KRAMER

QV SERIES: THERMOBANK

15 TO 100 HP THERMOBANK UNITS

with Bitzer Ecoline™ Compressors

2024 DEALER DESIGN AWARDS
theNEWS | SILVER

FEATURES

The design of the innovative QV Series: ThermoBank™ sets the new standard for efficiency, reliability and serviceability to meet the needs of the food processing, industrial cooling and warehousing industries. Models incorporate features from our award-winning Quantum Air™ Condensers such as the floating coil design with generously sized condensers for energy savings, swept wing fan blades for optimal air flow, and LED lighted control panel and hinged venturi panels for easy access. QV Series: ThermoBank™ delivers more refrigeration with less energy consumption, less equipment, lower installation costs and lower operating costs than conventional refrigeration packages. With its fast defrost period (typically 5 to 10 minutes), QV Series: ThermoBank™ is refrigerating while other systems are still defrosting.

MODEL NOMENCLATURE

K	T	B	V	030	M	4S	G	A
Brand	Model Style	Compressor Type	Configuration	Horsepower	Temperature Range	Refrigerant Type	Voltage*	Vintage
K = Kramer	T = Thermobank	B = Bitzer Ecoline®	V = Single Compressor P = Parallel Piping	030 = 30 HP	M = Medium Temp. L = Low Temp.	4S = Multiple Refrigerants (R404A, R407A, R407C, R407F, R448A, R449A/B)	E = 208-230/3/60 G = 460/3/60	A = Vintage

Note: *50 Hz available. Contact Factory for additional information.

FEATURES AND OPTIONS

● Standard ○ Optional ⊖ Not Available

DESCRIPTION	Availability
Vertical air discharge configuration	●
Prepaint gray exterior/G60 Galvanized outdoor cabinet construction	●
G90 Galvanized frame	●
Service gauge hooks	●
Mechanically formed pre-bent tubing reduces potential leaks	●
All welded thermobank	●
High and low voltage electrical panels with hinged door	●
Single point electrical connection	●
Award-winning floating coil design	●
Subcooling circuit	●
Flip top condenser fan venturi(s)	●
Swept wing fan blades for optional air flow	●
Adjustable flooded head pressure control valve	●
ElectroFin® or Bronz-Glow	○
Bitzer Ecoline™ compressor^	●
Crankcase heater	●
Electronic oil failure control	●
Suction line and discharge line vibrasorbers	●
Floored compressor cabinet with removable compressor tray	●
Liquid injection on low temperature compressors	○
3 Phase condenser fan motors	●
Hinged and removable access panels	●
Separate power and control electrical panels	●
Condenser fan contactors	●
Control circuit and condenser fan fuses	●
Single point alarm with liquid line solenoid lockout	●
Pump down switch	●
208-230 Control voltage	●
Service and control LED control panel lighting (Panel door switch/service toggle)	●
110 VAC 20 Amp convenience outlet for field connection	●
EC fan motors with electronic variable speed control	○
Control circuit and condenser fan breakers	○
Thru-the-door non-fused disconnect (200 amp Max)	○
Thru-the-door fused disconnect (200 amp Max)	○
Thru-the-door breaker disconnect (225 amp Max)	○
Phase loss monitor (Symcom 250A or ICM450)	○
High and low pressure controls	●
Color coded refrigerant hoses	●
Horizontal receiver	●
Receiver isolation valve	●
Refrigerant relief valve	●
Replaceable core suction filter	●
Replaceable core liquid line filter	●
Liquid line isolation valve with sight glass	●
Electronic fan cycling control	●
Oil separator with check valve	●
Oil management system	● PARALLEL
Heated and insulated receiver	○
Oversized receiver	○
Suction accumulator	○
Boil out suction accumulator	○
Liquid filter isolation valve	○
Suction filter isolation valve	○
Crankcase pressure regulator	○
Hot gas valve (shipped loose)	○

^ Also available with Copeland Discus™ compressor - see separate QV Series: ThermoBank™ brochure for information. For use with matching Thermobank Evaporators ONLY.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R404A BITZER // SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBV015M4S*	4NE-20	239,500	220,700	202,000	183,600	167,900	152,200	123,900	98,600	76,200
	KTBV020M4S*	4JE-22	258,600	240,100	220,500	201,300	184,600	168,500	137,200	110,200	85,700
	KTBV025M4S*	4HE-25	292,500	271,900	250,600	229,300	210,700	192,400	158,600	128,000	100,600
	KTBV030M4S*	4GE-30	343,600	318,800	294,200	269,200	247,600	227,400	186,500	150,600	118,200
	KTBV035M4S*	6HE-35	447,700	415,800	382,200	349,500	321,100	292,600	240,300	194,200	151,800
	KTBV040M4S*	6GE-40	491,700	457,200	421,200	386,900	356,500	327,200	269,200	217,900	171,300
	KTBV050M4S*	6FE-50	566,600	529,900	489,500	451,400	417,700	384,300	318,200	259,500	205,200
95°	KTBV015M4S*	4NE-20	227,800	210,600	192,500	174,900	159,400	144,300	117,300	92,900	71,300
	KTBV020M4S*	4JE-22	247,800	229,400	210,100	191,600	175,500	160,600	129,700	103,900	80,000
	KTBV025M4S*	4HE-25	279,200	259,300	238,500	218,200	200,300	182,700	150,300	121,600	94,500
	KTBV030M4S*	4GE-30	324,600	301,600	276,500	253,800	233,300	213,000	175,100	140,900	110,400
	KTBV035M4S*	6HE-35	424,200	393,000	361,200	329,600	302,100	276,700	225,500	181,100	140,700
	KTBV040M4S*	6GE-40	464,000	432,000	396,900	363,800	335,200	306,600	252,400	204,500	160,000
	KTBV050M4S*	6FE-50	539,900	504,200	465,900	429,100	396,200	363,200	301,600	245,200	193,500
100°	KTBV015M4S*	4NE-20	–	200,600	182,800	165,900	151,100	137,200	110,600	87,400	67,000
	KTBV020M4S*	4JE-22	–	218,100	199,700	181,800	166,200	151,400	123,000	97,600	75,100
	KTBV025M4S*	4HE-25	–	246,700	226,300	206,800	190,000	173,100	142,500	114,000	88,700
	KTBV030M4S*	4GE-30	–	286,900	262,900	240,700	221,000	201,600	165,700	132,900	103,800
	KTBV035M4S*	6HE-35	–	374,500	343,200	313,000	286,800	260,700	213,300	170,400	132,200
	KTBV040M4S*	6GE-40	–	410,200	377,500	345,100	317,800	290,200	238,500	192,100	150,600
	KTBV050M4S*	6FE-50	–	478,900	441,800	406,600	374,800	343,600	285,300	231,000	181,800
110°	KTBV015M4S*	4NE-20	–	–	164,300	149,000	135,100	121,900	97,700	76,500	58,000
	KTBV020M4S*	4JE-22	–	–	179,200	163,000	148,600	134,400	108,500	85,200	64,700
	KTBV025M4S*	4HE-25	–	–	202,500	185,700	169,700	153,100	125,700	100,200	76,900
	KTBV030M4S*	4GE-30	–	–	235,000	215,300	197,300	178,800	147,200	117,400	91,100
	KTBV035M4S*	6HE-35	–	–	308,200	280,500	256,900	232,800	188,800	149,600	114,800
	KTBV040M4S*	6GE-40	–	–	337,100	308,400	282,900	257,700	211,200	168,800	130,900
	KTBV050M4S*	6FE-50	–	–	395,100	362,700	333,800	305,400	251,900	203,000	158,200

