Subtype Tri-Thermal Split series 12 14 16 kW

Certificate Holder	GD TCL Intelligent Heating & Ventilating Equipment Co., Ltd.
Address	No. 7 Yuanlin Road,
ZIP	
City	Guangdong
Country	CN
Certification Body	BRE Global Limited
Subtype title	Tri-Thermal Split series 12 14 16 kW
Registration number	041-K051-02
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.84 kg
Certification Date	05.06.2023
Testing basis	Heat Pump Keymark Scheme Rules Rev 12
Testing laboratory	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch, CN

Model Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKLd-16S/9HBp-A	
Model name	Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKLd-16S/9HBp-A
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	12.1 kW	12 kW
El input	2.42 kW	3.85 kW
COP	5	3.12

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	185 %	136 %
Prated	12 kW	12 kW
SCOP	4.7	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.7 kW	10.7 kW
COP Tj = -7°C	2.92	2.11
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	6.8 kW	6.8 kW
COP Tj = +2°C	4.51	3.43

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	4.5 kW	4.4 kW
COP Tj = +7°C	6.36	4.57
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4 kW	3.7 kW
COP Tj = 12°C	8.45	6.19
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	10.7 kW	10.7 kW
COP Tj = Tbiv	2.92	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.7	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.9 kW	2 kW
Annual energy consumption Qhe	5351 kWh	7213 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	163 %	119 %
Prated	11.00 kW	10.00 kW
SCOP	4.16	3.03
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.20 kW	6.70 kW
COP Tj = -7°C	3.51	2.57
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.10 kW	3.90 kW
COP Tj = +2°C	5.05	3.69
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	2.90 kW
COP Tj = +7°C	6.19	4.57
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.20 kW

COP Tj = 12°C	8.19	6.59
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.20 kW	8.50 kW
COP Tj = Tbiv	2.59	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.10 kW	4.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.08	1.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.90 kW	5.40 kW
Annual energy consumption Qhe	6747 kWh	8500 kWh
Pdh Tj = -15°C (if TOL	9.20	8.50
COP Tj = -15°C (if TOL	2.59	1.85
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	253 %	174 %
Prated	11.00 kW	12.00 kW
SCOP	6.41	4.44
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.00 kW	12.00 kW
COP Tj = +2°C	3.61	2.27
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.10 kW	8.00 kW
COP Tj = +7°C	5.65	3.75
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.70 kW	4.30 kW
COP Tj = 12°C	8.34	5.95
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.10 kW	8.00 kW
COP Tj = Tbiv	5.65	3.75

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.27
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 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	2325 kWh	3762 kWh

Model Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKLd-16S/9HBp-A	
Model name	Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKLd-16S/9HBp-A
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	14.5 kW	14 kW
El input	3.05 kW	4.65 kW
COP	4.75	3.01

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	180 %	131 %
Prated	14.00 kW	12.00 kW
SCOP	4.58	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.30 kW	10.90 kW
COP Tj = -7°C	2.70	2.02
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.50 kW	7.20 kW
COP Tj = +2°C	4.46	3.22

Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.10 kW	4.60 kW
COP Tj = +7°C	6.38	4.53
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.50 kW	3.40 kW
COP Tj = 12°C	7.63	6.17
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.30 kW	10.90 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.20 kW	2.00 kW
Annual energy consumption Qhe	6270 kWh	7614 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	156 %	117 %
Prated	13.00 kW	11.00 kW
SCOP	3.98	3.00
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.20 kW	7.10 kW
COP Tj = -7°C	3.35	2.56
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.60 kW	4.20 kW
COP Tj = +2°C	4.71	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.30 kW	3.00 kW
COP Tj = +7°C	6.10	4.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	3.60 kW

COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.60 kW	8.90 kW
COP Tj = Tbiv	2.61	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.80 kW	4.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.20 kW	6.60 kW
Annual energy consumption Qhe	8095 kWh	8982 kWh
Pdh Tj = -15°C (if TOL	10.60	8.90
COP Tj = -15°C (if TOL	2.61	1.82
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	249 %	170 %
Prated	12.00 kW	14.00 kW
SCOP	6.30	4.33
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.00 kW	13.00 kW
COP Tj = +2°C	3.40	2.25
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.90 kW	9.00 kW
COP Tj = +7°C	5.60	3.61
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.10 kW
COP Tj = 12°C	7.94	5.93
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.90 kW	9.00 kW
COP Tj = Tbiv	5.60	3.61

