

Subtype HyQube R290 12/15KW

Certificate Holder	GD Shenling Thermal Tech Co., Ltd
Address	No.29 Shunye East Rd.
ZIP	528325
City	Foshan
Country	CN
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	HyQube R290 12/15KW
Registration number	011-1W0801
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.4 kg
Certification Date	21.06.2024

**Model OU: HPM-V120W/SR3-B + IU: HM-90/DM**

Model name	OU: HPM-V120W/SR3-B + IU: HM-90/DM
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x400V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	12.00 kW	12.00 kW
El input	2.53 kW	4.00 kW
COP	4.75	3.00

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	193 %	148 %
Prated	12.20 kW	12.10 kW
SCOP	4.89	3.77
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.21 kW	11.19 kW
COP Tj = -7°C	2.79	2.21
Cdh Tj = -7 °C	0.997	0.997
Pdh Tj = +2°C	6.67 kW	6.45 kW
COP Tj = +2°C	4.58	3.59
Cdh Tj = +2 °C	0.991	0.993

Pdh Tj = +7°C	4.23 kW	4.18 kW
COP Tj = +7°C	7.11	5.18
Cdh Tj = +7 °C	0.978	0.984
Pdh Tj = 12°C	2.76 kW	2.70 kW
COP Tj = 12°C	10.13	7.61
Cdh Tj = +12 °C	0.952	0.963
Pdh Tj = Tbiv	11.21 kW	11.19 kW
COP Tj = Tbiv	2.79	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.58 kW	10.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.60 kW	1.90 kW
Annual energy consumption Qhe	5157 kWh	6626 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	170 %	132 %
Prated	11.30 kW	10.50 kW
SCOP	4.33	3.36
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.95 kW	6.47 kW
COP Tj = -7°C	3.61	2.77
Cdh Tj = -7 °C	0.993	0.994
Pdh Tj = +2°C	4.19 kW	4.05 kW
COP Tj = +2°C	5.25	3.98
Cdh Tj = +2 °C	0.984	0.987
Pdh Tj = +7°C	2.82 kW	2.70 kW
COP Tj = +7°C	6.84	5.52
Cdh Tj = +7 °C	0.969	0.973
Pdh Tj = 12°C	2.69 kW	2.63 kW
COP Tj = 12°C	7.99	6.82

Cdh Tj = +12 °C	0.961	0.966
Pdh Tj = Tbiv	9.22 kW	8.61 kW
COP Tj = Tbiv	2.60	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.66 kW	6.78 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.08	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.60 kW	3.70 kW
Annual energy consumption Qhe	6435 kWh	7693 kWh
Pdh Tj = -15°C (if TOL	9.22	8.61
COP Tj = -15°C (if TOL	2.60	2.09
Cdh Tj = -15 °C	0.996	0.997

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	265 %	189 %
Prated	11.40 kW	11.40 kW
SCOP	6.71	4.80
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.44 kW	11.96 kW
COP Tj = +2°C	3.61	2.51
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	7.51 kW	7.91 kW
COP Tj = +7°C	5.85	4.13
Cdh Tj = +7 °C	0.990	0.993
Pdh Tj = 12°C	3.47 kW	3.57 kW
COP Tj = 12°C	8.40	6.11
Cdh Tj = +12 °C	0.969	0.978
Pdh Tj = Tbiv	11.44 kW	11.96 kW
COP Tj = Tbiv	3.61	2.51
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.44 kW	11.96 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.51
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2271 kWh	3173 kWh

**Model OU: HPM-V150W/SR3-B + IU: HM-90/DM**

Model name	OU: HPM-V150W/SR3-B + IU: HM-90/DM
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x400V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	15.00 kW	15.00 kW
El input	3.33 kW	5.26 kW
COP	4.50	2.85

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	187 %	145 %
Prated	14.00 kW	14.00 kW
SCOP	4.75	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.39 kW	12.85 kW
COP Tj = -7°C	2.68	2.10
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	7.55 kW	7.53 kW
COP Tj = +2°C	4.45	3.50
Cdh Tj = +2 °C	0.992	0.994

