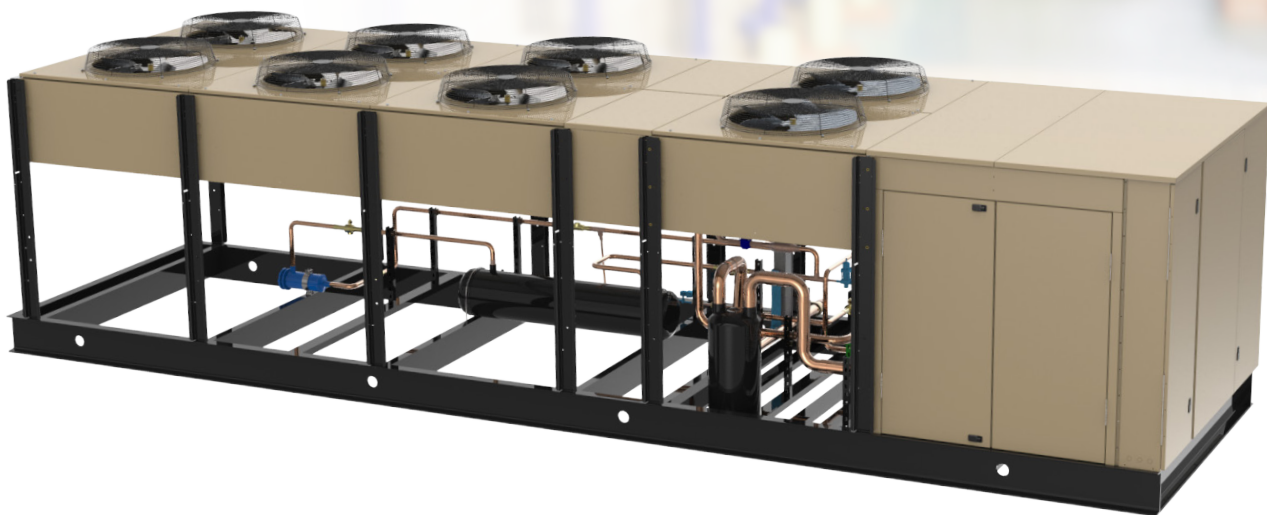




# *Air-Cooled Condensing Units with Screw Compressors*

Technical Bulletin

Low Temperature Models SSV | DSV



# BOHN

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## Nomenclature

S	S	V	060B	L	6	D
Number of Circuits	Compressor Style	Airflow	Horsepower	Temp. Range	Refrigerant Type	Voltage
S = Single	S = Screw	V= Vertical	060B – 60	L = Low	6 = R-404A	D = 460/3/60
D = Dual			070B – 70		R-507A	E = 575/3/60
			080B – 80		R-407A	
			100B - 100		R-407F	
			120B - 120		R-448A	
			140B - 140		R-449A	

# FEATURES & BENEFITS

The Low Temperature Condensing Units with Screw Compressors are designed to meet the needs of demanding commercial and industrial refrigeration applications, including Food Processing and Cold Storage Warehousing. The units are engineered to be flexible in custom design and constructed to meet the requirements of refrigeration contractors, consulting engineers and facility owners/operators.

## Standard Features

### Cabinet & Construction

- Painted steel cabinet for superior strength and corrosion resistance
- Welded frame on all models for a robust and rigid product base
- All units feature the Floating Tube coil which eliminates tube sheet leaks
- Floating Tube coil design is featured on both oil-cooler and condenser

### Serviceability

- Manual pumpdown switch on all units
- Convenient access panels to easily service internal components
- Replaceable core liquid-line filter
- Large electrical panels organized for maximum efficiency and to facilitate ease of access

### Components

#### Compressor

- Low Temperature Screw Compressors offer 50%, 75% and 100% steps of capacity. Resulting in an optimal cooling solution for large capacity applications of all types.
- Compressors are rated for use with multiple refrigerants (R-404A, R-507A, R-407A, R-407F, R-448A & R-449A), allowing for flexibility
- Receivers are sized for sufficient pumpdown capacity of flood charges and include inlet and outlet service valves

#### Oil Cooling

- All units are engineered with dedicated oil-coolers to match the requirements of your specific application
- Three-way mixing valve maintains oil return temperature.

