

# SPHERA EVO 2.0 Box

## SQKN-YEE 1 BC + MiSAN-YEE 1 S 2.1÷8.1

Wall-mounted air-to-water Refrigerant-split heat pump for heating, cooling and domestic hot water production

### ENERGY SAVING



Solar integration (optional - DHW tank)



Cascade



Smart Grid ready



€-Switch

### COMFORT



Hot Cold



DHW



Silent

### RELIABILITY



Backup heater (optional)



Keymark 025



ProdottiQualità CasaClima

### HEALTH



Renewable Energy (Full electric version)

### CONVENIENCE



Weekley Timer



Contemporaneity (Hybrid Version)



Instant DHW (Hybrid Version)

### MANAGEMENT AND CONNECTIVITY



Input ON/OFF



Port Modbus



Control via App



Control4 NRG management



Clivet Eye monitoring



User interface / thermostat

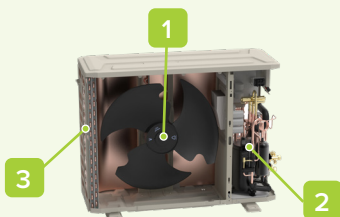
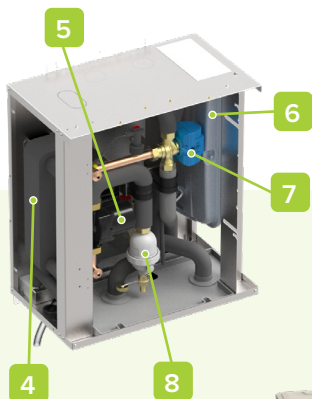


- ✓ It does not need to be coupled to a boiler if DHW is produced by the boiler (Hybrid version)
- ✓ Energy efficiency at the highest level
- ✓ Designed not to disturb, operating very quietly
- ✓ Can be combined with DHW tanks of a volume suitable for the application in which it is to be installed
- ✓ Up to 6 units can be connected in cascade, for demands up to 100 kW

## Ideal with AQUA PLUS

SPHERA EVO Box 2.0 is an excellent alternative for installations where it is not possible to install the tower or uncased version.

Combined with AQUA Plus, the heat pump for domestic hot water production, SPHERA EVO Box 2.0 offers the advantage of a system that provides simultaneous heating or cooling and domestic hot water production.



1. Inverter DC fan
2. Inverter DC twin-rotary compressor
3. Air-gas finned exchanger (blue fin treatment)
4. Gas/water plate exchanger
5. Inverter DC high efficiency pump
6. 8L system expansion tank
7. 3-way valve
8. Magnetic dirt separator filter

## configurations

OUTDOOR UNIT POWER SUPPLY (size 6.1+8.1):

**200M** Power supply 230/1/20 (standard)  
**400TN** Power supply 400/3/50+N



















PUMP:

- **Standard pump (standard)**  
**1PUM** Pump with larger available head

BACK-UP ELECTRIC HEATER (integrated in the unit):

- **No heater (standard)**  
**EH024** 2/4 kW back-up heater  
**EH3** 3 kW back-up heater  
**EH6** 6 kW back-up heater  
**EH9** 9 kW back-up heater

