

LV Model Series Commercial Water Source Heat Pumps

Engineering
Submittal
Sheet



BOSCH

Overview and Certifications



- ▶ ½ to 6 ton capacities
- ▶ Single Stage Ultra Compact Cabinet
- ▶ New and improved Scroll and Rotary Compressors
- ▶ Option rich features and components

Commercial WSHP Product Portfolio

Product	Water-to-Air							Water-to-Water			
	LM	ES	EP	LV	LM Splits	CA	EC	MC	WT	WW	
Price	\$\$\$	\$\$	\$+	\$	\$\$\$	\$	\$\$	\$\$	\$\$	\$\$	
Model Sizes <6 Ton	007			X	X						
	009			X	X						
	012			X	X						
	015			X	X						
	018			X	X						
	024	X		X	X	X					
	025		X							X	
	030	X		X	X						
	035		X							X	
	036	X		X	X	X					
	041				X						
	042			X	X						
	048	X		X	X	X					
	049		X							X	
060	X		X	X	X						
061		X							X		
070	X		X	X							
071		X							X		
Model Sizes >6 Ton	072							X			
	096							X			
	120							X		X	
	122									X	
	150							X			
	151							X			
	180							X		X	
	181							X			
	210							X		X	
	240							X		X	
	300							X			
	360							X	X	X	
420									X		
480								X			
600								X			
720								X			
Capacities (WLHP)	EER	14.8 - 20.8	13.2 - 17.5	14.2 - 17.5	12.2 - 14.9	14.1 - 18.2	12.2 - 12.7	13.0 - 16.0	18.6 - 19.0	12.6 - 14.7	12.3 - 13.8
	COP	4.9 - 6.5	3.8 - 5.4	5.0 - 5.8	4.3 - 5.1	4.9 - 6.0	4.3 - 4.6	4.2 - 5.6	5.4 - 5.5	4.2 - 4.7	4.2 - 4.6

AHU2
AHU1

Featured model

LV Model Series - Commercial Water Source Heat Pumps



Model Nomenclature

LV 48 - 1 VTC - F L T A T C - X H G X X X X D 7 H X X X 4 X X X X S B A
 1-2 3-5 6 7 8-9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

MODEL:

LV

NOMINAL CAPACITY:

007, 009, 012, 015, 018
 024, 030, 036, 041, 042
 048, 060, 070

ELECTRICAL CONFIGURATION:

0 - 115/60/1
 1 - 208-230/60/1
 2 - 277/60/1
 3 - 208-230/60/3
 4 - 460/60/3
 5 - 575/60/3
 8 - 220-240/50/1
 A - 380-420/50/1

CABINET CONFIGURATION:

HZ - Horizontal
 VT - Vertical

COAX OPTIONS:

C - Copper
 N - Cupro-nickel

WATER CONNECTIONS:

F - Front
 B - Bottom
 M - Marine

RETURN AIR CONFIGURATION:

L - Left
 R - Right

DISCHARGE AIR LOCATION:

T - Top
 S - Straight
 E - End
 B - Bottom

FAN/MOTOR OPTION:

P - Standard PSC
 A - Constant Airflow ECM
 T - Constant Torque ECM

AIR COIL:

U - Uncoated
 D - DuoGuard

REVISION LEVEL:

B - Current
 C - Current
 D - Current

ELECTRIC HEAT:

X - None
 A - 5 kW
 B - 7.5 kW
 C - 10 kW

CABINET CONSTRUCTION:

A - G90 Steel / 1/2" Standard 1.5LB Dual Density Fiberglass
 C - G90 Steel / 1/2" Closed Cell Foam
 D - G90 Steel / 1/2" Standard 1.5LB Dual Density Fiberglass, Extra Quiet
 F - G90 Steel / 1/2" Closed Cell Foam, Extra Quiet

APPLICATION:

G - Extended Range (Geothermal)
 T - Standard Range (TXV)

CODE STRING LEVEL:

A - Revision

CHANNEL:

B - Bosch

STANDARD/SPECIAL:

S - Standard

AGENCY OPTIONS:

X - ETL (UL 1995)
 C - CE (50 Hz Only)
 E - ETL w/ E-Heat and Single Point Power

NOT USED:

X - None

DRIVE SPEED (MC ONLY):

X - N/A

MOTOR HP/QTY (BELT DRIVE ONLY)

X - N/A

AIR FILTRATION:

1 - 1" Standard Throwaway Filter w/ 2-sided Filter Rac
 4 - 2" MERV 8 w/ 4-sided Filter Rack
 5 - 2" MERV 13 w/ 4-sided Filter Rack

NOT USED:

X - None

ECONOMIZER:

X - None
 E - Waterside Economizer w/ 3 Way Valve and Controls

WATER FLOW CONTROL OPTIONS:

X - None
 2 - 2 Way Solenoid Valve
 3 - MeasureFlow (3 GPM/Ton)
 4 - 2 Way Solenoid + MeasureFlow
 6 - Water Regulating Valve Connection

CONTROLS:

X - Standard (UPM)
 M - DDC - Multi-Protocol (BacNET, Modbus, N2) (Control Air 5600)
 L - DDC - LonWorks (Control Air 5600 + LonWorks Card)

TRANSFORMER:

4 - 40 VA
 5 - 50 VA
 7 - 75 VA
 1 - 100 VA

REFRIGERATION:

X - None
 H - Hot Gas Reheat - On/Off
 B - Hot Gas Bypass
 C - Hot Gas Bypass with Hot Gas Reheat
 S - Straight Cool

ELECTRICAL OPTIONS:

A - EMS relay
 C - Compressor Monitor Relay
 E - Pump/valve relay
 G - Boilerless control
 J - Disconnect Switch
 M - Wire transformer to 208 volts
 X - As default for non used electrical codes
 B - Blower Monitor Relay
 D - Phase Monitor
 H - Flow proving switch
 K - Fire Alarm Relay/Dual Power
 Z - EMS Relay + Pump/Valve Relay

LV Model Series - Commercial Water Source Heat Pumps



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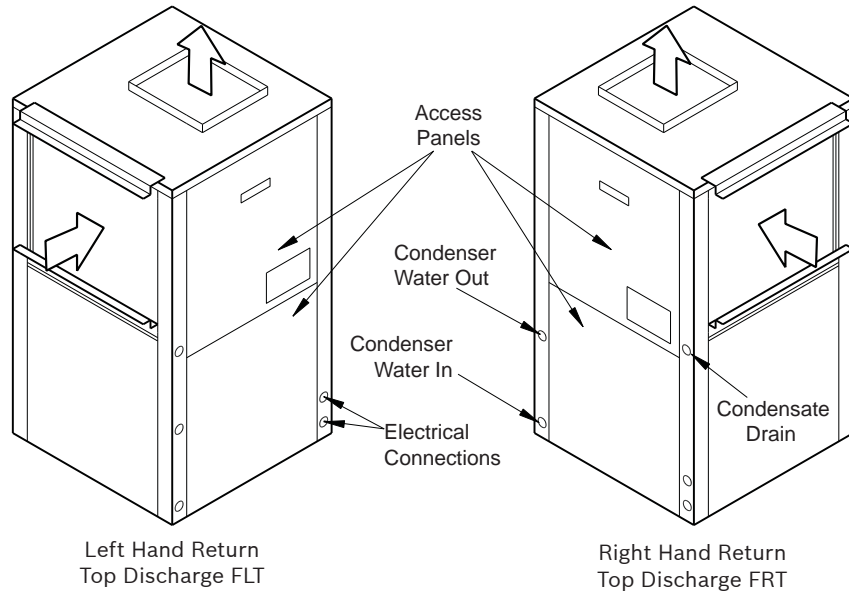
AHRI Ratings (13256-1) - LV Series PSC Motor

Model Number	Water Loop Heat Pump				Ground Water Heat Pump				CFM	GPM
	Cooling 86 deg.F		Heating 68 deg.F		Cooling 77 deg.F		Heating 32 deg.F			
	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		
007	6,100	13.20	7,800	5.10	6,800	15.10	4,900	3.40	300	2.0
009 HZ	8,200	12.40	9,900	4.70	NA	NA	NA	NA	330	2.5
009 VT	8,150	12.40	10,700	4.70	8,700	14.40	6,900	3.20	330	2.5
012	10,900	12.20	13,000	4.30	11,800	14.10	8,700	3.20	375	3
015	14,200	12.80	16,100	4.40	14,200	14.60	11,300	3.30	500	4
018	18,200	14.10	20,200	4.60	19,200	16.15	14,300	3.50	600	5
024	24,300	14.20	27,400	5.00	25,400	16.90	18,100	3.55	800	6
030	28,200	13.40	32,600	4.70	29,500	15.60	21,500	3.40	950	7
036	36,250	14.30	38,800	4.65	38,000	16.65	27,100	3.55	1200	9
041	36,600	14.15	39,100	4.45	37,300	16.20	27,400	3.30	1240	9
042	39,500	13.65	42,800	4.45	41,200	15.90	30,000	3.25	1380	10
048	46,200	13.95	58,600	4.65	48,400	16.35	39,300	3.40	1640	12
060	59,100	13.60	77,800	4.80	61,600	15.80	53,400	3.75	1900	15
070	64,000	13.30	72,800	4.40	66,400	15.00	50,800	3.40	2000	16

