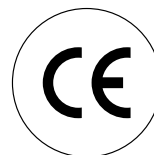




# CO<sub>2</sub>

## HEAT PUMP

### AIR SOURCE





## High performance CO<sub>2</sub> industrial heat pumps

the SOLUTION for you if you want to redeem:

- gas heating
- domestic hot water produced using gas
- the demand for gas-fired hot water for your technology

### Unmissable advantages:

- CO<sub>2</sub> refrigerant
- **energy efficient** – converts heat energy extracted from the air into heating energy (e.g. reverse cycle refrigerator)
- **wide power range** (8/14/40/75/120 kw)
- can produce up to **90 °C**
- **environmentally friendly** – zero emissions
- **can be** immediately **integrated** into existing systems
- **3 years** full warranty
- **free assessment**, on-site visit

### ADVANTAGES OF HIGH PRESSURE CO<sub>2</sub> TECHNOLOGY:

- **Climate-neutral** operation, as opposed to heat pumps charged with special air-conditioning gases to replace Freon, since the CO<sub>2</sub> charge gas extracted from the air is the heat transfer medium. Under the EU's planned directive, all polluting „climate gases“ will be phased out by 2030.
- Thanks to the high-pressure CO<sub>2</sub> technology developed during 6 years of research and development, the COP value (air-to-water mode, 3.8 on average) is extremely high, resulting in energy-efficient operation.
- It is unique in its ability to produce continuous hot water up to 90 °C in ambient temperatures between -25 °C and 43 °C 24 hours a day. This means that heating circuits disconnected from district heating can be connected without any special modifications.





- **0 m<sup>3</sup> GAS consumption!** The heating and hot water system can be independent from the gas supply.
- The high quality of the raw materials used as a requirement for the high pressure (120 bar) system ensures high reliability and long term trouble-free operation.
- Heat pumps can be in series, so that power requirements higher than the output of individual units can be easily met. The individual units can be disconnected during maintenance without shutting down the system (thus ensuring a continuous supply of hot water).
- The control system ensures that only the required number of heat pumps are running, thus ensuring optimal electricity consumption.

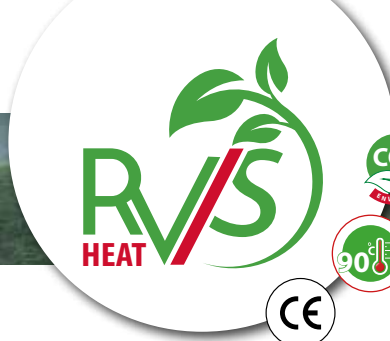
Water temperature	COP values*								
45 °C	2.5	2.9	3.1	3.8	4.1	4.2	4.7	5.2	5.4
50 °C	2.4	2.8	2.91	3.5	3.8	4.1	4.5	5.1	5.2
55 °C	2.3	2.7	2.82	3.4	3.6	3.9	4.3	4.9	5.1
60 °C	2.2	2.5	2.71	3.2	3.5	3.8	4.2	4.5	4.7
65 °C	2.1	2.3	2.6	3.1	3.4	3.6	4	4.3	4.5
70 °C	2.07	2.2	2.5	2.8	3.2	3.5	3.8	4.2	4.4
75 °C	1.91	2.1	2.4	2.7	3	3.3	3.7	4	4.1
80 °C	1.85	1.9	2.3	2.6	2.8	3.1	3.5	3.8	3.9
85 °C	1.51	1.6	2.1	2.4	2.6	2.9	3.3	3.5	3.7
90 °C	1.42	1.5	2	2.1	2.4	2.6	3	3.1	3.3
Outside temperature	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	20 °C

**Input water temperature: 20 °C**

*\* How many units of heat energy can be produced from one unit of electrical energy.*

*So: for example, 1 kW of electrical energy can produce 2.5 times the heating energy.*

Don't miss this unique solution for the whole of Europe, replace your increasingly expensive gas consumption with our environmentally friendly heat pump!