## accessories

	<b>ACS200X</b>	200 liter DHW tank		<b>VDACSX</b>	Thermostated diverter valve for DHW
	<b>ACS300X</b>	300 liter DHW tank			
	<b>ACS500X</b>	500 liter DHW tank		<b>DTX</b>	Drain pan with antifreeze electrical heater
	<b>SCS08X</b>	Solar coil for ACS200X/ACS300X DHW tank		<b>APAVX</b>	Kit of antivibration mounts for floor installation
	<b>SCS12X</b>	Solar coil for ACS500X DHW tank			
	<b>KCSX</b>	Kit for secondary circuit (1 liter circuit breaker + circulation pump)		<b>ASTFX</b>	Antivibration mounts kit for installation on the brackets for wall installation or drain pan
	<b>KIRE2HLX</b>	Two-zone distribution kit: direct + mixed		<b>KSIPX</b>	Kit with wall fixing brackets
	<b>KIRE2HX</b>	Double zone distribution unit: direct + direct			
	<b>DIX</b>	1 liter hydraulic separator		<b>KISX</b>	Kit di installazione semplificata con raccordi per SPHERA EVO 2.0 Box Hybrid
	<b>ACI40X</b>	40 liter system inertial storage tank		<b>HTC2WX</b>	White HID-TConnect <sup>2</sup> chronothermostat for temperature control
	<b>DI50-2X</b>	50 liter hydraulic separator		<b>SWCX</b>	Receiver / IoT switch SwitchConnect
	<b>KCCEX</b>	Kit for management of a 2-pipe boiler in heating and DHW mode			
	<b>KCCE4X</b>	Kit for management of an instantaneous boiler in heating and DHW mode			
	<b>T1BX</b>	10m water temperature probe			
	<b>T1B30X</b>	30m water temperature probe			

## technical data

Size - Set				2.1	3.1	4.1	5.1	6.1	7.1	8.1	
Heating	Capacity	Water 35/30 °C	Nominal / Maximum	kW	<b>4,32 / 6,26</b>	<b>6,18 / 7,41</b>	<b>8,30 / 9,11</b>	<b>10,1 / 10,3</b>	<b>12,1 / 14,6</b>	<b>14,5 / 15,5</b>	<b>16,0 / 16,8</b>
	COP	Outdoor air 7 °C	Nominal	-	5,42	5,21	5,31	5,01	5,00	4,70	4,55
	Capacity	Water 35/30 °C	Nominal / Maximum	kW	4,17 / 6,25	6,05 / 6,97	7,33 / 8,35	8,20 / 9,30	10,5 / 13,9	12,2 / 14,1	13,4 / 14,3
	COP	Outdoor air -7 °C	Nominal	-	3,16	3,00	3,23	3,07	3,13	2,82	2,74
	Capacity	Water 45/40 °C	Nominal / Maximum	kW	4,16 / 5,96	6,03 / 7,13	8,22 / 8,98	10,0 / 10,3	12,3 / 14,5	14,0 / 15,7	16,0 / 16,6
	COP	Outdoor air 7 °C	Nominal	-	3,93	3,83	3,95	3,86	3,80	3,65	3,60
Cooling	Capacity	Water 18/23 °C	Nominal / Maximum	kW	<b>4,55 / 6,88</b>	<b>6,44 / 7,65</b>	<b>8,10 / 11,1</b>	<b>10,0 / 12,0</b>	<b>12,1 / 15,0</b>	<b>13,8 / 15,3</b>	<b>14,8 / 16,4</b>
	EER	Outdoor air 35 °C	Nominal	-	6,08	5,24	5,12	4,77	4,02	3,70	3,65
	Capacity	Water 7/12 °C	Nominal / Maximum	kW	4,26 / 6,14	6,25 / 6,39	7,46 / 7,94	8,67 / 9,10	11,8 / 11,8	12,9 / 12,9	14,2 / 14,2
	EER	Outdoor air 35 °C	Nominal	-	3,50	3,09	3,33	3,09	2,75	2,55	2,45
Electrical power for meter sizing				kW	2,20	2,60	3,30	3,60	5,40	5,70	6,10
Seasonal efficiency Medium climate	Heating Water 55 °C	Energy class	-	<b>A++</b>	<b>A++</b>	<b>A++</b>	<b>A++</b>	<b>A++</b>	<b>A++</b>	<b>A++</b>	<b>A++</b>
		Annual energy consumption	-	2.542	3.283	3.824	4.749	6.793	7.380	7.915	
		SCOP	-	3,32	3,54	3,72	3,73	3,56	3,52	3,48	
	Heating Water 35 °C	Energy class	-	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>
		Annual energy consumption	-	2.161	2.502	3.141	3.747	4.994	5.868	6.602	
		SCOP	-	5,13	5,15	5,32	5,27	5,00	4,91	4,89	
ηs (seasonal output)				%	202	203	210	208	196	193	

