DESCRIPTION
1	Average PUF Density	40 ± 2 kg/m <sup>3</sup>
2	PUF Blowing Agent	141B (CFC free)
3	Insulation Material	Polyurethane foam
4	Temperature range	+90°C to -60°C
5	Panel Type	Discontinuous type with camlock
6	M.O.C. of Camlocks	Cam locks body material HIPS and male latch is made of nylon Glass field with GI sheet reinforcement. Cam-lock panel joints easy assembly and leakage resistant, panel-to-panel joints.
7	Type of Panel joints	Tongue & Groove Joint with Cam lock and all side rubber gaskets
8	Corner Panel Available	12" x 12" x 162" (maximum Length)
9	Length of Wall & ceiling Panel	2032 mm to 12000 mm      80" to 472.5" inch
10	Ceiling Suspension items with specs	MS bolt with thermal breaking cap. PVC Round Plate 6 mm thickness x 90 mm diameter Aluminium/MS washer plate for load distribution Anchor bolt (MS) hanging bolt with 40 mm washer 2.0 mm thickness Sealing to panel MS road Clamp with an insulated crown.
11	Closed cell content	90 to 95%
12	Vapour Permeability	5.5mg/PASM
13	Water Absorption	Less than 2%
14	Fire Grade Polyurethane PUF Panel	FR Grade B3 (Fire Retardant Grade)
15	Compressive Strength at 10% Deformation	0.21 N/ sq.mm (For PUF only)
16	Tensile Strength	0.58 N /sq.mm (For PUF only)
17	Adhesive Strength (Foam to Sheet)	2.9 kg /sq.mtr
18	Dimension Stability	Less than 2%
19	Panel Facing Availability	With Rib or plain on Demand (Ribs are provided for more strength)
20	Wall & Ceiling Panel facing Material	<ul style="list-style-type: none"> <li>• Pre Painted Galvanised sheet , Thickness 0.45mm</li> <li>• Plain Galvanised sheet , Thickness 0.45mm</li> <li>• S.S. Sheet, Grade 316, 0.50mm, finish 2B/0.6 mm mate No.4</li> <li>• S.S. Sheet, Grade 304, 0.50mm, finish 2B/0.6 mm mate No.4</li> </ul>
21	Floor Panel Facing Material	<ul style="list-style-type: none"> <li>• PUF Panel with both side tarfelt sheet.</li> <li>• PUF Panel with both side 0.45mm GIPP sheet.</li> <li>• PUF Panel with outside GIPP sheet, inside 9 mm thick marine ply with 2 mm thick Aluminium Chequered Plate</li> </ul>
22	Specification for Colour Coating	 <ul style="list-style-type: none"> <li><b>A.</b> RAL No. : 9002 or it's nearest</li> <li><b>B.</b> Indian Standard code Colour Coating : IS 14246 Galvanizing : IS 277 Base Metal : IS 513</li> <li><b>C.</b> Organic Coating : Type RMP (Polyester)</li> <li><b>D.</b> Zinc Coating : 120 GSM</li> <li><b>E.</b> Top Primer (Thickness in micron 'μ') : 5 +/- 1 μ</li> <li><b>F.</b> Top Coat (Thickness in micron 'μ') : 20 +/- 1 μ</li> <li><b>G.</b> Back Primer (Thickness in micron 'μ') : 4 +/- 1 μ</li> <li><b>H.</b> Back Coat (Thickness in micron 'μ') : 4 +/- 1 μ</li> <li><b>I.</b> Guard Film (Thickness in micron 'μ') : 40 +/- 3 μ</li> <li><b>J.</b> Salt Spray Test /Humidity Test : 750 hrs. /1000 hrs.</li> </ul>

**Bharat Refrigerations** Sliding Doors are delivered as complete units, easy to mount with all fittings, sliding rail and bottom guide roller etc. Sliding Doors are designed for tough commercial environments such as Cold Stores, Incubation Chamber and Blast Chiller.

These Sliding Doors are very easy to operate, greater in efficiency and better in performance; also in terms of safety, long service life and smooth in everyday operation with one hand.

Bharat Refrigerations Sliding Door has sealed upper surface to resist dirt build up, very easy to clean and very easy to operate.

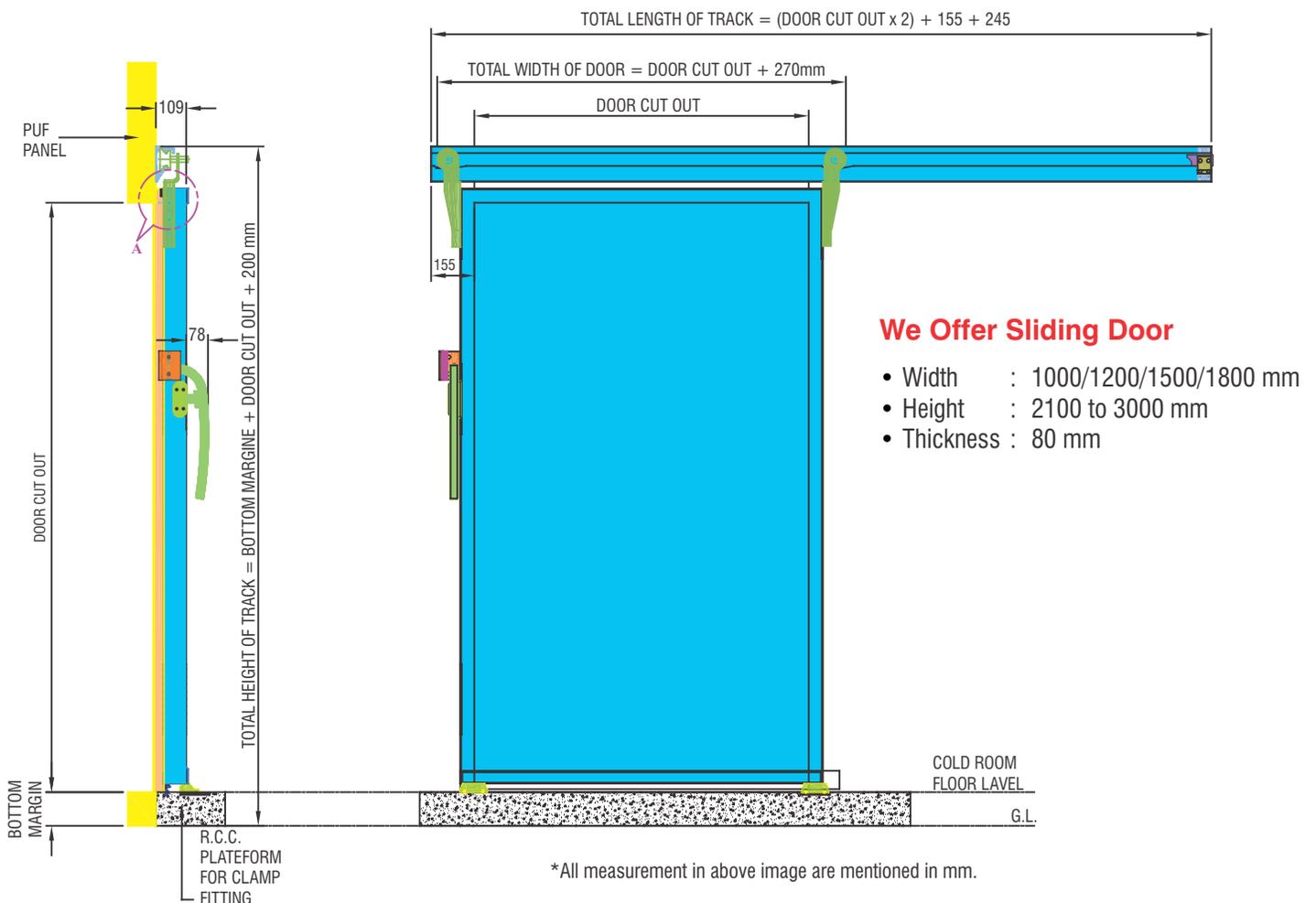


### **Bharat Refrigerations Sliding Door Features:**

- Heavy duty imported hardware
- Formed in place door panels
- S.S door frame
- Heavy duty track and wheel for durability
- Door guide to keep door on track
- Gasket to seal off air leak
- Durable and long service life, corrosion and Wear-resistant
- Easy maintenance & robust in design
- Outstanding ease of operation by manual
- High standard of hygiene and easy-to-clean surfaces

## Technical Specifications

<b>Door Panel</b>	80 mm thick (rigid Polyurethane foam)
<b>Door Frames</b>	Assembled in Panel
<b>Surface Finish</b>	The surface finish is available in a range of RAL No. 9002 or its nearest colours, with Pre-painted sheet, S.S sheet (304/316), GI Plain Sheet, Galvanium with thickness of 0.45 mm.
<b>Insulation</b>	<p>Injected Polyurethane insulation with,</p> <ul style="list-style-type: none"> <li>• Thermal Conductivity 0.022 W/m<sup>2</sup>K</li> <li>• Density 40 ± 2 kg/m<sup>3</sup></li> <li>• Tensile Strength 0.58 N/mm<sup>2</sup></li> <li>• Vapour permeability 5.5 mg/PASM</li> </ul>
<b>Hardware</b>	<ul style="list-style-type: none"> <li>• Anodized Aluminium Upper Guide rail</li> <li>• Availability of floor (F) guide Clamp</li> <li>• Brackets in reinforced composite material and zinc-coated metal</li> <li>• Outside opening devices with lever handle</li> <li>• Mounting on pre-fabricated panel</li> <li>• Simple and quick cleaning surface</li> <li>• Indoor Leaf with Replaceable Single Gasket</li> </ul>





24 Hours Backup  
(No Door Opening)



Low  
Maintenance



Solar Powered  
Stand-alone



Grid &  
DG Set Hybrid



No Battery for  
Refrigeration



No Running Cost  
on Solar Supply



Portable / Easy  
to Shift



Bharat Refrigerations has gained continuous appreciation as the prime organization offering Commercial & Industrial Refrigeration Equipment catering to Industries like Dairy, Ice Cream, Food Processing, Fruit Ripening, Horticulture/Floriculture, Hotels-Restaurants, Pharmaceuticals, Logistics, Plastic and Chemical Industry etc. This appreciation encouraged us to develop the innovative Cold Storage powered by solar stand-alone for improving storage quality and reducing wastage of horticulture and floriculture produce.

Most of the Horticulture/Floriculture produce requires a cooling temperature between 0°C to 15°C for safe storage and transient purposes. In the absence of cold storage and related cold chain facilities, the farmers are forced to sell their produce immediately after harvest which results in over abundance and low price realization.

Stand-alone Solar Power is one of the best solutions for operating small cold storage system in rural areas where there is certain limit of power load. Solar energy based refrigeration system is quite relevant to Indian weather because it is blessed with a good amount of solar energy in most parts of the country, throughout the year. This rich source of endless solar energy is the main power source for the Solar Cold Room built by Bharat Refrigerations and it gives a 24 Hours backup with no door opening.

Bharat Refrigerations Solar Cold Room is a Hybrid Cold Room designed to use throughout the year, even when there is no sunlight. This Solar Cold Room can be used with the alternate power source during the absence of Sunlight i.e. Electric Power and/or DG Power.

The Plug & Play feature of this Solar Cold Room makes it portable. Being portable, this Cold Room can be shifted anytime anywhere as per your convenience with no installation cost. Additionally the maintenance is very low and there is no running cost while operating through solar stand-alone. These characteristics make this Solar Cold Room best suited & affordable for farmers.

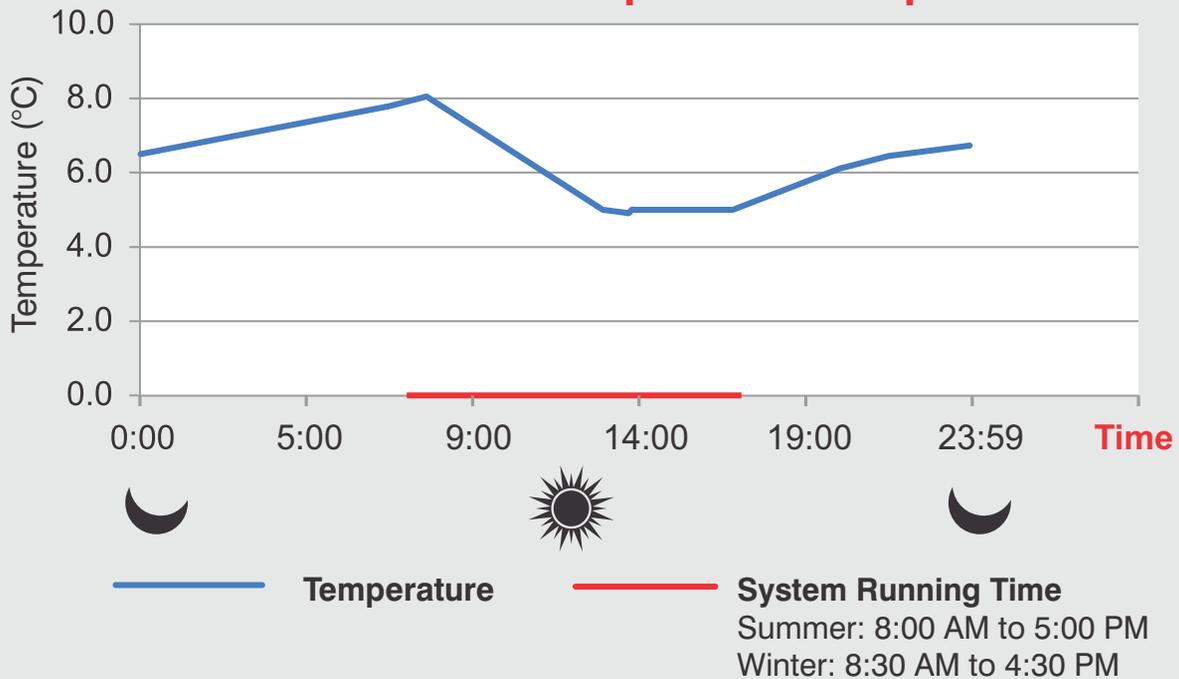
## Specification

Cold room size(LxWxH)	: 20'10" x 7'9" x 7'11"
Polyurethane Insulation Thickness	: 100 mm
Product capacity	: 4 to 5 MT
Loading rate	: 10 %
Backup	: ■ 24 hour with no loading and no door opening condition : ■ 16 hour with 10% loading and 10times door opening condition
Temperature range	: 2°C to 20°C
Product	: Fruits-Vegetables, Flower, Pharma and Dairy Items
Solar Panel	: 5 kW



Other capacities also available, contact us for more details.

## 24 Hours Temperature Graph



Fruit



Flower



Vegetable



Dairy



Pharma

Bharat Refrigerations Glass Door Display Chillers are suitable for super markets and retail shops to preserve and display Dairy items, Cake-pastry, Chocolates, Beverages, Fruits & Vegetables, Flower, Medicines etc. These glass door display chillers are designed and developed with utmost eminence in accordance with the defined parameters of the industry and emerging market demands this classic design combined with up-to-date technology enable timeless and functional display solutions that enable high-quality product presentation. These display chillers are divided into two sections to keep a variety of items as display and storage inside.

