

## Subtype FHA-Monoblock 5-7kW

Certificate Holder	WOLF GmbH
Address	Industriestr. 1
ZIP	84048
City	Mainburg
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	FHA-Monoblock 5-7kW
Registration number	011-1W0557
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.4 kg
Certification Date	17.10.2022
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 10 (as of 2022-06)

## Model FHA-05/06-230V-M2 FS-B2

Model name	FHA-05/06-230V-M2 FS-B2
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer, Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
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	6.17 kW	5.66 kW
El input	1.25 kW	1.98 kW
COP	4.94	2.87

### EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.11 kW	1.59 kW
Cooling capacity	3.71	6.87
EER	3.33	4.31

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	184 %	120 %
Prated	4.01 kW	3.24 kW
SCOP	4.68	3.08
Tbiv	-10 °C	-10 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.73 kW	2.85 kW
COP Tj = -7°C	2.99	1.72
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.64 kW	3.27 kW
COP Tj = +2°C	4.90	3.08
Cdh Tj = +2 °C	0.982	0.991
Pdh Tj = +7°C	3.11 kW	3.63 kW
COP Tj = +7°C	6.08	4.22
Cdh Tj = +7 °C	0.981	0.986
Pdh Tj = 12°C	3.51 kW	3.51 kW
COP Tj = 12°C	5.15	5.71
Cdh Tj = +12 °C	0.985	0.984
Pdh Tj = Tbiv	4.01 kW	3.24 kW
COP Tj = Tbiv	2.63	1.60
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.63	1.60
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1770 kWh	2176 kWh

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	206 %	159 %
Prated	4.54 kW	4.15 kW
SCOP	5.21	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.54 kW	4.15 kW
COP Tj = +2°C	3.71	2.18
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.13 kW	3.77 kW

COP Tj = +7°C	6.04	3.39
Cdh Tj = +7 °C	0.900	0.991
Pdh Tj = 12°C	3.48 kW	4.19 kW
COP Tj = 12°C	5.06	5.51
Cdh Tj = +12 °C	0.986	0.987
Pdh Tj = Tbiv	4.54 kW	4.15 kW
COP Tj = Tbiv	3.71	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.54 kW	4.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.71	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1164 kWh	1366 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.71 kW	6.90 kW
SEER	3.99	5.65
Pdc Tj = 35°C	3.71 kW	6.90 kW
EER Tj = 35°C	3.33	4.31
Pdc Tj = 30°C	2.82 kW	5.16 kW
EER Tj = 30°C	3.93	6.68
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	2.12 kW	3.29 kW
EER Tj = 25°C	4.14	6.17
Cdc Tj = 25 °C	0.981	0.250
Pdc Tj = 20°C	2.42 kW	3.09 kW
EER Tj = 20°C	5.31	6.65
Cdc Tj = 20 °C	0.978	0.979
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Annual energy consumption Qce	887 kWh	1164 kWh

## Model FHA-05/06-230V-M2 FS-e6-B2

Model name	FHA-05/06-230V-M2 FS-e6-B2
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
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	6.17 kW	5.66 kW
El input	1.25 kW	1.98 kW
COP	4.94	2.87

### EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.11 kW	1.59 kW
Cooling capacity	3.71	6.87
EER	3.33	4.31

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	181 %	127 %
Prated	5.01 kW	4.41 kW
SCOP	4.59	3.24
Tbiv	-7 °C	-7 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.44 kW	3.91 kW
COP Tj = -7°C	2.92	1.92
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.66 kW	2.93 kW
COP Tj = +2°C	4.98	3.17
Cdh Tj = +2 °C	0.900	0.989
Pdh Tj = +7°C	3.06 kW	3.74 kW
COP Tj = +7°C	5.53	4.43
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	3.49 kW	3.60 kW
COP Tj = 12°C	5.15	6.25
Cdh Tj = +12 °C	0.985	0.983
Pdh Tj = Tbiv	4.44 kW	3.91 kW
COP Tj = Tbiv	2.92	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.63	1.60
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.00 kW	1.17 kW
Annual energy consumption Qhe	2257 kWh	2812 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	157 %	101 %
Prated	3.85 kW	3.20 kW
SCOP	4.00	2.59
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-18 °C
Pdh Tj = -7°C	2.35 kW	2.93 kW
COP Tj = -7°C	3.58	2.15
Cdh Tj = -7 °C	0.900	0.993
Pdh Tj = +2°C	2.64 kW	2.99 kW