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.30 kW	13.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	1.00 kW
Annual energy consumption Qhe	2626 kWh	4324 kWh

Model Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKLd-16S/9HBp-A	
Model name	Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKLd-16S/9HBp-A
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	16 kW	16 kW
El input	3.54 kW	5.49 kW
COP	4.52	2.91

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	179 %	134 %
Prated	15 kW	13 kW
SCOP	4.55	3.43
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.5 kW	11.4 kW
COP Tj = -7°C	2.7	2.05
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	8 kW	7.1 kW
COP Tj = +2°C	4.39	3.33

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	5.4 kW	4.5 kW
COP Tj = +7°C	6.33	4.62
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.5 kW	3.4 kW
COP Tj = 12°C	8.57	6.12
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	13.5 kW	11.4 kW
COP Tj = Tbiv	2.7	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.2 kW	11.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.8 kW	1.8 kW
Annual energy consumption Qhe	6915 kWh	7765 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	155 %	121 %
Prated	14 kW	12 kW
SCOP	3.95	3.1
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.1 kW	7.7 kW
COP Tj = -7°C	3.3	2.61
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	5 kW	4.5 kW
COP Tj = +2°C	4.88	3.79
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	3.2 kW	3.1 kW
COP Tj = +7°C	5.75	4.87
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	3.7 kW	3.6 kW

COP Tj = 12°C	7.59	6.38
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	11.3 kW	9.6 kW
COP Tj = Tbiv	2.28	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.8 kW	5.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	6.9 kW
Annual energy consumption Qhe	8667 kWh	9388 kWh
Pdh Tj = -15°C (if TOL	11.3	9.6
COP Tj = -15°C (if TOL	2.28	1.84
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	239 %	171 %
Prated	13.00 kW	14.00 kW
SCOP	6.05	4.35
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.20 kW
COP Tj = +2°C	3.34	2.31
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	9.00 kW
COP Tj = +7°C	5.20	3.69
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.80 kW	4.10 kW
COP Tj = 12°C	7.95	5.80
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	9.00 kW
COP Tj = Tbiv	5.20	3.69

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.20 kW	13.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.34	2.31
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.80 kW
Annual energy consumption Qhe	2936 kWh	4331 kWh

Model Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKLd-16S/6HBp-A	
Model name	Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKLd-16S/6HBp-A
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	12.1 kW	12 kW
El input	2.42 kW	3.85 kW
COP	5	3.12

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	185 %	136 %
Prated	12 kW	12 kW
SCOP	4.7	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.7 kW	10.7 kW
COP Tj = -7°C	2.92	2.11
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	6.8 kW	6.8 kW
COP Tj = +2°C	4.51	3.43

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	4.5 kW	4.4 kW
COP Tj = +7°C	6.36	4.57
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4 kW	3.7 kW
COP Tj = 12°C	8.45	6.19
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	10.7 kW	10.7 kW
COP Tj = Tbiv	2.92	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.7	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.9 kW	2 kW
Annual energy consumption Qhe	5351 kWh	7213 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	163 %	119 %
Prated	11.00 kW	10.00 kW
SCOP	4.16	3.03
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.20 kW	6.70 kW
COP Tj = -7°C	3.51	2.57
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.10 kW	3.90 kW
COP Tj = +2°C	5.05	3.69
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	2.90 kW
COP Tj = +7°C	6.19	4.57
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.20 kW

COP Tj = 12°C	8.19	6.59
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.20 kW	8.50 kW
COP Tj = Tbiv	2.59	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.10 kW	4.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.08	1.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.90 kW	5.40 kW
Annual energy consumption Qhe	6747 kWh	8500 kWh
Pdh Tj = -15°C (if TOL	9.20	8.50
COP Tj = -15°C (if TOL	2.59	1.85
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	253 %	174 %
Prated	11 kW	12 kW
SCOP	6.41	4.44
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11 kW	12 kW
COP Tj = +2°C	3.61	2.27
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	7.1 kW	8 kW
COP Tj = +7°C	5.65	3.75
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.7 kW	4.3 kW
COP Tj = 12°C	8.34	5.95
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	7.1 kW	8 kW
COP Tj = Tbiv	5.65	3.75

