

COLD ROOM



One & Only best choice to store perishable products in volume is Cold Room. We provide complete solution for cold room as we have our own manufacturing unit for Cold Room PUF Panels and Refrigeration Unit. So we can deliver best quality products, best in time service with optimum price to make you happy.



Fruits & Vegetables



Horticulture



Ice Cream



Dry Fruits



Hospitality



Bakery Products



Frozen Food



Pharmaceutical & Chemical

Puf Panel Thickness : 60, 80, 100, 125, 150 mm

Application : Storage of Frozen Food- Vegetables, Ice cream, Horticulture, Pharmaceutical, Chemical, Dairy-Bakery, Dry Fruits

Temperature : +15°C to -40°C

COLD CHAIN SOLUTION



Source



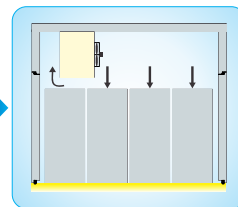
Pre Cooling



Mobile Pre Cooling



Grading & Sorting



Blast Chilling



Display Market



Market Distribution



Storage



Blast Freezing



Packing

Technical Specification

- Thickness** : 60, 80, 100, 125 & 150 mm
- Surface Material** : GI Pre-Painted Sheet, S.S. Sheet (Grade 304/316 & Surface finish 2B & Mate), GI Plain Sheet, Plain Galvanize 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, both side metal surface panel in which each side fits with lock and prevent temperature loss.
 (C) Aluminium Checkered 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 WxH)
 (B) Over Lap Type Swing door with frame with metal covering by using heavy duty hardware for better strength Size: 45"x84", 49"x84", 54"x84", 60"x90" (Door Opening WxH)
- Room Size** : (A) Length & Width Minimum 1.78 mt and Bigger size 0.146 mt in multiples. As per requirement
 (B) Standard Height for 60 mm thickness 2.47 mt, 80 mm-2.51 mt, 100 mm-2.55 mt, 125 mm-2.60 mt, 150 mm-2.65 mt. Single Panel Height upto 12 mt and above as per your requirement.

Accessories



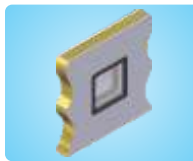
Sliding Door:-

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



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 upto -20oC inside the cold room.



Hatch Door:-

Opening Size (WxH): 20"X20", 24"x24", 30"X30"
 Different size hatch door with heavy frame for easy material movement in high turnover ice cream and dairy industries.



Strip Curtain:-

Semi transparent PVC strip curtain for negative temperature application to prevent heat loss and ultimately the power.



Wall Gaurd



Door Accessories



High Low Temperature Alarm

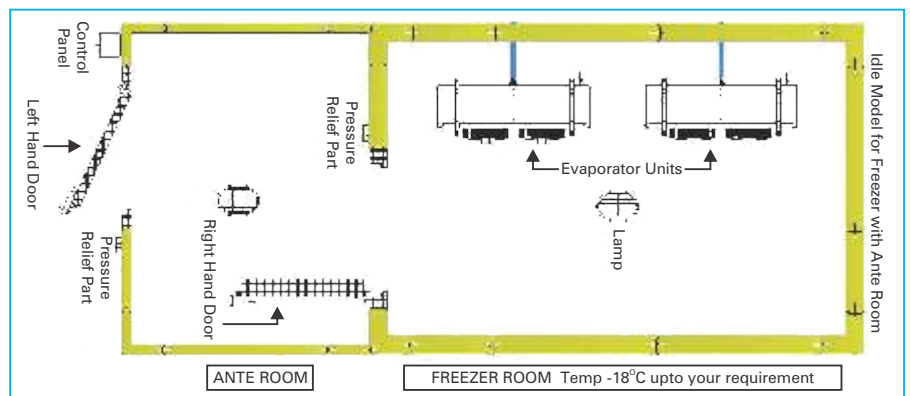


Inside Safety Alarm



Ramp with Chequered Plate

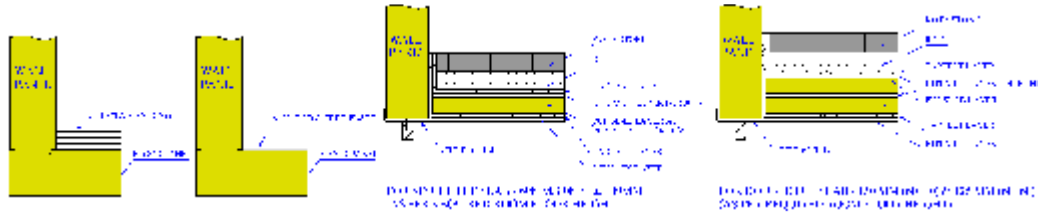
3D / PLAN VIEW OF ICE CREAM COLD ROOM



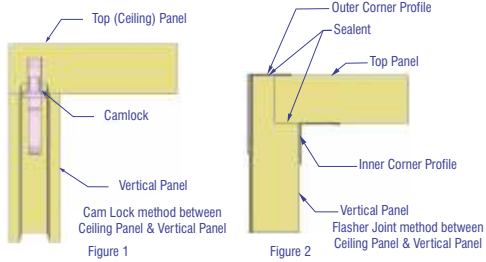
Note : For Positive temperature Ante Room is not Compulsory

