# **STATIONARY** HOT AIR HEATING SYSTEMS

Rapid heat, adapted to your needs

**Stationary heaters**
Wall-mounted heaters
Universal heaters
Hot water heaters
Ceiling ventilation units
Ceiling heating systems
Ceiling fans
Exhaust gas systems

Issue 2020

# 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.

**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.

**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.

**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/en/spare-part-search/**

## AIR-CONDITIONING

**Air-conditioners**
**Chilled water air-conditioning systems**

## HEAT

**Mobile hot air heating systems**
**Stationary hot air heating systems**

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QUALITY WITH SYSTEMS

# **STATIONARY** HOT AIR HEATING SYSTEMS

## Rapid heat, adapted to your needs

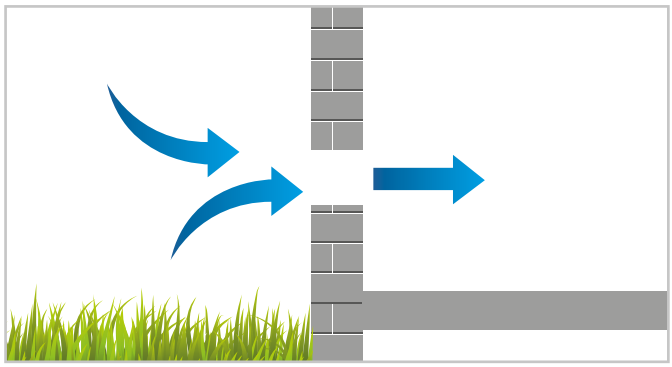
**Tailored heating of halls**

Stationary hot air heaters are mainly used in industrial halls for continuous operation. They are installed to walls, ceilings or floors and can be adapted to the specific circumstances of the installation site according to the modular principle.

An extensive heating pipe system does not have to be laid first as the oil- or gas-operated heaters operate without a transfer medium. The heat is dissipated immediately to the ambient air. This saves energy, providing pleasant temperatures immediately.

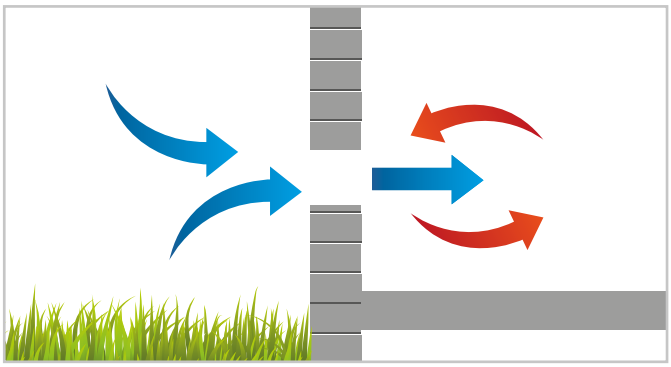
**Adaptable and expandable**

Hot air heaters, however, can also be connected to an existing hot air heating plant. The heat can be directly wherever needed in a targeted manner using air control fins. Due to the easy assembly of the units, the required heating capacity can be adapted and expanded as needed at any time.



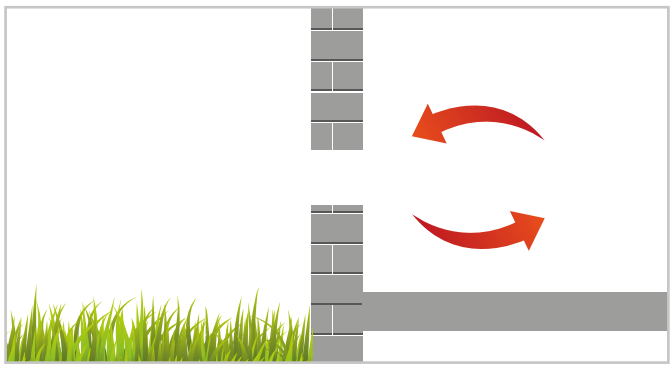
**Fresh-air operation**

The air to be heated is taken directly from the outside. In case of corresponding outside conditions, this method guarantees clean, unused air. Fresh air is brought into the room from outside (only ventilation, no heating) during fresh-air operation in the summer.



