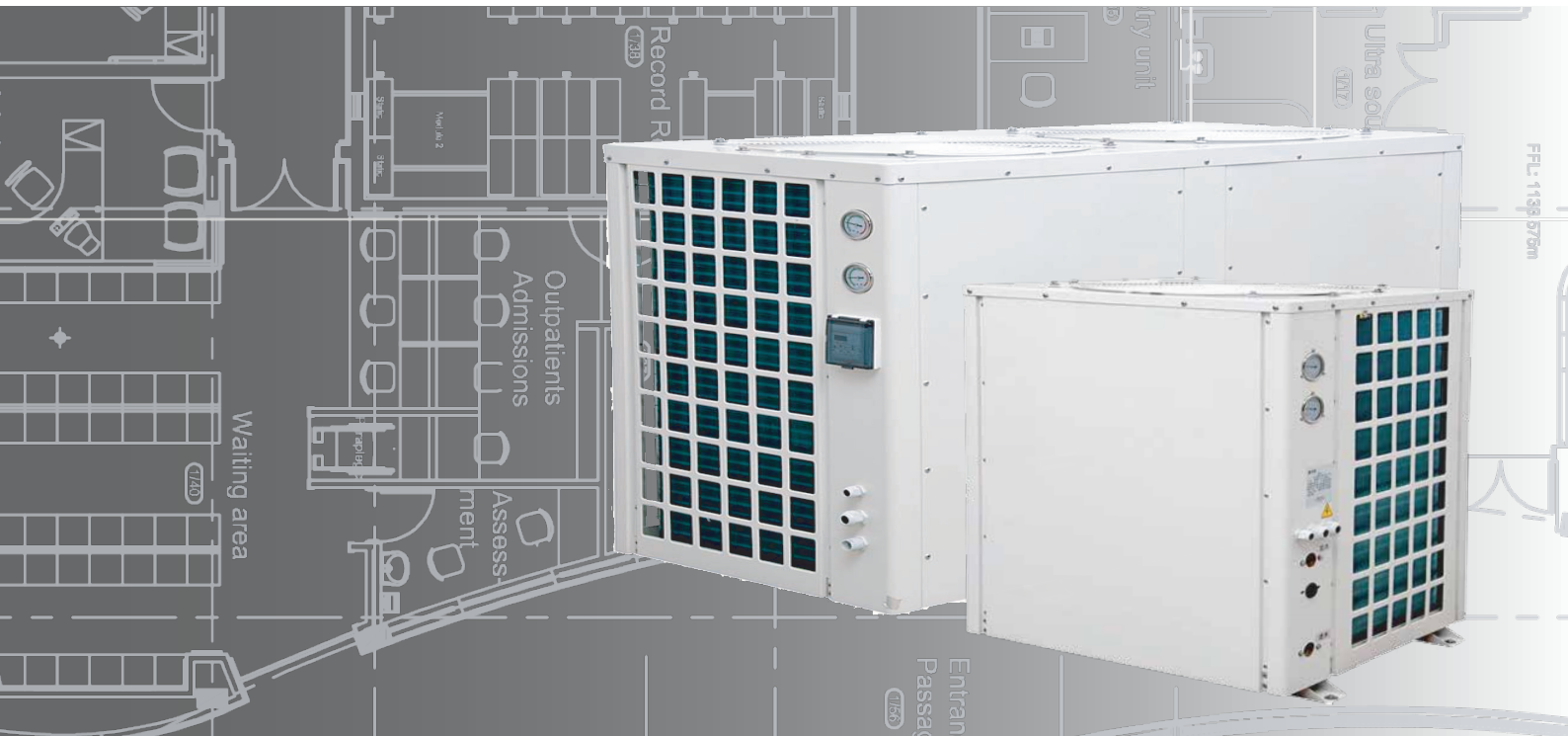


THERMOWISE HIGH TEMPERATURE RANGE
Air to Water Heat Pumps



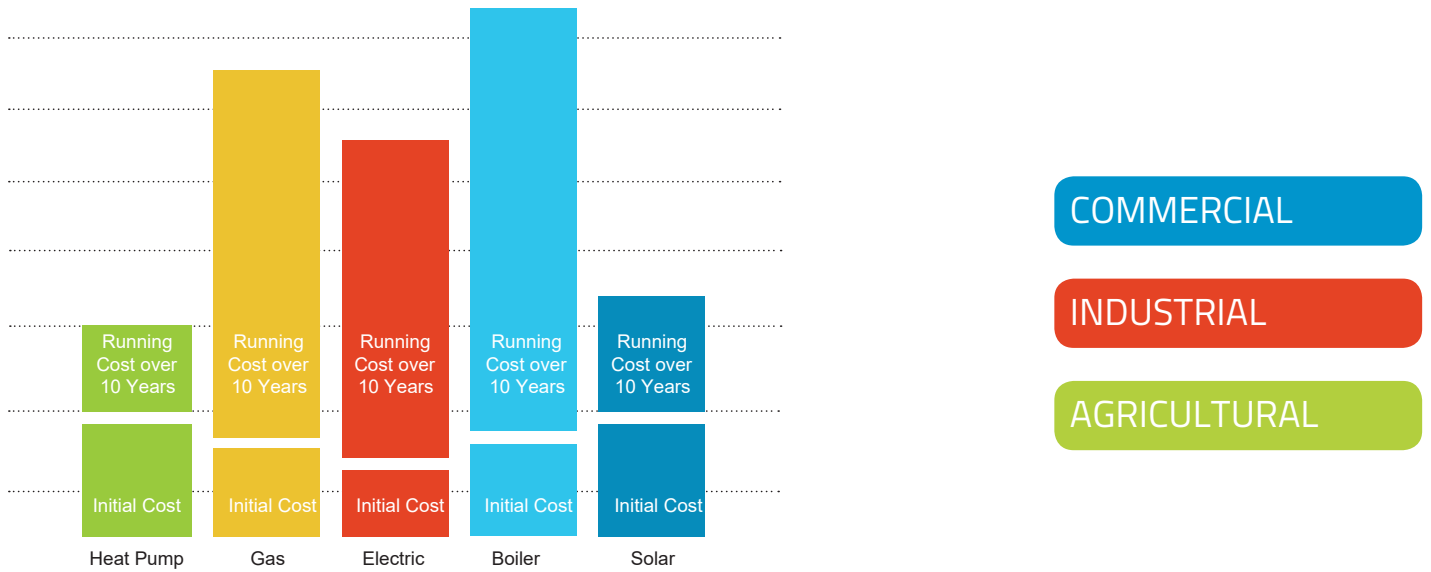
VISSMANN GROUP

AIR TO WATER HEAT PUMPS HIGH TEMPERATURE 75° C RANGE SPECIFICATION SHEET

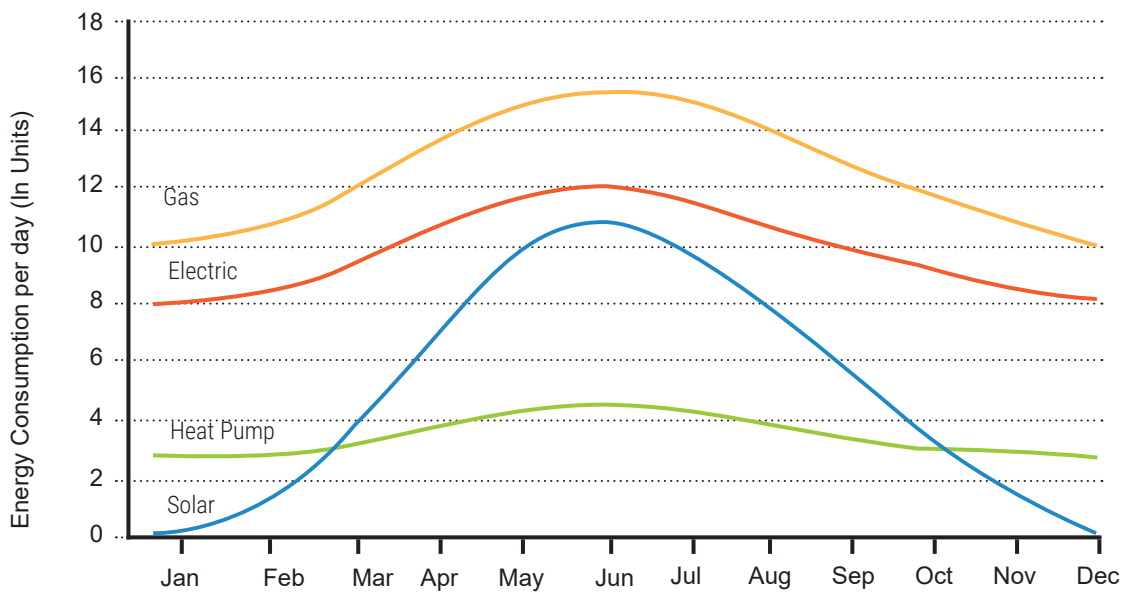


ENERGY EFFICIENT MECHANICAL TURNKEY SOLUTIONS

ThermoWise Life Cycle Costing Study.



ThermoWise Energy Use Consumption.



ENERGY EFFICIENT MECHANICAL
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 SHAKASRAAL, 4430

GAUTENG OFFICE

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 TEL +27 11 450 1418 FAX +27 86 602 0311
 88 DRIEHOEK ROAD, GERMISTON 1401,
 JOHANNESBURG

P O BOX 6980, ZIMBALI 4418, SOUTH AFRICA
 info@thermowise.co.za / www.thermowise.co.za



