

Subtype HA 3-8.2 OS 230V, HA 5-8.2 OS 230V with Tower

Certificate Holder	Saunier Duval Brand Group
Address	SDECCI SAS - 17 rue de la Petite Baratte
ZIP	44300
City	Nantes
Country	FR
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	HA 3-8.2 OS 230V, HA 5-8.2 OS 230V with Tower
Registration number	011-1W0951
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.3 kg
Certification Date	11.12.2024
Testing basis	HP KEYMARK certification scheme rules rev. 14

Model HA 3-8.2 OS 230V + HA 5-8.2 STB

Model name	HA 3-8.2 OS 230V + HA 5-8.2 STB
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	129 %
P _{rated}	3.44 kW	3.65 kW
SCOP	4.79	3.31
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh T_j} = -7 °C	3.05 kW	3.23 kW
COP T _j = -7 °C	3.25	2.15
Cd _h T _j = -7 °C	1.00	1.00
P _{dh T_j} = +2 °C	2.02 kW	2.09 kW
COP T _j = +2 °C	4.71	3.21
Cd _h T _j = +2 °C	1.00	1.00
P _{dh T_j} = +7 °C	2.41 kW	2.14 kW
COP T _j = +7 °C	6.10	4.32
Cd _h T _j = +7 °C	0.97	0.97
P _{dh T_j} = 12 °C	2.76 kW	2.71 kW
COP T _j = 12 °C	8.20	6.20
Cd _h T _j = +12 °C	0.96	0.97
P _{dh T_j} = T _{biv}	3.05 kW	3.23 kW
COP T _j = T _{biv}	3.25	2.15
P _{dh T_j} = T _{OL} or P _{dh T_j} = T _{designh} if T _{OL} < T _{designh}	3.03 kW	2.75 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2080 kWh	2629 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43
COP Tj = -15°C (if TOL)	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 3-8.2 OS 230V + HA 5-8.2 STB B5

Model name	HA 3-8.2 OS 230V + HA 5-8.2 STB B5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	129 %
P _{rated}	3.44 kW	3.65 kW
SCOP	4.79	3.31
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh T_j} = -7 °C	3.05 kW	3.23 kW
COP T _j = -7 °C	3.25	2.15
Cd _h T _j = -7 °C	1.00	1.00
P _{dh T_j} = +2 °C	2.02 kW	2.09 kW
COP T _j = +2 °C	4.71	3.21
Cd _h T _j = +2 °C	1.00	1.00
P _{dh T_j} = +7 °C	2.41 kW	2.14 kW
COP T _j = +7 °C	6.10	4.32
Cd _h T _j = +7 °C	0.97	0.97
P _{dh T_j} = 12 °C	2.76 kW	2.71 kW
COP T _j = 12 °C	8.20	6.20
Cd _h T _j = +12 °C	0.96	0.97
P _{dh T_j} = T _{biv}	3.05 kW	3.23 kW
COP T _j = T _{biv}	3.25	2.15
P _{dh T_j} = T _{OL} or P _{dh T_j} = T _{designh} if T _{OL} < T _{designh}	3.03 kW	2.75 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2080 kWh	2629 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43
COP Tj = -15°C (if TOL)	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 3-8.2 OS 230V + HA 5-8.2 STB C2

Model name	HA 3-8.2 OS 230V + HA 5-8.2 STB C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	3.54 kW	5.00 kW
El input	0.75 kW	1.78 kW
COP	4.71	2.81

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	171 %	121 %
P _{rated}	3.44 kW	3.65 kW
SCOP	4.36	3.10
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	3.05 kW	3.23 kW
COP T _j = -7 °C	3.10	2.09
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.02 kW	2.09 kW
COP T _j = +2 °C	4.27	3.00
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.41 kW	2.14 kW
COP T _j = +7 °C	5.48	3.96
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.76 kW	2.71 kW
COP T _j = 12 °C	7.24	5.62
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.05 kW	3.23 kW
COP T _j = T _{biv}	3.10	2.09
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	3.03 kW	2.75 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.81	1.75

