SPHERA EVO 2.0 EASYHybrid Box

SQKN-YEE 1 BH + MiSAN-YEE 1 S

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

ENERGY SAVING
- Solar integration (optional - DHW tank)
- Cascade
- Smart Grid ready
- €-Switch

COMFORT
- Heating Cooling
- DHW
- Silent
- High temperature

RELIABILITY
- Eurovent

HEALTH
- Eco-friendly refrigerant

CONVENIENCE
- Weekly schedule
- Contemporaneity
- Instant DHW

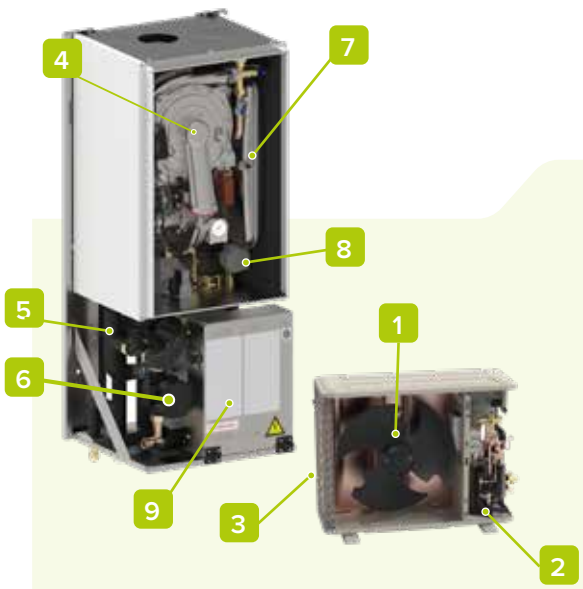
MANAGEMENT AND CONNECTIVITY
- Potential-free contact
- Modbus port
- Wi-fi Control
- ELFOControl management
- Clivet Eye monitoring

TOP SYSTEM EFFICIENCY
ErP 55°C A++ XL A

- ✓ Integrated heat pump and condensing boiler solution
- ✓ Compatible with a radiator system: water temperature up to 80°C
- ✓ Perfect for replacing a boiler: designed with similar overall dimensions
- ✓ 24 or 34 kW boiler to fulfil all requirements, with instant DHW production
- ✓ Simultaneous heating and cooling operation and DHW supply

The €/Switch function

SPHERA EVO 2.0 EASYHybrid Box has a function that can be selected directly from the interface, which makes it possible to calculate the resource (heat pump and/or boiler) that is able to fulfil the heat demand with the lowest economic cost in every operating condition. To use the €-Switch function, simply enter the cost per kWh of electricity and the cost per m^3 of methane gas from the energy provider's supply contract, and define the main type of terminals in the building (radiant panel, fan coil, radiator).



1. Inverter DC fan
2. Inverter DC twin-rotary compressor
3. Air-gas finned exchanger (blue fin treatment)
4. Condensing boiler
5. Gas/water plate exchanger
6. Inverter DC high efficiency pump
7. 8L system expansion tank
8. 3-way valve
9. Electrical control panel

dimensions and connections

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		450x1.100x420				547x604x386		
	Outdoor unit	Length(A) x Height(C) x Depth(B)	mm		1.008x712x426		1.118x865x523		1.118x864x523		
Weight	Indoor unit		kg		70				81		
	Outdoor unit		kg		58		77		112		
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		
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

technical data

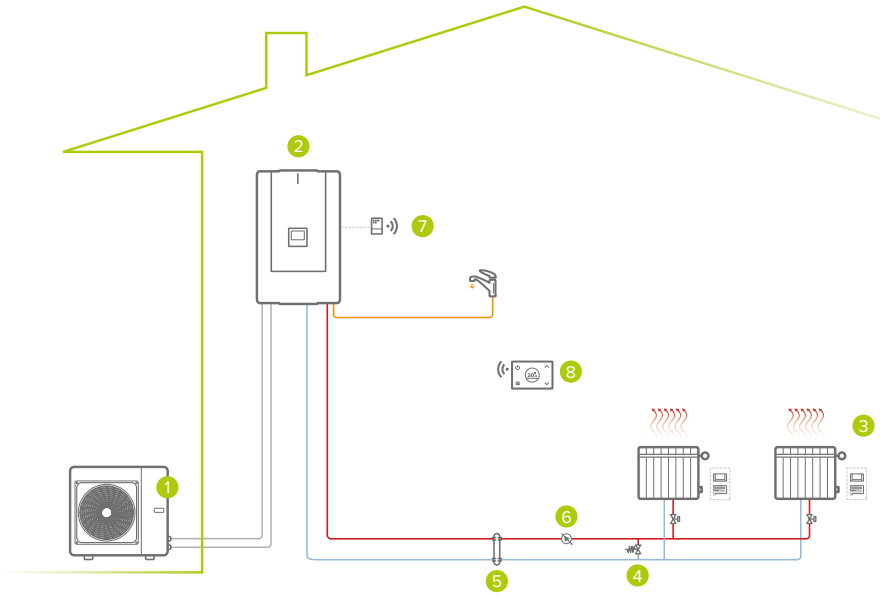
Size (220M)					2.1	3.1	4.1	5.1	6.1	7.1	8.1
Heating (Heat pump)	Capacity	*Water 35/30°C - Outdoor air 7°C*	Nominal / Maximum	kW	**4,32 / 6,26**	**6,18 / 7,41**	**8,30 / 9,11**	**10,09 / 10,3**	**12,13 / 14,60**	**14,51 / 15,5**	**16,01 / 16,80**
	COP		Nominal	-	5,42	5,21	5,31	5,01	5,00	4,70	4,55
	Capacity	*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
	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
Heating (Boiler)	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
Cooling	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
DHW	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
Electrical power for meter sizing				kW	2,20	2,50	3,30	3,60	5,40	5,70	6,10
Seasonal efficiency Medium climate	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
		ηs (seasonal output)		%	130	138	146	146	139	138	136
	Heating 35°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		-	5,13	5,15	5,32	5,27	5,00	4,91	4,89
		ηs (seasonal output)		%	202	203	210	208	196	193	193
	DHW (Boiler)	Energy class		-	**A**	**A**	**A**	**A**	**A**	**A**	**A**
		DHW profile		-	XL	XL	XL	XL	XL	XL	XL
Indoor unit					**A**	**A**	**A**	**A**	**B**	**C**	**D**
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			
	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			

