Summary of	JAMA Star-6 inverter	Reg. No.	012-SC0664-18
Certificate Holder			
Name	Kaukora		
Address	Tuotekatu 11	Zip	FI-21200
City	Raisio	Country	Finland
Certification Body	RISE CERT		
Name of testing laboratory	AIT		
Subtype title	JAMA Star-6 inverter		
Heat Pump Type	Brine/Water and Water/Water		
Refrigerant	R407c		
Mass Of Refrigerant	1.16 kg		

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Model: Star-6 inverter

General Data	
Power supply	3x400V 50Hz

Brine/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	3.15 kW	2.78 kW
El input	0.67 kW	0.93 kW
COP	4.72	2.99
Indoor water flow rate	0.95 m³/h	0.59 m³/h

Average Climate

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EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	200 %	150 %
Prated	5.50 kW	5.50 kW
SCOP	5.20	3.95
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.00 kW	5.00 kW
COP Tj = -7°C	4.37	3.06
Pdh Tj = +2°C	3.10 kW	3.00 kW
COP Tj = +2°C	5.24	3.97
Pdh Tj = +7°C	2.00 kW	2.00 kW
COP Tj = +7°C	5.92	4.63
Pdh Tj = 12°C	1.30 kW	1.20 kW
COP Tj = 12°C	5.95	4.86
Pdh Tj = Tbiv	5.40 kW	5.40 kW
COP Tj = Tbiv	4.15	2.84

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Pdh Tj = TOL	5.40 kW	5.40 kW
COP Tj = TOL	4.15	2.84
Cdh	0.98	0.99
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	10 W	7 W
PSB	7 W	7 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2188 kWh	2875 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	211 %	157 %
Prated	5.50 kW	6.00 kW

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SCOP	5.48	4.13
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.40 kW	3.40 kW
COP Tj = -7°C	5.17	3.77
Pdh Tj = +2°C	2.10 kW	2.10 kW
COP Tj = +2°C	5.91	4.51
Pdh Tj = +7°C	1.40 kW	1.40 kW
COP Tj = +7°C	6.36	5.12
Pdh Tj = 12°C	1.30 kW	1.20 kW
COP Tj = 12°C	4.15	4.81
Pdh Tj = Tbiv	5.40 kW	5.50 kW
COP Tj = Tbiv	4.15	2.84
Pdh Tj = TOL	5.40 kW	5.50 kW
COP Tj = TOL	4.15	2.84
Cdh	0.97	0.98
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	10 W	7 W
PSB	7 W	7 W
PCK	9 W	9 W

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Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2481 kWh	3287 kWh

Water/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	4.30 kW	3.82 kW
El input	0.66 kW	1.00 kW
COP	6.00	3.83
Indoor water flow rate	1.21 m³/h	0.75 m³/h

Average Climate

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EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	270 %	214 %
Prated	7.00 kW	7.00 kW
SCOP	6.95	5.55
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.30 kW	6.30 kW
COP Tj = -7°C	6.07	4.52
Pdh Tj = +2°C	3.90 kW	3.90 kW
COP Tj = +2°C	7.09	5.62
Pdh Tj = +7°C	2.50 kW	2.50 kW
COP Tj = +7°C	7.84	6.34
Pdh Tj = 12°C	1.80 kW	1.60 kW
COP Tj = 12°C	7.97	6.57
Pdh Tj = Tbiv	7.00 kW	7.00 kW
COP Tj = Tbiv	5.79	4.21

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Pdh Tj = TOL	7.00 kW	7.00 kW
COP Tj = TOL	5.79	4.21
Cdh	0.96	0.97
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	18 W	15 W
PSB	10 W	7 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2078 kWh	2611 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	282 %	222 %
Prated	7.00 kW	7.00 kW

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SCOP	7.25	5.75
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	4.30 kW
COP Tj = -7°C	7.00	5.39
Pdh Tj = +2°C	2.70 kW	2.70 kW
COP Tj = +2°C	7.83	6.21
Pdh Tj = +7°C	1.80 kW	1.80 kW
COP Tj = +7°C	8.14	6.85
Pdh Tj = 12°C	1.80 kW	1.60 kW
COP Tj = 12°C	7.70	6.64
Pdh Tj = Tbiv	7.00 kW	7.00 kW
COP Tj = Tbiv	5.79	4.21
Pdh Tj = TOL	7.00 kW	7.00 kW
COP Tj = TOL	5.79	4.21
Cdh	0.95	0.96
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	18 W	15 W
PSB	10 W	7 W
PCK	9 W	9 W

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Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2378 kWh	3005 kWh

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Model: Star-6 RST inverter

General Data	
Power supply	1x230V 50Hz
Off-peak product	No

Brine/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	3.15 kW	2.78 kW
El input	0.67 kW	0.93 kW
COP	4.72	2.99
Indoor water flow rate	0.95 m³/h	0.59 m³/h

