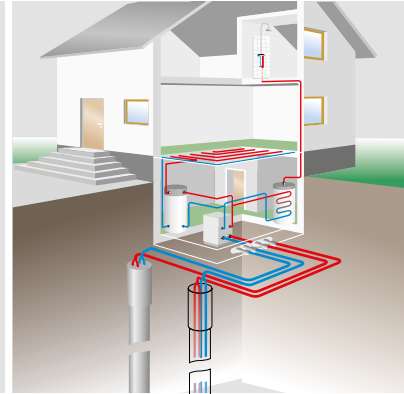


BRINE HEAT PUMPS

Heat from the ground

Brine/water system for heating and cooling



Issue 2021



REMKO – THE SYSTEM PROVIDER

About REMKO

REMKO is a globally active company for heating and air-conditioning technology. Our highly efficient product range comprises hot air heating systems, dehumidifiers, air-conditioning systems and air-conditioners, as well as future-looking heat pumps. Since 1976, we have grown consistently with the requirements of our customers as a medium-sized company. Extensive experience, innovative product development and reliable service are our strengths when it comes to needs-based solutions in the areas of heating, air-conditioning and dehumidifying.

Services

With our CheckServ offering and a well-developed network of qualified expert partners, we guarantee competent consultation and reliable support. From planning to installation and subsequent maintenance, we are available to our customers as a reliable contact partner at all times. If a malfunction occurs, our emergency service team is happy to help.

Our quality claim

With our products, we do not orient ourselves on existing solutions, but rather we develop and implement our own innovative technical concepts. In the process, our high quality standards for our products has been the foundation of REMKO's success for over 40 years. In cooperation with recognised testing institutes, all REMKO products are tested on our in-house test stands according to the latest European standards. Certificates confirm our sustainable quality assurance system.

Spare part service

In addition to accessory articles, REMKO offers spare parts for all its products that the customer can order conveniently online. The spare part search can also be used to find spare parts for older models. The quickest possible delivery is naturally part of the service provided by REMKO.

<https://www.remko.de/ersatzteil-suche/>



AIR-CONDITIONING

Air-Conditioners
Cold Water Air-Conditioning Systems



HEAT

Mobile Hot Air Heating Systems
Stationary Hot Air Heating Systems



NEW ENERGIES

Heat pumps
Modular power houses



DEHUMIDIFICATION

Dehumidifiers
High-Performance Fans



AIR CLEANING

Air purifier



CONTENTS

Page	Brine heat pumps	Series
4-5	Function of a heat pump	
6	Technology in detail	
7	Versatile in use	
8-9	Technical data	WSP
NEW 10-11	Technical data	WSP Duo
Heat pump packages		
12-17	Heat pump packages	WSP
18-19	Solar collectors	RSK
20-21	Tank systems	
22-25	Accessories	
26	Overview of indoor units	



The ground is an excellent heat reservoir.

It is heated throughout the year with sunshine and precipitation and can be used as a natural source of energy. The energy is taken from the ground either through surface collectors laid close to the surface or ground probes that extend deeply into the ground.

BRINE HEAT PUMPS

Use geothermal heat all year through

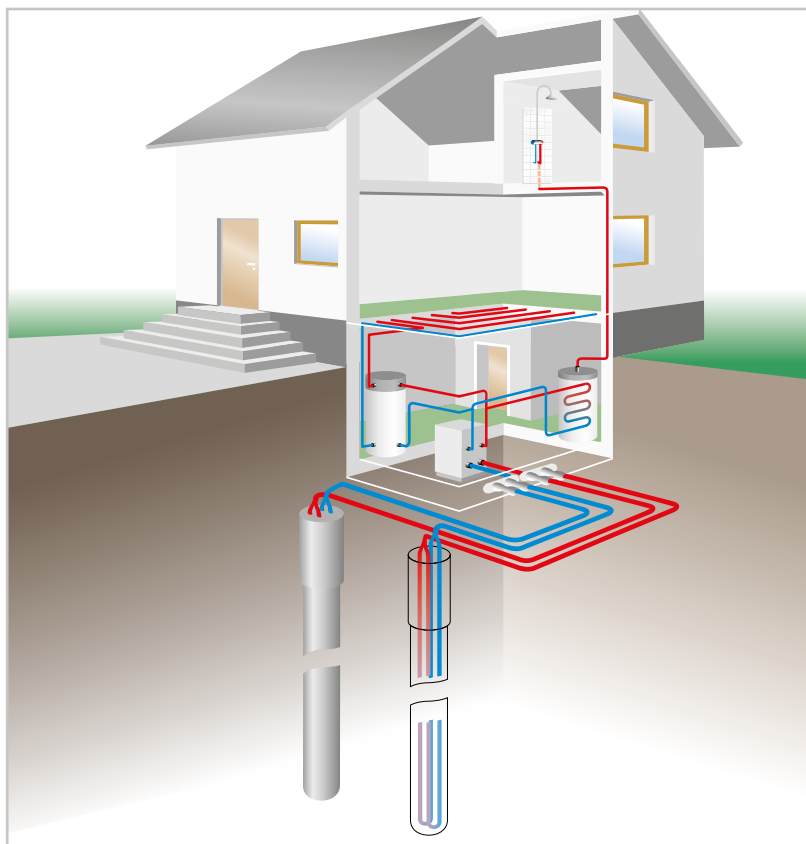
Extract energy from deep underground with brine probes.

Ground probes

The ground probes are inserted into the ground through vertical boreholes. They are ideally suited if not enough space is available.

The number of required drilling metres depends on the quality of the ground and the heat requirement.

Ground probes are fundamentally notifiable – and even require official approval in individual cases. Only certified companies may perform this kind of drilling.

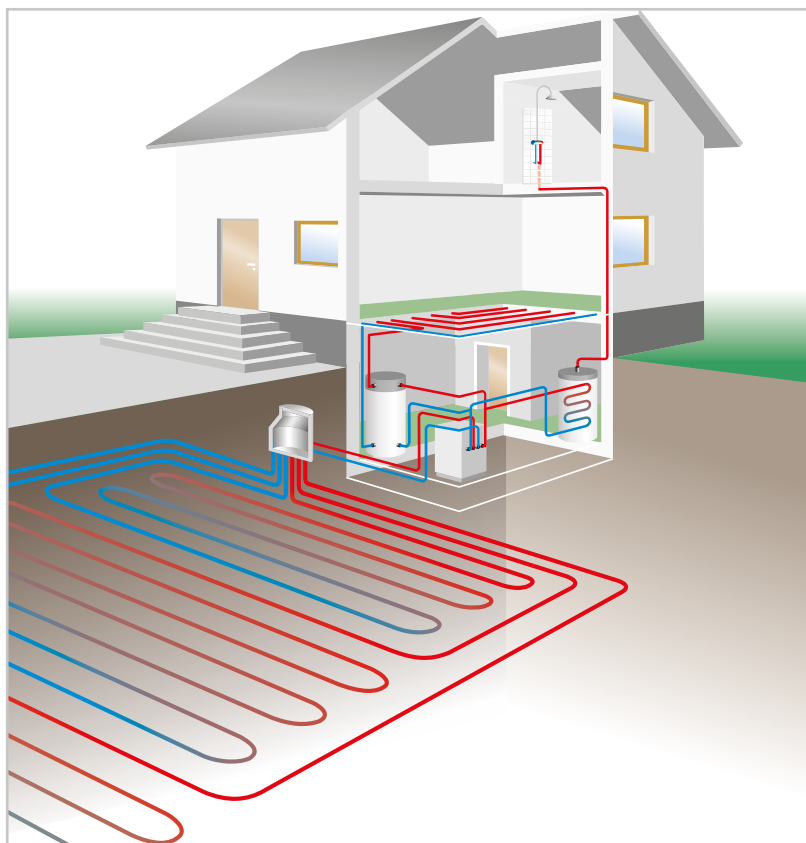


Develop energy close to the surface with surface collectors.

