

STRATEO R32

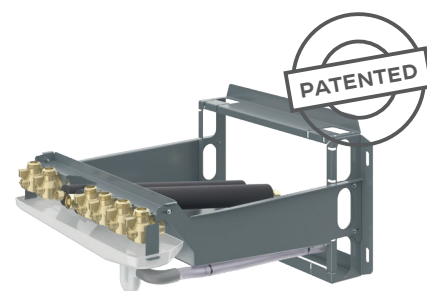
TRIPLE SERVICE SPLIT INVERTER AIR-TO-WATER HEAT PUMPS WITH ELECTRICAL BACK-UP: HEATING, COOLING AND DOMESTIC HOT WATER



AWHPR 4 MR
AWHPR 6 MR
AWHPR 8 MR



MIC indoor module
(with integrated 190-litre tank)



EASYDRAULIC®
hydraulic connection plate
for pre-assembly

• **STRATEO R32 ...MR/E 1C:**
from 4.5 to 8 kW for 1 circuit (single-phase operation with back-up via integrated immersion heater)

• **STRATEO R32 ...MR/E 2C:**
from 4.5 to 8 kW for 2 circuit (single-phase operation with back-up via integrated immersion heater).



Heating only by radiators, heating and cooling by underfloor heating/cooling or air conditioning by convection fans, production of domestic hot water



ELEC.
Electricity (energy supplied to the compressor)



Air-to-water heat pump



ENR
Free, natural and renewable energy



R32
Refrigerant fluid R32

OPERATING CONDITIONS

operating temperature limits

in heating mode

- Outside air: - 20/+ 35°C
- Water: + 18/+ 60°C

in cooling mode

- Outside air: + 10/+ 46°C
- Water: + 18/+ 60°C

in air conditioning mode

- Outside air: + 10/+ 46°C
- Water: + 7/+ 25°C

Heating circuit

Max. operating pressure: 3 bar
Max. operating temp.: 75°C

DHW circuit

Max. operating pressure: 10 bar
Max. operating temp.: 65°C

The STRATEO R32 is the most silent, effective heat pump solution for new buildings. It is characterised by its compact size and efficient performance: COP of up to 5.2 at an outdoor air temperature of + 7 °C.

A high-tech product with an INVERTER system with power accumulator, the STRATEO R32 heat pump offers a more stable setpoint temperature, substantially reduced power consumption and quiet operation, generating a sound power level of just 32 dB[A] to 36 dB[A]. The reversible STRATEO R32 also operates in cooling mode via the underfloor cooling system (water at + 18 °C), and as air conditioning via fancoils (EER of 4.88 to 5.35 for an outdoor temperature of + 35 °C).

With its compact dimensions, it is easy to install thanks to its wall-mounted preassembly frame for the hydraulic connections. The hydraulic unit integrating all the elements required for the heating installation can be accessed behind the front panel, which facilitates maintenance. It includes a 190-litre DHW tank located under the indoor unit in the form of an attractive uniform column. It offers optimal comfort all year round. Its compact construction, design and simple installation mean it can be easily integrated in a new build environment.



NEW STRATEO R32

- De Dietrich is introducing its STRATEO triple service certified air/water split heat pump with R32.
- In addition to the many advantages that characterise this innovative product, the switch to R32 provides better performance in heating, cooling and DHW.
- Designed for and by our customers, it meets all the needs of the new home market. Switching to R32 reduces the carbon impact of the refrigerant by a factor of 3 compared to R410A.

USEFUL INFO ON R32

- R32 is an HFC fluid with a GWP of 675 compared to 2088 for R410A
- A better thermal capacity than R410A
- R32 is a pure fluid and therefore easier to recover and recycle

SWITCHING TO R32

- According to local regulation a certificate of competence could be required
- Additional equipment is required: specific recovery cylinder, leak detector suitable for flammable refrigerants, pressure gauge with dedicated scale, recovery station suitable for flammable refrigerants, adapter for the cylinder and a ventilation system
- R32 has a low GWP to ensure a transition to more environmentally friendly solutions.



SPECIFIC PRECAUTIONS FOR THE TRANSPORTATION AND HANDLING OF R32 TO ENSURE THE SAFETY OF THE INSTALLATION AND INSTALLER

- R32 is classed as A2L, which is «mildly flammable». R32 is not explosive.

As a rule, the methods for installation and maintenance of equipment running with R32 and R410A are quite similar. The operating pressures are identical and R32 can be handled in both its gaseous and liquid state.

PRECAUTIONS FOR USE

- Check that there are no leaks on the installation to ensure no oxygen enters the refrigerant circuit.
- Ensure work is carried out in a well-ventilated area and do not store the refrigerant in direct sunlight.
- Regularly check the leak-tightness of the system and the quantity of refrigerant.
- Avoid exposure to sources of ignition.
- Operators must be trained in alternative technologies and the applicable regulations.
- In an individual home, in accordance with EN60335, no particular measures are required provided that the R32 charge does not exceed 1.84 kg with the refrigerant connections.
- Consequently, the installer must ensure minimum surface areas and volumes in relation to the charge:
 - Flammable limit by volume:
1 m³ = 0.307 kg of R32 max.
 - By volume, the toxicity risk indicates:
1 m³ = 0.300 kg of R32 max.

Prerequisite for installations containing HFCs:

- Compliance with F-GAS 517/2014,
- Qualification certificate (company, according to local regulation),
- Certificate of competence (operator, according to local regulation).

PRESENTATION OF THE RANGE

STRATEO R32



ADVANTAGES

DIEMATIC EVOLUTION CONTROLS

- Connected intuitive control system with clear text
- New bluetooth function with smartphone application for quick commissioning
- The control panel on the MIC modules enables the entire system to be managed by providing an interface between the outdoor unit and the DHW production and heating system

DESIGN

- Eco-designed to ensure maximum respect for the environment
- Packaging made entirely from cardboard
- Exceptional performances
- Excellent acoustic comfort level at just 32 dB[A] for the 4 kW model

COMPACT

- Compact and easy to integrate with a 560 mm x 586 mm footprint, and a height of 1950 mm
- Includes a built-in 190-litre enamelled tank, equipped with a magnesium anode
- Option to install in a standard size cupboard
- Can be integrated into a living room



ACCESS TO THE INDOOR UNIT COMPONENTS

- Equipped with all the safety components required for operation: valve with filter, stop valves, motorised DHW reversing valve, 7-bar DHW valve, non-return valve, disconnect
- All the heating elements from the indoor unit can be accessed from the front panel.
- Reinforced protection with integrated magnetic sludge filter

EXPERTISE BUILT INTO A HEAT PUMP

- Two-stage assembly with the new pre-equipped connection frame (stop valves, box with siphon)
- Can be delivered in separate packages on request

EASY TO ASSEMBLE

- Installation times reduced thanks to the pre-assembly plate which enables all the circuits (DHW, heating and cooling) to be connected up hydraulically during the site works phase. Equipped with the stop valves, a collector box and siphon
- Castor wheels ensure the indoor unit is easy to position
- Installation and commissioning helps: fitting jig, quick guide, interactive control



STRONG POINTS

PATENTED

- The unique design of the **EASYDRAULIC** connection plate allows it to be adapted to all installation configurations.

PRACTICAL ASSEMBLY

- The STRATEO R32 is assembled in **2 stages**:
 - the **EASYDRAULIC** connection plate is only fitted in the site phase for a connection to the heating network.
 - the indoor unit and the outdoor unit can therefore be brought in at the end of work on-site, thereby limiting the risks of theft or damage.

RELIABLE AND DURABLE

- Brass valves and painted panelling to resist corrosion.



MULTI-DIRECTION CONNECTION

- Connection possible on either the left or right, on the top or to a crawl space, or even directly through the wall with flush-mounted tubes.

ADJUSTABLE

- To allow it to be adapted to a range of different heights (screed, floor covering, etc.), the connection plate has a height **tolerance of +/- 2 cm**.
- It is also possible to adjust the depth and the angle to ensure alignment between the connectors on the indoor unit and the **EASYDRAULIC** connection plate.

SMART ACCESS

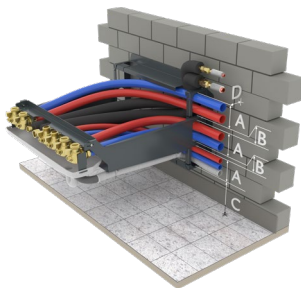
- The accessibility of the connectors midway up the front panel guarantees quick and easy servicing and maintenance.

SAVE TIME DURING INSTALLATION

- Save up to **two hours** thanks to the simplified connection principle:
 - hydraulic connection on the connection plate equipped with stop valves, two refrigerant hoses, a collection tray and a siphon on all circuits (1 or 2 heating, DHW and refrigerant circuits).

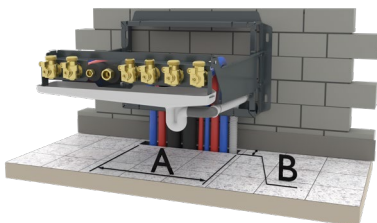
CONNECTION

Left or right connection (see p. 11)



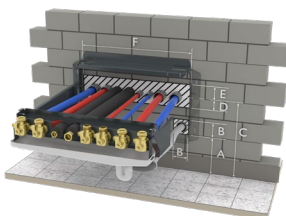
STRATEO_F7200

connection into the crawl space (see p. 12)



STRATEO_F7201

connection with flush-mounted tubes (see p. 13)



STRATEO_Z202



STRATEO_Q0003

PRESENTATION OF THE RANGE


STRATEO R32



THE VARIOUS MODELS AVAILABLE

Reversible air-to-water heat pump for outdoor temperatures down to -20°C.
For heating by radiators or heating and cooling by underfloor heating/cooling or air conditioning by convection fans.
Back-up via a built-in 3 kW immersion heater

VERSION FOR 1 HEATING CIRCUIT


EASYLIFE		MODELS	REFERENCE	MIC-1C V190 INDOOR UNIT	OUTDOOR UNIT			HYDRAULIC CONNECTION FRAME*
A++	A+				AWHPR 4 MR	AWHPR 6 MR	AWHPR 8 MR	
		STRATEO R32 4.5 MR/E	7773965	7766963	7736361	-	-	7766966
		STRATEO R32 6 MR/E	7773966	7766963	-	7736362	-	7766966
		STRATEO R32 8 MR/E	7773967	7766963	-	-	7736363	7766966

(1) Water temp. at outlet: +35°C, outdoor temp.: +7°C

(2) Water temp. at outlet: +18°C, outdoor temp.: +35°C

* Hydraulic connection frame are delivered without refrigerant connections. Hydraulic connection frames with refrigerant connections are available in the accessories list.

VERSION FOR 2 HEATING CIRCUITS

EASYLIFE		MODELS	REFERENCE	MIC-2C V190 INDOOR UNIT	OUTDOOR UNIT			HYDRAULIC CONNECTION FRAME 2 CIRCUITS*	HYDRAULIC CONNECTION KIT 2ND MIXED CIRCUIT FOR TEMPLATE
A++	A+				AWHPR 4 MR	AWHPR 6 MR	AWHPR 8 MR		
		STRATEO R32 4.5 MR/E 2C	7792146	7791226	7736361	-	-	7766966	7741322
		STRATEO R32 6 MR/E 2C	7792147	7791226	-	7736362	-	7766966	7741322
		STRATEO R32 8 MR/E 2C	7792149	7791226	-	-	7736363	7766966	7741322

(1) Water temp. at outlet: +35°C, outdoor temp.: +7°C

(2) Water temp. at outlet: +18°C, outdoor temp.: +35°C

* Hydraulic connection frame are delivered without refrigerant connections. Hydraulic connection frames with refrigerant connections are available in the accessories list.



TECHNICAL SPECIFICATIONS

OPERATING CONDITIONS: OPERATING TEMPERATURE LIMITS

In heating mode:

Water: + 18°C/+ 60°C
Outside air: - 20°C/+ 35°C

In cooling mode:

Water: + 18°C/+ 25°C,
Outside air: + 10°C/+ 46°C

In air conditioning mode:

Water: + 7°C/+ 25°C,
Outside air: + 10°C/+ 46°C

MODEL

	STRATEO R32	4.5 MR/E	6 MR/E	8 MR/E
SEASONAL PERFORMANCES				
Energy efficiency class (SEE) (heating) (35°C) / DWH		A+++/A+	A+++/A+	A+++/A+
Energy efficiency class (SEE) (heating) (55°C) / DWH		A++/A+	A++/A+	A++/A+
SCOP (35°C/55°C)		4.48/3.43	4.5/3.37	4.48/3.21
Seasonal space heating energy efficiency under average temperature (35°C/55°C) *	%	176/134	177/132	176/125
Seasonal space heating energy efficiency under average temperature (35°C/55°C) (with outdoor sensor supplied as standard)	%	178/136	179/134	178/127
Heating COP at +7 °C/+35 °C - +7 °C/+55 °C		5.37-4.44	5.61-4.07	5.70-4.10
DHW seasonal energy efficiency (M/L cycle)	%	131/139	123/135	122/120
CERTIFIED THERMAL PERFORMANCE*** (different dimensioning values: see page 8)				
Heat output at +7°C/+35°C / Pmax (1)	kW	4.60/7.10	6.40/8.70	7.60/9.00
Heating COP at +7°C/+35°C (1)		5.20	5.00	4.57
Heating output at -7°C/+35°C / Pmax (1)	kW	2.93/6.10	4.11/ 7.30	6.13/ 7.70
Heating COP at -7°C/+35°C (1)		3.11	2.87	3.20
Cooling output at +35°C/+18°C (5)	kW	6.00	7.00	7.10
Cooling COP at +35°C/+18°C (5)		5.35	4.88	4.88
Max. usable hot water volume (Vmax) (2)	litre	279	277	278
Heating time (th) de 10°C to 55°C (2)	hh: mm	1 h 35	1 h 35	1 h 25
Power absorbed at stabilised rate (Pes) (2)	W	31.8	35.5	34.9
Draw-off cycle (2)		L	L	L
COP_DHW (draw-off cycle) (2)		3.3	3.2	2.85
Outdoor module sound power (3)	dB[A]	58	58	59
Indoor module sound power (3)	dB[A]	32	34	36
TECHNICAL SPECIFICATIONS				
Outdoor module perceived sound level(4)	dB[A]	36	36	37
Indoor module perceived sound level(4)	dB[A]	24	26	28
Nominal water flow rate at ΔT = 5 K	m³/h	0.79	1.1	1.31
Total dynamic head at nominal flow rate at ΔT = 5 K	mbar	650	550	300
Power supply voltage of the outdoor unit	V	230V mono	230V mono	230V mono
Start-up amperage	A	5	5	5
DHW tank capacity	litre	190	190	190
Refrigerant fluid R32	kg	1.2	1.2	1.2
CO ₂ equivalent	tonne	0.81	0.81	0.81
Max. pre-loaded length	m	10	10	10
Length min - max **	m	5-30	5-30	5-30
Refrigerant connection (liquid-gas)	pouce	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2
Outdoor unit weight	kg	54	54	54
Indoor unit/hydraulic plate weight (1 circuit)	kg	173/13.3	173/13.3	173/13.3
Indoor unit/hydraulic plate weight (2 circuit)	kg	185/14.3	185/14.3	185/14.3