**Mixed-air operation**

According to the setting, more or less fresh air is suctioned in together with the room air. This method reduces heating costs because previously heated air from the heated room is used on the one hand and covers the necessary fresh-air requirement on the other.



**Recirculation air operation**

The air is taken from the room being heated and blown into the same room again after heating. This method cases the lowest operating costs because only the previously heated room air is reheated and circulated.

# **REMKO** GPS SERIES

## Wall-mounted heating systems with two-stage gas burner


REMKO GPS 75

### **REMKO** GPS SERIES

**Hall heating with high energy efficiency**

The REMKO series is characterised by their compact dimensions, flexible application possibilities, and particularly by their microprocessor controlled gas burner technology. A total of five unit sizes with a heating capacity from 13.0 to 73.5 kW is available. The units are suitable for both wall and ceiling mounting. A variety of exhaust gas and fresh air versions rounds out the flexible installation possibility of this series of units. Through the use of the two-stage gas burner technology, a high energy efficiency is achieved with simple technology.

- High energy efficiency with two-stage gas burner technology
- Highly flexible applications
- Space-saving wall or ceiling mounting option
- Quick and inexpensive installation
- Very compact and low noise design
- Burner chamber of INOX steel

High energy efficiency with two-stage gas burner technology

Microprocessor-controlled unit technology

**Areas of application**

- Sales and commercial premises
- Warehouses and manufacturing halls
- Retailers and supermarkets
- Sports centres

## Technical data

| Unit type * | | GPS 15 | GPS 25 | GPS 35 | GPS 55 | GPS 75 |
|---|---|---|---|---|---|---|
| Nominal heat load | kW | 13.0 / 16.5 | 21.8 / 27.0 | 27.5 / 34.8 | 42.4 / 52.2 | 60.0 / 73.5 |
| Nominal thermal output | kW | 12.1 / 15.0 | 20.4 / 24.6 | 25.8 / 31.9 | 39.9 / 48.1 | 56.2 / 67.5 |
| Air flow rate | m³/h | 2.000 | 2.700 | 3.100 | 4.500 | 7.800 |
| Fuel | | Natural gas / propane gas | | | | |
| Gas flow rate, natural gas H | m³/h | 1.38 / 1.75 | 2.31 / 2.86 | 2.91 / 3.68 | 4.20 / 5.52 | 6.35 / 7.78 |
| Gas flow rate, natural gas L | m³/h | 1.60 / 2.03 | 2.68 / 3.32 | 3.38 / 4.28 | 4.80 / 6.42 | 7.38 / 9.04 |
| Gas flow rate, propane gas | kg/h | 1.06 / 1.35 | 1.78 / 2.21 | 2.25 / 2.85 | 3.22 / 4.27 | 4.91 / 6.01 |
| Horizontal blowing range | m | 20 | 22 | 22 | 23 | 23 |
| Voltage supply | V/Ph/Hz | 230/1~/50 | 230/1~/50 | 230/1~/50 | 230/1~/50 | 230/1~/50 |
| Exhaust connection Ø | mm | 80 | 80 | 80 | 80 | 80 |
| Fresh air connection Ø | mm | 80 | 80 | 80 | 80 | 80 |
| Weight | kg | 57 | 57 | 67 | 78 | 102 |
| **Design** | | **Natural gas H** | **Natural gas H** | **Natural gas H** | **Natural gas H** | **Natural gas H** |
| Ref. no. | | 224001 | 224021 | 224041 | 224081 | 224101 |
| **Design** | | **Natural gas L** | **Natural gas L** | **Natural gas L** | **Natural gas L** | **Natural gas L** |
| Ref. no. | | 224002 | 224022 | 224042 | 224082 | 224102 |
| **Design** | | **Propane gas** | **Propane gas** | **Propane gas** | **Propane gas** | **Propane gas** |
| Ref. no. | | 224003 | 224023 | 224043 | 224083 | 224103 |

