


CERTIFICATE

Certificate holder	Bosch Thermotechnik GmbH Sophienstr. 30-32 35576 Wetzlar GERMANY
Production facility	Tranas, Eschenburg, Aveiro
Product	Air/Water Heat pumps
Type, Model	Buderus Logatherm WLW MB-4/5/7 AR
Testing basis	DIN EN 14511-1; DIN EN 14511-2; DIN EN 14511-3; DIN EN 14511-4:2019-07 DIN EN 14825:2019-07 DIN EN 12102-1:2018-02 DIN EN 16147:2017-08 European KEYMARK Scheme for Heat Pumps Version 12 (2023-03)
Mark of conformity	
Registration No.	011-1W0582
Valid until	2033-03-31
Right of use	This certificate entitles the holder to use the mark of conformity shown above in conjunction with the specified registration number.

See annex for further information.

ANNEX

Certificate 011-1W0582 dated 2023-07-26

Technical Data

Models:

Logatherm WLW176i-4 AR E (60°C)
Logatherm WLW176i-4 AR T180 (60°C)
Logatherm WLW186i-4 AR E W
Logatherm WLW186i-4 AR E
Logatherm WLW186i-4 AR T180
Logatherm WLW186i-4 AR T180 W
Logatherm WLW176i-5 AR E (60°C)
Logatherm WLW176i-5 AR T180 (60°C)
Logatherm WLW186i-5 AR E W
Logatherm WLW186i-5 AR T180
Logatherm WLW186i-5 AR E
Logatherm WLW186i-5 AR T180 W
Logatherm WLW176i-7 AR E (60°C)
Logatherm WLW176i-7 AR T180 (60°C)
Logatherm WLW186i-7 AR E W
Logatherm WLW186i-7 AR E
Logatherm WLW186i-7 AR T180 W
Logatherm WLW186i-7 AR T180
Logatherm WLW176i-4 AR TP70 (60°C)
Logatherm WLW176i-5 AR TP70 (60°C)
Logatherm WLW186i-4 AR TP70 W
Logatherm WLW186i-5 AR TP70
Logatherm WLW186i-5 AR TP70 W
Logatherm WLW186i-4 AR TP70
Logatherm WLW176i-7 AR TP70 (60°C)
Logatherm WLW186i-7 AR TP70
Logatherm WLW186i-7 AR TP70 W
Logatherm WLW176i-4 AR E
Logatherm WLW176i-4 AR T180
Logatherm WLW176i-4 AR TP70
Logatherm WLW176i-5 AR E
Logatherm WLW176i-5 AR T180
Logatherm WLW176i-5 AR TP70
Logatherm WLW176i-7 AR E
Logatherm WLW176i-7 AR T180
Logatherm WLW176i-7 AR TP70

See Heat Pump KEYMARK database for detailed information



ANNEX

Page 2 of 2

Certificate	011-1W0582 dated 2023-07-26
Testing laboratory/ Inspection body	Fraunhofer Institut für Solare Energiesysteme (ISE) Auerstr. 8 79108 Freiburg GERMANY
Test report(s)	B-HPC-21-0897-6 dated 2023-01-12



Subtype Buderus Logatherm WLW MB-4/5/7 AR

Certificate Holder	Bosch Thermotechnik GmbH (Buderus)
Address	Sophienstraße 30-32
ZIP	35576
City	Wetzlar
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Buderus Logatherm WLW MB-4/5/7 AR
Registration number	011-1W0582
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	0.95 kg
Certification Date	30.03.2023
Testing basis	HP KEYMARK certification scheme rules rev. 11

Model Logatherm WLW176i-4 AR E (60°C)

Model name	Logatherm WLW176i-4 AR E (60°C)
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	2.02 kW
El input	0.59 kW	0.79 kW
COP	4.85	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	130 %
Prated	4.4 kW	4 kW
SCOP	4.58	3.32
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.91 kW	3.55 kW
COP Tj = -7°C	2.89	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.26 kW
COP Tj = +2°C	4.48	3.24

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.55 kW
COP Tj = +7°C	6.17	4.37
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.43	5.41
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.91 kW	3.55 kW
COP Tj = Tbiv	2.89	3.55
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	0.85 kW
Annual energy consumption Qhe	1987 kWh	2492 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.8 kW	3.2 kW
SCOP	4.03	2.81
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.87 kW
COP Tj = -7°C	3.42	2.27
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.46 kW	1.27 kW
COP Tj = +2°C	5.03	3.43
Cdh Tj = +2 °C	0.95	0.96
Pdh Tj = +7°C	1.61 kW	1.58 kW
COP Tj = +7°C	5.76	4.29
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12°C	6.63	5.25
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.12 kW	2.64 kW
COP Tj = Tbiv	2.51	1.8
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.91	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.58 kW	1.13 kW
Annual energy consumption Qhe	2327 kWh	2807 kWh
Pdh Tj = -15°C (if TOL	3.12	2.64
COP Tj = -15°C (if TOL	2.51	1.8
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	210 %	143 %
Prated	4.3 kW	3.8 kW
SCOP	5.33	3.66
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.31 kW	3.92 kW
COP Tj = +2°C	3.21	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.41 kW
COP Tj = +7°C	4.95	3.09
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.82 kW	1.79 kW
COP Tj = 12°C	6.72	5.01
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.31 kW	3.92 kW
COP Tj = Tbiv	3.21	2.12

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.31 kW	3.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.21	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1077 kWh	1389 kWh

Model Logatherm WLW176i-4 AR T180 (60°C)

Model name	Logatherm WLW176i-4 AR T180 (60°C)
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	85 %
COP	1.94
Heating up time	3:08 h:min
Standby power input	93.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	73 %
COP	1.65
Heating up time	3:25 h:min
Standby power input	120.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	98 %
COP	2.21
Heating up time	3:08 h:min
Standby power input	92.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	1.97 kW
El input	0.59 kW	0.8 kW
COP	4.81	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	127 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.25
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.89 kW	3.51 kW
COP Tj = -7°C	2.88	2.10
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.23 kW
COP Tj = +2°C	4.46	3.19
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.53 kW
COP Tj = +7°C	6.12	4.26
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.96 kW	1.82 kW
COP Tj = 12°C	7.37	5.30
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.89 kW	3.51 kW
COP Tj = Tbiv	2.88	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.61 kW	3.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W

PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.79 kW	0.90 kW
Annual energy consumption Q _{he}	1999 kWh	2539 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	157 %	108 %
Prated	3.8 kW	3.2 kW
SCOP	3.99	2.76
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	2.25 kW	1.84 kW
COP T _j = -7°C	3.4	2.21
C _{dh} T _j = -7 °C	0.98	0.98
P _{dh} T _j = +2°C	1.46 kW	1.26 kW
COP T _j = +2°C	4.98	3.41
C _{dh} T _j = +2 °C	0.95	0.96
P _{dh} T _j = +7°C	1.6 kW	1.56 kW
COP T _j = +7°C	5.72	4.17
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.8 kW	1.77 kW
COP T _j = 12°C	6.57	5.14
C _{dh} T _j = +12 °C	0.95	0.96
P _{dh} T _j = T _{biv}	3.11 kW	2.6 kW
COP T _j = T _{biv}	2.49	1.78
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.2 kW	2.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.89	1.35
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	60 °C	60 °C
P _{off}	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.6 kW	1.18 kW
Annual energy consumption Q _{he}	2345 kWh	2855 kWh

Pdh Tj = -15°C (if TOL	3.11	2.6
COP Tj = -15°C (if TOL	2.49	1.78
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	141 %
Prated	4.3 kW	3.8 kW
SCOP	5.29	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.88 kW
COP Tj = +2°C	3.2	2.09
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.63 kW	2.38 kW
COP Tj = +7°C	4.92	3.03
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.67	4.91
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.88 kW
COP Tj = Tbiv	3.2	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.3 kW	3.88 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.2	2.09
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1085 kWh	1414 kWh

Model Logatherm WLW186i-4 AR E W

Model name	Logatherm WLW186i-4 AR E W
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	2.02 kW
El input	0.59 kW	0.79 kW
COP	4.85	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	130 %
Prated	4.4 kW	4 kW
SCOP	4.58	3.32
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.91 kW	3.55 kW
COP Tj = -7°C	2.89	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.26 kW
COP Tj = +2°C	4.48	3.24

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.55 kW
COP Tj = +7°C	6.17	4.37
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.43	5.41
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.91 kW	3.55 kW
COP Tj = Tbiv	2.89	3.55
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	0.85 kW
Annual energy consumption Qhe	1987 kWh	2492 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.8 kW	3.2 kW
SCOP	4.03	2.81
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.87 kW
COP Tj = -7°C	3.42	2.27
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.46 kW	1.27 kW
COP Tj = +2°C	5.03	3.43
Cdh Tj = +2 °C	0.95	0.96
Pdh Tj = +7°C	1.61 kW	1.58 kW
COP Tj = +7°C	5.76	4.29
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12 °C	6.63	5.25
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.12 kW	2.64 kW
COP Tj = Tbiv	2.51	1.8
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.91	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.58 kW	1.13 kW
Annual energy consumption Qhe	2327 kWh	2807 kWh
Pdh Tj = -15 °C (if TOL	3.12	2.64
COP Tj = -15 °C (if TOL	2.51	1.8
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	210 %	143 %
Prated	4.3 kW	3.8 kW
SCOP	5.33	3.66
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	4.31 kW	3.92 kW
COP Tj = +2 °C	3.21	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	2.64 kW	2.41 kW
COP Tj = +7 °C	4.95	3.09
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12 °C	1.82 kW	1.79 kW
COP Tj = 12 °C	6.72	5.01
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.31 kW	3.92 kW
COP Tj = Tbiv	3.21	2.12

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.31 kW	3.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.21	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1077 kWh	1389 kWh

Model Logatherm WLW186i-4 AR E

Model name	Logatherm WLW186i-4 AR E
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	2.02 kW
El input	0.59 kW	0.79 kW
COP	4.85	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	130 %
Prated	4.4 kW	4 kW
SCOP	4.58	3.32
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.91 kW	3.55 kW
COP Tj = -7°C	2.89	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.26 kW
COP Tj = +2°C	4.48	3.24

