



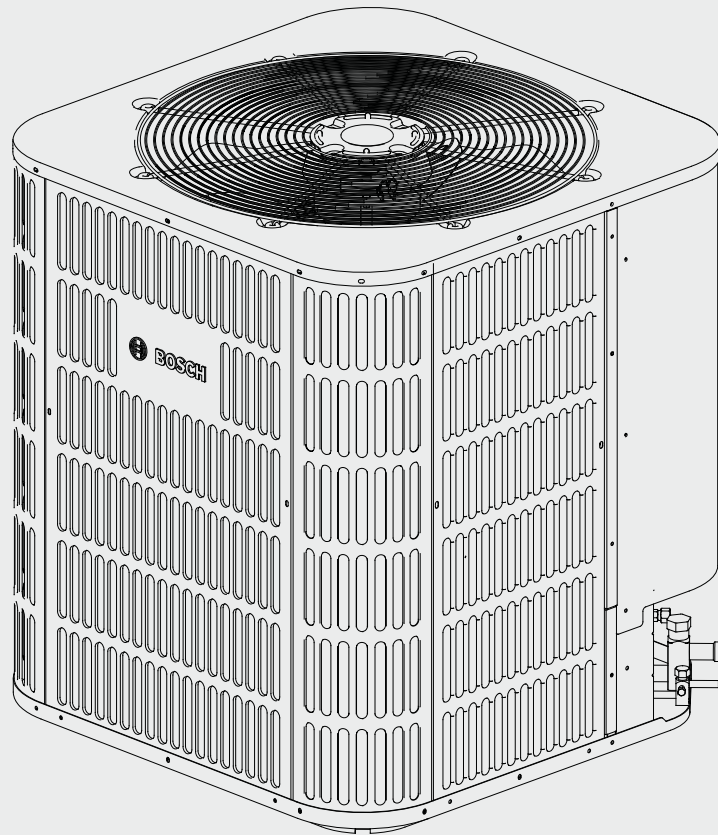
BOSCH

Product Specifications

Split System Heat Pump

Bosch IDS BOVA15

IDS Light Condensing Units | 2-5 Ton Capacity | R410A



BTC 761701320 B / 07.2022



Table of Contents

1 Product Features	4
1.1 Standard Features	4
1.2 Cabinet Features	4
2 Nomenclature	5
3 Product Specifications	6
4 Extended Performance Data (SEER)	7
4.1 BOVA15 + BVA 15	7
4.2 BOVA15 + BVA 20	15
5 Model & Part Numbers	23
6 AHRI 210/240 Performance Data	24
6.1 SEER1	24
6.2 SEER2	25
7 Suction Corrected Factor	26
8 Sound Data	26
9 Dimensions	27

1 Product Features

1.1 Standard Features

- ▶ R-410A Chlorine-Free Refrigerant
- ▶ Inverter Compressor (33%-110% Speed), Modulation in 1% Increments
- ▶ Intelligent Oil Return Technology
- ▶ Inverter Driven Rotary Compressor
- ▶ Crankcase Heater Standard
- ▶ Compressor Sound Blanket
- ▶ Multiple System Protection:
 - High pressure switch and low pressure transducer
 - Compressor liquid return protection
 - Compressor high or low compression ratio protection
 - Compressor high temperature protection
 - High / low voltage protection and over current protection
 - IPM and electronic control board high temperature protection
- ▶ Outdoor coil is capable of withstanding 1000 hour salt spray test according to ASTM B117 standard
- ▶ AHRI certified; ETL listed

1.2 Cabinet Features

- ▶ Wind Load compliant per Florida Building Code - 2020
- ▶ Baked-on powder paint finish
- ▶ Wire fan discharge grille
- ▶ Steel louver coil guard

2 Nomenclature

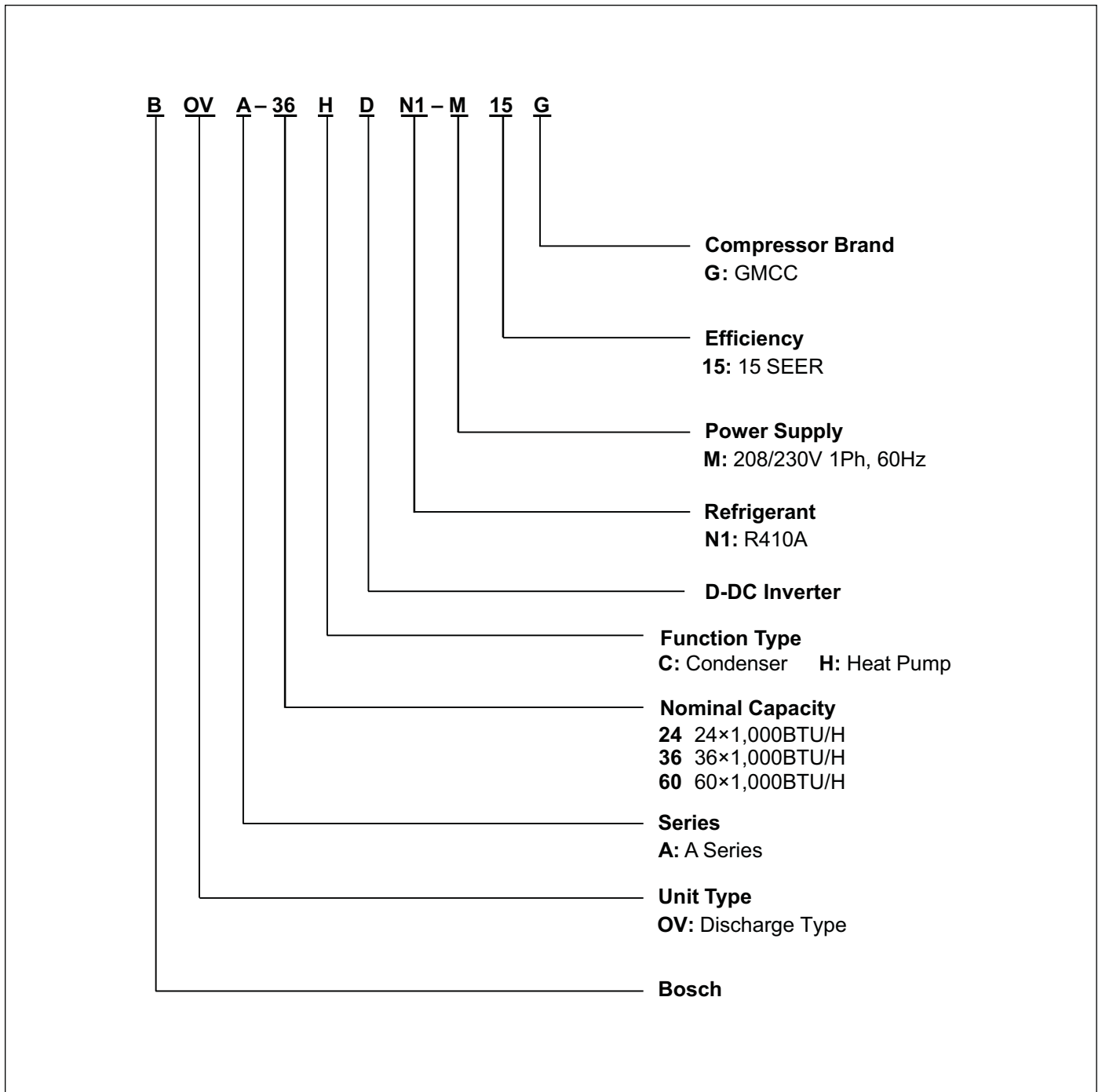


Figure 1

3 Product Specifications

	BOVA24-15	BOVA36-15	BOVA60-15
Decibels([dB(A)])			
Max @ 100% load	76	78	80
Min @ min load	59	60	60
Compressor			
RLA	19	19	29
LRA	44	44	52
Condenser Fan Motor			
Horsepower (HP)		1/3	
FLA		2.5	
Refrigeration System			
Refrigerant Line Size ¹			
Liquid Line Size (OD)	3/8"	3/8"	3/8"
Suction Line Size (OD)	3/4"	3/4"	7/8"
Refrigerant Connection Size			
Liquid Valve Size (OD)	3/8"	3/8"	3/8"
Suction Valve Size (OD)	3/4"	3/4"	7/8"
Refrigerant Charge (R410-A, oz)	87	107	152
Expansion Device	EEV	EEV	EEV
Maximum Line Length	100 FT	100 FT	100 FT
Maximum Elevation Difference	50 FT	50 FT	50 FT
Operating Range			
Cooling		40°F-120°F	
Heating		5°F-86°F	
Electrical Data			
Voltage-Phase-Hz	208/230-1-60	208/230-1-60	208/230-1-60
Minimum Circuit Ampacity ²	22.9	26.7	39.2
Max. Overcurrent Protection ³	35	45	60
Min/Max Volts		172V/270V	
Weight			
Net Weight (without packaging)	126	134	186
Gross Weight (including packaging) ⁴	154	162	218
Dimensions			
Unit L x W x H (in.)	28 x 28x 24-15/16	28 x 28x 24-15/16	29-1/8 x 29-1/8 x 33-3/16
Outdoor Coil			
Net face area - sq.ft. Outer Coil	12.7	12.7	18.3
Tube diameter-in.	9/32" (7mm)	9/32" (7mm)	9/32" (7mm)
No. of rows	1	2	2
Fins per inch	19	17	19

Table 1

¹ Tested and rated in accordance with AHRI Standard 210/240.

² Wire size should be determined in accordance with National Electrical Codes; extensive wire runs will require larger wire sizes.

³ Must use time-delay fuses or HACR-type circuit breakers of the same size as noted.

⁴ Weight values are estimated.



- Always check the rating plate for electrical data on the unit being installed.
- Unit is factory charged with refrigerant for 15' of 3/8" liquid line. System charge must be adjusted per Installation Instructions Final Charge Procedure.
- TXV is required at indoor unit to match our outdoor unit.

4 Extended Performance Data (SEER)

4.1 BOVA15 + BVA 15

		BOVA24-15 + BVA24-15 For Cooling																
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F)	59				63				67				71			
		IDB (°F)	70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
630	65	TC	17.6	17.8	18.3	18.5	18.1	18.4	18.6	18.9	19.3	19.6	19.8	20.1	/	24.9	25.1	25.5
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.15	1.15	1.16	1.16	1.16	1.17	1.18	1.19	1.18	1.19	1.20	1.21	/	1.45	1.46	1.48
	75	TC	17.7	18.0	18.4	18.6	18.3	18.6	18.8	19.1	19.5	19.8	20.0	20.3	/	24.5	24.8	25.1
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.31	1.32	1.33	1.33	1.33	1.34	1.35	1.36	1.36	1.37	1.38	1.39	/	1.71	1.73	1.75
	85	TC	17.7	18.0	18.4	18.6	18.3	18.6	18.8	19.1	19.5	19.8	20.0	20.3	/	24.5	24.7	25.1
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.51	1.52	1.54	1.54	1.54	1.55	1.56	1.57	1.57	1.58	1.59	1.60	/	1.88	1.89	1.91
	95	TC	17.6	17.9	18.3	18.5	18.2	18.5	18.7	19.0	19.4	19.8	20.0	20.3	/	24.4	24.6	24.9
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.76	1.78	1.79	1.79	1.79	1.81	1.82	1.83	1.84	1.85	1.86	1.88	/	2.22	2.23	2.25
	105	TC	17.5	17.8	18.2	18.4	18.1	18.4	18.6	18.9	19.4	19.7	19.9	20.2	/	23.4	23.7	24.0
		S/T	0.92	0.97	1.00	1.00	0.66	0.86	0.97	0.98	0.41	0.59	0.76	0.94	/	0.40	0.55	0.71
		kW	2.04	2.05	2.07	2.07	2.06	2.08	2.10	2.11	2.12	2.13	2.15	2.16	/	2.57	2.59	2.61
	115	TC	16.5	16.8	17.2	17.4	17.1	17.4	17.6	17.9	18.4	18.7	18.8	19.1	/	23.2	23.4	23.8
		S/T	0.94	0.99	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.78	0.96	/	0.42	0.57	0.73
		kW	2.31	2.33	2.35	2.35	2.35	2.37	2.39	2.41	2.41	2.43	2.45	2.47	/	2.98	3.00	3.02
850	65	TC	21.8	22.1	22.6	22.9	22.5	22.8	23.0	23.3	24.1	24.3	24.5	24.8	/	29.8	30.1	30.3
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.95	/	0.41	0.55	0.71
		kW	1.39	1.40	1.41	1.41	1.41	1.42	1.44	1.45	1.44	1.46	1.47	1.48	/	1.85	1.87	1.89
	75	TC	21.5	21.9	22.4	22.6	22.3	22.5	22.8	23.0	23.9	24.2	24.3	24.3	/	29.8	30.1	30.3
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.59	1.61	1.62	1.62	1.62	1.63	1.65	1.66	1.67	1.68	1.69	1.69	/	2.04	2.06	2.08
	85	TC	21.4	21.7	22.2	22.5	22.1	22.5	22.7	23.0	23.9	24.0	24.2	24.3	/	29.5	29.8	29.9
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.75	1.77	1.78	1.78	1.78	1.80	1.81	1.83	1.85	1.85	1.85	1.87	/	2.22	2.24	2.26
	95	TC	21.2	21.6	22.1	22.2	22.0	22.3	22.5	22.9	23.5	23.7	24.0	24.2	/	28.6	28.8	28.9
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.98	2.00	2.02	2.02	2.02	2.04	2.05	2.07	2.09	2.10	2.10	2.11	/	2.63	2.64	2.65
	105	TC	19.2	19.5	19.8	20.1	21.0	21.3	21.6	21.9	22.3	22.5	22.7	23.0	/	26.5	26.7	26.8
		S/T	0.94	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.78	0.97	/	0.42	0.56	0.72
		kW	2.30	2.32	2.34	2.34	2.34	2.36	2.38	2.40	2.41	2.43	2.44	2.46	/	2.94	2.96	2.99
	115	TC	18.9	19.2	19.5	19.8	20.7	21.0	21.3	21.6	22.0	22.2	22.4	22.7	/	26.2	26.4	26.5
		S/T	0.96	1.00	1.00	1.00	0.71	0.92	1.00	1.00	0.46	0.64	0.80	0.99	/	0.44	0.58	0.74
		kW	2.62	2.64	2.65	2.67	2.67	2.69	2.74	2.76	2.78	2.80	2.82	2.84	/	3.34	3.35	3.36
1020	65	TC	25.2	25.5	26.1	26.4	26.1	26.4	26.7	27.0	27.9	28.1	28.4	28.7	/	34.6	34.9	35.1
		S/T	0.95	0.99	1.00	1.00	0.69	0.89	1.00	1.00	0.44	0.62	0.79	0.97	/	0.42	0.55	0.71
		kW	1.67	1.68	1.70	1.70	1.70	1.71	1.73	1.74	1.74	1.75	1.77	1.78	/	2.24	2.27	2.29
	75	TC	25.1	25.4	26.0	26.3	26.0	26.3	26.6	26.9	27.8	28.1	28.3	28.6	/	33.9	34.2	34.5
		S/T	0.95	0.99	1.00	1.00	0.69	0.89	1.00	1.00	0.44	0.62	0.79	0.98	/	0.42	0.55	0.71
		kW	1.90	1.91	1.93	1.93	1.93	1.95	1.96	1.98	1.98	2.00	2.02	2.03	/	2.41	2.44	2.46
	85	TC	24.8	25.1	25.7	26.0	25.7	26.0	26.3	26.6	27.5	27.9	28.1	28.3	/	33.3	33.6	33.9
		S/T	0.95	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.80	0.98	/	0.42	0.55	0.71
		kW	2.05	2.07	2.09	2.09	2.09	2.10	2.12	2.14	2.15	2.17	2.18	2.19	/	2.65	2.67	2.70
	95	TC	24.5	24.8	25.4	25.7	25.4	25.7	26.0	26.2	27.2	27.4	27.7	27.9	/	32.0	32.1	32.2
		S/T	0.95	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.80	0.98	/	0.42	0.56	0.73
		kW	2.37	2.39	2.41	2.41	2.41	2.43	2.46	2.48	2.49	2.50	2.52	2.54	/	3.02	3.03	3.04
	105	TC	22.6	22.9	23.5	23.8	23.5	23.8	24.0	24.3	25.3	25.5	25.7	26.0	/	29.3	29.5	29.6
		S/T	0.96	1.00	1.00	1.00	0.70	0.91	1.00	1.00	0.45	0.63	0.82	1.00	/	0.43	0.57	0.75
		kW	2.73	2.76	2.78	2.78	2.78	2.81	2.84	2.86	2.87	2.89	2.91	2.93	/	3.27	3.27	3.27
	115	TC	22.0	22.3	22.9	23.1	22.9	23.1	23.4	23.7	24.3	24.5	24.8	25.0	/	26.8	26.9	27.1
		S/T	0.97	1.00	1.00	1.00	0.72	0.93	1.00	1.00	0.47	0.65	0.84	1.00	/	0.46	0.60	0.78
		kW	3.09	3.12	3.15	3.15	3.15	3.18	3.21	3.24	3.24	3.25	3.27	3.31	/	3.37	3.37	3.38

Table 2

TC refer to total capacity S/T: refer to the ratio of sensible heat and total capacity kW: refer to total input power

