

Subtype Tri-Thermal R290 monobloc 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	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Tri-Thermal R290 monobloc series 12 14 16 kW
Registration number	011-1W0857
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.25 kg
Certification Date	30.10.2024
Testing basis	HP KEYMARK certification scheme rules V14

Model THML-12S/FBp-A

Model name	THML-12S/FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	2.50 kW	3.76 kW
COP	4.80	3.19

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	12.20 kW	11.90 kW
SCOP	4.78	3.78
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.60 kW
COP Tj = -7°C	2.71	2.25
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.80 kW	6.70 kW
COP Tj = +2°C	4.54	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.30 kW	4.20 kW

COP Tj = +7°C	7.03	5.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.00 kW
COP Tj = 12°C	8.98	7.26
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.80 kW	10.60 kW
COP Tj = Tbiv	2.71	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	1.60 kW
Annual energy consumption Qhe	5262 kWh	6456 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	172 %	140 %
Prated	12.20 kW	12.40 kW
SCOP	4.38	3.58
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.30 kW	7.40 kW
COP Tj = -7°C	3.52	2.89
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.70 kW	4.60 kW
COP Tj = +2°C	5.38	4.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	3.00 kW
COP Tj = +7°C	7.58	5.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.20 kW
COP Tj = 12°C	8.49	7.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	10.10 kW

COP Tj = Tbiv	2.61	2.22
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.70 kW	3.40 kW
Annual energy consumption Qhe	6834 kWh	8569 kWh
Pdh Tj = -15°C (if TOL)	9.90	10.10
COP Tj = -15°C (if TOL)	2.61	2.22
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	270 %	193 %
Prated	12.20 kW	12.10 kW
SCOP	6.83	4.90
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.10 kW	12.10 kW
COP Tj = +2°C	3.26	2.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.80 kW	7.80 kW
COP Tj = +7°C	5.82	4.21
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	9.06	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.80 kW	7.80 kW
COP Tj = Tbiv	5.82	4.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.48

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.10 kW	0.00 kW
Annual energy consumption Qhe	2384 kWh	3294 kWh

Model THMLd-12S/3FBp-A

Model name	THMLd-12S/3FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	2.50 kW	3.76 kW
COP	4.80	3.19

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	12.20 kW	11.90 kW
SCOP	4.78	3.78
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.60 kW
COP Tj = -7°C	2.71	2.25
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.80 kW	6.70 kW
COP Tj = +2°C	4.54	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.30 kW	4.20 kW

COP Tj = +7°C	7.03	5.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.00 kW
COP Tj = 12°C	8.98	7.26
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.80 kW	10.60 kW
COP Tj = Tbiv	2.71	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	1.60 kW
Annual energy consumption Qhe	5262 kWh	6456 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	172 %	140 %
Prated	12.20 kW	12.40 kW
SCOP	4.38	3.58
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.30 kW	7.40 kW
COP Tj = -7°C	3.52	2.89
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.70 kW	4.60 kW
COP Tj = +2°C	5.38	4.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	3.00 kW
COP Tj = +7°C	7.58	5.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.20 kW
COP Tj = 12°C	8.49	7.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	10.10 kW

COP Tj = Tbiv	2.61	2.22
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.70 kW	3.40 kW
Annual energy consumption Qhe	6834 kWh	8569 kWh
Pdh Tj = -15°C (if TOL)	9.90	10.10
COP Tj = -15°C (if TOL)	2.61	2.22
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	270 %	193 %
Prated	12.20 kW	12.10 kW
SCOP	6.83	4.90
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.10 kW	12.10 kW
COP Tj = +2°C	3.26	2.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.80 kW	7.80 kW
COP Tj = +7°C	5.82	4.21
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	9.06	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.80 kW	7.80 kW
COP Tj = Tbiv	5.82	4.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.48

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.10 kW	0.00 kW
Annual energy consumption Qhe	2384 kWh	3294 kWh

Model THMLd-12S/6FBp-A

Model name	THMLd-12S/6FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	2.50 kW	3.76 kW
COP	4.80	3.19

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	12.20 kW	11.90 kW
SCOP	4.78	3.78
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.60 kW
COP Tj = -7°C	2.71	2.25
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.80 kW	6.70 kW
COP Tj = +2°C	4.54	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.30 kW	4.20 kW