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.55 kW
COP Tj = +7°C	6.17	4.37
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.43	5.41
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.91 kW	3.55 kW
COP Tj = Tbiv	2.89	3.55
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	0.85 kW
Annual energy consumption Qhe	1987 kWh	2492 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.8 kW	3.2 kW
SCOP	4.03	2.81
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.87 kW
COP Tj = -7°C	3.42	2.27
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.46 kW	1.27 kW
COP Tj = +2°C	5.03	3.43
Cdh Tj = +2 °C	0.95	0.96
Pdh Tj = +7°C	1.61 kW	1.58 kW
COP Tj = +7°C	5.76	4.29
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12°C	6.63	5.25
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.12 kW	2.64 kW
COP Tj = Tbiv	2.51	1.8
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.91	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.58 kW	1.13 kW
Annual energy consumption Qhe	2327 kWh	2807 kWh
Pdh Tj = -15°C (if TOL	3.12	2.64
COP Tj = -15°C (if TOL	2.51	1.8
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	210 %	143 %
Prated	4.3 kW	3.8 kW
SCOP	5.33	3.66
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.31 kW	3.92 kW
COP Tj = +2°C	3.21	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.41 kW
COP Tj = +7°C	4.95	3.09
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.82 kW	1.79 kW
COP Tj = 12°C	6.72	5.01
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.31 kW	3.92 kW
COP Tj = Tbiv	3.21	2.12

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.31 kW	3.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.21	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1077 kWh	1389 kWh

Model Logatherm WLW186i-4 AR T180

Model name	Logatherm WLW186i-4 AR T180
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	85 %
COP	1.94
Heating up time	3:08 h:min
Standby power input	93.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	73 %
COP	1.65
Heating up time	3:25 h:min
Standby power input	120.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	98 %
COP	2.21
Heating up time	3:08 h:min
Standby power input	92.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	1.97 kW
El input	0.59 kW	0.8 kW
COP	4.81	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	127 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.25
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.89 kW	3.51 kW
COP Tj = -7°C	2.88	2.10
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.23 kW
COP Tj = +2°C	4.46	3.19
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.53 kW
COP Tj = +7°C	6.12	4.26
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.96 kW	1.82 kW
COP Tj = 12°C	7.37	5.30
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.89 kW	3.51 kW
COP Tj = Tbiv	2.88	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.61 kW	3.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W

PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.79 kW	0.90 kW
Annual energy consumption Qhe	1999 kWh	2539 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	157 %	108 %
Prated	3.8 kW	3.2 kW
SCOP	3.99	2.76
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.25 kW	1.84 kW
COP Tj = -7°C	3.4	2.21
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.46 kW	1.26 kW
COP Tj = +2°C	4.98	3.41
Cdh Tj = +2 °C	0.95	0.96
Pdh Tj = +7°C	1.6 kW	1.56 kW
COP Tj = +7°C	5.72	4.17
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.8 kW	1.77 kW
COP Tj = 12°C	6.57	5.14
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.11 kW	2.6 kW
COP Tj = Tbiv	2.49	1.78
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.2 kW	2.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.6 kW	1.18 kW
Annual energy consumption Qhe	2345 kWh	2855 kWh

Pdh Tj = -15°C (if TOL	3.11	2.6
COP Tj = -15°C (if TOL	2.49	1.78
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	141 %
Prated	4.3 kW	3.8 kW
SCOP	5.29	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.88 kW
COP Tj = +2°C	3.2	2.09
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.63 kW	2.38 kW
COP Tj = +7°C	4.92	3.03
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.67	4.91
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.88 kW
COP Tj = Tbiv	3.2	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.3 kW	3.88 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.2	2.09
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1085 kWh	1414 kWh

Model Logatherm WLW186i-4 AR T180 W

Model name	Logatherm WLW186i-4 AR T180 W
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	85 %
COP	1.94
Heating up time	3:08 h:min
Standby power input	93.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	73 %
COP	1.65
Heating up time	3:25 h:min
Standby power input	120.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	98 %
COP	2.21
Heating up time	3:08 h:min
Standby power input	92.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	1.97 kW
El input	0.59 kW	0.8 kW
COP	4.81	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	127 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.25
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.89 kW	3.51 kW
COP Tj = -7°C	2.88	2.10
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.23 kW
COP Tj = +2°C	4.46	3.19
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.53 kW
COP Tj = +7°C	6.12	4.26
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.96 kW	1.82 kW
COP Tj = 12°C	7.37	5.30
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.89 kW	3.51 kW
COP Tj = Tbiv	2.88	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.61 kW	3.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W

PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.79 kW	0.90 kW
Annual energy consumption Q _{he}	1999 kWh	2539 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	157 %	108 %
Prated	3.8 kW	3.2 kW
SCOP	3.99	2.76
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	2.25 kW	1.84 kW
COP T _j = -7°C	3.4	2.21
C _{dh} T _j = -7 °C	0.98	0.98
P _{dh} T _j = +2°C	1.46 kW	1.26 kW
COP T _j = +2°C	4.98	3.41
C _{dh} T _j = +2 °C	0.95	0.96
P _{dh} T _j = +7°C	1.6 kW	1.56 kW
COP T _j = +7°C	5.72	4.17
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.8 kW	1.77 kW
COP T _j = 12°C	6.57	5.14
C _{dh} T _j = +12 °C	0.95	0.96
P _{dh} T _j = T _{biv}	3.11 kW	2.6 kW
COP T _j = T _{biv}	2.49	1.78
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.2 kW	2.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.89	1.35
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.6 kW	1.18 kW
Annual energy consumption Q _{he}	2345 kWh	2855 kWh

Pdh Tj = -15°C (if TOL	3.11	2.6
COP Tj = -15°C (if TOL	2.49	1.78
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	141 %
Prated	4.3 kW	3.8 kW
SCOP	5.29	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.88 kW
COP Tj = +2°C	3.2	2.09
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.63 kW	2.38 kW
COP Tj = +7°C	4.92	3.03
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.67	4.91
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.88 kW
COP Tj = Tbiv	3.2	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.3 kW	3.88 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.2	2.09
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1085 kWh	1414 kWh

Model Logatherm WLW176i-5 AR E (60°C)

Model name	Logatherm WLW176i-5 AR E (60°C)
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	137 %
Prated	6.2 kW	6.2 kW
SCOP	4.57	3.5
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.47 kW	5.57 kW
COP Tj = -7°C	2.59	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.05 kW	3.52 kW
COP Tj = +2°C	4.64	3.39

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.07	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.95 kW	1.88 kW
COP Tj = 12°C	7.26	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.47 kW	5.57 kW
COP Tj = Tbiv	2.59	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.45 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.10 kW
Annual energy consumption Qhe	2803 kWh	3657 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	124 %
Prated	5.4 kW	5.3 kW
SCOP	4.25	3.17
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.45 kW	3.18 kW
COP Tj = -7°C	3.44	2.64
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.1 kW
COP Tj = +2°C	5.47	3.8
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.25	5.18
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.92 kW	1.9 kW

COP Tj = 12 °C	6.87	5.92
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.62 kW	4.3 kW
COP Tj = Tbiv	2.41	1.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.1	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.65 kW
Annual energy consumption Qhe	3135 kWh	4116 kWh
Pdh Tj = -15 °C (if TOL	4.62	4.3
COP Tj = -15 °C (if TOL	2.41	1.91
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	219 %	157 %
Prated	6.4 kW	5.9 kW
SCOP	5.56	4
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.93 kW
COP Tj = +2 °C	2.91	2.15
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.14 kW	3.84 kW
COP Tj = +7 °C	4.79	3.51
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.95 kW	1.78 kW
COP Tj = 12 °C	7.38	5.15
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.93 kW
COP Tj = Tbiv	2.91	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1538 kWh	1969 kWh

Model Logatherm WLW176i-5 AR T180 (60°C)

Model name	Logatherm WLW176i-5 AR T180 (60°C)
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	92 %
COP	2.17
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	75 %
COP	1.75
Heating up time	3:11 h:min
Standby power input	131.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.48
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.52 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.49 kW
COP Tj = +2°C	4.61	3.36
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.20 kW
COP Tj = +7°C	6.04	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.87 kW
COP Tj = 12°C	7.20	5.72
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.52 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	5.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W

PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	1.15 kW
Annual energy consumption Q _{he}	2818 kWh	3699 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
η_s	166 %	122 %
Prated	5.4 kW	5.3 kW
SCOP	4.22	3.13
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	3.44 kW	3.15 kW
COP T _j = -7°C	3.42	2.61
C _{dh} T _j = -7 °C	0.98	0.99
P _{dh} T _j = +2°C	2.07 kW	2.08 kW
COP T _j = +2°C	5.44	3.73
C _{dh} T _j = +2 °C	0.96	0.97
P _{dh} T _j = +7°C	1.74 kW	1.7 kW
COP T _j = +7°C	6.21	5.08
C _{dh} T _j = +7 °C	0.94	0.95
P _{dh} T _j = 12°C	1.91 kW	1.89 kW
COP T _j = 12°C	6.81	5.81
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	4.61 kW	4.26 kW
COP T _j = T _{biv}	2.4	1.89
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4 kW	3.6 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.09	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	60 °C	60 °C
P _{off}	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.4 kW	1.7 kW
Annual energy consumption Q _{he}	3152 kWh	4177 kWh

Pdh Tj = -15°C (if TOL	4.61	4.26
COP Tj = -15°C (if TOL	2.4	1.89
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.42 kW	5.89 kW
COP Tj = +2°C	2.9	2.13
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.13 kW	3.81 kW
COP Tj = +7°C	4.77	3.47
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	1.94 kW	1.77 kW
COP Tj = 12°C	7.32	5.05
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.42 kW	5.89 kW
COP Tj = Tbiv	2.9	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.42 kW	5.89 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.13
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1998 kWh

Model Logatherm WLW186i-5 AR E W

Model name	Logatherm WLW186i-5 AR E W
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	137 %
Prated	6.2 kW	6.2 kW
SCOP	4.57	3.5
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.47 kW	5.57 kW
COP Tj = -7°C	2.59	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.05 kW	3.52 kW
COP Tj = +2°C	4.64	3.39

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.07	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.95 kW	1.88 kW
COP Tj = 12°C	7.26	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.47 kW	5.57 kW
COP Tj = Tbiv	2.59	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.45 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.10 kW
Annual energy consumption Qhe	2803 kWh	3657 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	124 %
Prated	5.4 kW	5.3 kW
SCOP	4.25	3.17
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.45 kW	3.18 kW
COP Tj = -7°C	3.44	2.64
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.1 kW
COP Tj = +2°C	5.47	3.8
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.25	5.18
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.92 kW	1.9 kW