**Temperature : 2°C to 8°C**

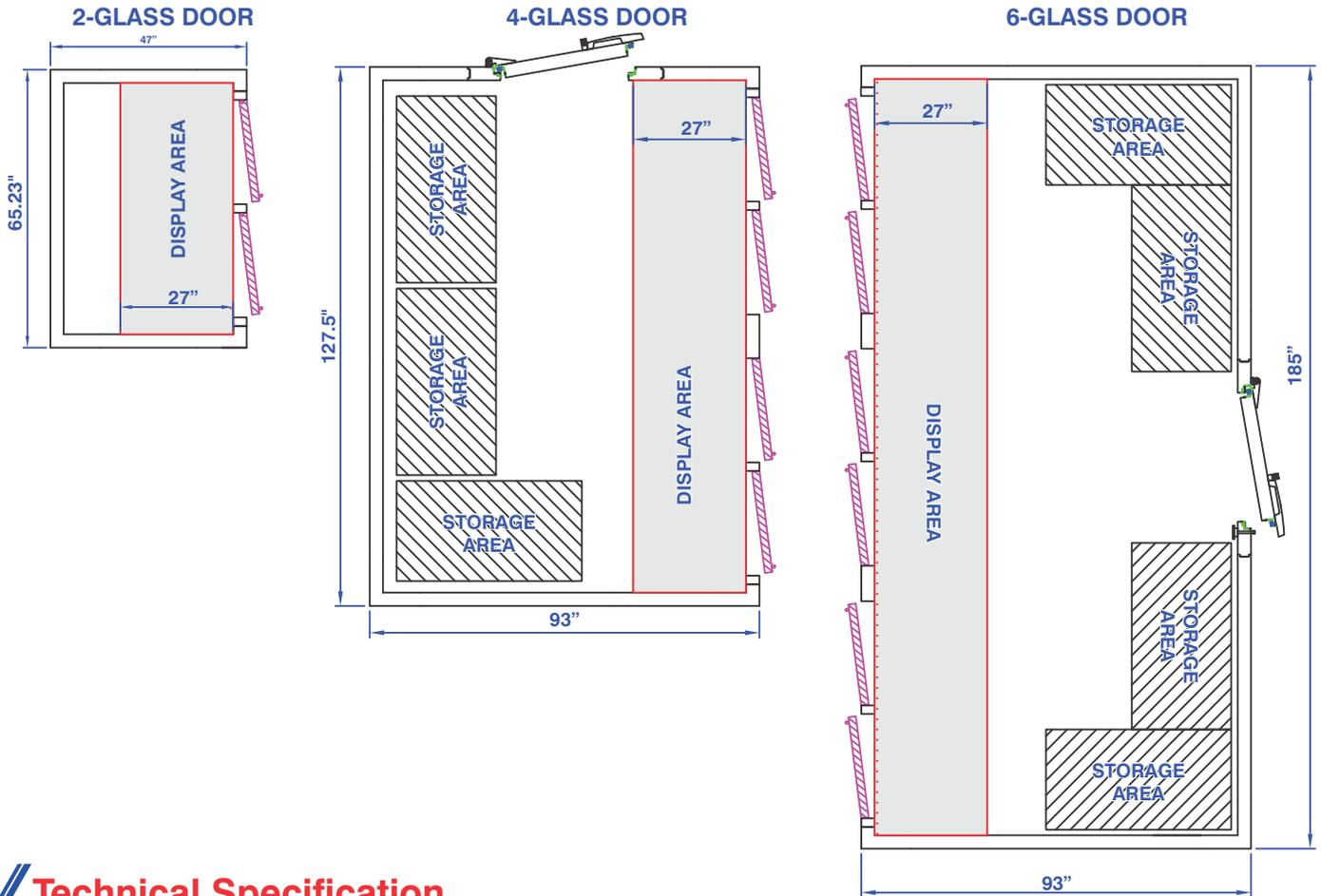


## Special Features

- Large Storage with Better Display Area
- Customized size
- Uniform Temperature
- Easy maintenance
- Energy efficient
- Easy to assemble & dismantle

## Available Glass Door Display Chiller Size:

Display Area				Display with Storage Area			
No. of Door	Chiller Size (L x W x H)	Volume (CFT)	Connected Power	No. of Door	Chiller Size (L x W x H)	Volume (CFT)	Connected Power
2	65.23" x 47" x 98.8"	126	1 / 3 Ph, 1.58 kW	2	65.23" x 93" x 98.8"	269	1 / 3 Ph, 1.68 kW
3	93.22" x 47" x 98.8"	201	1 / 3 Ph, 1.68 kW	3	93.22" x 93" x 98.8"	429	1 / 3 Ph, 1.68 kW
4	127.5" x 47" x 98.8"	264	1 / 3 Ph, 1.68 kW	4	127.5" x 93" x 98.8"	563	1 / 3 Ph, 2.17 kW
5	156.25" x 58.5" x 98.8"	419	1 / 3 Ph, 2.17 kW	5	156.25" x 93" x 98.8"	696	3 Ph, 3.26 kW
6	185" x 58.5" x 98.8"	499	1 / 3 Ph, 2.17 kW	6	185" x 93" x 98.8"	829	3 Ph, 3.26 kW



## Technical Specification

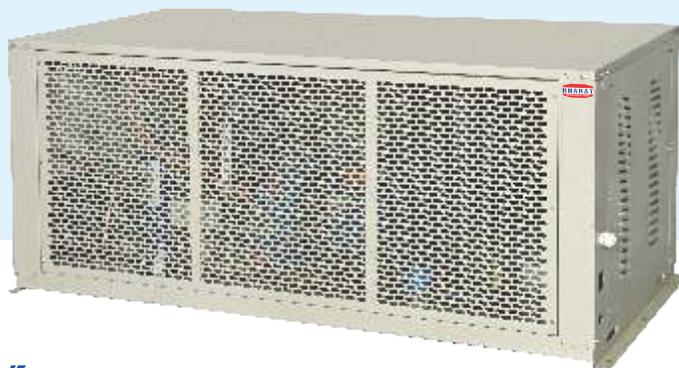
- **Glass Door Frame Size :** 1401 mm x 1840 mm, **Single Door Opening Size :** 600 mm x 1720 mm.
- Customized glass doors (hinged type) with magnetic door gasket for air tight seal.
- Minimum 2 Glass Door.
- Floor Insulation: Aluminium Chequered plate.
- Digital temperature controller with digital display.
- Insulated perimeter frames designed with forward facing for easy service and maintenance from front of the door.
- Energy efficient frame that reduces heat loss by 30% with its added insulation
- Double layer vacuumed tempered glass to prevent moisture.
- For specific arrangement of products.
- Adjustable Stainless Steel Shelves for specific arrangements of merchandise.
- Provision for special demands such as glass doors, special flooring, silent condensing unit, Shelves etc.
- Long durability and perfect construction with balanced refrigeration system.



## Condensing Unit

Air-cooled & Water-cooled

Slim Type



Screw Type Condensing Unit

## Features

- High cooling with low power consumption
- Designed for high ambient condition up to 55°C
- Condensing coil with inner grooved copper tubes & aluminum fins
- Efficient fans with external motors for single phase and three phase
- High & low pressure cut-out including mounting brackets, wired to terminal strip
- Large size filter drier, moisture indicator, solenoid valve, oil separator and accumulator
- Shell & tube type condenser with high cooling capacity for high ambient conditions

## Rack System - An Advanced Refrigeration Technology :

- It has advanced power saving system compared to normal refrigeration system
- Rack system will work as per product load variation



Water-Cooled



Water-Cooled



Air-Cooled

## Evaporator Unit



### FEATURES

- **Fan** - High reliability, low-temperature resistance and low noise external rotor fans.
- **Coil** - High efficiency heat exchange with in-line tube system for minimum loss of air flow between fans and large surface area for better cooling.
- **Defrost** - Electrically heating stainless steel pipe is used for long life and it is also leak proof.
- **Unit Body** - Aluminium, PU type Powder Coated, Corrosion resistant and nice appearance body.
- **Maintenance** - Compact, adjustable & easily openable side panels for easy installation.

## Control Panel



### Features

- Temperature Controls
- Phase Preventing
- HP-LP
- Over current protection
- Auto Defrost
- Delay timer



### Features

- Phase Preventing
- HP/LP
- Over/Under current protection
- High-Low temperature alarm
- Quick freezing option
- Door alarm
- All type of trip alarm & Record date
- Available in Air & Water cooled system

## Dehumidifier

Bharat Refrigerations portable dehumidifier provides low humidity conditions necessary to maintain a dry environment. It's a simple solution to an old problem. This Dehumidifier works by forcing condensation on cold surfaces. Humid air is drawn over cooled fins that makes moisture condense on the large cool surface. The condensation is allowed to drain from the fins into a collection tank or is piped to a suitable drainage. Cooled dry air passes through condenser coil and again heated to desired temperature to maintain low relative humidity.

### Application

- Sweet storage
- Dehydrated product storage
- Seeds storage
- Bakery product storage and many more

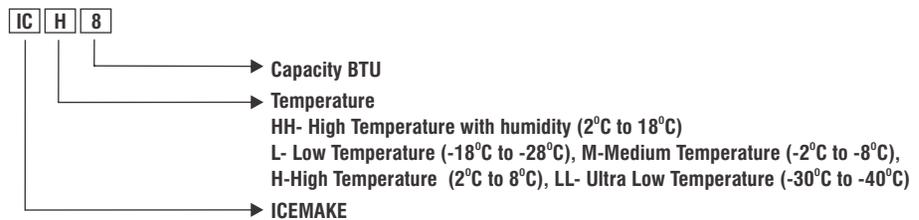
### Features

- Auto cut-off according to set RH value
- Automatic defrost
- Top air flow
- Continuous drainage option or water collecting tank



Particular	Model - 1	Model - 2	Model - 3	Model - 4
Moisture condense capacity (@ 20°C & 60% RH) (L/day)	16	37	60	112
Refrigerant	R-134a	R-22	R-22	R-22
Air flow (m <sup>3</sup> /h)	130	300	600	1000
Connected power (kW)	0.6	1.25	1.5	3
Max power (kW)	0.9	1.6	1.8	3.5
Power supply	1ph, 220V	1ph, 220V	1ph, 220V	1ph, 220V

## Model Code Logic



## REFRIGERATION TECHNICAL DATA

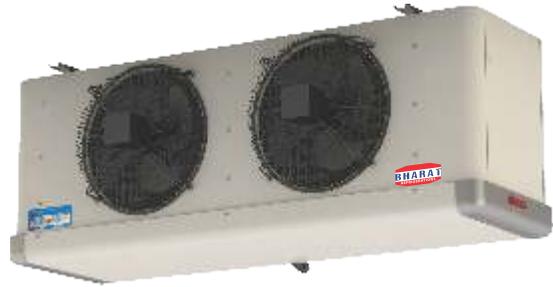
Sr. No	Model	Cold Room Volume		Suggested Cooling Capacity					Connected Load kW	Power Supply	Condensor		Refrigerant		Compressor Type		
		CFT	CMT	Watts	H.P.	Cal.	BTU	TR			Air Cooled	Water Cooled	R-404	R-22	Reци procating	Scroll	Semi Sealed
<b>FOR HIGH TEMPERATURE @ 2°C TO 8°C</b>																	
1	ICH-8	300	8	2198	2.95	1890	7500	0.62	1.8	1ph	Yes	No	No	Yes	Yes	No	No
2	ICH-12	500	14	3443	4.62	2961	11748	0.98	2.6/1.93	1/3ph	Yes	Optional	Yes	Yes	Yes	No	Yes
3	ICH-17	650	18	4899	6.57	4213	16715	1.39	3.1/2.63	1/3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
4	ICH-20	900	25	5634	7.55	4845	19223	1.60	3.08	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
5	ICH-23	1100	31	7630	10.23	6562	26034	2.17	4.03	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
6	ICH-40	1900	54	12146	16.28	10446	41442	3.45	6.11	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
7	ICH-53	2400	68	15776	21.15	13567	53828	4.48	7.9	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
8	ICH-71	3200	91	20357	27.29	17507	69458	5.78	10.14	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
9	ICH-85	4000	113	25420	34.08	21861	86733	7.22	12.51	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
10	ICH-100	5200	147	29886	40.06	25702	101971	8.49	14.89	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
11	ICH-145	7000	198	42391	56.82	36456	144638	12.04	21.91	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
12	ICH-175	9000	255	51390	68.89	44195	175343	14.60	25.61	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
13	ICH-210	11000	311	62586	83.90	53824	213543	17.78	32.86	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
<b>FOR MEDIUM TEMPERATURE @ -2°C TO -8°C</b>																	
14	ICM-4	250	7	1250	1.68	1075	4265	0.36	1.31	1ph	Yes	No	No	Yes	Yes	No	No
15	ICM-9	450	13	2751	3.69	2366	9386	0.78	2.4/1.8	1/3ph	Yes	Optional	Yes	Yes	Yes	No	Yes
16	ICM-12	600	17	3813	5.11	3279	13010	1.08	2.8/2.51	1/3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
17	ICM-15	800	23	4620	6.19	3973	15763	1.31	3	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
18	ICM-17	1000	28	4778	6.40	4109	16303	1.36	3.92	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
19	ICM-28	1700	48	7875	10.56	6773	26870	2.24	4.88	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
20	ICM-40	2200	62	11722	15.71	10081	39995	3.33	7.48	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
21	ICM-53	2900	82	15739	21.10	13536	53701	4.47	9.79	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
22	ICM-65	3750	106	20153	27.01	17332	68762	5.73	11.83	3ph	Yes	Optional	Yes	Yes	Yes	Yes	Yes
23	ICM-80	4700	133	23950	32.10	20597	81717	6.80	14.24	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
24	ICM-112	6400	181	33530	44.95	28836	114404	9.53	21.16	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
25	ICM-135	8100	229	39750	53.28	34185	135627	11.29	24.55	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes
26	ICM-210	9000	255	46600	62.47	40076	158999	13.24	31.68	3ph	Yes	Optional	Yes	Yes	No	Yes	Yes

Sr. No	Model	Cold Room Volume		Suggested Cooling Capacity					Connected Load kW	Power Supply	Condensor		Refrigerant		Compressor Type		
		CFT	CMT	Watts	H.P.	Cal.	BTU	TR			Air Cooled	Water Cooled	R-404	R-22	Reci procating	Scroll	Semi Sealed
<b>FOR LOW TEMPERATURE @ -18°C TO -28°C</b>																	
27	ICL-3	300	8	550	0.74	473	1877	0.16	2.5	1ph	Yes	No	Yes	No	Yes	No	No
28	ICL-4	350	10	1145	1.53	985	3907	0.33	1.98	3ph	Yes	No	Yes	No	Yes	Yes	No
29	ICL-6	550	16	1788	2.40	1538	6101	0.51	3	3ph	Yes	Yes	Yes	No	Yes	Yes	Yes
30	ICL-9	850	24	2743	3.68	2359	9359	0.78	4.1	3ph	Yes	Yes	Yes	No	Yes	Yes	Yes
31	ICL-13	1200	34	3328	4.46	2862	11355	0.95	5.4	3ph	Yes	Yes	Yes	No	Yes	Yes	Yes
32	ICL-18	1700	48	4743	6.36	4079	16183	1.35	6.9	3ph	Yes	Yes	Yes	No	Yes	Yes	Yes
33	ICL-26	2500	71	7960	10.67	6846	27160	2.26	8.6	3ph	Yes	Yes	Yes	No	Yes	Yes	Yes
34	ICL-38	3400	96	11355	15.22	9765	38743	3.23	10.6	3ph	Yes	Yes	Yes	No	No	Yes	Yes
35	ICL-42	3800	107	10870	14.57	9348	37088	3.09	11.5	3ph	Yes	Yes	Yes	No	No	Yes	Yes
36	ICL-45	4000	113	12745	17.08	10961	43486	3.62	13.5	3ph	Yes	Yes	Yes	No	No	No	Yes
37	ICL-50	5000	141	15390	20.63	13235	52511	4.37	15.18	3ph	Yes	Yes	Yes	No	No	No	Yes
38	ICL-65	6500	184	18690	25.05	16073	63770	5.31	20.29	3ph	Yes	Yes	Yes	No	No	No	Yes
30	ICL-80	8000	226	21875	29.32	18813	74638	6.21	23.65	3ph	Yes	Yes	Yes	No	No	No	Yes
40	ICL-105	10500	297	27810	37.28	23917	94888	7.90	32.4	3ph	Yes	Yes	Yes	No	No	No	Yes
<b>FOR HIGH TEMPERATURE @ 2°C TO 18°C WITH HUMIDITY FOR RIPENING / PRE-COOLING</b>																	
41	ICHH-12	1200	34	5107	6.85	4392	17425	1.45	2.03	1/3ph	Yes	No	Yes	Yes	Yes	Yes	Yes
42	ICHH-17	1500	42	5033	6.75	4328	17173	1.43	2.53	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	ICHH-20	1700	48	8125	10.89	6988	27723	2.31	3.27	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	ICHH-23	2200	62	10930	14.65	9400	37293	3.11	4.02	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	ICHH-40	3500	99	17648	23.66	15177	60215	5.01	6.15	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	ICHH-53	4500	127	22869	30.66	19667	78029	6.50	8.13	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	ICHH-71	7000	198	29769	39.90	25601	101572	8.46	10.45	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	ICHH-85	8000	226	38056	51.01	32728	129847	10.81	12.97	3ph	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>FOR ULTRA LOW TEMPERATURE -30°C TO -40°C</b>																	
49	ICLL-17	as per heat load		5100	6.84	4386	17401	1.45	5.82	3ph	Yes	Yes	Yes	No	semi-sealed two stage		Yes
50	ICLL-24			7673	10.29	6599	26180	2.18	7.63	3ph	Yes	Yes	Yes	No			Yes
51	ICLL-39			12025	16.12	10342	41029	3.42	12.26	3ph	Yes	Yes	Yes	No			Yes
52	ICLL-55			16185	21.70	13919	55223	4.60	15.57	3ph	Yes	Yes	Yes	No			Yes
53	ICLL-64			19215	25.76	16525	65562	5.46	18.43	3ph	Yes	Yes	Yes	No			Yes
54	ICLL-72			22315	29.91	19191	76139	6.34	21.05	3ph	Yes	Yes	Yes	No			Yes
55	ICLL-86			27135	36.37	23336	92585	7.71	25.5	3ph	Yes	Yes	Yes	No			Yes