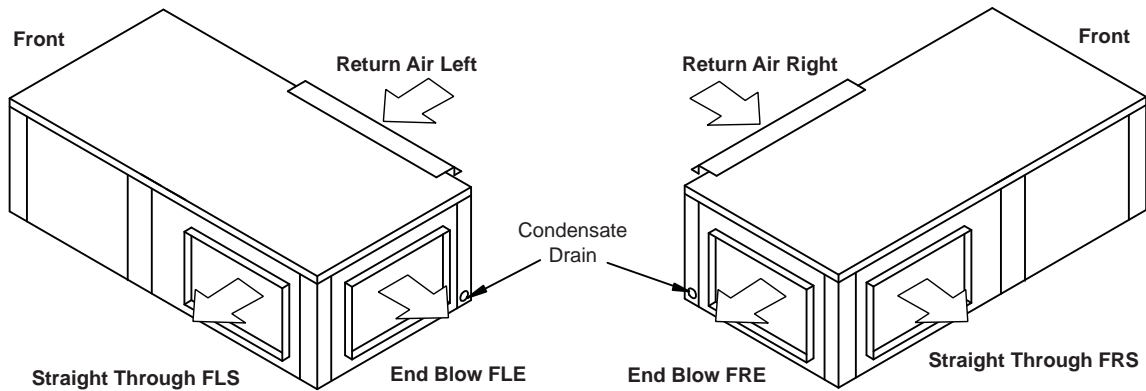
AHRI Ratings (13256-1) - LV Series ECM Motor

Model Number	Water Loop Heat Pump				Ground Water Heat Pump				CFM	GPM
	Cooling 86 deg.F		Heating 68 deg.F		Cooling 77 deg.F		Heating 32 deg.F			
	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		
015	13,700	13.90	15,500	4.40	14,400	16.20	10,700	3.30	500	4
018	18,500	14.50	19,900	4.70	19,500	16.95	14,000	3.55	650	5
024	24,700	14.90	27,000	5.10	25,800	17.65	17,700	3.60	850	6
030	28,800	13.50	32,000	4.90	30,100	15.65	20,900	3.55	950	7
036	36,550	14.70	38,400	4.75	38,300	17.10	26,700	3.60	1200	9
041	36,600	14.35	38,200	4.70	38,300	16.45	26,500	3.45	1240	9
042	40,400	14.20	41,800	4.60	42,100	16.60	29,000	3.40	1380	10
048	47,100	14.30	57,800	4.70	49,300	16.70	38,500	3.45	1640	12
060	59,000	14.30	66,400	4.30	61,100	16.40	46,200	3.30	2000	15
060	59,600	14.40	77,000	4.95	62,200	16.55	52,400	3.90	2000	15
070	65,200	14.60	71,800	4.60	67,600	16.60	50,000	3.50	2100	16

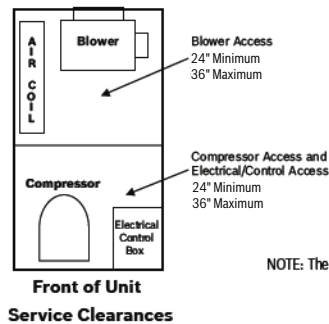
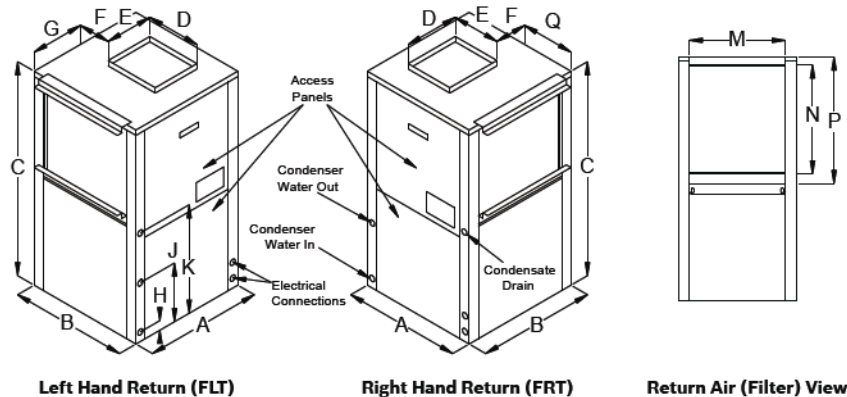
Vertical Unit Configurations



Horizontal Unit Configurations



LV Vertical Unit Dimensions and Connections



NOTE: The local electric codes may require 36\"/>

LV Vertical Unit Dimensions

Model	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	Condenser Water Connections	Recommended Replacement Nominal Filter Size
	Width	Depth	Height	Discharge Depth	Discharge Width	Cabinet Edge to Discharge	Left Side to Discharge	Water Inlet	Water Outlet	Condensate Drain	R/A Duct Width	R/A Duct Flange Height	Filter Rack Height			
LV007	19.0	19.0	24.25	10.0	8.0	4.5	9.3	2.44	9.68	13.87	16.0	8.0	10.0	5.4	3/4\"/>	
LV009	19.0	19.0	24.25	10.0	8.0	4.5	9.3	2.44	9.68	13.87	16.0	8.0	10.0	5.4	3/4\"/>	
LV012	19.0	19.0	24.25	10.0	8.0	4.5	9.3	2.44	9.68	13.87	16.0	8.0	10.0	5.4	3/4\"/>	
LV015	21.5	21.5	32.25	10.0	8.0	5.8	10.0	2.85	8.45	15.87	20.0	14.0	16.0	3.5	3/4\"/>	
LV015*	21.5	21.5	32.25	14.0*	14.0*	3.1*	5.2*	2.85	8.45	15.87	20.0	14.0	16.0	5.2*	3/4\"/>	
LV018	21.5	21.5	32.25	14.0	14.0	3.1	5.2	2.85	8.45	15.87	20.0	14.0	16.0	5.2	3/4\"/>	
LV024	21.5	21.5	39.25	14.0	14.0	3.1	5.2	2.80	8.45	18.87	20.0	18.0	20.0	5.2	3/4\"/>	
LV030	21.5	21.5	39.25	14.0	14.0	3.1	5.2	2.80	8.45	18.87	20.0	18.0	20.0	5.2	3/4\"/>	
LV036	21.5	26.0	43.25	16.0	14.0	4.0	5.0	2.75	10.77	18.87	24.0	22.0	24.0	5.0	3/4\"/>	
LV041	21.5	21.5	39.25	16.0	14.0	1.7	4.7	2.80	8.45	18.87	20.0	18.0	20.0	4.7	3/4\"/>	
LV042	21.5	26.0	44.25	16.0	14.0	4.0	5.0	2.75	10.77	18.87	24.0	22.0	24.0	5.0	3/4\"/>	
LV048	24.0	32.5	45.25	18.0	14.0	7.0	6.2	3.26	13.20	20.87	30.0	22.0	24.0	6.2	1\"/>	
LV060	24.0	32.5	45.25	18.0	14.0	7.0	6.2	3.26	13.20	20.87	30.0	22.0	24.0	6.2	1\"/>	
LV070	26.0	33.25	58.25	18.0	16.0	7.8	7.2	2.92	13.36	25.87	30.0	30.0	32.0	7.2	1\"/>	

All dimensions within ± 0.125 ". All condensate drain connections are 3/4" FPT. Specifications subject to change without notice. 1" filter rack extends 1.23" beyond the side of the unit. 2" filter rack extends 2.89" beyond the side of the unit. The 2" filter rack is 4 sided with a filter access door on one end and can accept either a 1" or 2" filter.

*LV015 is with the enduraPRO™/EON motor option. Blower discharge opening changes as a result.



Operating Limits – Heating and Cooling	
Heating	Extended Range
Minimum ambient air temperature °F	40
Maximum ambient air temperature °F	85
Minimum evaporator entering air db/wb °F	50
Rated air coil entering air db/wb °F	68
Maximum evaporator entering air db/wb °F	80
Normal water coil entering fluid range °F	25-80*
Minimum water coil entering fluid °F	20*
Cooling	Extended Range
Minimum ambient air temperature °F	50
Maximum ambient air temperature °F	100
Minimum evaporator entering air db/wb °F	68/57
Rated air coil entering air db/wb °F	80/67
Maximum evaporator entering air db/wb °F	95/85
Minimum water coil entering fluid temperature °F	50
Water loop typical coil entering fluid range temperature °F	70/90
Maximum water coil entering fluid temperature °F	110

* Antifreeze solution is required at these fluid temperatures.

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

LV Model Series -
Commercial Water Source Heat Pumps



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Waterside Pressure Drop			
Model	Water Flow Rate (GPM)	Water Side Pressure Drop without Internal Valve (PSI)	Water Side Pressure Drop with Internal Valve (PSI)"
LV007	1.0	0.3	0.5
	2.0	1.1	1.8
	3.0	2.3	3.8
LV009	1.0	0.5	0.6
	2.0	1.7	2.3
	3.0	3.5	5.0
LV012	1.5	1.0	1.4
	2.5	2.6	3.6
	3.5	4.8	6.7
LV015	2.0	1.9	2.5
	3.0	3.9	5.3
	4.0	6.5	9.1
LV018	2.5	1.1	2.1
	4.0	2.7	5.2
	5.0	4.0	8.0
LV024	3.0	1.7	2.0
	4.0	2.8	3.4
	6.0	5.8	7.2
LV030	4.0	2.0	2.6
	6.0	4.2	5.6
	8.0	7.0	9.6
LV036	4.5	1.6	2.4
	6.0	2.6	4.0
	9.0	5.4	8.6
LV041	4.5	1.6	2.4
	6.0	2.6	4.0
	9.0	5.4	8.6
LV042	5.0	2.0	3.0
	8.0	4.6	7.2
	11.0	8.2	13.0
LV048	6.0	0.8	1.4
	8.0	1.4	2.5
	12.0	2.8	5.4
LV060	7.5	1.4	2.4
	10.0	2.3	4.1
	15.0	4.8	8.8
LV070	9.0	2.0	3.4
	12.0	3.4	5.9
	18.0	7.0	12.7

- All values based on pure water at 70° F.

