

NEW

SHERPA AQUADUE TOWER S2

Multi-purpose split heat pump, with integrated 150L storage tank



Compatible with:



DHW AND COMFORT AT THE SAME TIME

The two interconnected refrigerator cycles allow the decoupling of the heating/cooling from the DHW production, enabling them to operate in parallel, avoiding thus interruptions in the domestic comfort supply.



75°C DOMESTIC HOT WATER

High temperature DHW storage allows a reduction of the boiler volume up to 30%, to heat bathroom heater radiators and avoids highly energyconsuming anti-legionella cycles that are normally performed through the use of electrical resistances.



LOW GWP GAS

In sizes up to 10 kW, it uses the R32 refrigerant, characterised by greater efficiency and a greenhouse effect reduced by almost 70% (compared to R410A).



TOUCH SCREEN USER INTERFACE

The control of Sherpa Aquadue, extremely flexible and configurable, is used to customise the intervention thresholds of the two cycles at the time of installation and the needs for comfort and DHW, as well as to optimise energy performance by managing operation of the dual cooling cycle.

FEATURES

Inverter air-water heat pump

Energy efficiency class in average climate heating up to: A+++ (35°C) and A++ (55°C)

Powers available: 4 Powers with refrigerant R32: 4-6-8-10 kW single-phase and 3 Powers with refrigerant R410A: 12-14-16 kW single-phase and three-phase

Production of DHW (Domestic Hot Water) at high temperature, up to 75 °C in the integrated storage tank.

DHW management: a water/water heat pump unit integrated in the internal unit supplies domestic hot water at high temperature regardless of the external climatic conditions.

Absolute continuity availability of DHW: guaranteed by the redundancy of the dual cooling cycle system

Anti-legionella cycles that can be avoided using the high temperature refrigeration cycle.

Double stage electric heating elements as standard: activation of single or double heating element to support the heat pump by means of a simple electronic control configuration. Each stage is activated according to the actual need for thermal power, in order to optimise electricity consumption (supplied disabled by default).

Configurable set points: two set points in cooling, Three set points in heating (one of which for DHW): the set points can also be selected via remote contact.

Holiday and weekly programmer: heating/cooling, DHW, night-time.

Climatic curves with external air temperature probe: two curves available, one for cooling and one for heating. The climatic curves are used to vary the temperature of the water supplying the system according to the external climatic conditions, adjusting the thermal needs of the building, in order to achieve energy savings.

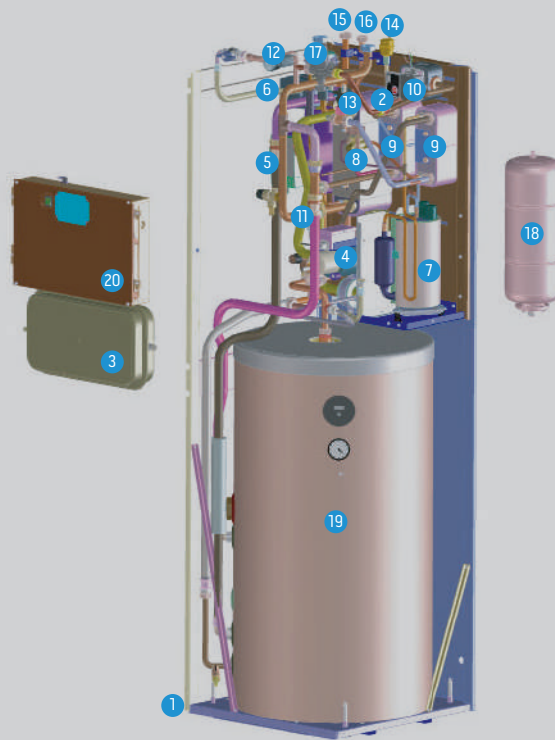
Refrigerant gases: R32* and R410A* for the reversible circuit dedicated to air conditioning and R134A** for the high temperature circuit dedicated to the production of DHW.

Built-in 150 L high efficiency storage tank with an exchange battery surface equal to 1.5 m2.

* Non hermetically sealed equipment containing fluorinated gas with GWP equivalent 675 (R32) and 2088 (R410A)

** Non hermetically sealed equipment containing fluorinated gas with GWP equivalent 1430

1. Support structure
2. System primary circuit heat exchanger
3. System circuit expansion vessel
4. Electric heating elements manifold
5. Primary circuit electronic circulation pump
6. 3-way valve
7. DHW circuit compressor
8. DHW circuit expansion valve
9. DHW circuit heat exchanger
10. DHW circuit electronic circulation pump
11. Flow regulator
12. Pressure gauge
13. Flow switch
14. Automatic safety vent
15. Refrigeration connections
16. Hydraulic connections (system and DHW circuit)
17. Automatic filling of DHW circuit technical water
18. DHW expansion tank
19. Storage tank for domestic hot water
20. Electrical panel

