

Greenstar® CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pump

Engineering
Submittal
Sheet



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Overview and Certifications



Condensing Section



Standard Features, Factory Installed Options, and Field Installed Accessories

Standard Features for Condenser Section

- ▶ **White Pre-Painted Sheet Metal Cabinets**
 - Appliance white for a clean - durable look
 - Door handles - for easy removal for service
 - Indoor installation for condenser section
- ▶ **High Efficiency**
 - Up to 29.8 EER and 5.0 COP @ PL GWHP with SM Split AH/AV Air Handler
 - Up to 29.9 EER and 4.8 COP @ FL GWHP with Bosch Model BVA2.0 Air Handler/Fan Coil Section
- ▶ **Closed Cell Foam (Fiber Free) Insulation**
 - Lower unit sound levels
 - Floating base pan
- ▶ **Patent Pending Floating Base Pan**
 - Lowers sound levels to whisper quiet operation
- ▶ **Factory Installed Filter Drier**
- ▶ **Two Stage Scroll Compressor**
 - Better comfort control when matched with a Bosch Connected Control Thermostat
- ▶ **Reliability - Durability - Serviceability**
 - Alert communicating printed circuit board
 - Completely serviceable from front of unit
- ▶ **Electronic Circuit Board**
 - Low pressure switch protection
 - High pressure switch protection
 - Alarm output
 - Anti-short cycling
 - 5 Minute delay
 - Low pressure bypass at start up
 - Random start of unit
 - Brown out protection
- ▶ **Pump/Valve Relay**
 - Helps to ensure the external flow pump center operates when unit is operating
- ▶ **Freeze Sensor**
- ▶ **Standard Warranty***
 - 10 Year all parts limited warranty
 - 10 Year labor limited warranty

* Complete warranty details are available on <https://www.bosch-thermotechnology.us/en/residential/service/product-warranty-library/>



Standard Features, Factory Installed Options, and Field Installed Accessories continued..

Factory Installed Options for Condenser Section

- ▶ **Cupro-nickel Coil**
 - Recommended in conditions anticipating moderate scale formation or in brackish water/well water
- ▶ **Domestic Hot Water Heat Recovery Package (Desuperheater)**
 - Utilizes the compressor's superheated discharge gas to preheat domestic hot water.
 - The HRP reduces the amount of electricity or fossil fuels otherwise used for hot water.

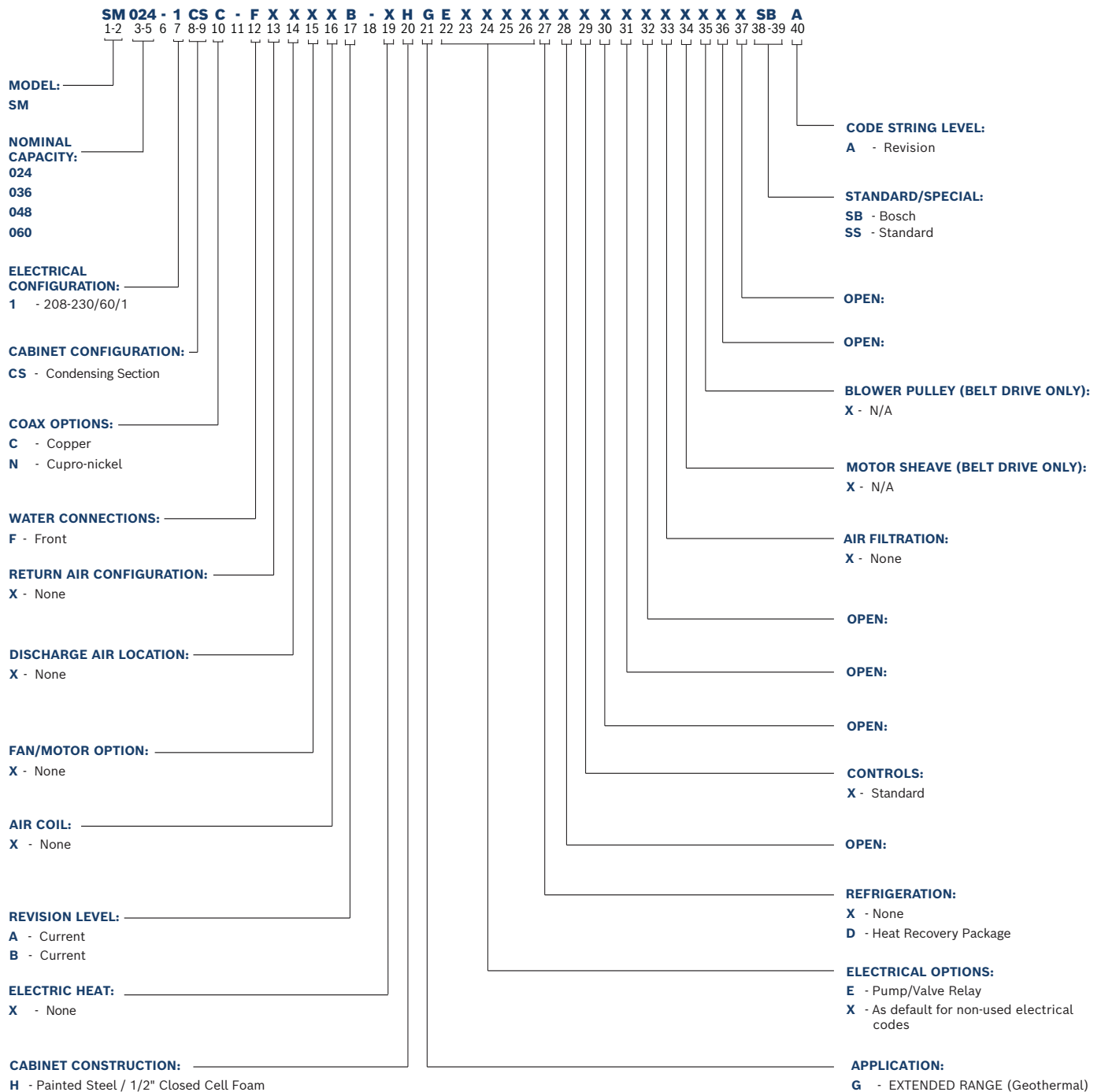
Field Installed Accessories for Condenser Section

- ▶ **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.
- ▶ **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.
- ▶ **Flow Center Kits**
- ▶ **Flow Proving Switch (DPS)**
 - Prevents the unit refrigerant pressure switches to fault out
- ▶ **Stainless Steel Hose Kits**
 - Available in various lengths and diameters depending on the need for your application



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Condenser Model Nomenclature



GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



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ASHRAE/AHRI/ISO 13256-1 (SM CS + SM AV/AH)															
Model (Condensing Section)	Model (Air Handler)	Load	Fluid Flow GPM	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 77 deg.F		Heating 32 deg.F	
				Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP
SM024-1CS	SM024-1AV/AH	Full	6	23100	15.00	26400	5.20	28500	22.20	22200	4.50	26200	17.00	17700	3.75
		Part	6	17200	16.50	19900	5.50	21600	28.60	16200	4.60	20000	23.80	13800	3.90
SM036-1CS	SM036-1AV	Full	9	36100	14.05	44100	4.85	40900	21.05	35200	4.40	37900	16.25	27400	3.65
	SM036-1AV	Part	9	27000	16.65	32000	5.85	30600	27.65	25250	4.80	29300	23.60	22400	4.25
	SM036-1AH	Full	9	36100	14.85	44100	5.00	40900	22.20	35200	4.50	37900	17.15	27400	3.80
	SM036-1AH	Part	9	27000	15.85	32000	6.00	30600	27.00	25250	4.95	29300	22.90	22400	4.35
SM048-1CS	SM048-1AV	Full	12	46900	14.90	56800	5.00	52800	21.25	46600	4.60	48900	16.20	37800	3.90
	SM048-1AV	Part	12	35600	18.20	40400	5.50	39400	29.80	34200	4.70	38400	24.25	30200	4.20
	SM048-1AH	Full	12	46900	14.25	56800	4.80	52800	21.15	46600	4.40	48900	16.20	37800	3.70
	SM048-1AH	Part	12	35600	16.55	40400	5.40	39400	27.85	34200	4.60	38400	23.80	30200	4.10
SM060-1CS	SM060-1AV	Full	15	56100	14.10	74500	5.00	64500	20.50	60500	4.40	58900	16.10	49000	3.80
	SM060-1AV	Part	15	42800	16.00	54500	5.70	49600	27.00	44200	4.70	47900	23.30	39400	4.20
	SM060-1AH	Full	15	56100	14.45	74500	4.80	64500	20.50	60500	4.30	58900	16.25	49000	3.65
	SM060-1AH	Part	15	42800	16.35	54500	5.60	49600	27.10	44200	4.50	47900	23.15	39400	3.95

ASHRAE/AHRI/ISO 13256-1 (SM CS + BVA2.0)																				
Model (Condensing Section)		Model (Condensing Section)	Water Coaxial Coil	Heat Recovery Package	Air Handler	Air Handler Part Number	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump				Fluid Flow GPM	
							Cooling 86 °F		Heating 68 °F		Cooling 59 °F		Heating 50 °F		Cooling 77 °F		Heating 32 °F			
							Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP		
Full Load	SM024-1CS	7735053064	C	D	BVA-24WN1-M20	8733952439	25400	15.00	29700	5.50	28600	22.10	24200	4.80	26500	16.60	19000	4.00	6	
		7735067767	C	X			25400	15.00	29700	5.50	28600	22.10	24200	4.80	26500	16.60	19000	4.00	6	
	SM036-1CS	7735070887	C	D	BVA-36WN1-M20	8733952440	35000	14.00	44500	5.20	38400	21.30	36500	4.50	36400	16.80	29200	3.95	9	
		7735082750	C	X			35000	14.00	44500	5.20	38400	21.30	36500	4.50	36400	16.80	29200	3.95	9	
	SM048-1CS	7735037836	C	D	BVA-48WN1-M20	8733952441	49500	15.70	56200	5.30	54000	23.10	47000	4.80	51700	18.10	38000	4.00	12	
		7735037841	C	X			49500	15.70	56200	5.30	54000	23.10	47000	4.80	51700	18.10	38000	4.00	12	
	SM060-1CS	7735029435	C	D	BVA-60WN1-M20	8733952442	60400	15.40	75300	5.25	64800	21.80	62300	4.60	62900	17.70	50100	4.00	15	
		7735034678	C	X			60400	15.40	75300	5.25	64800	21.80	62300	4.60	62900	17.70	50100	4.00	15	
Part Load	SM024-1CS	7735053064	C	D	BVA-24WN1-M20	8733952439	18300	16.00	21900	5.70	20800	27.30	17700	4.80	19900	22.80	15600	4.20	6	
		7735067767	C	X			18300	16.00	21900	5.70	20800	27.30	17700	4.80	19900	22.80	15600	4.20	6	
	SM036-1CS	7735070887	C	D	BVA-36WN1-M20	8733952440	25300	15.20	32000	5.60	28600	26.90	26200	4.70	27600	22.60	23300	4.25	9	
		7735082750	C	X			25300	15.20	32000	5.60	28600	26.90	26200	4.70	27600	22.60	23300	4.25	9	
	SM048-1CS	7735037836	C	D	BVA-48WN1-M20	8733952441	36400	17.50	40900	5.70	40900	29.90	34100	4.80	39600	25.10	30800	4.40	12	
		7735037841	C	X			36400	17.50	40900	5.70	40900	29.90	34100	4.80	39600	25.10	30800	4.40	12	
	SM060-1CS	7735029435	C	D	BVA-60WN1-M20	8733952442	44000	16.80	54600	5.75	49800	28.00	44200	4.80	48100	23.90	39400	4.40	15	
		7735034678	C	X			44000	16.80	54600	5.75	49800	28.00	44200	4.80	48100	23.90	39400	4.40	15	

GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



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ASHRAE/AHRI/ISO 13256-1 (SM CS + BMAC)																			
Model (Condensing Section)		Model (Condensing Section)	Water Coaxial Coil	Heat Recovery Package	Cased Coil	Cased Coil Part Number	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump				Fluid Flow GPM
							Cooling 86 °F		Heating 68 °F		Cooling 59 °F		Heating 50 °F		Cooling 77 °F		Heating 32 °F		
							Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	Cooling Capacity (Btu/hr)	EER	Heating Capacity (Btu/hr)	COP	
Full Load	SM024-1CS	7735053064	C	D	BMAC2430BNTD	8733947948	24400	15.70	29200	5.40	27400	23.20	24000	4.80	25500	18.10	18900	3.95	6
		7735067767		X															
	SM036-1CS	7735070887	C	D	BMAC3036BNTD	8733947951	35300	13.90	43100	5.00	39600	20.50	36000	4.60	37100	16.40	29800	4.05	9
		7735082750		X															
	SM048-1CS	7735037836	C	D	BMAC4248CNTF	8733947954	48400	15.10	54000	5.00	52000	21.60	45500	4.50	50300	17.50	37200	3.90	12
		7735037841		X															
	SM060-1CS	7735029435	C	D	BMAC4860CNTF	8733947956	59500	14.80	67700	4.80	63600	20.50	58600	4.40	61800	16.90	47700	3.80	15
		7735034678		X															
Part Load	SM024-1CS	7735053064	C	D	BMAC2430BNTD	8733947948	18000	16.30	21900	5.80	20600	28.00	18000	4.80	19700	23.30	16000	4.25	6
		7735067767		X															
	SM036-1CS	7735070887	C	D	BMAC3036BNTD	8733947951	26200	16.50	30900	5.40	30000	27.90	25900	4.80	28700	23.40	23500	4.35	9
		7735082750		X															
	SM048-1CS	7735037836	C	D	BMAC4248CNTF	8733947954	36200	17.10	40200	5.00	40500	28.20	33500	4.70	39100	24.30	30500	4.30	12
		7735037841		X															
	SM060-1CS	7735029435	C	D	BMAC4860CNTF	8733947956	43800	16.20	50700	5.20	49900	26.90	42800	4.60	47700	22.30	38500	4.20	15
		7735034678		X															

Greensource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



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SM CS (Condensing Section) Physical Data

Description	Unit	Value			
		SM024	SM036	SM048	SM060
Compressor Type (Qty 1)	—	Scroll	Scroll	Scroll	Scroll
Refrigeration Charge*	Oz.	80	86	93	115
Max Water Working Pressure**	PSIG/kPa	450/3100	450/3100	450/3100	450/3100
Water Connection Size					
FPT Brass Fittings	Inch	3/4	1.0	1.0	1.0
Coaxial Coil Volume	Gal	0.33	0.62	0.62	1.07
Cabinet					
Weight - Operating (lbs)	lbs	172	172	172	237
Weight - Shipping (lbs)	lbs	189	189	189	261

* Factory refrigeration charge is based on 25' of equivalent length.

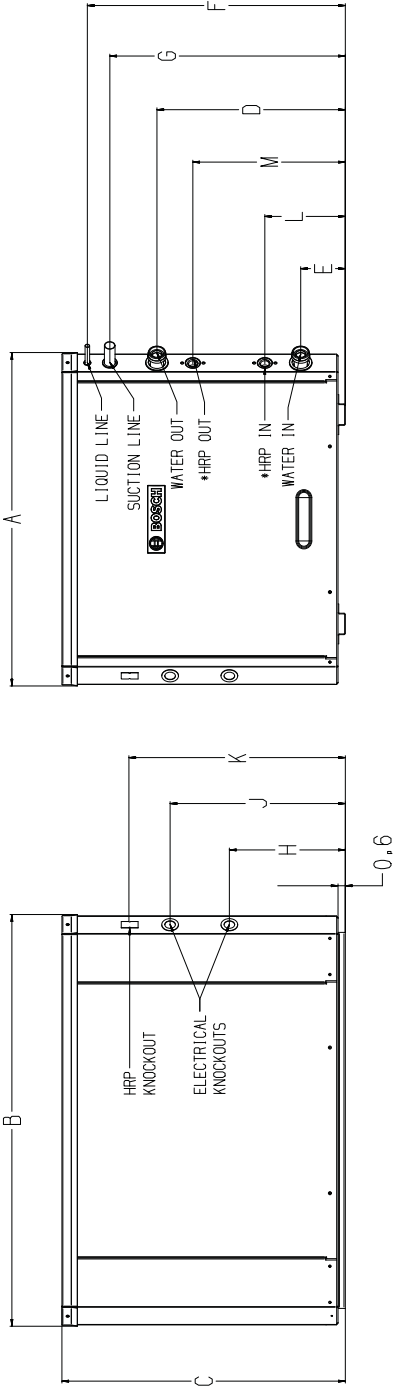
** Units equipped with brass fittings, the maximum pressure rating is 125 psi.

Condenser Electrical Data

Models	Compressor	Voltage Code	Voltage/Phase/Hz	Voltage Min/Max	Compressor			Total Unit	
					QTY	RLA	LRA	Min Circuit Amps	Max Fuse/HACR
SM024	8733902168	1	208-230/1/60	197/253	1	11.7	58.3	14.6	25
SM036	8733902169	1	208-230/1/60	197/253	1	15.3	83.0	19.1	30
SM048	8733902170	1	208-230/1/60	197/253	1	21.2	104.0	26.5	45
SM060	8733902171	1	208-230/1/60	197/253	1	27.1	152.9	33.9	60

Condenser Dimensions and Connections

Model	A WIDTH	B DEPTH	C HEIGHT	D WATER OUT	E WATER IN	F LIQUID CONNECTION	G SUCTION CONNECTION	H ELECTRICAL KNOCKOUT	J ELECTRICAL KNOCKOUT	K HRP KNOCKOUT	M		WATER CONNECTIONS
											•HRP OUT	•HRP IN	
SM024-CS	24.0	27.4	21.5	12.7	3.7	3/8" Ø 19.4	3/4" Ø 17.6	8.6	13.5	16.8	6.2	10.1	3/4" F.P.T.
SM036-CS	24.0	27.4	21.5	15.5	3.5	3/8" Ø 19.4	3/4" Ø 17.6	8.6	13.5	16.8	6.6	13.0	1" F.P.T.
SM048-CS	24.0	27.4	21.5	15.5	3.5	3/8" Ø 19.4	7/8" Ø 17.6	8.6	13.5	16.8	6.6	13.0	1" F.P.T.
SM060-CS	27.0	33.4	23.3	15.5	3.7	3/8" Ø 21.2	1" Ø 19.4	9.5	14.4	17.7	6.6	12.5	1" F.P.T.