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
	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
Heating (Boiler)	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
		ηs (seasonal output)		%	139	138	136
	Heating 35°C	Energy class		-	**A+++**	**A+++**	**A+++**
		Annual energy consumption		kWh/year	6.793	7.380	7.915
		SCOP		-	5,00	4,91	4,89
		ηs (seasonal output)		%	196	193	193
	DHW (Boiler)	Energy class		-	**A**	**A**	**A**
		DHW profile		-	XL	XL	XL
Indoor unit					**B**	**C**	**D**
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°		400/50/3+N	
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	

PRELIMINARY DATA

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

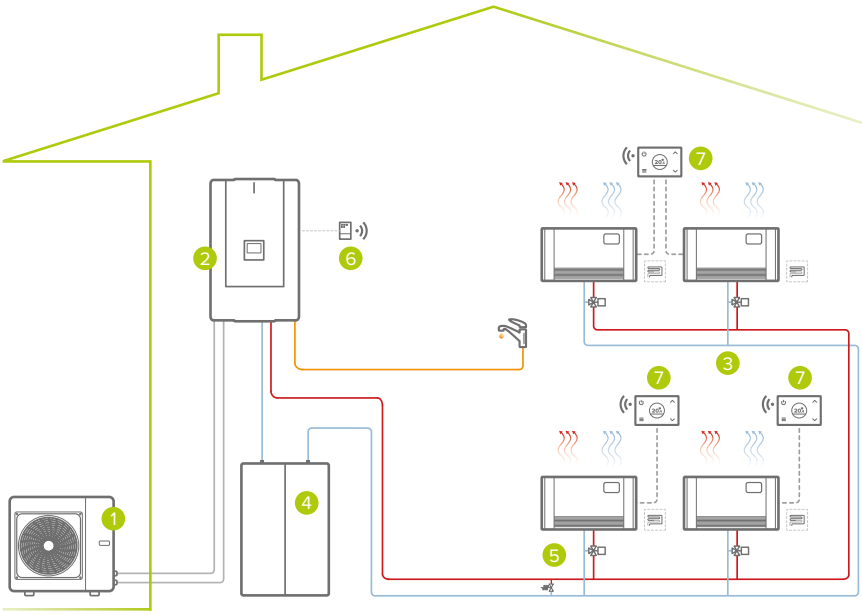
The Product complies with the European ErP Directive (EU Regulations 811/2013 - 813/2013 - 2016/2281).



Single area system: heating/DHW

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

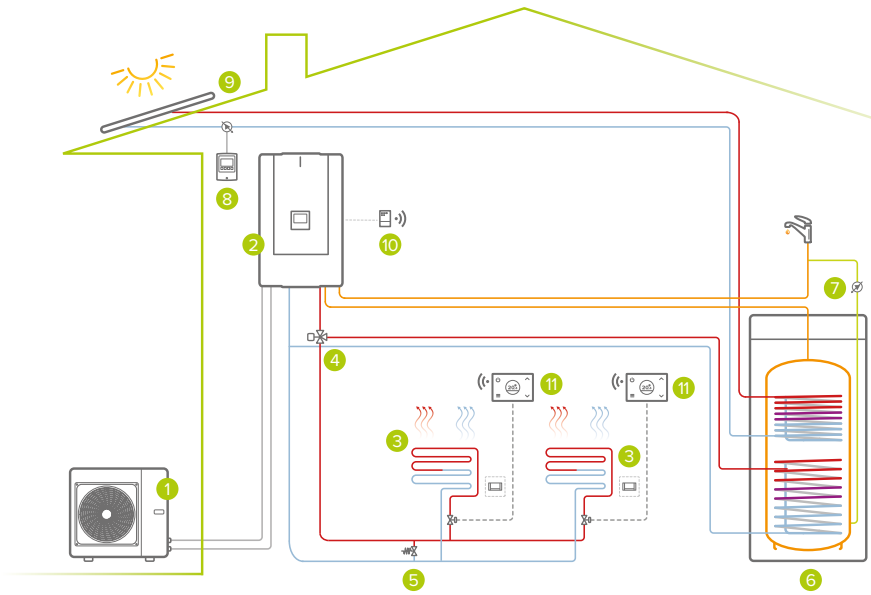
*from external supply



Single area system: heating/cooling/DHW

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

*from external supply



Single area system: heating/cooling/DHW

1. outdoor unit
2. indoor hybrid unit
3. heating/cooling area (fan coils / radiant)
4. 3-way switching valve (optional)
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