Average Climate

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EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	200 %	150 %
Prated	5.50 kW	5.50 kW
SCOP	5.20	3.95
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.00 kW	5.00 kW
COP Tj = -7°C	4.37	3.06
Pdh Tj = +2°C	3.10 kW	3.00 kW
COP Tj = +2°C	5.24	3.97
Pdh Tj = +7°C	2.00 kW	2.00 kW
COP Tj = +7°C	5.92	4.63
Pdh Tj = 12°C	1.30 kW	1.20 kW
COP Tj = 12°C	5.95	4.86
Pdh Tj = Tbiv	5.40 kW	5.40 kW
COP Tj = Tbiv	4.15	2.84

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Pdh Tj = TOL	5.40 kW	5.40 kW
COP Tj = TOL	4.15	2.84
Cdh	0.98	0.99
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	10 W	7 W
PSB	7 W	7 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2188 kWh	2875 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	211 %	157 %
Prated	5.50 kW	6.00 kW

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The authoritative source of this information is the heat pump certificate as executed by the certification body and the related technical data.

SCOP	5.48	4.13
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.40 kW	3.40 kW
COP Tj = -7°C	5.17	3.77
Pdh Tj = +2°C	2.10 kW	2.10 kW
COP Tj = +2°C	5.91	4.51
Pdh Tj = +7°C	1.40 kW	1.40 kW
COP Tj = +7°C	6.36	5.12
Pdh Tj = 12°C	1.30 kW	1.20 kW
COP Tj = 12°C	4.15	4.81
Pdh Tj = Tbiv	5.40 kW	5.50 kW
COP Tj = Tbiv	4.15	2.84
Pdh Tj = TOL	5.40 kW	5.50 kW
COP Tj = TOL	4.15	2.84
Cdh	0.97	0.98
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	10 W	7 W
PSB	7 W	7 W
PCK	9 W	9 W

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Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2481 kWh	3287 kWh

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	102 %
COP	2.55
Heating up time	02:23 h:min
Standby power input	50.0 W
Reference hot water temperature	50.0 °C
Mixed water at 40°C	245 l

Colder Climate

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EN 16147	
Declared load profile	XL
Efficiency ηDHW	102 %
COP	2.55
Heating up time	02:23 h:min
Standby power input	50.0 W
Reference hot water temperature	50.0 °C
Mixed water at 40°C	245 l

Water/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Disclaimer: this document is a summary of the certified performance.
The authoritative source of this information is the heat pump certificate as executed by the certification body and the related technical data.

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	4.30 kW	3.82 kW
El input	0.66 kW	1.00 kW
COP	6.00	3.83
Indoor water flow rate	1.21 m^3/h	0.75 m^3/h

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	270 %	214 %
Prated	7.00 kW	7.00 kW
SCOP	6.95	5.55
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.30 kW	6.30 kW
COP Tj = -7°C	6.07	4.52

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Pdh Tj = +2°C	3.90 kW	3.90 kW
COP Tj = +2°C	7.09	5.62
Pdh Tj = +7°C	2.50 kW	2.50 kW
COP Tj = +7°C	7.84	6.34
Pdh Tj = 12°C	1.80 kW	1.60 kW
COP Tj = 12°C	7.97	6.57
Pdh Tj = Tbiv	7.00 kW	7.00 kW
COP Tj = Tbiv	5.79	4.21
Pdh Tj = TOL	7.00 kW	7.00 kW
COP Tj = TOL	5.79	4.21
Cdh	0.96	0.97
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	18 W	15 W
PSB	10 W	7 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2078 kWh	2611 kWh

Colder Climate

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EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	282 %	222 %
Prated	7.00 kW	7.00 kW
SCOP	7.25	5.75
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	4.30 kW
COP Tj = -7°C	7.00	5.39
Pdh Tj = +2°C	2.70 kW	2.70 kW
COP Tj = +2°C	7.83	6.21
Pdh Tj = +7°C	1.80 kW	1.80 kW
COP Tj = +7°C	8.14	6.85
Pdh Tj = 12°C	1.80 kW	1.60 kW
COP Tj = 12°C	7.70	6.64
Pdh Tj = Tbiv	7.00 kW	7.00 kW
COP Tj = Tbiv	5.79	4.21

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Pdh Tj = TOL	7.00 kW	7.00 kW
COP Tj = TOL	5.79	4.21
Cdh	0.95	0.96
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	18 W	15 W
PSB	10 W	7 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2378 kWh	3005 kWh

Domestic Hot Water (DHW)

Average Climate

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EN 16147	
Declared load profile	XL
Efficiency ηDHW	117 %
COP	2.93
Heating up time	02:09 h:min
Standby power input	45.0 W
Reference hot water temperature	49.0 °C
Mixed water at 40°C	240 l

Colder Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	117 %
COP	2.93
Heating up time	02:09 h:min
Standby power input	45.0 W
Reference hot water temperature	49.0 °C
Mixed water at 40°C	240 l

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