COP Tj = 12 °C	6.87	5.92
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.62 kW	4.3 kW
COP Tj = Tbiv	2.41	1.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.1	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.65 kW
Annual energy consumption Qhe	3135 kWh	4116 kWh
Pdh Tj = -15 °C (if TOL	4.62	4.3
COP Tj = -15 °C (if TOL	2.41	1.91
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	219 %	157 %
Prated	6.4 kW	5.9 kW
SCOP	5.56	4
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.93 kW
COP Tj = +2 °C	2.91	2.15
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.14 kW	3.84 kW
COP Tj = +7 °C	4.79	3.51
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.95 kW	1.78 kW
COP Tj = 12 °C	7.38	5.15
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.93 kW
COP Tj = Tbiv	2.91	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1538 kWh	1969 kWh

Model Logatherm WLW186i-5 AR T180

Model name	Logatherm WLW186i-5 AR T180
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	92 %
COP	2.17
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	75 %
COP	1.75
Heating up time	3:11 h:min
Standby power input	131.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.48
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.52 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.49 kW
COP Tj = +2°C	4.61	3.36
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.20 kW
COP Tj = +7°C	6.04	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.87 kW
COP Tj = 12°C	7.20	5.72
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.52 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	5.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W

PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	1.15 kW
Annual energy consumption Q _{he}	2818 kWh	3699 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	166 %	122 %
Prated	5.4 kW	5.3 kW
SCOP	4.22	3.13
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	3.44 kW	3.15 kW
COP T _j = -7°C	3.42	2.61
C _{dh} T _j = -7 °C	0.98	0.99
P _{dh} T _j = +2°C	2.07 kW	2.08 kW
COP T _j = +2°C	5.44	3.73
C _{dh} T _j = +2 °C	0.96	0.97
P _{dh} T _j = +7°C	1.74 kW	1.7 kW
COP T _j = +7°C	6.21	5.08
C _{dh} T _j = +7 °C	0.94	0.95
P _{dh} T _j = 12°C	1.91 kW	1.89 kW
COP T _j = 12°C	6.81	5.81
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	4.61 kW	4.26 kW
COP T _j = T _{biv}	2.4	1.89
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4 kW	3.6 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.09	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.4 kW	1.7 kW
Annual energy consumption Q _{he}	3152 kWh	4177 kWh

Pdh Tj = -15°C (if TOL	4.61	4.26
COP Tj = -15°C (if TOL	2.4	1.89
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.42 kW	5.89 kW
COP Tj = +2°C	2.9	2.13
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.13 kW	3.81 kW
COP Tj = +7°C	4.77	3.47
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	1.94 kW	1.77 kW
COP Tj = 12°C	7.32	5.05
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.42 kW	5.89 kW
COP Tj = Tbiv	2.9	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.42 kW	5.89 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.13
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1998 kWh

Model Logatherm WLW186i-5 AR E

Model name	Logatherm WLW186i-5 AR E
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	137 %
Prated	6.2 kW	6.2 kW
SCOP	4.57	3.5
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.47 kW	5.57 kW
COP Tj = -7°C	2.59	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.05 kW	3.52 kW
COP Tj = +2°C	4.64	3.39

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.07	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.95 kW	1.88 kW
COP Tj = 12°C	7.26	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.47 kW	5.57 kW
COP Tj = Tbiv	2.59	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.45 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.10 kW
Annual energy consumption Qhe	2803 kWh	3657 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	124 %
Prated	5.4 kW	5.3 kW
SCOP	4.25	3.17
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.45 kW	3.18 kW
COP Tj = -7°C	3.44	2.64
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.1 kW
COP Tj = +2°C	5.47	3.8
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.25	5.18
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.92 kW	1.9 kW

COP Tj = 12 °C	6.87	5.92
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.62 kW	4.3 kW
COP Tj = Tbiv	2.41	1.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.1	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.65 kW
Annual energy consumption Qhe	3135 kWh	4116 kWh
Pdh Tj = -15 °C (if TOL	4.62	4.3
COP Tj = -15 °C (if TOL	2.41	1.91
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	219 %	157 %
Prated	6.4 kW	5.9 kW
SCOP	5.56	4
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.93 kW
COP Tj = +2 °C	2.91	2.15
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.14 kW	3.84 kW
COP Tj = +7 °C	4.79	3.51
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.95 kW	1.78 kW
COP Tj = 12 °C	7.38	5.15
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.93 kW
COP Tj = Tbiv	2.91	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1538 kWh	1969 kWh

Model Logatherm WLW186i-5 AR T180 W

Model name	Logatherm WLW186i-5 AR T180 W
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	92 %
COP	2.17
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	75 %
COP	1.75
Heating up time	3:11 h:min
Standby power input	131.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.48
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.52 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.49 kW
COP Tj = +2°C	4.61	3.36
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.20 kW
COP Tj = +7°C	6.04	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.87 kW
COP Tj = 12°C	7.20	5.72
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.52 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	5.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W

PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	1.15 kW
Annual energy consumption Q _{he}	2818 kWh	3699 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
η_s	166 %	122 %
Prated	5.4 kW	5.3 kW
SCOP	4.22	3.13
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	3.44 kW	3.15 kW
COP T _j = -7°C	3.42	2.61
C _{dh} T _j = -7 °C	0.98	0.99
P _{dh} T _j = +2°C	2.07 kW	2.08 kW
COP T _j = +2°C	5.44	3.73
C _{dh} T _j = +2 °C	0.96	0.97
P _{dh} T _j = +7°C	1.74 kW	1.7 kW
COP T _j = +7°C	6.21	5.08
C _{dh} T _j = +7 °C	0.94	0.95
P _{dh} T _j = 12°C	1.91 kW	1.89 kW
COP T _j = 12°C	6.81	5.81
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	4.61 kW	4.26 kW
COP T _j = T _{biv}	2.4	1.89
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4 kW	3.6 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.09	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.4 kW	1.7 kW
Annual energy consumption Q _{he}	3152 kWh	4177 kWh

Pdh Tj = -15°C (if TOL	4.61	4.26
COP Tj = -15°C (if TOL	2.4	1.89
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.42 kW	5.89 kW
COP Tj = +2°C	2.9	2.13
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.13 kW	3.81 kW
COP Tj = +7°C	4.77	3.47
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	1.94 kW	1.77 kW
COP Tj = 12°C	7.32	5.05
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.42 kW	5.89 kW
COP Tj = Tbiv	2.9	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.42 kW	5.89 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.13
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1998 kWh

Model Logatherm WLW176i-7 AR E (60°C)

Model name	Logatherm WLW176i-7 AR E (60°C)
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	138 %
Prated	6.6 kW	6.6 kW
SCOP	4.58	3.52
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.94 kW
COP Tj = -7°C	2.61	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.53 kW
COP Tj = +2°C	4.68	3.49

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.09	4.68
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.23	5.75
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.94 kW
COP Tj = Tbiv	2.61	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.39 kW
Annual energy consumption Qhe	2975 kWh	3878 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	3.01
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.07 kW	3.72 kW
COP Tj = -7°C	3.3	2.39
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.2	3.67
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.84 kW
COP Tj = +7°C	6.24	4.72
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12°C	7	5.53
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.01 kW	5.37 kW
COP Tj = Tbiv	2.38	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.03 kW	3.28 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.27 kW	3.32 kW
Annual energy consumption Qhe	4397 kWh	5410 kWh
Pdh Tj = -15°C (if TOL	6.01	5.37
COP Tj = -15°C (if TOL	2.38	1.96
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	207 %	161 %
Prated	7.1 kW	5.7 kW
SCOP	5.25	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.72 kW
COP Tj = +2°C	2.83	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.67 kW
COP Tj = +7°C	4.23	3.41
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.83 kW
COP Tj = 12°C	7.37	5.59
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.72 kW
COP Tj = Tbiv	2.83	2.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1807 kWh	1860 kWh

Model Logatherm WLW176i-7 AR T180 (60°C)

Model name	Logatherm WLW176i-7 AR T180 (60°C)
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	90 %
COP	2.34
Heating up time	2:40 h:min
Standby power input	92.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	73 %
COP	1.87
Heating up time	3:23 h:min
Standby power input	131.2 W
Reference hot water temperature	51 °C
Mixed water at 40°C	238 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.59
Heating up time	2:39 h:min
Standby power input	86.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	237 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.41 kW	5.90 kW
COP Tj = -7°C	2.60	2.07
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.50 kW	3.50 kW
COP Tj = +2°C	4.66	3.46
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.44 kW
COP Tj = +7°C	6.05	4.62
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.79 kW
COP Tj = 12°C	7.17	5.64
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.41 kW	5.90 kW
COP Tj = Tbiv	2.60	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.85 kW	5.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W

PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.44 kW
Annual energy consumption Q _{he}	2990 kWh	3917 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
η_s	160 %	116 %
Prated	7.3 kW	6.6 kW
SCOP	4.07	2.97
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.06 kW	3.69 kW
COP T _j = -7°C	3.29	2.36
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	2.52 kW	2.37 kW
COP T _j = +2°C	5.17	3.62
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	1.86 kW	1.83 kW
COP T _j = +7°C	6.21	4.64
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.83 kW	1.78 kW
COP T _j = 12°C	6.95	5.42
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	6 kW	5.33 kW
COP T _j = T _{biv}	2.37	1.95
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	3.23 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.02	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	60 °C	60 °C
P _{off}	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.29 kW	3.37 kW
Annual energy consumption Q _{he}	4418 kWh	5475 kWh

Pdh Tj = -15°C (if TOL	6	5.33
COP Tj = -15°C (if TOL	2.37	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	158 %
Prated	7.1 kW	5.7 kW
SCOP	5.21	4.04
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.68 kW
COP Tj = +2°C	2.81	2.16
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.64 kW
COP Tj = +7°C	4.2	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.82 kW
COP Tj = 12°C	7.31	5.48
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.68 kW
COP Tj = Tbiv	2.81	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1820 kWh	1887 kWh

Model Logatherm WLW186i-7 AR E W

Model name	Logatherm WLW186i-7 AR E W
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	138 %
Prated	6.6 kW	6.6 kW
SCOP	4.58	3.52
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.94 kW
COP Tj = -7°C	2.61	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.53 kW
COP Tj = +2°C	4.68	3.49

