

## Subtype JAMA Star-24

Certificate Holder	Kaukora
Address	Tuotekatu 11
ZIP	FI-21200
City	Raisio
Country	FI
Certification Body	RISE CERT
Subtype title	JAMA Star-24
Registration number	012-SC0667-18
Heat Pump Type	Brine/Water
Refrigerant	R407c
Mass of Refrigerant	4 kg

Model Star-24		
Model name	Star-24	
Application	Heating (medium temp)	
Units	Indoor	
Climate zone (for heating)	Colder Climate	
Cooling mode application (optional)	n/a	
Any additional heat sources	n/a	
General data		
Power supply	3x400V 50Hz	
Off-peak product	No	
Brine/Water		
EN 14511-4   Heating		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
EN 12102-1   Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
EN 14825   Average Climate		
	Low temperature	Medium temperature
ηs	185 %	143 %
Prated	28.00 kW	28.00 kW
SCOP	4.83	3.78
Tbiv	-6 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	23.60 kW	22.20 kW
COP Tj = -7°C	4.70	3.27
Pdh Tj = +2°C	23.80 kW	22.80 kW
COP Tj = +2°C	4.91	3.83
Pdh Tj = +7°C	12.00 kW	11.70 kW
COP Tj = +7°C	5.26	4.31
Pdh Tj = 12°C	12.10 kW	11.80 kW
COP Tj = 12°C	5.26	4.58
Pdh Tj = Tbiv	23.60 kW	22.40 kW
COP Tj = Tbiv	4.73	3.45
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	23.50 kW	22.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.57	3.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.98	0.99
WTOL	65 °C	65 °C

Poff	2 W	2 W
PTO	30 W	30 W
PSB	7 W	7 W
PCK	70 W	70 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.50 kW	6.00 kW
Annual energy consumption Qhe	11996 kWh	15287 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	193 %	150 %
Prated	28.00 kW	28.00 kW
SCOP	5.03	3.95
Tbiv	-16 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	23.80 kW	22.70 kW
COP Tj = -7°C	4.98	3.73
Pdh Tj = +2°C	12.00 kW	11.60 kW
COP Tj = +2°C	5.28	4.26
Pdh Tj = +7°C	12.10 kW	11.80 kW
COP Tj = +7°C	5.38	4.57
Pdh Tj = 12°C	12.10 kW	11.90 kW
COP Tj = 12°C	5.08	4.74
Pdh Tj = Tbiv	23.70 kW	22.40 kW
COP Tj = Tbiv	4.78	3.46
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	23.50 kW	22.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.57	3.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.98	0.99
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	60 W	60 W
PSB	7 W	7 W
PCK	70 W	70 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.50 kW	6.00 kW
Annual energy consumption Qhe	13740 kWh	17514 kWh