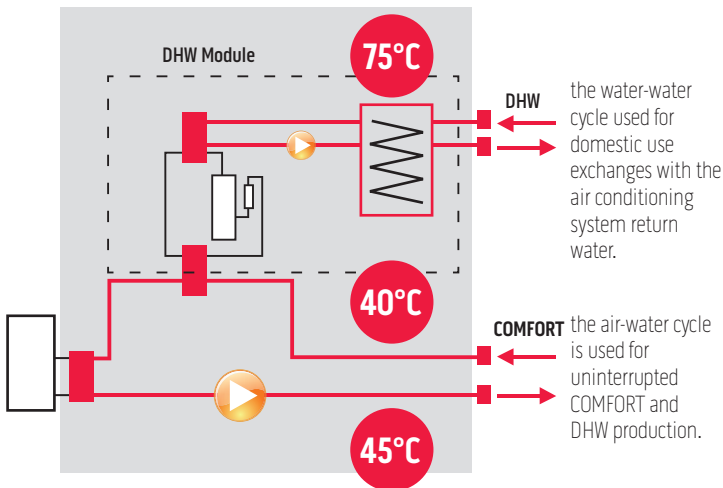


STANDARD EQUIPMENT:
- External air probe kit

HEATING MODE

+ DHW at high temperature

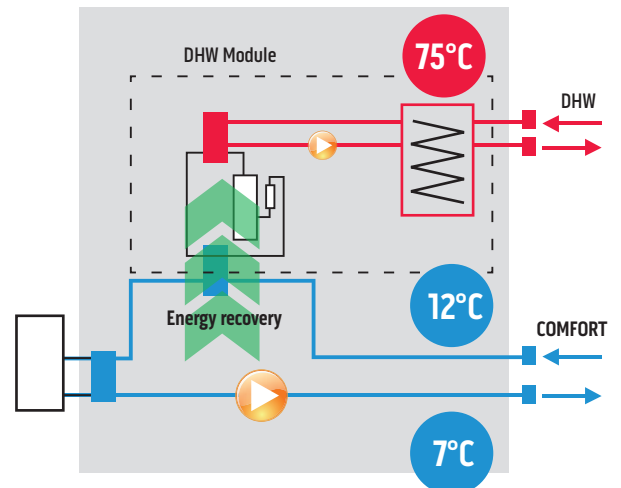
DHW production is guaranteed independently from the outside temperature for an optimal operation throughout the year, which is not guaranteed by traditional heat pumps.



COOLING MODE

+ DHW at a high temperature with energy recovery

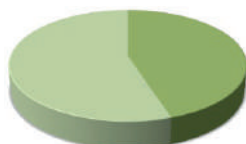
The energy normally dissipated outside is recovered and used to produce DHW up to 75 °C.



RENEWABLE SHARE COVERAGE FOR DHW PRODUCTION WITHOUT ADDITIONAL EQUIPMENT - RES DIRECTIVE

AQUADUE technology thanks to efficient heat management guarantees, in buildings of a high energy class, the coverage share from renewable energy (Legislative Decree 28/2011) without the installation of additional devices.