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.09	4.68
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.23	5.75
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.94 kW
COP Tj = Tbiv	2.61	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.39 kW
Annual energy consumption Qhe	2975 kWh	3878 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	3.01
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.07 kW	3.72 kW
COP Tj = -7°C	3.3	2.39
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.2	3.67
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.84 kW
COP Tj = +7°C	6.24	4.72
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12°C	7	5.53
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.01 kW	5.37 kW
COP Tj = Tbiv	2.38	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.03 kW	3.28 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.27 kW	3.32 kW
Annual energy consumption Qhe	4397 kWh	5410 kWh
Pdh Tj = -15°C (if TOL	6.01	5.37
COP Tj = -15°C (if TOL	2.38	1.96
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	207 %	161 %
Prated	7.1 kW	5.7 kW
SCOP	5.25	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.72 kW
COP Tj = +2°C	2.83	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.67 kW
COP Tj = +7°C	4.23	3.41
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.83 kW
COP Tj = 12°C	7.37	5.59
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.72 kW
COP Tj = Tbiv	2.83	2.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1807 kWh	1860 kWh

Model Logatherm WLW186i-7 AR E

Model name	Logatherm WLW186i-7 AR E
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	138 %
Prated	6.6 kW	6.6 kW
SCOP	4.58	3.52
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.94 kW
COP Tj = -7°C	2.61	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.53 kW
COP Tj = +2°C	4.68	3.49

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.09	4.68
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.23	5.75
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.94 kW
COP Tj = Tbiv	2.61	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.39 kW
Annual energy consumption Qhe	2975 kWh	3878 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	3.01
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.07 kW	3.72 kW
COP Tj = -7°C	3.3	2.39
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.2	3.67
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.84 kW
COP Tj = +7°C	6.24	4.72
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12 °C	7	5.53
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.01 kW	5.37 kW
COP Tj = Tbiv	2.38	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.03 kW	3.28 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.27 kW	3.32 kW
Annual energy consumption Qhe	4397 kWh	5410 kWh
Pdh Tj = -15 °C (if TOL	6.01	5.37
COP Tj = -15 °C (if TOL	2.38	1.96
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	207 %	161 %
Prated	7.1 kW	5.7 kW
SCOP	5.25	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	7.08 kW	5.72 kW
COP Tj = +2 °C	2.83	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.25 kW	3.67 kW
COP Tj = +7 °C	4.23	3.41
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12 °C	1.88 kW	1.83 kW
COP Tj = 12 °C	7.37	5.59
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.72 kW
COP Tj = Tbiv	2.83	2.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1807 kWh	1860 kWh

Model Logatherm WLW186i-7 AR T180 W

Model name	Logatherm WLW186i-7 AR T180 W
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	90 %
COP	2.34
Heating up time	2:40 h:min
Standby power input	92.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	73 %
COP	1.87
Heating up time	3:23 h:min
Standby power input	131.2 W
Reference hot water temperature	51 °C
Mixed water at 40°C	238 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.59
Heating up time	2:39 h:min
Standby power input	86.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	237 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.41 kW	5.90 kW
COP Tj = -7°C	2.60	2.07
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.50 kW	3.50 kW
COP Tj = +2°C	4.66	3.46
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.44 kW
COP Tj = +7°C	6.05	4.62
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.79 kW
COP Tj = 12°C	7.17	5.64
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.41 kW	5.90 kW
COP Tj = Tbiv	2.60	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.85 kW	5.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W

PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.44 kW
Annual energy consumption Q _{he}	2990 kWh	3917 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	160 %	116 %
Prated	7.3 kW	6.6 kW
SCOP	4.07	2.97
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.06 kW	3.69 kW
COP T _j = -7°C	3.29	2.36
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	2.52 kW	2.37 kW
COP T _j = +2°C	5.17	3.62
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	1.86 kW	1.83 kW
COP T _j = +7°C	6.21	4.64
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.83 kW	1.78 kW
COP T _j = 12°C	6.95	5.42
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	6 kW	5.33 kW
COP T _j = T _{biv}	2.37	1.95
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	3.23 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.02	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.29 kW	3.37 kW
Annual energy consumption Q _{he}	4418 kWh	5475 kWh

Pdh Tj = -15°C (if TOL	6	5.33
COP Tj = -15°C (if TOL	2.37	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	158 %
Prated	7.1 kW	5.7 kW
SCOP	5.21	4.04
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.68 kW
COP Tj = +2°C	2.81	2.16
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.64 kW
COP Tj = +7°C	4.2	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.82 kW
COP Tj = 12°C	7.31	5.48
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.68 kW
COP Tj = Tbiv	2.81	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1820 kWh	1887 kWh

Model Logatherm WLW186i-7 AR T180

Model name	Logatherm WLW186i-7 AR T180
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	90 %
COP	2.34
Heating up time	2:40 h:min
Standby power input	92.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	73 %
COP	1.87
Heating up time	3:23 h:min
Standby power input	131.2 W
Reference hot water temperature	51 °C
Mixed water at 40°C	238 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.59
Heating up time	2:39 h:min
Standby power input	86.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	237 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.41 kW	5.90 kW
COP Tj = -7°C	2.60	2.07
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.50 kW	3.50 kW
COP Tj = +2°C	4.66	3.46
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.44 kW
COP Tj = +7°C	6.05	4.62
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.79 kW
COP Tj = 12°C	7.17	5.64
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.41 kW	5.90 kW
COP Tj = Tbiv	2.60	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.85 kW	5.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W

PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.44 kW
Annual energy consumption Q _{he}	2990 kWh	3917 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	160 %	116 %
Prated	7.3 kW	6.6 kW
SCOP	4.07	2.97
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.06 kW	3.69 kW
COP T _j = -7°C	3.29	2.36
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	2.52 kW	2.37 kW
COP T _j = +2°C	5.17	3.62
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	1.86 kW	1.83 kW
COP T _j = +7°C	6.21	4.64
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.83 kW	1.78 kW
COP T _j = 12°C	6.95	5.42
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	6 kW	5.33 kW
COP T _j = T _{biv}	2.37	1.95
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	3.23 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.02	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.29 kW	3.37 kW
Annual energy consumption Q _{he}	4418 kWh	5475 kWh

Pdh Tj = -15°C (if TOL	6	5.33
COP Tj = -15°C (if TOL	2.37	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	158 %
Prated	7.1 kW	5.7 kW
SCOP	5.21	4.04
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.68 kW
COP Tj = +2°C	2.81	2.16
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.64 kW
COP Tj = +7°C	4.2	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.82 kW
COP Tj = 12°C	7.31	5.48
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.68 kW
COP Tj = Tbiv	2.81	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1820 kWh	1887 kWh

Model Logatherm WLW176i-4 AR TP70 (60°C)

Model name	Logatherm WLW176i-4 AR TP70 (60°C)
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	1.99 kW
El input	0.59 kW	0.8 kW
COP	4.82	2.51

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	128 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.27
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.90 kW	3.53 kW
COP Tj = -7°C	2.88	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.25 kW
COP Tj = +2°C	4.47	3.21

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.54 kW
COP Tj = +7°C	6.13	4.27
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.38	5.32
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.90 kW	3.53 kW
COP Tj = Tbiv	2.88	3.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.62 kW	3.13 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.78 kW	0.87 kW
Annual energy consumption Qhe	1996 kWh	2526 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	154 %	105 %
Prated	3.8 kW	3.2 kW
SCOP	3.93	2.71
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.85 kW
COP Tj = -7°C	3.41	2.23
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.86 kW	1.77 kW
COP Tj = +2°C	4.78	3.26
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.61 kW	1.56 kW
COP Tj = +7°C	5.73	4.18
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12°C	6.58	5.16
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.14 kW	2.63 kW
COP Tj = Tbiv	2.56	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.21 kW	2.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.9	1.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.15 kW
Annual energy consumption Qhe	2385 kWh	2911 kWh
Pdh Tj = -15°C (if TOL	3.14	2.63
COP Tj = -15°C (if TOL	2.56	1.79
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	142 %
Prated	4.3 kW	3.8 kW
SCOP	5.30	3.62
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.79 kW
COP Tj = +2°C	3.2	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.4 kW
COP Tj = +7°C	4.93	3.05
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.68	4.93
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.79 kW
COP Tj = Tbiv	3.2	2.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.3 kW	3.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.2	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1083 kWh	1402 kWh

Model Logatherm WLW176i-5 AR TP70 (60°C)

Model name	Logatherm WLW176i-5 AR TP70 (60°C)
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.47
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.53 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.50 kW
COP Tj = +2°C	4.62	3.37

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.05	4.79
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.88 kW
COP Tj = 12°C	7.21	5.74
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.53 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.44 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.76 kW	1.12 kW
Annual energy consumption Qhe	2814 kWh	3686 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	123 %
Prated	5.4 kW	5.3 kW
SCOP	4.24	3.14
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.44 kW	3.16 kW
COP Tj = -7°C	3.43	2.62
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.09 kW
COP Tj = +2°C	5.45	3.75
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.22	5.1
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.91 kW	1.9 kW

COP Tj = 12 °C	6.82	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.64 kW	4.28 kW
COP Tj = Tbiv	2.45	1.9
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.67 kW
Annual energy consumption Qhe	3138 kWh	4159 kWh
Pdh Tj = -15 °C (if TOL	4.64	4.28
COP Tj = -15 °C (if TOL	2.45	1.9
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.96
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.91 kW
COP Tj = +2 °C	2.9	2.14
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.13 kW	3.83 kW
COP Tj = +7 °C	4.78	3.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.94 kW	1.78 kW
COP Tj = 12 °C	7.31	5.06
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.91 kW
COP Tj = Tbiv	2.9	2.14

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.14
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1990 kWh

Model Logatherm WLW186i-4 AR TP70 W

Model name	Logatherm WLW186i-4 AR TP70 W
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	1.99 kW
El input	0.59 kW	0.8 kW
COP	4.82	2.51

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	128 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.27
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.90 kW	3.53 kW
COP Tj = -7°C	2.88	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.25 kW
COP Tj = +2°C	4.47	3.21

