

## Subtype Wellea HT 12-14-16kW

Certificate Holder	Airwell Residential S.A.S.
Address	10, rue du Fort de Saint Cyr
ZIP	78180
City	Montigny le Bretonneux
Country	FR
Certification Body	ICIM S.p.A.
Subtype title	Wellea HT 12-14-16kW
Registration number	ICIM-PDC-000250
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.25 kg
Certification Date	29.04.2024
Testing basis	V12

## Model BDHW-120R-04M25

Model name	BDHW-120R-04M25
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	1x230V 50Hz
Off-peak product	n/a

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

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

### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	12.0 kW	12.0 kW
El input	2.50 kW	3.87 kW
COP	4.80	3.10

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	183 %	141 %
Prated	12.1 kW	12.0 kW
SCOP	4.67	3.62
Tbiv	-7 °C	-7 °C
TOL	-10.00 °C	-10.00 °C
Pdh Tj = -7°C	10.75 kW	10.58 kW
COP Tj = -7°C	2.78	2.23
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	6.73 kW	6.59 kW
COP Tj = +2°C	4.55	3.52
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.23 kW	4.78 kW
COP Tj = +7°C	6.89	4.99

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.34 kW	5.59 kW
COP Tj = 12°C	7.41	6.41
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.75 kW	10.58 kW
COP Tj = Tbiv	2.78	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.77 kW	10.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.05
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.33 kW	1.95 kW
Annual energy consumption Qhe	5352 kWh	6843 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	127 %
Prated	11.5 kW	10.8 kW
SCOP	4.13	3.26
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	7.11 kW	6.76 kW
COP Tj = -7°C	3.47	2.72
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.33 kW	4.14 kW
COP Tj = +2°C	5.18	4.05
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.08 kW	5.00 kW
COP Tj = +7°C	6.46	5.15
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.15 kW	5.01 kW
COP Tj = 12°C	6.84	5.66
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	9.39 kW	8.84 kW
COP Tj = Tbiv	2.49	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	6.84 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.04	1.52
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14 W	14 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.80 kW	3.96 kW
Annual energy consumption Qhe	6869.00 kWh	8197.00 kWh
Pdh Tj = -15°C (if TOL	9.39	8.84
COP Tj = -15°C (if TOL	2.49	1.98
Cdh Tj = -15 °C	0.9	0.9

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	232 %	174 %
Prated	11.70 kW	12.40 kW
SCOP	5.90	4.45
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.58 kW	11.41 kW
COP Tj = +2°C	3.30	2.55
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.57 kW	7.85 kW
COP Tj = +7°C	5.78	3.99
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	5.17 kW	5.47 kW
COP Tj = 12°C	6.98	5.90
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.57 kW	7.85 kW
COP Tj = Tbiv	5.78	3.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.58 kW	11.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.30	2.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	9 W	9 W
PTO	14 W	14 W
PSB	9 W	9 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.12 kW	0.99 kW
Annual energy consumption Q <sub>he</sub>	2651 kWh	3724 kWh

## Model BDHW-140R-04M25

Model name	BDHW-140R-04M25
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	1x230V 50Hz
Off-peak product	n/a

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

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

### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	14.0 kW	14.0 kW
El input	3.11 kW	4.67 kW
COP	4.50	3.00

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	182 %	141 %
Prated	13.7 kW	13.0 kW
SCOP	4.63	3.61
Tbiv	-7 °C	-7 °C
TOL	-10.00 °C	-10.00 °C
Pdh Tj = -7°C	12.08 kW	11.47 kW
COP Tj = -7°C	2.66	2.15
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	7.55 kW	7.29 kW
COP Tj = +2°C	4.45	3.50
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.25 kW	4.85 kW
COP Tj = +7°C	7.06	5.10