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COMMERCIAL

INDUSTRIAL

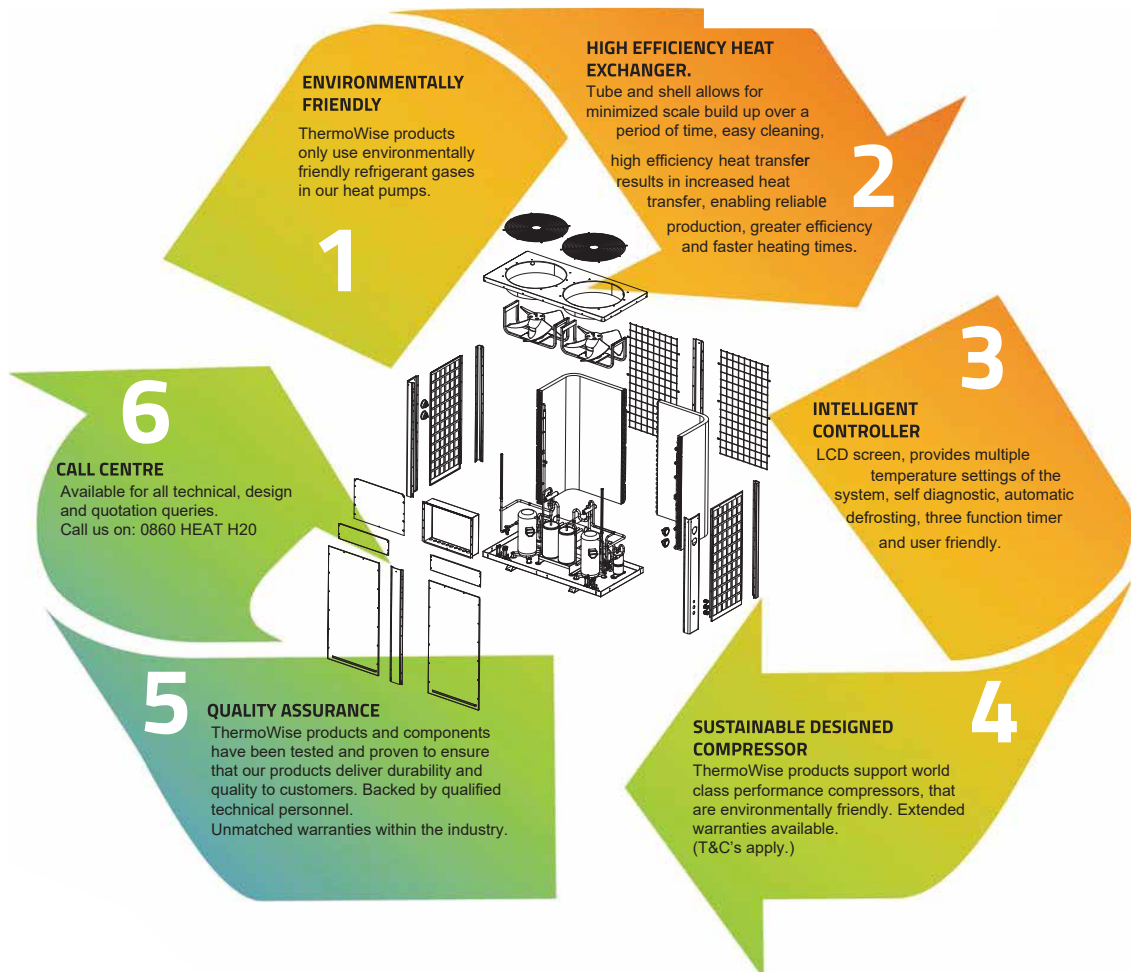
AGRICULTURAL





WHY THERMOWISE AIR TO WATER HEAT PUMPS are the preferred choice within the market place!

As part of one of the world's largest heat pump manufacturing groups, ThermoWise delivers products that are innovative, reliable and durable, and produced to the highest standards.





HIGH TEMPERATURE RANGE

13.5kW - MODEL: HKRS - 140E/SN3-M_____	Page 4
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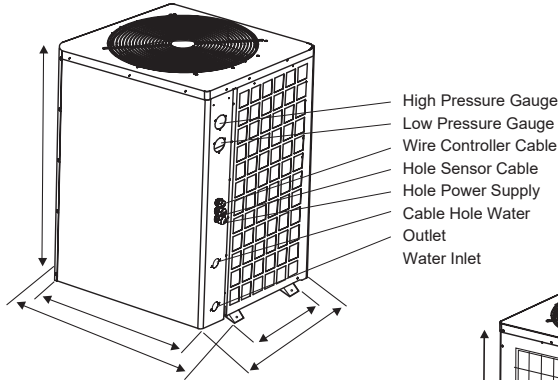


AIR TO WATER HEAT PUMP

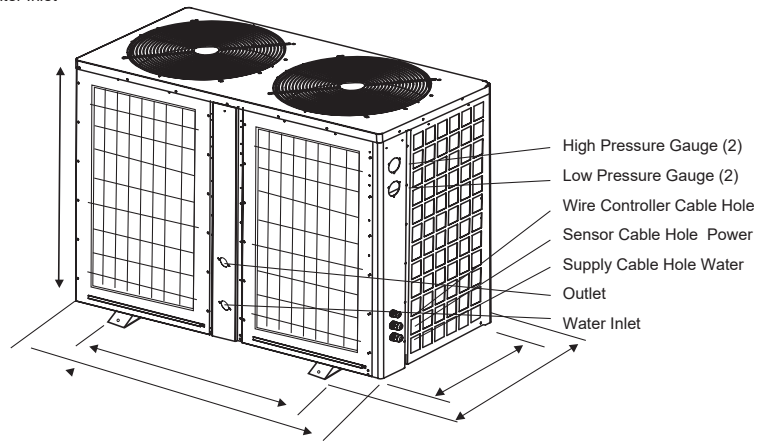
DIMENSIONAL DATA

HIGH TEMPERATURE RANGE

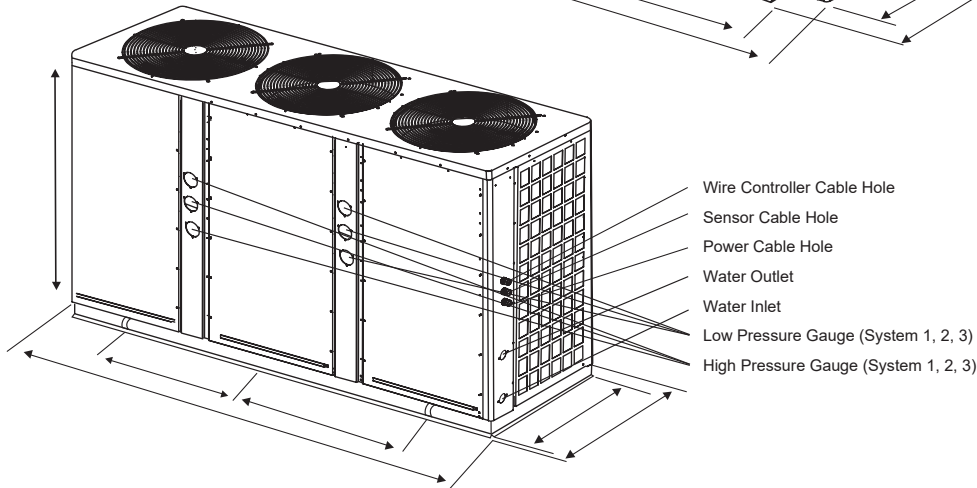
HKRS-140E/SN3-M



HKRS-160E/SN3-M / 2 60E/SN3-M / 310E/SN3-M



HKRS-390E/SN3-M / 450E/SN3-M



Model	Length (mm)	Wide (mm)	Height (mm)
HKRS-140E/SN3-M	752	690	965
HKRS-210E/SN3-M	752	690	965
HKRS-270E/SN3-M	1450	702	1060
HKRS-310E/SN3-M	1450	702	1260
HKRS-390E/SN3-M	2150	765	1290
HKRS-450E/SN3-M	2150	765	1290
HKRS-600E/SN3-V	2000	980	1910
HKRS-680E/SN3-V	2000	980	1910

THERMOWISE HIGH TEMPERATURE RANGE

Air to Water Heat Pumps



INPUT 3.63kW / OUTPUT 13.5kW

MODEL NO: HKRS - 140E/SN3-M

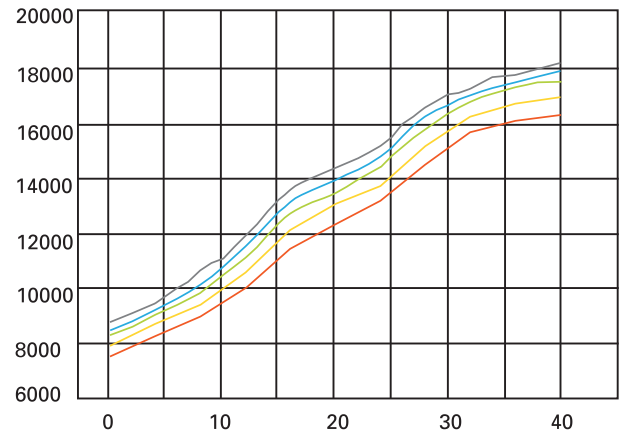
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-5°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	13.5
	Input	kW	3.63
	CoP		3.72
	Rated current	A	6.25
Max. input consumption		kW	5.44
Max. input current		A	9.37
Starting current		A	52