### Components (cont.)

#### Motors

- Thermally protected, permanently lubricated ball bearing condenser and oil-cooler fan motors

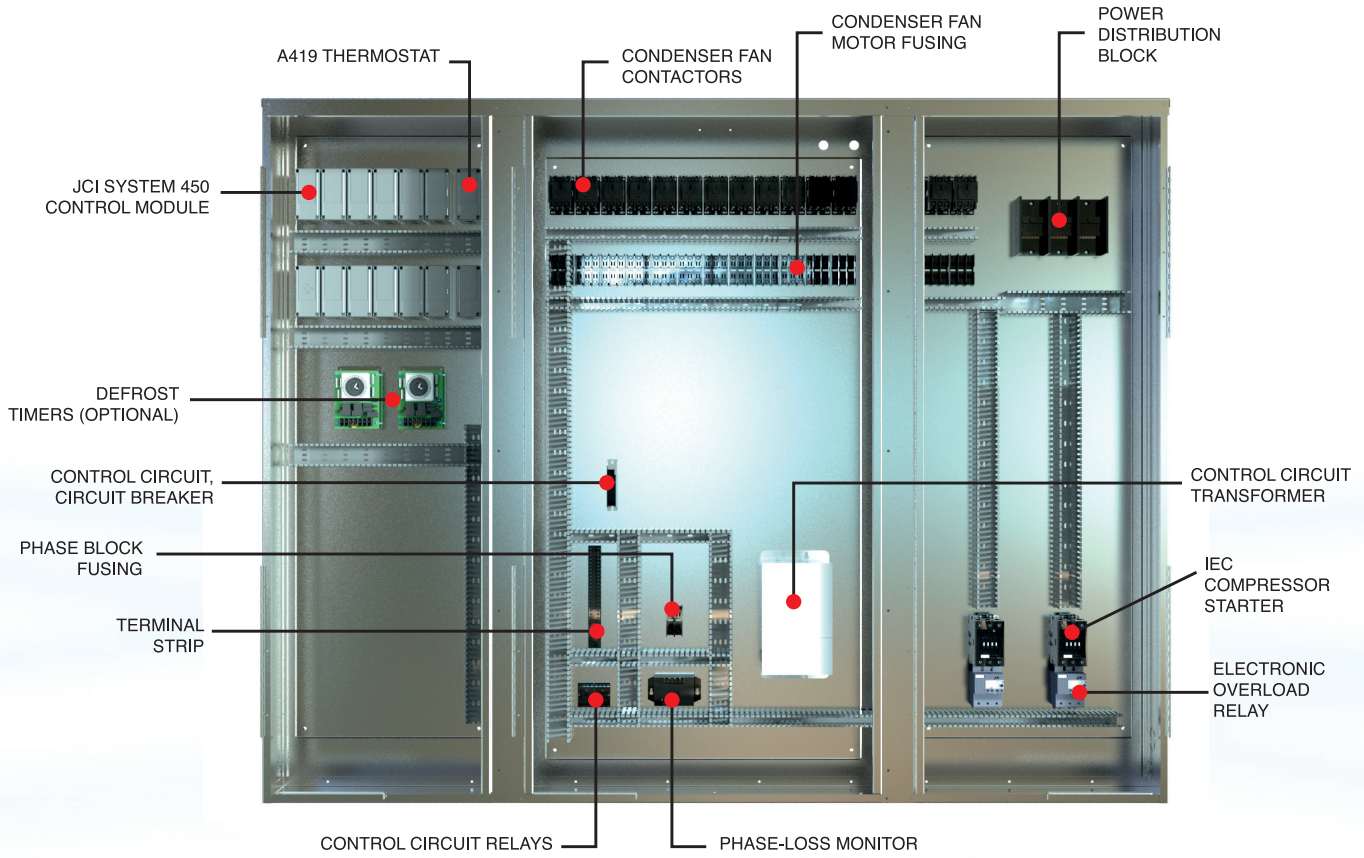
#### Controls

- System 450 controls provide reliable on/off controls and reduce installation time through a user-friendly interface which allows for ease of adjustment

