

GreenSource CDI series

Model SM Rev A/B

Residential Geothermal Heat Pump

Engineering
Submittal
Sheet



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Overview and Certifications



Standard Features and Field Installed Accessories

Standard Features

- ▶ **White Pre-Painted Sheet Metal Cabinets**
 - Appliance White for a Clean - Durable Look
 - Door Handles - for Easy Removal for Service
 - LCD Display - for Easy View of Unit Operation
- ▶ **High Efficiency**
 - Up to 4.7 COP @ PL GLHP
 - Up to 4.0 COP @ FL GLHP
 - Up to 35.0 EER @ PL GLHP
 - Up to 22.0 EER @ FL GLHP
- ▶ **Electronically Commutated Motors**
 - Constant CFM Variable Speed High Efficiency ECM
- ▶ **Closed Cell (Fiber Free) Insulation**
 - Improved Indoor Air Quality
 - Floating Base Pan

- ▶ **Reliability - Durability - Serviceability**
 - Evaporator Coil - Tin-plated copper tubing hair pins with high-tech polymer coated aluminum fins (DuoGuard™)*
 - Alert Communicating Electronic Circuit Board
- ▶ **Electronic Circuit Board**
 - Low Pressure Switch Protection
 - High Pressure Switch Protection
 - Alarm Output
 - Condensate overflow protection
 - Anti-Short Cycling
 - Low Pressure Bypass at Start Up
 - Random Start of Unit
 - Brown Out Protection
 - Evaporator Freeze Protection
 - Water Coil/Coaxial Coil/Condenser Freeze Protection
 - Connections for a communicating thermostat and unit external status LCD for easy view of unit operation

* Available only for Vertical models. For Horizontal models, tin-plated copper tubing hair pins only is available.

Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL



Standard Features and Field Installed Accessories continued..

► **Standard Warranty**

- 10 Year All Parts Limited Warranty
- 10 Year Labor Limited Warranty

► **Domestic Hot Water Heat Recovery Package (Desuperheater):**

- Utilizes the compressor's superheated discharge gas to preheat domestic hot water, reducing the amount of electricity or fossil fuels otherwise used for hot water.

► **Cupro-nickel Coils:**

- Cupro-Nickel coils are recommended for applications where the water is of lower quality. Only coils are cupro-nickel. All fittings and straight lengths of pipe will be copper.

Field Installed Accessories

► **Thermostats:**

- Bosch thermostats are fully customized to meet your individual needs. Bosch offers communicating thermostats that can display alert messages without having to go to the unit.
- Passive dehumidification can be achieved via ECM fan controls paired with optional Bosch thermostat with humidity control

► **Internally Mounted Electric Heat Kits:**

- A field installed option for back up heat. Available in 5, 10, 15, or 20 kW depending on the size of the geothermal heat pump.

► **Stainless Steel Hose Kits:**

- Available in various lengths and diameters depending on the need for your application.

► **SmartStart Assist Kit:**

- An option which provides a means of reducing inrush currents at compressor startup. Light flickering is eliminated, and a smooth start is achieved.

► **Horizontal Discharge Air Conversion Kit:**

- The horizontal conversion kit allows end blow to straight through conversion of discharge air, as the straight through configuration for horizontal is no longer available.

► **Pump/Valve Relay Kit:**

- This relay is used to energize a supply pump or solenoid valve when there is a call for compressor operation. This relay can be used to switch either high or low voltage power.

► **Externally Mounted Duct Heater Kits**

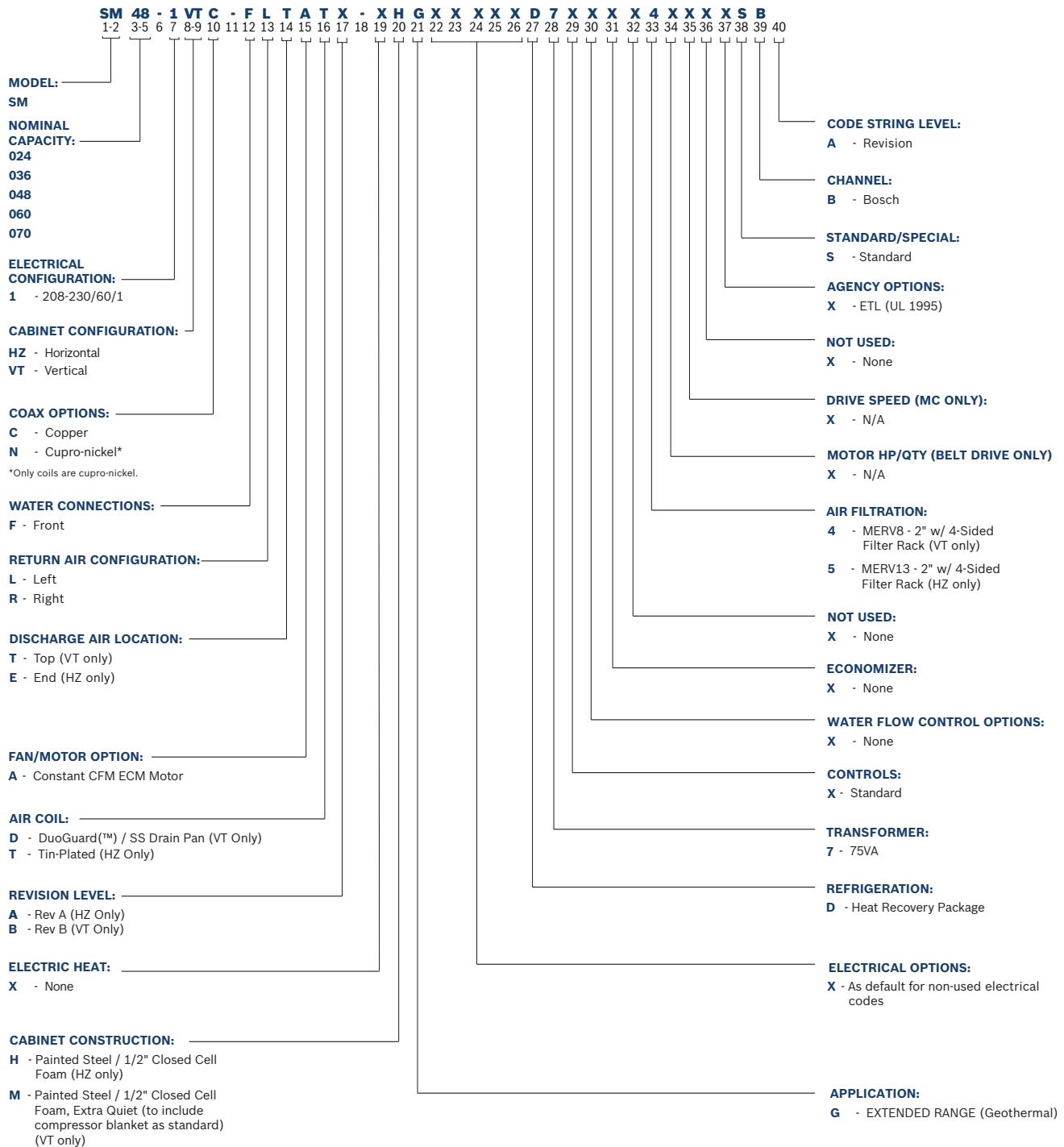
► **Flow Center Kits**

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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Model Nomenclature



Greensource SM Rev A/B Series - Residential Geothermal Heat Pumps



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Physical Data						
Description	Unit	Value				
		SM024	SM036	SM048	SM060	SM070
Compressor Type (Qty 1)	—	Scroll	Scroll	Scroll	Scroll	Scroll
Refrigeration Charge VT	Oz.	45	73	75	98	94
Refrigeration Charge HZ only	Oz.	58	85	77	100	114
Max Water Working Pressure	PSIG/kPa	450/3100	450/3100	450/3100	450/3100	450/3100
Max Water Working Pressure w/ Swivel fittings	PSIG/kPa	125/861	125/861	125/861	125/861	125/861
Fan Motor and Blower						
Fan Motor Type/Speeds	—	ECM Const Air Flow	ECM Const Air Flow	ECM Const Air Flow	ECM Const Air Flow	ECM Const Air Flow
Fan Motor (HP)	HP	0.33	0.75	0.75	1.00	1.00
Blower Wheel Size VT	Inch (Dia. x W)	9 X 7	11 X 11	11 X 11	11 X 11	11 X 11
Blower Wheel Size HZ only	Inch (Dia. x W)	10 X 8	11 X 9	11 X 9	11 X 11	11 X 11
Water Connection Size						
FPT VT (Factory brazed non-swivel type)	Inch	3/4	1.0	1.0	1.0	1.0
FPT HZ only (Factory brazed swivel)	Inch	1.0	1.0	1.0	1.0	1.0
Field installed Swivel fittings (Shipped loose with unit)	Inch	1.0	1.0	1.0	1.0	1.0
Coaxial Coil Volume VT	Gal	0.43	0.73	0.64	1.08	1.08
Coaxial Coil Volume HZ only(gal)	Gal	0.33	1.18	0.62	1.07	1.12
Vertical Cabinet						
Air Coil Dimensions (H x W)	Inch (H x W)	24 x 21	32x28.3	32x28.3	36x28.3	36x28.3
Air Coil Fin Density	Fins/Inch	14	14	14	14	14
Nominal size of Standard Filter - 2" MERV 8 (L x H)	Inch (L x H)	24 X 24	16 X 30 (2)	16 X 30 (2)	20 X 30 (2)	20 X 30 (2)
Weight - Operating (lbs)*	lbs	220	360	340	375	375
Weight - Shipping (lbs)*	lbs	300	460	450	500	500
Horizontal Cabinet						
Air Coil Dimensions (H x W)	Inch (H x W)	18 X 31.5	20 X 42	20 X 42	20 X 49	20 X 49
Air Coil Fin Density	Fins/Inch	14	14	14	14	14
Nominal size of Standard Filter - 2" MERV13 (L x H)	Inch (L x H)	18 X 18 (2)	20 X 24 (2)	20 X 24 (2)	18 X 20 (3)	18 X 20 (3)
Weight - Operating (lbs)*	lbs	260	375	355	430	460
Weight - Shipping (lbs)*	lbs	360	495	470	550	580

* This data reflects standard unit weights only. Additional options may cause differences in listed weights.

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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ASHRAE/AHRI/ISO 13256-1. English (I-P) Units

Models	Orientation	Fluid Flow Rate	Load	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
				Cooling 86 deg.F		Heating 68 deg.F		Cooling 59 deg.F		Heating 50 deg.F		Cooling Full Load 77 °F Part Load 68 °F		Heating Full Load 32 °F Part Load 41 °F	
				Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
SM024	VT	6.0	Full	26200	16.2	30300	5.6	29400	24.9	24700	4.9	26900	18.9	18700	4.1
	VT	6.0	Part	19600	18.3	22800	6.5	22400	32.1	18200	5.2	21300	27.8	15500	4.4
	HZ	6.0	Full	25500	17.4	29200	5.6	29000	26.5	23500	4.9	26600	19.9	18000	3.8
	HZ	6.0	Part	18500	18.9	21200	6.5	21700	30.4	16700	5.1	21000	28.1	14400	4.2
SM036	VT	10.0	Full	39300	18.6	46300	6.2	44300	27.1	36700	5.4	40200	21.0	28200	4.4
	VT	10.0	Part	28900	20.4	33100	7.2	32800	35.0	26000	5.5	31600	30.0	22000	4.7
	HZ	9.0	Full	39000	18.2	42800	5.1	43300	26.8	35900	4.6	40800	20.7	28400	4.0
	HZ	9.0	Part	29000	20.8	31000	5.6	32600	34.9	25200	4.7	31900	29.2	22400	4.1
SM048	VT	12.0	Full	50500	16.7	60300	5.6	56900	25.2	49200	4.9	51800	19.3	38200	4.2
	VT	12.0	Part	37100	18.3	44200	6.2	42600	32.2	35500	5.0	40100	26.8	30600	4.5
	HZ	12.0	Full	49200	15.7	56100	5.1	55300	25.2	46300	4.6	51300	19.3	36900	3.9
	HZ	12.0	Part	36700	18.0	40900	5.7	42000	32.2	33700	4.8	39900	26.8	29800	4.4
SM060	VT	15.0	Full	62500	15.4	78300	5.4	71600	24.0	62400	4.7	63900	18.6	48600	4.0
	VT	15.0	Part	46400	17.7	57600	6.0	53500	30.6	45900	4.9	51100	25.2	39900	4.4
	HZ	15.0	Full	63800	16.1	73300	4.9	70200	24.4	60300	4.6	65100	18.9	45500	3.9
	HZ	15.0	Part	47500	18.7	53600	5.8	53300	31.2	44300	4.8	51600	26.5	37200	4.1
SM070	VT	18.0	Full	69700	14.3	88900	5.0	78900	22.1	72600	4.4	71500	17.3	56000	3.8
	VT	18.0	Part	52900	16.4	67700	5.5	61200	26.9	53800	4.6	58100	23.3	46100	4.1
	HZ	18.0	Full	71600	14.8	84000	5.0	78700	21.2	70000	4.5	73700	16.9	55300	3.8
	HZ	18.0	Part	55200	16.7	64900	5.4	60800	27.9	52900	4.7	60300	23.4	46900	4.3



Electrical Data (ECM Blower Motor)

Models	Voltage Code	Voltage/Phase/ Hz	Voltage Min/Max	Compressor			Total Unit Variable Speed Constant CFM High Efficiency Motor			
				QTY	RLA	LRA	FLA	Min Circuit Amps	MOP Calculation	Max Fuse/ HACR
SM024	1	208-230/1/60	197/253	1	11.7	58.3	2.8	17.4	29.0	25
SM036	1	208-230/1/60	197/253	1	15.6	83.0	6.8	26.3	41.9	40
SM048	1	208-230/1/60	197/253	1	21.2	104.0	6.8	33.3	54.4	50
SM060	1	208-230/1/60	197/253	1	26.9	139.9	9.1	42.7	69.6	60
SM070	1	208-230/1/60	197/253	1	29.7	179.2	9.1	46.2	75.9	70

i Values shown above do not include electric heat option.

i Units with Factory Installed Electric Heat option will have two separate data plates for each electrical circuit.

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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1st Data plate for units with EH field installed kit - compressor power connection

Models	Voltage Code	Voltage/Phase/Hz	Voltage Min/Max	Compressor					
				QTY	RLA	LRA	Min Circuit Amps	MOP Calculation	Max Fuse/HACR
SM024	1	208-230/1/60	197/253	1	11.7	58.3	14.6	26.2	25
SM036	1	208-230/1/60	197/253	1	15.6	83.0	19.5	35.1	35
SM048	1	208-230/1/60	197/253	1	21.2	104.0	26.5	47.6	45
SM060	1	208-230/1/60	197/253	1	26.9	139.9	33.6	60.5	60
SM070	1	208-230/1/60	197/253	1	29.7	179.2	37.1	66.8	60

2nd data plate for units with EH field installed kit - Constant Airflow ECM motor

Model	Electric Heater Rated kW	Stage	Heater Watts		Heater Amps		Motor FLA (A)	Circuit	MCA		MOP	
			240V	208V	240V	208V		Fuses	240V	208V	240V	208V
SM024	4.8	1	4800	3600	20	17.3	2.8	-	23.5	24.4	45	40
SM036	4.8	1	4800	3600	20	17.3	6.8	-	28.5	28.4	50	45
SM036	9.6	1	9600	7200	40	34.6	6.8	-	48.5	50.1	90	80
SM036	14.4	2	14400	10800	60	51.9	6.8	F1/F2	68.5	71.7	125	110
								F3/F4				
SM048	4.8	1	4800	3600	20	17.3	6.8	-	28.5	28.4	50	45
SM048	9.6	1	9600	7200	40	34.6	6.8	-	48.5	50.1	90	80
SM048	14.4	2	14400	10800	60	51.9	6.8	F1/F2	68.5	71.7	125	110
								F3/F4				
SM048	19.2	2	19200	14000	80	69.2	6.8	F1/F2	88.5	93.3	175	150
								F3/F4				
SM060	4.8	1	4800	3600	20	17.3	9.1	-	31.4	30.7	50	45
SM060	9.6	1	9600	7200	40	34.6	9.1	-	51.4	52.4	90	80
SM060	14.4	2	14400	10800	60	51.9	9.1	F1/F2	71.4	74	125	125
								F3/F4				
SM060	19.2	2	19200	14000	80	69.2	9.1	F1/F2	91.4	95.6	175	150
								F3/F4				
SM070	4.8	1	4800	3600	20	17.3	9.1	-	31.4	30.7	50	45
SM070	9.6	1	9600	7200	40	34.6	9.1	-	51.4	52.4	90	80
SM070	14.4	2	14400	10800	60	51.9	9.1	F1/F2	71.4	74	125	125
								F3/F4				
SM070	19.2	2	19200	14000	80	69.2	9.1	F1/F2	91.4	95.6	175	150
								F3/F4				

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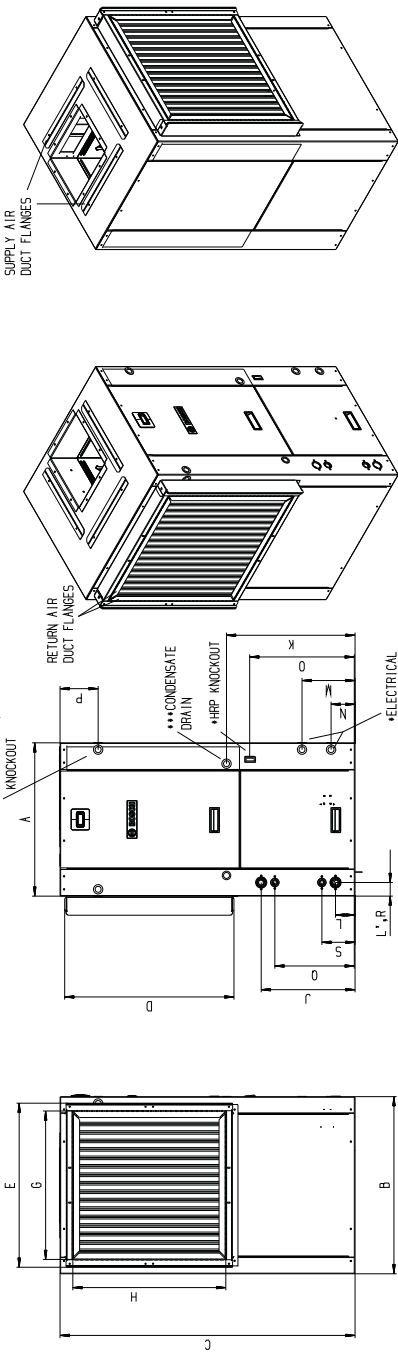


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SM-VT Dimensions and Connections

MODEL	A	B	C	D	E	F	G	H	J	K	L	L'	M	N	O	P	Q	R	S	T	U	U'	V	V'	W	W'	WATER CONNECTIONS	FILTER SIZE (Qty/Unit)
	WIDTH	DEPTH	HEIGHT	HEIGHT	WIDTH	DEPTH	RETURN AIR DUCT WIDTH	RETURN AIR DUCT HEIGHT	WATER DRAIN OUT PORT	WATER INLET IN	WATER INLET IN	ELECTRICAL KNOCKOUT	HP KNOCKOUT	HP KNOCKOUT	HEATER KNOCKOUT	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS	HP CONNECTIONS
SM024-VT	22.5	26	43.3	24.4	24.1	2.8	21.8	22.5	13.8	18.9	2.9	2	7.8	3.5	15.5	5.6	11.8	2	4.9	6.1	13.7	13.7	1.4	3.1	15.6	13.1	3/4" F.P.T.	24x24x2(1)
SM036-VT	24.5	33.3	54	32.4	30.6	2.8	28.3	30.4	16.5	25.9	2.9	2	7.8	3.5	15.5	5.6	13.5	2	5.9	8.1	17.8	17.8	1.4	4	17.6	15.6	1" F.P.T.	16x30x2(2)
SM048-VT	24.5	33.3	54	32.4	30.6	2.8	28.3	30.4	16.5	25.9	2.9	2	7.8	3.5	15.5	5.6	13.5	2	5.9	8.1	17.8	17.8	1.4	4	17.6	15.6	1" F.P.T.	16x30x2(2)
SM060-VT	26	33.3	60.1	40.8	30.6	2.8	28.4	36.9	15.3	23.9	2.9	2	7.8	3.5	15.5	5.6	12.3	2	5.9	8.1	17.8	17.8	2	5.4	17.6	15.6	1" F.P.T.	20x30x2(2)
SM070-VT	26	33.3	60.1	40.8	30.6	2.8	28.4	36.9	15.3	23.9	2.9	2	7.8	3.5	15.5	5.6	12.3	2	5.9	8.1	17.8	17.8	2	5.4	17.6	15.6	1" F.P.T.	20x30x2(2)

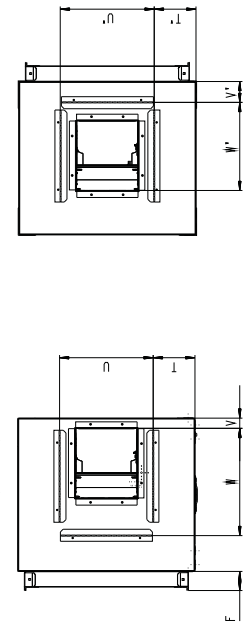
(FIELD INSTALLED
ELECTRIC HEAT KIT)



LEFT HAND RETURN SHOWN

RIGHT HAND RETURN

LEFT HAND RETURN



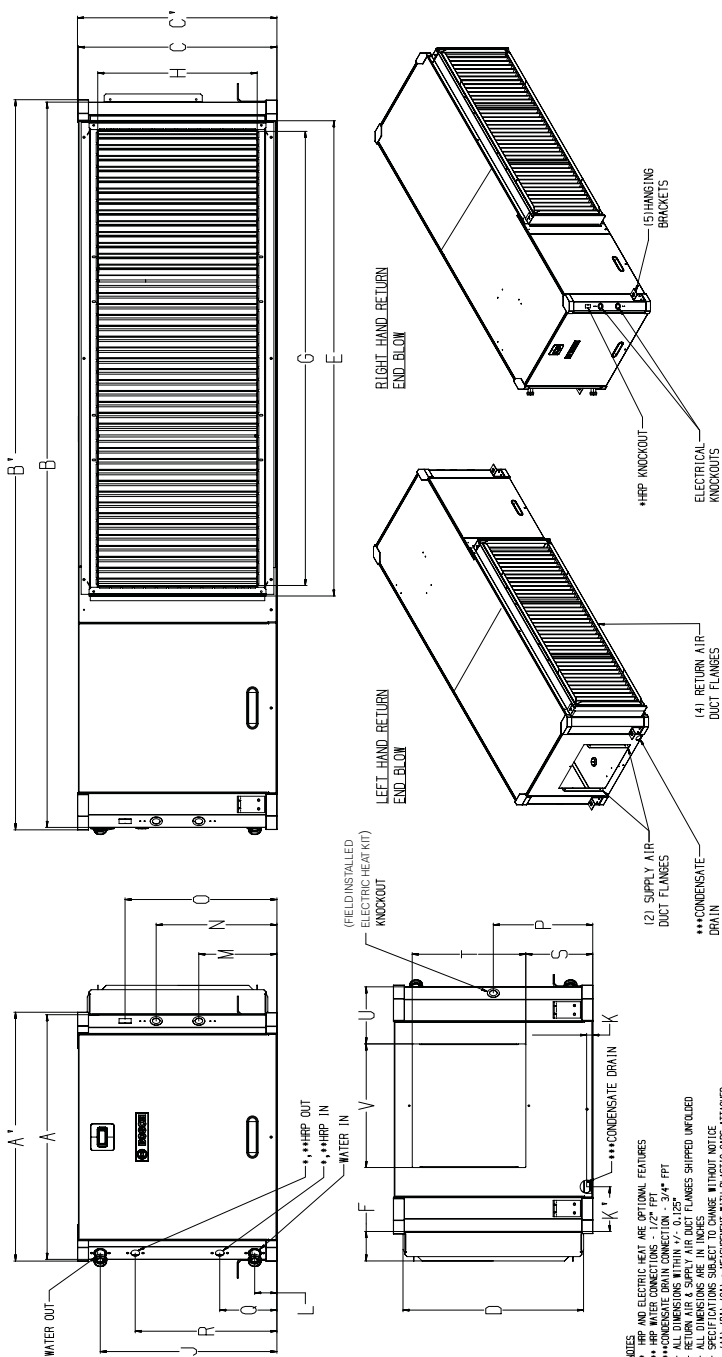
- NOTES:
- HRP & ELECTRICAL HEAT ARE OPTIONAL FEATURES
 - HRP WATER CONNECTIONS - 1/2" FPT
 - CONDENSATE DRAIN CONNECTION - 3/4" FPT
 - ALL DIMENSIONS WITHIN +/- 0.125"
 - RETURN & SUPPLY AIR DUCT FLANGES SHIPPED UNFOLDED
 - ALL DIMENSIONS ARE IN INCHES
 - SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 - SWIVEL TYPE WATER FITTINGS PROVIDES 1.5" FROM PANEL
 - UNIT SHIPPED WITH SWIVEL FITTING 1.00" FPT FOR FIELD INSTALLATION



