

Subtype HA 7-8.2 OS 230V with Hydraulic Station

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 7-8.2 OS 230V with Hydraulic Station
Registration number	011-1W0952
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.5 kg
Certification Date	11.12.2024
Testing basis	HP KEYMARK certification scheme rules rev. 14

**Model HA 8-8.2 OS 230V B3 + HA 8-8.2 WS**

Model name	HA 8-8.2 OS 230V B3 + HA 8-8.2 WS
Application	Heating (medium 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 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
ηs	203 %	142 %
Prated	6.61 kW	5.67 kW
SCOP	5.15	3.63
Tbiv	-7 °C	-7 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW

COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00

Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh

**EN 14825 | Cooling**

	+7°C/+12°C	+18°C/+23°C
Pdesignc	6.09 kW	6.63 kW
SEER	5.05	7.02
Pdc Tj = 35°C	6.09 kW	6.63 kW
EER Tj = 35°C	2.96	4.05
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	4.52 kW	4.93 kW
EER Tj = 30°C	4.17	6.00
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.98 kW	3.95 kW
EER Tj = 25°C	5.72	8.20
Cdc Tj = 25 °C	0.991	0.990
Pdc Tj = 20°C	3.27 kW	4.03 kW
EER Tj = 20°C	7.26	9.64
Cdc Tj = 20 °C	0.990	0.989
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 8-8.2 OS 230V B3 + HA 8-8.2 WSB**

Model name	HA 8-8.2 OS 230V B3 + HA 8-8.2 WSB
Application	Heating (medium 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 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
ηs	203 %	142 %
Prated	6.61 kW	5.67 kW
SCOP	5.15	3.63
Tbiv	-7 °C	-7 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW

COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00

Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh

**EN 14825 | Cooling**

	+7°C/+12°C	+18°C/+23°C
Pdesignc	6.09 kW	6.63 kW
SEER	5.05	7.02
Pdc Tj = 35°C	6.09 kW	6.63 kW
EER Tj = 35°C	2.96	4.05
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	4.52 kW	4.93 kW
EER Tj = 30°C	4.17	6.00
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.98 kW	3.95 kW
EER Tj = 25°C	5.72	8.20
Cdc Tj = 25 °C	0.991	0.990
Pdc Tj = 20°C	3.27 kW	4.03 kW
EER Tj = 20°C	7.26	9.64
Cdc Tj = 20 °C	0.990	0.989
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 7-8.2 OS 230V + HA 7-8.2 WS**

Model name	HA 7-8.2 OS 230V + HA 7-8.2 WS
Application	Heating (medium 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 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	203 %	142 %
Prated	6.61 kW	5.67 kW
SCOP	5.15	3.63
Tbiv	-7 °C	-7 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW

COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00

Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh

#### EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	6.09 kW	6.63 kW
SEER	5.05	7.02
Pdc Tj = 35°C	6.09 kW	6.63 kW
EER Tj = 35°C	2.96	4.05
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	4.52 kW	4.93 kW
EER Tj = 30°C	4.17	6.00
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.98 kW	3.95 kW
EER Tj = 25°C	5.72	8.20
Cdc Tj = 25 °C	0.991	0.990
Pdc Tj = 20°C	3.27 kW	4.03 kW
EER Tj = 20°C	7.26	9.64
Cdc Tj = 20 °C	0.990	0.989
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 7-8.2 OS 230V + HA 7-8.2 WSB**

Model name	HA 7-8.2 OS 230V + HA 7-8.2 WSB
Application	Heating (medium 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 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
ηs	203 %	142 %
Prated	6.61 kW	5.67 kW
SCOP	5.15	3.63
Tbiv	-7 °C	-7 °C

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW

COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00

Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh

**EN 14825 | Cooling**

	+7°C/+12°C	+18°C/+23°C
Pdesignc	6.09 kW	6.63 kW
SEER	5.05	7.02
Pdc Tj = 35°C	6.09 kW	6.63 kW
EER Tj = 35°C	2.96	4.05
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	4.52 kW	4.93 kW
EER Tj = 30°C	4.17	6.00
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.98 kW	3.95 kW
EER Tj = 25°C	5.72	8.20
Cdc Tj = 25 °C	0.991	0.990
Pdc Tj = 20°C	3.27 kW	4.03 kW
EER Tj = 20°C	7.26	9.64
Cdc Tj = 20 °C	0.990	0.989
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 7-8.2 OS 230V B2 + HA 7-8.2 WS**