* Values certified according directives n°813/2013

** Max height difference 30 m for all models

*** Values given as an indication

(1) Heating mode: outside air temperature/water temperature at outlet, performance in accordance with EN 14511-2/Max power without back-up: value to be used for sizing

(2) Filling cycle according to EN 1614

(3) Test performed in accordance with standard EN 12102-1

(4) At 1 m in a free field (5 m for the outdoor unit)

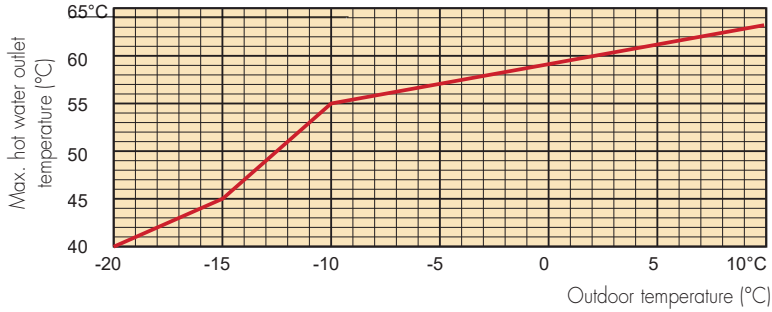
(5) Air conditioning mode: outdoor air temperature/water temperature at the outlet, performance according to EN 14511-2.



TEMPERATURE OF THE WATER PRODUCED

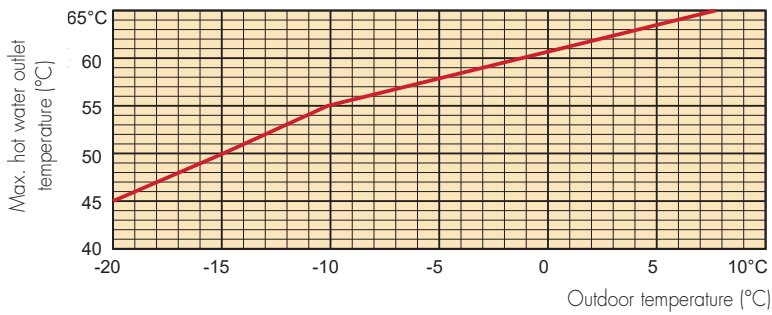
STRATEO R32 heat pump models can produce hot water up to 60°C. The graph shows the water temperatures produced based on the outdoor temperature.

STRATEO R32 4.5 AND 6 MR/E



STRATEO_19990

STRATEO R32 8 MR/E



STRATEO_19990

TECHNICAL SPECIFICATIONS

STRATEO R32



TABLE OF DATA FOR SIZING

4 MR/E

OUTSIDE AIR TEMPERATURE (°C)		WATER OUTLET TEMPERATURE (°C)																
		AMBIENT				HEATING												
		7		18		25		35		40		45		50		55		60
	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP
-20	-	-	-	-	-	-	3.20	2.18	3.00	1.93	-	-	-	-	-	-	-	-
-15	-	-	-	-	-	-	4.30	2.45	4.10	2.17	3.90	1.89	-	-	-	-	-	-
-10	-	-	-	-	5.80	3.04	5.40	2.73	5.10	2.41	4.70	2.10	4.30	1.75	3.80	1.41	-	-
-7	-	-	-	-	6.50	3.22	6.10	2.89	5.70	2.56	5.20	2.23	4.60	1.84	4.00	1.45	-	-
2	-	-	-	-	6.00	3.45	5.90	3.14	5.80	2.83	5.70	2.52	5.60	2.20	5.50	1.89	5.40	1.58
7	-	-	-	-	7.30	4.89	7.10	4.38	7.00	3.87	6.80	3.36	6.40	2.83	5.90	2.30	5.50	1.77
12	-	-	-	-	8.70	5.94	8.50	5.25	8.30	4.56	8.20	3.87	7.70	3.30	7.20	2.72	6.70	2.15
15	-	-	-	-	7.70	6.56	7.50	5.77	7.30	4.99	7.10	4.20	6.70	3.56	6.30	2.92	5.90	2.28
20	5.7	4.81	7.8	7.53	8.40	7.37	8.20	6.45	8.00	5.54	7.80	4.62	7.40	3.91	6.90	3.20	6.50	2.49
25	5.5	4.38	7.6	6.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	5.3	3.72	7.3	5.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	5.1	3.18	7.0	4.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-

6 MR/E

OUTSIDE AIR TEMPERATURE (°C)		WATER OUTLET TEMPERATURE (°C)																
		AMBIENT				HEATING												
		7		18		25		35		40		45		50		55		60
	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP
-20	-	-	-	-	-	-	4.70	2.10	4.60	1.93	-	-	-	-	-	-	-	-
-15	-	-	-	-	-	-	5.70	2.48	5.50	2.27	5.30	2.06	-	-	-	-	-	-
-10	-	-	-	-	6.90	2.90	6.70	2.67	6.50	2.45	6.20	2.23	6.10	1.99	5.90	1.75	-	-
-7	-	-	-	-	7.50	3.03	7.30	2.79	7.10	2.56	6.80	2.33	6.60	2.07	6.40	1.82	-	-
2	-	-	-	-	6.70	3.69	6.70	3.33	6.60	2.96	6.60	2.60	6.60	2.30	6.60	2.00	6.60	1.70
7	-	-	-	-	8.90	5.05	8.70	4.50	8.50	3.96	8.30	3.41	8.10	3.00	8.00	2.60	7.80	2.19
12	-	-	-	-	10.50	5.88	10.20	5.22	9.90	4.56	9.60	3.90	9.40	3.42	9.30	2.94	9.10	2.46
15	-	-	-	-	9.70	6.46	9.40	5.70	9.10	4.94	8.70	4.18	8.60	3.62	8.40	3.06	8.20	2.50
20	6.7	4.65	9.3	6.73	10.60	7.14	10.30	6.27	9.90	5.40	9.50	4.53	9.30	3.91	9.10	3.29	8.90	2.67
25	6.4	3.96	9.0	6.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	6.2	3.37	8.6	5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	5.9	2.87	8.3	4.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-

8 MR/E

OUTSIDE AIR TEMPERATURE (°C)		WATER OUTLET TEMPERATURE (°C)																
		AMBIENT				HEATING												
		7		18		25		35		40		45		50		55		60
	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP	Output (kW)	COP
-20	-	-	-	-	-	-	5.00	2.04	4.80	1.87	-	-	-	-	-	-	-	-
-15	-	-	-	-	-	-	6.00	2.40	5.80	2.20	5.60	2.00	-	-	-	-	-	-
-10	-	-	-	-	7.30	2.81	7.10	2.59	6.80	2.38	6.60	2.16	6.40	1.93	6.20	1.70	-	-
-7	-	-	-	-	8.00	2.93	7.70	2.71	7.40	2.48	7.20	2.25	7.00	2.01	6.80	1.76	-	-
2	-	-	-	-	7.20	3.55	7.10	3.21	7.10	2.88	7.10	2.55	7.10	2.21	7.10	1.86	7.10	1.52
7	-	-	-	-	9.20	4.95	9.00	4.42	8.80	3.90	8.60	3.37	8.40	3.01	8.20	2.65	8.00	2.29
12	-	-	-	-	10.90	5.79	10.60	5.14	10.30	4.50	10.00	3.85	9.80	3.43	9.60	3.00	9.50	2.58
15	-	-	-	-	10.10	6.37	9.80	5.62	9.50	4.88	9.20	4.13	9.00	3.66	8.80	3.18	8.60	2.71
20	7.0	4.52	9.6	6.63	11.10	7.02	10.70	6.17	10.30	5.33	10.00	4.48	9.70	3.93	9.50	3.43	9.30	2.91
25	6.7	3.86	9.3	5.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	6.5	3.28	8.9	4.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	6.2	2.79	8.5	4.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-

These performance ratings are not certified, but they must only be used to size the heat pump.

TECHNICAL SPECIFICATIONS

INDOOR MODULE MIC-1C V190 AND MIC-2C V190



STRATEO R32 heat pumps comprise an outdoor unit (see p. 10) and an MIC-1C/2C indoor module

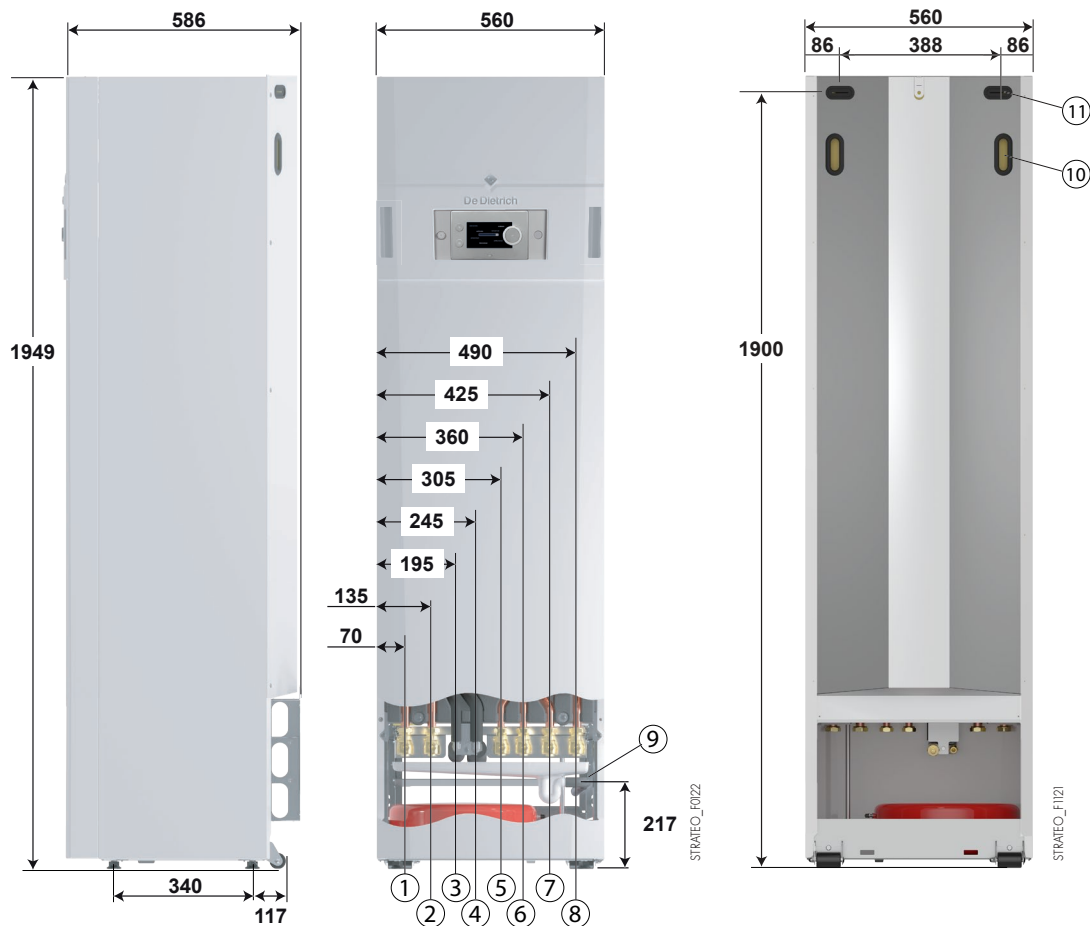
MIC-1C V190 AND MIC-2C V190 COLUMN INDOOR MODULE

The MIC allows the entire system to be managed by providing an interface between the outdoor unit and the heating system. It includes all the hydraulic and control components in the front panel to ensure easy installation and operation

It cannot be installed without the outdoor unit

MAIN DIMENSIONS (MM AND INCHES)

MIC - 1C AND 2C



KEY

- ① 2nd circuit return (2C version) G 1"
- ② 2nd circuit flow (2C version) G 1"
- ③ Refrigerant fluid connection, 1/4" flare
- ④ Refrigerant gas connection, 1/2" flare
- ⑤ Domestic hot water outlet Ø R 3/4
- ⑥ Domestic cold water inlet Ø R 3/4
- ⑦ Heating flow Ø G 1"
- ⑧ Heating return Ø G 1"
- ⑨ Outflow Ø 32
- ⑩ Handle
- ⑪ Cable routing

TECHNICAL SPECIFICATIONS

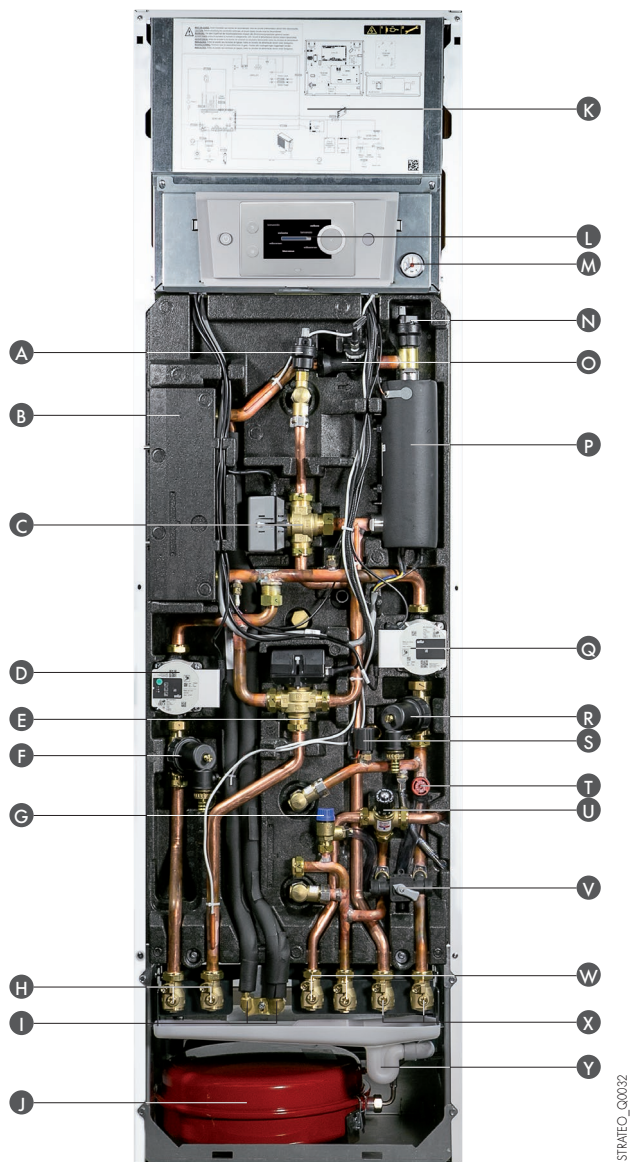
MIC-1C V190 AND MIC-2C V190 INDOOR UNIT



MIC-1C V190 AND MIC-2C V190 INDOOR UNIT

A multifunction hydraulic unit can be accessed from the front panel and contains all the elements required for the operation of the heating system. All the unit components are easy to access. The unit present in the STRATEO R32 contains the accessories required for management of a second circuit with mixing valve.