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SM-HZ End Blow Dimensions and Connections

Model	A (A") WIDTH	B (B") DEPTH	C (C") HEIGHT	D	E	F	G	H	J	K (K") DRAIN PORT	L	M	N	O	P	Q	R	S (RH") SUPPLY	T (LH) AIR DUCT	U (LH) OPENINGS	V	WATER CONNECTIONS (S/WELL TYPE)	FILTER SIZE		
SM024-HZ	25.1 (25.5)	64.1 (64.5)	19.7 (19.8)	18.7	36.4	3.4	46.0	16.2	17.2	1.3	1.5	2.5	7.4	12.3	15.9	9.9	6.5	13.2	6.5	2.0	10.0	7.5	7.5	10.8	1" F.P.T., 18X18X2 (2)
SM036-HZ	28.0 (28.4)	76.0 (76.4)	22.7 (22.8)	20.7	48.4	3.4	46.0	18.2	20.2	1.3	1.5	2.5	8.9	13.8	17.4	11.4	6.5	16.2	7.5	2.0	11.7	9.0	7.7	13.0	1" F.P.T., 20X24X2 (2)
SM048-HZ	28.0 (28.4)	83.0 (83.4)	22.7 (22.8)	20.7	48.4	3.4	46.0	18.2	20.2	1.3	1.5	2.5	8.9	13.8	17.4	11.4	6.5	16.2	7.5	2.0	11.7	9.0	7.7	13.0	1" F.P.T., 20X24X2 (2)
SM060-HZ	28.0 (28.4)	83.0 (83.4)	22.7 (22.8)	20.7	54.4	3.4	52.0	18.3	20.2	1.3	1.5	2.5	8.9	13.8	17.4	11.4	6.5	16.2	7.5	2.0	14.2	6.5	6.5	13.0	1" F.P.T., 18X20X2 (3)
SM070-HZ	28.0 (28.4)	83.0 (83.4)	22.7 (22.8)	20.7	54.4	3.4	52.0	18.3	20.2	1.3	1.5	2.5	8.9	13.8	17.4	11.4	6.5	16.2	7.5	2.0	14.2	6.5	6.5	13.0	1" F.P.T., 18X20X2 (3)



SUPPLY AIR CONFIGURATION: END BLOW

- NOTES:
 ** HP AND ELECTRIC HEAT ARE OPTIONAL FEATURES
 *** HP WATER CONNECTIONS - 1/2" FPT
 **** CHROCHROME DRAIN CONNECTION - 3/4" FPT
 ALL DIMENSIONS ARE IN INCHES
 RETURN AIR AND SUPPLY AIR DUCT CLASSES SHIPPED UNFOILED
 SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 AIR CONFIGURATIONS: RETURN AIR DUCTS ATTACHED
 AND 0.5" TO THE HEIGHT FOR DAMPER SUPPORT RAILS NOT SHOWN
 AIR CAN BE FIELD CONVERTED BETWEEN END BLOW AND STRAIGHT THROUGH SUPPLY
 UNIT CONFIGURATIONS
 PLASMA CUT CUSTOMER SPECIFICATIONS, OPTIONS AND ACCESSORIES MAY ALTER SHOWN DIMENSIONS
 FINISH TYPE, RETURN FITTING PROTRUSALS 1/8" FROM DIST.

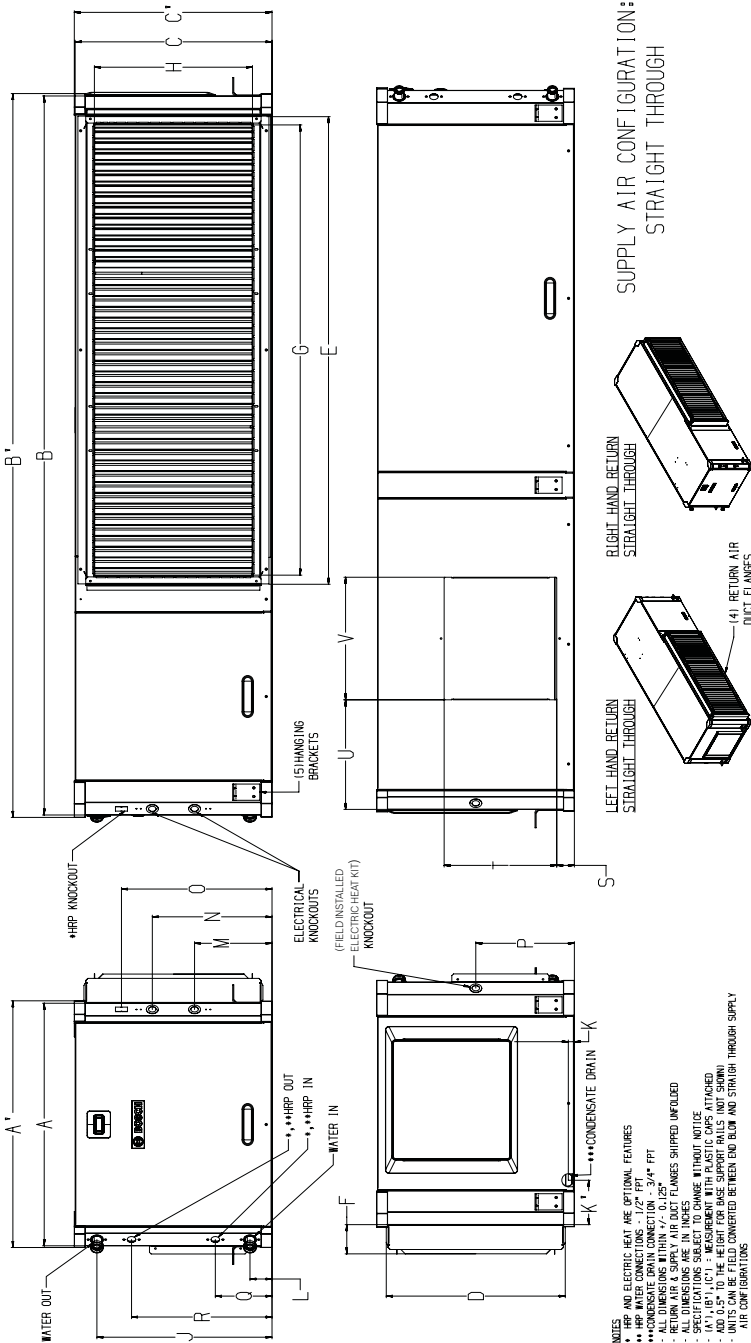
GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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SM-HZ Straight Through Dimensions and Connections

Model	A (A") WIDTH	B (B") DEPTH	C (C") HEIGHT	D	E	F	G	H	J	K	K"	L	M	N	O	P	Q	R	S (RH) S' (LH) T	U (RH) U' (LH) V	WATER CONNECTIONS (S/M VEL TYPE)	FILTER SIZE			
SM024-HZ	25.1 (25.5) 64.1 (64.5)	19.7 (19.82)	18.7 (18.82)	18.7 (18.82)	36.4 (36.4)	3.4 (3.4)	34.0 (34.0)	16.2 (16.2)	17.2 (17.2)	1.3 (1.3)	15.1 (15.1)	2.5 (2.5)	7.4 (7.4)	12.3 (12.3)	15.9 (15.9)	9.9 (9.9)	6.5 (6.5)	13.2 (13.2)	2.0 (2.0)	6.5 (6.5)	10.0 (10.0)	11.8 (11.8)	10.8 (10.8)	1" F.P.T.	18X18X2 (2)
SM036-HZ	28.0 (28.4) 66.1 (66.5)	22.7 (22.82)	20.7 (20.7)	22.7 (22.82)	40.4 (40.4)	3.4 (3.4)	46.0 (46.0)	18.2 (18.2)	20.2 (20.2)	1.3 (1.3)	15.1 (15.1)	2.5 (2.5)	8.9 (8.9)	13.8 (13.8)	17.4 (17.4)	11.4 (11.4)	6.5 (6.5)	16.2 (16.2)	2.0 (2.0)	7.5 (7.5)	11.7 (11.7)	12.9 (12.9)	13.0 (13.0)	1" F.P.T.	20X24X2 (2)
SM048-HZ	28.0 (28.4) 76.0 (76.4)	22.7 (22.82)	20.7 (20.7)	22.7 (22.82)	48.4 (48.4)	3.4 (3.4)	46.0 (46.0)	18.2 (18.2)	20.2 (20.2)	1.3 (1.3)	15.1 (15.1)	2.5 (2.5)	8.9 (8.9)	13.8 (13.8)	17.4 (17.4)	11.4 (11.4)	6.5 (6.5)	16.2 (16.2)	2.0 (2.0)	7.5 (7.5)	11.7 (11.7)	12.9 (12.9)	13.0 (13.0)	1" F.P.T.	20X24X2 (2)
SM060-HZ	28.0 (28.4) 83.0 (83.4)	22.7 (22.82)	20.7 (20.7)	22.7 (22.82)	50.4 (50.4)	3.4 (3.4)	52.0 (52.0)	18.3 (18.3)	20.2 (20.2)	1.3 (1.3)	15.1 (15.1)	2.5 (2.5)	8.9 (8.9)	13.8 (13.8)	17.4 (17.4)	11.4 (11.4)	6.5 (6.5)	16.2 (16.2)	2.0 (2.0)	7.5 (7.5)	14.2 (14.2)	15.1 (15.1)	13.0 (13.0)	1" F.P.T.	18X20X2 (3)
SM070-HZ	28.0 (28.4) 83.0 (83.4)	22.7 (22.82)	20.7 (20.7)	22.7 (22.82)	50.4 (50.4)	3.4 (3.4)	52.0 (52.0)	18.3 (18.3)	20.2 (20.2)	1.3 (1.3)	15.1 (15.1)	2.5 (2.5)	8.9 (8.9)	13.8 (13.8)	17.4 (17.4)	11.4 (11.4)	6.5 (6.5)	16.2 (16.2)	2.0 (2.0)	7.5 (7.5)	14.2 (14.2)	15.1 (15.1)	13.0 (13.0)	1" F.P.T.	18X20X2 (3)

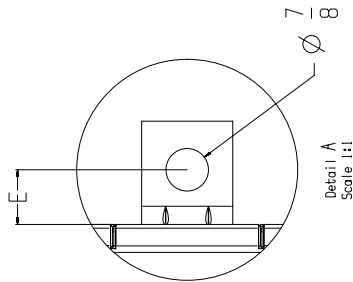


NOTES:
 • HRP AND ELECTRICAL HEAT ARE OPTIONAL FEATURES
 • HRP WATER CONNECTIONS - 1/2" FPT
 • CONDENSATE DRAIN CONNECTION - 3/4" FPT
 • ALL DIMENSIONS ARE IN INCHES
 • RETURN AIR & SUPPLY AIR DUCT FLANGES SHIPPED UNFLEATED
 • SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 • UNITS CAN BE FIELD CONVERTED BETWEEN END BLow AND STRAIGHT THROUGH SUPPLY
 • AIR CONFIGURATION FEATURES, OPTIONS AND ACCESSORIES MAY ALTER SHOWN DIMENSIONS
 • PLEASE CONTACT CUSTOMER SERVICE FOR FURTHER INFORMATION
 • SNAIL TYPE WATER FITTING PROVIDES 1.5" FROM POST



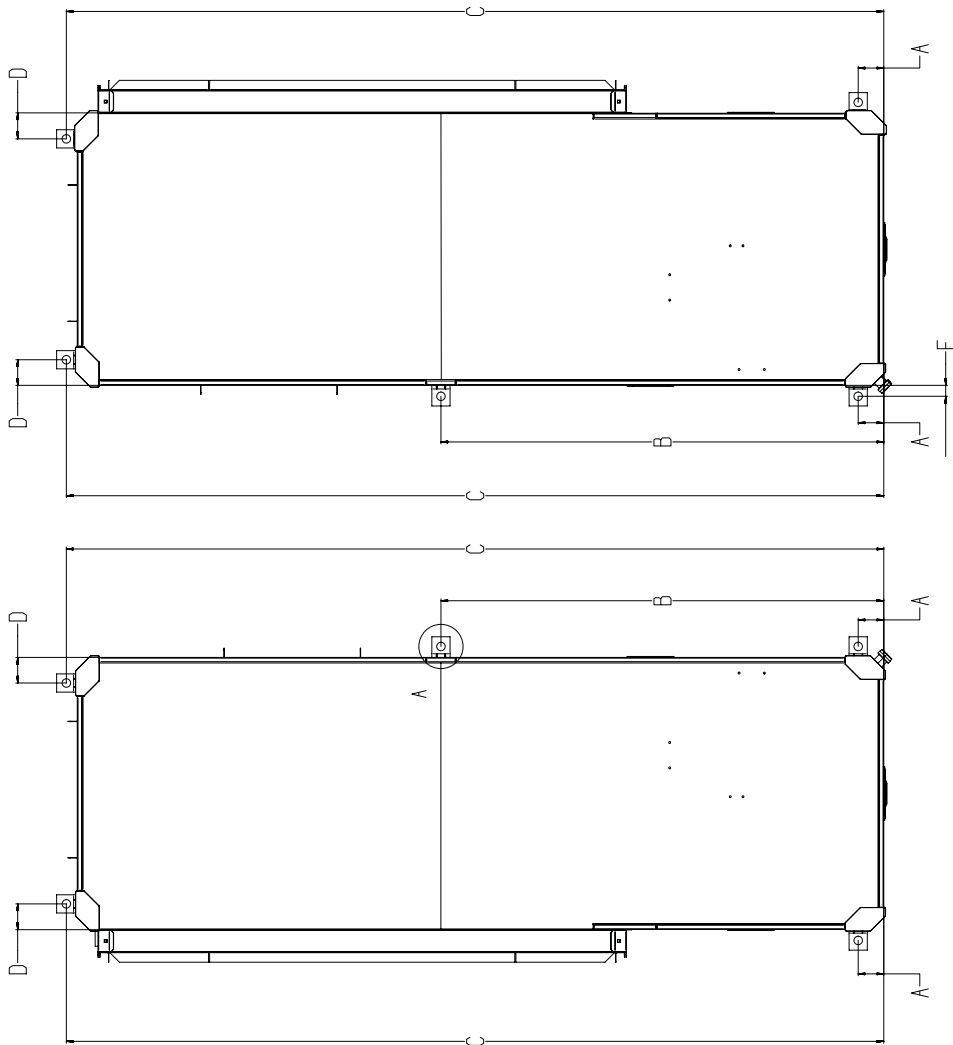
SM-HZ Hanging Bracket Dimensions and Connections

Model	A	B	C	D	E
SM024-HZ	2.634	32.817	65.225	2.634	1.125
SM036-HZ	2.634	33.972	77.125	2.634	1.125
SM048-HZ	2.634	33.972	77.125	2.634	1.125
SM060-HZ	2.634	45.573	84.125	2.634	1.125
SM070-HZ	2.634	45.573	84.125	2.634	1.125



NOTES
 -ALL DIMENSIONS WITHIN +/- 0.125"
 -ALL DIMENSIONS ARE IN INCHES
 -SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 -DIMENSION "E" IS TYPICAL FOR ALL MODELS,
 CONFIGURATION AND BRACKET POSITIONS

HANGING BRACKET LOCATION SPECIFICATIONS



GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 HZ Full Load Cooling Performance Data - 930 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	3	0.7	75/63	26.4	21.6	31.2	1.4	19.0
			80/67	28.1	22.2	32.9	1.4	19.8
			85/71	29.7	22.9	34.7	1.4	20.6
	4.5	1.2	75/63	27.5	21.9	31.9	1.3	21.2
			80/67	29.2	22.6	33.7	1.3	22.1
			85/71	30.9	23.2	35.6	1.3	23.2
	6	2.4	75/63	28.0	22.2	32.3	1.2	22.4
			80/67	29.7	22.8	34.1	1.3	23.5
			85/71	31.6	23.6	36.0	1.3	24.8
60	3	0.7	75/63	25.3	21.0	30.4	1.5	16.7
			80/67	26.8	21.7	32.0	1.5	17.4
			85/71	28.4	22.5	33.7	1.6	18.2
	4.5	1.2	75/63	26.2	21.4	31.0	1.4	18.5
			80/67	27.8	22.1	32.8	1.4	19.4
			85/71	29.6	22.7	34.6	1.5	20.3
	6	2.4	75/63	26.7	21.6	31.4	1.4	19.5
			80/67	28.4	22.4	33.1	1.4	20.5
			85/71	30.2	22.9	35.0	1.4	21.6
70	3	0.7	75/63	24.0	20.7	29.6	1.6	14.6
			80/67	25.5	21.2	31.2	1.7	15.3
			85/71	27.0	22.0	32.8	1.7	16.0
	4.5	1.2	75/63	24.9	21.0	30.2	1.5	16.1
			80/67	26.5	21.7	31.8	1.6	17.0
			85/71	28.2	22.2	33.6	1.6	17.8
	6	2.3	75/63	25.4	21.2	30.5	1.5	17.0
			80/67	27.1	21.8	32.2	1.5	17.9
			85/71	28.8	22.5	34.0	1.5	18.9
80	3	0.7	75/63	22.8	20.0	28.8	1.8	12.8
			80/67	24.2	20.7	30.3	1.8	13.4
			85/71	25.7	21.3	31.9	1.8	14.0
	4.5	1.2	75/63	23.7	20.4	29.3	1.7	14.1
			80/67	25.2	21.2	30.9	1.7	14.8
			85/71	26.8	21.8	32.6	1.7	15.6
	6	2.3	75/63	24.1	20.7	29.6	1.6	14.7
			80/67	25.7	21.3	31.3	1.7	15.6
			85/71	27.3	22.1	33.0	1.7	16.4
90	3	0.7	75/63	21.6	19.5	28.1	2.0	11.0
			80/67	22.9	20.2	29.5	2.0	11.6
			85/71	24.3	21.1	31.0	2.0	12.2
	4.5	1.2	75/63	22.3	20.0	28.5	1.8	12.1
			80/67	23.8	20.7	30.1	1.9	12.8
			85/71	25.3	21.3	31.7	1.9	13.5
	6	2.2	75/63	22.8	20.0	28.8	1.8	12.7
			80/67	24.3	20.9	30.3	1.8	13.5
			85/71	25.8	21.6	32.0	1.8	14.2
100	3	0.6	75/63	20.3	19.1	27.4	2.1	9.5
			80/67	21.6	19.9	28.8	2.2	10.0
			85/71	23.0	20.5	30.3	2.2	10.5
	4.5	1.2	75/63	21.0	19.4	27.8	2.0	10.4
			80/67	22.5	20.1	29.3	2.0	11.0
			85/71	24.0	20.8	30.8	2.1	11.7
	6	2.1	75/63	21.4	19.5	28.0	2.0	10.9
			80/67	22.9	20.2	29.5	2.0	11.6
			85/71	24.4	20.9	31.1	2.0	12.3
110	3	0.6	75/63	19.0	18.7	26.9	2.4	8.1
			80/67	20.3	19.3	28.2	2.4	8.5
			85/71	21.6	20.0	29.6	2.4	9.0
	4.5	1.2	75/63	19.7	18.9	27.1	2.2	8.8
			80/67	21.1	19.7	28.6	2.2	9.4
			85/71	22.5	20.5	30.1	2.3	10.0
	6	2.1	75/63	20.1	19.1	27.3	2.2	9.2
			80/67	21.5	19.8	28.8	2.2	9.8
			85/71	22.9	20.6	30.3	2.2	10.5

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 HZ Full Load Heating Performance Data - 930 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	0.7	60	17.7	14.0	1.4	3.71
		70	17.5	12.7	1.5	3.35
		80	17.4	12.2	1.7	3.02
	1.2	60	18.9	14.5	1.4	3.91
		70	18.5	13.8	1.6	3.49
		80	18.2	13.0	1.7	3.14
	2.5	60	19.4	15.2	1.4	3.99
		70	19.0	14.3	1.6	3.57
		80	18.7	13.4	1.7	3.21
40	0.7	60	20.1	16.4	1.4	4.09
		70	19.7	15.2	1.6	3.66
		80	19.6	14.2	1.7	3.32
	1.2	60	21.5	17.5	1.5	4.31
		70	20.9	15.9	1.6	3.84
		80	20.3	15.1	1.7	3.41
	2.5	60	21.4	16.9	1.5	4.29
		70	21.5	16.6	1.6	3.92
		80	21.1	15.8	1.8	3.51
50	0.7	60	22.6	18.5	1.5	4.46
		70	21.8	16.9	1.6	3.95
		80	21.3	15.9	1.8	3.54
	1.2	60	24.0	20.1	1.5	4.65
		70	23.0	18.3	1.6	4.11
		80	22.5	16.7	1.8	3.69
	2.4	60	24.8	20.5	1.5	4.77
		70	23.7	18.6	1.7	4.21
		80	23.9	18.4	1.8	3.86
60	0.7	60	24.9	20.4	1.5	4.77
		70	24.5	19.2	1.7	4.3
		80	24.4	19.0	1.8	3.91
	1.2	60	26.7	21.9	1.6	5.03
		70	26.4	21.4	1.7	4.54
		80	25.2	19.7	1.8	4.01
	2.4	60	27.7	22.4	1.6	5.16
		70	26.9	22.3	1.7	4.59
		80	26.7	21.3	1.9	4.19
70	0.7	60	27.8	22.8	1.6	5.16
		70	28.0	22.9	1.7	4.76
		80	27.1	21.6	1.9	4.24
	1.2	60	30.2	25.7	1.6	5.48
		70	29.0	23.6	1.7	4.87
		80	28.8	22.7	1.9	4.44
	2.3	60	30.7	25.8	1.6	5.52
		70	30.4	25.3	1.8	5.05
		80	29.7	24.8	1.9	4.54
80	0.7	60	31.3	26.8	1.6	5.61
		70	30.0	24.8	1.8	4.99
		80	30.0	24.2	1.9	4.59
	1.2	60	33.1	27.8	1.7	5.84
		70	32.7	26.8	1.8	5.33
		80	31.9	26.4	2.0	4.78
	2.3	60	34.1	29.6	1.7	5.94
		70	33.9	29.0	1.8	5.45
		80	32.5	26.8	2.0	4.85

