

## **Chiller Cold Room - Ready Reckoner 1**

Room Temperature: +4 °C

Refrigerant: R22

External Room Size m (ft)	External Volume m3 (ft3)	Cooling Load KW	India Built Recip CDU		Expansion Valve		Solenoid Valve		Dixell Controller	
			Model	Capacity KW	Valve	Orifice	Valve	Coil	Normal	BMS
1.8*3.0*2.4 (6*10*8)	13.6 (480)	2.2	<b>KHJ513PQE</b>	2.4	TIE-HW	TIO-001	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
2.4*3.7*2.4 (8*12*8)	21.8 (768)	3.0	<b>KHR522PQE</b>	3.5	TIE-HW	TIO-001	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
3.0*3.7*2.4 (10*12*8)	27.2 (960)	3.8	<b>KHR522PQE</b>	3.5	TIE-HW	TIO-001	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.3*4.3*2.4 (14*14*8)	44.4 (1568)	5.1	<b>KHR530PQE</b>	4.6	TIE-HW	TIO-002	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.3*4.9*2.4 (14*16*8)	50.8 (1792)	6.0	<b>KHR536PQE</b>	5.8	TIE-HW	TIO-002	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.9*4.9*2.4 (16*16*8)	58.0 (2048)	7.1	<b>KHR542PQE</b>	6.6	TIE-HW	TIO-003	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
4.9*6.1*2.4 (16*20*8)	72.5 (2560)	7.7	<b>KHR553PQE</b>	9.4	TIE-HW	TIO-003	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*6.1*2.4 (20*20*8)	90.7 (3200)	9.1	<b>KHR553PQE</b>	9.4	TIE-HW	TIO-003	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*7.3*2.4 (20*24*8)	108.8 (3840)	10.6	<b>KHR562PQE</b>	10.8	TIE-HW	TIO-004	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*7.9*2.4 (20*26*8)	117.8 (4160)	11.5	<b>KHR572PQE</b>	11.7	TIE-HW	TIO-004	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX

### Notes:

1. Design Is Based On 43°C Ambient Condition
2. 80mm PUF Panels Considered For Walls & Ceiling
3. Fresh Product Entering Temperature +30°C Is Considered
4. Product Turn Over 10% of Storage Capacity Is Considered
5. Product Pull Down Time 12 Hour Is Considered
6. Safety Factor 10% Is Considered
7. Capacity Is Based On 20 Hour Compressor Run Time
8. Selection Is Based On 5K Evaporator TD To Maintain 90% RH
9. Evaporator Selection Capacity Is Equivalent To CDU Capacity
10. Air-Cooled CDUs Built By Using Hermetic -Reciprocating Type Compressor.

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Email ID: [ClimateIndia@Emerson.com](mailto:ClimateIndia@Emerson.com)

Phone: 1800-209-1700

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## Chiller Cold Room - Ready Reckoner 2

Room Temperature: +4 °C

Refrigerant: R404A

External Room Size m (ft)	External Volume m3 (ft3)	Cooling Load KW	India Built Recip CDU		Expansion Valve		Solenoid Valve		Dixell Controller	
			Model	Capacity KW	Valve	Orifice	Valve	Coil	Normal	BMS
1.8*3.0*2.4 (6*10*8)	13.6 (480)	2.2	<b>KFJ461PQL</b>	2.1	TIE-SW	TIO-001	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
2.4*3.7*2.4 (8*12*8)	21.8 (768)	3.0	<b>KHM511PQL</b>	3.7	TIE-SW	TIO-002	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
3.0*3.7*2.4 (10*12*8)	27.2 (960)	3.8	<b>KHM511PQL</b>	3.7	TIE-SW	TIO-002	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.3*4.3*2.4 (14*14*8)	44.4 (1568)	5.1	<b>KHM514PQL</b>	5.0	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.3*4.9*2.4 (14*16*8)	50.8 (1792)	6.0	<b>KHM519PQL</b>	6.0	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.9*4.9*2.4 (16*16*8)	58.0 (2048)	7.1	<b>KHM522PQL</b>	6.8	TIE-SW	TIO-004	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
4.9*6.1*2.4 (16*20*8)	72.5 (2560)	7.7	<b>KHM511PQL* 2</b>	3.7 * 2	TIE-SW* 2	TIO-002* 2	200RB 2T3T *2	ASC3 208VAC * 2	XR02CX *2	XR30CX * 2
6.1*6.1*2.4 (20*20*8)	90.7 (3200)	9.1	<b>KHM514PQL* 2</b>	5.0 * 2	TIE-SW* 2	TIO-003* 2	200RB 2T3T *2	ASC3 208VAC * 2	XR02CX *2	XR30CX * 2
6.1*7.9*2.4 (20*26*8)	117.8 (4160)	11.5	<b>KHM519PQL* 2</b>	6.0 * 2	TIE-SW* 2	TIO-003* 2	200RB 2T3T *2	ASC3 208VAC * 2	XR02CX *2	XR30CX * 2
6.1*9.8*2.4 (20*32*8)	145.0 (5120)	13.8	<b>KHM522PQL* 2</b>	6.8 *2	TIE-SW* 2	TIO-004* 2	200RB 3T4T *2	ASC3 208VAC * 2	XR02CX *2	XR30CX * 2