- NOTES
- ALL DIMENSIONS WITHIN +/- 0.125"
 - ALL DIMENSIONS ARE IN INCHES
 - SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 - OPTIONAL HRP FEATURE WITH 1/2" FPT WATER CONNECTIONS

GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



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SM024 CS + SM AH/AV Full Load Cooling Performance Data - 900 SCFM 254 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	3.0	2.4	1.0	Operation Not Recommended					
	5.0	5.9	2.5						
	7.0	10.6	4.5						
30	3.0	2.4	1.0						
	5.0	5.7	2.4						
	7.0	10.4	4.4						
40	3.0	2.1	0.9	75/63	28.6	19.2	0.67	1.3	21.5
				80.6/66.2	30.3	23.3	0.77	1.3	22.6
				85/71	35.0	21.4	0.61	1.4	25.6
	5.0	5.4	2.3	75/63	29.9	19.6	0.66	1.2	25.1
				80.6/66.2	31.7	23.9	0.75	1.2	26.4
				85/71	36.7	21.9	0.60	1.2	29.8
	7.0	10.1	4.3	75/63	30.5	19.8	0.65	1.1	27.2
				80.6/66.2	32.3	24.1	0.75	1.1	28.5
				85/71	37.4	22.2	0.59	1.2	32.3
50	3.0	2.1	0.9	75/63	27.4	18.8	0.69	1.1	24.4
				80.6/66.2	29.0	22.9	0.79	1.1	25.6
				85/71	33.5	21.0	0.63	1.2	28.9
	5.0	5.4	2.3	75/63	28.7	19.2	0.67	1.4	19.8
				80.6/66.2	30.4	23.3	0.77	1.5	20.8
				85/71	35.1	21.4	0.61	1.5	23.5
	7.0	9.9	4.2	75/63	29.3	19.4	0.66	1.3	22.1
				80.6/66.2	31.0	23.6	0.76	1.3	23.2
				85/71	35.9	21.7	0.60	1.4	26.3
60	3.0	2.1	0.9	75/63	26.1	18.5	0.71	1.3	20.7
				80.6/66.2	27.7	22.4	0.81	1.3	21.7
				85/71	32.0	20.6	0.64	1.3	24.6
	5.0	5.2	2.2	75/63	26.1	18.4	0.71	1.7	15.3
				80.6/66.2	27.6	22.4	0.81	1.7	16.0
				85/71	32.0	20.6	0.64	1.8	18.1
	7.0	9.4	4.0	75/63	26.6	18.6	0.70	1.6	16.9
				80.6/66.2	28.2	22.6	0.80	1.6	17.7
				85/71	32.6	20.8	0.64	1.6	20.0
70	3.0	2.1	0.9	75/63	24.9	18.0	0.72	1.7	14.6
				80.6/66.2	26.4	21.9	0.83	1.7	15.3
				85/71	30.5	20.1	0.66	1.8	17.3
	5.0	5.2	2.2	75/63	26.1	18.4	0.71	1.6	16.5
				80.6/66.2	27.6	22.4	0.81	1.6	17.4
				85/71	32.0	20.6	0.64	1.6	19.6
	7.0	9.4	4.0	75/63	26.6	18.6	0.70	1.5	17.5
				80.6/66.2	28.2	22.6	0.80	1.5	18.4
				85/71	32.6	20.8	0.64	1.6	20.8
80	3.0	2.1	0.9	75/63	23.7	17.5	0.74	1.5	15.6
				80.6/66.2	25.1	21.3	0.85	1.5	16.3
				85/71	29.0	19.6	0.67	1.6	18.5
	5.0	5.2	2.2	75/63	24.8	18.0	0.72	1.9	13.3
				80.6/66.2	26.3	21.9	0.83	1.9	14.0
				85/71	30.4	20.1	0.66	1.9	15.8
	7.0	9.4	4.0	75/63	25.3	18.2	0.72	1.7	14.7
				80.6/66.2	26.8	22.1	0.82	1.7	15.4
				85/71	31.0	20.3	0.65	1.8	17.5
90	3.0	2.1	0.9	75/63	22.5	17.1	0.76	1.7	13.5
				80.6/66.2	23.8	20.7	0.87	1.7	14.2
				85/71	27.5	19.1	0.69	1.7	16.0
	5.0	4.9	2.1	75/63	23.5	17.5	0.75	2.0	11.5
				80.6/66.2	24.9	21.3	0.86	2.1	12.1
				85/71	28.8	19.6	0.68	2.1	13.7
	7.0	9.2	3.9	75/63	24.0	17.7	0.74	1.9	12.7
				80.6/66.2	25.4	21.5	0.85	1.9	13.4
				85/71	29.4	19.8	0.67	1.9	15.1
100	3.0	1.9	0.8	75/63	21.2	16.8	0.79	1.8	11.6
				80.6/66.2	22.4	20.4	0.91	1.8	12.2
				85/71	25.9	18.7	0.72	1.9	13.8
	5.0	4.9	2.1	75/63	22.2	17.1	0.77	2.2	10.0
				80.6/66.2	23.5	20.8	0.88	2.2	10.4
				85/71	27.1	19.1	0.70	2.3	11.8
	7.0	9.0	3.8	75/63	22.6	17.1	0.76	2.1	10.9
				80.6/66.2	24.0	20.8	0.87	2.1	11.5
				85/71	27.7	19.1	0.69	2.1	13.0
110	3.0	1.9	0.8	75/63	20.0	16.3	0.82	2.0	10.0
				80.6/66.2	21.2	19.8	0.94	2.0	10.5
				85/71	24.5	18.2	0.74	2.1	11.8
	5.0	4.7	2.0	75/63	20.9	16.7	0.80	2.5	8.5
				80.6/66.2	22.1	20.3	0.92	2.5	8.9
				85/71	25.5	18.6	0.73	2.5	10.1
	7.0	8.7	3.7	75/63	21.3	16.7	0.78	2.3	9.3
				80.6/66.2	22.5	20.3	0.90	2.3	9.8
				85/71	26.1	18.7	0.72	2.4	11.1

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.

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

Greensource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM024 CS + SM AH/AV Full Load Heating Performance Data - 900 SCFM 254 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBtu/hr.	Heat of Absp kBtu/hr	Power kW	COP
20	3.0	2.4	1.0	60	15.6	10.1	1.40	3.3
				68	15.9	10.8	1.49	3.1
				80	16.2	11.3	1.55	3.0
	5.0	5.9	2.5	60	16.5	10.7	1.41	3.4
				68	16.8	11.4	1.51	3.3
				80	17.0	11.9	1.57	3.2
	7.0	10.6	4.5	60	16.9	11.0	1.42	3.5
				68	17.2	11.7	1.52	3.3
				80	17.4	12.2	1.58	3.2
30	3.0	2.4	1.0	60	17.8	11.8	1.44	3.6
				68	18.1	12.6	1.54	3.5
				80	18.4	13.1	1.60	3.4
	5.0	5.7	2.4	60	18.8	12.6	1.45	3.8
				68	19.2	13.5	1.56	3.6
				80	19.5	14.1	1.62	3.5
	7.0	10.4	4.4	60	19.3	13.1	1.46	3.9
				68	19.7	14.0	1.57	3.7
				80	20.0	14.5	1.63	3.6
40	3.0	2.1	0.9	60	20.1	13.7	1.48	4.0
				68	20.5	14.7	1.58	3.8
				80	20.8	15.3	1.65	3.7
	5.0	5.4	2.3	60	21.4	14.8	1.51	4.2
				68	21.8	15.9	1.61	4.0
				80	22.1	16.5	1.68	3.9
	7.0	10.1	4.3	60	22.1	15.4	1.52	4.3
				68	22.4	16.4	1.62	4.0
				80	22.8	17.1	1.69	3.9
50	3.0	2.1	0.9	60	22.6	15.8	1.53	4.3
				68	22.9	16.9	1.63	4.1
				80	23.3	17.6	1.70	4.0
	5.0	5.4	2.3	60	24.2	17.3	1.56	4.5
				68	24.6	18.5	1.67	4.3
				80	25.0	19.2	1.74	4.2
	7.0	9.9	4.2	60	25.0	17.9	1.58	4.6
				68	25.4	19.1	1.69	4.4
				80	25.8	19.9	1.76	4.3
60	3.0	2.1	0.9	60	25.2	18.1	1.58	4.7
				68	25.6	19.4	1.69	4.4
				80	26.1	20.1	1.76	4.3
	5.0	5.2	2.2	60	27.0	19.6	1.62	4.9
				68	27.5	21.0	1.73	4.7
				80	27.9	21.8	1.80	4.5
	7.0	9.4	4.0	60	28.1	20.5	1.64	5.0
				68	28.5	21.9	1.75	4.8
				80	29.0	22.8	1.82	4.7
70	3.0	2.1	0.9	60	27.9	20.4	1.64	5.0
				68	28.4	21.9	1.75	4.8
				80	28.9	22.7	1.82	4.6
	5.0	5.2	2.2	60	30.1	22.3	1.67	5.3
				68	30.7	23.9	1.78	5.0
				80	31.1	24.8	1.86	4.9
	7.0	9.4	4.0	60	31.4	23.5	1.69	5.5
				68	31.9	25.2	1.80	5.2
				80	32.4	26.2	1.88	5.1
80	3.0	2.1	0.9	60	30.8	23.0	1.68	5.4
				68	31.4	24.6	1.79	5.1
				80	31.9	25.6	1.87	5.0
	5.0	5.2	2.2	60	33.3	25.2	1.72	5.7
				68	33.9	26.9	1.84	5.4
				80	34.4	28.0	1.91	5.3
	7.0	9.4	4.0	60	34.6	26.2	1.74	5.8
				68	35.2	28.1	1.86	5.5
				80	35.7	29.2	1.94	5.4
90	3.0	2.1	0.9	Operation Not Recommended				
	5.0	4.9	2.1					
	7.0	9.2	3.9					
100	3.0	1.9	0.8					
	5.0	4.9	2.1					
	7.0	9.0	3.8					
110	3.0	1.9	0.8					
	5.0	4.7	2.0					
	7.0	8.7	3.7					

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM024 CS + SM AH/AV Partial Load Cooling Performance Data - 800 SCFM 197 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	3.0	2.4	1.0	Operation Not Recommended					
	5.0	5.7	2.4						
	7.0	10.4	4.4						
30	3.0	2.1	0.9						
	5.0	5.7	2.4						
	7.0	10.1	4.3						
40	3.0	2.1	0.9	75/63	22.3	16.1	0.72	0.8	27.4
				80.6/66.2	23.6	19.5	0.83	0.8	28.7
				85/71	27.3	17.9	0.66	0.8	32.5
	5.0	5.4	2.3	75/63	23.2	16.4	0.71	0.8	30.8
				80.6/66.2	24.5	19.9	0.81	0.8	32.3
				85/71	28.4	18.3	0.64	0.8	36.5
	7.0	9.9	4.2	75/63	23.6	16.5	0.70	0.7	32.3
				80.6/66.2	25.0	20.1	0.80	0.7	33.9
				85/71	28.9	18.4	0.64	0.8	38.4
50	3.0	2.1	0.9	75/63	21.3	15.7	0.74	0.9	23.6
				80.6/66.2	22.5	19.0	0.84	0.9	24.8
				85/71	26.1	17.5	0.67	0.9	28.1
	5.0	5.4	2.3	75/63	22.1	16.0	0.72	0.8	26.7
				80.6/66.2	23.4	19.4	0.83	0.8	28.0
				85/71	27.1	17.8	0.66	0.9	31.7
	7.0	9.7	4.1	75/63	22.5	16.1	0.72	0.8	28.1
				80.6/66.2	23.8	19.6	0.82	0.8	29.5
				85/71	27.5	18.0	0.65	0.8	33.4
60	3.0	2.1	0.9	75/63	20.5	15.5	0.76	1.0	20.4
				80.6/66.2	21.7	18.8	0.87	1.0	21.4
				85/71	25.1	17.3	0.69	1.0	24.2
	5.0	5.2	2.2	75/63	21.3	15.7	0.74	0.9	23.2
				80.6/66.2	22.6	19.1	0.85	0.9	24.3
				85/71	26.1	17.5	0.67	0.9	27.5
	7.0	9.4	4.0	75/63	21.4	15.7	0.73	0.9	24.1
				80.6/66.2	22.7	19.1	0.84	0.9	25.2
				85/71	26.2	17.5	0.67	0.9	28.6
70	3.0	2.1	0.9	75/63	19.4	15.1	0.78	1.1	17.2
				80.6/66.2	20.5	18.4	0.90	1.1	18.1
				85/71	23.7	16.9	0.71	1.2	20.5
	5.0	5.2	2.2	75/63	20.2	15.4	0.76	1.0	19.5
				80.6/66.2	21.4	18.7	0.87	1.0	20.5
				85/71	24.7	17.2	0.70	1.1	23.2
	7.0	9.4	4.0	75/63	20.5	15.5	0.75	1.0	20.6
				80.6/66.2	21.8	18.8	0.87	1.0	21.7
				85/71	25.2	17.3	0.69	1.0	24.5
80	3.0	2.1	0.9	75/63	19.4	15.1	0.78	1.1	17.2
				80.6/66.2	20.5	18.4	0.90	1.1	18.1
				85/71	23.7	16.9	0.71	1.2	20.5
	5.0	4.9	2.1	75/63	20.2	15.4	0.76	1.0	19.5
				80.6/66.2	21.4	18.7	0.87	1.0	20.5
				85/71	24.7	17.2	0.70	1.1	23.2
	7.0	9.2	3.9	75/63	20.5	15.5	0.75	1.0	20.6
				80.6/66.2	21.8	18.8	0.87	1.0	21.7
				85/71	25.2	17.3	0.69	1.0	24.5
90	3.0	1.9	0.8	75/63	18.3	14.7	0.80	1.3	14.5
				80.6/66.2	19.4	17.9	0.92	1.3	15.2
				85/71	22.4	16.4	0.73	1.3	17.2
	5.0	4.9	2.1	75/63	19.0	15.0	0.79	1.2	16.4
				80.6/66.2	20.1	18.2	0.90	1.2	17.2
				85/71	23.3	16.7	0.72	1.2	19.4
	7.0	9.0	3.8	75/63	19.4	15.1	0.78	1.1	17.3
				80.6/66.2	20.5	18.4	0.90	1.1	18.1
				85/71	23.7	16.9	0.71	1.2	20.5
100	3.0	1.9	0.8	75/63	17.2	14.3	0.83	1.4	12.1
				80.6/66.2	18.2	17.4	0.96	1.4	12.7
				85/71	21.0	16.0	0.76	1.5	14.4
	5.0	4.7	2.0	75/63	17.9	14.6	0.81	1.3	13.6
				80.6/66.2	18.9	17.7	0.93	1.3	14.3
				85/71	21.9	16.3	0.74	1.4	16.2
	7.0	8.7	3.7	75/63	18.2	14.7	0.81	1.3	14.3
				80.6/66.2	19.3	17.8	0.93	1.3	15.1
				85/71	22.3	16.4	0.74	1.3	17.0
110	3.0	9.2	3.9	75/63	16.1	13.7	0.85	1.6	10.1
				80.6/66.2	17.1	16.6	0.97	1.6	10.6
				85/71	19.7	15.3	0.77	1.6	12.0
	5.0	9.7	4.1	75/63	16.7	14.1	0.84	1.5	11.3
				80.6/66.2	17.7	17.2	0.97	1.5	11.8
				85/71	20.5	15.8	0.77	1.5	13.4
	7.0	9.7	4.1	75/63	17.0	14.3	0.84	1.4	11.8
				80.6/66.2	18.0	17.3	0.96	1.5	12.4
				85/71	20.8	15.9	0.76	1.5	14.1

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Bosch Thermotechnology Corp.

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

GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM024 CS + SM AH/AV Partial Load Heating Performance Data - 800 SCFM 197 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBTu/hr.	Heat of Absp kBTu/hr	Power kW	COP
20	3.0	2.4	1.0	60	11.3	7.1	1.09	3.0
				68	11.5	7.6	1.17	2.9
				80	11.7	7.9	1.22	2.8
	5.0	5.7	2.4	60	11.9	7.5	1.10	3.2
				68	12.1	8.1	1.18	3.0
				80	12.3	8.4	1.22	2.9
	7.0	10.4	4.4	60	12.2	7.8	1.10	3.2
				68	12.4	8.3	1.18	3.1
				80	12.6	8.6	1.23	3.0
30	3.0	2.1	0.9	60	13.3	8.8	1.11	3.5
				68	13.5	9.4	1.19	3.3
				80	13.7	9.8	1.24	3.2
	5.0	5.7	2.4	60	14.0	9.4	1.12	3.7
				68	14.2	10.1	1.20	3.5
				80	14.4	10.5	1.25	3.4
	7.0	10.1	4.3	60	14.3	9.7	1.12	3.7
				68	14.5	10.4	1.20	3.5
				80	14.8	10.8	1.25	3.5
40	3.0	2.1	0.9	60	15.3	10.7	1.13	4.0
				68	15.6	11.4	1.21	3.8
				80	15.9	11.9	1.26	3.7
	5.0	5.4	2.3	60	16.3	11.4	1.13	4.2
				68	16.5	12.2	1.21	4.0
				80	16.8	12.6	1.26	3.9
	7.0	9.9	4.2	60	16.7	11.7	1.14	4.3
				68	17.0	12.6	1.22	4.1
				80	17.2	13.1	1.27	4.0
50	3.0	2.1	0.9	60	17.5	12.6	1.14	4.5
				68	17.8	13.4	1.22	4.3
				80	18.0	14.0	1.27	4.2
	5.0	5.4	2.3	60	18.5	13.5	1.15	4.7
				68	18.8	14.4	1.23	4.5
				80	19.1	15.0	1.28	4.4
	7.0	9.7	4.1	60	19.1	13.9	1.15	4.9
				68	19.4	14.9	1.23	4.6
				80	19.7	15.5	1.28	4.5
60	3.0	2.1	0.9	60	19.7	14.6	1.15	5.0
				68	20.0	15.6	1.23	4.8
				80	20.3	16.2	1.28	4.7
	5.0	5.2	2.2	60	20.9	15.7	1.15	5.3
				68	21.3	16.8	1.23	5.1
				80	21.6	17.5	1.28	4.9
	7.0	9.4	4.0	60	21.6	16.2	1.15	5.5
				68	21.9	17.3	1.23	5.2
				80	22.3	18.0	1.28	5.1
70	3.0	2.1	0.9	60	21.9	16.6	1.15	5.6
				68	22.3	17.8	1.23	5.3
				80	22.6	18.5	1.29	5.2
	5.0	5.2	2.2	60	23.3	17.9	1.16	5.9
				68	23.7	19.2	1.24	5.6
				80	24.1	20.0	1.29	5.5
	7.0	9.4	4.0	60	24.1	18.5	1.16	6.1
				68	24.5	19.8	1.24	5.8
				80	24.9	20.6	1.29	5.7
80	3.0	2.1	0.9	60	24.2	18.7	1.16	6.1
				68	24.6	20.0	1.24	5.8
				80	25.0	20.8	1.29	5.7
	5.0	4.9	2.1	60	25.8	20.2	1.16	6.5
				68	26.3	21.6	1.24	6.2
				80	26.7	22.5	1.29	6.1
	7.0	9.2	3.9	60	26.7	20.9	1.16	6.8
				68	27.2	22.3	1.24	6.4
				80	27.6	23.2	1.29	6.3
90	3.0	1.9	0.8	Operation Not Recommended				
	5.0	4.9	2.1					
	7.0	9.0	3.8					
100	3.0	1.9	0.8					
	5.0	4.7	2.0					
	7.0	8.7	3.7					
110	3.0	9.2	3.9					
	5.0	9.7	4.1					
	7.0	9.7	4.1					

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Bosch Thermotechnology Corp.