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R407A, R407F BITZER // SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBV015M4S*	4NE-20	211,700	191,500	175,500	160,300	146,100	133,000	106,500	83,000	63,200
	KTBV020M4S*	4JE-22	228,800	207,300	190,300	173,800	158,800	144,800	115,900	90,100	67,900
	KTBV025M4S*	4HE-25	279,500	255,100	231,300	211,100	192,400	174,900	139,500	108,100	80,500
	KTBV030M4S*	4GE-30	324,900	297,100	269,800	246,800	221,500	203,900	164,700	128,700	97,400
	KTBV035M4S*	6HE-35	428,600	390,700	354,700	323,900	294,500	266,600	214,800	166,700	126,500
	KTBV040M4S*	6GE-40	480,600	439,300	398,700	365,300	333,100	301,900	244,300	190,800	145,100
	KTBV050M4S*	6FE-50	557,100	510,400	464,800	426,200	389,800	353,300	286,600	225,300	171,300
95°	KTBV015M4S*	4NE-20	203,400	183,800	168,300	153,500	139,800	127,000	101,800	78,700	59,600
	KTBV020M4S*	4JE-22	219,800	198,900	182,400	166,600	151,800	138,000	110,000	85,200	63,800
	KTBV025M4S*	4HE-25	268,600	242,500	221,700	202,500	183,700	167,000	132,600	102,200	76,000
	KTBV030M4S*	4GE-30	312,500	282,900	259,200	235,800	215,500	196,400	157,700	122,100	91,300
	KTBV035M4S*	6HE-35	411,300	375,100	339,800	310,200	281,700	256,500	205,100	158,500	118,700
	KTBV040M4S*	6GE-40	461,400	421,600	383,100	349,800	319,100	288,900	233,700	181,100	136,800
	KTBV050M4S*	6FE-50	535,500	490,400	446,000	408,500	373,200	340,200	273,300	213,500	162,000
100°	KTBV015M4S*	4NE-20	–	176,500	161,200	146,800	133,500	121,100	96,700	74,300	55,800
	KTBV020M4S*	4JE-22	–	190,600	174,600	159,200	144,700	131,400	104,300	80,400	59,800
	KTBV025M4S*	4HE-25	–	232,400	212,400	192,900	175,300	159,000	126,100	96,300	71,100
	KTBV030M4S*	4GE-30	–	271,500	248,500	226,400	206,400	187,500	150,000	115,700	86,800
	KTBV035M4S*	6HE-35	–	356,800	323,100	294,500	267,000	242,400	192,800	148,000	110,200
	KTBV040M4S*	6GE-40	–	405,000	366,800	335,100	304,800	275,200	221,900	171,400	128,600
	KTBV050M4S*	6FE-50	–	473,900	431,200	394,500	360,100	327,900	264,500	204,500	154,900
110°	KTBV015M4S*	4NE-20	–	–	146,800	133,300	121,000	109,400	86,100	65,700	48,800
	KTBV020M4S*	4JE-22	–	–	159,100	144,600	131,100	118,600	93,200	70,700	51,800
	KTBV025M4S*	4HE-25	–	–	193,300	175,500	158,900	143,500	112,100	84,800	61,700
	KTBV030M4S*	4GE-30	–	–	227,000	206,600	187,600	170,000	134,100	102,900	76,000
	KTBV035M4S*	6HE-35	–	–	298,000	270,400	245,200	221,500	175,900	132,900	98,400
	KTBV040M4S*	6GE-40	–	–	335,400	305,200	277,800	251,400	198,600	152,300	113,200
	KTBV050M4S*	6FE-50	–	–	390,700	355,800	324,200	294,100	233,800	179,400	133,900

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.

All capacities are calculated at 65°F return gas temperature and dew point values.

‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R407C BITZER // SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBV015M4S*	4NE-20	203,000	183,600	168,200	153,400	139,900	127,200	101,600	79,000	59,600
	KTBV020M4S*	4JE-22	238,100	217,200	196,000	177,800	161,700	146,600	115,900	88,000	64,200
	KTBV025M4S*	4HE-25	273,400	251,800	226,700	206,600	188,300	170,800	136,000	104,700	76,900
	KTBV030M4S*	4GE-30	324,400	299,100	268,900	246,800	220,900	202,700	163,400	127,000	95,800
	KTBV035M4S*	6HE-35	407,100	368,500	335,500	305,300	278,100	250,600	201,200	155,800	118,700
	KTBV040M4S*	6GE-40	466,700	422,900	386,900	355,500	323,500	293,200	237,200	187,000	143,800
	KTBV050M4S*	6FE-50	538,100	490,900	447,300	409,700	373,200	336,100	275,600	215,200	163,500
95°	KTBV015M4S*	4NE-20	195,000	176,200	161,300	146,900	133,900	121,500	97,100	74,900	56,200
	KTBV020M4S*	4JE-22	228,700	208,400	187,900	170,400	154,600	139,700	110,000	83,200	60,300
	KTBV025M4S*	4HE-25	262,700	239,400	217,300	198,200	179,800	163,100	129,300	99,000	72,600
	KTBV030M4S*	4GE-30	312,000	284,800	258,300	235,800	214,900	195,200	156,500	120,500	89,800
	KTBV035M4S*	6HE-35	390,700	353,800	321,400	292,400	266,000	241,100	192,100	148,100	111,400
	KTBV040M4S*	6GE-40	448,100	405,900	371,800	340,400	309,900	280,600	226,900	177,500	135,600
	KTBV050M4S*	6FE-50	517,200	471,700	429,200	392,700	357,300	323,600	262,800	203,900	154,600
100°	KTBV015M4S*	4NE-20	–	169,200	154,500	140,500	127,900	115,900	92,200	70,700	52,600
	KTBV020M4S*	4JE-22	–	199,700	179,900	162,800	147,400	133,000	104,300	78,500	56,500
	KTBV025M4S*	4HE-25	–	229,400	208,200	188,800	171,600	155,300	123,000	93,300	67,900
	KTBV030M4S*	4GE-30	–	273,300	247,600	226,400	205,800	186,400	148,900	114,200	85,400
	KTBV035M4S*	6HE-35	–	336,500	305,600	277,600	252,100	227,800	180,600	138,300	103,400
	KTBV040M4S*	6GE-40	–	389,900	356,000	326,100	296,000	267,300	215,400	168,000	127,500
	KTBV050M4S*	6FE-50	–	455,800	415,000	379,200	344,800	311,900	254,300	195,300	147,800
110°	KTBV015M4S*	4NE-20	–	–	140,700	127,600	115,900	104,700	82,100	62,500	46,000
	KTBV020M4S*	4JE-22	–	–	163,900	147,900	133,500	120,100	93,200	69,000	49,000
	KTBV025M4S*	4HE-25	–	–	189,500	171,800	155,500	140,100	109,300	82,100	58,900
	KTBV030M4S*	4GE-30	–	–	226,200	206,600	187,100	169,000	133,100	101,600	74,800
	KTBV035M4S*	6HE-35	–	–	281,900	254,900	231,500	208,200	164,800	124,200	92,300
	KTBV040M4S*	6GE-40	–	–	325,500	297,000	269,800	244,200	192,800	149,300	112,200
	KTBV050M4S*	6FE-50	–	–	376,000	342,000	310,400	279,700	224,800	171,300	127,800

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
‡ Multiply capacity by .83 when used with 50 Hz power..

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R448A, R449A/B BITZER // SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBV015M4S*	4NE-20	216,900	198,300	179,900	164,800	150,000	136,600	109,700	86,100	66,400
	KTBV020M4S*	4JE-22	251,100	229,700	208,100	190,500	174,000	158,500	128,000	99,900	76,200
	KTBV025M4S*	4HE-25	285,100	264,100	238,900	218,600	200,900	183,200	149,400	118,100	91,000
	KTBV030M4S*	4GE-30	329,600	305,300	276,000	254,800	228,800	211,100	172,600	137,400	107,500
	KTBV035M4S*	6HE-35	431,300	393,900	359,800	329,400	300,600	272,300	222,000	175,100	136,300
	KTBV040M4S*	6GE-40	476,600	437,400	398,400	368,500	336,900	306,900	251,500	200,600	157,300
	KTBV050M4S*	6FE-50	557,100	513,500	470,300	435,100	400,600	365,600	302,500	242,300	188,900
95°	KTBV015M4S*	4NE-20	208,400	190,300	172,500	157,800	143,500	130,400	104,900	81,600	62,600
	KTBV020M4S*	4JE-22	241,200	220,400	199,500	182,600	166,300	151,100	121,500	94,500	71,600
	KTBV025M4S*	4HE-25	274,000	251,100	229,000	209,700	191,800	174,900	142,000	111,700	85,900
	KTBV030M4S*	4GE-30	317,000	290,700	265,200	243,400	222,600	203,300	165,300	130,400	100,800
	KTBV035M4S*	6HE-35	413,900	378,200	344,700	315,500	287,500	262,000	212,000	166,500	127,900
	KTBV040M4S*	6GE-40	457,600	419,800	382,800	352,900	322,700	293,700	240,600	190,400	148,300
	KTBV050M4S*	6FE-50	535,500	493,400	451,300	417,000	383,500	352,000	288,500	229,600	178,600
100°	KTBV015M4S*	4NE-20	–	182,700	165,200	150,900	137,000	124,300	99,600	77,000	58,600
	KTBV020M4S*	4JE-22	–	211,200	191,000	174,500	158,500	143,900	115,200	89,200	67,100
	KTBV025M4S*	4HE-25	–	240,600	219,400	199,800	183,000	166,500	135,000	105,300	80,400
	KTBV030M4S*	4GE-30	–	279,000	254,300	233,700	213,200	194,100	157,200	123,600	95,800
	KTBV035M4S*	6HE-35	–	359,700	327,800	299,500	272,500	247,600	199,300	155,500	118,700
	KTBV040M4S*	6GE-40	–	403,300	366,500	338,100	308,200	279,800	228,500	180,200	139,400
	KTBV050M4S*	6FE-50	–	476,800	436,300	402,700	370,000	339,300	279,200	219,900	170,800
110°	KTBV015M4S*	4NE-20	–	–	150,500	137,000	124,200	112,300	88,700	68,100	51,300
	KTBV020M4S*	4JE-22	–	–	174,000	158,500	143,600	129,900	102,900	78,400	58,100
	KTBV025M4S*	4HE-25	–	–	199,700	181,700	165,900	150,300	120,000	92,700	69,700
	KTBV030M4S*	4GE-30	–	–	232,300	213,300	193,800	176,000	140,600	109,900	83,900
	KTBV035M4S*	6HE-35	–	–	302,300	275,000	250,200	226,200	181,800	139,600	106,000
	KTBV040M4S*	6GE-40	–	–	335,100	307,900	280,900	255,600	204,500	160,100	122,700
	KTBV050M4S*	6FE-50	–	–	395,300	363,200	333,100	304,300	246,800	192,900	147,600