Size - Indoor unit				A				B				
Power supply	Voltage/Frequency/Phases			V/Hz/n°	230/50/1							
Water flow-rate	Water 35/30 °C	Nominal	l/s	0,21	0,30	0,41	0,49	0,57	0,67	0,75		
Pump available pressure	Outdoor air 7 °C	Nominal	kPa	31,2	36,5	33,1	31,0	25,7	31,7	22,6		
Minimum system water content				l	40							
Expansion tank capacity				l	8							
Sound power	Nominal			dB(A)	41							
Sound pressure @1m	Nominal			dB(A)	26							

Size - Outdoor unit				2.1	3.1	4.1	5.1	6.1	7.1	8.1		
Power supply	Voltage/Frequency/Phases			V/Hz/n°	230/50/1							
Sound power	Minimum / Nominal			dB(A)	50 / 55	51 / 57	52 / 58	52 / 60	54 / 63	54 / 64	54 / 66	
Sound pressure @1m	Minimum / Nominal			dB(A)	37 / 42	38 / 44	39 / 45	39 / 47	41 / 50	41 / 51	41 / 53	

Operating range				
Water supply temperature	Heating / DHW	Full electric	Minimum / Maximum °C	25 / 65
		Hybrid	Minimum / Maximum °C	25 / 75
Operating range (Outdoor air)	Cooling	-	Minimum / Maximum °C	5 / 25
		-	Minimum / Maximum °C	-25 / 35
Operating range (Outdoor air)	DHW	-	Minimum / Maximum °C	-25 / 43
		-	Minimum / Maximum °C	-5 / 43

Size - Set (400TN version)				6.1	7.1	8.1	
Heating	Capacity	Water 35/30 °C	Nominal / Maximum	kW	<b>12,1 / 14,6</b>	<b>14,5 / 15,5</b>	<b>16,0 / 16,8</b>
	COP	Outdoor air 7 °C	Nominal	-	5,00	4,70	4,55
	Capacity	Water 35/30 °C	Nominal / Maximum	kW	10,5 / 13,9	12,2 / 14,1	13,4 / 14,3
	COP	Outdoor air -7 °C	Nominal	-	3,13	2,82	2,74
	Capacity	Water 45/40 °C	Nominal / Maximum	kW	12,3 / 14,5	14,0 / 15,7	16,0 / 16,6
	COP	Outdoor air 7 °C	Nominal	-	3,80	3,65	3,60
Cooling	Capacity	Water 18/23 °C	Nominal / Maximum	kW	<b>12,1 / 15,0</b>	<b>13,8 / 15,3</b>	<b>14,8 / 16,4</b>
	EER	Outdoor air 35 °C	Nominal	-	4,02	3,70	3,65
	Capacity	Water 7/12 °C	Nominal / Maximum	kW	11,8 / 11,8	12,9 / 12,9	14,2 / 14,2
	EER	Outdoor air 35 °C	Nominal	-	2,75	2,55	2,45
Electrical power for meter sizing				kW	5,40	5,70	6,10
Seasonal efficiency Medium climate	Heating Water 55 °C	Energy class	-	<b>A++</b>	<b>A++</b>	<b>A++</b>	
		Annual energy consumption	-	6.793	7.380	7.915	
		SCOP	-	3,56	3,52	3,48	
	Heating Water 35 °C	Energy class	-	<b>A+++</b>	<b>A+++</b>	<b>A+++</b>	
		Annual energy consumption	-	4.994	5.868	6.602	
		SCOP	-	5,00	4,91	4,89	
ηs (seasonal output)				%	196	193	193

b Sizes - Indoor unit b				B				
Power supply	Voltage/Frequency/Phases			V/Hz/n°	230/50/1			
Water flow-rate	Water 35/30 °C	Nominal	l/s	0,57	0,67	0,75		
Pump available pressure	Outdoor air 7 °C	Nominal	kPa	25,7	31,7	22,6		
Minimum system water content				l	40			
Expansion tank capacity				l	8			
Sound power	Nominal			dB(A)	41			
Sound pressure @1m	Nominal			dB(A)	26			

b Sizes - Outdoor unit b				6.1	7.1	8.1	
Power supply	Voltage/Frequency/Phases			V/Hz/n°	400/50/3+N		
Sound power	Minimum / Nominal			dB(A)	54 / 63	54 / 64	54 / 66
Sound pressure @1m	Minimum / Nominal			dB(A)	41 / 50	41 / 51	41 / 53