LV Model Series - Commercial Water Source Heat Pumps



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Capacity Data LV042 (1380 CFM)																	
Cooling									Heating								
Entering Water Temp (°F)	Water flow (GPM)	Pressure Drop PSI (FOH)	Entering Air Temp DB/WB (°F)	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power (kW)	EER	Entering Fluid Temp (°F)	Pressure Drop PSI (FOH)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP		
50	6	3.0	75/63	41.7	32.4	49.7	2.4	17.7	30	3.3	5.5	8.2	60	28.6	20.7	2.5	3.4
			80/67	44.5	34.4	52.6	2.4	18.8					70	28.2	19.6	2.7	3.0
			85/71	47.3	34.8	55.5	2.4	19.9					80	27.7	18.5	3.0	2.7
	75/63	42.7	32.8	50.3	2.3	18.9	60	29.4					21.7	2.5	3.4		
	80/67	45.6	34.9	53.3	2.3	20.2	70	29.0					20.3	2.8	3.1		
	85/71	48.6	35.9	56.4	2.3	21.5	80	28.6					19.1	3.0	2.8		
	75/63	43.3	33.0	50.7	2.2	19.7	60	30.0					22.1	2.5	3.5		
	80/67	46.3	35.2	53.8	2.2	21.1	70	29.5					20.8	2.8	3.1		
	85/71	49.4	36.2	56.9	2.2	22.5	80	29.1					19.6	3.0	2.8		
60	6	2.8	75/63	39.9	31.6	48.5	2.6	15.5	40	3.1	5.2	7.7	60	32.3	24.0	2.6	3.6
			80/67	42.5	33.0	51.2	2.6	16.4					70	31.9	22.8	2.8	3.3
			85/71	45.2	34.2	54.0	2.6	17.4					80	31.4	21.5	3.1	3.0
	75/63	40.8	32.0	49.1	2.5	16.6	60	33.3					25.2	2.6	3.7		
	80/67	43.6	33.9	52.0	2.5	17.7	70	32.7					23.7	2.9	3.3		
	85/71	46.4	34.5	54.9	2.5	18.8	80	32.3					22.4	3.1	3.0		
	75/63	41.4	32.2	49.5	2.4	17.3	60	34.1					25.7	2.6	3.8		
	80/67	44.3	34.2	52.4	2.4	18.5	70	33.4					24.4	2.9	3.4		
	85/71	47.3	34.5	55.4	2.4	19.7	80	32.9					23.0	3.1	3.1		
70	6	2.7	75/63	37.9	31.0	47.3	2.8	13.5	50	3.0	4.9	7.2	60	32.1	24.0	2.6	3.7
			80/67	40.5	33.0	50.0	2.8	14.3					70	31.8	22.8	2.8	3.3
			85/71	43.0	33.4	52.6	2.8	15.2					80	31.3	21.5	3.1	3.0
	75/63	38.8	32.2	47.9	2.7	14.4	60	33.2					25.2	2.6	3.8		
	80/67	41.6	32.3	50.6	2.7	15.4	70	32.6					23.7	2.8	3.4		
	85/71	44.2	33.7	53.4	2.7	16.4	80	32.1					22.4	3.1	3.0		
	75/63	39.4	31.6	48.2	2.6	15.0	60	33.9					25.7	2.6	3.8		
	80/67	42.2	32.5	51.1	2.6	16.1	70	33.3					24.4	2.8	3.4		
	85/71	45.1	33.7	53.9	2.6	17.2	80	32.8					23.0	3.1	3.1		
80	6	2.6	75/63	36.0	30.0	46.3	3.1	11.7	60	2.8	4.6	6.9	60	36.2	27.6	2.7	4.0
			80/67	38.5	32.0	48.8	3.1	12.5					70	35.5	26.3	2.9	3.6
			85/71	41.0	33.3	51.3	3.1	13.2					80	35.0	25.0	3.2	3.2
	75/63	36.9	30.4	46.8	3.0	12.5	60	37.4					28.8	2.7	4.0		
	80/67	39.4	32.6	49.3	3.0	13.3	70	36.8					27.5	2.9	3.7		
	85/71	42.0	33.9	52.0	3.0	14.2	80	36.1					26.1	3.2	3.3		
	75/63	37.4	30.6	47.1	2.9	13.0	60	38.3					29.7	2.7	4.1		
	80/67	40.0	32.8	49.7	2.9	13.9	70	37.6					28.3	3.0	3.7		
	85/71	42.7	33.1	52.4	2.9	14.8	80	36.9					26.8	3.2	3.4		
90	6	2.5	75/63	34.1	29.0	45.3	3.4	10.1	70	2.7	4.4	6.6	60	36.0	27.6	2.6	4.0
			80/67	36.3	30.5	47.6	3.4	10.7					70	35.4	26.3	2.9	3.6
			85/71	38.6	31.9	50.0	3.4	11.3					80	34.8	25.0	3.1	3.2
	75/63	34.9	29.6	45.7	3.2	10.8	60	37.2					28.8	2.7	4.1		
	80/67	37.4	30.7	48.2	3.3	11.5	70	36.6					27.5	2.9	3.7		
	85/71	39.8	32.0	50.7	3.3	12.2	80	36.0					26.1	3.2	3.3		
	75/63	35.4	29.8	45.9	3.2	11.2	60	38.1					29.7	2.7	4.2		
	80/67	37.9	31.1	48.5	3.2	12.0	70	37.5					28.3	2.9	3.8		
	85/71	40.4	32.3	51.0	3.2	12.8	80	36.8					26.8	3.2	3.4		
100	6	2.4	75/63	31.9	28.5	44.2	3.7	8.6	80	2.6	4.2	6.3	60	40.1	31.5	2.7	4.3
			80/67	34.2	29.6	46.6	3.7	9.2					70	39.5	30.1	3.0	3.9
			85/71	36.3	31.1	48.8	3.7	9.7					80	39.0	28.6	3.3	3.5
	75/63	32.9	28.5	44.7	3.6	9.2	60	41.8					33.0	2.8	4.4		
	80/67	35.1	30.0	47.0	3.6	9.8	70	41.0					31.5	3.0	4.0		
	85/71	37.3	31.5	49.3	3.6	10.4	80	40.4					30.0	3.3	3.6		
	75/63	33.3	28.9	44.9	3.5	9.6	60	42.9					34.1	2.8	4.5		
	80/67	35.7	30.2	47.3	3.5	10.2	70	42.0					32.5	3.0	4.1		
	85/71	38.1	31.5	49.7	3.5	10.9	80	41.3					30.8	3.3	3.7		
110	6	2.3	75/63	29.9	27.7	43.4	4.1	7.3	Extended Range	3.8	5.6	60	32.0	24.0	2.6	3.6	
			80/67	32.0	28.8	45.6	4.1	7.8				70	31.5	23.0	2.8	3.3	
			85/71	34.0	30.3	47.7	4.1	8.3				80	31.0	22.0	3.0	3.0	
	75/63	30.6	28.0	43.7	3.9	7.8	60	33.0				25.0	2.7	3.7			
	80/67	32.8	29.3	45.9	3.9	8.3	70	32.5				24.0	2.9	3.4			
	85/71	35.0	30.6	48.2	4.0	8.8	80	32.0				23.0	3.1	3.1			
	75/63	31.1	28.1	43.9	3.9	8.1	60	34.0				26.0	2.7	3.8			
	80/67	33.5	29.1	46.2	3.9	8.7	70	33.5				25.0	2.9	3.5			
	85/71	35.6	30.7	48.5	3.9	9.2	80	33.0				24.0	3.1	3.2			

Extended Range - Anti-freeze required
 AHR/ISO 13256-1 certified performance is rated at entering air conditions of 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
 Tabulated unit performance does not include fan or pump power corrections required for AHR/ISO standard performance ratings.
 Unit performance may be interpolated. Extrapolation is not allowed.
 For conditions other than rating conditions provided, consult the BST selection software.
 Ratings below 40°F are with a methanol solution.

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.