* The gas connection must be performed by a licensed installer

| | | | | |
|---|---|---|---|---|
| Calorific value | $H_i$ | related to dry standard test gas at 15 °C and 1,013.25 mbar | | |
| Natural gas | H | G 20 = 9.45 kWh/m³ | Liquid gas | G 30 = 12.68 kWh/kg |
| Erdgas | L | G 25 = 8.13 kWh/m³ | Liquid gas | G 31 = 12.87 kWh/kg |

| Switchgear and control units | | | | | | |
|---|---|---|---|---|---|---|
| **Cabled remote control KF-30** surface mounting, type of protection IP20, electrical remote unlocking mechanism, Heat/Ventilate selector switch, including 3.5 m connecting cable | 1011371 | 1011371 | 1011371 | 1011371 | 1011371 |
| **Temperature control RR-30** surface mounting, type of protection IP20, selector switch for Heat/Off/Ventilate, installed thermostat, electrical remote unlocking mechanism, including 3.5 m connecting cable | 1011372 | 1011372 | 1011372 | 1011372 | 1011372 |
| **Electronic temperature controller ATR-10** surface mounting, type of protection IP 54, automatic day/night economy, weekly programme, electrical remote unlocking mechanism, external thermostat connection for mixed temperature, error and operation messages, including external temperature probe | 1011373 | 1011373 | 1011373 | 1011373 | 1011373 |
| **Temperature probe set** for 4-point mixed temperature recording for the ATR-10 | 1011343 | 1011343 | 1011343 | 1011343 | 1011343 |
| **Relay board RP-20** for group switching of 1-32 GPS units with the ATR-10, 1 x RP-20 per GPS unit | 1011380 | 1011380 | 1011380 | 1011380 | 1011380 |

| Accessories | | | | | |
|---|---|---|---|---|---|
| **Bracket for wall mounting** Design: Standard | 228780 | 228780 | 228780 | 228780 | 228780 |
| **Bracket for wall mounting** Design: rotary | 228781 | 228781 | 228782 | 228782 | 228783 |
| **Mounting set** for suspension from ceiling with horizontal air outlet | 228785 | 228785 | 228785 | 228785 | 228785 |
| **Mounting set** for suspension from ceiling with vertical air outlet, installed | 228786 | 228786 | 228786 | 228786 | 228787 |
| **Gas connection tube** made of stainless steel fabric, length 500 mm | 228768 | 228768 | 228768 | 228768 | 228768 |

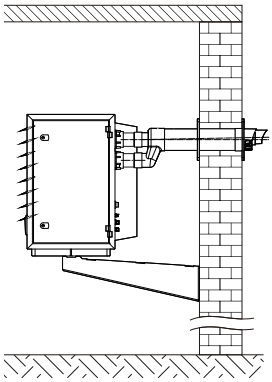
# **REMKO** GPS SERIES

## Wall-mounted heating systems with two-stage gas burner


REMKO GPS 25

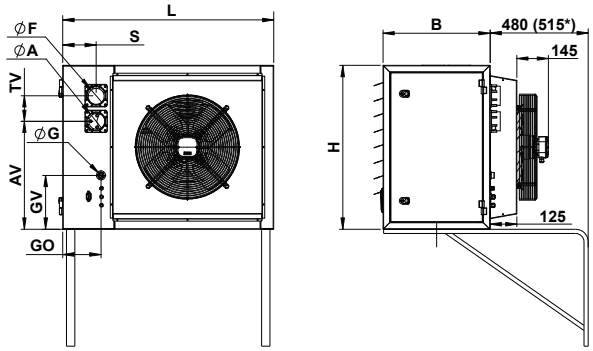
**Outside wall installation**

Unit installation, including the exhaust gas and fresh air versions, takes place according to classifications C13, C33, C43, C53, C63, and B23 of DVGW-TRGI 2008. The gas connection must be performed by a licensed fitter. Before the installation of the exhaust gas duct through the outside wall, the district heating inspector must be consulted.