DETAILS OF THE HYDRAULIC UNIT FOR THE MIC-2C (WITH FRONT PANEL REMOVED)



KEY

- A DHW coil drain automatic air vent
- B Plate heat exchanger (condenser)
- C 3-way valve with heating/DHW reversal motor
- D Heating circulating pump for circuit B
- E Circuit B mixing valve
- F Magnetic sludge filter for circuit B
- G 7 bar domestic safety valve
- H Heating circuit B flow/return
- I Refrigerant fluid-gas connection
- J 12-litre expansion vessel
- K Panel containing the electrical boards
- L E-pilot interface
- M Mechanical pressure gauge
- N Heating automatic air vent
- O Flow meter
- P 3 kW electrical back-up
- Q Heating circulating pump for circuit A
- R Magnetic sludge filter for circuit A
- S Electronic pressure gauge
- T 3-bar heating circuit safety valve
- U Thermostatic mixing valve
- V Disconnect
- W Domestic cold water inlet and hot water outlet
- X Heating circuit A flow/return
- Y Siphon

TECHNICAL SPECIFICATIONS

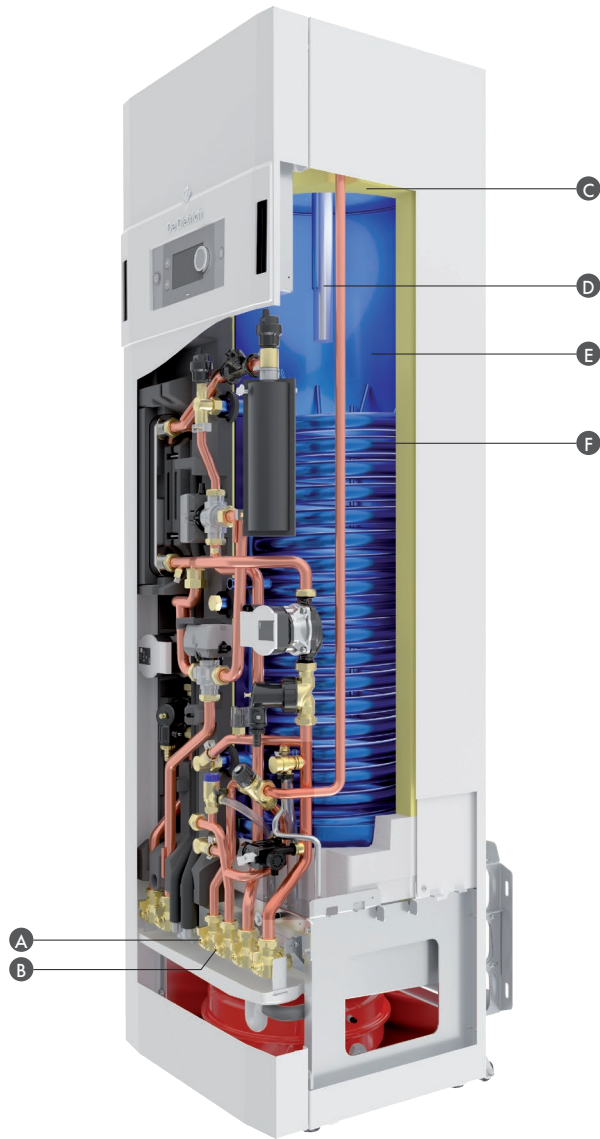
DHW TANK



190-LITRE DHW TANK

The 190-litre DHW tank is located behind the hydraulic kit. The tank is made from enamelled steel (food-grade vitrified enamel with a high quartz content) with a new diameter to enable better stratification. It is equipped as standard with a protective magnesium anode (titanium anode available as an option) and a dielectric union. It is already connected to the hydraulic kit in the front panel.

DETAILS OF THE TANK



STRATEO_00033

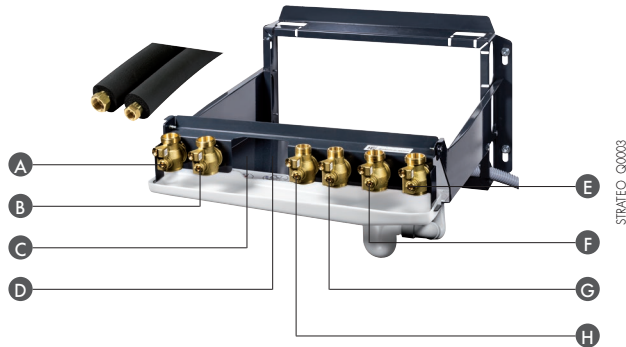
KEY

- A DHW outlet
- B DHW inlet
- C Insulation
- D Magnesium anode or optional titanium anode
- E 190-litre DHW tank
- F Heat exchanger for preparation of DHW (coil)

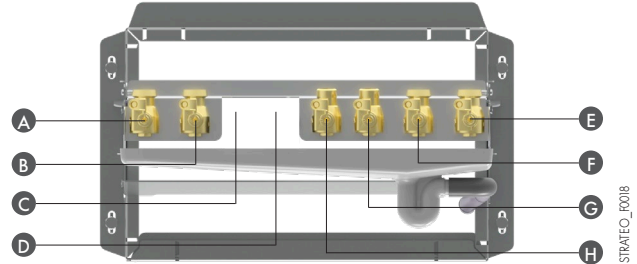
HYDRAULIC PRE-ASSEMBLY FRAME

The hydraulic preassembly frame must be installed during the work site phase. During the work site phase, this frame is used to connect up all of the hydraulic and cooling circuits before installation of the indoor unit. This frame is equipped with new stop valves with integrated drain valve.

DESCRIPTION OF THE CONNECTION PLATE



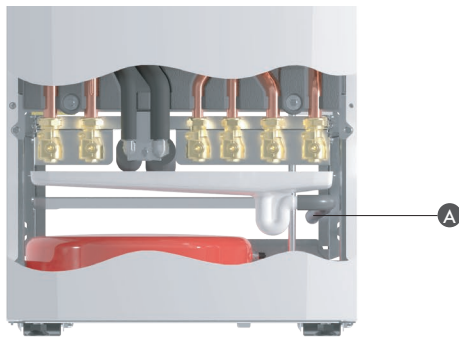
STRATEO_C0003



STRATEO_F0018

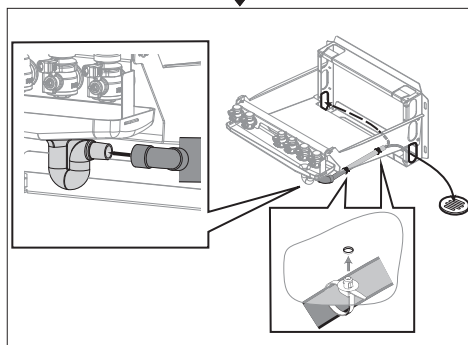
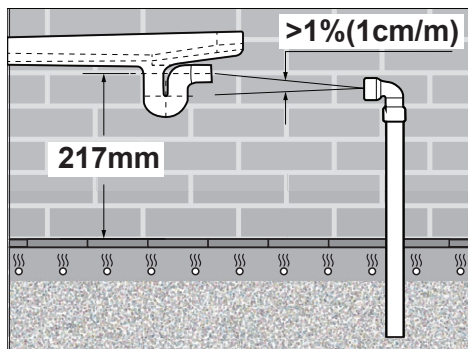
- KEY**
- A Circuit B return (mixed*) Ø 1"
 - B Circuit B flow (mixed*) Ø 1"
 - C Fluid line opening Ø 1/4"
 - D Gas line opening Ø 1/2"
 - E Circuit A return (direct) Ø 1"
 - F Circuit A flow (direct) Ø 1"
 - G Domestic cold water inlet Ø 3/4"
 - H Domestic hot water flow Ø 3/4"
- * Top kit package EH988 to be supplied if 2nd circuit kit (EH916 + EH918) or solar kit EH919 is installed

SAFETY VALVE AND CONDENSATE DRAIN



STRATEO_F0122A

- The evacuation tube measures approximately 1.50 m (A).
- **Ensure it runs into a drain at a max height of 200 mm** in relation to the finished floor.
- Angle at a gradient of 1 % to allow the condensate or water evacuated by the safety valves to drain correctly.
- If this gradient cannot be applied, then the lift pump kit (option EH860) must be used.
- The lift pump kit can be used to enable discharge up to a height of 4 m.

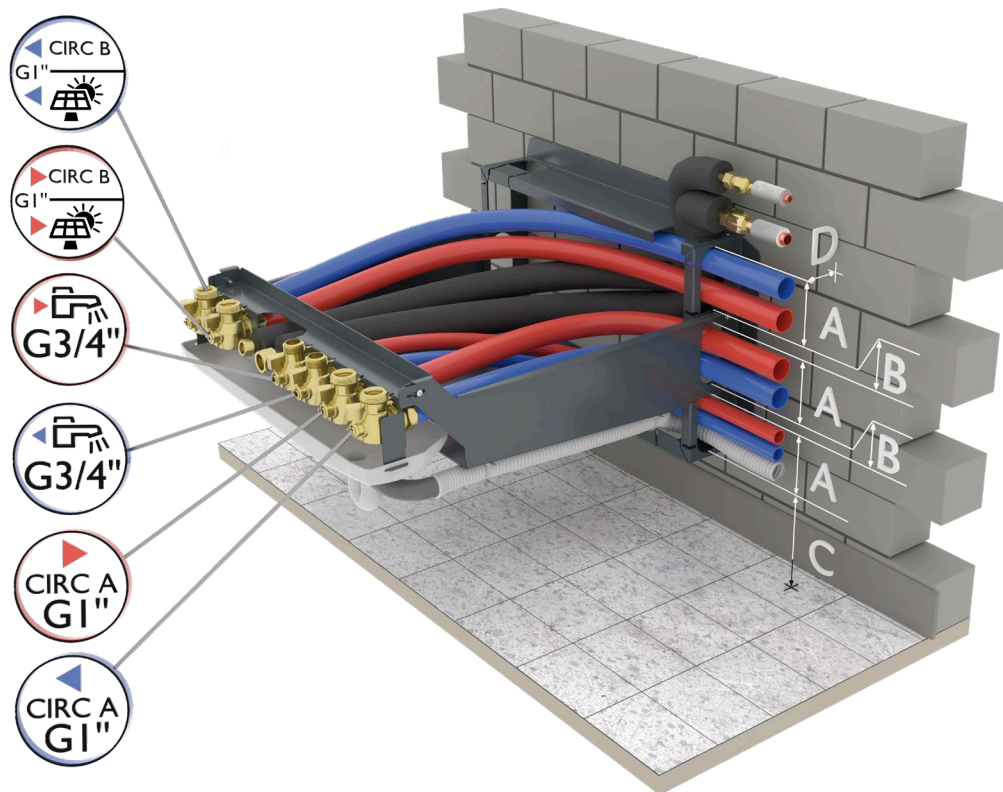


STRATEO_F0017

MULTI-DIRECTIONAL HYDRAULIC CONNECTION FRAME EASYDRAULIC®

The patented connection frame has been developed to provide maximum flexibility during installation. It has scored elements and various oblong holes to simplify routing of the tubes.

EXAMPLE OF LEFT OR RIGHT CONNECTION



tube routing dimension

A (mm)	B (mm)	c (mm)	D (mm)
90	10	95,5	47,5



TIPS

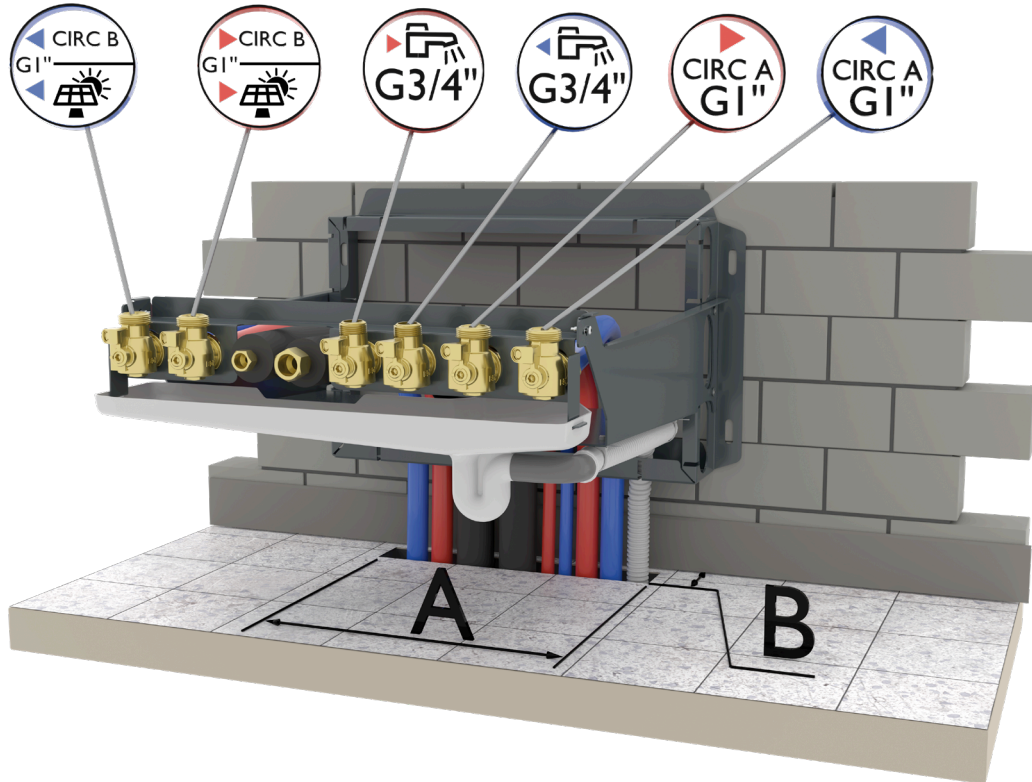
- For a right-hand connection (example above), route the DHW tubes with a narrow diameter into the same oblong holes as the condensate evacuation tube.
- For easier routing of the refrigerant tubes, use the 800 mm refrigerant lines supplied with the connection frame.