Panel Construction Configuration

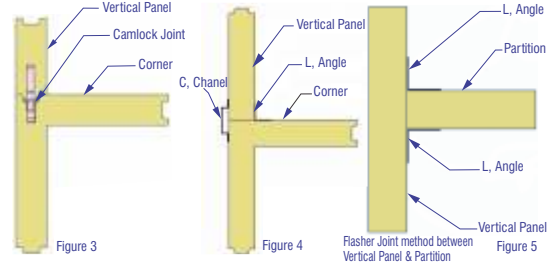
Types of Cold Room Floor



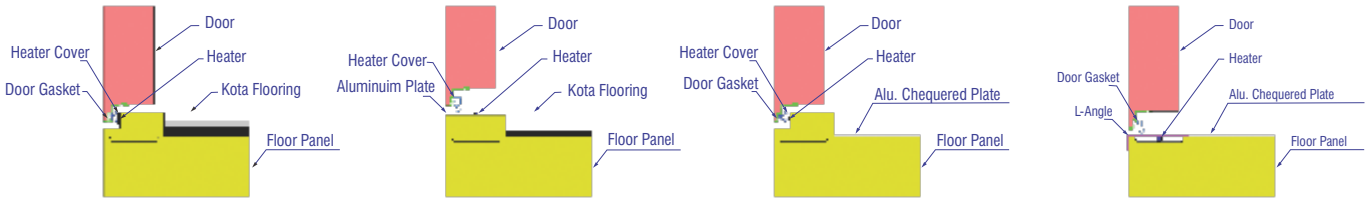
Vertical & Top Panel Joining Method



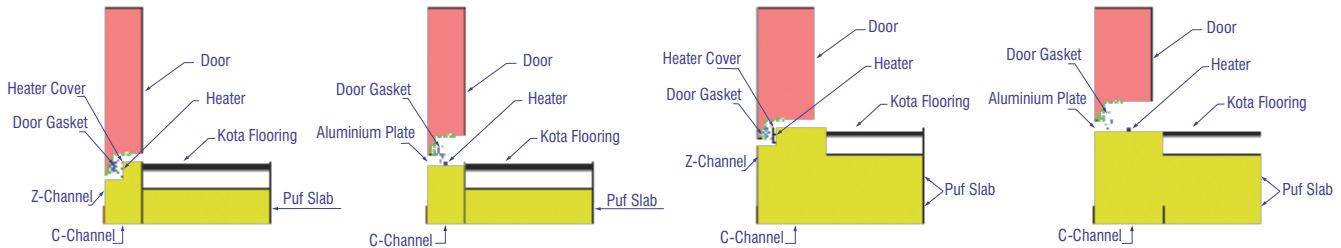
Corner-Vertical Panel Joining Method



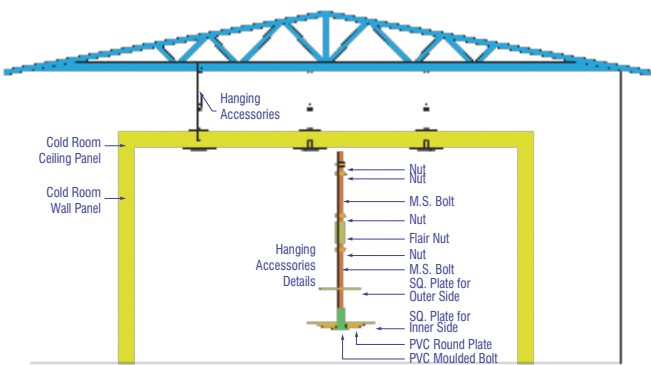
Door on Floor Panel Design



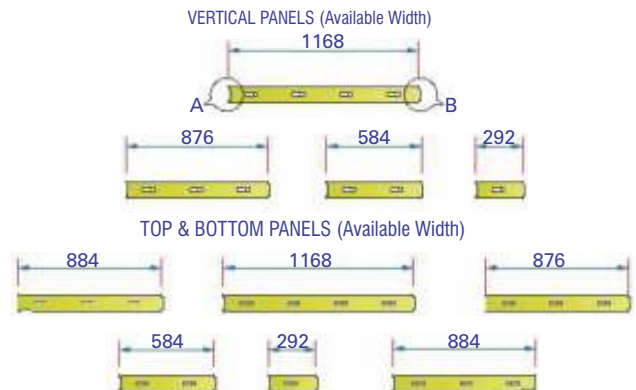
"C" & Z Channel Door Design



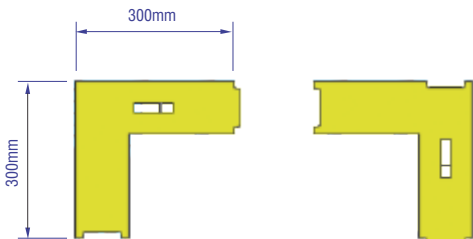
Ceiling Panel Hanging Method



Panel Width Size



Corners



Panel Joints

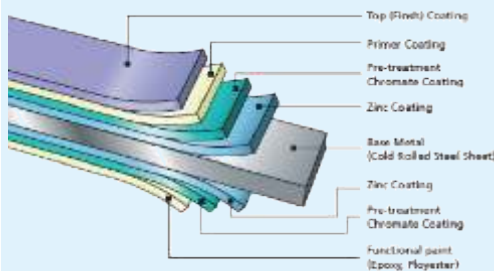


PUF Thickness (mm)	Recomm -ended Temp. Degree @ Ambient Temp. 32°C	Weight						Thermal Conductivity 'K' Value W/mK	Thermal Transmittance 'U' Value W/m²K	Thermal Resistance 'R' Value m²K/W	Thermal Transmittance 'U' Value K.Ca/m²K	Thermal Resistance 'R' Value m²K/K.Cal			
		Wall & Ceiling		Floor Panel		60	80						100	125	150
		Kg/Sq.ft	Kg/Sq.mtr	Floor bare slab											
				Kg/Sq.ft	Kg/Sq.mtr										
60	+20 to +2	1.5	16	0.25	3	2.5	27	0.022	0.3521	2.84	0.3018	3.31			
80	+2 to -8	1.6	17	0.35	4	2.6	28	0.022	0.2679	3.73	0.2296	4.36			
100	-8 to -18	1.7	18	0.425	5	2.7	29	0.022	0.2163	4.62	0.1854	5.39			
125	-18 to -27	1.85	20	0.525	6	2.85	31	0.022	0.1721	5.81	0.1475	6.78			
150	-27 to -50	2	22	0.65	7	3	32	0.022	0.1459	6.85	0.1251	7.99			

Thermal Transmittance 'U' Value														
		W/m²K						K.cal / m²K						
Panel Thickness (mm)	Temp. Difference °C	W/m²K						K.cal / m²K						
		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