BOVA36-15 + BVA24-15 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F) IDB (°F)	59				63				67				71			
			70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
630	65	TC	17.6	17.8	18.3	18.5	18.1	18.4	18.6	18.9	19.3	19.6	19.8	20.1	/	25.4	25.6	26.0
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.11	1.11	1.12	1.12	1.12	1.13	1.14	1.15	1.14	1.15	1.16	1.17	/	1.41	1.42	1.44
	75	TC	17.7	18.0	18.4	18.6	18.3	18.6	18.8	19.1	19.5	19.8	20.0	20.3	/	25.0	25.3	25.6
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.27	1.28	1.29	1.29	1.29	1.30	1.31	1.32	1.32	1.33	1.34	1.35	/	1.67	1.69	1.71
	85	TC	17.7	18.0	18.4	18.6	18.3	18.6	18.8	19.1	19.5	19.8	20.0	20.3	/	25.0	25.2	25.6
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.47	1.48	1.50	1.50	1.50	1.51	1.52	1.53	1.53	1.54	1.55	1.56	/	1.84	1.85	1.87
	95	TC	17.6	17.9	18.3	18.5	18.2	18.5	18.7	19.0	19.4	19.8	20.0	20.3	/	24.9	25.1	25.4
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.72	1.74	1.75	1.75	1.75	1.77	1.78	1.79	1.80	1.81	1.82	1.84	/	2.18	2.19	2.21
	105	TC	17.5	17.8	18.2	18.4	18.1	18.4	18.6	18.9	19.4	19.7	19.9	20.2	/	24.6	24.9	25.0
		S/T	0.92	0.97	1.00	1.00	0.66	0.86	0.97	0.98	0.41	0.59	0.76	0.94	/	0.40	0.55	0.71
		kW	2.00	2.01	2.03	2.03	2.02	2.04	2.06	2.07	2.08	2.09	2.11	2.12	/	2.53	2.55	2.57
	115	TC	17.0	17.3	17.7	17.9	17.6	17.9	18.1	18.4	18.9	19.2	19.3	19.6	/	24.4	24.6	24.8
		S/T	0.94	0.99	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.78	0.96	/	0.42	0.57	0.73
		kW	2.27	2.29	2.31	2.31	2.31	2.33	2.35	2.37	2.37	2.39	2.41	2.43	/	2.94	2.96	2.98
850	65	TC	21.8	22.1	22.6	22.9	22.5	22.8	23.0	23.3	24.1	24.3	24.5	24.8	/	30.3	30.6	30.8
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.95	/	0.41	0.55	0.71
		kW	1.35	1.36	1.37	1.37	1.37	1.38	1.40	1.41	1.40	1.42	1.43	1.44	/	1.81	1.83	1.85
	75	TC	21.5	21.9	22.4	22.6	22.3	22.5	22.8	23.0	23.9	24.2	24.3	24.3	/	30.3	30.6	30.8
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.55	1.57	1.58	1.58	1.58	1.59	1.61	1.62	1.63	1.64	1.65	1.65	/	2.00	2.02	2.04
	85	TC	21.4	21.7	22.2	22.5	22.1	22.5	22.7	23.0	23.9	24.0	24.2	24.3	/	30.0	30.3	30.4
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.71	1.73	1.74	1.74	1.74	1.76	1.77	1.79	1.81	1.81	1.81	1.83	/	2.18	2.20	2.22
	95	TC	21.2	21.6	22.1	22.2	22.0	22.3	22.5	22.9	23.5	23.7	24.0	24.2	/	29.8	30.0	30.1
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.94	1.96	1.98	1.98	1.98	2.00	2.01	2.03	2.05	2.06	2.06	2.07	/	2.59	2.60	2.61
	105	TC	19.7	20.0	20.3	20.6	21.5	21.8	22.1	22.4	22.8	23.0	23.2	23.5	/	27.7	27.9	28.0
		S/T	0.94	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.78	0.97	/	0.42	0.56	0.72
		kW	2.26	2.28	2.30	2.30	2.30	2.32	2.34	2.36	2.37	2.39	2.40	2.42	/	2.90	2.92	2.95
	115	TC	19.4	19.7	20.0	20.3	21.2	21.5	21.8	22.1	22.5	22.7	22.9	23.2	/	27.4	27.6	27.7
		S/T	0.96	1.00	1.00	1.00	0.71	0.92	1.00	1.00	0.46	0.64	0.80	0.99	/	0.44	0.58	0.74
		kW	2.58	2.60	2.61	2.63	2.63	2.65	2.70	2.72	2.74	2.76	2.78	2.80	/	3.30	3.31	3.32
1020	65	TC	25.2	25.5	26.1	26.4	26.1	26.4	26.7	27.0	27.9	28.1	28.4	28.7	/	35.1	35.4	35.6
		S/T	0.95	0.99	1.00	1.00	0.69	0.89	1.00	1.00	0.44	0.62	0.79	0.97	/	0.42	0.55	0.71
		kW	1.63	1.64	1.66	1.66	1.66	1.67	1.69	1.70	1.70	1.71	1.73	1.74	/	2.20	2.23	2.25
	75	TC	25.1	25.4	26.0	26.3	26.0	26.3	26.6	26.9	27.8	28.1	28.3	28.6	/	34.4	34.7	35.0
		S/T	0.95	0.99	1.00	1.00	0.69	0.89	1.00	1.00	0.44	0.62	0.79	0.98	/	0.42	0.55	0.71
		kW	1.86	1.87	1.89	1.89	1.89	1.91	1.92	1.94	1.94	1.96	1.98	1.99	/	2.37	2.40	2.42
	85	TC	24.8	25.1	25.7	26.0	25.7	26.0	26.3	26.6	27.5	27.9	28.1	28.3	/	33.8	34.1	34.4
		S/T	0.95	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.80	0.98	/	0.42	0.55	0.71
		kW	2.01	2.03	2.05	2.05	2.05	2.06	2.08	2.10	2.11	2.13	2.14	2.15	/	2.61	2.63	2.66
	95	TC	24.5	24.8	25.4	25.7	25.4	25.7	26.0	26.4	27.2	27.4	27.7	27.9	/	32.5	32.6	32.7
		S/T	0.95	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.80	0.98	/	0.42	0.56	0.73
		kW	2.33	2.35	2.37	2.37	2.37	2.39	2.42	2.44	2.45	2.46	2.48	2.50	/	2.98	2.99	3.00
	105	TC	23.7	24.0	24.6	24.9	24.6	24.9	25.1	25.4	26.4	26.6	26.8	27.1	/	30.4	30.6	30.7
		S/T	0.96	1.00	1.00	1.00	0.70	0.91	1.00	1.00	0.45	0.63	0.82	1.00	/	0.43	0.57	0.75
		kW	2.69	2.72	2.74	2.74	2.74	2.77	2.80	2.82	2.83	2.85	2.87	2.89	/	3.22	3.23	3.24
	115	TC	22.7	23.1	23.7	23.9	23.7	23.9	24.2	24.5	25.1	25.3	25.6	25.8	/	27.6	27.7	27.9
		S/T	0.97	1.00	1.00	1.00	0.72	0.93	1.00	1.00	0.47	0.65	0.84	1.00	/	0.46	0.60	0.78
		kW	3.05	3.08	3.11	3.11	3.11	3.14	3.17	3.20	3.21	3.23	3.27	3.29	/	3.33	3.33	3.34

Table 3

TC refer to total capacity S/T: refer to the ratio of sensible heat and total capacity kW: refer to total input power

BOVA36-15 + BVA36-15 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F)	59				63				67				71			
		IDB (°F)	70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
970	65	TC	29.3	29.6	30.2	30.6	30.5	30.8	31.1	31.4	32.5	32.8	33.2	33.4	/	36.7	37.0	37.3
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70
		kW	1.94	1.96	1.97	1.97	1.97	1.99	2.00	2.02	2.02	2.02	2.03	2.05	2.07	/	2.44	2.46
	75	TC	29.2	29.6	30.2	30.5	30.3	30.6	31.0	31.3	32.4	32.7	33.1	33.2	/	36.3	36.6	36.9
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70
		kW	2.33	2.35	2.37	2.38	2.37	2.39	2.41	2.42	2.42	2.44	2.46	2.48	/	2.61	2.62	2.63
	85	TC	28.9	29.2	29.8	30.2	30.0	30.4	30.7	31.0	32.2	32.5	32.9	33.0	/	36.2	36.5	36.7
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70
		kW	2.45	2.47	2.49	2.49	2.49	2.51	2.53	2.55	2.55	2.57	2.59	2.61	/	2.87	2.90	2.92
	95	TC	28.4	28.7	29.3	29.7	29.5	29.9	30.2	30.5	31.7	32.0	32.3	32.5	/	35.9	36.2	36.4
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70
		kW	2.74	2.76	2.79	2.80	2.79	2.81	2.84	2.86	2.88	2.89	2.91	2.94	/	3.38	3.39	3.40
	105	TC	26.7	27.2	27.9	28.2	27.7	28.0	28.4	28.8	29.5	29.9	30.3	30.7	/	34.3	34.4	34.6
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.40	0.58	0.77	0.98	/	0.40	0.55	0.71
		kW	3.28	3.30	3.32	3.34	3.50	3.51	3.53	3.55	3.72	3.74	3.75	3.76	/	3.96	3.97	3.98
115	TC	22.0	22.4	22.8	23.1	24.5	24.9	25.2	25.4	26.2	26.6	26.8	27.1	/	27.4	27.7	27.9	
	S/T	0.92	0.97	1.00	1.00	0.65	0.88	0.97	1.00	0.41	0.59	0.78	0.99	/	0.41	0.56	0.72	
	kW	2.96	2.98	3.00	3.02	3.18	3.19	3.21	3.23	3.40	3.42	3.43	3.44	/	3.54	3.56	3.58	
1210	65	TC	31.1	31.6	32.4	32.7	32.2	32.6	33.0	33.4	34.5	34.5	34.8	35.1	/	41.0	41.3	41.6
		S/T	0.90	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71
		kW	2.16	2.18	2.20	2.21	2.20	2.22	2.24	2.26	2.31	2.34	2.36	2.38	/	2.71	2.72	2.75
	75	TC	31.1	31.6	32.2	32.5	32.2	32.6	33.0	33.4	34.3	34.5	34.5	34.8	/	40.7	41.0	41.3
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71
		kW	2.41	2.43	2.45	2.46	2.45	2.47	2.49	2.51	2.52	2.53	2.56	2.58	/	2.85	2.87	2.88
	85	TC	30.6	31.0	31.8	32.1	31.8	32.1	32.4	32.8	34.0	34.1	34.2	34.7	/	39.6	39.9	40.2
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71
		kW	2.53	2.55	2.58	2.59	2.58	2.61	2.62	2.65	2.76	2.78	2.80	2.82	/	3.21	3.21	3.23
	95	TC	30.2	30.7	31.5	31.8	31.7	32.0	32.3	32.7	33.6	33.9	34.2	34.4	/	38.6	39.0	39.2
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71
		kW	2.94	2.97	3.00	3.01	3.00	3.03	3.05	3.08	3.20	3.22	3.25	3.26	/	3.71	3.72	3.73
	105	TC	28.2	28.6	29.0	29.3	30.2	30.5	30.8	31.2	32.2	32.6	32.8	33.1	/	35.7	36.0	36.2
		S/T	0.92	0.97	1.00	1.00	0.64	0.88	0.96	1.00	0.40	0.60	0.78	0.99	/	0.40	0.56	0.72
		kW	3.41	3.44	3.45	3.47	3.54	3.58	3.61	3.64	3.76	3.78	3.81	3.83	/	4.06	4.07	4.08
115	TC	22.4	22.8	23.1	23.4	24.7	25.1	25.4	25.7	26.6	27.0	27.3	27.6	/	28.2	28.4	28.5	
	S/T	0.93	0.98	1.00	1.00	0.65	0.90	0.98	1.00	0.41	0.64	0.80	1.00	/	0.41	0.57	0.76	
	kW	3.06	3.08	3.10	3.12	3.24	3.26	3.28	3.29	3.50	3.52	3.53	3.54	/	3.64	3.65	3.66	
1350	65	TC	32.7	33.2	34.0	34.4	33.8	34.3	34.7	35.2	36.1	36.6	37.0	37.4	/	43.4	43.7	44.0
		S/T	0.93	0.98	1.00	1.00	0.66	0.89	0.98	1.00	0.41	0.60	0.79	1.00	/	0.41	0.57	0.73
		kW	2.45	2.47	2.49	2.50	2.49	2.52	2.54	2.56	2.57	2.59	2.61	2.63	/	3.02	3.04	3.07
	75	TC	32.6	33.0	33.8	34.1	33.8	34.1	34.5	34.9	36.0	36.5	36.8	37.1	/	43.0	43.2	43.3
		S/T	0.93	0.98	1.00	1.00	0.66	0.89	0.98	1.00	0.41	0.60	0.79	1.00	/	0.41	0.57	0.73
		kW	2.51	2.53	2.56	2.57	2.56	2.57	2.59	2.62	2.63	2.65	2.67	2.70	/	3.29	3.30	3.31
	85	TC	32.1	32.6	33.4	33.8	33.2	33.7	34.0	34.5	35.5	35.9	36.3	36.7	/	41.9	42.3	42.7
		S/T	0.93	0.98	1.00	1.00	0.66	0.89	0.98	1.00	0.41	0.60	0.79	1.00	/	0.41	0.57	0.73
		kW	2.79	2.81	2.84	2.85	2.84	2.87	2.89	2.92	2.94	2.96	2.97	2.99	/	3.50	3.52	3.55
	95	TC	31.3	31.7	32.5	32.9	32.3	32.8	33.2	33.6	34.6	35.0	35.3	35.8	/	39.8	40.2	40.4
		S/T	0.93	0.98	1.00	1.00	0.66	0.89	0.98	1.00	0.41	0.60	0.79	1.00	/	0.41	0.57	0.73
		kW	3.22	3.25	3.28	3.29	3.28	3.31	3.34	3.37	3.40	3.42	3.43	3.45	/	3.90	3.91	3.92
	105	TC	28.3	29.0	29.4	29.7	31.2	31.6	31.9	32.1	32.9	33.3	33.5	33.8	/	35.8	36.3	36.5
		S/T	0.93	0.98	1.00	1.00	0.66	0.90	0.98	1.00	0.41	0.61	0.80	1.00	/	0.41	0.59	0.76
		kW	3.50	3.52	3.54	3.56	3.72	3.73	3.75	3.77	3.94	3.96	3.97	3.98	/	4.37	4.39	4.41
115	TC	22.6	23.1	23.5	23.8	25.5	25.9	26.2	26.4	27.2	27.6	27.8	28.1	/	28.7	28.8	28.9	
	S/T	0.95	1.00	1.00	1.00	0.68	0.92	1.00	1.00	0.43	0.66	0.89	1.00	/	0.43	0.65	0.84	
	kW	3.08	3.10	3.12	3.14	3.26	3.28	3.32	3.35	3.52	3.54	3.55	3.56	/	3.66	3.68	3.69	

Table 4

TC refer to total capacity S/T: refer to the ratio of sensible heat and total capacity kW: refer to total input power

BOVA60-15 + BVA48-15 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F) IDB (°F)	59				63				67				71			
			70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
1330	65	TC	39.8	40.2	41.2	41.7	40.8	41.4	42.1	42.5	44.2	44.4	44.8	45.2	/	52.6	53.0	53.5
		S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67
		kW	2.68	2.70	2.72	2.73	2.72	2.74	2.76	2.78	2.83	2.84	2.85	2.88	/	3.39	3.42	3.45
	75	TC	40.0	40.4	41.4	41.9	41.0	41.6	42.3	42.7	43.9	44.4	44.9	45.4	/	52.3	52.7	53.1
		S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67
		kW	3.04	3.06	3.09	3.10	3.09	3.11	3.13	3.15	3.17	3.20	3.22	3.25	/	3.81	3.84	3.87
	85	TC	39.4	39.9	40.9	41.3	40.5	41.0	41.7	42.1	43.3	43.8	44.3	44.8	/	51.4	51.8	52.2
		S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67
		kW	3.38	3.41	3.43	3.44	3.43	3.46	3.49	3.50	3.54	3.56	3.58	3.61	/	4.17	4.20	4.23
	95	TC	38.9	39.4	40.4	40.8	40.0	40.5	41.2	41.6	42.8	43.3	43.7	44.2	/	49.8	50.2	50.6
		S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67
		kW	3.87	3.90	3.93	3.94	3.93	3.96	3.99	4.01	4.05	4.08	4.11	4.13	/	4.78	4.81	4.84
	105	TC	37.2	37.4	37.7	38.1	38.4	38.8	39.4	39.9	41.3	41.7	42.1	42.4	/	47.0	47.4	47.7
		S/T	0.83	0.95	0.97	1.00	0.61	0.79	0.94	0.97	0.41	0.58	0.74	0.91	/	0.39	0.55	0.67
		kW	4.48	4.49	4.53	4.53	4.53	4.57	4.62	4.64	4.65	4.68	4.72	4.74	/	5.17	5.20	5.22
	115	TC	34.0	34.5	35.3	35.7	35.6	35.9	36.2	36.6	38.3	38.6	38.8	38.9	/	41.4	41.6	41.8
		S/T	0.85	0.97	0.99	1.00	0.63	0.81	0.96	0.99	0.43	0.60	0.76	0.93	/	0.41	0.57	0.69
		kW	4.67	4.71	4.75	4.77	4.80	4.83	4.87	4.90	4.93	4.96	4.99	5.01	/	5.19	5.21	5.23
1530	65	TC	42.5	43.0	44.0	44.5	43.6	44.2	44.9	45.4	46.6	47.2	47.7	48.2	/	53.9	54.3	54.8
		S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68
		kW	2.94	2.97	2.99	3.00	2.99	3.01	3.04	3.06	3.10	3.13	3.16	3.19	/	3.60	3.63	3.66
	75	TC	42.7	43.2	44.2	44.7	43.8	44.4	45.1	45.6	46.9	47.4	47.9	48.4	/	53.5	53.9	54.3
		S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68
		kW	3.28	3.31	3.34	3.35	3.34	3.36	3.39	3.41	3.46	3.49	3.52	3.54	/	3.99	4.01	4.04
	85	TC	42.0	42.5	43.6	44.1	43.2	43.8	44.4	44.9	46.2	46.8	47.2	47.7	/	52.4	52.9	53.3
		S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68
		kW	3.61	3.64	3.67	3.68	3.67	3.70	3.72	3.74	3.81	3.84	3.86	3.89	/	4.45	4.48	4.50
	95	TC	41.5	42.0	43.1	43.5	42.7	43.2	43.9	44.4	45.6	46.4	47.0	47.3	/	51.2	51.6	52.0
		S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68
		kW	3.95	3.98	4.02	4.02	4.02	4.05	4.09	4.12	4.17	4.19	4.20	4.23	/	4.89	4.93	4.96
	105	TC	38.4	38.7	39.2	39.5	39.8	40.3	40.7	41.2	42.7	43.2	43.5	43.9	/	48.0	48.3	48.6
		S/T	0.85	0.97	0.98	1.00	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.40	0.56	0.70
		kW	4.55	4.56	4.59	4.60	4.64	4.68	4.71	4.74	4.75	4.79	4.82	4.85	/	5.22	5.24	5.26
	115	TC	34.7	35.3	35.8	36.4	36.8	37.4	38.0	38.7	39.3	39.8	40.4	40.7	/	41.9	42.1	42.3
		S/T	0.89	0.99	1.00	1.00	0.66	0.85	0.98	1.00	0.47	0.64	0.80	0.97	/	0.44	0.60	0.74
		kW	4.76	4.80	4.82	4.84	4.85	4.89	4.96	5.00	5.08	5.11	5.13	5.16	/	5.19	5.21	5.22
1760	65	TC	44.8	45.3	46.3	46.8	46.1	46.6	47.1	47.6	49.5	49.8	50.2	51.0	/	54.7	55.1	56.1
		S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71
		kW	3.29	3.32	3.35	3.36	3.35	3.37	3.40	3.43	3.45	3.48	3.50	3.52	/	3.98	4.01	3.99
	75	TC	45.0	45.5	46.5	47.0	46.3	46.8	47.3	47.9	49.4	49.8	50.4	50.8	/	54.6	55.0	55.4
		S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71
		kW	3.49	3.52	3.55	3.56	3.55	3.58	3.61	3.62	3.68	3.71	3.74	3.75	/	4.23	4.25	4.28
	85	TC	44.3	44.8	45.9	46.4	45.5	46.1	46.8	47.3	48.7	49.3	49.7	50.1	/	53.1	53.5	53.9
		S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71
		kW	3.92	3.95	3.98	3.99	3.98	4.01	4.04	4.07	4.11	4.14	4.16	4.19	/	4.61	4.65	4.68
	95	TC	43.4	43.9	45.0	45.5	44.6	45.2	45.9	46.4	47.8	48.3	48.8	49.2	/	52.1	52.5	52.9
		S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71
		kW	4.45	4.49	4.53	4.54	4.53	4.56	4.60	4.63	4.68	4.71	4.72	4.75	/	5.30	5.34	5.37
	105	TC	39.0	39.5	39.9	40.3	40.6	41.0	41.5	42.0	43.6	43.9	44.2	44.6	/	49.0	49.2	49.4
		S/T	0.88	1.00	1.00	1.00	0.66	0.84	0.99	1.00	0.46	0.63	0.79	0.96	/	0.42	0.58	0.72
		kW	4.64	4.66	4.68	4.70	4.73	4.77	4.82	4.84	4.85	4.87	4.90	4.93	/	5.30	5.32	5.35
	115	TC	35.5	35.9	36.3	36.8	37.4	38.0	38.6	39.3	39.9	40.4	40.8	41.3	/	42.3	42.8	43.0
		S/T	0.91	1.00	1.00	1.00	0.69	0.88	1.00	1.00	0.50	0.67	0.83	1.00	/	0.46	0.62	0.76
		kW	4.86	4.91	4.93	4.94	4.95	5.00	5.05	5.09	5.15	5.17	5.18	5.20	/	5.25	5.27	5.28

Table 5

TC refer to total capacity S/T: refer to the ratio of sensible heat and total capacity kW: refer to total input power