### Notes:

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4. Product Turn Over 10% of Storage Capacity Is Considered
5. Product Pull Down Time 12 Hour Is Considered
6. Safety Factor 10% Is Considered
7. Capacity Is Based On 20 Hour Compressor Run Time
8. Selection Is Based On 5K Evaporator TD To Maintain 90% RH
9. Evaporator Selection Capacity Is Equivalent To CDU Capacity
10. Air-Cooled CDUs Built By Using Hermetic - Reciprocating Type Compressor.

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 Email ID: [Climatelndia@Emerson.com](mailto:Climatelndia@Emerson.com)  
 Phone: 1800-209-1700

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## Chiller Cold Room - Ready Reckoner 3

Room Temperature: +4 °C

Refrigerant: R404A

External Room Size m (ft)	External Volume m3 (ft3)	Cooling Load KW	India Built Scroll CDU		Expansion Valve		Solenoid Valve		Dixell Controller	
			Model	Capacity KW	Valve	Orifice	Valve	Coil	Normal	BMS
2.4*3.7*2.4 (8*12*8)	21.8 (768)	3.0	KHZ515PQL	3.8	TIE-SW	TIO-002	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
3.0*3.7*2.4 (10*12*8)	27.2 (960)	3.8	KHZ515PQL	3.8	TIE-SW	TIO-002	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.3*4.3*2.4 (14*14*8)	44.4 (1568)	5.1	KHZ519PQL	4.9	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.3*4.9*2.4 (14*16*8)	50.8 (1792)	6.0	KHZ521PQL	6.2	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR02CX	XR30CX
4.9*4.9*2.4 (16*16*8)	58.0 (2048)	7.1	KHZ526PQL	7.0	TIE-SW	TIO-004	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
4.9*6.1*2.4 (16*20*8)	72.5 (2560)	7.7	KHZ529PQL	8.2	TIE-SW	TIO-004	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*6.1*2.4 (20*20*8)	90.7 (3200)	9.1	KHZ538PQL	10.3	TIE-SW	TIO-005	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*7.3*2.4 (20*24*8)	108.8 (3840)	10.4	KHZ538PQL	10.3	TIE-SW	TIO-005	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*7.9*2.4 (20*26*8)	117.8 (4160)	11.5	KHZ545PQL	12.0	TIE-SW	TIO-005	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
6.1*9.8*2.4 (20*32*8)	145.0 (5120)	13.8	KHZ548PQL	13.6	TIE-SW	TIO-006	200RB 3T4T	ASC3 208VAC	XR02CX	XR30CX
7.3*7.3*3.6 (24*24*12)	191.8 (6912)	17.3	KHZ566PQL	17.8	TCLE 150-SW	X22440-B6B	200RB 6T5T	ASC3 208VAC	XR02CX	XR30CX
7.3*8.4*3.6 (24*28*12)	220.7 (8064)	19.9	KHZ576PQL	20.7	TCLE 150-SW	X22440-B6B	200RB 6T5T	ASC3 208VAC	XR02CX	XR30CX
7.3*10.4*3.6 (24*34*12)	273.3 (9792)	24.5	KHZ595PAL	24.0	TCLE 150-SW	X22440-B7B	200RB 6T5T	ASC3 208VAC	XR02CX	XR30CX
10.4*12.2*3.6 (34*40*12)	456.7 (16320)	31.60	KHZ611PAL	31.90	TCLE 150-SW	X22440-B8B	200RB 7T7T	ASC3 208VAC	XR02CX	XR30CX

