

SPHERA EVO 2.0 Box Hybrid

SQKN-YEE 1 BC + MiSAN-YEE 1 S +
GAS BOILER 2.1÷8.1

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

ENERGY SAVING



Solar integration
(optional - DHW tank)



Smart Grid
ready



Cascade



€-Switch

COMFORT



Heating
Cooling



DHW



Silent



High temperature

RELIABILITY



Eurovent



Keymark



Eco-friendly
refrigerant

CONVENIENCE



Weekly
schedule



Contemporaneity



Instant DHW

MANAGEMENT AND CONNECTIVITY



Potential-free
contact



Modbus
port



Wi-fi
Control



ELFOControl
management



Clivet Eye
monitoring



User interface/
thermostat



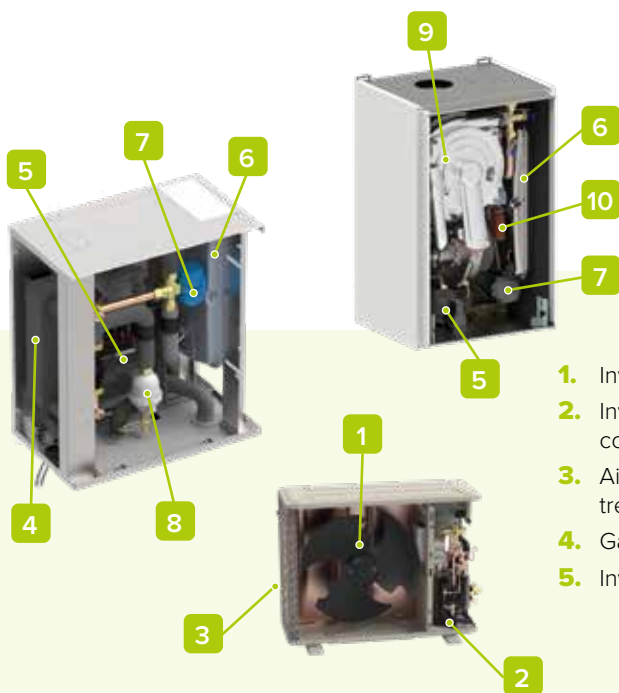
HEAT PUMPS



- ✓ Ideal for replacing old systems while keeping existing radiators
- ✓ Simultaneous production of DHW and cooling/heating
- ✓ It does not need to be coupled to a tank if DHW is produced by the boiler
- ✓ It uses renewable solar thermal energy by coupling to ELFOsun (can be connected to the boiler)
- ✓ Up to 6 units can be connected in cascade, for demands up to 100 kW

Without a thought

SPHERA EVO 2.0 Box Hybrid is the solution designed for upgrading old generators without having to alter the system. The system is in fact extremely versatile and able to adapt to whatever already exists: it simply replaces the generator that produces Heating and Domestic Hot Water, improving comfort and efficiency, but without much thought.



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
9. Combustion/water exchanger
10. Electric fan

configurations




















PUMP:

- Standard pump
- 1PUM** Single pump with larger available head
- UNIT POWER SUPPLY (size 6.1÷8.1):
- 220M** Power supply 230/1/50
- 400TN** Power supply 400/3/50+N