BOVA60-15 + BVA60-15 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F) IDB (°F)	59				63				67				71			
			70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
1650	65	TC	47.2	47.7	48.6	49.1	49.7	50.2	50.8	51.3	52.9	53.3	53.9	54.1	/	59.6	60.1	60.5
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.77	0.91	/	0.39	0.57	0.72
		kW	3.87	3.89	3.92	3.92	4.02	4.05	4.08	4.10	4.10	4.13	4.16	4.19	/	4.30	4.34	4.37
	75	TC	46.6	47.2	48.2	48.7	49.5	50.1	50.6	51.1	52.7	53.2	53.7	53.9	/	59.0	59.4	59.8
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.77	0.91	/	0.39	0.57	0.72
		kW	4.17	4.20	4.24	4.24	4.23	4.26	4.29	4.32	4.34	4.36	4.38	4.40	/	4.60	4.63	4.67
	85	TC	46.3	46.8	47.7	48.2	48.9	49.4	49.9	50.4	51.8	52.4	53.2	53.4	/	58.0	58.5	58.9
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.77	0.91	/	0.39	0.57	0.72
		kW	4.61	4.63	4.65	4.67	4.67	4.71	4.74	4.77	4.84	4.87	4.89	4.92	/	5.11	5.15	5.17
	95	TC	45.1	45.8	46.7	47.4	48.4	49.0	49.5	50.0	51.4	52.0	52.9	53.3	/	56.5	56.9	57.3
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.77	0.91	/	0.39	0.57	0.72
		kW	4.98	5.02	5.07	5.07	5.08	5.10	5.11	5.13	5.22	5.24	5.26	5.28	/	5.58	5.61	5.64
	105	TC	40.8	41.3	42.3	42.8	42.7	43.3	43.9	44.4	45.2	45.5	45.9	46.2	/	50.1	50.3	50.3
		S/T	0.86	0.96	0.99	1.00	0.65	0.84	0.98	0.99	0.45	0.62	0.78	0.93	/	0.40	0.59	0.74
		kW	5.01	5.06	5.10	5.10	5.10	5.15	5.20	5.24	5.26	5.30	5.34	5.37	/	5.81	5.83	5.83
	115	TC	34.9	35.3	36.1	36.6	36.4	36.9	37.3	37.7	38.8	39.3	39.7	40.0	/	40.8	41.1	41.3
		S/T	0.87	0.97	1.00	1.00	0.66	0.86	0.99	1.00	0.46	0.63	0.80	0.98	/	0.42	0.61	0.76
		kW	4.80	4.85	4.89	4.91	4.99	5.01	5.05	5.10	5.23	5.25	5.27	5.27	/	5.31	5.32	5.34
1800	65	TC	49.1	49.9	51.0	51.6	52.3	52.9	53.5	54.0	55.0	55.2	55.6	56.0	/	61.2	61.5	61.8
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.78	0.92	/	0.41	0.59	0.74
		kW	3.98	4.01	4.03	4.04	4.05	4.08	4.11	4.14	4.19	4.22	4.25	4.28	/	4.62	4.65	4.69
	75	TC	48.9	49.4	50.6	51.1	52.1	52.6	53.2	53.8	54.8	55.0	55.4	55.8	/	60.6	61.0	61.3
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.78	0.92	/	0.41	0.59	0.74
		kW	4.26	4.29	4.34	4.34	4.33	4.36	4.39	4.43	4.45	4.48	4.49	4.52	/	4.75	4.79	4.80
	85	TC	48.7	49.3	50.4	50.9	52.0	52.5	53.1	53.7	54.6	55.0	55.3	55.8	/	60.0	60.4	60.7
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.78	0.92	/	0.41	0.59	0.74
		kW	4.75	4.77	4.80	4.82	4.92	4.96	5.00	5.03	5.05	5.07	5.11	5.14	/	5.27	5.31	5.34
	95	TC	48.3	48.9	49.7	50.6	51.9	52.5	53.0	53.5	54.6	55.0	55.2	55.7	/	59.4	59.8	60.1
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.78	0.92	/	0.41	0.59	0.74
		kW	5.15	5.20	5.24	5.27	5.24	5.29	5.33	5.37	5.49	5.53	5.55	5.58	/	5.86	5.90	5.93
	105	TC	41.6	42.1	43.2	43.7	45.3	45.8	46.3	46.9	48.8	49.2	49.5	49.8	/	51.5	51.8	52.1
		S/T	0.87	0.97	1.00	1.00	0.66	0.85	0.99	1.00	0.46	0.63	0.79	0.94	/	0.42	0.61	0.76
		kW	5.27	5.32	5.38	5.38	5.48	5.53	5.58	5.63	5.66	5.70	5.73	5.76	/	5.92	5.93	5.94
	115	TC	36.3	36.7	37.6	38.0	38.1	38.5	39.0	39.5	40.7	41.0	41.2	41.5	/	42.6	42.7	42.9
		S/T	0.88	0.98	1.00	1.00	0.67	0.87	1.00	1.00	0.47	0.64	0.81	0.99	/	0.44	0.63	0.78
		kW	4.88	4.92	4.94	4.97	5.02	5.07	5.11	5.16	5.27	5.29	5.31	5.32	/	5.44	5.45	5.46
1950	65	TC	51.5	52.1	52.8	53.6	53.7	54.2	54.8	55.4	56.9	57.2	57.6	58.0	/	63.4	63.8	64.2
		S/T	0.86	0.97	1.00	1.00	0.65	0.84	0.99	1.00	0.45	0.63	0.79	0.93	/	0.42	0.60	0.75
		kW	4.20	4.23	4.26	4.26	4.26	4.30	4.33	4.37	4.37	4.40	4.43	4.47	/	4.88	4.91	4.94
	75	TC	51.0	51.8	52.7	53.3	53.4	54.0	54.6	55.2	57.0	57.4	57.8	58.2	/	62.9	63.3	63.8
		S/T	0.86	0.97	1.00	1.00	0.65	0.84	0.99	1.00	0.45	0.63	0.79	0.93	/	0.42	0.60	0.75
		kW	4.49	4.53	4.57	4.57	4.56	4.60	4.63	4.67	4.70	4.72	4.74	4.77	/	5.12	5.15	5.18
	85	TC	50.2	50.8	51.8	52.4	52.6	53.1	53.7	54.3	55.9	56.3	56.7	57.3	/	61.9	62.3	62.6
		S/T	0.86	0.97	1.00	1.00	0.65	0.84	0.99	1.00	0.45	0.63	0.79	0.93	/	0.42	0.60	0.75
		kW	4.95	4.99	5.03	5.03	5.05	5.07	5.11	5.15	5.17	5.20	5.23	5.26	/	5.57	5.60	5.63
	95	TC	49.2	49.7	50.9	51.4	52.4	52.9	53.5	54.1	55.7	56.1	56.4	56.7	/	60.5	60.9	61.2
		S/T	0.86	0.97	1.00	1.00	0.65	0.84	0.99	1.00	0.45	0.63	0.79	0.93	/	0.42	0.60	0.75
		kW	5.23	5.28	5.31	5.33	5.29	5.34	5.39	5.43	5.55	5.58	5.61	5.64	/	5.93	5.96	6.00
	105	TC	43.0	43.5	44.6	45.1	47.5	48.0	48.6	49.1	51.2	51.5	51.8	52.2	/	52.7	52.9	53.2
		S/T	0.88	0.97	1.00	1.00	0.67	0.86	1.00	1.00	0.47	0.64	0.80	0.95	/	0.43	0.62	0.77
		kW	5.41	5.46	5.50	5.52	5.63	5.68	5.74	5.79	5.83	5.86	5.90	5.93	/	5.96	5.97	5.99
	115	TC	37.2	37.6	38.2	38.7	38.8	39.2	39.6	40.1	41.6	42.0	42.2	42.4	/	43.4	43.6	43.7
		S/T	0.89	0.98	1.00	1.00	0.68	0.88	1.00	1.00	0.48	0.65	0.82	1.00	/	0.45	0.64	0.79
		kW	5.02	5.05	5.08	5.10	5.14	5.21	5.26	5.31	5.38	5.39	5.41	5.42	/	5.52	5.53	5.55

Table 6

TC refer to total capacity S/T: refer to the ratio of sensible heat and total capacity kW: refer to total input power

BOVA24-15 + BVA24-15 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
630	60	TC	26.5	26.3	26.0	25.7	25.5	25.5	25.6	26.0	26.0	24.7	24.5	23.0	22.5	21.9	20.9	19.9
		kW	2.14	2.25	2.25	2.38	2.54	2.55	2.70	2.76	2.87	2.81	2.82	2.74	2.66	2.79	2.72	2.65
	70	TC	19.4	19.4	19.4	19.3	19.3	19.2	19.1	19.0	18.9	18.9	18.6	18.5	18.0	16.6	15.3	14.7
		kW	1.58	1.73	1.75	1.89	1.90	1.99	2.01	2.03	2.10	2.35	2.28	2.43	2.60	2.88	2.89	2.81
	75	TC	16.3	16.3	16.3	16.2	16.2	16.2	16.1	16.1	16.0	16.0	15.5	15.4	15.5	14.6	14.0	13.7
		kW	1.55	1.57	1.63	1.71	1.76	1.84	1.89	1.98	2.00	2.22	2.11	2.25	2.36	2.43	2.60	2.75
	80	TC	12.9	12.9	12.8	12.8	12.8	12.8	12.8	12.7	12.7	12.7	12.2	12.2	12.2	11.5	10.9	10.6
		kW	1.44	1.47	1.48	1.54	1.57	1.68	1.77	1.86	1.97	2.13	2.03	2.16	2.30	2.41	2.55	2.50
850	60	TC	31.1	31.1	30.6	30.6	30.6	30.5	30.8	29.3	27.8	26.6	26.0	24.3	23.9	22.6	21.8	20.7
		kW	2.33	2.58	2.60	2.74	2.80	2.80	2.92	2.93	2.97	2.91	2.78	2.80	2.84	2.72	2.66	2.60
	70	TC	24.2	24.2	24.2	24.1	24.1	24.0	24.0	23.8	23.8	23.6	23.1	22.3	21.2	20.1	18.7	17.0
		kW	1.68	1.82	1.91	2.01	2.12	2.20	2.28	2.31	2.46	2.63	2.65	2.75	2.50	2.85	2.78	2.71
	75	TC	19.9	19.9	19.8	19.8	19.7	19.7	19.7	19.6	19.6	19.6	19.1	19.1	19.0	18.3	17.2	15.4
		kW	1.63	1.72	1.79	1.88	1.94	2.08	2.15	2.21	2.33	2.43	2.38	2.26	2.41	2.55	2.64	2.61
	80	TC	15.8	15.8	15.7	15.7	15.7	15.7	15.6	15.6	15.6	15.6	15.1	15.1	15.1	14.4	13.8	13.6
		kW	1.54	1.59	1.61	1.68	1.71	1.80	1.85	2.03	2.05	2.13	1.76	1.89	2.15	2.25	2.30	2.44
1020	60	TC	35.8	35.8	35.7	35.6	34.8	32.6	30.8	29.6	28.4	27.5	26.5	25.0	25.6	23.5	21.9	20.7
		kW	2.55	2.75	2.80	2.94	2.97	3.00	2.95	2.94	2.88	2.90	2.55	2.65	2.74	2.69	2.63	2.59
	70	TC	28.4	28.4	28.4	28.1	28.1	28.0	27.8	27.5	27.2	26.4	25.5	24.0	23.7	22.3	20.7	19.5
		kW	2.04	2.14	2.27	2.39	2.49	2.55	2.59	2.76	2.90	2.89	2.75	2.69	2.62	2.66	2.60	2.54
	75	TC	23.8	23.8	23.7	23.7	23.5	23.5	23.2	23.1	23.1	23.0	22.5	22.5	21.9	19.5	17.8	15.9
		kW	1.97	1.99	2.09	2.20	2.26	2.41	2.45	2.58	2.72	2.84	2.60	2.78	2.88	2.76	2.69	2.63
	80	TC	18.9	18.8	18.8	18.7	18.6	18.6	18.6	18.6	18.5	18.5	17.9	17.9	17.8	17.1	16.5	15.7
		kW	1.78	1.83	1.86	1.94	2.00	2.04	2.04	2.34	2.41	2.50	2.35	2.46	2.54	2.71	2.65	2.62

Table 7

TC refer to total capacity kW: refer to total input power

BOVA36-15 + BVA24-15 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
630	60	TC	26.8	26.6	26.3	26.0	25.8	25.8	25.9	26.3	26.3	25.0	24.8	23.3	22.8	22.2	21.2	20.2
		kW	2.09	2.20	2.20	2.33	2.49	2.50	2.65	2.71	2.82	2.76	2.82	2.74	2.66	2.79	2.72	2.65
	70	TC	19.7	19.7	19.7	19.6	19.6	19.5	19.4	19.3	19.2	19.2	18.9	18.8	18.3	17.8	16.5	16.1
		kW	1.53	1.68	1.70	1.84	1.85	1.94	1.96	1.98	2.05	2.30	2.42	2.43	2.60	2.88	2.89	2.81
	75	TC	16.3	16.3	16.3	16.2	16.2	16.2	16.1	16.1	16.0	16.0	15.8	15.7	15.8	15.6	15.2	14.9
		kW	1.50	1.52	1.58	1.66	1.71	1.79	1.84	1.93	1.95	2.17	2.11	2.25	2.36	2.43	2.60	2.75
	80	TC	12.9	12.9	12.8	12.8	12.8	12.8	12.8	12.7	12.7	12.7	12.5	12.5	12.5	12.5	12.1	11.8
		kW	1.39	1.42	1.43	1.49	1.52	1.63	1.72	1.81	1.92	2.08	2.03	2.16	2.30	2.41	2.55	2.50
850	60	TC	31.4	31.4	30.9	30.9	30.9	30.8	30.8	29.3	27.8	26.6	26.3	24.6	24.3	23.0	22.1	21.0
		kW	2.28	2.53	2.55	2.69	2.75	2.75	2.87	2.88	2.92	2.86	2.78	2.80	2.84	2.72	2.66	2.60
	70	TC	24.2	24.2	24.2	24.1	24.1	24.0	24.0	23.8	23.8	23.6	23.4	22.6	21.5	21.3	19.9	18.2
		kW	1.63	1.77	1.86	1.96	2.07	2.15	2.23	2.26	2.41	2.58	2.65	2.75	2.66	2.80	2.78	2.71
	75	TC	19.9	19.9	19.8	19.8	19.7	19.7	19.7	19.6	19.6	19.6	19.4	19.4	19.3	19.1	18.2	16.8
		kW	1.58	1.67	1.74	1.83	1.89	2.03	2.10	2.16	2.28	2.38	2.38	2.42	2.57	2.71	2.80	2.77
	80	TC	15.8	15.8	15.7	15.7	15.7	15.7	15.6	15.6	15.6	15.6	15.4	15.4	15.4	15.2	15.0	14.8
		kW	1.49	1.54	1.56	1.63	1.66	1.75	1.80	1.98	2.00	2.08	1.92	2.05	2.31	2.41	2.46	2.60
1020	60	TC	36.1	36.1	36.0	35.9	35.1	32.9	31.1	29.9	28.4	27.5	26.8	25.3	25.9	24.7	23.1	22.2
		kW	2.50	2.70	2.75	2.89	2.92	2.95	2.90	2.89	2.83	2.85	2.71	2.81	2.90	2.85	2.79	2.75
	70	TC	28.4	28.4	28.4	28.1	28.1	28.0	27.8	27.5	27.2	26.4	25.8	24.3	24.0	23.5	21.9	21.0
		kW	1.99	2.09	2.22	2.34	2.44	2.50	2.54	2.71	2.85	2.84	2.91	2.85	2.78	2.82	2.76	2.70
	75	TC	23.8	23.8	23.7	23.7	23.5	23.5	23.2	23.1	23.1	23.0	22.8	22.8	22.2	20.7	19.0	17.4
		kW	1.92	1.94	2.04	2.15	2.21	2.36	2.40	2.53	2.67	2.79	2.76	2.94	3.04	2.92	2.85	2.79
	80	TC	18.9	18.8	18.8	18.7	18.6	18.6	18.6	18.6	18.5	18.5	18.2	18.2	18.1	18.1	17.7	17.2
		kW	1.73	1.78	1.81	1.89	1.95	1.99	1.99	2.29	2.36	2.45	2.38	2.49	2.70	2.87	2.81	2.78

Table 8

TC refer to total capacity kW: refer to total input power

BOVA36-15 + BVA36-15 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
970	60	TC	39.5	39.2	38.7	38.6	38.6	38.5	37.0	34.3	32.3	30.8	30.5	28.9	27.6	25.8	23.5	20.3
		kW	2.49	2.68	2.83	3.03	3.24	3.46	3.48	3.37	3.32	3.24	3.16	3.08	3.04	3.06	2.99	2.91
	70	TC	31.0	31.0	31.0	30.9	30.8	30.5	30.4	30.2	30.2	29.7	29.5	27.4	25.4	24.7	22.8	21.0
		kW	2.00	2.28	2.37	2.54	2.62	2.72	2.86	2.90	3.13	3.34	3.46	3.41	3.27	3.17	3.09	3.00
	75	TC	25.6	25.6	25.5	25.5	25.5	25.5	25.5	24.8	24.6	24.6	25.1	25.0	24.7	24.1	21.2	19.0
		kW	1.76	2.06	2.16	2.19	2.22	2.36	2.41	2.44	2.64	2.80	2.88	3.09	3.30	3.20	3.16	3.07
	80	TC	21.3	21.3	21.2	21.2	21.2	21.1	21.1	21.0	21.0	21.0	21.8	21.8	21.8	21.8	20.8	18.7
		kW	1.46	1.58	1.65	1.75	1.86	1.96	2.04	2.16	2.35	2.47	2.44	2.61	2.80	2.90	3.15	3.14
1210	60	TC	44.7	44.5	44.2	44.0	42.8	40.4	38.2	35.6	33.5	32.2	32.2	30.1	29.0	27.1	24.3	21.7
		kW	2.97	3.48	3.53	3.75	3.73	3.65	3.62	3.43	3.34	3.28	3.18	3.10	3.13	3.06	2.99	2.92
	70	TC	35.2	35.2	35.0	34.9	34.9	34.9	35.0	34.4	32.8	30.9	30.6	28.6	26.5	26.3	23.6	21.5
		kW	2.36	2.59	2.67	2.79	2.87	2.97	2.95	3.30	3.35	3.42	3.37	3.34	3.10	3.17	3.09	3.01
	75	TC	29.2	29.2	29.1	29.0	29.1	29.0	28.7	28.4	28.2	28.2	28.7	27.7	25.6	24.9	22.0	19.4
		kW	1.99	2.34	2.44	2.46	2.55	2.64	2.70	2.82	3.04	3.23	3.29	3.37	3.28	3.19	3.10	3.02
	80	TC	24.4	24.4	24.3	24.3	24.3	24.3	24.2	24.1	23.9	23.9	24.8	24.8	24.7	24.7	22.1	19.1
		kW	1.57	1.76	1.84	1.96	2.07	2.19	2.32	2.51	2.63	2.72	2.76	2.96	3.16	3.30	3.23	3.13
1350	60	TC	48.5	48.4	47.6	44.8	43.2	41.1	38.9	36.6	34.0	32.7	31.7	30.8	29.7	27.6	24.7	22.1
		kW	3.24	3.79	3.86	3.94	3.92	3.70	3.58	3.49	3.42	3.30	3.20	3.33	3.27	3.21	3.14	3.08
	70	TC	38.6	38.6	38.5	38.2	38.2	38.1	37.7	35.3	33.3	31.5	31.5	29.8	28.8	27.3	24.3	21.8
		kW	2.55	2.82	2.91	3.11	3.24	3.45	3.50	3.45	3.43	3.36	3.44	3.51	3.48	3.41	3.24	3.16
	75	TC	32.8	32.7	32.6	32.6	32.3	32.2	32.2	32.2	31.8	30.1	30.3	28.6	26.9	25.3	22.4	19.9
		kW	2.23	2.60	2.71	2.79	2.80	2.90	3.00	3.15	3.39	3.34	3.48	3.49	3.41	3.23	3.15	3.07
	80	TC	27.3	27.2	27.1	27.1	27.1	27.0	27.0	26.8	26.4	26.2	26.5	26.3	26.1	24.9	22.3	19.6
		kW	1.72	1.93	2.02	2.15	2.26	2.42	2.57	2.61	2.81	3.07	3.15	3.36	3.44	3.35	3.27	3.18