Model name	HA 7-8.2 OS 230V B2 + HA 7-8.2 WS
Application	Heating (medium 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 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	5.07 kW	6.45 kW
EI input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	199 %	140 %
Prated	6.61 kW	5.67 kW
SCOP	5.06	3.57
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW

COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2698 kWh	3279 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	173 %	121 %
Prated	6.88 kW	5.69 kW
SCOP	4.41	3.10
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99

Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3845 kWh	4529 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	247 %	171 %
Prated	6.80 kW	6.79 kW
SCOP	6.24	4.35
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1456 kWh	2086 kWh

**Model HA 7-8.2 OS 230V B2 + HA 7-8.2 WSB**

Model name	HA 7-8.2 OS 230V B2 + HA 7-8.2 WSB
Application	Heating (medium 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 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	5.07 kW	6.45 kW
EI input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	199 %	140 %
Prated	6.61 kW	5.67 kW
SCOP	5.06	3.57
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW

COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2698 kWh	3279 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	173 %	121 %
Prated	6.88 kW	5.69 kW
SCOP	4.41	3.10
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99

Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3845 kWh	4529 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	247 %	171 %
Prated	6.80 kW	6.79 kW
SCOP	6.24	4.35
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1456 kWh	2086 kWh

**Model HA 7-8.2 OS 230V B2 + HA 7-8.2 WS + FEW 300/3 MR**

Model name	HA 7-8.2 OS 230V B2 + HA 7-8.2 WS + FEW 300/3 MR
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	XL
Efficiency $\eta_{DHW}$	139 %
COP	3.48
Heating up time	01:37 h:min
Standby power input	36.4 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	355 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	128 %
COP	3.19
Heating up time	01:11 h:min
Standby power input	53.4 W
Reference hot water temperature	53 °C
Mixed water at 40°C	248 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	167 %
COP	4.18
Heating up time	01:27 h:min
Standby power input	31.5 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	362 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 5.07 kW	Medium temperature 6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98
EN 12102-1   Average Climate		
Sound power level indoor	Low temperature 42 dB(A)	Medium temperature 42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825   Average Climate		
ηs	Low temperature 199 %	Medium temperature 140 %
Prated	6.61 kW	5.67 kW
SCOP	5.06	3.57
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2698 kWh	3279 kWh
<b>EN 12102-1   Colder Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
<b>EN 14825   Colder Climate</b>		
	Low temperature	Medium temperature
$\eta_s$	173 %	121 %
Prated	6.88 kW	5.69 kW
SCOP	4.41	3.10
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3845 kWh	4529 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64

COP Tj = -15°C (if TOL	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	247 %	171 %
Prated	6.80 kW	6.79 kW
SCOP	6.24	4.35
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1456 kWh	2086 kWh

**Model HA 7-8.2 OS 230V B2 + HA 7-8.2 WSB + FEW 300/3 MR**

Model name	HA 7-8.2 OS 230V B2 + HA 7-8.2 WSB + FEW 300/3 MR
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	XL
Efficiency $\eta_{DHW}$	139 %
COP	3.48
Heating up time	01:37 h:min
Standby power input	36.4 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	355 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	128 %
COP	3.19
Heating up time	01:11 h:min
Standby power input	53.4 W
Reference hot water temperature	53 °C
Mixed water at 40°C	248 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	167 %
COP	4.18
Heating up time	01:27 h:min
Standby power input	31.5 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	362 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 5.07 kW	Medium temperature 6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98
EN 12102-1   Average Climate		
Sound power level indoor	Low temperature 42 dB(A)	Medium temperature 42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825   Average Climate		
ηs	Low temperature 199 %	Medium temperature 140 %
Prated	6.61 kW	5.67 kW
SCOP	5.06	3.57
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2698 kWh	3279 kWh
<b>EN 12102-1   Colder Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
<b>EN 14825   Colder Climate</b>		
	Low temperature	Medium temperature
ηs	173 %	121 %
Prated	6.88 kW	5.69 kW
SCOP	4.41	3.10
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3845 kWh	4529 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64