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	12.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.27
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2325 kWh	3762 kWh

Model Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKLd-16S/6HBp-A	
Model name	Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKLd-16S/6HBp-A
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	14.5 kW	14 kW
El input	3.05 kW	4.65 kW
COP	4.75	3.01

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	180 %	131 %
Prated	14.00 kW	12.00 kW
SCOP	4.58	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.30 kW	10.90 kW
COP Tj = -7°C	2.70	2.02
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.50 kW	7.20 kW
COP Tj = +2°C	4.46	3.22

Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.10 kW	4.60 kW
COP Tj = +7°C	6.38	4.53
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.50 kW	3.40 kW
COP Tj = 12°C	7.63	6.17
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.30 kW	10.90 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.20 kW	2.00 kW
Annual energy consumption Qhe	6270 kWh	7614 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	156 %	117 %
Prated	13.00 kW	11.00 kW
SCOP	3.98	3.00
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.20 kW	7.10 kW
COP Tj = -7°C	3.35	2.56
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.60 kW	4.20 kW
COP Tj = +2°C	4.71	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.30 kW	3.00 kW
COP Tj = +7°C	6.10	4.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	3.60 kW

COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.60 kW	8.90 kW
COP Tj = Tbiv	2.61	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.80 kW	4.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.20 kW	6.60 kW
Annual energy consumption Qhe	8095 kWh	8982 kWh
Pdh Tj = -15°C (if TOL	10.60	8.90
COP Tj = -15°C (if TOL	2.61	1.82
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	249 %	170 %
Prated	12.00 kW	14.00 kW
SCOP	6.30	4.33
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.00 kW	13.00 kW
COP Tj = +2°C	3.40	2.25
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.90 kW	9.00 kW
COP Tj = +7°C	5.60	3.61
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.10 kW
COP Tj = 12°C	7.94	5.93
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.90 kW	9.00 kW
COP Tj = Tbiv	5.60	3.61

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.30 kW	13.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	1.00 kW
Annual energy consumption Qhe	2626 kWh	4324 kWh

Model Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKLd-16S/6HBp-A	
Model name	Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKLd-16S/6HBp-A
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	16 kW	16 kW
El input	3.54 kW	5.49 kW
COP	4.52	2.91

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	179 %	134 %
Prated	15 kW	13 kW
SCOP	4.55	3.43
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.5 kW	11.4 kW
COP Tj = -7°C	2.7	2.05
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	8 kW	7.1 kW
COP Tj = +2°C	4.39	3.33

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	5.4 kW	4.5 kW
COP Tj = +7°C	6.33	4.62
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.5 kW	3.4 kW
COP Tj = 12°C	8.57	6.12
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	13.5 kW	11.4 kW
COP Tj = Tbiv	2.7	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.2 kW	11.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.8 kW	1.8 kW
Annual energy consumption Qhe	6915 kWh	7765 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	155 %	121 %
Prated	14 kW	12 kW
SCOP	3.95	3.1
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.1 kW	7.7 kW
COP Tj = -7°C	3.3	2.61
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	5 kW	4.5 kW
COP Tj = +2°C	4.88	3.79
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	3.2 kW	3.1 kW
COP Tj = +7°C	5.75	4.87
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	3.7 kW	3.6 kW

COP Tj = 12°C	7.59	6.38
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	11.3 kW	9.6 kW
COP Tj = Tbiv	2.28	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.8 kW	5.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	6.9 kW
Annual energy consumption Qhe	8667 kWh	9388 kWh
Pdh Tj = -15°C (if TOL	11.3	9.6
COP Tj = -15°C (if TOL	2.28	1.84
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	239 %	171 %
Prated	13 kW	14 kW
SCOP	6.05	4.35
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13 kW	13.2 kW
COP Tj = +2°C	3.34	2.31
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	8.5 kW	9 kW
COP Tj = +7°C	5.2	3.69
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.8 kW	4.1 kW
COP Tj = 12°C	7.95	5.8
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	8.5 kW	9 kW
COP Tj = Tbiv	5.2	3.69