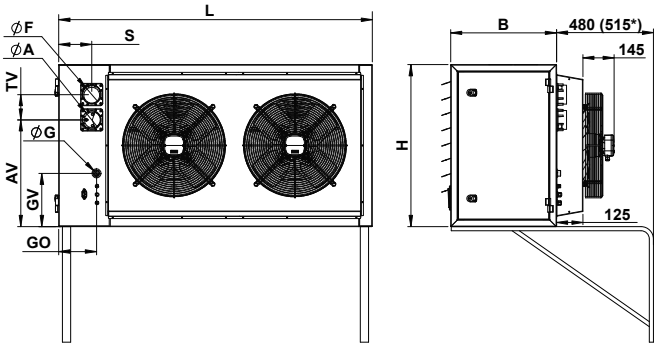


Chimney duct through wall with burner fresh air supply

**Dimensions of GPS 15-55**




**Dimensions of GPS 75**

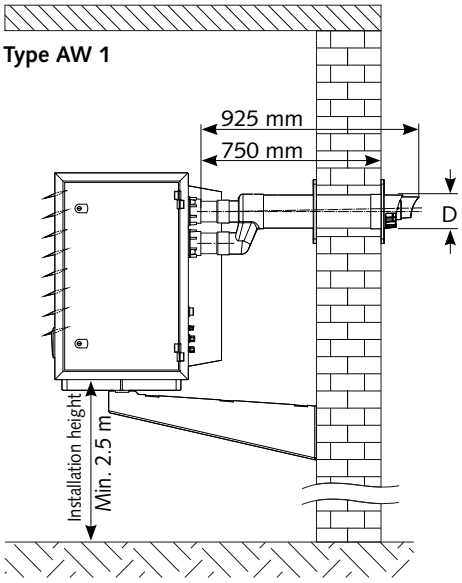



### Dimensions of GPS 15-75

| Unit type | | L | B | H | Ø A | Ø F | AV | TV | S | GO | GV | ØG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GPS 15 | mm | 795 | 500 | 690 | 80 | 80 | 430 | 120 | 155 | 180 | 255 | ¾" |
| GPS 25 | mm | 795 | 500 | 690 | 80 | 80 | 430 | 120 | 155 | 180 | 255 | ¾" |
| GPS 35 | mm | 985 | 500 | 690 | 80 | 80 | 430 | 120 | 155 | 180 | 255 | ¾" |
| GPS 55 | mm | 985 | 500 | 765 | 80 | 80 | 505 | 120 | 155 | 180 | 255 | ¾" |
| GPS 75 | mm | 1310 | 500 | 765 | 80 | 80 | 505 | 120 | 155 | 180 | 255 | ¾" |

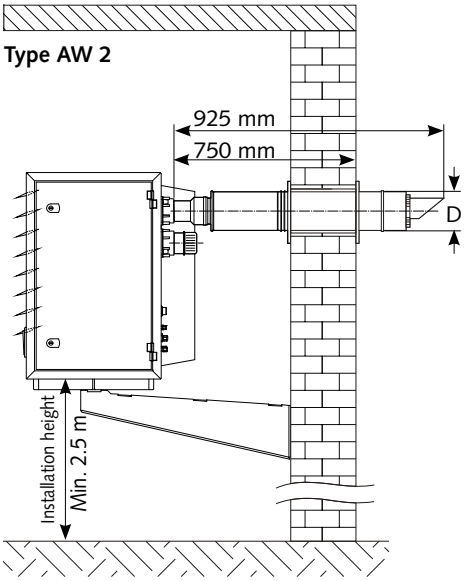
**LAS balanced flue system through the wall with burner fresh air supply**

**Type AW 1**




**Chimney duct through wall**

**Type AW 2**




**Note**

Please observe the following pipe diameters during planning.

| | AW1 Ø 80 | AW1 Ø 100 | AW2 Ø 80 | AW2 Ø 100 |
|---|---|---|---|---|
| Ø connection | 80 mm | 100 mm | 80 mm | 100 mm |
| Ø of wall opening | 125 mm | 150 mm | 125 mm | 150 mm |

Plan a wall opening with 5 mm clearance

**Maximum additional pipe length [1)]**

| | GPS 15 | GPS 25 | GPS 35 | GPS 55 | GPS 75 |
|---|---|---|---|---|---|
| AW1 Ø 80 [2)] | 30+30 m | 30+30 m | 20+20 m | 8+8 m | 2+2 m |
| AW2 Ø 80 | 30 m | 30 m | 30 m | 25 m | 10 m |

[1)] After the determination of the chimney duct, the pressure loss for the respective unit must be established. When using chimney bends, the pressure losses must especially be taken into account. [2)] Specification of the maximum fresh air and exhaust gas length. For GPS 55/75 in design AW1, longer variants are also available on request.