Traditional heat pump



■ Renewable share
■ Non renewable share

Sherpa AQUADUE® heat pump



■ Renewable share
■ Non renewable share

Size				SHERPA AQUADUE TOWER S2 E - Single-phase R32												
				4			6			8			10			
INDOOR UNIT CODE				02044			02044			02044			02044			
OUTDOOR UNIT CODE				02001			02002			02003			02004			
Compressor frequency				Minimum	Nominal	Maximum	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum	
Precise performance	Heating output	a7/6 - w30/35	(a)	kW	2.08	4.2	5.59	3.22	6.5	8.66	4.17	8.4	11.19	4.96	10	13.32
	COP	a7/6 - w30/35	(a)	W/W	-	5.15	-	-	4.85	-	4.85	-	-	-	4.65	-
	Heating output	a2/1 - w30/35	(b)	kW	2.08	4.25	5.38	2.74	5.58	7.06	3.48	7.1	8.99	4.04	8.25	10.44
	COP	a2/1 - w30/35	(b)	W/W	-	3.9	-	-	3.88	-	3.88	-	-	-	3.6	-
	Heating output	a-7/-8 - w30/35	(c)	kW	2.23	4.8	5.23	2.79	6	6.53	3.28	7.05	7.67	3.81	8.2	8.93
	COP	a-7/-8 - w30/35	(c)	W/W	-	3	-	-	2.94	-	3.04	-	-	-	2.95	-
	Heating output	a-15/-16 - w30/35	(d)	kW	2.17	4.67	5.08	2.26	4.86	5.29	3.25	6.99	7.61	3.25	6.99	7.61
	COP	a-15/-16 - w30/35	(d)	W/W	-	2.3	-	-	2.27	-	2.34	-	-	-	2.34	-
	Heating output (fancoils)	a7/6 - w40/45	(f)	kW	2.08	4.2	5.59	3.15	6.35	8.46	3.99	8.05	10.72	4.89	9.85	13.12
	COP (fancoils)	a7/6 - w40/45	(f)	W/W	-	3.65	-	-	3.64	-	3.73	-	-	-	3.62	-
	Heating output (fancoils)	a2/1 - w40/45	(g)	kW	2.11	4.3	5.44	2.77	5.65	7.15	3.68	7.5	9.49	3.9	7.95	10.06
	COP (fancoils)	a2/1 - w40/45	(g)	W/W	-	3.05	-	-	3.02	-	3.15	-	-	-	3.04	-
	Heating output (fancoils)	a-7/-8 - w40/45	(h)	kW	1.93	4.15	4.52	2.56	5.5	5.99	3.09	6.65	7.24	3.63	7.8	8.49
	COP (fancoils)	a-7/-8 - w40/45	(h)	W/W	-	2.39	-	-	2.42	-	2.45	-	-	-	2.41	-
	Heating output (fancoils)	a-15/-16 - w40/45	(i)	kW	1.92	4.14	4.51	2	4.31	4.69	2.81	6.05	6.59	2.81	6.05	6.59
	COP (fancoils)	a-15/-16 - w40/45	(i)	W/W	-	1.79	-	-	1.77	-	1.92	-	-	-	1.92	-
	Cooling power	a35 - w23/18	(l)	kW	2.31	4.3	5.27	3.46	6.45	7.91	4.48	8.35	10.24	5.47	10.2	12.51
	EER	a35 - w23/18	(l)	W/W	-	5.6	-	-	4.88	-	4.67	-	-	-	4.25	-
Cooling output (fancoils)	a35 - w12/7	(m)	kW	2.41	4.5	5.52	3.49	6.5	7.97	3.96	7.38	9.05	4.37	8.15	10	
EER (fancoils)	a35 - w12/7	(m)	W/W	-	3.32	-	-	2.95	-	3.02	-	-	-	2.95	-	
Efficiencies	Energy efficiency class in water heating 35°C	Warmer Climate			A+++			A+++			A+++			A+++		
	SCOP	Warmer Climate			6.52			6.52			6.69			6.69		
	η_s (Seasonal efficiency for space heating)	Warmer Climate	η_s %		257.7			257.7			264.6			264.6		
	Energy efficiency class in water heating 35°C	Average Climate			A+++			A+++			A+++			A+++		
	SCOP	Average Climate			4.77			4.77			4.79			4.79		
	η_s (Seasonal efficiency for space heating)	Average Climate	η_s %		187.7			187.7			188.5			188.5		
	Energy efficiency class in water heating 35°C	Cold Climate			A++			A++			A++			A++		
	SCOP	Cold Climate			4.06			4.06			4.01			4.01		
	η_s (Seasonal efficiency for space heating)	Cold Climate	η_s %		159.5			159.5			157.5			157.5		
	Energy efficiency class in water heating 55°C	Warmer Climate			A+++			A+++			A+++			A+++		
	SCOP	Warmer Climate			4.28			4.28			4.29			4.29		
	η_s (Seasonal efficiency for space heating)	Warmer Climate	η_s %		168.2			168.2			168.5			168.5		
	Energy efficiency class in water heating 55°C	Average Climate			A++			A++			A++			A++		
	SCOP	Average Climate			3.34			3.34			3.28			3.28		
	η_s (Seasonal efficiency for space heating)	Average Climate	η_s %		130.6			130.6			128.0			128.0		
	Energy efficiency class in water heating 55°C	Cold Climate			A+			A+			A+			A+		
	SCOP	Cold Climate			2.77			2.77			2.66			2.66		
	η_s (Seasonal efficiency for space heating)	Cold Climate	η_s %		107.9			107.9			103.5			103.5		
Noise level	Indoor unit sound power				41			41			41			41		
	Indoor unit sound pressure	(n)			35			35			35			35		
	Outdoor unit sound power (nominal)				61			62			63			65		
	Outdoor unit sound pressure (nominal)	(o)			38			39			40			42		
Electrical data	System circulator absorption			W	3 - 87			3 - 87			3 - 87			3 - 87		
	Internal unit electrical power supply			V/ph/Hz	220-240/1/50			220-240/1/50			220-240/1/50			220-240/1/50		
	Maximum current absorbed indoor unit with additional active heating elements			A	18.00			18.00			18.00			18.00		
	Maximum power absorbed indoor unit with additional active heating elements			kW	4.05			4.05			4.05			4.05		
	Additional electric heating elements			kW	1.5+1.5			1.5+1.5			1.5+1.5			1.5+1.5		
	External unit electrical power supply			V/ph/Hz	220-240/1/50			220-240/1/50			220-240/1/50			220-240/1/50		
	Outdoor unit maximum absorbed current			A	14			14			19			19		
	Outdoor unit maximum absorbed power			kW	2.65			2.65			3.8			3.8		
Cooling circuit	Compressor type				Twin Rotary DC Inverter 4 poles			Twin Rotary DC Inverter 4 poles			Twin Rotary DC Inverter 6 poles			Twin Rotary DC Inverter 6 poles		
	Refrigerant inlet connection diameter			"	1/4"-5/8"			1/4"-5/8"			3/8"-5/8"			3/8"-5/8"		
	Coolant gas	(p)			R32			R32			R32			R32		
	Global warming potential			GWP	675			675			675			675		
	Coolant gas load			kg	1.55			1.55			1.65			1.65		
	Refrigerant piping length limit	min - max			2 - 29			2 - 29			2 - 30			2 - 30		
Hydraulic data	Refrigerant piping length limit without minimum surface check according to IEC 60335-2-40:2018	max	(q)		29			29			20			20		
	Drinking water - DHW hydraulic connections			"	1"			1"			1"			1"		
Integrated boiler	System expansion valve capacity			l	8			8			8			8		
	Load profile according to EN16147			L	L			L			L			L		
	DHW production energy efficiency class	Average Climate			A			A			A			A		
	-	-			-			-			-			-		
	-	-			-			-			-			-		
	Boiler volume			l	150			150			150			150		
	Boiler interior surface material				DD12 glazed steel S235JR			DD12 glazed steel S235JR			DD12 glazed steel S235JR			DD12 glazed steel S235JR		
	Heat exchanger in the boiler			m ²	1.5			1.5			1.5			1.5		
	Type and thickness of boiler insulation				Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm		
	Specific dispersion			W/K	2			2			2			2		
Secondary DHW cooling circuit	DHW expansion tank capacity			l	7			7			7			7		
	DHW hydraulic connections			"	3/4"			3/4"			3/4"			3/4"		
	DHW circuit heating capacity	w35 - w55	(r)	kW	2.15			2.15			2.15			2.15		
	COP DHW circuit	w35 - w55	(r)	W/W	3.12			3.12			3.12			3.12		
	DHW circuit heating capacity	w12 - w55	(s)	kW	1.6			1.6			1.6			1.6		
	COP DHW circuit	w12 - w55	(s)	W/W	2.58			2.58			2.58			2.58		
	Sound power indoor unit in heating/cooling + DHW circuit			dB (A)	49			49			49			49		
	DHW circuit circulator absorption			W	3 - 43			3 - 43			3 - 43			3 - 43		
DHW circuit coolant gas	DHW circuit global warming potential		(t)	GWP	1430			1430			1430			1430		
	DHW circuit coolant gas load			kg	0.35			0.35			0.35			0.35		