Table 9

TC refer to total capacity kW: refer to total input power

BOVA60-15 + BVA48-15 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
1310	60	TC	55.7	55.4	55.3	55.2	55.2	55.1	55.0	52.4	48.8	45.7	42.7	41.1	39.3	35.9	34.5	32.6
		kW	3.55	3.78	3.98	4.24	4.51	4.79	4.93	5.06	5.11	5.15	4.91	4.89	4.99	4.66	4.59	4.51
	70	TC	44.2	44.0	44.0	43.9	43.7	43.6	43.6	43.2	42.4	42.1	41.5	39.9	38.0	34.9	33.1	31.7
		kW	2.97	3.11	3.24	3.44	3.63	3.84	3.94	4.38	4.57	4.86	4.72	4.83	4.88	4.70	4.62	4.53
	75	TC	37.2	37.0	36.9	36.8	36.8	36.7	36.5	36.3	35.8	35.5	35.0	34.6	34.0	31.6	31.1	29.3
		kW	2.76	2.82	2.91	3.05	3.22	3.37	3.41	3.82	3.98	4.19	4.13	4.40	4.71	4.64	4.52	4.43
	80	TC	30.4	30.2	29.9	29.6	29.4	29.1	29.1	29.0	28.7	28.3	28.0	27.6	27.3	24.9	24.8	24.3
		kW	2.58	2.75	2.84	2.94	3.09	3.20	3.35	3.51	3.74	3.89	3.78	3.99	4.41	4.46	4.18	4.01
1510	60	TC	59.1	59.1	58.6	58.6	58.5	57.8	57.6	53.2	49.4	46.1	43.6	42.2	40.3	36.9	35.4	33.5
		kW	3.66	4.34	4.56	4.83	5.14	5.38	5.12	4.95	5.03	5.12	4.87	5.16	5.26	5.03	4.96	4.78
	70	TC	48.5	48.4	48.3	48.3	48.2	48.0	48.0	47.7	46.7	45.2	43.1	41.6	39.0	36.3	34.6	33.0
		kW	3.20	3.38	3.50	3.75	3.94	4.07	4.15	4.63	5.02	5.01	4.83	5.00	5.01	4.97	4.93	4.85
	75	TC	41.6	41.6	41.5	41.5	41.4	41.3	41.3	40.1	39.6	39.2	38.8	38.4	37.3	34.7	34.1	32.1
		kW	2.94	3.05	3.16	3.31	3.48	3.65	3.81	4.19	4.31	4.54	4.55	4.86	5.19	5.13	4.98	4.89
	80	TC	33.5	33.5	33.2	33.2	33.0	33.0	32.9	32.6	32.3	32.1	31.8	31.7	31.6	29.4	29.1	28.1
		kW	2.69	2.90	2.99	3.11	3.26	3.40	3.56	3.79	4.00	4.19	4.11	4.33	4.78	4.88	4.75	4.70
1760	60	TC	63.0	62.8	62.6	62.6	62.4	61.3	58.5	54.6	50.4	46.6	44.0	42.6	40.8	37.4	35.5	33.6
		kW	4.31	4.62	4.67	4.80	4.92	5.01	4.96	5.02	5.09	5.19	4.94	4.98	5.03	4.80	4.72	4.65
	70	TC	52.2	52.2	52.1	52.1	52.1	52.1	52.0	50.9	47.6	44.9	43.0	42.3	40.0	36.8	35.2	33.3
		kW	3.46	3.69	3.90	4.13	4.44	4.69	4.87	4.91	5.05	5.04	4.81	5.13	5.15	4.99	4.91	4.82
	75	TC	45.4	45.4	45.3	45.3	45.2	45.1	44.1	43.5	42.7	42.3	39.8	37.8	35.2	34.5	32.5	
		kW	3.17	3.41	3.45	3.64	3.84	4.05	4.18	4.64	4.84	5.07	5.13	5.36	5.26	5.20	5.06	4.96
	80	TC	36.2	35.9	35.8	35.8	35.8	35.7	35.4	35.2	35.2	34.9	34.4	34.1	33.6	30.4	29.9	28.7
		kW	2.94	2.99	3.08	3.21	3.38	3.53	3.66	3.97	4.11	4.17	3.94	4.21	4.50	4.81	4.77	4.74

Table 10

TC refer to total capacity kW: refer to total input power

BOVA60-15 + BVA60-15 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
1650	60	TC	63.8	63.8	63.5	63.3	62.9	62.4	61.9	59.1	56.1	52.8	49.1	46.6	43.3	39.9	36.7	35.3
		kW	3.89	4.57	4.87	5.10	5.47	5.54	5.55	5.55	5.49	5.39	5.40	5.44	5.28	4.99	4.98	4.82
	70	TC	52.6	52.5	52.5	52.3	52.4	52.7	52.8	52.3	51.5	51.1	48.3	44.7	41.3	38.1	36.6	34.6
		kW	3.36	3.67	3.85	4.08	4.33	4.47	4.70	5.10	5.36	5.38	5.10	5.24	5.29	5.06	4.98	4.87
	75	TC	43.6	43.6	43.6	43.5	43.5	43.5	43.4	43.3	43.0	42.4	42.0	41.7	40.6	36.7	35.0	33.9
		kW	2.68	3.09	3.21	3.37	3.55	3.75	4.01	4.29	4.53	4.74	4.71	5.01	5.34	5.39	5.20	5.05
	80	TC	34.7	34.7	34.7	34.7	34.6	34.6	34.6	34.4	34.4	34.4	34.0	33.5	33.1	31.2	30.6	30.3
		kW	2.55	2.75	2.85	2.97	3.13	3.26	3.43	3.61	3.85	4.02	3.86	4.03	4.40	4.60	4.57	4.52
1800	60	TC	68.4	68.1	68.0	67.5	67.3	66.4	64.6	61.3	57.9	54.2	50.8	47.0	43.8	40.4	38.8	36.3
		kW	4.01	4.64	4.89	5.25	5.48	5.52	5.45	5.45	5.41	5.27	5.35	5.47	5.47	5.20	5.12	4.93
	70	TC	57.0	56.9	56.7	56.6	56.4	56.2	56.0	55.2	54.4	52.5	49.0	45.5	41.6	38.4	37.4	35.5
		kW	3.40	3.79	4.00	4.30	4.57	4.69	4.90	5.13	5.34	5.41	5.19	5.28	5.23	5.15	5.07	4.96
	75	TC	48.2	48.2	48.2	48.1	48.0	48.0	47.9	47.3	46.9	46.3	44.2	43.8	40.9	37.2	35.5	34.5
		kW	2.92	3.37	3.52	3.71	3.93	4.17	4.42	4.56	4.66	4.83	4.83	5.22	5.47	5.34	5.12	5.06
	80	TC	38.6	38.6	38.5	38.4	38.3	38.3	38.2	38.0	37.9	37.7	37.0	37.0	36.7	34.6	33.5	32.9
		kW	2.70	2.89	3.00	3.14	3.40	3.55	3.73	3.98	4.26	4.43	4.19	4.36	4.65	4.90	4.81	4.71
1950	60	TC	74.0	73.5	73.5	73.0	71.5	68.0	66.0	62.8	58.2	54.4	53.4	51.6	48.1	43.2	39.3	37.3
		kW	4.18	4.97	5.23	5.60	5.56	5.47	5.46	5.41	5.28	5.17	5.34	5.40	5.44	5.17	5.03	4.89
	70	TC	58.0	57.9	57.6	57.5	57.3	57.2	57.2	56.9	56.2	54.1	50.7	46.8	43.4	39.4	38.3	37.1
		kW	3.55	4.00	4.21	4.48	4.84	4.82	5.16	5.65	5.54	5.41	5.14	5.28	5.23	5.10	5.02	4.91
	75	TC	51.1	50.9	50.4	50.2	49.9	49.7	49.6	49.1	48.6	47.2	45.2	44.4	41.8	38.3	36.0	35.0
		kW	3.50	3.79	4.01	4.10	4.38	4.52	4.63	4.70	5.00	5.34	5.42	5.65	5.80	5.72	5.44	5.41
	80	TC	41.5	41.5	41.4	41.4	41.2	41.0	40.8	40.4	39.8	39.6	38.7	38.8	39.3	35.9	35.4	34.1
		kW	3.10	3.23	3.34	3.64	3.66	3.88	3.94	4.24	4.41	4.49	4.39	4.69	4.88	5.05	5.32	5.23

Table 11

TC refer to total capacity kW: refer to total input power

4.2 BOVA15 + BVA 20

BOVA24-15 + BVA24-20 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F)	59				63				67				71			
		IDB (°F)	70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
620	65	TC	16.6	16.9	17.4	17.6	17.3	17.5	17.7	18.0	18.4	18.6	18.8	19.0	/	24.1	24.3	24.6
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	/	1.30	1.30	1.30
	75	TC	16.8	17.1	17.5	17.7	17.4	17.6	17.9	18.2	18.6	18.8	19.1	19.3	/	23.7	24.1	24.3
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	1.10	1.10	1.10	1.10	1.10	1.20	1.20	1.20	1.20	1.20	1.20	1.20	/	1.50	1.60	1.60
	85	TC	16.8	17.1	17.5	17.7	17.4	17.6	17.9	18.1	18.5	18.8	19.0	19.2	/	23.7	24.0	24.2
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	1.30	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	/	1.70	1.70	1.80
	95	TC	16.7	17.0	17.5	17.7	17.4	17.6	17.9	18.1	18.5	18.8	19.0	19.2	/	23.6	23.9	24.1
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	1.60	1.60	1.60	1.60	1.60	1.60	1.70	1.70	1.70	1.70	1.70	1.70	/	2.10	2.10	2.10
105	TC	16.7	16.9	17.4	17.6	17.3	17.5	17.8	18.0	18.4	18.7	18.9	19.1	/	23.3	23.5	23.6	
	S/T	0.91	0.96	1.00	1.00	0.65	0.85	0.96	0.96	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70	
	kW	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	2.00	/	2.40	2.40	2.50	
115	TC	16.5	16.7	17.1	17.3	17.0	17.2	17.5	17.7	18.1	18.4	18.6	18.8	/	23.1	23.3	23.5	
	S/T	0.93	0.98	1.00	1.00	0.67	0.87	0.98	0.97	0.42	0.60	0.77	0.95	/	0.41	0.56	0.72	
	kW	2.20	2.20	2.20	2.20	2.20	2.20	2.30	2.30	2.30	2.30	2.30	2.30	/	2.80	2.90	2.90	
660 (Low Stage)	65	TC	17.0	17.2	17.6	17.8	17.5	17.7	18.0	18.2	18.6	18.8	19.1	19.3	/	24.5	24.7	25.1
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	/	1.30	1.30	1.30
	75	TC	17.1	17.3	17.8	18.0	17.7	17.9	18.1	18.4	18.8	19.0	19.3	19.5	/	24.1	24.4	24.7
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.10	1.10	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	/	1.60	1.60	1.60
	85	TC	17.1	17.3	17.8	18.0	17.7	17.9	18.1	18.4	18.8	19.0	19.3	19.5	/	24.1	24.3	24.7
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	/	1.70	1.70	1.80
	95	TC	17.0	17.2	17.7	17.9	17.6	17.8	18.0	18.3	18.7	19.0	19.2	19.5	/	24.0	24.3	24.5
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.60	1.60	1.60	1.60	1.60	1.70	1.70	1.70	1.70	1.70	1.70	1.70	/	2.10	2.10	2.10
105	TC	16.9	17.2	17.6	17.8	17.5	17.7	18.0	18.2	18.7	18.9	19.2	19.4	/	23.7	24.1	24.3	
	S/T	0.92	0.97	1.00	1.00	0.66	0.86	0.97	0.98	0.41	0.59	0.76	0.94	/	0.40	0.55	0.71	
	kW	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	2.00	/	2.50	2.50	2.50	
115	TC	16.6	16.9	17.3	17.5	17.2	17.4	17.7	17.9	18.4	18.7	18.8	19.1	/	23.5	23.8	24.1	
	S/T	0.94	0.99	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.78	0.96	/	0.42	0.57	0.73	
	kW	2.20	2.20	2.20	2.20	2.20	2.20	2.30	2.30	2.30	2.30	2.30	2.40	/	2.90	2.90	2.90	
760	65	TC	18.7	18.9	19.5	19.6	19.4	19.6	19.8	20.1	20.7	20.9	21.2	21.5	/	26.7	27.1	27.3
		S/T	0.92	0.97	0.99	1.00	0.67	0.87	0.98	0.99	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.20	/	1.40	1.40	1.50
	75	TC	18.9	19.1	19.6	19.8	19.4	19.8	20.0	20.3	20.9	21.1	21.3	21.5	/	26.8	27.2	27.4
		S/T	0.92	0.97	0.99	1.00	0.67	0.87	0.98	0.99	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.40	1.40	1.40	1.40	1.40	/	1.70	1.70	1.70
	85	TC	18.9	19.1	19.6	19.8	19.5	19.8	20.0	20.3	20.8	21.1	21.3	21.5	/	26.6	26.8	27.1
		S/T	0.92	0.97	0.99	1.00	0.67	0.88	0.98	1.00	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.60	1.60	1.60	1.60	1.60	/	1.90	1.90	2.00
	95	TC	18.8	19.0	19.6	19.7	19.5	19.7	19.9	20.2	20.7	21.0	21.2	21.3	/	26.3	26.6	26.7
		S/T	0.92	0.97	0.99	1.00	0.67	0.88	0.98	1.00	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.90	1.90	1.90	1.90	1.90	/	2.30	2.30	2.30
105	TC	18.4	18.7	19.1	19.3	19.2	19.4	19.6	19.8	20.5	20.7	20.9	21.1	/	25.4	25.7	25.9	
	S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.78	0.96	/	0.41	0.56	0.72	
	kW	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.20	2.20	2.20	2.20	2.20	/	2.70	2.80	2.80	
115	TC	18.3	18.5	19.0	19.2	19.2	19.3	19.5	19.6	20.3	20.5	20.7	21.0	/	24.7	24.9	25.2	
	S/T	0.95	1.00	1.00	1.00	0.70	0.91	1.00	1.00	0.45	0.63	0.80	0.98	/	0.43	0.58	0.74	
	kW	2.50	2.50	2.50	2.50	2.50	2.60	2.60	2.60	2.70	2.70	2.70	2.70	/	3.20	3.20	3.30	
860 (High Stage)	65	TC	20.8	21.0	21.5	21.8	21.4	21.7	21.9	22.2	22.9	23.1	24.5	24.8	/	29.0	29.2	29.5
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.95	/	0.41	0.55	0.71
		kW	1.20	1.20	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	/	1.70	1.70	1.80
	75	TC	20.5	20.8	21.3	21.5	21.2	21.4	21.7	21.9	22.7	23.0	24.3	24.3	/	29.0	29.2	29.5
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.40	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.60	1.60	/	1.90	1.90	2.00
	85	TC	20.4	20.6	21.2	21.4	21.1	21.4	21.6	21.9	22.7	22.8	24.2	24.3	/	28.7	29.0	29.1
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.60	1.60	1.60	1.60	1.60	1.70	1.70	1.70	1.70	1.70	1.70	1.70	/	2.10	2.10	2.20
	95	TC	20.2	20.5	21.1	21.1	20.9	21.2	21.4	21.8	22.4	22.6	24.0	24.2	/	28.4	28.6	28.8
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.90	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	/	2.50	2.60	2.60
105	TC	19.0	19.3	19.6	19.8	20.7	21.0	21.2	21.5	21.9	22.1	22.3	22.6	/	26.5	26.7	26.9	
	S/T	0.94	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.78	0.97	/	0.42	0.56	0.72	
	kW</																	

BOVA36-15 + BVA24-20 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F) IDB (°F)	59				63				67				71			
			70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
620	65	TC	17.0	17.2	17.8	18.0	17.7	17.9	18.0	18.4	18.8	19.0	19.2	19.4	/	24.6	24.9	25.2
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	/	1.30	1.30	1.30
	75	TC	17.2	17.4	17.9	18.0	17.8	18.0	18.2	18.6	19.0	19.2	19.5	19.7	/	24.2	24.6	24.8
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	1.10	1.10	1.10	1.10	1.10	1.20	1.20	1.20	1.20	1.20	1.20	1.20	/	1.50	1.60	1.60
	85	TC	17.2	17.4	17.9	18.0	17.8	18.0	18.2	18.5	18.9	19.2	19.4	19.6	/	24.2	24.5	24.7
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	1.30	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	/	1.70	1.70	1.80
	95	TC	17.1	17.3	17.9	18.0	17.8	18.0	18.2	18.5	18.9	19.2	19.4	19.6	/	24.1	24.4	24.7
		S/T	0.90	0.95	0.99	1.00	0.64	0.84	0.95	0.96	0.39	0.57	0.74	0.92	/	0.38	0.53	0.69
		kW	1.60	1.60	1.60	1.60	1.60	1.60	1.70	1.70	1.70	1.70	1.70	1.70	/	2.10	2.10	2.10
105	TC	17.1	17.3	17.8	18.0	17.7	17.9	18.1	18.4	18.8	19.1	19.3	19.5	/	23.8	24.0	24.1	
	S/T	0.91	0.96	1.00	1.00	0.65	0.85	0.96	0.96	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70	
	kW	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	2.00	/	2.40	2.40	2.50	
115	TC	16.8	17.0	17.5	17.7	17.4	17.6	17.9	18.1	18.5	18.8	19.0	19.2	/	23.6	23.8	24.0	
	S/T	0.93	0.98	1.00	1.00	0.67	0.87	0.98	0.97	0.42	0.60	0.77	0.95	/	0.41	0.56	0.72	
	kW	2.20	2.20	2.20	2.20	2.20	2.20	2.30	2.30	2.30	2.30	2.30	2.30	/	2.80	2.90	2.90	
660 (Low Stage)	65	TC	17.4	17.6	18.0	18.2	17.9	18.1	18.3	18.6	19.0	19.2	19.5	19.8	/	25.0	25.2	25.6
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	/	1.30	1.30	1.30
	75	TC	17.5	17.7	18.1	18.3	18.0	18.3	18.5	18.8	19.2	19.4	19.7	19.9	/	24.6	25.0	25.2
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.10	1.10	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	/	1.60	1.60	1.60
	85	TC	17.5	17.7	18.1	18.3	18.0	18.3	18.5	18.8	19.2	19.4	19.7	19.9	/	24.6	24.9	25.2
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	/	1.70	1.70	1.80
	95	TC	17.4	17.6	18.0	18.2	18.0	18.2	18.4	18.7	19.1	19.4	19.6	19.9	/	24.5	24.8	25.0
		S/T	0.91	0.96	0.99	1.00	0.65	0.85	0.96	0.97	0.40	0.58	0.75	0.93	/	0.39	0.54	0.70
		kW	1.60	1.60	1.60	1.60	1.60	1.70	1.70	1.70	1.70	1.70	1.70	1.70	/	2.10	2.10	2.10
105	TC	17.3	17.5	18.0	18.1	17.9	18.1	18.3	18.6	19.1	19.3	19.6	19.9	/	24.2	24.6	24.8	
	S/T	0.92	0.97	1.00	1.00	0.66	0.86	0.97	0.98	0.41	0.59	0.76	0.94	/	0.40	0.55	0.71	
	kW	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	2.00	/	2.50	2.50	2.50	
115	TC	17.0	17.2	17.7	17.9	17.6	17.8	18.0	18.3	18.8	19.1	19.2	19.5	/	24.0	24.3	24.7	
	S/T	0.94	0.99	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.78	0.96	/	0.42	0.57	0.73	
	kW	2.20	2.20	2.20	2.20	2.20	2.20	2.30	2.30	2.30	2.30	2.40	2.40	/	2.90	2.90	2.90	
760	65	TC	19.1	19.3	19.9	20.1	19.8	20.0	20.3	20.5	21.1	21.4	21.6	22.0	/	27.3	27.6	27.9
		S/T	0.92	0.97	0.99	1.00	0.67	0.87	0.98	0.99	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.20	/	1.40	1.40	1.50
	75	TC	19.3	19.5	20.1	20.3	19.8	20.2	20.4	20.7	21.3	21.6	21.8	22.0	/	27.4	27.7	27.9
		S/T	0.92	0.97	0.99	1.00	0.67	0.87	0.98	0.99	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.40	1.40	1.40	1.40	1.40	/	1.70	1.70	1.70
	85	TC	19.3	19.5	20.1	20.3	19.9	20.2	20.4	20.7	21.2	21.6	21.8	22.0	/	27.1	27.4	27.6
		S/T	0.92	0.97	0.99	1.00	0.67	0.88	0.98	1.00	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.60	1.60	1.60	1.60	1.60	/	1.90	1.90	2.00
	95	TC	19.2	19.4	20.0	20.2	19.9	20.1	20.4	20.6	21.1	21.5	21.7	21.8	/	26.8	27.1	27.3
		S/T	0.92	0.97	0.99	1.00	0.67	0.88	0.98	1.00	0.42	0.60	0.77	0.95	/	0.40	0.55	0.71
		kW	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.90	1.90	1.90	1.90	1.90	/	2.30	2.30	2.30
105	TC	18.8	19.1	19.5	19.7	19.6	19.8	20.0	20.3	20.9	21.1	21.3	21.5	/	25.9	26.2	26.4	
	S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.78	0.96	/	0.41	0.56	0.72	
	kW	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.20	2.20	2.20	2.20	2.20	/	2.70	2.80	2.80	
115	TC	18.7	18.9	19.4	19.6	19.6	19.7	19.9	20.1	20.7	20.9	21.1	21.4	/	25.2	25.4	25.7	
	S/T	0.95	1.00	1.00	1.00	0.70	0.91	1.00	1.00	0.45	0.63	0.80	0.98	/	0.43	0.58	0.74	
	kW	2.50	2.50	2.50	2.50	2.50	2.60	2.60	2.60	2.60	2.70	2.70	2.70	/	3.20	3.20	3.30	
860 (High Stage)	65	TC	21.2	21.5	22.0	22.2	21.9	22.2	22.4	22.7	23.4	23.6	23.8	24.1	/	29.6	29.9	30.1
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.95	/	0.41	0.55	0.71
		kW	1.20	1.20	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	/	1.70	1.70	1.80
	75	TC	20.9	21.3	21.8	21.9	21.7	21.9	22.2	22.4	23.2	23.5	23.6	23.6	/	29.6	29.9	30.1
		S/T	0.93	0.98	1.00	1.00	0.68	0.88	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.40	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.60	1.60	/	1.90	1.90	2.00
	85	TC	20.8	21.1	21.6	21.8	21.5	21.8	22.1	22.4	23.2	23.3	23.5	23.6	/	29.3	29.6	29.8
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.60	1.60	1.60	1.60	1.60	1.70	1.70	1.70	1.70	1.70	1.70	1.70	/	2.10	2.10	2.20
	95	TC	20.6	21.0	21.5	21.6	21.4	21.6	21.9	22.2	22.8	23.0	24.0	23.5	/	29.0	29.2	29.4
		S/T	0.93	0.98	1.00	1.00	0.68	0.89	0.99	1.00	0.43	0.61	0.77	0.96	/	0.41	0.55	0.71
		kW	1.90	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	1.92	2.00	/	2.50	2.60	2.60
105	TC	19.4	19.7	20.0	20.3	21.1	21.4	21.7	22.0	22.4	22.6	22.8	23.0	/	27.1	27.3	27.5	
	S/T	0.94	0.99	1.00	1.00	0.69	0.90	1.00	1.00	0.44	0.62	0.78	0.97	/	0.42	0.56	0.72	
	kW	2.20	2.20	2.20	2.20	2.20	2.30											