COP Tj = +2°C	4.89	3.34
Cdh Tj = +2 °C	0.982	0.989
Pdh Tj = +7°C	3.13 kW	2.85 kW
COP Tj = +7°C	6.15	4.38
Cdh Tj = +7 °C	0.981	0.985
Pdh Tj = 12°C	3.48 kW	3.45 kW
COP Tj = 12°C	5.10	4.99
Cdh Tj = +12 °C	0.985	0.986
Pdh Tj = Tbiv	3.14 kW	2.61 kW
COP Tj = Tbiv	2.30	1.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.86 kW	2.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.92	1.22
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.99 kW	3.20 kW
Annual energy consumption Qhe	2376 kWh	3042 kWh
Pdh Tj = -15°C (if TOL	3.14	2.61
COP Tj = -15°C (if TOL	2.30	1.37
Cdh Tj = -15 °C	0.900	0.900

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	206 %	159 %
Prated	4.54 kW	4.15 kW
SCOP	5.21	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.54 kW	4.15 kW
COP Tj = +2°C	3.71	2.18
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.13 kW	3.77 kW
COP Tj = +7°C	6.04	3.39
Cdh Tj = +7 °C	0.900	0.991

Pdh Tj = 12°C	3.48 kW	4.19 kW
COP Tj = 12°C	5.06	5.51
Cdh Tj = +12 °C	0.986	0.987
Pdh Tj = Tbiv	4.54 kW	4.15 kW
COP Tj = Tbiv	3.71	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.54 kW	4.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.71	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1164 kWh	1366 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.71 kW	6.90 kW
SEER	3.99	5.65
Pdc Tj = 35°C	3.71 kW	6.90 kW
EER Tj = 35°C	3.33	4.31
Pdc Tj = 30°C	2.82 kW	5.16 kW
EER Tj = 30°C	3.93	6.68
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	2.12 kW	3.29 kW
EER Tj = 25°C	4.14	6.17
Cdc Tj = 25 °C	0.981	0.250
Pdc Tj = 20°C	2.42 kW	3.09 kW
EER Tj = 20°C	5.31	6.65
Cdc Tj = 20 °C	0.978	0.979
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Annual energy consumption Qce	887 kWh	1164 kWh



## Model FHA-06/07-230V-M2 FS-B2

Model name	FHA-06/07-230V-M2 FS-B2
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer, Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
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	7.66 kW	6.88 kW
El input	1.59 kW	2.39 kW
COP	4.81	2.88

### EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	2.00 kW	1.46 kW
Cooling capacity	5.71	6.42
EER	2.85	4.41

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	168 %	118 %
Prated	5.14 kW	3.64 kW
SCOP	4.26	3.02
Tbiv	-10 °C	-10 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.26 kW	2.95 kW
COP Tj = -7°C	3.02	1.75
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.99 kW	3.20 kW
COP Tj = +2°C	4.38	3.05
Cdh Tj = +2 °C	0.900	0.984
Pdh Tj = +7°C	2.91 kW	3.59 kW
COP Tj = +7°C	5.02	4.22
Cdh Tj = +7 °C	0.971	0.980
Pdh Tj = 12°C	3.35 kW	3.31 kW
COP Tj = 12°C	5.42	4.83
Cdh Tj = +12 °C	0.973	0.975
Pdh Tj = Tbiv	5.14 kW	3.64 kW
COP Tj = Tbiv	2.59	1.59
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.14 kW	3.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2493 kWh	2485 kWh

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
Prated	5.48 kW	4.80 kW
SCOP	4.86	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	4.80 kW
COP Tj = +2°C	3.73	2.20
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.55 kW	3.78 kW

COP Tj = +7°C	4.88	3.47
Cdh Tj = +7 °C	0.900	0.984
Pdh Tj = 12°C	3.30 kW	3.20 kW
COP Tj = 12°C	5.26	4.15
Cdh Tj = +12 °C	0.973	0.978
Pdh Tj = Tbiv	5.48 kW	4.80 kW
COP Tj = Tbiv	3.73	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.73	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1508 kWh	1788 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	5.72 kW	6.43 kW
SEER	3.54	5.39
Pdc Tj = 35°C	5.72 kW	6.43 kW
EER Tj = 35°C	2.86	4.42
Pdc Tj = 30°C	4.21 kW	4.66 kW
EER Tj = 30°C	4.27	6.54
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	2.61 kW	3.48 kW
EER Tj = 25°C	4.06	7.20
Cdc Tj = 25 °C	0.250	0.965
Pdc Tj = 20°C	2.36 kW	3.30 kW
EER Tj = 20°C	5.19	7.10
Cdc Tj = 20 °C	0.963	0.963
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Annual energy consumption Qce	1542 kWh	1138 kWh

