SPHERA EVO 2.0 Invisible
SQKN-YEE 1 IC + MiSAN-YEE 1 S 2.1÷5.1

**Uncased air-to-water split heat pump
for heating, cooling and domestic hot water production**

ENERGY SAVING

Solar integration (optional)	Smart Grid ready	€-Switch

COMFORT

Heating Cooling	DHW	Silent	High temperature

RELIABILITY

Backup heater (optional)	Eurovent	Keymark

HEALTH

R-32 Eco-friendly refrigerant	Renewable energy

CONVENIENCE

Weekly schedule	Integrated DHW tank

MANAGEMENT AND CONNECTIVITY

|					
Potential-free contact	Modbus port	Wi-fi Control	ELFOControl management	Clivet Eye monitoring	User interface / thermostat

TOP SYSTEM EFFICIENCY
ErP — 55°C — L — A++ / A+

- ✓ System hot water production at 65°C with the outdoor air up to 5°C, at 60°C with the outdoor air down to -15°C
- ✓ Space-saving: completely outdoor installation with uncased wall-mounted unit only 36cm deep
- ✓ It adapts to every need: solar kit / inertial storage kit / additional storage tank / configurable boiler
- ✓ Components and uncased cabinet with telescopic frame can be supplied separately
- ✓ Compact outdoor unit requiring very little installation space

Using the space well

SPHERA EVO 2.0 Invisible is the ideal choice for all homes that do not have a technical room and which need to make the unit invisible by embedding it in the wall.
The cabinet has an adjustable telescopic frame and can be painted to make the unit disappear completely.
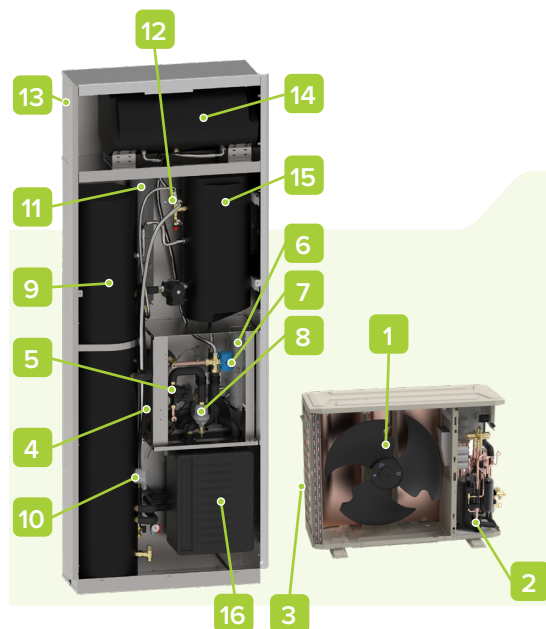
1. Inverter DC fan
2. Inverter DC twin-rotary compressor
3. Air-gas finned exchanger (blue fin treatment)
4. Gas/water plate exchanger
5. Inverter DC high efficiency pump
6. 8L system expansion tank
7. 3-way valve
8. Magnetic dirt separator filter
9. 150 L DHW tank with coil
10. 2 kW DHW safety heater
11. 8 L DHW expansion tank
12. Anti-scalding valve
13. Cabinet with adjustable telescopic frame
14. System inertial storage kit (optional)
15. Additional 50 L DHW storage tank (optional)
16. Kit for managing 2 areas (optional)

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configurations

PUMP:

-	Standard pump
1PUM	Single pump with larger available head

AUXILIARY SYSTEM HEATER:

-	No heater
EH2	2 kW integration electric heater
EH4	4 kW integration electric heater
EH6	6 kW integration electric heater
EH9	9 kW integration electric heater

accessories

	ADIX	Recessed storage unit with jigs for fittings
	ACS150X	150-litre domestic hot water storage tank
	ADIAX	Recessed storage unit for additional DHW accumulation
	ACSA150X	Additional 150-litre domestic hot water storage
	ACSA50X	Additional 50-litre domestic hot water storage
	SHWT	150L domestic hot water storage tank with solar coil
	KCVEX	Circulation kit: circulation group, control unit, expansion tank
	KPRSX	DHW recirculation pump kit
	KCSX	Secondary circuit kit (1-litre circuit breaker + pump)
	KIRE2HLX	2 zones: high temperature + low temperature (mixed)
	KIRE2HX	2 zones: both at high temperature
	AC50X	50-litre inertial storage tank for indoor installation
	ACE50X	50-litre inertial storage tank for outdoor installation