BOVA36-15 + BVA36-20 For Cooling																			
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F) IDB (°F)	59				63				67				71				
			70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85	
650	65	TC	21.8	22.1	22.7	23.0	22.5	22.9	23.1	23.5	24.0	24.2	24.4	24.7	/	29.6	29.9	30.1	
		S/T	0.85	0.92	0.96	1.00	0.60	0.83	0.92	0.95	0.39	0.56	0.75	0.88	/	0.39	0.53	0.69	
		kW	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.20	1.10	1.20	1.20	1.20	/	1.50	1.50	1.50	
	75	TC	21.5	21.8	22.4	22.7	22.2	22.6	22.8	23.2	23.5	23.9	24.3	24.7	/	29.6	29.9	30.1	
		S/T	0.85	0.92	0.96	1.00	0.60	0.83	0.92	0.95	0.39	0.56	0.75	0.88	/	0.39	0.53	0.69	
		kW	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.80	/	2.10	2.10	2.10	
	85	TC	21.4	21.8	22.4	22.6	22.2	22.4	22.8	23.1	23.5	23.8	24.3	24.7	/	29.4	29.6	29.9	
		S/T	0.85	0.92	0.96	1.00	0.60	0.83	0.92	0.95	0.39	0.56	0.75	0.88	/	0.39	0.53	0.69	
		kW	1.80	1.80	1.80	1.80	1.80	1.80	1.90	1.90	1.90	1.90	1.90	1.90	/	2.20	2.20	2.30	
	95	TC	21.4	21.7	22.2	22.5	22.0	22.3	22.6	23.0	23.4	23.7	24.1	24.5	/	29.0	29.3	29.6	
		S/T	0.85	0.92	0.96	1.00	0.60	0.83	0.92	0.95	0.39	0.56	0.75	0.88	/	0.39	0.53	0.69	
		kW	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	2.00	/	2.40	2.40	2.40	
	105	TC	21.2	21.5	22.1	22.3	21.9	22.2	22.5	22.8	23.3	23.5	23.9	24.4	/	28.7	28.9	29.2	
		S/T	0.85	0.92	0.96	1.00	0.60	0.83	0.92	0.95	0.39	0.56	0.75	0.88	/	0.39	0.53	0.69	
		kW	2.20	2.20	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.40	2.40	/	2.90	2.90	2.90	
	115	TC	21.0	21.4	21.9	22.1	21.7	22.0	22.3	22.6	23.1	23.3	23.7	24.1	/	25.6	25.8	26.1	
		S/T	0.86	0.93	0.97	1.00	0.61	0.84	0.93	0.96	0.40	0.57	0.76	0.89	/	0.40	0.54	0.70	
		kW	2.60	2.60	2.60	2.60	2.60	2.70	2.70	2.70	2.70	2.70	2.80	2.80	/	3.20	3.20	3.20	
820 (Low Stage)	65	TC	24.1	24.5	25.1	25.4	24.9	25.3	25.6	26.0	26.6	26.8	27.2	27.6	/	32.4	32.9	33.4	
		S/T	0.86	0.93	0.97	1.00	0.61	0.84	0.93	0.96	0.39	0.57	0.76	0.88	/	0.39	0.54	0.70	
		kW	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.40	1.40	1.40	/	1.80	1.80	1.80	
	75	TC	23.9	24.3	25.0	25.2	24.8	25.1	25.4	25.8	26.3	26.6	27.0	27.4	/	32.4	32.9	33.4	
		S/T	0.86	0.93	0.97	1.00	0.61	0.84	0.93	0.96	0.39	0.57	0.76	0.88	/	0.39	0.54	0.70	
		kW	1.90	1.90	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	2.00	2.00	/	2.30	2.30	2.30	
	85	TC	23.9	24.3	24.9	25.2	24.7	25.0	25.4	25.7	26.3	26.6	26.9	27.4	/	32.4	32.7	32.9	
		S/T	0.86	0.93	0.97	1.00	0.61	0.84	0.93	0.96	0.39	0.57	0.76	0.88	/	0.39	0.54	0.70	
		kW	2.00	2.00	2.00	2.00	2.00	2.00	2.10	2.10	2.10	2.10	2.10	2.10	/	2.50	2.50	2.50	
	95	TC	23.7	24.1	24.7	25.0	24.5	24.8	25.2	25.5	26.0	26.4	26.7	27.1	/	31.9	32.2	32.4	
		S/T	0.86	0.93	0.97	1.00	0.61	0.84	0.93	0.96	0.39	0.57	0.76	0.88	/	0.39	0.54	0.70	
		kW	2.10	2.10	2.10	2.20	2.10	2.20	2.20	2.20	2.20	2.20	2.30	2.30	/	2.70	2.80	2.80	
	105	TC	23.4	23.8	24.4	24.7	24.2	24.6	24.9	25.3	25.9	26.1	26.4	26.8	/	31.4	31.6	31.8	
		S/T	0.86	0.93	0.97	1.00	0.61	0.84	0.93	0.96	0.39	0.57	0.76	0.88	/	0.39	0.54	0.70	
		kW	2.50	2.50	2.50	2.50	2.50	2.50	2.60	2.60	2.60	2.60	2.60	2.70	/	3.20	3.30	3.30	
	115	TC	21.9	22.2	22.7	23.0	22.7	23.0	23.2	23.5	24.4	24.6	24.8	25.0	/	26.8	27.0	27.2	
		S/T	0.87	0.94	0.98	1.00	0.62	0.85	0.94	0.97	0.40	0.58	0.77	0.89	/	0.40	0.55	0.71	
		kW	2.70	2.70	2.80	2.80	3.00	3.00	3.00	3.00	3.00	3.00	3.10	3.10	/	3.30	3.30	3.30	
1020	65	TC	29.6	29.9	30.4	30.8	30.7	31.0	31.3	31.6	32.7	33.0	33.3	33.5	/	36.9	37.2	37.5	
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70	
		kW	1.80	1.80	1.80	1.80	1.80	1.80	1.90	1.90	1.90	1.90	1.90	1.90	/	2.30	2.30	2.40	
	75	TC	29.5	29.9	30.4	30.7	30.5	30.8	31.2	31.5	32.6	32.9	33.2	33.4	/	36.5	36.8	37.1	
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70	
		kW	2.20	2.20	2.20	2.30	2.20	2.30	2.30	2.30	2.30	2.30	2.30	2.40	/	2.50	2.50	2.50	
	85	TC	29.2	29.5	30.0	30.4	30.2	30.6	30.9	31.2	32.4	32.7	33.0	33.2	/	36.4	36.7	36.9	
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70	
		kW	2.30	2.30	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.50	2.50	/	2.80	2.80	2.80	
	95	TC	28.7	29.0	29.6	29.9	29.8	30.1	30.4	30.7	31.9	32.2	32.4	32.7	/	36.1	36.4	36.6	
		S/T	0.90	0.95	0.98	1.00	0.63	0.86	0.95	1.00	0.39	0.57	0.76	0.97	/	0.39	0.54	0.70	
		kW	2.60	2.60	2.70	2.70	2.70	2.70	2.70	2.70	2.80	2.80	2.80	2.80	/	3.30	3.30	3.30	
	105	TC	27.3	27.8	28.4	28.8	28.3	28.6	29.0	29.4	30.0	30.4	30.8	31.2	/	35.0	35.1	35.3	
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.40	0.58	0.77	0.98	/	0.40	0.55	0.71	
		kW	3.10	3.10	3.10	3.20	3.30	3.30	3.30	3.40	3.50	3.60	3.60	3.60	/	3.80	3.80	3.80	
	115	TC	22.2	22.6	23.0	23.3	24.8	25.2	25.5	25.7	26.4	26.8	27.0	27.3	/	27.9	28.2	28.4	
		S/T	0.92	0.97	1.00	1.00	0.65	0.88	0.97	1.00	0.41	0.59	0.78	0.99	/	0.41	0.56	0.72	
		kW	2.70	2.80	2.80	2.80	3.00	3.00	3.00	3.00	3.20	3.20	3.20	3.20	/	3.30	3.40	3.40	
1150 (High Stage)	65	TC	30.9	31.4	32.2	32.5	32.0	32.4	32.8	33.2	34.2	34.4	34.8	35.1	/	40.7	41.0	41.3	
		S/T	0.90	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71	
		kW	2.00	2.00	2.00	2.00	2.00	2.00	2.10	2.10	2.10	2.20	2.20	2.20	/	2.60	2.60	2.60	
	75	TC	30.9	31.4	32.0	32.3	32.0	32.4	32.8	33.2	34.1	34.4	34.7	35.0	/	40.4	40.7	41.0	
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71	
		kW	2.20	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.40	2.40	2.40	2.40	/	2.70	2.70	2.70	
	85	TC	30.4	30.8	31.6	31.9	31.6	31.9	32.2	32.6	33.8	34.1	34.5	34.8	/	39.3	39.6	39.9	
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71	
		kW	2.40	2.40	2.40	2.40	2.40	2.40	2.50	2.50	2.60	2.60	2.60	2.70	/	3.10	3.10	3.10	
	95	TC	30.0	30.5	31.3	31.6	31.5	31.8	32.1	32.5	33.3	33.8	34.2	34.3	/	38.5	38.7	38.9	
		S/T	0.91	0.96	0.99	1.00	0.64	0.87	0.96	1.00	0.39	0.58	0.77	0.98	/	0.39	0.55	0.71	
		kW	2.80	2.80	2.90	2.90	2.90	2.90	2.90	2.90	3.10	3.10	3.10	3.10	/	3.60	3.60	3.60	
	105	TC	28.6	29.0	29.4	29.7	30.5	30.8	31.1	31.5	32.5	32.9	33.1						

BOVA60-15 + BVA48-20 For Cooling																				
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F)	IDB (°F)	59				63				67				71				
				70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85	
1160 (Low Stage)	65	TC	37.1	37.6	38.5	38.9	38.3	38.7	39.4	39.8	40.8	41.3	41.9	42.2	/	48.1	48.5	48.9		
		S/T	0.80	0.92	0.94	0.98	0.58	0.76	0.92	0.95	0.39	0.55	0.72	0.90	/	0.39	0.54	0.67		
		kW	2.14	2.16	2.18	2.19	2.18	2.20	2.22	2.24	2.25	2.27	2.30	2.31	/	2.91	2.94	2.73		
	75	TC	36.8	37.4	38.2	38.7	38.0	38.5	39.1	39.5	40.5	41.0	41.6	42.0	/	47.6	48.2	48.6		
		S/T	0.80	0.92	0.94	0.98	0.58	0.76	0.92	0.95	0.39	0.55	0.72	0.90	/	0.39	0.54	0.67		
		kW	2.59	2.61	2.63	2.64	2.63	2.66	2.68	2.69	2.72	2.74	2.77	2.79	/	3.23	3.14	3.16		
	85	TC	36.4	36.9	37.8	38.2	37.6	38.0	38.6	39.0	40.5	40.8	41.1	41.5	/	47.1	47.4	47.8		
		S/T	0.80	0.92	0.94	0.98	0.58	0.76	0.92	0.95	0.39	0.55	0.72	0.90	/	0.39	0.54	0.67		
		kW	2.82	2.85	2.87	2.88	2.87	2.89	2.92	2.93	3.00	3.01	3.01	3.03	/	3.59	3.61	3.64		
	95	TC	36.1	36.5	37.5	37.8	37.2	37.6	38.2	38.8	39.7	40.2	40.7	41.0	/	46.3	46.7	47.0		
		S/T	0.80	0.92	0.94	0.98	0.58	0.76	0.92	0.95	0.39	0.55	0.72	0.90	/	0.39	0.54	0.67		
		kW	3.29	3.32	3.35	3.37	3.35	3.39	3.42	3.44	3.47	3.50	3.52	3.55	/	4.17	4.20	4.23		
	105	TC	34.4	34.8	35.7	36.1	35.5	35.9	36.6	37.1	38.1	38.5	39.1	39.4	/	44.4	44.6	44.9		
		S/T	0.81	0.93	0.96	1.00	0.60	0.77	0.93	0.97	0.39	0.56	0.73	0.91	/	0.39	0.54	0.67		
		kW	3.47	3.51	3.52	3.54	3.54	3.57	3.61	3.64	3.66	3.69	3.71	3.74	/	4.49	4.53	4.56		
	115	TC	32.0	32.4	33.3	33.7	33.3	33.7	34.1	34.5	35.8	36.1	36.5	36.7	/	39.9	40.1	40.4		
		S/T	0.83	0.95	0.98	1.00	0.62	0.79	0.95	0.99	0.41	0.58	0.75	0.93	/	0.40	0.56	0.69		
		kW	4.16	4.20	4.24	4.27	4.27	4.31	4.35	4.40	4.41	4.44	4.49	4.52	/	4.75	4.76	4.76		
	1320	65	TC	38.8	39.2	40.1	40.6	39.9	40.4	41.1	41.5	43.1	43.3	43.7	44.1	/	51.2	51.6	52.1	
			S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67	
			kW	2.30	2.32	2.34	2.35	2.34	2.36	2.38	2.41	2.46	2.47	2.48	2.51	/	3.02	3.05	3.08	
		75	TC	38.9	39.4	40.3	40.8	40.1	40.6	41.3	41.7	42.9	43.4	43.8	44.3	/	50.9	51.3	51.7	
			S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67	
			kW	2.67	2.69	2.72	2.73	2.72	2.74	2.76	2.78	2.80	2.83	2.85	2.88	/	3.45	3.48	3.51	
85		TC	38.4	38.9	39.9	40.2	39.6	40.0	40.7	41.2	42.3	42.8	43.2	43.7	/	50.0	50.4	50.8		
		S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67		
		kW	3.01	3.04	3.06	3.07	3.06	3.09	3.12	3.13	3.17	3.19	3.21	3.24	/	3.81	3.84	3.87		
95		TC	37.9	38.4	39.4	39.8	39.1	39.6	40.2	40.7	41.8	42.3	42.6	43.1	/	48.5	48.9	49.3		
		S/T	0.82	0.94	0.95	0.98	0.60	0.78	0.93	0.95	0.40	0.57	0.73	0.90	/	0.39	0.55	0.67		
		kW	3.51	3.54	3.57	3.58	3.57	3.60	3.63	3.65	3.69	3.72	3.75	3.77	/	4.43	4.46	4.49		
105		TC	36.2	36.4	36.7	37.1	37.4	37.8	38.4	38.9	40.2	40.6	41.0	41.3	/	45.9	46.3	46.6		
		S/T	0.83	0.95	0.97	1.00	0.61	0.79	0.94	0.97	0.41	0.58	0.74	0.91	/	0.39	0.55	0.67		
		kW	4.08	4.09	4.13	4.13	4.13	4.17	4.22	4.24	4.25	4.28	4.32	4.34	/	4.78	4.81	4.83		
115		TC	33.0	33.5	34.3	34.7	34.6	34.8	35.1	35.5	37.2	37.5	37.7	37.6	/	40.3	40.5	40.7		
		S/T	0.85	0.97	0.99	1.00	0.63	0.81	0.96	0.99	0.43	0.60	0.76	0.93	/	0.41	0.57	0.69		
		kW	4.27	4.31	4.35	4.38	4.41	4.44	4.48	4.51	4.54	4.57	4.60	4.62	/	4.80	4.82	4.84		
1520 (High Stage)		65	TC	41.2	41.8	42.7	43.2	42.5	43.0	43.7	44.2	45.4	46.0	46.4	46.9	/	52.3	52.7	53.2	
			S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68	
			kW	2.60	2.63	2.65	2.66	2.65	2.67	2.70	2.72	2.73	2.76	2.79	2.82	/	3.26	3.29	3.32	
		75	TC	41.4	42.0	42.9	43.4	42.7	43.2	43.9	44.4	45.7	46.1	46.6	47.1	/	52.0	52.3	52.7	
			S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68	
			kW	2.94	2.97	3.00	3.01	3.00	3.02	3.05	3.07	3.09	3.12	3.15	3.17	/	3.66	3.68	3.71	
	85	TC	40.8	41.3	42.4	42.8	42.1	42.6	43.2	43.7	45.0	45.6	45.9	46.4	/	50.9	51.4	51.8		
		S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68		
		kW	3.27	3.30	3.33	3.34	3.33	3.37	3.39	3.41	3.45	3.48	3.50	3.53	/	4.12	4.15	4.17		
	95	TC	40.3	40.8	41.9	42.3	41.6	42.1	42.7	43.3	44.4	45.4	48.0	48.4	/	49.7	50.1	50.5		
		S/T	0.85	0.97	0.98	0.99	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.39	0.55	0.68		
		kW	3.62	3.65	3.69	3.69	3.69	3.72	3.76	3.79	3.81	3.83	3.84	3.87	/	4.57	4.61	4.64		
	105	TC	37.4	37.7	38.2	38.5	38.8	39.3	39.7	40.1	41.6	42.1	42.4	42.8	/	46.8	47.1	47.4		
		S/T	0.85	0.97	0.98	1.00	0.63	0.81	0.96	0.98	0.43	0.60	0.76	0.93	/	0.40	0.56	0.70		
		kW	4.18	4.19	4.22	4.23	4.27	4.31	4.34	4.38	4.39	4.43	4.46	4.49	/	4.86	4.88	4.90		
	115	TC	33.7	34.3	34.7	35.3	35.7	36.3	36.9	37.6	38.9	39.1	39.6	39.6	/	40.7	40.9	41.1		
		S/T	0.89	0.99	1.00	1.00	0.66	0.85	0.98	1.00	0.47	0.64	0.80	0.97	/	0.44	0.60	0.74		
		kW	4.40	4.44	4.46	4.48	4.49	4.53	4.60	4.64	4.72	4.75	4.77	4.80	/	4.83	4.85	4.86		
	1750	65	TC	43.5	43.9	44.9	45.4	44.9	45.4	45.9	46.3	48.2	48.5	48.8	49.6	/	53.1	53.5	54.5	
			S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71	
			kW	2.92	2.95	2.98	2.99	2.98	3.00	3.03	3.06	3.08	3.11	3.13	3.15	/	3.62	3.65	3.63	
		75	TC	43.7	44.1	45.1	45.6	45.1	45.6	46.1	46.6	48.1	48.5	49.0	49.4	/	53.0	53.4	53.8	
			S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71	
			kW	3.12	3.15	3.18	3.19	3.18	3.21	3.24	3.25	3.31	3.34	3.38	3.39	/	3.87	3.89	3.92	
85		TC	43.0	43.5	44.6	45.0	44.3	44.9	45.5	46.1	47.4	48.0	48.3	48.7	/	51.6	52.0	52.3		
		S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71		
		kW	3.56	3.59	3.62	3.63	3.62	3.65	3.68	3.71	3.75	3.78	3.80	3.83	/	4.25	4.29	4.33		
95		TC	42.1	42.6	43.7	44.1	43.5	44.0	44.7	45.2	46.5	47.0	48.4	48.9	/	50.6	51.0	51.4		
		S/T	0.87	0.99	1.00	1.00	0.65	0.83	0.98	1.00	0.45	0.62	0.78	0.95	/	0.41	0.57	0.71		
		kW	4.09	4.13	4.17	4.18	4.17	4.20	4.24	4.27	4.33	4.36	4.37	4.40	/	4.95	4.99	5.02		
105		TC	38.0	38.5	38.9	39.3	39.6	39.9	40.4	40.9	42.5	42.8								