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R404A BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBP050M4S*	(2) 4HE-25	585,000	543,800	501,200	458,600	421,400	384,800	317,200	256,000	201,200
	KTBP060M4S*	(2) 4GE-30	687,200	637,600	588,400	538,400	495,200	454,800	373,000	301,200	236,400
	KTBP070M4S*	(2) 6HE-35	895,400	831,600	764,400	699,000	642,200	585,200	480,600	388,400	303,600
	KTBP080M4S*	(2) 6GE-40	983,400	914,400	842,400	773,800	713,000	654,400	538,400	435,800	342,600
	KTBP100M4S*	(2) 6FE-50	1,133,200	1,059,800	979,000	902,800	835,400	768,600	636,400	519,000	410,400
95°	KTBP050M4S*	(2) 4HE-25	558,400	518,600	477,000	436,400	400,600	365,400	300,600	243,200	189,000
	KTBP060M4S*	(2) 4GE-30	649,200	603,200	553,000	507,600	466,600	426,000	350,200	281,800	220,800
	KTBP070M4S*	(2) 6HE-35	848,400	786,000	722,400	659,200	604,200	553,400	451,000	362,200	281,400
	KTBP080M4S*	(2) 6GE-40	928,000	864,000	793,800	727,600	670,400	613,200	504,800	409,000	320,000
	KTBP100M4S*	(2) 6FE-50	1,079,800	1,008,400	931,800	858,200	792,400	726,400	603,200	490,400	387,000
100°	KTBP050M4S*	(2) 4HE-25	–	493,400	452,600	413,600	380,000	346,200	285,000	228,000	177,400
	KTBP060M4S*	(2) 4GE-30	–	573,800	525,800	481,400	442,000	403,200	331,400	265,800	207,600
	KTBP070M4S*	(2) 6HE-35	–	749,000	686,400	626,000	573,600	521,400	426,600	340,800	264,400
	KTBP080M4S*	(2) 6GE-40	–	820,400	755,000	690,200	635,600	580,400	477,000	384,200	301,200
	KTBP100M4S*	(2) 6FE-50	–	957,800	883,600	813,200	749,600	687,200	570,600	462,000	363,600
110°	KTBP050M4S*	(2) 4HE-25	–	–	405,000	371,400	339,400	306,200	251,400	200,400	153,800
	KTBP060M4S*	(2) 4GE-30	–	–	470,000	430,600	394,600	357,600	294,400	234,800	182,200
	KTBP070M4S*	(2) 6HE-35	–	–	616,400	561,000	513,800	465,600	377,600	299,200	229,600
	KTBP080M4S*	(2) 6GE-40	–	–	674,200	616,800	565,800	515,400	422,400	337,600	261,800
	KTBP100M4S*	(2) 6FE-50	–	–	790,200	725,400	667,600	610,800	503,800	406,000	316,400

* Each asterisk represents a variable character based upon model and voltage ordered. See page 2 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R407A, R407F BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBP050M4S*	(2) 4HE-25	559,000	510,200	462,600	422,200	384,800	349,800	279,000	216,200	161,000
	KTBP060M4S*	(2) 4GE-30	649,800	594,200	539,600	493,600	443,000	407,800	329,400	257,400	194,800
	KTBP070M4S*	(2) 6HE-35	857,200	781,400	709,400	647,800	589,000	533,200	429,600	333,400	253,000
	KTBP080M4S*	(2) 6GE-40	961,200	878,600	797,400	730,600	666,200	603,800	488,600	381,600	290,200
	KTBP100M4S*	(2) 6FE-50	1,114,200	1,020,800	929,600	852,400	779,600	706,600	573,200	450,600	342,600
95°	KTBP050M4S*	(2) 4HE-25	537,200	485,000	443,400	405,000	367,400	334,000	265,200	204,400	152,000
	KTBP060M4S*	(2) 4GE-30	625,000	565,800	518,400	471,600	431,000	392,800	315,400	244,200	182,600
	KTBP070M4S*	(2) 6HE-35	822,600	750,200	679,600	620,400	563,400	513,000	410,200	317,000	237,400
	KTBP080M4S*	(2) 6GE-40	922,800	843,200	766,200	699,600	638,200	577,800	467,400	362,200	273,600
	KTBP100M4S*	(2) 6FE-50	1,071,000	980,800	892,000	817,000	746,400	680,400	546,600	427,000	324,000
100°	KTBP050M4S*	(2) 4HE-25	–	464,800	424,800	385,800	350,600	318,000	252,200	192,600	142,200
	KTBP060M4S*	(2) 4GE-30	–	543,000	497,000	452,800	412,800	375,000	300,000	231,400	173,600
	KTBP070M4S*	(2) 6HE-35	–	713,600	646,200	589,000	534,000	484,800	385,600	296,000	220,400
	KTBP080M4S*	(2) 6GE-40	–	810,000	733,600	670,200	609,600	550,400	443,800	342,800	257,200
	KTBP100M4S*	(2) 6FE-50	–	947,800	862,400	789,000	720,200	655,800	529,000	409,000	309,800
110°	KTBP050M4S*	(2) 4HE-25	–	–	386,600	351,000	317,800	287,000	224,200	169,600	123,400
	KTBP060M4S*	(2) 4GE-30	–	–	454,000	413,200	375,200	340,000	268,200	205,800	152,000
	KTBP070M4S*	(2) 6HE-35	–	–	596,000	540,800	490,400	443,000	351,800	265,800	196,800
	KTBP080M4S*	(2) 6GE-40	–	–	670,800	610,400	555,600	502,800	397,200	304,600	226,400
	KTBP100M4S*	(2) 6FE-50	–	–	781,400	711,600	648,400	588,200	467,600	358,800	267,800

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 2 for nomenclature.

All capacities are calculated at 65°F return gas temperature and dew point values.

Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.

‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R407C BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBP050M4S*	(2) 4HE-25	546,800	503,600	453,400	413,200	376,600	341,600	272,000	209,400	153,800
	KTBP060M4S*	(2) 4GE-30	648,800	598,200	537,800	493,600	441,800	405,400	326,800	254,000	191,600
	KTBP070M4S*	(2) 6HE-35	814,200	737,000	671,000	610,600	556,200	501,200	402,400	311,600	237,400
	KTBP080M4S*	(2) 6GE-40	933,400	845,800	773,800	711,000	647,000	586,400	474,400	374,000	287,600
	KTBP100M4S*	(2) 6FE-50	1,076,200	981,800	894,600	819,400	746,400	672,200	551,200	430,400	327,000
95°	KTBP050M4S*	(2) 4HE-25	525,400	478,800	434,600	396,400	359,600	326,200	258,600	198,000	145,200
	KTBP060M4S*	(2) 4GE-30	624,000	569,600	516,600	471,600	429,800	390,400	313,000	241,000	179,600
	KTBP070M4S*	(2) 6HE-35	781,400	707,600	642,800	584,800	532,000	482,200	384,200	296,200	222,800
	KTBP080M4S*	(2) 6GE-40	896,200	811,800	743,600	680,800	619,800	561,200	453,800	355,000	271,200
	KTBP100M4S*	(2) 6FE-50	1,034,400	943,400	858,400	785,400	714,600	647,200	525,600	407,800	309,200
100°	KTBP050M4S*	(2) 4HE-25	–	458,800	416,400	377,600	343,200	310,600	246,000	186,600	135,800
	KTBP060M4S*	(2) 4GE-30	–	546,600	495,200	452,800	411,600	372,800	297,800	228,400	170,800
	KTBP070M4S*	(2) 6HE-35	–	673,000	611,200	555,200	504,200	455,600	361,200	276,600	206,800
	KTBP080M4S*	(2) 6GE-40	–	779,800	712,000	652,200	592,000	534,600	430,800	336,000	255,000
	KTBP100M4S*	(2) 6FE-50	–	911,600	830,000	758,400	689,600	623,800	508,600	390,600	295,600
110°	KTBP050M4S*	(2) 4HE-25	–	–	379,000	343,600	311,000	280,200	218,600	164,200	117,800
	KTBP060M4S*	(2) 4GE-30	–	–	452,400	413,200	374,200	338,000	266,200	203,200	149,600
	KTBP070M4S*	(2) 6HE-35	–	–	563,800	509,800	463,000	416,400	329,600	248,400	184,600
	KTBP080M4S*	(2) 6GE-40	–	–	651,000	594,000	539,600	488,400	385,600	298,600	224,400
	KTBP100M4S*	(2) 6FE-50	–	–	752,000	684,000	620,800	559,400	449,600	342,600	255,600