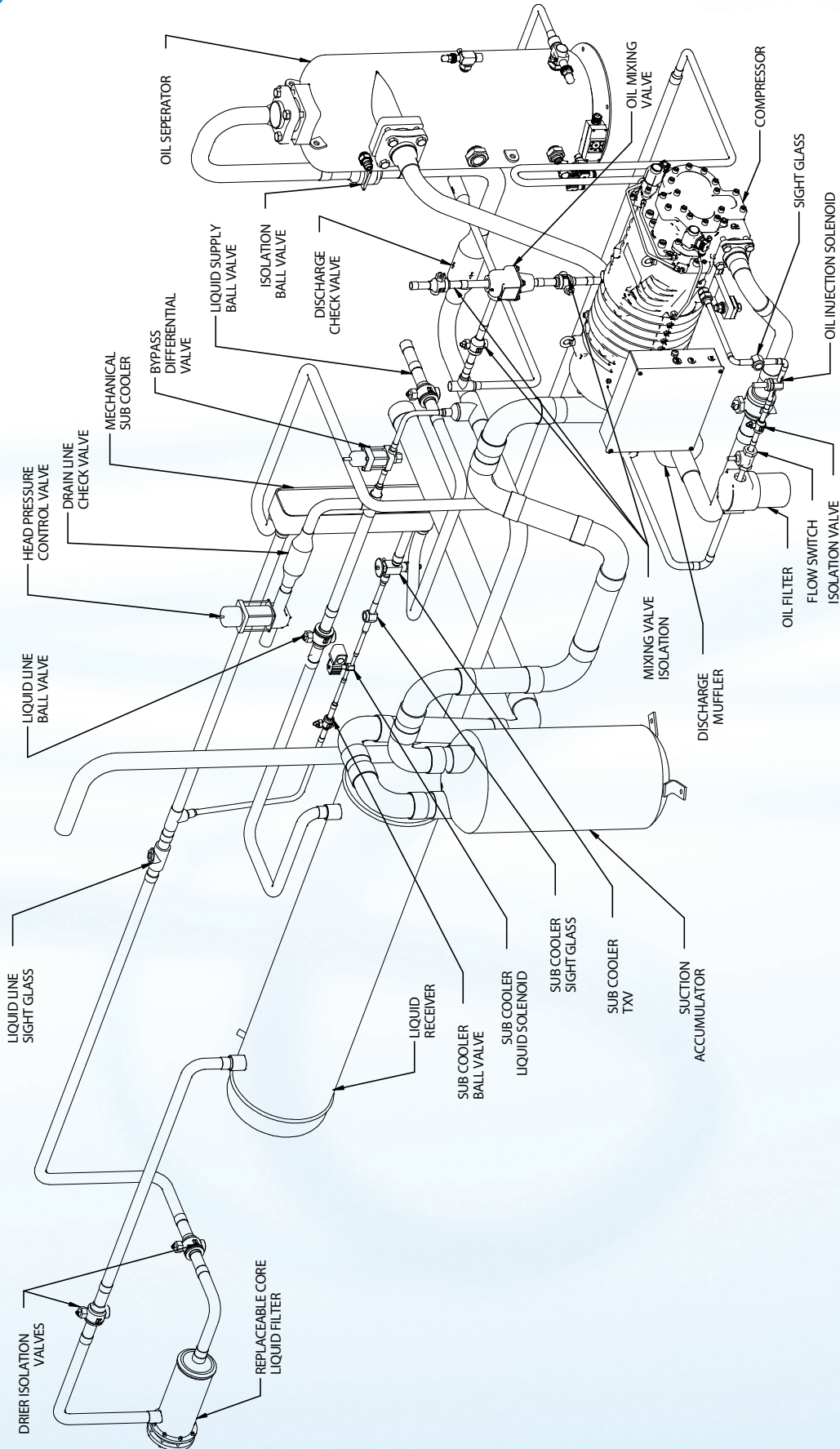
## Optional Features

- Aluminum & Galvanized finishes available on condenser and oil-cooler.
- MCS Magnum Controller
- Variable-speed EC condenser fan motors
- Coated condenser coils for protection against corrosion in harsh environments
- Compressor VFDs
- Compressor circuit breaker
- Low ambient kit(s) with heated and insulated receiver
- Electric defrost kits including evaporator fan contactor(s) with fusing, defrost heater contactor(s) with fusing, and terminal strip.