BOVA60-15 + BVA60-20 For Cooling																		
Indoor Airflow (CFM)	Outdoor DB (°F)	IWB (°F) IDB (°F)	59				63				67				71			
			70	75	80	85	70	75	80	85	70	75	80	85	70	75	80	85
1160	65	TC	38.5	39.1	40.0	40.5	39.8	40.4	40.9	41.3	42.5	43.1	43.6	44.1	/	50.5	50.9	51.9
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	2.40	2.40	2.40	2.40	2.40	2.50	2.50	2.50	2.60	2.60	2.60	2.70	/	3.20	3.20	3.30
	75	TC	38.3	38.9	39.8	40.2	39.6	40.1	40.7	41.1	42.2	42.8	43.2	43.8	/	50.4	50.7	51.2
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	2.70	2.70	2.70	2.70	2.70	2.70	2.80	2.80	2.80	2.90	2.90	2.90	/	3.40	3.40	3.40
	85	TC	37.9	38.5	39.4	39.8	39.2	39.7	40.2	40.7	41.8	42.4	42.7	43.4	/	50.1	50.4	50.8
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	3.00	3.00	3.00	3.00	3.00	3.00	3.10	3.10	3.20	3.20	3.20	3.20	/	3.80	3.80	3.80
	95	TC	37.5	38.1	38.7	39.1	38.8	39.2	39.7	40.1	41.4	41.8	42.1	42.5	/	49.3	49.7	50.1
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	3.40	3.40	3.40	3.40	3.40	3.50	3.50	3.50	3.60	3.60	3.60	3.70	/	4.50	4.50	4.60
105	TC	34.6	35.2	35.9	36.3	35.9	36.3	36.7	37.1	38.6	39.0	39.4	39.9	/	46.1	46.5	46.8	
	S/T	0.85	0.95	0.98	1.00	0.64	0.83	0.97	0.98	0.44	0.61	0.76	0.92	/	0.38	0.57	0.72	
	kW	3.50	3.60	3.60	3.60	3.60	3.60	3.70	3.70	3.70	3.80	3.80	3.80	/	4.50	4.60	4.60	
115	TC	34.4	34.8	35.6	36.0	35.6	36.0	36.5	36.9	38.2	38.5	38.9	39.0	/	40.3	40.5	40.8	
	S/T	0.86	0.96	0.99	1.00	0.65	0.85	0.98	0.99	0.45	0.62	0.78	0.97	/	0.40	0.59	0.74	
	kW	4.50	4.50	4.50	4.50	4.50	4.60	4.60	4.60	4.70	4.80	4.80	4.80	/	4.90	4.90	5.00	
1320 Low Stage	65	TC	41.1	41.7	42.7	43.2	42.7	43.2	43.7	44.2	45.7	46.1	46.5	46.9	/	54.4	54.7	55.1
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	3.10	3.10	3.10	3.10	3.10	3.10	3.20	3.20	3.20	3.40	3.40	3.40	/	3.70	3.70	3.70
	75	TC	41.0	41.5	42.5	42.9	42.7	43.2	43.8	44.4	45.7	46.5	47.0	47.3	/	54.0	54.3	54.7
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	3.20	3.30	3.30	3.30	3.30	3.30	3.30	3.40	3.50	3.50	3.60	3.60	/	3.90	3.90	4.00
	85	TC	40.7	41.2	42.1	42.6	42.6	43.1	43.6	44.3	45.6	46.3	46.8	47.1	/	53.5	53.9	54.3
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	3.60	3.60	3.70	3.70	3.70	3.70	3.70	3.80	3.90	3.90	3.90	4.00	/	4.30	4.30	4.30
	95	TC	40.2	40.8	41.8	42.2	42.5	42.9	43.6	44.2	45.3	46.1	46.6	47.1	/	53.1	53.5	53.9
		S/T	0.83	0.94	0.97	1.00	0.62	0.81	0.96	0.97	0.42	0.60	0.75	0.90	/	0.37	0.55	0.70
		kW	3.90	3.90	3.90	4.00	4.00	4.00	4.00	4.00	4.10	4.10	4.10	4.20	/	4.80	4.90	4.90
105	TC	37.1	37.7	38.5	38.9	38.5	39.0	39.5	39.9	41.4	41.9	42.3	42.6	/	48.1	48.3	48.6	
	S/T	0.85	0.95	0.98	1.00	0.64	0.83	0.97	0.98	0.44	0.61	0.76	0.92	/	0.38	0.57	0.72	
	kW	4.20	4.20	4.20	4.30	4.20	4.30	4.30	4.40	4.40	4.40	4.50	4.50	/	4.90	5.00	5.00	
115	TC	35.0	35.4	36.3	36.7	36.6	37.0	37.5	37.8	38.7	39.0	39.3	39.7	/	40.9	41.1	41.3	
	S/T	0.86	0.96	0.99	1.00	0.65	0.85	0.97	0.99	0.45	0.62	0.78	0.97	/	0.40	0.59	0.74	
	kW	4.60	4.70	4.70	4.70	4.60	4.70	4.70	4.80	4.90	4.90	5.00	5.00	/	5.10	5.10	5.20	
1520	65	TC	47.2	47.7	48.7	49.2	49.8	50.3	50.8	51.3	53.2	53.6	54.0	54.4	/	59.9	60.4	60.8
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.76	0.91	/	0.39	0.57	0.72
		kW	3.60	3.60	3.70	3.70	3.80	3.80	3.80	3.90	3.90	3.90	3.90	4.00	/	4.10	4.10	4.10
	75	TC	46.7	47.3	48.3	48.8	49.6	50.2	50.6	51.1	53.0	53.5	53.8	54.2	/	59.3	59.7	60.1
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.76	0.91	/	0.39	0.57	0.72
		kW	3.90	4.00	4.00	4.00	4.00	4.00	4.10	4.10	4.10	4.20	4.20	4.20	/	4.40	4.40	4.50
	85	TC	46.4	46.9	47.8	48.3	49.0	49.5	50.0	50.4	52.1	52.7	53.3	53.7	/	58.3	58.8	59.2
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.76	0.91	/	0.39	0.57	0.72
		kW	4.40	4.40	4.50	4.50	4.50	4.50	4.60	4.60	4.70	4.70	4.70	4.70	/	5.00	5.00	5.00
	95	TC	45.1	45.9	46.8	47.5	48.5	49.1	49.6	50.1	51.7	52.3	52.9	53.6	/	56.8	57.2	57.6
		S/T	0.84	0.95	0.98	1.00	0.63	0.82	0.97	0.98	0.43	0.61	0.76	0.91	/	0.39	0.57	0.72
		kW	4.80	4.90	4.90	4.90	4.90	4.90	5.00	5.00	5.10	5.10	5.10	5.10	/	5.50	5.50	5.50
105	TC	41.4	41.9	42.9	43.4	43.3	43.9	44.5	45.0	45.8	46.1	46.5	46.8	/	50.7	50.9	50.9	
	S/T	0.86	0.96	0.99	1.00	0.65	0.84	0.98	0.99	0.45	0.62	0.77	0.93	/	0.40	0.59	0.74	
	kW	4.80	4.90	4.90	4.90	4.90	5.00	5.00	5.10	5.10	5.20	5.20	5.20	/	5.60	5.60	5.60	
115	TC	35.1	35.5	36.3	36.8	36.6	37.1	37.4	37.8	38.9	39.4	39.8	40.1	/	41.1	41.4	41.6	
	S/T	0.87	0.97	1.00	1.00	0.66	0.86	0.99	1.00	0.46	0.63	0.79	0.98	/	0.42	0.61	0.76	
	kW	4.70	4.70	4.80	4.80	4.90	4.90	4.90	5.00	5.10	5.20	5.20	5.20	/	5.20	5.20	5.30	
1750 High Stage	65	TC	49.4	50.2	51.2	51.8	52.5	53.1	53.7	54.2	55.6	56.0	56.4	56.8	/	61.7	62.0	62.3
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.77	0.92	/	0.41	0.59	0.74
		kW	3.80	3.80	3.80	3.80	3.90	3.90	3.90	4.00	4.00	4.00	4.10	4.10	/	4.50	4.50	4.60
	75	TC	49.2	49.7	50.8	51.3	52.3	52.8	53.4	54.0	55.4	55.8	56.2	56.6	/	61.2	61.6	61.8
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.77	0.92	/	0.41	0.59	0.74
		kW	4.10	4.10	4.20	4.20	4.20	4.20	4.20	4.30	4.30	4.30	4.40	4.40	/	4.60	4.70	4.70
	85	TC	49.0	49.6	50.6	51.1	52.2	52.7	53.3	53.9	55.2	55.8	56.1	56.6	/	60.6	61.0	61.3
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.77	0.92	/	0.41	0.59	0.74
		kW	4.60	4.60	4.70	4.70	4.80	4.80	4.90	4.90	5.00	5.00	5.00	5.00	/	5.20	5.20	5.30
	95	TC	48.6	49.2	50.0	50.8	52.1	52.7	53.2	53.7	55.2	55.8	56.0	56.5	/	59.7	60.1	60.4
		S/T	0.85	0.96	0.99	1.00	0.64	0.83	0.98	0.99	0.44	0.62	0.77	0.92	/	0.41	0.59	0.74
		kW	5.10	5.10	5.20	5.20	5.20	5.20	5.20	5.30	5.40	5.50	5.50	5.50	/	5.80	5.90	5.90
105	TC	41.9	42.4	43.5	44.0	45.6	46.1	46.6	47.2	49.0	49.4	49.7	50.0	/	51.7	52.0	52.3	
	S/T	0.87	0.97	1.00	1.00	0.66	0.85	0.99	1.00	0.46	0.63	0.78	0.94	/	0.42	0.61	0.76	
	kW	5.20	5.20	5.30	5.30	5.40	5.50	5.50	5.60	5.60	5.60							

BOVA24-15 + BVA24-20 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
620	60	TC	25.5	25.5	25.5	25.5	25.3	24.9	24.7	22.6	22.6	23.1	22.0	20.6	19.9	18.4	17.5	16.7
		kW	1.90	2.00	2.00	2.20	2.40	2.50	2.50	2.40	2.60	2.50	2.70	2.40	2.50	2.40	2.50	2.40
	70	TC	18.9	18.9	18.9	18.9	18.8	18.8	18.8	17.4	17.3	17.3	16.7	16.3	15.1	14.2	13.5	13.3
		kW	1.40	1.50	1.50	1.70	1.70	1.80	1.80	1.70	1.90	2.00	2.10	2.30	2.40	2.80	2.70	2.70
	75	TC	15.9	15.9	15.8	15.8	15.7	15.7	15.6	14.4	14.4	14.3	13.9	13.6	13.1	13.0	13.0	13.0
		kW	1.30	1.40	1.40	1.50	1.60	1.60	1.70	1.70	1.80	1.90	2.00	2.10	2.30	2.30	2.50	2.60
80	TC	12.5	12.5	12.5	12.4	12.4	12.4	12.4	11.4	11.4	11.4	11.0	10.8	10.4	10.4	10.4	10.3	
	kW	1.20	1.20	1.20	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.20	2.30	2.40	2.20	
660 (Low Stage)	60	TC	26.7	26.5	26.2	25.9	25.7	25.4	25.2	24.2	24.2	23.0	22.1	20.4	19.6	18.6	17.7	16.9
		kW	2.00	2.10	2.10	2.30	2.40	2.50	2.60	2.40	2.60	2.40	2.60	2.60	2.20	2.30	2.30	2.20
	70	TC	19.7	19.7	19.7	19.6	19.6	19.5	19.4	17.8	17.7	17.7	17.0	16.5	15.7	14.8	14.1	13.8
		kW	1.40	1.50	1.60	1.70	1.70	1.80	1.90	1.70	1.80	2.00	2.10	2.20	2.20	2.40	2.40	2.30
	75	TC	16.2	16.2	16.2	16.1	16.1	16.1	16.0	14.8	14.7	14.7	14.2	13.9	13.5	13.3	13.3	13.2
		kW	1.30	1.40	1.40	1.50	1.60	1.70	1.70	1.60	1.70	1.80	1.90	2.10	1.90	2.00	2.20	2.30
80	TC	12.8	12.8	12.7	12.7	12.7	12.7	12.7	11.7	11.7	11.7	11.3	11.1	10.7	10.7	10.7	10.6	
	kW	1.20	1.30	1.30	1.30	1.40	1.50	1.60	1.50	1.70	1.70	1.80	2.00	1.90	2.00	2.10	2.10	
760	60	TC	28.3	28.3	27.8	27.8	27.8	27.7	27.6	26.0	24.9	23.5	22.7	20.9	20.1	19.0	18.3	17.3
		kW	2.00	2.20	2.30	2.50	2.50	2.60	2.70	2.50	2.60	2.50	2.70	2.60	2.30	2.30	2.30	2.20
	70	TC	21.7	21.7	21.7	21.6	21.6	21.5	21.5	19.8	19.7	19.7	19.0	18.1	17.3	16.3	15.5	15.2
		kW	1.40	1.60	1.70	1.80	1.90	2.00	2.00	1.90	2.00	2.10	2.30	2.50	2.40	2.40	2.40	2.30
	75	TC	17.8	17.8	17.8	17.7	17.7	17.7	17.7	16.3	16.3	16.2	15.7	15.4	14.8	14.8	14.7	14.0
		kW	1.40	1.50	1.50	1.60	1.70	1.80	1.90	1.80	1.90	2.00	2.10	2.20	2.10	2.20	2.40	2.40
80	TC	14.1	14.1	14.0	14.0	14.0	14.0	14.0	12.9	12.9	12.9	12.6	12.3	11.9	11.9	11.8	11.7	
	kW	1.30	1.30	1.40	1.40	1.50	1.60	1.70	1.60	1.70	1.80	1.90	2.10	2.00	2.10	2.20	2.10	
860 (High Stage)	60	TC	31.1	31.1	30.6	30.6	30.6	30.3	30.3	26.6	25.3	24.2	23.4	21.4	20.4	19.3	18.4	17.5
		kW	2.20	2.50	2.50	2.70	2.70	2.90	2.60	2.60	2.60	2.60	2.70	2.60	2.40	2.30	2.30	2.20
	70	TC	23.7	23.7	23.7	23.6	23.6	23.5	24.0	21.6	21.6	21.6	20.9	19.8	18.2	17.8	17.0	16.2
		kW	1.50	1.70	1.80	1.90	2.00	2.10	2.10	2.00	2.20	2.40	2.60	2.70	2.30	2.50	2.40	2.30
	75	TC	19.5	19.5	19.4	19.4	19.3	19.3	19.3	17.7	17.7	17.7	17.2	16.9	16.2	16.2	15.7	14.4
		kW	1.50	1.60	1.70	1.80	1.80	1.90	2.00	1.90	2.10	2.20	2.30	2.40	2.30	2.40	2.50	2.50
80	TC	15.5	15.5	15.4	15.4	15.4	15.4	15.3	14.1	14.1	14.1	13.7	13.4	13.0	13.0	12.9	12.9	
	kW	1.40	1.40	1.50	1.50	1.60	1.60	1.60	1.70	1.80	1.90	1.90	2.00	2.10	2.20	2.20	2.30	

Table 17

TC refer to total capacity kW: refer to total input power

BOVA36-15 + BVA24-20 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
620	60	TC	25.5	26.0	26.0	26.0	25.8	25.4	25.2	23.5	23.5	24.0	23.5	21.4	21.0	19.4	18.6	17.7
		kW	2.00	2.10	2.10	2.30	2.50	2.60	2.60	2.20	2.40	2.30	2.50	2.20	2.20	2.10	2.10	2.10
	70	TC	18.9	19.3	19.3	19.3	19.2	19.2	19.2	18.0	18.0	18.0	17.9	17.0	16.0	15.0	14.3	14.1
		kW	1.40	1.60	1.60	1.70	1.80	1.90	1.90	1.60	1.70	1.90	2.00	2.20	2.10	2.40	2.40	2.30
	75	TC	15.9	16.2	16.1	16.1	16.0	16.0	15.9	14.9	14.9	14.9	14.9	14.1	13.9	13.8	13.8	13.8
		kW	1.40	1.40	1.50	1.50	1.60	1.70	1.80	1.60	1.70	1.80	1.90	2.00	1.90	2.00	2.20	2.30
80	TC	12.5	12.8	12.8	12.7	12.7	12.7	12.7	11.8	11.8	11.8	11.8	11.2	11.0	11.0	11.0	10.9	
	kW	1.20	1.30	1.30	1.30	1.40	1.50	1.50	1.50	1.60	1.70	1.70	1.90	1.90	2.00	2.10	1.90	
660 (Low Stage)	60	TC	26.7	27.0	26.7	26.4	26.2	25.9	25.7	25.1	25.1	23.9	23.7	21.2	20.8	19.7	18.7	17.9
		kW	2.10	2.20	2.20	2.40	2.50	2.60	2.70	2.40	2.50	2.40	2.60	2.50	2.20	2.30	2.30	2.20
	70	TC	19.7	20.1	20.1	20.0	20.0	19.9	19.8	18.5	18.4	18.4	18.1	17.1	16.6	15.7	15.0	14.6
		kW	1.40	1.60	1.60	1.80	1.80	1.90	1.90	1.60	1.80	1.90	2.00	2.20	2.20	2.40	2.40	2.30
	75	TC	16.2	16.5	16.5	16.4	16.4	16.4	16.3	15.3	15.2	15.2	15.2	14.4	14.3	14.1	14.1	14.0
		kW	1.40	1.40	1.50	1.60	1.60	1.70	1.80	1.60	1.70	1.80	1.90	2.00	1.90	2.00	2.20	2.30
80	TC	12.8	13.1	13.0	13.0	13.0	13.0	13.0	12.1	12.1	12.1	12.1	11.5	11.4	11.4	11.4	11.3	
	kW	1.30	1.30	1.30	1.40	1.40	1.50	1.70	1.50	1.60	1.70	1.80	1.90	1.90	2.00	2.10	2.10	
760	60	TC	28.3	28.9	28.4	28.4	28.4	28.3	28.2	27.0	25.9	24.3	24.3	21.7	21.3	20.2	19.4	18.3
		kW	2.10	2.30	2.40	2.60	2.60	2.70	2.80	2.50	2.50	2.40	2.60	2.50	2.30	2.30	2.30	2.20
	70	TC	21.7	22.1	22.1	22.0	22.0	21.9	21.9	20.6	20.5	20.5	20.3	18.8	18.3	17.2	16.5	16.1
		kW	1.50	1.70	1.80	1.90	2.00	2.00	2.10	1.80	1.90	2.10	2.30	2.40	2.40	2.40	2.40	2.30
	75	TC	17.8	18.2	18.2	18.1	18.1	18.1	18.1	16.9	16.9	16.8	16.8	16.0	15.7	15.7	15.6	14.8
		kW	1.50	1.50	1.60	1.70	1.80	1.90	1.90	1.70	1.80	1.90	2.00	2.20	2.10	2.20	2.40	2.40
80	TC	14.1	14.4	14.3	14.3	14.3	14.3	14.3	13.4	13.4	13.4	13.4	12.8	12.6	12.6	12.5	12.4	
	kW	1.40	1.40	1.40	1.50	1.50	1.70	1.80	1.60	1.70	1.80	1.90	2.00	2.00	2.10	2.20	2.10	
860 (High Stage)	60	TC	31.7	31.7	31.2	31.2	31.2	30.9	30.9	27.6	26.2	25.1	25.0	22.2	21.6	20.4	19.5	18.6
		kW	2.30	2.60	2.60	2.80	2.80	2.80	3.00	2.50	2.60	2.50	2.60	2.50	2.40	2.30	2.30	2.20
	70	TC	24.2	24.2	24.2	24.1	24.1	24.0	24.0	22.5	22.5	22.4	22.4	20.5	19.2	18.8	18.0	17.2
		kW	1.60	1.80	1.90	2.00	2.10	2.10	2.13	2.10	2.10	2.10	2.20	2.30	2.34	2.50	2.40	2.30
	75	TC	19.9	19.9	19.8	19.8	19.7	19.7	19.7	18.4	18.4	18.4	18.4	17.5	17.2	17.2	16.6	15.2
		kW	1.50	1.70	1.70	1.80	1.90	2.00	2.00	1.90	2.00	2.10	2.20	2.30	2.30	2.40	2.50	2.50
80	TC	15.8	15.8	15.7	15.7	15.7	15.7	15.7	14.7	14.7	14.7	14.7	13.9	13.7	13.7	13.6	13.6	
	kW	1.30	1.40	1.40	1.50	1.50	1.50	1.50	1.70	1.70	1.80	1.90	2.00	2.10	2.20	2.20	2.30	