LV Model Series - Commercial Water Source Heat Pumps



Capacity Data LV060 (1900 CFM)																
Cooling									Heating							
Entering Water Temp (°F)	Water flow (GPM)	Pressure Drop PSI (FOH)	Entering Air Temp DB/WB (°F)	Total Capacity (MBTUH)	Sensible Capacity (MBTUH)	Heat of Rejection (MBTUH)	Power (kW)	EER	Entering Fluid Temp (°F)	Pressure Drop PSI (FOH)	Entering Air Temp (°F)	Total Capacity (MBTUH)	Heat of Absorption (MBTUH)	Power Input (kW)	COP	
50	7.5	2.0	75/63	63.1	46.7	73.3	3.4	5.5	30	2.1	4.9	60	46.1	32.7	4.3	3.2
			80/67	67.6	48.1	77.9	3.4	5.8				70	45.4	30.8	4.6	2.9
			85/71	72.0	49.4	82.5	3.5	6.0				80	44.8	28.9	5.1	2.6
	75/63	65.8	47.5	75.1	3.1	6.2	60	48.7		34.8		4.3	3.3			
	80/67	70.3	49.2	79.8	3.2	6.5	70	47.8		33.0		4.7	3.0			
	85/71	74.9	50.7	84.6	3.2	6.8	80	47.3		30.5		5.1	2.7			
	12	4.6	75/63	66.6	47.9	75.8	3.1	6.3		7.3	7.3	60	49.6	36.0	4.4	3.3
			80/67	71.2	49.6	80.5	3.1	6.7				70	49.0	33.6	4.7	3.0
			85/71	76.0	51.1	85.5	3.2	7.1				80	48.0	31.3	5.2	2.7
	75/63	60.6	45.2	71.8	3.7	4.8	4.0	2.0				60	51.5	37.7	4.4	3.4
	80/67	64.6	46.8	76.1	3.8	5.0						70	50.9	35.7	4.8	3.1
	85/71	68.8	48.3	80.5	3.8	5.2						80	50.3	33.7	5.2	2.8
75/63	63.0	46.2	73.3	3.5	5.3	60			54.9	40.4	4.5	3.6				
80/67	67.5	47.9	78.1	3.5	5.7	70			53.7	38.6	4.9	3.2				
85/71	72.0	49.5	82.7	3.5	6.0	80			53.1	36.4	5.3	2.9				
60	7.5	2.0	75/63	63.7	46.8	74.0	3.4	5.5	7.0	7.0	60	56.1	41.5	4.5	3.6	
			80/67	68.4	48.4	78.8	3.4	5.8			70	55.0	39.7	4.9	3.3	
			85/71	73.1	49.9	83.6	3.5	6.1			80	54.2	37.4	5.3	3.0	
	75/63	57.9	44.1	70.3	4.1	4.1	5.0	2.0			60	57.5	43.2	4.6	3.7	
	80/67	61.8	45.6	74.5	4.2	4.4					70	56.7	41.2	5.0	3.4	
	85/71	65.8	47.1	78.8	4.2	4.6					80	56.3	38.8	5.4	3.1	
75/63	60.2	45.0	71.8	3.8	4.6	60			61.5	47.0	4.7	3.9				
80/67	64.4	46.7	76.1	3.9	4.9	70			60.6	44.8	5.0	3.5				
85/71	68.7	48.3	80.6	3.9	5.2	80			59.6	42.6	5.5	3.2				
70	12	4.4	75/63	61.0	45.4	72.4	3.8	4.8	6.8	6.8	60	63.2	48.2	4.7	4.0	
			80/67	65.3	47.0	76.8	3.8	5.0			70	62.0	46.2	5.1	3.6	
			85/71	69.6	49.2	81.4	3.8	5.3			80	61.3	43.3	5.5	3.3	
	75/63	55.0	42.7	68.9	4.5	3.6	6.0	2.0			60	64.0	49.1	4.7	4.0	
	80/67	58.7	44.4	72.8	4.6	3.8					70	63.2	47.1	5.1	3.6	
	85/71	62.3	46.5	76.8	4.6	3.9					80	62.4	45.0	5.5	3.3	
75/63	57.1	44.1	70.0	4.2	4.0	4.5			4.5	60	69.0	53.6	4.8	4.2		
80/67	61.4	45.6	74.4	4.2	4.2					70	67.8	51.4	5.2	3.8		
85/71	65.5	47.2	78.8	4.3	4.5					80	67.0	48.5	5.7	3.5		
75/63	58.2	44.1	70.9	4.2	4.1		6.7	6.7		60	71.0	55.3	4.9	4.3		
80/67	62.3	45.9	75.1	4.2	4.4					70	69.6	53.2	5.3	3.9		
85/71	66.5	47.5	79.5	4.2	4.6					80	68.4	50.5	5.7	3.5		
75/63	51.8	41.8	67.3	5.0	3.1	7.0			1.9	60	70.9	55.5	4.9	4.3		
80/67	55.7	43.3	71.3	5.0	3.2					70	69.9	53.4	5.3	3.9		
85/71	59.4	44.6	75.3	5.1	3.4					80	69.1	51.1	5.7	3.5		
75/63	54.4	42.4	68.7	4.7	3.4		4.4	4.4		60	76.8	60.8	5.0	4.5		
80/67	58.2	44.0	72.7	4.7	3.6					70	75.3	58.4	5.4	4.1		
85/71	62.1	45.7	76.8	4.7	3.8					80	74.1	55.7	5.9	3.7		
75/63	55.1	42.7	69.2	4.6	3.5	6.5			6.5	60	79.1	62.9	5.0	4.6		
80/67	59.0	44.6	73.3	4.6	3.7					70	77.6	60.1	5.5	4.2		
85/71	63.3	46.3	77.7	4.7	4.0					80	76.1	57.6	5.9	3.8		
75/63	49.1	40.2	66.3	5.5	2.6		8.0	2.0		60	78.1	62.2	5.0	4.6		
80/67	52.5	41.8	69.9	5.6	2.8					70	77.1	59.7	5.4	4.1		
85/71	55.9	43.5	73.6	5.7	2.9					80	75.9	57.4	5.9	3.8		
75/63	51.2	41.1	67.2	5.2	2.9	3.3			3.3	60	84.9	68.4	5.2	4.8		
80/67	55.0	42.9	71.2	5.2	3.1					70	83.3	65.4	5.6	4.4		
85/71	58.7	44.7	75.1	5.2	3.3					80	81.8	62.7	6.1	3.9		
75/63	51.8	41.8	67.6	5.1	3.0		4.9	4.9		60	87.6	70.7	5.3	4.9		
80/67	55.8	43.3	71.8	5.1	3.2					70	85.8	67.6	5.7	4.4		
85/71	59.7	45.0	75.8	5.2	3.4					80	84.0	64.8	6.1	4.0		
75/63	46.1	38.7	65.3	6.1	2.2	110			7.5	1.3	80/67	48.7	41.7	68.5	6.2	2.3
85/71	51.6	44.2	71.8	6.2	2.4											
75/63	47.9	40.0	65.9	5.8	2.4											
80/67	51.6	41.6	69.8	5.8	2.6											
85/71	55.1	43.2	73.5	5.8	2.8											
75/63	48.8	40.1	66.5	5.7	2.5											
80/67	52.4	41.9	70.2	5.7	2.7											
85/71	56.0	43.5	74.0	5.7	2.9											

Extended Range - Anti-freeze required
 AHR/ISO13256-1 certified performance is rated at entering air conditions of 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
 Tabulated unit performance does not include fan or pump power corrections required for AHR/ISO standard performance ratings.
 Unit performance may be interpolated. Extrapolation is not allowed.
 For conditions other than rating conditions provided, consult the BST selection software.
 Ratings below 40°F are with a methanol solution.
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.

LV Model Series - Commercial Water Source Heat Pumps



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LV041 - Temperature Pressure Operating Data									
Enter Fluid Temp (°F)	Water Flow (GPM/Ton)	Cooling				Heating			
		Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Rise °F	Air Temp Drop °F	Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Drop °F	Air Temp Rise °F
30	6	Operation Not Recommended				62-82	326-346	8-9	19-23
	9					68-88	334-354	4-5	21-25
40	6	120-136	197-227	17-19	22-26	74-94	341-361	9-10	22-26
	9	119-135	176-206	11-13	22-26	82-102	351-371	5-6	23-27
50	6	122-138	229-259	16-18	21-25	88-108	357-377	11-12	24-28
	9	121-137	207-237	11-13	22-26	98-118	369-389	6-7	27-31
60	6	124-140	264-294	16-18	21-25	102-122	374-394	12-13	28-32
	9	123-139	241-271	10-12	21-25	116-136	390-410	7-8	30-34
70	6	126-142	303-333	15-17	20-24	118-138	393-413	14-15	31-35
	9	125-141	278-308	10-12	21-25	135-155	412-432	8-9	33-37
80	6	128-144	346-376	15-17	20-24	136-156	413-433	16-17	34-38
	9	127-143	321-351	10-12	20-24	157-177	436-456	9-10	37-41
90	6	131-147	393-423	15-17	19-23	156-176	434-454	18-19	37-41
	9	130-146	366-396	10-12	20-24	181-201	461-481	10-11	41-45
100	6	133-149	443-473	14-16	19-23	Operation Not Recommended			
	9	132-148	416-446	9-11	19-23				

LV042 - Temperature Pressure Operating Data									
Enter Fluid Temp (°F)	Water Flow (GPM/Ton)	Cooling				Heating			
		Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Rise °F	Air Temp Drop °F	Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Drop °F	Air Temp Rise °F
30	6	Operation Not Recommended				65-75	280-304	6-7	18-22
	10					69-79	285-309	3-4	19-23
40	6	120-136	209-233	18-20	21-25	77-87	294-318	7-8	20-24
	10	119-135	182-206	11-13	22-26	83-93	301-325	4-5	21-25
50	6	122-138	241-265	18-20	21-25	91-101	309-333	8-9	23-27
	10	120-136	212-236	11-13	21-25	99-109	316-340	5-6	24-28
60	6	124-140	276-300	17-19	20-24	107-117	322-346	10-11	26-30
	10	122-138	245-269	10-12	21-25	116-126	330-354	6-7	27-31
70	6	126-142	315-339	17-19	20-24	123-133	336-360	11-12	28-32
	10	124-140	282-306	10-12	20-24	136-146	346-370	7-8	30-34
80	6	127-143	357-381	17-19	19-23	142-152	351-375	13-14	31-35
	10	126-142	323-347	10-12	20-24	158-168	363-387	8-9	33-37
90	6	129-145	403-427	17-19	19-23	163-173	367-391	14-15	34-38
	10	128-144	369-393	9-11	19-23	182-192	380-404	9-10	37-41
100	6	Operation Not Recommended				Operation Not Recommended			
	10								