## Exhaust gas duct, outside wall

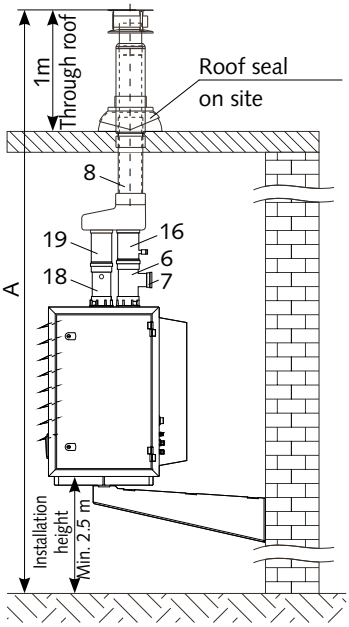
| Unit type | GPS 15 | GPS 25 | GPS 35 | GPS 55 | GPS 75 |
|---|---|---|---|---|---|
| **AW 1 Ø 80** [3)]<br>LAS balanced flue system with integrated burner fresh air supply for exterior wall installation, including wind guard, 925 mm long | 228774 | 228774 | 228774 | 228774 | 228774 |
| **AW 2 Ø 80** [3)]<br>Exhaust gas pipe for exterior wall installation, including wind guard and protective grid for combustion air intake, 925 mm long | 228772 | 228772 | 228772 | 228772 | 228772 |
| **Individual sections** | | | | | |
| **Exhaust gas or fresh air pipe**<br>Length 250 mm | 228868 | 228868 | 228868 | 228868 | 228868 |
| **Exhaust gas or fresh air pipe**<br>Length 500 mm | 228871 | 228871 | 228871 | 228871 | 228871 |
| **Exhaust gas or fresh air pipe**<br>Length 1000 mm | 228872 | 228872 | 228872 | 228872 | 228872 |
| **Exhaust or fresh air bend**<br>90° | 228910 | 228910 | 228910 | 228910 | 228910 |
| **Exhaust or fresh air bend**<br>45° | 228909 | 228909 | 228909 | 228909 | 228909 |
| **Exhaust gas pipe with condensate drain**<br>Horizontal, length 185 mm, including adapter Ø 32 mm | 228956 | 228956 | 228956 | 228956 | 228956 |
| **Protective grid**<br>For combustion air intake | 228960 | 228960 | 228960 | 228960 | 228960 |
| **Connection ports**<br>With test nipple | 228981 | 228981 | 228981 | 228981 | 228981 |

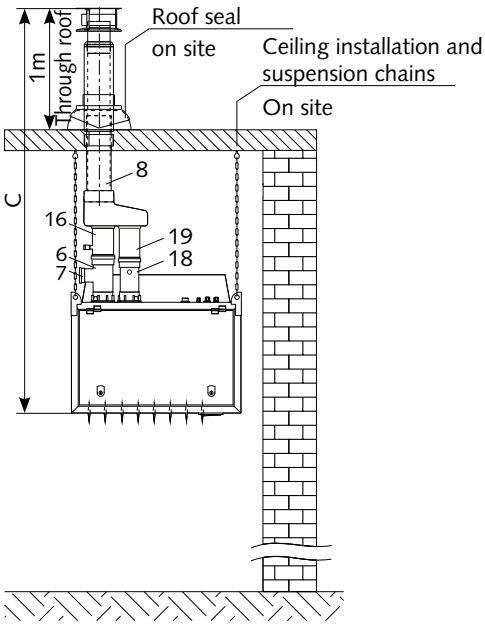
CE certificate no. CE 0432-BPR-119933 [3)] Exhaust gas system without test nipple