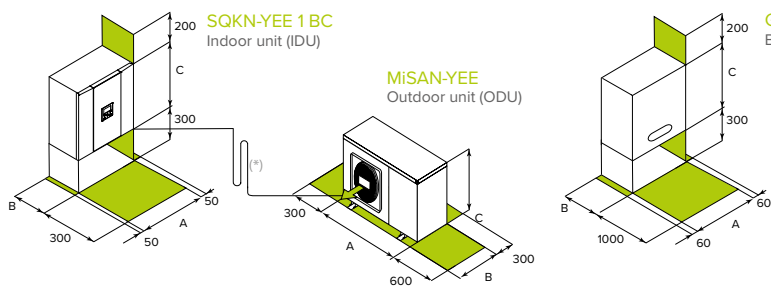
4-PIPE BOILER

- HYSO24** 24kW boiler
- HYSO34** 34kW boiler

accessories

	ACS200X	200-litre domestic hot water storage tank		KITAK50X	Coaxial system for adjustable smoke discharge and intake (ø 80/125)
	ACS300X	300-litre domestic hot water storage tank		KAS80X	Smoke intake and discharge fittings, 80 mm diameter
	ACS500X	500-litre domestic hot water storage tank		KTCGPLX	Kit to convert boiler from methane to LPG
	SCS08X	0.8 m ² solar exchanger for flange installation <i>(for ACS200X e ACS300X)</i>		DTX	Auxiliary condensate collection tray
	SCS12X	1.2 m ² solar exchanger for flange installation <i>(for ACS500X)</i>		APAVX	Kit of antivibration mounts for floor installation
	KCSX	Secondary circuit kit (1-litre circuit breaker + pump)		ASTFX	Kit of antivibration mounts for wall bracket installation
	KIRE2HLX	2 zones: external kit, high temperature + low temperature		KSIPX	Kit with wall fixing brackets
	KIRE2HX	2 zones: external kit, high temperature		KISX	Simplified installation kit with fittings for Sphera EVO 2.0 Box Hybrid
	DIX	1-litre circuit breaker		HID-TCBX	Black soft touch chronothermostat, with temperature control and management via App / Voice control
	DI50X	50-litre circuit breaker		HID-TCNX	White soft touch chronothermostat, with temperature control and management via App / Voice control
	ACI40X	40L system inertial storage tank <i>(s. 2.1÷5.1)</i>		SWCX	SwitchConnect radio receiver
	ACI60X	60-litre system inertial storage tank			
	SFCSTX	Additional probe for cascade function			
	KSDFX	Splitter for boiler smoke discharge			
	KCSAFX	Coaxial fitting for smoke discharge and intake (ø60/100)			
	KITKX	Coaxial system for adjustable smoke discharge and intake (ø 60/100)			