STRATEC_16006

MULTI-DIRECTIONAL HYDRAULIC CONNECTION FRAME EASYDRAULIC®

The patented connection frame has been developed to provide maximum flexibility during installation. It has scored elements and various oblong holes to simplify routing of the tubes. Connection in the crawl space gives the installation a clean finish.

EXAMPLE OF CONNECTION INTO THE CRAWL SPACE



STRATEC_F6005

Tube routing dimension

A (mm)	B (mm)
340	60



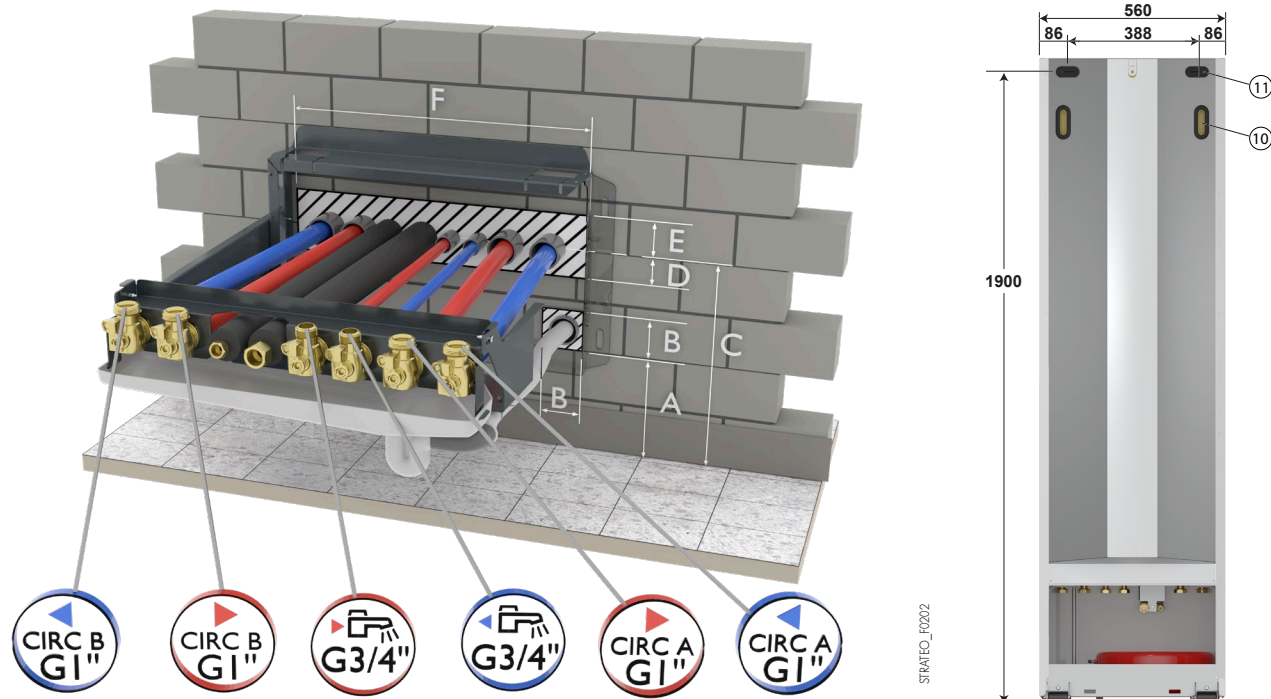
TIPS

- Using the EH920 kit (stainless-copper line): bend by hand and connect it all inside the crawl space onto the copper section.
- Using the HK267 kit: 230 mm refrigerant connections pre-flared for connection inside the crawl space.

MULTI-DIRECTIONAL HYDRAULIC CONNECTION FRAME EASYDRAULIC®

The patented connection plate has been developed to provide maximum flexibility during installation. It has scored elements and various oblong holes to simplify routing of the tubes. Connection with flush-mounted tubes gives the installation a clean finish.

EXAMPLE OF CONNECTION WITH FLUSH-MOUNTED TUBES



tube routing dimension

A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
127	47	279	79	90	435



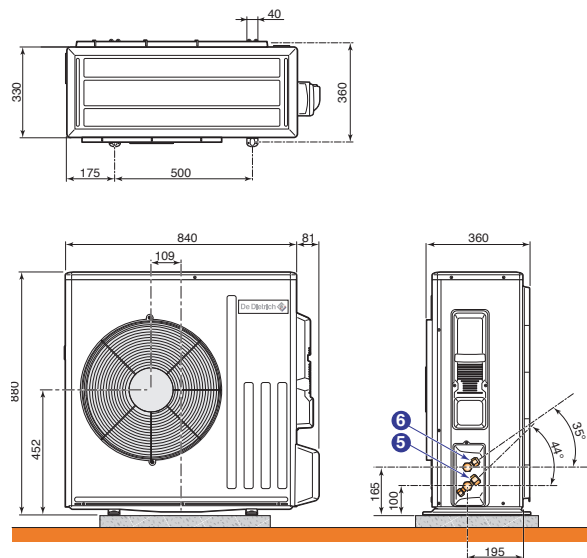
TIPS

- Also ensure the outlet for the cables and power supplies is 1.90 m from the finished floor. It is located opposite the cable routing opening in the indoor unit.

TECHNICAL SPECIFICATIONS OF AWHP OUTDOOR UNITS

MAIN DIMENSIONS (MM AND INCHES)

AWHPR...



PAC_F0304

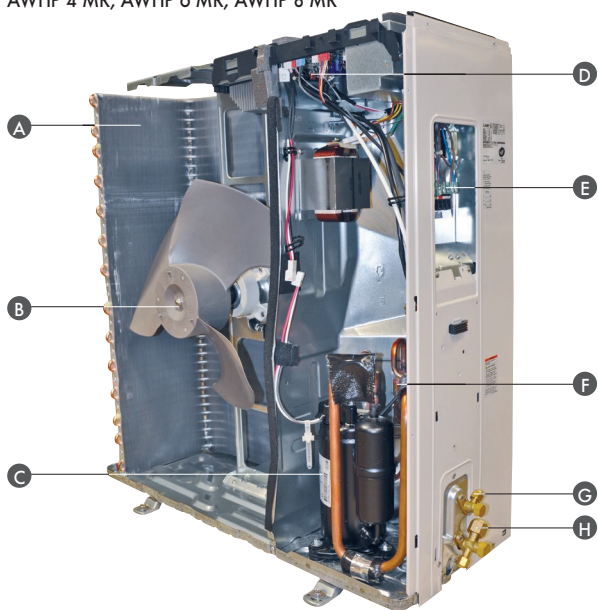
KEY

- ⑤ Refrigerant gas connection 1/2" flare
- ⑥ Refrigerant liquid connection 1/4" flare

TECHNICAL SPECIFICATIONS OF OUTDOOR UNITS

COMPONENTS

AWHP 4 MR, AWHP 6 MR, AWHP 8 MR



A Evaporator
B Fan
C Compressor
D Electronic circuit board

E Electrical connection
F Cycle reversal 4-way valve
G Refrigerant liquid connection
H Refrigerant gas connection

DIEMATIC EVOLUTION CONTROL PANEL ON THE MIC-1C/2C

The **DIEMATIC EVOLUTION control panel** is a highly advanced panel with new ergonomic controls, with a built-in programmable electronic control system as standard. The control panel on the MIC module of STRATEO R32 heat pumps includes an electronic control system that allows the heating output to be adapted to the real system requirements based on the outdoor temperature (sensor supplied). To do this, the control system manages the compressor modulation (via the BUS cable connecting the outdoor unit to the MIC) and, if necessary, the back-up by the immersion heater.

With the MIC-1C, it enables management of a single direct circuit, which may be a radiator circuit or one low temperature underfloor heating circuit (or even fancoils). Adding accessories EH919 + EH988 enables management of 2 heating circuits (direct and with mixing valve for underfloor heating or radiator). In addition, this control system manages the automatic reversibility between heating in winter and cooling-air conditioning in summer. The control system also allows the domestic hot water to be managed.



DEVO_Q009

CONTROL OPTIONS OF THE DIEMATIC EVOLUTION CONTROL PANEL



TH_Q000V/TH_Q000V

WIRED PROGRAMMABLE ROOM THERMOSTAT - PACKAGE AD337

WIRELESS PROGRAMMABLE ROOM THERMOSTAT - PACKAGE AD338

This thermostat controls the heating according to several operating modes:

AUTOMATIC: according to the hourly programming, the setpoint temperature automatically changes from Comfort to Economy and vice versa.

It is also possible to remain in Permanent Comfort, Permanent Reduced or Permanent Frost Protection.

ABSENCE: this mode allows you to set a permanent temperature between 5 and 15°.

MANUAL: this mode allows you to switch from Comfort to Economy (or vice versa) until the next program change.

STOP: this mode allows you to stop the heating demand in summer for example.



8801Q003

NON-PROGRAMMABLE ROOM THERMOSTAT - PACKAGE AD140

This room thermostat makes it possible to regulate the room temperature between 6 and 30 °C by acting on the burner.



SMARTTC_Q5000/SMARTTC_Emetteur RF

WIRED WIFI SMART TC° ROOM THERMOSTAT (R-BUS) - PACKAGE AD324

WIRELESS WIFI SMART TC° ROOM CONTROLLER (R-BUS) - PACKAGE AD341

WIRELESS WIFI SMART TC° ROOM CONTROLLER WITHOUT TRANSMITTER/RECEIVER RADIO - PACKAGE AD342

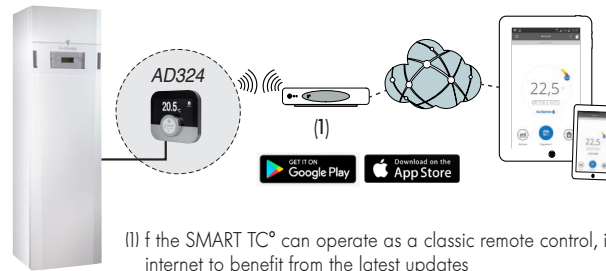
This enables **remote control of the heating and domestic hot water** via an app which is free to download and **simple to use, with the option of providing a professional with access to your installation (with authorisation).**

It is used to remote control the installation, including programmed times of operation and access to settings such as checking the energy consumption using data logs.

Smart TC° can also be used as a standard thermostat without using Wifi or any other app, although you are recommended to keep it connected to the Internet to benefit from the latest updates.

AD342 wireless SMART TC° room controller can be used to add a second or third circuit if there is already a AD341 on the first circuit with emitter/transmitter.

PRINCIPLE OF INSTALLATION



(1) If the SMART TC° can operate as a classic remote control, it is recommended to connect it to the internet to benefit from the latest updates



AD_Q0050

RADIO OUTSIDE TEMPERATURE SENSOR - PACKAGE AD346

The radio outside temperature sensor can be delivered as optional equipment for systems in which the installation of the external wire connection sensor delivered with DIEMATIC EVOLUTION control panel would be too complex.

This sensor must be used with a radio remote control (AD341), already combined with an "appliance radio module".



HA249_Q0001

UNDERFLOOR HEATING THERMOSTAT CONNECTION KIT - PACKAGE HA255

Wired for connecting a safety thermostat to the circulating pump in an underfloor heating circuit.



HPI_Q0017

HUMIDITY SENSOR KIT (ON/OFF) - PACKAGE HK27

Sensor for measuring humidity in the flow part of an installation with underfloor heating/cooling. In "refreshing" mode, the heat pump is stopped if the humidity detected is high, avoiding the appearance of condensation.



HYBRID_Q0050

HUMIDITY SENSOR (0 - 10 V) - PACKAGE HZ64

Collector for measuring the humidity in your installation in the flow part of the underfloor heating/cooling. In cooling mode, it is used to adapt the water flow temperature to avoid the appearance of condensation.



STRATEO_Q0002

2ND CIRCUIT PCB KIT - PACKAGE EH916

Electronic control board for the 2nd mixed circuit. It must be installed to manage the second mixed circuit. Only necessary to convert the MIC 1C V190 to the MIC 2C V190 version.

Attention the EH916 kit is complementary to the EH917 kit.

OPTIONS FOR THE OUTDOOR UNIT



AWHP 4.5 MR, 6 MR-3 AND 8 MR-2 WALL MOUNTING SUPPORT... + ANTI-VIBRATION MOUNTS - PACKAGE EH95

This kit enables the outdoor unit for the AWHPs to be fixed to the wall. It is equipped with anti-vibration mounts which reduce the transmission of vibrations to the ground.



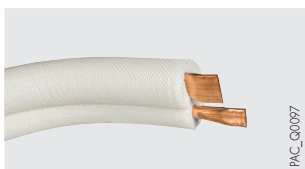
AWHP GROUND MOUNTING SUPPORT - PACKAGE EH112

Tough, durable PVC support for mounting the outdoor unit on the ground. Bolts, washers and nuts are included for quick, easy installation.



RUBBER FLOOR SUPPORT - PACKAGE EH879

Durable rubber support for mounting the outdoor unit on the ground.



REFRIGERATION CONNECTION KIT 1/2"-1/4" - LENGTH 10 M - PACKAGE EH142

High-quality insulated copper pipe limiting heat loss and condensation.