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	1
	Thermal protector		Inner
Fan motor	Speed	r/min	800/500
	Air flow	m³/h	7000
	Quantity		1
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	19
	Quantity		1
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ9.52 inner groove tube
Throttling element	Type		Thermostatic expansion valve
	Brand		Emerson
Wire controller	Type		Intelligent & LCD
	The length of control cable	m	12
	Set temp.	°C	25 - 70
Water system	Materials of water pipe		Copper
	Water flow	m³/h	2.9
	Water different pressure	kPa	50
	Diameter, water inlet pipe	mm	DN25
	Diameter, water outlet pipe	mm	DN25
Refrigerant			R134A
Design pressure		MPa	2.7/0.02
Outdoor noise level		dB(A)	57
Dimensions	Dimension(L*W*H)	mm	752*690*965
	Packing(L*W*H)	mm	840*750*1100
	NG/WG	kg	119/137

INPUT 3.63kW / OUTPUT 13.5kW

MODEL NO: HKRS - 140E/SN3-M

Heating Capacity Curves Ambient Temp. (°C)

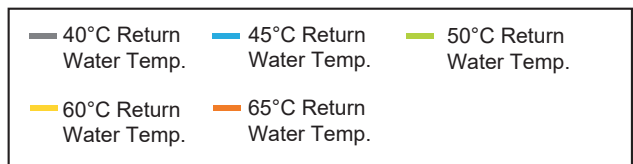
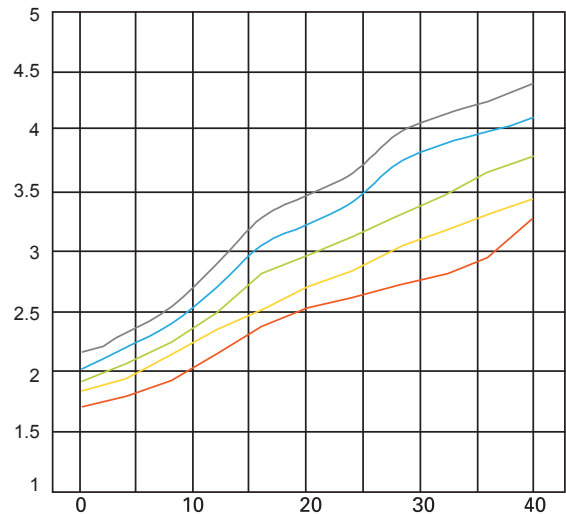


INPUT 3.63kW / OUTPUT 13.5kW

MODEL NO: HKRS - 140E/SN3-M

COP Curves

Ambient Temp. (°C)



THERMOWISE HIGH TEMPERATURE RANGE

Air to Water Heat Pumps

INPUT 4.31kW / OUTPUT 16kW

MODEL NO: HKRS - 160E/SN3-M

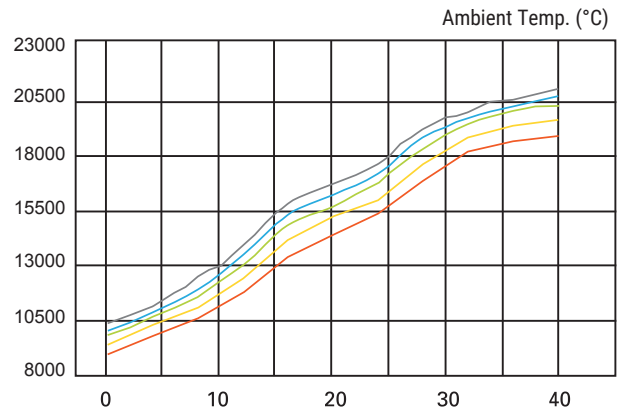
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-15°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	16
	Input	kW	4.31
	CoP		3.71
	Rated current	A	7.43
Max. input consumption		kW	6.47
Max. input current		A	11.14
Starting current		A	51

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	1
	Thermal protector		Inner
Fan motor	Speed	r/min	800/500
	Air flow	m³/h	7000
	Quantity		1
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	19
	Quantity		1
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ9.52 inner grove tube
Throttling element	Type		Thermostatic expansion valve
	Brand		Emerson
Wire controller	Type		Intelligent & LCD
	The length of control cable	m	12
	Set temp.	°C	25 - 70
Water system	Materials of water pipe		Copper
	Water flow	m³/h	3.1
	Water different pressure	kPa	50
	Diameter, water inlet pipe	mm	DN25
	Diameter, water outlet pipe	mm	DN25
Refrigerant			R134A
Design pressure		MPa	2.7/0.02
Outdoor noise level		dB(A)	58
Dimensions	Dimension(L*W*H)	mm	752*690*965
	Packing(L*W*H)	mm	840*750*1100
	NG/WG	kg	130/145

INPUT 4.31kW / OUTPUT 16kW

MODEL NO: HKRS - 160E/SN3-M

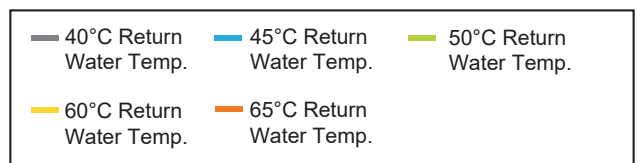
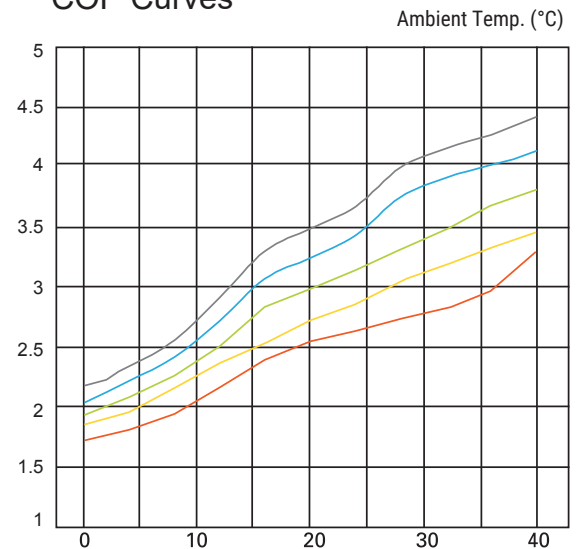
Heating Capacity Curves