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13 kW	13.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.34	2.31
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0.8 kW
Annual energy consumption Qhe	2936 kWh	4331 kWh

Model Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKLd-16D/3HBp-A	
Model name	Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKLd-16D/3HBp-A
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	12.1 kW	12 kW
El input	2.42 kW	3.85 kW
COP	5	3.12

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	185 %	136 %
Prated	12 kW	12 kW
SCOP	4.7	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.7 kW	10.7 kW
COP Tj = -7°C	2.92	2.11
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	6.8 kW	6.8 kW
COP Tj = +2°C	4.51	3.43

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	4.5 kW	4.4 kW
COP Tj = +7°C	6.36	4.57
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4 kW	3.7 kW
COP Tj = 12°C	8.45	6.19
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	10.7 kW	10.7 kW
COP Tj = Tbiv	2.92	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.7	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.9 kW	2 kW
Annual energy consumption Qhe	5351 kWh	7213 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	163 %	119 %
Prated	11.00 kW	10.00 kW
SCOP	4.16	3.03
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.20 kW	6.70 kW
COP Tj = -7°C	3.51	2.57
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.10 kW	3.90 kW
COP Tj = +2°C	5.05	3.69
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	2.90 kW
COP Tj = +7°C	6.19	4.57
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.20 kW

COP Tj = 12°C	8.19	6.59
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.20 kW	8.50 kW
COP Tj = Tbiv	2.59	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.10 kW	4.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.08	1.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.90 kW	5.40 kW
Annual energy consumption Qhe	6747 kWh	8500 kWh
Pdh Tj = -15°C (if TOL	9.20	8.50
COP Tj = -15°C (if TOL	2.59	1.85
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	253 %	174 %
Prated	11 kW	12 kW
SCOP	6.41	4.44
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11 kW	12 kW
COP Tj = +2°C	3.61	2.27
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	7.1 kW	8 kW
COP Tj = +7°C	5.65	3.75
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.7 kW	4.3 kW
COP Tj = 12°C	8.34	5.95
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	7.1 kW	8 kW
COP Tj = Tbiv	5.65	3.75

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	12.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.27
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2325 kWh	3762 kWh

Model Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKLd-16D/3HBp-A	
Model name	Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKLd-16D/3HBp-A
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	14.5 kW	14 kW
El input	3.05 kW	4.65 kW
COP	4.75	3.01

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	180 %	131 %
Prated	14.00 kW	12.00 kW
SCOP	4.58	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.30 kW	10.90 kW
COP Tj = -7°C	2.70	2.02
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.50 kW	7.20 kW
COP Tj = +2°C	4.46	3.22

Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.10 kW	4.60 kW
COP Tj = +7°C	6.38	4.53
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.50 kW	3.40 kW
COP Tj = 12°C	7.63	6.17
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.30 kW	10.90 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.20 kW	2.00 kW
Annual energy consumption Qhe	6270 kWh	7614 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	156 %	117 %
Prated	13.00 kW	11.00 kW
SCOP	3.98	3.00
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.20 kW	7.10 kW
COP Tj = -7°C	3.35	2.56
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.60 kW	4.20 kW
COP Tj = +2°C	4.71	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.30 kW	3.00 kW
COP Tj = +7°C	6.10	4.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	3.60 kW

COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.60 kW	8.90 kW
COP Tj = Tbiv	2.61	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.80 kW	4.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.20 kW	6.60 kW
Annual energy consumption Qhe	8095 kWh	8982 kWh
Pdh Tj = -15°C (if TOL	10.60	8.90
COP Tj = -15°C (if TOL	2.61	1.82
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	249 %	170 %
Prated	12.00 kW	14.00 kW
SCOP	6.30	4.33
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.00 kW	13.00 kW
COP Tj = +2°C	3.40	2.25
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.90 kW	9.00 kW
COP Tj = +7°C	5.60	3.61
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.10 kW
COP Tj = 12°C	7.94	5.93
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.90 kW	9.00 kW
COP Tj = Tbiv	5.60	3.61

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.30 kW	13.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	1.00 kW
Annual energy consumption Qhe	2626 kWh	4324 kWh