Surface collectors

When surface collectors are used, sufficient laying area must be available in the garden. At a depth of 120 to 150 cm below the surface of the earth, pressure-resistant plastic pipes must be laid in several loops. Brine – a mixture of anti-frost and water – circulates in the pipes. The energy accumulated in the ground is transferred to this brine circuit. The brine dissipates the heat to the heating system through the heat pump.

The size of the collector surface must be approximately twice as large as the heated surface.



REMKO SMART-CONTROL TOUCH

The intelligent control



Fig. Remote control



REMKO SMART-CONTROL TOUCH

The future is smart

The intuitive controller software with a plain-text menu and 4.3" touch display. Connection to all regenerative energies is possible. Whether heat pumps, solar energy, or photovoltaics, anything can be integrated. Use in a Smart-Grid or Smart Home system, such as KNX, is possible.

The controller offers extensive setting possibilities.

- Graphic representation of the heating curve
- Representation of the refrigeration circuit
- Smart-Web function
- Control of two mixed and one non-mixed heating circuits
- Dew point control with separate sensors in living spaces
- Smart Heating/Cooling function
- External data memory in I/O module

- Integration of photovoltaic current into the system
- Solar connection
- Connection to several heat generators
- 2 mixed heating circuits
- 1 non-mixed heating circuit
- Integration of air-conditioning function into the system
- All circuits with activatable cooling function
- Dynamic hygiene function
- Integration into a Smart-Home system
- Internet integration via the Smart-Web portal
- WLAN
- 4.3" touch display



Smart-Com for integration into a Smart Home system



Remote control via the Internet with Smart-Web



Graphic representation of the heating curve



Representation of the refrigeration circuit



Versatile in use

Highly efficient

The optimum output of the WSP series brine heat pumps highly efficiently supplies buildings with heat and hot water. The combination with a hot-water tank from the REMKO tank programme is possible.

Easy to install

All necessary components are stored in an attractive housing in a space-saving manner. The installation is performed quickly and easily with pre-assembled subassemblies. The refrigeration circuit is hermetically closed and therefore low-maintenance and quickly commissioned.

Particularly quiet

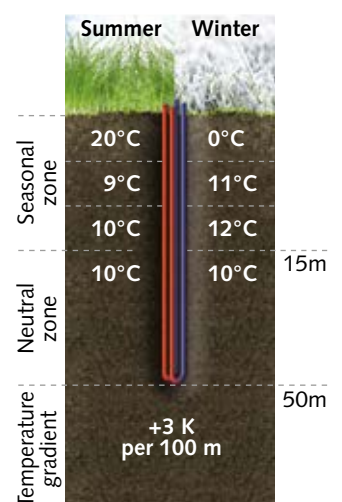
The brine heat pumps guarantee quiet operation due to additional noise insulation measures in the indoor unit. An outdoor unit is not required for this system. Based on the lack of noise development of an outdoor unit, the brine heat pump is ideal for use in densely populated residential areas.



Indoor unit,
WSP series

Geothermal heat

When geothermal heat is used, the natural underground temperature level is employed. In Central Europe, this temperature level is about 10°C. If the temperature distribution throughout the depth is taken into account, it becomes clear that the upper metres are subject to seasonal influences, which decrease the deeper you go.



REMKO WSP SERIES

Heat from the ground



REMKO WSP SERIES

Heat and air-condition reliably with geothermal energy

With the brine heat pump of the WSP series, REMKO offers a compact system by means of which the use of geothermal heat can be implemented for effective heating, domestic water heating and optional, passive cooling. Geothermal heat can be extracted by deep drilling or surface collectors. The system permits a high heating comfort without operating noises outdoors. Due to high inlet temperatures up to 60 °C, the WSP brine heat pump can also be optimally used for energetic renovation in old buildings.

Scope of supply

- REMKO Smart-Control Touch – the intelligent control system
- 1 highly efficient, controlled heating circuit pump
- 1 highly efficient, controlled heat source pump
- 4 shut-off valves
- Dirt filter for heating circuit and heat source
- 2 safety groups with SIV, automatic bleeding valve and pressure gauge
- Outdoor probe/immersion probe

Profit from these advantages

- No outdoor operating noises
- High inlet temperatures up to 60°C
- Effective heating, preparation for domestic water and passive cooling optionally available
- Use of geothermal energy by means of deep drilling or surface collectors
- Take advantage of the maximum of subsidy of the Federal Office of Economics and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle - BAFA) for new construction and renovations
- Remote access possible through the REMKO Smart Web Portal
- SmartServ 9 kW for emergency heating operation optional
- Integrated solar control
- Optimised use of photovoltaic current Smart Heating / Cooling
- Control of two mixed and one non-mixed heating circuits
- Smart-Control Touch Use in the Smart-Grid intelligent power mains is also possible.
- Especially noise-insulated scroll condenser in indoor unit
- Hermetically noise-insulated indoor unit housing for the minimisation of power losses and noise emissions
- Integrated power-controlled circulation pumps with EC technology for the supply of the heating system and heat source

Technical data

Area of use: heating ⁵⁾		6 kW	8 kW	10 kW	17 kW
Version		Monoblock	Monoblock	Monoblock	Monoblock
System		Brine-to-water	Brine-to-water	Brine-to-water	Brine-to-water
Operating mode		Heating/HW	Heating/HW	Heating/HW	Heating/HW
Testing		EHPA	EHPA	EHPA	EHPA
Smart-Control Touch		Series	Series	Series	Series
Preparation for domestic water		External tank	External tank	External tank	External tank
Cooling with cooling module		Optionally	Optionally	Optionally	Optionally
		passive	passive	passive	passive
Smart-Serv, heating rod 9 kW installed		Optional	Optional	Optional	Optional
Number of heat pumps		1	1	1	1
Nominal heating capacity ErP ⁴⁾	kW	6.0/5.0	8.0/7.0	11.0/9.0	17.0/15.0
Energy efficiency rating η_s for heating ⁴⁾		A+++/A+++	A+++/A++	A+++/A+++	A+++/A++
Rated heating capacity / COP for B0/W35 ¹⁾	kW / -	5.7/4.7	7.9/4.8	10.8/4.9	17.2/5.2
Rated heating capacity / COP for B0/W55 ¹⁾	kW / -	5.2/2.6	6.9/2.7	9.2/2.8	15.0/2.8
Rated heating capacity / COP for W10/W35 ¹⁾	kW / -	7.6/5.8	9.7/6.0	14.1/6.3	22.6/6.5
Rated heating capacity / COP for W10/W55 ¹⁾	kW / -	6.6/3.2	8.4/3.2	11.9/3.5	19.2/3.5
Heat source operating limit	°C	-10 to +25	-10 to +25	-10 to +25	-10 to +25
Heat pump refrigeration capacity	kW	5.0	7.0	9.0	15.0
Max. supply temperature, heating water	°C	+ 60	+ 60	+ 60	+ 60
Passive cooling (source) operating limit	°C	+2 to +20	+2 to +20	+2 to +20	+2 to +20
Nominal cooling capacity B5/W18	kW	10.0	10.0	12.0	12.0
Max. inlet temperature, cooling water	°C	+15	+15	+15	+15
Refrigerant ²⁾		R410A	R410A	R410A	R410A
Refrigerant filling volume/CO ₂ equivalent	kg/t	1.0/2.1	1.4/2.9	2.6/5.4	2.8/5.8
Refrigeration circuit		Hermetically closed			
Power supply for indoor unit/compressor	V/Ph/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50
Smart-Control power supply	V/Ph/Hz	230/1~/50	230/1~/50	230/1~/50	230/1~/50
Voltage supply for electrical heating element (SmartServ)	V/Ph/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50
Nominal power consumption for B0/W35	kW	1.22	1.76	2.21	3.33
Rated power consumption for B0/W35 (per phase)	A	2.35	2.85	3.60	5.40
Electrical power consumption, source pump	W	70	90	100	110
On-site fuse protection (indoor unit without heating rod)	A slow-acting	3x 16	3x 16	3x 16	3x 20
Nominal volume flow rate of water (heating) at Δt 5 K	m ³ /h	0.9	1.4	1.6	2.5
Nominal volume flow rate of heat source (brine)	m ³ /h	1.2	1.9	2.1	3.3
External maximum pressure loss (heating system)	kPa	50	40	80	60
Max. pressure loss of heat source with brine	kPa	70	60	70	60
Max. operating pressure, water	bar	3	3	3	3
Hydraulic connection, heating system/heat source (flat-sealing)	Inch	1/1	1/1	1 1/4 / 1 1/4	1 1/4 / 1 1/4
Pipeline diameter to be used on site, Cu pipe	mm	28	28	35	35
Sound power level L _{WA} (indoor unit)	dB(A)	42	44	45	45
Sound pressure level L _{pA} (outdoor unit) ³⁾	dB(A)	34	39	40	40
Dimensions of indoor unit, height/width/depth	mm	1065/650/650	1065/650/650	1065/650/650	1065/650/650
Weight of indoor unit	kg	175	185	200	210
Ref. no.		257080	257110	257140	257180