Operating range				
Water supply temperature	Heating / DHW	Full electric	Minimum / Maximum °C	25 / 65
		Hybrid	Minimum / Maximum °C	25 / 75
Operating range (Outdoor air)	Cooling	-	Minimum / Maximum °C	5 / 25
		-	Minimum / Maximum °C	-25 / 35
Operating range (Outdoor air)	DHW	-	Minimum / Maximum °C	-25 / 43
		-	Minimum / Maximum °C	-5 / 43

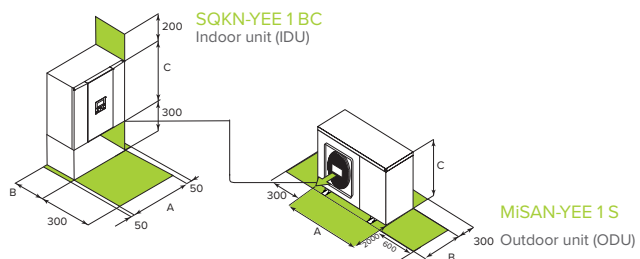
Data according to EN 14511:2018 and EN 14825:2016

The Product complies with the European ErP Directive (EU Regulations 811/2013 - 813/2013 - 2016/2281).

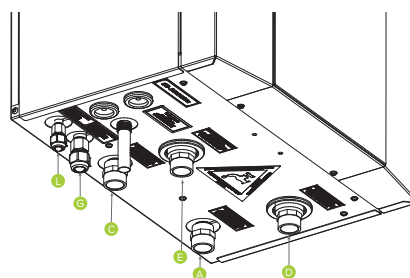
## dimensions and connections

Size				2.1	3.1	4.1	5.1	6.1	7.1	8.1
Dimensions	Indoor unit	AxCxB	mm	547x604x386						
	Outdoor unit	AxCxB	mm	920x712x400			1.042x866x444			
Weight	Indoor unit		kg	52		77		54		
	Outdoor unit		kg	58		77		112		
Max / min equivalent length	L		m	30 / 2						
Max difference in level ODU / IDU	H		m	25						
Refrigerant precharge		type / GWP		R-32 / 675						
		kg		1,50		1,65		1,84		
		CO <sup>2</sup> tons		1,05		1,10		1,24		
Equivalent pipe length with pre-charging only				15						
External diameters	Refrigerant piping	Liquid	inch	1/4"			3/8"			
		Gas	inch	5/8"						
	Indoor unit	Water (System)	inch	1"						
		Water (DHW)	inch	3/4"						

