

## Subtype HA 5-6 O 230V

Certificate Holder	Saunier Duval Brand Group
Address	
ZIP	
City	
Country	DE
Certification Body	VDE Prüf- und Zertifizierungsinstitut GmbH
Subtype title	HA 5-6 O 230V
Registration number	40051132
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	0.6 kg
Certification Date	25.03.2022
Testing basis	DIN EN 14511-1:2019-07; EN 14511-1:2018, DIN EN 14511-2:2019-07; EN 14511-2:2018, DIN EN 14511-3:2019-07; EN 14511-3:2018, DIN EN 14511-4:2019-07; EN 14511-4:2018, DIN EN 14825:2019-07; EN 14825:2018, DIN EN 12102-1:2018-02; EN 12102-1:2017

## Model HA 5-6 O 230V

Model name	HA 5-6 O 230V
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	183 %	130 %
Prated	4.81 kW	4.88 kW
SCOP	4.66	3.33
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.26 kW	4.32 kW
COP Tj = -7°C	2.78	2.11
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.70 kW	2.46 kW
COP Tj = +2°C	4.62	3.19
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.29 kW	2.12 kW
COP Tj = +7°C	6.41	4.40
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.61 kW	2.52 kW
COP Tj = 12°C	7.61	6.03
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.26 kW	4.63 kW
COP Tj = Tbiv	2.78	1.86

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.13 kW	4.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.68 kW	kW
Annual energy consumption Qhe	2135 kWh	3029 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	158 %	116 %
Prated	5.01 kW	4.76 kW
SCOP	4.02	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	3.22 kW	2.89 kW
COP Tj = -7°C	3.36	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.09 kW	3.88 kW
COP Tj = Tbiv	2.13	1.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.04 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.01 kW	4.76 kW
Annual energy consumption Q <sub>he</sub>	3076 kWh	3930 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	4.09	3.88
COP T <sub>j</sub> = -15°C (if TOL	2.13	1.67
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.990	0.990

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η <sub>s</sub>	233 %	157 %
Prated	4.96 kW	5.07 kW
SCOP	5.89	3.99
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	4.96 kW	5.07 kW
COP T <sub>j</sub> = +2°C	3.35	2.30
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = +7°C	3.42 kW	3.08 kW
COP T <sub>j</sub> = +7°C	5.45	3.43
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.97	0.98
P <sub>dh</sub> T <sub>j</sub> = 12°C	2.59 kW	2.42 kW
COP T <sub>j</sub> = 12°C	7.25	5.17
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	4.96 kW	5.07 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.35	2.30
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>	4.96 kW	5.07 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.35	2.30
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 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  $Q_{he}$ 

1125 kWh

1697 kWh

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## Model HA 5-6 O 230V B2

Model name	HA 5-6 O 230V B2
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
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 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	181 %	129 %
Prated	4.81 kW	4.88 kW
SCOP	4.59	3.30
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.26 kW	4.32 kW
COP Tj = -7°C	2.78	2.11
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.70 kW	2.46 kW
COP Tj = +2°C	4.62	3.19
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.29 kW	2.12 kW
COP Tj = +7°C	6.41	4.40
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.61 kW	2.52 kW
COP Tj = 12°C	7.61	6.03
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.26 kW	4.63 kW
COP Tj = Tbiv	2.78	1.86

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.13 kW	4.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.68 kW	kW
Annual energy consumption Qhe	2165 kWh	3059 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	157 %	116 %
Prated	5.01 kW	4.76 kW
SCOP	3.99	2.97
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	3.22 kW	2.89 kW
COP Tj = -7°C	3.36	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.09 kW	3.88 kW
COP Tj = Tbiv	2.13	1.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.04 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.01 kW	4.76 kW
Annual energy consumption Q <sub>he</sub>	3094 kWh	3948 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	4.09	3.88
COP T <sub>j</sub> = -15°C (if TOL	2.13	1.67
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.990	0.990

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η <sub>s</sub>	225 %	153 %
Prated	4.96 kW	5.07 kW
SCOP	5.71	3.91
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	4.96 kW	5.07 kW
COP T <sub>j</sub> = +2°C	3.35	2.30
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = +7°C	3.42 kW	3.08 kW
COP T <sub>j</sub> = +7°C	5.45	3.43
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.97	0.98
P <sub>dh</sub> T <sub>j</sub> = 12°C	2.59 kW	2.42 kW
COP T <sub>j</sub> = 12°C	7.25	5.17
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	4.96 kW	5.07 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.35	2.30
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>	4.96 kW	5.07 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.35	2.30
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 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  $Q_{he}$ 