¹⁾ COP according to EN 14511, 30% glycol approx. -15°C ²⁾ GWP = 2088
⁵⁾ Total heating requirement, flow 35°C, 25% glycol

³⁾ Distance 1 m, in front of a wall, B0/W55

⁴⁾ Average, composite system W35/55 including

Accessories

Unit type	WSP 80	WSP 110	WSP 140	WSP 180
Cooling module , indoor unit for mounting to the WSP for the implementation of passive cooling and simultaneous regeneration of the heat source. Ideally suitable for flat cooling systems such as floor or wall heating systems or chilled sails. Pre-assembled with switchover valves, plate heat exchanger.	260140	260140	260141	260141
REMKO Smart-Serv , for hygiene operation supply for hygiene and emergency heating function, installed heating rod 9 kW. Note: No combination with REMKO Smart-BVT possible.	260096	260097	260098	260099
REMKO Smart-Count , factory-installed heat meter for the separate counting of the quantity of heat of heating and hot water	259010	259010	259010	259010
REMKO Smart-BVT , separate, 3-way switchover valve/overflow valve for the integration of a second heat generator, bivalently alternating operation Note: No combination with REMKO Smart-Serv possible. Only in combination with buffer tank.	260081	260081	260081	260081
REMKO Smart-Web – Ethernet interface for the connection of commercial home router software for dialling in to Smart-Control and setting and reading operating parameters	248120	248120	248120	248120

REMKO WSP DUO SERIES

Double heat from the ground

NEW



Master with slave
heat pump



REMKO WSP DUO SERIES

Heat and air-condition reliably with geothermal energy

With the brine heat pump of the WSP Duo series, REMKO offers a compact system by means of which the use of geothermal heat can be implemented for effective heating, domestic water heating and optional, passive cooling. Geothermal heat can be extracted by deep drilling or surface collectors. The system permits a high heating comfort without operating noises outdoors. Due to high inlet temperatures up to 60 °C, the WSP brine heat pump can also be optimally used for energetic renovation in old buildings. Due to the cascade connection, high heating capacities can be implemented.

Scope of supply

- REMKO Smart-Control Touch – the intelligent control system
- 1 highly efficient, controlled heating circuit pump per heat pump
- 1 highly efficient, controlled heat source pump per heat pump
- 4 shut-off valves per heat pump
- Dirt filter for heating circuit and heat source per heat pump
- 2 safety groups with SIV, automatic bleeding valve and pressure gauge
- Outdoor probe/immersion probe

Profit from these advantages

- No outdoor operating noises
- High inlet temperatures up to 60°C
- Effective heating, preparation for domestic water and passive cooling optionally available
- Use of geothermal energy by means of deep drilling or surface collectors
- Take advantage of the maximum of subsidy of the Federal Office of Economics and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle – BAFA) for new construction and renovations
- Remote access possible through the REMKO Smart Web Portal
- SmartServ 9 kW per heat pump for emergency heating operation optional
- Integrated solar control
- Optimised use of photovoltaic current Smart Heating / Cooling
- Control of 4 mixed and 1 non-mixed heating circuits
- Smart-Control Touch Use in the Smart-Grid intelligent power mains is also possible.
- Especially noise-insulated scroll condenser in indoor unit
- Hermetically noise-insulated indoor unit housing for the minimisation of power losses and noise emissions
- Integrated power-controlled circulation pumps with EC technology for the supply of the heating system and heat source
- Smooth operation through cascade connection

Technical data

Area of use: heating ⁵⁾		20 kW	34 kW
Unit type		WSP 140 Duo	WSP 180 Duo
Design		Cascade 2x WSP 140	Cascade 2x WSP 180
System		Brine-to-water	Brine-to-water
Operating mode		Heating / cooling	Heating / cooling
Testing		EHPA	EHPA
Smart-Control Touch		Series	Series
Preparation for domestic water		External tank	External tank
Cooling with cooling module		Optionally passive	Optionally passive
Smart-Serv, heating rod 9 kW installed		Optional	Optional
Number of heat pumps		2	2
Nominal heating capacity ErP ⁴⁾	kW	22.0/18.0	34.0/30.0
Energy efficiency rating for heating ⁴⁾		A+++ / A+++	A+++ / A++
Rated heating capacity / COP for B0/W35 ¹⁾	kW / -	21.6/4.9	34.4/5.2
Rated heating capacity / COP for B0/W55 ¹⁾	kW / -	18.4/2.8	30.0/2.8
Rated heating capacity / COP for W10/W35 ¹⁾	kW / -	28.2/6.3	45.2/6.5
Rated heating capacity / COP for W10/W55 ¹⁾	kW / -	23.8/3.5	38.4/3.5
Heat source operating limit	°C	-10 to +25	-10 to +25
Heat pump refrigeration capacity	kW	18.0	30.0
Max. supply temperature, heating water	°C	+ 60	+ 60
Passive cooling (source) operating limit	°C	+2 to +20	+2 to +20
Nominal cooling capacity B5/W18	kW	24.0	24.0
Max. inlet temperature, cooling water	°C	+15	+15
Refrigerant ²⁾		R410A	R410A
Refrigerant filling volume/CO ₂ equivalent	kg/t	2x 2.6/5.4	2x 2.8/5.8
Refrigeration circuit		Hermetically closed	
Power supply for indoor unit/compressor	V/Ph/Hz	230/1~/50	230/1~/50
Smart-Control power supply	V/Ph/Hz	400/3~/50	400/3~/50
Voltage supply for electrical heating element (SmartServ)	V/Ph/Hz	400/3~/50	400/3~/50
Nominal power consumption for B0/W35	kW	2x 2.21	2x3.33
Rated power consumption for B0/W35 (per phase)	A	2x 3.60	2x5.40
Electrical power consumption, source pump	W	2x 100	2x 110
On-site fuse protection (indoor unit without heating rod)	A slow-acting	2x - 3x16	2x - 3x20
Nominal volume flow rate of water (heating) at Δt 5 K	m ³ /h	2x 1.6	2x2.2x25
Nominal volume flow rate of heat source (brine)	m ³ /h	2x 2.1	2x 3.3
External maximum pressure loss (heating system)	kPa	Only with buffer tank (80kPa)	Only with buffer tank (60 kPa)
Max. pressure loss of heat source with brine	kPa	70	60
Max. operating pressure, water	bar	3	3
Hydraulic connection, heating system/heat source (flat-sealing)	Inch	1¼/1¼	1¼/1¼
Pipeline diameter to be used on site, Cu pipe	mm	Collective line 35	Collective line 35
Sound power level LwA (indoor unit)	dB(A)	45	45
Sound pressure level LpA (outdoor unit) ³⁾	dB(A)	40	40
Dimensions of indoor unit, height/width/depth	mm	2 x 1065/650/650	2 x 1065/650/650
Weight of indoor unit	kg	2 x 200	2 x 210
Ref. no.		257190	257200