Table 18

TC refer to total capacity kW: refer to total input power

BOVA36-15 + BVA36-20 For Heating																			
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5	
650	60	TC	28.4	29.0	29.0	29.0	28.8	28.2	27.9	27.6	27.6	27.3	27.3	24.7	25.0	23.2	21.3	19.6	
		kW	2.20	2.30	2.40	2.60	2.80	2.90	2.70	2.70	2.90	3.00	3.20	2.90	3.00	2.90	2.90	2.80	
	70	TC	21.9	22.3	22.1	22.1	22.1	22.1	22.1	22.1	21.8	21.7	21.6	21.5	20.5	21.4	21.4	20.5	18.7
		kW	1.60	1.80	1.80	2.00	2.00	2.10	2.00	2.10	2.30	2.40	2.40	2.40	2.70	2.90	3.30	3.20	3.10
	75	TC	18.6	19.0	18.9	18.9	18.9	18.9	18.9	18.8	18.5	18.5	18.4	18.4	17.3	18.0	18.0	18.0	18.0
		kW	1.50	1.60	1.70	1.80	1.90	2.00	1.90	1.90	2.00	2.00	2.20	2.30	2.40	2.60	2.70	2.90	3.20
820 (Low Stage)	60	TC	15.2	15.5	15.5	15.4	15.4	15.4	15.4	15.3	15.2	15.2	15.1	14.3	14.9	14.7	14.7	14.7	
		kW	1.40	1.40	1.40	1.50	1.60	1.70	1.60	1.80	1.90	2.00	2.10	2.30	2.40	2.60	2.70	2.70	
	70	TC	32.5	33.2	32.7	32.4	32.4	32.3	32.3	32.4	31.6	29.9	29.4	26.1	25.3	23.5	21.7	20.2	
		kW	2.60	2.80	2.80	3.00	3.10	3.10	3.00	3.20	3.30	3.20	3.30	3.20	3.20	3.10	3.00	2.90	
	75	TC	25.6	26.1	26.1	26.0	26.0	26.0	25.9	25.5	25.5	25.5	25.5	23.4	23.9	23.1	21.1	19.7	
		kW	1.80	1.90	2.10	2.20	2.30	2.40	2.30	2.40	2.60	2.80	2.90	3.20	3.40	3.40	3.20	3.20	
1020	60	TC	21.6	22.0	21.9	21.9	21.8	21.7	21.7	21.3	21.4	21.2	21.2	20.3	21.0	21.0	21.0	19.2	
		kW	1.70	1.80	1.90	2.00	2.10	2.20	2.10	2.10	2.30	2.40	2.60	2.80	3.00	3.20	3.20	3.10	
	70	TC	17.7	18.1	18.0	18.0	18.0	17.9	17.9	17.7	17.6	17.6	17.6	16.7	17.3	17.3	17.3	17.4	
		kW	1.40	1.70	1.70	1.80	1.80	1.90	1.70	2.00	2.00	2.10	2.20	2.40	2.60	2.80	2.90	3.10	
	75	TC	39.0	39.5	39.0	38.9	38.9	38.8	37.4	34.4	32.4	30.9	29.7	26.7	26.6	24.8	23.2	21.4	
		kW	2.60	2.90	3.00	3.30	3.50	3.80	3.40	3.20	3.20	3.10	3.20	3.10	3.10	3.10	3.00	2.90	
1150 (High Stage)	60	TC	30.6	31.2	31.2	31.1	31.0	30.7	30.6	30.2	30.2	29.7	28.5	25.1	24.3	23.6	22.7	21.6	
		kW	2.10	2.40	2.50	2.70	2.80	2.90	2.80	2.80	3.00	3.20	3.50	3.40	3.30	3.20	3.10	3.00	
	70	TC	25.4	25.9	25.8	25.8	25.8	25.8	24.9	24.7	24.7	24.2	22.9	23.6	23.0	21.1	19.7		
		kW	1.80	2.10	2.30	2.30	2.30	2.50	2.30	2.30	2.50	2.70	2.90	3.10	3.30	3.20	3.20	3.10	
	75	TC	21.2	21.6	21.5	21.5	21.5	21.4	21.4	21.2	21.2	21.2	21.0	19.9	20.8	20.8	20.8	19.4	
		kW	1.50	1.60	1.70	1.80	1.90	2.00	1.90	2.00	2.20	2.30	2.40	2.60	2.80	2.90	3.20	3.20	
1350	60	TC	43.5	44.3	43.8	43.7	42.5	40.0	37.9	35.0	32.9	31.6	30.6	27.2	27.4	25.5	23.7	22.1	
		kW	3.20	3.80	3.80	4.00	4.10	4.00	3.60	3.30	3.20	3.10	3.20	3.10	3.20	3.10	3.00	2.90	
	70	TC	34.1	34.7	34.5	34.4	34.4	34.4	34.2	33.6	32.0	30.2	28.9	25.6	24.9	24.7	23.0	21.9	
		kW	2.40	2.70	2.80	2.90	3.00	3.10	2.86	3.20	3.20	3.20	3.40	3.40	2.96	3.20	3.10	3.00	
	75	TC	28.5	29.1	29.0	28.8	29.0	28.9	28.5	27.9	27.8	27.8	27.3	25.0	24.0	23.4	21.4	19.9	
		kW	2.00	2.40	2.50	2.50	2.60	2.80	2.60	2.60	2.80	3.00	3.30	3.40	3.30	3.20	3.10	3.00	
1350	60	TC	23.7	24.2	24.1	24.1	24.1	24.1	24.0	23.8	23.5	23.5	23.4	22.3	23.3	23.3	21.5	19.6	
		kW	1.50	1.70	1.80	2.00	2.10	2.20	2.20	2.30	2.40	2.60	2.80	3.00	3.20	3.30	3.30	3.20	
	70	TC	47.1	47.9	47.1	44.4	42.8	40.7	38.5	35.9	33.4	32.1	31.1	27.8	27.9	25.9	24.1	22.5	
		kW	3.40	4.10	4.20	4.10	4.10	4.00	3.50	3.30	3.20	3.20	3.20	3.40	3.30	3.20	3.20	3.10	
	75	TC	37.5	38.3	38.2	37.9	37.9	37.8	37.4	34.7	32.8	30.7	30.0	26.9	27.1	25.6	23.8	22.2	
		kW	2.60	3.00	3.10	3.30	3.40	3.70	3.50	3.30	3.30	3.20	3.50	3.50	3.50	3.40	3.30	3.20	
80	TC	31.9	32.5	32.4	32.4	32.0	32.0	31.9	31.4	31.1	29.5	28.9	25.9	25.2	23.8	21.8	20.4		
	kW	2.30	2.70	2.80	2.90	2.90	3.10	2.90	3.00	3.30	3.20	3.50	3.50	3.40	3.30	3.20	3.10		
80	TC	26.5	27.1	27.0	26.9	26.9	26.9	26.8	26.2	25.9	25.7	25.2	23.6	24.6	23.5	21.7	20.1		
	kW	1.80	2.00	2.10	2.30	2.40	2.60	2.50	2.50	2.70	2.90	3.20	3.40	3.50	3.40	3.30	3.20		

Table 19

TC refer to total capacity kW: refer to total input power

BOVA60-15 + BVA48-20 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
1160	60	TC	50.0	50.0	50.0	49.9	49.7	49.3	48.8	48.6	44.8	43.1	40.5	37.2	37.4	36.1	34.4	32.7
		kW	3.70	3.40	3.50	3.80	4.00	4.30	4.40	4.30	4.20	4.00	4.20	4.40	4.60	4.60	4.50	4.50
	70	TC	39.0	38.8	38.5	38.3	38.0	37.7	37.4	37.3	37.1	36.9	36.5	33.6	32.3	31.1	30.1	29.0
		kW	3.00	2.90	2.80	3.00	3.20	3.40	3.40	3.30	3.60	3.80	4.00	4.20	4.40	4.30	4.20	4.20
	75	TC	32.9	32.7	32.4	32.1	31.9	31.6	31.4	31.3	31.3	31.0	30.8	28.8	29.9	29.4	28.8	27.0
		kW	2.20	2.40	2.60	2.70	2.80	2.90	3.20	3.20	3.40	3.60	3.90	4.10	4.30	4.20	4.10	4.00
1320 (Low Stage)	60	TC	27.1	26.9	26.6	26.3	26.1	25.8	25.6	25.6	25.5	25.2	25.0	23.5	24.4	23.9	23.6	23.2
		kW	2.50	2.40	2.40	2.50	2.70	2.80	2.90	3.00	3.20	3.40	3.40	3.40	3.50	3.90	3.90	3.70
	70	TC	53.5	53.2	53.1	53.0	53.0	52.7	52.6	50.4	46.5	43.5	41.3	37.8	38.1	36.8	35.1	33.3
		kW	4.00	3.70	3.80	4.00	4.30	4.60	4.80	4.70	4.70	4.80	4.90	4.80	5.00	4.70	4.70	4.60
	75	TC	41.8	41.5	41.3	41.0	40.8	40.4	40.2	40.1	39.9	39.6	39.5	36.0	34.5	33.3	31.7	30.1
		kW	3.20	3.00	3.00	3.20	3.40	3.60	3.70	4.00	4.20	4.50	4.70	4.80	4.80	4.80	4.70	4.60
1520	60	TC	35.2	35.0	34.7	34.4	34.2	33.9	33.6	33.5	33.4	33.2	32.9	31.0	32.3	31.9	31.5	29.8
		kW	2.50	2.70	2.60	2.80	3.00	3.10	3.20	3.40	3.60	3.80	4.10	4.30	4.70	4.70	4.60	4.50
	70	TC	29.0	28.8	28.5	28.2	28.0	27.7	27.6	27.6	27.3	27.0	26.8	25.2	26.2	25.8	25.6	25.1
		kW	2.30	2.50	2.60	2.70	2.80	2.90	3.10	3.10	3.30	3.50	3.70	3.90	4.20	4.30	4.00	3.90
	75	TC	56.5	56.5	56.1	55.9	55.8	55.1	54.9	50.7	47.1	44.0	41.8	38.4	38.7	37.3	35.6	33.8
		kW	3.50	4.20	4.40	4.70	5.10	5.30	5.00	4.60	4.70	4.80	4.90	5.20	5.30	5.20	5.10	4.90
1750 (High Stage)	60	TC	49.9	49.6	49.3	48.9	48.7	48.3	48.0	44.4	42.4	42.4	40.2	37.0	38.0	36.6	34.8	33.3
		kW	2.90	3.10	3.30	3.50	3.70	3.80	4.00	4.10	4.70	4.60	4.80	5.00	4.71	4.70	4.70	4.60
	70	TC	38.6	38.6	38.5	38.5	38.3	38.2	38.2	37.1	37.1	36.7	36.5	34.4	35.4	34.9	34.4	32.5
		kW	2.70	2.90	2.90	3.10	3.20	3.50	3.50	3.80	4.00	4.20	4.50	4.90	5.20	5.30	5.10	5.00
	75	TC	31.9	31.7	31.4	31.4	31.3	31.3	31.2	30.9	30.6	30.6	30.4	28.9	30.3	30.1	29.8	28.7
		kW	2.50	2.70	2.80	2.90	3.10	3.20	3.40	3.40	3.60	3.80	4.10	4.30	4.80	5.00	4.90	4.80
1880	60	TC	60.2	60.0	59.9	59.9	59.7	58.4	55.8	51.8	47.8	44.2	41.9	38.5	38.9	37.5	35.7	33.9
		kW	3.70	4.20	4.50	4.60	4.80	4.90	4.80	4.80	4.90	5.00	5.00	5.10	5.00	4.90	4.80	4.70
	70	TC	49.6	49.6	49.6	49.4	49.4	49.3	49.1	47.8	45.0	42.1	40.5	38.2	38.1	37.1	35.3	33.5
		kW	3.20	3.50	3.70	3.90	4.20	4.50	4.70	4.60	4.80	4.80	4.90	5.20	5.00	4.90	4.80	4.70
	75	TC	42.4	42.4	42.4	42.3	42.3	42.0	41.9	40.9	40.8	40.4	40.2	35.6	35.9	35.3	34.8	32.9
		kW	2.90	3.10	3.10	3.30	3.60	3.80	3.90	4.20	4.40	4.60	5.00	5.20	5.10	5.10	5.00	4.90
1880	60	TC	34.7	34.4	33.9	34.6	34.1	33.8	33.5	33.4	33.3	33.1	32.8	30.9	32.2	31.1	30.4	29.3
		kW	2.90	2.70	2.80	3.00	3.10	3.30	3.40	3.70	3.80	3.90	4.00	4.30	4.50	4.90	4.80	4.80
	70	TC	65.5	65.4	65.1	61.8	61.2	59.0	56.4	52.0	48.3	45.0	42.8	39.3	39.8	38.5	36.6	34.8
		kW	4.															

BOVA60-15 + BVA60-20 For Heating																		
Airflow (CFM)	ID (°F)	OD (°F)	86	72	67	62	57	52	47	42	37	32	27	22	17	12	7	5
1160	60	TC	52.6	52.6	52.6	52.5	52.5	52.2	52.0	51.0	50.4	47.0	44.5	38.9	39.1	37.4	36.2	34.2
		KW	4.20	4.10	4.20	4.50	4.90	5.10	5.20	4.80	5.20	5.10	5.50	6.10	5.70	5.60	5.40	5.20
	70	TC	41.7	41.7	41.7	41.7	41.6	41.6	41.5	40.5	40.5	40.3	38.3	34.1	33.4	32.0	31.2	30.6
		KW	3.30	3.50	3.70	4.00	4.20	4.50	4.90	4.60	4.90	5.20	5.00	5.10	4.90	4.80	4.80	4.70
	75	TC	34.6	34.6	34.6	34.5	34.5	34.5	34.4	33.6	33.6	33.6	33.5	31.7	32.7	31.1	29.7	28.0
		KW	2.60	2.70	2.90	3.00	3.30	3.40	3.70	3.20	3.50	3.80	4.20	4.30	4.60	4.50	4.30	4.20
80	TC	27.7	27.7	27.6	27.6	27.6	27.5	27.4	26.8	26.7	26.7	26.7	25.4	26.2	26.1	26.0	26.0	
	KW	2.50	2.80	3.00	3.10	3.30	3.40	3.60	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.50	4.40	
1320 (Low Stage)	60	TC	58.0	58.0	58.0	57.6	57.4	57.3	57.2	55.5	51.0	47.5	45.0	39.7	39.7	39.1	37.1	34.5
		KW	4.40	4.60	4.70	5.00	5.30	5.70	5.80	5.30	5.10	5.20	5.80	6.00	5.70	5.60	5.40	5.20
	70	TC	45.8	45.8	45.8	45.8	45.7	45.7	45.6	44.5	44.3	44.3	42.1	37.4	36.0	35.1	34.3	32.1
		KW	3.40	3.80	4.10	4.30	4.70	5.00	5.40	5.10	5.40	5.80	5.80	6.10	5.80	5.80	5.70	5.50
	75	TC	37.9	37.9	37.9	37.9	37.8	37.8	37.7	37.0	37.0	37.0	36.6	34.9	36.0	34.9	33.7	31.5
		KW	2.90	2.80	2.80	3.00	3.20	3.40	3.60	3.60	3.90	4.10	4.50	4.70	5.10	5.90	5.70	5.50
80	TC	30.5	30.5	30.4	30.4	30.4	30.3	30.3	29.7	29.6	29.6	29.6	28.1	28.7	28.6	28.6	28.4	
	KW	2.60	2.80	3.00	3.10	3.30	3.50	3.70	3.10	3.40	3.50	3.80	4.10	4.20	4.50	4.90	4.90	
1520	60	TC	62.7	62.7	62.2	62.2	61.6	61.2	60.7	56.8	53.9	50.4	47.3	43.1	41.5	40.1	37.3	35.5
		KW	4.80	5.00	5.20	5.40	5.90	6.00	6.00	5.40	5.40	5.30	5.80	5.80	5.60	5.40	5.20	5.10
	70	TC	51.0	50.9	50.9	50.8	50.8	50.8	50.7	49.5	49.3	49.1	46.8	41.3	39.7	38.4	37.5	35.6
		KW	3.70	4.50	4.70	5.10	5.40	5.60	5.90	5.70	6.00	6.10	5.70	5.90	5.60	5.50	5.40	5.30
	75	TC	42.1	42.1	42.1	42.0	42.0	42.0	41.9	41.0	40.9	40.7	40.7	38.7	39.0	37.0	35.4	34.4
		KW	3.00	3.20	3.20	3.40	3.60	3.80	4.10	4.10	4.30	4.60	5.00	5.40	5.70	5.70	5.50	5.40
80	TC	33.9	33.9	33.9	33.9	33.8	33.8	33.8	32.9	33.1	33.1	33.1	31.0	32.0	32.0	32.0	32.0	
	KW	2.90	3.10	3.30	3.00	3.10	3.20	3.40	3.50	3.60	3.80	4.20	4.50	4.80	5.00	5.00	4.90	
1750 (High Stage)	60	TC	67.9	67.4	67.3	66.8	66.8	65.9	63.6	60.3	56.9	53.3	50.3	47.1	43.9	42.7	41.1	38.6
		KW	3.80	4.50	4.70	5.10	5.40	5.40	5.30	5.20	5.20	5.00	5.30	5.50	5.40	5.20	5.10	5.00
	70	TC	56.6	56.5	56.3	55.8	55.6	54.8	54.6	54.1	53.3	51.6	49.0	45.7	42.1	40.5	39.5	37.8
		KW	3.20	3.60	3.80	4.10	4.40	4.50	4.70	4.90	5.10	5.20	5.10	5.20	5.01	4.90	4.80	4.70
	75	TC	47.3	47.3	47.3	47.2	47.1	47.1	47.0	46.4	46.3	45.7	44.1	43.9	41.3	39.4	37.0	36.7
		KW	2.90	3.10	3.30	3.50	3.70	4.00	4.20	4.30	4.40	4.60	5.00	5.20	5.40	5.40	5.10	5.10
80	TC	38.6	38.6	38.5	38.4	38.3	38.3	39.3	37.7	37.6	37.4	37.1	37.3	37.2	37.0	35.9	35.3	
	KW	3.10	3.20	3.20	3.30	3.40	3.50	3.50	3.70	4.00	4.00	4.20	4.40	4.70	5.10	5.00	4.80	
1880	60	TC	72.7	72.0	72.0	71.5	69.7	66.2	64.3	59.9	55.5	51.9	51.3	47.7	46.1	42.8	39.6	37.7
		KW	5.30	5.60	5.70	6.10	6.00	5.90	5.90	5.30	5.20	5.10	5.80	5.80	5.80	5.70	5.80	5.40
	70	TC	56.4	56.4	56.1	56.0	55.4	55.5	55.3	54.3	53.6	51.6	48.3	42.9	41.2	39.2	38.2	37.1
		KW	4.10	5.00	5.30	5.70	6.20	6.20	6.70	6.40	6.40	6.20	5.80	6.00	5.70	5.60	5.50	5.40
	75	TC	49.5	49.3	48.8	48.6	48.3	47.9	47.8	46.4	46.3	45.3	43.8	41.0	40.1	38.5	36.3	35.4
		KW	4.30	4.10	4.20	4.30	4.60	4.80	4.90	4.60	4.90	5.30	5.90	6.10	6.20	6.30	6.30	5.90
80	TC	40.6	40.6	40.5	40.5	40.3	40.1	39.9	38.9	38.3	38.1	37.7	36.0	37.8	36.4	36.0	34.5	
	KW	3.70	3.40	3.40	3.70	3.80	4.00	4.10	4.10	4.30	4.40	4.70	5.10	5.10	5.20	5.80	5.40	