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 HZ Part Load Cooling Performance Data - 750 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	3	0.7	75/63	20.6	17.1	23.7	0.9	23.1
			80/67	22.0	17.7	25.0	0.9	24.8
			85/71	23.3	18.2	26.4	0.9	26.5
	4.5	1.2	75/63	21.3	17.4	24.2	0.8	25.3
			80/67	22.7	17.9	25.6	0.8	27.3
			85/71	24.1	18.4	27.0	0.8	29.4
	6	2.4	75/63	21.6	17.6	24.4	0.8	26.5
			80/67	23.0	18.1	25.9	0.8	28.7
			85/71	24.5	18.6	27.3	0.8	31.0
60	3	0.7	75/63	19.6	16.7	23.0	1.0	19.7
			80/67	20.8	17.3	24.2	1.0	21.1
			85/71	22.1	17.9	25.5	1.0	22.6
	4.5	1.2	75/63	20.2	16.9	23.4	0.9	21.7
			80/67	21.6	17.5	24.7	0.9	23.4
			85/71	22.9	18.1	26.1	0.9	25.1
	6	2.4	75/63	20.5	17.1	23.6	0.9	22.7
			80/67	21.9	17.6	25.0	0.9	24.6
			85/71	23.3	18.3	26.4	0.9	26.5
70	3	0.7	75/63	18.5	16.3	22.2	1.1	16.7
			80/67	19.7	16.8	23.5	1.1	17.9
			85/71	20.9	17.5	24.7	1.1	19.1
	4.5	1.2	75/63	19.1	16.5	22.6	1.0	18.3
			80/67	20.4	17.2	23.9	1.0	19.7
			85/71	21.7	17.6	25.2	1.0	21.2
	6	2.3	75/63	19.4	16.6	22.8	1.0	19.2
			80/67	20.7	17.3	24.1	1.0	20.7
			85/71	22.1	17.8	25.5	1.0	22.4
80	3	0.7	75/63	17.4	15.8	21.6	1.2	14.1
			80/67	18.6	16.4	22.7	1.2	15.0
			85/71	19.7	17.1	23.9	1.2	16.0
	4.5	1.2	75/63	18.0	16.0	21.9	1.2	15.4
			80/67	19.2	16.6	23.1	1.2	16.5
			85/71	20.5	17.2	24.4	1.2	17.8
	6	2.3	75/63	18.3	16.1	22.1	1.1	16.1
			80/67	19.5	16.7	23.3	1.1	17.4
			85/71	20.8	17.4	24.6	1.1	18.7
90	3	0.7	75/63	16.3	15.4	20.9	1.4	11.7
			80/67	17.4	16.0	22.1	1.4	12.5
			85/71	18.5	16.7	23.2	1.4	13.3
	4.5	1.2	75/63	16.8	15.6	21.2	1.3	12.8
			80/67	18.0	16.2	22.4	1.3	13.8
			85/71	19.2	16.8	23.6	1.3	14.8
	6	2.2	75/63	17.1	15.7	21.4	1.3	13.3
			80/67	18.3	16.3	22.6	1.3	14.4
			85/71	19.5	17.0	23.8	1.3	15.5
100	3	0.6	75/63	15.3	15.0	20.4	1.6	9.8
			80/67	16.3	15.7	21.4	1.6	10.4
			85/71	17.3	16.2	22.5	1.6	11.1
	4.5	1.2	75/63	15.7	15.2	20.6	1.5	10.6
			80/67	16.8	15.8	21.7	1.5	11.4
			85/71	18.0	16.3	22.9	1.5	12.2
	6	2.1	75/63	16.0	15.2	20.7	1.4	11.0
			80/67	17.1	15.9	21.8	1.4	11.9
			85/71	18.2	16.6	23.0	1.4	12.7
110	3	0.6	75/63	14.4	14.4	20.0	1.7	8.3
			80/67	15.2	15.2	20.9	1.7	8.7
			85/71	16.2	15.8	21.9	1.8	9.2
	4.5	1.2	75/63	14.6	14.6	20.1	1.7	8.8
			80/67	15.6	15.4	21.1	1.7	9.4
			85/71	16.7	15.9	22.2	1.7	10.0
	6	2.1	75/63	14.8	14.8	20.1	1.6	9.0
			80/67	15.9	15.5	21.2	1.6	9.7
			85/71	17.0	16.0	22.3	1.6	10.5

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 HZ Part Load Heating Performance Data - 750 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	0.7	60	13.3	10.3	1.0	3.75
		70	12.9	9.6	1.2	3.25
		80	12.5	8.8	1.3	2.84
	1.2	60	13.9	10.8	1.0	3.9
		70	13.4	10.1	1.2	3.38
		80	13.0	9.2	1.3	2.95
	2.5	60	14.2	11.2	1.0	3.99
		70	13.7	10.3	1.2	3.45
		80	13.3	9.5	1.3	3
40	0.7	60	15.2	12.2	1.1	4.24
		70	14.9	11.5	1.2	3.71
		80	14.5	10.7	1.3	3.25
	1.2	60	16.0	13.0	1.1	4.44
		70	15.6	12.2	1.2	3.87
		80	15.2	11.3	1.3	3.39
	2.5	60	16.5	13.4	1.1	4.56
		70	16.0	12.5	1.2	3.97
		80	15.5	11.7	1.3	3.46
50	0.7	60	17.4	14.2	1.1	4.79
		70	16.9	13.5	1.2	4.17
		80	16.6	12.7	1.3	3.69
	1.2	60	18.2	15.3	1.1	5
		70	17.8	14.3	1.2	4.38
		80	17.4	13.5	1.3	3.85
	2.4	60	18.8	15.8	1.1	5.16
		70	18.3	14.8	1.2	4.5
		80	17.8	13.9	1.3	3.94
60	0.7	60	19.3	16.2	1.1	5.28
		70	18.9	15.5	1.2	4.64
		80	18.6	14.7	1.3	4.1
	1.2	60	20.6	17.3	1.1	5.63
		70	20.0	16.6	1.2	4.9
		80	19.5	15.8	1.3	4.29
	2.4	60	21.3	18.2	1.1	5.82
		70	20.6	17.2	1.2	5.05
		80	20.1	16.2	1.3	4.41
70	0.7	60	21.1	17.8	1.1	5.78
		70	21.4	17.7	1.2	5.24
		80	20.6	16.3	1.3	4.52
	1.2	60	22.7	19.7	1.1	6.2
		70	21.6	18.0	1.2	5.29
		80	21.8	17.9	1.3	4.76
	2.3	60	23.3	20.1	1.1	6.38
		70	23.0	19.6	1.2	5.62
		80	22.4	18.7	1.3	4.89
80	0.7	60	23.8	21.2	1.1	6.52
		70	23.2	20.1	1.2	5.67
		80	22.9	18.6	1.3	5
	1.2	60	25.1	22.7	1.1	6.89
		70	24.6	21.0	1.2	6.02
		80	24.2	19.8	1.3	5.3
	2.3	60	26.0	22.6	1.1	7.15
		70	25.5	21.6	1.2	6.27
		80	24.9	21.0	1.3	5.45

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 HZ Full Load Cooling Performance Data - 1300 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	4.5	1.2	75/63	40.7	31.7	47.3	1.9	20.9
			80/67	43.2	32.8	50.1	2.0	21.8
			85/71	46.0	33.5	53.0	2.0	22.6
	7	2.5	75/63	42.0	32.3	48.4	1.9	22.7
			80/67	44.7	33.4	51.3	1.9	23.6
			85/71	47.7	34.2	54.4	1.9	24.6
	9	3.9	75/63	42.6	32.5	48.8	1.8	23.4
			80/67	45.4	33.6	51.8	1.9	24.4
			85/71	48.4	34.4	55.0	1.9	25.3
60	4.5	1.2	75/63	38.9	31.0	46.1	2.1	18.6
			80/67	41.4	32.1	48.7	2.1	19.5
			85/71	44.0	33.1	51.5	2.2	20.3
	7	2.5	75/63	40.2	31.6	47.0	2.0	20.3
			80/67	42.9	32.5	49.8	2.0	21.3
			85/71	45.7	33.4	52.8	2.1	22.3
	9	3.8	75/63	40.7	31.9	47.3	1.9	21.0
			80/67	43.5	32.7	50.3	2.0	22.0
			85/71	46.4	33.7	53.3	2.0	23.0
70	4.5	1.1	75/63	37.2	30.3	44.9	2.3	16.4
			80/67	39.5	31.4	47.4	2.3	17.2
			85/71	42.1	32.1	50.1	2.3	18.0
	7	2.4	75/63	38.3	30.9	45.7	2.1	17.9
			80/67	41.0	31.8	48.4	2.2	18.9
			85/71	43.7	32.7	51.2	2.2	19.8
	9	3.8	75/63	38.8	31.1	46.0	2.1	18.5
			80/67	41.5	32.0	48.8	2.1	19.6
			85/71	44.3	32.9	51.7	2.2	20.6
80	4.5	1.1	75/63	35.4	29.5	43.8	2.5	14.2
			80/67	37.7	30.5	46.2	2.5	15.0
			85/71	40.0	31.7	48.7	2.5	15.7
	7	2.4	75/63	36.5	30.0	44.5	2.3	15.6
			80/67	39.0	31.2	47.0	2.4	16.5
			85/71	41.6	32.0	49.8	2.4	17.4
	9	3.7	75/63	37.0	30.2	44.7	2.3	16.1
			80/67	39.5	31.4	47.4	2.3	17.1
			85/71	42.1	32.4	50.1	2.3	18.1
90	4.5	1.1	75/63	33.5	29.0	42.7	2.7	12.3
			80/67	35.7	30.0	45.1	2.8	12.9
			85/71	38.1	30.8	47.6	2.8	13.6
	7	2.4	75/63	34.6	29.4	43.3	2.6	13.4
			80/67	37.0	30.5	45.8	2.6	14.2
			85/71	39.5	31.2	48.4	2.6	15.1
	9	3.6	75/63	35.0	29.2	43.5	2.5	13.8
			80/67	37.4	30.6	46.1	2.5	14.7
			85/71	40.1	31.4	48.7	2.6	15.7
100	4.5	1.1	75/63	31.7	28.2	41.8	3.0	10.5
			80/67	33.9	29.1	44.2	3.0	11.1
			85/71	36.1	30.1	46.5	3.1	11.8
	7	2.3	75/63	32.7	28.5	42.3	2.9	11.4
			80/67	35.0	29.5	44.7	2.9	12.2
			85/71	37.3	30.7	47.1	2.9	12.9
	9	3.6	75/63	32.9	28.8	42.4	2.8	11.7
			80/67	35.4	29.4	44.9	2.8	12.5
			85/71	37.8	30.9	47.4	2.8	13.4
110	4.5	1.1	75/63	29.8	27.5	41.0	3.3	8.9
			80/67	31.9	28.6	43.2	3.4	9.5
			85/71	34.0	29.6	45.5	3.4	10.0
	7	2.2	75/63	30.7	27.9	41.4	3.2	9.7
			80/67	33.0	28.8	43.7	3.2	10.3
			85/71	35.2	29.8	46.1	3.2	11.0
	9	3.5	75/63	31.1	28.0	41.6	3.1	10.0
			80/67	33.4	28.9	43.9	3.1	10.7
			85/71	35.6	29.9	46.3	3.1	11.3

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 HZ Full Load Heating Performance Data - 1300 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	1.2	60	26.9	20.9	1.9	4.12
		70	26.4	19.8	2.1	3.65
		80	26.1	18.6	2.3	3.26
	2.6	60	28.3	22.3	1.9	4.29
		70	27.8	21.1	2.1	3.79
		80	27.4	19.6	2.4	3.38
	4.1	60	29.0	23.0	1.9	4.36
		70	28.4	21.7	2.2	3.86
		80	27.9	19.9	2.4	3.43
40	1.2	60	30.7	24.5	2.0	4.54
		70	30.1	23.3	2.2	4.03
		80	29.6	22.0	2.4	3.58
	2.6	60	32.5	26.3	2.0	4.74
		70	31.8	24.9	2.2	4.2
		80	31.1	23.5	2.5	3.72
	4.0	60	33.4	27.1	2.0	4.82
		70	32.6	25.6	2.2	4.27
		80	31.8	24.1	2.5	3.78
50	1.2	60	34.7	28.3	2.1	4.96
		70	34.0	26.9	2.3	4.41
		80	33.4	25.5	2.5	3.92
	2.5	60	37.0	30.5	2.1	5.17
		70	36.0	29.0	2.3	4.58
		80	35.3	27.4	2.5	4.09
	3.9	60	38.0	31.5	2.1	5.27
		70	37.0	29.8	2.3	4.68
		80	36.1	28.2	2.5	4.16
60	1.2	60	38.9	32.3	2.1	5.35
		70	38.1	30.8	2.3	4.78
		80	37.4	29.3	2.6	4.27
	2.5	60	41.6	34.9	2.2	5.59
		70	40.7	32.9	2.4	5.01
		80	39.7	31.5	2.6	4.46
	3.8	60	42.9	36.1	2.2	5.7
		70	41.7	34.3	2.4	5.09
		80	40.7	32.7	2.6	4.54
70	1.1	60	43.3	36.5	2.2	5.74
		70	42.4	34.9	2.4	5.15
		80	41.6	33.1	2.6	4.61
	2.4	60	46.5	39.6	2.3	6.01
		70	45.4	37.7	2.5	5.39
		80	44.3	35.9	2.7	4.81
	3.8	60	48.0	41.0	2.3	6.12
		70	46.7	39.0	2.5	5.49
		80	45.6	36.6	2.7	4.92
80	1.1	60	47.9	40.9	2.3	6.12
		70	46.9	39.2	2.5	5.5
		80	45.9	37.1	2.7	4.94
	2.4	60	51.7	44.4	2.4	6.39
		70	50.3	42.4	2.6	5.76
		80	49.1	40.0	2.8	5.17
	3.7	60	53.4	46.0	2.4	6.51
		70	51.9	43.9	2.6	5.86
		80	50.5	41.8	2.8	5.25

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 HZ Part Load Cooling Performance Data - 1080 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	4.5	1.2	75/63	30.5	24.8	34.6	1.2	25.8
			80/67	32.6	25.8	36.6	1.2	27.9
			85/71	34.7	26.6	38.7	1.2	30.1
	7	2.5	75/63	31.4	25.2	35.3	1.1	27.8
			80/67	33.5	26.1	37.4	1.1	30.2
			85/71	35.8	26.9	39.6	1.1	33.0
	9	3.9	75/63	31.7	25.3	35.6	1.1	28.5
			80/67	33.9	26.3	37.7	1.1	31.2
			85/71	36.3	26.9	40.0	1.1	34.2
60	4.5	1.2	75/63	29.0	24.3	33.5	1.3	22.3
			80/67	31.0	25.2	35.5	1.3	24.0
			85/71	33.1	26.0	37.5	1.3	25.9
	7	2.5	75/63	29.9	24.6	34.1	1.2	24.2
			80/67	31.9	25.5	36.1	1.2	26.3
			85/71	34.1	26.4	38.2	1.2	28.5
	9	3.8	75/63	30.2	24.7	34.4	1.2	25.0
			80/67	32.3	25.6	36.4	1.2	27.2
			85/71	34.5	26.5	38.6	1.2	29.7
70	4.5	1.1	75/63	27.6	23.6	32.5	1.5	19.0
			80/67	29.5	24.6	34.4	1.4	20.4
			85/71	31.5	25.3	36.4	1.4	21.9
	7	2.4	75/63	28.3	24.0	33.0	1.4	20.7
			80/67	30.4	24.8	35.0	1.4	22.4
			85/71	32.4	25.8	37.0	1.3	24.2
	9	3.8	75/63	28.6	24.2	33.2	1.3	21.4
			80/67	30.7	24.9	35.3	1.3	23.3
			85/71	32.8	25.9	37.3	1.3	25.2
80	4.5	1.1	75/63	26.1	23.0	31.6	1.6	15.9
			80/67	27.9	24.0	33.4	1.6	17.1
			85/71	29.7	24.9	35.3	1.6	18.3
	7	2.4	75/63	26.8	23.3	32.0	1.5	17.4
			80/67	28.7	24.3	33.9	1.5	18.7
			85/71	30.7	25.2	35.9	1.5	20.2
	9	3.7	75/63	27.1	23.4	32.2	1.5	17.9
			80/67	29.0	24.4	34.1	1.5	19.5
			85/71	31.1	25.3	36.1	1.5	21.1
90	4.5	1.1	75/63	24.5	22.5	30.7	1.9	13.2
			80/67	26.2	23.4	32.5	1.9	14.2
			85/71	28.0	24.3	34.3	1.9	15.2
	7	2.4	75/63	25.2	22.8	31.1	1.8	14.4
			80/67	27.0	23.7	32.9	1.7	15.5
			85/71	28.9	24.6	34.8	1.7	16.7
	9	3.6	75/63	25.5	22.8	31.2	1.7	14.8
			80/67	27.3	23.8	33.1	1.7	16.1
			85/71	29.3	24.5	35.1	1.7	17.4
100	4.5	1.1	75/63	22.9	21.8	29.9	2.1	10.9
			80/67	24.6	22.8	31.7	2.1	11.7
			85/71	26.3	23.7	33.4	2.1	12.5
	7	2.3	75/63	23.6	22.0	30.2	2.0	11.8
			80/67	25.4	22.9	32.0	2.0	12.8
			85/71	27.2	23.8	33.9	2.0	13.8
	9	3.6	75/63	23.8	22.1	30.4	2.0	12.2
			80/67	25.6	23.1	32.2	1.9	13.2
			85/71	27.5	23.9	34.0	1.9	14.3
110	4.5	1.1	75/63	21.4	21.2	29.3	2.4	9.0
			80/67	23.0	22.1	31.0	2.4	9.7
			85/71	24.6	23.1	32.6	2.4	10.4
	7	2.2	75/63	22.0	21.3	29.6	2.3	9.7
			80/67	23.7	22.3	31.2	2.3	10.4
			85/71	25.3	23.4	32.9	2.3	11.2
	9	3.5	75/63	22.2	21.5	29.6	2.2	9.9
			80/67	23.9	22.5	31.3	2.2	10.7
			85/71	25.6	23.5	33.1	2.2	11.6

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 HZ Part Load Heating Performance Data - 1080 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	1.2	60	19.4	15.2	1.4	4.02
		70	18.8	14.0	1.6	3.49
		80	18.4	12.8	1.8	3.04
	2.6	60	20.1	15.6	1.4	4.16
		70	19.6	14.7	1.6	3.63
		80	19.2	13.4	1.8	3.16
	4.1	60	20.4	16.1	1.4	4.21
		70	20.0	15.6	1.6	3.7
		80	19.3	13.9	1.8	3.18
40	1.2	60	22.5	17.8	1.4	4.62
		70	21.7	16.8	1.6	3.99
		80	21.4	15.5	1.8	3.51
	2.6	60	23.5	18.9	1.4	4.83
		70	22.9	18.0	1.6	4.22
		80	22.1	16.4	1.8	3.63
	4.0	60	24.0	19.4	1.4	4.92
		70	23.1	18.0	1.6	4.25
		80	22.6	16.9	1.8	3.71
50	1.2	60	25.5	21.3	1.4	5.21
		70	25.1	19.8	1.6	4.59
		80	24.4	18.8	1.8	4
	2.5	60	27.1	22.4	1.4	5.52
		70	26.1	21.0	1.6	4.78
		80	25.4	19.0	1.8	4.15
	3.9	60	27.5	23.0	1.4	5.61
		70	26.6	21.8	1.6	4.86
		80	25.9	20.2	1.8	4.22
60	1.2	60	29.0	24.4	1.4	5.9
		70	28.2	23.2	1.6	5.13
		80	27.5	21.8	1.8	4.46
	2.5	60	30.6	26.1	1.4	6.21
		70	29.7	24.7	1.6	5.39
		80	28.9	23.3	1.8	4.67
	3.8	60	31.3	26.8	1.4	6.36
		70	30.3	25.3	1.6	5.5
		80	29.4	23.9	1.8	4.75
70	1.1	60	32.5	27.9	1.4	6.59
		70	31.6	26.6	1.6	5.71
		80	30.9	25.2	1.8	4.97
	2.4	60	34.4	30.0	1.4	6.97
		70	33.4	28.3	1.6	6.03
		80	32.5	26.9	1.8	5.21
	3.8	60	35.3	30.8	1.4	7.14
		70	34.2	29.3	1.6	6.16
		80	33.3	27.6	1.8	5.34
80	1.1	60	36.1	31.6	1.4	7.31
		70	35.2	30.2	1.6	6.33
		80	34.3	28.6	1.8	5.49
	2.4	60	38.3	34.1	1.4	7.77
		70	37.2	32.5	1.6	6.68
		80	36.2	30.6	1.8	5.77
	3.7	60	39.3	35.1	1.4	7.98
		70	38.2	33.3	1.6	6.86
		80	37.1	31.4	1.8	5.89

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM048 HZ Full Load Cooling Performance Data - 1580 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	6	1.0	75/63	50.8	39.5	60.0	2.7	18.8
			80/67	54.0	40.7	63.4	2.7	19.7
			85/71	57.4	41.4	66.9	2.8	20.7
	9	2.1	75/63	52.7	40.4	61.3	2.5	21.1
			80/67	56.2	41.4	64.9	2.5	22.3
			85/71	59.8	42.3	68.6	2.5	23.5
	12	3.5	75/63	53.8	40.6	62.1	2.4	22.4
			80/67	57.3	41.9	65.7	2.4	23.7
			85/71	61.1	42.8	69.5	2.4	25.1
60	6	1.0	75/63	48.4	38.6	58.5	3.0	16.4
			80/67	51.6	39.7	61.8	3.0	17.2
			85/71	54.9	40.5	65.2	3.0	18.1
	9	2.1	75/63	50.4	39.3	59.8	2.7	18.4
			80/67	53.8	40.3	63.3	2.8	19.4
			85/71	57.1	41.6	66.8	2.8	20.5
	12	3.4	75/63	51.4	39.7	60.4	2.6	19.5
			80/67	54.9	40.7	64.0	2.7	20.7
			85/71	58.4	42.0	67.6	2.7	21.9
70	6	1.0	75/63	46.1	37.5	57.2	3.2	14.2
			80/67	49.1	38.7	60.3	3.3	15.0
			85/71	52.3	39.6	63.7	3.3	15.7
	9	2.0	75/63	48.1	38.1	58.3	3.0	15.9
			80/67	51.3	39.3	61.6	3.0	16.9
			85/71	54.5	40.7	65.0	3.1	17.8
	12	3.4	75/63	49.0	38.5	58.9	2.9	16.9
			80/67	52.3	40.0	62.3	2.9	17.9
			85/71	55.7	41.1	65.8	2.9	19.0
80	6	1.0	75/63	43.8	36.3	55.9	3.6	12.3
			80/67	46.6	37.8	58.9	3.6	12.9
			85/71	49.6	39.0	62.1	3.7	13.5
	9	2.0	75/63	45.6	37.0	56.8	3.3	13.7
			80/67	48.7	38.3	60.1	3.4	14.5
			85/71	51.8	39.7	63.3	3.4	15.3
	12	3.3	75/63	46.5	37.4	57.4	3.2	14.5
			80/67	49.7	38.7	60.7	3.2	15.4
			85/71	53.1	39.9	64.1	3.2	16.4
90	6	1.0	75/63	41.4	35.6	54.7	3.9	10.5
			80/67	44.2	36.6	57.7	4.0	11.1
			85/71	47.0	38.0	60.8	4.1	11.6
	9	2.0	75/63	43.0	36.2	55.5	3.7	11.7
			80/67	46.0	37.5	58.6	3.7	12.4
			85/71	49.1	38.5	61.8	3.7	13.1
	12	3.2	75/63	43.9	36.6	55.9	3.6	12.4
			80/67	47.0	37.6	59.1	3.6	13.2
			85/71	50.2	38.9	62.5	3.6	14.0
100	6	0.9	75/63	39.0	34.4	53.7	4.4	8.9
			80/67	41.6	35.9	56.6	4.5	9.3
			85/71	44.4	36.8	59.6	4.5	9.8
	9	1.9	75/63	40.5	35.3	54.3	4.1	9.9
			80/67	43.4	36.6	57.3	4.1	10.5
			85/71	46.4	37.5	60.5	4.2	11.1
	12	3.2	75/63	41.3	35.6	54.7	4.0	10.4
			80/67	44.3	36.9	57.8	4.0	11.1
			85/71	47.3	38.2	60.9	4.0	11.8
110	6	0.9	75/63	36.6	33.7	52.9	4.8	7.6
			80/67	39.1	35.1	55.7	4.9	8.0
			85/71	41.8	35.9	58.7	5.0	8.4
	9	1.9	75/63	38.1	34.0	53.4	4.6	8.3
			80/67	40.7	35.5	56.3	4.6	8.8
			85/71	43.4	37.0	59.2	4.7	9.3
	12	3.1	75/63	38.7	34.4	53.6	4.4	8.7
			80/67	41.5	35.9	56.6	4.5	9.3
			85/71	44.4	37.2	59.6	4.5	9.9