MODEL – 8RVS

*up to ~90 m<sup>2</sup>*



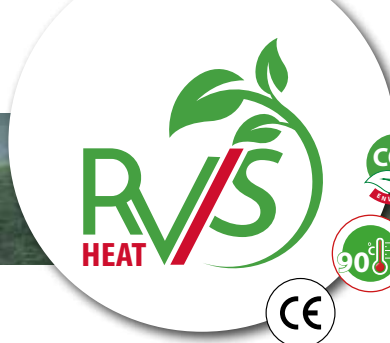
# TECHNICAL SPECIFICATIONS

Model		RVS	8RVS
Power consumption		A	8
Standard temperature condition	Heating Capacity	kW	7.8
	Hot water capacity	L/H	149
	Heating power input	kW	1.7
	COP	W/W	4.58
Low temperature condition	Heating Capacity	kW	7
	Hot water capacity	L/H	118
	Heating power input	kW	1.7
	COP	W/W	4.1
Ultra-Low temperature condition	Heating Capacity	kW	6.5
	Hot water capacity	L/H	109
	Heating power input	kW	1.71
	COP	W/W	3.8
Power supply	V / Ph / Hz		230-240V / 1Ph / 50/60Hz
Heating type			Direct
Rated output water temperature		°C	45
Maximum output water temperature		°C	90
Work ambient temperature		°C	(-)25-43
Compressor	Type		Panasonic
Circulation water pump	Brand		Yuanbaobao (DC)
	Power	kW	0.05
Defrosting type			Bypass
Water connection pipe size		mm	DN20
Water side heat exchanger	Type		Tube-Tube type
Air side heat exchanger	Type		High efficiency copper tube(Interior Screw) nested in aluminium fin
Refrigerant	Type		R744/CO <sub>2</sub>
Charge volume		kg	2
Controller	Brand		CAREL (Italy)
Dimensions	Length	mm	910
	Width	mm	430
	Height	mm	920
Unit noise level		dB(A)	42
Net weight		kg	130
Inverter			DC

Note:

1. Standard temperature condition: ambient temperature 20 °C, water temperature: inlet 15 °C, outlet 55 °C
2. Low temperature condition: ambient temperature 7 °C, water temperature: inlet 9 °C, outlet 55 °C
3. Ultra-Low temperature condition: ambient temperature -7 °C, water temperature: inlet 9 °C, outlet 55 °C





MODEL – 14RVS

*up to ~140 m<sup>2</sup>*



# TECHNICAL SPECIFICATIONS

Model		RVS	14RVS
Power consumption		A	13.6
Standard temperature condition	Heating Capacity	kW	13.6
	Hot water capacity	L/H	259.8
	Heating power input	kW	3
	COP	W/W	4.6
Low temperature condition	Heating Capacity	kW	12.1
	Hot water capacity	L/H	203.9
	Heating power input	kW	3
	COP	W/W	4.1
Ultra-Low temperature condition	Heating Capacity	kW	11.2
	Hot water capacity	L/H	188.8
	Heating power input	kW	2.9
	COP	W/W	3.9
Power supply	V / Ph / Hz		230-240V / 1Ph / 50/60Hz
Heating type			Direct
Rated output water temperature		°C	45
Maximum output water temperature		°C	90
Work ambient temperature		°C	(-)25-43
Compressor	Type		Panasonic
Circulation water pump	Brand		Yuanbaobao (DC)
	Power	kW	0.08
Defrosting type			Bypass
Water connection pipe size		mm	DN20
Water side heat exchanger	Type		Tube-Tube type
Air side heat exchanger	Type		High efficiency copper tube(Interior Screw) nested in aluminium fin
Refrigerant	Type		R744/CO <sub>2</sub>
Charge volume		kg	4
Controller	Brand		CAREL (Italy)
Dimensions	Length	mm	910
	Width	mm	430
	Height	mm	1000
Unit noise level		dB(A)	45
Net weight		kg	181
Inverter			DC

Note:

1. Standard temperature condition: ambient temperature 20 °C, water temperature: inlet 15 °C, outlet 55 °C
2. Low temperature condition: ambient temperature 7 °C, water temperature: inlet 9 °C, outlet 55 °C
3. Ultra-Low temperature condition: ambient temperature -7 °C, water temperature: inlet 9 °C, outlet 55 °C



MODEL – 40RVS





# TECHNICAL SPECIFICATIONS

Model		RVS	40RVS
Power consumption		A	18
Standard temperature condition	Heating Capacity	kW	40
	Hot water capacity	L/H	764
	Heating power input	kW	9
	COP	W/W	4.4
Low temperature condition	Heating Capacity	kW	35
	Hot water capacity	L/H	590
	Heating power input	kW	9.4
	COP	W/W	3.7
Ultra-Low temperature condition	Heating Capacity	kW	28
	Hot water capacity	L/H	472
	Heating power input	kW	10.1
	COP	W/W	2.8
Power supply	V / Ph / Hz		400V / 3Ph / 50/60Hz
Heating type			Direct
Rated output water temperature		°C	45
Maximum output water temperature		°C	90
Work ambient temperature		°C	(-)25-43
Compressor	Type		Dorin (Italy)
Circulation water pump	Brand		Wilo (Inverter AC)
	Power	kW	0.37
Defrosting type			Bypass
Water connection pipe size		mm	DN20
Water side heat exchanger	Type		Tube-Tube type
Air side heat exchanger	Type		High efficiency copper tube(Interior Screw) nested in aluminium fin
Refrigerant	Type		R744/CO <sub>2</sub>
Charge volume		kg	9
Controller	Brand		CAREL (Italy)
Dimensions	Length	mm	1803
	Width	mm	830
	Height	mm	2100
Unit noise level		dB(A)	49
Net weight		kg	525
Inverter			AC

