

REFRIGERATION SELECTOR TOOL

COLD ROOM SYSTEM

Heat load Calculation and System Report

Project Details

Retrieval code: f040

Project name / room description:

Kanpai Freezer REV2

System reference:

F6204 8361B

Room Details

Length:	4.00 m	Int. Volume:	12.88 m ³	Outside Temp.:	27 °C
Width:	1.40 m	Measurements:	Internal	Room Temp.:	-20 °C
Height:	2.30 m	Usage:	Normal		
Insulation thickness:	100mm	Floor insulation:	Yes		

Calculated Heat Loads *

Product Load:	0.10 kW	Lighting Load:	0.01 kW	Occupancy Load:	0.07 kW
Air Change Load:	0.36 kW	Cooler Heat:	0.04 kW	Fabric Load:	0.39 kW

Total Load: (with 18hr run time + 5% contingency) **1.36 kW**

Selected System:

Reference:	F6204 8361B	System duty:	1.51 kW
Condensing Unit Model:	LSQM048NTW05G	Coldroom Duty incl. Fan Heat:	1.36 kW
Condensing Unit Type:	Optyma Slim	Run Time:	16.2 hrs/24 hrs
Evaporator:	TEC5-5L	Refrigerant	R452A

Brief Technical Specification: F6204 8361B

Condensing Unit

Dimensions W x H x D (mm):	1106 x 695 x 464
Max Oper. Current:	11.0A
Electric supply:	1phase
Sound Pressure dB(A) @ 10m	40
Weight:	62kg

Evaporator

Dimensions W x H x D (mm):	1120 x 180 x 375
Defrost Heater:	1000
Weight:	16kg

Components

Description	Model	Part No.
Condensing Unit	LSQM048NTW05G	613880
Evaporator	TEC5-5L	675592
Defrost Kit	TEC5, TEC6	675882
Solenoid Valve	EVR3 3/8"	675003
Solenoid Valve Coil	240V T/BOX 10W	675019
TEV Orifice	02	675118
TEV Inlet Adaptor	3/8 solder adaptor	675142
Control Panel	Optyma Controller 1ph	600022
TEV Body	TES2 Flare/Solder R452A Range N	624497

* **Calculated Heat Load** is based on: **Coldroom ambient temperatures:** 27°C (walls & ceiling), 13°C (floor) **Wall & Floor Insulation:** Polyurethane / PIR insulation with a 'k' value of 0.024 W/m.K **Floor Insulation:** U value 1.136W/m².K if 'no floor insulation' is selected, otherwise as walls & ceiling insulation **Product Load:** 65kg/m³/24hrs entering at 6K above room temperature. Specific heat 3.6kJ/kg.K (Chillers) & 1.7kJ/kg.K (Freezers) **Air Change:** based on typical usage. (Doubled for ' Heavy' usage **Lighting:** 10W/m² on for 4 hours / day Occupancy 1 person for 4hrs/day **Contingency:** 5% **Condensing unit performance based on:** 32°C ambient (air on to condenser)