## Electrical Box Features



# Piping Details



# PERFORMANCE DATA- LOW TEMPERATURE MODELS

## Low Temperature Models | R-404A

Model	Compressor		Capacity BTUH @ 90°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	444,000	366,000	330,000	297,000	237,000	184,000
SSV070BL6*	HSN7461-70	1	499,000	412,000	372,000	335,000	269,000	211,000
DSV080BL6*	HSN6451-40	2	634,000	523,000	473,000	426,000	341,000	267,000
DSV100BL6*	HSN6461-50	2	718,000	595,000	540,000	488,000	393,000	311,000
DSV120BL6*	HSN7451-60	2	877,000	723,000	654,000	588,000	470,000	367,000
DSV140BL6*	HSN7461-70	2	993,000	820,000	742,000	668,000	537,000	421,000

Model	Compressor		Capacity BTUH @ 95°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	432,000	355,000	322,000	289,000	230,000	180,000
SSV070BL6*	HSN7461-70	1	486,000	400,000	362,000	326,000	262,000	206,000
DSV080BL6*	HSN6451-40	2	620,000	512,000	463,000	417,000	334,000	261,000
DSV100BL6*	HSN6461-50	2	699,000	581,000	527,000	476,000	384,000	304,000
DSV120BL6*	HSN7451-60	2	850,000	702,000	635,000	572,000	458,000	358,000
DSV140BL6*	HSN7461-70	2	966,000	798,000	723,000	651,000	523,000	412,000

Model	Compressor		Capacity BTUH @ 100°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	418,000	345,000	312,000	280,000	224,000	175,000
SSV070BL6*	HSN7461-70	1	472,000	389,000	352,000	318,000	255,000	202,000
DSV080BL6*	HSN6451-40	2	605,000	500,000	452,000	408,000	326,000	255,000
DSV100BL6*	HSN6461-50	2	679,000	565,000	513,000	464,000	374,000	297,000
DSV120BL6*	HSN7451-60	2	821,000	679,000	615,000	555,000	444,000	348,000
DSV140BL6*	HSN7461-70	2	936,000	775,000	702,000	634,000	510,000	401,000

\* = Voltage (460/3 or 575/3)

Contact Factory for Ambient Operations Higher than 100°F

# PERFORMANCE DATA- LOW TEMPERATURE MODELS

## Low Temperature Models | R-507A

Model	Compressor		Capacity BTUH @ 90°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	455,000	376,000	339,000	306,000	246,000	193,000
SSV070BL6*	HSN7461-70	1	512,000	423,000	384,000	347,000	279,000	221,000
DSV080BL6*	HSN6451-40	2	652,000	540,000	490,000	442,000	355,000	280,000
DSV100BL6*	HSN6461-50	2	735,000	612,000	556,000	503,000	408,000	324,000
DSV120BL6*	HSN7451-60	2	897,000	741,000	671,000	606,000	486,000	382,000
DSV140BL6*	HSN7461-70	2	1,017,000	843,000	763,000	690,000	556,000	441,000

Model	Compressor		Capacity BTUH @ 95°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	441,000	365,000	330,000	298,000	239,000	188,000
SSV070BL6*	HSN7461-70	1	496,000	412,000	372,000	336,000	273,000	215,000
DSV080BL6*	HSN6451-40	2	579,000	528,000	478,000	432,000	348,000	275,000
DSV100BL6*	HSN6461-50	2	714,000	595,000	541,000	491,000	398,000	317,000
DSV120BL6*	HSN7451-60	2	867,000	718,000	651,000	588,000	474,000	373,000
DSV140BL6*	HSN7461-70	2	987,000	819,000	742,000	671,000	542,000	430,000

Model	Compressor		Capacity BTUH @ 100°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	424,000	352,000	320,000	288,000	232,000	182,000
SSV070BL6*	HSN7461-70	1	481,000	398,000	361,000	327,000	264,000	209,000
DSV080BL6*	HSN6451-40	2	564,000	514,000	466,000	421,000	340,000	268,000
DSV100BL6*	HSN6461-50	2	692,000	579,000	526,000	477,000	388,000	309,000
DSV120BL6*	HSN7451-60	2	834,000	693,000	629,000	568,000	458,000	362,000
DSV140BL6*	HSN7461-70	2	954,000	793,000	719,000	651,000	527,000	418,000

\* = Voltage (460/3 or 575/3)

Contact Factory for Ambient Operations Higher than 100°F

# PERFORMANCE DATA- LOW TEMPERATURE MODELS

## Low Temperature Models | R-407A

Model	Compressor		Capacity BTUH @ 90°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	399,000	323,000	288,000	257,000	201,000	153,000
SSV070BL6*	HSN7461-70	1	451,000	366,000	327,000	293,000	229,000	177,000
DSV080BL6*	HSN6451-40	2	561,000	454,000	406,000	362,000	284,000	218,000
DSV100BL6*	HSN6461-50	2	644,000	524,000	470,000	420,000	332,000	258,000
DSV120BL6*	HSN7451-60	2	793,000	641,000	573,000	512,000	399,000	306,000
DSV140BL6*	HSN7461-70	2	901,000	731,000	655,000	584,000	459,000	353,000