Note:

1. Standard temperature condition: ambient temperature 20 °C, water temperature: inlet 15 °C, outlet 55 °C
2. Low temperature condition: ambient temperature 7 °C, water temperature: inlet 9 °C, outlet 55 °C
3. Ultra-Low temperature condition: ambient temperature -7 °C, water temperature: inlet 9 °C, outlet 55 °C



**MODEL – 75RVS**



2300 mm

1106 mm

2046 mm

# TECHNICAL SPECIFICATIONS

Model		RVS	75RVS
Power consumption		A	34
Standard temperature condition	Heating Capacity	kW	75.5
	Hot water capacity	L/H	1442
	Heating power input	kW	16.7
	COP	W/W	4.5
Low temperature condition	Heating Capacity	kW	64
	Hot water capacity	L/H	1079
	Heating power input	kW	16.8
	COP	W/W	3.8
Ultra-Low temperature condition	Heating Capacity	kW	49.1
	Hot water capacity	L/H	826
	Heating power input	kW	16.8
	COP	W/W	2.9
Power supply	V / Ph / Hz		400V / 3Ph / 50/60Hz
Heating type			Direct
Rated output water temperature		°C	45
Maximum output water temperature		°C	90
Work ambient temperature		°C	(-)25-43
Compressor	Type		Dorin (Italy)
Circulation water pump	Brand		Wilo (Inverter AC)
	Power	kW	0.55
Defrosting type			Bypass
Water connection pipe size		mm	DN20
Water side heat exchanger	Type		Tube-Tube type
Air side heat exchanger	Type		High efficiency copper tube(Interior Screw) nested in aluminium fin
Refrigerant	Type		R744/CO <sub>2</sub>
Charge volume		kg	15
Controller	Brand		CAREL (Italy)
Dimensions	Length	mm	2046
	Width	mm	1106
	Height	mm	2300
Unit noise level		dB(A)	54
Net weight		kg	980
Inverter			AC

Note:

1. Standard temperature condition: ambient temperature 20 °C, water temperature: inlet 15 °C, outlet 55 °C
2. Low temperature condition: ambient temperature 7 °C, water temperature: inlet 9 °C, outlet 55 °C
3. Ultra-Low temperature condition: ambient temperature -7 °C, water temperature: inlet 9 °C, outlet 55 °C





MODEL – 120RVS



# TECHNICAL SPECIFICATIONS

Model		RVS	120RVS
Power consumption		A	55
Standard temperature condition	Heating Capacity	kW	125.4
	Hot water capacity	L/H	2396
	Heating power input	kW	26.6
	COP	W/W	4.7
Low temperature condition	Heating Capacity	kW	95
	Hot water capacity	L/H	1602
	Heating power input	kW	24.3
	COP	W/W	3.9
Ultra-Low temperature condition	Heating Capacity	kW	78
	Hot water capacity	L/H	1315
	Heating power input	kW	26
	COP	W/W	3
Power supply	V / Ph / Hz		400V / 3Ph / 50/60Hz
Heating type			Direct
Rated output water temperature		°C	45
Maximum output water temperature		°C	90
Work ambient temperature		°C	(-)25-43
Compressor	Type		Dorin (Italy)
Circulation water pump	Brand		Wilo (Inverter AC)
	Power	kW	1.1
Defrosting type			Bypass
Water connection pipe size		mm	DN25
Water side heat exchanger	Type		Tube-Tube type
Air side heat exchanger	Type		High efficiency copper tube(Interior Screw) nested in aluminium fin
Refrigerant	Type		R744/CO <sub>2</sub>
Charge volume		kg	22
Controller	Brand		CAREL (Italy)
Dimensions	Length	mm	2468
	Width	mm	1368
	Height	mm	2413
Unit noise level		dB(A)	65
Net weight		kg	1350
Inverter			AC

Note:

1. Standard temperature condition: ambient temperature 20 °C, water temperature: inlet 15 °C, outlet 55 °C
2. Low temperature condition: ambient temperature 7 °C, water temperature: inlet 9 °C, outlet 55 °C
3. Ultra-Low temperature condition: ambient temperature -7 °C, water temperature: inlet 9 °C, outlet 55 °C