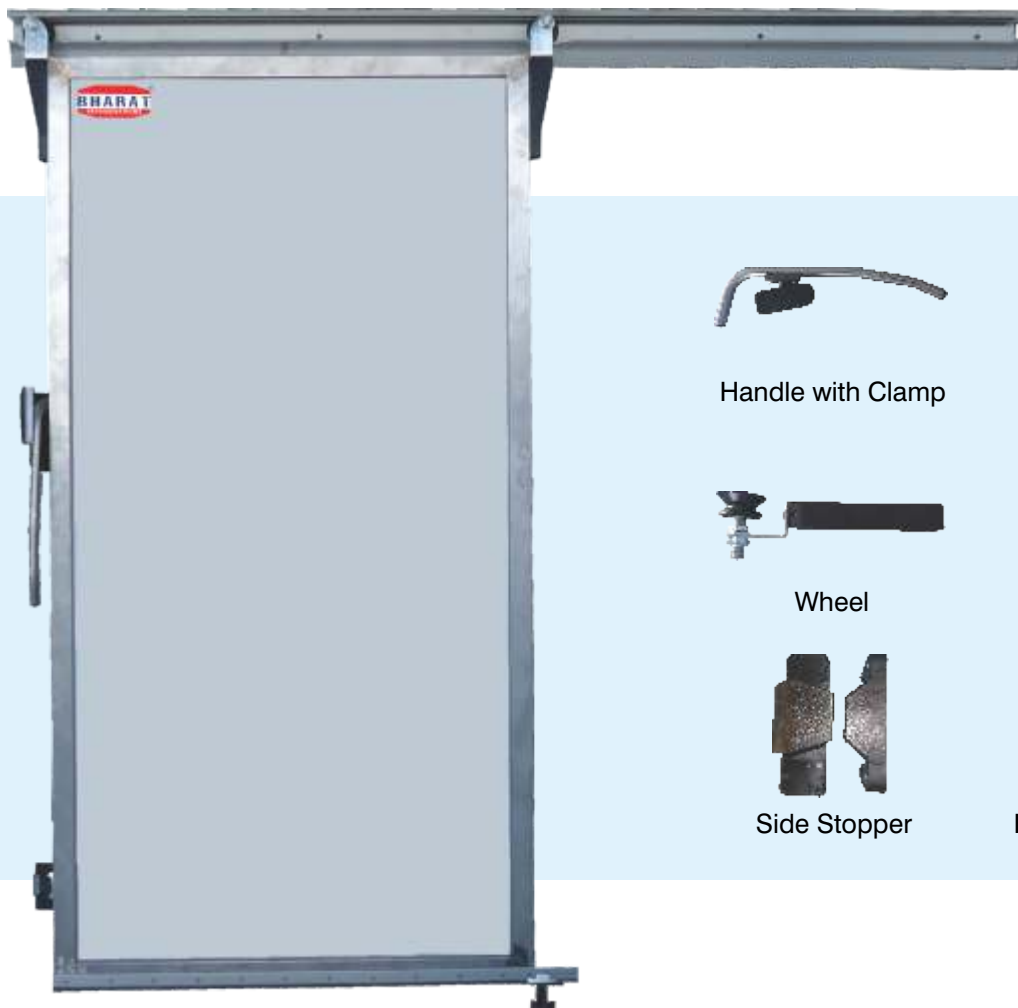
Sr.No.	PARAMETERS	DESCRIPTION
1	Average PUF Density	40 ± 2 Kg/ cu.mtr/ m ³
2	PUF Blowing Agent	141B (CFC free)
3	Insulation Material	Polyurethane foam
4	Temperature range	+90°C to -60°C
5	Panel Type	Discontinuous type with camlock
6	M.O.C. Of Cam locks	Cam locks body material HIPS and male latch is made 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. 4 mm thickness X 80 x 80 mm 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 of Polyurethane Panel	FR Grade B2 (Fire Resistant 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"> • Pre Painted Galvanised sheet , Thickness 0.50mm • Plain Galvanised sheet , Thickness 0.50mm • S.S. Sheet, Grade 316, 0.50mm, finish 2B/0.6 mm mate No.4 • S.S. Sheet, Grade 304, 0.50mm, finish 2B/0.6 mm mate No.4
21	Floor Panel Facing Material	<ul style="list-style-type: none"> • PUF Panel with both side tarfelt sheet. • PUF Panel with both side 0.5mm GIPP sheet. • PUF Panel with outside GIPP sheet, inside 9 mm thick marine ply with 2 mm thick Aluminium Checkered Plate
22	Specification for Colour Coating	<p>A. RAL No. : 9002/9003 or it's nearest</p> <p>B. Indian Standard code Colour Coating : IS 14246 Galvanizing : IS 277 Base Metal : IS 513</p> <p>C. Organic Coating : Type RMP (Polyester)</p> <p>D. Zinc Coating : 120 GSM</p> <p>E. Top Primer (Thickness in micron 'μ') : 5 +/- 1 μ</p> <p>F. Top Coat (Thickness in micron 'μ') : 20 +/- 1 μ</p> <p>G. Back Primer (Thickness in micron 'μ') : 4 +/- 1 μ</p> <p>H. Back Coat (Thickness in micron 'μ') : 4 +/- 1 μ</p> <p>I. Guard Film (Thickness in micron 'μ') : 40 +/- 3 μ</p> <p>J. Salt Spray Test /Humidity Test : 750 hrs. /1000 hrs.</p>



BHARAT 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, Blast Chiller.

BHARAT Sliding Doors are very easy to operate, greater in efficiency, better in performance. Also, in terms of safety, long service Life, and smooth in operation every day with one hand.

ICE MAKE Sliding Door sealed upper surface with resist dirt built up, very easy to clean, and very easy to close and reliably opens with advance technology.