LV Model Series - Commercial Water Source Heat Pumps



BOSCH

LV048 - Temperature Pressure Operating Data									
Enter Fluid Temp (°F)	Water Flow (GPM/Ton)	Cooling				Heating			
		Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Rise °F	Air Temp Drop °F	Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Drop °F	Air Temp Rise °F
30	6	Operation Not Recommended				62-82	326-346	8-9	19-23
	12					68-88	334-354	4-5	21-25
40	6	113-129	216-236	22-24	22-26	74-94	341-361	9-10	22-26
	12	110-126	179-199	11-13	22-26	82-102	351-371	5-6	23-27
50	6	115-131	247-267	22-24	21-25	88-108	357-377	11-12	24-28
	12	112-128	208-228	11-13	22-26	98-118	369-389	6-7	27-31
60	6	116-132	282-302	21-23	21-25	102-122	374-394	12-13	28-32
	12	114-130	240-260	10-12	21-25	116-136	390-410	7-8	30-34
70	6	119-135	320-340	20-22	20-24	118-138	393-413	14-15	31-35
	12	116-132	276-296	10-12	21-25	135-155	412-432	8-9	33-37
80	6	121-137	361-381	20-22	20-24	136-156	413-433	16-17	34-38
	12	118-134	315-335	10-12	20-24	157-177	436-456	9-10	37-41
90	6	122-138	406-426	20-22	19-23	156-176	434-454	18-19	37-41
	12	120-136	358-378	10-12	20-24	181-201	461-481	10-11	41-45
100	6	125-141	454-474	19-21	19-23	Operation Not Recommended			
	12	122-138	406-426	10-12	19-23				

LV060 - Temperature Pressure Operating Data									
Enter Fluid Temp (°F)	Water Flow (GPM/Ton)	Cooling				Heating			
		Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Rise °F	Air Temp Drop °F	Suction Pressure (PSIG)	Discharge Pressure (PSIG)	Water Temp Drop °F	Air Temp Rise °F
30	8	Operation Not Recommended				68-84	256-313	5-7	19-23
	12					73-89	261-319	4-5	20-25
40	8	113-138	173-212	18-22	19-23	81-99	277-339	7-8	22-26
	12	110-134	162-198	12-14	20-24	86-105	283-346	5-6	23-28
50	8	116-142	207-253	17-21	19-23	93-114	299-365	8-9	24-29
	12	112-137	193-236	12-14	19-24	99-121	305-373	6-7	25-31
60	8	118-145	240-293	17-21	18-23	106-129	321-392	9-11	26-32
	12	115-140	224-274	11-14	19-23	113-138	327-400	7-8	28-34
70	8	121-148	273-334	17-21	18-22	118-145	342-418	10-12	29-35
	12	117-143	255-312	11-14	19-23	126-154	349-427	8-9	30-37
80	8	123-151	307-375	16-20	18-22	131-160	364-444	11-14	31-38
	12	120-146	287-350	11-13	19-23	139-170	371-454	8-10	33-40
90	8	126-154	340-416	16-20	18-22	143-175	385-471	12-15	33-41
	12	122-149	318-388	11-13	18-22	152-186	393-480	9-11	35-43
100	8	128-157	373-456	16-19	17-21	Operation Not Recommended			
	12	125-152	349-426	11-13	18-22				

LV Model Series - Commercial Water Source Heat Pumps



Electrical Data - PSC (Standard) Blower Motor																			
Model	Voltage Code	Voltage/Hz/ Phase	Voltage Min/Max	Compressor			Blower Motor			Single Point Power			Dual Point Power						
				Qty	RLA	LRA	FLA	HP	Total Unit FLA	Min. Circuit Amps	MOP CALC	MOP	Compressor Circuit			Blower Motor Circuit			
													Min. Circuit Amps	MOP CALC	MOP	Min. Circuit Amps	MOP CALC	MOP	
LV007	1	208-230/1/60	197/253	1	2.6	17.7	0.96	0.1	3.6	4.2	6.8	15	3.3	5.9	15	1.2	2.2	15	
	2	265/1/60	238/292	1	2.6	13.5	0.96	0.1	3.6	4.2	6.8	15	3.3	5.9	15	1.2	2.2	15	
LV009	1	208-230/1/60	197/253	1	3.4	22.2	0.96	0.1	4.4	5.2	8.6	15	4.3	7.7	15	1.2	2.2	15	
	2	265/1/60	238/292	1	2.9	18.8	0.85	0.1	3.8	4.5	7.4	15	3.6	6.5	15	1.1	1.9	15	
LV012	0	115/1/60	103/126	1	9.6	58.4	2.2	0.1	11.8	14.2	23.8	20	12.0	21.6	20	2.8	5.0	15	
	1	208-230/1/60	197/253	1	4.6	28.0	0.96	0.1	5.6	6.7	11.3	15	5.8	10.4	15	1.2	2.2	15	
LV015	2	265/1/60	238/292	1	3.8	22.2	0.85	0.1	4.7	5.6	9.4	15	4.8	8.6	15	1.1	1.9	15	
	1	208-230/1/60	197/253	1	5.6	29.0	1.10	1.17	6.7	8.1	13.7	15	7.0	12.6	15	1.4	2.5	15	
LV018	2	265/1/60	238/292	1	4.6	20.0	0.90	0.17	5.5	6.7	11.3	15	5.8	10.4	15	1.1	2.0	15	
	1	208-230/1/60	197/253	1	7.4	33	1.8	0.25	9.2	11.1	18.5	15	9.3	16.7	15	2.3	4.1	15	
LV024	2	265/1/60	238/292	1	6	28	1.6	0.25	7.6	9.1	15.1	15	7.5	13.5	15	2.0	3.6	15	
	1	208-230/1/60	197/253	1	13.5	58.3	1.8	0.25	15.3	18.7	32.2	30	16.9	30.4	30	2.3	4.1	15	
LV030	2	265/1/60	238/292	1	9	54	1.6	0.25	10.6	12.9	21.9	20	11.3	20.3	20	2.0	3.6	15	
	3	208-230/3/60	197/253	1	7.1	55.4	1.8	0.25	8.9	10.7	17.8	15	8.9	16.0	15	2.3	4.1	15	
	4	460/3/60	414/506	1	3.5	28	0.9	0.25	4.4	5.3	8.8	15	4.4	7.9	15	1.1	2.0	15	
	1	208-230/1/60	197/253	1	12.8	64	1.8	0.25	14.6	17.8	30.6	30	16.0	28.8	25	2.3	4.1	15	
LV036	2	265/1/60	238/292	1	10.9	60	1.6	0.25	12.5	15.2	26.1	25	13.6	24.5	20	2.0	3.6	15	
	3	208-230/3/60	197/253	1	8.3	58	1.8	0.25	10.1	12.2	20.5	20	10.4	18.7	15	2.3	4.1	15	
	4	460/3/60	414/506	1	5.1	28	0.9	0.25	6.0	7.3	12.4	15	6.4	11.5	15	1.1	2.0	15	
	1*	208-230/1/60	197/253	1	15.2	79	4.4	0.5	19.6	23.4	38.6	35	19.0	34.2	30	5.5	9.9	15	
LV041	1**	208-230/1/60	197/253	1	16.7	79	4.4	0.5	21.1	25.3	42.0	40	20.9	37.6	35	5.5	9.9	15	
	2*	265/1/60	238/292	1	11.6	72	3.3	0.5	14.9	17.8	29.4	25	14.5	26.1	25	4.1	7.4	15	
	2**	265/1/60	238/292	1	13.5	72	3.3	0.5	16.8	20.2	33.7	30	16.9	30.4	30	4.1	7.4	15	
	3	208-230/3/60	197/253	1	10.4	73	4.4	0.5	14.8	17.4	27.8	25	13.0	23.4	20	5.5	9.9	15	
LV042	4	460/3/60	414/506	1	5.8	38	1.8	0.5	7.6	9.1	14.9	15	7.3	13.1	15	2.3	4.1	15	
	1	208-230/1/60	197/253	1	15.4	83.9	4.4	0.75	19.8	23.7	39.1	35	19.3	34.7	30	5.5	9.9	15	
	3	208-230/3/60	197/253	1	10.4	73	4.4	0.75	14.8	17.4	27.8	25	13.0	23.4	20	5.5	9.9	15	
LV048	4	460/3/60	414/506	1	5.8	38	2.8	0.75	8.6	10.1	15.9	15	7.3	13.1	15	3.5	6.3	15	
	1*	208-230/1/60	197/253	1	16.2	109	4.4	0.5	20.6	24.7	40.9	40	20.3	36.5	35	5.5	9.9	15	
	1**	208-230/1/60	197/253	1	16.7	109	4.4	0.5	21.1	25.3	42.0	40	20.9	37.6	35	5.5	9.9	15	
	3	208-230/3/60	197/253	1	11.2	84	4.4	0.5	15.6	18.4	29.6	25	14.0	25.2	25	5.5	9.9	15	
LV060	4	460/3/60	414/506	1	5.6	44	1.8	0.5	7.4	8.8	14.4	15	7.0	12.6	15	2.3	4.1	15	
	1	208-230/1/60	197/253	1	19.6	130	4.4	0.75	24.0	28.9	48.5	45	24.5	44.1	40	5.5	9.9	15	
	3	208-230/3/60	197/253	1	13.7	83.1	4.4	0.75	18.1	21.5	35.2	35	17.1	30.8	30	5.5	9.9	15	
	4	460/3/60	414/506	1	6.2	41	2.8	0.75	9.0	10.6	16.8	15	7.8	14.0	15	3.5	6.3	15	
LV070	5	575/3/60	517/633	1	4.8	33	2.6	0.75	7.4	8.6	13.4	15	6.0	10.8	15	3.3	5.9	15	
	1	208-230/1/60	197/253	1	26	134	6	0.75	31.8	38.4	64.7	38	32.9	59.2	33	6.9	12.4	15	
	3	208-230/3/60	197/253	1	16	110	6	0.75	21.1	25.0	40.6	39	19.5	35.1	34	6.9	12.4	15	
	4	460/3/60	414/506	1	8	52	3	0.75	10.6	12.6	20.4	40	9.8	17.6	35	3.5	6.3	15	
LV070	5	575/3/60	517/633	1	6	39	3	0.75	8.4	9.9	15.7	41	7.3	13.1	36	3.3	5.9	15	
	1	208-230/1/60	197/253	1	28.3	178.0	5.5	0.75	33.8	40.9	69.2	60	35.4	63.7	60	6.9	12.4	15	
	3	208-230/3/60	197/253	1	19.2	136.0	5.5	0.75	24.7	29.5	48.7	45	24.0	43.2	40	6.9	12.4	15	
	4	460/3/60	414/506	1	8.7	66.1	2.8	0.75	11.5	13.7	22.375	20	10.9	19.6	15	3.5	6.3	15	
	5	575/3/60	517/633	1	6.9	55.3	2.6	0.75	9.5	11.2	18.125	15	8.6	15.5	15	3.3	5.9	15	