Pdh Tj = +7°C	4.83 kW	4.78 kW
COP Tj = +7°C	6.95	5.26
Cdh Tj = +7 °C	0.981	0.986
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	10.13	7.62
Cdh Tj = +12 °C	0.952	0.963
Pdh Tj = Tbiv	12.39 kW	12.85 kW
COP Tj = Tbiv	2.68	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.54 kW	11.78 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.50 kW	2.20 kW
Annual energy consumption Qhe	6089 kWh	7818 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	163 %	131 %
Prated	13.50 kW	12.80 kW
SCOP	4.15	3.36
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.25 kW	7.90 kW
COP Tj = -7°C	3.45	2.76
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	4.96 kW	4.72 kW
COP Tj = +2°C	4.97	4.02
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	3.22 kW	3.05 kW
COP Tj = +7°C	6.96	5.44
Cdh Tj = +7 °C	0.972	0.977
Pdh Tj = 12°C	2.69 kW	2.63 kW
COP Tj = 12°C	7.99	6.82

Cdh Tj = +12 °C	0.961	0.966
Pdh Tj = Tbiv	11.06 kW	10.47 kW
COP Tj = Tbiv	2.45	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.91 kW	8.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.04	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.60 kW	4.40 kW
Annual energy consumption Qhe	8028 kWh	9404 kWh
Pdh Tj = -15°C (if TOL	11.06	10.47
COP Tj = -15°C (if TOL	2.45	1.99
Cdh Tj = -15 °C	0.997	0.998

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	250 %	190 %
Prated	13.00 kW	12.30 kW
SCOP	6.33	4.83
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.09 kW	12.39 kW
COP Tj = +2°C	3.37	2.50
Cdh Tj = +2 °C	0.997	0.997
Pdh Tj = +7°C	8.59 kW	8.30 kW
COP Tj = +7°C	5.80	4.11
Cdh Tj = +7 °C	0.991	0.994
Pdh Tj = 12°C	3.77 kW	3.84 kW
COP Tj = 12°C	7.56	6.23
Cdh Tj = +12 °C	0.974	0.979
Pdh Tj = Tbiv	13.09 kW	12.39 kW
COP Tj = Tbiv	3.37	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.09 kW	12.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.37	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2744 kWh	3401 kWh

**Model OU: HPM-V120W/SR3-B + IU: HM-90/D**

Model name	OU: HPM-V120W/SR3-B + IU: HM-90/D
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x400V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	12.00 kW	12.00 kW
El input	2.53 kW	4.00 kW
COP	4.75	3.00

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	193 %	148 %
Prated	12.20 kW	12.10 kW
SCOP	4.89	3.77
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.21 kW	11.19 kW
COP Tj = -7°C	2.79	2.21
Cdh Tj = -7 °C	0.997	0.997
Pdh Tj = +2°C	6.67 kW	6.45 kW
COP Tj = +2°C	4.58	3.59
Cdh Tj = +2 °C	0.991	0.993

Pdh Tj = +7°C	4.23 kW	4.18 kW
COP Tj = +7°C	7.11	5.18
Cdh Tj = +7 °C	0.978	0.984
Pdh Tj = 12°C	2.76 kW	2.70 kW
COP Tj = 12°C	10.13	7.61
Cdh Tj = +12 °C	0.952	0.963
Pdh Tj = Tbiv	11.21 kW	11.19 kW
COP Tj = Tbiv	2.79	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.58 kW	10.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.60 kW	1.90 kW
Annual energy consumption Qhe	5157 kWh	6626 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	170 %	132 %
Prated	11.30 kW	10.50 kW
SCOP	4.33	3.36
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.95 kW	6.47 kW
COP Tj = -7°C	3.61	2.77
Cdh Tj = -7 °C	0.993	0.994
Pdh Tj = +2°C	4.19 kW	4.05 kW
COP Tj = +2°C	5.25	3.98
Cdh Tj = +2 °C	0.984	0.987
Pdh Tj = +7°C	2.82 kW	2.70 kW
COP Tj = +7°C	6.84	5.52
Cdh Tj = +7 °C	0.969	0.973
Pdh Tj = 12°C	2.69 kW	2.63 kW
COP Tj = 12°C	7.99	6.82