Model	Compressor		Capacity BTUH @ 95°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	393,000	316,000	283,000	252,000	197,000	150,000
SSV070BL6*	HSN7461-70	1	444,000	360,000	323,000	287,000	226,000	173,000
DSV080BL6*	HSN6451-40	2	554,000	448,000	401,000	357,000	279,000	214,000
DSV100BL6*	HSN6461-50	2	634,000	516,000	463,000	414,000	326,000	252,000
DSV120BL6*	HSN7451-60	2	777,000	628,000	562,000	501,000	392,000	299,000
DSV140BL6*	HSN7461-70	2	887,000	719,000	644,000	574,000	451,000	347,000

Model	Compressor		Capacity BTUH @ 100°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	383,000	310,000	276,000	246,000	191,000	146,000
SSV070BL6*	HSN7461-70	1	437,000	350,000	316,000	281,000	221,000	169,000
DSV080BL6*	HSN6451-40	2	544,000	441,000	394,000	350,000	274,000	208,000
DSV100BL6*	HSN6461-50	2	621,000	505,000	453,000	405,000	319,000	246,000
DSV120BL6*	HSN7451-60	2	757,000	612,000	548,000	489,000	381,000	290,000
DSV140BL6*	HSN7461-70	2	869,000	704,000	630,000	562,000	441,000	338,000

\* = Voltage (460/3 or 575/3)

Contact Factory for Ambient Operations Higher than 100°F



# PERFORMANCE DATA- LOW TEMPERATURE MODELS

## Low Temperature Models | R-407F

Model	Compressor		Capacity BTUH @ 90°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	429,000	347,000	310,000	276,000	216,000	165,000
SSV070BL6*	HSN7461-70	1	485,000	394,000	352,000	315,000	248,000	191,000
DSV080BL6*	HSN6451-40	2	599,000	486,000	435,000	388,000	304,000	233,000
DSV100BL6*	HSN6461-50	2	689,000	562,000	505,000	451,000	357,000	277,000
DSV120BL6*	HSN7451-60	2	851,000	689,000	616,000	550,000	430,000	329,000
DSV140BL6*	HSN7461-70	2	968,000	785,000	704,000	628,000	494,000	381,000

Model	Compressor		Capacity BTUH @ 95°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	421,000	341,000	304,000	272,000	212,000	162,000
SSV070BL6*	HSN7461-70	1	478,000	388,000	348,000	310,000	243,000	187,000
DSV080BL6*	HSN6451-40	2	592,000	480,000	429,000	382,000	300,000	229,000
DSV100BL6*	HSN6461-50	2	679,000	553,000	497,000	444,000	350,000	272,000
DSV120BL6*	HSN7451-60	2	834,000	676,000	605,000	539,000	421,000	323,000
DSV140BL6*	HSN7461-70	2	952,000	773,000	692,000	618,000	486,000	373,000

Model	Compressor		Capacity BTUH @ 100°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	413,000	333,000	298,000	265,000	206,000	158,000
SSV070BL6*	HSN7461-70	1	469,000	380,000	341,000	303,000	238,000	182,000
DSV080BL6*	HSN6451-40	2	584,000	472,000	422,000	376,000	294,000	225,000
DSV100BL6*	HSN6461-50	2	667,000	542,000	487,000	435,000	343,000	265,000
DSV120BL6*	HSN7451-60	2	815,000	660,000	590,000	526,000	411,000	313,000
DSV140BL6*	HSN7461-70	2	935,000	758,000	679,000	605,000	475,000	364,000

\* = Voltage (460/3 or 575/3)

Contact Factory for Ambient Operations Higher than 100°F

# PERFORMANCE DATA- LOW TEMPERATURE MODELS

## Low Temperature Models | R-448A

Model	Compressor		Capacity BTUH @ 90°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	412,000	334,000	300,000	267,000	209,000	161,000
SSV070BL6*	HSN7461-70	1	464,000	377,000	339,000	303,000	240,000	186,000
DSV080BL6*	HSN6451-40	2	575,000	468,000	420,000	375,000	296,000	228,000
DSV100BL6*	HSN6461-50	2	661,000	540,000	487,000	436,000	347,000	271,000
DSV120BL6*	HSN7451-60	2	816,000	663,000	594,000	531,000	418,000	322,000
DSV140BL6*	HSN7461-70	2	925,000	753,000	677,000	605,000	478,000	371,000