### Notes:

1. Design Is Based On 43°C Ambient Condition
2. 80mm PUF Panels Considered For Walls & Ceiling
3. Fresh Product Entering Temperature +30°C Is Considered
4. Product Turn Over 10% of Storage Capacity Is Considered
5. Product Pull Down Time 12 Hour Is Considered
6. Safety Factor 10% Is Considered
7. Capacity Is Based On 20 Hour Compressor Run Time
8. Selection Is Based On 5K Evaporator TD To Maintain 90% RH
9. Evaporator Selection Capacity Is Equivalent To CDU Capacity
10. Air-Cooled CDUs Built By Using Hermetic - Scroll Type Compressor.

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## Freezer Cold Room - Ready Reckoner 4

Room Temperature: -20 °C

Refrigerant: R404A

External Room Size m (ft)	External Volume m3 (ft3)	Cooling Load KW	ZXL CDU		Expansion Valve		Solenoid Valve		Dixell Controller	
			Model	Capacity KW	Valve	Orifice	Valve	Coil	Normal	BMS
1.8*1.8*2.4 (6*6*8)	8.2 (288)	1.7	ZXL020E	2.0	TIE-SW	TIO-002	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
2.4*3.0*2.4 (8*10*8)	18.1 (640)	2.7	ZXL025E	2.7	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
3.0*3.0*2.4 (10*10*8)	22.7 (800)	2.9	ZXL030E	3.0	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
3.7*4.3*2.4 (12*14*8)	38.1 (1344)	3.8	ZXL035E	4.2	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
3.7*6.1*2.4 (12*20*8)	54.4 (1920)	4.9	ZXL040E	4.9	TIE-SW	TIO-004	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
4.3*6.1*2.4 (14*20*8)	63.5 (2240)	5.8	ZXL050E	5.7	TIE-SW	TIO-004	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
5.4*6.1*2.4 (18*20*8)	81.6 (2880)	6.9	ZXL060E	6.8	TIE-SW	TIO-005	200RB 3T4T	ASC3 208VAC	XR06CX	XR70CX
6.1*6.1*2.4 (20*20*8)	90.7 (3200)	7.5	ZXL075E	7.6	TIE-SW	TIO-005	200RB 3T4T	ASC3 208VAC	XR06CX	XR70CX
6.1*7.3*2.4 (20*24*8)	108.8 (3840)	8.5	ZXL035E * 2	4.2 * 2	TIE-SW * 2	TIO-003 * 2	200RB 2T3T * 2	ASC3 208VAC * 2	XR06CX * 2	XR70CX * 2
7.3*7.3*2.4 (24*24*8)	130.5 (4608)	9.9	ZXL040E * 2	4.9 * 2	TIE-SW * 2	TIO-004 * 2	200RB 2T3T * 2	ASC3 208VAC * 2	XR06CX * 2	XR70CX * 2
6.1*9.8*2.4 (20*32*8)	145.0 (5120)	11.3	ZXL050E * 2	5.7 * 2	TIE-SW * 2	TIO-004 * 2	200RB 2T3T * 2	ASC3 208VAC * 2	XR06CX * 2	XR70CX * 2
6.1*12.2*2.4 (20*40*8)	181.3 (6400)	13.5	ZXL060E * 2	6.8 * 2	TIE-SW * 2	TIO-005 * 2	200RB 3T4T * 2	ASC3 208VAC * 2	XR06CX * 2	XR70CX * 2
7.3*12.2*2.4 (24*40*8)	217.6 (7680)	15.4	ZXL075E * 2	7.6 * 2	TIE-SW * 2	TIO-005 * 2	200RB 3T4T * 2	ASC3 208VAC * 2	XR06CX * 2	XR70CX * 2

### Notes:

1. Design Is Based On 43°C Ambient Condition
2. 100mm PUF Panels Considered For Walls & Ceiling
3. Frozen Product Entering Temperature -15°C Is Considered
4. Product Turn Over 100% of Storage Capacity Is Considered
5. Product Pull Down Time 12 Hour Is Considered
6. Safety Factor 10% Is Considered
7. Capacity Is Based On 18 Hour Compressor Run Time
8. Selection Is Based On 5K Evaporator TD
9. Evaporator Selection Capacity Is Equivalent To CDU Capacity
10. Air-Cooled CDUs Built By Using Hermetic - Scroll Type Compressor.