\* Connected load & Cooling Capacity will differ as per compressor



**A4007-301H, A7012-301A**



**A4012-302H, A7021-302A**



**A4018-303H, A7032-303A**



**A4024-353H, A4034-353H  
A7043-353A, A7060-353A**



**A4039-452H, A7062-452A**



**A4058-453H, A7090-453A**



**CLS709-252A**

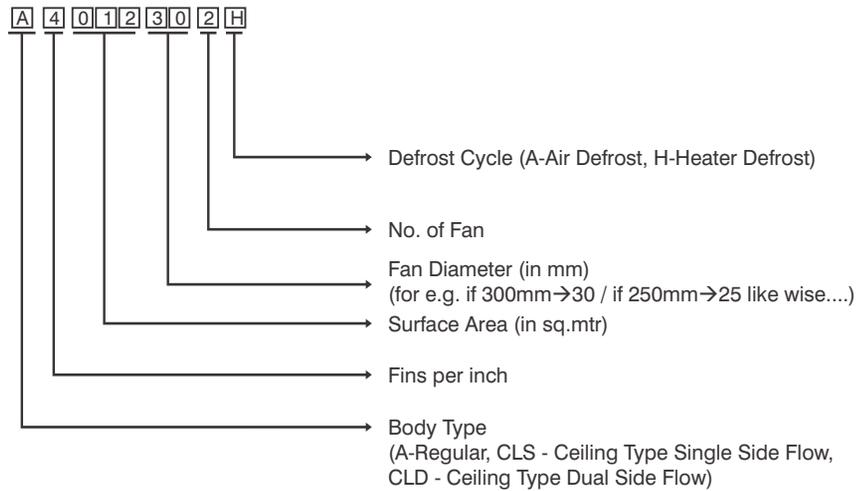


**CLD713-252A, CLD719-252A**

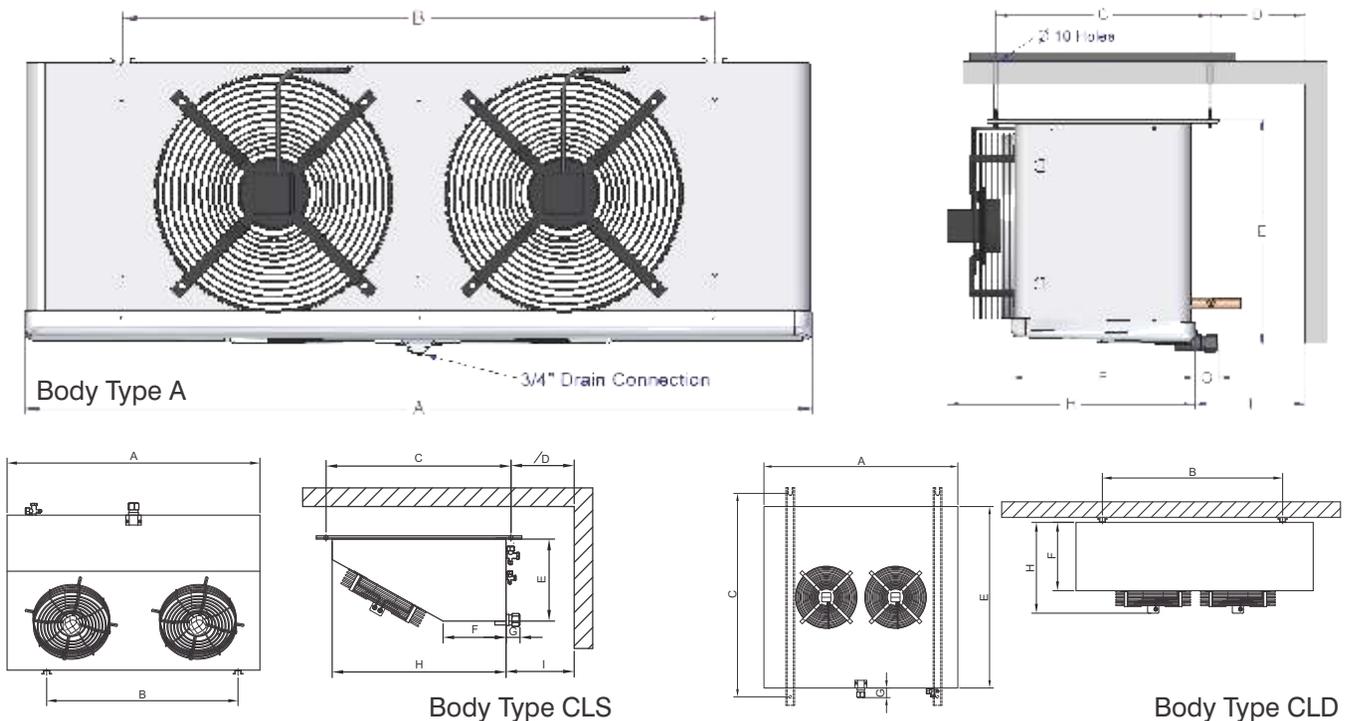


**CLD724-253A, CLD729-253A**

## Model Code Logic



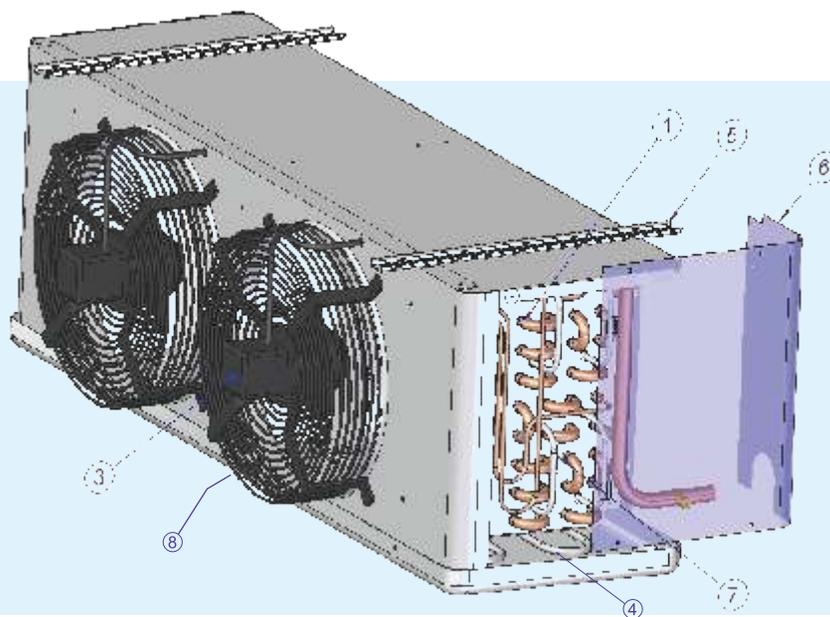
## Physical Dimensions



Physical Parameters	Dimensions (mm) for Model									
	A4007-301H	A4012-302H	A4018-303H	A4024-353H	A4034-353H	A4039-452H	A4058-453H	CLS709-252A	CLD713-252A	CLD724-253A
	A7012-301A	A7021-302A	A7032-303A	A7043-353A	A7060-353A	A7062-452A	A7090-453A			
A	765	1095	1490	1575	1880	1880	2660	825	820	1150
B	485	815	1210	1300	1605	1595	2380	685	680	1010
B1	NA	NA	NA	430	535	800	800	NA	NA	NA
C	375	375	375	375	375	375	375	530	750	750
D	350	350	350	350	350	400	400	300	NA	NA
E	410	410	410	480	550	635	635	220	720	720
F	325	325	325	325	325	325	325	190	220	220
G	40	40	40	40	40	40	40	40	40	40
H	435	435	435	435	435	460	460	500	315	315
I	375	375	375	375	375	425	425	375	0	0
Unit Weight (kg)	17	26	35	46	57	75	115	15	24	36

## Features

- 1) High efficiency heat exchanger with in-line tube system for minimum loss of air flow between fins and with large surface area for long cooling time.
- 2) Fan Motor and Heater wires are connected in terminal box mounted inside the unit.
- 3) Fan motors are of leading brand. Insulation Class F, thermally protected against overload and can be used on 230V/50 Hz supplies.
- 4) Provision given for installing tray heater later.
- 5) Stainless steel mounting rail.
- 6) Compact, adjustable & easily openable side panels for easy installation.
- 7) Heater rods are arranged for better heat distribution in coil. Electric heater rods are inserted into special aluminium sleeve tubes to avoid steam formation.
- 8) Drainage Connection



### Unit Body:

- 1.2mm thick Aluminium, PU type white powder coated, corrosion resistant and nice appearing body.
- Round corner Drain tray and also provided intermediate sheet to avoid condensation.
- Aluminium Die cast, threaded, 3/4" diameter drainage connection.

### Finned coil block:

- Aluminium fin, thickness 0.30 mm
- Shedder Valve provided for gas charging.
- Coils are degreased, cleaned and tested with 25 bar air pressure and leak test under water according to standard.

### Fan Motor:

- Axial fans with external rotor motor, single phase - 230V, 50/60 Hz with internally wired thermal contact and wired with internal terminal box.
- Electrical design according to standard.
- Protection class: IP-54, Insulation Class F
- Application range : -35°C to +40°C

### Defrost Heating:

- Electric heater rods 230V sleeve tube with 7-8 mm diameter

## Technical Specifications

EVAPORATOR UNIT (Evap. Temp. -8°C to -35°C)								
Sr.	Parameters/Model	A4007-301H	A4012-302H	A4018-303H	A4024-353H	A4034-353H	A4039-452H	A4058-453H
1	Capacity (kW) (at -25°C, DT1=7K)	1.25	2.5	3.8	5.0	6.8	8.27	11.7
2	Heat Transfer Area (m <sup>2</sup> )	6.9	12.15	18.23	24.3	34	39.12	58.12
3	Tube Volume (In Ltr)	2.5	3.4	5	7	10.21	10.5	15.5
4	Fin Spacing-mm/FPI(Fin Per Inch)	6/4	6/4	6/4	6/4	6/4	6/4	6/4
5	Fan Diameter / No. of Fans / ph	300/1/1ph	300/2/1ph	300/3/1ph	350/3/1ph	350/3/1ph	450/2/3ph	450/3/3ph
6	Air Flow (m <sup>3</sup> /h) / Throw(Mtr)	1560/9	3120/9	4680/10	8200/12	8200/12	8600/14	12900/14
7	Motor - Input Value (watts)	87 x 1	87 x 2	87 x 3	150 x 3	150 x 3	320 x 2	320 x 3
8	Motor - Current (Amp.)	0.42 x 1	0.42 x 2	0.42 x 3	0.65 x 3	0.65 x 3	0.74 x 2	0.74 x 3
9	Coil & Tray Heater Total (watts)	2750	4000	4600	5500	5500	6550	9450
10	Pipe Inlet & Outlet	1/2 & 7/8	1/2 & 7/8	1/2 & 7/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.3/8

EVAPORATOR UNIT (Evap. Temp. 10°C to -8°C)								
Sr. NO	Parameters/Model	A7012-301A	A7021-302A	A7032-303A	A7043-353A	A7060-353A	A7062-452A	A7090-453A
1	Capacity (kW) (at -8°C, DT1= 8 K)	1.75	3.5	5.25	7	9.5	13.5	19
2	Heat Transfer Area (m <sup>2</sup> )	12.3	21.3	32.1	42.6	59.5	62.45	90.75
3	Tube Volume (In Ltr)	2.5	3.4	5	7	10.21	10.5	15.5
4	Fin Spacing-mm/FPI(Fin Per Inch)	3.6/7	3.6/7	3.6/7	3.6/7	3.6/7	3.6 / 7	3.6 / 7
5	Fan Diameter / No. of Fans / ph	300/1/1ph	300/2/1ph	300/3/1ph	350/3/1ph	350/3/1ph	450/2/3ph	450/3/3ph
6	Air Flow (m <sup>3</sup> /h) / Throw(Mtr)	1560/9	3120/9	4680/10	8200/12	8200/12	8600/14	12900/14
7	Motor - Input Value (watts)	87 x 1	87 x 2	87 x 3	150 x 3	150 x 3	320 x 2	320 x 3
8	Motor - Current (Amp.)	0.42 x 1	0.42 x 2	0.42 x 3	0.65 x 3	0.65 x 3	0.74 x 2	0.74 x 3
9	Pipe Inlet & Outlet	1/2 & 7/8	1/2 & 7/8	1/2 & 7/8	5/8 & 1.7/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.3/8

EVAPORATOR UNIT (Evap. Temp. 10°C to -4°C)						
Sr. NO	Parameters/Model	CLS709-252A	CLD713-252A	CLD719-252A	CLD724-253A	CLD729-253A
1	Capacity (kW) (at -2°C, DT1= 8 K)	1.45	2.35	3.2	5.2	6.1
2	Heat Transfer Area (m <sup>2</sup> )	9.76	13.02	19.52	24.4	29.3
3	Tube Volume (In Ltr)	1.92	2.56	3.84	4.7	5.64
4	Fin Spacing-mm/FPI(Fin Per Inch)	3.6/7	3.6/7	3.6/7	3.6/7	3.6/7
5	Fan Diameter / No. of Fans	250/2	250/2	250/2	250/3	250/3
6	Air Flow (m <sup>3</sup> /h) / Throw(Mtr)	2000/4	2000/4	2000/4	3000/4	3000/4
7	Motor - Input Value (watts)	50 x 2	50 x 2	50 x 2	50 x 3	50 x 3
8	Motor - Current (Amp.)	0.25 x 2	0.25 x 2	0.25 x 2	0.25 x 3	0.25 x 3
9	Pipe Inlet & Outlet	3/8 & 1/2	3/8 & 1/2	3/8 & 5/8	3/8 & 3/4	3/8 & 3/4

**Air flow (m<sup>3</sup>/h) :-** The air flow is determined on a suction side chamber testing stand according to ISO 5801 with dry cooler surface.

**Air throw(m) :-** The air throw gives the distance from the outlet area of the air cooler at which the average of the air velocity taken at 0.5 m, 0.75 m and 1 m from the ceiling at 20°C equals 0.5 m/s.

**Capacity (kW) :-** The capacity data are based upon measurement according to standard at the following conditions :

- Refrigerant R404A,
- Liquid temperature 30°C resp. 20°C ( for evaporating temperatures below -20°C)
- The superheat of refrigerant between outlet and inlet is considered 65%

The selection diagram and the capacity table are already considering the influence of the air humidity and specify the actual capacity of the cooler under operating conditions (wet or frosty cooler surface).

We, **Bharat Refrigerations**, provide most advanced fruits ripening rooms for fruits like mango, banana and papaya. We provide forced draft cooling system for uniform ripening of fruits even in large capacity rooms. We use blended gas system for the purpose of ripening which is acceptable as per universal standard. With our system, client has unique advantage of controlling ripening cycle from four to fifteen days! We provide precise gas monitoring system for better storage life of the produce.



