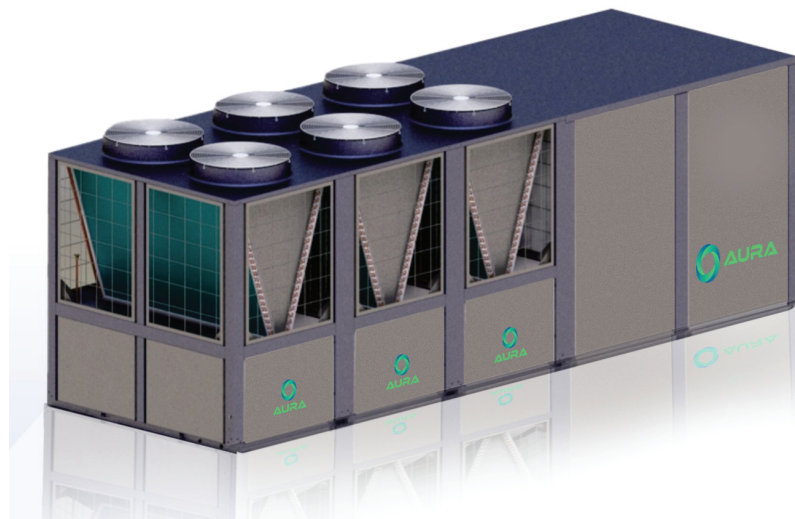


PRODUCT SGS Series

HEAT PUMP STEAM GENERATOR



The standard heat pump steam generator can produce saturated steam in temperature up to 125°C, suitable for wide range of agricultural and industrial processes where micro-pressure steam is required.

By adding steam compressor, the heat pump steam generator system can produce steam at pressure of 0.8 MPa and temperature of 180°C. The steam production can range from 0.5 to 4 tons per hour.



HIGH EFFICIENCY

The heat pump steam generator utilizes low-grade heat in the air, to produce high temperature micro-pressure steam. The rated Coefficient of Performance (COP) is 1.71 at ambient temperature of -20°C, saving 41% electricity compared to electric steam boilers.



CASCADE DESIGN

The design of high-efficiency DC Inverter cascade technology is a stable heat source for high-temperature side under different ambient temperatures of -12°C.



INTELLIGENT DEFROSTING TECHNOLOGY

The heat pump units can operate under ambient temperatures as low as -20°C. Leveraging our advanced product design and proprietary control technology, the defrosting process does not absorb heat from the yield heat, avoiding temperature fluctuations.



STEAM COMPRESSOR ADD-ON

For pressure steam application, a steam compressor can be added to standard heat pump units. The compression ratio of steam compressor can reach up to 10.

The proprietary design with advanced control can adapt to low temperature environment and frequent start and stop operations. The steam compressor is suitable for industries with exhaust emissions, such as chemical and power generation.



ENVIRONMENTALLY FRIENDLY

The refrigerants used in the heat pump systems are R410A and R245fa, both of which have zero Ozone Depletion Potential (ODP) and zero flammability.



TECHNICAL DATA

Model	SGS-60FTBW	SGS-120FTBW
Rated Heating Capacity (thermal)*	60 kW	120 kW
COP (Coefficient of Performance) **	1.71	1.70
Outlet Steam Temperature (°C) ***	120°C	120°C
Outlet Steam Pressure (°C)	1.0-1.3 MPa	1.0-1.3 MPa
Circulating Water Flow Rate (m³/h)	10.3 m³/h	20.6 m³/h
Power Supply (V/Ph/Hz)	400V/3P/50Hz	400V/3P/50Hz
Rated Power/Current (kW/A)	35.1 kW/58A	70.2 kW/120A
Maximum Power/Current (kW/A)	41.5 kW/68A	80.5 kW/135A
Water-Side Design Pressure	1.0 MPa	1.0 MPa
Water-Side Pressure Drop	50 kPa	50 kPa
Circulating Pipe Connection	DN65	DN80
Sound Level	68dB(A)	72dB(A)
Ambient Temperature Range	-20°C - 43°C	-20°C - 43°C
Dimension (L x Wx H)	2180x1270x2100 mm	2400x1400x2400 mm
Total Weight (shipping)	1,000 kg	1,800 kg

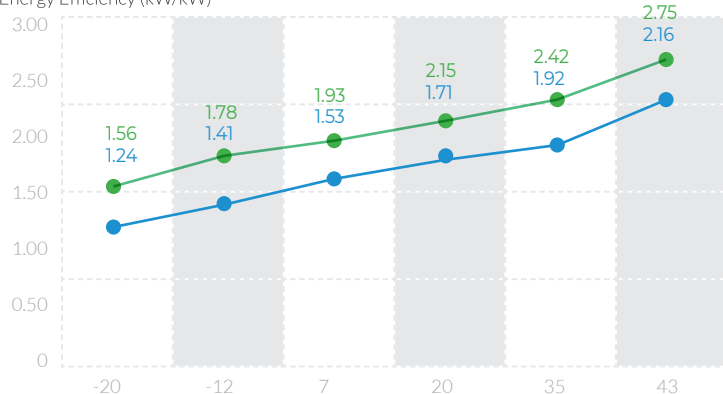
* Increased system capacity can be achieved by multiple units in cascade arrangement.

** Standard Test Condition (STC): Ambient temperature 20°C; Outlet steam temperature 120°C.

*** Steam outlet temperature up to 180°C with steam compressor add-on.

PERFORMANCE

Energy Efficiency (kW/kW)



Comparing to conventional electric resistance steam production, the heat pump steam generator saves 41% (nominal condition) of electricity consumption.

The heat pump units operate under a wide range of ambient temperature from -20°C to 43°C, meeting the weather conditions of all Australian regions.

When the ambient temperature is 35°C, the COP of the system reaches to 1.92.

● Outlet Temperature 80°C

● Outlet Temperature 90°C

APPLICATION

The high-temperature cascade heat pump steam generator has a wide application range, meeting the demand for micro-pressure steam in various industries, such as:

- Greenhouse farming
- Food processing
- Brewing and distillation
- Metal processing
- Building steaming and curing