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.23 kW	5.60 kW
COP Tj = 12°C	7.46	6.46
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	12.08 kW	11.47 kW
COP Tj = Tbiv	2.66	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.62 kW	10.97 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.02
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.08 kW	2.03 kW
Annual energy consumption Qhe	6110 kWh	7438 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	126 %
Prated	12.6 kW	12.0 kW
SCOP	4.13	3.23
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	7.83 kW	7.39 kW
COP Tj = -7°C	3.35	2.67
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.77 kW	4.56 kW
COP Tj = +2°C	5.37	4.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.08 kW	4.99 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.15 kW	5.06 kW
COP Tj = 12°C	6.85	5.81
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.31 kW	9.77 kW
COP Tj = Tbiv	2.39	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.57 kW	7.63 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.01	1.53
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14 W	14 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.03 kW	4.37 kW
Annual energy consumption Qhe	7513.00 kWh	9168.00 kWh
Pdh Tj = -15°C (if TOL	10.31	9.77
COP Tj = -15°C (if TOL	2.39	1.95
Cdh Tj = -15 °C	0.9	0.9

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	231.00 %	174.00 %
Prated	12.7 kW	14.1 kW
SCOP	5.85	4.43
Tbiv	7.00 °C	7.00 °C
TOL	2.00 °C	2.00 °C
Pdh Tj = +2°C	12.41 kW	12.05 kW
COP Tj = +2°C	3.21	2.48
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	8.19 kW	9.11 kW
COP Tj = +7°C	5.67	3.98
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.17 kW	5.49 kW
COP Tj = 12°C	7.02	6.01
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	8.19 kW	9.11 kW
COP Tj = Tbiv	5.67	3.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.41 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.21	2.48
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9 W	9 W
PCK	0.00 W	0.00 W



Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.29 kW	2.21 kW
Annual energy consumption Q <sub>he</sub>	2897.00 kWh	4256.00 kWh

## Model BDHW-160R-04M25

Model name	BDHW-160R-04M25
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	1x230V 50Hz
Off-peak product	n/a

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

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

### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	15.0 kW	15.0 kW
El input	3.41 kW	5.26 kW
COP	4.40	2.85

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	69 dB(A)	69 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	180 %	139 %
Prated	14.7 kW	14.4 kW
SCOP	4.59	3.57
Tbiv	-7 °C	-7 °C
TOL	-10.00 °C	-10.00 °C
Pdh Tj = -7°C	13.04 kW	12.78 kW
COP Tj = -7°C	2.54	2.05
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	8.00 kW	7.96 kW
COP Tj = +2°C	4.40	3.44
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.26 kW	4.78 kW
COP Tj = +7°C	7.12	5.13

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.28 kW	5.72 kW
COP Tj = 12°C	7.56	6.58
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	13.04 kW	12.78 kW
COP Tj = Tbiv	2.54	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.81 kW	12.54 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.94
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.89 kW	1.86 kW
Annual energy consumption Qhe	6617 kWh	8349 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	69 dB(A)	69 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	160 %	128 %
Prated	14.6 kW	13.9 kW
SCOP	4.08	3.29
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	8.89 kW	8.30 kW
COP Tj = -7°C	3.25	2.70
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.87 kW	5.18 kW
COP Tj = +2°C	5.22	4.03
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.24 kW	5.17 kW
COP Tj = +7°C	6.67	5.44
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.32 kW	5.23 kW
COP Tj = 12°C	7.26	6.07
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	11.91 kW	11.32 kW
COP Tj = Tbiv	2.41	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.06 kW	9.07 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.02	1.56
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14 W	14 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.54 kW	4.83 kW
Annual energy consumption Qhe	8813.00 kWh	10408.00 kWh
Pdh Tj = -15°C (if TOL	11.91	11.32
COP Tj = -15°C (if TOL	2.41	1.97
Cdh Tj = -15 °C	0.9	0.9

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	69 dB(A)	69 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	238.00 %	181.00 %
Prated	14.3 kW	14.9 kW
SCOP	6.05	4.62
Tbiv	7.00 °C	7.00 °C
TOL	2.00 °C	2.00 °C
Pdh Tj = +2°C	13.82 kW	13.47 kW
COP Tj = +2°C	3.18	2.48
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	9.17 kW	9.58 kW
COP Tj = +7°C	5.82	4.04
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.34 kW	5.64 kW
COP Tj = 12°C	7.33	6.31
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	9.17 kW	9.58 kW
COP Tj = Tbiv	5.82	4.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	13.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.48
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9 W	9 W
PCK	0.00 W	0.00 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.48 kW	1.43 kW
Annual energy consumption Q <sub>he</sub>	3159.00 kWh	4306.00 kWh