FLEXIBLE REFRIGERANT CONNECTIONS R32 1/2" 1/4 " - LENGTH 2.3 m - PACKAGE HK267

Insulated flexible refrigerant lines 2.30 m in length, to connect the indoor unit to the outdoor unit.

OPTIONS FOR THE INDOOR UNIT



BUFFER TANK: • B 80 T - PACKAGE EH85 • B 150 T - PACKAGE EH60

These 80 and 150 litre tanks are used to limit compressor short cycle operation and to provide a reserve for the defrosting phase on reversible air-to-water heat pumps.

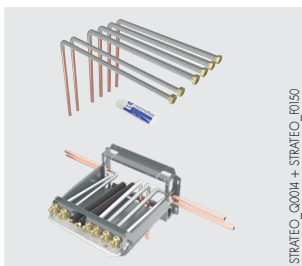
It is also recommended for all heat pumps connected to installations with a water volume of less than 5 l/kW of heat output.

EXAMPLE: Heat pump output = 10 kW

Min. volume in the installation: 50 litres

Dimensions: B 80 T: H 850 x L 440 x D 450 mm

B 150 T: H 1003 x Ø 601 mm



6 HYDRAULIC TUBES FOR CONNECTION TO COPPER PIPE - EH920

! Mandatory for copper connections to guarantee height adjustment when connecting the plate to the product.

Allows the plate to be removed and simplifies crimping or brazing of the copper

CAUTION: protect stainless steel copper welds with heat absorbing paste (or a damp cloth)



HYDRAULIC CONNECTION KIT 2ND MIXED CIRCUIT FOR TEMPLATE - PACKAGE EH988

EH988 + EH916 + EH917 must be ordered together for correct installation and operation.



SOLAR HYDRAULIC KIT WITH BOARD - PACKAGE EH919



LIFT PUMP KIT - EH860

Required if outflow into the drain exceeds 20 cm

The lift pump is integrated inside the indoor unit next to the expansion vessel.



2ND CIRCUIT HYDRAULIC KIT - EH917

Hydraulic assembly enabling management of a 2nd circuit. This kit includes a high-efficiency circulating pump, a mixing valve, 2 stopcocks, a magnetic filter and a flow sensor.

It must be installed to manage the second mixed circuit. Only required to convert the MIC 1C V190 into the MIC 2C V190 version.

IMPORTANT: the EH917 kit is to be used in conjunction with EH916 kit



DIFFERENTIAL BY-PASS VALVE - PACKAGE HK150

This differential by-pass valve has to be installed on circuits equipped with thermostatic valves, in order to ensure a minimum flow rate in the MIT-M.

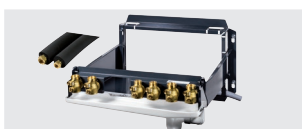


DECOUPLING CYLINDER 25 L - PACKAGE HK146



HYDRAULIC FRAME 1C - PACKAGE HK264

Including refrigerant connections



HYDRAULIC FRAME 2C R32 - PACKAGE HK265

Including refrigerant connections

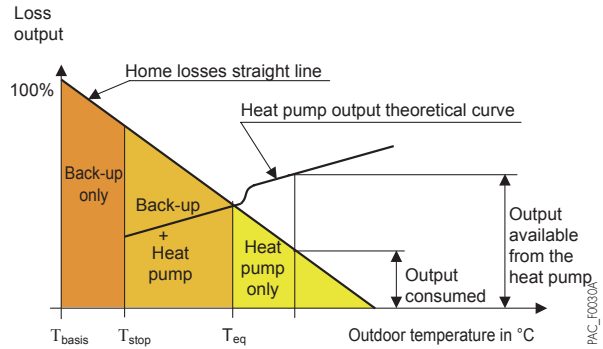


SIZING AIR-TO-WATER HEAT PUMPS

The heat pump is sized on the basis of the heat loss calculation. The heat losses are calculated in accordance with standard NF EN 12831 and the national supplement NF P 52-612/CN. The losses are calculated for rooms heated by the heat pump, and are divided into:

- surface losses through walls,
- linear losses where the different surfaces are joined,
- losses through air renewal and infiltration.

Air-to-water heat pumps alone cannot compensate for losses in a building, since their output decreases as the outdoor temperature drops, and they even shut down at a temperature known as the "shutdown temperature". This temperature is -20°C for our STRATEO R32 range. An electrical back-up is then required. The balance temperature corresponds to the outdoor temperature at which the heat pump's output is equal to the losses.



FOR OPTIMAL SIZING, IT IS RECOMMENDED TO FOLLOW THE RULES BELOW

- 70 % of losses Heat pump output at T_o 100 % of losses where $T_o = T_{base}$ if $T_{shutdown} < T_{base}$ and $T_o = shutdown$ if it does not (take a value of 80% if the building inertia is low, for example wooden framework)
- Heat pump output at T_{base} + Back-up output = 120 % of losses

T_{base} = Base outdoor temperature,
 T_{bal} = Balance temperature,
 $T_{shutdown}$ = Shutdown temperature (see tables on page 5).

By applying these sizing rules, coverage rates of around 80 % or more can be achieved, depending on the case. For more detailed calculations, you can use our DiemaPAC calculation tool in the Pro area of our website:

http://pro.dietrich-heating.com/int/site_pro/software/diemaSoft/diemaTools_the_tool_box

SELECTION TABLES FOR STRATEO R32 MODELS

These tables provide a simplified definition of the heat pump output to be installed.

• STRATEO R32 FOR A FLOW AT 35°C (UNDERFLOOR HEATING)

LOSSES IN KW	3	4	5	6	7	8	9
0							
-1							
-2							
-3							
-4							
-5							
-6							
-7							
-8							
-9							
-10	4.5 MR+3	4.5 MR+3	4.5 MR+3	4.5 MR+3	4.5 MR+3	6 MR + 3	
-11							
-12							
-13							
-14							
-15							
-16							
-17							
-18							
-19							
-20							

SIZING AN INSTALLATION

STRATEO R32



• STRATEO R32 FOR A FLOW AT 45 °C (LOW TEMPERATURE RADIATOR)

LOSSES IN KW	3	4	5	6	7	8	9
0							
-1							
-2					4.5 MR+3		
-3							8MR+3
-4							
-5						6 MR+3	
-6					4.5 MR+3		
-7	4.5 MR+3	4.5 MR+3	4.5 MR+3	4.5 MR+3			
-8							
-9					6 MR+3		
-10							
-11						8MR+3	
-12							
-13							
-14				6 MR + 3			
-15					8MR+3		
-16	8 MR+3	8 MR+3	8 MR+3	MR+3			
-17							
-18							
-19							
-20							

• STRATEO R32 FOR A FLOW AT 55 °C (MID TEMPERATURE RADIATOR)

LOSSES IN KW	3	4	5	6	7	8	9
0							
-1							
-2							
-3	4.5 MR+3	4.5 MR+3	4.5 MR+3	6 MR + 3	8MR+3	8MR+3	
-4							
-5							
-6							
-7							
-8	6 MR + 3	6 MR + 3	6 MR + 3				
-9				8MR+3			
-10							

Shaded boxes: not included in prevailing standard recommendations. Consult us

NOTES

- Data selection tables for each flow temperature according to the sizing rules stated in prevailing standards (70% of losses for the heat pump and 120% of losses for the heat pump back-up + at minimum outdoor temperature)
- The losses must be calculated accurately and without a surplus power coefficient.
- + 3 corresponds to the minimum electrical back-up required in kW.
- **Below the heat pump's outdoor shutdown temperature (- 20°C), only the back-ups operate.**
- For sizing in cooling mode, refer to page 5 for the flows in air conditioning mode at 7 °C or in cooling mode at 18 °C. We recommend using the AWHP table available on the site.

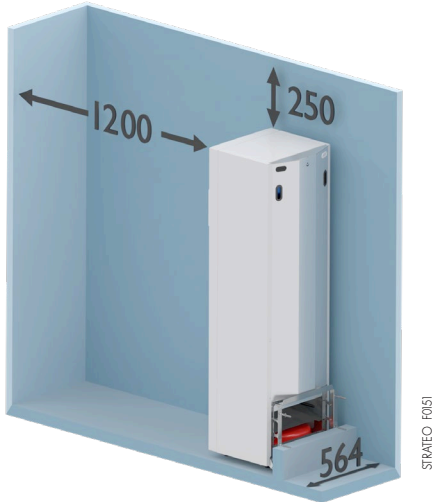
INDOOR UNIT: POSITIONING RULES

The STRATEO R32 indoor unit should be installed in a frost-free location on a flat surface as close as possible to draw-off points to limit losses. Access must be possible at the front to facilitate maintenance of the appliance.

The indoor unit may be mounted in a cabinet or against a wall.

The indoor unit is equipped with wheels at the rear of the product to facilitate its positioning.

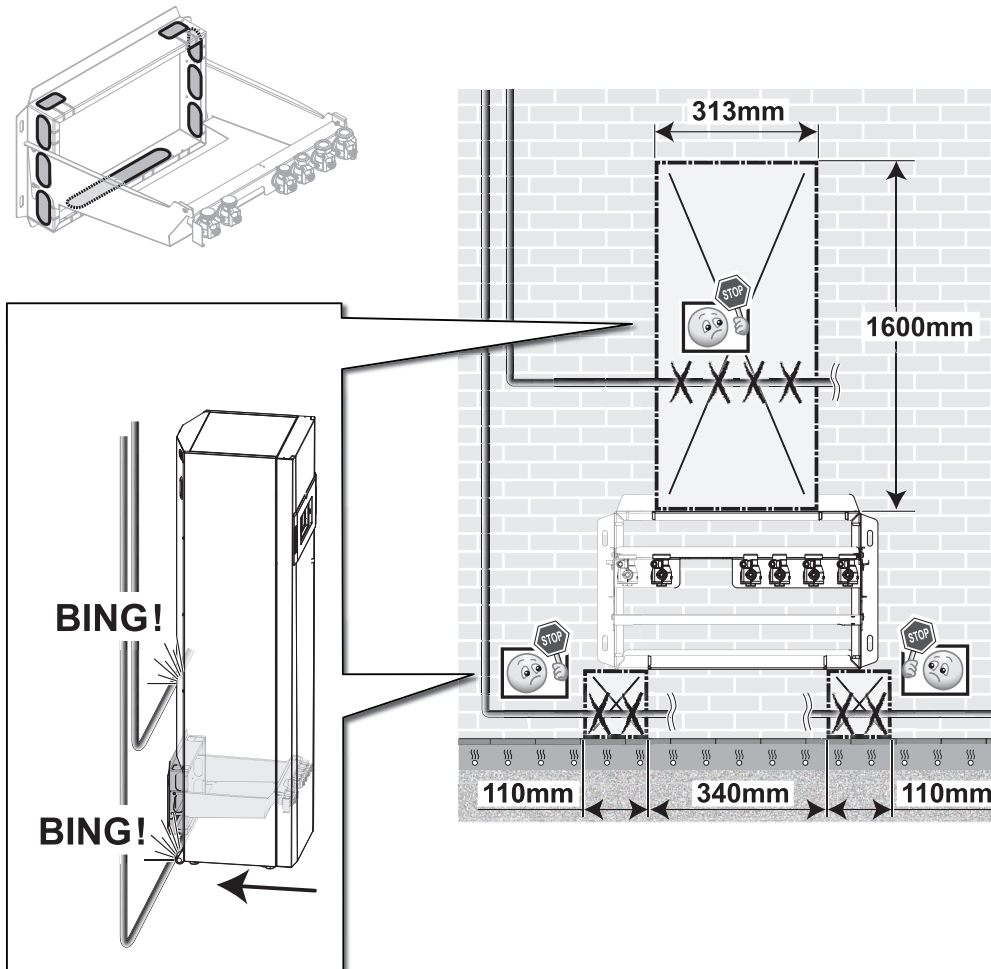
MOUNTING IN A CABINET



MOUNTING AGAINST A WALL

Respect the routing of the tubes on the connection plate. No tube must be routed horizontally on top of the plate as the back of the product will be placed against a wall, or underneath as the wheels enabling the product to be positioned will also be against the skirting board.

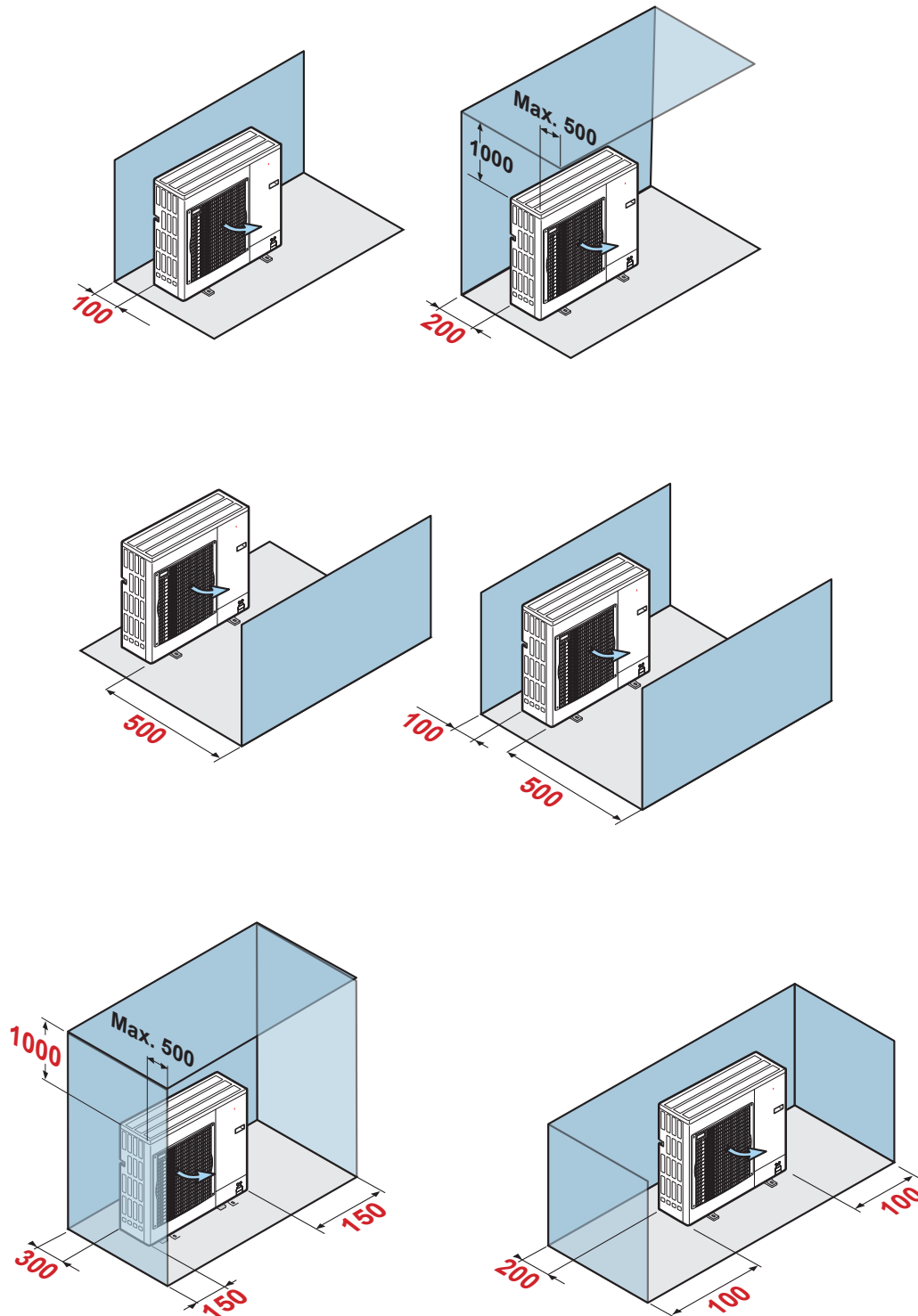
On the indoor unit upper panel, a bracket can be unfolded and secured to the wall to prevent any risk of the product tipping over once installed.