Handle with Clamp



L Clamp



Wheel



Top Stopper



Side Stopper



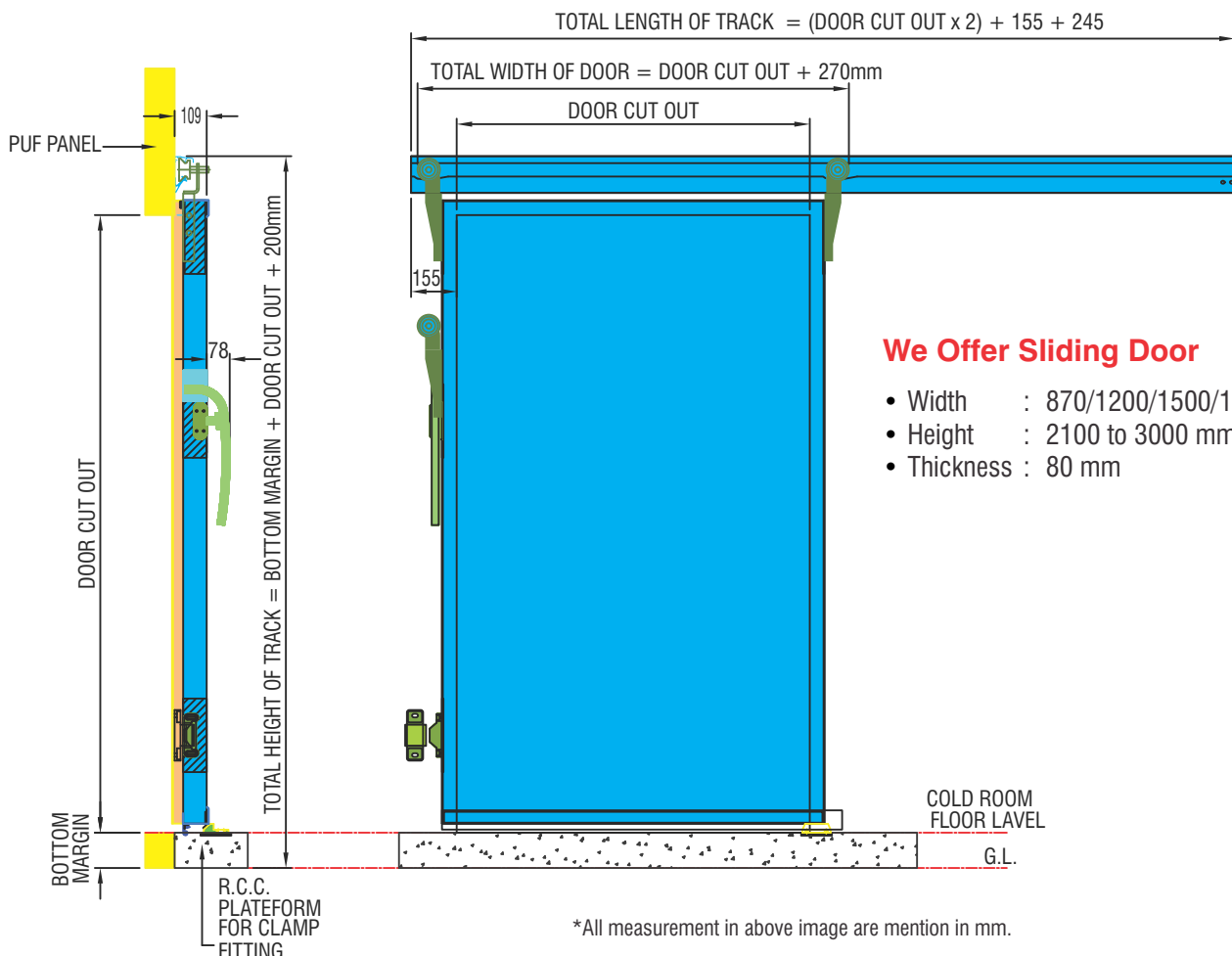
Bottom Support Clamp

Bharat Sliding Doors 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

Door Panel	80 mm thick (rigid Polyurethane foam)
Door Frames	Assembly in Panel
Surface Finish	The surface finish is available in a range of RAL No. 9002/9003 or its nearest colours, with Pre-painted sheet, S.S sheet (304/316), GI Plain Sheet, Galvanium with thickness of 0.50 mm.
Insulation	Injected Polyurethane insulation with, <ul style="list-style-type: none"> • Thermal Conductivity 0.022 W/mK • Density 40 ± 2 kg/cu/mtr/m³ • Tensile Strength 0.58 n/sq. mm • Vapour permeability 5.5 mg/PASM
Hardware	<ul style="list-style-type: none"> • Anodized Aluminum Upper Guide rail • Availability of floor (F) guide Clamp • Brackets in reinforced composite material and zinc-coated metal • Outside opening devices with lever handle • Mounting on pre-fabricated panel • Simple and quick cleaning surface • In Door Leaf with Replaceable Single Gasket



We Offer Sliding Door

- Width : 870/1200/1500/1800 mm
- Height : 2100 to 3000 mm
- Thickness : 80 mm

Suitable for super market to display Dairy Items, Cake-Pastry, Chocolates, Beverages, Fruits & Vegetables, Flower, Medicines etc.