## Model BDHW-120R-04T35

Model name	BDHW-120R-04T35
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

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

### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	12.0 kW	12.0 kW
El input	2.50 kW	3.87 kW
COP	4.80	3.10

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	183 %	141 %
Prated	12.1 kW	12.0 kW
SCOP	4.67	3.62
Tbiv	-7 °C	-7 °C
TOL	-10.00 °C	-10.00 °C
Pdh Tj = -7°C	10.75 kW	10.58 kW
COP Tj = -7°C	2.78	2.23
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	6.73 kW	6.59 kW
COP Tj = +2°C	4.55	3.52
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.23 kW	4.78 kW
COP Tj = +7°C	6.89	4.99

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.34 kW	5.59 kW
COP Tj = 12°C	7.41	6.41
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.75 kW	10.58 kW
COP Tj = Tbiv	2.78	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.77 kW	10.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.05
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.33 kW	1.95 kW
Annual energy consumption Qhe	5352 kWh	6843 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	127 %
Prated	11.5 kW	10.8 kW
SCOP	4.13	3.26
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	7.11 kW	6.76 kW
COP Tj = -7°C	3.47	2.72
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.33 kW	4.14 kW
COP Tj = +2°C	5.18	4.05
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.08 kW	5.00 kW
COP Tj = +7°C	6.46	5.15
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.15 kW	5.01 kW
COP Tj = 12°C	6.84	5.66
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	9.39 kW	8.84 kW
COP Tj = Tbiv	2.49	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	6.84 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.04	1.52
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14 W	14 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.80 kW	3.96 kW
Annual energy consumption Qhe	6869.00 kWh	8197.00 kWh
Pdh Tj = -15°C (if TOL	9.39	8.84
COP Tj = -15°C (if TOL	2.49	1.98
Cdh Tj = -15 °C	0.9	0.9

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	232 %	174 %
Prated	11.70 kW	12.40 kW
SCOP	5.90	4.45
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.58 kW	11.41 kW
COP Tj = +2°C	3.30	2.55
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.57 kW	7.85 kW
COP Tj = +7°C	5.78	3.99
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	5.17 kW	5.47 kW
COP Tj = 12°C	6.98	5.90
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.57 kW	7.85 kW
COP Tj = Tbiv	5.78	3.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.58 kW	11.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.30	2.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	9 W	9 W
PTO	14 W	14 W
PSB	9 W	9 W



PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.12 kW	0.99 kW
Annual energy consumption Q <sub>he</sub>	2651 kWh	3724 kWh

## Model BDHW-140R-04T35

Model name	BDHW-140R-04T35
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

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

### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	14.0 kW	14.0 kW
El input	3.11 kW	4.67 kW
COP	4.50	3.00

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	182 %	141 %
Prated	13.7 kW	13.0 kW
SCOP	4.63	3.61
Tbiv	-7 °C	-7 °C
TOL	-10.00 °C	-10.00 °C
Pdh Tj = -7°C	12.08 kW	11.47 kW
COP Tj = -7°C	2.66	2.15
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	7.55 kW	7.29 kW
COP Tj = +2°C	4.45	3.50
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.25 kW	4.85 kW
COP Tj = +7°C	7.06	5.10

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.23 kW	5.60 kW
COP Tj = 12°C	7.46	6.46
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	12.08 kW	11.47 kW
COP Tj = Tbiv	2.66	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.62 kW	10.97 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.53	2.02
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.08 kW	2.03 kW
Annual energy consumption Qhe	6110 kWh	7438 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	126 %
Prated	12.6 kW	12.0 kW
SCOP	4.13	3.23
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	7.83 kW	7.39 kW
COP Tj = -7°C	3.35	2.67
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.77 kW	4.56 kW
COP Tj = +2°C	5.37	4.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.08 kW	4.99 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.15 kW	5.06 kW
COP Tj = 12°C	6.85	5.81
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.31 kW	9.77 kW
COP Tj = Tbiv	2.39	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.57 kW	7.63 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.01	1.53
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14 W	14 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.03 kW	4.37 kW
Annual energy consumption Qhe	7513.00 kWh	9168.00 kWh
Pdh Tj = -15°C (if TOL	10.31	9.77
COP Tj = -15°C (if TOL	2.39	1.95
Cdh Tj = -15 °C	0.9	0.9