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM048 HZ Full Load Heating Performance Data - 1580 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	1.1	60	35.9	27.2	2.7	3.91
		70	35.5	25.6	3.0	3.46
		80	34.8	24.3	3.3	3.06
	2.2	60	37.9	29.1	2.7	4.06
		70	37.4	27.3	3.0	3.59
		80	36.7	25.8	3.4	3.18
	3.7	60	39.2	30.2	2.8	4.14
		70	38.4	28.4	3.1	3.66
		80	37.7	26.6	3.4	3.25
40	1.1	60	40.6	31.9	2.8	4.24
		70	40.1	30.0	3.1	3.77
		80	39.6	28.5	3.4	3.37
	2.2	60	43.2	34.2	2.9	4.42
		70	42.4	32.4	3.2	3.93
		80	41.8	30.5	3.5	3.51
	3.6	60	44.8	35.6	2.9	4.52
		70	43.9	33.6	3.2	4.03
		80	43.1	31.6	3.5	3.59
50	1.0	60	45.9	36.4	2.9	4.59
		70	45.2	34.8	3.2	4.11
		80	44.5	33.1	3.5	3.68
	2.1	60	49.0	39.5	3.0	4.8
		70	48.1	37.5	3.3	4.3
		80	47.2	35.6	3.6	3.84
	3.5	60	50.9	41.3	3.0	4.92
		70	49.8	39.1	3.3	4.4
		80	48.8	37.0	3.6	3.93
60	1.0	60	51.3	41.7	3.0	4.96
		70	50.5	39.7	3.3	4.45
		80	49.7	38.0	3.7	3.98
	2.1	60	55.1	45.2	3.1	5.19
		70	54.0	43.0	3.4	4.65
		80	53.0	40.9	3.7	4.16
	3.4	60	57.3	47.4	3.2	5.33
		70	56.1	45.0	3.4	4.77
		80	54.9	42.7	3.8	4.26
70	1.0	60	57.1	47.1	3.1	5.31
		70	56.1	45.1	3.4	4.77
		80	55.2	43.0	3.8	4.28
	2.0	60	61.5	51.2	3.2	5.57
		70	60.2	48.9	3.5	4.99
		80	59.1	46.5	3.9	4.46
	3.4	60	64.0	53.7	3.3	5.72
		70	62.6	51.1	3.6	5.11
		80	61.3	48.6	3.9	4.57
80	1.0	60	63.0	52.7	3.3	5.66
		70	61.9	50.6	3.6	5.08
		80	60.9	48.4	3.9	4.55
	2.0	60	68.0	57.4	3.4	5.93
		70	66.7	54.9	3.7	5.31
		80	65.4	52.4	4.0	4.74
	3.3	60	71.0	60.3	3.4	6.08
		70	69.4	57.5	3.7	5.44
		80	67.9	54.7	4.1	4.85

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM048 HZ Part Load Cooling Performance Data - 1380 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	6	1.0	75/63	39.1	32.1	44.6	1.6	24.3
			80/67	41.6	33.3	47.1	1.6	26.1
			85/71	44.3	34.3	49.8	1.6	28.1
	9	2.1	75/63	40.6	32.7	45.7	1.5	27.4
			80/67	43.2	33.9	48.3	1.5	29.8
			85/71	46.1	34.7	51.0	1.4	32.4
	12	3.5	75/63	41.3	33.0	46.2	1.4	29.2
			80/67	44.1	34.1	48.9	1.4	32.0
			85/71	47.0	35.1	51.7	1.3	34.9
60	6	1.0	75/63	36.8	31.2	43.1	1.8	20.1
			80/67	39.4	32.1	45.6	1.8	21.7
			85/71	41.9	33.4	48.1	1.8	23.3
	9	2.1	75/63	38.2	31.6	44.0	1.7	22.6
			80/67	40.9	32.7	46.6	1.7	24.5
			85/71	43.5	33.9	49.2	1.6	26.6
	12	3.4	75/63	38.9	32.0	44.5	1.6	24.0
			80/67	41.7	33.0	47.2	1.6	26.2
			85/71	44.5	34.0	49.9	1.6	28.5
70	6	1.0	75/63	34.8	30.3	41.7	2.1	16.8
			80/67	37.1	31.6	44.1	2.1	18.0
			85/71	39.6	32.5	46.6	2.0	19.4
	9	2.0	75/63	36.0	30.8	42.6	1.9	18.7
			80/67	38.5	32.1	45.0	1.9	20.3
			85/71	41.1	33.2	47.6	1.9	21.9
	12	3.4	75/63	36.7	31.1	43.0	1.9	19.8
			80/67	39.3	32.4	45.5	1.8	21.5
			85/71	42.0	33.3	48.2	1.8	23.4
80	6	1.0	75/63	32.5	29.5	40.3	2.3	13.9
			80/67	34.7	30.6	42.6	2.3	14.9
			85/71	37.1	31.7	45.0	2.3	16.1
	9	2.0	75/63	33.7	29.9	41.1	2.2	15.4
			80/67	36.1	30.9	43.5	2.2	16.7
			85/71	38.6	32.2	45.9	2.1	18.0
	12	3.3	75/63	34.3	30.2	41.4	2.1	16.3
			80/67	36.8	31.4	43.9	2.1	17.7
			85/71	39.4	32.5	46.5	2.1	19.2
90	6	1.0	75/63	30.3	28.7	39.1	2.6	11.5
			80/67	32.5	29.9	41.3	2.6	12.4
			85/71	34.8	31.1	43.6	2.6	13.3
	9	2.0	75/63	31.4	29.1	39.7	2.5	12.7
			80/67	33.7	30.4	42.0	2.5	13.7
			85/71	36.2	31.5	44.4	2.4	14.8
	12	3.2	75/63	32.0	29.3	40.1	2.4	13.4
			80/67	34.4	30.6	42.4	2.4	14.5
			85/71	36.9	31.8	44.9	2.3	15.7
100	6	0.9	75/63	28.2	27.5	38.0	2.9	9.6
			80/67	30.3	29.0	40.1	2.9	10.3
			85/71	32.5	30.2	42.3	2.9	11.1
	9	1.9	75/63	29.2	27.9	38.5	2.8	10.5
			80/67	31.4	29.2	40.7	2.8	11.3
			85/71	33.7	30.4	43.0	2.8	12.2
	12	3.2	75/63	29.7	28.1	38.8	2.7	11.0
			80/67	32.0	29.6	41.0	2.7	11.9
			85/71	34.3	30.8	43.4	2.7	12.9
110	6	0.9	75/63	26.5	26.5	37.4	3.3	8.0
			80/67	28.2	28.2	39.1	3.3	8.6
			85/71	30.2	29.6	41.2	3.3	9.2
	9	1.9	75/63	27.1	27.1	37.5	3.1	8.7
			80/67	29.1	28.7	39.6	3.1	9.4
			85/71	31.3	29.9	41.7	3.1	10.1
	12	3.1	75/63	27.5	27.5	37.7	3.1	9.0
			80/67	29.7	28.9	39.8	3.0	9.8
			85/71	31.9	30.1	42.1	3.0	10.6

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM048 HZ Part Load Heating Performance Data - 1380 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	1.1	60	27.1	20.8	2.0	3.92
		70	26.2	19.1	2.3	3.41
		80	25.3	17.5	2.5	2.96
	2.2	60	28.3	22.0	2.0	4.09
		70	27.3	20.2	2.3	3.54
		80	26.3	18.4	2.5	3.06
	3.7	60	29.0	22.7	2.0	4.18
		70	27.9	20.8	2.3	3.61
		80	26.9	19.0	2.5	3.12
40	1.1	60	30.8	24.5	2.0	4.42
		70	29.8	22.7	2.3	3.84
		80	28.9	21.0	2.5	3.34
	2.2	60	32.4	26.0	2.1	4.62
		70	31.2	24.1	2.3	4
		80	30.2	22.2	2.6	3.47
	3.6	60	33.2	26.8	2.1	4.74
		70	32.0	24.9	2.3	4.09
		80	30.9	22.9	2.6	3.54
50	1.0	60	34.8	28.4	2.1	4.94
		70	33.8	26.5	2.3	4.29
		80	32.9	24.7	2.6	3.74
	2.1	60	36.7	30.2	2.1	5.19
		70	35.5	28.3	2.3	4.49
		80	34.5	26.2	2.6	3.9
	3.5	60	37.8	31.3	2.1	5.33
		70	36.5	29.2	2.3	4.6
		80	35.4	27.1	2.6	4
60	1.0	60	39.0	32.5	2.1	5.49
		70	37.9	30.6	2.3	4.77
		80	37.0	28.7	2.6	4.17
	2.1	60	41.3	34.8	2.1	5.77
		70	40.0	32.8	2.3	5.01
		80	38.9	30.7	2.6	4.36
	3.4	60	42.6	36.1	2.1	5.95
		70	41.3	33.9	2.3	5.16
		80	40.0	31.8	2.6	4.47
70	1.0	60	43.5	37.0	2.1	6.07
		70	42.4	35.0	2.3	5.28
		80	41.3	33.0	2.6	4.61
	2.0	60	46.2	39.7	2.1	6.43
		70	44.8	37.5	2.4	5.57
		80	43.6	35.4	2.6	4.84
	3.4	60	47.8	41.3	2.1	6.63
		70	46.3	39.0	2.4	5.74
		80	45.0	36.6	2.6	4.98
80	1.0	60	48.2	41.7	2.1	6.69
		70	47.0	39.6	2.4	5.81
		80	45.8	37.5	2.7	5.07
	2.0	60	51.3	44.8	2.1	7.1
		70	49.9	42.5	2.4	6.15
		80	48.5	40.2	2.7	5.34
	3.3	60	53.1	46.7	2.1	7.34
		70	51.6	44.2	2.4	6.34
		80	50.1	41.7	2.7	5.49

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 HZ Full Load Cooling Performance Data - 2000 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	7.5	1.2	75/63	64.5	50.2	75.8	3.3	19.7
			80/67	68.7	51.3	80.2	3.3	20.5
			85/71	72.9	52.6	84.6	3.4	21.4
	11	2.5	75/63	66.7	50.8	77.4	3.1	21.4
			80/67	71.0	52.2	81.9	3.2	22.5
			85/71	75.4	53.8	86.5	3.2	23.4
	15	4.4	75/63	67.9	51.3	78.3	3.0	22.5
			80/67	72.3	53.0	82.9	3.1	23.6
			85/71	76.9	54.4	87.8	3.1	24.7
60	7.5	1.2	75/63	61.8	48.7	73.9	3.5	17.4
			80/67	65.7	50.1	78.1	3.6	18.2
			85/71	69.8	51.5	82.3	3.7	19.0
	11	2.5	75/63	63.8	49.6	75.3	3.4	19.0
			80/67	67.9	51.3	79.6	3.4	20.0
			85/71	72.2	52.8	84.1	3.4	20.9
	15	4.3	75/63	64.9	50.3	76.1	3.2	20.0
			80/67	69.2	51.8	80.6	3.3	21.1
			85/71	73.8	52.9	85.3	3.3	22.1
70	7.5	1.2	75/63	58.8	47.7	72.0	3.9	15.3
			80/67	62.7	48.9	76.0	3.9	16.0
			85/71	66.5	50.3	80.1	4.0	16.8
	11	2.4	75/63	60.9	48.3	73.3	3.6	16.7
			80/67	64.9	49.8	77.5	3.7	17.6
			85/71	68.9	51.6	81.8	3.7	18.5
	15	4.2	75/63	61.9	49.1	74.0	3.5	17.6
			80/67	66.1	50.6	78.3	3.6	18.6
			85/71	70.4	52.1	82.8	3.6	19.6
80	7.5	1.2	75/63	56.0	46.3	70.3	4.2	13.3
			80/67	59.6	47.7	74.1	4.3	14.0
			85/71	63.1	49.6	77.9	4.3	14.6
	11	2.4	75/63	57.8	47.3	71.4	4.0	14.5
			80/67	61.7	48.6	75.4	4.0	15.4
			85/71	65.7	50.0	79.5	4.1	16.2
	15	4.1	75/63	59.0	47.5	72.1	3.8	15.3
			80/67	62.8	49.3	76.2	3.9	16.2
			85/71	67.1	50.5	80.5	3.9	17.1
90	7.5	1.2	75/63	53.0	45.1	68.6	4.6	11.5
			80/67	56.1	47.3	72.1	4.7	12.1
			85/71	59.7	48.5	75.9	4.7	12.7
	11	2.3	75/63	54.7	46.1	69.5	4.4	12.6
			80/67	58.5	47.3	73.4	4.4	13.3
			85/71	62.0	49.3	77.3	4.4	14.0
	15	4.0	75/63	55.8	46.2	70.2	4.2	13.2
			80/67	59.6	47.8	74.1	4.3	14.0
			85/71	63.6	49.3	78.2	4.3	14.8
100	7.5	1.2	75/63	49.9	44.2	67.1	5.1	9.9
			80/67	53.1	45.7	70.5	5.1	10.4
			85/71	56.4	47.4	74.1	5.2	10.9
	11	2.3	75/63	51.6	44.5	67.9	4.8	10.8
			80/67	55.0	46.4	71.5	4.8	11.4
			85/71	58.7	47.7	75.3	4.9	12.0
	15	3.9	75/63	52.5	45.2	68.4	4.7	11.3
			80/67	56.1	47.0	72.1	4.7	12.0
			85/71	59.9	48.2	76.0	4.7	12.7
110	7.5	1.2	75/63	46.9	42.8	65.7	5.6	8.4
			80/67	49.9	44.4	69.0	5.6	8.9
			85/71	53.1	45.9	72.4	5.7	9.3
	11	2.2	75/63	48.4	43.5	66.4	5.3	9.1
			80/67	51.7	45.1	69.9	5.3	9.7
			85/71	55.1	46.7	73.4	5.4	10.3
	15	3.8	75/63	49.3	43.8	66.8	5.2	9.6
			80/67	52.8	45.2	70.4	5.2	10.2
			85/71	56.1	47.5	73.9	5.2	10.8

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 HZ Full Load Heating Performance Data - 2000 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	1.2	60	44.3	33.2	3.4	3.79
		70	43.6	31.4	3.8	3.4
		80	42.7	29.8	4.1	3.03
	2.6	60	46.3	35.0	3.5	3.91
		70	45.5	33.0	3.8	3.5
		80	44.7	31.1	4.2	3.14
	4.6	60	47.6	36.5	3.5	3.99
		70	46.7	34.1	3.8	3.57
		80	45.8	32.2	4.2	3.2
40	1.2	60	49.9	38.5	3.5	4.13
		70	49.1	36.6	3.9	3.71
		80	48.5	34.9	4.3	3.34
	2.6	60	52.5	40.9	3.6	4.28
		70	51.5	38.8	3.9	3.84
		80	50.7	36.7	4.3	3.45
	4.5	60	54.2	42.6	3.6	4.38
		70	53.1	40.2	4.0	3.93
		80	52.0	37.9	4.3	3.53
50	1.2	60	56.1	44.4	3.7	4.48
		70	55.2	42.3	4.0	4.04
		80	54.3	40.5	4.4	3.63
	2.5	60	59.3	47.3	3.7	4.66
		70	58.2	45.0	4.1	4.2
		80	57.0	43.0	4.4	3.77
	4.4	60	61.4	49.2	3.8	4.78
		70	60.1	46.8	4.1	4.3
		80	58.9	44.3	4.5	3.86
60	1.2	60	62.7	50.6	3.8	4.85
		70	61.7	48.4	4.1	4.37
		80	60.8	46.1	4.5	3.94
	2.5	60	66.6	54.1	3.9	5.05
		70	65.2	51.7	4.2	4.54
		80	64.0	49.1	4.6	4.09
	4.3	60	69.1	56.5	3.9	5.17
		70	67.6	53.8	4.3	4.66
		80	66.2	51.1	4.6	4.18
70	1.2	60	69.7	57.1	3.9	5.2
		70	68.5	54.8	4.3	4.69
		80	67.3	52.4	4.7	4.23
	2.4	60	74.2	61.3	4.0	5.41
		70	72.7	58.7	4.4	4.88
		80	71.3	55.8	4.8	4.39
	4.2	60	77.2	64.0	4.1	5.54
		70	75.5	61.1	4.4	5
		80	73.8	58.1	4.8	4.49
80	1.2	60	77.0	63.9	4.1	5.54
		70	75.6	61.4	4.4	5
		80	74.2	58.8	4.8	4.51
	2.4	60	82.2	68.8	4.2	5.76
		70	80.4	65.8	4.5	5.19
		80	78.7	62.9	4.9	4.68
	4.1	60	85.7	72.0	4.3	5.89
		70	83.6	68.7	4.6	5.32
		80	81.7	65.4	5.0	4.78

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 HZ Part Load Cooling Performance Data - 1790 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	7.5	1.2	75/63	50.4	41.4	57.4	2.0	24.7
			80/67	53.6	42.9	60.6	2.0	26.5
			85/71	57.1	43.9	64.0	2.0	28.6
	11	2.5	75/63	51.9	42.2	58.6	1.9	27.1
			80/67	55.5	43.4	62.0	1.9	29.5
			85/71	59.0	44.6	65.5	1.8	32.0
	15	4.4	75/63	52.9	42.6	59.3	1.8	28.8
			80/67	56.5	43.8	62.8	1.8	31.4
			85/71	60.2	45.1	66.4	1.8	34.2
60	7.5	1.2	75/63	47.6	40.2	55.4	2.3	20.8
			80/67	50.7	41.6	58.5	2.3	22.4
			85/71	54.0	42.9	61.7	2.2	24.0
	11	2.5	75/63	49.1	40.8	56.5	2.2	22.8
			80/67	52.4	42.4	59.7	2.1	24.7
			85/71	55.9	43.5	63.1	2.1	26.8
	15	4.3	75/63	50.1	41.2	57.2	2.1	24.2
			80/67	53.5	42.6	60.5	2.0	26.3
			85/71	56.9	44.2	63.9	2.0	28.5
70	7.5	1.2	75/63	44.7	39.0	53.4	2.6	17.4
			80/67	47.8	40.4	56.5	2.6	18.7
			85/71	50.8	42.1	59.5	2.5	20.1
	11	2.4	75/63	46.2	39.6	54.4	2.4	19.1
			80/67	49.4	41.1	57.6	2.4	20.6
			85/71	52.7	42.4	60.8	2.4	22.3
	15	4.2	75/63	47.1	40.0	55.0	2.3	20.1
			80/67	50.4	41.4	58.3	2.3	21.9
			85/71	53.7	43.0	61.5	2.3	23.7
80	7.5	1.2	75/63	41.7	38.1	51.5	2.9	14.4
			80/67	44.6	39.7	54.4	2.9	15.6
			85/71	47.8	40.7	57.5	2.9	16.8
	11	2.4	75/63	43.1	38.6	52.4	2.7	15.8
			80/67	46.2	40.1	55.5	2.7	17.1
			85/71	49.4	41.7	58.5	2.7	18.5
	15	4.1	75/63	43.9	39.0	52.9	2.6	16.6
			80/67	47.1	40.6	56.0	2.6	18.1
			85/71	50.6	41.7	59.3	2.6	19.7
90	7.5	1.2	75/63	38.9	36.6	49.8	3.2	12.0
			80/67	41.6	38.6	52.5	3.2	12.9
			85/71	44.6	39.8	55.5	3.2	13.9
	11	2.3	75/63	40.2	37.2	50.5	3.1	13.0
			80/67	43.1	39.0	53.5	3.1	14.1
			85/71	46.2	40.5	56.5	3.0	15.3
	15	4.0	75/63	40.8	37.8	51.0	3.0	13.7
			80/67	43.9	39.4	54.0	3.0	14.9
			85/71	47.1	40.9	57.0	2.9	16.2
100	7.5	1.2	75/63	36.0	35.8	48.2	3.6	10.0
			80/67	38.7	37.5	50.8	3.6	10.7
			85/71	41.5	38.7	53.7	3.6	11.6
	11	2.3	75/63	37.1	36.3	48.8	3.5	10.7
			80/67	40.0	37.9	51.6	3.4	11.6
			85/71	42.9	39.2	54.5	3.4	12.6
	15	3.9	75/63	37.9	36.4	49.2	3.4	11.2
			80/67	40.8	38.0	52.1	3.3	12.2
			85/71	43.8	39.4	55.0	3.3	13.3
110	7.5	1.2	75/63	33.9	33.9	47.3	4.0	8.4
			80/67	36.0	36.0	49.5	4.0	9.0
			85/71	38.5	37.9	52.0	4.0	9.6
	11	2.2	75/63	34.6	34.6	47.6	3.9	9.0
			80/67	37.0	36.7	49.9	3.8	9.6
			85/71	39.6	38.5	52.6	3.8	10.4
	15	3.8	75/63	35.0	35.0	47.7	3.8	9.3
			80/67	37.7	36.9	50.3	3.8	10.0
			85/71	40.5	38.4	53.1	3.7	10.9

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Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 HZ Part Load Heating Performance Data - 1790 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	1.2	60	32.6	24.7	2.5	3.81
		70	31.3	22.6	2.8	3.31
		80	30.2	20.5	3.1	2.88
	2.6	60	34.1	25.8	2.5	3.98
		70	32.8	23.5	2.8	3.46
		80	31.2	21.3	3.1	2.97
	4.6	60	34.9	26.5	2.5	4.06
		70	33.5	24.2	2.8	3.52
		80	31.8	22.0	3.1	3.03
40	1.2	60	37.1	29.2	2.5	4.31
		70	36.2	26.8	2.8	3.79
		80	34.6	24.7	3.1	3.27
	2.6	60	39.0	30.5	2.5	4.51
		70	37.6	28.2	2.8	3.92
		80	35.9	26.0	3.1	3.38
	4.5	60	39.9	31.4	2.5	4.62
		70	38.2	29.2	2.8	3.98
		80	36.7	26.6	3.1	3.45
50	1.2	60	42.0	33.9	2.5	4.83
		70	40.6	31.7	2.8	4.21
		80	39.4	29.3	3.1	3.68
	2.5	60	44.2	35.6	2.6	5.07
		70	42.4	33.4	2.8	4.37
		80	41.0	30.9	3.2	3.82
	4.4	60	45.4	36.8	2.6	5.2
		70	43.5	34.5	2.8	4.48
		80	42.2	31.9	3.2	3.91
60	1.2	60	47.1	38.9	2.6	5.39
		70	45.7	36.6	2.8	4.7
		80	44.4	34.3	3.2	4.11
	2.5	60	49.4	41.2	2.6	5.63
		70	47.8	38.7	2.9	4.91
		80	46.4	36.2	3.2	4.28
	4.3	60	50.9	42.7	2.6	5.8
		70	49.2	40.1	2.9	5.05
		80	47.6	37.4	3.2	4.39
70	1.2	60	52.5	44.3	2.6	5.99
		70	51.1	41.9	2.9	5.23
		80	49.7	39.4	3.2	4.57
	2.4	60	55.2	47.1	2.6	6.3
		70	53.6	44.5	2.9	5.48
		80	52.0	41.7	3.2	4.78
	4.2	60	57.0	48.9	2.6	6.51
		70	55.2	46.1	2.9	5.65
		80	53.5	43.3	3.2	4.91
80	1.2	60	58.1	50.0	2.6	6.64
		70	56.6	47.4	2.9	5.79
		80	55.0	44.8	3.2	5.05
	2.4	60	61.2	53.2	2.6	7.01
		70	59.5	50.4	2.9	6.08
		80	57.7	47.4	3.2	5.29
	4.1	60	63.3	55.3	2.6	7.25
		70	61.3	52.3	2.9	6.28
		80	59.5	49.3	3.2	5.45