COP Tj = -15°C (if TOL	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	247 %	171 %
Prated	6.80 kW	6.79 kW
SCOP	6.24	4.35
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1456 kWh	2086 kWh

**Model HA 8-8.2 OS 230V B3 + HA 8-8.2 WS + FEW 300/3 MR**

Model name	HA 8-8.2 OS 230V B3 + HA 8-8.2 WS + FEW 300/3 MR
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	XL
Efficiency ηDHW	139 %
COP	3.48
Heating up time	01:37 h:min
Standby power input	36.4 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	355 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency ηDHW	128 %
COP	3.19
Heating up time	01:11 h:min
Standby power input	53.4 W
Reference hot water temperature	53 °C
Mixed water at 40°C	248 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency ηDHW	167 %
COP	4.18
Heating up time	01:27 h:min
Standby power input	31.5 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	362 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	203 %	142 %
P <sub>rated</sub>	6.61 kW	5.67 kW
SCOP	5.15	3.63
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7 °C	5.85 kW	5.01 kW
COP T <sub>j</sub> = -7 °C	3.20	2.27
Cd <sub>h</sub> T <sub>j</sub> = -7 °C	1.00	1.00
P <sub>dh</sub> T <sub>j</sub> = +2 °C	3.34 kW	2.91 kW
COP T <sub>j</sub> = +2 °C	5.22	3.52
Cd <sub>h</sub> T <sub>j</sub> = +2 °C	1.00	1.00
P <sub>dh</sub> T <sub>j</sub> = +7 °C	3.14 kW	2.97 kW
COP T <sub>j</sub> = +7 °C	6.31	4.68
Cd <sub>h</sub> T <sub>j</sub> = +7 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = 12 °C	3.71 kW	3.57 kW
COP T <sub>j</sub> = 12 °C	8.36	6.42
Cd <sub>h</sub> T <sub>j</sub> = +12 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.85 kW	5.01 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.20	2.27
P <sub>dh</sub> T <sub>j</sub> = T <sub>OL</sub> or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	5.78 kW	4.72 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.86	1.90

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W

PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh
EN 14825   Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	6.09 kW	6.63 kW
Pdc Tj = 35°C	5.05	7.02
EER Tj = 35°C	6.09 kW	6.63 kW
Cdc Tj = 35 °C	2.96	4.05
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	4.52 kW	4.93 kW
Cdc Tj = 30 °C	4.17	6.00
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.98 kW	3.95 kW
Cdc Tj = 25 °C	5.72	8.20
Pdc Tj = 20°C	0.991	0.990
EER Tj = 20°C	3.27 kW	4.03 kW
Cdc Tj = 20 °C	7.26	9.64
Poff	0.990	0.989
PTO	0 W	13 W
PSB	0 W	5 W
PCK	13 W	13 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 8-8.2 OS 230V B3 + HA 8-8.2 WSB + FEW 300/3 MR**

Model name	HA 8-8.2 OS 230V B3 + HA 8-8.2 WSB + FEW 300/3 MR
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	XL
Efficiency ηDHW	139 %
COP	3.48
Heating up time	01:37 h:min
Standby power input	36.4 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	355 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency ηDHW	128 %
COP	3.19
Heating up time	01:11 h:min
Standby power input	53.4 W
Reference hot water temperature	53 °C
Mixed water at 40°C	248 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency ηDHW	167 %
COP	4.18
Heating up time	01:27 h:min
Standby power input	31.5 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	362 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	203 %	142 %
P <sub>rated</sub>	6.61 kW	5.67 kW
SCOP	5.15	3.63
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7 °C	5.85 kW	5.01 kW
COP T <sub>j</sub> = -7 °C	3.20	2.27
Cd <sub>h</sub> T <sub>j</sub> = -7 °C	1.00	1.00
P <sub>dh</sub> T <sub>j</sub> = +2 °C	3.34 kW	2.91 kW
COP T <sub>j</sub> = +2 °C	5.22	3.52
Cd <sub>h</sub> T <sub>j</sub> = +2 °C	1.00	1.00
P <sub>dh</sub> T <sub>j</sub> = +7 °C	3.14 kW	2.97 kW
COP T <sub>j</sub> = +7 °C	6.31	4.68
Cd <sub>h</sub> T <sub>j</sub> = +7 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = 12 °C	3.71 kW	3.57 kW
COP T <sub>j</sub> = 12 °C	8.36	6.42
Cd <sub>h</sub> T <sub>j</sub> = +12 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.85 kW	5.01 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.20	2.27
P <sub>dh</sub> T <sub>j</sub> = T <sub>OL</sub> or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	5.78 kW	4.72 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.86	1.90