COP Tj = +7°C	7.03	5.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.00 kW
COP Tj = 12°C	8.98	7.26
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.80 kW	10.60 kW
COP Tj = Tbiv	2.71	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	1.60 kW
Annual energy consumption Qhe	5262 kWh	6456 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	172 %	140 %
Prated	12.20 kW	12.40 kW
SCOP	4.38	3.58
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.30 kW	7.40 kW
COP Tj = -7°C	3.52	2.89
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.70 kW	4.60 kW
COP Tj = +2°C	5.38	4.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	3.00 kW
COP Tj = +7°C	7.58	5.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.20 kW
COP Tj = 12°C	8.49	7.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	10.10 kW

COP Tj = Tbiv	2.61	2.22
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.70 kW	3.40 kW
Annual energy consumption Qhe	6834 kWh	8569 kWh
Pdh Tj = -15°C (if TOL)	9.90	10.10
COP Tj = -15°C (if TOL)	2.61	2.22
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	270 %	193 %
Prated	12.20 kW	12.10 kW
SCOP	6.83	4.90
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.10 kW	12.10 kW
COP Tj = +2°C	3.26	2.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.80 kW	7.80 kW
COP Tj = +7°C	5.82	4.21
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	9.06	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.80 kW	7.80 kW
COP Tj = Tbiv	5.82	4.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.48

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.10 kW	0.00 kW
Annual energy consumption Qhe	2384 kWh	3294 kWh

Model THMLd-12S/9FBp-A

Model name	THMLd-12S/9FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	2.50 kW	3.76 kW
COP	4.80	3.19

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	12.20 kW	11.90 kW
SCOP	4.78	3.78
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.60 kW
COP Tj = -7°C	2.71	2.25
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.80 kW	6.70 kW
COP Tj = +2°C	4.54	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.30 kW	4.20 kW

COP Tj = +7°C	7.03	5.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.00 kW
COP Tj = 12°C	8.98	7.26
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.80 kW	10.60 kW
COP Tj = Tbiv	2.71	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °C
Poff	14 W	14 W
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PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.20 kW	1.60 kW
Annual energy consumption Qhe	5262 kWh	6456 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	172 %	140 %
Prated	12.20 kW	12.40 kW
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Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	3.00 kW
COP Tj = +7°C	7.58	5.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.20 kW
COP Tj = 12°C	8.49	7.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	10.10 kW

COP Tj = Tbiv	2.61	2.22
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.70 kW	3.40 kW
Annual energy consumption Qhe	6834 kWh	8569 kWh
Pdh Tj = -15°C (if TOL)	9.90	10.10
COP Tj = -15°C (if TOL)	2.61	2.22
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	270 %	193 %
Prated	12.20 kW	12.10 kW
SCOP	6.83	4.90
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.10 kW	12.10 kW
COP Tj = +2°C	3.26	2.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.80 kW	7.80 kW
COP Tj = +7°C	5.82	4.21
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	9.06	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.80 kW	7.80 kW
COP Tj = Tbiv	5.82	4.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.48

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.10 kW	0.00 kW
Annual energy consumption Qhe	2384 kWh	3294 kWh

Model THML-12D/FBp-A

Model name	THML-12D/FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 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	2.50 kW	3.76 kW
COP	4.80	3.19

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	12.20 kW	11.90 kW
SCOP	4.78	3.78
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.60 kW
COP Tj = -7°C	2.71	2.25
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.80 kW	6.70 kW
COP Tj = +2°C	4.54	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.30 kW	4.20 kW

COP Tj = +7°C	7.03	5.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.00 kW
COP Tj = 12°C	8.98	7.26
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.80 kW	10.60 kW
COP Tj = Tbiv	2.71	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	1.60 kW
Annual energy consumption Qhe	5262 kWh	6456 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	172 %	140 %
Prated	12.20 kW	12.40 kW
SCOP	4.38	3.58
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.30 kW	7.40 kW
COP Tj = -7°C	3.52	2.89
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.70 kW	4.60 kW
COP Tj = +2°C	5.38	4.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	3.00 kW
COP Tj = +7°C	7.58	5.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.20 kW
COP Tj = 12°C	8.49	7.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	10.10 kW