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1632 kWh	2431 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	146 %	102 %
Prated	3.41 kW	2.98 kW
SCOP	3.72	2.63
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.31	2.30
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	5.63	4.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	7.10	5.79
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.53	1.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2256 kWh	2796 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43
COP Tj = -15°C (if TOL)	2.53	1.69
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	220 %	153 %
Prated	3.22 kW	4.02 kW
SCOP	5.58	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	3.93	2.43
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.11	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.02	5.02
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	3.93	2.43
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.43
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	771 kWh	1372 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.33	6.33
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.13	3.99
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	3.76	5.59
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	4.89	7.44
Pdc Tj = 20°C	0.975	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.19	9.29
Poff	0.971	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	537 kWh	492 kWh

Model HA 3-8.2 OS 230V B2 + HA 5-8.2 STB

Model name	HA 3-8.2 OS 230V B2 + HA 5-8.2 STB
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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		
Heat output	Low temperature 3.54 kW	Medium temperature 5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89
EN 12102-1 Average Climate		
Sound power level indoor	Low temperature 41 dB(A)	Medium temperature 41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
η_s	Low temperature 182 %	Medium temperature 127 %
Prated	3.44 kW	3.65 kW
SCOP	4.63	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1538 kWh	2328 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
η_s	156 %	108 %
Prated	3.41 kW	2.98 kW
SCOP	3.98	2.76
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2111 kWh	2660 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43

COP Tj = -15°C (if TOL	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	225 %	157 %
Prated	3.22 kW	4.02 kW
SCOP	5.69	4.00
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	756 kWh	1340 kWh

Model HA 3-8.2 OS 230V B2 + HA 5-8.2 STB C2

Model name	HA 3-8.2 OS 230V B2 + HA 5-8.2 STB C2
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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

	Low temperature	Medium temperature
Heat output	3.54 kW	5.00 kW
El input	0.75 kW	1.78 kW
COP	4.71	2.81
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	166 %	118 %
Prated	3.44 kW	3.65 kW
SCOP	4.23	3.04
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.10	2.09
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.27	3.00
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	5.48	3.96
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	7.24	5.62
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.10	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	62 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1683 kWh	2483 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
ηs	144 %	101 %
Prated	3.41 kW	2.98 kW
SCOP	3.67	2.60
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.31	2.30
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	5.63	4.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	7.10	5.79
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.53	1.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	62 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2287 kWh	2827 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43

COP Tj = -15°C (if TOL	2.53	1.69
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	204 %	147 %
Prated	3.22 kW	4.02 kW
SCOP	5.16	3.74
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	3.93	2.43
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.11	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.02	5.02
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	3.93	2.43
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.43
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	62 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	833 kWh	1434 kWh

Model HA 4-8.2 OS 230V B3 + HA 6-8.2 STB

Model name	HA 4-8.2 OS 230V B3 + HA 6-8.2 STB
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	129 %
P _{rated}	3.44 kW	3.65 kW
SCOP	4.79	3.31
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	3.05 kW	3.23 kW
COP T _j = -7 °C	3.25	2.15
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.02 kW	2.09 kW
COP T _j = +2 °C	4.71	3.21
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.41 kW	2.14 kW
COP T _j = +7 °C	6.10	4.32
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.76 kW	2.71 kW
COP T _j = 12 °C	8.20	6.20
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.05 kW	3.23 kW
COP T _j = T _{biv}	3.25	2.15
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	3.03 kW	2.75 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2080 kWh	2629 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43
COP Tj = -15°C (if TOL)	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 4-8.2 OS 230V B3 + HA 6-8.2 STB B5

Model name	HA 4-8.2 OS 230V B3 + HA 6-8.2 STB B5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	129 %
P _{rated}	3.44 kW	3.65 kW
SCOP	4.79	3.31
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	3.05 kW	3.23 kW
COP T _j = -7 °C	3.25	2.15
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.02 kW	2.09 kW
COP T _j = +2 °C	4.71	3.21
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.41 kW	2.14 kW
COP T _j = +7 °C	6.10	4.32
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.76 kW	2.71 kW
COP T _j = 12 °C	8.20	6.20
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.05 kW	3.23 kW
COP T _j = T _{biv}	3.25	2.15
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	3.03 kW	2.75 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2080 kWh	2629 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43
COP Tj = -15°C (if TOL)	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 4-8.2 OS 230V B3 + HA 6-8.2 STB C2

