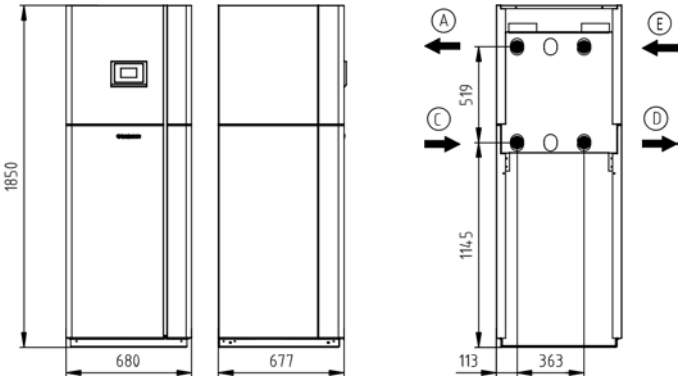
AQUA 83 HPLA

MONOVALENT HEATING SYSTEM
WITH WATER AS HEAT SOURCE

ORDER NUMBER: 222620
SERIES: M6
TF MAX. 68 °C



Ⓐ FLHC (outlet) Ⓑ FLT (outlet) Ⓒ RTN (inlet) Ⓓ WQA (outlet) Ⓔ WQA (inlet)

APPLIANCE DATA

Dimensions HxWxD	[mm]	1900x680x680
Hydraulic connection	[inch]	2″
Weight	[kg]	284
Casing colour		White/anthracite

SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,79
Fuse protection (tripping curve "C")	[A]	63
Max. operating current	[A]	50,00
Max. starting current/max. with soft start	[A]	211.00 / 105.50
Sound power level/sound pressure level (at 1 m distance)	[dBA]	58.00 / 50.00

HEATING MODE PERFORMANCE FIGURES (to EN 14511)

Standard point W10/W35		
Heating output	[kW]	84,50
Total power consumption / operating current	[kW]/[A]	15.90 / 29.30
COP		5,30

Operating point W10/W50		
Heating output	[kW]	76,20
Total power consumption / operating current	[kW]/[A]	19.10 / 33.20
COP		4,00

Operating point W10/W60		
Heating output	[kW]	71,20
Total power consumption / operating current	[kW]/[A]	22.00 / 37.60
COP		3,20

CONDENSER

Type		Plate heat exchanger
Material		Stainless steel 1.4401
Max. refrigerant operating pressure	[bar]	45
Max. heat transfer medium operating pressure	[bar]	6
Heat transfer medium temperature differential	[K]	5
Application range	[°C]	68
Heat transfer medium		Water
Test pressure	[bar]	51
Heat transfer medium flow rate	[m³/h]	14,50
Internal pressure differential	[mbar]	70
Flow meter (FM)	external	FM-DN 50, kvs 40
Circulation pump heat sink (WNA)	external	Stratos 65/1-12
Residual head I WNA external	[mbar]	672 (inkl. VMT)

REFRIGERANT CIRCUIT

Refrigerant		R410A
Refrigerant charge	[kg]	13,1

COMPRESSOR

Type		Scroll
Output levels		1
Speed	[rpm]	2900
Voltage/frequency	[V]/[Hz]	400 / 50

EVAPORATOR

Type		Plate heat exchanger
Material		Stainless steel 1.4401
Max. heat transfer medium operating pressure	[bar]	6
Max. refrigerant operating pressure	[bar]	14
Heat transfer medium temperature differential	[K]	4
Application range	[°C]	+8/+25
Heat transfer medium		Water
Test pressure	[bar]	51
Heat transfer medium flow rate	[m³/h]	14,70
Internal pressure differential	[mbar]	75
Flow meter (FM)	external	FM-DN 50 kvs 40
Flow meter pressure loss	[mbar]	135

Hydraulic version			Electric immersion heater		3-way switching module	
			Internal	external	Internal	external
M2-1	M4-1		x		x	
M2-2	M4-2			x	x	
M2-3	M4-3		x			x
M2-4	M4-4	M6		x		x

Status: 2018-08-20

RECOMMENDED ACCESSORIES

	Order no./type	Description	Pressure loss and residual head
Heat pump separating cylinders	min. PU1500	30 l/kW at W10/W35	–
DHW tank	SP1000	30 l/kW at W10/W50	–
External plate heat exchanger (DHW heating)	911370 PHE 9609	Prim.: 2″ Sec.: 2″	Prim.: 66 mbar Sec.: 62 mbar
3-way switching module internal	-	–	-
3-way switching module external	290342	DN50 (2″), kvs 40	131 mbar
Electric immersion heater internal	-	-	-
External electric immersion heater (heat pump buffer tank)	-	-	–
Heat source filter (WQA)	922486	–	30 mbar
Submersible pump (speed controlled)	290608	V	V = 4 - 23 mWC

PRODUCT DATA **ErP: AQUA 83 HPLA**

		COLDER	MEAN	HOTTER
LOW TEMPERATURE	A++		**35°C**	
ηs		223	**219**	221
Energy consumption	[kWh]	36035	**30804**	19765
P rated	[kW]	85	**85**	85
SCOP		5,78	**5,67**	5,71
MEDIUM TEMPERATURE	A++		**55°C**	
ηs		167	**164**	164
Energy consumption	[kWh]	41560	**35497**	22852
P rated	[kW]	74	**74**	74
SCOP		4,37	**4,29**	4,31

		indoor		outdoor
Sound power level	[dBA]	58,0		-
Controller class with room remote control		VII	Controller contribution [%]	3,5
Controller class without room remote control		**III**	Controller contribution [%]	1,5

LIMITS OF USE OF PLATE HEAT EXCHANGER:

				Plate heat exchanger		Shell and tube heat exchanger
				Copper soldered	Stainless steel soldered	Stainless steel
El. Conductivity	[µS/cm]	1.)		< 500	> 500	50 - 2500
pH value		1.)	< 6	0	0	0
			6 - 8	+	+	+
			> 8	–	0	0
Chloride	[mg/l]	1.)	< 10	+	+	+
			10 – 100	+	+	+
			100 – 200	0	+	+
			> 200	–	– (3)	0
Sulphate	[mg/l]	1.)	< 50	+	+	+
			50 – 100	0	+	–
			> 100	–	0	–
Carbon dioxide (free aggressive)	[mg/l]	1.)	< 5	+	+	+
			5 – 20	0	+	+
			> 20	–	0	–
Oxygen	[mg/l]	1.)	< 1	+	+	+
			1 – 8	0	+	+
			> 8	–	+	0
Ammonium	[mg/l]	1.)	< 2	+	+	+
			2 – 20	0	+	–
			> 20	–	+	–
Iron with manganese	[mg/l]	2.)		< 0.2	< 0.2 (3)	< 0.5
Manganese	[mg/l]	2.)	> 0.05	–	– (3)	0
Sulphide	[mg/l]	1.)	< 5	+	+	+
Chlorine (free)	[mg/l]	1.)	< 0.5	+	+	+

\+ = Material has generally good resistance
– = We advise against use
0 = corrosion may occur if several factors are rated 0

1.) If these limits are not observed, a stainless steel soldered stainless steel plate heat exchanger must be installed in the heat pump instead of the copper soldered stainless steel plate heat exchanger (specified with the order).
2.) Due to anticipated ochre formation, we advise against the use of a water/water heat pump.
3.) The limits of use of a stainless steel soldered plate heat exchanger are largely determined by, in addition to iron and manganese, the concentrations of chlorides.

PERFORMANCE CURVES AQUA 83 HPLA