POSITIONING STRATEO HEAT PUMPS

- The outdoor units on STRATEO R32 heat pumps are installed near the home, on a terrace or facade or in a garden. They are designed to operate in rainy conditions but can also be installed in a sheltered location with ventilation.
- The outdoor unit must be installed in a location sheltered from prevailing winds, which can affect the performance of the installation.
- The unit should be positioned above the annual snowfall height in the region in which it is installed.
- The location for the outdoor unit should be chosen carefully to meet the environmental requirements: integration in the site, compliance with urban planning and co-ownership rules.
- There should be nothing obstructing the free circulation of air over the heat exchanger at the inlet and outlet; a space should therefore be left around the appliance. This will enable connection, commissioning and maintenance operations to be carried out (see layout plans below).

OUTDOOR UNIT: MINIMUM POSITIONING DISTANCES (MM)



MAXIMUM DISTANCES AND REFRIGERANT FLUID LOAD QUANTITY

MAXIMUM CONNECTION DISTANCES (SEE DIAGRAM BELOW)

AWHPR	4 MR/E	6 MR	8 MR
refrigerant gas connection Ø	1/2"	1/2"	1/2"
refrigerant liquid connection Ø	1/4"	1/4"	1/4"
L (m)	5 - 30	5 - 30	5 - 30
B (m)	30	30	30

L: minimum and maximum connection distance between the indoor module and the outdoor unit.
 B: maximum permitted height difference between the indoor module and the outdoor unit.

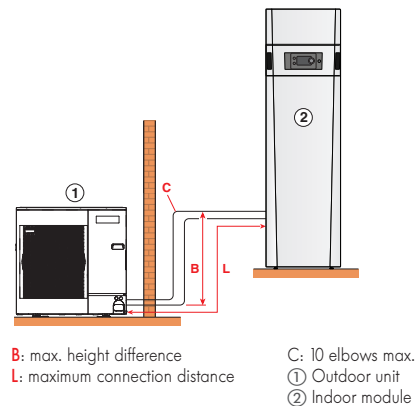
REFRIGERANT PRELOAD QUANTITY

No additional refrigerant fluid load is required if the refrigerant pipe is less than 10 m long. For lengths above 10 m, the following additional loads are required:

LENGTH OF REFRIGERATION PIPE (m)	15	20	25	30	L (1)
Quantity of refrigerant fluid to be added (kg)	± 0.1	+ 0.2	+ 0.3	+ 0.4	+ X (2)

(1) Y = refrigerant fluid charge (0.015kg/m)
 (2) X = Y x (L - 10)

IMPORTANT
 Maximum refrigerant fluid charge for the system: 1.6 kg



ACOUSTIC INTEGRATION OF STRATEO R32 HEAT PUMPS

DEFINITIONS

The acoustic performance levels of the outdoor units are defined by the following two values:

- **The sound power L_w expressed in dB[A]:** it characterises the sound emission capacity of the source, independently of its environment. It allows the appliances to be compared.
- **The acoustic pressure L_p expressed in dB[A]:** this is the value perceived by the human ear, and depends on parameters including the distance from the source and the size and type of walls in the room. The regulations are based on this value.

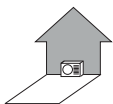
NOISE NUISANCE

Regulations concerning neighbourhood noise can be found in prevailing standards. Noise nuisance is defined by the emergence, which is the difference between the sound pressure level measured when the appliance is switched off and the level measured when the appliance is operating in the same location.

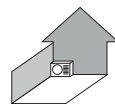
The maximum authorised difference is: • day (7 am - 10 pm): 5 dB (A)
 • night (10 pm - 7 am): 3 dB (A).

RECOMMENDATIONS FOR ACOUSTIC INTEGRATION OF THE OUTDOOR MODULE

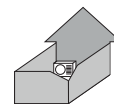
- Do not place it close to where people sleep,
- Avoid placing it close to a terrace, and do not install the module opposite a wall. The increase in the noise level due to the installation configuration is shown in the diagrams below:



Module positioned against a wall: + 3 dB[A]



Module positioned in a corner: + 6 dB[A]



Module positioned in an inner courtyard: + 9 dB[A]

- The layouts shown below are forbidden:



Ventilation directed towards the neighbouring property



Module at the property boundary



Module positioned under a window

- To limit noise nuisance and the transmission of vibrations, we recommend:
 - installing the outdoor module on a metal frame or an inertia base. This base must weigh at least twice as much as the module, and it must be separate from the building. In all cases, anti-vibration mounts must be installed to reduce the transmission of vibrations.
 - The use of suitable sleeves for routing refrigerant connections through walls,
 - The use of flexible, anti-vibration materials for mountings,
 - The installation of vibration damping devices such as loops, bends or elbows on refrigerant connections.
 - It is also recommended to install an acoustic attenuation device, for example:
 - sound-absorbent wall material to be installed on the wall behind the module,
 - a sound barrier: the surface of the barrier must be larger than the outdoor module and positioned as close as possible to it, while allowing air to circulate freely. The barrier must be made from a suitable material such as acoustic bricks, concrete blocks covered with absorbent material. It is also possible to use natural barriers, such as banks of earth.

STRATEO_E2001

HPL_E0029

HPL_E0029

REFRIGERANT CONNECTION

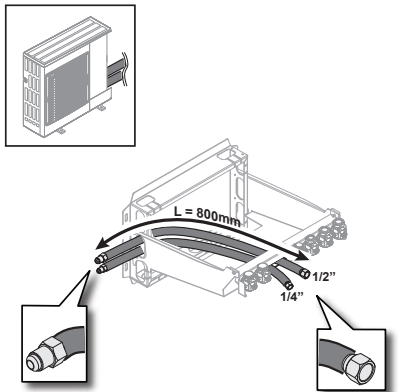
Commissioning STRATEO R32 heat pumps involves operations on the refrigerant circuit.

The appliances must be installed, commissioned, maintained and repaired by qualified, authorised personnel in accordance with the requirements of directives, laws, applicable regulations and good industry practice.

MULTI-DIRECTIONAL REFRIGERANT CONNECTION

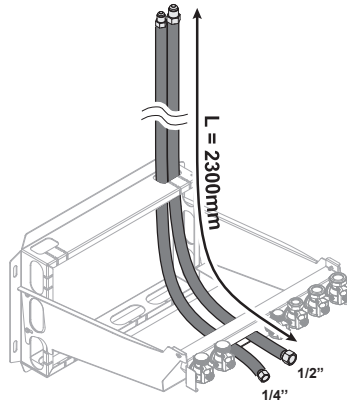
All of the flexible refrigerant lines offer highly modular installation options to greatly simplify connection.

• Left or right connection with flexible refrigerant lines factory-supplied with the connection plate



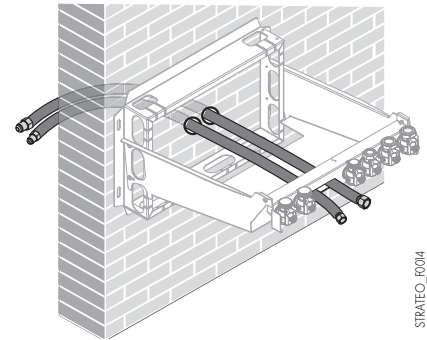
STRATEO_IP008

• vertical connection at the top rear of the indoor unit using the HK267 kit



STRATEO_IP003

• direct connection to outdoor unit using the HK267 kit



STRATEO_IP004

ELECTRICAL CONNECTION

The heat pumps must be electrically installed in accordance with good industry practice, applicable standards, decrees and associated texts, in particular standard NF C 15 100.

RECOMMENDATION ON CIRCUIT BREAKERS AND CABLE CROSS SECTIONS TO BE USED

STRATEO R32 HEAT PUMP	TYPE	OUTDOOR UNIT				INDOOR UNIT				
		NOMINAL AMPERAGE + 7/35°C	START-UP AMPERAGE + 7/35°C	MAXIMUM AMPERAGE	OUTDOOR UNIT POWER SUPPLY		MIV-3 INDOOR MODULE POWER SUPPLY		COMMUNICATION BUS	
					CS (mm ²)	CURVE C* CB	CS (mm ²)	CURVE C CB	CS (mm ²)	
4.5 MR/E	Single	4.25	5	13,9	3 x 2.5	16 A	3 x 1.5	10 A	2 x 0.75	
6 MR/E	Single	6.57	5	13,9	3 x 2.5	16 A	3 x 1.5	10 A	2 x 0.75	
8 MR/E	Single	8.99	5	13,9	3 x 2.5	16 A	3 x 1.5	10 A	2 x 0.75	

ELECTRICAL BACK-UP

SINGLE-PHASE: 3 kW	CS	3 x 2.5 mm ²
	CB	Curve C, 16 A

KEY

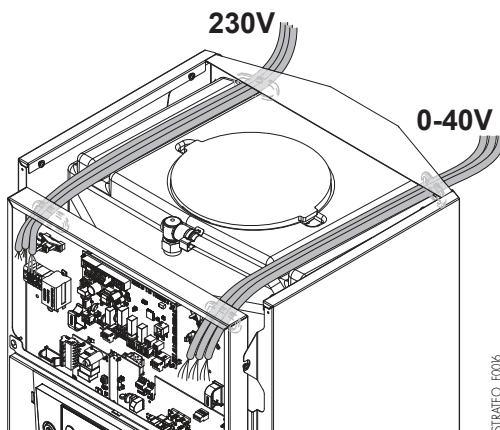
CS = cable cross section in mm²

CB = circuit breaker

* differential protection motor

ROUTING LOW VOLTAGE AND VERY LOW VOLTAGE CABLES

The product's power supply cables and the power supply cable for the electrical back-ups (on the left) have been separated from the communication cables and the sensors (on the right). It is recommended that shielded cables are used to prevent any disruption of the low voltage network.



STRATEO_F006



HYDRAULIC CONNECTION

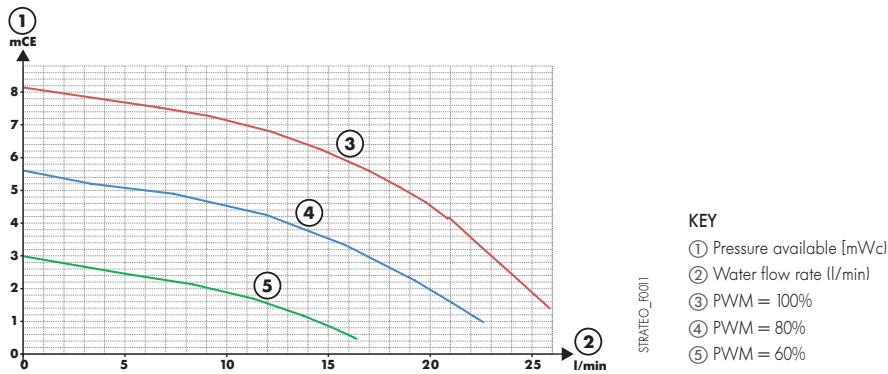
The MIC indoor module on the STRATEO R32...1C model is fully equipped for the connection of a direct circuit (radiators or underfloor heating).
The STRATEO R32 ...2C model enables connection of an additional circuit with mixing valve.

NOTE

STRATEO R32 heat pumps are "SPLIT INVERTER" type appliances with a refrigerant connection between the outdoor unit and the MIC module; it is not necessary to add glycol to the installation.

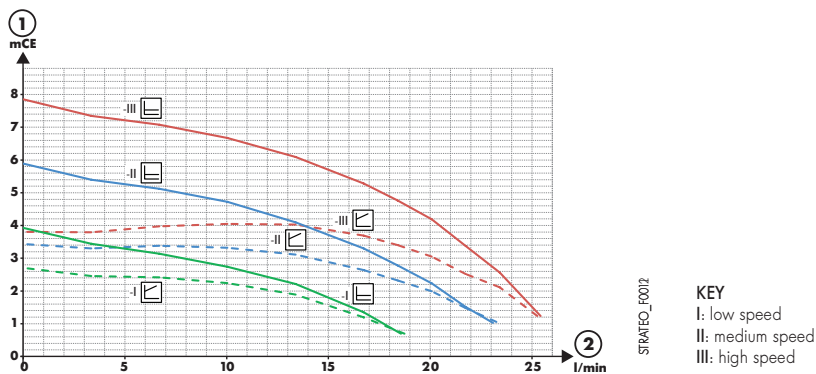
TOTAL DYNAMIC HEAD OF THE DIRECT HEATING CIRCUIT (CIRCUIT A)

· at the outlet of the STRATEO indoor unit
with WILO PARA 15/8-75/PWM heating circulating pump



TOTAL DYNAMIC HEAD OF THE MIXED HEATING CIRCUIT (CIRCUIT B)

· at the outlet of the STRATEO indoor unit
with WILO PARA 15/8-75/SC mixed heating circulating pump





IMPORTANT NOTES

The different emitters

Heat pumps have a limited water outlet temperature: max. 60°C. It is therefore essential to work on low temperature emitters, for example underfloor heating/cooling or radiators sized for low temperatures. In cooling mode, only underfloor heating with compatible screed and covering is suitable. It is also necessary to comply with the minimum under floor cooling flow temperatures for the geographical installation area to avoid condensation phenomena (between 18°C and 22°C).