INPUT 4.31kW / OUTPUT 16kW

MODEL NO: HKRS - 160E/SN3-M

COP Curves



INPUT 7.5kW / OUTPUT 26kW MODEL

NO: HKRS - 260E/SN3-M

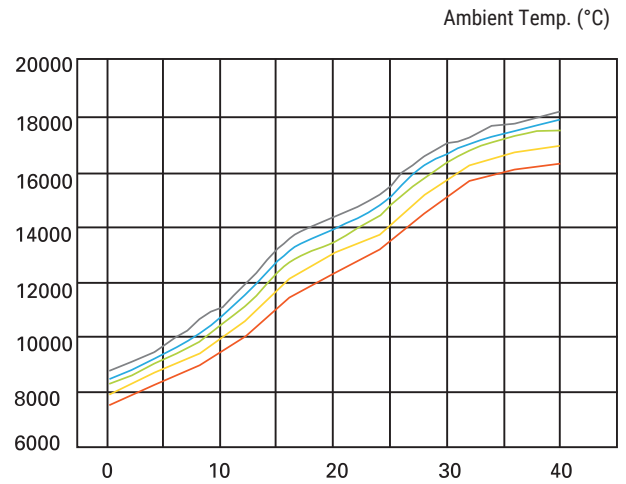
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	2°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	26
	Input	kW	7.5
	CoP		3.47
	Rated current	A	12.91
Max. input consumption		kW	11.25
Max. input current		A	19.37
Starting current		A	65

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	2
	Thermal protector		Inner
Fan motor	Speed	r/min	800/500
	Air flow	m³/h	7000
	Quantity		2
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	19
	Quantity		2
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ9.52 inner groove tube
Throttling element	Type		Thermostatic expansion valve
	Brand		Emerson
Wire controller	Type		Intelligent & LCD
	The length of control cable	m	12
	Set temp.	°C	30-75
Water system	Materials of water pipe		Copper
	Water flow	m³/h	5.6
	Water different pressure	kPa	55
	Diameter, water inlet pipe	mm	DN40
	Diameter, water outlet pipe	mm	DN40
Refrigerant			R134A
Design pressure		MPa	2.8/0.02
Outdoor noise level		dB(A)	60
Dimensions	Dimension(L*W*H)	mm	1450*702*1060
	Packing(L*W*H)	mm	1525*805*1220
	NG/WG	kg	249/294

INPUT 7.5kW / OUTPUT 26kW

MODEL NO: HKRS - 260E/SN3-M

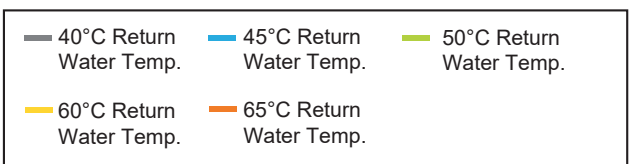
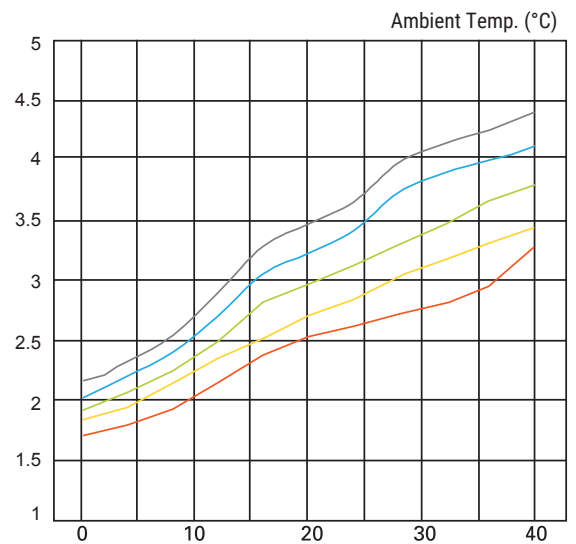
Heating Capacity Curves



INPUT 7.5kW / OUTPUT 26kW

MODEL NO: HKRS - 260E/SN3-M

COP Curves



THERMOWISE HIGH TEMPERATURE RANGE

Air to Water Heat Pumps

INPUT 8.38kW / OUTPUT 31kW MODEL

NO: HKRS - 310E/SN3-M

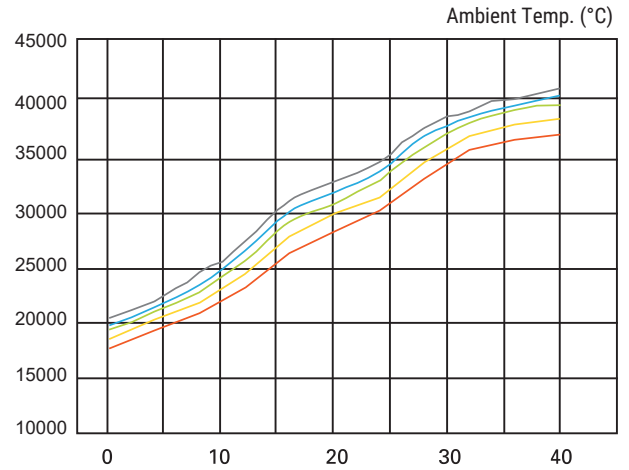
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-5°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	31
	Input	kW	8.38
	CoP		3.70
	Rated current	A	14.43
Max. input consumption		kW	12.57
Max. input current		A	21.64
Starting current		A	67