(a) Heating mode, external air temperature 7°C b.s./6°C b.u., inlet/outlet water temperature 30°C/35°C
(b) Heating mode, external air temperature 2°C b.s./1°C b.u., inlet/outlet water temperature 30°C/35°C
(c) Heating mode, external air temperature -7°C b.s./-8°C b.u., inlet/outlet water temperature 30°C/35°C
(d) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 30°C/35°C
(e) Heating mode, external air temperature 7°C b.s./6°C b.u., inlet/outlet water temperature 40°C/45°C
(f) Heating mode, external air temperature 2°C b.s./1°C b.u., inlet/outlet water temperature 40°C/45°C
(g) Heating mode, external air temperature -7°C b.s./-8°C b.u., inlet/outlet water temperature 40°C/45°C
(h) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 40°C/45°C
(i) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 40°C/45°C
(l) Cooling mode, external air temperature 35°C, inlet/outlet water temperature 23°C/18°C

(m) Cooling mode, external air temperature 35°C, inlet/outlet water temperature 12°C/7°C
(n) Sound pressure values measured at a distance of 1 m in a semi-anechoic chamber
(o) Sound pressure values measured at a distance of 4 m in free field
(p) Non-airtightly sealed equipment containing fluorinated GAS
(q) maximum length of the refrigeration pipes beyond which checks on the minimum surface of the installation rooms are necessary, check the technical manual
(r) Heating circuit water temperature 35°C / Output water temperature 55°C
(s) Heating circuit water temperature 12°C / Output water temperature 55°C
(t) Non-airtightly sealed equipment containing fluorinated GAS