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.54 kW
COP Tj = +7°C	6.13	4.27
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.38	5.32
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.90 kW	3.53 kW
COP Tj = Tbiv	2.88	3.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.62 kW	3.13 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.78 kW	0.87 kW
Annual energy consumption Qhe	1996 kWh	2526 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	154 %	105 %
Prated	3.8 kW	3.2 kW
SCOP	3.93	2.71
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.85 kW
COP Tj = -7°C	3.41	2.23
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.86 kW	1.77 kW
COP Tj = +2°C	4.78	3.26
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.61 kW	1.56 kW
COP Tj = +7°C	5.73	4.18
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12°C	6.58	5.16
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.14 kW	2.63 kW
COP Tj = Tbiv	2.56	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.21 kW	2.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.9	1.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.15 kW
Annual energy consumption Qhe	2385 kWh	2911 kWh
Pdh Tj = -15°C (if TOL	3.14	2.63
COP Tj = -15°C (if TOL	2.56	1.79
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	142 %
Prated	4.3 kW	3.8 kW
SCOP	5.30	3.62
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.79 kW
COP Tj = +2°C	3.2	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.4 kW
COP Tj = +7°C	4.93	3.05
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.68	4.93
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.79 kW
COP Tj = Tbiv	3.2	2.18

Pdh Tj = TOL or Pd _h Tj = T _{designh} if TOL < T _{designh}	4.3 kW	3.79 kW
COP Tj = TOL or COP Tj = T _{designh} if TOL < T _{designh}	3.2	2.18
Cd _h Tj = TOL or Pd _h Tj = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q _{he}	1083 kWh	1402 kWh

Model Logatherm WLW186i-5 AR TP70

Model name	Logatherm WLW186i-5 AR TP70
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.47
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.53 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.50 kW
COP Tj = +2°C	4.62	3.37

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.05	4.79
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.88 kW
COP Tj = 12°C	7.21	5.74
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.53 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.44 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.76 kW	1.12 kW
Annual energy consumption Qhe	2814 kWh	3686 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	123 %
Prated	5.4 kW	5.3 kW
SCOP	4.24	3.14
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.44 kW	3.16 kW
COP Tj = -7°C	3.43	2.62
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.09 kW
COP Tj = +2°C	5.45	3.75
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.22	5.1
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.91 kW	1.9 kW

COP Tj = 12 °C	6.82	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.64 kW	4.28 kW
COP Tj = Tbiv	2.45	1.9
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.67 kW
Annual energy consumption Qhe	3138 kWh	4159 kWh
Pdh Tj = -15 °C (if TOL	4.64	4.28
COP Tj = -15 °C (if TOL	2.45	1.9
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.96
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.91 kW
COP Tj = +2 °C	2.9	2.14
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.13 kW	3.83 kW
COP Tj = +7 °C	4.78	3.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.94 kW	1.78 kW
COP Tj = 12 °C	7.31	5.06
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.91 kW
COP Tj = Tbiv	2.9	2.14

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.14
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1990 kWh

Model Logatherm WLW186i-5 AR TP70 W

Model name	Logatherm WLW186i-5 AR TP70 W
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.47
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.53 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.50 kW
COP Tj = +2°C	4.62	3.37

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.05	4.79
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.88 kW
COP Tj = 12°C	7.21	5.74
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.53 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.44 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.76 kW	1.12 kW
Annual energy consumption Qhe	2814 kWh	3686 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	123 %
Prated	5.4 kW	5.3 kW
SCOP	4.24	3.14
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.44 kW	3.16 kW
COP Tj = -7°C	3.43	2.62
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.09 kW
COP Tj = +2°C	5.45	3.75
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.22	5.1
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.91 kW	1.9 kW

COP Tj = 12 °C	6.82	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.64 kW	4.28 kW
COP Tj = Tbiv	2.45	1.9
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.67 kW
Annual energy consumption Qhe	3138 kWh	4159 kWh
Pdh Tj = -15 °C (if TOL	4.64	4.28
COP Tj = -15 °C (if TOL	2.45	1.9
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.96
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.91 kW
COP Tj = +2 °C	2.9	2.14
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.13 kW	3.83 kW
COP Tj = +7 °C	4.78	3.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.94 kW	1.78 kW
COP Tj = 12 °C	7.31	5.06
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.91 kW
COP Tj = Tbiv	2.9	2.14

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.14
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1990 kWh

Model Logatherm WLW186i-4 AR TP70

Model name	Logatherm WLW186i-4 AR TP70
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	1.99 kW
El input	0.59 kW	0.8 kW
COP	4.82	2.51

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	128 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.27
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.90 kW	3.53 kW
COP Tj = -7°C	2.88	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.25 kW
COP Tj = +2°C	4.47	3.21

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.54 kW
COP Tj = +7°C	6.13	4.27
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.38	5.32
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.90 kW	3.53 kW
COP Tj = Tbiv	2.88	3.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.62 kW	3.13 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.78 kW	0.87 kW
Annual energy consumption Qhe	1996 kWh	2526 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	154 %	105 %
Prated	3.8 kW	3.2 kW
SCOP	3.93	2.71
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.85 kW
COP Tj = -7°C	3.41	2.23
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.86 kW	1.77 kW
COP Tj = +2°C	4.78	3.26
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.61 kW	1.56 kW
COP Tj = +7°C	5.73	4.18
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12 °C	6.58	5.16
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.14 kW	2.63 kW
COP Tj = Tbiv	2.56	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.21 kW	2.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.9	1.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.15 kW
Annual energy consumption Qhe	2385 kWh	2911 kWh
Pdh Tj = -15 °C (if TOL	3.14	2.63
COP Tj = -15 °C (if TOL	2.56	1.79
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	142 %
Prated	4.3 kW	3.8 kW
SCOP	5.30	3.62
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	4.3 kW	3.79 kW
COP Tj = +2 °C	3.2	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	2.64 kW	2.4 kW
COP Tj = +7 °C	4.93	3.05
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12 °C	1.81 kW	1.78 kW
COP Tj = 12 °C	6.68	4.93
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.79 kW
COP Tj = Tbiv	3.2	2.18

Pdh Tj = TOL or Pd _h Tj = T _{designh} if TOL < T _{designh}	4.3 kW	3.79 kW
COP Tj = TOL or COP Tj = T _{designh} if TOL < T _{designh}	3.2	2.18
Cd _h Tj = TOL or Pd _h Tj = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q _{he}	1083 kWh	1402 kWh

Model Logatherm WLW176i-7 AR TP70 (60°C)

Model name	Logatherm WLW176i-7 AR TP70 (60°C)
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.98 kW
COP Tj = -7°C	2.60	2.05
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.51 kW
COP Tj = +2°C	4.67	3.47

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.06	4.63
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.14	5.66
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.98 kW
COP Tj = Tbiv	2.60	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.41 kW
Annual energy consumption Qhe	2987 kWh	3912 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	2.99
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.06 kW	3.7 kW
COP Tj = -7°C	3.29	2.37
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.18	3.63
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.59 kW
COP Tj = +7°C	6.21	4.81
Cdh Tj = +7 °C	0.95	0.95
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12 °C	6.99	5.43
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.03 kW	5.35 kW
COP Tj = Tbiv	2.41	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.02 kW	3.26 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.28 kW	3.34 kW
Annual energy consumption Qhe	4400 kWh	5436 kWh
Pdh Tj = -15 °C (if TOL	6.03	5.35
COP Tj = -15 °C (if TOL	2.41	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	159 %
Prated	7.1 kW	5.7 kW
SCOP	5.22	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	7.09 kW	5.7 kW
COP Tj = +2 °C	2.82	2.17
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.25 kW	3.66 kW
COP Tj = +7 °C	4.2	3.39
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12 °C	1.88 kW	1.83 kW
COP Tj = 12 °C	7.32	5.5
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.09 kW	5.7 kW
COP Tj = Tbiv	2.82	2.17

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.09 kW	5.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.82	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1818 kWh	1880 kWh

Model Logatherm WLW186i-7 AR TP70

Model name	Logatherm WLW186i-7 AR TP70
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.98 kW
COP Tj = -7°C	2.60	2.05
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.51 kW
COP Tj = +2°C	4.67	3.47

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.06	4.63
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.14	5.66
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.98 kW
COP Tj = Tbiv	2.60	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.41 kW
Annual energy consumption Qhe	2987 kWh	3912 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	2.99
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.06 kW	3.7 kW
COP Tj = -7°C	3.29	2.37
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.18	3.63
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.59 kW
COP Tj = +7°C	6.21	4.81
Cdh Tj = +7 °C	0.95	0.95
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12 °C	6.99	5.43
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.03 kW	5.35 kW
COP Tj = Tbiv	2.41	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.02 kW	3.26 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.28 kW	3.34 kW
Annual energy consumption Qhe	4400 kWh	5436 kWh
Pdh Tj = -15 °C (if TOL	6.03	5.35
COP Tj = -15 °C (if TOL	2.41	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	159 %
Prated	7.1 kW	5.7 kW
SCOP	5.22	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	7.09 kW	5.7 kW
COP Tj = +2 °C	2.82	2.17
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.25 kW	3.66 kW
COP Tj = +7 °C	4.2	3.39
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12 °C	1.88 kW	1.83 kW
COP Tj = 12 °C	7.32	5.5
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.09 kW	5.7 kW
COP Tj = Tbiv	2.82	2.17

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.09 kW	5.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.82	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1818 kWh	1880 kWh

Model Logatherm WLW186i-7 AR TP70 W

Model name	Logatherm WLW186i-7 AR TP70 W
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.98 kW
COP Tj = -7°C	2.60	2.05
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.51 kW
COP Tj = +2°C	4.67	3.47

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.06	4.63
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.14	5.66
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.98 kW
COP Tj = Tbiv	2.60	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.41 kW
Annual energy consumption Qhe	2987 kWh	3912 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	2.99
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.06 kW	3.7 kW
COP Tj = -7°C	3.29	2.37
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.18	3.63
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.59 kW
COP Tj = +7°C	6.21	4.81
Cdh Tj = +7 °C	0.95	0.95
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12°C	6.99	5.43
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.03 kW	5.35 kW
COP Tj = Tbiv	2.41	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.02 kW	3.26 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.28 kW	3.34 kW
Annual energy consumption Qhe	4400 kWh	5436 kWh
Pdh Tj = -15°C (if TOL	6.03	5.35
COP Tj = -15°C (if TOL	2.41	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	159 %
Prated	7.1 kW	5.7 kW
SCOP	5.22	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.09 kW	5.7 kW
COP Tj = +2°C	2.82	2.17
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.66 kW
COP Tj = +7°C	4.2	3.39
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.83 kW
COP Tj = 12°C	7.32	5.5
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.09 kW	5.7 kW
COP Tj = Tbiv	2.82	2.17