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	2
	Thermal protector		Inner
Fan motor	Speed	r/min	800/500
	Air flow	m³/h	7000
	Quantity		2
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	19
	Quantity		2
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	ø 9.52 inner grove tube
Throttling element	Type		Thermostatic expansion valve
	Brand		Emerson
Wire controller	Type		Intelligent & LCD
	The length of control cable	m	12
	Set temp.	°C	25 - 70
Water system	Materials of water pipe		Copper
	Water flow	m³/h	6.7
	Water different pressure	kPa	55
	Diameter, water inlet pipe	mm	DN40
	Diameter, water outlet pipe	mm	DN40
Refrigerant			R134A
Design pressure		MPa	2.7/0.02
Outdoor noise level		dB(A)	61
Dimensions	Dimension(L*W*H)	mm	1450*702*1260
	Packing(L*W*H)	mm	1525*805*1420
	NG/WG	kg	268/316

INPUT 8.38kW / OUTPUT 31kW

MODEL NO: HKRS - 310E/SN3-M

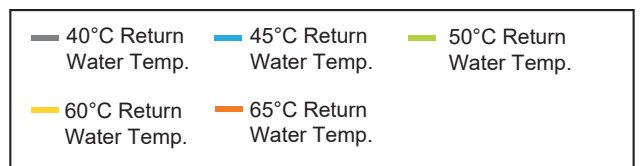
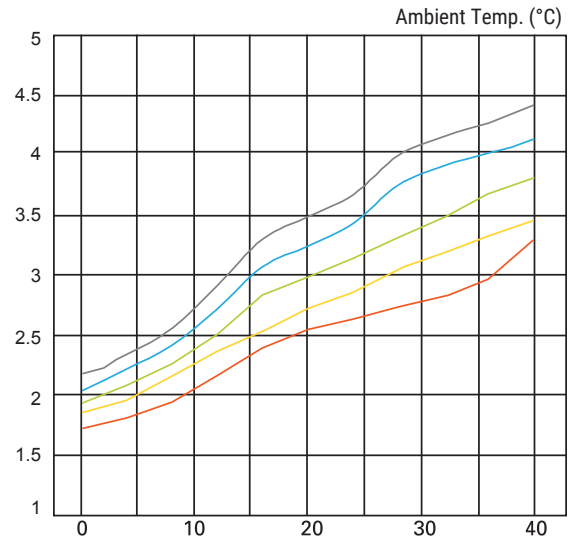
Heating Capacity Curves



INPUT 8.38kW / OUTPUT 31kW

MODEL NO: HKRS - 310E/SN3-M

COP Curves



INPUT 10.46kW / OUTPUT 39kW

MODEL NO: HKRS - 390E/SN3-M

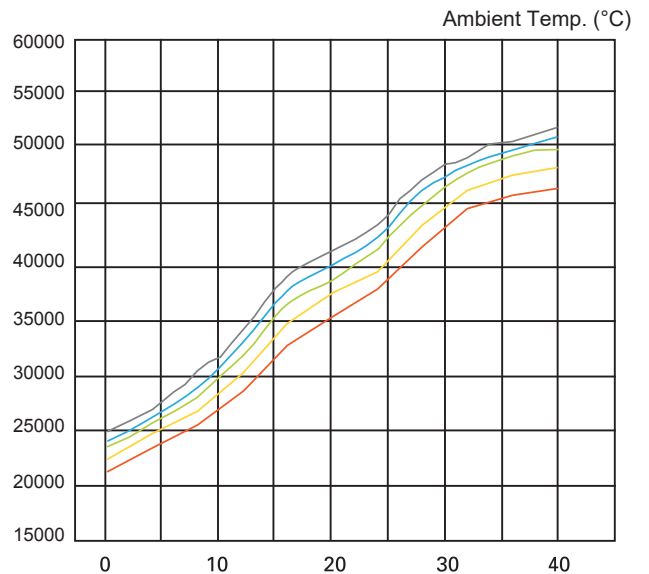
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-5°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	39
	Input	kW	10.46
	CoP		3.73
	Rated current	A	18.00
Max. input consumption		kW	15.68
Max. input current		A	27.00
Starting current		A	68

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	3
	Thermal protector		Inner
Fan motor	Speed	r/min	800/500
	Air flow	m³/h	7000
	Quantity		3
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	19
	Quantity		3
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ 9.52 inner grove tube
Throttling element	Type	Thermostatic expansion valve	
	Brand	Emerson	
Wire controller	Type	Intelligent & LCD	
	The length of control cable	m	12
	Set temp.	°C	25 - 70
Water system	Materials of water pipe	Copper	
	Water flow	m³/h	11.8
	Water different pressure	kPa	55
	Diameter,water inlet pipe	mm	DN50
	Diameter,water outlet pipe	mm	DN50
Refrigerant		R134A	
Design pressure		MPa	2.7/0.02
Outdoor noise level		dB(A)	63
Dimensions	Dimension(L*W*H)	mm	2150*765*1290
	Packing(L*W*H)	mm	2250*865*1450
	NG/WG	kg	398/460

INPUT 10.46kW / OUTPUT 39kW

MODEL NO: HKRS - 390E/SN3-M

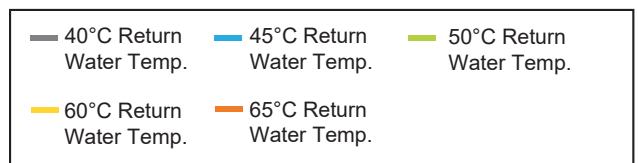
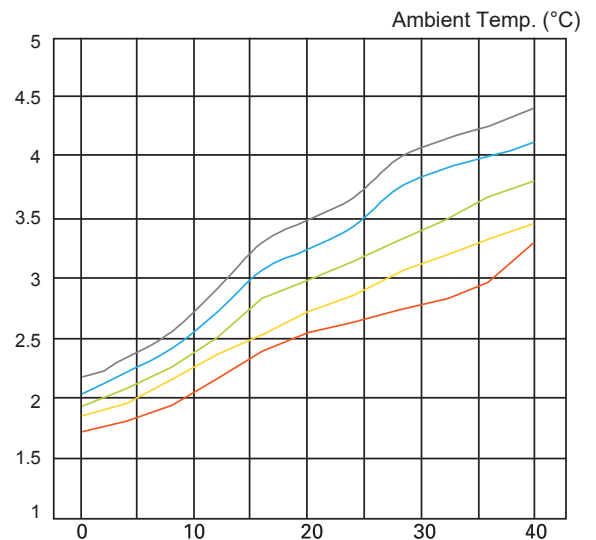
Heating Capacity Curves