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W

PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh
EN 14825   Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	6.09 kW	6.63 kW
Pdc Tj = 35°C	5.05	7.02
EER Tj = 35°C	6.09 kW	6.63 kW
Cdc Tj = 35 °C	2.96	4.05
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	4.52 kW	4.93 kW
Cdc Tj = 30 °C	4.17	6.00
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.98 kW	3.95 kW
Cdc Tj = 25 °C	5.72	8.20
Pdc Tj = 20°C	0.991	0.990
EER Tj = 20°C	3.27 kW	4.03 kW
Cdc Tj = 20 °C	7.26	9.64
Poff	0.990	0.989
PTO	0 W	13 W
PSB	0 W	5 W
PCK	13 W	13 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 7-8.2 OS 230V + HA 7-8.2 WS + FEW 300/3 MR**

Model name	HA 7-8.2 OS 230V + HA 7-8.2 WS + FEW 300/3 MR
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	XL
Efficiency ηDHW	139 %
COP	3.48
Heating up time	01:37 h:min
Standby power input	36.4 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	355 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency ηDHW	128 %
COP	3.19
Heating up time	01:11 h:min
Standby power input	53.4 W
Reference hot water temperature	53 °C
Mixed water at 40°C	248 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency ηDHW	167 %
COP	4.18
Heating up time	01:27 h:min
Standby power input	31.5 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	362 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	
<b>EN 14511-2   Heating</b>		
	Low temperature	Medium temperature
Heat output	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98
<b>EN 14511-2   Cooling</b>		
	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90
<b>EN 12102-1   Average Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
<b>EN 14825   Average Climate</b>		
	Low temperature	Medium temperature
ηs	203 %	142 %
Prated	6.61 kW	5.67 kW
SCOP	5.15	3.63
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.85 kW	5.01 kW
COP Tj = -7°C	3.20	2.27
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.34 kW	2.91 kW
COP Tj = +2°C	5.22	3.52
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.14 kW	2.97 kW
COP Tj = +7°C	6.31	4.68
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.71 kW	3.57 kW
COP Tj = 12°C	8.36	6.42
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.85 kW	5.01 kW
COP Tj = Tbiv	3.20	2.27
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.78 kW	4.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.90

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W

PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh
EN 14825   Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	6.09 kW	6.63 kW
Pdc Tj = 35°C	5.05	7.02
EER Tj = 35°C	6.09 kW	6.63 kW
Cdc Tj = 35 °C	2.96	4.05
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	4.52 kW	4.93 kW
Cdc Tj = 30 °C	4.17	6.00
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.98 kW	3.95 kW
Cdc Tj = 25 °C	5.72	8.20
Pdc Tj = 20°C	0.991	0.990
EER Tj = 20°C	3.27 kW	4.03 kW
Cdc Tj = 20 °C	7.26	9.64
Poff	0.990	0.989
PTO	0 W	13 W
PSB	0 W	5 W
PCK	13 W	13 W
Annual energy consumption Qce	723 kWh	567 kWh

**Model HA 7-8.2 OS 230V + HA 7-8.2 WSB + FEW 300/3 MR**

Model name	HA 7-8.2 OS 230V + HA 7-8.2 WSB + FEW 300/3 MR
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	XL
Efficiency ηDHW	139 %
COP	3.48
Heating up time	01:37 h:min
Standby power input	36.4 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	355 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency ηDHW	128 %
COP	3.19
Heating up time	01:11 h:min
Standby power input	53.4 W
Reference hot water temperature	53 °C
Mixed water at 40°C	248 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency ηDHW	167 %
COP	4.18
Heating up time	01:27 h:min
Standby power input	31.5 W
Reference hot water temperature	52.0 °C
Mixed water at 40°C	362 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	5.07 kW	6.45 kW
El input	1.01 kW	2.16 kW
COP	5.00	2.98