	ADI50X	Recessed storage unit for external inertial accumulation
	DTX	Auxiliary condensate collection tray
	APAVX	Kit of antivibration mounts for floor installation
	ASTFX	Kit of antivibration mounts for wall bracket installation
	KSIPX	Kit with wall fixing brackets
	HID-TCBX	Black soft touch chronothermostat, with temperature control and management via App / Voice control
	HID-TCNX	White soft touch chronothermostat, with temperature control and management via App / Voice control
	SWCX	SwitchConnect radio receiver

dimensions and connections

300

600

300
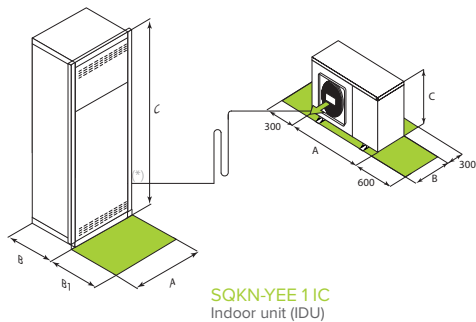
MiSAN-YEE
Outdoor unit (ODU)

SQKN-YEE 1 IC
Indoor unit (IDU)

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

(*) Gas and water connections

Size				2.1	3.1	4.1	5.1
Dimensions	Indoor unit	Length(A) x Height(C) x Depth(B)		1.036 x 2.210 x 360			
	Outdoor unit	Length(A) x Height(C) x Depth(B)		986 x 712 x 426		1.104 x 866 x 523	
Weight	Indoor unit			315			
	Outdoor unit			58		77	
Max / min equivalent length		L	m	30 / 2			
Max difference in level ODU / IDU		H	m	25			
Refrigerant precharge			type/GWP	R32 / 675			
			kg / m	1,5 / 15		1,65 / 15	
			CO_2 tons	1,05		1,11	
Additional refrigerant charge[1]			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	3/4"			

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

technical data

Size					2.1	3.1	4.1	5.1
Heating	Capacity	Water 35/30°C - Outdoor unit 7°C	Nominal / Maximum	kW	**4,32 / 6,26**	**6,18 / 7,41**	**8,30 / 9,11**	**10,09 / 10,3**
	COP		Nominal	-	5,42	5,21	5,31	5,01
	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
	COP		Nominal	-	3,16	3,00	3,23	3,07
	Capacity	Water 45/40°C - Outdoor unit 7°C	Nominal / Maximum	kW	4,16 / 5,96	6,03 / 7,13	8,22 / 8,98	10,01 / 10,30
	COP		Nominal	-	3,93	3,83	3,95	3,86
Cooling	Capacity	Water 18/23°C - Outdoor unit 35°C	Nominal / Maximum	kW	**4,55 / 6,88**	**6,44 / 7,65**	**8,10 / 11,13**	**10,00 / 12,03**
	EER		Nominal	-	6,08	5,24	5,12	4,77
	Capacity	Water 7/12°C - Outdoor unit 35°C	Nominal / Maximum	kW	4,26 / 6,14	6,25 / 6,39	7,46 / 7,94	8,67 / 9,10
	EER		Nominal	-	3,50	3,09	3,33	3,09
DHW	Net tank capacity			l	143			
	Water mixed at 40°C (V40)[1]			l	188			
	Heating time			h:min	02:11	02:11	01:47	01:47
Electrical power for meter sizing				kW	2,20	2,60	3,30	3,60
Seasonal efficiency Medium climate	Heating 55°C	Energy class		-	**A++**	**A++**	**A++**	**A++**
		Annual energy consumption		kWh/year	2.542	3.283	3.824	4.749
		SCOP		-	3,32	3,54	3,72	3,73
		ηs (seasonal output)		%	130	138	146	146
	Heating 35°C	Energy class		-	**A+++**	**A+++**	**A+++**	**A+++**
		Annual energy consumption		kWh/year	2.542	3.283	3.824	4.749
		SCOP		-	5,13	5,15	5,32	5,27
		ηs (seasonal output)		%	202	203	210	208
	DHW	Energy class		-	**A+**	**A+**	**A+**	**A+**
		DHW profile		-	L	L	L	L

Indoor unit				**A**	**A**	**A**	**A**
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
Pump available pressure	Nominal		kPa	31,2	36,5	33,1	31,0
Expansion tank capacity			l	8			
Minimum system water content			l	40			
Sound power			dB(A)	41			
Sound pressure @1m			dB(A)	26			