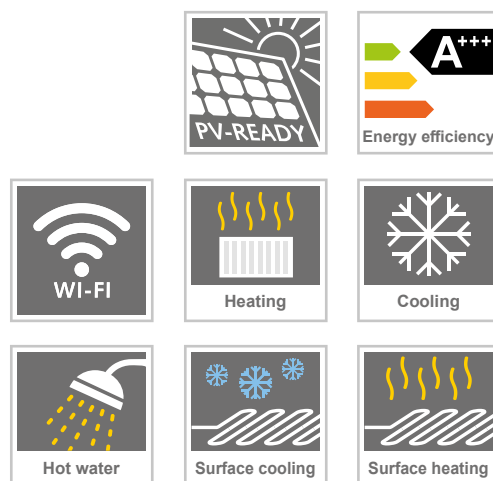
¹⁾ COP according to EN 14511, 30% glycol approx. -15°C ²⁾ GWP = 2088 ³⁾ Distance 1 m, in front of a wall, B0/W55 ⁴⁾ Average, composite system W35/55 including Smart-Control ⁵⁾ Total heating requirement, flow 35°C, 25% glycol

Accessories

Unit type	WSP 140 Duo	WSP 180 Duo
Cooling module , indoor unit for mounting to the WSP for the implementation of passive cooling and simultaneous regeneration of the heat source. Ideally suitable for flat cooling systems such as floor or wall heating systems or chilled sails. Pre-assembled with switchover valves, plate heat exchanger per heat pump.	260141	260141
REMKO SmartServ , for hygiene operation supply screed drying and emergency heating function, installed heating rod 9 kW. Note: No combination with REMKO Smart-BVT possible.	2x 260096	2x 260097
REMKO Smart-Count , factory-installed heat meter for the separate counting of the quantity of heat of heating and hot water	2x 259010	2x 259010
REMKO Smart-BVT , separate, 3-way switchover valve/overflow valve for the integration of a second heat generator, bivalently alternating operation Note: No combination with REMKO Smart-Serv possible. Only in combination with buffer tank.	260101	260101
REMKO Smart-Web – Ethernet interface for the connection of commercial home router software for dialling in to Smart-Control and setting and reading operating parameters	248120	248120

HEAT PUMP PACKAGES

Type: Mannheim



REMKO WSP SERIES

Heat pump package, Type Mannheim

If the heat pump is intended to serve as a sole heat generator, this heat pump package is the ideal solution. This appliance is perfectly suited in connection with underfloor heating or modern heaters. The additional KWS 300 combination buffer tank is used for the hydraulic volume increase or decoupling of large volume flow rates. Optionally, a passive cooling function for the summer can be implemented using the cooling module (accessory). In this package, the drinking water preparation takes place in an enamelled KWS 300 drinking water tank. With this heat pump package, monovalent systems can be implemented.

Package consisting of:

- Heat pump WSP
- Combination buffer tank KWS 300 (300 l)
- 3-way changeover valve
- Electronic overflow valve



3-way changeover valve, 5/4"



Electronic overflow valve
1" G



Buffer tank for cooling and hot
water and hot water tank,
KWS 300



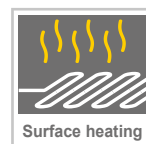
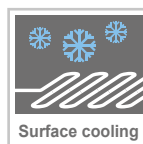
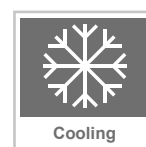
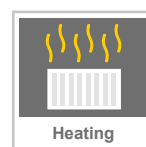
Area of use: heating ¹⁾		6 kW	8 kW	10 kW	17 kW
Unit type		WSP 80	WSP 110	WSP 140	WSP 180
Nominal heating capacity ErP	kW	6.0/5.0	8.0/7.0	11.0/9.0	17.0/15.0
Energy efficiency class ²⁾		A+++ / A+++	A+++ / A++	A+++ / A+++	A+++ / A++
Ref. no.		257500	257510	257520	257530

²⁾ Average, composite system for heating/hot water, including Smart-Control

Unit type	WSP 80	WSP 110	WSP 140	WSP 180
Cooling module , indoor unit for mounting to the WSP for the implementation of passive cooling and simultaneous regeneration of the heat source. Ideally suitable for flat cooling systems such as floor or wall heating systems or chilled sails. Pre-assembled with switchover valves, plate heat exchanger.	260140	260140	260141	260141
REMKO Smart-Serv , for hygiene operation supply for hygiene and emergency heating function, installed heating rod 9 kW. Note: No combination with REMKO Smart-BVT possible.	260096	260097	260098	260099
REMKO Smart-Web – Ethernet interface for the connection of commercial home router software for dialling in to Smart-Control and setting and reading operating parameters	248120	248120	248120	248120

HEAT PUMP PACKAGES

Type: Cologne



REMKO WSP SERIES

Heat pump package, Type Cologne

This heat pump package is designed for users who want heating and cooling first and foremost. The additional KPS 301 buffer tank is used for the hydraulic decoupling of large medium flow rates. Optionally, a passive cooling function for the summer can be implemented using the cooling module (accessory). Domestic water preparation takes place separately. With this heat pump package, both monovalent and bivalently alternating systems can be accommodated. A second heat generator (e.g., oil/gas boiler) can be connected through the external Smart BVT set.

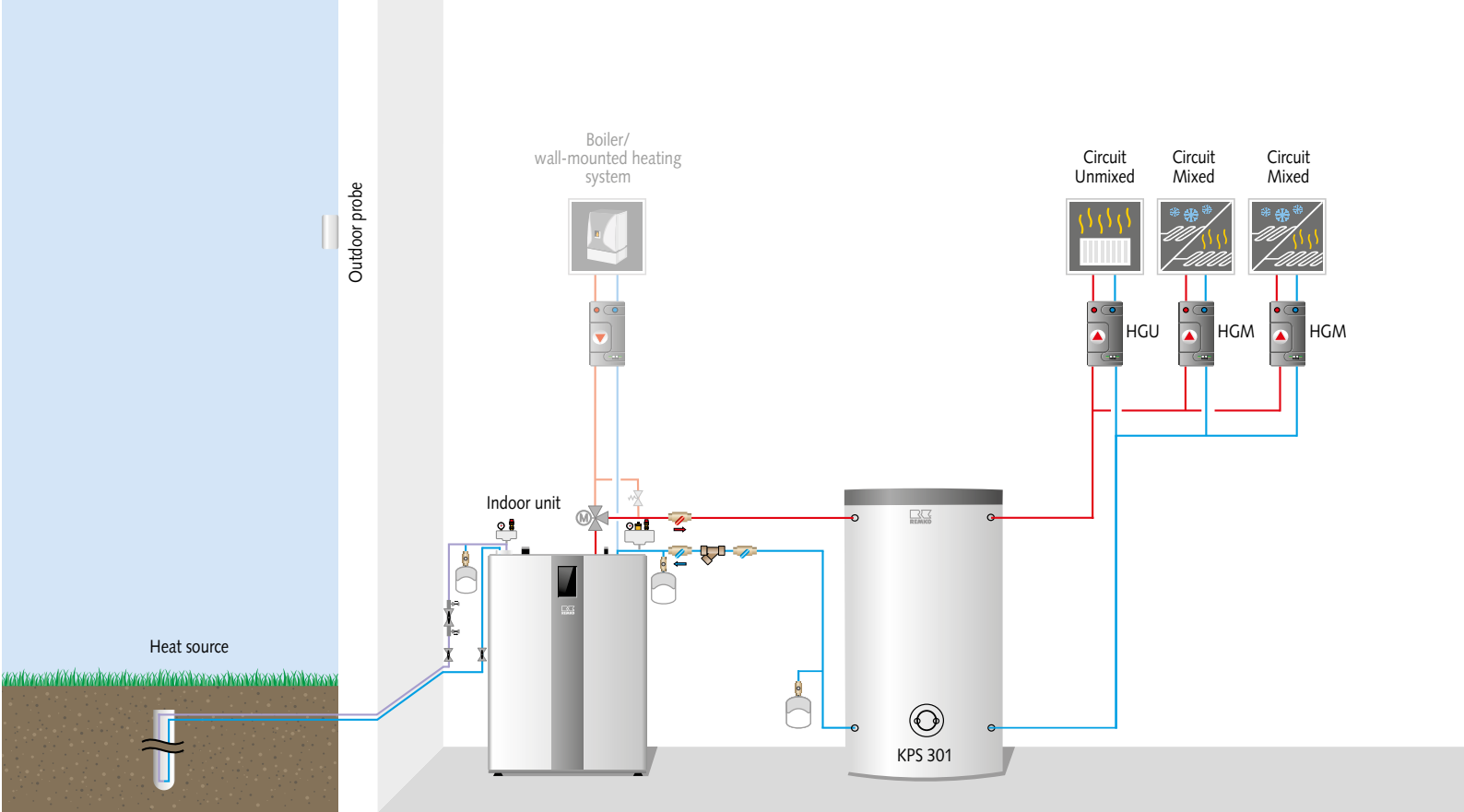
The separate pump assemblies HGU/HGM (can be ordered separately) for the heating circuits are equipped with a high-efficiency pump regulated in a needs-based manner.