Temperature : 2 °C to 8 °C

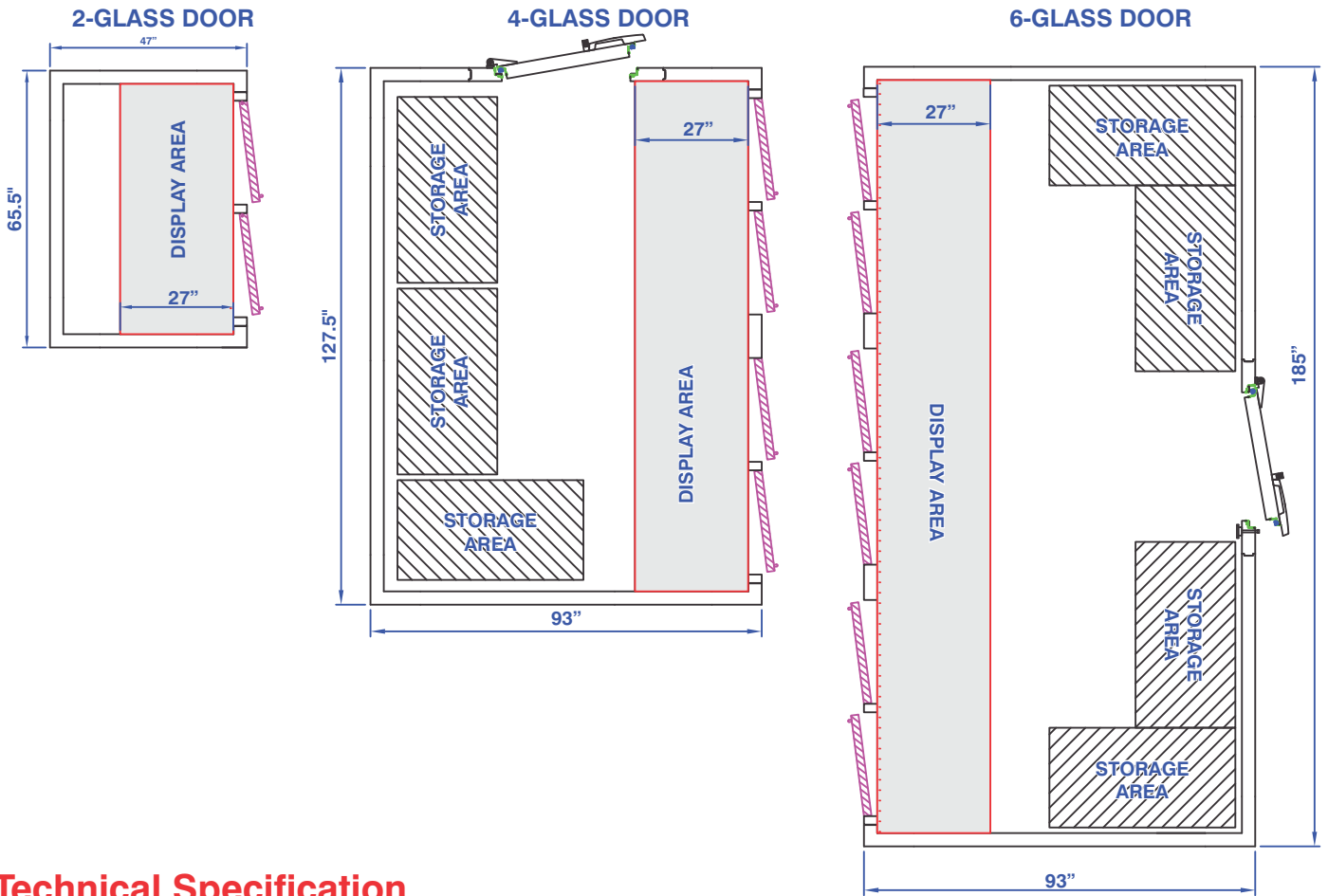


Special Features

- Large Storage with Better Display Area
- Temperature retaining
- Energy efficient
- Customized size
- Easy maintenance
- Easy 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	65.5" x 47" x 99"	126	1 / 3 Ph, 1.58 Kw	2	65.5" x 93" x 99"	269	1 / 3 Ph, 1.68 Kw
3	98.75" x 47" x 99"	201	1 / 3 Ph, 1.68 Kw	3	98.75" x 93" x 99"	429	1 / 3 Ph, 1.68 Kw
4	127.5" x 47" x 99"	264	1 / 3 Ph, 1.68 Kw	4	127.5" x 93" x 99"	563	1 / 3 Ph, 2.17 Kw
5	156.25" x 58.5" x 99"	419	1 / 3 Ph, 2.17 Kw	5	156.25" x 93" x 99"	696	3 Ph, 3.26 Kw
6	185" x 58.5" x 99"	499	1 / 3 Ph, 2.17 Kw	6	185" x 93" x 99"	829	3 Ph, 3.26 Kw



Technical Specification

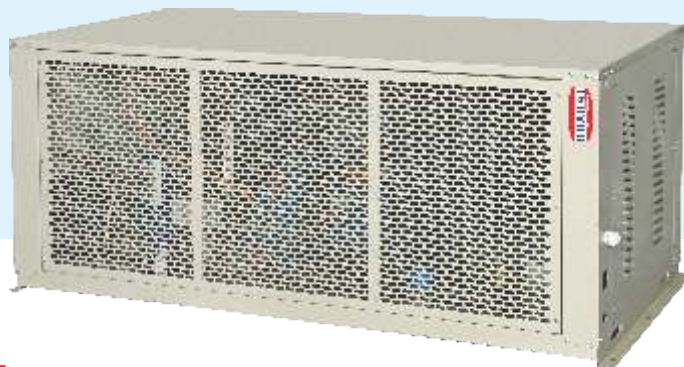
- Glass door opening size: 711mm x 1956mm
- Customized glass doors (hinged type) with magnetic door gasket for air tight seal
- Floor Insulation: Aluminium Checkered plate
- Digital temperature controller with digital display
- Insulated perimeter frames designed with forward facing for easier servicing and maintenance from front of the door
- Energy efficient frame that reduce energy to the frame by 30% with added insulation resulting in the same
- Double layer vaccumized tempered glass for moisture.
- Adjustable shelving system for specific arrangement of products.
- Provision for special demands such as glass doors, special floor, silent condensing unit, shelving system, etc.
- Long durable 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 and capacity for high ambient conditions

Rack System - An Advance Refrigeration Technology :

- It's advance power saving system compare to normal refrigeration system
- Rack system will work as per product load variation



Water Cooled



Air Cooled

Evaporator Unit



FEATURES

- **Fan** - High reliability, lower 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** - Use electrical heating stainless steel pipe, high leak proofness at the and anti-electrical leakage and long life.
- **Unit Body** - Aluminium, PU type Powder Coated, Corrosion resistant and nice appearance body.
- **Maintenance** - Compact, adjustable & easy open able side panels for easy installation.

Control Panel



Features

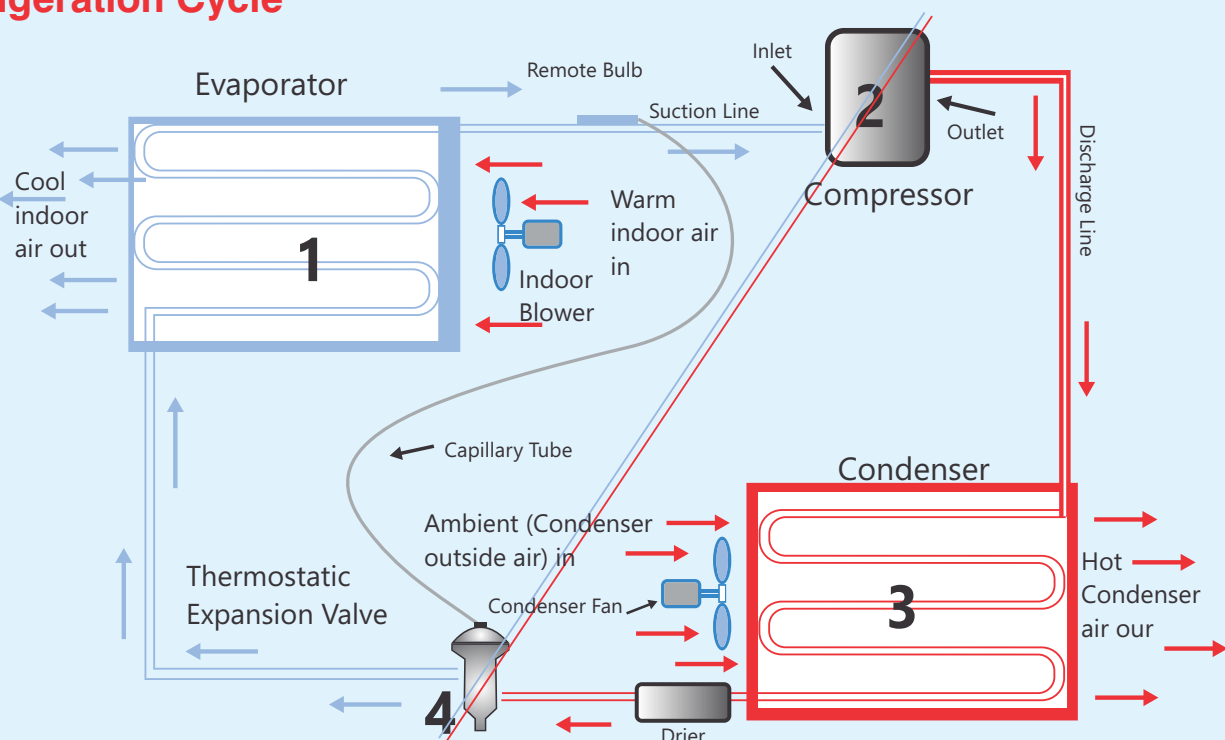
- Temperature Controls
- Phase Preventing
- HP-LP
- Over current protection
- Auto Defrost
- Delay timer