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

GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM036 CS + SM AH/AV Full Load Cooling Performance Data - 1350 SCFM 311 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	5.0	8.7	3.7	Operation Not Recommended					
	7.5	9.0	3.8						
	10.0	9.2	3.9						
30	5.0	2.8	1.2						
	7.5	5.9	2.5						
	10.0	9.7	4.1						
40	5.0	2.8	1.2	75/63	44.4	29.5	0.66	1.9	23.9
				80.6/66.2	47.0	35.8	0.76	1.9	25.0
				85/71	54.4	32.9	0.61	1.9	28.3
	7.5	5.7	2.4	75/63	45.9	30.0	0.65	1.8	25.7
				80.6/66.2	48.6	36.5	0.75	1.8	26.9
				85/71	56.2	33.5	0.60	1.8	30.5
	10.0	9.7	4.1	75/63	46.7	30.2	0.65	1.8	26.6
				80.6/66.2	49.5	36.7	0.74	1.8	27.9
				85/71	57.2	33.7	0.59	1.8	31.6
50	5.0	2.8	1.2	75/63	42.5	28.8	0.68	1.8	24.2
				80.6/66.2	45.0	35.0	0.78	1.8	25.4
				85/71	52.0	32.2	0.62	1.8	28.7
	7.5	5.7	2.4	75/63	44.0	29.2	0.66	2.0	22.3
				80.6/66.2	46.6	35.5	0.76	2.0	23.4
				85/71	53.9	32.6	0.60	2.0	26.4
	10.0	9.4	4.0	75/63	44.7	29.6	0.66	1.9	23.7
				80.6/66.2	47.4	35.9	0.76	1.9	24.9
				85/71	54.8	33.0	0.60	1.9	28.2
60	5.0	2.6	1.1	75/63	40.5	28.1	0.69	1.8	22.0
				80.6/66.2	42.9	34.2	0.80	1.9	23.1
				85/71	49.6	31.4	0.63	1.9	26.1
	7.5	5.4	2.3	75/63	42.1	28.5	0.68	2.1	19.8
				80.6/66.2	44.5	34.6	0.78	2.1	20.8
				85/71	51.5	31.8	0.62	2.2	23.5
	10.0	9.2	3.9	75/63	42.7	28.9	0.67	2.0	21.2
				80.6/66.2	45.3	35.1	0.77	2.0	22.3
				85/71	52.3	32.2	0.62	2.1	25.2
70	5.0	2.6	1.1	75/63	37.7	28.4	0.75	2.0	19.2
				80.6/66.2	39.9	34.5	0.87	2.0	20.2
				85/71	46.1	31.7	0.69	2.0	22.8
	7.5	5.4	2.3	75/63	39.9	28.0	0.70	2.3	17.4
				80.6/66.2	42.2	34.0	0.81	2.3	18.3
				85/71	48.8	31.2	0.64	2.4	20.7
	10.0	9.0	3.8	75/63	40.7	28.1	0.69	2.2	18.7
				80.6/66.2	43.1	34.2	0.79	2.2	19.7
				85/71	49.8	31.4	0.63	2.2	22.2
80	5.0	2.6	1.1	75/63	36.0	27.4	0.76	2.1	17.1
				80.6/66.2	38.2	33.2	0.87	2.1	17.9
				85/71	44.1	30.6	0.69	2.2	20.3
	7.5	5.2	2.2	75/63	38.6	26.1	0.68	2.5	15.4
				80.6/66.2	40.8	31.7	0.78	2.5	16.1
				85/71	47.2	29.1	0.62	2.6	18.3
	10.0	8.7	3.7	75/63	38.0	28.1	0.74	2.4	16.0
				80.6/66.2	40.3	34.1	0.85	2.4	16.8
				85/71	46.6	31.3	0.67	2.4	19.0
90	5.0	2.6	1.1	75/63	34.3	26.2	0.77	2.3	14.9
				80.6/66.2	36.3	31.9	0.88	2.3	15.7
				85/71	41.9	29.3	0.70	2.4	17.7
	7.5	5.2	2.2	75/63	36.4	25.5	0.70	2.8	13.2
				80.6/66.2	38.5	31.0	0.80	2.8	13.9
				85/71	44.5	28.5	0.64	2.8	15.7
	10.0	8.7	3.7	75/63	36.0	27.2	0.75	2.6	13.8
				80.6/66.2	38.1	33.0	0.87	2.6	14.5
				85/71	44.1	30.3	0.69	2.7	16.4
100	5.0	2.4	1.0	75/63	32.7	25.0	0.77	2.5	13.0
				80.6/66.2	34.6	30.4	0.88	2.5	13.6
				85/71	40.0	27.9	0.70	2.6	15.4
	7.5	5.2	2.2	75/63	33.7	25.6	0.76	3.0	11.1
				80.6/66.2	35.7	31.1	0.87	3.1	11.7
				85/71	41.2	28.6	0.69	3.1	13.2
	10.0	8.5	3.6	75/63	34.4	25.7	0.75	2.9	12.0
				80.6/66.2	36.4	31.3	0.86	2.9	12.6
				85/71	42.1	28.7	0.68	3.0	14.2
110	5.0	2.4	1.0	75/63	30.7	24.2	0.79	2.8	11.0
				80.6/66.2	32.5	29.5	0.91	2.8	11.6
				85/71	37.6	27.1	0.72	2.9	13.1
	7.5	4.9	2.1	75/63	31.7	24.7	0.78	3.3	9.5
				80.6/66.2	33.6	30.0	0.89	3.4	10.0
				85/71	38.8	27.6	0.71	3.4	11.3
	10.0	8.2	3.5	75/63	32.3	24.9	0.77	3.2	10.2
				80.6/66.2	34.2	30.3	0.89	3.2	10.7
				85/71	39.6	27.8	0.70	3.3	12.1

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Bosch Thermotechnology Corp.

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

Greensource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM036 CS + SM AH/AV Full Load Heating Performance Data - 1350 SCFM 311 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBtu/hr.	Heat of Absp kBtu/hr	Power kW	COP
20	5.0	8.7	3.7	60	23.3	15.2	1.96	3.5
				68	23.8	16.3	2.09	3.3
				80	24.1	17.0	2.18	3.2
	7.5	9.0	3.8	60	24.1	16.1	1.97	3.6
				68	24.5	17.2	2.11	3.4
				80	24.9	17.9	2.19	3.3
	10.0	9.2	3.9	60	24.8	16.7	1.98	3.7
				68	25.3	17.9	2.12	3.5
				80	25.7	18.6	2.21	3.4
30	5.0	2.8	1.2	60	27.1	18.3	2.01	3.9
				68	27.6	19.6	2.15	3.7
				80	28.0	20.4	2.24	3.7
	7.5	5.9	2.5	60	28.1	19.2	2.03	4.1
				68	28.6	20.6	2.17	3.9
				80	29.1	21.4	2.26	3.8
	10.0	9.7	4.1	60	28.9	20.0	2.05	4.1
				68	29.4	21.4	2.19	3.9
				80	29.9	22.3	2.28	3.8
40	5.0	2.8	1.2	60	30.8	21.6	2.08	4.3
				68	31.3	23.2	2.22	4.1
				80	31.8	24.1	2.31	4.0
	7.5	5.7	2.4	60	31.9	22.8	2.10	4.5
				68	32.5	24.4	2.24	4.2
				80	33.0	25.4	2.34	4.1
	10.0	9.7	4.1	60	33.0	23.7	2.12	4.6
				68	33.6	25.4	2.27	4.3
				80	34.1	26.4	2.36	4.2
50	5.0	2.8	1.2	60	34.8	25.1	2.14	4.8
				68	35.4	26.9	2.29	4.5
				80	35.9	28.0	2.39	4.4
	7.5	5.7	2.4	60	36.3	26.7	2.17	4.9
				68	37.0	28.6	2.33	4.7
				80	37.5	29.7	2.42	4.5
	10.0	9.4	4.0	60	37.6	27.7	2.20	5.0
				68	38.3	29.7	2.35	4.8
				80	38.9	30.9	2.45	4.7
60	5.0	2.6	1.1	60	38.9	28.8	2.22	5.1
				68	39.5	30.8	2.37	4.9
				80	40.1	32.1	2.47	4.8
	7.5	5.4	2.3	60	40.7	30.5	2.25	5.3
				68	41.4	32.7	2.41	5.0
				80	42.1	34.0	2.51	4.9
	10.0	9.2	3.9	60	42.5	32.0	2.28	5.5
				68	43.2	34.2	2.44	5.2
				80	43.9	35.6	2.54	5.1
70	5.0	2.6	1.1	60	43.3	32.7	2.29	5.5
				68	44.0	35.0	2.45	5.3
				80	44.7	36.4	2.55	5.1
	7.5	5.4	2.3	60	45.6	34.7	2.33	5.7
				68	46.4	37.1	2.49	5.4
				80	47.1	38.7	2.60	5.3
	10.0	9.0	3.8	60	47.5	36.4	2.36	5.9
				68	48.3	39.0	2.53	5.6
				80	49.1	40.6	2.63	5.5
80	5.0	2.6	1.1	60	47.9	36.7	2.37	5.9
				68	48.7	39.3	2.54	5.6
				80	49.5	40.9	2.64	5.5
	7.5	5.2	2.2	60	50.5	39.0	2.42	6.1
				68	51.4	41.8	2.59	5.8
				80	52.2	43.5	2.69	5.7
	10.0	8.7	3.7	60	52.8	41.4	2.46	6.3
				68	53.7	44.3	2.63	6.0
				80	54.6	46.1	2.74	5.8
90	5.0	2.6	1.1	Operation Not Recommended				
	7.5	5.2	2.2					
	10.0	8.7	3.7					
100	5.0	2.4	1.0					
	7.5	5.2	2.2					
	10.0	8.5	3.6					
110	5.0	2.4	1.0					
	7.5	4.9	2.1					
	10.0	8.2	3.5					

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

GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM036 CS + SM AH/AV Partial Load Cooling Performance Data - 1223 SCFM -260 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	5.0	8.7	3.7	Operation Not Recommended					
	7.5	9.0	3.8						
	10.0	9.2	3.9						
30	5.0	2.8	1.2						
	7.5	5.9	2.5						
	10.0	9.7	4.1						
40	5.0	2.8	1.2	75/63	33.3	24.5	0.74	1.1	30.0
				80.6/66.2	35.2	29.7	0.84	1.1	31.5
				85/71	40.7	27.3	0.67	1.1	35.7
	7.5	5.7	2.4	75/63	34.2	24.8	0.73	1.1	31.9
				80.6/66.2	36.2	30.2	0.83	1.1	33.5
				85/71	41.8	27.7	0.66	1.1	37.9
	10.0	9.7	4.1	75/63	34.6	25.0	0.72	1.1	32.9
				80.6/66.2	36.7	30.4	0.83	1.1	34.5
				85/71	42.4	27.9	0.66	1.1	39.0
50	5.0	2.8	1.2	75/63	31.7	23.9	0.75	1.2	26.5
				80.6/66.2	33.6	29.1	0.87	1.2	27.8
				85/71	38.8	26.7	0.69	1.2	31.5
	7.5	5.7	2.4	75/63	32.6	24.2	0.74	1.1	28.6
				80.6/66.2	34.5	29.4	0.85	1.2	30.0
				85/71	39.9	27.1	0.68	1.2	33.9
	10.0	9.4	4.0	75/63	33.1	24.4	0.74	1.1	29.6
				80.6/66.2	35.0	29.7	0.85	1.1	31.1
				85/71	40.5	27.2	0.67	1.2	35.2
60	5.0	2.6	1.1	75/63	30.1	23.4	0.78	1.3	22.9
				80.6/66.2	31.9	28.4	0.89	1.3	24.0
				85/71	36.8	26.1	0.71	1.4	27.1
	7.5	5.4	2.3	75/63	31.0	23.7	0.76	1.2	24.8
				80.6/66.2	32.8	28.8	0.88	1.3	26.1
				85/71	37.9	26.4	0.70	1.3	29.5
	10.0	9.2	3.9	75/63	31.5	23.8	0.76	1.2	25.9
				80.6/66.2	33.3	28.9	0.87	1.2	27.2
				85/71	38.5	26.6	0.69	1.3	30.8
70	5.0	2.6	1.1	75/63	28.4	22.9	0.80	1.5	19.4
				80.6/66.2	30.1	27.8	0.92	1.5	20.3
				85/71	34.8	25.5	0.73	1.5	23.0
	7.5	5.4	2.3	75/63	29.4	23.0	0.78	1.4	21.2
				80.6/66.2	31.1	28.0	0.90	1.4	22.2
				85/71	35.9	25.7	0.72	1.4	25.2
	10.0	9.0	3.8	75/63	29.8	23.2	0.78	1.3	22.1
				80.6/66.2	31.5	28.2	0.89	1.4	23.2
				85/71	36.5	25.9	0.71	1.4	26.3
80	5.0	2.6	1.1	75/63	26.8	22.2	0.83	1.7	16.3
				80.6/66.2	28.4	27.0	0.95	1.7	17.1
				85/71	32.8	24.8	0.76	1.7	19.3
	7.5	5.2	2.2	75/63	27.6	22.5	0.81	1.6	17.7
				80.6/66.2	29.2	27.3	0.93	1.6	18.6
				85/71	33.8	25.1	0.74	1.6	21.1
	10.0	9.0	3.8	75/63	28.0	22.6	0.81	1.5	18.5
				80.6/66.2	29.7	27.5	0.93	1.5	19.4
				85/71	34.3	25.3	0.74	1.6	22.0
90	5.0	2.6	1.1	75/63	25.3	21.3	0.84	1.9	13.6
				80.6/66.2	26.8	25.9	0.97	1.9	14.3
				85/71	31.0	23.8	0.77	1.9	16.1
	7.5	5.2	2.2	75/63	26.0	21.7	0.84	1.8	14.8
				80.6/66.2	27.5	26.4	0.96	1.8	15.5
				85/71	31.8	24.3	0.76	1.8	17.5
	10.0	8.7	3.7	75/63	26.4	21.9	0.83	1.7	15.4
				80.6/66.2	27.9	26.7	0.95	1.7	16.1
				85/71	32.3	24.5	0.76	1.8	18.3
100	5.0	2.4	1.0	75/63	23.9	20.3	0.85	2.1	11.3
				80.6/66.2	25.3	24.6	0.97	2.1	11.9
				85/71	29.2	22.6	0.77	2.2	13.5
	7.5	5.2	2.2	75/63	24.4	20.7	0.85	2.0	12.2
				80.6/66.2	25.9	25.2	0.97	2.0	12.8
				85/71	29.9	23.2	0.77	2.1	14.5
	10.0	8.5	3.6	75/63	24.8	20.9	0.85	1.9	12.7
				80.6/66.2	26.2	25.5	0.97	2.0	13.3
				85/71	30.3	23.4	0.77	2.0	15.1
110	5.0	2.4	1.0	75/63	22.3	19.0	0.85	2.4	9.4
				80.6/66.2	23.6	23.1	0.97	2.4	9.9
				85/71	27.3	21.2	0.77	2.4	11.2
	7.5	4.9	2.1	75/63	22.9	19.5	0.85	2.3	10.1
				80.6/66.2	24.3	23.7	0.97	2.3	10.6
				85/71	28.1	21.7	0.77	2.3	12.0
	10.0	8.2	3.5	75/63	23.2	19.7	0.85	2.2	10.5
				80.6/66.2	24.6	24.0	0.97	2.2	11.0
				85/71	28.4	22.0	0.77	2.3	12.5

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM036 CS + SM AH/AV Partial Load Heating Performance Data - 1223 SCFM -260 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBtu/hr.	Heat of Absp kBtu/hr	Power kW	COP
20	5.0	8.7	3.7	60	16.4	10.4	1.38	3.5
				68	16.7	11.1	1.48	3.3
				80	17.0	11.5	1.54	3.2
	7.5	9.0	3.8	60	16.9	10.8	1.38	3.6
				68	17.2	11.5	1.48	3.4
				80	17.5	12.0	1.54	3.3
	10.0	9.2	3.9	60	17.3	11.2	1.38	3.7
				68	17.6	11.9	1.48	3.5
				80	17.9	12.4	1.54	3.4
30	5.0	2.8	1.2	60	19.4	12.7	1.39	4.1
				68	19.8	13.6	1.49	3.9
				80	20.1	14.2	1.55	3.8
	7.5	5.9	2.5	60	19.9	13.5	1.39	4.2
				68	20.3	14.4	1.49	4.0
				80	20.6	15.0	1.55	3.9
	10.0	9.7	4.1	60	20.5	14.0	1.39	4.3
				68	20.8	14.9	1.49	4.1
				80	21.1	15.6	1.55	4.0
40	5.0	2.8	1.2	60	22.4	15.8	1.40	4.7
				68	22.8	16.9	1.49	4.5
				80	23.1	17.6	1.55	4.4
	7.5	5.7	2.4	60	23.2	16.3	1.40	4.9
				68	23.6	17.5	1.49	4.6
				80	24.0	18.2	1.56	4.5
	10.0	9.7	4.1	60	23.8	17.1	1.40	5.0
				68	24.2	18.3	1.50	4.7
				80	24.6	19.1	1.56	4.6
50	5.0	2.8	1.2	60	25.8	18.7	1.40	5.4
				68	26.2	20.1	1.50	5.1
				80	26.6	20.9	1.56	5.0
	7.5	5.7	2.4	60	26.9	19.6	1.40	5.6
				68	27.4	21.0	1.50	5.4
				80	27.8	21.8	1.56	5.2
	10.0	9.4	4.0	60	27.5	20.5	1.40	5.7
				68	28.0	21.9	1.50	5.5
				80	28.4	22.8	1.56	5.3
60	5.0	2.6	1.1	60	29.5	21.9	1.41	6.1
				68	30.0	23.4	1.51	5.8
				80	30.4	24.4	1.57	5.7
	7.5	5.4	2.3	60	30.6	23.0	1.41	6.4
				68	31.2	24.6	1.51	6.1
				80	31.7	25.6	1.57	5.9
	10.0	9.2	3.9	60	31.4	24.2	1.41	6.5
				68	31.9	25.9	1.51	6.2
				80	32.4	26.9	1.57	6.1
70	5.0	2.6	1.1	60	33.1	25.2	1.41	6.9
				68	33.6	27.0	1.51	6.5
				80	34.2	28.1	1.57	6.4
	7.5	5.4	2.3	60	34.5	26.5	1.41	7.2
				68	35.1	28.4	1.51	6.8
				80	35.6	29.5	1.57	6.6
	10.0	9.0	3.8	60	35.7	27.6	1.41	7.4
				68	36.3	29.5	1.51	7.0
				80	36.8	30.7	1.57	6.9
80	5.0	2.6	1.1	60	36.8	28.6	1.41	7.6
				68	37.5	30.6	1.51	7.3
				80	38.0	31.9	1.58	7.1
	7.5	5.2	2.2	60	38.2	30.2	1.41	7.9
				68	38.9	32.3	1.51	7.5
				80	39.5	33.7	1.57	7.4
	10.0	9.0	3.8	60	39.6	31.7	1.41	8.2
				68	40.3	33.9	1.51	7.8
				80	40.9	35.3	1.57	7.6
90	5.0	2.6	1.1	Operation Not Recommended				
	7.5	5.2	2.2					
	10.0	8.7	3.7					
100	5.0	2.4	1.0					
	7.5	5.2	2.2					
	10.0	8.5	3.6					
110	5.0	2.4	1.0					
	7.5	4.9	2.1					
	10.0	8.2	3.5					