Size		SHERPA AQUADUE TOWER S2 - Single-phase R410A												
		12			14			16						
INDOOR UNIT CODE		02045			02045			02045						
OUTDOOR UNIT CODE		02005			02006			02007						
Compressor frequency		Minimum			Nominal			Maximum						
Precise performance	Heating output	a7/6 - w30/35	(a)	kW	4.77	12.1	15.79	5.52	14	18.27	6.12	15.5	20.23	
	COP	a7/6 - w30/35	(a)	W/W	-	4.42	-	-	4.13	-	-	4.06	-	
	Heating output	a2/1 - w30/35	(b)	kW	3.63	9.22	11.51	4.34	11.03	13.77	4.6	11.68	14.59	
	COP	a2/1 - w30/35	(b)	W/W	-	3.52	-	-	3.35	-	-	3.28	-	
	Heating output	a-7/-8 - w30/35	(c)	kW	3.83	9.96	10.93	4.22	10.99	12.06	4.59	11.94	13.11	
	COP	a-7/-8 - w30/35	(c)	W/W	-	2.8	-	-	2.7	-	-	2.64	-	
	Heating output	a-15/-16 - w30/35	(d)	kW	2.27	5.9	6.48	2.53	6.58	7.22	2.79	7.26	7.97	
	COP	a-15/-16 - w30/35	(d)	W/W	-	2.06	-	-	1.94	-	-	1.92	-	
	Heating output (fancoils)	a7/6 - w40/45	(f)	kW	4.68	11.85	15.46	5.54	14.05	18.33	6.33	16.05	20.94	
	COP (fancoils)	a7/6 - w40/45	(f)	W/W	-	3.41	-	-	3.19	-	-	3.19	-	
	Heating output (fancoils)	a2/1 - w40/45	(g)	kW	3.65	9.26	11.56	4.55	11.55	14.42	4.64	11.78	14.71	
	COP (fancoils)	a2/1 - w40/45	(g)	W/W	-	2.77	-	-	2.74	-	-	2.73	-	
	Heating output (fancoils)	a-7/-8 - w40/45	(h)	kW	3.65	9.51	10.44	4.37	11.38	12.49	4.39	11.42	12.54	
	COP (fancoils)	a-7/-8 - w40/45	(h)	W/W	-	2.22	-	-	2.18	-	-	2.17	-	
	Heating output (fancoils)	a-15/-16 - w40/45	(i)	kW	1.92	5.01	5.5	2.15	5.59	6.14	2.37	6.17	6.77	
	COP (fancoils)	a-15/-16 - w40/45	(i)	W/W	-	1.66	-	-	1.57	-	-	1.55	-	
	Cooling power	a35 - w23/18	(l)	kW	5.51	11.8	14.05	6.07	13	15.48	6.54	14	16.67	
	EER	a35 - w23/18	(l)	W/W	-	4.45	-	-	4.02	-	-	3.87	-	
	Cooling output (fancoils)	a35 - w12/7	(m)	kW	5.15	11.02	13.13	5.83	12.49	14.88	6	12.85	15.3	
	EER (fancoils)	a35 - w12/7	(m)	W/W	-	2.64	-	-	2.46	-	-	2.38	-	
	Efficiencies	Energy efficiency class in water heating 35°C	Warmer Climate			A+++			A+++			A+++		
		SCOP	Warmer Climate			6.16			5.31			5.28		
		ηs (Seasonal efficiency for space heating)	Warmer Climate		ηs %	245.0			211.0			210.0		
		Energy efficiency class in water heating 35°C	Average Climate			A+++			A++			A++		
		SCOP	Average Climate			4.41			4.23			3.96		
		ηs (Seasonal efficiency for space heating)	Average Climate		ηs %	175.0			168.0			157.0		
		Energy efficiency class in water heating 35°C	Cold Climate			A+			A+			A+		
		SCOP	Cold Climate			3.58			3.33			3.41		
ηs (Seasonal efficiency for space heating)		Cold Climate		ηs %	142.0			132.0			135.0			
Energy efficiency class in water heating 55°C		Warmer Climate			A+++			A+++			A+++			
SCOP		Warmer Climate			4.33			4.18			4.51			
ηs (Seasonal efficiency for space heating)		Warmer Climate		ηs %	172.0			166.0			179.0			
Energy efficiency class in water heating 55°C		Average Climate			A++			A++			A++			
SCOP		Average Climate			3.21			3.23			3.21			
ηs (Seasonal efficiency for space heating)		Average Climate		ηs %	127.0			128.0			127.0			
Energy efficiency class in water heating 55°C		Cold Climate			A+			A+			A+			
SCOP		Cold Climate			2.81			2.81			2.81			
ηs (Seasonal efficiency for space heating)		Cold Climate		ηs %	111.0			111.0			111.0			
Noise level		Indoor unit sound power			dB (A)	41			41			41		
		Indoor unit sound pressure		(n)	dB (A)	35			35			35		
		Outdoor unit sound power (nominal)			dB (A)	69			71			72		
		Outdoor unit sound pressure (nominal)		(o)	dB (A)	46			48			49		
Electrical data		System circulator absorption			W	8 - 140			8 - 140			8 - 140		
		Internal unit electrical power supply			V/ph/Hz	220-240/1/50			220-240/1/50			220-240/1/50		
		Maximum current absorbed indoor unit with additional active heating elements			A	31.00			31.00			31.00		
		Maximum power absorbed indoor unit with additional active heating elements			kW	7.05			7.05			7.05		
		Additional electric heating elements			kW	3.0+3.0			3.0+3.0			3.0+3.0		
		External unit electrical power supply			V/ph/Hz	220-240/1/50			220-240/1/50			220-240/1/50		
	Outdoor unit maximum absorbed current			A	27			27			27			
	Outdoor unit maximum absorbed power			kW	6			6			6			
Cooling circuit	Compressor type				Twin Rotary DC Inverter 6 poles			Twin Rotary DC Inverter 6 poles			Twin Rotary DC Inverter 6 poles			
	Refrigerant inlet connection diameter			"	3/8"-5/8"			3/8"-5/8"			3/8"-5/8"			
	Coolant gas		(p)		R410A			R410A			R410A			
	Global warming potential			GWP	2088			2088			2088			
	Coolant gas load			kg	3.9			3.9			3.9			
	Refrigerant piping length limit	min - max				2 - 50			2 - 50			2 - 50		
Hydraulic data	Refrigerant piping length limit without minimum surface check according to IEC 60335-2-40:2018	max	(q)		-			-			-			
	Drinking water - DHW hydraulic connections			"	1"			1"			1"			
Integrated boiler	System expansion valve capacity			l	8			8			8			
	Load profile according to EN16147				L			L			L			
	DHW production energy efficiency class	Average Climate			A			A			A			
	-				-			-			-			
	-				-			-			-			
	Boiler volume			l	150			150			150			
	Boiler interior surface material				DD12 glazed steel S235JR			DD12 glazed steel S235JR			DD12 glazed steel S235JR			
	Heat exchanger in the boiler			m2	1.5			1.5			1.5			
	Type and thickness of boiler insulation				Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm			
	Specific dispersion			W/K	2			2			2			
Secondary DHW cooling circuit	DHW expansion tank capacity			l	7			7			7			
	DHW hydraulic connections			"	3/4"			3/4"			3/4"			
	DHW circuit heating capacity	w35 - w55	(r)	kW	2.15			2.15			2.15			
	COP DHW circuit	w35 - w55	(r)	W/W	3.12			3.12			3.12			
	DHW circuit heating capacity	w12 - w55	(s)	kW	1.6			1.6			1.6			
	COP DHW circuit	w12 - w55	(s)	W/W	2.58			2.58			2.58			
	Sound power indoor unit in heating/cooling + DHW circuit			dB (A)	49			49			49			
	DHW circuit circulator absorption			W	3 - 43			3 - 43			3 - 43			
DHW circuit coolant gas		(t)		R134a			R134a			R134a				
DHW circuit global warming potential			GWP	1430			1430			1430				
DHW circuit coolant gas load			kg	0.35			0.35			0.35				