Check in the manual if the indoor unit requires a minimum installation surface

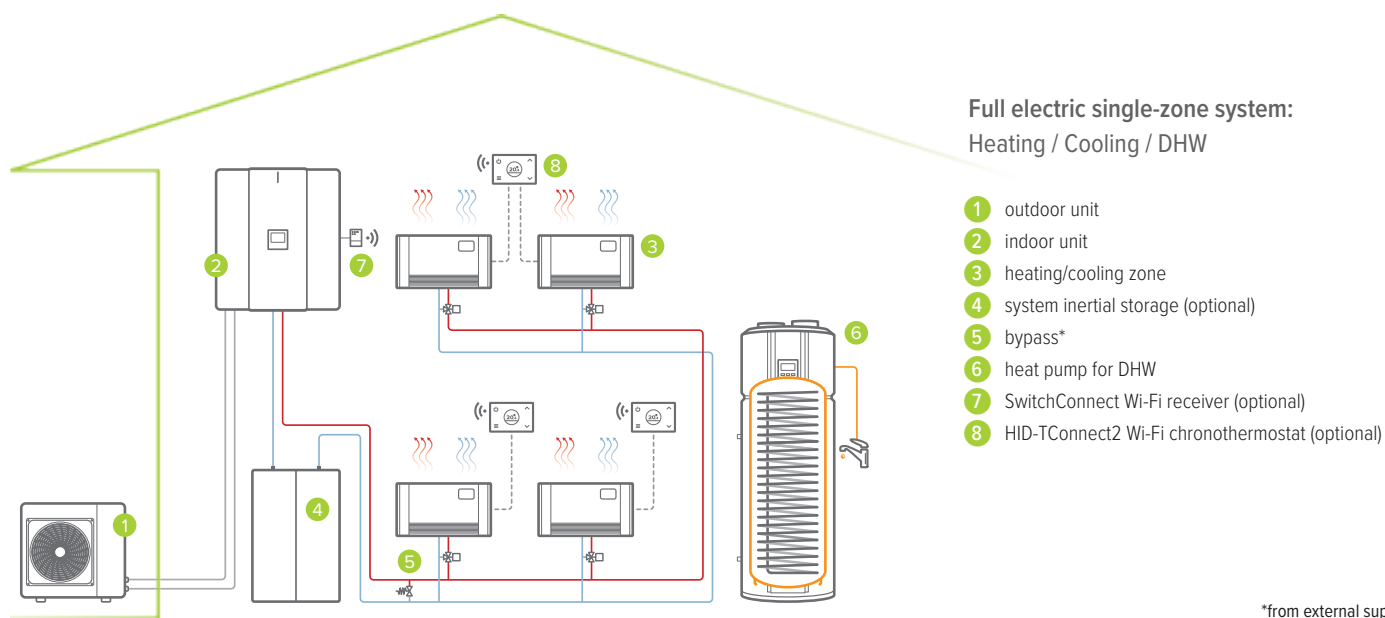


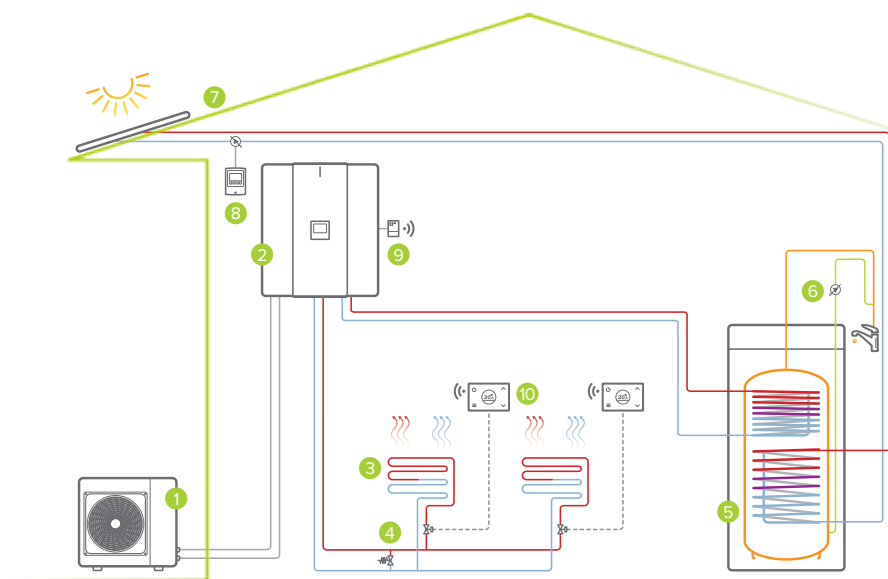
For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.