## Model FHA-06/07-230V-M2 FS-e6-B2

Model name	FHA-06/07-230V-M2 FS-e6-B2
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
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	7.66 kW	6.88 kW
El input	1.59 kW	2.39 kW
COP	4.81	2.88

### EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	2.00 kW	1.46 kW
Cooling capacity	5.71	6.42
EER	2.85	4.41

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	167 %	129 %
Prated	6.32 kW	5.62 kW
SCOP	4.26	3.30
Tbiv	-7 °C	-7 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.59 kW	4.97 kW
COP Tj = -7°C	2.83	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	3.64 kW	2.97 kW
COP Tj = +2°C	4.42	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	2.96 kW	2.82 kW
COP Tj = +7°C	5.19	4.35
Cdh Tj = +7 °C	0.970	0.974
Pdh Tj = 12°C	3.30 kW	3.39 kW
COP Tj = 12°C	5.35	5.41
Cdh Tj = +12 °C	0.972	0.973
Pdh Tj = Tbiv	5.59 kW	4.97 kW
COP Tj = Tbiv	2.83	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.14 kW	3.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.18 kW	1.97 kW
Annual energy consumption Qhe	3067 kWh	3517 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	156 %	109 %
Prated	5.08 kW	4.96 kW
SCOP	3.99	2.80
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-18 °C
Pdh Tj = -7°C	3.03 kW	3.22 kW
COP Tj = -7°C	3.63	2.37
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.59 kW	2.35 kW

COP Tj = +2°C	4.91	3.56
Cdh Tj = +2 °C	0.968	0.974
Pdh Tj = +7°C	2.95 kW	2.80 kW
COP Tj = +7°C	5.18	4.01
Cdh Tj = +7 °C	0.970	0.976
Pdh Tj = 12°C	3.31 kW	3.23 kW
COP Tj = 12°C	5.30	4.20
Cdh Tj = +12 °C	0.973	0.978
Pdh Tj = Tbiv	4.15 kW	4.05 kW
COP Tj = Tbiv	2.54	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.15 kW	3.01 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.88	1.36
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.93 kW	4.96 kW
Annual energy consumption Qhe	3142 kWh	4369 kWh
Pdh Tj = -15°C (if TOL	4.15	4.05
COP Tj = -15°C (if TOL	2.54	1.75
Cdh Tj = -15 °C	0.900	0.900

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
Prated	5.48 kW	4.80 kW
SCOP	4.86	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	4.80 kW
COP Tj = +2°C	3.73	2.20
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.55 kW	3.78 kW
COP Tj = +7°C	4.88	3.47
Cdh Tj = +7 °C	0.900	0.984

Pdh Tj = 12°C	3.30 kW	3.20 kW
COP Tj = 12°C	5.26	4.15
Cdh Tj = +12 °C	0.973	0.978
Pdh Tj = Tbiv	5.48 kW	4.80 kW
COP Tj = Tbiv	3.73	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.73	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1508 kWh	1788 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	5.72 kW	6.43 kW
SEER	3.54	5.39
Pdc Tj = 35°C	5.72 kW	6.43 kW
EER Tj = 35°C	2.86	4.42
Pdc Tj = 30°C	4.21 kW	4.66 kW
EER Tj = 30°C	4.27	6.54
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	2.61 kW	3.48 kW
EER Tj = 25°C	4.06	7.20
Cdc Tj = 25 °C	0.250	0.965
Pdc Tj = 20°C	2.36 kW	3.30 kW
EER Tj = 20°C	5.19	7.10
Cdc Tj = 20 °C	0.963	0.963
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Annual energy consumption Qce	1542 kWh	1138 kWh

Model FHA-05/06-230V-M2 FS-e6-B2 + CEW-2-200 (FHA-05/06-230V-M2 FC-200-e6-B2; FHA-05/06-230V-M2 FC-200-R35-e6-B2)

Model name	FHA-05/06-230V-M2 FS-e6-B2 + CEW-2-200 (FHA-05/06-230V-M2 FC-200-e6-B2; FHA-05/06-230V-M2 FC-200-R35-e6-B2)
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