Package comprising:

- Heat pump WSP
- Steam-diffusion-proof buffer tank for cooling and hot water KPS 301 (300 l)



Buffer tank for cooling and hot water KPS 301



Hydraulic diagram of Cologne (example for monovalent or alternative bivalent operation)

Technical data

Area of use: heating ¹⁾	6 kW	8 kW	10 kW	17 kW
Unit type	WSP 80	WSP 110	WSP 140	WSP 180
Nominal heating capacity ErP	6.0/5.0	8.0/7.0	11.0/9.0	17.0/15.0
Energy efficiency class ²⁾	A+++ / A+++	A+++ / A++	A+++ / A+++	A+++ / A++
Ref. no.	257540	257550	257560	257570

¹⁾ Total heating requirement, intake flow line 35°C, brine

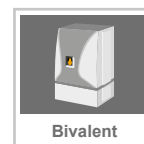
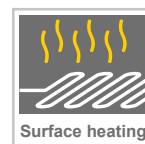
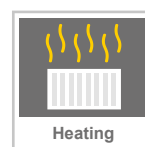
²⁾ Average, composite system for heating/hot water, including Smart-Control

Accessories

Unit type	WSP 80	WSP 110	WSP 140	WSP 180
Cooling module , indoor unit for mounting to the WSP for the implementation of passive cooling and simultaneous regeneration of the heat source. Ideally suitable for flat cooling systems such as floor or wall heating systems or chilled sails. Pre-assembled with switchover valves, plate heat exchanger.	260140	260140	260141	260141
REMKO Smart-Serv , for hygiene operation supply for hygiene and emergency heating function, installed heating rod 9 kW.	260096	260097	260098	260099
Note: No combination with REMKO Smart-BVT possible.				
REMKO Smart-BVT , separate, 3-way switchover valve/overflow valve for the integration of a second heat generator, bivalently alternating operation Note: No combination with REMKO Smart-Serv possible.	260081	260081	260081	260081
Note: Only in combination with buffer tank.				
REMKO Smart-Web – Ethernet interface for the connection of commercial home router software for dialling in to Smart-Control and setting and reading operating parameters	248120	248120	248120	248120
Heating circuit pump set HGU				
Speed-controlled heating circuit pump group/unmixed	259046	259046	259046	259046
Heating circuit pump set HGM				
Speed-controlled heating circuit pump group/mixed	259047	259047	259047	259047

HEAT PUMP PACKAGES

Type: Frankfurt



REMKO WSP SERIES

Heat pump package, Type Frankfurt

The energy-saving package is suitable for the integration of solar thermal systems or combustible solid fuel burners for heating and domestic water support. With the fin-tube heat exchanger (special accessory) RWT 31, collector surfaces from approx. 8 to 15 m² can be connected. The domestic water preparation takes place with a 800 litre or 1000 litre buffer tank and electronically regulated fresh water station using the hygienic flow method. With this heat pump package, both bivalently alternating and monovalently operated systems can be accommodated.

The separate pump subassemblies HGM/HGU (can be ordered separately) for the heating circuits are equipped with a high-efficiency pump regulated in a needs-based manner.

Package consisting of:

- Heat pump WSP
- Multifunctional buffer tank MPS 800 (800 l) or MPS 1000 (1000 l)
- Electronically regulated fresh water station EFS 20.1
- 2x 3-way changeover valve



2 x 3-way switchover valve,
5/4"



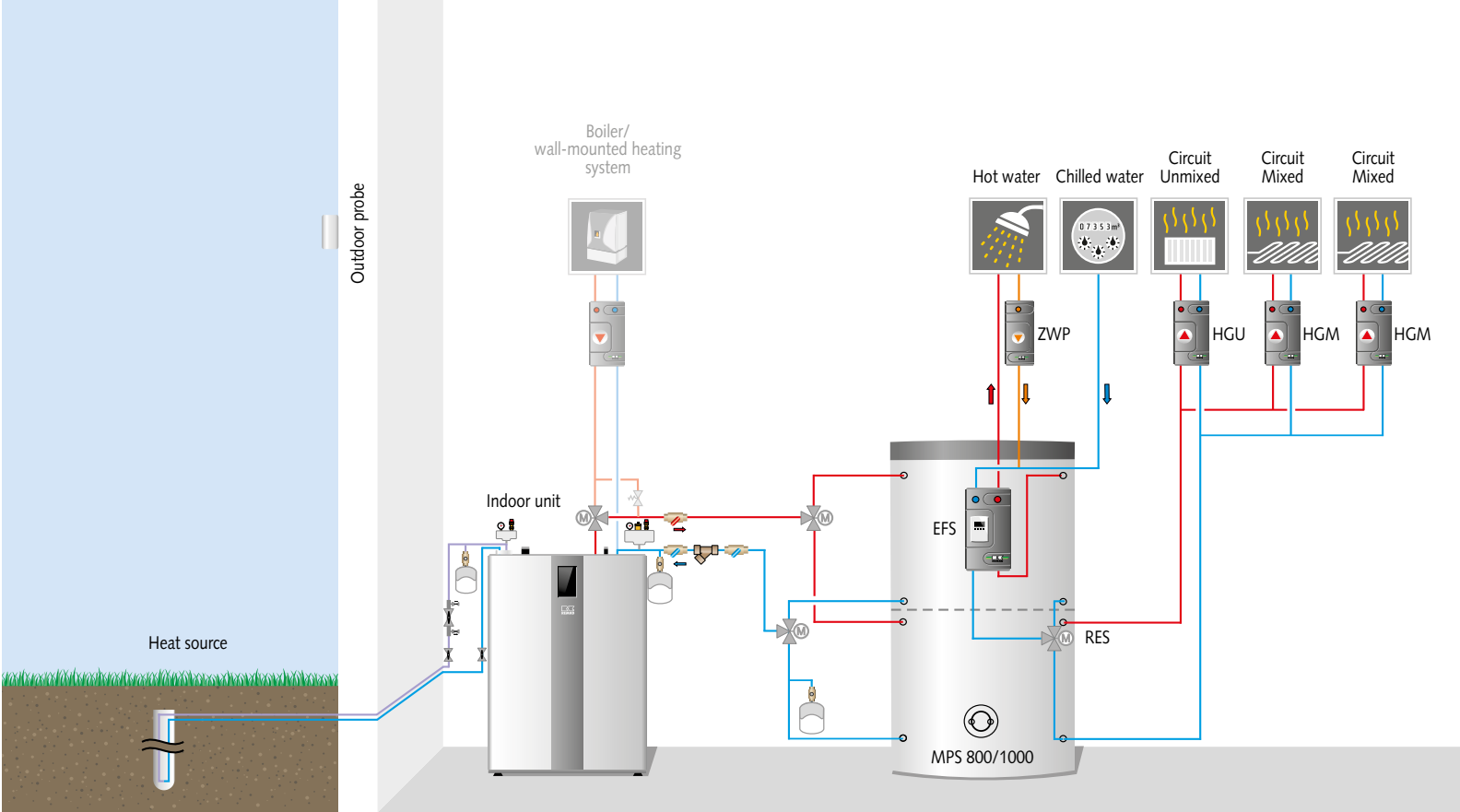
Immersion probe and
collector probe



Multifunctional buffer tank
MPS 800 or MPS 1000



Fresh water station with pump
and flow switch, EFS 20.1



Hydraulic diagram of Frankfurt (example for monovalent or alternative bivalent operation)