INPUT 10.46kW / OUTPUT 39kW

MODEL NO: HKRS - 390E/SN3-M

COP Curves



INPUT 12.16kW / OUTPUT 45kW MODEL

NO: HKRS - 450E/SN3-M

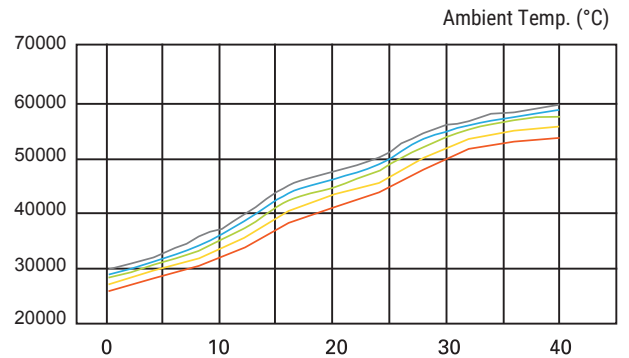
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-5°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	45
	Input	kW	12.16
	CoP		3.70
	Rated current	A	20.94
Max. input consumption		kW	18.24
Max. input current		A	31.41
Starting current		A	76

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	3
	Thermal protector		Inner
Fan motor	Speed	r/min	800/500
	Air flow	m³/h	7000
	Quantity		3
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	19
	Quantity		3
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ 9.52 inner groove tube
Throttling element	Type		Thermostatic expansion valve
	Brand		Emerson
Wire controller	Type		Intelligent & LCD
	The length of control cable	m	12
	Set temp.	°C	25 - 70
Water system	Materials of water pipe		Copper
	Water flow	m³/h	9.7
	Water different pressure	kPa	55
	Diameter,water inlet pipe	mm	DN50
	Diameter,water outlet pipe	mm	DN50
Refrigerant			R134A
Design pressure		MPa	2.7/0.02
Outdoor noise level		dB(A)	63
Dimensions	Dimension(L*W*H)	mm	2150*765*1290
	Packing(L*W*H)	mm	2250*865*1450
	NG/WG	kg	428/490

INPUT 12.16kW / OUTPUT 45kW

MODEL NO: HKRS - 450E/SN3-M

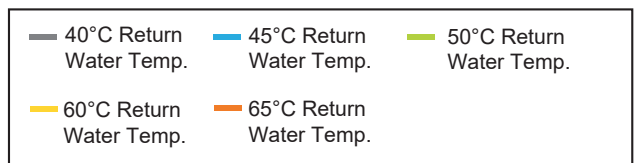
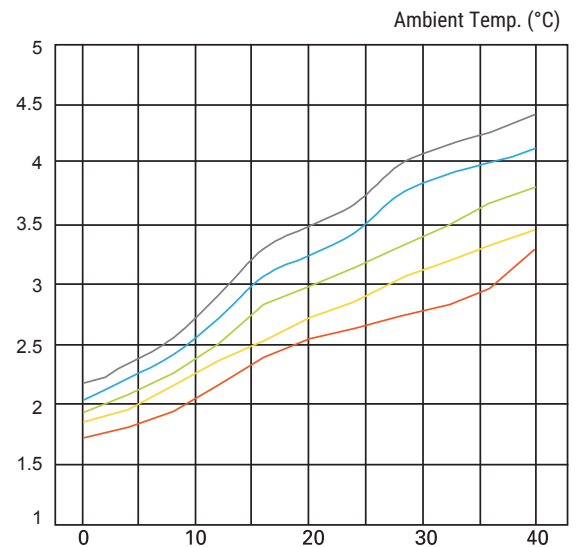
Heating Capacity Curves



INPUT 12.16kW / OUTPUT 45kW

MODEL NO: HKRS - 450E/SN3-M

COP Curves



THERMOWISE HIGH TEMPERATURE RANGE

Air to Water Heat Pumps



INPUT 17.5kW / OUTPUT 60kW

MODEL NO: HKRS - 600E/SN3-V

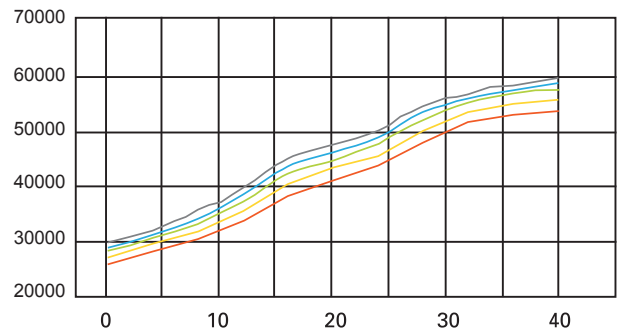
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-5°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	60
	Input	kW	17.5
	CoP		3.43
	Rated current	A	30.13
Max. input consumption		kW	26.25
Max. input current		A	45.20
Starting current		A	130

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	2
	Thermal protector		Inner
Fan motor	Speed	r/min	900
	Air flow	m³/h	13500
	Quantity		3
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	25.4*2
	Quantity		2
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ 9.52 inner groove tube
Throttling Element	Type	Thermostatic expansion valve	
	Brand	Danfoss	
Wire controller	Type	Intelligent & LCD	
	The length of control cable	m	12
	Set temp.	°C	30 - 75
Water system	Materials of water pipe	Copper	
	Water flow	m³/h	12.9
	Water different pressure	kPa	60
	Diameter, water inlet pipe	mm	DN50 (Female)
	Diameter, water outlet pipe	mm	DN50 (Female)
Refrigerant		R134A	
Design pressure		MPa	2.8/0.02
Outdoor noise level		dB(A)	70
Dimensions	Dimension(L*W*H)	mm	2000*980*1910
	Packing(L*W*H)	mm	2130*1100*2090
	NG/WG	kg	600/690