Refrigerant fluids

R32 refrigerant fluid has properties suited to heat pumps. It belongs to the HFC (Hydrofluorcarbon) family comprising chemical molecules containing carbon, fluorine and hydrogen. They do not contain chlorine, and are therefore not harmful to the ozone layer.

cooling or air conditioning mode

These 'reversible' heat pumps can be used for cooling in the summer. A 4-way valve known as a cycle reversal valve switches the cycle from heating to cooling mode automatically.

The compressor suction is connected to the internal exchanger, which becomes an evaporator. The compressor discharge is connected to the external exchanger, which then becomes a condenser.

NOTE: For air-to-water type heat pumps, this 4-way valve is also used for the evaporator defrosting phase.

For an installation with underfloor heating/cooling (water flow/return temp.: + 18 °C/+ 23°C), the cooling output is limited but sufficient to maintain comfortable conditions in the home. This allows the room temperature to be reduced by 3 to 4°C on average.

SIZING THE BUFFER TANK

- The volume of water contained in the heating system must be able to store all the energy supplied by the heat pump during its minimum operating period. Consequently, the buffer volume corresponds to the minimum water volume demand, from which the network capacity is subtracted. It is recommended to install a buffer tank for installations whose water volume is less than 1 l per kW of the heat pump's heat output (take into account the water volume of the MIC).
- Increasing the volume in an installation limits compressor short cycle operation (the higher the water volume, the fewer compressor start-ups will be required, thus extending its service life).
- In the first instance, below is an estimate of the buffer volume for a minimum operation time of 6 minutes, a control differential of 5 K and a negligible network volume (take into account a water volume in the MIC of 5 litres).
- The buffer tank should be installed on the heating circuit return. If there are 2 heating circuits, the buffer tank should be installed on the return of the circuit with the lowest water volume.

rules for calculating the buffer volume

The buffer volume associated with an installation can be estimated with the 1 to 1.5 L/kW rule.

minimum volume (litres) in a heating installation according to the model

HEAT PUMP MODEL	INSTALLATION	
	WITH RADIATORS	WITH FANCOILS
AWHPR 4 MR	22	20
AWHPR 6 MR	27	26
AWHPR 8 MR	47	44

SIZING THE EXPANSION VESSEL

The STRATEO R32 includes a 12-litre expansion vessel as standard. Make sure that the expansion volume is sufficient based on the installation configurations. A sizing tool is available on the PRO site in DiemaTOOLS.

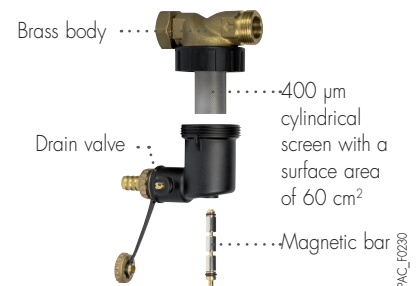
WARNING

An oversized expansion vessel can cause air to infiltrate the heating circuit, which can substantially impair the installation's service life.

MAGNETIC FILTER

The **magnetic screen filter** is a safe, durable technical solution which guarantees that our heat pumps continue to run smoothly over the long term. **All our heat pumps** and hybrid systems **are equipped ex works** with a brand new filter designed by Caleffi and specifically adapted to our products.

This filter comprises a screen with a collection surface area three times larger than a conventional screen filter, and a magnetic bar with a very large capacity to retain all the types of particles which may be found inside the heating network. It also acts as a **sludge container** and has a built-in **drain valve**; the back of the cap can be used to drive out the residue it has collected



IMPORTANT

Even when this filter is fitted, it is still important to adhere to good industry practice as concerns installing and commissioning. The filter is quick and easy to clean, and this must be performed during each annual maintenance and if the flow rate is insufficient. Please respect the specifications required for the heating water indicated in the manual. Any infiltration of air into the hydraulic circuit is prohibited. It is important to ensure the expansion vessel is correctly sized and that its inflation pressure is correct.

INSTALLATION EXAMPLES

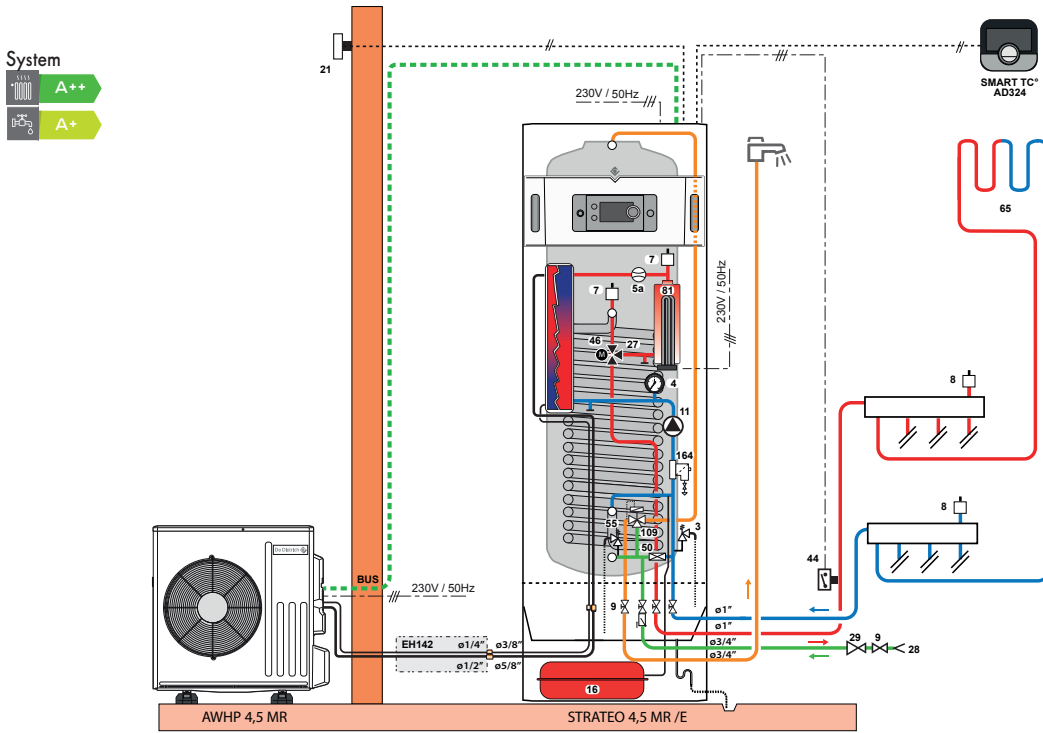
STRATEO R32



The examples shown below cannot include all of the possible installation scenarios encountered. They are intended to draw attention to the basic rules to be respected. A certain number of safety and control components are shown, but final responsibility for which safety and control components should definitively be provided in the boiler room, based on its individual requirements, lies with the planners, consultant engineers and design offices. In every case, it is important to comply with the applicable regulations and adhere to good industry practice.

STRATEO R32 4.5 MR/E HEAT PUMP

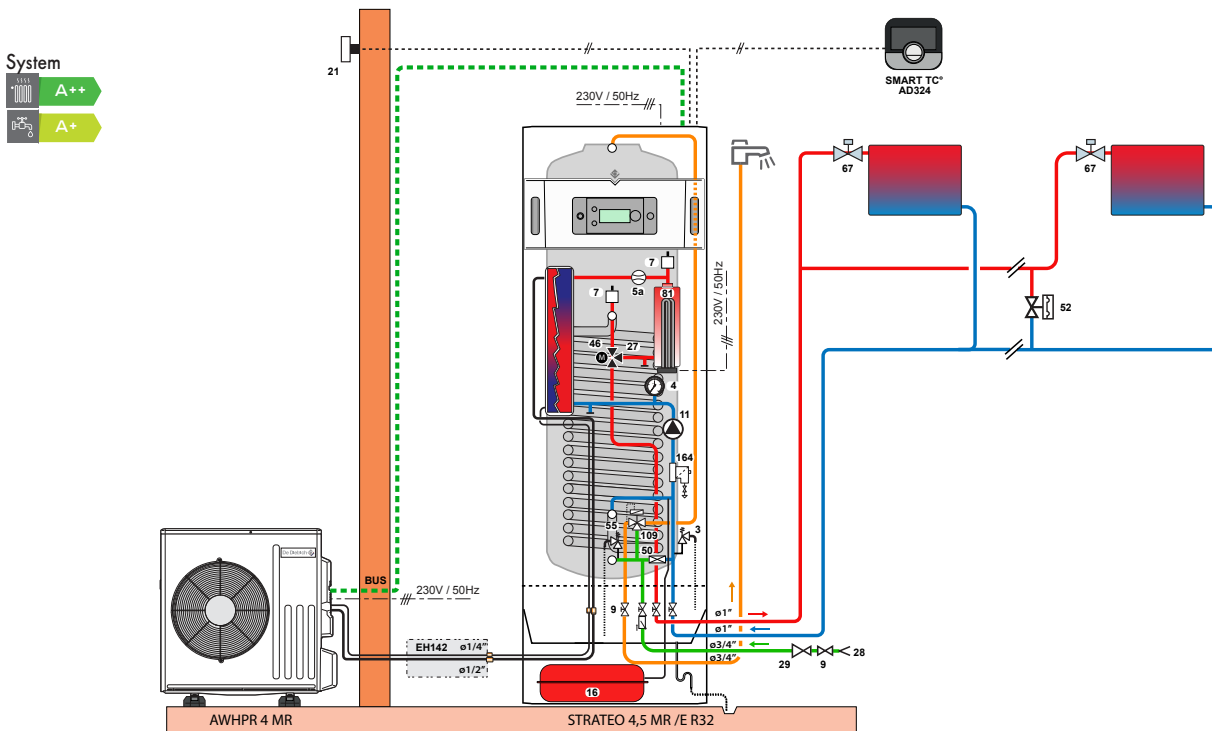
- 1 direct underfloor heating circuit on the manifold
- controlled by 1 SMART Tc° connected room thermostat



STRATEO_F1006

STRATEO R32 4.5 MR/E HEAT PUMP

- 1 parallel radiator circuit
- controlled by 1 SMART Tc° connected room thermostat



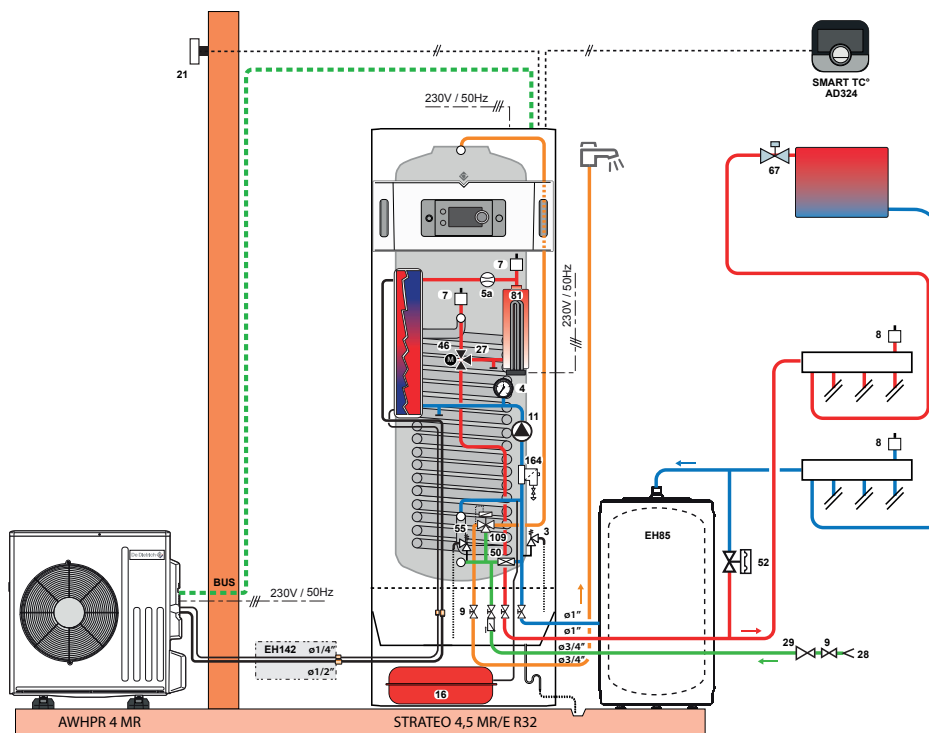
STRATEO_F1007

KEY: see page 37

STRATEO R32 4.5 MR/E HEAT PUMP

- 1 radiator circuit with manifold
- connected to a buffer tank
- controlled by 1 SMART TC° connected room thermostat

System

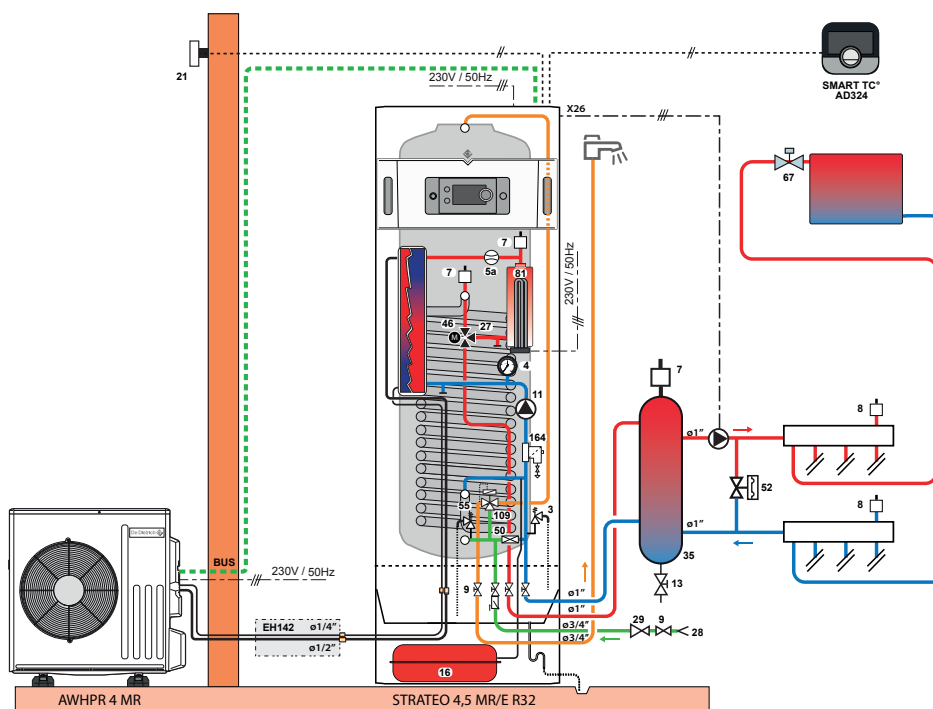


STRATEO_F9004

STRATEO R32 4.5 MR/E HEAT PUMP

- 1 radiator circuit with manifold
- connected to a low-loss header
- controlled by 1 SMART TC° connected room thermostat