dimensions and connections



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

(*) Gas and water connections

HEAT PUMPS

technical data

Size (230M)				2.1	3.1	4.1	5.1	6.1	7.1	8.1	
Heating (Heat pump)	Capacity	Water 35/30°C - Outdoor air 7°C	Nominal / Maximum	kW	4,32 / 6,26	6,18 / 7,41	8,30 / 9,11	10,09 / 10,3	12,13 / 14,60	14,51 / 15,5	16,01 / 16,80
	COP		Nominal	-	5,42	5,21	5,31	5,01	5,00	4,70	4,55
	Capacity	Water 35/30°C - Outdoor air -7°C	Nominal / Maximum	kW	4,17 / 6,25	6,05 / 6,97	7,33 / 8,35	8,20 / 9,30	10,49 / 13,85	12,23 / 14,09	13,43 / 14,33
	COP		Nominal	-	3,16	3,00	3,23	3,07	3,13	2,82	2,74
Heating (Boiler)	Capacity	Water 45/40°C - Outdoor air 7°C	Nominal / Maximum	kW	4,16 / 5,96	6,03 / 7,13	8,22 / 8,98	10,01 / 10,30	12,30 / 14,50	14,00 / 15,70	16,01 / 16,60
	COP		Nominal	-	3,93	3,83	3,95	3,86	3,80	3,65	3,60
Cooling	Nominal heating capacity (LHV)	Water 80/60°C	Nominal	kW	22,94	22,94	22,94	22,94	33,35	33,35	33,35
	Performance		Nominal	%	97,60	97,60	97,60	97,60	98,08	98,08	98,08
DHW	Capacity	Water 18/23°C - Outdoor air 35°C	Nominal / Maximum	kW	4,55 / 6,88	6,44 / 7,65	8,10 / 11,13	10,00 / 12,03	12,06 / 15,02	13,79 / 15,30	14,84 / 16,38
	EER		Nominal	-	6,08	5,24	5,12	4,77	4,02	3,70	3,65
	Capacity	Water 7/12°C - Outdoor air 35°C	Nominal / Maximum	kW	4,26 / 6,14	6,25 / 6,39	7,46 / 7,94	8,67 / 9,10	11,16 / 11,80	11,72 / 12,86	12,88 / 14,20
	EER		Nominal	-	3,50	3,09	3,33	3,09	2,75	2,55	2,45
Electrical power for meter sizing	Power	-	Minimum / Maximum	kW	2,90 / 23,50	2,90 / 23,50	2,90 / 23,50	2,90 / 23,50	4,10 / 34,00	4,10 / 34,00	4,10 / 34,00
	Specific flow rate	Water with ΔT=30°C in 10 minutes		l/min	11,5	11,5	11,5	11,5	16	16	16
Seasonal efficiency	Heating 55°C	Energy class		-	A++	A++	A++	A++	A++	A++	A++
		Annual energy consumption	kWh/year	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	
	Medium climate 35°C	ηs (seasonal output)	%	130	138	146	146	139	138	136	
		Energy class		-	A+++	A+++	A+++	A+++	A+++	A+++	A+++
		Annual energy consumption	kWh/year	2.542	3.283	3.824	4.749	6.793	7.380	7.915	
	DHW (Boiler)	SCOP	-	5,13	5,15	5,32	5,27	5,00	4,91	4,89	
ηs (seasonal output)		%	202	203	210	208	196	193	193		
Indoor unit	Energy class		-	A	A	A	A	A	A	A	
	DHW profile		-	XL	XL	XL	XL	XL	XL	XL	
Power supply	Voltage/Frequency/Phases			V/Hz/n°				230/50/1			
Water flow-rate		Nominal		l/s	0,21	0,30	0,41	0,49	0,57	0,67	0,75
Pump available pressure		Nominal		kPa	31,2	36,5	33,1	31,0	25,7	31,7	22,6
Expansion tank capacity				l				8			
Minimum system water content				l		40			60		
Sound power				dB(A)				41			
Sound pressure @1m				dB(A)				26			
Boiler											
Power supply	Voltage/Frequency/Phases			V/Hz/n°				230/50/1			
Power input				W		38			78		
Sound power				dB(A)				52			
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				dB(A)	55	57	58	60	63	64	66
Sound pressure @1m				dB(A)	42	44	45	47	50	51	53
Operating range											
Water supply temperature	Heating	Heat pump	Minimum / Maximum	°C				25 / 65			
	Boiler		Minimum / Maximum	°C				25 / 80			
Operating range (outdoor air)	Cooling	-	Minimum / Maximum	°C				5 / 25			
	Heating	Heat pump	Minimum / Maximum	°C				-25 / 43			
Operating range (outdoor air)	Boiler		Minimum / Maximum	°C				-25 / 35			
	Cooling	-	Minimum / Maximum	°C				-5 / 43			
DHW	Heat pump		Minimum / Maximum	°C				-25 / 43			
	Boiler		Minimum / Maximum	°C				-25 / 43			