(a) Heating mode, external air temperature 7°C b.s./6°C b.u., inlet/outlet water temperature 30°C/35°C
(b) Heating mode, external air temperature 2°C b.s./1°C b.u., inlet/outlet water temperature 30°C/35°C
(c) Heating mode, external air temperature -7°C b.s./-8°C b.u., inlet/outlet water temperature 30°C/35°C
(d) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 30°C/35°C
(f) Heating mode, external air temperature 7°C b.s./6°C b.u., inlet/outlet water temperature 40°C/45°C
(g) Heating mode, external air temperature 2°C b.s./1°C b.u., inlet/outlet water temperature 40°C/45°C
(h) Heating mode, external air temperature -7°C b.s./-8°C b.u., inlet/outlet water temperature 40°C/45°C
(i) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 40°C/45°C
(l) Cooling mode, external air temperature 35°C, inlet/outlet water temperature 23°C/18°C

(m) Cooling mode, external air temperature 35°C, inlet/outlet water temperature 12°C/7°C
(n) Sound pressure values measured at a distance of 1 m in a semi-anechoic chamber
(o) Sound pressure values measured at a distance of 4 m in free field
(p) Non-airtightly sealed equipment containing fluorinated GAS
(q) maximum length of the refrigeration pipes beyond which checks on the minimum surface of the installation rooms are necessary, check the technical manual
(r) Heating circuit water temperature 35°C / Output water temperature 55°C
(s) Heating circuit water temperature 12°C / Output water temperature 55°C
(t) Non-airtightly sealed equipment containing fluorinated GAS