* with Overload Relay (OLR) option
 ** without Overload Relay (OLR) option

LV Model Series - Commercial Water Source Heat Pumps



Electrical Data - X-13 Constant Torque Blower Motor																		
Model	Voltage Code	Voltage/Hz/Phase	Voltage Min/Max	Compressor			Blower Motor			Single Point Power			Dual Point Power					
				Qty	RLA	LRA	FLA	HP	Total Unit FLA	Min. Circuit Amps	MOP CALC	MOP	Compressor Circuit			Blower Motor Circuit		
													Min. Circuit Amps	MOP CALC	MOP	Min. Circuit Amps	MOP CALC	MOP
LV015	1	208-230/1/60	197/253	1	5.6	29	2.8	0.33	8.4	9.8	15.4	15	7.0	12.6	15	3.5	6.3	15
	2	265/1/60	238/292	1	4.6	20	2.6	0.33	7.2	8.4	13.0	15	5.8	10.4	15	3.3	5.9	15
LV018	1	208-230/1/60	197/253	1	7.4	33	2.8	0.33	10.2	12.1	19.5	15	9.3	16.7	15	3.5	6.3	15
	2	265/1/60	238/292	1	6	28	2.6	0.33	8.6	10.1	16.1	15	7.5	13.5	15	3.3	5.9	15
LV024	1	208-230/1/60	197/253	1	13.5	58.3	2.8	0.33	16.3	19.7	33.2	30	16.9	30.4	30	3.5	6.3	15
	2	265/1/60	238/292	1	9	54	2.6	0.33	11.6	13.9	22.9	20	11.3	20.3	20	3.3	5.9	15
	3	208-230/3/60	197/253	1	7.1	55.4	2.8	0.33	9.9	11.7	18.8	15	8.9	16.0	15	3.5	6.3	15
	4	460/3/60	414/506	1	3.5	28	2.1	0.50	5.6	6.5	10.0	15	4.4	7.9	15	2.6	4.7	15
LV030	1	208-230/1/60	197/253	1	12.8	64	2.8	0.33	15.6	18.8	31.6	30	16.0	28.8	25	3.5	6.3	15
	2	265/1/60	238/292	1	10.9	60	2.6	0.33	13.5	16.2	27.1	25	13.6	24.5	20	3.3	5.9	15
	3	208-230/3/60	197/253	1	8.3	58	2.8	0.33	11.1	13.2	21.5	20	10.4	18.7	15	3.5	6.3	15
	4	460/3/60	414/506	1	5.1	28	2.1	0.50	7.2	8.5	13.6	15	6.4	11.5	15	2.6	4.7	15
LV036	1	208-230/1/60	197/253	1	16.7	79	4.1	0.5	20.8	25.0	41.7	40	20.9	37.6	35	5.1	9.2	15
	2*	265/1/60	238/292	1	11.6	72	3.6	0.5	15.2	18.1	29.7	25	14.5	26.1	25	4.5	8.1	15
	2**	265/1/60	238/292	1	13.5	72	3.6	0.5	17.1	20.5	34.0	30	16.9	30.4	30	4.5	8.1	15
	3	208-230/3/60	197/253	1	10.4	73	4.1	0.5	14.5	17.1	27.5	25	13.0	23.4	20	5.1	9.2	15
LV041	4	460/3/60	414/506	1	5.8	38	2.1	0.5	7.9	9.4	15.2	15	7.3	13.1	15	2.6	4.7	15
	1	208-230/1/60	197/253	1	15.4	83.9	6.0	0.75	21.4	25.3	40.7	40	19.3	34.7	30	7.5	13.5	15
	3	208-230/3/60	197/253	1	10.4	73	6.0	0.75	16.4	19.0	29.4	25	13.0	23.4	20	7.5	13.5	15
	4	460/3/60	414/506	1	5.8	38	3.2	0.75	9.0	10.5	16.3	15	7.3	13.1	15	4.0	7.2	15
LV042	1	208-230/1/60	197/253	1	16.7	109	6.0	0.75	22.7	26.9	43.6	40	20.9	37.6	35	7.5	13.5	15
	3	208-230/3/60	197/253	1	11.2	84	6.0	0.75	17.2	20.0	31.2	30	14.0	25.2	25	7.5	13.5	15
	4	460/3/60	414/506	1	5.6	44	3.2	0.75	8.8	10.2	15.8	15	7.0	12.6	15	4.0	7.2	15
LV048	1	208-230/1/60	197/253	1	19.6	130	6.0	0.75	25.6	30.5	50.1	50	24.5	44.1	40	7.5	13.5	15
	3	208-230/3/60	197/253	1	13.7	83.1	6.0	0.75	19.7	23.1	36.8	35	17.1	30.8	30	7.5	13.5	15
	4	460/3/60	414/506	1	6.2	41	3.2	0.75	9.4	11.0	17.2	15	7.8	14.0	15	4.0	7.2	15
LV060	1	208-230/1/60	197/253	1	26.3	145	7.6	1.00	33.9	40.5	66.8	60	32.9	59.2	50	9.5	17.1	15
	3	208-230/3/60	197/253	1	15.6	123	7.6	1.00	23.2	27.1	42.7	40	19.5	35.1	35	9.5	17.1	15
	4	460/3/60	414/506	1	7.8	70	4.0	1.00	11.8	13.8	21.6	20	9.8	17.6	15	5.0	9.0	15
LV070	1	208-230/1/60	197/253	1	28.3	158	7.6	1.00	35.9	43.0	71.3	70	35.4	63.7	60	9.5	17.1	15
	3	208-230/3/60	197/253	1	19.2	155	7.6	1.00	26.8	31.6	50.8	50	24.0	43.2	40	9.5	17.1	15
	4	460/3/60	414/506	1	8.7	75	4.0	1.00	12.7	14.9	23.6	20	10.9	19.6	15	5.0	9.0	15