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	231.00 %	174.00 %
Prated	12.7 kW	14.1 kW
SCOP	5.85	4.43
Tbiv	7.00 °C	7.00 °C
TOL	2.00 °C	2.00 °C
Pdh Tj = +2°C	12.41 kW	12.05 kW
COP Tj = +2°C	3.21	2.48
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	8.19 kW	9.11 kW
COP Tj = +7°C	5.67	3.98
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.17 kW	5.49 kW
COP Tj = 12°C	7.02	6.01
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	8.19 kW	9.11 kW
COP Tj = Tbiv	5.67	3.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.41 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.21	2.48
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9 W	9 W
PCK	0.00 W	0.00 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.29 kW	2.21 kW
Annual energy consumption Q <sub>he</sub>	2897.00 kWh	4256.00 kWh

## Model BDHW-160R-04T35

Model name	BDHW-160R-04T35
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

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

### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	15.0 kW	15.0 kW
El input	3.41 kW	5.26 kW
COP	4.40	2.85

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	69 dB(A)	69 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	180 %	139 %
Prated	14.7 kW	14.4 kW
SCOP	4.59	3.57
Tbiv	-7 °C	-7 °C
TOL	-10.00 °C	-10.00 °C
Pdh Tj = -7°C	13.04 kW	12.78 kW
COP Tj = -7°C	2.54	2.05
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	8.00 kW	7.96 kW
COP Tj = +2°C	4.40	3.44
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.26 kW	4.78 kW
COP Tj = +7°C	7.12	5.13

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.28 kW	5.72 kW
COP Tj = 12°C	7.56	6.58
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	13.04 kW	12.78 kW
COP Tj = Tbiv	2.54	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.81 kW	12.54 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.94
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.89 kW	1.86 kW
Annual energy consumption Qhe	6617 kWh	8349 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	69 dB(A)	69 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	160 %	128 %
Prated	14.6 kW	13.9 kW
SCOP	4.08	3.29
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	8.89 kW	8.30 kW
COP Tj = -7°C	3.25	2.70
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.87 kW	5.18 kW
COP Tj = +2°C	5.22	4.03
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.24 kW	5.17 kW
COP Tj = +7°C	6.67	5.44
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.32 kW	5.23 kW
COP Tj = 12°C	7.26	6.07
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	11.91 kW	11.32 kW
COP Tj = Tbiv	2.41	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.06 kW	9.07 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.02	1.56
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14 W	14 W
PSB	9.00 W	9.00 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.54 kW	4.83 kW
Annual energy consumption Qhe	8813.00 kWh	10408.00 kWh
Pdh Tj = -15°C (if TOL	11.91	11.32
COP Tj = -15°C (if TOL	2.41	1.97
Cdh Tj = -15 °C	0.9	0.9

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	69 dB(A)	69 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	238.00 %	181.00 %
Prated	14.3 kW	14.9 kW
SCOP	6.05	4.62
Tbiv	7.00 °C	7.00 °C
TOL	2.00 °C	2.00 °C
Pdh Tj = +2°C	13.82 kW	13.47 kW
COP Tj = +2°C	3.18	2.48
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	9.17 kW	9.58 kW
COP Tj = +7°C	5.82	4.04
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.34 kW	5.64 kW
COP Tj = 12°C	7.33	6.31
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	9.17 kW	9.58 kW
COP Tj = Tbiv	5.82	4.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	13.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.48
WTOL	75.00 °C	75.00 °C
Poff	9.00 W	9.00 W
PTO	14.00 W	14.00 W
PSB	9 W	9 W
PCK	0.00 W	0.00 W



Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.48 kW	1.43 kW
Annual energy consumption Q <sub>he</sub>	3159.00 kWh	4306.00 kWh