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

MEDIUM TEMPERATURE R448A, R449A/B BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			45°	40°	35°	30°	25°	20°	10°	0°	-10°
90°	KTBP050M4S*	(2) 4HE-25	570,200	528,200	477,800	437,200	401,800	366,400	298,800	236,200	182,000
	KTBP060M4S*	(2) 4GE-30	659,200	610,600	552,000	509,600	457,600	422,200	345,200	274,800	215,000
	KTBP070M4S*	(2) 6HE-35	862,600	787,800	719,600	658,800	601,200	544,600	444,000	350,200	272,600
	KTBP080M4S*	(2) 6GE-40	953,200	874,800	796,800	737,000	673,800	613,800	503,000	401,200	314,600
	KTBP100M4S*	(2) 6FE-50	1,114,200	1,027,000	940,600	870,200	801,200	731,200	605,000	484,600	377,800
95°	KTBP050M4S*	(2) 4HE-25	548,000	502,200	458,000	419,400	383,600	349,800	284,000	223,400	171,800
	KTBP060M4S*	(2) 4GE-30	634,000	581,400	530,400	486,800	445,200	406,600	330,600	260,800	201,600
	KTBP070M4S*	(2) 6HE-35	827,800	756,400	689,400	631,000	575,000	524,000	424,000	333,000	255,800
	KTBP080M4S*	(2) 6GE-40	915,200	839,600	765,600	705,800	645,400	587,400	481,200	380,800	296,600
	KTBP100M4S*	(2) 6FE-50	1,071,000	986,800	902,600	834,000	767,000	704,000	577,000	459,200	357,200
100°	KTBP050M4S*	(2) 4HE-25	–	481,200	438,800	399,600	366,000	333,000	270,000	210,600	160,800
	KTBP060M4S*	(2) 4GE-30	–	558,000	508,600	467,400	426,400	388,200	314,400	247,200	191,600
	KTBP070M4S*	(2) 6HE-35	–	719,400	655,600	599,000	545,000	495,200	398,600	311,000	237,400
	KTBP080M4S*	(2) 6GE-40	–	806,600	733,000	676,200	616,400	559,600	457,000	360,400	278,800
	KTBP100M4S*	(2) 6FE-50	–	953,600	872,600	805,400	740,000	678,600	558,400	439,800	341,600
110°	KTBP050M4S*	(2) 4HE-25	–	–	399,400	363,400	331,800	300,600	240,000	185,400	139,400
	KTBP060M4S*	(2) 4GE-30	–	–	464,600	426,600	387,600	352,000	281,200	219,800	167,800
	KTBP070M4S*	(2) 6HE-35	–	–	604,600	550,000	500,400	452,400	363,600	279,200	212,000
	KTBP080M4S*	(2) 6GE-40	–	–	670,200	615,800	561,800	511,200	409,000	320,200	245,400
	KTBP100M4S*	(2) 6FE-50	–	–	790,600	726,400	666,200	608,600	493,600	385,800	295,200

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

LOW TEMPERATURE R404A BITZER // SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°
90°	KTBV022L4S*	4GE-23	135,500	123,600	110,600	99,100	88,400	77,400	67 ,400	59,000	50,900
	KTBV027L4S*	6HE-28	173,600	157,700	140,700	125,800	111,800	97,400	84,400	73,200	63,000
	KTBV030L4S*	6GE-34	203,100	185,200	166,500	149,400	133,300	117,700	103,100	90,600	78,900
	KTBV040L4S*	6FE-44	239,800	219,200	196,700	175,700	157,600	138,600	121,100	105,600	91,600
95°	KTBV022L4S*	4GE-23	128,200	116,500	104,300	93,300	82,700	72,600	63,100	55,200	47,400
	KTBV027L4S*	6HE-28	164,300	148,700	132,600	118,400	104,600	91,400	79,000	68,500	58,700
	KTBV030L4S*	6GE-34	192,300	175,000	157,200	140,900	125,500	110,700	96,700	84,800	73,500
	KTBV040L4S*	6FE-44	224,000	202,100	183,000	165,100	148,500	131,900	116,300	100,900	85,800
100°	KTBV022L4S*	4GE-23	120,900	109,800	98,000	87,500	77,800	67,800	58,800	51,300	43,700
	KTBV027L4S*	6HE-28	154,900	140,000	124,700	111,100	98,400	85,300	73,700	63,600	54,100
	KTBV030L4S*	6GE-34	181,500	165,100	147,900	132,400	117,700	103,500	90,300	79,000	68,300
	KTBV040L4S*	6FE-44	212,300	192,100	172,200	154,400	139,500	123,300	107,900	93,400	78,000
110°	KTBV022L4S*	4GE-23	106,400	96,100	85,500	75,900	67,100	58,400	50,400	43,700	37,300
	KTBV027L4S*	6HE-28	136,400	122,600	108,800	96,300	84,900	73,500	63,100	54,200	46,100
	KTBV030L4S*	6GE-34	160,000	145,000	129,600	115,400	102,200	89,400	77,600	67,500	59,500
	KTBV040L4S*	6FE-44	188,300	170,100	151,000	135,400	119,600	104,900	91,500	78,100	64,200

LOW TEMPERATURE R407A, R407F BITZER - SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°
90°	KTBV022L4S*	4GE-23	122,300	109,500	96,100	83,200	73,100	61,800	51,600	43,000	34,300
	KTBV027L4S*	6HE-28	148,000	132,400	116,000	100,200	87,500	73,600	60,900	49,400	40,000
	KTBV030L4S*	6GE-34	165,600	148,500	130,600	113,200	99,300	84,300	69,500	58,000	46,400
	KTBV040L4S*	6FE-44	212,800	189,900	166,700	145,400	126,100	106,300	88,200	74,700	61,700
95°	KTBV022L4S*	4GE-23	116,600	104,000	91,100	78,800	68,900	58,100	48,300	40,100	32,400
	KTBV027L4S*	6HE-28	140,600	125,400	109,600	94,400	82,300	68,900	56,400	45,800	36,100
	KTBV030L4S*	6GE-34	157,000	139,300	123,400	106,800	93,400	78,500	65,600	54,300	44,200
	KTBV040L4S*	6FE-44	204,400	182,200	159,400	138,800	119,500	100,800	82,800	68,900	54,800
100°	KTBV022L4S*	4GE-23	110,400	98,600	86,300	74,500	64,900	54,600	45,100	36,900	29,300
	KTBV027L4S*	6HE-28	133,200	118,400	103,200	88,800	77,000	64,100	52,600	41,700	32,300
	KTBV030L4S*	6GE-34	149,200	133,200	116,400	100,400	87,500	73,200	60,100	49,400	38,400
	KTBV040L4S*	6FE-44	194,200	172,600	150,500	129,600	112,100	94,300	77,600	63,000	49,300
110°	KTBV022L4S*	4GE-23	99,400	88,300	76,600	65,700	57,000	47,500	38,900	30,400	23,400
	KTBV027L4S*	6HE-28	118,800	105,200	91,100	78,400	66,800	55,000	44,400	34,400	26,200
	KTBV030L4S*	6GE-34	133,000	118,400	102,800	87,900	76,000	63,000	51,500	40,700	30,500
	KTBV040L4S*	6FE-44	175,600	155,600	134,300	115,000	97,700	81,400	66,000	52,500	39,600

Liquid injection required. Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

LOW TEMPERATURE R448A, R449A/B BITZER // SINGLE COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°
90°	KTBV022L4S*	4GE-23	128,400	116,000	103,000	91,000	80,200	69,200	59,200	50,500	40,000
	KTBV027L4S*	6HE-28	155,200	140,200	124,100	109,400	96,500	83,100	71,400	60,300	48,300
	KTBV030L4S*	6GE-34	188,900	173,900	154,100	137,400	122,800	108,000	92,000	80,200	62,900
	KTBV040L4S*	6FE-44	227,900	206,400	183,200	161,800	143,600	123,600	106,100	91,500	77,000
95°	KTBV022L4S*	4GE-23	122,400	110,200	97,600	86,200	75,600	65,100	55,400	47,100	37,800
	KTBV027L4S*	6HE-28	147,400	132,800	117,300	103,100	90,800	77,800	66,100	55,900	43,600
	KTBV030L4S*	6GE-34	179,100	163,100	145,600	129,600	115,500	100,600	86,800	75,100	59,900
	KTBV040L4S*	6FE-44	218,900	198,000	175,200	154,500	136,100	117,200	99,600	84,400	68,400
100°	KTBV022L4S*	4GE-23	115,900	104,500	92,500	81,500	71,200	61,200	51,700	43,300	–
	KTBV027L4S*	6HE-28	139,600	125,400	110,500	97,000	85,000	72,400	61,600	50,900	–
	KTBV030L4S*	6GE-34	170,200	156,000	137,300	121,800	108,200	93,800	79,500	68,300	–
	KTBV040L4S*	6FE-44	208,000	187,600	165,400	144,300	127,700	109,600	93,300	77,200	–
110°	KTBV022L4S*	4GE-23	104,300	93,600	82,100	71,900	62,500	53,200	44,600	35,700	–
	KTBV027L4S*	6HE-28	124,500	111,400	97,500	85,600	73,700	62,100	52,000	42,000	–
	KTBV030L4S*	6GE-34	151,700	138,600	121,300	106,700	94,000	80,700	68,100	56,300	–
	KTBV040L4S*	6FE-44	188,100	169,100	147,600	128,000	111,300	94,600	79,400	64,300	–

Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.