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 HZ Full Load Cooling Performance Data - 2450 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	9	0.8	75/63	69.7	56.9	84.0	4.2	16.7
			80/67	74.0	58.7	88.7	4.2	17.4
			85/71	78.8	60.0	93.6	4.3	18.3
	13	1.6	75/63	72.1	57.9	85.7	3.9	18.3
			80/67	76.8	59.8	90.6	4.0	19.3
			85/71	81.9	61.1	95.8	4.0	20.3
	17.5	2.7	75/63	73.6	58.5	86.7	3.8	19.4
			80/67	78.5	60.4	91.8	3.8	20.5
			85/71	83.6	62.2	97.1	3.9	21.6
60	9	0.8	75/63	66.6	55.3	82.0	4.5	14.7
			80/67	70.7	57.4	86.4	4.6	15.4
			85/71	74.8	59.8	90.8	4.6	16.1
	13	1.6	75/63	68.9	56.6	83.5	4.3	16.2
			80/67	73.4	58.4	88.2	4.3	17.0
			85/71	78.1	60.2	93.1	4.4	17.9
	17.5	2.7	75/63	70.3	57.1	84.5	4.1	17.1
			80/67	75.2	58.7	89.4	4.2	18.1
			85/71	79.9	60.9	94.4	4.2	19.1
70	9	0.8	75/63	63.4	54.0	80.0	4.9	12.9
			80/67	67.2	56.0	84.2	5.0	13.5
			85/71	71.6	57.6	88.7	5.0	14.2
	13	1.6	75/63	65.6	55.2	81.4	4.6	14.2
			80/67	69.8	57.1	85.9	4.7	14.9
			85/71	74.3	59.1	90.5	4.7	15.8
	17.5	2.7	75/63	67.1	55.5	82.4	4.5	15.0
			80/67	71.5	57.7	86.9	4.5	15.9
			85/71	76.3	59.2	91.9	4.5	16.8
80	9	0.8	75/63	60.0	53.0	78.2	5.3	11.3
			80/67	63.9	54.8	82.2	5.4	11.9
			85/71	67.5	57.4	86.3	5.4	12.4
	13	1.5	75/63	62.3	53.5	79.4	5.0	12.4
			80/67	66.3	55.6	83.7	5.1	13.0
			85/71	70.5	57.9	88.1	5.1	13.8
	17.5	2.7	75/63	63.5	54.4	80.2	4.9	13.1
			80/67	67.9	56.0	84.7	4.9	13.9
			85/71	72.2	58.5	89.2	4.9	14.7
90	9	0.8	75/63	56.9	51.7	76.5	5.8	9.9
			80/67	60.6	53.6	80.5	5.8	10.4
			85/71	64.4	55.4	84.5	5.9	10.9
	13	1.5	75/63	58.9	52.5	77.6	5.5	10.8
			80/67	62.8	54.4	81.7	5.5	11.4
			85/71	66.9	56.3	85.9	5.6	12.0
	17.5	2.7	75/63	60.1	53.0	78.2	5.3	11.3
			80/67	64.1	55.1	82.4	5.3	12.0
			85/71	68.4	57.0	86.8	5.4	12.7
100	9	0.8	75/63	53.5	50.4	75.0	6.3	8.5
			80/67	57.0	52.5	78.7	6.4	8.9
			85/71	60.7	54.2	82.6	6.4	9.4
	13	1.5	75/63	55.6	51.1	75.9	6.0	9.3
			80/67	59.4	53.1	79.9	6.0	9.9
			85/71	63.2	55.1	83.9	6.1	10.4
	17.5	2.7	75/63	56.8	51.7	76.5	5.8	9.8
			80/67	60.8	53.3	80.6	5.8	10.4
			85/71	64.7	55.4	84.7	5.9	11.1
110	9	0.8	75/63	50.3	49.4	73.7	6.9	7.3
			80/67	53.8	51.2	77.3	6.9	7.8
			85/71	57.0	53.6	80.9	7.0	8.1
	13	1.5	75/63	52.1	49.9	74.4	6.6	7.9
			80/67	55.8	51.8	78.2	6.6	8.4
			85/71	59.3	53.9	82.0	6.6	8.9
	17.5	2.7	75/63	53.3	50.1	74.9	6.4	8.4
			80/67	57.0	52.1	78.7	6.4	8.9
			85/71	60.6	54.7	82.5	6.4	9.4

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Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM070 HZ Full Load Heating Performance Data - 2450 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	0.9	60	52.7	38.2	4.4	3.48
		70	52.3	36.5	4.8	3.16
		80	52.1	34.4	5.3	2.88
	1.7	60	55.3	40.8	4.5	3.61
		70	54.7	38.8	4.9	3.27
		80	54.7	37.1	5.4	2.99
	2.7	60	57.3	42.3	4.5	3.71
		70	56.2	40.2	4.9	3.34
		80	56.2	38.7	5.4	3.05
40	0.9	60	59.4	44.5	4.6	3.8
		70	58.8	42.5	5.0	3.45
		80	58.4	40.7	5.4	3.14
	1.7	60	62.7	47.5	4.6	3.96
		70	61.9	45.5	5.1	3.59
		80	61.5	42.8	5.5	3.27
	2.7	60	64.9	49.6	4.7	4.06
		70	63.8	47.7	5.1	3.67
		80	62.8	46.0	5.6	3.31
50	0.8	60	66.7	51.4	4.7	4.15
		70	66.0	49.3	5.1	3.77
		80	65.4	47.1	5.6	3.42
	1.6	60	70.7	55.1	4.8	4.33
		70	69.8	52.9	5.2	3.92
		80	68.9	50.4	5.7	3.55
	2.7	60	73.5	57.6	4.8	4.45
		70	72.2	55.5	5.3	4.01
		80	71.2	52.7	5.7	3.64
60	0.8	60	74.5	58.7	4.9	4.49
		70	73.6	56.4	5.3	4.07
		80	72.8	54.0	5.8	3.69
	1.6	60	79.3	63.3	5.0	4.69
		70	78.1	60.6	5.4	4.25
		80	77.0	58.0	5.9	3.84
	2.7	60	82.6	66.4	5.0	4.82
		70	81.2	63.3	5.5	4.36
		80	79.8	60.7	5.9	3.94
70	0.8	60	82.6	66.3	5.0	4.82
		70	81.5	63.7	5.5	4.37
		80	80.6	61.2	6.0	3.97
	1.6	60	88.3	71.7	5.1	5.03
		70	86.9	68.8	5.6	4.56
		80	85.5	65.9	6.1	4.13
	2.7	60	92.2	75.4	5.2	5.18
		70	90.5	72.3	5.7	4.69
		80	88.9	68.7	6.1	4.24
80	0.8	60	91.1	74.3	5.2	5.14
		70	89.8	71.5	5.6	4.67
		80	88.6	68.6	6.1	4.23
	1.5	60	97.6	80.5	5.3	5.36
		70	95.9	77.3	5.8	4.87
		80	94.3	74.1	6.3	4.41
	2.7	60	102.1	84.7	5.4	5.51
		70	100.1	81.3	5.9	5
		80	98.2	77.7	6.4	4.52

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 HZ Part Load Cooling Performance Data - 2100 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	9	0.8	75/63	56.7	47.8	65.9	2.7	21.0
			80/67	60.2	49.6	69.5	2.7	22.3
			85/71	64.1	50.8	73.4	2.7	23.7
	13	1.6	75/63	58.4	48.7	67.1	2.5	23.2
			80/67	62.2	50.3	70.9	2.5	24.8
			85/71	66.2	51.6	74.8	2.5	26.5
	17.5	2.7	75/63	59.5	48.9	67.9	2.4	24.6
			80/67	63.5	50.5	71.8	2.4	26.5
			85/71	67.5	52.1	75.7	2.4	28.4
60	9	0.8	75/63	53.8	46.8	64.1	3.0	18.0
			80/67	57.4	48.2	67.7	3.0	19.1
			85/71	60.9	49.8	71.3	3.0	20.2
	13	1.6	75/63	55.5	47.5	65.2	2.8	19.7
			80/67	59.2	49.0	68.8	2.8	21.1
			85/71	63.0	50.5	72.7	2.8	22.5
	17.5	2.7	75/63	56.6	47.7	65.9	2.7	20.9
			80/67	60.3	49.6	69.6	2.7	22.4
			85/71	64.2	51.2	73.5	2.7	24.0
70	9	0.8	75/63	50.9	45.7	62.3	3.3	15.3
			80/67	54.4	47.1	65.8	3.4	16.2
			85/71	57.8	48.7	69.3	3.4	17.2
	13	1.6	75/63	52.7	46.1	63.4	3.1	16.8
			80/67	56.2	47.8	66.9	3.1	17.9
			85/71	59.7	49.7	70.5	3.1	19.0
	17.5	2.7	75/63	53.7	46.5	64.0	3.0	17.7
			80/67	57.3	48.2	67.6	3.0	19.0
			85/71	61.0	49.8	71.4	3.0	20.3
80	9	0.8	75/63	48.0	44.4	60.7	3.7	12.9
			80/67	51.2	46.2	64.0	3.7	13.7
			85/71	54.5	47.8	67.4	3.8	14.5
	13	1.5	75/63	49.6	45.1	61.6	3.5	14.1
			80/67	53.0	46.7	65.0	3.5	15.1
			85/71	56.4	48.5	68.5	3.5	16.0
	17.5	2.7	75/63	50.6	45.4	62.1	3.4	14.9
			80/67	54.0	47.3	65.6	3.4	16.0
			85/71	57.6	49.0	69.2	3.4	17.1
90	9	0.8	75/63	45.1	43.3	59.2	4.2	10.9
			80/67	48.2	45.1	62.3	4.2	11.5
			85/71	51.2	47.1	65.5	4.2	12.2
	13	1.5	75/63	46.6	43.9	59.9	3.9	11.8
			80/67	49.9	45.5	63.2	3.9	12.7
			85/71	53.2	47.3	66.6	3.9	13.5
	17.5	2.7	75/63	47.5	44.2	60.4	3.8	12.5
			80/67	50.8	46.1	63.8	3.8	13.4
			85/71	54.3	47.7	67.2	3.8	14.3
100	9	0.8	75/63	42.2	42.0	57.8	4.6	9.1
			80/67	45.2	43.8	60.9	4.7	9.7
			85/71	48.2	45.9	64.0	4.7	10.4
	13	1.5	75/63	43.5	42.6	58.4	4.4	9.9
			80/67	46.6	44.6	61.5	4.4	10.6
			85/71	49.7	46.6	64.8	4.4	11.3
	17.5	2.7	75/63	44.4	43.0	58.8	4.3	10.4
			80/67	47.6	44.9	62.0	4.3	11.2
			85/71	50.7	46.9	65.3	4.3	11.9
110	9	0.8	75/63	39.9	39.9	57.3	5.2	7.7
			80/67	42.4	42.4	59.8	5.2	8.2
			85/71	45.0	45.0	62.5	5.2	8.7
	13	1.5	75/63	40.8	40.8	57.4	4.9	8.3
			80/67	43.5	43.5	60.2	4.9	8.9
			85/71	46.5	45.6	63.2	4.9	9.5
	17.5	2.7	75/63	41.4	41.4	57.5	4.8	8.7
			80/67	44.2	44.0	60.4	4.8	9.3
			85/71	47.6	45.5	63.7	4.8	10.0

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 HZ Part Load Heating Performance Data - 2100 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	0.9	60	38.7	30.4	3.3	3.44
		70	38.6	27.0	3.6	3.11
		80	38.0	24.7	4.0	2.75
	1.7	60	40.9	30.0	3.3	3.62
		70	39.9	27.6	3.7	3.2
		80	39.2	26.4	4.1	2.83
	2.7	60	41.5	31.0	3.3	3.67
		70	41.5	31.0	3.7	3.32
		80	40.7	27.3	4.1	2.93
40	0.9	60	44.6	33.8	3.3	3.92
		70	44.0	30.4	3.7	3.5
		80	43.6	31.4	4.1	3.12
	1.7	60	46.4	35.7	3.3	4.07
		70	45.1	35.1	3.7	3.57
		80	45.0	32.6	4.1	3.21
	2.7	60	47.9	36.1	3.3	4.19
		70	47.6	36.6	3.7	3.74
		80	45.4	32.7	4.1	3.23
50	0.8	60	50.7	39.5	3.4	4.4
		70	49.4	37.3	3.7	3.88
		80	48.4	35.5	4.1	3.42
	1.6	60	52.9	41.9	3.4	4.58
		70	51.8	39.3	3.7	4.05
		80	50.6	37.4	4.2	3.57
	2.7	60	54.6	41.6	3.4	4.72
		70	53.4	40.6	3.8	4.16
		80	51.9	39.3	4.2	3.64
60	0.8	60	56.5	45.4	3.4	4.86
		70	55.5	43.1	3.8	4.31
		80	54.6	41.0	4.2	3.82
	1.6	60	59.5	48.2	3.4	5.1
		70	58.3	45.9	3.8	4.5
		80	57.3	45.0	4.2	3.98
	2.7	60	61.4	50.4	3.4	5.24
		70	60.4	45.8	3.8	4.65
		80	59.0	42.9	4.2	4.1
70	0.8	60	63.0	51.9	3.4	5.37
		70	61.9	49.5	3.8	4.75
		80	60.8	47.0	4.2	4.21
	1.6	60	66.5	55.5	3.5	5.65
		70	65.2	52.6	3.8	4.98
		80	64.0	49.8	4.3	4.4
	2.7	60	68.8	58.2	3.5	5.81
		70	67.4	54.7	3.9	5.13
		80	66.0	51.6	4.3	4.52
80	0.8	60	69.8	58.7	3.5	5.9
		70	68.6	56.2	3.9	5.21
		80	67.4	53.5	4.3	4.6
	1.5	60	74.0	62.8	3.5	6.21
		70	72.4	59.9	3.9	5.46
		80	71.0	56.9	4.3	4.81
	2.7	60	76.9	65.0	3.5	6.43
		70	75.0	62.5	3.9	5.63
		80	73.4	59.2	4.3	4.96

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 VT Full Load Cooling Performance Data - 800 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	3	0.6	75/63	26.9	20.9	29.9	1.1	25.3
			80/67	28.8	21.2	31.9	1.1	26.5
			85/71	30.5	21.8	33.7	1.1	27.6
	4.5	1.2	75/63	27.8	21.1	30.6	1.0	28.2
			80/67	29.6	21.6	32.4	1.0	29.5
			85/71	31.4	22.2	34.4	1.0	30.9
	6	2.0	75/63	28.1	21.3	30.8	0.9	29.7
			80/67	30.1	21.7	32.8	1.0	31.3
			85/71	31.9	22.4	34.7	1.0	32.8
60	3	0.6	75/63	25.9	20.2	29.3	1.2	21.9
			80/67	27.5	20.8	31.0	1.2	22.9
			85/71	29.3	21.4	32.9	1.2	24.0
	4.5	1.2	75/63	26.6	20.5	29.7	1.1	24.0
			80/67	28.4	21.2	31.6	1.1	25.3
			85/71	30.2	21.7	33.5	1.1	26.5
	6	2.0	75/63	26.8	20.9	29.9	1.1	25.0
			80/67	28.8	21.3	31.9	1.1	26.5
			85/71	30.6	21.9	33.8	1.1	27.9
70	3	0.6	75/63	24.9	19.8	28.7	1.3	18.9
			80/67	26.5	20.5	30.5	1.3	19.8
			85/71	28.2	21.0	32.2	1.4	20.7
	4.5	1.1	75/63	25.6	20.1	29.2	1.2	20.6
			80/67	27.3	20.7	31.0	1.3	21.7
			85/71	28.9	21.6	32.7	1.3	22.7
	6	1.9	75/63	26.0	20.2	29.5	1.2	21.4
			80/67	27.6	21.1	31.2	1.2	22.5
			85/71	29.6	21.4	33.2	1.2	23.9
80	3	0.5	75/63	23.6	19.5	27.9	1.5	16.2
			80/67	25.0	20.4	29.4	1.5	17.0
			85/71	27.4	19.5	31.6	1.5	18.2
	4.5	1.1	75/63	24.4	19.6	28.4	1.4	17.7
			80/67	25.9	20.5	30.0	1.4	18.6
			85/71	27.4	21.4	31.7	1.4	19.5
	6	1.9	75/63	24.6	19.7	28.6	1.3	18.3
			80/67	26.2	20.6	30.2	1.4	19.3
			85/71	28.1	20.9	32.2	1.4	20.5
90	3	0.5	75/63	22.2	19.0	27.1	1.6	13.7
			80/67	23.6	19.9	28.6	1.6	14.3
			85/71	24.5	20.6	29.9	1.7	14.7
	4.5	1.1	75/63	22.7	19.4	27.4	1.5	14.7
			80/67	24.4	19.9	29.1	1.6	15.6
			85/71	26.5	19.6	31.1	1.6	16.7
	6	1.8	75/63	23.2	19.2	27.7	1.5	15.3
			80/67	24.9	19.8	29.4	1.5	16.3
			85/71	26.4	20.7	31.1	1.5	17.2
100	3	0.5	75/63	21.0	18.5	26.4	1.8	11.6
			80/67	21.8	19.4	27.6	1.8	11.9
			85/71	22.2	19.8	28.4	1.8	12.1
	4.5	1.1	75/63	21.4	18.9	26.6	1.7	12.4
			80/67	23.5	18.6	28.6	1.7	13.4
			85/71	25.7	17.3	30.5	1.8	14.5
	6	1.8	75/63	21.8	18.8	26.9	1.7	12.9
			80/67	24.0	18.0	28.9	1.7	14.0
			85/71	24.2	20.5	29.7	1.7	14.2
110	3	0.5	75/63	19.3	18.1	25.6	2.0	9.5
			80/67	20.1	18.8	26.7	2.0	9.8
			85/71	21.3	19.5	28.2	2.1	10.3
	4.5	1.0	75/63	19.8	18.3	25.8	1.9	10.2
			80/67	22.8	15.7	28.2	2.0	11.6
			85/71	24.4	15.6	29.7	2.0	12.3
	6	1.7	75/63	21.1	16.5	26.6	1.9	10.9
			80/67	21.0	19.1	27.2	1.9	11.1
			85/71	21.9	19.7	28.4	1.9	11.5

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 VT Full Load Heating Performance Data - 800 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	0.7	60	15.5	12.1	1.1	3.97
		70	15.3	11.6	1.3	3.48
		80	14.9	10.7	1.4	3.06
	1.4	60	16.4	13.0	1.2	4.12
		70	16.0	12.1	1.3	3.59
		80	15.5	11.2	1.4	3.14
	2.4	60	16.8	13.4	1.2	4.17
		70	16.3	12.5	1.3	3.64
		80	15.8	11.5	1.5	3.19
30	0.7	60	17.4	13.8	1.2	4.31
		70	17.4	13.2	1.3	3.85
		80	17.1	12.6	1.5	3.39
	1.4	60	18.9	15.3	1.2	4.55
		70	18.4	14.4	1.4	3.98
		80	18.0	13.4	1.5	3.52
	2.3	60	19.4	15.8	1.2	4.61
		70	18.9	14.8	1.4	4.04
		80	18.5	13.8	1.5	3.57
40	0.6	60	20.0	16.4	1.2	4.73
		70	19.6	15.4	1.4	4.17
		80	19.0	14.5	1.5	3.66
	1.3	60	21.4	17.6	1.3	4.94
		70	21.1	17.0	1.4	4.38
		80	20.6	15.9	1.6	3.86
	2.2	60	22.3	18.5	1.3	5.05
		70	21.7	17.5	1.4	4.44
		80	21.2	16.4	1.6	3.91
50	0.6	60	23.3	19.4	1.3	5.23
		70	22.8	18.4	1.4	4.62
		80	22.3	17.4	1.6	4.08
	1.3	60	24.9	20.9	1.3	5.44
		70	24.7	19.8	1.5	4.87
		80	23.8	18.7	1.6	4.26
	2.1	60	26.0	22.0	1.4	5.55
		70	25.4	20.9	1.5	4.93
		80	24.8	19.7	1.7	4.38
60	0.6	60	26.6	22.4	1.4	5.57
		70	26.0	21.3	1.5	4.95
		80	25.5	20.3	1.7	4.40
	1.2	60	27.9	23.8	1.4	5.73
		70	27.2	22.4	1.6	5.10
		80	27.5	21.4	1.7	4.64
	2.0	60	29.8	25.3	1.5	5.97
		70	28.8	23.9	1.6	5.27
		80	28.3	23.0	1.8	4.70
70	0.6	60	29.8	25.4	1.5	5.99
		70	29.2	24.3	1.6	5.34
		80	28.5	23.2	1.8	4.74
	1.2	60	31.6	26.9	1.5	6.20
		70	30.8	26.0	1.6	5.51
		80	29.9	24.6	1.8	4.88
	2.0	60	32.8	28.9	1.5	6.30
		70	31.9	26.9	1.7	5.63
		80	31.3	25.8	1.8	5.02
80	0.6	60	33.2	28.6	1.5	6.39
		70	32.4	27.4	1.7	5.70
		80	31.7	26.2	1.8	5.08
	1.2	60	35.2	30.7	1.6	6.60
		70	34.3	29.2	1.7	5.89
		80	33.5	27.6	1.9	5.25
	1.9	60	36.3	31.2	1.6	6.70
		70	35.2	29.9	1.7	5.97
		80	35.3	29.0	1.9	5.41

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM024 VT Part Load Cooling Performance Data - 700 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	3	0.6	75/63	20.7	16.9	22.3	0.6	32.2
			80/67	22.1	17.4	23.8	0.6	34.9
			85/71	23.5	18.0	25.1	0.6	37.5
	4.5	1.2	75/63	21.3	17.0	22.9	0.6	35.4
			80/67	22.7	17.6	24.2	0.6	38.2
			85/71	24.1	18.2	25.6	0.6	41.3
	6	2.1	75/63	21.5	17.2	23.0	0.6	36.6
			80/67	22.9	17.8	24.4	0.6	39.7
			85/71	24.6	18.1	26.0	0.6	43.5
60	3	0.6	75/63	19.7	16.5	21.6	0.7	27.0
			80/67	21.0	17.1	22.9	0.7	29.1
			85/71	22.3	17.7	24.2	0.7	31.3
	4.5	1.2	75/63	20.2	16.7	22.0	0.7	29.4
			80/67	21.5	17.2	23.3	0.7	31.8
			85/71	23.0	17.7	24.8	0.7	34.7
	6	2.0	75/63	20.4	16.8	22.2	0.7	30.5
			80/67	21.7	17.5	23.5	0.7	33.0
			85/71	23.3	18.0	25.0	0.6	36.2
70	3	0.6	75/63	19.1	16.2	21.4	0.8	22.6
			80/67	20.3	16.9	22.7	0.8	24.3
			85/71	20.2	17.6	23.0	0.8	24.3
	4.5	1.1	75/63	19.5	16.5	21.7	0.8	24.5
			80/67	21.0	17.1	23.1	0.8	26.7
			85/71	21.9	18.2	24.2	0.8	28.2
	6	1.9	75/63	19.7	16.7	21.8	0.8	25.3
			80/67	21.2	17.1	23.3	0.8	27.8
			85/71	22.5	17.9	24.6	0.8	30.0
80	3	0.5	75/63	17.9	16.0	20.6	1.0	18.5
			80/67	18.4	16.7	21.3	1.0	19.1
			85/71	19.2	17.3	22.3	1.0	20.1
	4.5	1.1	75/63	18.5	16.0	21.0	0.9	20.2
			80/67	19.4	17.1	22.0	0.9	21.3
			85/71	19.8	17.5	22.7	0.9	22.0
	6	1.9	75/63	18.7	16.1	21.2	0.9	20.9
			80/67	20.0	16.6	22.5	0.9	22.7
			85/71	20.0	17.5	22.9	0.9	22.8
90	3	0.5	75/63	16.2	15.6	19.6	1.1	14.4
			80/67	17.1	16.2	20.6	1.1	15.2
			85/71	18.1	16.9	21.7	1.1	16.2
	4.5	1.1	75/63	16.6	15.7	19.8	1.1	15.4
			80/67	17.6	16.4	20.9	1.1	16.5
			85/71	18.4	17.0	21.9	1.1	17.4
	6	1.8	75/63	17.3	15.5	20.2	1.1	16.4
			80/67	19.3	14.1	21.9	1.0	18.7
			85/71	20.9	13.9	23.3	1.0	20.4
100	3	0.5	75/63	15.9	14.3	19.4	1.3	12.4
			80/67	16.3	15.9	20.1	1.3	12.6
			85/71	17.2	16.6	21.2	1.3	13.4
	4.5	1.1	75/63	15.6	15.3	19.2	1.2	12.6
			80/67	16.6	16.1	20.3	1.2	13.5
			85/71	19.1	14.2	22.2	1.2	15.8
	6	1.8	75/63	15.8	15.4	19.4	1.2	13.0
			80/67	16.7	16.1	20.4	1.2	13.9
			85/71	17.7	16.8	21.5	1.2	14.9
110	3	0.5	75/63	14.5	14.5	18.7	1.5	9.9
			80/67	15.4	15.2	19.7	1.5	10.5
			85/71	17.0	14.7	21.1	1.5	11.7
	4.5	1.0	75/63	14.7	14.6	18.8	1.4	10.4
			80/67	16.2	14.5	20.2	1.4	11.6
			85/71	16.6	16.4	20.9	1.4	11.9
	6	1.7	75/63	14.9	14.5	18.9	1.4	10.7
			80/67	15.8	15.8	19.9	1.4	11.4
			85/71	17.8	14.5	21.5	1.4	13.0

