

Product Type	$\Delta T = TD$
Products that dehydrate quickly, such as most fruits and vegetable	4 K
Products requiring about 85% saturated air	6 K
Products requiring about 80% saturated air	8 K
Materials not sensitive to dehydration	10K Upwards

Source: Hundy, Trott and Welch. Refrigeration and Air Conditioning 4th Ed. (2008)

Product Type	Storage Temp o C	Moisture % RH	TD Forced	TD Natural
Eggs, Dairy, Produce, Vegetable	2 - 4	90 - 95 %	3 to 6 K	8 to 10 K
Fruit	2	90%	6 K	10 to 12 K
Cut Meats	1	85 - 90 %	5 to 7 K	10 to 12 K
Carcass Meats	2 to 3	82 - 86 %	7 to 9 K	12 to 14 K
Cheese, Packaged or Bottled goods	3 to 4	70 - 80 %	9 to 12 K	14 to 16 K
Frozen Goods	-20	90% approx.	5 to 10 K	11 to 14 K
Air Conditioning	23	50 - 55 %	20 K	

Source: Australian Refrigeration and Air Conditioning 2nd Ed. Graham Boyle

THERMAL DATA FOR SOME FOOD PRODUCTS					
Product Type	Freezing point (°C)	Percent water (%)	Specific heat		Latent heat of fusion (kJ kg ⁻¹)
			above freezing	below freezing	
			(kJ kg ⁻¹ °C ⁻¹)		

Fruit

Apples	-2	84	3.6	1.88	280
Bananas	-2	75	3.35	1.76	255
Grapefruit	-2	89	3.81	1.93	293
Peaches	-2	87	3.78	1.93	289
Pineapples	-2	85	3.68	1.88	285
Watermelons	-2	92	4.06	2.01	306

Vegetables

Asparagus	-1	93	3.93	2.01	310
Beans (green)	-1	89	3.81	1.97	297
Cabbage	-1	92	3.93	1.97	306
Carrots	-1	88	3.6	1.88	293
Corn	-1	76	3.35	1.8	251
Peas	-1	74	3.31	1.76	247
Tomatoes	-1	95	3.98	2.01	310

Meat

Bacon	-2	20	2.09	1.26	71
Beef	-2	75	3.22	1.67	255
Fish	-2	70	3.18	1.67	276
Lamb	-2	70	3.18	1.67	276
Pork	-2	60	2.85	1.59	197
Veal	-2	63	2.97	1.67	209

Miscellaneous

Beer	-2	92	4.19	2.01	301
Bread	-2	32-37	2.93	1.42	109-121
Eggs	-3		3.2	1.67	276
Ice cream	-3 to -18	58-66	3.3	1.88	222
Milk	-1	87.5	3.9	2.05	289
Water	0	100	4.19	2.05	335

Sourced from

<http://www.nzifst.org.nz/unitoperations/appendix7.htm>

Suggested Low and High Pressure control settings for commercial refrigeration

Cabinet Contents	Supply Air Temperature	Refrigerant Type	Cycling Pressure Control			Safety Control		Approximate Pressure Conversion Factors
			Cut out	Cut in	Differential	LP Cut Out	HP Cut Out	
Fresh Produce	0° C to 1° C	R134a	1.20 bar	2.2 bar	1.0 bar	0.60 bar	11.20 bar	100 kPa = 1 bar 100 kPa = 14 psi 101 psi = 7 bar 1 psi = 7 kPa
		R404A	3.70 bar	5.5 bar	1.80 bar	2.40 bar	22.20 bar	
		R22	2.90 bar	4.50 bar	1.60 bar	0.60 bar	11.20 bar	
Dairy Produce	0° C to 2° C	R134a	0.90 bar	1.70 bar	0.80 bar	0.55 bar	11.20 bar	
		R404A	2.50 bar	3.60 bar	1.10 bar	2.40 bar	22.20 bar	
		R22	2.40 bar	3.70 bar	1.30 bar	1.60 bar	19.00 bar	
Delicatessen	-2° C to 0° C	R134a	1.10 bar	1.70 bar	0.60 bar	0.65 bar	11.20 bar	
		R404A	3.50 bar	4.60 bar	1.10 bar	2.60 bar	22.20 bar	
		R22	2.70 bar	3.60 bar	0.90 bar	2.00 bar	19.00 bar	
Fresh Meat	-4° C to - 3° C	R134a	0.80 bar	1.60 bar	0.80 bar	0.35 bar	11.00 bar	
		R404A	2.90 bar	4.25 bar	1.35 bar	2.00 bar	22.20 bar	
		R22	2.20 bar	3.40 bar	1.20 bar	1.50 bar	19.00 bar	
Frozen Food	-25° C to - 21° C	R404A	0.85 bar	1.80 bar	0.95 bar	0.25 bar	22.20 bar	
		R22	0.50 bar	1.30 bar	0.80 bar	0.00 bar	19.00 bar	
Frozen Food	-31° C to - 26°	R404A	0.65 bar	1.40 bar	0.75 bar	0.15 bar	22.20 bar	

Conversion Examples:
LP Cutout = 1.2 bar = 1.2 x 100 = 120 kPa
HP Cutout = 300 psi = 300 x 7 = 2100 kPa = 2100/100 = 21 bar

Source: Danfoss control products data sheet distributed by Kirby