## The essential requirements of an ethylene ripening system are:

- A reasonably air tight room with insulation
- A temperature control system for cooling and/or heating
- An air circulation and ventilation system
- Humidity control
- An ethylene gas injection system
- An electric control system

## We Offer Ripening Chamber

Manual (Time Based), Semi Automatic & Automatic

We ensure that each ripening chamber is designed to maintain the precise conditions required for specific application. Features of our ripening chamber such as,

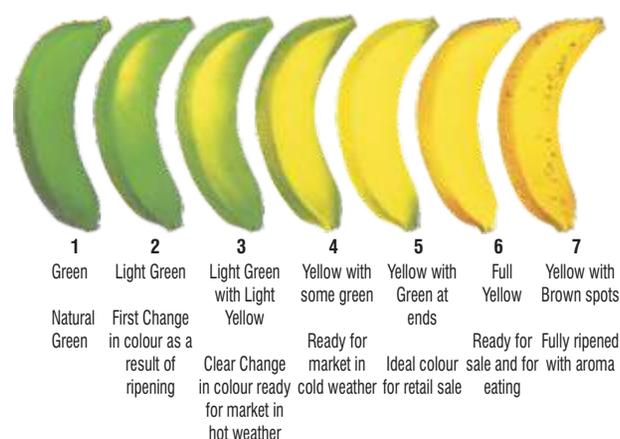
- Microprocessor controlled and compatible with computer
- Low Cost and light weight, constructed with PUF-panels
- Low investment and maintenance cost
- Easy to commission, Swing or Sliding door
- Ripening capacities from 5 tons to 25 tons for each chamber
- Moveable from one site to another and expandable
- Controlled levels of Ethylene, CO<sup>2</sup>, Temperature, Humidity & Time
- Energy efficient, uniform and quality ripening
- Ripening chambers are reliable with energy-efficient refrigeration units

## Gas Emission Systems Features

- Safe
- Flexible system
- Intelligent control
- Independent settings
- Programmable

### Daily Ripening Chart

8 Days	14.5°	14.5°	14.5°	14.5°	14.5°	14.5°	14.5°	14.5°
7 Days	15.5°	15.5°	15.5°	15.5°	14.5°	14.5°	14.5°	14.5°
6 Days	16.5°	16.5°	15.5°	15.5°	14.5°	14.5°	14.5°	
5 Days	16.5°	16.5°	16.5°	16.5°	15.5°	14.5°		
4 Days	18.0°	18.0°	16.5°	15.5°	14.5°			
	Days 1	Days 2	Days 3	Days 4	Days 5	Days 6	Days 7	Days 8



## Ethylene Exposure:

Sr.No.	Product Details	Ethylene Concentration (PPM)	Ethylene Exposure Time (Hours)	Ripening Temperature (°C)	Storage Temperature after Ripening(°C)
1	Banana	100-150	24-48	15-18	13-14
2	Mango	100	24	20-22	10-13
3	Papaya	100	24-48	20-25	About at 7

**Bharat Refrigerations** is a leading refrigeration company dealing with various kind of industrial chillers for end to end solutions. Bharat Refrigerations is committed to provide best solution to customers, which fulfill their needs. Bharat Refrigerations manufactures both Air-Cooled and Water-Cooled Chillers with a wide range of 2 TR to 200 TR.

Bharat Refrigerations chillers are ideal for various industries like Pharmaceuticals, Plastics, Foods & Beverages, Dairy & Milk Processing, Chemical Industries etc.



## Chilling Plant Application



Dairy & Beverages Applications



Chemical Industries



Pharmaceutical



Food Industries



Renewable Energy Industries



Process Industries



Mineral Water Applications



Plastic Process Industries

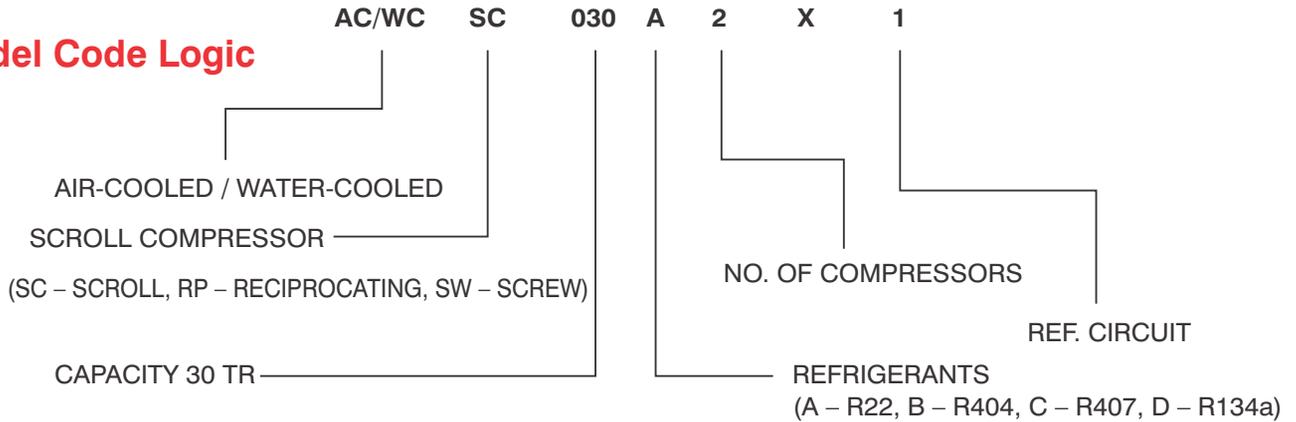


Paint Industries



Oil and Gas Industries

## Model Code Logic



- No. of Comp. per Ref. Circuit : For Ex. 2x1 – Double Comp. per Single Circuit, 2x2 – Double Comp. per Double Circuit
- All Chillers are Indoor Type

**Table - 1 (Scroll Chiller – Air-Cooled)**

Sr. No.	Model No.	*Capacity (In TR)	No of Comp		No of Water Circuit	Chiller Pump		Dimension ( L X W X H) in Inch
						Max Flow In LPM	Max Pressure In Bar	
1	ACSC005A1X1	5	1	X	1	67	4.8	58 X 26 X 46
2	ACSC008A1X1	8	1	X	1	310	2.0	87 X 38 X 60
3	ACSC010A1X1	10	1	2	1	310	2.0	87 X 38 X 60
4	ACSC012A1X1	12	1	2	1	235	2.8	87 X 38 X 60
5	ACSC017A1X1	17	1	2	1	320	2.8	102 X 51 X 84
6	ACSC022A1X1	22	1	2	1	320	2.8	102 X 51 X 84
7	ACSC026A1X1	26	1	2	1	450	2.5	102 X 51 X 84
8	ACSC034A2X1	34	X	2	1	600	2.4	169 X 57 X 81
9	ACSC044A2X1	44	X	2	1	600	2.4	169 X 57 X 81
10	ACSC052A2X1	52	X	2	1	900	2.6	169 X 57 X 81

\*Capacity rated on the base of Refrigerant R-22, water inlet temp. 17°C & water outlet temperature 12°C, Ambient Temperature +43°C.

**Table – 2 (Scroll Chiller – Water-Cooled)**

Sr. No.	Model No.	*Capacity (In TR)	No of Comp		No of Water Circuit	Chiller Pump		Dimension ( L X W X H) in Inch
						Max Flow In LPM	Max Pressure In Bar	
1	WCSC005A1X1	5	1	X	1	67	4.8	58 X 26 X 46
2	WCSC008A1X1	8	1	X	1	310	2.0	58 X 26 X 46
3	WCSC10A1X1	10	1	X	1	310	2.0	80 X 37 X 40
4	WCSC012A1X1	12	1	2	1	310	2.0	80 X 37 X 40
5	WCSC014A1X1	14	1	2	1	235	2.8	80 X 37 X 40
6	WCSC019A1X1	19	1	2	1	320	2.8	89 X 42 X 46
7	WCSC024A1X1	24	1	2	1	320	2.8	89 X 42 X 46
8	WCSC029A1X1	29	1	2	1	450	2.5	89 X 42 X 46
9	WCSC038A2X1	38	X	2	1	600	2.4	112 X 49 X 51
10	WCSC048A2X1	48	X	2	1	600	2.4	112 X 49 X 51
11	WCSC058A2X1	58	X	2	1	900	2.6	117 X 53 X 54

\*Capacity rated on the base of Refrigerant R-22, water inlet temp. 17°C & water outlet temperature 12°C, Ambient Temperature +43°C. Condenser water inlet temperature 30°C – 32°C.

**Table – 3 (Screw Chiller – Air-Cooled)**

Sr. No.	Model No.	*Capacity (In TR)	No of Comp	No of Water Circuit	Chiller Pump		Dimension (LXWXH) in Inch
					Max Flow in LPM	Max Pressure in Bar	
1	ACSW035A1X1	35	1	1	600	2.4	140 X 83 X 74
2	ACSW045A1X1	45	1	1	900	2.6	140 X 83 X 74
3	ACSW060A1X1	60	1	1	900	2.6	184 X 83 X 74
4	ACSW070A1X1	70	1	1	900	2.6	184 X 83 X 74
5	ACSW080A1X1	80	1	1			
6	ACSW090A1X1	90	1	1			

\*Capacity rated on the base of Refrigerant R-22, water inlet temp. 17°C & water outlet temperature 12°C, Ambient Temperature +43°C.

**Table – 4 (Screw Chiller – Water-Cooled)**

Sr. No.	Model No.	*Capacity (In TR)	No of Comp	No of Water Circuit	Chiller Pump		Dimension (LXWXH) in Inch
					Max Flow in LPM	Max Pressure in Bar	
1	WCSW035A1X1	35	1	1	600	2.4	118 X 57 X 57
2	WCSW045A1X1	45	1	1	900	2.6	118 X 57 X 57
3	WCSW060A1X1	60	1	1	900	2.6	118 X 57 X 65
4	WCSW070A1X1	70	1	1	900	2.6	118 X 57 X 65
5	WCSW080A1X1	80	1	1	1750	2.5	118 X 57 X 65
6	WCSW090A1X1	90	1	1	1750	2.5	118 X 57 X 65
7	WCSW100A1X1	100	1	1	1750	2.5	118 X 61 X 67
8	WCSW115A1X1	115	1	1	1750	2.5	130 X 61 X 67
9	WCSW130A1X1	130	1	1	2000	2.9	130 X 61 X 67

\*Capacity rated on the base of Refrigerant R-22, water inlet temp. 17°C & water outlet temperature 12°C, Ambient Temperature +43°C. Condenser water inlet temperature 30°C – 32°C

**Table – 5 (Glycol Chiller - Air-Cooled)**

Sr. No.	Model No.	*Capacity (In TR)	Refrigerant				No. of Comp. Per Ref. Circuit		
			A	B	C	D	Comp. Qty		Ref. Circuit
			R22	R404	R407	R134a			
01	ACRP01.5B1x1	1.5	OP	P	OP	OP	1	x	1
02	ACRP002B1x1	02	OP	✓	OP	OP	1	x	1
03	ACRP003B1x1	03	OP	✓	OP	OP	1	x	1
04	ACRP004B1x1	04	OP	✓	OP	OP	1	x	1
05	ACRP005B1x1	05	OP	✓	OP	OP	1	x	1
06	ACRP007B1x1	07	OP	✓	OP	OP	1	x	1
07	ACRP009B1x1	09	OP	✓	OP	OP	1	x	1

\*Capacity rated on the base of Refrigerant R-404, water inlet temp. -15°C & water outlet temperature -20°C, Ambient Temperature +43°C

**Table – 6 (Glycol Chiller – Water-Cooled)**

Sr. No.	Model No.	*Capacity (In TR)	Refrigerant				No. of Comp. Per Ref. Circuit			Condenser Water Flow rate (LPM)
			A	B	C	D	Comp. Qty		Ref. Circuit	
			R22	R404	R407	R134a				
01	WCRP002B1x1	02	OP	✓	OP	OP	1	x	1	110
02	WCRP003B1x1	03	OP	✓	OP	OP	1	x	1	210
03	WCRP004B1x1	04	OP	✓	OP	OP	1	x	1	250
04	WCRP005B1x1	05	OP	✓	OP	OP	1	x	1	350
05	WCRP07.5B1x1	7.5	OP	✓	OP	OP	1	x	1	425
06	WCRP009B1x1	09	OP	✓	OP	OP	1	x	1	440
07	WCRP011B1x1	11	OP	✓	OP	OP	1	x	1	650

\*Capacity rated on the base of Refrigerant R-404, water inlet temp. -15°C & water outlet temperature -20°C, Ambient Temperature +43°C, Condenser water inlet temperature 30°C - 32°C.

- Glycol Chiller outlet temperature ranging from -10°C to -40°C, For other temperature, higher ambient, other capacity please refer to Bharat Refrigerations sales team.

**Table – 7 (Mineral Water Chiller – Air-Cooled (Online / Offline))**

Sr. No.	Model No.	*Capacity (In TR)	No of Comp	No of Water Circuit	Chiller Pump		Dimension ( L X W X H) in Inch	
					Max Flow In LPM	Max Pressure In Bar		
1	ACRP002A1X1	2	1	x	1	45	3.0	48 X 22 X 44
2	ACRP003A1X1	3	1	x	1	45	3.0	48 X 22 X 44
3	ACSC05A1X1	5	1	x	1	67	4.8	58 X 26 X 45

## Controller Options

### (1) Microprocessor Based Controller For Scroll / Reciprocating Chiller



The LCD screen shows description of the controller parameters, and any other information concerning the controlled variables.

Display Size : 2 line display with 16 characters

Liquid Crystal Display (LCD)

### (2) PLC Based Controller For Screw Chiller

- Its programmable logic controller that is fully compatible (hardware and software), which includes programmable controllers, user terminals, gateways, communication devices and remote management devices.
- Self identification functions its shows history of trips with date and time as well as cause of trips.



### 3) Optional Controller Features

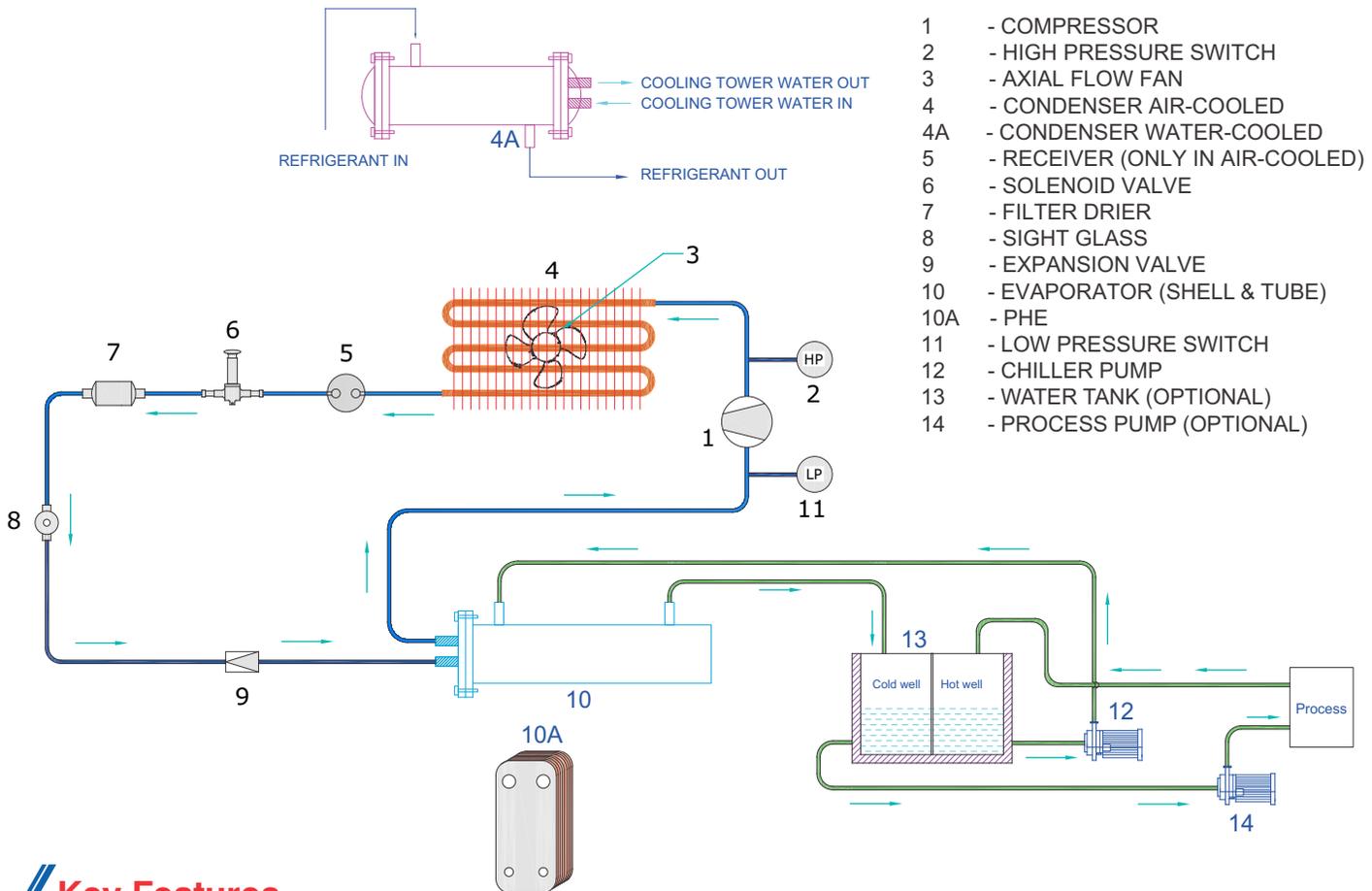
- Touch Screen display
- Data logging Facility
- Modbus (RS 485) / Ethernet communication
- Remote Control Facility