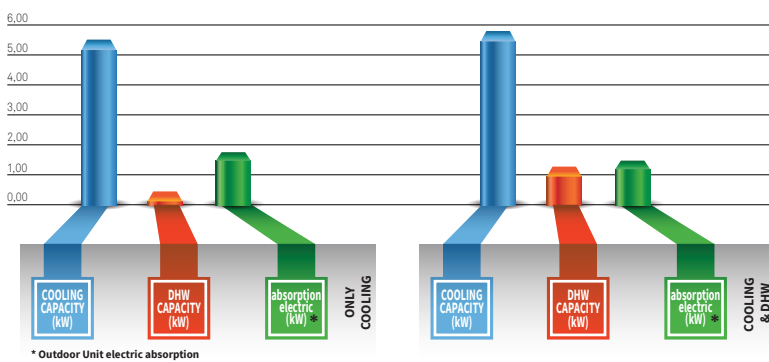
Size		SHERPA AQUADUE TOWER S2 - Three-phase R410A											
		12T			14T			16T					
INDOOR UNIT CODE		02045			02045			02045					
OUTDOOR UNIT CODE		02008			02009			02010					
Compressor frequency		Minimum	Nominal	Maximum	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum			
Precise performance	Heating output	a7/6 - w30/35	(a)	kW	4.77	12.1	15.79	5.52	14	18.27	6.12	15.5	20.23
	COP	a7/6 - w30/35	(a)	W/W	-	4.53	-	-	4.31	-	-	4.19	-
	Heating output	a2/1 - w30/35	(b)	kW	3.6	9.14	11.41	4.29	10.91	13.62	4.31	10.95	13.67
	COP	a2/1 - w30/35	(b)	W/W	-	3.6	-	-	3.42	-	-	3.39	-
	Heating output	a-7/-8 - w30/35	(c)	kW	3.72	9.69	10.64	4.31	11.21	12.31	4.32	11.25	12.35
	COP	a-7/-8 - w30/35	(c)	W/W	-	2.75	-	-	2.66	-	-	2.64	-
	Heating output	a-15/-16 - w30/35	(d)	kW	2.38	6.19	6.79	2.74	7.13	7.83	2.93	7.62	8.36
	COP	a-15/-16 - w30/35	(d)	W/W	-	2.17	-	-	2.09	-	-	2.05	-
	Heating output (fancoils)	a7/6 - w40/45	(f)	kW	4.7	11.91	15.54	5.48	13.9	18.14	6.13	15.53	20.26
	COP (fancoils)	a7/6 - w40/45	(f)	W/W	-	3.44	-	-	3.3	-	-	3.18	-
	Heating output (fancoils)	a2/1 - w40/45	(g)	kW	3.65	9.26	11.56	4.51	11.46	14.31	4.97	12.62	15.76
	COP (fancoils)	a2/1 - w40/45	(g)	W/W	-	2.8	-	-	2.7	-	-	2.68	-
	Heating output (fancoils)	a-7/-8 - w40/45	(h)	kW	3.73	9.7	10.65	4.38	11.4	12.51	4.39	11.44	12.56
	COP (fancoils)	a-7/-8 - w40/45	(h)	W/W	-	2.26	-	-	2.17	-	-	2.15	-
	Heating output (fancoils)	a-15/-16 - w40/45	(i)	kW	2.02	5.27	5.78	2.33	6.06	6.65	2.49	6.48	7.11
	COP (fancoils)	a-15/-16 - w40/45	(i)	W/W	-	1.74	-	-	1.67	-	-	1.64	-
	Cooling power	a35 - w23/18	(l)	kW	5.51	11.8	14.05	6.45	13.8	16.44	6.87	14.7	17.51
	EER	a35 - w23/18	(l)	W/W	-	4.59	-	-	4.21	-	-	3.9	-
	Cooling output (fancoils)	a35 - w12/7	(m)	kW	5.72	12.25	14.59	5.83	13.24	14.88	6.27	13.43	16
	EER (fancoils)	a35 - w12/7	(m)	W/W	-	2.69	-	-	2.51	-	-	2.41	-
Efficiencies	Energy efficiency class in water heating 35°C	Warmer Climate			A+++			A+++			A+++		
	SCOP	Warmer Climate			6.41			6.53			6.13		
	ηs (Seasonal efficiency for space heating)	Warmer Climate		ηs %	255.0			260.0			244.0		
	Energy efficiency class in water heating 35°C	Average Climate			A+++			A+++			A++		
	SCOP	Average Climate			4.63			4.51			4.33		
	ηs (Seasonal efficiency for space heating)	Average Climate		ηs %	184.0			179.0			172.0		
	Energy efficiency class in water heating 35°C	Cold Climate			A++			A++			A+		
	SCOP	Cold Climate			3.96			3.78			3.61		
	ηs (Seasonal efficiency for space heating)	Cold Climate		ηs %	157.0			150.0			143.0		
	Energy efficiency class in water heating 55°C	Warmer Climate			A+++			A+++			A+++		
	SCOP	Warmer Climate			4.13			4.21			4.21		
	ηs (Seasonal efficiency for space heating)	Warmer Climate		ηs %	164.0			167.0			167.0		
Energy efficiency class in water heating 55°C	Average Climate			A++			A++			A++			
SCOP	Average Climate			3.23			3.28			3.28			
ηs (Seasonal efficiency for space heating)	Average Climate		ηs %	128.0			130.0			130.0			
Energy efficiency class in water heating 55°C	Cold Climate			A+			A+			A+			
SCOP	Cold Climate			2.78			2.73			2.76			
ηs (Seasonal efficiency for space heating)	Cold Climate		ηs %	110.0			108.0			109.0			
Noise level	Indoor unit sound power			dB (A)	41			41			41		
	Indoor unit sound pressure		(n)	dB (A)	35			35			35		
	Outdoor unit sound power (nominal)			dB (A)	70			72			72		
	Outdoor unit sound pressure (nominal)		(o)	dB (A)	47			49			49		
Electrical data	System circulator absorption			W	8 - 140			8 - 140			8 - 140		
	Internal unit electrical power supply			V/ph/Hz	220-240/1/50			220-240/1/50			220-240/1/50		
	Maximum current absorbed indoor unit with additional active heating elements			A	31.00			31.00			31.00		
	Maximum power absorbed indoor unit with additional active heating elements			kW	7.05			7.05			7.05		
	Additional electric heating elements			kW	3,0+3,0			3,0+3,0			3,0+3,0		
	External unit electrical power supply			V/ph/Hz	380-415/3/50			380-415/3/50			380-415/3/50		
	Outdoor unit maximum absorbed current			A	9			9			9		
	Outdoor unit maximum absorbed power			kW	6			6			6		
Cooling circuit	Compressor type				Twin Rotary DC Inverter 6 poles			Twin Rotary DC Inverter 6 poles			Twin Rotary DC Inverter 6 poles		
	Refrigerant inlet connection diameter			"	3/8"-5/8"			3/8"-5/8"			3/8"-5/8"		
	Coolant gas		(p)		R410A			R410A			R410A		
	Global warming potential			GWP	2088			2088			2088		
	Coolant gas load			kg	4.2			4.2			4.2		
	Refrigerant piping length limit	min - max				2 - 50			2 - 50			2 - 50	
Hydraulic data	Refrigerant piping length limit without minimum surface check according to IEC 60335-2-40:2018	max	(q)		-			-			-		
	Drinking water - DHW hydraulic connections			"	1"			1"			1"		
Integrated boiler	System expansion valve capacity			l	8			8			8		
	Load profile according to EN16147				L			L			L		
	DHW production energy efficiency class	Average Climate			A			A			A		
	-	-			-			-			-		
	-	-			-			-			-		
	Boiler volume			l	150			150			150		
	Boiler interior surface material				DD12 glazed steel S235JR			DD12 glazed steel S235JR			DD12 glazed steel S235JR		
	Heat exchanger in the boiler			m2	1.5			1.5			1.5		
	Type and thickness of boiler insulation				Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm			Hard expanded polyurethane 55 mm		
	Specific dispersion			W/K	2			2			2		
Secondary DHW cooling circuit	DHW expansion tank capacity			l	7			7			7		
	DHW hydraulic connections			"	3/4"			3/4"			3/4"		
	DHW circuit heating capacity	w35 - w55	(r)	kW	2.15			2.15			2.15		
	COP DHW circuit	w35 - w55	(r)	W/W	3.12			3.12			3.12		
	DHW circuit heating capacity	w12 - w55	(s)	kW	1.6			1.6			1.6		
	COP DHW circuit	w12 - w55	(s)	W/W	2.58			2.58			2.58		
	Sound power indoor unit in heating/cooling + DHW circuit			dB (A)	49			49			49		
	DHW circuit circulator absorption			W	3 - 43			3 - 43			3 - 43		
DHW circuit coolant gas		(t)		R134a			R134a			R134a			
DHW circuit global warming potential			GWP	1430			1430			1430			
DHW circuit coolant gas load			kg	0.35			0.35			0.35			