Model Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKLd-16D/3HBp-A	
Model name	Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKLd-16D/3HBp-A
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	16 kW	16 kW
El input	3.54 kW	5.49 kW
COP	4.52	2.91

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	179 %	134 %
Prated	15 kW	13 kW
SCOP	4.55	3.43
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.5 kW	11.4 kW
COP Tj = -7°C	2.7	2.05
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	8 kW	7.1 kW
COP Tj = +2°C	4.39	3.33

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	5.4 kW	4.5 kW
COP Tj = +7°C	6.33	4.62
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.5 kW	3.4 kW
COP Tj = 12°C	8.57	6.12
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	13.5 kW	11.4 kW
COP Tj = Tbiv	2.7	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.2 kW	11.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.8 kW	1.8 kW
Annual energy consumption Qhe	6915 kWh	7765 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	155 %	121 %
Prated	14 kW	12 kW
SCOP	3.95	3.1
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.1 kW	7.7 kW
COP Tj = -7°C	3.3	2.61
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	5 kW	4.5 kW
COP Tj = +2°C	4.88	3.79
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	3.2 kW	3.1 kW
COP Tj = +7°C	5.75	4.87
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	3.7 kW	3.6 kW

COP Tj = 12°C	7.59	6.38
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	11.3 kW	9.6 kW
COP Tj = Tbiv	2.28	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.8 kW	5.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	6.9 kW
Annual energy consumption Qhe	8667 kWh	9388 kWh
Pdh Tj = -15°C (if TOL	11.3	9.6
COP Tj = -15°C (if TOL	2.28	1.84
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	239 %	171 %
Prated	13 kW	14 kW
SCOP	6.05	4.35
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13 kW	13.2 kW
COP Tj = +2°C	3.34	2.31
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	8.5 kW	9 kW
COP Tj = +7°C	5.2	3.69
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.8 kW	4.1 kW
COP Tj = 12°C	7.95	5.8
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	8.5 kW	9 kW
COP Tj = Tbiv	5.2	3.69

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13 kW	13.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.34	2.31
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0.8 kW
Annual energy consumption Qhe	2936 kWh	4331 kWh

Model Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKL-16D/HBp-A	
Model name	Outdoor unit: THF-12S/HBpO-A, Indoor unit: SMKL-16D/HBp-A
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	12.1 kW	12 kW
El input	2.42 kW	3.85 kW
COP	5	3.12

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	185 %	136 %
Prated	12 kW	12 kW
SCOP	4.7	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.7 kW	10.7 kW
COP Tj = -7°C	2.92	2.11
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	6.8 kW	6.8 kW
COP Tj = +2°C	4.51	3.43

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	4.5 kW	4.4 kW
COP Tj = +7°C	6.36	4.57
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4 kW	3.7 kW
COP Tj = 12°C	8.45	6.19
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	10.7 kW	10.7 kW
COP Tj = Tbiv	2.92	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.7	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.9 kW	2 kW
Annual energy consumption Qhe	5351 kWh	7213 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	163 %	119 %
Prated	11.00 kW	10.00 kW
SCOP	4.16	3.03
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.20 kW	6.70 kW
COP Tj = -7°C	3.51	2.57
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.10 kW	3.90 kW
COP Tj = +2°C	5.05	3.69
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	2.90 kW
COP Tj = +7°C	6.19	4.57
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.20 kW

COP Tj = 12°C	8.19	6.59
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.20 kW	8.50 kW
COP Tj = Tbiv	2.59	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.10 kW	4.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.08	1.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.90 kW	5.40 kW
Annual energy consumption Qhe	6747 kWh	8500 kWh
Pdh Tj = -15°C (if TOL	9.20	8.50
COP Tj = -15°C (if TOL	2.59	1.85
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	253 %	174 %
Prated	11 kW	12 kW
SCOP	6.41	4.44
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11 kW	12 kW
COP Tj = +2°C	3.61	2.27
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	7.1 kW	8 kW
COP Tj = +7°C	5.65	3.75
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.7 kW	4.3 kW
COP Tj = 12°C	8.34	5.95
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	7.1 kW	8 kW
COP Tj = Tbiv	5.65	3.75

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.1 kW	12.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.27
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2325 kWh	3762 kWh