Technical data

Area of use: heating ¹⁾		6 kW	8 kW	10 kW	17 kW
Unit type		WSP 80	WSP 110	WSP 140	WSP 180
Nominal heating capacity ErP	kW	6.0/5.0	8.0/7.0	11.0/9.0	17.0/15.0
Energy efficiency class ²⁾		A+++/A+++	A+++/A++	A+++/A+++	A+++/A++
With MPS 800					
Ref. no.		257580	257590	257600	257610
With MPS 1000					
Ref. no.		257581	257591	257601	257611

¹⁾ Total heating requirement, intake flow line 35°C, brine

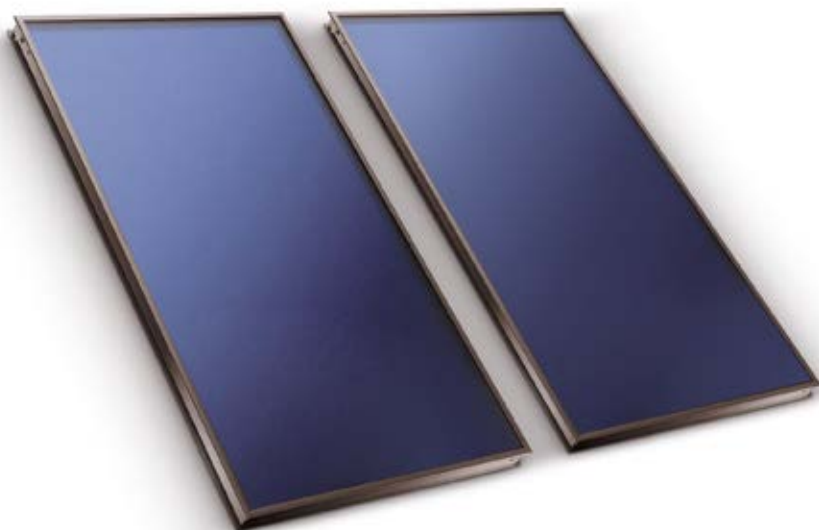
²⁾ Average, composite system for heating/hot water, including Smart-Control

Accessories

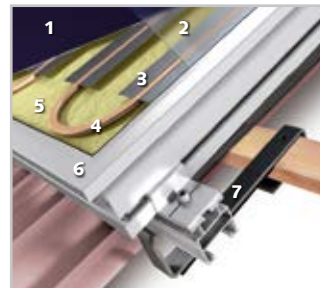
Unit type	WSP 80	WSP 110	WSP 140	WSP 180
REMKO Smart-Count , factory-installed heat meter for the separate counting of the quantity of heat of heating and hot water	259010	259010	259010	259010
REMKO Smart-Serv , for hygiene operation supply for hygiene and emergency heating function, installed heating rod 9 kW. Note: No combination with REMKO Smart-BVT possible.	260096	260097	260098	260099
REMKO Smart-BVT , separate, 3-way switchover valve/overflow valve for the integration of a second heat generator, without circulation pump, bivalently alternating operation. Note: No combination with REMKO Smart-Serv possible. Only in combination with buffer tank.	260081	260081	260081	260081
REMKO Smart-Web – Ethernet interface for the connection of commercial home router software for dialling in to Smart-Control and setting and reading operating parameters	248120	248120	248120	248120
Heating circuit pump set HGU Speed-controlled heating circuit pump group/unmixed	259046	259046	259046	259046
Heating circuit pump set HGM Speed-controlled heating circuit pump group/mixed	259047	259047	259047	259047

HEAT PUMP SOLAR PACKAGES

Solar collector RSK 25



Cross-section of RSK 25



- 1** Highly selective absorber layer
- 2** 4 mm glass
- 3** Absorber sheet, aluminium
- 4** Absorber tube
- 5** Mineral wool
- 6** Anodised aluminium frame
- 7** Mounting system

REMKO RSK 25 SERIES

With the thermal high-performance solar collectors Type RSK 25, you can operate your heating system with even greater efficiency in combination with the inverter heat pump from REMKO. With the refined workmanship and specially developed heat conducting technology, a maximum amount of solar energy is utilised.

The RSK 25-5 solar set with two solar collectors utilises solar energy for hot-water preparation. The RSK 25-10 solar set with four solar collectors utilises solar energy for hot-water preparation and heating support. The REMKO solar sets provide unsurpassed performance

in a perfectly attuned system configuration with the well-known inverter heat pump.

Depending on the solar set, the heat pump can be used for air conditioning during the summer, whereas the thermal solar system assumes the hot water preparation. The complete system is controlled via the REMKO Smart-Control intelligent control system. Almost every desire can be fulfilled by the REMKO heat pump solar packages.

Solar set RSK 25-5

The solar set consisting of two solar collectors is an efficient supplement to hot-water preparation.

- 2x collectors RSK 25 (5.06 m²)
- Collector connector, straight
- Solar station with HE pump
- MAG 18, expansion vessel
- Wall mount for MAG
- Connecting tube for MAG
- Glycol, premixed, 10 l
- Basic mounting set
- Fin-tube heat exchanger RWT 18
- Immersion probe and collector probe

Solar set RSK 25-10

The solar set consisting of 4 solar collectors is an efficient supplement to hot-water preparation and heating support.

- 4x collectors RSK 25 (10.12 m²)
- Collector connector, straight
- Solar station with HE pump
- MAG 25, expansion vessel
- Wall mount for MAG
- Connecting tube for MAG
- Glycol, premixed, 20 l
- Basic mounting set
- Fin-tube heat exchanger RWT 31
- Immersion probe and collector probe



Solar station



Diaphragm expansion vessel



Basic mounting set



Fin-tube heat exchanger

Technical data

Unit type		RSK 25-5	RSK 25-10
Domestic water heating/heating support		Yes	Yes
Rooftop installation		Yes	Yes
Flat roof installation		Yes	Yes
Awning/façade installation		no	no
Installation type		Vertical, next to each other Horizontal, stacked (upon request)	Vertical, next to each other Horizontal, stacked (upon request)
Piping		meandering	meandering
Absorber coating		highly selective	highly selective
Number of collectors		2	4
Nominal thermal output	kW	1.9	1.9
Efficiency	%	79.7	79.7
Total collector surface area	m ²	2.53	2.53
Absorber surface area	m ²	2.35	2.35
Aperture surface area	m ²	2.35	2.35
Heat carrier content	l	1.7	1.7
Permissible operating pressure	bar	10	10
Max. corrugated pipe length	m	25	25
Dimensions - height/width/depth	mm	2102/1202/80	2102/1202/80
Weight	kg	44	44
Ref. no.		260820	260821

TANK SYSTEMS

REMKO HPS / MPS SERIES

Buffer tanks for heating water

- Universally usable as parallel buffer (hydraulic switch) or series-connected buffer
- With dummy flange cover D240 for retrofitting a fin-tube heat exchanger RWT 31
- Electrical immersion heating element, screw-in 6/4"
- Max. operating temperature 95°C
- Max. operating pressure 3 bar
- Test pressure 4.5 bar
- Corrosion protection coating outside
- 9 connecting threads (11 for MPS 800/ MPS 1000) 6/4" internal thread with inflow restrictors
- 4 socket screw threads 1/2" for probe/thermometer immersion sleeves
- From quality steel S235 according to DIN EN 10 025/10 111
- High-efficiency, double-shell heat insulation, 100 mm, silver grey