#### General data

Power supply	n/a
Off-peak product	n/a

#### Outdoor Air/Water

##### EN 16147 | Average Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	110 %
COP	2.63
Heating up time	2:49 h:min
Standby power input	35.1 W
Reference hot water temperature	50.2 °C
Mixed water at 40°C	220 l

##### EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	134 %
COP	3.18
Heating up time	2:27 h:min
Standby power input	36.4 W
Reference hot water temperature	50.3 °C
Mixed water at 40°C	223 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	6.17 kW	5.66 kW



El input	1.25 kW	1.98 kW
COP	4.94	2.87

#### EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.11 kW	1.59 kW
Cooling capacity	3.71	6.87
EER	3.33	4.31

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	181 %	127 %
Prated	5.01 kW	4.41 kW
SCOP	4.59	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.44 kW	3.91 kW
COP Tj = -7°C	2.92	1.92
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.66 kW	2.93 kW
COP Tj = +2°C	4.98	3.17
Cdh Tj = +2 °C	0.900	0.989
Pdh Tj = +7°C	3.06 kW	3.74 kW
COP Tj = +7°C	5.53	4.43
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	3.49 kW	3.60 kW
COP Tj = 12°C	5.15	6.25
Cdh Tj = +12 °C	0.985	0.983
Pdh Tj = Tbiv	4.44 kW	3.91 kW
COP Tj = Tbiv	2.92	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.01 kW	3.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.63	1.60
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.00 kW	1.17 kW
Annual energy consumption Q <sub>he</sub>	2257 kWh	2812 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	157 %	101 %
Prated	3.85 kW	3.20 kW
SCOP	4.00	2.59
T <sub>biv</sub>	-15 °C	-15 °C
TOL	-22 °C	-18 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	2.35 kW	2.93 kW
COP T <sub>j</sub> = -7°C	3.58	2.15
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.900	0.993
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.64 kW	2.99 kW
COP T <sub>j</sub> = +2°C	4.89	3.34
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.982	0.989
P <sub>dh</sub> T <sub>j</sub> = +7°C	3.13 kW	2.85 kW
COP T <sub>j</sub> = +7°C	6.15	4.38
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.981	0.985
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.48 kW	3.45 kW
COP T <sub>j</sub> = 12°C	5.10	4.99
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.985	0.986
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	3.14 kW	2.61 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.30	1.37
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.86 kW	2.23 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	1.92	1.22
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.900	0.900
WTOL	65 °C	65 °C
P <sub>off</sub>	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.99 kW	3.20 kW
Annual energy consumption Q <sub>he</sub>	2376 kWh	3042 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	3.14	2.61

COP Tj = -15°C (if TOL	2.30	1.37
Cdh Tj = -15 °C	0.900	0.900

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	206 %	159 %
Prated	4.54 kW	4.15 kW
SCOP	5.21	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.54 kW	4.15 kW
COP Tj = +2°C	3.71	2.18
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.13 kW	3.77 kW
COP Tj = +7°C	6.04	3.39
Cdh Tj = +7 °C	0.900	0.991
Pdh Tj = 12°C	3.48 kW	4.19 kW
COP Tj = 12°C	5.06	5.51
Cdh Tj = +12 °C	0.986	0.987
Pdh Tj = Tbiv	4.54 kW	4.15 kW
COP Tj = Tbiv	3.71	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.54 kW	4.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.71	2.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1164 kWh	1366 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.71 kW	6.90 kW
SEER	3.99	5.65

Pdc Tj = 35°C	3.71 kW	6.90 kW
EER Tj = 35°C	3.33	4.31
Pdc Tj = 30°C	2.82 kW	5.16 kW
EER Tj = 30°C	3.93	6.68
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	2.12 kW	3.29 kW
EER Tj = 25°C	4.14	6.17
Cdc Tj = 25 °C	0.981	0.250
Pdc Tj = 20°C	2.42 kW	3.09 kW
EER Tj = 20°C	5.31	6.65
Cdc Tj = 20 °C	0.978	0.979
Poff	9 W	9 W
PTO	10 W	10 W
PSB	16 W	16 W
PCK	0 W	0 W
Annual energy consumption Qce	887 kWh	1164 kWh

Model FHA-06/07-230V-M2 FS-e6-B2 + CEW-2-200 (FHA-06/07-230V-M2 FC-200-e6-B2; FHA-06/07-230V-M2 FC-200-R35-e6-B2)