COP Tj = Tbiv	2.61	2.22
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.70 kW	3.40 kW
Annual energy consumption Qhe	6834 kWh	8569 kWh
Pdh Tj = -15°C (if TOL)	9.90	10.10
COP Tj = -15°C (if TOL)	2.61	2.22
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	270 %	193 %
Prated	12.20 kW	12.10 kW
SCOP	6.83	4.90
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.10 kW	12.10 kW
COP Tj = +2°C	3.26	2.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.80 kW	7.80 kW
COP Tj = +7°C	5.82	4.21
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	9.06	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.80 kW	7.80 kW
COP Tj = Tbiv	5.82	4.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.48

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.10 kW	0.00 kW
Annual energy consumption Qhe	2384 kWh	3294 kWh

Model THMLd-12D/3FBp-A

Model name	THMLd-12D/3FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 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	2.50 kW	3.76 kW
COP	4.80	3.19

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	12.20 kW	11.90 kW
SCOP	4.78	3.78
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.60 kW
COP Tj = -7°C	2.71	2.25
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.80 kW	6.70 kW
COP Tj = +2°C	4.54	3.62
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.30 kW	4.20 kW

COP Tj = +7°C	7.03	5.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.00 kW
COP Tj = 12°C	8.98	7.26
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.80 kW	10.60 kW
COP Tj = Tbiv	2.71	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	1.60 kW
Annual energy consumption Qhe	5262 kWh	6456 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	172 %	140 %
Prated	12.20 kW	12.40 kW
SCOP	4.38	3.58
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.30 kW	7.40 kW
COP Tj = -7°C	3.52	2.89
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.70 kW	4.60 kW
COP Tj = +2°C	5.38	4.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.20 kW	3.00 kW
COP Tj = +7°C	7.58	5.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.20 kW
COP Tj = 12°C	8.49	7.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	10.10 kW

COP Tj = Tbiv	2.61	2.22
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.10	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.70 kW	3.40 kW
Annual energy consumption Qhe	6834 kWh	8569 kWh
Pdh Tj = -15°C (if TOL)	9.90	10.10
COP Tj = -15°C (if TOL)	2.61	2.22
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	270 %	193 %
Prated	12.20 kW	12.10 kW
SCOP	6.83	4.90
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.10 kW	12.10 kW
COP Tj = +2°C	3.26	2.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.80 kW	7.80 kW
COP Tj = +7°C	5.82	4.21
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	9.06	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.80 kW	7.80 kW
COP Tj = Tbiv	5.82	4.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.10 kW	12.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.48

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.10 kW	0.00 kW
Annual energy consumption Qhe	2384 kWh	3294 kWh

Model THML-14S/FBp-A

Model name	THML-14S/FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	14.00 kW	14.00 kW
El input	3.05 kW	4.52 kW
COP	4.59	3.10

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	146 %
Prated	14.30 kW	13.00 kW
SCOP	4.65	3.73
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.60 kW	11.50 kW
COP Tj = -7°C	2.54	2.15
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.40 kW	7.10 kW
COP Tj = +2°C	4.37	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.90 kW	4.40 kW

COP Tj = +7°C	7.08	5.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.40 kW	4.00 kW
COP Tj = 12°C	9.63	7.33
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.60 kW	11.50 kW
COP Tj = Tbiv	2.54	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.90 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.40 kW	2.00 kW
Annual energy consumption Qhe	6348 kWh	7157 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	136 %
Prated	14.40 kW	13.10 kW
SCOP	4.25	3.48
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.80 kW	8.10 kW
COP Tj = -7°C	3.45	2.95
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.20 kW	4.90 kW
COP Tj = +2°C	5.15	4.06
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.00 kW
COP Tj = +7°C	7.54	5.66
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.80 kW	10.70 kW

COP Tj = Tbiv	2.52	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.60 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	3.80 kW	3.80 kW
Annual energy consumption Qhe	8357 kWh	9279 kWh
Pdh Tj = -15°C (if TOL)	11.80	10.70
COP Tj = -15°C (if TOL)	2.52	2.14
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	260 %	197 %
Prated	13.30 kW	13.90 kW
SCOP	6.58	5.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.90 kW
COP Tj = +2°C	3.18	2.33
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	8.90 kW
COP Tj = +7°C	5.75	4.15
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.80 kW	4.20 kW
COP Tj = 12°C	8.63	6.78
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	8.90 kW
COP Tj = Tbiv	5.75	4.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	13.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.33