Technical data

Unit type		HPS 500	MPS 800	MPS 1000
Storage type		Buffer tank	Multifunctional buffer tank	
Tank volume	Litre	500	800	1000
BEVB	kW/24h	2.8	3.4	3.5
Heat retention loss	W	116	141	145
Energy efficiency class		C	-	-
Height with insulation	mm	1725	1785	2135
Diameter with insulation	mm	850	990	990
Diameter without insulation	mm	650	790	790
Tilt height without insulation	mm	1670	1750	2090
Weight	kg	113	157	176
Ref. no.		270300	270380	270400



REMKO KPS SERIES

Hot/cold water buffer tank

- Universally usable as parallel buffer (hydraulic switch) or series-connected buffer
- With cleaning flange lid D180 for retrofitting
- Fin-tube heat exchanger RWT 18, can be retrofitted
- Electrical immersion heating element, screw-in 6/4"
- Operating temperature: min. 7 °C, max. 95°C
- Operating pressure 3 bar
- Steel sheet inner boiler S235 according to DIN EN 10 025/10 111
- 4 connecting threads, external thread 5/4"
- Outer foil casing in silver grey
- High-quality PUR insulation 50 mm (CFC, HCFC and HFC-free), water vapour diffusion tight
- Probe channel for variable probe positioning KPS 301

Technical data

Unit type		KPS 131	KPS 301
Storage type		Hot/cold water buffer tank	
Tank volume	Litre	130	306
BEVB	kW/24h	0.89	1.61
Heat retention loss	W	37	67
Energy efficiency class		A	B
Height with insulation	mm	635	1295
Diameter	mm	700	700
Tilt height without insulation	mm	909	1441
Weight	kg	35	72
Ref. no.		270241	270251



REMKO EWS E / KWS SERIES

Tank for domestic hot water heating

- Enamelled with double-coiled smooth-tube heat exchanger and particularly large heat exchanger surface
- Inner container with magnesium protection anodes according to DIN 4753
- PUR insulation (free of CFCs, HCFCs, and HFCs)
- Max. operating pressure 10 bar
- Max. operating temperature 95°C
- Connection possibilities for circulation, external thread 3/4"
- Cold water supply and hot water outlet, internal thread 1"
- With cleaning flange lid D180
- Flange heating cartridge (legionella protection) or fin-tube heat exchanger RWT 18 can be retrofitted

Technical data

Unit type		EWS 200 E	EWS 301 E	EWS 500 E	KWS 300
Storage type		Domestic water tank, enamelled			Combination buffer tank
Net domestic water volume	Litre	168	264	426	275
Volume of buffer tank (steam-diffusion-proof)		—	—	—	100
Heat exchanger surface	m²	2.0	3.4	6.2	3.2
BEVB	kW/24h	1.37	1.64	1.88	1.77
Heat retention loss	W	57	68	78	74
Energy efficiency class		B	B	B	B
Tap profile		XL	XL	3 XL	XXL
Height	mm	1340	1420	1921	1760
Diameter	mm	555	650	750	750
Tilt height	mm	1455	1562	2023	1879
Weight	kg	90	120	222	190
Ref. no.		270550	270651	270800	270700

Accessories



Electric booster heating 6 kW

Electric booster heating 6/4" for installation in a buffer tank. Including temperature regulator and safety temperature limiter.

2, 4 or 6 kW can be optionally connected.
Note: Not suited for domestic water tank.

For unit type	Ref. no.
KPS, MPS, HPS	260063



Built-in flange heating

Consisting of a high-quality tubular heating element on which an insulated flange plate is fitted. Included: Protective current discharge resistor, thermal probe and safety temperature limiter. Max. operating pressure 10 bar. Heating capacity 6 kW.

Note: Not suited for buffer tanks of the HPS/MPS/KPS series.

For unit type	Ref. no.
EWS 301/500 E, KWS 300	260175



Fin-tube heat exchanger

For additional indirect heating, e.g. with a solar thermal system

Unit type	RWT 18	RWT 31
Suitable for buffers and domestic water tanks	EWS 301 E EWS 500 E KPS 301 KWS 300	HPS 500 MPS 800 MPS 1000
Heat exchanger surface	1.40 m²	3.10 m²
Installation length in	440 mm	530 mm
Connection G	3/4 inch	1 inch
Contents	1.50 l	2.50 l
Flange	180/8-hole Ø	240/12-hole Ø
Ref. no.	260200	260210

ACCESSORIES

Brine heat pumps



REMKO SmartControl Touch remote control

All functions of the heat pump and heating circuits can be set using the cabled remote control. A room-temperature-guided control of the heating circuits (FBH or radiators) and dew point control are possible due to the separately available Modbus moisture and temperature probe.

Ref. no.

Smart-Control Touch remote control	248109
Room temperature/moisture sensor	248103



REMKO Smart-Web

Ethernet interface for the connection of commercial home router software. For dialling in to Smart-Control. Setting and reading operating parameters using a smartphone, tablet PC, laptop, etc.

Ref. no.

REMKO Smart-Web	248120
-----------------	--------



REMKO Smart-Com

Additional software for the integration of the heat pump into a KNX system via a built-in KNX-IP interface, including heat meter installed at the factory (Smart Count).

Ref. no.

REMKO Smart-Com	254090
-----------------	--------



REMKO Easy-Control EC-1

Centrally used room thermostat for room-guided control of the heat pump in heating/cooling mode. Touch display for setting set temperature, heating mode, absence, switch-on/switch-off. Communication via Modbus protocol

Ref. no.

REMKO Easy-Control EC-1	248107
-------------------------	--------



Bidirectional power meter

Current meter for Smart Heating/Cooling function, photovoltaic integration. 400V/3~/50 with S0 interface

Ref. no.

Dual-direction power meter	259065
----------------------------	--------



Electrical condensate drainage heating

Temperature-regulated for the safe discharge of defrost water with outside temperatures below the freezing point.

Ref. no.

Condensate drainage heating	260045
-----------------------------	--------



External dew point monitor

including 1 contact probe An additional safety mechanism to prevent the occurrence of humidity. The humidity is checked directly on the surfaces. Connection of up to 5 measuring probes possible.

Ref. no.

Ext. dew point monitor	259070
Additional contact probe	259071



Flow sensor

Dynamic hygiene function with frequency output for recording the cold water volume flow rate in the domestic water tank. Regulation according to DIN 1988-200

Ref. no.

Tap volume ≤ 25l/min	254070
Tap volume ≥ 25l/min	254080

Contact probe Pt1000

- For the integration of the following:
- A temperature-controlled circulation pump via Smart-Control
- A heating circuit with mixer (2 pcs. required)

Ref. no. 259060

Immersion probe Pt1000

- Solar reference probe for buffer tank
- Domestic water tank EWS 300
- General buffer probe

Ref. no. 259062

Collector probe Pt1000

For the integration of solar thermal systems

Ref. no. 260102



3-way switchover valve
Electrical 3-way switchover valve for domestic water preparation and separate cooling circuit (four-pipe system).

	Ref. no.
5/4"	260072
6/4"	259055



BVT set, separate
For the internal integration of a second heat generator with greater heating capacity. Consisting of: 3-way valve, overflow valve 1"

	Ref. no.
BVT set, loose 5/4"	260081
BVT set, loose 6/4"	260101



Electronic overflow valve
Overflow protection valve 1" for ensuring that the minimum medium flow rate is maintained (e.g. during the operation of the buffer tank in the return line).

	Ref. no.
Electr. overflow valve	260082



Air separator 1 1/4"
For the permanent ventilation of the heat source or heating system. Glycol-resistant.

	Ref. no.
Air separator	260073



Pulse generator circulation
For the implementation of a pulse-controlled circulation pump via REMKO Smart-Control.

	Ref. no.
Pulse generator	259045



Brine pressure switch
Pressure switch for monitoring the brine pressure of the heat source. When the pressure drops under 0.5 bar, the heat pump is switched off automatically.