(a) Heating mode, external air temperature 7°C b.s./6°C b.u., inlet/outlet water temperature 30°C/35°C
(b) Heating mode, external air temperature 2°C b.s./1°C b.u., inlet/outlet water temperature 30°C/35°C
(c) Heating mode, external air temperature -7°C b.s./-8°C b.u., inlet/outlet water temperature 30°C/35°C
(d) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 30°C/35°C
(f) Heating mode, external air temperature 7°C b.s./6°C b.u., inlet/outlet water temperature 40°C/45°C
(g) Heating mode, external air temperature 2°C b.s./1°C b.u., inlet/outlet water temperature 40°C/45°C
(h) Heating mode, external air temperature -7°C b.s./-8°C b.u., inlet/outlet water temperature 40°C/45°C
(i) Heating mode, external air temperature -15°C b.s./-16°C b.u., inlet/outlet water temperature 40°C/45°C
(l) Cooling mode, external air temperature 35°C, inlet/outlet water temperature 23°C/18°C

(m) Cooling mode, external air temperature 35°C, inlet/outlet water temperature 12°C/7°C
(n) Sound pressure values measured at a distance of 1 m in a semi-anechoic chamber
(o) Sound pressure values measured at a distance of 4 m in free field
(p) Non-airtightly sealed equipment containing fluorinated GAS
(q) maximum length of the refrigeration pipes beyond which checks on the minimum surface of the installation rooms are necessary, check the technical manual
(r) Heating circuit water temperature 35°C / Output water temperature 55°C
(s) Heating circuit water temperature 12°C / Output water temperature 55°C
(t) Non-airtightly sealed equipment containing fluorinated GAS

		4		6		8		10							
		Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12						
First circuit + second circuit data	Cooling capacity	kw	4.50	0.64	4.50	0.64	6.50	0.64	6.50	7.38	0.64	7.38	8.15	0.64	8.15
	DHW yield	kw	0.00	1.28	1.28	0.00	1.28	1.28	0.00	1.28	1.28	0.00	1.28	1.28	1.28
	Absorption	kw	1.36	0.56	1.16	2.20	0.56	1.89	2.44	0.56	2.09	2.76	0.56	2.37	
	COP EER		3.32	2.3	3.88	2.95	2.3	3.44	3.02	2.3	3.53	2.95	2.3	3.44	

		12		14		16		12T		14T		16T								
		Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12	Cooling w7 - a35	ACS w65 - w12							
First circuit + second circuit data	Cooling capacity	kw	11.02	0.64	11.02	12.49	0.64	12.49	12.85	0.64	12.85	12.25	0.64	12.25	13.24	0.64	13.24	13.43	0.64	13.43
	DHW yield	kw	0.00	1.28	1.28	0.00	1.28	1.28	0.00	1.28	1.28	0.00	1.28	1.28	0.00	1.28	1.28	0.00	1.28	1.28
	Absorption	kw	4.17	0.56	3.57	5.08	0.56	4.35	5.40	0.56	4.62	4.55	0.56	3.90	5.27	0.56	4.52	5.57	0.56	4.77
	COP EER		2.64	2.3	3.08	2.46	2.3	2.87	2.38	2.3	2.78	2.69	2.3	3.14	2.51	2.3	2.93	2.41	2.3	2.81



COOLING + DHW WITH ENERGY RECOVERY

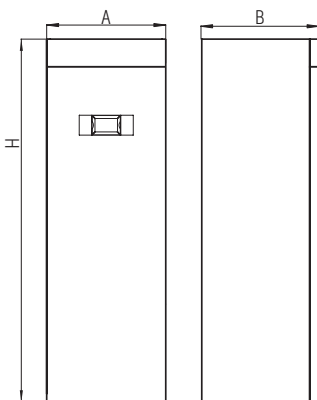
During summer operation in cooling mode, the cycle dedicated to DHW production extracts heat from return water from the system circuit.

The cooling requirements of the building is partially satisfied by the DHW cycle and the comfort refrigerating cycle must deliver less power by reducing the speed of the inverter compressor.

The heat taken from the system is recovered in hot water for domestic use. The efficiency of the integrated system increases (ratio between the energy produced and the energy absorbed from the mains).

INDOOR UNIT

		4	6	8	10	12	14	16	12T	14T	16T
		SMALL			BIG			BIG			
A	mm	600	600	600	600	600	600	600	600	600	600
B	mm	600	600	600	600	600	600	600	600	600	600
H	mm	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980
Net weight	kg	171	171	171	171	173	173	173	173	173	173



OUTDOOR UNIT

		4	6	8	10	12	14	16	12T	14T	16T
		MONOFAN			BI-FAN			BI-FAN			
A	mm	974	1075	1075	900	900	900	900	900	900	900
B	mm	333	333	363	363	600	600	600	600	600	600
C	mm	378	378	411	411	348	348	348	348	348	348
D	mm	590	590	625	625	400	400	400	400	400	400
E	mm	164	164	184	184	360	360	360	360	360	360
F	mm	119	119	126	126	-	-	-	-	-	-
H	mm	857	857	965	965	1327	1327	1327	1327	1327	1327
I	mm	75	75	117	117	-	-	-	-	-	-
Net weight	kg	57	57	67	67	99	99	99	115	115	115