Model Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKL-16D/HBp-A	
Model name	Outdoor unit: THF-14S/HBpO-A, Indoor unit: SMKL-16D/HBp-A
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	14.5 kW	14 kW
El input	3.05 kW	4.65 kW
COP	4.75	3.01

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	180 %	131 %
Prated	14.00 kW	12.00 kW
SCOP	4.65	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.30 kW	10.90 kW
COP Tj = -7°C	2.70	2.02
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.50 kW	7.20 kW
COP Tj = +2°C	4.46	3.22

Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.10 kW	4.60 kW
COP Tj = +7°C	6.38	4.53
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.50 kW	3.40 kW
COP Tj = 12°C	7.63	6.17
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.30 kW	10.90 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.20 kW	2.00 kW
Annual energy consumption Qhe	6270 kWh	7614 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	156 %	117 %
Prated	13.00 kW	11.00 kW
SCOP	3.98	3.00
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.20 kW	7.10 kW
COP Tj = -7°C	3.35	2.56
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.60 kW	4.20 kW
COP Tj = +2°C	4.71	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.30 kW	3.00 kW
COP Tj = +7°C	6.10	4.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	3.60 kW

COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.60 kW	8.90 kW
COP Tj = Tbiv	2.61	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.80 kW	4.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.20 kW	6.60 kW
Annual energy consumption Qhe	8095 kWh	8982 kWh
Pdh Tj = -15°C (if TOL	10.60	8.90
COP Tj = -15°C (if TOL	2.61	1.82
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	249 %	170 %
Prated	12.00 kW	14.00 kW
SCOP	6.30	4.33
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.00 kW	13.00 kW
COP Tj = +2°C	3.40	2.25
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.90 kW	9.00 kW
COP Tj = +7°C	5.60	3.61
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.10 kW
COP Tj = 12°C	7.94	5.93
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.90 kW	9.00 kW
COP Tj = Tbiv	5.60	3.61

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.30 kW	13.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	1.00 kW
Annual energy consumption Qhe	2626 kWh	4324 kWh

Model Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKL-16D/HBp-A	
Model name	Outdoor unit: THF-16S/HBpO-A, Indoor unit: SMKL-16D/HBp-A
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	16 kW	16 kW
El input	3.54 kW	5.49 kW
COP	4.52	2.91

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	179 %	134 %
Prated	15 kW	13 kW
SCOP	4.55	3.43
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.5 kW	11.4 kW
COP Tj = -7°C	2.7	2.05
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	8 kW	7.1 kW
COP Tj = +2°C	4.39	3.33

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	5.4 kW	4.5 kW
COP Tj = +7°C	6.33	4.62
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.5 kW	3.4 kW
COP Tj = 12°C	8.57	6.12
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	13.5 kW	11.4 kW
COP Tj = Tbiv	2.7	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.2 kW	11.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.8 kW	1.8 kW
Annual energy consumption Qhe	6915 kWh	7765 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	155 %	121 %
Prated	14 kW	12 kW
SCOP	3.95	3.1
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.1 kW	7.7 kW
COP Tj = -7°C	3.3	2.61
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	5 kW	4.5 kW
COP Tj = +2°C	4.88	3.79
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	3.2 kW	3.1 kW
COP Tj = +7°C	5.75	4.87
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	3.7 kW	3.6 kW

COP Tj = 12°C	7.59	6.38
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	11.3 kW	9.6 kW
COP Tj = Tbiv	2.28	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.8 kW	5.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	6.9 kW
Annual energy consumption Qhe	8667 kWh	9388 kWh
Pdh Tj = -15°C (if TOL	11.3	9.6
COP Tj = -15°C (if TOL	2.28	1.84
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	239 %	171 %
Prated	13 kW	14 kW
SCOP	6.05	4.35
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13 kW	13.2 kW
COP Tj = +2°C	3.34	2.31
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	8.5 kW	9 kW
COP Tj = +7°C	5.2	3.69
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	4.8 kW	4.1 kW
COP Tj = 12°C	7.95	5.8
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	8.5 kW	9 kW
COP Tj = Tbiv	5.2	3.69

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13 kW	13.2 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.34	2.31
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0.8 kW
Annual energy consumption Qhe	2936 kWh	4331 kWh