### System Safety features (Trip Signals)

- High Pressure
- Low Pressure
- High Voltage
- Low Voltage
- Phase Failure
- Chiller Pump Overload
- Compressor Overload
- Condenser Fan Overload
- Condenser Pump Overload
- Low Water Flow in Chiller
- Low Water Flow in Condenser
- Single Phase Prevent
- Anti-freeze Trip

**Note :** Controller informs the user of a fault condition via a Buzzer and an Alarm Relay or by Message on display

## Refrigeration Cycle



- 1 - COMPRESSOR
- 2 - HIGH PRESSURE SWITCH
- 3 - AXIAL FLOW FAN
- 4 - CONDENSER AIR-COOLED
- 4A - CONDENSER WATER-COOLED
- 5 - RECEIVER (ONLY IN AIR-COOLED)
- 6 - SOLENOID VALVE
- 7 - FILTER DRIER
- 8 - SIGHT GLASS
- 9 - EXPANSION VALVE
- 10 - EVAPORATOR (SHELL & TUBE)
- 10A - PHE
- 11 - LOW PRESSURE SWITCH
- 12 - CHILLER PUMP
- 13 - WATER TANK (OPTIONAL)
- 14 - PROCESS PUMP (OPTIONAL)

## Key Features

- Hermetic (Sealed) / Semi-Hermetic Scroll, Reciprocating, Screw Compressor with compressor protection facilities
- Shell & Tube Evaporator : Imported Inner grooved copper tube with higher surface area and Higher fouling factor
- Shell & Tube Condenser : Imported low Inner Grooved and High outer grooved copper tube with higher surface area and higher fouling factor
- Fin & Tube Condenser : imported Inner grooved copper tube and aluminium fin with high surface area for high ambient condition
- Availability of Customized Solution
- Eco-friendly Refrigerant
- Wide Range of Water/Glycol Temperature (+20°C to -40°C)
- Modular Design
- Easy operation & less maintenance
- Compact in size
- **All Scroll Chiller With VFD (Inverter) are available**
  - Power saving
  - Smooth running in operation
  - Higher refrigerant side COP
  - Precise temperature control

## Dimple Plate in Tank Type Chiller

Evaporator	: Dimple Plate Type ( S.S plate )
Condenser	: Air-Cooled / Water-Cooled
Water Temperature Range	: +2°C to +4°C
Application	: Food & Bakery Industry
Tank M.O.C	: Inner S.S 304 & Outer G.I.PP/S.S 304
Insulation	: PUF





**Air-Cooled V Condenser Screw Chiller**



**Air-Cooled Screw Chiller**



**Air-Cooled Scroll Chiller**



**Online Chilling Plant**



**Industrial Chilling Plant**



**Water-Cooled Glycol Chiller**



**Water-Cooled Screw Chiller**



**Water-Cooled Screw Chiller**



**Water-Cooled Scroll Chiller**



**Dimple Plate Chiller**



**Water Tank**

## PUF Insulated Water Tank

- Capacity Range : 100 Ltr to 25000 Ltr
- High grade PUF insulation with 40 kg/m<sup>3</sup> Density and 55 – 60 mm thickness
- 24 Hour temperature maintain within  $\pm 1^{\circ}\text{C}$
- Material : Inner : SS 304 / MS  
Outer : GIPP / SS 304
- Tank Including with Over flow, Drain and Make up water with float ball valve

Sr. No.	Capacity (In Ltr)	Outer Dimension (LXWXH) in Inch
1	250	35 X 29 X 27
2	500	45 X 35 X 32
3	750	65 X 35 X 32
4	1000	65 X 35 X 39
5	2000	93 X 45 X 39
6	4000	90 X 64 X 58

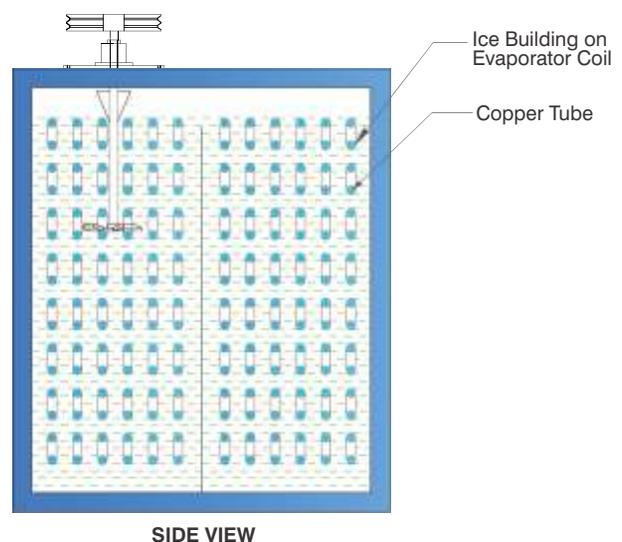
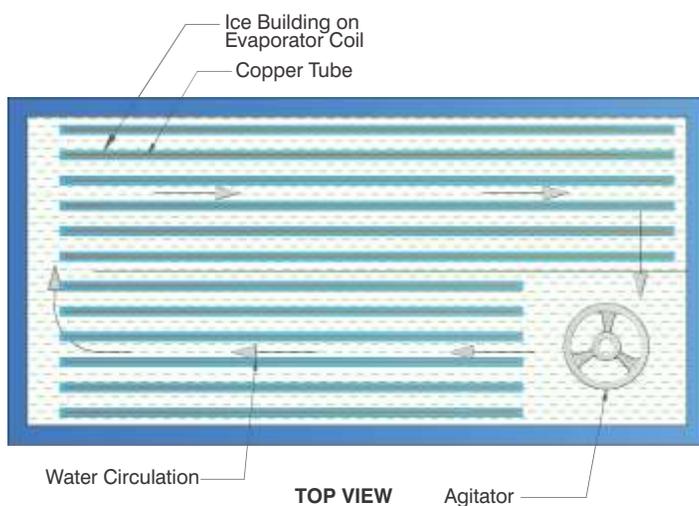
IBT is a system, which stores energy in the form of ICE.  
It is applicable in Dairy Industry for quick process in short time with certain limit of power load.

**NO NEED OF CIVIL & FABRICATION WORK AT CUSTOMER SITE**  
**EASY TO LIFT & SHIFT | 40% ENERGY EFFICIENT | BETTER INSULATION**

(IBT - COIL IN TANK TYPE)



(IBT - COIL IN TANK TYPE)



## Advantage

- Requires less connected power load
- The ice water intensively cools the product without any risk
- Power supply is not required once ice formation is completed
- No requirement of Cooling Tower and water supply (For Air-Cooled type)
- Wide capacity with storage tank upto 1,00,000 Ltr. / 33,000 KG ice formation per day
- Cooling energy storage capacity upto 900 TR/Day

## Material of Construction

### Outer:

**A :** Pre-coated GI sheet with PVC film thickness 0.5mm

**B :** S.S. sheet, grade 304, thickness 0.5mm

### Inner:

**A :** M.S. Sheet Thickness 2.4 to 6 mm with epoxy paint.

**B :** S.S. sheet, grade 304, Thickness 0.8 to 1.6mm

### Buckets:

M.S. angle & channel 65x5 mm to 100x8 mm with paint.

### PUF Insulation:

The tank has 80mm insulation, which helps to stop energy loss & consumes lesser power.

### Protection & Control accessories:

Large graphic LCD screen

Finger-touch menu with simple controls

Continuous, accurate display of each action

SR NO.	MODEL	TANK CAPACITY (LTR)	REFRIGERATION UNIT CAPACITY (TR)	UNIT CAPACITY (TR) NO. OF UNITS	STIRRER SYSTEM TYPE	ICE PRODUCE CAPACITY IN KG (AFTER 20 HR. WORKING)	COOLING STORAGE CAPACITY (TR) (At 2°C)	BODY SIZE (INCHES)	CONNECTED POWER LOAD(KW)
		LTR	TOTAL	TR		KG	TR	TOTAL (LxWxH)	KW
1	IBT-501.5	500	1.5	1.5 x 1	Pump	412.5	12	45 x 35 x 39	2.4
2	IBT-1002	1000	2	2 x 1	Pump	550	17	65 x 35 x 39	2.78
3	IBT-1003	1000	3	3 x 1	Agitator	825	24	65 x 35 x 39	3.8
4	IBT-2003	2000	3	3 x 1	Agitator	825	26	93 x 45 x 39	3.8
5	IBT-3003	3000	3	3 x 1	Agitator	825	28	83 x 59 x 69	3.8
6	IBT-2004	2000	4	2 x 2	Agitator	1100	34	93 x 45 x 39	5.8
7	IBT-3004	3000	4	2 x 2	Agitator	1100	35	83 x 59 x 69	5.8
8	IBT-3005	3000	5	5 x 1	Agitator	1375	43	83 x 59 x 69	6.2
9	IBT-4005	4000	5	5 x 1	Agitator	1375	44	91 x 71 x 69	6.2
10	IBT-4006	4000	6	3 x 2	Agitator	1650	52	91 x 71 x 69	7.8
11	IBT-6006	6000	6	3 x 2	Agitator	1650	55	130 x 71 x 69	7.8
12	IBT-6010	6000	10	5 x 2	Agitator	2750	85	130 x 71 x 69	12.2
13	IBT-8010	8000	10	5 x 2	Agitator	2750	89	170 x 71 x 69	12.2
14	IBT-10010	10000	10	5 x 2	Agitator	2750	92	205 x 71 x 70	12.2
15	IBT-10015	10000	15	5 x 3	Agitator	4125	130	205 x 71 x 70	18.6
16	IBT-12015	12000	15	5 x 3	Agitator	4125	133	248 x 71 x 70	18.6
17	IBT-15020	15000	20	5 x 4	Agitator	5500	176	264 x 81 x 70	24.8
18	IBT-18020	18000	20	5 x 4	Agitator	5500	181	264 x 79 x 83	24.8
19	IBT-20026	20000	26	12.8 x 2	Agitator	7150	229	264 x 84 x 86	27.2
20	IBT-25038	25000	38	12.8 x 3	Agitator	10450	328	264 x 86 x 103	41
21	IBT-28038	28000	38	12.8 x 4	Agitator	10450	333	264 x 95 x 103	41



Bharat Refrigerations Refrigerated container is designed to transport with options of different temperature range (+15°C to -25°C) for all perishable foods on all type of vehicle such as small, mini truck & heavy loading truck.

Bharat Refrigerations refrigerated container is built using the highest quality components and technology to perform highest and most thermal efficient for the greatest return on your investment. Our container is available in single or multi door models and offering an endless array of features and options.

Bharat Refrigerations refrigerated container can be customized to fit your unique needs. With the assistance of our dedicated design team and hands-on engineering support, we can help you design trailers to meet your specific operational requirements.

### **Optimal Performance. Maximum Versatility.**

Bharat Refrigerations Refrigerated containers built tough to deliver optimal performance and maximum versatility, all the components used to build the refrigerated container comes exclusively from the experienced brands. Standard models and custom engineered solutions are available to ensure your truck is optimized for your route.

### **Superior Thermal Efficiency. Lower Operating Costs.**

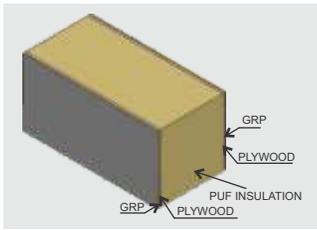
Every aspect of our design helps maximise thermal efficiency and lower operating costs. From thermal breaks that prevent heat transfer, to our vacuum press GRP panel process that ensures void-free all wall insulation, our refrigerated van maintains your specified running temperature with lesser reefer system operating time.

### **Low Weight. More Freight.**

Bharat Refrigerations refrigerated container delivers light weight body without sacrificing strength and durability. Built with high-strength, light weight materials and components to ensure more freight.

### **Agile and Robust.**

Bharat Refrigerations refrigerated container developed to match our road quality. Light and agile distribution refrigerated van for inner cities and the highly robust constructed, hygienic and easy to clean GRP refrigerated container provides optimum conditions for efficient refrigeration and fresh produce logistics over short and long distance.



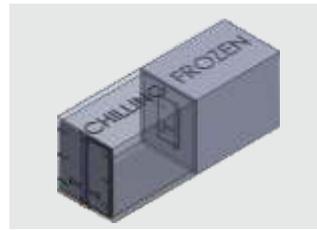
**Type of Construction - GRP Panel**

Heavy Structure with Pre-Fabricated Joint-less GRP (GLASS-FIBER REINFORCED PLASTIC) Single Panel. All Side Panels & Top Panels are made by Wooden Structure and Bottom Panel by Metal Structure.



**Door & Frame**

Doors with 80/100 mm thick as per requirement for maximum insulation and integrated thermal break. Doors available in fully open with Window with 2 to 2.5 mm SS sheet 'C' profile frame, single door, door can be customized.



**Multi Temp Transport**

As per client's requirement and years of experience, we have been able to provide dual compartments facility suited to every type of transport of frozen or fresh products in small vehicle.



**High radiance interior/ exterior LED lighting**

LED ceiling lights with internal cabin switch and ideal durability.

The safety lights makes it clearly visible that the container is running or braking and even from a long distance



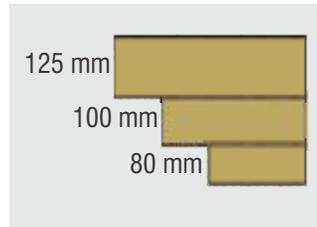
**Drainage system**

Made by UPVC for complete draining of water coming from the insulated container.



**Anti-Shock Body Protection**

The external mouldings encasing the body frame are in anodized aluminium. Their high density and monoblock bucket design provide enhanced resistance to everyday impacts and corrosion.



**Panel Wall Thickness**

Insulated wall thickness:  
80 mm for Small Vehicle  
100 mm for Mini Truck  
125 mm for Heavy Loading Truck



**Backbone Subframe**

Made of MS sheet with 4/6/8 mm in thickness is specially fitted between Chassis and Container to protect the body against the repeated loading, unloading and operations.



**Foot steps**

Available in foldable for heavy vehicle and fixed for small vehicle



**Seal Gasket**

Anti mislaying doors form an insulating and water resistant barrier with 4 lip seals and the door seal integrating an anti-thermal bridge.



**PVC Strip Curtains**

Variably fix strip curtains inside doors to reduce temperature losses while partially unloading.



**Radium line**

Yellow and red reflection radium for night operation as per RTO norms.



**Integrated Rear protection**

For intensive smooth operation without damage, Rear Rubber Buffer is fixed on chassis for rear protection. It contains combining resistance, very high energy absorption capacity and retained bearing functionality.



**Heavy duty handle and hinges**

Made of S.S. fixed with Door frame combining a very high level of rigidity and integrated protection, significantly reducing incident-related work and repair costs.



**Rigid Floor**

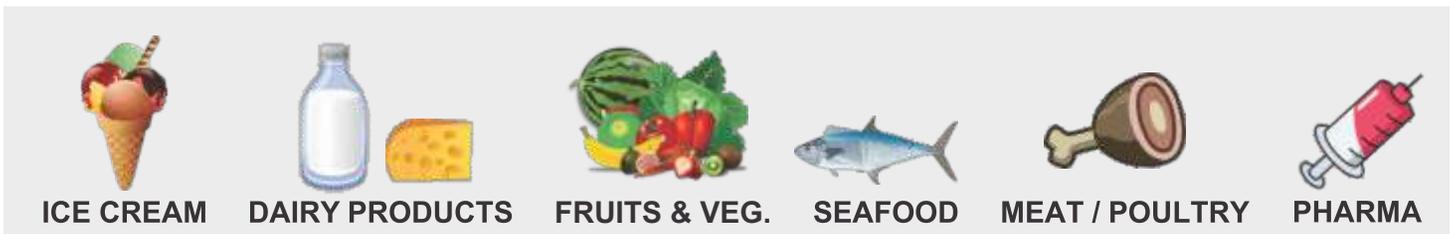
Outside GRP sheet, Thickness (1.5 to 2 mm) & Inside 9mm or 19mm Marine Ply and top material as per below details, Smooth recessed interior floor available in four different type i.e. Aluminum T Profile/ Chequered Plate/ Corrugated Profile / S.S. Corrugated Profile to protect the GRP panels against shocks from carts and trolleys.