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.30 kW	0.00 kW
Annual energy consumption Qhe	2690 kWh	3708 kWh

Model THMLd-14S/3FBp-A

Model name	THMLd-14S/3FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	14.00 kW	14.00 kW
El input	3.05 kW	4.52 kW
COP	4.59	3.10

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	146 %
Prated	14.30 kW	13.00 kW
SCOP	4.65	3.73
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.60 kW	11.50 kW
COP Tj = -7°C	2.54	2.15
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.40 kW	7.10 kW
COP Tj = +2°C	4.37	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.90 kW	4.40 kW

COP Tj = +7°C	7.08	5.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.40 kW	4.00 kW
COP Tj = 12°C	9.63	7.33
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.60 kW	11.50 kW
COP Tj = Tbiv	2.54	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.90 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.40 kW	2.00 kW
Annual energy consumption Qhe	6348 kWh	7157 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	136 %
Prated	14.40 kW	13.10 kW
SCOP	4.25	3.48
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.80 kW	8.10 kW
COP Tj = -7°C	3.45	2.95
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.20 kW	4.90 kW
COP Tj = +2°C	5.15	4.06
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.00 kW
COP Tj = +7°C	7.54	5.66
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.80 kW	10.70 kW

COP Tj = Tbiv	2.52	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.60 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	3.80 kW	3.80 kW
Annual energy consumption Qhe	8357 kWh	9279 kWh
Pdh Tj = -15°C (if TOL)	11.80	10.70
COP Tj = -15°C (if TOL)	2.52	2.14
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	260 %	197 %
Prated	13.30 kW	13.90 kW
SCOP	6.58	5.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.90 kW
COP Tj = +2°C	3.18	2.33
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	8.90 kW
COP Tj = +7°C	5.75	4.15
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.80 kW	4.20 kW
COP Tj = 12°C	8.63	6.78
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	8.90 kW
COP Tj = Tbiv	5.75	4.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	13.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.33

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.30 kW	0.00 kW
Annual energy consumption Qhe	2690 kWh	3708 kWh

Model THMLd-14S/6FBp-A

Model name	THMLd-14S/6FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	14.00 kW	14.00 kW
El input	3.05 kW	4.52 kW
COP	4.59	3.10

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	146 %
Prated	14.30 kW	13.00 kW
SCOP	4.65	3.73
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.60 kW	11.50 kW
COP Tj = -7°C	2.54	2.15
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.40 kW	7.10 kW
COP Tj = +2°C	4.37	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.90 kW	4.40 kW

COP Tj = +7°C	7.08	5.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.40 kW	4.00 kW
COP Tj = 12°C	9.63	7.33
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.60 kW	11.50 kW
COP Tj = Tbiv	2.54	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.90 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.40 kW	2.00 kW
Annual energy consumption Qhe	6348 kWh	7157 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	136 %
Prated	14.40 kW	13.10 kW
SCOP	4.25	3.48
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.80 kW	8.10 kW
COP Tj = -7°C	3.45	2.95
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.20 kW	4.90 kW
COP Tj = +2°C	5.15	4.06
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.00 kW
COP Tj = +7°C	7.54	5.66
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.80 kW	10.70 kW

COP Tj = Tbiv	2.52	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.60 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	3.80 kW	3.80 kW
Annual energy consumption Qhe	8357 kWh	9279 kWh
Pdh Tj = -15°C (if TOL)	11.80	10.70
COP Tj = -15°C (if TOL)	2.52	2.14
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	260 %	197 %
Prated	13.30 kW	13.90 kW
SCOP	6.58	5.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.90 kW
COP Tj = +2°C	3.18	2.33
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	8.90 kW
COP Tj = +7°C	5.75	4.15
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.80 kW	4.20 kW
COP Tj = 12°C	8.63	6.78
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	8.90 kW
COP Tj = Tbiv	5.75	4.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	13.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.33

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.30 kW	0.00 kW
Annual energy consumption Qhe	2690 kWh	3708 kWh