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 Phone: 1800-209-1700

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## **Freezer Cold Room - Ready Reckoner 5**

Room Temperature: -20 °C

Refrigerant: R404A

External Room Size m (ft)	External Volume m3 (ft3)	Cooling Load KW	ZXL CDU		Expansion Valve		Solenoid Valve		Dixell Controller	
			Model	Capacity KW	Valve	Orifice	Valve	Coil	Normal	BMS
1.8*1.2*2.4 (6*4*8)	5.2 (192)	1.5	<b>KHM475LQL</b>	1.6	TIE-SW	TIO-002	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
2.4*3.0*2.4 (8*10*8)	18.1 (640)	2.7	<b>KHM515LQL</b>	2.8	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
3.0*3.7*2.4 (10*12*8)	27.2 (960)	2.9	<b>KHM515LQL</b>	2.8	TIE-SW	TIO-003	200RB 2T3T	ASC3 208VAC	XR06CX	XR70CX
4.3*4.9*2.4 (14*16*8)	50.8 (1792)	4.8	<b>KHM515LQL*2</b>	5.6	TIE-SW	TIO-003 * 2	200RB 2T3T * 2	ASC3 208VAC * 2	XR06CX *2	XR70CX * 2
4.3*6.1*2.4 (14*20*8)	63.5 (2240)	5.8	<b>KHM515LQL*2</b>	5.6	TIE-SW	TIO-003 * 2	200RB 2T3T * 2	ASC3 208VAC * 2	XR06CX *2	XR70CX * 2

### Notes:

1. Design Is Based On 43°C Ambient Condition
2. 100mm PUF Panels Considered For Walls & Ceiling
3. Frozen Product Entering Temperature -15°C Is Considered
4. Product Turn Over 100% of Storage Capacity Is Considered
5. Product Pull Down Time 12 Hour Is Considered
6. Safety Factor 10% Is Considered
7. Capacity Is Based On 18 Hour Compressor Run Time
8. Selection Is Based On 5K Evaporator TD
9. Evaporator Selection Capacity Is Equivalent To CDU Capacity
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Phone: 1800-209-1700

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## Bulk Milk Chiller - Ready Reckoner 6:

Daily Milk Load	No. Of Batches	Milk Load Per Batch	Pull Down Time Per Batch	Fresh Milk Temp.	Milk Chilling Temp.	Refrigeration Capacity, KW	India Built Recip & Scroll CDUs	
							R22	R404A
500 Liters	2 Batches	250 Ltrs	3.0 Hrs	34°C	4°C	3	KHR522MQE-BX/DX	KHZ515MQL- BX/DX
1000 Liters	2 Batches	500 Ltrs	3.0 Hrs	34°C	4°C	5.9	KHR536MQE-BX/DX	KHZ521MQL- BX/DX
2000 Liters	2 Batches	1000 Ltrs	3.0 Hrs	34°C	4°C	11.8	KHR536MQE- BX/DX *2 Nos	KHZ521MQL- BX/DX *2Nos
3000 Liters	2 Batches	1500 Ltrs	3.0 Hrs	34°C	4°C	17.8	KHR553MQE - DX *2Nos	KHZ538MQL - DX *2Nos
4000 Liters	2 Batches	2000 Ltrs	3.0 Hrs	34°C	4°C	23.2	KHR572MAE - DX *2Nos	KHZ545MAL - DX *2Nos
5000 Liters	2 Batches	2500 Ltrs	3.0 Hrs	34°C	4°C	29.6	---	KHZ548MAL - DX *2Nos

### Notes:

1. Design Is Based On -1°C Evaporating Temp. & 43°C Ambient Condition.
2. Power Supply - BX: 1Ph, 50Hz & DX: 3Ph, 50Hz
3. Selection Is Based On 5K Evaporator TD
4. Evaporator Selection Capacity Is Equivalent To CDU Capacity
5. Air-Cooled CDUs Built By Using Hermetic – Reciprocating & Scroll Type Compressor.

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Phone: 1800-209-1700

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