**MINIMUM MAINTENANCE | NO LOAD ON VEHICLE ENGINE | LOWER OPERATING COST**  
**HIGHLY RELIABLE | SUBSTANTIAL POWER SAVING | NO EMISSIONS**

Bharat Refrigerations - Detachable Mobile Container is designed for multi deliveries of Ice Cream, Frozen Foods, Sea Foods, Meat, Bakery Products, Fruits-Vegetables & Dairy Products distribution.



**FUEL – FREE**  
**RISK – FREE**  
**ELECTRICALLY RECHARGEABLE**  
**REFRIGERATED TRUCK**



## HOW IT WORKS ?



**50%**  
**Fuel Saving**

## SPECIFICATIONS

Model	DT-1 Detachable model
Power	2 kW / Hr
Daily Usage	8 hours of charging for 20 to 30 multipoint distribution / ambient 50°C
Container capacity -Inner	45 crates (Ice Cream) 3600 Liters inner volume
Temperature	-20°C (Frozen)   +4°C(chilled) DUAL Temp
Door	1 Rear Door
Suitable Vehicles	Tata Ace / Mahindra Maximo Tata Super Ace Leyland Dost Bolero Maxi Truck Bolero pickup / Isuzu Dmax

## WHY CHOOSE TRANSFREEZ MOBILE REEFER / COLD ROOM?

-  Requires no fuel to run the system
-  Operates at fraction of the cost of diesel driven Reefers
-  Very High Temperature Stability
-  Easy to operate - Plug & Charge
-  No Moving parts = Negligible Maintenance
-  Low Temperature Fluctuations at door openings
-  High Reliability: Assured product protection during distribution
-  Enables a green Cold Chain
-  Nation-wide service network

## EASY TO MOUNT / INSTALL ON ANY LCV



- Maximum storage capacity
- High resale value
- Easily repairable
- Low maintenance
- Container can be shifted to another vehicle during vehicle breakdown / service
- 100% product protection
- Low operating cost - less than Rs.150 per day for cooling
- Can be used as a cold room during off season
- Only **Dual Temperature** reefer in india

## DETACHABLE REEFER CONTAINER ON VARIOUS SMALL / LIGHT COMMERCIAL VEHICLES



DT1 on Tata Ace



DT1 on Mahindra Maximo



DT1 on Tata Super Ace



DT1 on Leyland DOST



DT1 on Bolero Maxi Truck



DT1 on Bolero Pickup

## LEAK PROOF | HIGH STRENGTH | LOW FUEL CONSUMPTION

Bharat Refrigerations Dry Container is designed with the customer's needs in mind, it is made strong but light in weight materials to maximise payloads and to ensure the safe transport and delivery of goods.

The product can be useful in transportation of various products in food industry and some of the products listed below for reference:

- Bakery Product • Beverages • Sweets & Namkeen • Herbs & Spices • Hotels & Caterers
- Dairy Products (secondary transport of milk, buttermilk, lassi etc.)
- Fresh Fast Food items like Samosa, Kachori, Pizza etc. • Flowers

## Benefits of Bharat Refrigerations Dry Insulated Container over Conventional Transportation Container

Bharat Refrigerations Dry Insulated Container	Conventional Transportation Container
PUF Insulation with 40-42 kg/m <sup>3</sup> density	Thermocol Insulation with 13-25 kg/m <sup>3</sup> density
Lower Weight – Construction of GRP and Ply	Higher Weight - Construction of GI and more Rivets
Higher strength and easy to repair	Lower Strength and not easy to repair
No Corrosion due to Non-Corrosive GRP	Corrosion occurs
More Mileage of vehicle as less weight	Lower Mileage of vehicle as more weight



**Refrigerated Container**



**Detachable Mobile Container**

**Dry Insulated Container**



**Bunk House**



Bharat Refrigerations manufactures products with HCFCs and HFCs refrigerants and now offers equipment and projects based on natural refrigerant - Ammonia.

Extending services into designing, engineering, assembling, fabrication, installation, testing and commissioning with best quality after-sales services for ammonia based water chillers for Dairy, Pharma and Beverage Industries, Glycol chillers for Dairies, Breweries and Pharma Industries, Brine Chilling Plants for Breweries, Pharma, Chemical and allied Industries using Reciprocating as well as Screw Compressors, Shell and Tube, Shell and Plate as well as Plate and Frame PHE Chillers and Shell & Tube, Atmospheric, PHE as well as Evaporative Condensers with in-house manufacturing capability for Atmospheric condensers, Shell and Tube evaporators as well as Condensers.

We will also be able to extend all above services for ammonia based large cold stores for storage of Milk & Milk products and blast freezing & hardening chambers for Ice Cream, Meat, Poultry, Paneer, Cheese and Butter etc.

### Where is ammonia used as a refrigerant?

- Industrial systems: large cold storage and process systems i.e. Chilling Plant, Plate Freezer, IQF, Ice Bank Tank (IBT)
- HVAC systems



## Advantages



Natural Refrigerant



Low Refrigerant Cost



No Ozone Depletion & Zero GWP



Efficient Compressor Operation



Highest COP



Self-Alarming



Sustainable

## We provide Ammonia Refrigeration Technology with

- **Single-stage compression with evaporators configured as,**
  - Direct-expansion
  - Flooded
  - Liquid overfeed
- **Multi-stage compression systems with economizer or two stage compressor**
- **Cascade systems**



## Evaporator Technology

### Air-cooling

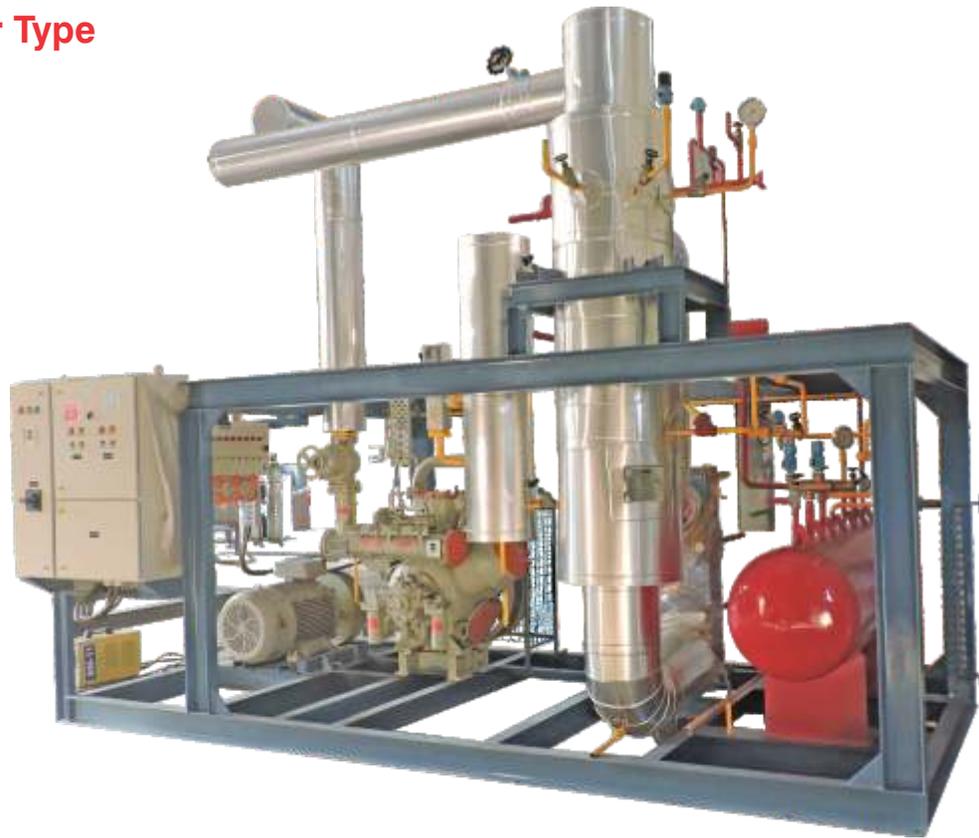
- Very low temperature blast freezing
- Low temperature holding freezers
- Medium temperature storage coolers, Production areas, Air-Conditioning

### Liquid-cooling (secondary fluids and products)

- Shell and Tube
- Plate and Frame
- Shell and Plate
- Falling Film
- Scraped Surface
- IBC/IAC

## Condenser Type

- Evaporative
- Atmospheric
- PHE
- Air-Cooled
- Shell & Tube



## Technical Specification

Sr. no	Chiller Models	*Capacity (TR)	Motor Rating (kW)	Chilled water Inlet Temperature °C	Chilled water Outlet Temperature °C
1	ICAMC25	25	22	7 to 10°C	2 to 5°C
2	ICAMC30	30	30	7 to 10°C	2 to 5°C
3	ICAMC50	50	45	7 to 10°C	2 to 5°C
4	ICAMC75	75	75	7 to 10°C	2 to 5°C
5	ICAMC100	100	90	7 to 10°C	2 to 5°C
6	ICAMC150	150	125	7 to 10°C	2 to 5°C
7	ICAMC225	225	200	7 to 10°C	2 to 5°C
8	ICAMC300	300	250	7 to 10°C	2 to 5°C

\* Capacity considered at 800 RPM

## Control Panel and Switch Gear Panel



Pressure cutout  
PLC Panel



IMCC



Switch Board

## Brine Chiller - Ammonia

Bharat Refrigerations is a strong player in the refrigeration arena in providing total cold chain solution. Bharat has been providing the Industrial & Commercial Refrigeration solutions for every customer's individual needs, since incorporation.

Bharat now offers factory built, skid mounted package Chillers for Dairy, Beverage and Brewery Industry that produce Chilled glycol from 0°C to -6°C with Reciprocating Compressors. Higher capacities or with Screw Compressor Package tailor made custom built can be offered as required upon request.



## Technical Specification

**Table - 1**

Sr. no	Ice Make Chiller Models	*Capacity (TR)	Motor Rating (kW)	Chilled Glycol Inlet Temperature	Chilled Glycol Outlet Temperature
1	ICABV15	15	22	-2°C	-6°C
2	ICABV20	20	30	-2°C	-6°C
3	ICABV30	30	37	-2°C	-6°C
4	ICABV45	45	55	-2°C	-6°C
5	ICABV60	60	75	-2°C	-6°C
6	ICABV95	95	110	-2°C	-6°C
7	ICABV140	140	160	-2°C	-6°C
8	ICABV190	190	250	-2°C	-6°C

Capacity In TR & Motor Rating At 800 RPM For KCX Series & 1450 RPM For Pc2.

**Table - 2**

Sr. no	Ice Make Chiller Models	*Capacity (TR)	Motor Rating (kW)	Chilled Glycol Inlet Temperature	Chilled Glycol Outlet Temperature
1	ICABR20	20	22	4°C	-1°C
2	ICABR25	25	37	4°C	-1°C
3	ICABR40	40	45	4°C	-1°C
4	ICABR60	60	75	4°C	-1°C
5	ICABR80	80	90	4°C	-1°C
6	ICABR120	120	125	4°C	-1°C
7	ICABR180	180	200	4°C	-1°C
8	ICABR240	240	250	4°C	-1°C

Capacity In TR & Motor Rating At 800 RPM For KCX Series & 1450 RPM For Pc2.

## Ice Building Tank (IBT) - Ammonia Refrigeration

Bharat Refrigerations is now also offering IBT with Ammonia based refrigeration. For processing milk at large scale, ammonia refrigeration based IBT is the best option to work efficiently at cheaper operating cost. As well as there is advantage of using IBT i.e., quick cooling in short time with limited power load.

### Option 1

**Portable IBT | NO NEED OF CIVIL & FABRICATION WORK AT CUSTOMER SITE  
EASY TO LIFT & SHIFT | 40% ENERGY EFFICIENT | BETTER INSULATION**

### Option 2

**M.S. FABRICATED IBT AT CUTOMER SITE WITH CIVIL CONSTRUCTION  
CUSTOMISED IBT | ENERGY EFFICIENT | BETTER INSULATION**

(IBT - COIL IN TANK TYPE)



## Advantage

- Requires less connected power load
- The ice water intensively cools the product without any risk
- Power supply is not required once ice formation is completed
- Wide range of storage tank
- Cooling energy storage
- Available for large quantity processing



**ONE STOP SOLUTION  
FOR  
AMMONIA  
REFRIGERATION**



## Application



**Freezing**  
Processcooling

**Pre-cooling**  
Banana  
Ripening



**Industrial  
Refrigeration**



**Chilling**  
Process cooling



Process cooling



Food Dehydration

Ammonia Refrigeration



**Chilling**

**Freezing**



**Preserving**



**Dehumidification**



Refrigeration



Preservation

**Commercial  
Refrigeration**

**Chilling**



**Industrial  
Refrigeration**



Pre-cooling

## Our Valued Clients



## Our Valued Clients

01. **Dharwad, Haveri, Gadag, Uttarkannada Dist. Co-Op Milk Producers' Societies Union Ltd.**  
**Location:** Hirekerur Chilling Centre, Karnataka  
(Milk Processing)
02. **Baroda Dist. Co-Operative Milk Producers Union Limited**  
**Location:** Vadodara, Gujarat  
(Milk Processing)
03. **Hooghly River Bridge Commissioners**  
**Location:** Kolkata  
(14,000 MT Potato Cold Store)
04. **Surendranagar Dist. Co-Operative Milk Producers' Union Ltd. (Sursagar Dairy)**  
**Location:** Surendranagar, Chotila, Patdi, Gujarat  
(Milk Processing)
05. **A B C Process Solutions Pvt. Ltd. (Banas Dairy)**  
**Location:** Palanpur, Gujarat  
(Milk Processing)
06. **MagnamNetlinkPvt. Ltd. (Panchamrut Dairy)**  
**Location:** Taloja, Maharashtra  
(Cold Storage)
07. **Swaraj Milk and Milk Products**  
**Location:** PipaliyaRaj, Vankaner, Gujarat  
(Milk Processing)
08. **Shiv Health Foods LLP**  
**Location:** Kota, Rajasthan  
(Cold Storage)
09. **Haldiram Snacks Pvt. Ltd.**  
**Location:** Noida, Uttar Pradesh  
(Cold Storage)
10. **The Panchmahal District Co-Operative Milk Producers' Union Ltd.**  
**Location:** Chopda, Panchmahal, Gujarat  
(Milk Processing)
11. **Bhilwara Zila Dugdh Utpadak Sahakari Sangh Ltd.**  
**Location:** Bhilwara, Rajasthan  
(Milk Processing)
12. **Dharwad, Haveri, Gadag, Uttarkannada Dist. Co-Op Milk Producers' Societies Union Ltd.**  
**Location:** Gadag Chilling Centre, Karnataka  
(Milk Processing)
13. **Sabarkantha District Co-Operative Milk Producers' Union Limited**  
**Location:** Himmatnagar, Gujarat  
(Butter Cold Store)
14. **A B C Process Solutions Pvt. Ltd. (Sumul Dairy)**  
**Location:** Surat, Gujarat  
(Milk Processing)
15. **Chandrakamal Milk & Milk Products Pvt. Ltd.**  
**Location:** Dewas, Madhya Pradesh  
(Milk Processing)
16. **Bikanerwala Foods Pvt. Ltd.**  
**Location:** Sonipat  
(Frozen Project)
17. **Gujarat Agro Mega Food Park**  
**Location:** Surat  
(Blast Freezer, Spiral Freezer, Frozen Cold Store)
18. **Sumul Dairy**  
**Location:** Surat  
(Falling Film Chiller)
19. **Abhyuday Techno Economic Consultant Pvt. Ltd.**  
**Location:** Ahmedabad  
(Ammonia Based Vacuum Freeze Dryer)
20. **Vasudhara Dairy**  
**Location:** Valsad  
(Falling Film Chiller)
21. **GomaEngineering Pvt. Ltd.**  
**Location:** Mumbai  
(Ammonia Based Skid Mounted Chiller)
22. **Vidya Dairy**  
**Location:** Anand, Gujarat  
(Falling Film Chiller)

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



**Curd Incubation Chamber**



**Unit**



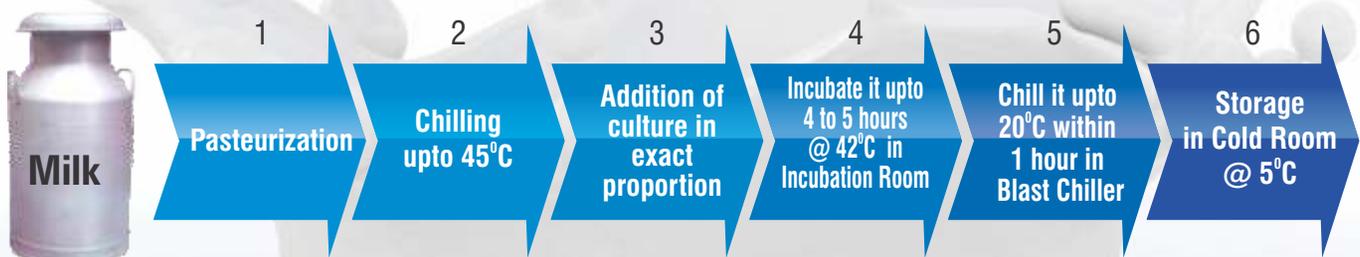
## Are you looking for the procedure to produce best quality curd ?