All capacities are calculated at 65°F return gas temperature and dew point values.

Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.

‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

LOW TEMPERATURE R404A BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Parallel Model No.	Comp. Model No.	Suction Temperature (°F)								
				0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°
90°	KTBD044L4S*	KTBP044L4S*	(2) 4GE-23	271,000	247,200	221,200	198,200	176,800	154,800	134,800	118,000	101,800
	KTBD054L4S*	KTBP054L4S*	(2) 6HE-28	347,200	315,400	281,400	251,600	223,600	194,800	168,800	146,400	126,000
	KTBD060L4S*	KTBP060L4S*	(2) 6GE-34	406,200	370,400	333,000	298,800	266,600	235,400	206,200	181,200	157,800
	KTBD080L4S*	KTBP080L4S*	(2) 6FE-44	479,600	438,400	393,400	351,400	315,200	277,200	242,200	211,200	183,200
95°	KTBD044L4S*	KTBP044L4S*	(2) 4GE-23	256,400	233,000	208,600	186,600	165,400	145,200	126,200	110,400	94,800
	KTBD054L4S*	KTBP054L4S*	(2) 6HE-28	328,600	297,400	265,200	236,800	209,200	182,800	158,000	137,000	117,400
	KTBD060L4S*	KTBP060L4S*	(2) 6GE-34	384,600	350,000	314,400	281,800	251,000	221,400	193,400	169,600	147,000
	KTBD080L4S*	KTBP080L4S*	(2) 6FE-44	448,000	404,200	366,000	330,200	297,000	263,800	232,600	201,800	171,600
100°	KTBD044L4S*	KTBP044L4S*	(2) 4GE-23	241,800	219,600	196,000	175,000	155,600	135,600	117,600	102,600	87,400
	KTBD054L4S*	KTBP054L4S*	(2) 6HE-28	309,800	280,000	249,400	222,200	196,800	170,600	147,400	127,200	108,200
	KTBD060L4S*	KTBP060L4S*	(2) 6GE-34	363,000	330,200	295,800	264,800	235,400	207,000	180,600	158,000	136,600
	KTBD080L4S*	KTBP080L4S*	(2) 6FE-44	424,600	384,200	344,400	308,800	279,000	246,600	215,800	186,800	156,000
110°	KTBD044L4S*	KTBP044L4S*	(2) 4GE-23	212,800	192,200	171,000	151,800	134,200	116,800	100,800	87,400	74,600
	KTBD054L4S*	KTBP054L4S*	(2) 6HE-28	272,800	245,200	217,600	192,600	169,800	147,000	126,200	108,400	92,200
	KTBD060L4S*	KTBP060L4S*	(2) 6GE-34	320,000	290,000	259,200	230,800	204,400	178,800	155,200	135,000	119,000
	KTBD080L4S*	KTBP080L4S*	(2) 6FE-44	376,600	340,200	302,000	270,800	239,200	209,800	183,000	156,200	128,400

LOW TEMPERATURE R407A, R407F BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°
90°	KTBP044L4S*	(2) 4GE-23	244,600	219,000	192,200	166,400	146,200	123,600	103,200	86,000	68,600
	KTBP054L4S*	(2) 6HE-28	296,000	264,800	232,000	200,400	175,000	147,200	121,800	98,800	80,000
	KTBP060L4S*	(2) 6GE-34	331,200	297,000	261,200	226,400	198,600	168,600	139,000	116,000	92,800
	KTBP080L4S*	(2) 6FE-44	425,600	379,800	333,400	290,800	252,200	212,600	176,400	149,400	123,400
95°	KTBP044L4S*	(2) 4GE-23	233,200	208,000	182,200	157,600	137,800	116,200	96,600	80,200	64,800
	KTBP054L4S*	(2) 6HE-28	281,200	250,800	219,200	188,800	164,600	137,800	112,800	91,600	72,200
	KTBP060L4S*	(2) 6GE-34	314,000	278,600	246,800	213,600	186,800	157,000	131,200	108,600	88,400
	KTBP080L4S*	(2) 6FE-44	408,800	364,400	318,800	277,600	239,000	201,600	165,600	137,800	109,600
100°	KTBP044L4S*	(2) 4GE-23	220,800	197,200	172,600	149,000	129,800	109,200	90,200	73,800	58,600
	KTBP054L4S*	(2) 6HE-28	266,400	236,800	206,400	177,600	154,000	128,200	105,200	83,400	64,600
	KTBP060L4S*	(2) 6GE-34	298,400	266,400	232,800	200,800	175,000	146,400	120,200	98,800	76,800
	KTBP080L4S*	(2) 6FE-44	388,400	345,200	301,000	259,200	224,200	188,600	155,200	126,000	98,600
110°	KTBP044L4S*	(2) 4GE-23	198,80 0	176,600	153,200	131,400	114,000	95,000	77,800	60,800	46,800
	KTBP054L4S*	(2) 6HE-28	237,600	210,400	182,200	156,800	133,600	110,000	88,800	68,800	52,400
	KTBP060L4S*	(2) 6GE-34	266,000	236,800	205,600	175,800	152,000	126,000	103,000	81,400	61,000
	KTBP080L4S*	(2) 6FE-44	351,200	311,200	268,600	230,000	195,400	162,800	132,000	105,000	79,200

Liquid injection required. Head fan required.

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.
‡ Multiply capacity by .83 when used with 50 Hz power.

CAPACITY DATA (BTUH)

LOW TEMPERATURE R448A, R449A/B BITZER // PARALLEL COMPRESSOR // 60 HZ‡

Ambient Temp. (°F)	Model No.	Comp. Model No.	Suction Temperature (°F)								
			0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°
90°	KTBP044L4S*	(2) 4GE-23	256,800	232,000	206,000	182,000	160,400	138,400	118,400	101,000	80,000
	KTBP054L4S*	(2) 6HE-28	310,400	280,400	248,200	218,800	193,000	166,200	142,800	120,600	96,600
	KTBP060L4S*	(2) 6GE-34	377,800	347,800	308,200	274,800	245,600	216,000	184,000	160, 400	125,800
	KTBP080L4S*	(2) 6FE-44	455,800	412,800	366,400	323,600	287,200	247,200	212,200	183,000	154,000
95°	KTBP044L4S*	(2) 4GE-23	244,800	220,400	195,200	172,400	151,200	130,200	110,800	94,200	75,600
	KTBP054L4S*	(2) 6HE-28	294,800	265,600	234,600	206,200	181,600	155,600	132,200	111,800	87,200
	KTBP060L4S*	(2) 6GE-34	358,200	326,200	291,200	259,200	231,000	201,200	173,600	150,200	119,800
	KTBP080L4S*	(2) 6FE-44	437,800	396,000	350,400	309,000	272,200	234,400	199,200	168,800	136,800
100°	KTBP044L4S*	(2) 4GE-23	231,800	209,000	185,000	163,000	142,400	122,400	103,400	86,600	–
	KTBP054L4S*	(2) 6HE-28	279,200	250,800	221,000	194,000	170,000	144,800	123,200	101,800	–
	KTBP060L4S*	(2) 6GE-34	340,400	312,000	274,600	243,600	216,400	187,600	159,000	136,600	–
	KTBP080L4S*	(2) 6FE-44	416,000	375,200	330,800	288,600	255,400	219,200	186,600	154,400	–
110°	KTBP044L4S*	(2) 4GE-23	208,600	187,200	164,200	143,800	125,000	106,400	89,200	71,400	–
	KTBP054L4S*	(2) 6HE-28	249,000	222,800	195,000	171,200	147,400	124,200	104,000	84,000	–
	KTBP060L4S*	(2) 6GE-34	303,400	277,200	242,600	213,400	188,000	161,400	136,200	112,600	–
	KTBP080L4S*	(2) 6FE-44	376,200	338,200	295,200	256,000	222,600	189,200	158,800	128,600	–

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
All capacities are calculated at 65°F return gas temperature and dew point values.
Demand cooling required on R407A, R407C, R407F, R448A and R449A/B.
‡ Multiply capacity by .83 when used with 50 Hz power.