**EN 14511-2 | Cooling**

	+7°C/+12°C	+18°C/+23°C
El input	1.40 kW	1.87 kW
Cooling capacity	4.26	7.29
EER	3.04	3.90

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	203 %	142 %
P <sub>rated</sub>	6.61 kW	5.67 kW
SCOP	5.15	3.63
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7 °C	5.85 kW	5.01 kW
COP T <sub>j</sub> = -7 °C	3.20	2.27
Cd <sub>h</sub> T <sub>j</sub> = -7 °C	1.00	1.00
P <sub>dh</sub> T <sub>j</sub> = +2 °C	3.34 kW	2.91 kW
COP T <sub>j</sub> = +2 °C	5.22	3.52
Cd <sub>h</sub> T <sub>j</sub> = +2 °C	1.00	1.00
P <sub>dh</sub> T <sub>j</sub> = +7 °C	3.14 kW	2.97 kW
COP T <sub>j</sub> = +7 °C	6.31	4.68
Cd <sub>h</sub> T <sub>j</sub> = +7 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = 12 °C	3.71 kW	3.57 kW
COP T <sub>j</sub> = 12 °C	8.36	6.42
Cd <sub>h</sub> T <sub>j</sub> = +12 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.85 kW	5.01 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.20	2.27
P <sub>dh</sub> T <sub>j</sub> = T <sub>OL</sub> or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	5.78 kW	4.72 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.86	1.90

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.83 kW	0.94 kW
Annual energy consumption Qhe	2649 kWh	3230 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	175 %	122 %
Prated	6.88 kW	5.69 kW
SCOP	4.44	3.12
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.51 kW	3.69 kW
COP Tj = -7°C	3.76	2.66
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.82 kW	2.58 kW
COP Tj = +2°C	5.57	3.97
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.24 kW	3.06 kW
COP Tj = +7°C	6.78	5.32
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.69 kW	3.60 kW
COP Tj = 12°C	8.06	6.73
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.61 kW	4.64 kW
COP Tj = Tbiv	2.61	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.12 kW	4.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	2.02
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W

PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.88 kW	5.69 kW
Annual energy consumption Qhe	3816 kWh	4499 kWh
Pdh Tj = -15°C (if TOL)	5.61	4.64
COP Tj = -15°C (if TOL)	2.61	2.02
Cdh Tj = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	257 %	176 %
Prated	6.80 kW	6.79 kW
SCOP	6.51	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.80 kW	6.79 kW
COP Tj = +2°C	3.42	2.37
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.68 kW	4.82 kW
COP Tj = +7°C	5.94	3.84
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.66 kW	3.49 kW
COP Tj = 12°C	7.87	5.72
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.80 kW	6.79 kW
COP Tj = Tbiv	3.42	2.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.80 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.37
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	13 W	13 W
PTO	5 W	5 W
PSB	13 W	13 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	1397 kWh	2028 kWh
EN 14825   Cooling		
Pdesignc	+7°C/+12°C	+18°C/+23°C
SEER	6.09 kW	6.63 kW
Pdc Tj = 35°C	5.05	7.02
EER Tj = 35°C	6.09 kW	6.63 kW
Cdc Tj = 35 °C	2.96	4.05
Pdc Tj = 30°C	1.000	1.000
EER Tj = 30°C	4.52 kW	4.93 kW
Cdc Tj = 30 °C	4.17	6.00
Pdc Tj = 25°C	1.000	1.000
EER Tj = 25°C	2.98 kW	3.95 kW
Cdc Tj = 25 °C	5.72	8.20
Pdc Tj = 20°C	0.991	0.990
EER Tj = 20°C	3.27 kW	4.03 kW
Cdc Tj = 20 °C	7.26	9.64
Poff	0.990	0.989
PTO	0 W	13 W
PSB	0 W	5 W
PCK	13 W	13 W
Annual energy consumption Qce	723 kWh	567 kWh