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM024 VT Part Load Heating Performance Data - 700 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	0.7	60	11.1	8.7	0.9	3.80
		70	10.7	7.9	1.0	3.19
		80	10.2	7.2	1.1	2.69
	1.4	60	11.6	9.1	0.9	3.92
		70	11.1	8.3	1.0	3.29
		80	10.6	7.5	1.1	2.77
	2.4	60	11.8	9.3	0.9	3.96
		70	11.3	8.5	1.0	3.33
		80	10.8	7.7	1.1	2.81
30	0.6	60	19.5	16.7	0.9	6.20
		70	19.0	15.6	1.1	5.28
		80	18.9	15.2	1.2	4.63
	1.2	60	21.0	18.4	0.9	6.61
		70	20.4	17.3	1.1	5.62
		80	19.8	16.3	1.2	4.81
	2.0	60	21.6	18.9	0.9	6.74
		70	20.9	17.8	1.1	5.73
		80	20.3	16.8	1.2	4.90
40	0.6	60	15.2	12.7	0.9	4.95
		70	14.9	11.9	1.0	4.24
		80	14.4	11.1	1.2	3.64
	1.3	60	16.0	13.4	0.9	5.16
		70	15.5	12.5	1.0	4.40
		80	15.0	11.7	1.2	3.77
	2.2	60	16.4	13.8	0.9	5.25
		70	15.9	12.9	1.0	4.47
		80	15.4	12.0	1.2	3.83
50	0.6	60	17.7	16.2	0.9	5.72
		70	16.8	13.9	1.0	4.79
		80	16.7	13.3	1.2	4.18
	1.3	60	18.5	15.9	0.9	5.94
		70	17.9	15.0	1.0	5.06
		80	17.5	14.0	1.2	4.35
	2.1	60	19.0	16.4	0.9	6.05
		70	18.4	15.4	1.0	5.15
		80	17.9	14.4	1.2	4.42
60	0.6	60	19.6	17.0	0.9	6.24
		70	19.0	16.0	1.0	5.31
		80	18.4	14.9	1.2	4.53
	1.2	60	21.1	18.5	0.9	6.67
		70	20.5	17.4	1.1	5.68
		80	19.9	16.4	1.2	4.86
	2.0	60	21.7	19.1	0.9	6.80
		70	21.0	18.0	1.1	5.78
		80	20.4	16.9	1.2	4.95
70	0.6	60	22.2	19.4	0.9	7.00
		70	21.8	19.5	1.1	6.03
		80	20.9	17.4	1.2	5.09
	1.2	60	23.4	20.9	0.9	7.35
		70	23.0	20.0	1.1	6.33
		80	22.4	18.9	1.2	5.43
	2.0	60	24.4	21.8	0.9	7.63
		70	23.6	20.6	1.1	6.48
		80	23.0	19.4	1.2	5.54
80	0.6	60	24.7	22.2	0.9	7.78
		70	24.0	21.1	1.1	6.62
		80	23.2	20.7	1.2	5.63
	1.2	60	26.2	23.8	0.9	8.24
		70	25.2	22.4	1.1	6.92
		80	24.8	21.3	1.2	5.98
	1.9	60	27.2	24.6	0.9	8.53
		70	26.4	23.3	1.1	7.22
		80	25.6	22.0	1.2	6.12

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Bosch Thermotechnology Corp.
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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 VT Full Load Cooling Performance Data - 1200 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	4.5	1.2	75/63	41.1	31.4	45.4	1.5	27.3
			80/67	43.6	32.3	48.1	1.5	28.3
			85/71	46.5	33.1	51.2	1.6	29.3
	6.75	2.4	75/63	42.2	31.9	46.3	1.4	29.5
			80/67	45.0	32.9	49.2	1.5	30.7
			85/71	47.8	33.9	52.2	1.5	31.8
	9	4.1	75/63	42.7	32.2	46.7	1.4	30.5
			80/67	45.6	33.1	49.7	1.4	31.7
			85/71	48.8	33.8	53.1	1.5	32.9
60	4.5	1.1	75/63	39.4	30.7	44.2	1.6	23.9
			80/67	41.9	31.6	46.9	1.7	24.9
			85/71	44.6	32.3	49.7	1.7	25.9
	6.75	2.4	75/63	40.4	31.1	44.9	1.6	25.9
			80/67	43.1	32.0	47.7	1.6	27.1
			85/71	45.8	33.2	50.6	1.6	28.2
	9	4.0	75/63	40.9	31.5	45.3	1.5	26.8
			80/67	43.7	32.3	48.2	1.6	28.0
			85/71	46.7	33.2	51.4	1.6	29.3
70	4.5	1.1	75/63	37.6	29.8	43.0	1.8	20.4
			80/67	40.1	30.7	45.6	1.9	21.3
			85/71	42.6	31.7	48.3	1.9	22.2
	6.75	2.3	75/63	38.6	30.2	43.7	1.7	22.1
			80/67	41.1	31.2	46.4	1.8	23.2
			85/71	43.8	32.1	49.2	1.8	24.3
	9	3.8	75/63	39.1	30.5	44.0	1.7	22.9
			80/67	41.7	31.5	46.8	1.7	24.1
			85/71	44.5	32.3	49.7	1.8	25.2
80	4.5	1.1	75/63	35.8	29.1	41.9	2.0	17.5
			80/67	38.2	30.0	44.4	2.1	18.4
			85/71	40.7	30.9	47.0	2.1	19.3
	6.75	2.2	75/63	36.6	29.7	42.4	1.9	18.9
			80/67	39.2	30.5	45.0	2.0	19.9
			85/71	41.7	31.5	47.7	2.0	20.9
	9	3.7	75/63	37.3	29.7	42.9	1.9	19.7
			80/67	39.8	30.7	45.5	1.9	20.8
			85/71	42.2	31.9	48.1	1.9	21.8
90	4.5	1.0	75/63	34.5	28.6	41.3	2.3	15.2
			80/67	36.9	29.5	43.8	2.3	16.1
			85/71	39.3	30.6	46.3	2.3	17.0
	6.75	2.2	75/63	35.4	28.9	41.8	2.2	16.5
			80/67	37.8	30.0	44.4	2.2	17.4
			85/71	40.4	30.9	47.0	2.2	18.5
	9	3.6	75/63	35.9	29.1	42.1	2.1	17.0
			80/67	38.3	30.2	44.7	2.1	18.1
			85/71	41.0	31.0	47.4	2.1	19.2
100	4.5	1.0	75/63	32.7	28.0	40.4	2.5	13.0
			80/67	34.9	29.0	42.7	2.5	13.7
			85/71	37.3	29.9	45.2	2.6	14.5
	6.75	2.1	75/63	33.6	28.2	40.9	2.4	14.0
			80/67	36.0	29.3	43.3	2.4	14.9
			85/71	38.5	30.1	45.9	2.4	15.8
	9	3.5	75/63	34.0	28.4	41.1	2.4	14.4
			80/67	36.5	29.3	43.6	2.4	15.4
			85/71	38.9	30.5	46.2	2.4	16.4
110	4.5	1.0	75/63	31.0	27.1	39.6	2.8	11.0
			80/67	33.1	28.2	41.8	2.8	11.7
			85/71	35.2	29.2	44.1	2.9	12.3
	6.75	2.1	75/63	31.7	27.5	39.9	2.7	11.8
			80/67	33.9	28.5	42.2	2.7	12.6
			85/71	36.3	29.5	44.7	2.7	13.4
	9	3.4	75/63	32.1	27.7	40.1	2.6	12.2
			80/67	34.4	28.7	42.5	2.6	13.0
			85/71	36.8	29.8	45.0	2.7	13.9

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Bosch Thermotechnology Corp.
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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM036 VT Full Load Heating Performance Data - 1200 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	1.4	60	23.2	18.2	1.6	4.14
		70	22.9	17.2	1.9	3.62
		80	22.6	16.2	2.1	3.18
	2.9	60	24.3	19.2	1.7	4.26
		70	23.9	18.2	1.9	3.72
		80	23.6	17.1	2.1	3.27
	4.8	60	24.9	19.8	1.7	4.30
		70	24.5	18.7	1.9	3.76
		80	24.1	17.5	2.1	3.30
30	1.4	60	27.0	21.8	1.7	4.62
		70	26.6	20.6	1.9	4.05
		80	26.3	19.5	2.2	3.56
	2.8	60	28.4	23.1	1.7	4.76
		70	27.9	21.8	2.0	4.16
		80	27.5	20.6	2.2	3.67
	4.6	60	29.2	23.8	1.8	4.82
		70	28.6	22.5	2.0	4.21
		80	28.2	21.2	2.2	3.71
40	1.3	60	31.4	24.9	1.8	5.15
		70	30.5	24.3	2.0	4.45
		80	30.0	23.0	2.2	3.92
	2.6	60	32.9	27.2	1.8	5.26
		70	32.1	25.8	2.0	4.60
		80	31.5	24.4	2.3	4.04
	4.4	60	33.8	28.2	1.9	5.32
		70	33.1	26.7	2.1	4.66
		80	32.4	25.2	2.3	4.09
50	1.3	60	33.9	28.2	1.9	5.29
		70	33.1	27.5	2.1	4.61
		80	34.1	26.1	2.4	4.22
	2.6	60	37.4	31.4	2.0	5.60
		70	36.6	29.8	2.2	4.94
		80	35.9	28.3	2.4	4.36
	4.2	60	38.6	32.5	2.0	5.67
		70	37.7	30.9	2.2	5.00
		80	36.9	29.3	2.4	4.42
60	1.2	60	38.6	31.2	2.0	5.65
		70	37.5	30.5	2.2	4.92
		80	37.2	30.7	2.5	4.37
	2.5	60	41.4	33.9	2.1	5.85
		70	41.1	34.2	2.3	5.21
		80	40.3	32.2	2.6	4.62
	4.1	60	43.4	37.1	2.1	5.97
		70	42.3	35.1	2.3	5.28
		80	41.3	33.3	2.6	4.67
70	1.2	60	43.3	36.8	2.1	6.02
		70	42.4	35.0	2.3	5.34
		80	41.4	33.6	2.6	4.71
	2.4	60	45.4	38.2	2.2	6.18
		70	46.2	38.7	2.4	5.62
		80	45.3	36.6	2.7	4.99
	4.0	60	48.8	42.3	2.2	6.38
		70	47.6	40.1	2.5	5.68
		80	46.4	38.1	2.7	5.03
80	1.1	60	48.4	41.6	2.2	6.40
		70	47.3	39.8	2.4	5.71
		80	46.3	37.9	2.7	5.07
	2.3	60	50.8	44.2	2.3	6.54
		70	50.5	43.0	2.5	5.91
		80	50.2	41.1	2.8	5.31
	3.8	60	53.9	46.8	2.4	6.70
		70	53.1	45.2	2.6	6.03
		80	51.8	43.0	2.8	5.38

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 VT Part Load Cooling Performance Data - 1050 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	4.5	1.2	75/63	30.8	25.3	32.8	0.8	37.9
			80/67	32.9	26.2	34.9	0.8	40.9
			85/71	35.1	27.0	37.1	0.8	44.3
	6.75	2.5	75/63	31.4	25.6	33.4	0.8	40.3
			80/67	33.7	26.4	35.6	0.8	43.8
			85/71	35.9	27.3	37.8	0.8	47.7
	9	4.1	75/63	31.8	25.8	33.7	0.8	41.0
			80/67	34.1	26.6	36.0	0.8	44.7
			85/71	36.4	27.4	38.2	0.7	48.8
60	4.5	1.2	75/63	29.3	24.7	31.7	0.9	32.3
			80/67	31.4	25.6	33.7	0.9	34.8
			85/71	33.5	26.4	35.8	0.9	37.4
	6.75	2.4	75/63	30.0	25.0	32.2	0.9	34.5
			80/67	32.1	25.9	34.3	0.9	37.5
			85/71	34.2	26.9	36.4	0.8	40.5
	9	4.0	75/63	30.3	25.1	32.5	0.9	35.3
			80/67	32.6	25.8	34.8	0.8	38.7
			85/71	34.6	27.1	36.8	0.8	41.7
70	4.5	1.1	75/63	28.0	24.1	30.8	1.1	25.9
			80/67	29.9	25.1	32.8	1.1	27.8
			85/71	31.8	26.2	34.7	1.1	29.8
	6.75	2.3	75/63	28.7	24.3	31.4	1.0	28.0
			80/67	30.7	25.3	33.4	1.0	30.2
			85/71	32.8	26.2	35.5	1.0	32.6
	9	3.9	75/63	28.9	24.6	31.6	1.0	28.7
			80/67	31.0	25.5	33.7	1.0	31.1
			85/71	33.2	26.3	35.8	1.0	33.8
80	4.5	1.1	75/63	26.4	23.5	29.8	1.2	21.4
			80/67	28.2	24.7	31.7	1.2	22.9
			85/71	30.3	25.3	33.7	1.2	24.6
	6.75	2.2	75/63	26.9	24.0	30.2	1.2	22.9
			80/67	29.0	24.8	32.2	1.2	24.9
			85/71	31.0	25.6	34.2	1.2	26.8
	9	3.7	75/63	27.4	23.9	30.5	1.2	23.7
			80/67	29.4	24.8	32.5	1.1	25.7
			85/71	31.4	25.8	34.5	1.1	27.7
90	4.5	1.1	75/63	25.3	23.3	29.5	1.5	17.3
			80/67	27.0	24.6	31.3	1.5	18.5
			85/71	29.0	25.3	33.3	1.5	19.9
	6.75	2.2	75/63	26.0	23.4	29.9	1.4	18.7
			80/67	27.8	24.6	31.8	1.4	20.1
			85/71	29.8	25.5	33.8	1.4	21.6
	9	3.6	75/63	26.3	23.5	30.2	1.4	19.2
			80/67	28.4	24.2	32.2	1.4	20.9
			85/71	30.3	25.4	34.2	1.3	22.5
100	4.5	1.0	75/63	23.3	23.0	28.3	1.7	13.9
			80/67	26.3	21.8	30.8	1.7	15.7
			85/71	28.4	21.8	32.8	1.7	16.9
	6.75	2.1	75/63	23.7	23.1	28.5	1.6	14.7
			80/67	26.1	24.0	30.8	1.6	16.3
			85/71	27.6	25.5	32.4	1.6	17.2
	9	3.5	75/63	24.4	23.2	29.0	1.6	15.4
			80/67	26.4	24.1	31.0	1.6	16.8
			85/71	28.8	24.0	33.2	1.6	18.5
110	4.5	1.0	75/63	20.4	20.4	26.6	1.9	10.6
			80/67	21.7	21.7	28.2	1.9	11.3
			85/71	23.1	23.1	29.8	1.9	12.0
	6.75	2.1	75/63	22.4	22.4	27.9	1.9	12.1
			80/67	23.9	23.7	29.5	1.8	12.9
			85/71	25.4	24.8	31.2	1.8	13.8
	9	3.5	75/63	20.9	20.9	26.8	1.8	11.4
			80/67	25.3	21.9	30.4	1.8	14.0
			85/71	27.5	21.9	32.3	1.8	15.2

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM036 VT Part Load Heating Performance Data - 1050 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	1.4	60	15.8	12.3	1.2	3.84
		70	15.4	11.3	1.4	3.25
		80	15.0	10.3	1.6	2.75
	2.9	60	16.4	12.8	1.2	3.94
		70	15.9	11.8	1.4	3.33
		80	15.5	10.8	1.6	2.83
	4.8	60	16.8	13.1	1.2	3.97
		70	16.2	12.1	1.4	3.36
		80	15.7	11.0	1.6	2.85
30	1.3	60	18.8	15.2	1.2	4.49
		70	18.3	14.1	1.4	3.83
		80	18.0	13.1	1.6	3.29
	2.7	60	19.6	15.9	1.2	4.63
		70	19.0	14.8	1.4	3.95
		80	18.5	13.7	1.6	3.37
	4.6	60	20.0	16.4	1.3	4.67
		70	19.4	15.2	1.4	3.99
		80	18.9	14.1	1.6	3.40
40	1.3	60	22.1	18.4	1.2	5.20
		70	21.5	17.3	1.4	4.46
		80	21.0	16.1	1.6	3.82
	2.6	60	23.1	19.4	1.3	5.39
		70	22.4	18.2	1.4	4.61
		80	21.8	16.9	1.6	3.94
	4.4	60	23.6	19.9	1.3	5.45
		70	22.9	18.7	1.4	4.66
		80	22.3	17.4	1.6	3.98
50	1.2	60	25.5	21.7	1.3	5.83
		70	24.8	20.5	1.5	5.00
		80	24.4	19.2	1.7	4.30
	2.5	60	26.7	22.9	1.3	6.06
		70	26.0	21.6	1.5	5.18
		80	25.4	20.2	1.7	4.44
	4.2	60	27.4	23.6	1.3	6.14
		70	26.6	22.2	1.5	5.25
		80	25.9	20.8	1.7	4.50
60	1.2	60	28.5	24.8	1.3	6.52
		70	28.1	23.8	1.5	5.65
		80	27.5	22.4	1.7	4.83
	2.5	60	30.3	26.5	1.3	6.87
		70	29.4	25.1	1.5	5.86
		80	28.6	23.6	1.7	4.99
	4.1	60	31.1	27.3	1.3	6.98
		70	30.1	25.8	1.5	5.94
		80	29.3	24.2	1.7	5.07
70	1.2	60	31.1	27.0	1.3	7.09
		70	31.0	25.6	1.5	6.18
		80	30.9	25.8	1.7	5.38
	2.4	60	34.3	30.5	1.3	7.74
		70	33.4	29.0	1.5	6.58
		80	32.5	27.4	1.7	5.61
	3.9	60	35.2	31.5	1.3	7.84
		70	34.2	29.8	1.5	6.68
		80	33.3	28.2	1.7	5.69
80	1.1	60	35.4	31.4	1.3	8.02
		70	33.3	33.2	1.5	6.55
		80	33.0	28.5	1.7	5.70
	2.3	60	38.5	34.8	1.3	8.66
		70	37.5	33.1	1.5	7.32
		80	36.5	31.3	1.7	6.21
	3.8	60	39.6	35.8	1.3	8.82
		70	38.5	34.1	1.5	7.44
		80	37.4	32.3	1.7	6.30

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM048 VT Full Load Cooling Performance Data - 1600 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	6	2.3	75/63	53.3	41.3	59.1	2.0	26.2
			80/67	56.7	42.6	62.7	2.1	27.5
			85/71	60.2	43.7	66.3	2.1	28.9
	9	4.9	75/63	54.9	41.8	60.3	1.9	28.7
			80/67	58.5	43.1	64.0	1.9	30.3
			85/71	62.2	44.3	67.8	1.9	32.0
	12	8.1	75/63	55.6	42.3	60.9	1.9	29.7
			80/67	59.4	43.4	64.8	1.9	31.4
			85/71	63.2	44.6	68.6	1.9	33.2
60	6	2.3	75/63	51.2	40.3	57.7	2.3	22.7
			80/67	54.5	41.4	61.2	2.3	23.9
			85/71	58.0	42.5	64.7	2.3	25.1
	9	4.7	75/63	52.6	40.8	58.7	2.1	24.7
			80/67	56.1	42.0	62.3	2.1	26.1
			85/71	59.6	43.5	65.9	2.2	27.6
	12	7.9	75/63	53.3	41.2	59.3	2.1	25.5
			80/67	56.8	42.6	62.9	2.1	27.0
			85/71	60.5	43.8	66.7	2.1	28.7
70	6	2.2	75/63	49.1	39.7	56.6	2.5	19.3
			80/67	52.5	40.6	60.1	2.6	20.4
			85/71	55.8	41.9	63.5	2.6	21.4
	9	4.6	75/63	50.6	40.0	57.7	2.4	21.0
			80/67	54.0	41.4	61.1	2.4	22.2
			85/71	57.6	42.4	64.8	2.4	23.6
	12	7.6	75/63	51.3	40.4	58.2	2.4	21.7
			80/67	54.8	41.7	61.8	2.4	23.0
			85/71	58.4	42.9	65.4	2.4	24.5
80	6	2.1	75/63	46.8	38.5	55.2	2.8	16.5
			80/67	49.9	39.8	58.5	2.9	17.4
			85/71	53.0	41.2	61.8	2.9	18.4
	9	4.4	75/63	48.2	38.9	56.1	2.7	17.9
			80/67	51.3	40.5	59.4	2.7	19.0
			85/71	54.9	41.4	63.0	2.7	20.2
	12	7.4	75/63	48.7	39.5	56.5	2.6	18.5
			80/67	52.2	40.7	60.1	2.6	19.7
			85/71	55.7	41.9	63.6	2.7	21.0
90	6	2.1	75/63	44.4	37.6	54.1	3.2	13.9
			80/67	47.6	38.7	57.3	3.2	14.7
			85/71	50.6	39.9	60.6	3.3	15.5
	9	4.3	75/63	45.7	38.2	54.9	3.0	15.0
			80/67	48.9	39.3	58.1	3.1	16.0
			85/71	52.1	40.7	61.5	3.1	16.9
	12	7.2	75/63	46.4	38.2	55.4	3.0	15.5
			80/67	49.7	39.5	58.7	3.0	16.5
			85/71	52.9	40.9	62.0	3.0	17.6
100	6	2.0	75/63	40.6	37.1	52.0	3.6	11.4
			80/67	46.4	33.5	56.6	3.6	12.8
			85/71	50.1	31.9	60.0	3.7	13.6
	9	4.2	75/63	43.2	36.9	53.5	3.4	12.6
			80/67	46.2	38.3	56.6	3.4	13.4
			85/71	49.4	39.6	60.0	3.5	14.3
	12	7.0	75/63	43.8	37.1	53.9	3.4	13.0
			80/67	46.7	38.8	57.0	3.4	13.9
			85/71	50.2	39.7	60.5	3.4	14.8
110	6	2.0	75/63	40.6	32.5	52.3	4.0	10.0
			80/67	40.3	37.5	53.6	4.1	9.9
			85/71	47.1	31.8	58.5	4.1	11.4
	9	4.1	75/63	39.2	36.5	51.5	3.8	10.2
			80/67	41.8	38.1	54.4	3.9	10.8
			85/71	43.9	39.5	57.0	3.9	11.3
	12	6.8	75/63	39.7	36.7	51.8	3.8	10.5
			80/67	42.4	38.3	54.7	3.8	11.2
			85/71	44.9	39.8	57.5	3.8	11.8

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM048 VT Full Load Heating Performance Data - 1600 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	2.8	60	31.0	24.4	2.1	4.29
		70	30.6	22.7	2.4	3.71
		80	29.9	21.3	2.7	3.21
	5.7	60	32.2	25.6	2.2	4.35
		70	31.9	24.6	2.5	3.79
		80	32.0	22.9	2.8	3.35
	9.5	60	33.7	26.5	2.2	4.42
		70	33.2	25.6	2.5	3.84
		80	32.8	23.8	2.9	3.37
30	2.7	60	36.1	29.1	2.2	4.74
		70	35.4	27.5	2.5	4.11
		80	34.8	25.8	2.8	3.59
	5.5	60	37.8	30.6	2.3	4.84
		70	36.9	28.9	2.6	4.19
		80	36.0	26.9	2.9	3.65
	9.1	60	38.9	31.4	2.3	4.85
		70	37.6	29.7	2.6	4.19
		80	37.4	28.0	2.9	3.72
40	2.6	60	41.7	34.3	2.4	5.18
		70	40.8	32.5	2.6	4.53
		80	40.1	30.7	2.9	3.99
	5.3	60	43.8	36.3	2.4	5.29
		70	42.7	34.4	2.7	4.64
		80	41.7	32.4	3.0	4.08
	8.7	60	44.9	37.5	2.5	5.30
		70	43.8	35.3	2.8	4.66
		80	42.8	32.8	3.1	4.12
50	2.5	60	47.0	39.5	2.5	5.62
		70	46.1	37.4	2.7	4.95
		80	45.1	35.8	3.0	4.35
	5.1	60	49.7	41.9	2.5	5.77
		70	48.4	39.7	2.8	5.08
		80	47.3	37.6	3.1	4.48
	8.4	60	51.0	43.3	2.6	5.79
		70	49.7	41.1	2.9	5.10
		80	48.6	38.1	3.2	4.52
60	2.4	60	52.7	44.6	2.6	5.96
		70	51.6	42.6	2.9	5.26
		80	50.6	40.4	3.2	4.65
	4.9	60	55.8	47.5	2.7	6.13
		70	54.4	45.2	2.9	5.41
		80	53.1	42.9	3.3	4.77
	8.1	60	57.3	49.1	2.7	6.15
		70	55.8	46.7	3.0	5.43
		80	54.4	44.2	3.3	4.79
70	2.3	60	59.2	50.8	2.7	6.40
		70	58.0	48.6	3.0	5.66
		80	56.8	46.4	3.3	5.00
	4.7	60	62.9	54.2	2.8	6.59
		70	61.3	51.7	3.1	5.82
		80	59.8	49.2	3.4	5.13
	7.9	60	64.7	56.1	2.9	6.62
		70	63.0	53.4	3.2	5.85
		80	61.4	50.7	3.5	5.16
80	2.3	60	66.1	57.3	2.8	6.82
		70	64.6	54.9	3.1	6.03
		80	63.3	52.4	3.5	5.33
	4.6	60	70.3	61.2	2.9	7.01
		70	68.5	58.5	3.2	6.19
		80	66.9	55.7	3.6	5.46
	7.6	60	72.4	63.3	3.0	7.05
		70	70.6	60.4	3.3	6.23
		80	68.8	57.4	3.7	5.50