ELECTRICAL SPECIFICATIONS // ALL MODELS

SINGLE COMPRESSOR MODELS

	Model No.	Comp. Model No.	Compressor			Cond. Fan		Control Amps	Hot Gas Defrost	
			RLA	MCC	LRA^	Total Fan FLA	QTY.		MCA	MOPD
208-230V/3/60 Hz	KTBV015M4S*	4NE-20	57.7	90.0	352.0	13.0	2	2.0	87.1	125
	KTBV020M4S*	4JE-22	61.5	95.9	352.0	13.0	2	2.0	91.9	150
	KTBV025M4S*	4HE-25	75.6	117.9	436.0	13.0	2	2.0	109.5	175
	KTBV030M4S*	4GE-30	89.7	139.9	294.0	13.0	2	2.0	127.1	200
	KTBV035M4S*	6HE-35	105.1	164.0	330.0	19.5	3	2.0	152.9	250
	KTBV040M4S*	6GE-40	141.0	220.0	420.0	19.5	3	2.0	197.8	300
	KTBV050M4S*	6FE-50	143.6	224.0	570.0	19.5	3	2.0	201.0	300
	KTBV022L4S*	4GE-23	57.7	90.0	352.0	13.0	2	2.0	87.1	125
	KTBV027L4S*	6HE-28	77.6	121.1	490.0	13.0	2	2.0	112.0	175
	KTBV030L4S*	6GE-34	84.6	132.0	294.0	13.0	2	2.0	120.8	200
	KTBV040L4S*	6FE-44	97.4	151.9	420.0	13.0	2	2.0	136.8	225
460V/3/60 Hz	KTBV015M4S*	4NE-20	28.8	44.9	176.0	6.6	2	1.0	43.6	70
	KTBV020M4S*	4JE-22	30.8	48.0	176.0	6.6	2	1.0	46.1	70
	KTBV025M4S*	4HE-25	37.8	59.0	218.0	6.6	2	1.0	54.9	90
	KTBV030M4S*	4GE-30	44.9	70.0	245.0	6.6	2	1.0	63.7	100
	KTBV035M4S*	6HE-35	52.6	82.1	275.0	9.9	3	1.0	76.7	125
	KTBV040M4S*	6GE-40	70.5	110.0	350.0	9.9	3	1.0	99.0	150
	KTBV050M4S*	6FE-50	71.8	112.0	425.0	9.9	3	1.0	100.7	150
	KTBV022L4S*	4GE-23	28.8	44.9	176.0	6.6	2	1.0	43.6	70
	KTBV027L4S*	6HE-28	38.8	60.5	245.0	6.6	2	1.0	56.1	90
	KTBV030L4S*	6GE-34	42.3	66.0	245.0	6.6	2	1.0	60.5	100
	KTBV040L4S*	6FE-44	48.7	76.0	350.0	6.6	2	1.0	68.5	110

PARALLEL COMPRESSOR MODELS

	Model No.	Comp. Model No.	Compressor			Cond. Fan		Control Amps	Hot Gas Defrost	
			RLA	MCC	LRA^	Total Fan FLA	QTY.		MCA	MOPD
208-230V/3/60 Hz	KTBP050M4S*	(2) 4HE-25	75.6	117.9	436.0	26.0	4	2.0	198.1	250
	KTBP060M4S*	(2) 4GE-30	89.7	139.9	294.0	26.0	4	2.0	229.8	300
	KTBP070M4S*	(2) 6HE-35	105.1	164.0	330.0	39.0	6	2.0	277.5	350
	KTBP080M4S*	(2) 6GE-40	141.0	220.0	420.0	39.0	6	2.0	358.3	450
	KTBP100M4S*	(2) 6FE-50	143.6	224.0	570.0	39.0	6	2.0	364.1	500
	KTBP044L4S*	(2) 4GE-23	57.7	90.0	352.0	13.0	2	2.0	144.8	200
	KTBP054L4S*	(2) 6HE-28	77.6	121.1	490.0	13.0	2	2.0	189.6	250
	KTBP060L4S*	(2) 6GE-34	84.6	132.0	294.0	13.0	2	2.0	205.4	250
	KTBP080L4S*	(2) 6FE-44	97.4	151.9	420.0	13.0	2	2.0	234.2	300
460V/3/60 Hz	KTBP050M4S*	(2) 4HE-25	37.8	59.0	218.0	13.2	4	1.0	99.3	125
	KTBP060M4S*	(2) 4GE-30	44.9	70.0	245.0	13.2	4	1.0	115.2	150
	KTBP070M4S*	(2) 6HE-35	52.6	82.1	275.0	19.8	6	1.0	139.2	175
	KTBP080M4S*	(2) 6GE-40	70.5	110.0	350.0	19.8	6	1.0	179.4	225
	KTBP100M4S*	(2) 6FE-50	71.8	112.0	425.0	19.8	6	1.0	182.4	250
	KTBP044L4S*	(2) 4GE-23	28.8	44.9	176.0	13.2	4	1.0	79.0	100
	KTBP054L4S*	(2) 6HE-28	38.8	60.5	245.0	13.2	4	1.0	101.5	125
	KTBP060L4S*	(2) 6GE-34	42.3	66.0	245.0	13.2	4	1.0	109.4	150
	KTBP080L4S*	(2) 6FE-44	48.7	76.0	350.0	13.2	4	1.0	123.8	150

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.

^ Model utilizes part winding start.

SPECIFICATIONS // ALL MODELS

SINGLE COMPRESSOR MODELS

Model Data				Connections (Ods)		Receiver Capacity By Refrigerant		
						Standard Receiver		
Model No.	Comp. Model No.	HP	Cond. Fan QTY.	Liquid	Suction^	90% R404A (Lbs.)	90% R407A, R407C, R407F (Lbs.)	90% R448A, R449A, R449B (Lbs.)
KTBV015M4S*	4NE-20	15	2	7/8	1-5/8	99	109	103
KTBV020M4S*	4JE-22	20	2	7/8	2-1/8	133	146	139
KTBV025M4S*	4HE-25	25	2	7/8	2-1/8	133	146	139
KTBV030M4S*	4GE-30	30	2	1-1/8	2-1/8	200	219	209
KTBV035M4S*	6HE-35	35	3	1-1/8	2-1/8	200	219	209
KTBV040M4S*	6GE-40	40	3	1-1/8	2-1/8	200	219	209
KTBV050M4S*	6FE-50	50	3	1-1/8	2-5/8	261	286	272
KTBV022L4S*	4GE-23	22	2	7/8	2-1/8	99	109	103
KTBV027L4S*	6HE-28	27	2	7/8	2-1/8	133	146	139
KTBV030L4S*	6GE-34	30	2	7/8	2-1/8	133	146	139
KTBV040L4S*	6FE-44	40	2	1-1/8	2-5/8	200	219	209

PARALLEL COMPRESSOR MODELS

Model Data				Connections (Ods)		Receiver Capacity By Refrigerant		
						Standard Receiver		
Model No.	Comp. Model No.	HP	Cond. Fan QTY.	Liquid	Suction^	90% R404A (Lbs.)	90% R407A, R407C, R407F (Lbs.)	90% R448A, R449A, R449B (Lbs.)
KTBP050M4S*	(2) 4HE-25	50	4	1-1/8	2 5/8	261	219	272
KTBP060M4S*	(2) 4GE-30	60	4	1-3/8	2 5/8	261	219	272
KTBP070M4S*	(2) 6HE-35	70	6	1-3/8	3 1/8	373	286	389
KTBP080M4S*	(2) 6GE-40	80	6	1-5/8	3 1/8	373	286	389
KTBP100M4S*	(2) 6FE-50	100	6	1-5/8	3 1/8	373	286	389
KTBP044L4S*	(2) 4GE-23	44	4	1-1/8	3 1/8	200	146	209
KTBP054L4S*	(2) 6HE-28	54	4	1-1/8	3 1/8	261	219	272
KTBP060L4S*	(2) 6GE-34	60	4	1-1/8	3 1/8	261	219	272
KTBP080L4S*	(2) 6FE-44	80	4	1-1/8	3 1/8	373	286	389

* Each asterisk represents a variable character based upon model and voltage ordered. See page 3 for nomenclature.
^ Connection size with or without factory installed liquid and/or suction line assembly.

PHYSICAL SPECIFICATIONS

SINGLE COMPRESSOR MODELS

Model No.	Comp. Model No.	Fans Long	Dimensions (In.)			Approx. Ship Wt. (Lbs.)	Sound Data (dBA†)
			H	W	L		
KTBV015M4S*	4NE-20	2	58-1/8	45-3/8	159-1/4	1,827	71.9
KTBV020M4S*	4JE-22	2	58-1/8	45-3/8	159-1/4	1,909	71.9
KTBV025M4S*	4HE-25	2	58-1/8	45-3/8	159-1/4	1,938	71.9
KTBV030M4S*	4GE-30	2	58-1/8	45-3/8	159-1/4	1,944	71.9
KTBV035M4S*	6HE-35	3	58-1/8	45-3/8	207-1/4	2,408	74.9
KTBV040M4S*	6GE-40	3	58-1/8	45-3/8	207-1/4	2,415	74.9
KTBV050M4S*	6FE-50	3	58-1/8	45-3/8	207-1/4	2,421	74.9
KTBV022L4S*	4GE-23	2	58-1/8	45-3/8	159-1/4	1,913	71.9
KTBV027L4S*	6HE-28	2	58-1/8	45-3/8	159-1/4	1,984	71.9
KTBV030L4S*	6GE-34	2	58-1/8	45-3/8	159-1/4	1,993	71.9
KTBV040L4S*	6FE-44	2	58-1/8	45-3/8	159-1/4	2,017	71.9

† Estimated dBA values at 10 feet from the unit. Correction factors: Deduct 6 dBA for 20 to 40 feet, 12 dBA @ 40 to 60 feet. Ratings at the outlet of the discharge air. The actual measurements may vary depending upon installation variables. Environmental factors may have a significant influence on this data.

