WPE-I 87 H 400 Premium

PRODUCT-NO.: 201415

Application • Ground source heat pump with output control and inverter technology. The system is installed indoors and is suitable for apartment buildings and commercial premises. • With the help of additional hydraulic components, the existing source system can be used for passive and active cooling, or for simultaneous heating and cooling. • It can be used in mono mode for heating and DHW operation. • Up to 16 heat pumps can be operated in a cascade to achieve the required heating output.

Convenience features • The heat pump can be installed in a variety of buildings, as the integral inverter continually adjusts the system's heating output to the current energy demand, thereby ensuring flexibility in terms of the range of application. • One high efficiency circulation pump is provided for the brine side and one for the heating side. • The hot gas technology enables simultaneous DHW heating via an additional heat exchanger. • Fully automatic, weather-compensated control of the heating system is taken care of by the integral heat pump manager with colour touchscreen. When combined with the optional Internet Service Gateway (ISG), it is also possible to control the system in the home network or with a mobile device. There is also optional provision for external control of the heating system via a building management system. • To minimise the transfer of structure-borne sound to the building, the refrigerant circuit is mounted on an anti-vibration base plate and its internal hydraulic connections are flexible. • The refrigerant circuit is hermetically sealed, tested for leaks at the factory and filled with safety refrigerant R410A.

Efficiency • The heat pump's all year round demand-dependent output provision is ensured by the integral inverter which also enables the system to operate very efficiently. • The standard-fitted hot gas technology ensures that high DHW temperatures are achieved very efficiently and at low cost.

Installation • The vertical design means that only a small installation space is required. • The high level of integration enables quick and simplified installation, even with larger systems. The appliances are fully installed and delivered ready for operation. • Internal pressure hoses are provided for direct hydraulic connection to the heating and brine circuits.

The main features

- Particularly efficient DHW heating using hot gas technology
- Inverter technology allows ideally matched heating output through the variable speed compressor
- Highly versatile, as both cascade control and dual mode integration are possible
- Intuitive operation via colour touchscreen
- Easy to integrate thanks to various BMS interfaces

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Technical datasheet



Type	WPE-I 33 H 400 Premium	WPE-I 44 H 400 Premium	WPE-I 59 H 400 Premium
Part no.	201412	201413	201414
Energy data			
Energy efficiency class, moderate climate, W55/W35	A+++/A+++	A+++/A+++	A+++/A+++
Energy efficiency class	A+++	A+++	A+++
Heating output			
Heating output at B0/W35 (EN 14511)	20,18 kW	26,71 kW	35,60 kW
Heating output at B0/W35 (min./max.)	10 - 33 kW	11 - 44 kW	14 - 59 kW
Power consumption			
Power consumption at B0/W35 (EN 14511)	4,26 kW	5,81 kW	7,91 kW
Coefficients of performance			
COP at B0/W35 (EN 14511)	4.73	4.60	4.50
SCOP (EN 14825)	5.55	5.65	5.19
Application limits			
Min. application limit, heat source	-10 °C	-10 °C	-10 °C
Max. application limit, heat source	20 °C	20 °C	20 °C
Min. application limit on heating side	20 °C	20 °C	20 °C
Max. application limit on the heating side	65 °C	65 °C	65 °C
Dimensions			
Height	1723 mm	1723 mm	1742 mm
Width	692 mm	692 mm	900 mm

Depth	803 mm	803 mm	848 mm

Weights

Weight	300 kg	300 kg	430 kg

Electrical data

Frequency	50 Hz	50 Hz	50 Hz
Max. operating current	25.2 A	29.3 A	39.8 A
Starting current (with/without starting current limiter)	-/17 A	-/21 A	-/29 A

Values

Flow rate on the heating side	5,76 m³/h	7,56 m³/h	10,3 m³/h
Heating flow rate (EN 14511) at A7/W35, B0/W35 and 5 K	3.24 m³/h	4.5 m³/h	6.19 m³/h

Versions

Refrigerant	R410A	R410A	R410A
Refrigerant charge	3,9 kg	4,4 kg	6,3 kg
Global warming potential of the refrigerant (GWP100)	2,088	2,088	2,088
CO2 equivalent (CO2e)	8.14 t	9.19 t	13.15 t
Compressor oil	POE; 160SZ-160Z	POE; 160SZ-160Z	POE; 160SZ-160Z
Circulation pump type, source side	Stratos 40/1-12	Stratos 40/1-12	Stratos 40/1-16
Circulation pump type, heating side	Stratos PARA 30/1-8	Stratos PARA 30/1-8	Stratos PARA 30/1-12
Condenser material	1.4401/Cu	1.4401/Cu	1.4401/Cu
Evaporator material	1.4401/Cu	1.4401/Cu	1.4401/Cu