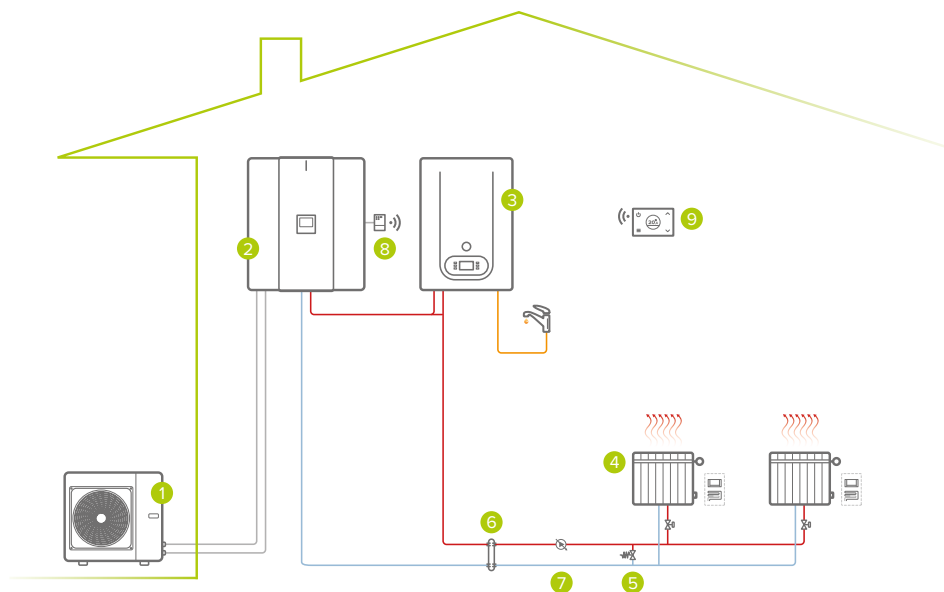
Size				2.1	3.1	4.1	5.1	6.1	7.1	8.1	
Dimensions	Indoor unit	Length(A) x Height(C) x Depth(B)	mm	547x604x386					547x604x386		
	Outdoor unit	Length(A) x Height(C) x Depth(B)	mm	986x712x426					1.004x866x523		
	Boiler	Length(A) x Height(C) x Depth(B)	mm	410x642x307					410x642x330		
Weight	Indoor unit		kg	50					68		
	Outdoor unit		kg	58		77			112		
	Boiler		kg	35					44		
Max / min equivalent length		L	m			30 / 2					
Max difference in level ODU / IDU		H	m			25				20	
Refrigerant precharge ¹			type/GWP	R-32 / 675							
			kg / m	1,50 / 15		1,65 / 15			1,84 / 15		
			CO ₂ tons	1,05		1,1			1,24		
Additional refrigerant charge			g/m	20		38			38		
External diameters	Refrigerant pipe	Liquid	inch	1/4"						3/8"	
		Gas	inch						5/8"		
	Indoor unit	Water (system)	inch	1"							
		Water (DHW)	inch	1/2"							
	Boiler	Gas	inch	3/4"							
		Intake air	mm	100							
		Exhaust gas	mm	60							