PHYSICAL SPECIFICATIONS

PARALLEL COMPRESSOR MODELS

Model No.	Comp. Model No.	Fans Long	Dimensions (In.)			Approx. Ship Wt. (Lbs.)	Sound Data (dBA†)
			H	W	L		
KTBP050M4S*	(2) 4HE-25	2	58-1/8	90-7/8	159-1/4	3,720	78.4
KTBP060M4S*	(2) 4GE-30	2	58-1/8	90-7/8	159-1/4	3,730	78.4
KTBP070M4S*	(2) 6HE-35	3	58-1/8	90-7/8	207-1/4	4,620	80.2
KTBP080M4S*	(2) 6GE-40	3	58-1/8	90-7/8	207-1/4	4,640	80.2
KTBP100M4S*	(2) 6FE-50	3	58-1/8	90-7/8	207-1/4	4,650	80.2
KTBP044L4S*	(2) 4GE-23	2	58-1/8	90-7/8	159-1/4	3,670	78.4
KTBP054L4S*	(2) 6HE-28	2	58-1/8	90-7/8	159-1/4	3,810	78.4
KTBP060L4S*	(2) 6GE-34	2	58-1/8	90-7/8	159-1/4	3,830	78.4
KTBP080L4S*	(2) 6FE-44	2	58-1/8	90-7/8	159-1/4	3,870	78.4

† Estimated dBA values at 10 feet from the unit. Correction factors: Deduct 6 dBA for 20 to 40 feet, 12 dBA @ 40 to 60 feet. Ratings at the outlet of the discharge air. The actual measurements may vary depending upon installation variables. Environmental factors may have a significant influence on this data.

DIMENSIONAL DRAWINGS

Figure 1: Single Compressor

Single Compressor Width

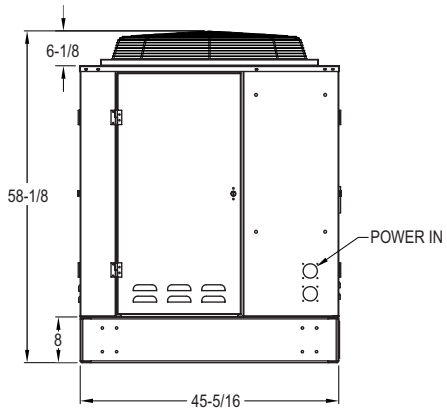
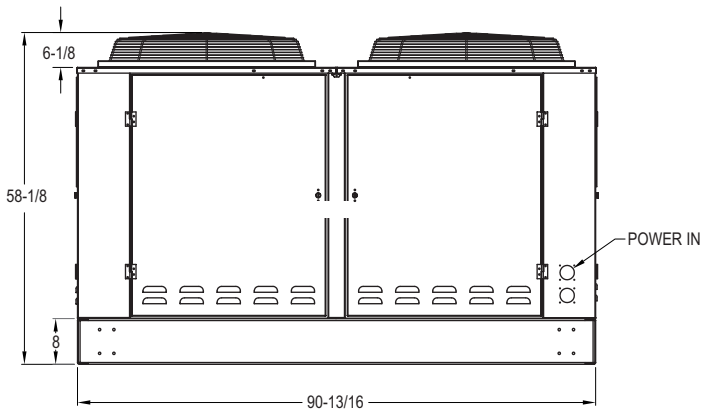


Figure 2: Parallel Compressor

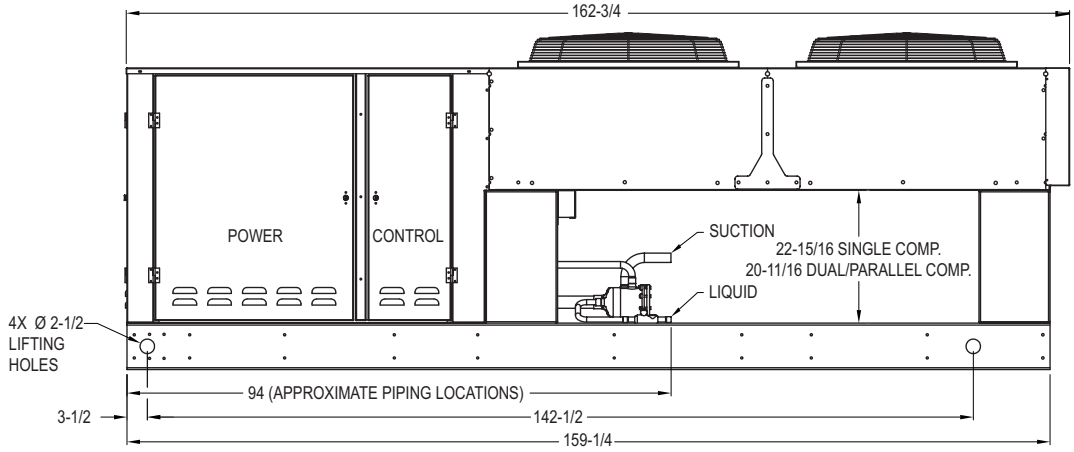
Parallel Compressor Width



All dimensions are in inches.
Utilize all lifting points during installation.
Refrigerant connections located on each side for Dual models.
Due to continuing product development, specifications are subject to change without notice.

DIMENSIONAL DRAWINGS

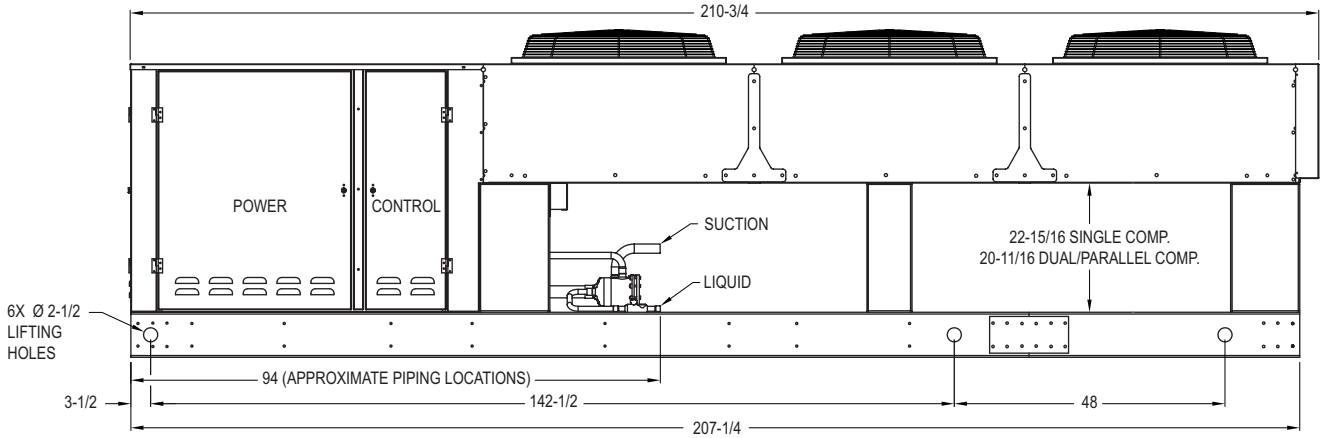
Figure 3: 2 Fan



All dimensions are in inches.
Utilize all lifting points during installation.
Refrigerant connections located on each side for Dual models.
Due to continuing product development, specifications are subject to change without notice.