Outdoor unit				**2.1**	**3.1**	**4.1**	**5.1**
Power supply	Voltage/Frequency/Phases		V/Hz/n°	230/50/1			
Sound power			dB(A)	55	57	58	60
Sound pressure @1m			dB(A)	42	44	45	47

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

(1) Data according to EN 16147: amount of water at 40°C with the same enthalpy content as the water coming out of the Boiler at a temperature higher than 40°C

system diagrams
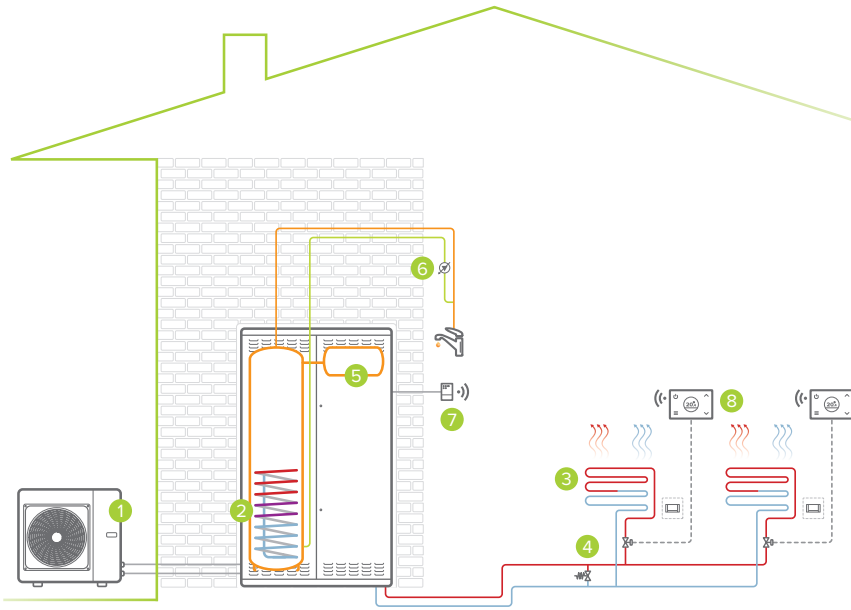
Single area system:
heating/cooling/DHW

1. outdoor unit
2. indoor unit
3. heating/cooling area (fancoil / radiant)
4. bypass*
5. additional DHW tank (optional configuration)
6. DHW recirculation pump*
7. SwitchConnect Wi-Fi receiver (optional)
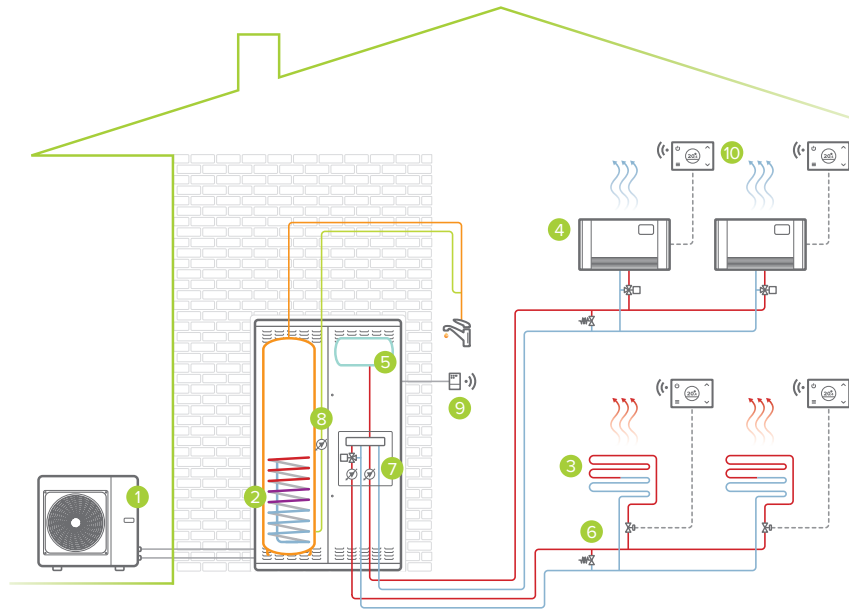8. HID-TConnect Wi-Fi chronothermostat (optional)