# **REMKO** GPS SERIES

## Wall-mounted heating systems with two-stage gas burner

**LAS balanced flue system**
**Type WSA 81**

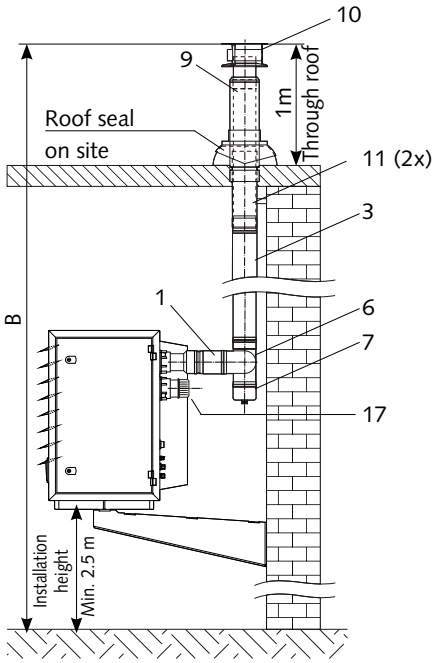



**LAS balanced flue system through roof with burner fresh air supply, WSA 81 series, single-walled aluminium, complete, comprising: ***

| | |
|---|---|
| Pos. 6 | 1 T-connection, 90° |
| Pos. 7 | 1 cleaning component with condensate drain |
| Pos. 8 | 1 unit roof penetration, LAS system with burner, fresh air supply, including rain hood, overall length 1850 mm |
| Pos. 16 | 1 exhaust gas pipe with condensate drain, vertical, length 185 mm, including adapter Ø32 |
| Pos. 18 | 1 connection port with test nipple |
| Pos. 19 | 1 exhaust gas or fresh air pipe, length 300 mm |

**Exhaust gas duct**
**Type WSA 82**




**Chimney duct through roof, WSA 82 series, single-walled aluminium chimney, complete, comprising: ***

| | |
|---|---|
| Pos. 1 | 1 exhaust gas or fresh air pipe, length 500 mm (with WSA 82) |
| Pos. 3 | 1 exhaust gas or fresh air pipe, length 1000 mm |
| Pos. 6 | 1 T-connection, 90° |
| Pos. 7 | 1 cleaning component with condensate drain |
| Pos. 9 | 1 roof penetration |
| Pos. 10 | 1 rain hood |
| Pos. 11 | 2 wall mounts |
| Pos. 17 | 1 protective grid for combustion air intake |

* The slanted/flat roof penetration must be ordered as well if required

## Exhaust gas duct through roof

| Unit type | GPS 15 | GPS 25 | GPS 35 | GPS 55 | GPS 75 |
|---|---|---|---|---|---|
| **WSA 81 *** LAS balanced flue system with integrated burner fresh air supply, rated diameter 80 mm | 228911 | 228911 | 228911 | 228911 | 228911 |
| **WSA 82 *** Exhaust system including protective grid, for combustion air extraction from the installation room | 228902 | 228902 | 228902 | 228902 | 228902 |