Model name	HA 4-8.2 OS 230V B3 + HA 6-8.2 STB C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	3.54 kW	5.00 kW
El input	0.75 kW	1.78 kW
COP	4.71	2.81

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	171 %	121 %
P _{rated}	3.44 kW	3.65 kW
SCOP	4.36	3.10
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	3.05 kW	3.23 kW
COP T _j = -7 °C	3.10	2.09
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.02 kW	2.09 kW
COP T _j = +2 °C	4.27	3.00
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.41 kW	2.14 kW
COP T _j = +7 °C	5.48	3.96
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.76 kW	2.71 kW
COP T _j = 12 °C	7.24	5.62
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.05 kW	3.23 kW
COP T _j = T _{biv}	3.10	2.09
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	3.03 kW	2.75 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.81	1.75

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1632 kWh	2431 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	146 %	102 %
Prated	3.41 kW	2.98 kW
SCOP	3.72	2.63
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.31	2.30
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	5.63	4.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	7.10	5.79
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.53	1.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Qhe	2256 kWh	2796 kWh
Pdh Tj = -15°C (if TOL)	2.78	2.43
COP Tj = -15°C (if TOL)	2.53	1.69
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	220 %	153 %
Prated	3.22 kW	4.02 kW
SCOP	5.58	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	3.93	2.43
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.11	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.02	5.02
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	3.93	2.43
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.43
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	771 kWh	1372 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.33	6.33
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.13	3.99
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	3.76	5.59
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	4.89	7.44
Pdc Tj = 20°C	0.975	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.19	9.29
Poff	0.971	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	537 kWh	492 kWh

Model HA 5-8.2 OS 230V + HA 5-8.2 STB

Model name	HA 5-8.2 OS 230V + HA 5-8.2 STB
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	129 %
P _{rated}	4.72 kW	4.35 kW
SCOP	4.87	3.30
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	4.18 kW	3.85 kW
COP T _j = -7 °C	3.13	2.10
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.67 kW	2.13 kW
COP T _j = +2 °C	4.84	3.18
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.43 kW	2.21 kW
COP T _j = +7 °C	6.24	4.39
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.84 kW	2.72 kW
COP T _j = 12 °C	8.04	6.03
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.18 kW	3.85 kW
COP T _j = T _{biv}	3.13	2.10
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	4.06 kW	3.33 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3244 kWh	3423 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1050 kWh	1447 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 5-8.2 OS 230V + HA 5-8.2 STB B5

Model name	HA 5-8.2 OS 230V + HA 5-8.2 STB B5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	129 %
P _{rated}	4.72 kW	4.35 kW
SCOP	4.87	3.30
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	4.18 kW	3.85 kW
COP T _j = -7 °C	3.13	2.10
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.67 kW	2.13 kW
COP T _j = +2 °C	4.84	3.18
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.43 kW	2.21 kW
COP T _j = +7 °C	6.24	4.39
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.84 kW	2.72 kW
COP T _j = 12 °C	8.04	6.03
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.18 kW	3.85 kW
COP T _j = T _{biv}	3.13	2.10
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	4.06 kW	3.33 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3244 kWh	3423 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1050 kWh	1447 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 5-8.2 OS 230V + HA 5-8.2 STB C2

Model name	HA 5-8.2 OS 230V + HA 5-8.2 STB C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	4.51 kW	5.36 kW
El input	0.97 kW	1.94 kW
COP	4.66	2.76