Connections

Connection, heating side	35 mm	35 mm	42 mm
Connection, hot gas	28.00 mm	28.00 mm	28.00 mm
Connection, heat source side	42 mm	42 mm	54 mm
Electrical connecting cable	5 x 6.0 mm2	5 x 6.0 mm2	5 x 10.0 mm2

Heating water quality requirements

Water hardness	=3 °dH	=3 °dH	=3 °dH
pH value (with aluminium fittings)	8,0–8,5	8,0–8,5	8,0–8,5
pH value (without aluminium fittings)	8,0–10,0	8,0–10,0	8,0–10,0
Conductivity (softening)	<1000 µS/cm	<1000 µS/cm	<1000 µS/cm
Conductivity (desalination)	20-100 µS/cm	20-100 µS/cm	20-100 µS/cm
Chloride	<30 mg/l	<30 mg/l	<30 mg/l
Oxygen 8-12 weeks after filling (softening)	< 0,02 mg/l	< 0,02 mg/l	< 0,02 mg/l
Oxygen 8-12 weeks after filling (desalination)	< 0,1 mg/l	< 0,1 mg/l	< 0,1 mg/l

Heat transfer medium requirements on the heat source side

Concentration of mono ethylene glycol, heat transfer medium	25-35 % by vol.	25-35 % by vol.	25-35 % by vol.

STIEBEL ELTRON

Technical datasheet

Type	WPE-I 87 H 400 Premium
Part no.	201415

Energy data

Energy efficiency class, moderate climate, W55/W35	A+++/A+++
Energy efficiency class	A+++

Heating output

Heating output at B0/W35 (EN 14511)	52,00 kW
Heating output at B0/W35 (min./max.)	21 - 87 kW

Power consumption

Power consumption at B0/W35 (EN 14511)	11,0 kW

Coefficients of performance

COP at B0/W35 (EN 14511)	4.71
SCOP (EN 14825)	5.17

Application limits

Min. application limit, heat source	-10 °C
Max. application limit, heat source	20 °C
Min. application limit on heating side	20 °C
Max. application limit on the heating side	65 °C

Dimensions

Height	1742 mm
Width	900 mm

Depth	848 mm

Weights

Weight	550 kg

Electrical data

Frequency	50 Hz
Max. operating current	54.2 A
Starting current (with/without starting current limiter)	-/37 A

Values

Flow rate on the heating side	15,12 m³/h
Heating flow rate (EN 14511) at A7/W35, B0/W35 and 5 K	9.29 m³/h

Versions

Refrigerant	R410A
Refrigerant charge	9,0 kg
Global warming potential of the refrigerant (GWP100)	2,088
CO2 equivalent (CO2e)	18.79 t
Compressor oil	POE; 160SZ-160Z
Circulation pump type, source side	Stratos 40/1-16
Circulation pump type, heating side	Stratos PARA 30/1-12
Condenser material	1.4401/Cu
Evaporator material	1.4401/Cu

Connections

Connection, heating side	42 mm
Connection, hot gas	28.00 mm
Connection, heat source side	54 mm
Electrical connecting cable	5 x 16 mm2

Heating water quality requirements

Water hardness	=3 °dH
pH value (with aluminium fittings)	8,0–8,5
pH value (without aluminium fittings)	8,0–10,0
Conductivity (softening)	<1000 µS/cm
Conductivity (desalination)	20-100 µS/cm
Chloride	<30 mg/l
Oxygen 8-12 weeks after filling (softening)	< 0,02 mg/l
Oxygen 8-12 weeks after filling (desalination)	< 0,1 mg/l

Heat transfer medium requirements on the heat source side

Concentration of mono ethylene glycol, heat transfer medium	25-35 % by vol.

Contact information

Do you have additional questions? Then please do not hesitate to contact us, we would be only too happy to help:
Call 0151 346 2300
Or send an e-mail to
sales@stiebel-eltron.co.uk

Only a qualified contractor should carry out the installation, commissioning, maintenance and repair of this appliance. Where applicable and prior to installation the electricity and/or water utility companies should be notified of your intention to install the product.