Model	Compressor		Capacity BTUH @ 95°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	404,000	328,000	294,000	262,000	205,000	158,000
SSV070BL6*	HSN7461-70	1	457,000	372,000	334,000	299,000	236,000	183,000
DSV080BL6*	HSN6451-40	2	568,000	462,000	415,000	371,000	292,000	226,000
DSV100BL6*	HSN6461-50	2	652,000	533,000	479,000	430,000	341,000	266,000
DSV120BL6*	HSN7451-60	2	800,000	650,000	583,000	520,000	410,000	315,000
DSV140BL6*	HSN7461-70	2	911,000	742,000	666,000	596,000	470,000	365,000

Model	Compressor		Capacity BTUH @ 100°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	396,000	321,000	287,000	256,000	201,000	154,000
SSV070BL6*	HSN7461-70	1	449,000	366,000	328,000	293,000	231,000	179,000
DSV080BL6*	HSN6451-40	2	560,000	455,000	408,000	365,000	287,000	221,000
DSV100BL6*	HSN6461-50	2	640,000	523,000	470,000	421,000	334,000	260,000
DSV120BL6*	HSN7451-60	2	781,000	636,000	570,000	509,000	399,000	307,000
DSV140BL6*	HSN7461-70	2	894,000	729,000	654,000	585,000	462,000	356,000

\* = Voltage (460/3 or 575/3)

Contact Factory for Ambient Operations Higher than 100°F

# PERFORMANCE DATA- LOW TEMPERATURE MODELS

## Low Temperature Models | R-449A

Model	Compressor		Capacity BTUH @ 90°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	409,000	332,000	298,000	266,000	209,000	161,000
SSV070BL6*	HSN7461-70	1	462,000	376,000	338,000	302,000	239,000	185,000
DSV080BL6*	HSN6451-40	2	573,000	467,000	419,000	374,000	295,000	228,000
DSV100BL6*	HSN6461-50	2	659,000	539,000	485,000	435,000	346,000	270,000
DSV120BL6*	HSN7451-60	2	813,000	660,000	592,000	529,000	417,000	322,000
DSV140BL6*	HSN7461-70	2	922,000	750,000	674,000	603,000	477,000	371,000

Model	Compressor		Capacity BTUH @ 95°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	402,000	326,000	293,000	261,000	205,000	158,000
SSV070BL6*	HSN7461-70	1	455,000	371,000	332,000	298,000	235,000	182,000
DSV080BL6*	HSN6451-40	2	566,000	461,000	414,000	370,000	291,000	225,000
DSV100BL6*	HSN6461-50	2	649,000	531,000	478,000	428,000	340,000	266,000
DSV120BL6*	HSN7451-60	2	798,000	649,000	582,000	519,000	409,000	315,000
DSV140BL6*	HSN7461-70	2	906,000	739,000	663,000	593,000	469,000	364,000

Model	Compressor		Capacity BTUH @ 100°F Ambient by SST					
	Number	Quantity	0°F	-10°F	-15°F	-20°F	-30°F	-40°F
SSV060BL6*	HSN7451-60	1	393,000	320,000	286,000	255,000	201,000	154,000
SSV070BL6*	HSN7461-70	1	446,000	364,000	326,000	292,000	230,000	178,000
DSV080BL6*	HSN6451-40	2	558,000	454,000	407,000	364,000	286,000	221,000
DSV100BL6*	HSN6461-50	2	636,000	520,000	468,000	420,000	333,000	259,000
DSV120BL6*	HSN7451-60	2	779,000	634,000	568,000	508,000	399,000	306,000
DSV140BL6*	HSN7461-70	2	890,000	725,000	651,000	583,000	460,000	355,000

\* = Voltage (460/3 or 575/3)

Contact Factory for Ambient Operations Higher than 100°F

# ELECTRICAL DATA

## 460 Volts

Model	Compressor	Compressor			Condenser		Oil Cooler		Beacon or Air Defrost	
		No. Compressors	RLA	LRA	No. Fans	FLA	No. Fans	FLA	MCA	MOPD
SSV060BL6D	HSN7451-60	1	75.6	449	6	21	2	7	123	175
SSV070BL6D	HSN7461-70	1	91.7	485	6	21	2	7	143	225
DSV080BL6D	HSN6451-40	2	69.9	313	8	28	2	7	192	250
DSV100BL6D	HSN6461-50	2	73.7	355	10	35	2	7	208	250
DSV120BL6D	HSN7451-60	2	75.6	449	10	35	2	7	212	250
DSV140BL6D	HSN7461-70	2	91.7	485	12	42	2	7	255	300