Model THMLd-14S/9FBp-A

Model name	THMLd-14S/9FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	14.00 kW	14.00 kW
El input	3.05 kW	4.52 kW
COP	4.59	3.10

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	146 %
Prated	14.30 kW	13.00 kW
SCOP	4.65	3.73
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.60 kW	11.50 kW
COP Tj = -7°C	2.54	2.15
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.40 kW	7.10 kW
COP Tj = +2°C	4.37	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.90 kW	4.40 kW

COP Tj = +7°C	7.08	5.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.40 kW	4.00 kW
COP Tj = 12°C	9.63	7.33
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.60 kW	11.50 kW
COP Tj = Tbiv	2.54	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.90 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.40 kW	2.00 kW
Annual energy consumption Qhe	6348 kWh	7157 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	136 %
Prated	14.40 kW	13.10 kW
SCOP	4.25	3.48
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.80 kW	8.10 kW
COP Tj = -7°C	3.45	2.95
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.20 kW	4.90 kW
COP Tj = +2°C	5.15	4.06
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.00 kW
COP Tj = +7°C	7.54	5.66
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.80 kW	10.70 kW

COP Tj = Tbiv	2.52	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.60 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	3.80 kW	3.80 kW
Annual energy consumption Qhe	8357 kWh	9279 kWh
Pdh Tj = -15°C (if TOL)	11.80	10.70
COP Tj = -15°C (if TOL)	2.52	2.14
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	260 %	197 %
Prated	13.30 kW	13.90 kW
SCOP	6.58	5.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.90 kW
COP Tj = +2°C	3.18	2.33
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	8.90 kW
COP Tj = +7°C	5.75	4.15
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.80 kW	4.20 kW
COP Tj = 12°C	8.63	6.78
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	8.90 kW
COP Tj = Tbiv	5.75	4.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	13.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.33

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.30 kW	0.00 kW
Annual energy consumption Qhe	2690 kWh	3708 kWh

Model THML-14D/FBp-A

Model name	THML-14D/FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 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	14.00 kW	14.00 kW
El input	3.05 kW	4.52 kW
COP	4.59	3.10

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	146 %
Prated	14.30 kW	13.00 kW
SCOP	4.65	3.73
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.60 kW	11.50 kW
COP Tj = -7°C	2.54	2.15
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.40 kW	7.10 kW
COP Tj = +2°C	4.37	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.90 kW	4.40 kW

COP Tj = +7°C	7.08	5.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.40 kW	4.00 kW
COP Tj = 12°C	9.63	7.33
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.60 kW	11.50 kW
COP Tj = Tbiv	2.54	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.90 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.40 kW	2.00 kW
Annual energy consumption Qhe	6348 kWh	7157 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	136 %
Prated	14.40 kW	13.10 kW
SCOP	4.25	3.48
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.80 kW	8.10 kW
COP Tj = -7°C	3.45	2.95
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.20 kW	4.90 kW
COP Tj = +2°C	5.15	4.06
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.00 kW
COP Tj = +7°C	7.54	5.66
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.80 kW	10.70 kW

COP Tj = Tbiv	2.52	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.60 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	3.80 kW	3.80 kW
Annual energy consumption Qhe	8357 kWh	9279 kWh
Pdh Tj = -15°C (if TOL)	11.80	10.70
COP Tj = -15°C (if TOL)	2.52	2.14
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	260 %	197 %
Prated	13.30 kW	13.90 kW
SCOP	6.58	5.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.90 kW
COP Tj = +2°C	3.18	2.33
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	8.90 kW
COP Tj = +7°C	5.75	4.15
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.80 kW	4.20 kW
COP Tj = 12°C	8.63	6.78
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	8.90 kW
COP Tj = Tbiv	5.75	4.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	13.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.33

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.30 kW	0.00 kW
Annual energy consumption Qhe	2690 kWh	3708 kWh

Model THMLd-14D/3FBp-A

Model name	THMLd-14D/3FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 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	14.00 kW	14.00 kW
El input	3.05 kW	4.52 kW
COP	4.59	3.10

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	146 %
Prated	14.30 kW	13.00 kW
SCOP	4.65	3.73
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.60 kW	11.50 kW
COP Tj = -7°C	2.54	2.15
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.40 kW	7.10 kW
COP Tj = +2°C	4.37	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.90 kW	4.40 kW