* with Overload Relay (OLR) option
 ** without Overload Relay (OLR) option

LV Model Series - Commercial Water Source Heat Pumps



Electrical Data - ECM EON Constant CFM Blower Motor																			
Model	Voltage Code	Voltage/ Hz/ Phase	Voltage Min/Max	Compressor			Blower Motor			Single Point Power			Dual Point Power						
				Qty	RLA	LRA	FLA	HP	Total Unit FLA	Min. Circuit Amps	MOP CALC	MOP	Compressor Circuit			Blower Motor Circuit			
													Min. Circuit Amps	MOP CALC	MOP	Min. Circuit Amps	MOP CALC	MOP	
LV015	1	208-230/1/60	197/253	1	5.6	29	2.8	0.33	8.4	9.8	15.4	15	7.0	12.6	15	3.5	6.3	15	
	2	265/1/60	238/292	1	4.6	20	2.6	0.33	7.2	8.4	13.0	15	5.8	10.4	15	3.3	5.9	15	
LV018	1	208-230/1/60	197/253	1	7.4	33	2.8	0.33	10.2	12.1	19.5	15	9.3	16.7	15	3.5	6.3	15	
	2	265/1/60	238/292	1	6	28	2.6	0.33	8.6	10.1	16.1	15	7.5	13.5	15	3.3	5.9	15	
LV024	1	208-230/1/60	197/253	1	13.5	58.3	2.8	0.33	16.3	19.7	33.2	30	16.9	30.4	30	3.5	6.3	15	
	2	265/1/60	238/292	1	9	54	2.6	0.33	11.6	13.9	22.9	20	11.3	20.3	20	3.3	5.9	15	
	3	208-230/3/60	197/253	1	7.1	55.4	2.8	0.33	9.9	11.7	18.8	15	8.9	16.0	15	3.5	6.3	15	
	4	460/3/60	414/506	1	3.5	28	2.6	0.33	6.1	7.0	10.5	15	4.4	7.9	15	3.3	5.9	15	
LV030	1	208-230/1/60	197/253	1	12.8	64	2.8	0.33	15.6	18.8	31.6	30	16.0	28.8	25	3.5	6.3	15	
	2	265/1/60	238/292	1	10.9	60	2.6	0.33	13.5	16.2	27.1	25	13.6	24.5	20	3.3	5.9	15	
	3	208-230/3/60	197/253	1	8.3	58	2.8	0.33	11.1	13.2	21.5	20	10.4	18.7	15	3.5	6.3	15	
	4	460/3/60	414/506	1	5.1	28	2.6	0.33	7.7	9.0	14.1	15	6.4	11.5	15	3.3	5.9	15	
LV036	1*	208-230/1/60	197/253	1	15.2	79	4.3	0.50	19.5	23.3	38.5	35	19.0	34.2	30	5.4	9.7	15	
	1**	208-230/1/60	197/253	1	16.7	79	4.3	0.50	21.0	25.2	41.9	40	20.9	37.6	35	5.4	9.7	15	
	2*	265/1/60	238/292	1	11.6	72	4.1	0.50	15.7	18.6	30.2	30	14.5	26.1	25	5.1	9.2	15	
	2**	265/1/60	238/292	1	13.5	72	4.1	0.50	17.6	21.0	34.5	30	16.9	30.4	30	5.1	9.2	15	
	3	208-230/3/60	197/253	1	10.4	73	4.3	0.50	14.7	17.3	27.7	25	13.0	23.4	20	5.4	9.7	15	
	4	460/3/60	414/506	1	5.8	38	4.1	0.50	9.9	11.4	17.2	15	7.3	13.1	15	5.1	9.2	15	
LV041	1	208-230/1/60	197/253	1	15.4	83.9	6.8	0.75	22.2	26.1	41.5	40	19.3	34.7	30	8.5	15.3	15	
	3	208-230/3/60	197/253	1	10.4	73	6.8	0.75	17.2	19.8	30.2	30	13.0	23.4	20	8.5	15.3	15	
	4	460/3/60	414/506	1	5.8	38	5.5	0.75	11.3	12.8	18.6	15	7.3	13.1	15	6.9	12.4	15	
LV042	1	208-230/1/60	197/253	1	16.7	109	6.8	0.75	23.5	27.7	44.4	40	20.9	37.6	35	8.5	15.3	15	
	3	208-230/3/60	197/253	1	11.2	84	6.8	0.75	18.0	20.8	32.0	30	14.0	25.2	25	8.5	15.3	15	
	4	460/3/60	414/506	1	5.6	44	5.5	0.75	11.1	12.5	18.1	15	7.0	12.6	15	6.9	12.4	15	
LV048	1	208-230/1/60	197/253	1	19.6	130	6.8	0.75	26.4	31.3	50.9	50	24.5	44.1	40	8.5	15.3	15	
	3	208-230/3/60	197/253	1	13.7	83.1	6.8	0.75	20.5	23.9	37.6	35	17.1	30.8	30	8.5	15.3	15	
	4	460/3/60	414/506	1	6.2	41	5.5	0.75	11.7	13.3	19.5	15	7.8	14.0	15	6.9	12.4	15	
LV060	1	208-230/1/60	197/253	1	26.3	145	9.1	1.00	35.4	42.0	68.3	60	32.9	59.2	50	11.4	20.5	20	
	3	208-230/3/60	197/253	1	15.6	123	9.1	1.00	24.7	28.6	44.2	40	19.5	35.1	35	11.4	20.5	20	
	4	460/3/60	414/506	1	7.8	70	6.9	1.00	14.7	16.7	24.5	20	9.8	17.6	15	8.6	15.5	15	
LV070	1	208-230/1/60	197/253	1	28.3	158	9.1	1.00	37.4	44.5	72.8	70	35.4	63.7	60	11.4	20.5	20	
	3	208-230/3/60	197/253	1	19.2	155	9.1	1.00	28.3	33.1	52.3	50	24.0	43.2	40	11.4	20.5	20	
	4	460/3/60	414/506	1	8.7	75	6.9	1.00	15.6	17.8	26.5	25	10.9	19.6	15	8.6	15.5	15	

* with Overload Relay (OLR) option
 ** without Overload Relay (OLR) option

LV Model Series - Commercial Water Source Heat Pumps



Blower Performance CFM (PSC Standard Motor Blower)														
Model	Motor Speed	Rated Airflow	Available External Static Pressure (in. wc. Wet coil and filter included)											
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
LV007	Low		370	340	295	250	-	-	-	-	-	-	-	-
	Med	300	390	360	330	300	260	-	-	-	-	-	-	-
	Hi		410	380	350	315	280	210	-	-	-	-	-	-
LV009	Low		370	340	295	250	-	-	-	-	-	-	-	-
	Med		390	360	330	300	260	-	-	-	-	-	-	-
	Hi	350	410	380	350	315	280	210	-	-	-	-	-	-
LV012	Low		300	290	290	300	-	-	-	-	-	-	-	-
	Med		380	380	360	330	290	-	-	-	-	-	-	-
	Hi	400	420	400	380	360	340	320	-	-	-	-	-	-
LV015	Low		500	450	400	-	-	-	-	-	-	-	-	-
	Med		560	520	480	430	400	-	-	-	-	-	-	-
	Hi	500	700	650	600	550	500	450	400	-	-	-	-	-
LV018	Low		630	590	560	-	-	-	-	-	-	-	-	-
	Med	600	810	790	760	730	680	590	-	-	-	-	-	-
	Hi		1010	970	920	870	800	680	530	-	-	-	-	-
LV024	Low		740	730	700	660	610	-	-	-	-	-	-	-
	Med		830	810	770	730	680	620	-	-	-	-	-	-
	Hi	800	1000	950	900	830	750	690	630	-	-	-	-	-
LV030	Low		740	730	700	660	610	-	-	-	-	-	-	-
	Med		830	810	770	730	680	620	-	-	-	-	-	-
	Hi	950	1000	950	900	830	750	690	630	-	-	-	-	-
LV036	Low		1290	1250	1200	1150	1080	1000	-	-	-	-	-	-
	Med		1410	1350	1290	1220	1150	1060	900	-	-	-	-	-
	Hi	1200	1500	1440	1370	1290	1210	1120	1000	900	-	-	-	-
LV041	Low		950	900	840	780	720	700	-	-	-	-	-	-
	Med		1200	1140	1080	1010	930	870	820	-	-	-	-	-
	Hi	1250	1490	1400	1320	1240	1160	1080	990	910	-	-	-	-
LV042	Low		1210	1210	1190	1160	1120	1080	-	-	-	-	-	-
	Med		1460	1450	1430	1390	1330	1250	1160	-	-	-	-	-
	Hi	1400	1750	1710	1670	1620	1560	1460	1330	1210	1080	-	-	-
LV048 208/230V	Low		1450	1440	1420	1400	1360	1320	-	-	-	-	-	-
	Med		1700	1670	1630	1580	1530	1470	1400	-	-	-	-	-
	Hi	1600	1930	1870	1810	1740	1670	1600	1520	1430	1340	-	-	-
LV048 460V	Low		1886	1853	1818	1773	1724	1654	1562	1481	1386	1299	883	-
	Med		2029	1993	1946	1897	1837	1763	1662	1564	1460	1360	1254	-
	Hi	1600	2225	2170	2105	2032	1961	1885	1793	1666	1541	1435	1298	-
LV060	Low		1560	1550	1540	1530	1505	1475	1440	1400	-	-	-	-
	Med		1890	1880	1870	1860	1825	1790	1730	1670	1590	1500	-	-
	Hi	2000	2220	2200	2150	2100	2050	2000	1940	1870	1800	1700	1590	-
LV070	Low		1570	1560	1550	1540	1530	1505	1475	1440	1400	-	-	-
	Med		1900	1890	1880	1870	1860	1825	1790	1730	1670	1590	1500	-
	Hi	2100	2240	2220	2200	2150	2100	2050	2000	1940	1870	1800	1700	1590