	Ref. no.
Brine pressure switch	260077



Heating circuit pump set HGU
Speed-controlled (PWM) heating circuit pump without mixer, ball valves with thermometer
Ref. no. 259046

Heating circuit pump set HGM
Speed-controlled (PWM) heating circuit pump with a mixer, ball valves with thermometer, 2x PT1000 contact probes
Ref. no. 259047



Sludge separator
For the filtration of contamination and corrosion products from the heating water, glycol-resistant and insulated

	Ref. no.
1" to 2.1 m³/h	260803
6/4" to 5.4 m³/h	260804



Complete heating protection
Corrosion protection and hardness stabilisation for conventional hot water heating systems, floor heaters made of steel, copper and aluminium materials.

	Ref. no.
Without anti-freeze 1 l	260819
With anti-freeze 10 l	260823
With anti-freeze 20 l	260807
With anti-freeze 200 l	260808
With anti-freeze 1000 l	260809

REMKO EFS SERIES

Fresh water stations



REMKO EFS SERIES

Electronically regulated fresh water stations

The fresh water stations of REMKO are used for hygienic domestic water preparation in connection with buffer tanks. The units are completely equipped with electronic control, speed-controlled high-efficiency pump, flow switch, and plate heat exchanger. The heat exchanger is designed for a high flow rate of 18 l/min (EFS 20.1), 32 l/min (EFS 35.1) and/or 50 l/min (EFS 50.1). The flow rate can be increased through cascading. The fresh water stations are delivered ready for mounting in the EPP housing. In the case of the EFS 35.1/50.1, the unit is mounted to the wall. The EFS 20.1 fresh water station permits mounting directly on the tank or wall.

Technical data

Unit type		EFS 20.1	EFS 35.1	EFS 50.1
Transmission power	kW	44 ¹⁾	79 ²⁾	122 ³⁾
Installation site		Tank/wall	Wall	Wall
Heat pump type	WSP	80110140180	180, 140/180 Duo	140/180 Duo
Min. buffer volume for hot water operation	L	500	800	1000
Primary connections IG	Inch	3/4	1 1/2	2
Secondary connections AG, flat-sealing	Inch	3/4	1	1 1/4
Dimensions - max. height/width/depth	mm	540/345/324	795/602/298	795/602/298
Tap volume at 45°C tap temperature and 50°C tank temperature	l/min	18	32	50
Tap volume at 45°C tap temperature and 60°C tank temperature	l/min	31	50	77
Tap volume at 45°C tap temperature and 70 °C tank temperature	l/min	39	64	88
Ref. no.		260180	260181	260182

¹⁾ Tapping output at 50°C buffer temperature / 18 l/min / 10°C CW supply line

²⁾ Tapping output at 50°C buffer tank temperature / 32 l/min. / 10°C CW supply line

³⁾ Tapping output at 50°C buffer tank temperature / 50 l/min. / 10°C CW supply line

Accessories

Unit type	EFS 20.1	EFS 35.1	EFS 50.1
Circulation pump EFS 20.1/35.1/50.1 , speed-controlled high-efficiency circulation pump for installation directly to the fresh water station	260185	259053	259053
3-way changeover valve for temperature-dependent layering in the buffer tank	260072	260072	260072



Return flow layering set RES

For EFS 20.1 for connection to a buffer tank, including tanks connection tubes and 3-way changeover valve for temperature-dependent layering in the buffer tank layering in the buffer tank. **Note:** Not suited for EFS 35.1/50.1.

For device type	Ref. no.
MPS 800	259031
MPS 1000	259032



Tank connection set

For the direct connection of the fresh water station EFS 20.1 to the buffer tank. **Note:** Not suited for EFS 35.1/50.1.

For device type	Ref. no.
HPS 500	259040
MPS 800	259041
MPS 1000	259042

Accessories – solar collectors



3-Way changeover valve Solar, 1"
Electrical changeover valve/3-way valve 1" for thermal solar plants

	Ref. no.
3-way changeover valve	260800



Glycol
Heat transfer medium with corrosion protection for solar plants (included in the solar set)

	Ref. no.
10 L	260805
20 L	260806



Collector connector, straight
For the connection of the solar collectors RSK 25 (included in the solar set)

	Ref. no.
Collector connector	260810



Mounting coupling for collector line
For the connection of the corrugated solar pipe to the RSK 25 solar collectors (included in the corrugated pipe mounting set)

	Ref. no.
Mounting coupling	260865



Flat roof installation set
For solar collectors

	Ref. no.
RSK 25-5	260842
3x flat roof brackets	
1x safety support	
RSK 25-10	260843
5x flat roof brackets	
1x safety support	

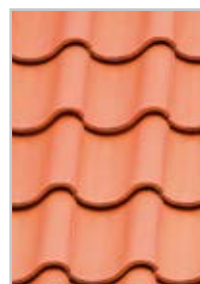


Insulated, corrugated pipe
For solar collectors for RSK 25-5 and RSK 25-10, including probe cable

	Ref. no.
10 m, including connection set	260900
15 m, including connection set	260901
25 m, including connection set	260902
Corrugated pipe, running metre (max. 25 m)	260869
Installation set, separate	260870

Rooftop anchor set
Complete rooftop anchor set for solar collectors

For solar package	For tile type	Ref. no.
RSK 25-5	Frankfurter tile	260850
RSK 25-10	Frankfurter tile	260855
RSK 25-5	Crown tile	260851
RSK 25-10	Crown tile	260856
RSK 25-5	Slate	260852
RSK 25-10	Slate	260857
RSK 25-5	Rafter-independent	260853
RSK 25-10	Rafter-independent	260858



Frankfurter tile



Crown tile



Slate tile

OVERVIEW OF INDOOR UNITS

Chilled-water units for cooling and heating



REMKO WLT EC SERIES

Wall units in 2-pipe design with multifunctional control technology

Unit type		WLT 30-90 EC
Cooling capacity	kW	2.8 - 9.3
Heating capacity	kW	4.2 - 11.3
For technical data, see REMKO cold water air conditioning systems		



REMKO KWD EC SERIES

Ceiling cassette in 2-pipe design with multifunctional control technology

Unit type		KWD 25-100 EC
Cooling capacity	kW	2.6 - 9.7
Heating capacity	kW	3.7 - 12.3
For technical data, see REMKO cold water air conditioning systems		



REMKO KWK EC (DM) SERIES

Wall and ceiling chests in 2-pipe or 4-pipe design with infinitely variable EC fan

Unit type		KWK 135-875 EC (DM)
Cooling capacity	kW	1.3 - 8.8
Heating capacity	kW	1.6 - 9.2
For technical data, see REMKO cold water air conditioning systems		



REMKO KWK EC ZW SERIES

Ceiling chests in 2-pipe or 4-pipe design with infinitely variable EC fan for installation into false ceilings

Unit type		KWK 135-875 EC ZW
Cooling capacity	kW	1.3 - 8.8
Heating capacity	kW	1.6 - 9.2
For technical data, see REMKO cold water air conditioning systems		



REMKO HEAT PUMP CONFIGURATOR

The way to the right heat pump

Using the heat pump configurator, you can configure an appropriate inverter heat pump for your operations quickly and easily. In addition to the appropriate heat pump, the configurator also shows the hydraulic diagram, the accessory parts required for installation, the bivalence point, and the right Energy Label of the heat pump system.



Heat pump configurator

<https://www.remko.de/berechnungshilfen/konfiguratoren/waermepumpen-konfigurator/>

REMKO QUALITY WITH SYSTEMS

Climate | Heating | New energies

REMKO GmbH & Co. KG
Air-Conditioning and Heating Technology

Im Seelenkamp 12
32791 Lage

Phone +49 (0) 5232 606-0
Fax +49 (0) 5232 606-260

E-mail info@remko.de
Internet www.remko.de

Hotline within Germany
+49 (0) 5232 606-0

International hotline
+49 (0) 5232 606-130