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	177 %	121 %
P _{rated}	4.72 kW	4.35 kW
SCOP	4.50	3.09
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7°C	4.18 kW	3.85 kW
COP T _j = -7°C	3.03	2.05
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.67 kW	2.13 kW
COP T _j = +2°C	4.48	2.98
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.43 kW	2.21 kW
COP T _j = +7°C	5.60	4.03
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12°C	2.84 kW	2.72 kW
COP T _j = 12°C	7.13	5.48
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.18 kW	3.85 kW
COP T _j = T _{biv}	3.03	2.05
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	4.06 kW	3.33 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.72	1.62

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2169 kWh	2905 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	151 %	105 %
Prated	5.44 kW	3.97 kW
SCOP	3.84	2.69
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.38	2.39
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	4.51	3.25
Cdh Tj = + 2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	5.94	4.42
Cdh Tj = + 7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.06	5.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.51	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3488 kWh	3629 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.51	1.79
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	228 %	158 %
Prated	5.01 kW	4.68 kW
SCOP	5.78	4.03
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.43	2.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.37	3.40
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.02	5.39
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.43	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.43	2.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1156 kWh	1551 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.33	6.33
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.13	3.99
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	3.76	5.59
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	4.89	7.44
Pdc Tj = 20°C	0.975	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.19	9.29
Poff	0.971	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	537 kWh	492 kWh

Model HA 5-8.2 OS 230V B2 + HA 5-8.2 STB C2

Model name	HA 5-8.2 OS 230V B2 + HA 5-8.2 STB C2
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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		
Heat output	Low temperature 4.51 kW	Medium temperature 5.36 kW
El input	0.97 kW	1.94 kW
COP	4.66	2.76
EN 14511-2 Cooling		
El input	+7°C/+12°C 1.73 kW	+18°C/+23°C 1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
Sound power level indoor	Low temperature 41 dB(A)	Medium temperature 41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
ηs	Low temperature 173 %	Medium temperature 119 %
Prated	4.72 kW	4.35 kW
SCOP	4.39	3.04
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.03	2.05
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.48	2.98
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	5.60	4.03
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	7.13	5.48
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.03	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.62
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00

WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2220 kWh	2956 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	149 %	104 %
Prated	5.44 kW	3.97 kW
SCOP	3.81	2.67
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.38	2.39
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	4.51	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	5.94	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.06	5.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.51	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3519 kWh	3660 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.51	1.79
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	217 %	152 %
Prated	5.01 kW	4.68 kW
SCOP	5.49	3.88
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.43	2.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.37	3.40
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.02	5.39
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.43	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.43	2.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1218 kWh	1613 kWh

Model HA 6-8.2 OS 230V B3 + HA 6-8.2 STB

Model name	HA 6-8.2 OS 230V B3 + HA 6-8.2 STB
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	129 %
P _{rated}	4.72 kW	4.35 kW
SCOP	4.87	3.30
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	4.18 kW	3.85 kW
COP T _j = -7 °C	3.13	2.10
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.67 kW	2.13 kW
COP T _j = +2 °C	4.84	3.18
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.43 kW	2.21 kW
COP T _j = +7 °C	6.24	4.39
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.84 kW	2.72 kW
COP T _j = 12 °C	8.04	6.03
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.18 kW	3.85 kW
COP T _j = T _{biv}	3.13	2.10
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	4.06 kW	3.33 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3244 kWh	3423 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1050 kWh	1447 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 6-8.2 OS 230V B3 + HA 6-8.2 STB B5

Model name	HA 6-8.2 OS 230V B3 + HA 6-8.2 STB B5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	129 %
P _{rated}	4.72 kW	4.35 kW
SCOP	4.87	3.30
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7 °C	4.18 kW	3.85 kW
COP T _j = -7 °C	3.13	2.10
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2 °C	2.67 kW	2.13 kW
COP T _j = +2 °C	4.84	3.18
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	2.43 kW	2.21 kW
COP T _j = +7 °C	6.24	4.39
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12 °C	2.84 kW	2.72 kW
COP T _j = 12 °C	8.04	6.03
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.18 kW	3.85 kW
COP T _j = T _{biv}	3.13	2.10
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	4.06 kW	3.33 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3244 kWh	3423 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1050 kWh	1447 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.69	6.94
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.25	4.13
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	4.01	5.98
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	5.41	8.34
Pdc Tj = 20°C	0.969	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.97	10.65
Poff	0.963	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	496 kWh	449 kWh