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.09 kW	5.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.82	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1818 kWh	1880 kWh

Model Logatherm WLW176i-4 AR E

Model name	Logatherm WLW176i-4 AR E
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	2.02 kW
El input	0.59 kW	0.79 kW
COP	4.85	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	130 %
Prated	4.4 kW	4 kW
SCOP	4.58	3.32
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.91 kW	3.55 kW
COP Tj = -7°C	2.89	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.26 kW
COP Tj = +2°C	4.48	3.24

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.55 kW
COP Tj = +7°C	6.17	4.37
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.43	5.41
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.91 kW	3.55 kW
COP Tj = Tbiv	2.89	3.55
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	0.85 kW
Annual energy consumption Qhe	1987 kWh	2492 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.8 kW	3.2 kW
SCOP	4.03	2.81
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.87 kW
COP Tj = -7°C	3.42	2.27
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.46 kW	1.27 kW
COP Tj = +2°C	5.03	3.43
Cdh Tj = +2 °C	0.95	0.96
Pdh Tj = +7°C	1.61 kW	1.58 kW
COP Tj = +7°C	5.76	4.29
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12°C	6.63	5.25
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.12 kW	2.64 kW
COP Tj = Tbiv	2.51	1.8
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.91	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.58 kW	1.13 kW
Annual energy consumption Qhe	2327 kWh	2807 kWh
Pdh Tj = -15°C (if TOL	3.12	2.64
COP Tj = -15°C (if TOL	2.51	1.8
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	210 %	143 %
Prated	4.3 kW	3.8 kW
SCOP	5.33	3.66
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.31 kW	3.92 kW
COP Tj = +2°C	3.21	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.41 kW
COP Tj = +7°C	4.95	3.09
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.82 kW	1.79 kW
COP Tj = 12°C	6.72	5.01
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.31 kW	3.92 kW
COP Tj = Tbiv	3.21	2.12

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.31 kW	3.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.21	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1077 kWh	1389 kWh

Model Logatherm WLW176i-4 AR T180

Model name	Logatherm WLW176i-4 AR T180
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	85 %
COP	1.94
Heating up time	3:08 h:min
Standby power input	93.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	73 %
COP	1.65
Heating up time	3:25 h:min
Standby power input	120.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	98 %
COP	2.21
Heating up time	3:08 h:min
Standby power input	92.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	1.97 kW
El input	0.59 kW	0.8 kW
COP	4.81	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	127 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.25
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.89 kW	3.51 kW
COP Tj = -7°C	2.88	2.10
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.23 kW
COP Tj = +2°C	4.46	3.19
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.53 kW
COP Tj = +7°C	6.12	4.26
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.96 kW	1.82 kW
COP Tj = 12°C	7.37	5.30
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.89 kW	3.51 kW
COP Tj = Tbiv	2.88	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.61 kW	3.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W

PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.79 kW	0.90 kW
Annual energy consumption Q _{he}	1999 kWh	2539 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	157 %	108 %
Prated	3.8 kW	3.2 kW
SCOP	3.99	2.76
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	2.25 kW	1.84 kW
COP T _j = -7°C	3.4	2.21
C _{dh} T _j = -7 °C	0.98	0.98
P _{dh} T _j = +2°C	1.46 kW	1.26 kW
COP T _j = +2°C	4.98	3.41
C _{dh} T _j = +2 °C	0.95	0.96
P _{dh} T _j = +7°C	1.6 kW	1.56 kW
COP T _j = +7°C	5.72	4.17
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.8 kW	1.77 kW
COP T _j = 12°C	6.57	5.14
C _{dh} T _j = +12 °C	0.95	0.96
P _{dh} T _j = T _{biv}	3.11 kW	2.6 kW
COP T _j = T _{biv}	2.49	1.78
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.2 kW	2.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.89	1.35
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.6 kW	1.18 kW
Annual energy consumption Q _{he}	2345 kWh	2855 kWh

Pdh Tj = -15°C (if TOL	3.11	2.6
COP Tj = -15°C (if TOL	2.49	1.78
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	141 %
Prated	4.3 kW	3.8 kW
SCOP	5.29	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.88 kW
COP Tj = +2°C	3.2	2.09
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.63 kW	2.38 kW
COP Tj = +7°C	4.92	3.03
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.67	4.91
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.88 kW
COP Tj = Tbiv	3.2	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.3 kW	3.88 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.2	2.09
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1085 kWh	1414 kWh

Model Logatherm WLW176i-4 AR TP70

Model name	Logatherm WLW176i-4 AR TP70
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	1.99 kW
El input	0.59 kW	0.8 kW
COP	4.82	2.51

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	128 %
Prated	4.4 kW	4 kW
SCOP	4.55	3.27
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.90 kW	3.53 kW
COP Tj = -7°C	2.88	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.25 kW
COP Tj = +2°C	4.47	3.21

Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.73 kW	1.54 kW
COP Tj = +7°C	6.13	4.27
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.38	5.32
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.90 kW	3.53 kW
COP Tj = Tbiv	2.88	3.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.62 kW	3.13 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.78 kW	0.87 kW
Annual energy consumption Qhe	1996 kWh	2526 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	154 %	105 %
Prated	3.8 kW	3.2 kW
SCOP	3.93	2.71
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.85 kW
COP Tj = -7°C	3.41	2.23
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	1.86 kW	1.77 kW
COP Tj = +2°C	4.78	3.26
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.61 kW	1.56 kW
COP Tj = +7°C	5.73	4.18
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.81 kW	1.78 kW

COP Tj = 12°C	6.58	5.16
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	3.14 kW	2.63 kW
COP Tj = Tbiv	2.56	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.21 kW	2.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.9	1.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.15 kW
Annual energy consumption Qhe	2385 kWh	2911 kWh
Pdh Tj = -15°C (if TOL	3.14	2.63
COP Tj = -15°C (if TOL	2.56	1.79
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	209 %	142 %
Prated	4.3 kW	3.8 kW
SCOP	5.30	3.62
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.3 kW	3.79 kW
COP Tj = +2°C	3.2	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.4 kW
COP Tj = +7°C	4.93	3.05
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.68	4.93
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	4.3 kW	3.79 kW
COP Tj = Tbiv	3.2	2.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.3 kW	3.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.2	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1083 kWh	1402 kWh

Model Logatherm WLW176i-5 AR E

Model name	Logatherm WLW176i-5 AR E
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	137 %
Prated	6.2 kW	6.2 kW
SCOP	4.57	3.5
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.47 kW	5.57 kW
COP Tj = -7°C	2.59	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.05 kW	3.52 kW
COP Tj = +2°C	4.64	3.39

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.07	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.95 kW	1.88 kW
COP Tj = 12°C	7.26	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.47 kW	5.57 kW
COP Tj = Tbiv	2.59	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.45 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.10 kW
Annual energy consumption Qhe	2803 kWh	3657 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	124 %
Prated	5.4 kW	5.3 kW
SCOP	4.25	3.17
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.45 kW	3.18 kW
COP Tj = -7°C	3.44	2.64
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.1 kW
COP Tj = +2°C	5.47	3.8
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.25	5.18
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.92 kW	1.9 kW

COP Tj = 12 °C	6.87	5.92
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.62 kW	4.3 kW
COP Tj = Tbiv	2.41	1.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.1	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.65 kW
Annual energy consumption Qhe	3135 kWh	4116 kWh
Pdh Tj = -15 °C (if TOL	4.62	4.3
COP Tj = -15 °C (if TOL	2.41	1.91
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	219 %	157 %
Prated	6.4 kW	5.9 kW
SCOP	5.56	4
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.93 kW
COP Tj = +2 °C	2.91	2.15
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.14 kW	3.84 kW
COP Tj = +7 °C	4.79	3.51
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.95 kW	1.78 kW
COP Tj = 12 °C	7.38	5.15
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.93 kW
COP Tj = Tbiv	2.91	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1538 kWh	1969 kWh

Model Logatherm WLW176i-5 AR T180

Model name	Logatherm WLW176i-5 AR T180
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	92 %
COP	2.17
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	75 %
COP	1.75
Heating up time	3:11 h:min
Standby power input	131.0 W
Reference hot water temperature	51.9 °C
Mixed water at 40°C	234 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.48
Heating up time	2:54 h:min
Standby power input	87.0 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.52 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.49 kW
COP Tj = +2°C	4.61	3.36
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.20 kW
COP Tj = +7°C	6.04	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.87 kW
COP Tj = 12°C	7.20	5.72
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.52 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	5.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W

PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	1.15 kW
Annual energy consumption Q _{he}	2818 kWh	3699 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
η_s	166 %	122 %
Prated	5.4 kW	5.3 kW
SCOP	4.22	3.13
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	3.44 kW	3.15 kW
COP T _j = -7°C	3.42	2.61
C _{dh} T _j = -7 °C	0.98	0.99
P _{dh} T _j = +2°C	2.07 kW	2.08 kW
COP T _j = +2°C	5.44	3.73
C _{dh} T _j = +2 °C	0.96	0.97
P _{dh} T _j = +7°C	1.74 kW	1.7 kW
COP T _j = +7°C	6.21	5.08
C _{dh} T _j = +7 °C	0.94	0.95
P _{dh} T _j = 12°C	1.91 kW	1.89 kW
COP T _j = 12°C	6.81	5.81
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	4.61 kW	4.26 kW
COP T _j = T _{biv}	2.4	1.89
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4 kW	3.6 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.09	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.4 kW	1.7 kW
Annual energy consumption Q _{he}	3152 kWh	4177 kWh

Pdh Tj = -15°C (if TOL	4.61	4.26
COP Tj = -15°C (if TOL	2.4	1.89
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.42 kW	5.89 kW
COP Tj = +2°C	2.9	2.13
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.13 kW	3.81 kW
COP Tj = +7°C	4.77	3.47
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	1.94 kW	1.77 kW
COP Tj = 12°C	7.32	5.05
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.42 kW	5.89 kW
COP Tj = Tbiv	2.9	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.42 kW	5.89 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.13
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1998 kWh

Model Logatherm WLW176i-5 AR TP70

Model name	Logatherm WLW176i-5 AR TP70
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.2 kW	6.2 kW
SCOP	4.55	3.47
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.46 kW	5.53 kW
COP Tj = -7°C	2.58	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.04 kW	3.50 kW
COP Tj = +2°C	4.62	3.37

Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.05	4.79
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.94 kW	1.88 kW
COP Tj = 12°C	7.21	5.74
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.46 kW	5.53 kW
COP Tj = Tbiv	2.58	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.44 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.76 kW	1.12 kW
Annual energy consumption Qhe	2814 kWh	3686 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	167 %	123 %
Prated	5.4 kW	5.3 kW
SCOP	4.24	3.14
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.44 kW	3.16 kW
COP Tj = -7°C	3.43	2.62
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.09 kW
COP Tj = +2°C	5.45	3.75
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.22	5.1
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.91 kW	1.9 kW

COP Tj = 12 °C	6.82	5.83
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	4.64 kW	4.28 kW
COP Tj = Tbiv	2.45	1.9
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.67 kW
Annual energy consumption Qhe	3138 kWh	4159 kWh
Pdh Tj = -15 °C (if TOL	4.64	4.28
COP Tj = -15 °C (if TOL	2.45	1.9
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	218 %	155 %
Prated	6.4 kW	5.9 kW
SCOP	5.53	3.96
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	6.43 kW	5.91 kW
COP Tj = +2 °C	2.9	2.14
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.13 kW	3.83 kW
COP Tj = +7 °C	4.78	3.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12 °C	1.94 kW	1.78 kW
COP Tj = 12 °C	7.31	5.06
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.43 kW	5.91 kW
COP Tj = Tbiv	2.9	2.14

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.9	2.14
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	16 W	16 W
PTO	16 W	16 W
PSB	16 W	16 W
PCK	31 W	31 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1547 kWh	1990 kWh

Model Logatherm WLW176i-7 AR E

Model name	Logatherm WLW176i-7 AR E
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	138 %
Prated	6.6 kW	6.6 kW
SCOP	4.58	3.52
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.94 kW
COP Tj = -7°C	2.61	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.53 kW
COP Tj = +2°C	4.68	3.49

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.09	4.68
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.23	5.75
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.94 kW
COP Tj = Tbiv	2.61	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.39 kW
Annual energy consumption Qhe	2975 kWh	3878 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	3.01
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.07 kW	3.72 kW
COP Tj = -7°C	3.3	2.39
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.2	3.67
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.84 kW
COP Tj = +7°C	6.24	4.72
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12°C	7	5.53
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.01 kW	5.37 kW
COP Tj = Tbiv	2.38	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.03 kW	3.28 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.27 kW	3.32 kW
Annual energy consumption Qhe	4397 kWh	5410 kWh
Pdh Tj = -15°C (if TOL	6.01	5.37
COP Tj = -15°C (if TOL	2.38	1.96
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	207 %	161 %
Prated	7.1 kW	5.7 kW
SCOP	5.25	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.72 kW
COP Tj = +2°C	2.83	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.67 kW
COP Tj = +7°C	4.23	3.41
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.83 kW
COP Tj = 12°C	7.37	5.59
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.72 kW
COP Tj = Tbiv	2.83	2.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1807 kWh	1860 kWh

Model Logatherm WLW176i-7 AR T180

Model name	Logatherm WLW176i-7 AR T180
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water
EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	90 %
COP	2.34
Heating up time	2:40 h:min
Standby power input	92.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	235 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	73 %
COP	1.87
Heating up time	3:23 h:min
Standby power input	131.2 W
Reference hot water temperature	51 °C
Mixed water at 40°C	238 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	106 %
COP	2.59
Heating up time	2:39 h:min
Standby power input	86.1 W
Reference hot water temperature	52.6 °C
Mixed water at 40°C	237 l

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	2.83 kW	3.18 kW
El input	0.59 kW	1.18 kW
COP	4.81	2.7

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.41 kW	5.90 kW
COP Tj = -7°C	2.60	2.07
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.50 kW	3.50 kW
COP Tj = +2°C	4.66	3.46
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.44 kW
COP Tj = +7°C	6.05	4.62
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.79 kW
COP Tj = 12°C	7.17	5.64
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.41 kW	5.90 kW
COP Tj = Tbiv	2.60	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.85 kW	5.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W

PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.44 kW
Annual energy consumption Q _{he}	2990 kWh	3917 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	160 %	116 %
Prated	7.3 kW	6.6 kW
SCOP	4.07	2.97
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.06 kW	3.69 kW
COP T _j = -7°C	3.29	2.36
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	2.52 kW	2.37 kW
COP T _j = +2°C	5.17	3.62
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	1.86 kW	1.83 kW
COP T _j = +7°C	6.21	4.64
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	1.83 kW	1.78 kW
COP T _j = 12°C	6.95	5.42
C _{dh} T _j = +12 °C	0.94	0.95
P _{dh} T _j = T _{biv}	6 kW	5.33 kW
COP T _j = T _{biv}	2.37	1.95
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	3.23 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.02	1.56
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.29 kW	3.37 kW
Annual energy consumption Q _{he}	4418 kWh	5475 kWh

Pdh Tj = -15°C (if TOL	6	5.33
COP Tj = -15°C (if TOL	2.37	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	158 %
Prated	7.1 kW	5.7 kW
SCOP	5.21	4.04
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.68 kW
COP Tj = +2°C	2.81	2.16
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.64 kW
COP Tj = +7°C	4.2	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	1.88 kW	1.82 kW
COP Tj = 12°C	7.31	5.48
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.08 kW	5.68 kW
COP Tj = Tbiv	2.81	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1820 kWh	1887 kWh

Model Logatherm WLW176i-7 AR TP70

Model name	Logatherm WLW176i-7 AR TP70
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

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	2.84 kW	3.2 kW
El input	0.59 kW	1.18 kW
COP	4.82	2.72

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.56	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.98 kW
COP Tj = -7°C	2.60	2.05
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.51 kW
COP Tj = +2°C	4.67	3.47

Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.06	4.63
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.14	5.66
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	5.42 kW	5.98 kW
COP Tj = Tbiv	2.60	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.41 kW
Annual energy consumption Qhe	2987 kWh	3912 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	117 %
Prated	7.3 kW	6.6 kW
SCOP	4.09	2.99
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.06 kW	3.7 kW
COP Tj = -7°C	3.29	2.37
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.18	3.63
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	1.86 kW	1.59 kW
COP Tj = +7°C	6.21	4.81
Cdh Tj = +7 °C	0.95	0.95
Pdh Tj = 12°C	1.84 kW	1.79 kW

COP Tj = 12 °C	6.99	5.43
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	6.03 kW	5.35 kW
COP Tj = Tbiv	2.41	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.02 kW	3.26 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.28 kW	3.34 kW
Annual energy consumption Qhe	4400 kWh	5436 kWh
Pdh Tj = -15 °C (if TOL	6.03	5.35
COP Tj = -15 °C (if TOL	2.41	1.95
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	37 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	206 %	159 %
Prated	7.1 kW	5.7 kW
SCOP	5.22	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	7.09 kW	5.7 kW
COP Tj = +2 °C	2.82	2.17
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7 °C	4.25 kW	3.66 kW
COP Tj = +7 °C	4.2	3.39
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12 °C	1.88 kW	1.83 kW
COP Tj = 12 °C	7.32	5.5
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	7.09 kW	5.7 kW
COP Tj = Tbiv	2.82	2.17

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.09 kW	5.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.82	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	32 W	32 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	1818 kWh	1880 kWh

Model HC HYC20 IT-4

Model name	HC HYC20 IT-4
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

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	2.84 kW	2.02 kW
El input	0.59 kW	0.79 kW
COP	4.85	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	173 %	126 %
Prated	4.4 kW	4 kW
SCOP	4.34	3.18
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.91 kW	3.55 kW
COP Tj = -7°C	2.89	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.26 kW
COP Tj = +2°C	4.48	3.24
Cdh Tj = +2 °C	0.97	0.97

Pdh Tj = +7°C	1.73 kW	1.55 kW
COP Tj = +7°C	6.17	4.37
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.43	5.41
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	3.91 kW	3.55 kW
COP Tj = Tbiv	2.89	3.55
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	0.85 kW
Annual energy consumption Qhe	2093 kWh	2599 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	152 %	107 %
Prated	3.8 kW	3.2 kW
SCOP	3.82	2.69
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.87 kW
COP Tj = -7°C	3.42	2.27
Cdh Tj = -7 °C	0.97	0.98
Pdh Tj = +2°C	1.86 kW	1.78 kW
COP Tj = +2°C	4.8	3.32
Cdh Tj = +2 °C	0.95	0.97
Pdh Tj = +7°C	1.61 kW	1.58 kW
COP Tj = +7°C	5.76	4.29
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.63	5.25

Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	3.12 kW	2.64 kW
COP Tj = Tbiv	2.51	1.8
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.84	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.98	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.58 kW	1.13 kW
Annual energy consumption Qhe	2451 kWh	2932 kWh
Pdh Tj = -15°C (if TOL	3.12	2.64
COP Tj = -15°C (if TOL	2.51	1.8
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	191 %	133 %
Prated	4.3 kW	3.8 kW
SCOP	4.79	3.36
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.31 kW	3.92 kW
COP Tj = +2°C	3.21	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.41 kW
COP Tj = +7°C	4.95	3.09
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.82 kW	1.79 kW
COP Tj = 12°C	6.72	5.01
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	4.31 kW	3.92 kW
COP Tj = Tbiv	3.21	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.31 kW	3.92 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.21	2.12
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q_{he}	1199 kWh	1511 kWh

Model HC HYC20 IT-5

Model name	HC HYC20 IT-5
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	175 %	135 %
Prated	6.2 kW	6.2 kW
SCOP	4.41	3.41
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.47 kW	5.57 kW
COP Tj = -7°C	2.59	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.05 kW	3.52 kW
COP Tj = +2°C	4.64	3.39
Cdh Tj = +2 °C	0.97	0.98

Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.07	4.84
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.95 kW	1.88 kW
COP Tj = 12°C	7.26	5.83
Cdh Tj = +12 °C	0.93	0.94
Pdh Tj = Tbiv	5.47 kW	5.57 kW
COP Tj = Tbiv	2.59	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.45 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.10 kW
Annual energy consumption Qhe	2906 kWh	3758 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	165 %	124 %
Prated	5.4 kW	5.3 kW
SCOP	4.16	3.13
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.45 kW	3.18 kW
COP Tj = -7°C	3.44	2.64
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.1 kW
COP Tj = +2°C	5.47	3.8
Cdh Tj = +2 °C	0.95	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.25	5.18
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.92 kW	1.9 kW
COP Tj = 12°C	6.87	5.92