* The slanted/flat roof penetration must be ordered as well if required

| Individual sections | | | | | |
|---|---|---|---|---|---|
| 1 **Exhaust gas or fresh air pipe** Length 250 mm | 228868 | 228868 | 228868 | 228868 | 228868 |
| 2 **Exhaust gas or fresh air pipe** Length 500 mm | 228871 | 228871 | 228871 | 228871 | 228871 |
| 3 **Exhaust gas or fresh air pipe** Length 1000 mm | 228872 | 228872 | 228872 | 228872 | 228872 |
| 4 **Exhaust or fresh air bend** 90° | 228910 | 228910 | 228910 | 228910 | 228910 |
| 5 **Exhaust or fresh air bend** 45° | 228909 | 228909 | 228909 | 228909 | 228909 |
| 6 **T-connection** 90° | 228915 | 228915 | 228915 | 228915 | 228915 |
| 7 **Cleaning component** With condensate drain | 228920 | 228920 | 228920 | 228920 | 228920 |
| 8 **LAS system roof penetration** With burner fresh air supply, including rain hood, total length 1850 mm | 228965 | 228965 | 228965 | 228965 | 228965 |
| 9 **Extension of LAS system roof penetration** Total length 1000 mm | 228990 | 228990 | 228990 | 228990 | 228990 |
| 10 **Rain hood** | 228935 | 228935 | 228935 | 228935 | 228935 |
| 11 **Wall mount** | 228940 | 228940 | 228940 | 228940 | 228940 |
| 12 **Universal slanted roof penetration** For WSA 82 | 228945 | 228945 | 228945 | 228945 | 228945 |
| 13 **Flat roof penetration** for WSA 82 | 228950 | 228950 | 228950 | 228950 | 228950 |
| 14 **Universal slanted roof penetration** For WSA 81 | 228970 | 228970 | 228970 | 228970 | 228970 |
| 15 **Flat roof penetration** for WSA 81 | 228975 | 228975 | 228975 | 228975 | 228975 |
| 16 **Exhaust gas pipe with condensate drain** Length 185 mm, including adapter Ø 32 mm | 228956 | 228956 | 228956 | 228956 | 228956 |
| 17 **Protective grid** For combustion air intake | 228960 | 228960 | 228960 | 228960 | 228960 |
| 18 **Connection ports** With test nipple | 228981 | 228981 | 228981 | 228981 | 228981 |
| 19 **Exhaust gas or fresh air pipe** Length 300 mm | 228968 | 228968 | 228968 | 228968 | 228968 |
| 20 **Siphon connecting set** Ø 32 mm | 228874 | 228874 | 228874 | 228874 | 228874 |
| 21 **Siphon** Inlet pipe diameter 32 mm, outlet pipe diameter 40 mm | 228867 | 228867 | 228867 | 228867 | 228867 |

CE certificate no. CE 0432-BPR-119933

### Note

Please observe the following pipe diameters when planning the necessary roof penetrations.

| Unit type | Type | Pipe connection Ø | Pipe Ø |
|---|---|---|---|
| GPS 15 | WSA 81 | 80 mm | 125 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPS 25 | WSA 81 | 80 mm | 125 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPS 35 | WSA 81 | 80 mm | 125 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPS 55 | WSA 81 | 80 mm | 125 mm |
| | WSA 101[2)] | 100 mm | 150 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPS 75 | WSA 81 | 80 mm | 125 mm |
| | WSA 101[2)] | 100 mm | 150 mm |
| | WSA 82 | 80 mm | 95 mm |

### Chimney height

| | GPS 15 | GPS 25 | GPS 35 | GPS 55 | GPS 75 |
|---|---|---|---|---|---|
| A | 5,15 m | 5,15 m | 5,15 m | 5,25 m | 5,30 m |
| B | 5,65 m | 5,65 m | 5,65 m | 5,75 m | 5,80 m |
| C | 2,65 m | 2,65 m | 2,65 m | 2,65 m | 2,85 m |

### Maximum additional pipe length

| | GPS 15 | GPS 25 | GPS 35 | GPS 55 | GPS 75 |
|---|---|---|---|---|---|
| WSA 81[1)] | 30+30 m | 30+30 m | 20+20 m | 5+5 m | 1+1 m |
| WSA 82 | 30 m | 30 m | 30 m | 20 m | 10 m |

[1)] Specification of the maximum fresh air and exhaust gas length.
[2)] GPS 55/75: longer designs WSA 101 and WSA 102 on request

# **REMKO** GPC SERIES

Wall-mounted calorific value heating systems with modulating gas burner in a condensing design


REMKO GPC 80

## **REMKO** GPC SERIES

**Hall heating with the highest energy efficiency**

The REMKO series is characterised by their compact dimensions, flexible application possibilities, and particularly by their microprocessor controlled gas burner technology. A total of four unit sizes with a heating capacity from 4.7 to 82.0 kW is available.
The units are suitable for both wall and ceiling mounting. A variety of exhaust gas and fresh air versions rounds out the flexible installation possibility of this series of units.

**Achieve maximum output**

With the gross caloric value technology, additional energy is removed from the exhaust gas through condensation. In the process, the efficiency is optimized to a maximum.