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

GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM048 CS + SM AH/AV Full Load Cooling Performance Data - 1600 SCFM -445 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBTu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	6.0	10.6	4.5	Operation Not Recommended					
	9.0	10.8	4.6						
	12.0	11.1	4.7						
30	6.0	3.3	1.4						
	9.0	7.1	3.0						
	12.0	11.8	5.0						
40	6.0	3.3	1.4	75/63	55.8	35.8	0.64	2.5	22.5
				80.6/66.2	59.1	43.4	0.74	2.5	23.6
				85/71	68.4	39.9	0.58	2.6	26.7
	9.0	6.8	2.9	75/63	58.0	36.5	0.63	2.3	25.3
				80.6/66.2	61.4	44.4	0.72	2.3	26.6
				85/71	71.0	40.8	0.57	2.4	30.1
50	6.0	3.3	1.4	75/63	59.0	37.0	0.63	2.2	27.0
				80.6/66.2	62.5	45.0	0.72	2.2	28.3
				85/71	72.3	41.3	0.57	2.3	32.1
	9.0	6.8	2.9	75/63	53.6	35.0	0.65	2.7	19.8
				80.6/66.2	56.7	42.5	0.75	2.7	20.7
				85/71	65.6	39.0	0.60	2.8	23.5
60	6.0	3.3	1.4	75/63	55.6	35.7	0.64	2.5	22.2
				80.6/66.2	58.9	43.4	0.74	2.5	23.3
				85/71	68.1	39.9	0.59	2.6	26.3
	9.0	6.6	2.8	75/63	56.6	36.1	0.64	2.4	23.6
				80.6/66.2	60.0	43.9	0.73	2.4	24.7
				85/71	69.3	40.3	0.58	2.5	28.0
70	6.0	3.3	1.4	75/63	51.1	34.3	0.67	3.0	17.3
				80.6/66.2	54.1	41.7	0.77	3.0	18.1
				85/71	62.5	38.3	0.61	3.0	20.5
	9.0	6.6	2.8	75/63	53.2	34.9	0.66	2.7	19.4
				80.6/66.2	56.3	42.4	0.75	2.8	20.4
				85/71	65.1	39.0	0.60	2.8	23.0
80	6.0	3.1	1.3	75/63	54.2	35.3	0.65	2.6	20.6
				80.6/66.2	57.4	42.9	0.75	2.7	21.6
				85/71	66.4	39.4	0.59	2.7	24.4
	9.0	6.6	2.8	75/63	48.7	33.4	0.69	3.2	15.1
				80.6/66.2	51.6	40.6	0.79	3.3	15.8
				85/71	59.7	37.3	0.62	3.3	17.9
90	6.0	3.1	1.3	75/63	50.7	34.0	0.67	3.0	16.9
				80.6/66.2	53.7	41.3	0.77	3.0	17.7
				85/71	62.1	38.0	0.61	3.1	20.0
	9.0	6.4	2.7	75/63	51.8	34.3	0.66	2.9	17.9
				80.6/66.2	54.9	41.7	0.76	2.9	18.8
				85/71	63.4	38.3	0.60	3.0	21.3
100	6.0	3.1	1.3	75/63	46.4	32.4	0.70	3.6	13.1
				80.6/66.2	49.1	39.4	0.80	3.6	13.7
				85/71	56.8	36.2	0.64	3.7	15.5
	9.0	6.4	2.7	75/63	48.3	33.0	0.68	3.3	14.6
				80.6/66.2	51.1	40.1	0.79	3.3	15.3
				85/71	59.1	36.9	0.62	3.4	17.3
110	6.0	2.8	1.2	75/63	49.2	33.5	0.68	3.2	15.5
				80.6/66.2	52.1	40.7	0.78	3.2	16.2
				85/71	60.2	37.4	0.62	3.3	18.3
	9.0	6.1	2.6	75/63	44.4	30.4	0.68	3.9	11.3
				80.6/66.2	47.1	37.0	0.79	4.0	11.9
				85/71	54.4	34.0	0.62	4.1	13.4
120	6.0	2.8	1.2	75/63	45.6	32.2	0.71	3.6	12.5
				80.6/66.2	48.3	39.1	0.81	3.7	13.1
				85/71	55.9	36.0	0.64	3.8	14.9
	9.0	6.1	2.6	75/63	46.6	32.6	0.70	3.5	13.2
				80.6/66.2	49.3	39.7	0.80	3.5	13.9
				85/71	57.0	36.5	0.64	3.6	15.7
130	6.0	3.1	1.3	75/63	41.9	29.6	0.71	4.3	9.6
				80.6/66.2	44.3	36.0	0.81	4.4	10.1
				85/71	51.3	33.1	0.65	4.5	11.4
	9.0	6.1	2.6	75/63	42.3	32.4	0.77	4.0	10.5
				80.6/66.2	44.8	39.4	0.88	4.1	11.0
				85/71	51.7	36.2	0.70	4.2	12.4
140	6.0	3.1	1.3	75/63	43.9	31.7	0.72	3.9	11.2
				80.6/66.2	46.5	38.5	0.83	3.9	11.8
				85/71	53.8	35.4	0.66	4.0	13.3
	9.0	6.1	2.6	75/63	38.7	30.0	0.77	4.8	8.0
				80.6/66.2	41.0	36.5	0.89	4.9	8.4
				85/71	47.4	33.5	0.71	5.0	9.5
150	6.0	2.8	1.2	75/63	39.8	31.2	0.78	4.5	8.8
				80.6/66.2	42.2	38.0	0.90	4.6	9.3
				85/71	48.8	34.9	0.71	4.7	10.5
	9.0	6.1	2.6	75/63	41.7	29.6	0.71	4.4	9.5
				80.6/66.2	44.2	36.0	0.82	4.4	10.0
				85/71	51.1	33.1	0.65	4.5	11.3

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Bosch Thermotechnology Corp.

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

Greensource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM048 CS + SM AH/AV Full Load Heating Performance Data - 1600 SCFM -445 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total Kbtu/hr.	Heat of Absp kbtu/hr	Power kW	COP
20	6.0	10.6	4.5	60	30.3	19.2	2.65	3.4
				68	30.8	20.5	2.83	3.2
				80	31.3	21.4	2.95	3.1
	9.0	10.8	4.6	60	31.5	20.3	2.67	3.5
				68	32.0	21.7	2.86	3.3
				80	32.5	22.6	2.98	3.2
	12.0	11.1	4.7	60	32.3	20.9	2.69	3.5
				68	32.9	22.3	2.88	3.3
				80	33.4	23.3	3.00	3.3
30	6.0	3.3	1.4	60	34.8	23.0	2.74	3.7
				68	35.4	24.6	2.93	3.5
				80	35.9	25.6	3.05	3.4
	9.0	7.1	3.0	60	36.5	24.4	2.78	3.8
				68	37.1	26.1	2.97	3.7
				80	37.7	27.2	3.09	3.6
	12.0	11.8	5.0	60	37.5	25.3	2.80	3.9
				68	38.1	27.0	3.00	3.7
				80	38.7	28.1	3.12	3.6
40	6.0	3.3	1.4	60	39.6	27.0	2.84	4.1
				68	40.3	28.9	3.04	3.9
				80	40.9	30.0	3.17	3.8
	9.0	6.8	2.9	60	41.7	28.8	2.89	4.2
				68	42.4	30.8	3.09	4.0
				80	43.1	32.1	3.22	3.9
	12.0	11.5	4.9	60	42.8	29.8	2.92	4.3
				68	43.5	31.9	3.12	4.1
				80	44.2	33.2	3.25	4.0
50	6.0	3.3	1.4	60	44.5	31.2	2.95	4.4
				68	45.2	33.4	3.15	4.2
				80	46.0	34.7	3.28	4.1
	9.0	6.8	2.9	60	47.2	33.6	2.99	4.6
				68	48.0	35.9	3.21	4.4
				80	48.8	37.4	3.34	4.3
	12.0	11.3	4.8	60	48.7	34.9	3.02	4.7
				68	49.6	37.3	3.24	4.5
				80	50.4	38.9	3.37	4.4
60	6.0	3.3	1.4	60	49.8	35.8	3.04	4.8
				68	50.7	38.3	3.26	4.6
				80	51.5	39.8	3.39	4.5
	9.0	6.6	2.8	60	53.0	38.6	3.10	5.0
				68	54.0	41.3	3.32	4.8
				80	54.8	43.0	3.46	4.6
	12.0	11.1	4.7	60	54.8	40.1	3.14	5.1
				68	55.7	42.9	3.36	4.9
				80	56.6	44.7	3.49	4.7
70	6.0	3.1	1.3	60	55.5	40.6	3.15	5.2
				68	56.5	43.5	3.37	4.9
				80	57.3	45.2	3.50	4.8
	9.0	6.6	2.8	60	59.1	43.6	3.21	5.4
				68	60.1	46.6	3.44	5.1
				80	61.0	48.5	3.58	5.0
	12.0	10.8	4.6	60	61.2	45.7	3.25	5.5
				68	62.3	48.9	3.48	5.2
				80	63.3	50.9	3.62	5.1
80	6.0	3.1	1.3	60	61.2	45.6	3.25	5.5
				68	62.3	48.8	3.48	5.2
				80	63.3	50.8	3.62	5.1
	9.0	6.4	2.7	60	65.4	49.0	3.33	5.8
				68	66.5	52.4	3.56	5.5
				80	67.6	54.6	3.71	5.3
	12.0	10.6	4.5	60	67.9	51.5	3.38	5.9
				68	69.0	55.1	3.61	5.6
				80	70.1	57.3	3.76	5.5
90	6.0	3.1	1.3	Operation Not Recommended				
	9.0	6.4	2.7					
	12.0	10.4	4.4					
100	6.0	3.1	1.3					
	9.0	6.1	2.6					
	12.0	10.4	4.4					
110	6.0	2.8	1.2					
	9.0	6.1	2.6					
	12.0	10.1	4.3					

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

GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM048 CS + SM AH/AV Partial Load Cooling Performance Data - 1263 SCFM -294 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	6.0	10.6	4.5	Operation Not Recommended					
	9.0	11.1	4.7						
	12.0	11.1	4.7						
30	6.0	3.5	1.5						
	9.0	7.1	3.0						
	12.0	11.8	5.0						
40	6.0	3.3	1.4	75/63	43.8	28.6	0.65	1.4	32.4
				80.6/66.2	46.3	34.7	0.75	1.4	34.0
				85/71	53.6	31.9	0.60	1.4	38.4
	9.0	6.8	2.9	75/63	45.3	29.1	0.64	1.2	37.0
				80.6/66.2	48.0	35.4	0.74	1.2	38.8
				85/71	55.5	32.5	0.59	1.3	44.0
	12.0	11.5	4.9	75/63	46.2	29.4	0.64	1.2	39.8
				80.6/66.2	48.9	35.7	0.73	1.2	41.8
				85/71	56.5	32.8	0.58	1.2	47.3
50	6.0	3.3	1.4	75/63	41.5	27.9	0.67	1.5	26.8
				80.6/66.2	43.9	33.9	0.77	1.6	28.2
				85/71	50.8	31.2	0.61	1.6	31.9
	9.0	6.8	2.9	75/63	43.0	28.4	0.66	1.4	30.4
				80.6/66.2	45.5	34.5	0.76	1.4	32.0
				85/71	52.6	31.7	0.60	1.5	36.2
	12.0	11.3	4.8	75/63	43.8	28.6	0.65	1.3	32.6
				80.6/66.2	46.4	34.7	0.75	1.4	34.2
				85/71	53.7	31.9	0.59	1.4	38.7
60	6.0	3.3	1.4	75/63	39.2	27.1	0.69	1.8	22.3
				80.6/66.2	41.5	33.0	0.79	1.8	23.4
				85/71	48.0	30.3	0.63	1.8	26.5
	9.0	6.6	2.8	75/63	40.7	27.5	0.68	1.6	25.1
				80.6/66.2	43.1	33.5	0.78	1.6	26.3
				85/71	49.8	30.8	0.62	1.7	29.8
	12.0	11.1	4.7	75/63	41.4	27.9	0.67	1.5	26.7
				80.6/66.2	43.8	33.9	0.77	1.6	28.0
				85/71	50.7	31.2	0.61	1.6	31.7
70	6.0	3.1	1.3	75/63	36.8	26.4	0.72	2.0	18.5
				80.6/66.2	39.0	32.0	0.82	2.0	19.4
				85/71	45.1	29.4	0.65	2.1	21.9
	9.0	6.6	2.8	75/63	38.2	26.8	0.70	1.8	20.7
				80.6/66.2	40.5	32.5	0.80	1.9	21.7
				85/71	46.8	29.9	0.64	1.9	24.5
	12.0	10.8	4.6	75/63	39.0	27.1	0.69	1.8	22.0
				80.6/66.2	41.3	32.9	0.80	1.8	23.1
				85/71	47.7	30.2	0.63	1.8	26.1
80	6.0	3.1	1.3	75/63	34.5	25.6	0.74	2.3	15.3
				80.6/66.2	36.5	31.1	0.85	2.3	16.0
				85/71	42.2	28.6	0.68	2.3	18.1
	9.0	6.4	2.7	75/63	35.7	26.0	0.73	2.1	17.0
				80.6/66.2	37.8	31.6	0.84	2.1	17.8
				85/71	43.7	29.1	0.66	2.2	20.1
	12.0	10.6	4.5	75/63	36.7	25.9	0.71	2.0	18.1
				80.6/66.2	38.9	31.5	0.81	2.0	19.0
				85/71	44.9	28.9	0.64	2.1	21.5
90	6.0	3.1	1.3	75/63	32.2	24.7	0.77	2.5	12.7
				80.6/66.2	34.1	30.0	0.88	2.6	13.3
				85/71	39.4	27.6	0.70	2.6	15.0
	9.0	6.4	2.7	75/63	33.4	25.2	0.76	2.4	14.0
				80.6/66.2	35.3	30.6	0.87	2.4	14.7
				85/71	40.9	28.2	0.69	2.5	16.6
	12.0	10.6	4.5	75/63	34.0	25.4	0.75	2.3	14.7
				80.6/66.2	36.0	30.9	0.86	2.3	15.4
				85/71	41.6	28.4	0.68	2.4	17.5
100	6.0	3.1	1.3	75/63	30.0	24.0	0.80	2.8	10.5
				80.6/66.2	31.8	29.2	0.92	2.9	11.1
				85/71	36.7	26.8	0.73	2.9	12.5
	9.0	6.1	2.6	75/63	31.1	24.3	0.78	2.7	11.5
				80.6/66.2	32.9	29.5	0.90	2.7	12.1
				85/71	38.1	27.1	0.71	2.8	13.7
	12.0	10.4	4.4	75/63	31.7	24.4	0.77	2.6	12.1
				80.6/66.2	33.5	29.7	0.89	2.6	12.7
				85/71	38.8	27.3	0.70	2.7	14.4
110	6.0	2.8	1.2	75/63	27.8	23.1	0.83	3.2	8.7
				80.6/66.2	29.4	28.1	0.95	3.2	9.2
				85/71	34.0	25.8	0.76	3.3	10.4
	9.0	6.1	2.6	75/63	28.8	23.5	0.82	3.0	9.5
				80.6/66.2	30.5	28.5	0.94	3.1	10.0
				85/71	35.3	26.2	0.74	3.1	11.3
	12.0	10.1	4.3	75/63	29.3	23.8	0.81	3.0	9.9
				80.6/66.2	31.0	28.9	0.93	3.0	10.4
				85/71	35.8	26.5	0.74	3.0	11.8

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

GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM048 CS + SM AH/AV Partial Load Heating Performance Data - 1263 SCFM -294 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBtu/hr.	Heat of Absp kBtu/hr	Power kW	COP
20	6.0	10.6	4.5	60	22.5	14.2	2.06	3.2
				68	22.8	15.2	2.21	3.0
				80	23.2	15.9	2.30	3.0
	9.0	11.1	4.7	60	23.2	14.8	2.07	3.3
				68	23.6	15.9	2.21	3.1
				80	24.0	16.5	2.30	3.1
	12.0	11.1	4.7	60	23.6	15.1	2.07	3.3
				68	24.0	16.2	2.21	3.2
				80	24.4	16.8	2.31	3.1
30	6.0	3.5	1.5	60	25.7	17.3	2.08	3.6
				68	26.2	18.5	2.23	3.4
				80	26.6	19.2	2.32	3.4
	9.0	7.1	3.0	60	26.7	18.1	2.09	3.7
				68	27.2	19.4	2.24	3.6
				80	27.6	20.2	2.33	3.5
	12.0	11.8	5.0	60	27.2	18.6	2.10	3.8
				68	27.7	19.9	2.24	3.6
				80	28.2	20.7	2.33	3.5
40	6.0	3.3	1.4	60	29.4	20.5	2.11	4.1
				68	29.9	22.0	2.26	3.9
				80	30.3	22.9	2.35	3.8
	9.0	6.8	2.9	60	30.6	21.7	2.12	4.2
				68	31.1	23.2	2.27	4.0
				80	31.6	24.1	2.36	3.9
	12.0	11.5	4.9	60	31.3	22.3	2.12	4.3
				68	31.8	23.9	2.27	4.1
				80	32.3	24.9	2.37	4.0
50	6.0	3.3	1.4	60	33.2	24.1	2.14	4.6
				68	33.8	25.7	2.29	4.3
				80	34.3	26.8	2.38	4.2
	9.0	6.8	2.9	60	34.7	25.5	2.15	4.7
				68	35.3	27.3	2.30	4.5
				80	35.9	28.4	2.39	4.4
	12.0	11.3	4.8	60	35.7	26.1	2.15	4.9
				68	36.3	27.9	2.30	4.6
				80	36.9	29.1	2.40	4.5
60	6.0	3.3	1.4	60	37.3	27.8	2.16	5.1
				68	37.9	29.7	2.31	4.8
				80	38.5	30.9	2.41	4.7
	9.0	6.6	2.8	60	39.1	29.5	2.17	5.3
				68	39.8	31.6	2.32	5.0
				80	40.4	32.9	2.42	4.9
	12.0	11.1	4.7	60	40.3	30.3	2.17	5.4
				68	41.0	32.4	2.33	5.2
				80	41.7	33.8	2.42	5.0
70	6.0	3.1	1.3	60	41.6	31.7	2.18	5.6
				68	42.3	34.0	2.33	5.3
				80	43.0	35.3	2.43	5.2
	9.0	6.6	2.8	60	43.8	33.8	2.19	5.9
				68	44.6	36.2	2.34	5.6
				80	45.3	37.7	2.44	5.4
	12.0	10.8	4.6	60	45.2	34.8	2.19	6.0
				68	46.0	37.2	2.35	5.7
				80	46.7	38.7	2.44	5.6
80	6.0	3.1	1.3	60	46.1	35.9	2.20	6.1
				68	46.9	38.4	2.35	5.8
				80	47.6	39.9	2.45	5.7
	9.0	6.4	2.7	60	48.7	38.3	2.21	6.5
				68	49.5	41.0	2.37	6.1
				80	50.3	42.7	2.46	6.0
	12.0	10.6	4.5	60	50.2	39.6	2.22	6.6
				68	51.1	42.4	2.37	6.3
				80	51.9	44.1	2.47	6.2
90	6.0	3.1	1.3	Operation Not Recommended				
	9.0	6.4	2.7					
	12.0	10.6	4.5					
100	6.0	3.1	1.3					
	9.0	6.1	2.6					
	12.0	10.4	4.4					
110	6.0	2.8	1.2					
	9.0	6.1	2.6					
	12.0	10.1	4.3					

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Bosch Thermotechnology Corp.