## 575 Volts

Model	Compressor	Compressor			Condenser		Oil Cooler		Beacon or Air Defrost	
		No. Compressors	RLA	LRA	No. Fans	FLA	No. Fans	FLA	MCA	MOPD
SSV060BL6E	HSN7451-60	1	60.3	322	6	16.8	2	5.6	98	150
SSV070BL6E	HSN7461-70	1	73.1	404	6	16.8	2	5.6	114	175
DSV080BL6E	HSN6451-40	2	55.8	222	8	22.4	2	5.6	154	200
DSV100BL6E	HSN6461-50	2	59	281	10	28	2	5.6	166	200
DSV120BL6E	HSN7451-60	2	60.3	322	10	28	2	5.6	169	200
DSV140BL6E	HSN7461-70	2	73.1	404	12	33.6	2	5.6	204	250

# UNIT SPECIFICATIONS

## Single Compressor

Model	Compressor	Condenser Fan Data		Oil Cooler Fan Data		Connections (in.)		Receiver (90 % Full)						Figure #	Unit Length A	
		No. Fans	Dia.	No. Fans	Dia.	Liquid	Suction	R-404A/R-507		R-407A/R-407F		R-448A/R-449A			In.	M
								Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.			
SSV060BL6*	HSN7451-60	6	30"	2	30"	1-3/8	3-1/8	232	105	249	113	258	117	1	314-1/4	8.0
SSV070BL6*	HSN7461-70	6	30"	2	30"	1-3/8	3-1/8	338	153	362	164	375	170	1	314-1/4	8.0

## Dual Compressor

Model	Compressor	Condenser Fan Data		Oil Cooler Fan Data		Connections (in.)		Receiver (90 % Full)						Figure #	Unit Length A	
		No. Fans	Dia.	No. Fans	Dia.	Liquid	Suction	R-404A/R-507		R-407A/R-407F		R-448A/R-449A			In.	M
								Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.			
DSV080BL6*	HSN6451-40	8	30"	2	30"	1-3/8	2-1/8	195	89	212	96	217	98	2	367-1/4	9.3
DSV100BL6*	HSN6461-50	10	30"	2	30"	1-3/8	2-1/8	195	89	212	96	217	98	3	420-1/4	10.7
DSV120BL6*	HSN7451-60	10	30"	2	30"	1-3/8	3-1/8	232	105	249	113	258	117	3	420-1/4	10.7
DSV140BL6*	HSN7461-70	12	30"	2	30"	1-3/8	3-1/8	338	153	362	164	375	170	4	473-1/4	12.0

\* = Voltage (460/3 or 575/3)

## Oil Charging Requirements

Model Numbers	Oil Charge Required (Gallons)					
	R-404A	R-507A	R-407A	R-407F	R-448A	R-449A
SSV060BL6*	8.0	8.0	8.0	8.0	8.0	8.0
SSV070BL6*	8.0	8.0	8.0	8.0	8.0	8.0
DSV080BL6*	10.5	10.5	8.0	8.0	8.0	8.0
DSV100BL6*	10.5	10.5	8.0	8.0	8.0	8.0
DSV120BL6*	10.5	10.5	10.5	10.5	10.5	10.5
DSV140BL6*	10.5	10.5	10.5	10.5	10.5	10.5

\* = Voltage (460/3 or 575/3)

Units Oil-Cooler is designed based off of refrigerant selected at time of order

## Unit Weights

Model Numbers	Approx. Net Weight	
	Lbs.	Kg.
SSV060BL6*	8,301	3,765
SSV070BL6*	8,438	3,827
DSV080BL6*	10,833	4,914
DSV100BL6*	11,568	5,247
DSV120BL6*	12,726	5,772
DSV140BL6*	14,035	6,366

\* = Voltage (460/3 or 575/3)