- In our Indian culture, Thayir (Tamil and Malayalam), Mosou (Kannada), Perugu (Telugu), Dohi (Oriya), Dahi (Hindi, Gujarati, Marathi, Urdu, Punjabi, Nepali) 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 same taste and quality in every season 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.
- We offer 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 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

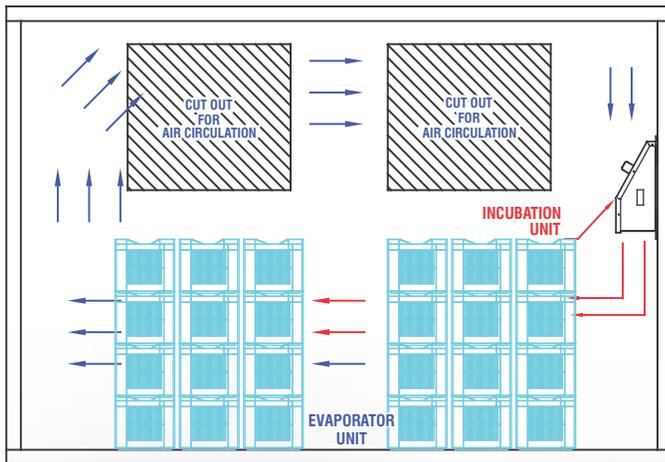
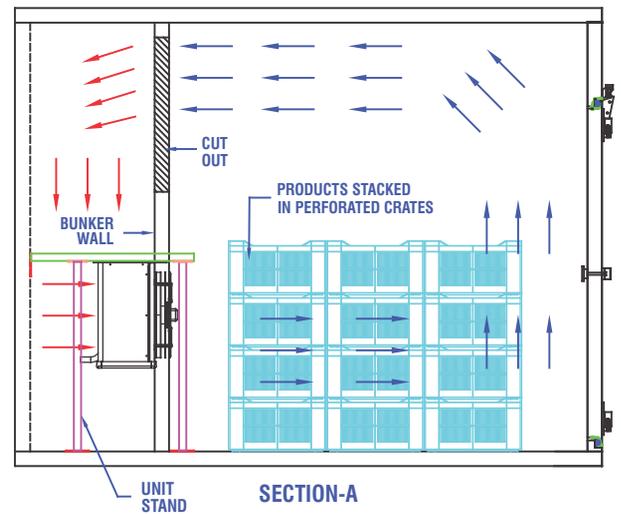
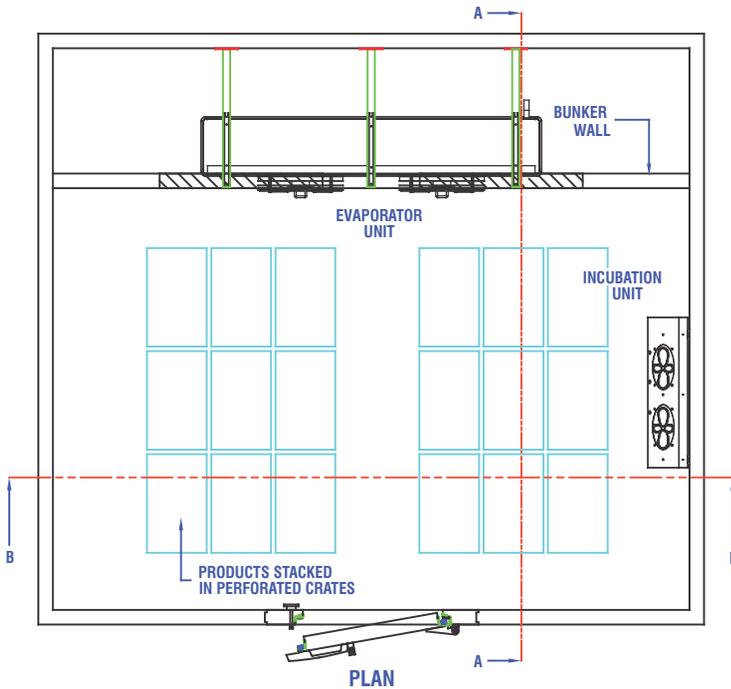
**Note:**

- 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 maintain freshness of milk.



**MTD-150**



**MTD-300**



**MTD-500**



**MTD-1000**



**MTD-2000**



**Dump Tank**



**MTD-5000**



**MTD-10,000**



## 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.

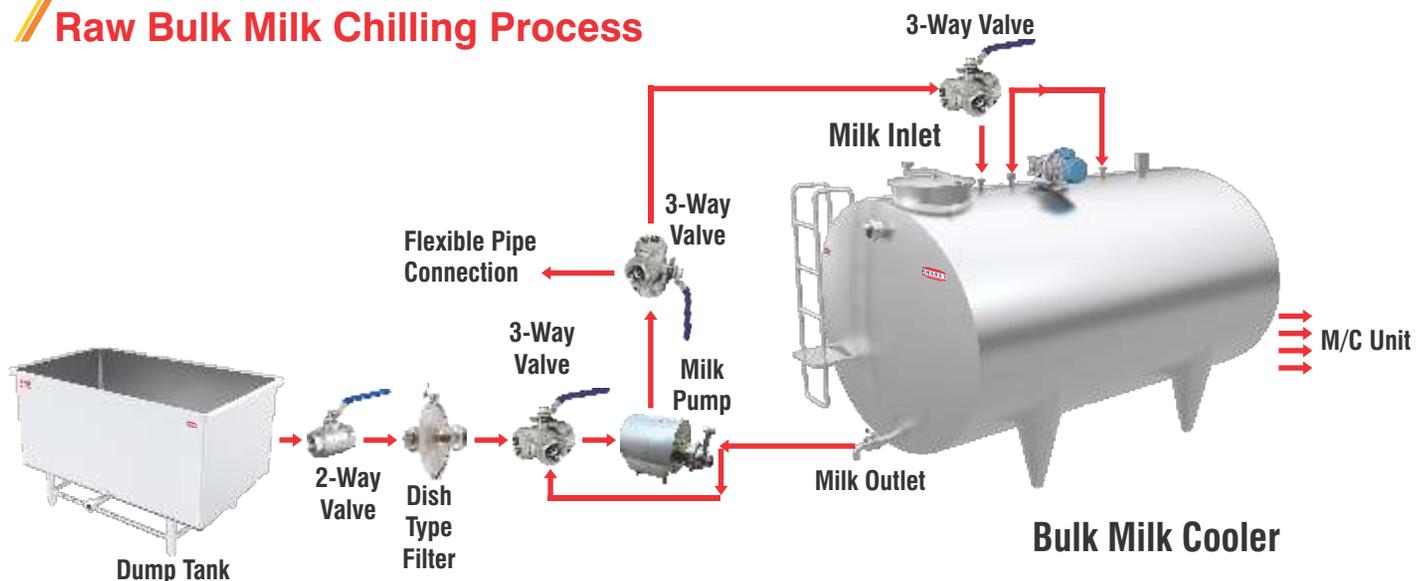
Refrigeration Unit:  
Split type for MTD 1500/2000/3000/5000/10000

## 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

## Raw Bulk Milk Chilling Process



## Technical Specification

SR NO.	MODEL	CAPACITY IN LTR	WEIGHT WITHOUT REFRIGERATION UNIT IN KGS	UNIT ASSEMBLY WEIGHT IN KGS	WEIGHT WITH REFRIGERATION UNIT IN KGS
1	BMC - 150	150	142	NA	142
2	BMC - 250	250	162	NA	162
3	BMC - 300	300	206	NA	206
4	BMC - 500	500	240	NA	240
5	BMC - 1000- 1 PHASE	1000	400	NA	400
6	BMC - 1000- 3 PHASE	1000	380	NA	380
7	BMC - 1500 - 1 PHASE	1500	595	188	783
8	BMC - 1500 - 3 PHASE	1500	595	106	701
9	BMC - 2000 - 1 PHASE	2000	702	188	890
10	BMC - 2000 - 3 PHASE	2000	702	106	808
11	BMC - 3000	3000	914	188	1102
12	BMC - 5000	5000	1340	212	1552
13	BMC - 10000	10000	3135	424	3559

Note: Sr. No. 1 to 6 inbuilt unit.

## 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/m<sup>3</sup> ±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

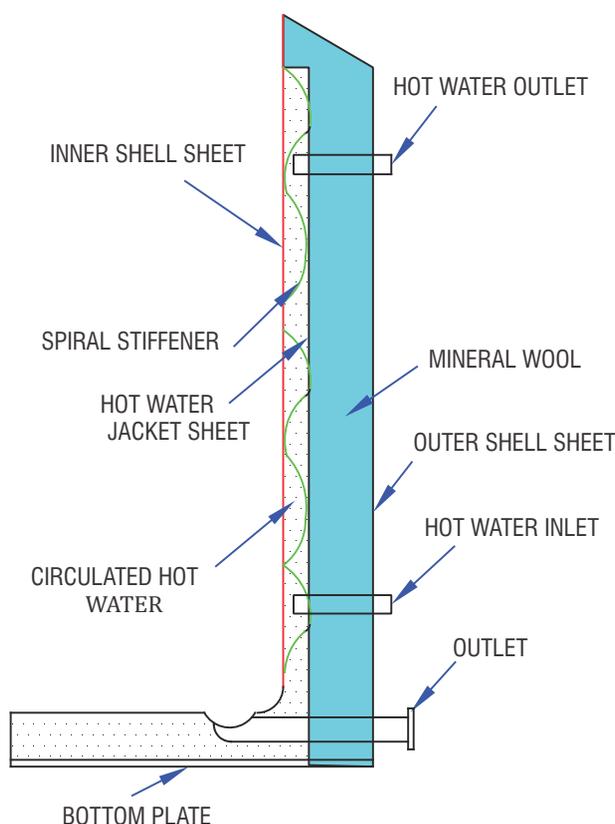


Viewport

## 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

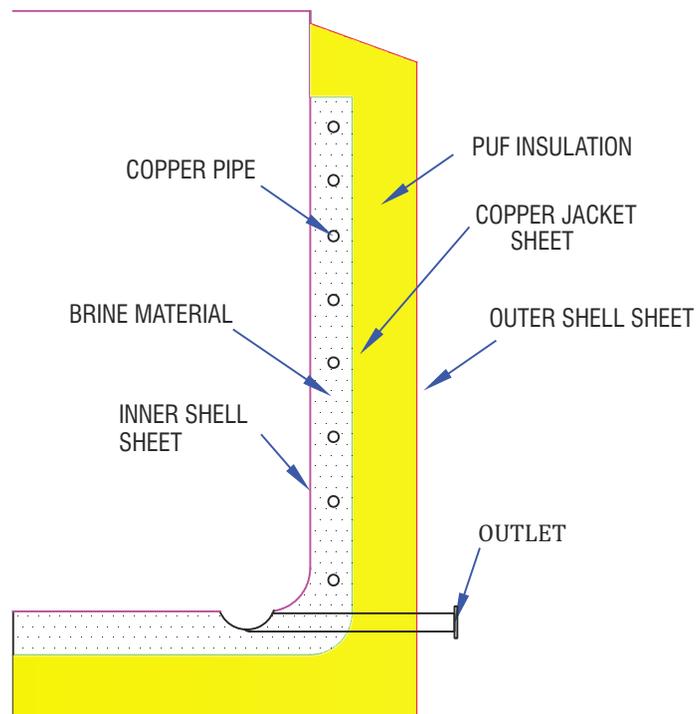


IAV-2000

## 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 <td 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**



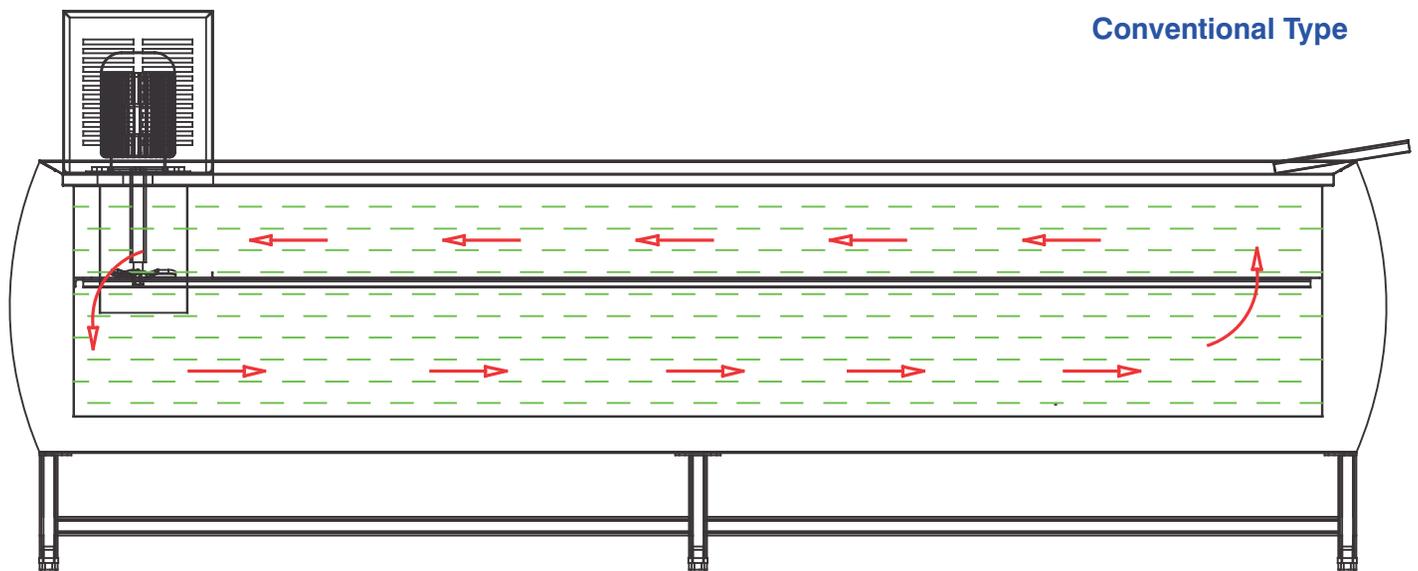
**ICCP-20**



**ICCP-40**



## Process Diagram



## Specifications

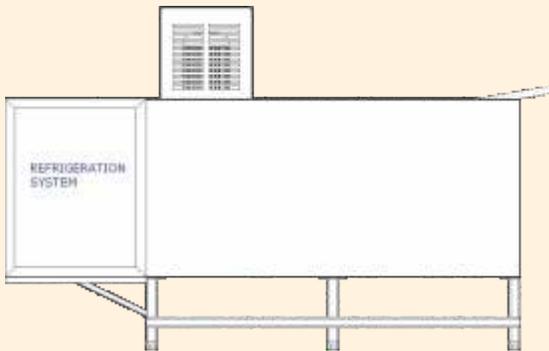
Model	ICCP-4	ICCP-6	ICCP-9	ICCP-15
Capacity / Hr	192 Candy	288 Candy	432 Candy	720 Candy
Outer Size (LxWxH)	54"x26"x26"	67"x33"x26"	78"x33"x26"	115"x33"x26"
Inner Tank Size (LxWxH)	47"x19"x23"	60"x26"x23"	71"x26"x23"	108"x26"x23"
Functional Area in Inch(LxWxH)	33"x19"x8"	46"x26"x8"	57"x26"x8"	94"x26"x8"
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

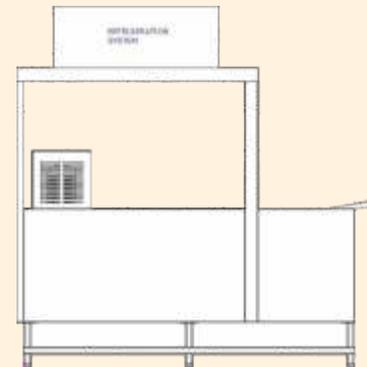
- **SOLID WASTE FREE CLEAN BRINE DUE TO BRINE FILTER**
- **BELTLESS AGITATOR**
- **WELL DESIGNED FOR BRINE CIRCULATION TO MAINTAIN UNIFORM TEMPERATURE**

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.