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

GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM060 CS + SM AH/AV Full Load Cooling Performance Data - 1950 SCFM -592 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total Kbtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	7.0	4.2	1.8	Operation Not Recommended					
	12.0	10.8	4.6						
	15.0	16.0	6.8						
30	7.0	4.0	1.7						
	12.0	10.4	4.4						
	15.0	15.6	6.6						
40	7.0	4.0	1.7	75/63	66.6	44.3	0.66	3.2	20.8
				80.6/66.2	70.5	53.8	0.76	3.2	21.9
				85/71	81.5	49.4	0.61	3.3	24.7
	12.0	10.1	4.3	75/63	69.4	45.3	0.65	3.0	23.4
				80.6/66.2	73.5	55.1	0.75	3.0	24.6
				85/71	85.0	50.6	0.60	3.1	27.8
	15.0	15.3	6.5	75/63	70.2	45.6	0.65	2.9	24.2
				80.6/66.2	74.3	55.4	0.75	2.9	25.4
				85/71	85.9	50.9	0.59	3.0	28.8
50	7.0	3.8	1.6	75/63	64.1	43.3	0.68	2.9	22.1
				80.6/66.2	67.8	52.7	0.78	2.9	23.2
				85/71	78.5	48.4	0.62	3.0	26.2
	12.0	10.1	4.3	75/63	66.8	44.4	0.66	3.4	19.5
				80.6/66.2	70.8	53.9	0.76	3.5	20.4
				85/71	81.8	49.6	0.61	3.5	23.1
	15.0	14.8	6.3	75/63	67.6	44.7	0.66	3.2	21.3
				80.6/66.2	71.6	54.3	0.76	3.2	22.4
				85/71	82.8	49.9	0.60	3.3	25.3
60	7.0	3.8	1.6	75/63	61.5	42.4	0.69	3.1	19.8
				80.6/66.2	65.1	51.5	0.79	3.1	20.8
				85/71	75.3	47.3	0.63	3.2	23.5
	12.0	9.9	4.2	75/63	64.2	43.3	0.68	3.7	17.3
				80.6/66.2	68.0	52.7	0.77	3.7	18.1
				85/71	78.6	48.4	0.62	3.8	20.5
	15.0	14.6	6.2	75/63	65.0	43.6	0.67	3.4	19.0
				80.6/66.2	68.8	53.0	0.77	3.5	19.9
				85/71	79.5	48.7	0.61	3.5	22.5
70	7.0	3.8	1.6	75/63	59.0	41.1	0.70	3.3	17.6
				80.6/66.2	62.4	50.0	0.80	3.4	18.5
				85/71	72.2	45.9	0.64	3.5	20.9
	12.0	9.7	4.1	75/63	61.5	42.2	0.69	4.0	15.2
				80.6/66.2	65.2	51.3	0.79	4.1	16.0
				85/71	75.4	47.1	0.63	4.2	18.1
	15.0	14.4	6.1	75/63	62.3	42.5	0.68	3.7	16.8
				80.6/66.2	65.9	51.6	0.78	3.8	17.6
				85/71	76.2	47.4	0.62	3.8	19.9
80	7.0	3.5	1.5	75/63	56.1	40.4	0.72	3.6	15.4
				80.6/66.2	59.4	49.1	0.83	3.7	16.2
				85/71	68.7	45.1	0.66	3.7	18.3
	12.0	9.4	4.0	75/63	58.8	41.1	0.70	4.4	13.3
				80.6/66.2	62.2	49.9	0.80	4.4	14.0
				85/71	71.9	45.9	0.64	4.5	15.8
	15.0	14.1	6.0	75/63	59.4	41.3	0.70	4.1	14.6
				80.6/66.2	62.9	50.2	0.80	4.1	15.4
				85/71	72.8	46.2	0.63	4.2	17.4
90	7.0	3.5	1.5	75/63	53.5	39.2	0.73	4.0	13.5
				80.6/66.2	56.6	47.6	0.84	4.0	14.1
				85/71	65.5	43.7	0.67	4.1	16.0
	12.0	9.2	3.9	75/63	55.9	40.0	0.72	4.8	11.6
				80.6/66.2	59.2	48.6	0.82	4.9	12.1
				85/71	68.4	44.7	0.65	5.0	13.7
	15.0	13.9	5.9	75/63	56.5	40.2	0.71	4.5	12.7
				80.6/66.2	59.8	48.9	0.82	4.5	13.3
				85/71	69.2	44.9	0.65	4.6	15.0
100	7.0	3.5	1.5	75/63	50.5	38.4	0.76	4.4	11.6
				80.6/66.2	53.5	46.7	0.87	4.4	12.1
				85/71	61.9	42.9	0.69	4.5	13.7
	12.0	9.2	3.9	75/63	52.9	39.0	0.74	5.3	10.0
				80.6/66.2	56.0	47.4	0.85	5.4	10.5
				85/71	64.8	43.5	0.67	5.5	11.8
	15.0	13.4	5.7	75/63	53.5	39.1	0.73	4.9	10.9
				80.6/66.2	56.6	47.6	0.84	5.0	11.4
				85/71	65.5	43.7	0.67	5.1	12.9
110	7.0	3.3	1.4	75/63	47.7	37.5	0.79	4.8	9.9
				80.6/66.2	50.5	45.5	0.90	4.9	10.4
				85/71	58.4	41.8	0.72	5.0	11.7
	12.0	9.0	3.8	75/63	49.7	38.1	0.77	5.8	8.5
				80.6/66.2	52.6	46.3	0.88	5.9	8.9
				85/71	60.8	42.6	0.70	6.0	10.1
	15.0	13.2	5.6	75/63	50.3	38.3	0.76	5.5	9.2
				80.6/66.2	53.2	46.5	0.87	5.5	9.7
				85/71	61.5	42.7	0.69	5.6	10.9

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM060 CS + SM AH/AV Full Load Heating Performance Data - 1950 SCFM -592 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBtu/hr.	Heat of Absp kBtu/hr	Power kW	COP
20	7.0	4.2	1.8	60	39.6	25.0	3.34	3.5
				68	40.3	26.8	3.57	3.3
				80	40.9	27.9	3.72	3.2
	12.0	10.8	4.6	60	41.8	26.9	3.38	3.6
				68	42.6	28.7	3.62	3.4
				80	43.2	29.9	3.77	3.4
	15.0	16.0	6.8	60	42.6	27.3	3.40	3.7
				68	43.3	29.2	3.64	3.5
				80	44.0	30.4	3.78	3.4
30	7.0	4.0	1.7	60	44.8	29.3	3.45	3.8
				68	45.6	31.4	3.69	3.6
				80	46.3	32.7	3.84	3.5
	12.0	10.4	4.4	60	47.6	31.7	3.51	4.0
				68	48.5	34.0	3.75	3.8
				80	49.2	35.3	3.91	3.7
	15.0	15.6	6.6	60	48.6	32.5	3.53	4.0
				68	49.4	34.8	3.78	3.8
				80	50.2	36.2	3.93	3.7
40	7.0	4.0	1.7	60	50.4	34.0	3.57	4.1
				68	51.3	36.4	3.82	3.9
				80	52.1	37.9	3.98	3.8
	12.0	10.1	4.3	60	54.0	37.1	3.64	4.4
				68	55.0	39.7	3.90	4.1
				80	55.8	41.4	4.05	4.0
	15.0	15.3	6.5	60	55.3	38.0	3.66	4.4
				68	56.3	40.6	3.92	4.2
				80	57.2	42.3	4.08	4.1
50	7.0	3.8	1.6	60	56.7	39.3	3.69	4.5
				68	57.6	42.0	3.95	4.3
				80	58.6	43.8	4.11	4.2
	12.0	10.1	4.3	60	61.4	42.9	3.78	4.8
				68	62.4	45.9	4.04	4.5
				80	63.4	47.8	4.21	4.4
	15.0	14.8	6.3	60	62.4	44.3	3.81	4.8
				68	63.5	47.4	4.07	4.6
				80	64.5	49.3	4.24	4.5
60	7.0	3.8	1.6	60	63.4	45.0	3.82	4.9
				68	64.5	48.1	4.09	4.6
				80	65.5	50.1	4.26	4.5
	12.0	9.9	4.2	60	68.4	49.1	3.93	5.1
				68	69.6	52.5	4.20	4.9
				80	70.7	54.7	4.38	4.7
	15.0	14.6	6.2	60	70.2	50.5	3.96	5.2
				68	71.4	54.0	4.24	4.9
				80	72.5	56.2	4.42	4.8
70	7.0	3.8	1.6	60	70.5	50.9	3.97	5.2
				68	71.7	54.4	4.25	4.9
				80	72.8	56.7	4.42	4.8
	12.0	9.7	4.1	60	76.5	56.0	4.10	5.5
				68	77.8	59.9	4.39	5.2
				80	79.0	62.3	4.57	5.1
	15.0	14.4	6.1	60	78.4	57.6	4.14	5.5
				68	79.8	61.7	4.43	5.3
				80	81.0	64.2	4.62	5.1
80	7.0	3.5	1.5	60	77.7	57.0	4.13	5.5
				68	79.1	61.0	4.42	5.2
				80	80.3	63.5	4.60	5.1
	12.0	9.4	4.0	60	84.7	62.8	4.28	5.8
				68	86.1	67.2	4.59	5.5
				80	87.5	70.0	4.77	5.4
	15.0	14.1	6.0	60	86.9	64.7	4.34	5.9
				68	88.4	69.2	4.64	5.6
				80	89.8	72.1	4.83	5.4
90	7.0	3.5	1.5	Operation Not Recommended				
	12.0	9.2	3.9					
	15.0	13.9	5.9					
100	7.0	3.5	1.5					
	12.0	9.2	3.9					
	15.0	13.4	5.7					
110	7.0	3.3	1.4					
	12.0	9.0	3.8					
	15.0	13.2	5.6					

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM060 CS + SM AH/AV Partial Load Cooling Performance Data - 1571 SCFM -395 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB / °F WB	Total KBtu/hr.	Latent Capacity Kbtu/hr	SHR	Power kW	EER
20	7.0	4.2	1.8	Operation Not Recommended					
	12.0	10.8	4.6						
	15.0	16.0	6.8						
30	7.0	4.0	1.7						
	12.0	10.4	4.4						
	15.0	15.6	6.6						
40	7.0	4.0	1.7	75/63	51.9	35.7	0.69	1.8	29.6
				80.6/66.2	55.0	43.4	0.79	1.8	31.0
				85/71	63.6	39.9	0.63	1.8	35.1
	12.0	10.4	4.4	75/63	54.2	36.5	0.67	1.6	34.1
				80.6/66.2	57.4	44.4	0.77	1.6	35.8
				85/71	66.3	40.8	0.61	1.6	40.5
	15.0	15.3	6.5	75/63	54.8	36.7	0.67	1.5	35.6
				80.6/66.2	58.0	44.6	0.77	1.6	37.3
				85/71	67.1	41.0	0.61	1.6	42.2
50	7.0	3.8	1.6	75/63	49.4	34.7	0.70	2.0	25.0
				80.6/66.2	52.3	42.2	0.81	2.0	26.2
				85/71	60.4	38.8	0.64	2.0	29.7
	12.0	10.1	4.3	75/63	51.6	35.4	0.69	1.8	28.8
				80.6/66.2	54.6	43.0	0.79	1.8	30.2
				85/71	63.1	39.6	0.63	1.8	34.2
	15.0	15.1	6.4	75/63	52.2	35.7	0.68	1.7	30.0
				80.6/66.2	55.3	43.3	0.78	1.8	31.5
				85/71	63.9	39.8	0.62	1.8	35.7
60	7.0	3.8	1.6	75/63	46.8	33.6	0.72	2.2	21.1
				80.6/66.2	49.5	40.9	0.83	2.2	22.1
				85/71	57.3	37.6	0.66	2.3	25.0
	12.0	9.7	4.1	75/63	48.8	33.5	0.69	2.0	24.1
				80.6/66.2	51.7	40.8	0.79	2.0	25.3
				85/71	59.8	37.5	0.63	2.1	28.7
	15.0	14.4	6.1	75/63	49.4	33.7	0.68	2.0	25.1
				80.6/66.2	52.3	41.0	0.78	2.0	26.4
				85/71	60.5	37.7	0.62	2.0	29.8
70	7.0	3.5	1.5	75/63	44.1	31.9	0.72	2.5	17.6
				80.6/66.2	46.7	38.8	0.83	2.5	18.5
				85/71	54.0	35.6	0.66	2.6	20.9
	12.0	9.4	4.0	75/63	46.0	32.5	0.71	2.3	20.1
				80.6/66.2	48.7	39.5	0.81	2.3	21.1
				85/71	56.4	36.3	0.64	2.4	23.9
	15.0	14.1	6.0	75/63	46.6	32.7	0.70	2.2	20.9
				80.6/66.2	49.3	39.7	0.81	2.3	21.9
				85/71	57.1	36.5	0.64	2.3	24.8
80	7.0	3.5	1.5	75/63	41.3	30.7	0.74	2.8	14.7
				80.6/66.2	43.7	37.3	0.85	2.8	15.4
				85/71	50.5	34.3	0.68	2.9	17.4
	12.0	9.2	3.9	75/63	43.2	31.5	0.73	2.6	16.6
				80.6/66.2	45.7	38.3	0.84	2.6	17.5
				85/71	52.9	35.2	0.67	2.7	19.8
	15.0	13.9	5.9	75/63	43.7	31.7	0.73	2.5	17.3
				80.6/66.2	46.3	38.5	0.83	2.6	18.1
				85/71	53.5	35.4	0.66	2.6	20.5
90	7.0	3.5	1.5	75/63	38.6	29.9	0.78	3.2	12.2
				80.6/66.2	40.9	36.4	0.89	3.2	12.8
				85/71	47.3	33.4	0.71	3.3	14.5
	12.0	9.2	3.9	75/63	40.3	30.5	0.76	2.9	13.7
				80.6/66.2	42.6	37.0	0.87	3.0	14.4
				85/71	49.3	34.0	0.69	3.0	16.3
	15.0	13.7	5.8	75/63	40.8	30.6	0.75	2.9	14.2
				80.6/66.2	43.2	37.2	0.86	2.9	14.9
				85/71	49.9	34.2	0.69	3.0	16.8
100	7.0	3.3	1.4	75/63	35.9	29.0	0.81	3.5	10.1
				80.6/66.2	38.0	35.2	0.93	3.6	10.6
				85/71	43.9	32.3	0.74	3.7	12.0
	12.0	9.0	3.8	75/63	37.4	29.5	0.79	3.3	11.3
				80.6/66.2	39.6	35.8	0.90	3.4	11.8
				85/71	45.8	32.9	0.72	3.4	13.4
	15.0	13.2	5.6	75/63	37.9	29.6	0.78	3.3	11.6
				80.6/66.2	40.1	36.0	0.90	3.3	12.2
				85/71	46.4	33.1	0.71	3.4	13.8
110	7.0	3.3	1.4	75/63	47.7	37.5	0.79	4.8	9.9
				80.6/66.2	50.5	45.5	0.90	4.9	10.4
				85/71	58.4	41.8	0.72	5.0	11.7
	12.0	9.0	3.8	75/63	49.7	38.1	0.77	5.8	8.5
				80.6/66.2	52.6	46.3	0.88	5.9	8.9
				85/71	60.8	42.6	0.70	6.0	10.1
	15.0	13.2	5.6	75/63	50.3	38.3	0.76	5.5	9.2
				80.6/66.2	53.2	46.5	0.87	5.5	9.7
				85/71	61.5	42.7	0.69	5.6	10.9

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM060 CS + SM AH/AV Partial Load Heating Performance Data - 1571 SCFM -395 Fan Watts .6 ESP

Entering Water Temp °F	Water flow GPM	Pressure Drop (FOH)	Pressure Drop (PSI)	EAT °F DB	Total KBtu/hr.	Heat of Absp kBtu/hr	Power kW	COP
20	7.0	4.2	1.8	60	28.3	17.7	2.46	3.4
				68	28.8	19.0	2.63	3.2
				80	29.3	19.7	2.74	3.1
	12.0	10.8	4.6	60	29.6	18.9	2.47	3.5
				68	30.2	20.2	2.64	3.3
				80	30.6	21.0	2.75	3.3
	15.0	16.0	6.8	60	30.1	19.2	2.47	3.6
				68	30.6	20.6	2.64	3.4
				80	31.1	21.4	2.75	3.3
30	7.0	4.0	1.7	60	32.6	21.4	2.49	3.8
				68	33.2	22.9	2.67	3.6
				80	33.7	23.8	2.78	3.6
	12.0	10.4	4.4	60	34.1	23.0	2.51	4.0
				68	34.7	24.6	2.68	3.8
				80	35.3	25.6	2.79	3.7
	15.0	15.6	6.6	60	34.7	23.4	2.51	4.1
				68	35.3	25.0	2.69	3.9
				80	35.9	26.1	2.80	3.8
40	7.0	4.0	1.7	60	37.3	25.5	2.53	4.3
				68	38.0	27.3	2.71	4.1
				80	38.5	28.4	2.82	4.0
	12.0	10.4	4.4	60	39.3	27.3	2.55	4.5
				68	40.0	29.2	2.73	4.3
				80	40.6	30.4	2.84	4.2
	15.0	15.3	6.5	60	39.9	27.8	2.56	4.6
				68	40.6	29.8	2.74	4.3
				80	41.3	31.0	2.85	4.2
50	7.0	3.8	1.6	60	42.3	30.3	2.58	4.8
				68	43.0	32.4	2.77	4.6
				80	43.7	33.7	2.88	4.4
	12.0	10.1	4.3	60	44.7	32.1	2.61	5.0
				68	45.5	34.4	2.79	4.8
				80	46.2	35.8	2.90	4.7
	15.0	15.1	6.4	60	45.5	32.8	2.61	5.1
				68	46.3	35.1	2.80	4.9
				80	47.0	36.6	2.91	4.7
60	7.0	3.8	1.6	60	47.5	34.6	2.63	5.3
				68	48.3	37.0	2.81	5.0
				80	49.1	38.5	2.92	4.9
	12.0	9.7	4.1	60	50.5	37.3	2.64	5.6
				68	51.4	40.0	2.83	5.3
				80	52.2	41.6	2.95	5.2
	15.0	14.4	6.1	60	51.5	38.2	2.65	5.7
				68	52.4	40.9	2.84	5.4
				80	53.2	42.6	2.95	5.3
70	7.0	3.5	1.5	60	53.0	39.5	2.66	5.8
				68	53.9	42.3	2.84	5.5
				80	54.7	44.0	2.96	5.4
	12.0	9.4	4.0	60	56.5	42.8	2.68	6.2
				68	57.5	45.8	2.87	5.9
				80	58.4	47.7	2.98	5.7
	15.0	14.1	6.0	60	57.7	43.8	2.69	6.3
				68	58.7	46.9	2.87	6.0
				80	59.6	48.8	2.99	5.8
80	7.0	3.5	1.5	60	58.6	44.6	2.69	6.4
				68	59.6	47.7	2.88	6.1
				80	60.5	49.7	3.00	5.9
	12.0	9.2	3.9	60	62.7	48.4	2.71	6.8
				68	63.8	51.8	2.90	6.4
				80	64.8	53.9	3.02	6.3
	15.0	13.9	5.9	60	64.0	49.6	2.72	6.9
				68	65.1	53.1	2.91	6.6
				80	66.2	55.2	3.03	6.4
90	7.0	3.5	1.5	Operation Not Recommended				
	12.0	9.2	3.9					
	15.0	13.7	5.8					
100	7.0	3.3	1.4					
	12.0	9.0	3.8					
	15.0	13.2	5.6					
110	7.0	3.3	1.4					
	12.0	9.0	3.8					
	15.0	13.2	5.6					

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Bosch Thermotechnology Corp.

GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM024 CS + BVA2.0 Full Load Cooling Performance Data - 900 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	1.9	75/63	26.8	21.3	31.6	1.4	19.0
			80/67	28.5	21.9	33.5	1.4	19.9
			85/71	30.3	22.5	35.3	1.5	20.9
	4.5	4.0	75/63	27.6	21.5	32.1	1.3	20.8
			80/67	29.4	22.2	34.0	1.3	21.8
			85/71	31.2	22.9	36.0	1.4	22.9
	6	6.7	75/63	27.9	21.7	32.4	1.3	21.8
			80/67	29.8	22.3	34.3	1.3	22.9
			85/71	31.7	23.1	36.3	1.3	24.1
60	3	1.9	75/63	25.7	20.8	30.9	1.5	16.8
			80/67	27.3	21.5	32.6	1.5	17.7
			85/71	29.1	22.1	34.5	1.6	18.5
	4.5	3.9	75/63	26.4	21.0	31.4	1.5	18.2
			80/67	28.2	21.7	33.2	1.5	19.2
			85/71	30.0	22.3	35.1	1.5	20.2
	6	6.5	75/63	26.8	21.2	31.6	1.4	19.0
			80/67	28.6	21.9	33.5	1.4	20.0
			85/71	30.4	22.5	35.4	1.4	21.1
70	3	1.9	75/63	24.6	20.3	30.2	1.7	14.9
			80/67	26.2	21.0	31.9	1.7	15.6
			85/71	27.8	21.7	33.6	1.7	16.4
	4.5	3.8	75/63	25.2	20.6	30.6	1.6	16.0
			80/67	26.9	21.3	32.4	1.6	16.9
			85/71	28.6	22.0	34.2	1.6	17.8
	6	6.4	75/63	25.6	20.7	30.8	1.5	16.6
			80/67	27.3	21.5	32.6	1.6	17.5
			85/71	29.1	22.1	34.5	1.6	18.5
80	3	1.8	75/63	23.5	19.9	29.5	1.8	13.1
			80/67	25.0	20.5	31.1	1.8	13.8
			85/71	26.6	21.3	32.8	1.8	14.5
	4.5	3.8	75/63	24.1	20.1	29.9	1.7	14.1
			80/67	25.7	20.8	31.6	1.7	14.9
			85/71	27.4	21.5	33.3	1.7	15.7
	6	6.3	75/63	24.4	20.2	30.1	1.7	14.6
			80/67	26.0	20.9	31.8	1.7	15.4
			85/71	27.7	21.7	33.6	1.7	16.3
90	3	1.8	75/63	22.3	19.4	28.8	1.9	11.4
			80/67	23.8	20.2	30.4	2.0	12.1
			85/71	25.3	20.7	32.1	2.0	12.7
	4.5	3.7	75/63	22.9	19.6	29.2	1.9	12.3
			80/67	24.4	20.4	30.8	1.9	13.0
			85/71	26.1	20.9	32.5	1.9	13.7
	6	6.1	75/63	23.2	19.8	29.3	1.8	12.7
			80/67	24.8	20.5	31.0	1.8	13.4
			85/71	26.4	21.1	32.7	1.9	14.2
100	3	1.7	75/63	21.1	19.0	28.2	2.1	9.9
			80/67	22.5	19.7	29.8	2.2	10.5
			85/71	24.1	20.3	31.4	2.2	11.1
	4.5	3.6	75/63	21.6	19.2	28.5	2.0	10.6
			80/67	23.1	19.9	30.1	2.1	11.2
			85/71	24.7	20.7	31.7	2.1	11.9
	6	6.0	75/63	21.9	19.2	28.6	2.0	10.9
			80/67	23.4	20.0	30.2	2.0	11.6
			85/71	25.0	20.8	31.9	2.0	12.3
110	3	1.7	75/63	19.9	18.4	27.7	2.4	8.5
			80/67	21.3	19.2	29.2	2.4	9.0
			85/71	22.7	20.0	30.7	2.4	9.5
	4.5	3.5	75/63	20.4	18.6	27.9	2.3	9.0
			80/67	21.8	19.4	29.4	2.3	9.6
			85/71	23.4	20.1	31.0	2.3	10.3
	6	5.9	75/63	20.6	18.8	28.0	2.2	9.3
			80/67	22.1	19.6	29.5	2.2	10.0
			85/71	23.7	20.2	31.2	2.2	10.6

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM024 CS + BVA2.0 Full Load Heating Performance Data - 900 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	2.1	60	17.8	14.7	1.4	3.73
		70	17.4	13.8	1.5	3.33
		80	16.9	12.8	1.7	2.98
	4.2	60	18.8	15.5	1.4	3.92
		70	18.1	14.6	1.5	3.43
		80	17.5	13.6	1.7	3.04
	7.0	60	19.5	16.0	1.4	4.02
		70	18.6	15.0	1.6	3.51
		80	18.1	14.0	1.7	3.14
40	2.0	60	20.3	17.1	1.4	4.15
		70	19.8	16.1	1.6	3.7
		80	19.2	15.2	1.7	3.29
	4.2	60	21.4	18.2	1.5	4.31
		70	21.0	17.2	1.6	3.88
		80	20.1	16.1	1.7	3.4
	6.9	60	22.1	18.9	1.5	4.42
		70	21.5	17.7	1.6	3.95
		80	20.7	16.7	1.7	3.47
50	2.0	60	23.0	19.8	1.5	4.55
		70	22.4	18.8	1.6	4.06
		80	21.8	17.7	1.8	3.62
	4.1	60	24.5	21.2	1.5	4.79
		70	23.7	20.1	1.6	4.23
		80	23.0	18.9	1.8	3.77
	6.8	60	25.3	22.0	1.5	4.9
		70	24.4	20.8	1.7	4.33
		80	23.6	19.6	1.8	3.85
60	2.0	60	25.9	22.6	1.5	4.97
		70	25.2	21.6	1.7	4.43
		80	24.6	20.4	1.8	3.98
	4.0	60	27.5	24.4	1.6	5.18
		70	26.7	23.2	1.7	4.63
		80	25.8	21.9	1.8	4.12
	6.7	60	28.5	25.4	1.6	5.31
		70	27.6	24.1	1.7	4.74
		80	26.8	22.7	1.9	4.24
70	1.9	60	28.9	25.8	1.6	5.36
		70	28.1	24.6	1.7	4.8
		80	27.3	23.3	1.9	4.29
	3.9	60	30.8	27.8	1.6	5.61
		70	30.0	26.4	1.7	5.03
		80	29.0	25.0	1.9	4.49
	6.5	60	31.9	28.9	1.6	5.75
		70	31.0	27.5	1.8	5.15
		80	29.9	26.0	1.9	4.59
80	1.9	60	31.9	29.0	1.6	5.75
		70	31.2	27.6	1.8	5.17
		80	30.2	26.3	1.9	4.62
	3.9	60	34.2	31.3	1.7	6.02
		70	33.2	29.8	1.8	5.4
		80	32.4	28.3	2.0	4.85
	6.4	60	35.4	32.6	1.7	6.17
		70	34.3	31.0	1.8	5.53
		80	33.2	29.4	2.0	4.93

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM024 CS + BVA2.0 Part Load Cooling Performance Data - 600 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	1.9	75/63	20.2	15.3	23.0	0.8	25.0
			80/67	21.6	15.8	24.4	0.8	27.0
			85/71	23.0	16.2	25.8	0.8	29.1
	4.5	4.0	75/63	20.6	15.5	23.3	0.8	26.8
			80/67	22.1	16.0	24.8	0.8	29.1
			85/71	23.5	16.4	26.2	0.7	31.5
	6	6.7	75/63	20.8	15.6	23.5	0.8	27.8
			80/67	22.3	16.1	24.9	0.7	30.2
			85/71	23.8	16.5	26.4	0.7	32.8
60	3	1.9	75/63	19.2	14.9	22.3	0.9	21.3
			80/67	20.6	15.4	23.7	0.9	23.0
			85/71	21.9	15.8	25.0	0.9	24.8
	4.5	3.9	75/63	19.6	15.1	22.6	0.9	22.9
			80/67	21.0	15.5	24.0	0.8	24.8
			85/71	22.5	16.0	25.4	0.8	26.9
	6	6.5	75/63	19.8	15.1	22.8	0.8	23.6
			80/67	21.3	15.6	24.2	0.8	25.7
			85/71	22.7	16.0	25.6	0.8	28.0
70	3	1.9	75/63	18.2	14.5	21.7	1.0	18.0
			80/67	19.6	15.0	23.0	1.0	19.5
			85/71	20.9	15.3	24.3	1.0	21.0
	4.5	3.8	75/63	18.6	14.6	21.9	1.0	19.2
			80/67	20.0	15.1	23.3	1.0	20.9
			85/71	21.4	15.6	24.7	0.9	22.7
	6	6.4	75/63	18.8	14.7	22.0	0.9	19.8
			80/67	20.2	15.2	23.4	0.9	21.6
			85/71	21.6	15.7	24.8	0.9	23.5
80	3	1.8	75/63	17.3	14.1	21.1	1.1	15.2
			80/67	18.5	14.6	22.3	1.1	16.3
			85/71	19.8	15.0	23.7	1.1	17.6
	4.5	3.8	75/63	17.6	14.2	21.3	1.1	16.1
			80/67	18.9	14.7	22.6	1.1	17.5
			85/71	20.3	15.1	23.9	1.1	18.9
	6	6.3	75/63	17.7	14.3	21.4	1.1	16.5
			80/67	19.1	14.8	22.7	1.1	18.0
			85/71	20.5	15.3	24.1	1.0	19.6
90	3	1.8	75/63	16.3	13.7	20.6	1.3	12.7
			80/67	17.5	14.1	21.8	1.3	13.7
			85/71	18.7	14.6	23.0	1.3	14.7
	4.5	3.7	75/63	16.6	13.8	20.7	1.2	13.5
			80/67	17.8	14.3	21.9	1.2	14.5
			85/71	19.2	14.7	23.3	1.2	15.8
	6	6.2	75/63	16.8	13.9	20.8	1.2	13.8
			80/67	18.0	14.3	22.0	1.2	14.9
			85/71	19.4	14.8	23.4	1.2	16.2
100	3	1.8	75/63	15.3	13.3	20.1	1.4	10.6
			80/67	16.5	13.8	21.2	1.4	11.4
			85/71	17.6	14.3	22.4	1.4	12.2
	4.5	3.6	75/63	15.6	13.4	20.2	1.4	11.2
			80/67	16.8	13.9	21.4	1.4	12.1
			85/71	18.0	14.4	22.6	1.4	13.0
	6	6.0	75/63	15.7	13.4	20.3	1.4	11.4
			80/67	16.9	14.0	21.5	1.4	12.4
			85/71	18.1	14.4	22.7	1.4	13.3
110	3	1.7	75/63	14.3	12.9	19.6	1.6	8.8
			80/67	15.4	13.4	20.7	1.6	9.4
			85/71	16.5	13.9	21.9	1.6	10.1
	4.5	3.5	75/63	14.6	13.0	19.7	1.6	9.2
			80/67	15.7	13.5	20.9	1.6	9.9
			85/71	16.8	13.9	22.0	1.6	10.7
	6	5.9	75/63	14.7	13.1	19.8	1.6	9.4
			80/67	15.8	13.5	20.9	1.6	10.2
			85/71	17.0	14.0	22.1	1.6	10.9

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM024 CS + BVA2.0 Part Load Heating Performance Data - 600 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	2.1	60	12.9	10.7	1.0	3.67
		70	12.3	9.8	1.1	3.13
		80	11.7	9.0	1.3	2.67
	4.2	60	13.2	11.3	1.0	3.76
		70	12.8	10.3	1.2	3.25
		80	12.1	9.5	1.3	2.77
	7.0	60	13.5	11.6	1.0	3.84
		70	13.1	10.5	1.2	3.31
		80	12.4	9.8	1.3	2.82
40	2.0	60	14.8	12.8	1.1	4.13
		70	14.4	12.0	1.2	3.61
		80	13.8	11.1	1.3	3.09
	4.2	60	15.5	13.6	1.1	4.31
		70	15.1	12.6	1.2	3.75
		80	14.3	11.7	1.3	3.19
	6.9	60	15.9	14.0	1.1	4.41
		70	15.4	12.9	1.2	3.82
		80	14.6	12.1	1.3	3.26
50	2.0	60	17.1	15.2	1.1	4.69
		70	16.4	14.3	1.2	4.05
		80	16.1	13.3	1.3	3.57
	4.1	60	17.9	16.1	1.1	4.89
		70	17.2	15.1	1.2	4.23
		80	16.8	14.1	1.3	3.69
	6.8	60	18.4	16.6	1.1	5.01
		70	17.7	15.5	1.2	4.33
		80	17.1	14.5	1.3	3.76
60	2.0	60	19.4	17.6	1.1	5.28
		70	18.7	16.6	1.2	4.57
		80	18.1	15.7	1.3	3.96
	4.0	60	20.5	18.7	1.1	5.56
		70	19.7	17.7	1.2	4.77
		80	19.0	16.6	1.3	4.12
	6.6	60	21.1	19.4	1.1	5.69
		70	20.2	18.2	1.2	4.87
		80	19.4	17.0	1.4	4.2
70	1.9	60	21.7	20.2	1.1	5.85
		70	21.1	19.1	1.2	5.07
		80	20.3	18.0	1.4	4.39
	3.9	60	22.9	21.5	1.1	6.14
		70	22.1	20.3	1.2	5.3
		80	21.4	19.1	1.4	4.59
	6.5	60	23.5	22.2	1.1	6.3
		70	22.7	20.9	1.2	5.43
		80	21.9	19.6	1.4	4.69
80	1.9	60	24.1	22.8	1.1	6.45
		70	23.3	21.6	1.2	5.57
		80	22.6	20.4	1.4	4.81
	3.9	60	25.4	24.3	1.1	6.78
		70	24.6	22.9	1.2	5.84
		80	23.7	21.6	1.4	5.02
	6.4	60	26.1	25.1	1.1	6.97
		70	25.2	23.7	1.2	5.98
		80	24.2	22.3	1.4	5.13

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM036 CS + BVA2.0 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	1.9	75/63	37.7	29.3	44.6	2.0	18.5
			80/67	40.4	30.2	47.5	2.1	19.4
			85/71	43.0	31.2	50.3	2.1	20.1
	6.75	4.2	75/63	38.5	29.5	45.2	2.0	19.4
			80/67	41.3	30.6	48.2	2.0	20.3
			85/71	44.0	31.6	51.1	2.1	21.1
	9	6.6	75/63	39.0	29.8	45.6	1.9	20.0
			80/67	41.8	30.8	48.6	2.0	20.9
			85/71	44.8	31.8	51.8	2.0	21.9
60	4.5	1.9	75/63	36.1	28.6	43.4	2.2	16.6
			80/67	38.6	29.6	46.1	2.2	17.4
			85/71	41.4	30.5	49.1	2.3	18.2
	6.75	4.1	75/63	36.8	28.9	43.9	2.1	17.5
			80/67	39.5	29.8	46.8	2.2	18.3
			85/71	42.3	30.9	49.7	2.2	19.2
	9	6.5	75/63	37.3	29.1	44.3	2.1	18.0
			80/67	39.9	30.1	47.1	2.1	18.9
			85/71	42.8	31.1	50.2	2.2	19.9
70	4.5	1.8	75/63	34.4	27.9	42.2	2.4	14.6
			80/67	36.9	28.9	44.9	2.4	15.4
			85/71	39.4	29.8	47.6	2.4	16.2
	6.75	4.1	75/63	35.1	28.2	42.7	2.3	15.5
			80/67	37.7	29.2	45.4	2.3	16.3
			85/71	40.4	30.1	48.3	2.4	17.1
	9	6.4	75/63	35.4	28.3	42.9	2.2	15.9
			80/67	38.2	29.3	45.8	2.3	16.8
			85/71	40.9	30.3	48.7	2.3	17.7
80	4.5	1.8	75/63	32.8	27.2	41.4	2.6	12.8
			80/67	35.2	28.2	43.9	2.6	13.5
			85/71	37.6	29.2	46.4	2.6	14.2
	6.75	4.0	75/63	33.5	27.5	41.7	2.5	13.6
			80/67	35.9	28.4	44.3	2.5	14.4
			85/71	38.4	29.6	47.0	2.6	15.1
	9	6.2	75/63	33.8	27.6	41.9	2.4	13.9
			80/67	36.2	28.7	44.4	2.5	14.7
			85/71	39.0	29.7	47.3	2.5	15.6
90	4.5	1.8	75/63	31.3	26.6	40.6	2.8	11.1
			80/67	33.4	27.6	42.9	2.9	11.7
			85/71	35.7	28.5	45.4	2.9	12.4
	6.75	3.9	75/63	31.9	26.7	40.9	2.7	11.7
			80/67	34.1	27.8	43.2	2.7	12.5
			85/71	36.5	28.8	45.8	2.8	13.2
	9	6.1	75/63	32.2	27.0	41.0	2.7	12.0
			80/67	34.4	27.9	43.4	2.7	12.8
			85/71	36.9	28.9	46.0	2.7	13.6
100	4.5	1.7	75/63	29.6	26.0	39.9	3.1	9.5
			80/67	31.7	26.9	42.1	3.2	10.1
			85/71	33.9	27.8	44.4	3.2	10.7
	6.75	3.8	75/63	30.2	26.2	40.1	3.0	10.0
			80/67	32.4	27.2	42.4	3.0	10.7
			85/71	34.6	28.1	44.7	3.1	11.4
	9	6.0	75/63	30.6	26.3	40.3	3.0	10.3
			80/67	32.7	27.4	42.5	3.0	11.0
			85/71	34.9	28.4	44.9	3.0	11.7
110	4.5	1.7	75/63	28.0	25.2	39.3	3.5	8.1
			80/67	30.0	26.4	41.4	3.5	8.6
			85/71	32.1	27.4	43.6	3.5	9.1
	6.75	3.7	75/63	28.5	25.5	39.5	3.4	8.5
			80/67	30.5	26.6	41.6	3.4	9.1
			85/71	32.8	27.6	43.9	3.4	9.7
	9	5.9	75/63	28.8	25.6	39.6	3.3	8.8
			80/67	30.9	26.8	41.8	3.3	9.4
			85/71	33.2	27.6	44.1	3.3	10.0

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM036 CS + BVA2.0 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
30	2.1	60	27.4	22.3	2.1	3.9
		70	27.1	21.0	2.3	3.47
		80	26.6	19.9	2.5	3.08
	4.5	60	28.7	23.6	2.1	4.03
		70	28.2	22.1	2.3	3.58
		80	27.6	20.9	2.5	3.18
	7.0	60	29.4	24.3	2.1	4.1
		70	28.9	22.7	2.3	3.64
		80	28.2	21.4	2.6	3.22
40	2.0	60	31.2	25.8	2.1	4.28
		70	30.9	24.6	2.4	3.83
		80	30.3	23.4	2.6	3.4
	4.4	60	32.7	27.2	2.2	4.43
		70	32.3	26.0	2.4	3.96
		80	31.6	24.6	2.6	3.51
	6.8	60	33.5	27.9	2.2	4.51
		70	33.1	26.8	2.4	4.03
		80	32.3	25.3	2.7	3.57
50	2.0	60	35.7	29.9	2.2	4.71
		70	35.0	28.6	2.4	4.19
		80	34.3	27.2	2.7	3.72
	4.3	60	37.3	31.6	2.3	4.86
		70	36.7	30.2	2.5	4.33
		80	35.8	28.6	2.7	3.84
	6.7	60	38.6	32.5	2.3	4.97
		70	37.6	31.0	2.5	4.4
		80	36.7	29.4	2.8	3.9
60	1.9	60	40.1	34.3	2.3	5.09
		70	39.4	32.8	2.5	4.54
		80	38.5	31.3	2.8	4.03
	4.2	60	42.6	36.9	2.4	5.29
		70	41.4	34.7	2.6	4.69
		80	40.4	33.0	2.8	4.16
	6.6	60	43.0	37.4	2.4	5.3
		70	42.4	35.6	2.6	4.76
		80	41.3	33.9	2.9	4.23
70	1.9	60	44.6	38.8	2.4	5.43
		70	44.0	37.4	2.6	4.87
		80	42.7	35.7	2.9	4.31
	4.2	60	47.4	41.4	2.5	5.62
		70	46.3	39.5	2.7	5.03
		80	45.1	37.6	3.0	4.47
	6.5	60	48.2	42.3	2.5	5.69
		70	47.7	41.1	2.7	5.12
		80	46.2	38.6	3.0	4.54
80	1.9	60	50.1	44.0	2.5	5.84
		70	48.9	42.1	2.8	5.21
		80	47.7	40.2	3.0	4.63
	4.1	60	52.7	46.6	2.6	6.03
		70	51.7	44.8	2.8	5.43
		80	50.2	42.6	3.1	4.81
	6.3	60	53.8	48.3	2.6	6.09
		70	53.2	46.4	2.8	5.53
		80	51.6	43.8	3.1	4.9