Cdh Tj = +12 °C	0.961	0.966
Pdh Tj = Tbiv	9.22 kW	8.61 kW
COP Tj = Tbiv	2.60	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.66 kW	6.78 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.08	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.60 kW	3.70 kW
Annual energy consumption Qhe	6435 kWh	7693 kWh
Pdh Tj = -15°C (if TOL	9.22	8.61
COP Tj = -15°C (if TOL	2.60	2.09
Cdh Tj = -15 °C	0.996	0.997

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	265 %	189 %
Prated	11.40 kW	11.40 kW
SCOP	6.71	4.80
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.44 kW	11.96 kW
COP Tj = +2°C	3.61	2.51
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	7.51 kW	7.91 kW
COP Tj = +7°C	5.85	4.13
Cdh Tj = +7 °C	0.990	0.993
Pdh Tj = 12°C	3.47 kW	3.57 kW
COP Tj = 12°C	8.40	6.11
Cdh Tj = +12 °C	0.969	0.978
Pdh Tj = Tbiv	11.44 kW	11.96 kW
COP Tj = Tbiv	3.61	2.51
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.44 kW	11.96 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.51
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2271 kWh	3173 kWh

**Model OU: HPM-V150W/SR3-B + IU: HM-90/D**

Model name	OU: HPM-V150W/SR3-B + IU: HM-90/D
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x400V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	15.00 kW	15.00 kW
El input	3.33 kW	5.26 kW
COP	4.50	2.85

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	187 %	145 %
Prated	14.00 kW	14.00 kW
SCOP	4.75	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.39 kW	12.85 kW
COP Tj = -7°C	2.68	2.10
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	7.55 kW	7.53 kW
COP Tj = +2°C	4.45	3.50
Cdh Tj = +2 °C	0.992	0.994

Pdh Tj = +7°C	4.83 kW	4.78 kW
COP Tj = +7°C	6.95	5.26
Cdh Tj = +7 °C	0.981	0.986
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	10.13	7.62
Cdh Tj = +12 °C	0.952	0.963
Pdh Tj = Tbiv	12.39 kW	12.85 kW
COP Tj = Tbiv	2.68	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.54 kW	11.78 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.50 kW	2.20 kW
Annual energy consumption Qhe	6089 kWh	7818 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	163 %	131 %
Prated	13.50 kW	12.80 kW
SCOP	4.15	3.36
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.25 kW	7.90 kW
COP Tj = -7°C	3.45	2.76
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	4.96 kW	4.72 kW
COP Tj = +2°C	4.97	4.02
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	3.22 kW	3.05 kW
COP Tj = +7°C	6.96	5.44
Cdh Tj = +7 °C	0.972	0.977
Pdh Tj = 12°C	2.69 kW	2.63 kW
COP Tj = 12°C	7.99	6.82

Cdh Tj = +12 °C	0.961	0.966
Pdh Tj = Tbiv	11.06 kW	10.47 kW
COP Tj = Tbiv	2.45	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.91 kW	8.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.04	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.60 kW	4.40 kW
Annual energy consumption Qhe	8028 kWh	9404 kWh
Pdh Tj = -15°C (if TOL)	11.06	10.47
COP Tj = -15°C (if TOL)	2.45	1.99
Cdh Tj = -15 °C	0.997	0.998

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	250 %	190 %
Prated	13.00 kW	12.30 kW
SCOP	6.33	4.83
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.09 kW	12.39 kW
COP Tj = +2°C	3.37	2.50
Cdh Tj = +2 °C	0.997	0.997
Pdh Tj = +7°C	8.59 kW	8.30 kW
COP Tj = +7°C	5.80	4.11
Cdh Tj = +7 °C	0.991	0.994
Pdh Tj = 12°C	3.77 kW	3.84 kW
COP Tj = 12°C	7.56	6.23
Cdh Tj = +12 °C	0.974	0.979
Pdh Tj = Tbiv	13.09 kW	12.39 kW
COP Tj = Tbiv	3.37	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.09 kW	12.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.37	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.997
WTOL	75 °C	75 °C
Poff	12 W	12 W
PTO	13 W	13 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2744 kWh	3401 kWh