- L. Refrigerant - liquid pipe
- G. Refrigerant - gas pipe
- A. Domestic hot water - supply to external exchanger
- C. Domestic hot water - return from external exchanger
- D. System - water return
- E. System - water supply

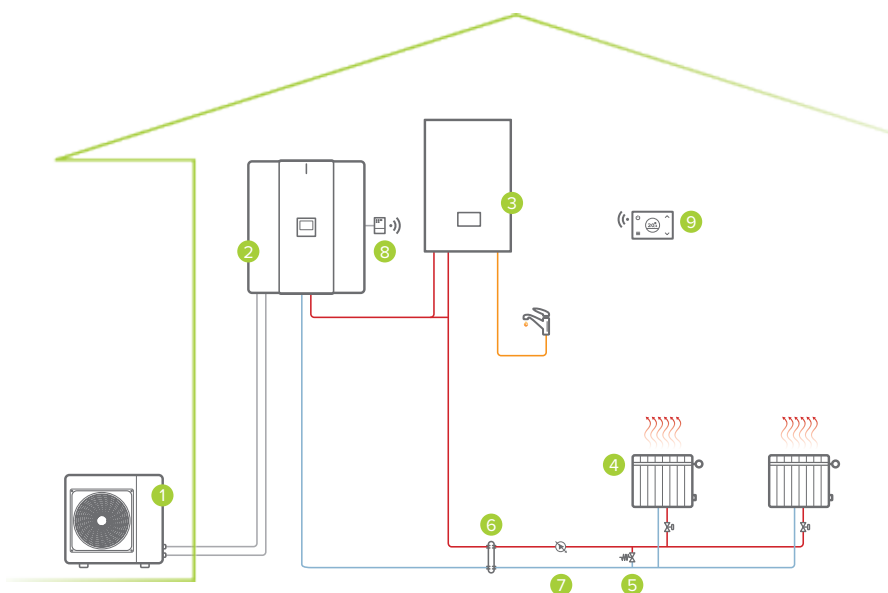
## system diagrams





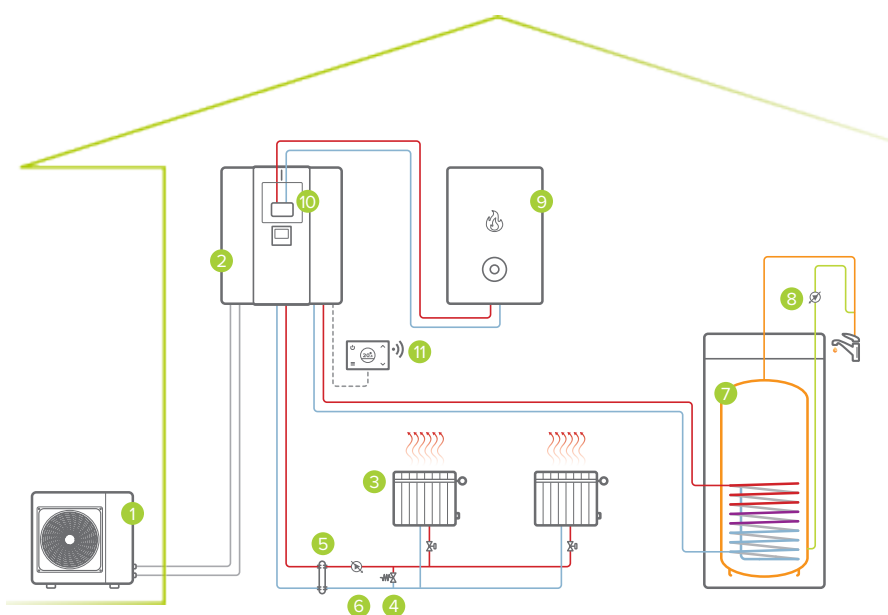
### Full electric single-area system with thermal solar: Heating / Cooling / DHW

- 1 outdoor unit
- 2 indoor unit
- 3 heating/cooling zone
- 4 bypass\*
- 5 DHW boiler with solar coil (optional)
- 6 DHW recirculation pump\*
- 7 ELFOSun<sup>3</sup> thermal solar (optional)
- 8 solar circulation kit (optional)
- 9 SwitchConnect Wi-Fi receiver (optional)
- 10 HID-TConnect2 Wi-Fi chronothermostat (optional)