Cdh Tj = +12 °C	0.94	0.94
Pdh Tj = Tbiv	4.62 kW	4.3 kW
COP Tj = Tbiv	2.41	1.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.65 kW
Annual energy consumption Qhe	3199 kWh	4180 kWh
Pdh Tj = -15°C (if TOL	4.62	4.3
COP Tj = -15°C (if TOL	2.41	1.91
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	205 %	150 %
Prated	6.4 kW	5.9 kW
SCOP	5.16	3.78
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.43 kW	5.93 kW
COP Tj = +2°C	2.91	2.15
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.14 kW	3.84 kW
COP Tj = +7°C	4.79	3.51
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	1.95 kW	1.78 kW
COP Tj = 12°C	7.38	5.15
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	6.43 kW	5.93 kW
COP Tj = Tbiv	2.91	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.93 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	2.91	2.15
C _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q _{he}	1656 kWh	2087 kWh

Model HC HYC20 IT-7

Model name	HC HYC20 IT-7
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	176 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.43	3.42
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.94 kW
COP Tj = -7°C	2.61	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.53 kW
COP Tj = +2°C	4.68	3.49
Cdh Tj = +2 °C	0.98	0.98

Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.09	4.68
Cdh Tj = +7 °C	0.95	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.23	5.75
Cdh Tj = +12 °C	0.93	0.94
Pdh Tj = Tbiv	5.42 kW	5.94 kW
COP Tj = Tbiv	2.61	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.39 kW
Annual energy consumption Qhe	3079 kWh	3981 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	160 %	118 %
Prated	7.3 kW	6.6 kW
SCOP	4.03	2.97
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.07 kW	3.72 kW
COP Tj = -7°C	3.3	2.39
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.2	3.67
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.86 kW	1.84 kW
COP Tj = +7°C	6.24	4.72
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.84 kW	1.79 kW
COP Tj = 12°C	7	5.53

Cdh Tj = +12 °C	0.93	0.94
Pdh Tj = Tbiv	6.01 kW	5.37 kW
COP Tj = Tbiv	2.38	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.03 kW	3.28 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.83	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.27 kW	3.32 kW
Annual energy consumption Qhe	4460 kWh	5474 kWh
Pdh Tj = -15°C (if TOL	6.01	5.37
COP Tj = -15°C (if TOL	2.38	1.96
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	31 dB(A)	31 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	196 %	153 %
Prated	7.1 kW	5.7 kW
SCOP	4.93	3.85
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.72 kW
COP Tj = +2°C	2.83	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.67 kW
COP Tj = +7°C	4.23	3.41
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	1.88 kW	1.83 kW
COP Tj = 12°C	7.37	5.59
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	7.08 kW	5.72 kW
COP Tj = Tbiv	2.83	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.72 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	2.83	2.18
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q_{he}	1926 kWh	1979 kWh

Model HC-Set HYC20 IT-4

Model name	HC-Set HYC20 IT-4
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

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	2.84 kW	2.02 kW
El input	0.59 kW	0.79 kW
COP	4.85	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	173 %	126 %
Prated	4.4 kW	4 kW
SCOP	4.34	3.18
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.91 kW	3.55 kW
COP Tj = -7°C	2.89	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.48 kW	2.26 kW
COP Tj = +2°C	4.48	3.24
Cdh Tj = +2 °C	0.97	0.97

Pdh Tj = +7°C	1.73 kW	1.55 kW
COP Tj = +7°C	6.17	4.37
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.97 kW	1.83 kW
COP Tj = 12°C	7.43	5.41
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	3.91 kW	3.55 kW
COP Tj = Tbiv	2.89	3.55
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.77 kW	0.85 kW
Annual energy consumption Qhe	2093 kWh	2599 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	152 %	107 %
Prated	3.8 kW	3.2 kW
SCOP	3.82	2.69
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.26 kW	1.87 kW
COP Tj = -7°C	3.42	2.27
Cdh Tj = -7 °C	0.97	0.98
Pdh Tj = +2°C	1.86 kW	1.78 kW
COP Tj = +2°C	4.8	3.32
Cdh Tj = +2 °C	0.95	0.97
Pdh Tj = +7°C	1.61 kW	1.58 kW
COP Tj = +7°C	5.76	4.29
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.81 kW	1.78 kW
COP Tj = 12°C	6.63	5.25

Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	3.12 kW	2.64 kW
COP Tj = Tbiv	2.51	1.8
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.84	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.98	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.58 kW	1.13 kW
Annual energy consumption Qhe	2451 kWh	2932 kWh
Pdh Tj = -15°C (if TOL	3.12	2.64
COP Tj = -15°C (if TOL	2.51	1.8
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	40 dB(A)	40 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	191 %	133 %
Prated	4.3 kW	3.8 kW
SCOP	4.79	3.36
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.31 kW	3.92 kW
COP Tj = +2°C	3.21	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.64 kW	2.41 kW
COP Tj = +7°C	4.95	3.09
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.82 kW	1.79 kW
COP Tj = 12°C	6.72	5.01
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	4.31 kW	3.92 kW
COP Tj = Tbiv	3.21	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.31 kW	3.92 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.21	2.12
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q_{he}	1199 kWh	1511 kWh

Model HC-Set HYC20 IT-5

Model name	HC-Set HYC20 IT-5
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	175 %	135 %
Prated	6.2 kW	6.2 kW
SCOP	4.41	3.41
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.47 kW	5.57 kW
COP Tj = -7°C	2.59	2.11
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.05 kW	3.52 kW
COP Tj = +2°C	4.64	3.39
Cdh Tj = +2 °C	0.97	0.98

Pdh Tj = +7°C	2.28 kW	2.21 kW
COP Tj = +7°C	6.07	4.84
Cdh Tj = +7 °C	0.95	0.96
Pdh Tj = 12°C	1.95 kW	1.88 kW
COP Tj = 12°C	7.26	5.83
Cdh Tj = +12 °C	0.93	0.94
Pdh Tj = Tbiv	5.47 kW	5.57 kW
COP Tj = Tbiv	2.59	2.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.45 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	1.10 kW
Annual energy consumption Qhe	2906 kWh	3758 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	165 %	124 %
Prated	5.4 kW	5.3 kW
SCOP	4.16	3.13
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.45 kW	3.18 kW
COP Tj = -7°C	3.44	2.64
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.07 kW	2.1 kW
COP Tj = +2°C	5.47	3.8
Cdh Tj = +2 °C	0.95	0.97
Pdh Tj = +7°C	1.74 kW	1.71 kW
COP Tj = +7°C	6.25	5.18
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.92 kW	1.9 kW
COP Tj = 12°C	6.87	5.92

Cdh Tj = +12 °C	0.94	0.94
Pdh Tj = Tbiv	4.62 kW	4.3 kW
COP Tj = Tbiv	2.41	1.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.89	1.58
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.39 kW	1.65 kW
Annual energy consumption Qhe	3199 kWh	4180 kWh
Pdh Tj = -15°C (if TOL	4.62	4.3
COP Tj = -15°C (if TOL	2.41	1.91
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	205 %	150 %
Prated	6.4 kW	5.9 kW
SCOP	5.16	3.78
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.43 kW	5.93 kW
COP Tj = +2°C	2.91	2.15
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.14 kW	3.84 kW
COP Tj = +7°C	4.79	3.51
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	1.95 kW	1.78 kW
COP Tj = 12°C	7.38	5.15
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	6.43 kW	5.93 kW
COP Tj = Tbiv	2.91	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.43 kW	5.93 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	2.91	2.15
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q_{he}	1656 kWh	2087 kWh

Model HC-Set HYC20 IT-7

Model name	HC-Set HYC20 IT-7
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

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	2.84 kW	3.23 kW
El input	0.59 kW	1.18 kW
COP	4.85	2.74

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	176 %	136 %
Prated	6.6 kW	6.6 kW
SCOP	4.43	3.42
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.42 kW	5.94 kW
COP Tj = -7°C	2.61	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.51 kW	3.53 kW
COP Tj = +2°C	4.68	3.49
Cdh Tj = +2 °C	0.98	0.98

Pdh Tj = +7°C	2.20 kW	2.45 kW
COP Tj = +7°C	6.09	4.68
Cdh Tj = +7 °C	0.95	0.97
Pdh Tj = 12°C	1.85 kW	1.80 kW
COP Tj = 12°C	7.23	5.75
Cdh Tj = +12 °C	0.93	0.94
Pdh Tj = Tbiv	5.42 kW	5.94 kW
COP Tj = Tbiv	2.61	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.86 kW	5.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.74 kW	1.39 kW
Annual energy consumption Qhe	3079 kWh	3981 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	160 %	118 %
Prated	7.3 kW	6.6 kW
SCOP	4.03	2.97
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.07 kW	3.72 kW
COP Tj = -7°C	3.3	2.39
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.52 kW	2.38 kW
COP Tj = +2°C	5.2	3.67
Cdh Tj = +2 °C	0.96	0.97
Pdh Tj = +7°C	1.86 kW	1.84 kW
COP Tj = +7°C	6.24	4.72
Cdh Tj = +7 °C	0.94	0.95
Pdh Tj = 12°C	1.84 kW	1.79 kW
COP Tj = 12°C	7	5.53

Cdh Tj = +12 °C	0.93	0.94
Pdh Tj = Tbiv	6.01 kW	5.37 kW
COP Tj = Tbiv	2.38	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.03 kW	3.28 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.83	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	75 °C	75 °C
Poff	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.27 kW	3.32 kW
Annual energy consumption Qhe	4460 kWh	5474 kWh
Pdh Tj = -15°C (if TOL	6.01	5.37
COP Tj = -15°C (if TOL	2.38	1.96
Cdh Tj = -15 °C	0.99	0.99

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	42 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	196 %	153 %
Prated	7.1 kW	5.7 kW
SCOP	4.93	3.85
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.08 kW	5.72 kW
COP Tj = +2°C	2.83	2.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.25 kW	3.67 kW
COP Tj = +7°C	4.23	3.41
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	1.88 kW	1.83 kW
COP Tj = 12°C	7.37	5.59
Cdh Tj = +12 °C	0.93	0.95
Pdh Tj = Tbiv	7.08 kW	5.72 kW
COP Tj = Tbiv	2.83	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.08 kW	5.72 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	2.83	2.18
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	0.99
WTOL	75 °C	75 °C
P _{off}	6 W	6 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	22 W	22 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Q_{he}	1926 kWh	1979 kWh