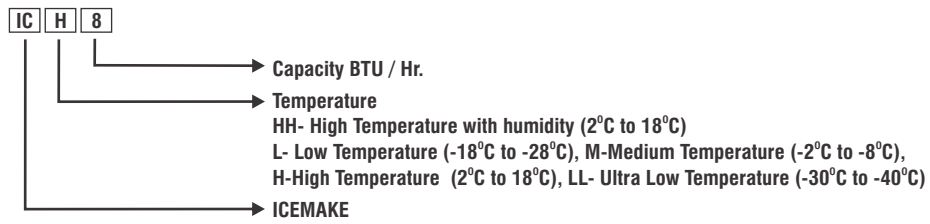
Features

- 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

Refrigeration Cycle



Model Code Logic



REFRIGERATION TECHNICAL DATA

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

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

* Connected load will be different in different compressor



**A4005-301H, A4007-301H
A7009-301A, 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

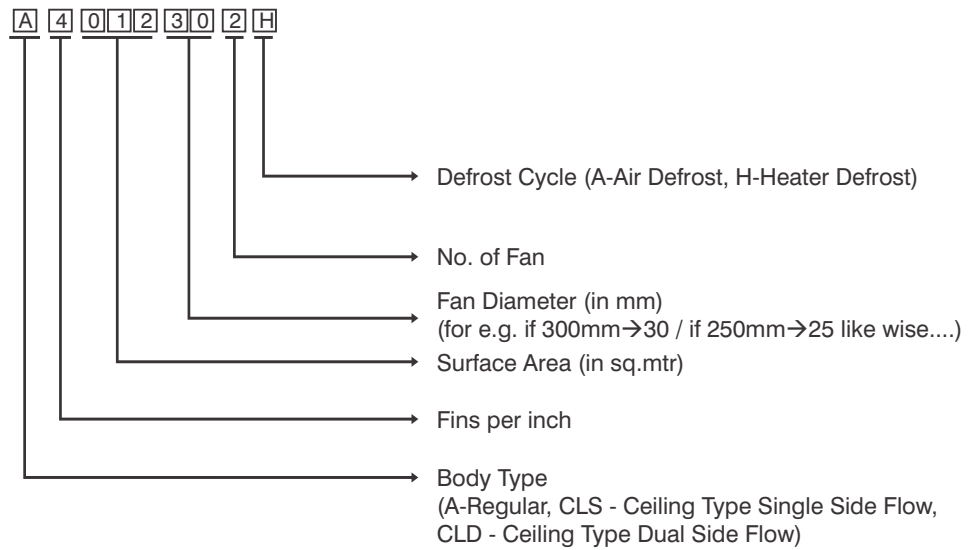


CLD713-252A, CLD719-252A

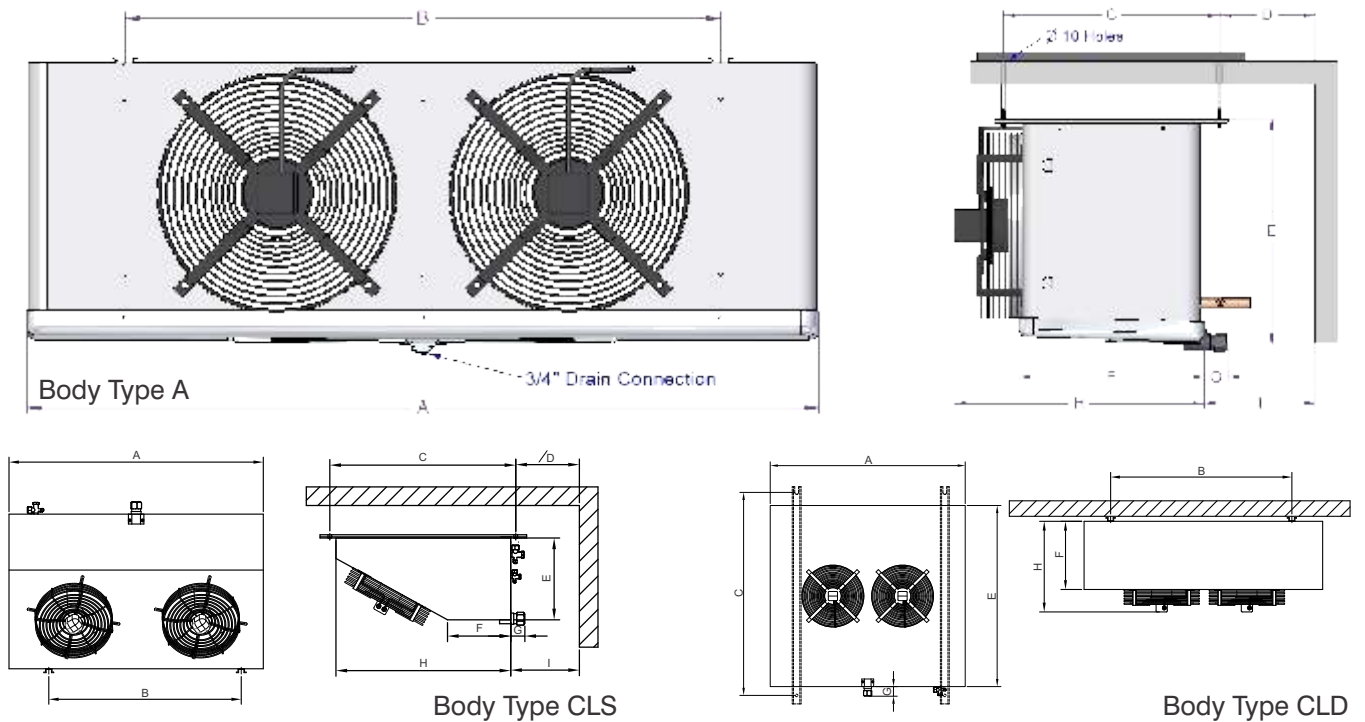


CLD724-253A, CLD729-253A

Model Code Logic



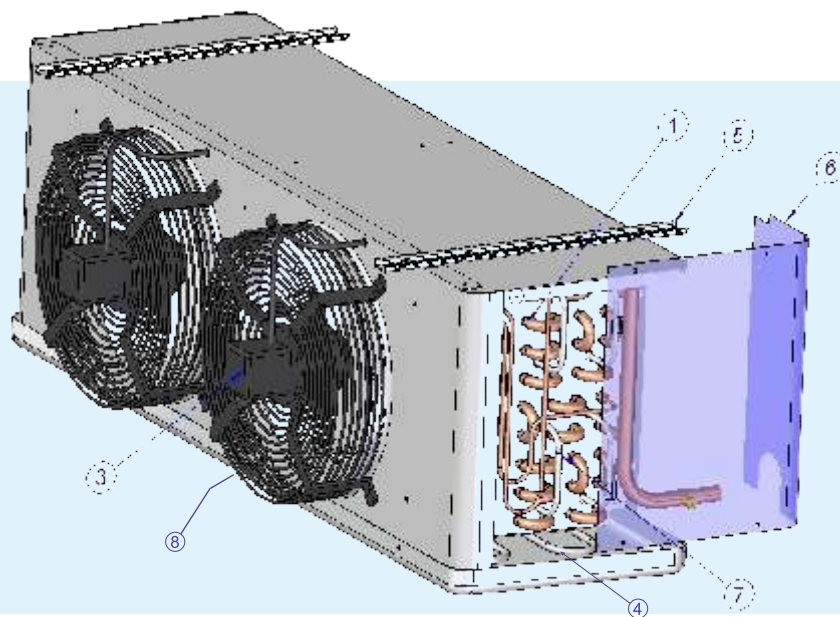
Physical Dimensions



Physical Parameters	Dimensions (mm) for Model										
	A4005-301H	A4007-301H	A4012-302H	A4018-303H	A4024-353H	A4034-353H	A4039-452H	A4058-453H	CLS709-252A	CLD713-252A	CLD724-253A
	A7009-301A	A7012-301A	A7021-302A	A7032-303A	A7043-353A	A7060-353A	A7062-452A	A7090-453A		CLD719-252A	CLD729-253A
A	765	765	1095	1490	1575	1880	1880	2660	825	820	1150
B	480	485	815	1210	1300	1605	1595	2380	685	680	1010
B1	NA	NA	NA	NA	430	535	800	800	NA	NA	NA
C	375	375	375	375	375	375	375	375	530	750	750
D	350	350	350	350	350	350	400	400	300	NA	NA
E	410	410	410	410	480	550	635	635	220	720	720
F	325	325	325	325	325	325	325	325	190	220	220
G	40	40	40	40	40	40	NA	NA	40	40	40
H	435	435	435	435	435	435	460	460	500	315	315
I	375	375	375	375	375	375	375	375	375	0	0
Unit Weight (kg)	15	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 from leading brand. Insulation Class F, thermally protected against overload and can be used on 230V/50 Hz supplies.
- 4) Provision given for install tray heater later.
- 5) Stainless steel mounting rail.