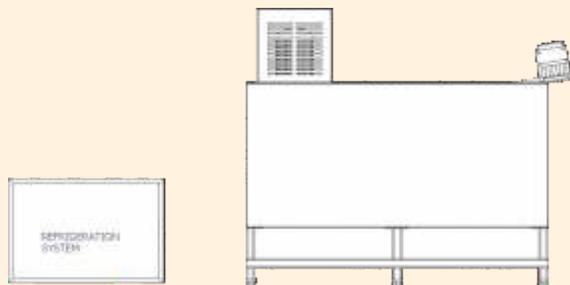
## Refrigeration System Can Be Installed As Per Requirement



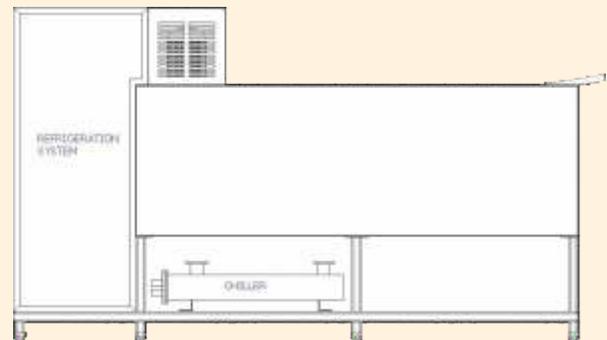
Option A : Left / Right Side



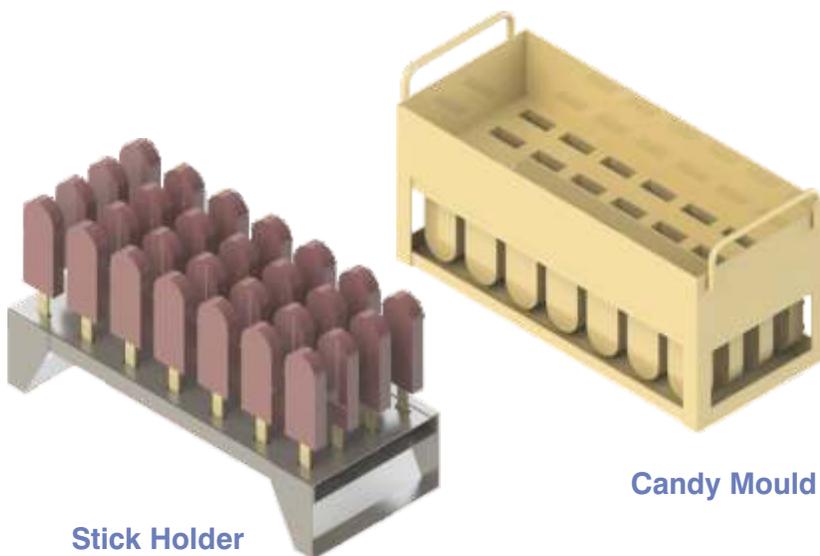
Option B : Top Side



Option C : Split Side



Option D : Water-Cooled Type



Stick Holder

Candy Mould

### Mould Design We Consider

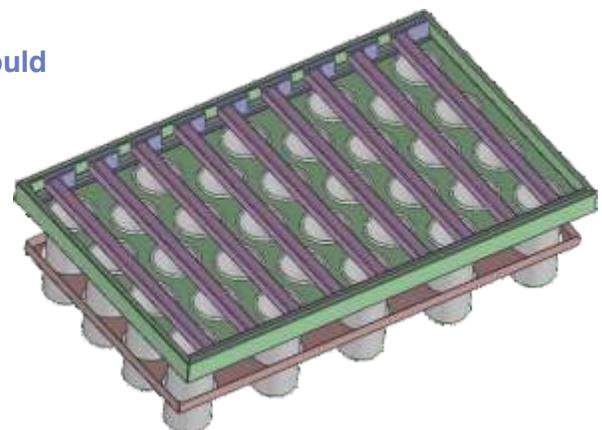
Mould Size : 17.5" x 7.25" x 9" (L x W x H)

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"> <li>• For uniform Demoulding of Candy from Mould</li> <li>• Making Uniform Layer of Choco on each Moulded Candy</li> </ul>
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

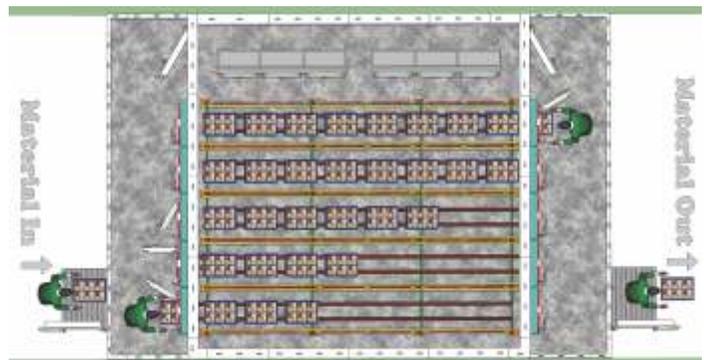
## Hardener - Deep Freezer / Static Type



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 Ltr	1770 Ltr	2100 Ltr
<b>Standard Model</b>					
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
<b>Two Stage Model / Cascade type Ref. System</b>					
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	
	IBF - 50/6	IBF - 100/12	IBC - 50/6	IBC - 100/12
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



## Herbs & Agricultural Products



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/m <sup>3</sup>	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 ₹/m <sup>3</sup>	60 ₹/kg	7 ₹/kWh
Fuel Consumption (Unit)	62.79 kWh	32.57 kg	7.9 L	7.35 m <sup>3</sup>	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, Geraniums, Tarragon, Thyme, Tea.

### Drying Seafood:

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

### Drying Food:

Almost any 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 incorporated 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 systems is shown in the table in previous page.

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 Based Controlling**

**Retain High Nutrition Intact**

**Highest Efficiency in Drying**

**Occupies Minimum Space**

## Features

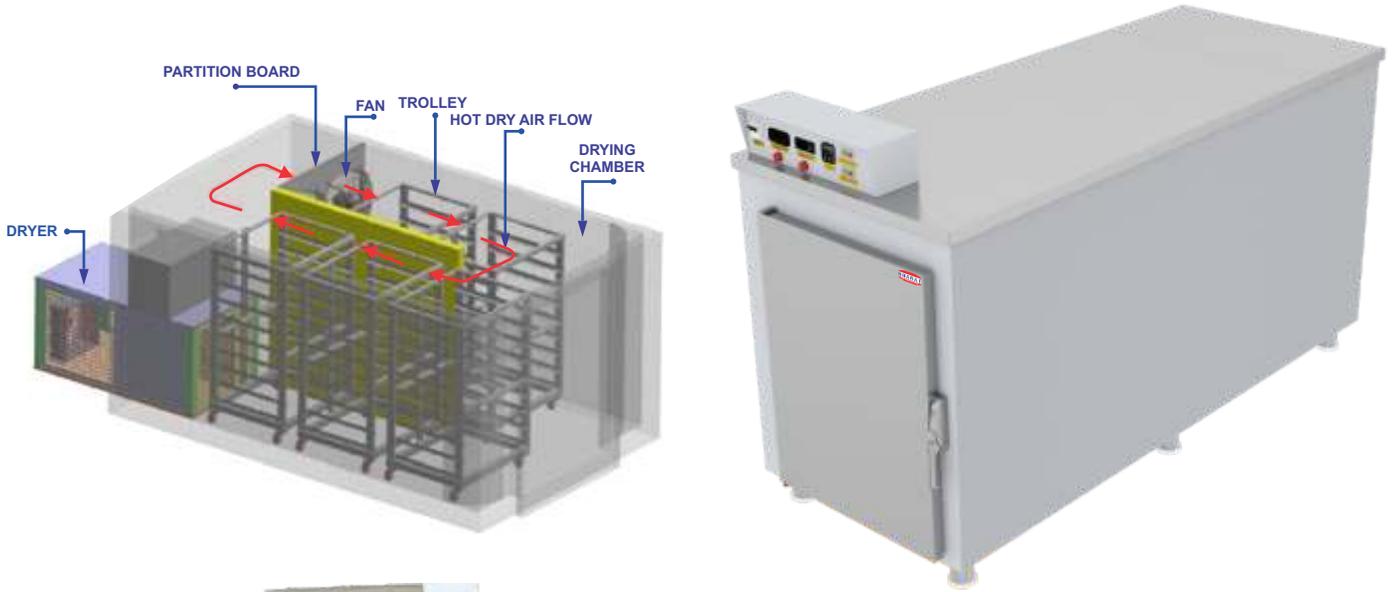
1. **Energy saving & environmental protection**  
Saving operating cost, no heat loss (insulated chamber and recirculation of hot air), low noise
2. **Exact control of temperature and humidity**  
Required drying temperature varies according to the produce and heat pump controls drying temperature between 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 <sup>2</sup> )	Dimension of Dryer (mm)
HPD0020	20 to 60	1ph 230V	1.5	3.4	2.4	1.9	2.8	2100 x 838 x 1460
HPD0050	50 to 100	1ph 230 V / 3ph 400V	3	6	4.5	6	10	2492 x 1212 x 1285
HPD0100	100 to 250	3ph 400V	7	9	7	11	20	2650 x 2350 x 1300
HPD0200	200 to 300	3ph 400V	11	15	11	17	32	3150 x 2350 x 2150
HPD0300	300 to 450	3ph 400V	15	18	14	22	47	4700 x 2350 x 2150
HPD0500	500 to 750	3ph 400V	20	29	22	34	96	6600 x 3375 x 2080
HPD0700	700 to 900	3ph 400V	29	35	28	43	128	7220 x 3375 x 2200
HPD1000	1000 to 1400	3ph 400V	40	60	45	64	160	6700 x 3325 x 2150
HPD2000	2000 to 2800	3ph 400V	75	104	80	113	307	9100 x 4200 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



Inside View



**1993**  
Year of Inception

**25+ Years**  
Promoter's Experience In The Cold Chain Industry

**2**  
Manufacturing Facilities At Tamil Nadu and Gujarat

**50+**  
Product Basket

**584**  
Employee As On March 31, 2021

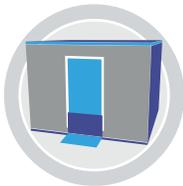
**365 Days**  
After-Sales Service

**65+**  
Business Associates

**25000+**  
Satisfied Clients

**20+**  
Countries We Export

## OUR BUSINESS VERTICAL



### 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)



### Commercial Refrigeration

- Ice Cream Mix Plant
- Batch Pasteurizer
- Ageing Vat
- Bulk Milk Chiller
- Ice Candy Production Machine
- Ice Cream Hardener (Static/Tunnel Type)
- Mini Blast Freezer & Chiller
- Heat Pump Food Dehydrator



### Transport Refrigeration

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

Bharat Refrigerations offers services across 15 major industries through five business verticals. Each business vertical develop and maintain world-class products to support the advanced needs of our customers. Bharat Refrigerations is Catering to several industries, few of them are mentioned here,

**Ensuring safe, sustainable and high-quality products.**



Agro Industry



Food Processing Industry



Horticulture / Floriculture Industry

**Making manufacturing more productive and profitable**



Dairy Product Industry



Ice Cream Industry



Logistics

**Generating trust throughout the supply chain**



Hotel - Restaurant



Hospitality Industry



Retail Outlet for Dairy - Ice Cream

**Protecting the quality and edge of medicines**



Pharmaceutical Industry



Biological



Research

**Innovation, optimization and efficiency in everything from raw material to finished products.  
Powering processes from renewables to conventional energy**



Chemical Processing Industry



Plastic Industry



Renewable Energy Industry



## Corporate and Institution



## Pharma



# Our Capabilities

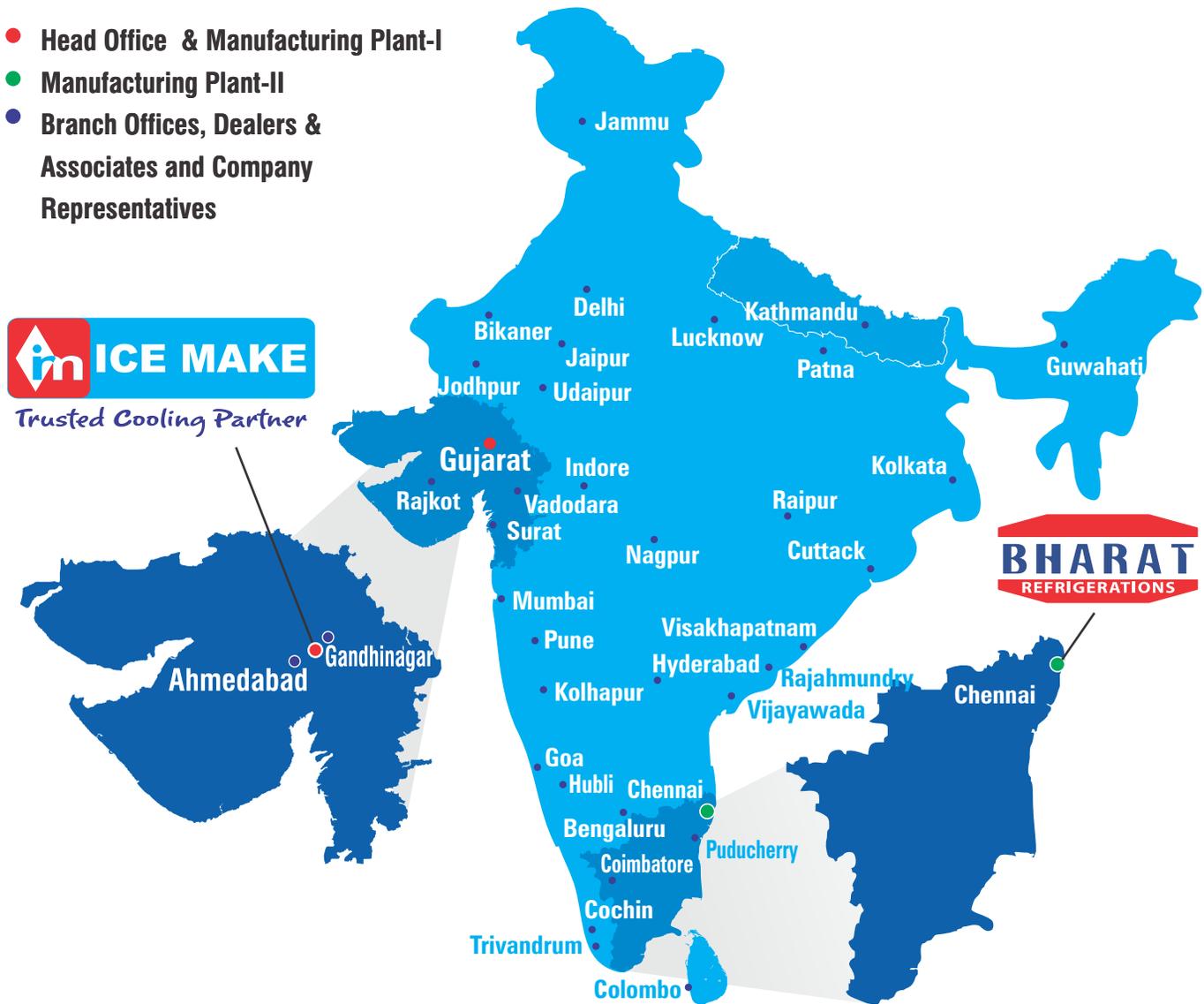
Our focus on the requirements of our customers has seen us make a significant investment in our processing and fabrication facilities and our Q.C. Laboratory is well equipped to give the test report for different stages of Refrigeration & Insulation.



Lab

We have developed a strong national presence with manufacturing plants, branch offices and dealer-associates network. We apply our engineering and applications expertise to provide your organization with the right product solution and support every time.

- **Head Office & Manufacturing Plant-I**
- **Manufacturing Plant-II**
- **Branch Offices, Dealers & Associates and Company Representatives**



## Export In Other Country

USA	UGANDA	KENYA	NEPAL	JAPAN	LIBYA	ZAMBIA
ALGERIA	UAE	NIGERIA	SRILANKA	BHUTAN	BAHRAIN	TANZANIA
MADAGASCAR	MALDIVES	MAURITIUS	SEYCHELLES	SIERRA LEONE	CONGO	BANGLADESH



## Bharat Refrigerations Pvt. Ltd.

(Wholly Owned Subsidiary of ICE MAKE REFRIGERATION LIMITED)

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Sales: +91 9791175004 | Service: 1800 102 4615



*Trusted Cooling Partner*

### ICE MAKE REFRIGERATION LIMITED

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