INPUT 17.5kW / OUTPUT 60kW

MODEL NO: HKRS - 600E/SN3-V

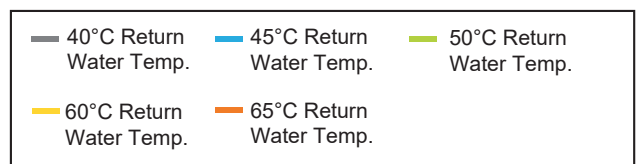
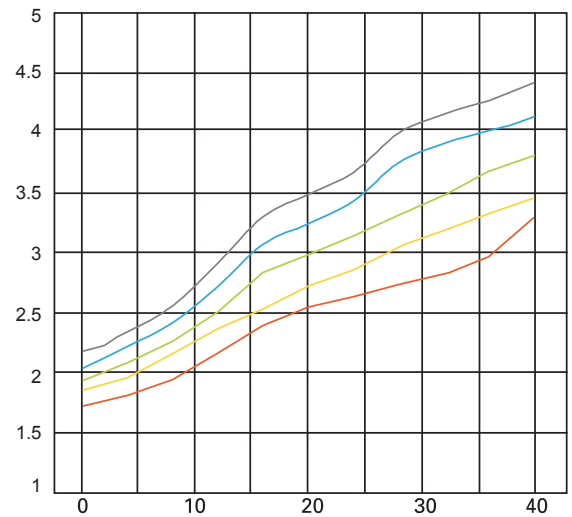
Heating Capacity Curves Ambient Temp. (°C)



INPUT 17.5kW / OUTPUT 60kW

MODEL NO: HKRS - 600E/SN3-V

COP Curves Ambient Temp. (°C)



THERMOWISE HIGH TEMPERATURE RANGE

Air to Water Heat Pumps



INPUT 20kW / OUTPUT 68kW

MODEL NO: HKRS - 680E/SN3-V

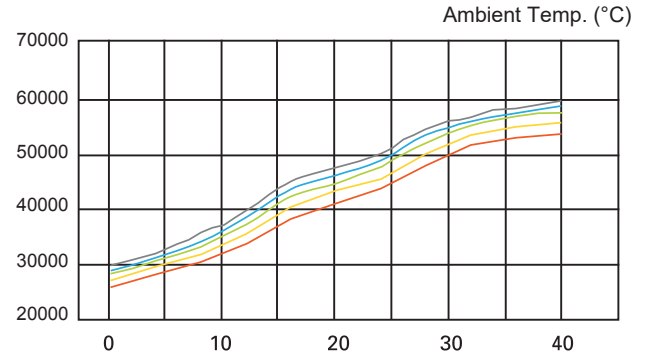
Power supply		Ph-V-Hz	380V/3PH/50HZ
Working temp.		°C	-5°C~43°C
Max. outlet water temp.		°C	75°C
Water heating (A30/W60)	Capacity	kW	68
	Input	kW	20
	CoP		3.40
	Rated current	A	34.44
Max. input consumption		kW	30
Max. input current		A	51.65
Starting current		A	134

Compressor	Type / Brand		Scroll / Copeland
	No. of compressor	PCS	2
	Thermal protector		Inner
Fan motor	Speed	r/min	900
	Air flow	m³/h	13500
	Quantity		2
Condenser	Type		Copper tube and shell
	Diameter of copper pipe	mm	25.4*2
	Quantity		2
Evaporator	Fin type		Hydrophilic aluminum
	Tube outer dia. and type	mm	φ 9.52 inner groove tube
Throttling element	Type	Thermostatic expansion valve	
	Brand	Danfoss	
Wire controller	Type		Intelligent & LCD
	The length of control cable	m	12
	Set temp.	°C	30 - 75
Water system	Materials of water pipe		Copper
	Water flow	m³/h	14.6
	Water different pressure	Kpa	60
	Diameter, water inlet pipe	mm	DN50 (Female)
	Diameter, water outlet pipe	mm	DN50 (Female)
Refrigerant			R134A
Design pressure		MPa	2.8/0.02
Outdoor noise level		dB(A)	70
Dimensions	Dimension(L*W*H)	mm	2000*980*1910
	Packing(L*W*H)	mm	2130*1100*2090
	NG/WG	kg	600/690

INPUT 20kW / OUTPUT 68kW

MODEL NO: HKRS - 680E/SN3-V

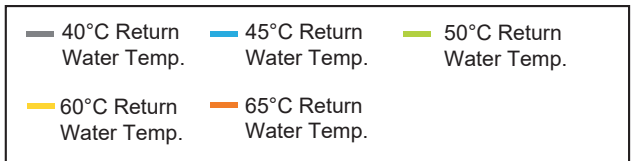
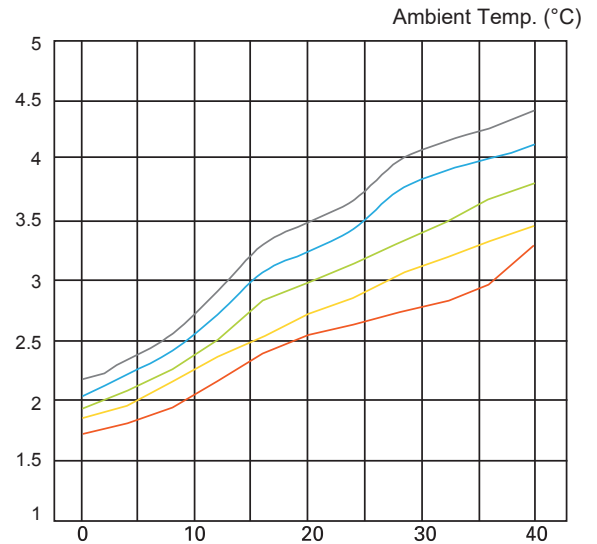
Heating Capacity Curves



INPUT 20kW / OUTPUT 68kW

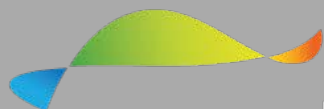
MODEL NO: HKRS - 680E/SN3-V

COP Curves



**WE CAN CREATE A MORE
SUSTAINABLE, CLEANER
AND SAFER WORLD BY
MAKING WISER ENERGY
CHOICES.**

-ROBERT ALAN



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