- 6) Compact, adjustable & easy openable side panels for easy installation.
- 7) Heater rods arranged for best heat distribution in coil. Electric heater rods are inserted into special aluminium sleeve tubes to avoid steam formation.
- 8) Drainage Connection



Unit Body :

- Aluminium 1.2mm thick, pu type white powder coated, corrosion resistant and nice appearance 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 air 25 bar over-pressure and leak test under water according to standard.

Fan Motor:

- Axial fans with external rotor motor, single phase motor 230 V, 50/60 Hz with internally wired thermal contact, 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 230 V sleeve tube dia – 7-8mm

Technical Specifications

EVAPORATOR UNIT (Evap. Temp. -8°C to -35°C)									
Sr. NO	PARAMETERS/MODEL	A4005-301H	A4007-301H	A4012-302H	A4018-303H	A4024-353H	A4034-353H	A4039-452H	A4058-453H
1	Capacity (KW) (at -25°C, DT1 = 7 K)	0.95	1.25	2.5	3.8	5.0	6.8	8.27	11.7
2	Heat Transfer Area (Sq. Mtr)	5.4	6.9	12.15	18.23	24.3	34	39.12	58.12
3	Tube Volume (In Ltr)	2.1	2.5	3.4	5	7	10.21	10.5	15.5
4	Fin Spacing-mm/FPI(Fin Per Inch)	4/6	4/6	4/6	4/6	4/6	4/6	4/6	4/6
5	Fan Diameter & No. of Fans	300/1	300/1	300/2	300/3	350/3	350/3	450/2	450/3
6	Air Flow (m3/h) / Throw(Mtr)	1560/9	1560/9	3120/9	4680/10	8200/12	8200/12	8600/14	12900/14
7	Motor - Input Value (watts)	87 x 1	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 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	1/2 & 7/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.3/8
10	Coil Heater (watts)	500 x 4	500 x 4	750 x 4	850 x 4	1000 x 4	1000 x 4	1310 x 4	1890 x 4
11	Tray Heater (watts)	750 x 1	750 x 1	1000 x 1	600 x 2	750 x 2	750 x 2	1310 x 1	1890 x 1