### Hybrid single-zone system: Heating / DHW

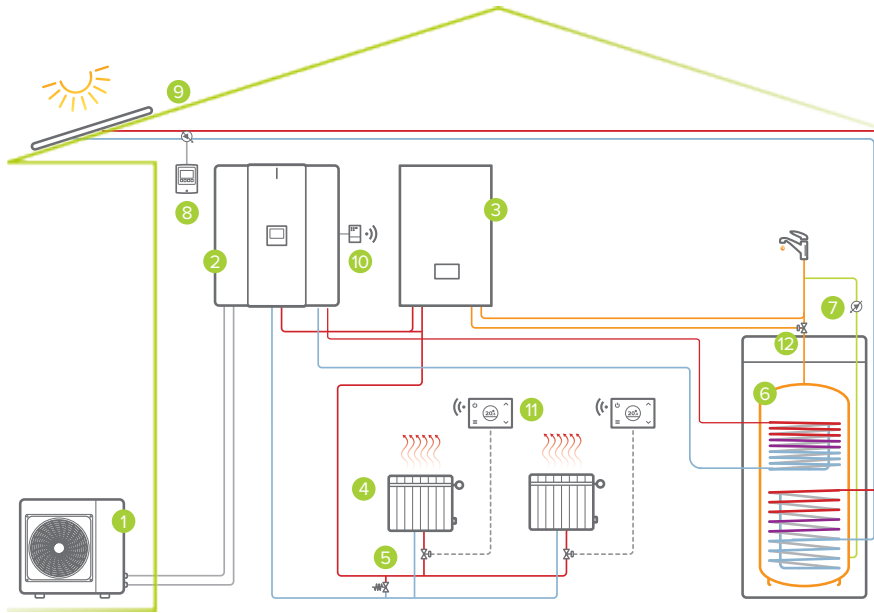
- 1 outdoor unit
- 2 indoor unit
- 3 instantaneous boiler (Hybrid version)
- 4 heating area
- 5 bypass\*
- 6 hydraulic separator (optional)
- 7 secondary circuit pump\*
- 8 SwitchConnect Wi-Fi receiver (optional)
- 9 HID-TConnect2 Wi-Fi chronothermostat (optional)



### Hybrid single-zone system: Heating / DHW

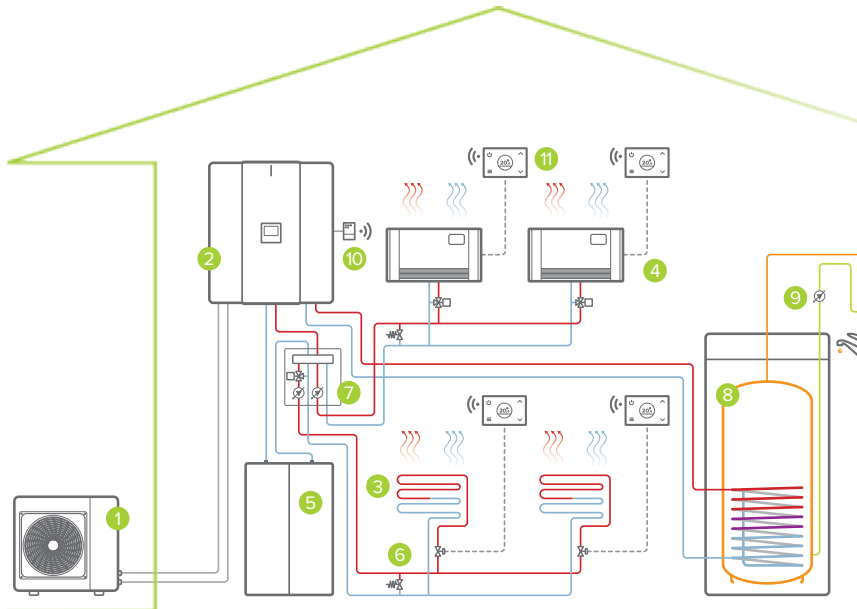
- 1 outdoor unit
- 2 indoor unit
- 3 heating area
- 4 bypass\*
- 5 hydraulic separator (optional)
- 6 secondary circuit pump\*
- 7 DHW tank (optional)
- 8 DHW recirculation pump\*
- 9 boiler heating only\*
- 10 kit for management of a boiler from another supplier (optional)
- 11 HID-TConnect2 Wi-Fi chronothermostat (optional)