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Bosch Thermotechnology Corp.
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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM048 VT Part Load Cooling Performance Data - 1300 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	6	2.4	75/63	40.7	32.5	43.6	1.1	36.0
			80/67	43.3	33.4	46.2	1.1	39.2
			85/71	46.0	34.5	48.9	1.1	42.6
	9	4.9	75/63	41.7	32.9	44.4	1.1	39.4
			80/67	44.6	33.8	47.2	1.0	43.5
			85/71	47.5	34.8	50.0	1.0	47.9
	12	8.2	75/63	42.3	33.1	45.0	1.0	40.5
			80/67	45.2	34.1	47.8	1.0	44.9
			85/71	48.1	35.1	50.6	1.0	49.7
60	6	2.3	75/63	38.5	31.6	42.1	1.3	29.1
			80/67	41.0	32.7	44.6	1.3	31.5
			85/71	43.8	33.7	47.3	1.3	34.2
	9	4.7	75/63	39.5	32.0	42.8	1.2	31.6
			80/67	42.2	33.1	45.5	1.2	34.6
			85/71	45.1	33.9	48.3	1.2	38.0
	12	7.9	75/63	40.1	32.2	43.4	1.2	32.5
			80/67	42.9	33.2	46.1	1.2	35.7
			85/71	45.7	34.4	48.8	1.2	39.2
70	6	2.2	75/63	36.8	30.9	41.1	1.6	23.6
			80/67	39.2	32.0	43.6	1.5	25.4
			85/71	41.9	33.0	46.2	1.5	27.6
	9	4.6	75/63	37.7	31.3	41.8	1.5	25.5
			80/67	40.4	32.3	44.4	1.5	27.8
			85/71	43.1	33.5	47.1	1.4	30.3
	12	7.7	75/63	38.3	31.5	42.3	1.5	26.2
			80/67	40.9	32.6	44.9	1.4	28.6
			85/71	43.8	33.6	47.7	1.4	31.4
80	6	2.2	75/63	34.5	29.9	39.6	1.8	19.1
			80/67	35.9	31.7	41.3	1.8	20.0
			85/71	40.9	28.6	45.3	1.8	23.2
	9	4.5	75/63	35.4	30.4	40.3	1.7	20.6
			80/67	38.0	31.3	42.8	1.7	22.4
			85/71	40.5	32.8	45.3	1.7	24.3
	12	7.4	75/63	35.9	30.5	40.7	1.7	21.1
			80/67	38.5	31.7	43.2	1.7	23.0
			85/71	41.3	32.6	45.9	1.6	25.2
90	6	2.1	75/63	33.8	28.7	39.9	2.2	15.7
			80/67	34.9	31.3	41.5	2.2	16.2
			85/71	37.1	32.6	43.9	2.1	17.4
	9	4.3	75/63	34.3	29.8	40.3	2.1	16.6
			80/67	36.7	31.2	42.7	2.0	18.0
			85/71	37.8	32.8	44.4	2.0	18.7
	12	7.2	75/63	34.8	30.0	40.7	2.0	17.1
			80/67	37.4	31.2	43.2	2.0	18.6
			85/71	38.4	33.0	44.8	2.0	19.3
100	6	2.0	75/63	31.1	28.5	38.4	2.5	12.6
			80/67	33.8	29.0	40.9	2.5	13.7
			85/71	34.5	31.7	42.4	2.5	14.1
	9	4.2	75/63	31.8	28.9	38.8	2.4	13.4
			80/67	34.8	29.0	41.5	2.4	14.8
			85/71	35.9	32.2	43.3	2.3	15.4
	12	7.0	75/63	32.1	29.3	39.1	2.4	13.6
			80/67	34.2	31.1	41.3	2.3	14.7
			85/71	36.4	32.3	43.6	2.3	15.8
110	6	2.0	75/63	28.7	27.6	37.1	2.8	10.2
			80/67	31.0	28.9	39.4	2.8	11.1
			85/71	32.5	31.0	41.4	2.8	11.6
	9	4.1	75/63	29.5	27.9	37.6	2.7	10.8
			80/67	31.9	29.2	40.0	2.7	11.8
			85/71	33.2	31.2	41.8	2.7	12.4
	12	6.9	75/63	29.8	28.1	37.9	2.7	11.1
			80/67	32.3	29.2	40.2	2.7	12.1
			85/71	33.6	31.4	42.1	2.7	12.7

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM048 VT Part Load Heating Performance Data - 1300 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	2.8	60	23.4	18.4	1.6	4.19
		70	22.3	16.8	1.8	3.54
		80	21.3	15.1	2.1	3.00
	5.7	60	24.2	19.2	1.7	4.27
		70	23.1	17.4	1.9	3.62
		80	22.0	15.7	2.1	3.05
	9.4	60	24.6	19.6	1.7	4.24
		70	23.5	17.8	1.9	3.60
		80	22.4	16.1	2.2	3.04
30	2.7	60	27.0	21.7	1.7	4.78
		70	26.0	20.3	1.9	4.06
		80	25.0	18.5	2.1	3.45
	5.4	60	28.1	23.1	1.7	4.89
		70	26.9	21.2	1.9	4.15
		80	25.8	19.4	2.2	3.52
	9.0	60	28.7	23.7	1.7	4.88
		70	27.5	21.8	1.9	4.14
		80	26.3	19.8	2.2	3.52
40	2.6	60	30.4	26.5	1.7	5.32
		70	29.6	24.0	1.9	4.56
		80	28.8	22.3	2.2	3.90
	5.2	60	32.4	27.4	1.7	5.57
		70	31.2	25.4	1.9	4.72
		80	30.0	23.4	2.2	4.01
	8.7	60	33.1	28.1	1.7	5.56
		70	31.9	26.0	2.0	4.72
		80	30.6	24.0	2.2	4.02
50	2.5	60	34.5	29.5	1.7	6.00
		70	33.3	27.2	1.9	5.08
		80	33.0	26.1	2.2	4.42
	5.0	60	36.7	31.4	1.7	6.27
		70	35.6	29.9	2.0	5.33
		80	34.6	27.7	2.2	4.57
	8.4	60	37.9	32.8	1.8	6.31
		70	36.6	30.5	2.0	5.37
		80	35.3	28.4	2.3	4.59
60	2.4	60	39.8	34.6	1.7	6.72
		70	38.5	32.3	2.0	5.73
		80	37.2	30.5	2.2	4.88
	4.9	60	41.4	36.1	1.8	6.89
		70	39.9	33.7	2.0	5.84
		80	39.7	32.4	2.3	5.12
	8.1	60	43.1	38.1	1.8	7.01
		70	42.3	36.2	2.0	6.05
		80	40.9	33.8	2.3	5.18
70	2.3	60	45.0	39.7	1.8	7.50
		70	43.6	37.5	2.0	6.38
		80	42.3	35.1	2.3	5.45
	4.7	60	46.9	41.9	1.8	7.71
		70	45.1	39.2	2.0	6.50
		80	44.9	37.8	2.3	5.70
	7.8	60	48.1	44.1	1.8	7.73
		70	47.4	41.3	2.1	6.70
		80	46.1	39.3	2.4	5.75
80	2.2	60	50.3	45.0	1.8	8.29
		70	48.9	42.6	2.0	7.04
		80	47.4	40.3	2.3	6.02
	4.6	60	52.6	47.5	1.8	8.53
		70	50.9	45.0	2.1	7.23
		80	49.3	42.5	2.3	6.16
	7.6	60	51.7	48.4	1.8	8.40
		70	52.0	44.7	2.1	7.26
		80	50.3	42.8	2.4	6.19

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 VT Full Load Cooling Performance Data - 1950 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	7.5	2.7	75/63	66.3	50.7	73.8	2.6	25.4
			80/67	70.6	52.2	78.3	2.7	26.5
			85/71	75.1	53.5	83.0	2.7	27.6
	11.25	5.7	75/63	68.0	51.3	75.1	2.5	27.2
			80/67	72.5	52.7	79.8	2.5	28.5
			85/71	77.1	54.2	84.7	2.6	29.7
	15	9.6	75/63	68.7	51.6	75.8	2.5	27.6
			80/67	73.3	53.3	80.6	2.5	29.0
			85/71	78.5	54.3	85.9	2.6	30.5
60	7.5	2.7	75/63	63.7	49.6	72.0	2.9	22.3
			80/67	67.8	51.0	76.3	2.9	23.4
			85/71	72.0	52.9	80.8	2.9	24.4
	11.25	5.5	75/63	65.1	50.5	73.1	2.7	23.9
			80/67	69.7	51.8	77.8	2.8	25.2
			85/71	74.3	52.9	82.5	2.8	26.4
	15	9.2	75/63	66.1	50.5	73.9	2.7	24.4
			80/67	70.6	52.1	78.6	2.7	25.7
			85/71	75.3	53.2	83.4	2.8	27.0
70	7.5	2.6	75/63	60.6	48.4	70.0	3.2	19.1
			80/67	64.7	49.9	74.3	3.2	20.1
			85/71	68.8	51.2	78.6	3.3	21.1
	11.25	5.3	75/63	62.3	48.7	71.2	3.0	20.5
			80/67	66.4	50.4	75.5	3.1	21.6
			85/71	70.8	51.6	80.0	3.1	22.8
	15	9.0	75/63	63.0	49.0	71.8	3.0	20.9
			80/67	67.3	50.5	76.2	3.0	22.1
			85/71	71.7	52.2	80.8	3.1	23.4
80	7.5	2.5	75/63	58.0	47.2	68.4	3.5	16.5
			80/67	61.8	48.6	72.4	3.5	17.4
			85/71	65.8	49.9	76.6	3.6	18.3
	11.25	5.2	75/63	59.3	47.8	69.3	3.4	17.7
			80/67	63.3	49.3	73.5	3.4	18.7
			85/71	67.6	50.8	77.9	3.4	19.8
	15	8.7	75/63	60.0	47.7	69.9	3.3	18.0
			80/67	64.0	49.8	74.1	3.3	19.2
			85/71	68.5	51.1	78.6	3.4	20.3
90	7.5	2.4	75/63	55.1	46.0	67.0	3.9	14.0
			80/67	58.8	47.4	70.8	4.0	14.8
			85/71	62.6	49.2	74.9	4.0	15.6
	11.25	5.0	75/63	56.3	46.8	67.7	3.8	15.0
			80/67	60.3	48.2	71.8	3.8	15.9
			85/71	64.4	49.5	75.9	3.8	16.8
	15	8.5	75/63	56.9	46.6	68.2	3.7	15.2
			80/67	61.0	48.5	72.3	3.7	16.3
			85/71	65.2	49.6	76.6	3.8	17.3
100	7.5	2.4	75/63	52.1	44.8	65.5	4.4	11.9
			80/67	55.7	46.4	69.3	4.4	12.6
			85/71	58.5	49.6	72.6	4.4	13.2
	11.25	4.9	75/63	53.1	45.7	66.0	4.2	12.6
			80/67	57.2	46.6	70.1	4.2	13.5
			85/71	60.8	48.6	73.9	4.2	14.3
	15	8.2	75/63	53.5	46.4	66.3	4.1	12.9
			80/67	57.0	48.6	70.1	4.2	13.7
			85/71	60.8	50.6	74.0	4.2	14.6
110	7.5	2.3	75/63	49.0	43.7	64.1	4.9	10.1
			80/67	50.2	46.2	66.2	4.9	10.3
			85/71	53.2	48.0	69.6	4.9	10.8
	11.25	4.8	75/63	49.7	44.9	64.4	4.7	10.6
			80/67	51.4	46.6	66.8	4.7	10.9
			85/71	60.2	37.6	73.1	4.8	12.5
	15	8.0	75/63	49.0	44.9	63.9	4.6	10.5
			80/67	52.0	46.8	67.3	4.6	11.2
			85/71	55.0	48.6	70.6	4.6	11.8

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 VT Full Load Heating Performance Data - 1950 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	3.3	60	39.1	30.7	2.8	4.14
		70	38.2	28.2	3.1	3.63
		80	38.7	27.4	3.5	3.28
	6.7	60	42.4	33.0	2.9	4.34
		70	41.6	31.3	3.2	3.82
		80	40.7	29.6	3.5	3.36
	11.1	60	43.5	34.1	2.9	4.33
		70	42.5	32.1	3.3	3.81
		80	41.6	30.0	3.6	3.37
30	3.1	60	45.1	36.1	2.9	4.58
		70	44.4	33.7	3.2	4.05
		80	43.7	32.0	3.6	3.58
	6.4	60	46.5	37.0	2.9	4.63
		70	47.3	36.9	3.3	4.18
		80	47.0	34.8	3.7	3.75
	10.6	60	50.1	40.2	3.1	4.78
		70	49.0	38.4	3.4	4.22
		80	48.0	36.0	3.8	3.75
40	3.0	60	51.9	42.1	3.0	5.03
		70	50.7	40.1	3.4	4.43
		80	49.8	38.1	3.7	3.93
	6.2	60	54.1	44.3	3.1	5.11
		70	53.0	42.4	3.4	4.53
		80	51.4	39.6	3.8	3.98
	10.2	60	56.5	46.5	3.2	5.19
		70	55.9	43.5	3.5	4.64
		80	55.2	42.3	3.9	4.14
50	2.9	60	60.6	50.4	3.2	5.47
		70	59.5	48.2	3.6	4.86
		80	58.4	45.7	4.0	4.31
	5.9	60	63.7	53.3	3.3	5.59
		70	62.3	50.8	3.7	4.96
		80	61.0	48.4	4.1	4.40
	9.8	60	65.5	55.0	3.4	5.61
		70	63.8	52.6	3.8	4.96
		80	62.6	49.5	4.1	4.43
60	2.8	60	68.2	57.2	3.5	5.77
		70	66.9	54.9	3.8	5.13
		80	65.8	52.2	4.2	4.57
	5.7	60	71.9	60.7	3.6	5.91
		70	70.4	58.0	3.9	5.25
		80	68.9	55.3	4.3	4.67
	9.5	60	73.8	62.9	3.7	5.91
		70	72.2	60.0	4.0	5.27
		80	70.7	56.7	4.4	4.69
70	2.7	60	76.6	65.1	3.6	6.17
		70	75.1	62.5	4.0	5.50
		80	73.8	59.8	4.4	4.89
	5.6	60	81.1	69.2	3.8	6.32
		70	79.3	66.2	4.1	5.63
		80	77.6	63.2	4.5	5.01
	9.2	60	83.4	71.6	3.9	6.33
		70	81.4	68.5	4.2	5.64
		80	79.4	65.3	4.6	5.02
80	2.7	60	85.3	73.2	3.8	6.53
		70	83.7	70.3	4.2	5.83
		80	82.1	67.4	4.6	5.19
	5.4	60	90.7	78.1	4.0	6.69
		70	88.6	74.7	4.4	5.96
		80	86.6	71.4	4.8	5.31
	8.9	60	93.3	80.7	4.1	6.69
		70	91.0	77.2	4.5	5.97
		80	88.7	73.6	4.9	5.32

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Bosch Thermotechnology Corp.
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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM060 VT Part Load Cooling Performance Data - 1550 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	7.5	2.8	75/63	50.5	39.3	54.4	1.5	34.0
			80/67	53.7	40.7	57.6	1.5	36.8
			85/71	57.3	41.6	61.1	1.4	40.1
	11.25	5.7	75/63	51.7	40.0	55.4	1.4	36.5
			80/67	55.2	41.1	58.9	1.4	40.0
			85/71	58.9	42.3	62.4	1.3	43.8
	15	9.6	75/63	52.3	40.2	56.1	1.4	36.9
			80/67	56.0	41.4	59.7	1.4	40.6
			85/71	59.7	42.6	63.2	1.3	44.5
60	7.5	2.7	75/63	47.7	38.1	52.4	1.7	27.9
			80/67	51.0	39.6	55.7	1.7	30.4
			85/71	54.5	40.6	59.0	1.7	33.0
	11.25	5.5	75/63	48.9	38.8	53.3	1.6	30.0
			80/67	52.3	40.1	56.7	1.6	32.8
			85/71	55.9	41.2	60.2	1.6	35.8
	15	9.3	75/63	49.6	39.1	54.0	1.6	30.5
			80/67	53.0	40.3	57.4	1.6	33.3
			85/71	56.8	41.4	61.0	1.6	36.6
70	7.5	2.6	75/63	45.3	37.2	50.9	2.0	22.8
			80/67	48.6	38.5	54.1	2.0	24.8
			85/71	51.6	40.2	57.2	1.9	26.7
	11.25	5.4	75/63	46.3	37.8	51.7	1.9	24.3
			80/67	49.7	39.1	55.0	1.9	26.6
			85/71	53.3	40.2	58.5	1.8	29.2
	15	9.0	75/63	47.0	38.0	52.3	1.9	24.8
			80/67	50.7	38.9	55.8	1.9	27.3
			85/71	53.9	40.6	59.0	1.8	29.7
80	7.5	2.5	75/63	42.3	36.1	48.9	2.3	18.6
			80/67	44.8	38.5	51.6	2.3	19.9
			85/71	48.0	40.1	54.7	2.2	21.5
	11.25	5.2	75/63	43.5	36.4	49.7	2.2	19.9
			80/67	46.8	37.7	52.9	2.2	21.7
			85/71	49.6	40.1	55.9	2.1	23.4
	15	8.7	75/63	43.9	36.8	50.2	2.2	20.1
			80/67	47.3	38.0	53.4	2.1	22.1
			85/71	50.6	39.9	56.7	2.1	24.1
90	7.5	2.5	75/63	40.4	36.0	49.2	2.9	13.8
			80/67	45.5	33.1	53.4	2.9	15.7
			85/71	43.9	38.7	53.7	2.9	15.2
	11.25	5.1	75/63	41.7	35.9	50.1	2.8	14.8
			80/67	44.4	38.3	52.9	2.8	15.9
			85/71	47.6	40.0	56.1	2.7	17.3
	15	8.5	75/63	42.1	36.3	50.4	2.8	15.0
			80/67	45.6	37.5	53.9	2.8	16.6
			85/71	48.6	39.8	56.9	2.7	17.9
100	7.5	2.4	75/63	36.6	34.8	47.0	3.3	11.0
			80/67	42.6	31.2	51.7	3.3	12.9
			85/71	41.2	37.8	52.3	3.3	12.5
	11.25	4.9	75/63	37.3	35.0	47.4	3.2	11.6
			80/67	40.1	36.8	50.4	3.2	12.5
			85/71	42.1	38.1	52.8	3.2	13.3
	15	8.2	75/63	37.6	35.2	47.7	3.2	11.7
			80/67	43.7	31.0	52.5	3.2	13.5
			85/71	42.8	38.3	53.3	3.1	13.6
110	7.5	2.3	75/63	35.7	31.5	46.7	3.8	9.5
			80/67	36.6	35.5	48.6	3.8	9.8
			85/71	42.4	31.4	52.9	3.7	11.4
	11.25	4.8	75/63	34.8	34.1	46.3	3.7	9.5
			80/67	39.9	31.4	50.4	3.6	11.0
			85/71	43.5	31.0	53.5	3.6	12.1
	15	8.0	75/63	35.1	34.2	46.6	3.6	9.6
			80/67	37.6	35.9	49.3	3.6	10.4
			85/71	40.1	37.4	52.1	3.6	11.2

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



SM060 VT Part Load Heating Performance Data - 1550 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	3.3	60	29.1	22.4	2.1	4.08
		70	27.8	20.4	2.3	3.46
		80	26.5	18.2	2.6	2.94
	6.7	60	30.1	23.5	2.1	4.14
		70	28.7	21.2	2.4	3.51
		80	27.3	19.0	2.7	2.99
	11.1	60	30.7	24.0	2.2	4.09
		70	29.2	21.7	2.5	3.49
		80	27.7	19.3	2.7	2.97
30	3.1	60	33.2	26.5	2.1	4.58
		70	32.0	24.6	2.4	3.92
		80	31.0	22.6	2.7	3.37
	6.4	60	34.9	28.4	2.2	4.72
		70	33.4	26.0	2.4	4.02
		80	32.0	23.6	2.7	3.43
	10.6	60	35.7	29.1	2.2	4.68
		70	34.1	26.6	2.5	3.99
		80	32.6	24.2	2.8	3.41
40	3.0	60	37.7	30.7	2.2	5.10
		70	36.4	30.9	2.4	4.36
		80	35.6	26.6	2.7	3.79
	6.1	60	40.0	33.1	2.2	5.30
		70	38.8	31.1	2.5	4.55
		80	37.3	28.7	2.8	3.90
	10.2	60	41.2	34.5	2.3	5.31
		70	39.6	31.9	2.6	4.54
		80	38.0	29.4	2.9	3.89
50	2.9	60	43.7	36.8	2.2	5.75
		70	42.1	34.3	2.5	4.91
		80	40.5	31.8	2.8	4.21
	5.9	60	45.4	37.4	2.3	5.87
		70	44.7	37.7	2.6	5.11
		80	43.5	34.2	2.9	4.43
	9.8	60	47.6	40.3	2.3	5.98
		70	46.1	37.9	2.6	5.15
		80	44.5	35.2	2.9	4.44
60	2.8	60	50.8	43.5	2.4	6.33
		70	49.2	40.7	2.6	5.45
		80	47.6	38.0	3.0	4.69
	5.7	60	52.9	45.8	2.4	6.48
		70	51.1	42.3	2.7	5.56
		80	49.4	40.6	3.0	4.78
	9.5	60	53.7	46.4	2.4	6.43
		70	52.9	43.9	2.8	5.63
		80	51.9	42.0	3.1	4.92
70	2.7	60	57.3	49.7	2.4	7.01
		70	55.5	46.9	2.7	6.02
		80	53.8	44.1	3.0	5.19
	5.5	60	59.8	52.4	2.4	7.19
		70	57.7	49.4	2.7	6.16
		80	55.7	46.5	3.1	5.29
	9.2	60	61.2	53.1	2.5	7.20
		70	58.9	49.9	2.8	6.16
		80	57.6	48.4	3.2	5.36
80	2.6	60	63.9	56.3	2.4	7.70
		70	62.1	53.4	2.8	6.61
		80	60.2	50.4	3.1	5.69
	5.4	60	66.9	59.4	2.5	7.92
		70	64.7	56.2	2.8	6.78
		80	62.6	53.0	3.1	5.83
	8.9	60	68.4	61.1	2.5	7.92
		70	66.1	57.1	2.9	6.80
		80	63.7	54.1	3.2	5.83

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Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 VT Full Load Cooling Performance Data - 2250 CFM								
Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	9	3.8	75/63	74.5	57.4	83.7	3.2	23.4
			80/67	79.3	59.2	88.7	3.2	24.5
			85/71	84.3	60.6	94.0	3.3	25.6
	13.5	7.9	75/63	76.3	58.1	85.0	3.0	25.1
			80/67	81.3	59.9	90.2	3.1	26.4
			85/71	86.6	61.4	95.7	3.1	27.7
	18	13.2	75/63	77.1	58.5	85.8	3.0	25.5
			80/67	82.2	60.4	91.1	3.1	26.9
			85/71	87.7	61.9	96.7	3.1	28.3
60	9	3.7	75/63	71.6	56.4	81.9	3.5	20.4
			80/67	76.2	58.2	86.8	3.6	21.4
			85/71	81.0	59.8	91.8	3.6	22.4
	13.5	7.6	75/63	73.3	57.0	83.1	3.4	21.8
			80/67	78.1	58.9	88.1	3.4	23.0
			85/71	83.2	60.5	93.4	3.4	24.2
	18	12.8	75/63	74.1	57.4	83.9	3.3	22.2
			80/67	79.1	59.2	89.0	3.4	23.4
			85/71	84.4	60.6	94.4	3.4	24.7
70	9	3.6	75/63	67.6	54.5	77.9	3.5	19.1
			80/67	71.9	56.4	82.4	3.6	20.1
			85/71	76.4	58.1	87.2	3.6	21.1
	13.5	7.4	75/63	69.1	55.1	79.0	3.4	20.3
			80/67	73.7	56.8	83.8	3.4	21.5
			85/71	78.6	58.5	88.7	3.5	22.7
	18	12.4	75/63	69.8	55.6	79.7	3.4	20.6
			80/67	74.5	57.4	84.5	3.4	21.8
			85/71	79.4	59.2	89.6	3.4	23.1
80	9	3.5	75/63	64.5	53.2	76.1	3.9	16.5
			80/67	68.7	55.2	80.4	3.9	17.4
			85/71	73.1	56.6	85.0	4.0	18.4
	13.5	7.2	75/63	66.0	53.8	77.1	3.8	17.5
			80/67	70.4	55.6	81.7	3.8	18.6
			85/71	75.1	57.2	86.4	3.8	19.7
	18	12.0	75/63	66.6	54.4	77.7	3.7	17.8
			80/67	71.1	56.1	82.3	3.8	18.9
			85/71	75.8	57.9	87.2	3.8	20.0
90	9	3.4	75/63	61.1	52.0	75.2	4.7	13.1
			80/67	64.9	54.4	79.3	4.7	13.8
			85/71	69.9	54.2	84.2	4.8	14.7
	13.5	7.0	75/63	62.8	51.9	76.3	4.5	14.0
			80/67	66.9	54.3	80.6	4.5	14.8
			85/71	71.1	56.6	85.0	4.5	15.7
	18	11.7	75/63	63.2	53.2	76.7	4.5	14.1
			80/67	67.6	54.5	81.2	4.5	15.0
			85/71	72.1	56.4	85.8	4.5	16.0
100	9	3.3	75/63	55.8	51.5	72.4	5.2	10.8
			80/67	61.7	52.6	77.8	5.2	11.8
			85/71	65.8	54.0	82.0	5.3	12.5
	13.5	6.8	75/63	59.1	51.2	74.4	5.0	11.8
			80/67	63.2	52.8	78.7	5.0	12.6
			85/71	67.2	55.4	82.8	5.0	13.3
	18	11.4	75/63	59.6	51.6	74.9	5.0	11.9
			80/67	63.9	53.0	79.2	5.0	12.7
			85/71	68.0	55.4	83.5	5.0	13.6
110	9	3.2	75/63	56.0	45.1	73.1	5.8	9.6
			80/67	55.8	52.5	74.9	5.8	9.6
			85/71	58.6	54.5	78.3	5.8	10.0
	13.5	6.6	75/63	53.7	50.7	71.7	5.6	9.6
			80/67	61.4	44.8	77.7	5.7	10.7
			85/71	60.6	55.1	79.3	5.6	10.8
	18	11.1	75/63	54.0	50.8	72.0	5.5	9.7
			80/67	57.5	53.1	75.8	5.5	10.4
			85/71	66.7	44.4	82.4	5.7	11.7