## Dimensional Drawings

Figure. 1

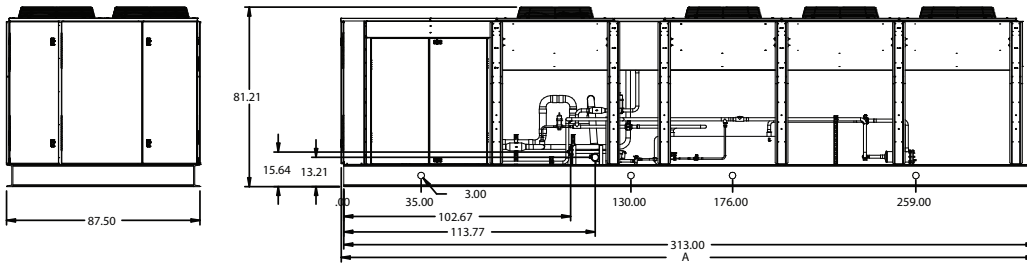


Figure. 2

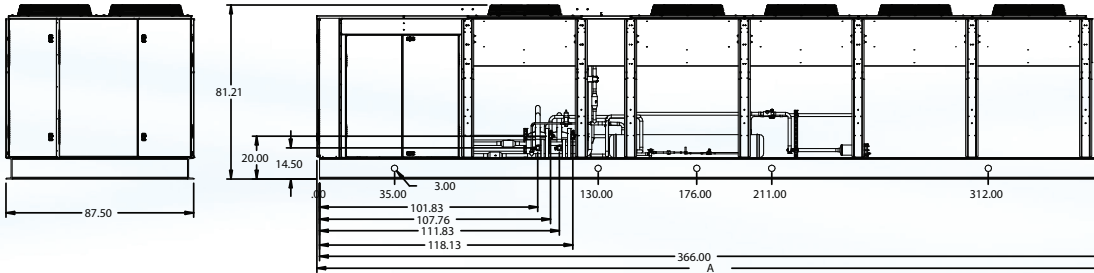


Figure. 3

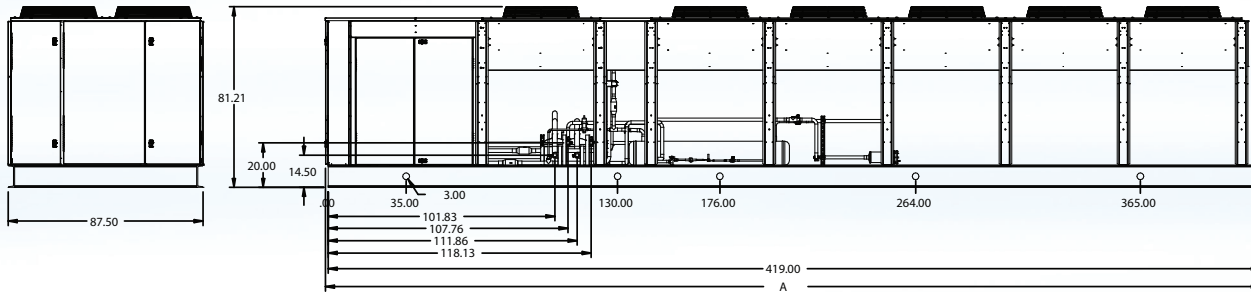
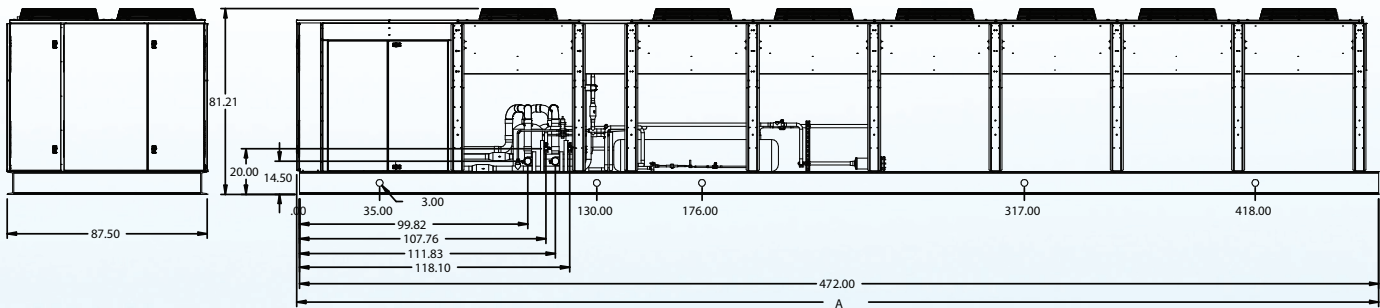


Figure. 4







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**BOHN**

Since product improvement is a continuing effort, we reserve the right to make changes in specifications without notice.

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