Model name	FHA-06/07-230V-M2 FS-e6-B2 + CEW-2-200 (FHA-06/07-230V-M2 FC-200-e6-B2; FHA-06/07-230V-M2 FC-200-R35-e6-B2)
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

#### General data

Power supply	n/a
Off-peak product	n/a

#### Outdoor Air/Water

##### EN 16147 | Average Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	117 %
COP	2.82
Heating up time	2:21 h:min
Standby power input	41.0 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	225 l

##### EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	157 %
COP	3.76
Heating up time	2:12 h:min
Standby power input	36.5 W
Reference hot water temperature	51.2 °C
Mixed water at 40°C	225 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	7.66 kW	6.88 kW

El input	1.59 kW	2.39 kW
COP	4.81	2.88

#### EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	2.00 kW	1.46 kW
Cooling capacity	5.71	6.42
EER	2.85	4.41

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	167 %	129 %
Prated	6.32 kW	5.62 kW
SCOP	4.26	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.59 kW	4.97 kW
COP Tj = -7°C	2.83	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	3.64 kW	2.97 kW
COP Tj = +2°C	4.42	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	2.96 kW	2.82 kW
COP Tj = +7°C	5.19	4.35
Cdh Tj = +7 °C	0.970	0.974
Pdh Tj = 12°C	3.30 kW	3.39 kW
COP Tj = 12°C	5.35	5.41
Cdh Tj = +12 °C	0.972	0.973
Pdh Tj = Tbiv	5.59 kW	4.97 kW
COP Tj = Tbiv	2.83	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.14 kW	3.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.18 kW	1.97 kW
Annual energy consumption Q <sub>he</sub>	3067 kWh	3517 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	156 %	109 %
Prated	5.08 kW	4.96 kW
SCOP	3.99	2.80
T <sub>biv</sub>	-15 °C	-15 °C
TOL	-22 °C	-18 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	3.03 kW	3.22 kW
COP T <sub>j</sub> = -7°C	3.63	2.37
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.900	0.900
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.59 kW	2.35 kW
COP T <sub>j</sub> = +2°C	4.91	3.56
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.968	0.974
P <sub>dh</sub> T <sub>j</sub> = +7°C	2.95 kW	2.80 kW
COP T <sub>j</sub> = +7°C	5.18	4.01
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.970	0.976
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.31 kW	3.23 kW
COP T <sub>j</sub> = 12°C	5.30	4.20
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.973	0.978
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	4.15 kW	4.05 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.54	1.75
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.15 kW	3.01 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	1.88	1.36
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.900	0.900
WTOL	65 °C	65 °C
P <sub>off</sub>	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.93 kW	4.96 kW
Annual energy consumption Q <sub>he</sub>	3142 kWh	4369 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	4.15	4.05

COP Tj = -15°C (if TOL	2.54	1.75
Cdh Tj = -15 °C	0.900	0.900

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	30 dB(A)	30 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
Prated	5.48 kW	4.80 kW
SCOP	4.86	3.59
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	4.80 kW
COP Tj = +2°C	3.73	2.20
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.55 kW	3.78 kW
COP Tj = +7°C	4.88	3.47
Cdh Tj = +7 °C	0.900	0.984
Pdh Tj = 12°C	3.30 kW	3.20 kW
COP Tj = 12°C	5.26	4.15
Cdh Tj = +12 °C	0.973	0.978
Pdh Tj = Tbiv	5.48 kW	4.80 kW
COP Tj = Tbiv	3.73	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.73	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1508 kWh	1788 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	5.72 kW	6.43 kW
SEER	3.54	5.39



Pdc Tj = 35°C	5.72 kW	6.43 kW
EER Tj = 35°C	2.86	4.42
Pdc Tj = 30°C	4.21 kW	4.66 kW
EER Tj = 30°C	4.27	6.54
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	2.61 kW	3.48 kW
EER Tj = 25°C	4.06	7.20
Cdc Tj = 25 °C	0.250	0.965
Pdc Tj = 20°C	2.36 kW	3.30 kW
EER Tj = 20°C	5.19	7.10
Cdc Tj = 20 °C	0.963	0.963
Poff	7 W	7 W
PTO	17 W	17 W
PSB	12 W	12 W
PCK	0 W	0 W
Annual energy consumption Qce	1542 kWh	1138 kWh