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Summary of	HA 5-6 O 230V	Reg. No.	40051132
Certificate Holder			
Name	Saunier Duval Brand Group		
Address		Zip	
City		Country	Germany
Certification Body	VDE Prüf- und Zertifizierungsinstitut GmbH		
Subtype title	HA 5-6 O 230V		
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

Configure model

Model name	HA 5-6 O 230V
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data

Power supply	1x230V 50Hz
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Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	3.36 kW	4.83 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 14511-4

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

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	233 %	157 %
Prated	4.96 kW	5.07 kW
SCOP	5.89	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.96 kW	5.07 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW

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COP $T_j = T_{biv}$	3.35	2.30
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	4.96 kW	5.07 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.35	2.30
WTOL	70 °C	70 °C
P _{off}	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

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	158 %	116 %
Prated	5.01 kW	4.76 kW

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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

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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 Qhe	3076 kWh	3930 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.09	3.88
COP Tj = -15°C (if TOL<-20°C)	2.13	1.67
Cdh Tj = -15 °C	0.990	0.990

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	183 %	130 %
Prated	4.81 kW	4.88 kW
SCOP	4.66	3.33

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Q _{he}	2135 kWh	3029 kWh

Model: HA 5-6 O 230V B2

Configure model	
Model name	HA 5-6 O 230V B2
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	3.36 kW	4.83 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	225 %	153 %
Prated	4.96 kW	5.07 kW
SCOP	5.71	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.96 kW	5.07 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

COP $T_j = T_{biv}$	3.35	2.30
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	4.96 kW	5.07 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	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

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	157 %	116 %
Prated	5.01 kW	4.76 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Qhe	3094 kWh	3948 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.09	3.88
COP Tj = -15°C (if TOL<-20°C)	2.13	1.67
Cdh Tj = -15 °C	0.990	0.990

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	181 %	129 %
Prated	4.81 kW	4.88 kW
SCOP	4.59	3.30

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Q _{he}	2165 kWh	3059 kWh

Model: HA 5-6 O 230V B3

Configure model	
Model name	HA 5-6 O 230V B3
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.21 kW	4.83 kW
El input	0.95 kW	1.71 kW
COP	4.39	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	215 %	157 %
Prated	4.75 kW	5.07 kW
SCOP	5.44	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.75 kW	5.07 kW
COP Tj = +2°C	3.22	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.33 kW	3.08 kW
COP Tj = +7°C	5.07	3.43
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	2.48 kW	2.42 kW
COP Tj = 12°C	6.61	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.75 kW	5.07 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

COP $T_j = T_{biv}$	3.22	2.30
P _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	4.75 kW	5.07 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.22	2.30
WTOL	55 °C	55 °C
P _{off}	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

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	52 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	148 %	116 %
Prated	4.68 kW	4.76 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 _{he}	3064 kWh	3930 kWh
P _{dh} T _j = -15°C (if TOL<-20°C)	3.82	3.88
COP T _j = -15°C (if TOL<-20°C)	2.01	1.67
C _{dh} T _j = -15 °C	0.990	0.990

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	52 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	177 %	130 %
Prated	4.45 kW	4.88 kW
SCOP	4.50	3.33

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Q _{he}	2045 kWh	3029 kWh

Model: HA 3-6 O 230V

Configure model	
Model name	HA 3-6 O 230V
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	3.32 kW	4.79 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	208 %	153 %
Prated	3.53 kW	3.55 kW
SCOP	5.29	3.89
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.53 kW	3.55 kW
COP Tj = +2°C	3.42	2.31
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

COP $T_j = T_{biv}$	3.42	2.31
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	3.53 kW	3.55 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	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

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	147 %	108 %
Prated	3.34 kW	3.15 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 _{he}	2192 kWh	2787 kWh
P _{dh} T _j = -15°C (if TOL<-20°C)		
COP T _j = -15°C (if TOL<-20°C)		
C _{dh} T _j = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	177 %	124 %
Prated	4.19 kW	4.18 kW
SCOP	4.50	3.18

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Q _{he}	1923 kWh	2715 kWh

Model: HA 3-6 O 230V B2

Configure model	
Model name	HA 3-6 O 230V B2
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	3.32 kW	4.79 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	200 %	148 %
Prated	3.53 kW	3.55 kW
SCOP	5.08	3.78
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.53 kW	3.55 kW
COP Tj = +2°C	3.42	2.31
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

COP $T_j = T_{biv}$	3.42	2.31
P _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	3.53 kW	3.55 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.42	2.31
WTOL	55 °C	55 °C
P _{off}	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

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	146 %	108 %
Prated	3.34 kW	3.15 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Qhe	2210 kWh	2805 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	174 %	123 %
Prated	4.19 kW	4.18 kW
SCOP	4.43	3.14

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Q _{he}	1953 kWh	2745 kWh

Model: HA 4-6 O 230V B3

Configure model	
Model name	HA 4-6 O 230V B3
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.07 kW	3.64 kW
El input	0.89 kW	1.28 kW
COP	4.59	2.83

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	220 %	155 %
Prated	3.40 kW	3.43 kW
SCOP	5.57	3.94
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.44 kW	3.43 kW
COP Tj = +2°C	3.36	2.28
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.33 kW	2.16 kW
COP Tj = +7°C	5.21	3.39
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.57 kW	2.45 kW
COP Tj = 12°C	7.00	5.25
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.44 kW	3.43 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

COP $T_j = T_{biv}$	3.36	2.28
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	3.44 kW	3.43 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	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

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	50 dB(A)	52 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	152 %	113 %
Prated	4.00 kW	3.48 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 _{he}	2543 kWh	2959 kWh
P _{dh} T _j = -15°C (if TOL<-20°C)		
COP T _j = -15°C (if TOL<-20°C)		
C _{dh} T _j = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	50 dB(A)	52 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	180 %	131 %
Prated	4.13 kW	4.22 kW
SCOP	4.56	3.34

This information was generated by the HP KEYMARK database on 21 Jun 2022

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

This information was generated by the HP KEYMARK database on 21 Jun 2022

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 Q _{he}	1870 kWh	2606 kWh