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM036 CS + BVA2.0 Part Load Cooling Performance Data - 900 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	1.9	75/63	27.6	21.8	31.3	1.2	6.6
			80/67	29.5	22.5	33.3	1.2	7.2
			85/71	31.6	23.2	35.3	1.2	7.9
	6.75	4.2	75/63	28.0	21.9	31.7	1.2	6.8
			80/67	29.9	22.7	33.6	1.2	7.4
			85/71	32.2	23.4	35.8	1.1	8.2
	9	6.6	75/63	28.2	22.1	32.0	1.2	6.9
			80/67	30.2	22.8	33.9	1.2	7.5
			85/71	32.4	23.5	36.0	1.2	8.2
60	4.5	1.9	75/63	26.3	21.3	30.5	1.3	5.8
			80/67	28.2	22.0	32.3	1.3	6.3
			85/71	30.2	22.7	34.3	1.3	6.8
	6.75	4.2	75/63	26.7	21.4	30.7	1.3	6.0
			80/67	28.6	22.2	32.7	1.3	6.6
			85/71	30.7	22.9	34.6	1.3	7.1
	9	6.5	75/63	27.0	21.5	31.0	1.3	6.1
			80/67	28.9	22.3	32.9	1.3	6.7
			85/71	31.0	23.0	34.9	1.3	7.3
70	4.5	1.8	75/63	25.1	20.7	29.7	1.5	5.0
			80/67	26.9	21.5	31.5	1.5	5.4
			85/71	28.8	22.3	33.3	1.4	5.8
	6.75	4.1	75/63	25.5	20.9	30.0	1.4	5.2
			80/67	27.4	21.7	31.8	1.4	5.6
			85/71	29.3	22.4	33.7	1.4	6.1
	9	6.4	75/63	25.8	21.0	30.2	1.4	5.3
			80/67	27.6	21.7	32.0	1.4	5.8
			85/71	29.6	22.5	33.9	1.4	6.3
80	4.5	1.8	75/63	23.8	20.3	29.0	1.7	4.2
			80/67	25.6	21.0	30.8	1.7	4.5
			85/71	27.4	21.7	32.6	1.6	4.9
	6.75	4.0	75/63	24.3	20.4	29.3	1.6	4.4
			80/67	26.0	21.2	31.0	1.6	4.8
			85/71	27.9	21.9	32.9	1.6	5.2
	9	6.2	75/63	24.5	20.5	29.4	1.6	4.5
			80/67	26.3	21.3	31.2	1.6	4.9
			85/71	28.2	22.0	33.1	1.6	5.3
90	4.5	1.8	75/63	22.5	19.7	28.4	1.9	3.5
			80/67	24.2	20.4	30.1	1.9	3.8
			85/71	26.0	21.3	31.9	1.9	4.1
	6.75	3.9	75/63	22.9	19.9	28.6	1.8	3.7
			80/67	24.7	20.7	30.4	1.8	4.0
			85/71	26.4	21.4	32.1	1.8	4.3
	9	6.1	75/63	23.2	20.0	28.8	1.8	3.8
			80/67	24.9	20.8	30.5	1.8	4.1
			85/71	26.7	21.5	32.3	1.8	4.4
100	4.5	1.7	75/63	21.2	19.2	27.9	2.1	2.9
			80/67	22.8	20.0	29.5	2.1	3.1
			85/71	24.5	20.8	31.3	2.1	3.4
	6.75	3.8	75/63	21.6	19.4	28.1	2.1	3.1
			80/67	23.3	20.2	29.7	2.1	3.3
			85/71	25.0	20.9	31.5	2.1	3.6
	9	6.0	75/63	21.8	19.4	28.2	2.1	3.1
			80/67	23.5	20.3	29.9	2.0	3.4
			85/71	25.3	21.0	31.7	2.0	3.7
110	4.5	1.7	75/63	19.9	18.6	27.5	2.4	2.4
			80/67	21.4	19.5	29.1	2.4	2.6
			85/71	23.0	20.3	30.7	2.4	2.8
	6.75	3.8	75/63	20.2	18.8	27.6	2.4	2.5
			80/67	21.8	19.7	29.2	2.4	2.7
			85/71	23.5	20.4	30.9	2.3	2.9
	9	5.9	75/63	20.4	18.8	27.7	2.3	2.6
			80/67	22.0	19.7	29.4	2.3	2.8
			85/71	23.8	20.5	31.1	2.3	3.0

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM036 CS + BVA2.0 Part Load Heating Performance Data - 900 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	2.0	60	19.3	15.9	1.5	3.89
		70	18.7	14.8	1.6	3.37
		80	18.1	13.7	1.8	2.89
	4.5	60	20.2	16.8	1.5	4.04
		70	19.5	15.5	1.6	3.5
		80	18.8	14.4	1.8	2.99
	7.0	60	20.6	17.2	1.5	4.12
		70	20.0	15.9	1.6	3.57
		80	19.2	14.7	1.8	3.05
40	2.0	60	22.5	19.1	1.5	4.45
		70	21.8	17.9	1.7	3.86
		80	21.1	16.7	1.9	3.34
	4.4	60	23.5	20.2	1.5	4.65
		70	22.8	18.9	1.7	4.02
		80	22.0	17.5	1.9	3.47
	6.8	60	24.1	20.8	1.5	4.75
		70	23.3	19.4	1.7	4.1
		80	22.5	18.0	1.9	3.54
50	2.0	60	25.7	22.4	1.5	5.04
		70	25.0	21.2	1.7	4.36
		80	24.3	19.8	1.9	3.79
	4.3	60	27.1	23.7	1.5	5.26
		70	26.3	22.4	1.7	4.56
		80	25.3	21.0	1.9	3.92
	6.7	60	27.8	24.5	1.5	5.39
		70	26.9	23.1	1.7	4.66
		80	25.9	21.6	1.9	4
60	1.9	60	29.1	25.8	1.5	5.61
		70	28.4	24.5	1.7	4.87
		80	27.4	23.2	1.9	4.21
	4.2	60	30.7	27.5	1.5	5.88
		70	29.8	26.0	1.7	5.09
		80	28.9	24.4	1.9	4.4
	6.6	60	31.6	28.4	1.5	6.03
		70	30.6	26.8	1.7	5.2
		80	29.6	25.1	1.9	4.49
70	1.9	60	32.3	29.4	1.5	6.15
		70	31.8	28.0	1.7	5.36
		80	30.9	26.5	1.9	4.65
	4.1	60	34.4	31.3	1.6	6.48
		70	33.5	29.7	1.8	5.6
		80	32.4	28.0	2.0	4.84
	6.5	60	35.5	32.5	1.6	6.65
		70	34.5	30.7	1.8	5.73
		80	33.3	28.9	2.0	4.94
80	1.9	60	35.3	32.8	1.6	6.62
		70	35.3	31.4	1.8	5.84
		80	34.3	29.9	2.0	5.05
	4.1	60	38.3	35.4	1.6	7.07
		70	37.1	33.5	1.8	6.09
		80	36.1	31.8	2.0	5.25
	6.3	60	39.5	36.3	1.6	7.24
		70	38.2	34.8	1.8	6.21
		80	37.1	32.8	2.0	5.35

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM048 CS + BVA2.0 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	3	2.1	75/63	51.1	40.0	58.4	2.5	20.4
			80/67	54.5	41.2	61.9	2.5	21.5
			85/71	57.9	42.4	65.5	2.6	22.7
	4.5	4.3	75/63	52.5	40.6	59.4	2.4	22.3
			80/67	56.0	41.9	63.0	2.4	23.6
			85/71	59.7	43.1	66.7	2.4	25.0
	6	7.1	75/63	53.2	41.0	59.9	2.3	23.1
			80/67	56.8	42.2	63.6	2.3	24.5
			85/71	60.6	43.3	67.5	2.3	26.0
60	3	2.0	75/63	49.0	39.2	57.1	2.8	17.8
			80/67	52.2	40.5	60.5	2.8	18.8
			85/71	55.6	41.7	64.0	2.8	19.8
	4.5	4.1	75/63	50.3	39.8	58.0	2.6	19.3
			80/67	53.7	41.1	61.5	2.6	20.5
			85/71	57.4	42.0	65.2	2.6	21.7
	6	6.9	75/63	51.0	40.1	58.5	2.5	20.0
			80/67	54.6	41.2	62.1	2.6	21.3
			85/71	58.3	42.3	65.9	2.6	22.6
70	3	1.9	75/63	48.3	38.9	57.3	3.0	16.1
			80/67	51.5	40.1	60.7	3.0	17.0
			85/71	54.9	41.4	64.2	3.1	17.9
	4.5	4.0	75/63	49.7	39.4	58.1	2.8	17.4
			80/67	53.1	40.7	61.6	2.9	18.5
			85/71	56.6	42.1	65.3	2.9	19.6
	6	6.7	75/63	50.4	39.7	58.6	2.8	18.1
			80/67	53.9	41.1	62.2	2.8	19.2
			85/71	57.6	42.1	66.0	2.8	20.4
80	3	1.9	75/63	46.0	38.0	56.0	3.3	13.8
			80/67	49.1	39.2	59.3	3.4	14.6
			85/71	52.4	40.5	62.7	3.4	15.4
	4.5	3.9	75/63	47.3	38.6	56.7	3.2	15.0
			80/67	50.6	39.7	60.2	3.2	15.9
			85/71	54.0	41.1	63.7	3.2	16.9
	6	6.5	75/63	47.9	38.9	57.2	3.1	15.5
			80/67	51.3	40.2	60.7	3.1	16.5
			85/71	54.8	41.4	64.3	3.1	17.6
90	3	1.8	75/63	43.7	37.1	54.9	3.7	11.8
			80/67	46.8	38.2	58.1	3.7	12.5
			85/71	49.9	39.4	61.4	3.8	13.2
	4.5	3.8	75/63	44.9	37.5	55.5	3.5	12.8
			80/67	48.1	38.7	58.8	3.5	13.6
			85/71	51.4	40.2	62.2	3.6	14.4
	6	6.3	75/63	45.5	37.9	55.9	3.4	13.2
			80/67	48.8	38.9	59.3	3.5	14.1
			85/71	52.2	40.2	62.8	3.5	15.0
100	3	1.8	75/63	41.5	35.9	54.0	4.1	10.1
			80/67	44.3	37.5	57.1	4.2	10.6
			85/71	47.2	38.7	60.3	4.2	11.2
	4.5	3.7	75/63	42.6	36.4	54.5	3.9	10.8
			80/67	45.5	37.9	57.6	4.0	11.5
			85/71	48.6	39.3	60.9	4.0	12.2
	6	6.2	75/63	43.1	36.7	54.8	3.9	11.2
			80/67	46.2	38.1	58.0	3.9	11.9
			85/71	49.4	39.5	61.3	3.9	12.7
110	3	1.7	75/63	39.1	35.0	53.3	4.6	8.5
			80/67	41.8	36.3	56.3	4.7	8.9
			85/71	44.7	37.6	59.3	4.7	9.4
	4.5	3.6	75/63	40.0	35.6	53.6	4.4	9.1
			80/67	42.9	37.0	56.6	4.5	9.6
			85/71	45.8	38.3	59.8	4.5	10.2
	6	6.0	75/63	40.5	35.8	53.8	4.3	9.3
			80/67	43.4	37.2	56.9	4.4	10.0
			85/71	46.5	38.5	60.1	4.4	10.6

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM048 CS + BVA2.0 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
30	2.5	60	33.9	27.2	2.5	3.94
		70	33.5	25.6	2.9	3.43
		80	32.7	24.3	3.2	2.98
	5.2	60	35.8	29.0	2.6	4.05
		70	35.4	27.3	2.9	3.55
		80	34.4	25.8	3.3	3.08
	8.6	60	37.3	30.1	2.7	4.12
		70	36.2	28.7	3.0	3.56
		80	35.5	26.5	3.3	3.12
40	2.5	60	38.8	32.0	2.6	4.3
		70	38.2	30.5	3.0	3.77
		80	37.4	28.8	3.3	3.3
	5.1	60	41.6	34.4	2.7	4.47
		70	40.7	32.6	3.0	3.91
		80	39.7	30.9	3.4	3.43
	8.5	60	42.9	36.0	2.8	4.5
		70	42.0	34.1	3.1	3.95
		80	41.0	32.3	3.5	3.47
50	2.2	60	44.3	37.4	2.7	4.79
		70	43.4	35.7	3.0	4.21
		80	42.6	33.7	3.4	3.71
	4.4	60	47.3	40.1	2.8	4.97
		70	46.1	38.2	3.1	4.35
		80	45.1	36.0	3.4	3.84
	7.4	60	49.0	41.7	2.9	5.02
		70	47.6	39.7	3.2	4.4
		80	46.3	37.0	3.5	3.88
60	2.1	60	48.5	41.6	2.8	5.08
		70	47.5	39.7	3.1	4.48
		80	46.7	37.5	3.4	3.97
	4.3	60	51.9	44.5	2.9	5.28
		70	50.7	42.2	3.2	4.65
		80	49.4	40.2	3.5	4.1
	7.1	60	53.7	46.2	3.0	5.33
		70	52.2	44.4	3.2	4.71
		80	50.7	41.3	3.6	4.13
70	2.0	60	54.5	47.6	2.9	5.46
		70	53.5	45.6	3.2	4.86
		80	52.4	42.9	3.6	4.29
	4.2	60	58.6	51.0	3.0	5.71
		70	57.1	49.0	3.3	5.06
		80	55.6	46.4	3.6	4.47
	6.9	60	60.5	53.6	3.1	5.77
		70	59.2	51.0	3.4	5.13
		80	57.6	48.1	3.7	4.55
80	2.0	60	61.1	53.6	3.0	5.9
		70	59.9	51.2	3.3	5.25
		80	58.5	48.7	3.7	4.66
	4.0	60	65.3	58.2	3.1	6.12
		70	63.1	54.6	3.4	5.41
		80	62.3	53.0	3.8	4.83
	6.7	60	67.9	60.8	3.2	6.22
		70	65.7	57.5	3.5	5.5
		80	64.3	54.8	3.9	4.89

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM048 CS + BVA2.0 Part 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	3	2.1	75/63	39.0	30.4	43.0	1.4	28.1
			80/67	41.4	31.3	45.5	1.4	30.2
			85/71	44.2	32.2	48.2	1.3	32.9
	4.5	4.3	75/63	39.9	30.7	43.6	1.3	30.6
			80/67	42.5	31.7	46.2	1.3	33.2
			85/71	45.4	32.7	49.0	1.2	36.5
	6	7.2	75/63	40.4	31.0	44.1	1.3	31.5
			80/67	43.1	32.0	46.7	1.3	34.4
			85/71	46.0	32.9	49.6	1.2	38.0
60	3	2.0	75/63	37.0	29.6	41.7	1.6	23.1
			80/67	39.5	30.5	44.2	1.6	24.8
			85/71	42.0	31.5	46.7	1.6	26.8
	4.5	4.2	75/63	37.9	30.0	42.3	1.5	25.0
			80/67	40.5	30.8	44.9	1.5	27.0
			85/71	43.2	31.8	47.5	1.5	29.5
	6	6.9	75/63	38.4	30.2	42.7	1.5	25.6
			80/67	40.9	31.1	45.2	1.5	27.8
			85/71	43.8	32.1	48.0	1.4	30.5
70	3	1.9	75/63	35.5	28.9	40.9	1.8	19.4
			80/67	37.9	30.0	43.3	1.8	20.7
			85/71	40.4	30.9	45.9	1.8	22.4
	4.5	4.0	75/63	36.4	29.3	41.5	1.7	20.8
			80/67	38.8	30.3	44.0	1.7	22.5
			85/71	41.5	31.3	46.6	1.7	24.5
	6	6.7	75/63	36.8	29.5	41.9	1.7	21.4
			80/67	39.3	30.5	44.4	1.7	23.1
			85/71	42.2	31.3	47.1	1.7	25.3
80	3	1.9	75/63	33.5	28.2	39.8	2.1	16.0
			80/67	35.9	29.1	42.2	2.1	17.1
			85/71	38.3	30.0	44.6	2.1	18.4
	4.5	3.9	75/63	34.3	28.5	40.3	2.0	17.1
			80/67	36.7	29.4	42.7	2.0	18.4
			85/71	39.3	30.5	45.2	2.0	19.9
	6	6.5	75/63	34.7	28.7	40.6	2.0	17.5
			80/67	37.1	29.7	43.0	2.0	18.9
			85/71	39.8	30.7	45.6	1.9	20.5
90	3	1.8	75/63	32.0	27.6	39.3	2.4	13.3
			80/67	34.3	28.6	41.7	2.4	14.2
			85/71	36.8	29.6	44.1	2.4	15.3
	4.5	3.8	75/63	32.8	27.8	39.8	2.3	14.1
			80/67	35.1	28.9	42.1	2.3	15.2
			85/71	37.7	29.8	44.6	2.3	16.5
	6	6.3	75/63	33.2	27.9	40.1	2.3	14.5
			80/67	35.5	29.0	42.4	2.3	15.6
			85/71	38.1	30.1	45.0	2.2	17.0
100	3	1.8	75/63	29.9	26.8	38.3	2.8	10.9
			80/67	32.3	27.7	40.6	2.7	11.8
			85/71	34.7	28.7	43.0	2.7	12.7
	4.5	3.7	75/63	30.6	27.0	38.7	2.7	11.5
			80/67	33.0	28.0	41.0	2.6	12.5
			85/71	35.4	29.1	43.5	2.6	13.5
	6	6.2	75/63	30.9	27.2	38.9	2.6	11.8
			80/67	33.3	28.1	41.3	2.6	12.8
			85/71	35.8	29.3	43.7	2.6	13.9
110	3	1.8	75/63	27.8	25.8	37.4	3.1	8.9
			80/67	30.1	26.9	39.7	3.1	9.6
			85/71	32.4	28.1	42.0	3.1	10.4
	4.5	3.6	75/63	28.4	26.0	37.7	3.0	9.3
			80/67	30.7	27.1	40.0	3.0	10.2
			85/71	33.2	28.3	42.4	3.0	11.1
	6	6.0	75/63	28.7	26.2	37.9	3.0	9.5
			80/67	31.1	27.4	40.2	3.0	10.4
			85/71	33.5	28.5	42.6	3.0	11.3

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM048 CS + BVA2.0 Part 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
30	2.3	60	26.1	21.7	1.8	4.16
		70	25.1	20.1	2.1	3.56
		80	23.8	18.4	2.3	2.99
	4.8	60	27.3	22.9	1.9	4.29
		70	26.3	21.0	2.1	3.68
		80	24.7	19.3	2.4	3.07
	7.9	60	27.9	23.5	1.9	4.3
		70	26.8	21.6	2.1	3.69
		80	25.3	19.8	2.4	3.09
40	2.2	60	30.0	25.6	1.9	4.72
		70	29.0	23.9	2.1	4.04
		80	27.8	22.2	2.4	3.43
	4.6	60	31.5	27.1	1.9	4.88
		70	30.4	25.3	2.1	4.17
		80	29.0	23.3	2.4	3.53
	7.6	60	32.3	27.9	1.9	4.91
		70	30.9	26.0	2.2	4.19
		80	29.8	23.9	2.4	3.58
50	2.2	60	33.7	29.4	1.9	5.27
		70	32.7	27.7	2.1	4.5
		80	31.8	25.9	2.4	3.88
	4.4	60	35.5	31.2	1.9	5.46
		70	34.4	29.3	2.2	4.67
		80	33.2	27.3	2.4	3.99
	7.3	60	36.5	32.2	1.9	5.51
		70	35.1	30.1	2.2	4.69
		80	33.7	28.1	2.5	4
60	2.1	60	37.4	33.2	1.9	5.84
		70	36.2	31.4	2.1	4.99
		80	35.2	29.6	2.4	4.27
	4.3	60	39.4	35.3	1.9	6.06
		70	38.0	33.2	2.2	5.16
		80	36.9	31.1	2.4	4.42
	7.1	60	40.5	36.4	1.9	6.12
		70	39.0	34.2	2.2	5.21
		80	37.8	32.0	2.5	4.46
70	2.0	60	42.1	38.0	1.9	6.48
		70	40.9	36.1	2.2	5.53
		80	39.9	34.1	2.5	4.75
	4.1	60	44.4	40.4	1.9	6.73
		70	42.9	38.2	2.2	5.73
		80	41.7	36.0	2.5	4.91
	6.9	60	45.6	41.7	2.0	6.8
		70	44.1	39.4	2.2	5.78
		80	42.7	37.1	2.5	4.95
80	2.0	60	47.0	43.1	1.9	7.13
		70	45.7	41.1	2.2	6.09
		80	44.6	39.0	2.5	5.22
	4.0	60	49.7	45.8	2.0	7.45
		70	48.3	43.5	2.2	6.35
		80	46.8	41.2	2.5	5.4
	6.7	60	51.1	47.4	2.0	7.55
		70	49.6	44.9	2.3	6.44
		80	48.0	42.4	2.6	5.46