System

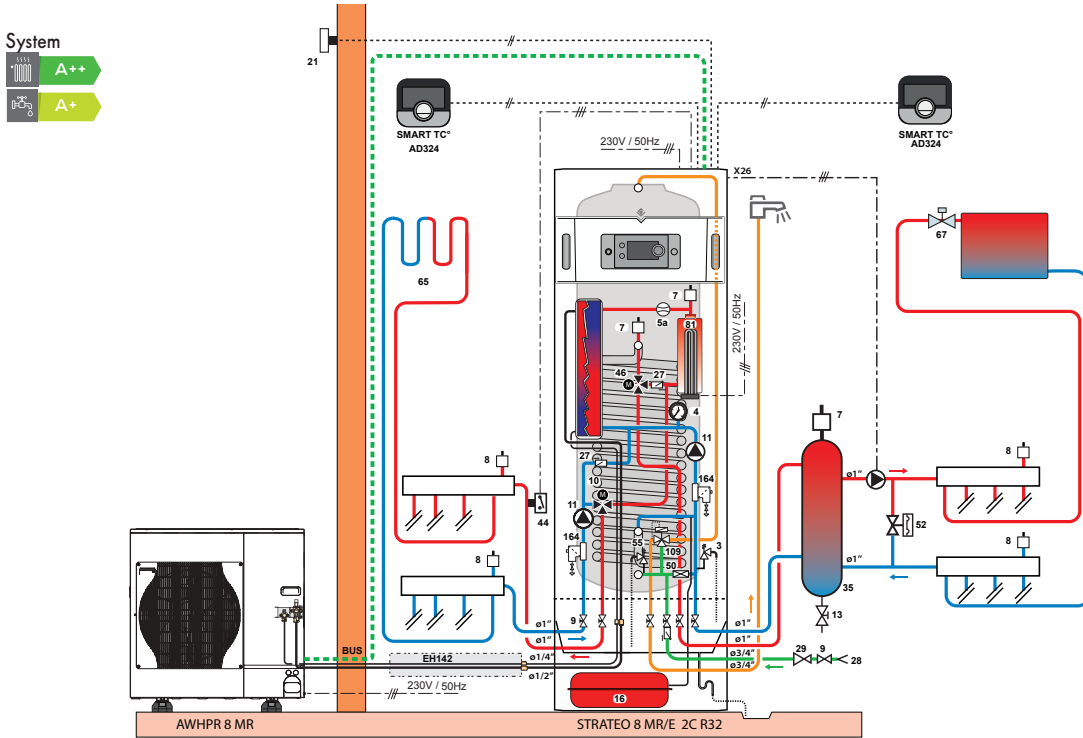


STRATEO_F9005

KEY: see page 37

STRATEO 8 MR/E 2C R32 HEAT PUMP

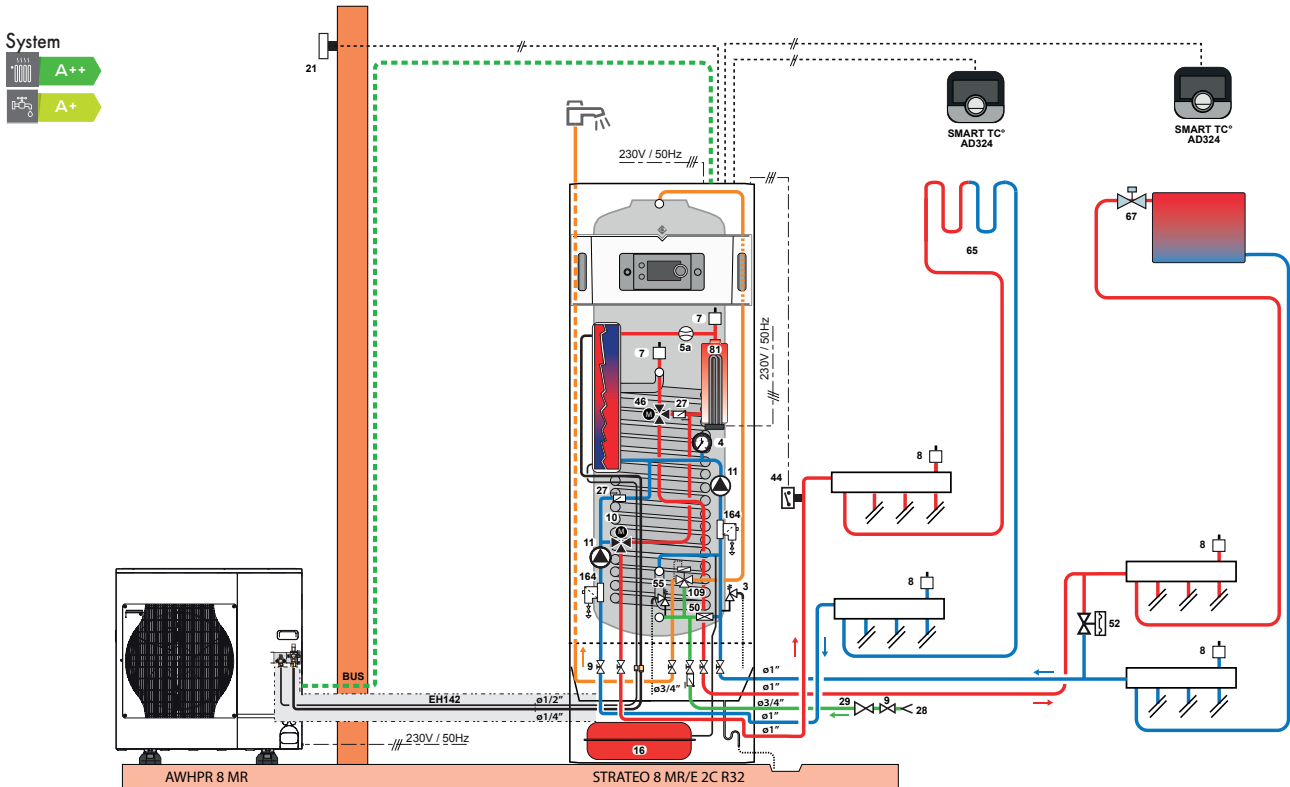
- 1 radiator circuit with low-loss header
- 1 underfloor heating circuit with mixing valve
- Each controlled by 1 SMART TC[®] connected room thermostat



STRATEO_IP008

STRATEO 8 MR/E 2C R32 HEAT PUMP

- 1 radiator circuit with manifold
- 1 underfloor heating circuit with mixing valve
- Each controlled by 1 SMART TC[®] connected room thermostat
- with outlets on one side (left or right)
- routing of the DHW behind the product in the corner (routing of up to 2 tubes on each side)



STRATEO_IP009

KEY: see page 37

INSTALLATION EXAMPLES

STRATEO R32



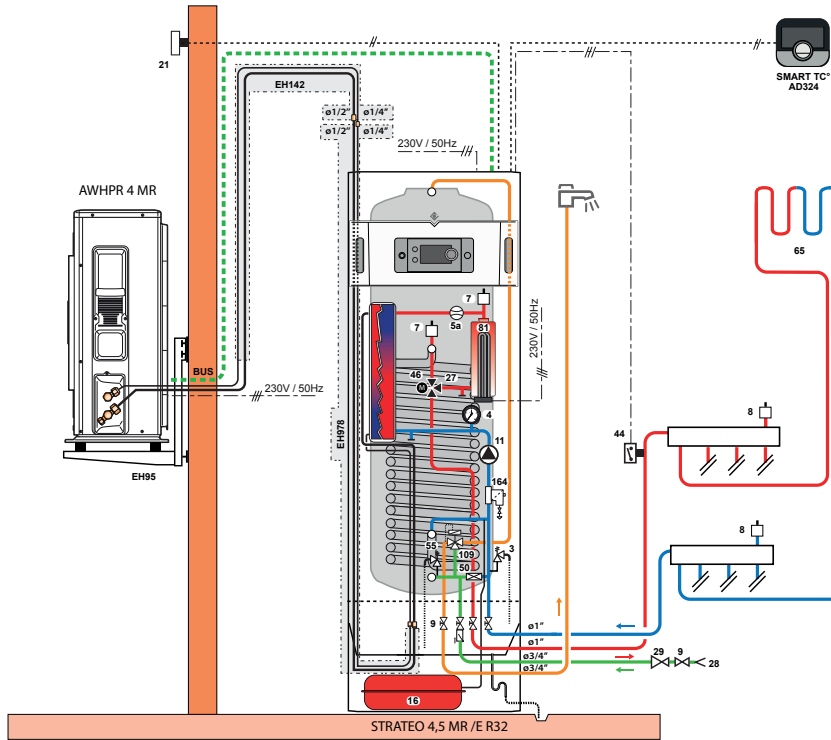
STRATEO R32 4.5 MR/E HEAT PUMP

- 1 direct underfloor heating circuit
- Each controlled by 1 SMART TC° connected room thermostat

System

A++

A+



STRATEO_F900

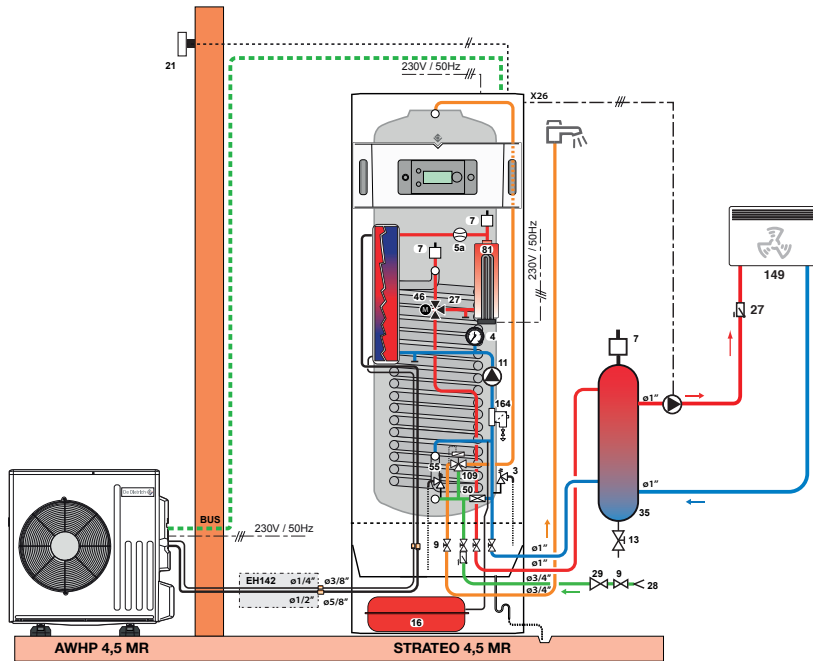
STRATEO R32 4.5 MR/E HEAT PUMP

- 1 fan coil circuit

System

A++

A+



STRATEO_F6003

KEY: see page 37

INSTALLATION EXAMPLES

STRATEO R32



KEY

3	3-bar heating safety valve	35	Low-loss header	81	Back-up immersion heater	112b	Solar tank sensor
4	Pressure gauge	44	65 °C safety thermostat with manual reset for underfloor heating	85	Solar circuit pump (to be connected to the solar control system)	114	Solar circuit drain valve (Caution: propylene glycol)
5a	Flow controller	46	DHW reversing valve	86	Setting the flow rate	117	Three-way reversal valves
7	Automatic air vent	50	Disconnect	87	Safety valve calibrated and sealed to 6 bar	126	Solar control system
8	Manual air vent	52	Differential valve	88	Solar circuit expansion vessel	130	Manual air vent degasser (Airstop)
9	Stop valve	55	7 bar domestic safety valve	89	Container for heat-transporting fluid	131	Battery of flat or tubular collectors/ Collector field
10	Mixing valve	61	Thermometer	90	Anti-thermosiphon loop	164	Magnetic filter
11	Heating circulating pump	65	Underfloor heating circuit	101	Non-return ball valve		
13	Drain valve	67	Radiator heating circuit thermostatic valve	109	Thermostatic valve		
16	Expansion vessel	79	Solar exchanger primary outlet	112a	Solar sensor probe		
21	Outdoor temperature sensor	80	Solar exchanger primary inlet				
27	Non-return valve						
28	Domestic cold water inlet						
29	Pressure reducer						

Empty rectangular box for notes.



DE DIETRICH – HEAT PUMP MANUFACTURER SINCE 1981

Heat pump indoor units 100% manufactured in France.

The international heat pump Research & Development centre is based in the French city of Mertzwiller.

Since 2015, De Dietrich has owned the leading COFRAC accredited manufacturer's laboratory for thermal and acoustic performance in Europe.



Important recommendations

To guarantee the best performance from the heat pumps for optimised comfort and to maximise their service life, they must be installed, commissioned and maintained with due care. Comply with the instructions in the manuals provided with the appliances.

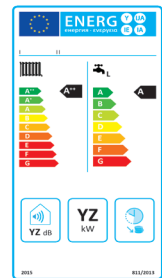
De Dietrich also offers heat pump commissioning in its catalogue. It is also strongly recommended that you sign a maintenance contract.



De Dietrich ECO-SOLUTIONS give you the latest generation of multi-energy products and systems: simpler, more efficient and more economical to guarantee your comfort and protect the environment.

The energy label associated with the ECO-SOLUTIONS label indicates the product performance.

www.ecodesign.dedietrich-heating.com



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