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

Size (400TN)					6.1	7.1	8.1
Heating (Heat pump)	Capacity	Water 35/30°C - Outdoor air 7°C	Nominal / Maximum	kW	12,13 / 14,60	14,51 / 15,5	16,01 / 16,80
	COP		Nominal	-	5,00	4,70	4,55
	Capacity	Water 35/30°C - Outdoor air -7°C	Nominal / Maximum	kW	10,49 / 13,85	12,23 / 14,09	13,43 / 14,33
	COP		Nominal	-	3,13	2,82	2,74
Heating (Boiler)	Capacity	Water 45/40°C - Outdoor air 7°C	Nominal / Maximum	kW	12,30 / 14,50	14,00 / 15,70	16,01 / 16,60
	COP		Nominal	-	3,80	3,65	3,60
Performance	Nominal heating capacity (LHV)	Water 80/60°C	Nominal	kW	33,35	33,35	33,35
	Performance		Nominal	%	98,08	98,08	98,08
Cooling	Capacity	Water 18/23°C - Outdoor air 35°C	Nominal / Maximum	kW	12,06 / 15,02	13,79 / 15,30	14,84 / 16,38
	EER		Nominal	-	4,02	3,70	3,65
	Capacity	Water 7/12°C - Outdoor air 35°C	Nominal / Maximum	kW	11,16 / 11,80	11,72 / 12,86	12,88 / 14,20
	EER		Nominal	-	2,75	2,55	2,45
DHW	Power	-	Minimum / Maximum	kW	4,10 / 34,00	4,10 / 34,00	4,10 / 34,00
	Specific flow rate	Water with ΔT=30°C in 10 minutes		l/min	16	16	16
Electrical power for meter sizing				kW	5,40	5,70	6,10
Seasonal efficiency Medium climate	Heating 55°C	Energy class		-	A++	A++	A++
		Annual energy consumption	kWh/year	6.793	7.380	7.915	
		SCOP	-	3,56	3,52	3,48	
	Heating 35°C	ηs (seasonal output)	%	139	138	136	
		Energy class		-	A+++	A+++	A+++
		Annual energy consumption	kWh/year	6.793	7.380	7.915	
	DHW (Boiler)	SCOP	-	5,00	4,91	4,89	
		ηs (seasonal output)	%	196	193	193	
		Energy class		-	A	A	A
		DHW profile		-	XL	XL	XL
Indoor unit					B	B	B
Power supply	Voltage/Frequency/Phases			V/Hz/n°	230/50/1		
Water flow-rate		Nominal		l/s	0,57	0,67	0,75
Pump available pressure		Nominal		kPa	25,7	31,7	22,6
Expansion tank capacity				l	8		
Minimum system water content				l	60		
Sound power				dB(A)	41		
Sound pressure @1m				dB(A)	26		
Boiler							
Power supply	Voltage/Frequency/Phases			V/Hz/n°	230/50/1		
Power input				W	78		
Sound power				dB(A)	52		
Outdoor unit					6.1	7.1	8.1
Power supply	Voltage/Frequency/Phases			V/Hz/n°	230/50/1		
Sound power				dB(A)	63	64	66
Sound pressure @1m				dB(A)	50	51	53
Operating range							
Water supply temperature	Heating	Heat pump	Minimum / Maximum	°C	25 / 65		
		Boiler	Minimum / Maximum	°C	25 / 80		
	Cooling	-	Minimum / Maximum	°C	5 / 25		
Operating range (outdoor air)	Heating	Heat pump	Minimum / Maximum	°C	-25 / 43		
		Boiler	Minimum / Maximum	°C	-25 / 35		
	Cooling	-	Minimum / Maximum	°C	-5 / 43		
	DHW	Heat pump	Minimum / Maximum	°C	-25 / 43		
		Boiler	Minimum / Maximum	°C	-25 / 43		

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

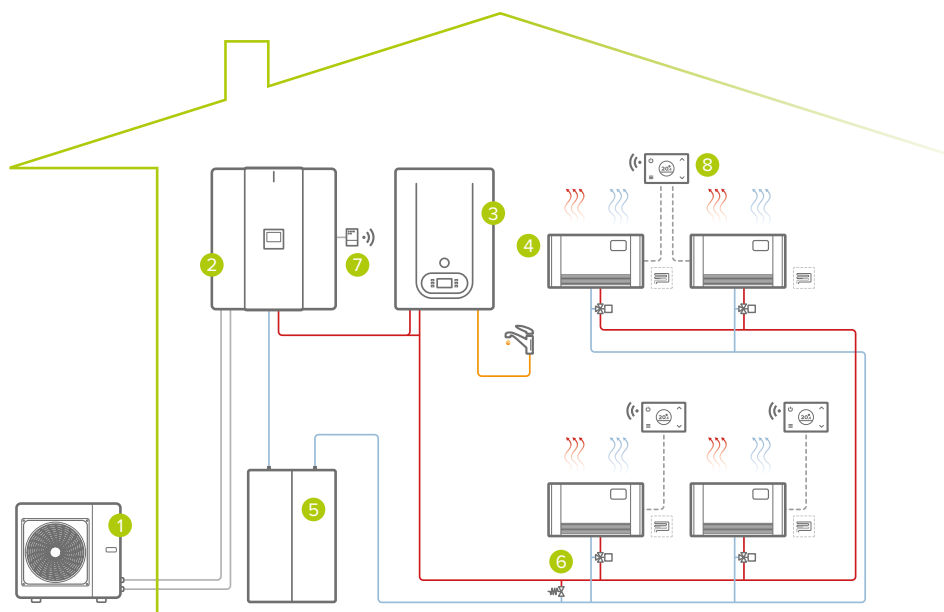
The Product complies with the European ErP Directive (EU Regulations 811/2013 - 813/2013 - 2016/2281). Energy classes with ELFOControl3 EVO system control