*from external supply
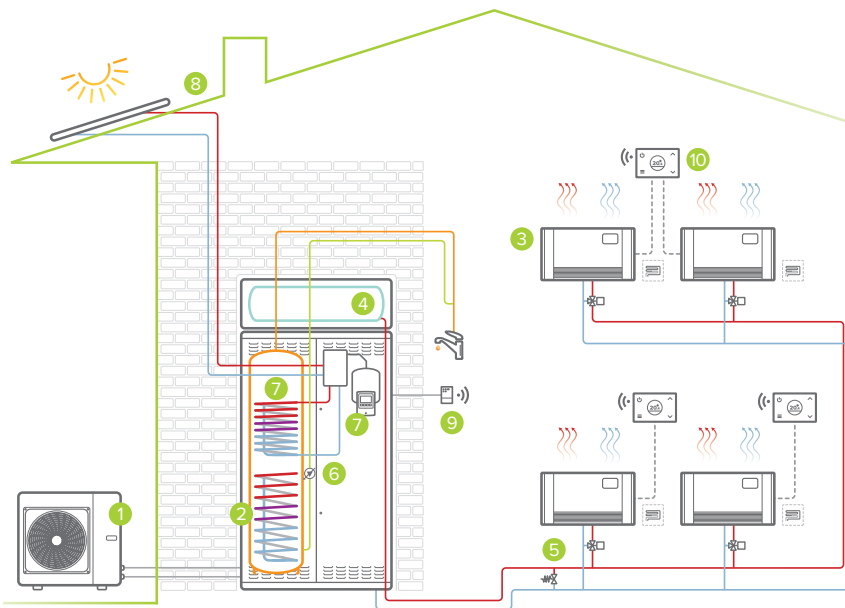
Single area system with solar thermal:
heating/cooling/DHW

1. outdoor unit
2. indoor unit
3. heating/cooling area (fancoil / radiant)
4. system inertial storage (optional)
5. bypass*
6. DHW recirculation pump*
7. solar connection kit (optional configuration)
8. ELFOSun solar thermal (optional)
9. SwitchConnect Wi-Fi receiver (optional)
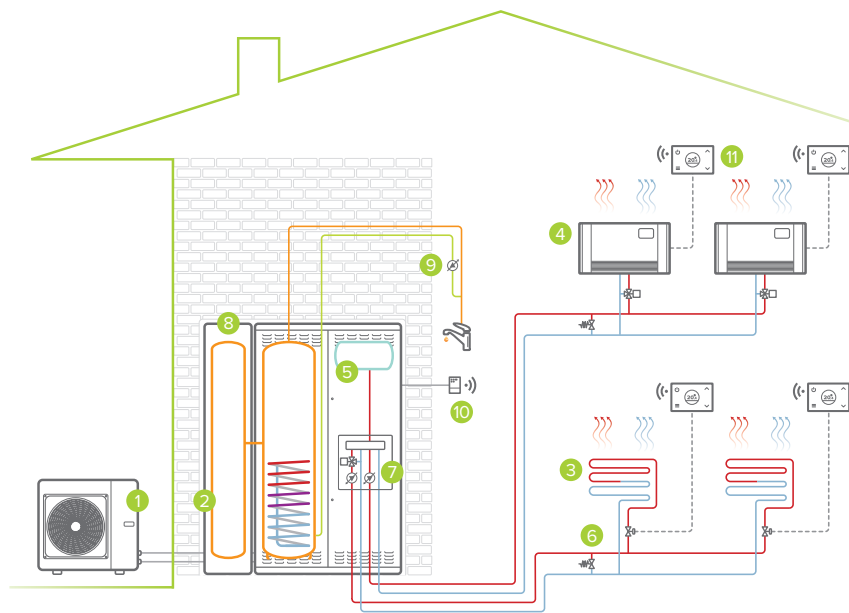10. HID-TConnect Wi-Fi chronothermostat (optional)

*from external supply

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**Two-area system:
heating/cooling/DHW**

1. outdoor unit
2. indoor unit
3. heating area (radiant)
4. cooling area (fancoil)
5. system inertial storage (optional configuration)
6. bypass*
7. kit for managing 2 areas (optional configuration)
8. DHW recirculation pump*
9. SwitchConnect Wi-Fi receiver (optional)
10. HID-TConnect Wi-Fi chronothermostat (optional)

*from external supply

**Two-area system:
heating/cooling/DHW**

1. outdoor unit
2. indooor unit
3. low temperature heating/cooling area (radiant)
4. high temperature heating/cooling area (fancoil)
5. system inertial storage (optional configuration)
6. bypass*
7. kit for managing 2 areas (optional configuration)
8. additional DHW storage tank (optional)
9. DHW recirculation pump*
10. SwitchConnect Wi-Fi receiver (optional)
11. HID-TConnect Wi-Fi chronothermostat (optional)

*from external supply