Table 21

TC refer to total capacity KW: refer to total input power

5 Model & Part Numbers

BOSCH BOVA 15 MODEL OUTDOOR UNIT		
Model Number	Part Number	Description
BOVA-24HDN1-M15G	8733956368	24 kBTU/hr (2 ton), Inverter Condensing Unit BOVA
BOVA-36HDN1-M15G	8733955693	36 kBTU/hr (3 ton), Inverter Condensing Unit BOVA
BOVA-60HDN1-M15G	8733955694	60 kBTU/hr (5 ton), Inverter Condensing Unit BOVA

Table 22

BOSCH BVA 15 MODEL INDOOR UNIT		
Model Number	Part Number	Description
BVA-24WN1-M15	8733955038	24 kBTU/hr (2 ton), Air Handler Unit, 15 SEER, PSC
BVA-36WN1-M15	8733955039	36 kBTU/hr (3 ton), Air Handler Unit, 15 SEER, PSC
BVA-48WN1-M15	8733955040	48 kBTU/hr (4 ton), Air Handler Unit, 15 SEER, PSC
BVA-60WN1-M15	8733955041	60 kBTU/hr (5 ton), Air Handler Unit, 15 SEER, PSC

Table 23

BOSCH BVA 2.0 MODEL INDOOR UNIT		
Model Number	Part Number	Description
BVA-24WN1-M20	8733952439	24 kBTU/hr (2 ton), Air Handler Unit, 20 SEER, x13 ECM
BVA-36WN1-M20	8733952440	36 kBTU/hr (3 ton), Air Handler Unit, 20 SEER, x13 ECM
BVA-48WN1-M20	8733952441	48 kBTU/hr (4 ton), Air Handler Unit, 20 SEER, x13 ECM
BVA-60WN1-M20	8733952442	60 kBTU/hr (5 ton), Air Handler Unit, 20 SEER, x13 ECM

Table 24

6 AHRI 210/240 Performance Data

6.1 SEER1

Inverter Ducted Split AHRI 210/240 Performance Data										
System Configuration	Outdoor Unit Model	Indoor Unit Model	Furnace Model	Cooling Capacity (BTU/h)			Heating Capacity			CFM
		Coils/Air Handlers		Total	EER ¹	SEER ²	Hi	HSPF ³	Low ⁴	
BOVA 15 with BVA15	BOVA-24HDN1-M15G	BVA-24WN1-M15	/	24000	11.2	15.5	24000	9.0	20000	830
	BOVA-36HDN1-M15G	BVA-24WN1-M15	/	24000	11.8	16.0	24000	9.0	20600	830
	BOVA-36HDN1-M15G	BVA-36WN1-M15	/	34200	10.4	15.0	35000	9.0	25000	1220
	BOVA-60HDN1-M15G	BVA-48WN1-M15	/	46500	11.2	15.0	48000	9.0	38000	1530
	BOVA-60HDN1-M15G	BVA-60WN1-M15	/	50000	10.2	15.0	56000	9.0	40500	1830
BOVA 15 with 96% Gas Furnace	BOVA-24HDN1-M15G	BMAC2430ANTD	BGH96M060B3B	23600	11.5	16.5	24000	9.0	17600	720/630
	BOVA-24HDN1-M15G	BMAC2430ANTD	BGH96M080B3B	23600	11.5	16.5	24000	9.0	17600	700/610
	BOVA-24HDN1-M15G	BMAC2430BNTD	BGH96M060B3B	24000	11.5	16.5	24000	9.0	17600	720/630
	BOVA-24HDN1-M15G	BMAC2430BNTD	BGH96M080B3B	24000	11.5	16.5	24000	9.0	17600	700/610
	BOVA-36HDN1-M15G	BMAC3036ANTD	BGH96M060B3B	33000	10.0	16.5	34200	8.8	23000	1000/750
	BOVA-36HDN1-M15G	BMAC3036ANTD	BGH96M080B3B	33000	10.0	16.5	34200	8.8	23000	1000/750
	BOVA-36HDN1-M15G	BMAC3036BNTD	BGH96M060B3B	33600	10.0	16.5	34200	8.8	23000	1050/770
	BOVA-36HDN1-M15G	BMAC3036BNTD	BGH96M080B3B	33600	10.0	16.5	34200	8.8	23000	1050/770
	BOVA-36HDN1-M15G	BMAC3036CNTD	BGH96M080C4B	33600	10.0	16.5	34200	8.8	23000	1030/750
	BOVA-36HDN1-M15G	BMAC3036CNTD	BGH96M100C5B	34000	10.0	16.5	34200	8.8	23000	1150/750
	BOVA-60HDN1-M15G	BMAC4248BNTF	BGH96M080B3B	43000	10.0	16.5	45000	8.8	31000	1250/1050
	BOVA-60HDN1-M15G	BMAC4248CNTF	BGH96M080C4B	43000	10.5	16.5	45000	8.8	31000	1250/1050
	BOVA-60HDN1-M15G	BMAC4248CNTF	BGH96M100C5B	45000	10.5	16.5	46500	8.8	32000	1470/1200
	BOVA-60HDN1-M15G	BMAC4248DNTF	BGH96M100D5B	45500	10.5	16.5	47000	8.8	32000	1500/1200
	BOVA-60HDN1-M15G	BMAC4248DNTF	BGH96M120D5B	45500	10.5	16.5	47000	8.8	32000	1500/1200
	BOVA-60HDN1-M15G	BMAC4860CNTF	BGH96M100C5B	53000	9.5	16.0	53500	9.0	38000	1660/1150
	BOVA-60HDN1-M15G	BMAC4860DNTF	BGH96M100D5B	53500	10.0	16.5	54000	9.0	38000	1700/1200
BOVA-60HDN1-M15G	BMAC4860DNTF	BGH96M120D5B	53500	10.0	16.5	54000	9.0	38000	1700/1200	
BOVA 15 with BVA20	BOVA-24HDN1-M15G	BVA-24WN1-M20	/	24000	12.0	17.1	24000	9.5	18200	860/680
	BOVA-36HDN1-M15G	BVA-24WN1-M20	/	24000	12.5	17.1	24000	9.5	19200	860/680
	BOVA-36HDN1-M15G	BVA-36WN1-M20	/	34200	11.0	17.1	34200	9.0	24600	1150/820
	BOVA-60HDN1-M15G	BVA-48WN1-M20	/	48000	12.5	17.1	48000	9.5	38000	1530/1150
	BOVA-60HDN1-M15G	BVA-60WN1-M20	/	56000	10.2	16.5	56000	9.5	40000	1750/1350

Table 25

¹ Energy Efficiency Ratio; Certified per AHRI 210/240

² Seasonal Energy Efficiency Ratio; Certified per AHRI 210/240

³ HSPF = Heating Seasonal Performance Factor; Certified per AHRI 210/240

⁴ Jumper cut or dip switch off

Items in bold boxes meet the requirements for ENERGY STAR v5.0

6.2 SEER2

Inverter Ducted Split AHRI 210/240 Performance Data										
System Configuration	Outdoor Unit Model	Indoor Unit Model	Furnace Model	Cooling Capacity (BTU/h)			Heating Capacity			CFM
		Coils/Air Handlers		Total	EER2 ¹	SEER2 ²	Hi	HSPF2 ³	Low ⁴	
BOVA 15 with BVA15	BOVA-24HDN1-M15G	BVA-24WN1-M15	/	24000	10.6	14.5	24000	8.0	20000	780
	BOVA-36HDN1-M15G	BVA-24WN1-M15	/	24000	11.2	14.8	24000	8.2	20600	780
	BOVA-36HDN1-M15G	BVA-36WN1-M15	/	34200	10.0	14.5	34600	8.0	25000	1210
	BOVA-60HDN1-M15G	BVA-48WN1-M15	/	46500	10.6	14.3	48000	8.0	38000	1530
	BOVA-60HDN1-M15G	BVA-60WN1-M15	/	54000	9.8	14.3	56000	8.0	40500	1680
BOVA 15 with 96% Gas Furnace	BOVA-24HDN1-M15G	BMAC2430ANTD	BGH96M060B3B	23600	10.5	16.0	24000	8.0	17600	750/560
	BOVA-24HDN1-M15G	BMAC2430ANTD	BGH96M080B3B	23600	10.5	16.0	24000	8.0	17600	750/560
	BOVA-24HDN1-M15G	BMAC2430BNTD	BGH96M060B3B	24000	10.5	16.0	24000	8.0	17600	750/560
	BOVA-24HDN1-M15G	BMAC2430BNTD	BGH96M080B3B	24000	10.5	16.0	24000	8.0	17600	750/560
	BOVA-36HDN1-M15G	BMAC3036ANTD	BGH96M060B3B	33000	9.0	15.5	34200	7.8	23000	1050/750
	BOVA-36HDN1-M15G	BMAC3036ANTD	BGH96M080B3B	33000	9.0	15.5	34200	7.8	23000	1050/750
	BOVA-36HDN1-M15G	BMAC3036BNTD	BGH96M060B3B	33600	9.0	15.5	34200	7.8	23000	1050/780
	BOVA-36HDN1-M15G	BMAC3036BNTD	BGH96M080B3B	33600	9.0	15.5	34200	7.8	23000	1050/780
	BOVA-36HDN1-M15G	BMAC3036CNTD	BGH96M080C4B	33600	9.0	15.5	34200	7.8	23000	1050/780
	BOVA-36HDN1-M15G	BMAC3036CNTD	BGH96M100C5B	33600	9.0	15.5	34200	7.8	23000	1050/650
	BOVA-60HDN1-M15G	BMAC4248BNTF	BGH96M080B3B	43000	9.0	16.0	44000	7.8	30000	1100/950
	BOVA-60HDN1-M15G	BMAC4248CNTF	BGH96M080C4B	43000	9.5	16.0	44000	7.8	30000	1150/950
	BOVA-60HDN1-M15G	BMAC4248CNTF	BGH96M100C5B	45000	9.5	16.0	47000	7.8	32000	1600/1100
	BOVA-60HDN1-M15G	BMAC4248DNTF	BGH96M100D5B	45500	9.5	16.0	47000	7.8	32000	1600/1100
	BOVA-60HDN1-M15G	BMAC4248DNTF	BGH96M120D5B	45500	9.5	16.0	47000	7.8	32000	1600/1100
	BOVA-60HDN1-M15G	BMAC4860CNTF	BGH96M100C5B	53000	9.0	15.5	53500	8.0	38000	1700/1350
	BOVA-60HDN1-M15G	BMAC4860DNTF	BGH96M100D5B	53500	9.5	15.5	54000	8.0	38000	1700/1400
BOVA-60HDN1-M15G	BMAC4860DNTF	BGH96M120D5B	53500	9.5	15.5	54000	8.0	38000	1700/1400	
BOVA 15 with BVA20	BOVA-24HDN1-M15G	BVA-24WN1-M20	/	24000	11.2	16.1	24000	8.2	19500	950/650
	BOVA-36HDN1-M15G	BVA-24WN1-M20	/	24000	11.8	16.1	24000	8.5	21000	950/650
	BOVA-36HDN1-M15G	BVA-36WN1-M20	/	34200	10.4	16.1	34200	8.5	24500	1180/780
	BOVA-60HDN1-M15G	BVA-48WN1-M20	/	48000	12.0	16.1	48000	8.5	38000	1580/1150
	BOVA-60HDN1-M15G	BVA-60WN1-M20	/	56000	10.0	15.5	56000	8.5	40000	1720/1380

Table 26

¹ Energy Efficiency Ratio; Certified per AHRI 210/240

² Seasonal Energy Efficiency Ratio; Certified per AHRI 210/240

³ HSPF = Heating Seasonal Performance Factor; Certified per AHRI 210/240

⁴ Jumper cut or dip switch off

□ Items in bold boxes meet the requirements for ENERGY STAR v6.1

7 Suction Corrected Factor

Model Size		2 Ton	3 Ton	4 Ton	5 Ton
BOVA - Suction Line Connection Size		3/4	3/4	7/8	7/8
Suction Line Run - Feet		3/4 STD	3/4 STD	7/8 STD	7/8 STD
		5/8 OPT	5/8 OPT	3/4 OPT	3/4 OPT
25'	Standard	1.00	1.00	1.00	1.00
	Optional	1.00	0.99	0.99	0.98
50'	Standard	0.99	0.99	0.99	0.99
	Optional	0.99	0.98	0.98	0.97
100'	Standard	0.99	0.98	0.98	0.97
	Optional	0.98	0.95	0.97	0.95

Table 27

Std: Standard size

Opt: Optional size

i Using suction line larger than shown in chart will result in poor oil return and is not recommended.

8 Sound Data

Model	Sound Power Level [dB(A)]	Full Octave Linear Sound Power Level dB -Center Frequency -Hz								Sound Power Level [dB(A)] with Sound Blanket
		63	125	250	500	1000	2000	4000	8000	
2 Ton	59(Low)	55.9	50.3	48.3	51.0	50.3	43.3	37.3	43.9	Sound Blanket - Standard
	76(High)	69.3	64.1	65.4	65.1	62.5	56.9	54.9	55.0	
3 Ton	60(Low)	50.0	54.3	51.3	53.9	52.1	44.3	38.1	43.9	
	78(High)	69.1	70.9	69.1	68.3	65.0	59.2	57.8	56.5	
5 Ton	60(Low)	59	53	54.4	57.2	55.9	52.5	48.2	47.1	
	80(High)	71.4	73.9	76.5	75.3	72	65.7	63	55.8	

Table 28 IDS BOVA 15 Outdoor Unit Sound Power Level

9 Dimensions

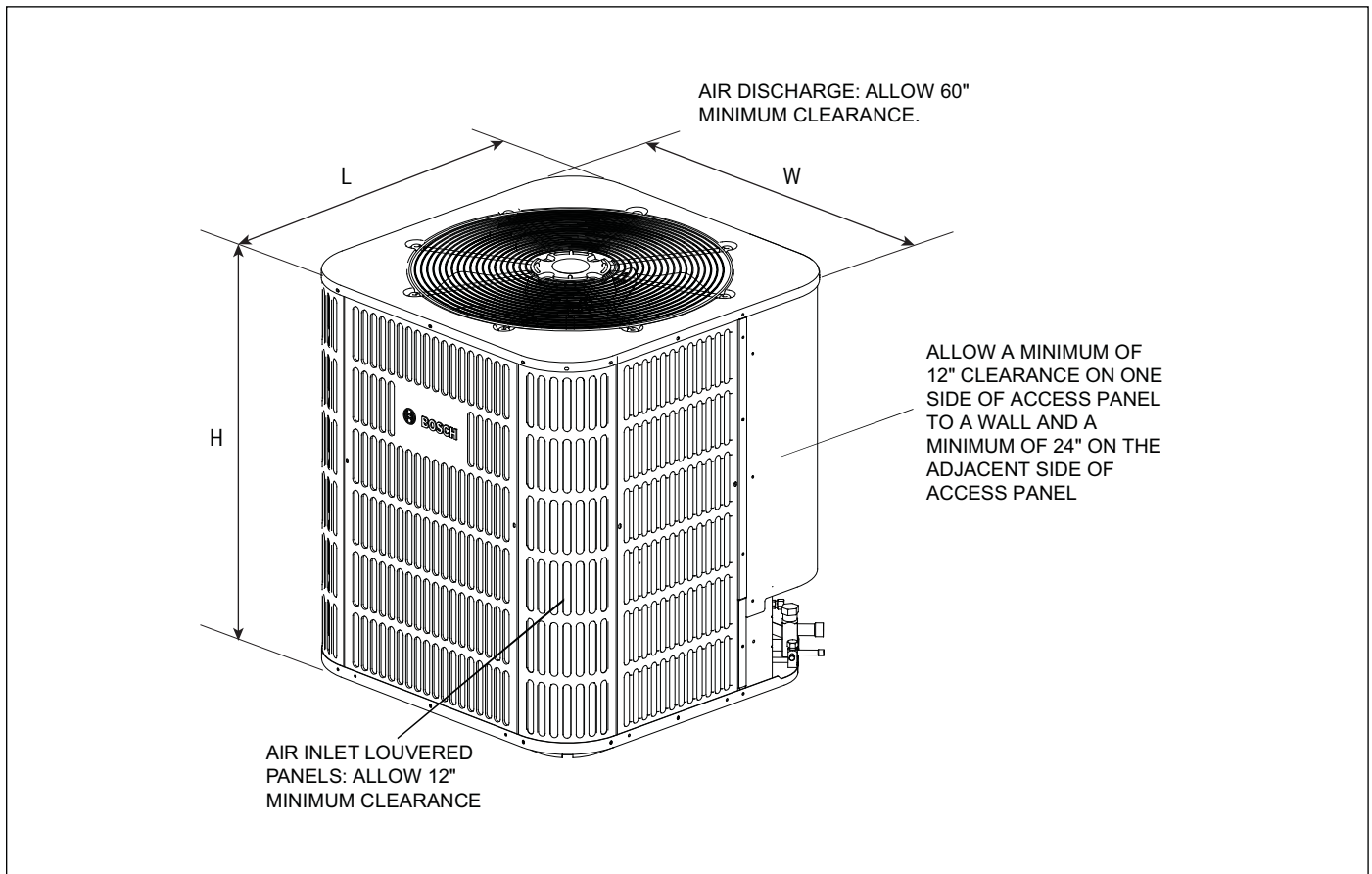


Figure 2

Model Size	Dimensions (Inches)		
	"H" in. [mm]	"W" in. [mm]	"L" in. [mm]
BOVA24-15	24-15/16 [633]	28 [711]	28 [711]
BOVA36-15	24-15/16 [633]	28 [711]	28 [711]
BOVA60-15	33-3/16 [843]	29-1/8 [740]	29-1/8 [740]

Table 29

**United States and Canada
Bosch Thermotechnology Corp.
65 Grove St.
Watertown, MA 02472**

**Tel: 866-642-3198
Fax: 954-776-5529
www.bosch-thermotechnology.us**

BTC 761701320 B / 07.2022

**Bosch Thermotechnology Corp. reserves the right
to make changes without notice due to continuing
engineering and technological advances.**