\*from external supply



### Hybrid single-zone system: Heating / Cooling / DHW

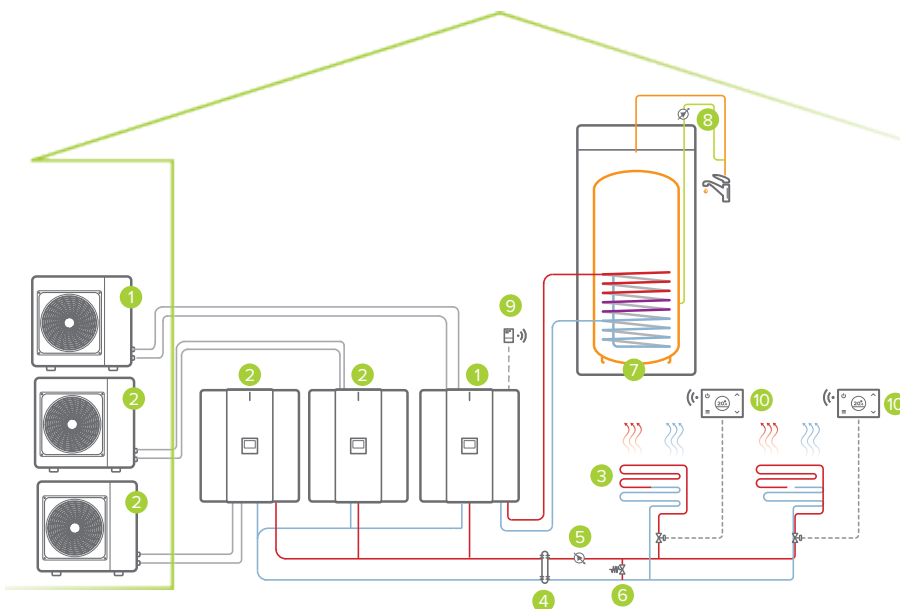
- 1 outdoor unit
- 2 indoor unit
- 3 instantaneous boiler (Hybrid version)
- 4 heating area
- 5 bypass\*
- 6 DHW tank with solar predisposition (optional)
- 7 DHW recirculation pump\*
- 8 kit di circolazione solare (opzionale)
- 9 ELFOSun<sup>3</sup> thermal solar (optional)
- 10 SwitchConnect Wi-Fi receiver (optional)
- 11 HID-TConnect2 Wi-Fi chronothermostat (optional)
- 12 Thermostated diverter valve for DHW (optional)



### Full electric two-zone system: Heating / Cooling / DHW

- 1 outdoor unit
- 2 indoor unit
- 3 mixed heating/cooling zone
- 4 direct heating/cooling zone
- 5 system inertial storage (optional)
- 6 bypass\*
- 7 kit for managing 2 areas (optional)
- 8 DHW tank (optional)
- 9 DHW recirculation pump\*
- 10 SwitchConnect Wi-Fi receiver (optional)
- 11 HID-TConnect2 Wi-Fi chronothermostat (optional)

Note: solar connection kit and booster kit can coexist



### Full electric single-zone system in cascade: Heating / Cooling / DHW

- 1 outdoor unit + indoor unit (Master)
- 2 outdoor unit + indoor unit (Slave)
- 3 heating/cooling zone
- 4 hydraulic separator (optional)
- 5 secondary circuit pump\*
- 6 bypass\*
- 7 DHW tank (optional)
- 8 DHW recirculation pump\*
- 9 SwitchConnect Wi-Fi receiver (optional)
- 10 HID-TConnect2 Wi-Fi chronothermostat (optional)

\*from external supply