EVAPORATOR UNIT (Evap. Temp. 10°C to -8°C)									
Sr. NO	PARAMETERS/MODEL	A7009-301A	A7012-301A	A7021-302A	A7032-303A	A7043-353A	A7060-353A	A7062-452A	A7090-453A
1	Capacity (KW) (at -8°C, DT1 = 8 K)	1.3	1.75	3.5	5.25	7	9.5	13.5	19
2	Heat Transfer Area (Sq. Mtr)	9.25	12.3	21.3	32.1	42.6	59.5	62.45	90.75
3	Tube Volume (In Ltr)	2.1	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	3.6/7
5	Fan Diameter & No. of Fans	300/1	300/1	300/2	300/3	350/3	350/3	450/2	450/3
6	Air Flow (m3/h) / Throw(Mtr)	1560/9	1560/9	3120/9	4680/10	8200/12	8200/12	8600/14	12900/14
7	Motor - Input Value (watts)	87 x 1	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 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	1/2 & 7/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.1/8	5/8 & 1.1/8

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 (Sq. Mtr)	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 (m3/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 (m³/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)
- Superheat of refrigerant at the outlet approx. 65% of the air inlet temperature difference.

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 are providing fully automatic combo type incubation chambers with heating and cooling both process together in single chamber.



Curd Incubation Chamber

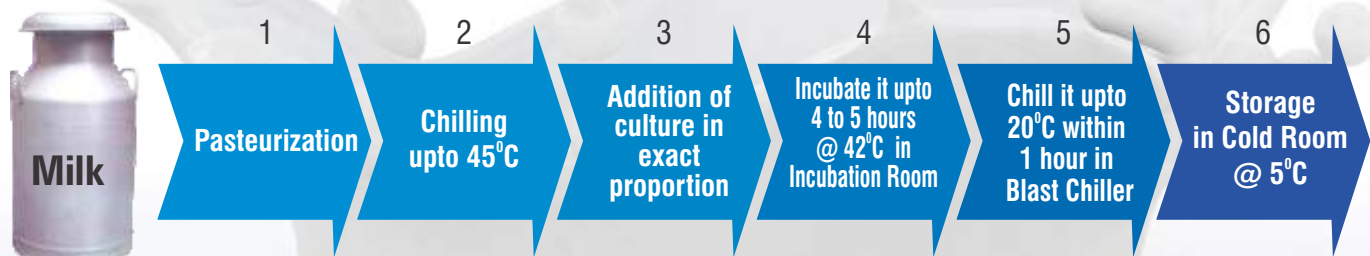
Are you finding the procedure to produce best quality curd ?

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

But

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

So, as a solution of that we 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.
- ICE MAKE offers your exact solution for stage No.4 and 5 and of couse for stage No.6 also.
- We offers you Incubation room with hot unit (as shown in photograph above) which can maintain 420C with 10C deviation for stage No.4
- For stage No.5 our Blast Chiller is useful to chill the culture upto 200C within 1 hour.
- At last, for stage No.6 you can use our regular cold Room.

If you will prepare curd according to above procedure, you will get curd with same test & 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	Storage Capacity (Ltr/Batch)	Size (inch)	Body Type	Temperature while Heating	Temperature while Cooling
1	MI-360	360	53" x 44" x 28" (H x W x D)	Combo - Portable Mini	32°C to 45°C	-5°C to +8°C
2	MI-650	665	80" X 44" X 28" (H x W x D)	Combo - Portable Mini	32°C to 45°C	-5°C to +8°C
3	WI-1200	1250	70" X 70" X 97.22" (W X DX H)	Combo-Walk in Type	32°C to 45°C	-5°C to +8°C
4	WI-2300	2300	93" X 93" X 97.22" (W X D X H)	Combo-Walk in Type	32°C to 45°C	-5°C to +8°C
5	WI-3700	3700	93" X 144.75" X 97.22" (W X D X H)	Combo-Walk in Type	32°C to 45°C	-5°C to +8°C

Application : Curd Incubation / Blast Chilling / Storage

- Standard Incubation time is approx. 4 hours but it will depend upon the packing type and loading temperature of curd with a condition that the chamber temperature should be 45°C before loading .
- Standard cooling time is approx. 5 hours but it will depend upon the packing type and loading temperature of curd with a condition that timing will be considered after getting chamber temperature as 2° C.

NOTE : OPTION FOR ONLY INCUBATION IS AVAILABLE FOR ALL UNITS

Unit Weight (kg)

Bharat Refrigerations provides 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 by all world standards. 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 and An electric control system

We Offer Ripening Chamber

Manual (Time Based) Semi Automatic & Automatic

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

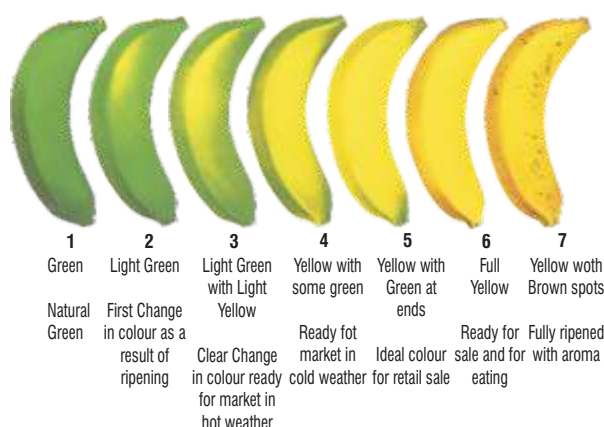
- Micro process controlled compatible with computer
- Low Cost and light weight, constructed with PUF-panels
- Low investment and maintenance cost
- Easy to commission, Swing or Sliding door type
- Ripening capacities from 5 tons to 25 tons for each chamber
- Moveable from one site to another, expandable
- Controlled levels of Ethylene, Co2, Temperature, humidity & time
- Energy efficient, uniform, 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

4 Days	18.0°	18.0°	16.5°	15.5°	14.5°			
5 Days	16.5°	16.5°	16.5°	16.5°	15.5°	14.5°		
6 Days	16.5°	16.5°	15.5°	15.5°	14.5°	14.5°	14.5°	
7 Days	15.5°	15.5°	15.5°	15.5°	14.5°	14.5°	14.5°	14.5°
8 Days	14.5°	14.5°	14.5°	14.5°	14.5°	14.5°	14.5°	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