1161 kWh

1733 kWh

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## Model HA 5-6 O 230V B3

Model name	HA 5-6 O 230V B3
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	52 dB(A)	54 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	177 %	130 %
Prated	4.45 kW	4.88 kW
SCOP	4.50	3.33
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.93 kW	4.32 kW
COP Tj = -7°C	2.79	2.11
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.17 kW	2.46 kW
COP Tj = +2°C	4.46	3.19
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.26 kW	2.12 kW
COP Tj = +7°C	5.99	4.40
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.54 kW	2.52 kW
COP Tj = 12°C	7.16	6.03
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.42 kW	4.63 kW
COP Tj = Tbiv	2.21	1.86

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.42 kW	4.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.21	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	2045 kWh	3029 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	52 dB(A)	54 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	148 %	116 %
Prated	4.68 kW	4.76 kW
SCOP	3.77	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.69 kW	2.89 kW
COP Tj = -7°C	3.26	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.90 kW	1.85 kW
COP Tj = +2°C	4.66	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.22 kW	2.21 kW
COP Tj = +7°C	6.04	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.49 kW	2.56 kW
COP Tj = 12°C	6.79	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.82 kW	3.88 kW
COP Tj = Tbiv	2.01	1.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.70 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.88	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.68 kW	4.76 kW
Annual energy consumption Q <sub>he</sub>	3064 kWh	3930 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	3.82	3.88
COP T <sub>j</sub> = -15°C (if TOL	2.01	1.67
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.990	0.990

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	52 dB(A)	54 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η <sub>s</sub>	215 %	157 %
Prated	4.75 kW	5.07 kW
SCOP	5.44	3.99
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	4.75 kW	5.07 kW
COP T <sub>j</sub> = +2°C	3.22	2.30
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = +7°C	3.33 kW	3.08 kW
COP T <sub>j</sub> = +7°C	5.07	3.43
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.98	0.98
P <sub>dh</sub> T <sub>j</sub> = 12°C	2.48 kW	2.42 kW
COP T <sub>j</sub> = 12°C	6.61	5.17
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	4.75 kW	5.07 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.22	2.30
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>	4.75 kW	5.07 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.22	2.30
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 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  $Q_{he}$ 

1166 kWh

1697 kWh

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## Model HA 3-6 O 230V

Model name	HA 3-6 O 230V
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	177 %	124 %
Prated	4.19 kW	4.18 kW
SCOP	4.50	3.18
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.71 kW	3.69 kW
COP Tj = -7°C	3.04	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.18 kW	2.32 kW
COP Tj = +2°C	4.40	3.01
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.15 kW	2.03 kW
COP Tj = +7°C	5.96	4.28
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.41 kW	2.42 kW
COP Tj = 12°C	7.04	5.84
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.71 kW	3.69 kW
COP Tj = Tbiv	3.04	2.08

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.34 kW	3.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.84 kW	0.87 kW
Annual energy consumption Qhe	1923 kWh	2715 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	147 %	108 %
Prated	3.34 kW	3.15 kW
SCOP	3.75	2.78
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.11 kW	1.92 kW
COP Tj = -7°C	3.34	2.25
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	2.72 kW	2.57 kW
COP Tj = Tbiv	2.16	1.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.69 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.34 kW	3.15 kW
Annual energy consumption Q <sub>he</sub>	2192 kWh	2787 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL		
COP T <sub>j</sub> = -15°C (if TOL		
C <sub>dh</sub> T <sub>j</sub> = -15 °C		

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η <sub>s</sub>	208 %	153 %
Prated	3.53 kW	3.55 kW
SCOP	5.29	3.89
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	3.53 kW	3.55 kW
COP T <sub>j</sub> = +2°C	3.42	2.31
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.98	0.99
P <sub>dh</sub> T <sub>j</sub> = +7°C	2.18 kW	2.44 kW
COP T <sub>j</sub> = +7°C	4.97	3.37
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.97	0.98
P <sub>dh</sub> T <sub>j</sub> = 12°C	2.40 kW	2.37 kW
COP T <sub>j</sub> = 12°C	6.45	5.11
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	3.53 kW	3.55 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.42	2.31
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>	3.53 kW	3.55 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.42	2.31
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 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  $Q_{he}$ 