**Single area system:
heating/DHW**

- 1 outdoor unit
- 2 indoor unit
- 3 boiler
- 4 heating area (radiator / fan coils / radiant)
- 5 bypass*
- 6 hydraulic separator (optional)
- 7 secondary circuit pump*
- 8 SwitchConnect Wi-Fi receiver (optional)
- 9 HID-TConnect Wi-Fi chronothermostat (optional)

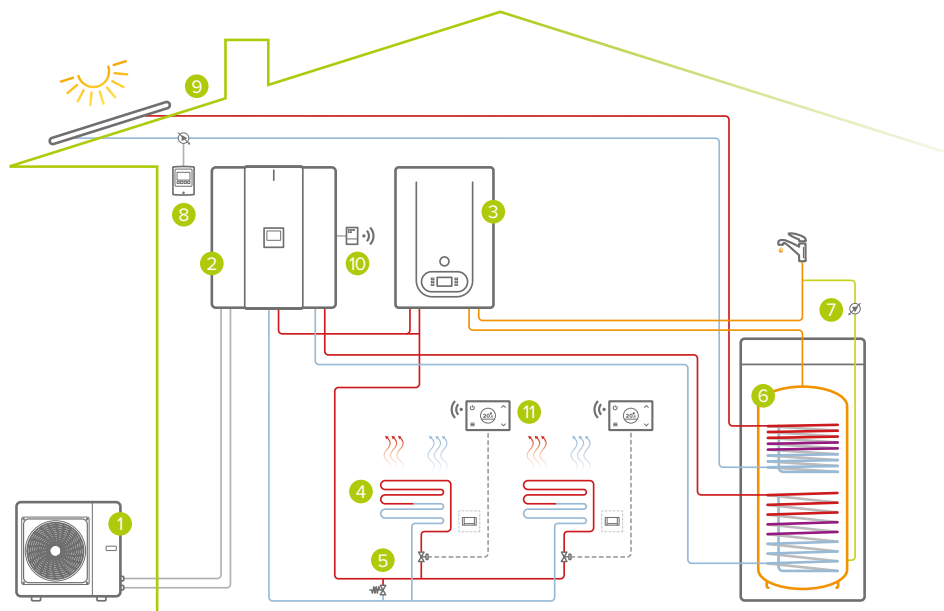
*from external supply



**Single area system:
heating/cooling/DHW**

- 1 outdoor unit
- 2 indoor unit
- 3 boiler
- 4 heating/cooling area (fan coils / radiant)
- 5 system inertial storage tank (optional)
- 6 bypass*
- 7 SwitchConnect Wi-Fi receiver (optional)
- 8 HID-TConnect Wi-Fi chronothermostat (optional)

*from external supply



**Single area system:
heating/cooling/DHW**

- 1 outdoor unit
- 2 indoor unit
- 3 boiler
- 4 heating/cooling area (fan coils / radiant)
- 5 bypass*
- 6 DHW tank with solar predisposition (optional)
- 7 DHW recirculation pump*
- 8 solar circulation kit (optional)
- 9 ELFOSun solar thermal (optional)
- 10 SwitchConnect Wi-Fi receiver (optional)
- 11 HID-TConnect Wi-Fi chronothermostat (optional)

*from external supply