COP Tj = +7°C	7.08	5.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.40 kW	4.00 kW
COP Tj = 12°C	9.63	7.33
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.60 kW	11.50 kW
COP Tj = Tbiv	2.54	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.90 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.40 kW	2.00 kW
Annual energy consumption Qhe	6348 kWh	7157 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	136 %
Prated	14.40 kW	13.10 kW
SCOP	4.25	3.48
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.80 kW	8.10 kW
COP Tj = -7°C	3.45	2.95
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.20 kW	4.90 kW
COP Tj = +2°C	5.15	4.06
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.00 kW
COP Tj = +7°C	7.54	5.66
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.80 kW	10.70 kW

COP Tj = Tbiv	2.52	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.60 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	3.80 kW	3.80 kW
Annual energy consumption Qhe	8357 kWh	9279 kWh
Pdh Tj = -15°C (if TOL)	11.80	10.70
COP Tj = -15°C (if TOL)	2.52	2.14
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	260 %	197 %
Prated	13.30 kW	13.90 kW
SCOP	6.58	5.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.00 kW	13.90 kW
COP Tj = +2°C	3.18	2.33
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.50 kW	8.90 kW
COP Tj = +7°C	5.75	4.15
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.80 kW	4.20 kW
COP Tj = 12°C	8.63	6.78
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.50 kW	8.90 kW
COP Tj = Tbiv	5.75	4.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	13.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.33

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.30 kW	0.00 kW
Annual energy consumption Qhe	2690 kWh	3708 kWh

Model THML-16S/FBp-A

Model name	THML-16S/FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	3.40 kW	5.20 kW
COP	4.41	2.88

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	178 %	143 %
Prated	15.40 kW	14.20 kW
SCOP	4.53	3.65
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.60 kW	12.60 kW
COP Tj = -7°C	2.46	2.11
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	4.20	3.41
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.30 kW	5.10 kW

COP Tj = +7°C	7.06	5.44
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.20 kW
COP Tj = 12°C	9.36	7.23
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	13.60 kW	12.60 kW
COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.30 kW	12.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.10 kW	1.50 kW
Annual energy consumption Qhe	7024 kWh	8051 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	161 %	135 %
Prated	15.00 kW	14.80 kW
SCOP	4.10	3.45
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.30 kW	9.00 kW
COP Tj = -7°C	3.39	2.80
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.40 kW	5.40 kW
COP Tj = +2°C	4.85	4.11
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.60 kW
COP Tj = +7°C	7.22	5.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.20 kW	12.00 kW

COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	4.20 kW	4.80 kW
Annual energy consumption Qhe	9013 kWh	10575 kWh
Pdh Tj = -15°C (if TOL)	12.20	12.00
COP Tj = -15°C (if TOL)	2.46	2.11
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	248 %	195 %
Prated	15.40 kW	15.00 kW
SCOP	6.28	4.95
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.90 kW	14.80 kW
COP Tj = +2°C	2.85	2.34
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.90 kW	9.60 kW
COP Tj = +7°C	5.50	4.09
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.40 kW	4.40 kW
COP Tj = 12°C	8.33	6.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	9.60 kW
COP Tj = Tbiv	5.50	4.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.90 kW	14.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.34

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.50 kW	0.20 kW
Annual energy consumption Qhe	3265 kWh	4048 kWh

Model THMLd-16S/3FBp-A

Model name	THMLd-16S/3FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	3.40 kW	5.20 kW
COP	4.41	2.88

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	178 %	143 %
Prated	15.40 kW	14.20 kW
SCOP	4.53	3.65
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.60 kW	12.60 kW
COP Tj = -7°C	2.46	2.11
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	4.20	3.41
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.30 kW	5.10 kW

COP Tj = +7°C	7.06	5.44
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.20 kW
COP Tj = 12°C	9.36	7.23
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	13.60 kW	12.60 kW
COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.30 kW	12.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.10 kW	1.50 kW
Annual energy consumption Qhe	7024 kWh	8051 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	161 %	135 %
Prated	15.00 kW	14.80 kW
SCOP	4.10	3.45
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.30 kW	9.00 kW
COP Tj = -7°C	3.39	2.80
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.40 kW	5.40 kW
COP Tj = +2°C	4.85	4.11
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.60 kW
COP Tj = +7°C	7.22	5.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.20 kW	12.00 kW

COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	4.20 kW	4.80 kW
Annual energy consumption Qhe	9013 kWh	10575 kWh
Pdh Tj = -15°C (if TOL)	12.20	12.00
COP Tj = -15°C (if TOL)	2.46	2.11
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	248 %	195 %
Prated	15.40 kW	15.00 kW
SCOP	6.28	4.95
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.90 kW	14.80 kW
COP Tj = +2°C	2.85	2.34
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.90 kW	9.60 kW
COP Tj = +7°C	5.50	4.09
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.40 kW	4.40 kW
COP Tj = 12°C	8.33	6.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	9.60 kW
COP Tj = Tbiv	5.50	4.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.90 kW	14.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.34

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.50 kW	0.20 kW
Annual energy consumption Qhe	3265 kWh	4048 kWh

Model THMLd-16S/6FBp-A

Model name	THMLd-16S/6FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	3.40 kW	5.20 kW
COP	4.41	2.88

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	178 %	143 %
Prated	15.40 kW	14.20 kW
SCOP	4.53	3.65
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.60 kW	12.60 kW
COP Tj = -7°C	2.46	2.11
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	4.20	3.41
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.30 kW	5.10 kW

COP Tj = +7°C	7.06	5.44
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.20 kW
COP Tj = 12°C	9.36	7.23
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	13.60 kW	12.60 kW
COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.30 kW	12.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.10 kW	1.50 kW
Annual energy consumption Qhe	7024 kWh	8051 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	161 %	135 %
Prated	15.00 kW	14.80 kW
SCOP	4.10	3.45
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.30 kW	9.00 kW
COP Tj = -7°C	3.39	2.80
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.40 kW	5.40 kW
COP Tj = +2°C	4.85	4.11
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.60 kW
COP Tj = +7°C	7.22	5.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.20 kW	12.00 kW

COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	4.20 kW	4.80 kW
Annual energy consumption Qhe	9013 kWh	10575 kWh
Pdh Tj = -15°C (if TOL)	12.20	12.00
COP Tj = -15°C (if TOL)	2.46	2.11
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	248 %	195 %
Prated	15.40 kW	15.00 kW
SCOP	6.28	4.95
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.90 kW	14.80 kW
COP Tj = +2°C	2.85	2.34
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.90 kW	9.60 kW
COP Tj = +7°C	5.50	4.09
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.40 kW	4.40 kW
COP Tj = 12°C	8.33	6.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	9.60 kW
COP Tj = Tbiv	5.50	4.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.90 kW	14.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.34

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.50 kW	0.20 kW
Annual energy consumption Qhe	3265 kWh	4048 kWh

Model THMLd-16S/9FBp-A

Model name	THMLd-16S/9FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 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	3.40 kW	5.20 kW
COP	4.41	2.88

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	178 %	143 %
Prated	15.40 kW	14.20 kW
SCOP	4.53	3.65
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.60 kW	12.60 kW
COP Tj = -7°C	2.46	2.11
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	4.20	3.41
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.30 kW	5.10 kW

COP Tj = +7°C	7.06	5.44
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.20 kW
COP Tj = 12°C	9.36	7.23
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	13.60 kW	12.60 kW
COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.30 kW	12.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.10 kW	1.50 kW
Annual energy consumption Qhe	7024 kWh	8051 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	161 %	135 %
Prated	15.00 kW	14.80 kW
SCOP	4.10	3.45
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.30 kW	9.00 kW
COP Tj = -7°C	3.39	2.80
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.40 kW	5.40 kW
COP Tj = +2°C	4.85	4.11
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.60 kW
COP Tj = +7°C	7.22	5.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.20 kW	12.00 kW

COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	4.20 kW	4.80 kW
Annual energy consumption Qhe	9013 kWh	10575 kWh
Pdh Tj = -15°C (if TOL)	12.20	12.00
COP Tj = -15°C (if TOL)	2.46	2.11
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	248 %	195 %
Prated	15.40 kW	15.00 kW
SCOP	6.28	4.95
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.90 kW	14.80 kW
COP Tj = +2°C	2.85	2.34
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.90 kW	9.60 kW
COP Tj = +7°C	5.50	4.09
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.40 kW	4.40 kW
COP Tj = 12°C	8.33	6.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	9.60 kW
COP Tj = Tbiv	5.50	4.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.90 kW	14.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.34