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM060 CS + BVA2.0 Full Load Cooling Performance Data - 1700 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	3.3	75/63	61.7	45.5	70.9	3.0	20.6
			80/67	65.7	46.7	75.1	3.1	21.5
			85/71	69.8	48.0	79.5	3.1	22.4
	4.5	7.0	75/63	63.1	46.4	72.0	2.9	21.9
			80/67	67.4	47.4	76.4	2.9	22.9
			85/71	71.8	48.4	81.1	3.0	23.9
	6	11.6	75/63	64.0	46.2	72.7	2.9	22.2
			80/67	68.3	47.3	77.3	2.9	23.2
			85/71	72.8	48.3	82.0	3.0	24.3
60	3	3.2	75/63	59.2	44.7	69.3	3.3	18.2
			80/67	63.2	45.7	73.4	3.3	19.1
			85/71	67.1	47.0	77.7	3.4	19.9
	4.5	6.7	75/63	60.8	45.0	70.4	3.1	19.4
			80/67	64.8	46.4	74.6	3.2	20.4
			85/71	69.1	47.4	79.1	3.2	21.4
	6	11.2	75/63	61.4	45.2	71.0	3.1	19.6
			80/67	65.6	46.4	75.4	3.2	20.7
			85/71	70.0	47.3	80.0	3.2	21.8
70	3	3.1	75/63	58.9	44.5	70.1	3.6	16.4
			80/67	62.8	45.8	74.2	3.6	17.2
			85/71	66.8	46.9	78.5	3.7	18.1
	4.5	6.5	75/63	60.5	44.9	71.2	3.4	17.6
			80/67	64.6	46.2	75.4	3.5	18.5
			85/71	68.9	47.3	79.9	3.5	19.5
	6	10.9	75/63	61.1	45.1	71.7	3.4	17.8
			80/67	65.4	46.4	76.1	3.5	18.9
			85/71	69.7	47.6	80.6	3.5	19.9
80	3	3.0	75/63	56.3	43.4	68.6	3.9	14.3
			80/67	60.0	44.6	72.6	4.0	15.0
			85/71	64.0	45.5	76.7	4.1	15.8
	4.5	6.3	75/63	57.8	43.8	69.6	3.8	15.2
			80/67	61.6	45.3	73.6	3.8	16.1
			85/71	65.8	46.2	77.9	3.9	17.0
	6	10.5	75/63	58.4	44.2	70.1	3.8	15.5
			80/67	62.4	45.6	74.2	3.8	16.5
			85/71	66.5	46.9	78.6	3.8	17.4
90	3	3.0	75/63	53.9	42.3	67.6	4.4	12.3
			80/67	57.4	43.6	71.4	4.4	13.0
			85/71	61.1	44.9	75.3	4.5	13.7
	4.5	6.2	75/63	55.2	42.9	68.3	4.2	13.2
			80/67	59.0	44.0	72.3	4.2	14.0
			85/71	62.9	45.5	76.3	4.3	14.8
	6	10.2	75/63	55.8	42.9	68.9	4.2	13.4
			80/67	59.6	44.5	72.8	4.2	14.3
			85/71	63.7	45.8	77.0	4.2	15.2
100	3	2.9	75/63	51.0	41.2	66.3	4.8	10.6
			80/67	54.6	42.2	70.0	4.9	11.2
			85/71	58.1	43.4	73.8	4.9	11.8
	4.5	6.0	75/63	52.2	41.7	66.9	4.7	11.2
			80/67	55.8	43.0	70.7	4.7	11.9
			85/71	59.7	44.0	74.6	4.7	12.6
	6	10.0	75/63	52.8	42.0	67.4	4.6	11.4
			80/67	56.4	43.4	71.2	4.6	12.2
			85/71	60.4	44.2	75.2	4.7	12.9
110	3	2.8	75/63	48.2	39.7	65.3	5.4	8.9
			80/67	51.3	41.3	68.7	5.4	9.4
			85/71	54.8	42.3	72.3	5.5	10.0
	4.5	5.9	75/63	49.1	40.4	65.7	5.2	9.4
			80/67	52.6	41.8	69.3	5.2	10.0
			85/71	56.1	43.1	73.0	5.3	10.6
	6	9.8	75/63	49.5	39.2	66.1	5.3	9.4
			80/67	53.3	41.6	69.7	5.2	10.3
			85/71	56.9	42.9	73.5	5.2	10.9

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



BOSCH

SM060 CS + BVA2.0 Full Load Heating Performance Data - 1700 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	4.1	60	45.3	36.4	3.3	4.06
		70	44.7	34.7	3.6	3.61
		80	43.6	32.5	4.0	3.19
	8.5	60	48.2	38.7	3.4	4.19
		70	47.0	36.7	3.7	3.7
		80	46.2	34.4	4.1	3.3
	13.9	60	49.4	40.2	3.5	4.17
		70	48.2	38.0	3.8	3.7
		80	47.5	35.7	4.2	3.3
40	4.0	60	51.4	42.0	3.4	4.43
		70	50.5	40.2	3.8	3.93
		80	49.6	38.1	4.2	3.49
	8.3	60	54.5	45.1	3.5	4.55
		70	53.4	42.8	3.9	4.03
		80	52.4	40.6	4.3	3.58
	13.7	60	56.2	46.8	3.6	4.54
		70	55.3	44.4	4.0	4.06
		80	53.9	42.1	4.4	3.59
50	3.5	60	59.1	49.3	3.6	4.83
		70	58.2	47.0	4.0	4.3
		80	56.5	44.7	4.4	3.76
	7.2	60	62.5	52.8	3.7	4.95
		70	61.3	50.5	4.1	4.42
		80	59.9	47.9	4.5	3.91
	11.9	60	64.6	54.8	3.8	4.98
		70	63.2	52.3	4.2	4.45
		80	61.7	49.7	4.6	3.94
60	3.4	60	65.4	55.5	3.8	5.07
		70	64.3	53.2	4.2	4.54
		80	63.1	50.8	4.6	4.03
	7.0	60	69.7	59.7	3.9	5.24
		70	68.4	57.1	4.3	4.68
		80	67.3	54.8	4.7	4.19
	11.5	60	72.2	62.0	4.0	5.27
		70	70.6	59.2	4.4	4.71
		80	69.0	56.5	4.8	4.2
70	3.3	60	73.3	63.1	3.9	5.45
		70	72.3	60.6	4.3	4.89
		80	70.6	58.1	4.8	4.35
	6.8	60	78.4	68.0	4.1	5.62
		70	76.8	65.2	4.5	5.03
		80	75.0	62.3	4.9	4.48
	11.2	60	81.3	70.7	4.2	5.66
		70	79.4	67.7	4.6	5.06
		80	77.5	64.6	5.0	4.51
80	3.2	60	81.6	71.1	4.1	5.79
		70	80.1	68.4	4.5	5.18
		80	78.4	65.7	5.0	4.62
	6.6	60	87.8	76.3	4.3	5.99
		70	85.6	73.6	4.7	5.34
		80	83.4	70.5	5.1	4.76
	10.8	60	90.8	79.9	4.4	6.01
		70	88.6	76.5	4.8	5.37
		80	86.1	73.2	5.3	4.79

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GreenSource CDi Series SM Split CS Condensing Section

Residential Geothermal Heat Pumps



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SM060 CS + BVA2.0 Part Load Cooling Performance Data - 1400 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	3.4	75/63	47.6	36.2	52.7	1.7	27.3
			80/67	50.8	37.3	55.8	1.7	29.7
			85/71	54.1	38.4	59.0	1.7	32.3
	4.5	7.0	75/63	48.7	36.8	53.6	1.7	29.1
			80/67	52.0	37.8	56.8	1.6	31.9
			85/71	55.5	38.9	60.2	1.6	35.0
	6	11.6	75/63	49.2	37.0	54.2	1.7	29.2
			80/67	52.6	38.1	57.4	1.6	32.1
			85/71	56.1	39.2	60.9	1.6	35.3
60	3	3.3	75/63	45.1	35.1	51.0	2.0	22.5
			80/67	48.1	36.4	54.0	2.0	24.5
			85/71	51.4	37.3	57.2	1.9	26.6
	4.5	6.8	75/63	46.1	35.6	51.8	1.9	24.0
			80/67	49.3	36.9	54.9	1.9	26.2
			85/71	52.7	38.0	58.2	1.8	28.7
	6	11.2	75/63	46.5	35.8	52.3	1.9	24.1
			80/67	49.8	37.0	55.5	1.9	26.4
			85/71	53.3	38.2	58.8	1.8	29.0
70	3	3.2	75/63	43.2	34.4	50.0	2.3	18.9
			80/67	46.2	35.5	53.0	2.2	20.6
			85/71	49.4	36.8	56.1	2.2	22.3
	4.5	6.6	75/63	44.1	34.7	50.7	2.2	20.0
			80/67	47.3	36.1	53.8	2.2	21.9
			85/71	50.7	37.0	57.1	2.1	24.0
	6	10.9	75/63	44.5	34.9	51.2	2.2	20.1
			80/67	47.8	36.3	54.3	2.2	22.1
			85/71	51.2	37.2	57.6	2.1	24.2
80	3	3.1	75/63	40.5	33.4	48.4	2.6	15.5
			80/67	43.5	34.5	51.4	2.6	16.9
			85/71	46.6	35.5	54.4	2.5	18.3
	4.5	6.4	75/63	41.4	33.5	49.1	2.5	16.4
			80/67	44.5	35.0	52.0	2.5	17.9
			85/71	47.6	36.2	55.1	2.4	19.5
	6	10.5	75/63	41.8	34.5	49.5	2.5	16.7
			80/67	44.5	34.2	52.2	2.6	17.3
			85/71	47.7	35.1	55.4	2.5	18.9
90	3	3.0	75/63	38.8	32.5	47.8	3.0	13.1
			80/67	41.7	33.7	50.7	2.9	14.2
			85/71	44.7	34.9	53.7	2.9	15.4
	4.5	6.2	75/63	39.5	33.1	48.4	2.9	13.7
			80/67	42.6	34.0	51.3	2.9	14.9
			85/71	45.7	35.6	54.4	2.8	16.3
	6	10.2	75/63	39.8	34.1	48.6	2.8	14.0
			80/67	42.7	33.4	51.5	2.9	14.6
			85/71	46.1	36.7	54.8	2.8	16.7
100	3	2.9	75/63	36.0	31.6	46.4	3.4	10.7
			80/67	38.8	32.6	49.2	3.4	11.6
			85/71	41.7	34.1	52.1	3.3	12.5
	4.5	6.1	75/63	36.4	31.0	46.7	3.4	10.8
			80/67	39.4	34.0	49.6	3.2	12.1
			85/71	42.6	34.3	52.6	3.2	13.2
	6	10.0	75/63	36.9	32.4	47.1	3.3	11.2
			80/67	39.9	33.8	50.1	3.2	12.3
			85/71	42.9	35.4	53.0	3.2	13.5
110	3	2.8	75/63	33.3	30.2	45.1	3.8	8.7
			80/67	35.9	31.6	47.8	3.8	9.4
			85/71	38.7	33.1	50.5	3.8	10.2
	4.5	5.9	75/63	33.8	30.8	45.4	3.8	9.0
			80/67	36.4	31.3	48.1	3.8	9.6
			85/71	39.3	34.0	51.0	3.7	10.7
	6	9.8	75/63	33.7	30.6	45.6	3.8	8.8
			80/67	36.9	31.6	48.5	3.8	9.8
			85/71	39.8	32.7	51.3	3.7	10.7

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GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



BOSCH

SM060 CS + BVA2.0 Part Load Heating Performance Data - 1400 CFM

Entering Fluid Temp (°F)	Pressure Drop (PSI)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP
30	3.8	60	32.8	26.6	2.3	4.1
		70	31.1	24.4	2.6	3.48
		80	30.5	23.1	2.9	3.05
	7.8	60	34.4	28.2	2.4	4.22
		70	32.7	25.5	2.7	3.61
		80	32.2	24.3	3.0	3.16
	12.8	60	35.0	29.0	2.5	4.17
		70	34.4	27.2	2.7	3.67
		80	32.9	25.0	3.1	3.16
40	3.6	60	38.2	32.2	2.4	4.7
		70	36.5	29.4	2.7	4.02
		80	34.6	26.6	3.0	3.41
	7.5	60	40.0	34.1	2.4	4.82
		70	38.3	31.0	2.7	4.14
		80	36.9	28.9	3.0	3.57
	12.3	60	41.2	34.9	2.5	4.82
		70	39.1	32.3	2.8	4.11
		80	38.3	30.0	3.1	3.61
50	3.5	60	43.4	37.1	2.4	5.24
		70	41.7	34.1	2.7	4.5
		80	40.2	31.4	3.0	3.88
	7.2	60	45.6	39.7	2.5	5.38
		70	43.8	36.6	2.8	4.62
		80	41.9	33.8	3.1	3.95
	11.9	60	46.9	40.9	2.6	5.37
		70	45.7	38.8	2.9	4.68
		80	43.0	34.5	3.2	3.97
60	3.4	60	48.8	42.1	2.5	5.73
		70	47.1	39.6	2.8	4.93
		80	45.7	37.9	3.2	4.25
	7.0	60	51.4	44.8	2.6	5.9
		70	49.9	43.1	2.9	5.09
		80	48.3	39.6	3.2	4.4
	11.5	60	52.6	46.9	2.6	5.87
		70	50.6	43.9	2.9	5.04
		80	48.7	40.0	3.3	4.35
70	3.3	60	54.7	48.4	2.5	6.28
		70	52.6	46.9	2.9	5.34
		80	51.2	42.3	3.2	4.66
	6.7	60	57.7	52.6	2.6	6.5
		70	56.0	48.9	2.9	5.61
		80	53.6	44.5	3.3	4.78
	11.1	60	59.6	53.9	2.7	6.53
		70	57.9	52.4	3.0	5.65
		80	55.1	47.2	3.4	4.81
80	3.2	60	61.6	54.1	2.6	6.97
		70	59.4	52.6	2.9	5.98
		80	57.4	49.3	3.3	5.13
	6.6	60	65.0	57.2	2.6	7.21
		70	63.5	56.3	3.0	6.25
		80	61.3	52.6	3.3	5.38
	10.8	60	66.8	61.4	2.7	7.2
		70	64.8	57.1	3.0	6.25
		80	62.4	53.9	3.4	5.38

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Antifreeze Correction							
Antifreeze Type	Antifreeze %	Cooling			Heating		WPD Correction Factor EWT 30 °F
		EWT 90 Deg.F			EWT 30 Deg. F		
		Total Capacity	Sensible Capacity	Power	Heating Capacity	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

GreenSource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps

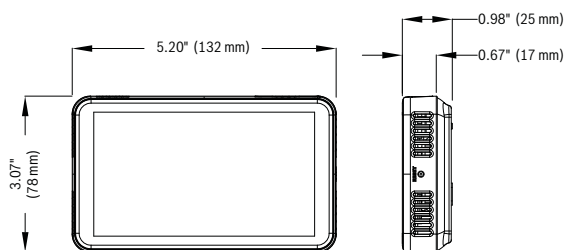
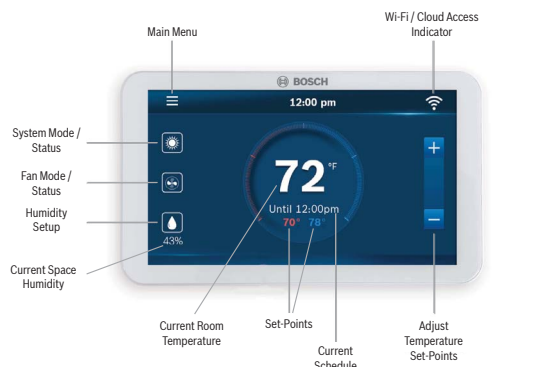


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Field Install Accessories

Description	Part Numbers	SM024	SM036	SM048	SM060
		CS	CS	CS	CS
Flow Centers	Various	•	•	•	•
Flow Proving Switch (DPS)	8733920264	•	•	•	•
SmartStart Assist	8733920430	•	•	•	•

Field Installed Accessory - Bosch Connected Control Wi-Fi Thermostat



Description	Part Number	Heat	Cool	Humidity
Bosch Connected Control (BCC100)	8733948 009	4	2	Yes

Specifications

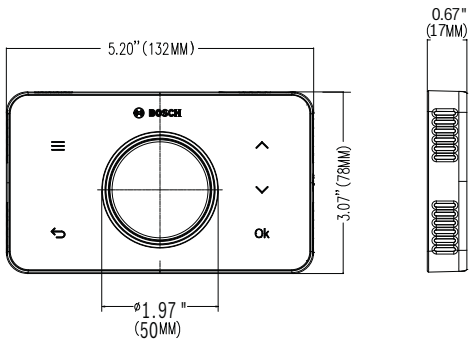
- 5 Inch Touch Screen 854 x 480 Pixels
- 7 Relay Outputs (Terminals) G, Y1, Y2, W1, W2, O/B, H/dH
- 1 Data Input (Pulse signals from Bosch WSHP)
- Displays Bosch Water Source Heat Pump Fault Messages
- Wi-Fi (802.11a/b/g/n) 2.4GHz (not compatible with 5GHz)
- FCC and IC Certification
- 5 Year Limited Warranty (see <https://www.bosch-thermotechnology.us/us/en/residential/service/product-warranty-library/> 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
- Supports dual fuel applications



Field Installed Accessory - Bosch Connected Control Wi-Fi Thermostat



Description	Part Number	Heat	Cool	Humidity
Bosch Connected Control (BCC50)	8733952994	3	2	Yes

Specifications

- 2.8 Inch Touch Screen 240 x 320 Pixels
- 5 Back-lit Touch Buttons
- 6 Relay Terminals: G, Y1, Y2, W/E/AUX, O/B/W2, H/DH
- Wi-Fi (802.11b/g/n) 2.4GHz
- FCC and IC Certification
- 3 Year Limited Warranty (see <https://www.bosch-thermotechnology.us/us/en/residential/service/product-warranty-library/> for details)

Compatibility

- Conventional (Gas, Oil, Electric): Up to 2 Heat / 2 Cool
- Heat Pump (O/B/W2 to energize reversing valve in cool/heat): Up to 3 Heat / 2 Cool
- Supports up to 1 Accessory Unit: Humidifier or Dehumidifier (not provided by Bosch)
- Unit Modes: Heat, Cool, Auto, Em Heat (Heat Pump & Dual Fuel only), Off
- 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

Greensource CDi Series SM Split CS Condensing Section Residential Geothermal Heat Pumps



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Field Installed 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.