DIMENSIONAL DRAWINGS

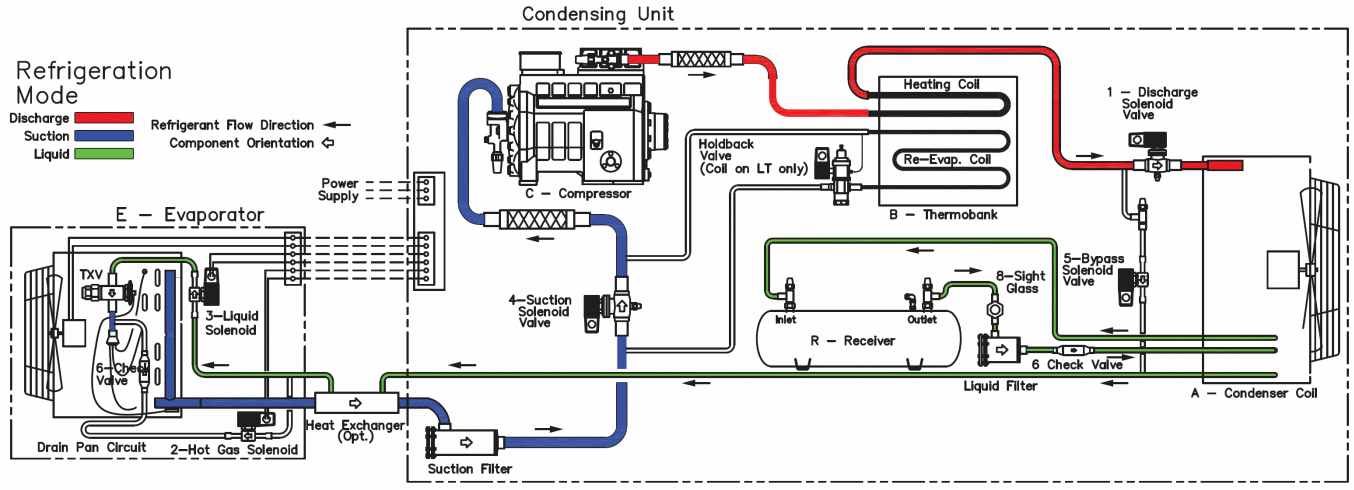
Figure 4: 3 Fan



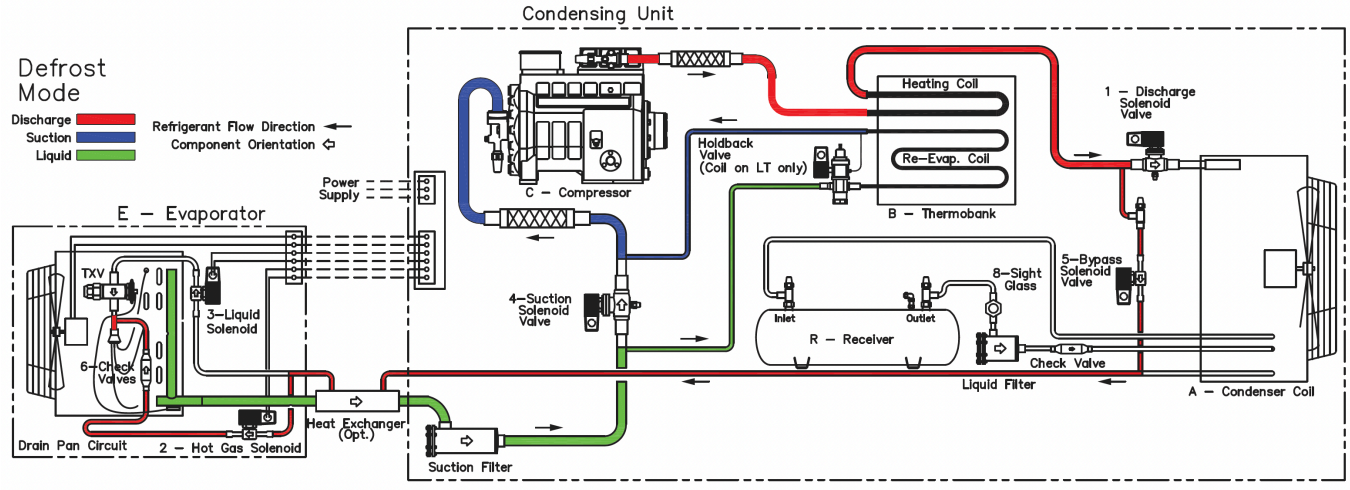
All dimensions are in inches.
Utilize all lifting points during installation.
Refrigerant connections located on each side for Dual models.
Due to continuing product development, specifications are subject to change without notice.

PIPING SCHEMATIC

Refrigeration Mode



Defrost Mode



SCHEMATIC LEGEND

A = CONDENSER	1 = DISCHARGE SOLENOID
B = THERMOBANK	2 = HOT GAS SOLENOID
C = COMPRESSOR	3 = LIQUID SOLENOID
E = EVAPORATOR	4 = SUCTION SOLENOID
R = RECEIVER	5 = BY-PASS VALVE
X = EXPANSION VALVE	6 = CHECK VALVE
	8 = SIGHT GLASS

HOW THERMOBANK WORKS

Every refrigeration system discharges the heat picked up from the evaporator and the compressor. This waste heat is normally rejected by the condenser. With Thermobank, the compressor (C) discharge passes through a heating loop that is submerged in a water filled bank (B), and then on through the condenser (A). The bank stores sufficient heat to fully re-evaporate all the liquid resulting from the defrost of the Evaporator (E).

THE REFRIGERATION CYCLE

The compressor discharge refrigerant, after heating the bank water, flows to the Air-Cooled condenser and then to the receiver (R). From the receiver the liquid refrigerant flows through a sub-cooling circuit in the condenser and on to the expansion valve (X), and the evaporator (E). The refrigerant returns to the compressor as in any standard system.

To prevent excessive super-heating of the refrigerant vapor returning to the compressor and to maintain the water temperature in the bank, the refrigerant flow bypasses the bank through the suction line solenoid (4) during the refrigeration cycle. This normally closed suction line solenoid is generously sized for minimum pressure drop, providing an extra margin of safety. On low temperature systems, an electronically operated holdback valve (H) ensures that no refrigerant flows through the bank during the refrigeration cycle.

THE DEFROST CYCLE

A time clock automatically puts the Thermobank system into a defrost cycle and initiates the following: Discharge solenoid Valve (1) closes; the evaporator (E) fans stop; hot gas solenoid valve (2) opens; liquid solenoid valve (3) closes; suction solenoid valve (4) closes.

The compressor discharge gas goes directly into the liquid line because by-pass solenoid valve (5) is open when discharge solenoid (1) is closed. All the warm liquid refrigerant in the liquid line flows through the evaporator.

This liquid refrigerant insures a rapid defrost and charges the defrost circuit. Additional hot gas condenses in the evaporator providing an unusually rapid defrost at all ambient conditions.

With the suction solenoid (4) closed, the liquid refrigerant flows through the holdback valve (H) which controls the rate of refrigerant flow and the pressure in the bank. The bank becomes an evaporator and absorbs the stored heat. The Thermobank system utilizes a high pressure safety control which functions to momentarily open the discharge line solenoid (1) if discharge pressures rise to a high level.

The defrost cycle is terminated by a pressure switch that senses evaporator pressures and starts the postdefrost period. During post-defrost the discharge solenoid (1) is open; by-pass solenoid valve (5) is closed and hot gas solenoid (2) is closed. Suction solenoid (4) and liquid solenoid (3) remain closed. At the end of the pressure terminated post-defrost period, both suction solenoid (4) and liquid solenoid (3) open and the evaporator fan motors start. During defrost, the hot gas by-passes the receiver so after defrost the receiver contains ample liquid refrigerant to begin refrigerating immediately and prevent compressor short cycling. The system then returns to the normal refrigeration cycle.

FASTEST DEFROST

THERMOBANK has a typical defrost cycle duration of 5 to 10 minutes. The defrost is uniform throughout the coil, and minimizes the heat and vapor added to the room during defrost. The defrosting evaporator receives the full heat of rejection of the refrigerant. This is the sum of the compressor heat while operating at maximum suction pressure during the defrost cycle and the heat extracted from the bank. There is always an adequate supply of refrigerant for defrosting.

EXTRA COMPRESSOR PROTECTION

Many factors are incorporated in Thermobank to protect the compressor and insure long life. All units utilize a pump-down cycle to prevent refrigerant migration to the compressor during the off-cycle. During the defrost cycle the bank is protected against flood-back. The holdback valve protects against overloading the compressor motor by regulating the inlet pressure to the compressor. The reduced refrigerant charge is additional protection for the compressor.

BANK DESIGN

The bank has a welded hermetic design to insure a long, leak free life. The heavy gauge steel shell has a bulls-eye water level gauge. Checking the water level is quick and easy. The shell is insulated with closed cell foam to maintain proper water temperature at any ambient condition and provide optimum system performance. The internal heat transfer loops are die formed from extra heavy wall, seamless copper tubing. The bank contains a thermostat controlled immersion heater for stabilizing water temperature and automatic freeze protection. The heavy duty welded design makes the bank durable, reliable, safe and service free. A drain connection is also provided for seasonal shutdown when applicable.

OPERATING HOURS

The length of defrost must be taken into account when selecting equipment. Thermobank's defrost cycle is very rapid, typically 5 to 10 minutes, and for this reason the equipment can be selected on the basis of 22 hours per day operation. Other systems require 30 to 40 minutes for a complete defrost and the general practice is to select this equipment on eighteen hours per day operation. For the same job, Thermobank equipment requirement is 10% less than others. Thermobank will be refrigerating while others are still defrosting.

AVERAGE OUTDOOR TEMPERATURE

The Average Outdoor Temperature is considerably less than the design outdoor temperature. The outdoor temperature may vary hourly during a twenty-four hour day. It varies day to day, month to month, and season to season. It is the average outdoor temperature that dictates the number of hours of equipment operation. As the outdoor temperature drops, the capacity of Thermobank increases. With more BTU's per hour, the equipment operates less time to handle the 24 hour refrigeration load. Page 7 shows the Annual Average Outdoor Temperature for locations throughout the U.S.A. and Canada. Select the location nearby or similar in temperature. The estimated annual electrical savings can be calculated from Table 1.

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