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.50 kW	0.20 kW
Annual energy consumption Qhe	3265 kWh	4048 kWh

Model THML-16D/FBp-A

Model name	THML-16D/FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 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	3.40 kW	5.20 kW
COP	4.41	2.88

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	178 %	143 %
Prated	15.40 kW	14.20 kW
SCOP	4.53	3.65
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.60 kW	12.60 kW
COP Tj = -7°C	2.46	2.11
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	4.20	3.41
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.30 kW	5.10 kW

COP Tj = +7°C	7.06	5.44
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.20 kW
COP Tj = 12°C	9.36	7.23
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	13.60 kW	12.60 kW
COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.30 kW	12.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.10 kW	1.50 kW
Annual energy consumption Qhe	7024 kWh	8051 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	161 %	135 %
Prated	15.00 kW	14.80 kW
SCOP	4.10	3.45
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.30 kW	9.00 kW
COP Tj = -7°C	3.39	2.80
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.40 kW	5.40 kW
COP Tj = +2°C	4.85	4.11
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.60 kW
COP Tj = +7°C	7.22	5.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.20 kW	12.00 kW

COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	4.20 kW	4.80 kW
Annual energy consumption Qhe	9013 kWh	10575 kWh
Pdh Tj = -15°C (if TOL)	12.20	12.00
COP Tj = -15°C (if TOL)	2.46	2.11
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	248 %	195 %
Prated	15.40 kW	15.00 kW
SCOP	6.28	4.95
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.90 kW	14.80 kW
COP Tj = +2°C	2.85	2.34
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.90 kW	9.60 kW
COP Tj = +7°C	5.50	4.09
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.40 kW	4.40 kW
COP Tj = 12°C	8.33	6.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	9.60 kW
COP Tj = Tbiv	5.50	4.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.90 kW	14.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.34

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.50 kW	0.20 kW
Annual energy consumption Qhe	3265 kWh	4048 kWh

Model THMLd-16D/3FBp-A

Model name	THMLd-16D/3FBp-A
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 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	3.40 kW	5.20 kW
COP	4.41	2.88

EN 12102-1 | Average Climate

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

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	178 %	143 %
Prated	15.40 kW	14.20 kW
SCOP	4.53	3.65
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.60 kW	12.60 kW
COP Tj = -7°C	2.46	2.11
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	4.20	3.41
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.30 kW	5.10 kW

COP Tj = +7°C	7.06	5.44
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	4.20 kW
COP Tj = 12°C	9.36	7.23
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	13.60 kW	12.60 kW
COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.30 kW	12.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	2.10 kW	1.50 kW
Annual energy consumption Qhe	7024 kWh	8051 kWh

EN 12102-1 | Colder Climate

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

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	161 %	135 %
Prated	15.00 kW	14.80 kW
SCOP	4.10	3.45
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.30 kW	9.00 kW
COP Tj = -7°C	3.39	2.80
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.40 kW	5.40 kW
COP Tj = +2°C	4.85	4.11
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.60 kW
COP Tj = +7°C	7.22	5.77
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.20 kW	4.10 kW
COP Tj = 12°C	8.49	7.25
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.20 kW	12.00 kW

COP Tj = Tbiv	2.46	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.80 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	4.20 kW	4.80 kW
Annual energy consumption Qhe	9013 kWh	10575 kWh
Pdh Tj = -15°C (if TOL)	12.20	12.00
COP Tj = -15°C (if TOL)	2.46	2.11
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

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

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	248 %	195 %
Prated	15.40 kW	15.00 kW
SCOP	6.28	4.95
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.90 kW	14.80 kW
COP Tj = +2°C	2.85	2.34
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.90 kW	9.60 kW
COP Tj = +7°C	5.50	4.09
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.40 kW	4.40 kW
COP Tj = 12°C	8.33	6.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.90 kW	9.60 kW
COP Tj = Tbiv	5.50	4.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.90 kW	14.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.34

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	75 °C	75 °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	0.50 kW	0.20 kW
Annual energy consumption Qhe	3265 kWh	4048 kWh