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Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 VT Full Load Heating Performance Data - 2250 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	4.5	60	46.8	35.4	3.5	3.91
		70	46.3	33.6	3.9	3.47
		80	45.7	31.5	4.4	3.07
	9.2	60	48.5	37.0	3.6	3.96
		70	47.9	35.0	4.0	3.50
		80	47.3	33.0	4.5	3.11
	15.3	60	49.5	37.9	3.7	3.91
		70	48.8	35.8	4.1	3.47
		80	48.1	33.8	4.6	3.09
30	4.3	60	53.4	41.8	3.7	4.28
		70	52.7	39.4	4.1	3.79
		80	52.3	37.6	4.5	3.39
	8.8	60	55.7	43.7	3.8	4.34
		70	54.7	41.2	4.2	3.85
		80	54.3	39.3	4.6	3.44
	14.7	60	57.0	44.9	3.9	4.31
		70	56.1	42.6	4.3	3.83
		80	55.3	40.3	4.7	3.42
40	4.2	60	61.0	48.8	3.8	4.68
		70	60.2	46.4	4.2	4.16
		80	59.4	43.9	4.7	3.70
	8.5	60	63.9	51.3	3.9	4.77
		70	63.0	49.1	4.4	4.24
		80	61.8	46.0	4.8	3.76
	14.1	60	65.6	52.8	4.1	4.74
		70	64.4	50.2	4.5	4.22
		80	63.4	47.9	5.0	3.75
50	4.0	60	69.1	56.0	4.0	5.03
		70	68.2	53.6	4.5	4.47
		80	67.3	51.1	5.0	3.98
	8.2	60	72.8	59.6	4.2	5.14
		70	71.5	56.4	4.6	4.56
		80	70.4	53.9	5.1	4.06
	13.6	60	74.9	61.4	4.3	5.13
		70	73.2	58.0	4.7	4.55
		80	72.1	55.3	5.2	4.05
60	3.9	60	77.4	63.5	4.3	5.33
		70	76.2	60.8	4.7	4.74
		80	75.2	58.1	5.2	4.22
	7.9	60	81.7	67.7	4.4	5.44
		70	80.2	64.7	4.9	4.84
		80	78.8	61.3	5.4	4.30
	13.1	60	84.1	69.8	4.5	5.44
		70	82.4	66.6	5.0	4.84
		80	80.6	62.8	5.5	4.30
70	3.8	60	86.8	72.2	4.5	5.69
		70	85.4	69.3	4.9	5.07
		80	84.1	66.2	5.5	4.51
	7.7	60	91.8	77.1	4.6	5.81
		70	90.0	73.7	5.1	5.17
		80	88.3	70.3	5.6	4.60
	12.7	60	94.7	79.5	4.8	5.81
		70	92.6	75.9	5.2	5.18
		80	90.7	72.2	5.8	4.61
80	3.7	60	96.6	81.5	4.7	6.02
		70	94.9	78.0	5.2	5.37
		80	93.4	74.7	5.7	4.79
	7.4	60	102.4	86.9	4.9	6.15
		70	100.3	83.1	5.4	5.48
		80	98.2	79.3	5.9	4.89
	12.3	60	105.7	89.7	5.0	6.15
		70	103.3	85.6	5.5	5.49
		80	101.0	81.6	6.0	4.90

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Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 VT Part Load Cooling Performance Data - 1800 CFM

Entering Fluid Temp (°F)	Water Flow (GPM)	Pressure Drop (PSI)	Entering Air Temp (db/wb) °F	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power Input (kW)	EER
50	9	3.8	75/63	58.3	45.7	63.7	2.0	29.7
			80/67	62.1	47.3	67.5	1.9	32.2
			85/71	66.2	48.4	71.4	1.9	34.9
	13.5	7.9	75/63	59.6	46.3	64.7	1.9	31.8
			80/67	63.6	47.6	68.6	1.8	34.8
			85/71	67.7	49.2	72.6	1.8	38.0
	18	13.2	75/63	60.1	46.7	65.3	1.9	31.8
			80/67	64.3	47.9	69.3	1.8	35.0
			85/71	68.5	49.5	73.4	1.8	38.4
60	9	3.7	75/63	55.5	44.9	62.0	2.3	24.5
			80/67	59.3	46.3	65.7	2.2	26.5
			85/71	63.1	47.7	69.5	2.2	28.6
	13.5	7.7	75/63	56.9	45.1	63.0	2.2	26.2
			80/67	60.7	46.7	66.7	2.1	28.5
			85/71	64.7	48.1	70.7	2.1	31.0
	18	12.8	75/63	57.5	45.6	63.6	2.2	26.4
			80/67	61.5	46.8	67.5	2.1	28.8
			85/71	65.6	48.2	71.5	2.1	31.5
70	9	3.6	75/63	52.8	43.6	60.3	2.6	20.3
			80/67	56.4	45.1	63.9	2.6	21.9
			85/71	60.1	46.4	67.6	2.6	23.5
	13.5	7.4	75/63	53.9	44.1	61.1	2.5	21.6
			80/67	57.6	45.5	64.7	2.5	23.4
			85/71	61.5	47.0	68.5	2.4	25.4
	18	12.4	75/63	54.5	44.3	61.7	2.5	21.8
			80/67	58.4	45.6	65.4	2.5	23.7
			85/71	62.3	47.0	69.3	2.4	25.8
80	9	3.5	75/63	50.0	42.5	58.9	3.0	16.7
			80/67	53.5	44.0	62.3	3.0	18.0
			85/71	57.2	45.2	65.9	3.0	19.4
	13.5	7.2	75/63	51.2	42.8	59.6	2.9	17.8
			80/67	54.8	44.2	63.1	2.8	19.2
			85/71	58.5	45.8	66.8	2.8	20.8
	18	12.0	75/63	51.7	43.0	60.1	2.9	18.0
			80/67	55.4	44.5	63.7	2.8	19.5
			85/71	59.1	46.2	67.4	2.8	21.2
90	9	3.4	75/63	45.1	41.4	55.4	3.4	13.5
			80/67	48.2	43.3	58.5	3.3	14.5
			85/71	51.3	45.1	61.7	3.3	15.5
	13.5	7.0	75/63	46.0	41.9	55.9	3.2	14.2
			80/67	49.2	43.7	59.2	3.2	15.4
			85/71	55.0	41.0	63.8	3.2	17.4
	18	11.7	75/63	46.5	42.0	56.4	3.2	14.4
			80/67	50.7	43.3	60.3	3.2	15.9
			85/71	54.5	44.5	63.9	3.1	17.3
100	9	3.3	75/63	42.9	39.7	54.6	3.8	11.2
			80/67	46.1	41.0	57.7	3.8	12.1
			85/71	47.9	43.9	60.2	3.8	12.6
	13.5	6.8	75/63	43.8	40.0	55.0	3.7	11.7
			80/67	47.0	41.5	58.2	3.7	12.7
			85/71	49.4	44.4	61.0	3.7	13.5
	18	11.4	75/63	44.2	40.0	55.4	3.7	11.9
			80/67	46.8	42.8	58.3	3.7	12.7
			85/71	52.5	39.7	62.8	3.6	14.5
110	9	3.2	75/63	40.4	38.3	53.7	4.4	9.2
			80/67	43.2	40.2	56.6	4.4	9.9
			85/71	47.9	37.5	60.3	4.3	11.1
	13.5	6.7	75/63	41.0	38.8	54.0	4.3	9.6
			80/67	44.1	40.4	57.0	4.2	10.4
			85/71	45.9	43.2	59.5	4.2	10.9
	18	11.1	75/63	41.5	38.8	54.4	4.3	9.7
			80/67	44.5	40.6	57.4	4.2	10.5
			85/71	49.5	37.3	61.3	4.2	11.9

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GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

SM070 VT Part Load Heating Performance Data - 1800 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
20	4.5	60	34.6	26.2	2.7	3.80
		70	33.9	24.4	3.0	3.29
		80	33.2	22.7	3.4	2.84
	9.2	60	35.6	27.2	2.7	3.82
		70	34.8	25.3	3.1	3.31
		80	33.9	23.5	3.5	2.85
	15.3	60	36.2	27.7	2.8	3.74
		70	35.2	25.7	3.2	3.24
		80	34.8	23.4	3.6	2.84
30	4.3	60	39.8	31.5	2.7	4.28
		70	39.1	29.3	3.1	3.72
		80	38.5	27.2	3.5	3.23
	8.8	60	41.2	32.9	2.8	4.33
		70	40.3	30.4	3.2	3.75
		80	39.5	28.5	3.6	3.25
	14.6	60	42.0	33.3	2.9	4.26
		70	40.9	31.3	3.3	3.69
		80	40.1	28.9	3.7	3.21
40	4.1	60	45.7	37.1	2.8	4.80
		70	44.7	34.9	3.2	4.14
		80	44.1	32.5	3.6	3.61
	8.5	60	47.5	38.9	2.9	4.87
		70	46.4	36.5	3.2	4.20
		80	45.4	34.2	3.6	3.65
	14.1	60	48.4	39.9	3.0	4.81
		70	47.3	37.4	3.3	4.16
		80	46.2	35.0	3.7	3.61
50	4.0	60	52.5	43.2	2.9	5.33
		70	51.5	40.8	3.3	4.62
		80	50.5	38.5	3.7	4.01
	8.2	60	54.6	45.8	3.0	5.42
		70	53.4	42.9	3.3	4.69
		80	52.3	40.5	3.8	4.07
	13.5	60	55.8	47.0	3.1	5.36
		70	54.5	44.1	3.4	4.65
		80	53.4	41.3	3.9	4.04
60	3.9	60	59.9	50.7	3.0	5.88
		70	58.8	47.9	3.4	5.09
		80	57.7	45.2	3.8	4.42
	7.9	60	62.6	53.5	3.1	6.00
		70	61.2	50.7	3.5	5.18
		80	59.9	47.5	3.9	4.50
	13.1	60	64.1	55.0	3.2	5.96
		70	62.5	52.1	3.6	5.15
		80	61.1	48.9	4.0	4.47
70	3.7	60	67.4	57.9	3.1	6.45
		70	66.0	55.2	3.5	5.57
		80	64.8	52.0	3.9	4.84
	7.6	60	70.7	61.2	3.1	6.59
		70	69.0	58.2	3.6	5.68
		80	67.4	55.1	4.0	4.92
	12.7	60	72.4	63.1	3.2	6.54
		70	70.6	59.9	3.7	5.65
		80	68.9	56.7	4.1	4.91
80	3.6	60	75.3	65.5	3.2	7.00
		70	73.7	62.5	3.6	6.04
		80	72.2	59.5	4.0	5.24
	7.4	60	79.0	69.3	3.2	7.15
		70	77.2	66.0	3.7	6.17
		80	75.4	62.7	4.1	5.35
	12.3	60	81.1	71.5	3.3	7.12
		70	79.0	68.0	3.8	6.15
		80	77.1	64.5	4.2	5.34

DISCLAIMER: The performance reported herein is based on testing by FHP. Variations in the installation and operational environment may alter performance. Bosch disclaims all warranties, express and implied, that the performance will be as reported, including the warranty of merchantability and fitness for purpose. In addition, continuous research and development may result in a change to an appliances design and specifications at the time of order, which Bosch may change without notice. Before purchase, confirm the design specifications of the appliance.

Bosch Thermotechnology Corp.
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL



Antifreeze Correction							
Antifreeze Type	Antifreeze %	Cooling			Heating		WPD Correction Factor EWT 30 °F
		EWT 90 Deg.F			EWT 30 Deg. F		
		Total Cap.	Sens. Cap	Power	Htg. Cap	Power	
Water	0	1.000	1.000	1.000	1.000	1.000	1.000
Propylene Glycol	5	0.997	0.997	1.004	0.989	0.997	1.060
	10	0.994	0.994	1.006	0.986	0.995	1.125
	15	0.990	0.990	1.009	0.978	0.988	1.190
	25	0.983	0.983	1.016	0.960	0.979	1.300
Methanol	5	0.997	0.997	1.003	0.990	0.997	1.060
	10	0.996	0.996	1.005	0.979	0.993	1.100
	15	0.994	0.994	1.008	0.970	0.990	1.140
Ethanol	5	0.998	0.998	1.002	0.981	0.994	1.160
	10	0.996	0.996	1.004	0.960	0.988	1.230
	15	0.992	0.992	1.006	0.944	0.983	1.280
	25	0.986	0.986	1.009	0.917	0.974	1.400
Ethylene Glycol	5	0.997	0.997	1.003	0.993	0.998	1.060
	10	0.995	0.995	1.004	0.986	0.996	1.120
	15	0.992	0.992	1.005	0.980	0.993	1.190
	25	0.988	0.988	1.009	0.970	0.990	1.330
	30	0.985	0.985	1.012	0.965	0.987	1.400

Blower Performance Data							
Model	Rated Airflow at default 400 CFM/Ton	Fan Only Ventilation 50%	DeHum Reduction Percent	Effective DeHum Airflow	Most efficient effective Airflow Config SCT	Min Airflow/ton Heater	Static in. WC
SM024 Full Load	800	400	15.00%	680	800	400	0-0.8
SM024 Part Load	704	352	15.00%	598	704	400	0-0.8
SM036 Full Load	1200	600	15.00%	1020	1350	400	0-1.2
SM036 Part Load	1056	528	15.00%	898	1188	400	0-1.2
SM048 Full Load	1600	800	15.00%	1360	1600	400	0-1.2
SM048 Part Load	1408	704	15.00%	1197	1408	400	0-1.2
SM060 Full Load	2000	1000	15.00%	1700	2050	400	0-1.2
SM060 Part Load	1760	880	15.00%	1496	1804	400	0-1.2
SM070 Full Load	2400	1200	15.00%	2040	2250	400	0-1.2
SM070 Part Load	2112	1056	15.00%	1795	1980	400	0-1.2

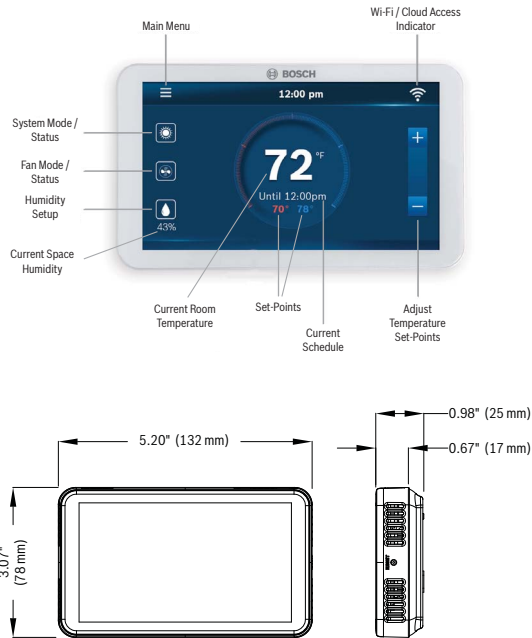


Min CFM/ton in cooling is 270 CFM/ton;
If calculated values fall below this limit, the control will
default to this minimum limit.

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



Field Install Accessory - Bosch Connected Control Wi-Fi Thermostat



Description	Part Number	Heat	Cool	Humidity
Bosch Connected Control (BCC100)	8-733-948-009	4	2	Yes

Specifications

- 5 Inch Touch Screen 854 x 480 Pixels
- 7 Relay Outputs (Terminals) G, Y1, Y2, W1, W2, O/B, H/dH
- 1 Data Input (Pulse signals from Bosch WSHP)
- Displays Bosch Water Source Heat Pump Fault Messages
- Wi-Fi (802.11a/b/g/n) 2.4GHz (not compatible with 5GHz)
- FCC and IC Certification
- 5 Year Limited Warranty (see website for details)

Compatibility

- Conventional (Gas, Oil, Electric): Up to 2 Heat / 2 Cool
- Heat Pump (O/B to energize reversing valve in cool/heat): Up to 4 Heat / 2 Cool
- Supports up to 1 Accessory Unit: Humidifier or Dehumidifier (not provided by Bosch)
- Unit Modes: Heat, Cool, Auto, Off, Emergency Heat
- Fan Modes: Auto, On, Circulate
- Supports 2 Transformer Systems (Rh and Rc)
- C-Wire Required for Installation
- Supports Active and Passive Dehumidification without the need for external relays, such as Bosch Water Source Heat Pump products equipped with a Hot Gas Reheat Coil and/or ECM motor

Field Install Accessory - SmartStart Assist Kit

Part Number	SM024		SM036		SM048		SM060		SM070	
	VT	HZ	VT	HZ	VT	HZ	VT	HZ	VT	HZ
8733920430	•	•	•	•	•	•	•	•	•	•

Field Install Accessory - Internally Mounted Electric Heat Kits

Part Number	Kilowatt Heater - 208/230V	Availability per Unit				
		SM024	SM036	SM048	SM060	SM070
7738003204	Electric Heat - 3.6/4.8 kW	•	•	•	•	•
7738003205	Electric Heat - 7.8/9.6 kW	•	•	•	•	•
7738003206	Electric Heat - 10.8/14.4 kW		•	•	•	•
7738003207	Electric Heat - 14.4/19.2 kW			•	•	•

Field Install Accessory - Pump/Valve Relay Kit

Part Number	SM024		SM036		SM048		SM060		SM070	
	VT	HZ	VT	HZ	VT	HZ	VT	HZ	VT	HZ
8733951906	•	•	•	•	•	•	•	•	•	•



Field Install Accessory - Duct Mounted Electric Heaters 208/230V

Nominal BTUH	Order #				Nominal CFM	Duct Flange Connection in Inches	Nominal Dimension in Inches
	5 kW	10 kW	15 kW	20 kW			
18000	7738002745	N/A	N/A	N/A	600	13.75 x 13.75	14 x 14
24000	7738002746	7738002747	N/A	N/A	800	13.75 x 13.75	14 x 14
30000	7738002748	7738002749	N/A	N/A	1000	15.75 x 15.75	16 x 16
36000	7738002748	7738002749	N/A	N/A	1200	15.75 x 15.75	16 x 16
42000	7738002747	7738002751	7738002752	N/A	1400	17.75 x 17.75	18 x 18
48000	7738002747	7738002751	7738002752	N/A	1600	17.75 x 17.75	18 x 18
60000	7738002747	7738002751	7738002752	7738002753	2000	17.75 x 17.75	18 x 18
70000	7738002747	7738002751	7738002752	7738002753	2200	17.75 x 17.75	18 x 18



Duct mounted heaters are only available in single phase 208/230 V. Please refer to Manufacturer's Installation and Operation Manual for proper installation and guidelines. It is recommended to use a seven (7) conductor cables for thermostat interface. It is required for the duct mounted heater to have an independent power supply. In fiberglass duct systems, a metal sleeve **MUST** be used as an insert and support to the heater.

Field Install Accessory - Swivel Connector Kit (two connectors shipped loose with each unit)

Order Number	Type and Size	SM024		SM036		SM048		SM060		SM070	
		VT	HZ	VT	HZ	VT	HZ	VT	HZ	VT	HZ
8733927179	Male 3/4" NPT MPT to 1" swivel FPT	●									
8733927180	Male 1" NPT MPT to 1" swivel FPT		●	●	●	●	●	●	●	●	●



Swivel fittings are used in typical residential installations where water pressure ratings are below 125 psi. For higher pressure ratings which are typical to commercial installations, swivel fittings **MUST NOT** be used.

Replacement Air Filter Information

Nominal Filter Size (MERV8 filters recommended MERV13 filters used only with horizontal units)	SM024		SM036		SM048		SM060		SM070	
	VT	HZ	VT	HZ	VT	HZ	VT	HZ	VT	HZ
	Quantity Need per Unit									
16 X 30 X 2			2		2					
18 X 18 X 2		2								
18 X 20 X 2							3		3	
20 X 24 X 2				2	2					
20 X 30 X 2						2		2		
24 X 24 X 2	1									

GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



BOSCH

Field Install Accessory - Stainless Steel Hose Kits

Options	Option 1	Option 2	Option 3**	Option 4**,***	Option 5**, ***	Option 6**, ***
Hose Size (Length, Diameter)	Hoses Only with Swivel	Hose Kit Hoses with Ported Ball Valves, Swivel and One P/T*	Hose Kit with Automatic Flow Valve (AFV)*	Hose kit with AFV, Y-Strainer & Blow Down Valve*	Hose Kit with AFV and Electric Valve*	Hose Kit with AFV, Y-Strainer, BDV and Electric Valve*
	Part #	Part #	Part #	Part #	Part #	Part #
12 Inch						
1/2" L	T111H02121	T111H02122	T111H02123	T111H02124	T111H02125	T111H02126
24 Inch						
3/4" S	T111H03241	T111H03242	T111H03243	T111H03244	T111H03245	T111H03246
1" L	T111H04241	T111H04242	T111H04243	T111H04244	T111H04245	T111H04246
1" S	T111H04241	T111H04242	T111H04247	T111H04248	T111H04249	T111H04240
1 - 1/4" S	T111H05241	T111H05242	T111H05243	T111H05244	T111H05245	T111H05246
1 - 1/2" L	T111H06241	T111H06242	T111H06243	T111H06244	T111H06245	T111H06246
1 - 1/2" S	T111H06241	T111H06242	T111H06247	T111H06248	T111H06249	T111H06240
2" S	T111H08241	T111H08242	T111H08243	T111H08244	T111H08245	T111H08246
36 Inch						
3/4" S	T111H03361	T111H03362	T111H03363	T111H03364	T111H03365	T111H03366
1" L	T111H04361	T111H04362	T111H04363	T111H04364	T111H04365	T111H04366
1" S	T111H04361	T111H04362	T111H04367	T111H04368	T111H04369	T111H04360
1 - 1/4" S	T111H05361	T111H05362	T111H05363	T111H05364	T111H05365	T111H05366
1 - 1/2" L	T111H06361	T111H06362	T111H06363	T111H06364	T111H06365	T111H06366
1 - 1/2" S	T111H06361	T111H06362	T111H06367	T111H06368	T111H06369	T111H06360
2" S	T111H08361	T111H08362	T111H08363	T111H08364	T111H08365	T111H08366

* All Hose Kits include S/R ported ball valves with swivel and P/T port.

** 'L' and 'S' only apply to kit options 3 through 6

*** GMP's are required for hose kits in options 3-6

Hose Kit Flow Rates by Size

Please see Technical Service Bulletin: Heat Pump Hose Kits – Water Flow Rates.

This document is located at www.bosch-climate.us under Support Center > Downloads > Downloads for Bosch Products > Service Bulletins.