LV Model Series - Commercial Water Source Heat Pumps



Blower Performance CFM (Constant Torque)														
Model	Tap #	Rated Airflow	Available External Static Pressure (in. wc. Wet coil and filter included)											
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
LV015	1		480	440	410	370	340	-	-	-	-	-	-	-
	2		530	490	450	420	380	340	-	-	-	-	-	-
	3	500	600	560	510	470	440	410	370	-	-	-	-	-
	4		650	600	560	520	500	480	440	380	-	-	-	-
	5		710	660	620	580	550	520	490	470	-	-	-	-
LV018	1		630	590	560	530	490	-	-	-	-	-	-	-
	2	650	720	700	670	630	600	560	-	-	-	-	-	-
	3		790	770	750	710	670	620	560	-	-	-	-	-
	4		910	890	850	810	740	670	590	520	-	-	-	-
	5		1010	970	920	860	810	750	660	530	-	-	-	-
LV024	1		620	600	570	540	490	-	-	-	-	-	-	-
	2		730	710	670	640	610	550	-	-	-	-	-	-
	3		820	790	760	740	710	670	630	-	-	-	-	-
	4	850	940	910	880	850	800	740	660	-	-	-	-	-
	5		1070	1010	950	900	840	760	670	-	-	-	-	-
LV030	1		620	600	570	540	490	-	-	-	-	-	-	-
	2		730	710	670	640	610	550	-	-	-	-	-	-
	3		820	790	760	740	710	670	630	-	-	-	-	-
	4		940	910	880	850	800	740	660	-	-	-	-	-
	5	950	1070	1010	950	900	840	760	670	-	-	-	-	-
LV036	1		1120	1090	1055	1030	1000	-	-	-	-	-	-	-
	2		1260	1230	1200	1170	1140	1080	-	-	-	-	-	-
	3	1200	1330	1290	1250	1210	1170	1100	1030	-	-	-	-	-
	4		1400	1360	1310	1250	1190	1120	1040	960	-	-	-	-
	5		1470	1420	1360	1290	1220	1140	1050	970	890	-	-	-
LV041	1		840	770	700	620	-	-	-	-	-	-	-	-
	2		1220	1150	1080	1010	950	-	-	-	-	-	-	-
	3		1430	1360	1280	1200	1130	1080	-	-	-	-	-	-
	4	1250	1540	1460	1380	1300	1220	1140	1060	-	-	-	-	-
	5		1620	1550	1470	1370	1260	1180	1090	1000	-	-	-	-
LV042	1		1270	1250	1230	1210	-	-	-	-	-	-	-	-
	2	1400	1440	1420	1410	1410	1400	1380	1340	-	-	-	-	-
	3		1540	1530	1510	1500	1490	1470	1430	1350	-	-	-	-
	4		1650	1630	1610	1600	1580	1530	1460	1360	1240	-	-	-
	5		1730	1720	1700	1670	1620	1570	1490	1380	1260	1100	-	-
LV048	1		1390	1370	1350	1320	-	-	-	-	-	-	-	-
	2		1600	1580	1550	1530	1510	-	-	-	-	-	-	-
	3	1600	1730	1700	1670	1650	1630	1600	1580	1540	-	-	-	-
	4		1830	1810	1780	1760	1740	1710	1670	1600	1520	-	-	-
	5		1930	1910	1880	1860	1830	1780	1720	1640	1540	1420	-	-
LV060	1		1900	1880	1860	1820	-	-	-	-	-	-	-	-
	2		2000	1970	1950	1920	1890	1860	-	-	-	-	-	-
	3	2000	2110	2090	2060	2030	2010	1970	1940	1910	1880	-	-	-
	4		2220	2200	2170	2140	2110	2080	2050	2060	2050	2000	1920	-
	5		2340	2320	2290	2260	2230	2210	2180	2150	2110	2070	2000	1930
LV070	1		2050	2010	1970	1930	-	-	-	-	-	-	-	-
	2		2150	2120	2080	2030	1990	1960	-	-	-	-	-	-
	3	2100	2270	2230	2200	2160	2120	2080	2040	2010	1980	-	-	-
	4		2390	2350	2320	2280	2250	2200	2160	2130	2100	2070	2030	-
	5		2520	2480	2450	2420	2380	2330	2290	2260	2220	2170	2100	2020

LV Model Series - Commercial Water Source Heat Pumps



BOSCH

Blower Performance CFM (Constant Airflow)															
Model	Fan Speed	Rated Airflow	Available External Static Pressure (in. wc. Wet coil and filter included)												
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	
LV015	A - Low	500	450	450	450	450	450	450	450	440	440	430	-	-	
	A - Normal		500	500	500	500	500	500	500	480	470	460	-	-	
	A - Hi		580	580	580	580	580	580	580	570	560	550	-	-	
LV018	B - Low	650	550	540	540	540	540	540	540	530	520	500	-	-	
	B - Normal		650	650	650	650	650	650	640	630	610	590	-	-	
	B - Hi		750	750	750	750	750	750	740	730	710	690	-	-	
LV024	C - Low	850	720	720	720	720	720	720	720	700	650	560	-	-	
	C - Normal		850	850	850	850	850	850	850	850	800	700	-	-	
	C - Hi		960	960	960	960	960	960	960	960	960	880	790	-	-
LV030	D - Low	950	810	810	810	810	810	810	810	770	720	650	-	-	
	D - Normal		950	950	950	950	950	950	950	900	850	780	-	-	
			980	980	980	980	980	980	980	980	950	900	820	-	-
LV036	A - Low	1200	1020	1020	1020	1020	1020	1020	1000	990	960	930	-	-	
	A - Normal		1200	1200	1200	1200	1200	1200	1180	1160	1130	1090	-	-	
	A - Hi		1380	1380	1380	1380	1380	1380	1380	1360	1330	1300	1250	-	-
LV041	A - Low	1250	1100	1100	1100	1100	1100	1090	1070	1050	1020	990	-	-	
	A - Normal		1280	1280	1280	1280	1280	1280	1260	1240	1220	1180	1140	-	-
	A - Hi		1300	1300	1300	1300	1300	1300	1280	1260	1240	1200	1160	-	-
LV042	B - Low	1400	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	-	
	B - Normal		1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	-	
	B - Hi		1630	1630	1630	1630	1630	1630	1630	1630	1630	1630	1630	-	
LV048	A - Low	1600	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	-	
	A - Normal		1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	-	
	A - Hi		1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	-	
LV060	A - Low	2000	1700	1700	1700	1700	1700	1700	1700	1700	1700	1690	1690	1680	
	A - Normal		2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1980	1980	1980
	A - Hi		2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2130	2100	2070
LV070	B - Low	2200	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
	B - Normal		2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
			2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330

i Air flow is 70% of tabulated values during fan only operation. Air flow is 85% of tabulated value during passive dehumidification mode when enabled.

LV Model Series - Commercial Water Source Heat Pumps



BOSCH

Physical Data								
Description	LV042		LV048		LV060		LV070	
	Cu	CuNi	Cu	CuNi	Cu	CuNi	Cu	CuNi
Compressor Type (Qty 1)	Scroll		Scroll		Scroll		Scroll	
Max Water Working Pressure (PSIG/kPa)	400		400		400		400	
PSC Fan Motor & Blower								
Fan Motor Type/Speeds	PSC/3		PSC/3		PSC/3		PSC/3	
Fan Motor	0.5		0.75		0.75		0.75	
Blower Wheel Size	10x8		10x8		10x9		11x9	
ECM Fan Motor & Blower								
Fan Motor Type/Speeds	X13 / EON		X13 / EON		X13 / EON		X13 / EON	
Fan Motor (HP)	0.75		0.75		1.00		1.00	
Blower Wheel Size (Dia. x W)	10x8		10x8		11x9		11x9	
Water Connection Size								
FPT	0.75		1		1		1	
Coaxial Coil Volume	0.27		0.49		0.62		0.62	
Vertical Cabinet								
Refrigeration Charge (oz)	47		52		59		64	
Air Coil Dimensions (H x W)	24x20.2		24x26.75		24x26.75		32x26.2	
Standard Filter - 1" Throwaway (L x H)	24x24		24x30		24x30		16x30 @2	
Optional Filter - 2" MERV 8 or 13 Throwaway (L x H)	24x24		24x30		24x30		16x30 @2	
Weight - Operating (lbs)	239		287		307		336	
Weight - Shipping (lbs)	265		312		331		360	
Horizontal Cabinet								
Refrigeration Charge (oz)	43	42	51		70.00		61	
Air Coil Dimensions (H x W)	18x27.5		20x32		20x32		20x42	
Standard Filter - 1" Throwaway (L x H)	18x30		20x34.5		20x34.5		20x24 @2	
Optional Filter - 2" MERV 8 or 13 Throwaway (L x H)	18x30		20x34.5		20x34.5		20x24 @2	
Weight - Operating (lbs)	231		274		288		316	
Weight - Shipping (lbs)	264		299		318		365	

LV Model Series - Commercial Water Source Heat Pumps



Horizontal Cabinet Corner Weights										
Configuration			Left Hand Evaporator				Right Hand Evaporator			
Model	Unit	Total	Left Front*	Right Front*	Left Back	Right Back	Left Front*	Right Front*	Left Back	Right Back
LV007	Lbs	98	28	21	25	24	21	28	24	25
	kg	45	13	10	11	11	10	13	11	11
LV009	Lbs	103	29	23	26	25	23	29	25	26
	kg	47	13	10	12	11	10	13	11	12
LV012	Lbs	105	29	24	26	26	24	29	26	26
	kg	48	13	11	12	12	11	13	12	12
LV015	Lbs	127	36	28	34	29	28	36	29	34
	kg	58	16	13	15	13	13	16	13	15
LV018	Lbs	177	57	36	48	37	36	57	37	48
	kg	80	26	16	22	17	16	26	17	22
LV024	Lbs	181	58	37	48	38	37	58	38	48
	kg	82	26	17	22	17	17	26	17	22
LV030	Lbs	194	61	41	52	41	41	61	41	52
	kg	88	28	18	23	19	18	28	19	23
LV036	Lbs	237	71	49	66	52	49	71	52	66
	kg	108	32	22	30	24	22	32	24	30
LV042	Lbs	231	70	47	64	50	47	70	50	64
	kg	105	32	21	29	23	21	32	23	29
LV048	Lbs	268	87	60	62	60	60	87	60	62
	kg	122	39	27	28	27	27	39	27	28
LV060	Lbs	288	88	65	69	66	65	88	66	69
	kg	131	40	29	31	30	29	40	30	31
LV072	Lbs	316	98	72	76	70	72	98	70	76
	kg	143	44	32	35	32	32	44	32	35

*Front is control box end