Model HA 6-8.2 OS 230V B3 + HA 6-8.2 STB C2

Model name	HA 6-8.2 OS 230V B3 + HA 6-8.2 STB C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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	4.51 kW	5.36 kW
El input	0.97 kW	1.94 kW
COP	4.66	2.76

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	177 %	121 %
P _{rated}	4.72 kW	4.35 kW
SCOP	4.50	3.09
T _{biv}	-7 °C	-7 °C
T _{OL}	-10 °C	-10 °C
P _{dh} T _j = -7°C	4.18 kW	3.85 kW
COP T _j = -7°C	3.03	2.05
Cd _h T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.67 kW	2.13 kW
COP T _j = +2°C	4.48	2.98
Cd _h T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.43 kW	2.21 kW
COP T _j = +7°C	5.60	4.03
Cd _h T _j = +7 °C	0.97	0.97
P _{dh} T _j = 12°C	2.84 kW	2.72 kW
COP T _j = 12°C	7.13	5.48
Cd _h T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.18 kW	3.85 kW
COP T _j = T _{biv}	3.03	2.05
P _{dh} T _j = T _{OL} or P _{dh} T _j = T _{designh} if T _{OL} < T _{designh}	4.06 kW	3.33 kW
COP T _j = T _{OL} or COP T _j = T _{designh} if T _{OL} < T _{designh}	2.72	1.62

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2169 kWh	2905 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	151 %	105 %
Prated	5.44 kW	3.97 kW
SCOP	3.84	2.69
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.38	2.39
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	4.51	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	5.94	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.06	5.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.51	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3488 kWh	3629 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23
COP Tj = -15°C (if TOL)	2.51	1.79
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	228 %	158 %
Prated	5.01 kW	4.68 kW
SCOP	5.78	4.03
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.43	2.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.37	3.40
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.02	5.39
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.43	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.43	2.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1156 kWh	1551 kWh
EN 14825 Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	3.88 kW	5.19 kW
Pdc Tj = 35°C	4.33	6.33
EER Tj = 35°C	3.88 kW	5.19 kW
Cdc Tj = 35 °C	3.13	3.99
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	2.64 kW	3.81 kW
Cdc Tj = 30 °C	3.76	5.59
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.28 kW	3.11 kW
Cdc Tj = 25 °C	4.89	7.44
Pdc Tj = 20°C	0.975	0.965
EER Tj = 20°C	2.50 kW	3.27 kW
Cdc Tj = 20 °C	6.19	9.29
Poff	0.971	0.957
PTO	14 W	14 W
PSB	13 W	13 W
PCK	14 W	14 W
Annual energy consumption Qce	0 W	0 W
	537 kWh	492 kWh

Model HA 5-8.2 OS 230V B2 + HA 5-8.2 STB

Model name	HA 5-8.2 OS 230V B2 + HA 5-8.2 STB
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency ηDHW	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency ηDHW	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 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		
Heat output	Low temperature 4.51 kW	Medium temperature 5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83
EN 12102-1 Average Climate		
Sound power level indoor	Low temperature 41 dB(A)	Medium temperature
Sound power level outdoor	48 dB(A)	
EN 14825 Average Climate		
ηs	Low temperature 187 %	Medium temperature 126 %
Prated	4.72 kW	4.35 kW
SCOP	4.75	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2055 kWh	2778 kWh
EN 12102-1 Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Colder Climate		
	Low temperature	Medium temperature
ηs	161 %	110 %
Prated	5.44 kW	3.97 kW
SCOP	4.09	2.83
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Qhe	3275 kWh	3454 kWh
Pdh Tj = -15°C (if TOL)	4.43	3.23

COP Tj = -15°C (if TOL	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	238 %	163 %
Prated	5.01 kW	4.68 kW
SCOP	6.01	4.15
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1112 kWh	1509 kWh