892 kWh

1219 kWh

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## Model HA 3-6 O 230V B2

Model name	HA 3-6 O 230V B2
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
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 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	174 %	123 %
Prated	4.19 kW	4.18 kW
SCOP	4.43	3.14
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.71 kW	3.69 kW
COP Tj = -7°C	3.04	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.18 kW	2.32 kW
COP Tj = +2°C	4.40	3.01
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.15 kW	2.03 kW
COP Tj = +7°C	5.96	4.28
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.41 kW	2.42 kW
COP Tj = 12°C	7.04	5.84
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.71 kW	3.69 kW
COP Tj = Tbiv	3.04	2.08

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.34 kW	3.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.84 kW	0.87 kW
Annual energy consumption Qhe	1953 kWh	2745 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	146 %	108 %
Prated	3.34 kW	3.15 kW
SCOP	3.72	2.77
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.11 kW	1.92 kW
COP Tj = -7°C	3.34	2.25
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	2.72 kW	2.57 kW
COP Tj = Tbiv	2.16	1.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.69 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.34 kW	3.15 kW
Annual energy consumption Q <sub>he</sub>	2210 kWh	2805 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL		
COP T <sub>j</sub> = -15°C (if TOL		
C <sub>dh</sub> T <sub>j</sub> = -15 °C		

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η <sub>s</sub>	200 %	148 %
Prated	3.53 kW	3.55 kW
SCOP	5.08	3.78
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	3.53 kW	3.55 kW
COP T <sub>j</sub> = +2°C	3.42	2.31
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.98	0.99
P <sub>dh</sub> T <sub>j</sub> = +7°C	2.18 kW	2.44 kW
COP T <sub>j</sub> = +7°C	4.97	3.37
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.97	0.98
P <sub>dh</sub> T <sub>j</sub> = 12°C	2.40 kW	2.37 kW
COP T <sub>j</sub> = 12°C	6.45	5.11
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	3.53 kW	3.55 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.42	2.31
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>	3.53 kW	3.55 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.42	2.31
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 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  $Q_{he}$ 

928 kWh

1255 kWh

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## Model HA 4-6 O 230V B3

Model name	HA 4-6 O 230V B3
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

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

## Outdoor Air/Water

### EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	50 dB(A)	52 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	180 %	131 %
Prated	4.13 kW	4.22 kW
SCOP	4.56	3.34
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.65 kW	3.73 kW
COP Tj = -7°C	2.97	2.12
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.20 kW	2.28 kW
COP Tj = +2°C	4.48	3.24
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.23 kW	2.11 kW
COP Tj = +7°C	6.02	4.45
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.59 kW	2.54 kW
COP Tj = 12°C	7.39	5.97
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.65 kW	3.73 kW
COP Tj = Tbiv	2.97	2.12

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.65 kW	3.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.65	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.48 kW	0.87 kW
Annual energy consumption Qhe	1870 kWh	2606 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	50 dB(A)	52 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	152 %	113 %
Prated	4.00 kW	3.48 kW
SCOP	3.87	2.90
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.42 kW	2.12 kW
COP Tj = -7°C	3.26	2.40
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.92 kW	1.76 kW
COP Tj = +2°C	4.80	3.53
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.26 kW	2.14 kW
COP Tj = +7°C	6.27	4.81
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.59 kW	2.57 kW
COP Tj = 12°C	7.39	6.27
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.11 kW	2.84 kW
COP Tj = Tbiv	2.37	1.76
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.66 kW	2.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.02	1.47
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.00 kW	3.48 kW
Annual energy consumption Q <sub>he</sub>	2543 kWh	2959 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL		
COP T <sub>j</sub> = -15°C (if TOL		
C <sub>dh</sub> T <sub>j</sub> = -15 °C		

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	50 dB(A)	52 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η <sub>s</sub>	220 %	155 %
Prated	3.40 kW	3.43 kW
SCOP	5.57	3.94
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	3.44 kW	3.43 kW
COP T <sub>j</sub> = +2°C	3.36	2.28
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.98	0.99
P <sub>dh</sub> T <sub>j</sub> = +7°C	2.33 kW	2.16 kW
COP T <sub>j</sub> = +7°C	5.21	3.39
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.97	0.98
P <sub>dh</sub> T <sub>j</sub> = 12°C	2.57 kW	2.45 kW
COP T <sub>j</sub> = 12°C	7.00	5.25
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	3.44 kW	3.43 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.36	2.28
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>	3.44 kW	3.43 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.36	2.28
WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 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  $Q_{he}$ 

815 kWh

1164 kWh

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