- High energy efficiency with condensing design and modulating gas burner technology
- Highly flexible applications
- Space-saving wall or ceiling mounting option
- Quick and inexpensive installation
- Sound-optimized through series-standard Ziehl-Abegg fans
- Burner chamber of INOX steel

High efficiency by using modulating gas burner technology

Microprocessor-controlled unit technology

**Areas of application**

- Sales and commercial premises
- Warehouses and manufacturing halls
- Retailers and supermarkets
- Sports centres

## Technical data

| Unit type * | | GPC 20 | GPC 40 | GPC 60 | GPC 80 |
|---|---|---|---|---|---|
| Nominal heat load | kW | 4.7 - 19.0 | 7.6 - 34.8 | 12.4 - 65.0 | 16.4 - 82.0 |
| Nominal thermal output | kW | 5.0 - 18.2 | 8.1 - 33.6 | 13.4 - 62.9 | 17.8 - 80.0 |
| Condensate | l/h | 0.4 | 0.9 | 2.1 | 3.3 |
| Air flow rate | m³/h | 2.700 | 4.300 | 7.800 | 9.000 |
| Fuel | | | Natural gas / propane gas | | |
| Gas flow rate, natural gas H | m³/h | 0.51 - 2.01 | 0.80 - 3.69 | 1.31 - 6.88 | 1.74 - 8.68 |
| Gas flow rate, natural gas L | m³/h | 0.59 - 2.34 | 0.93 - 4.29 | 1.53 - 8.00 | 2.02 - 10.1 |
| Gas flow rate, propane gas | kg/h | 0.40 - 1.58 | 0.63 - 2.90 | 1.03 - 5.39 | 1.49 - 6.80 |
| Max. length of gas jet | m | 24 | 26 | 28 | 28 |
| Voltage supply | V/Ph/Hz | 230/1~/50 | 230/1~/50 | 230/1~/50 | 230/1~/50 |
| Exhaust connection Ø | mm | 80 | 80 | 80 | 100 ** |
| Fresh air connection Ø | mm | 80 | 80 | 80 | 100 ** |
| Weight | kg | 58 | 72 | 98 | 129 |
| **Design** | | **Natural gas H** | **Natural gas H** | **Natural gas H** | **Natural gas H** |
| Ref. no. | | 224331 | 224341 | 224361 | 224371 |
| **Design** | | **Natural gas L** | **Natural gas L** | **Natural gas L** | **Natural gas L** |
| Ref. no. | | 224332 | 224342 | 224362 | 224372 |
| **Design** | | **Propane gas** | **Propane gas** | **Propane gas** | **Propane gas** |
| Ref. no. | | 224333 | 224343 | 224363 | 224373 |

* The gas connection must be implemented by a licensed installer
** The exhaust gas and fresh air diameter is achieved by an adapter that is included with the standard version

| Switchgear and control units | | | | |
|---|---|---|---|---|
| **ATR-Smart-Basic** electronic temperature controller with touch display for 1-32 units (group switch), surface mounting, type of protection IP54, automatic day/night economy, weekly programme, electrical remote unlocking mechanism, error and operation messages | 1011376 | 1011376 | 1011376 | 1011376 |
| **ATR-Smart-WEB** electronic temperature controller with touch display for 1-32 units (group switch), surface mounting, type of protection IP20, automatic day/night economy, weekly programme, electrical remote unlocking mechanism, error and operation messages, Ethernet interface | 1011377 | 1011377 | 1011377 | 1011377 |
| **External temperature probe** for ATR-Smart-Basic/-Web | 1011364 | 1011364 | 1011364 | 1011364 |

| Accessories | | | | |
|---|---|---|---|---|
| **Bracket for wall mounting** Design: Standard | 228780 | 228780 | 228780 | 228780 |
| **Bracket for wall mounting** Design: rotary | 228781 | 228782 | 228783 | 228783 |
| **Mounting set** for suspension from ceiling with horizontal air outlet | 228785 | 228785 | 228785 | 228785 |
| **Gas connection tube** made of stainless steel fabric, length 500 mm | 228768 | 228768 | 228768 | 228768 |
| **Neutralisation box** | 260400 | 260400 | 260400 | 260400 |
| **Condensate pump** for neutralisation box | 260410 | 260410 | 260410 | 260410 |
| **Condensate tube** for neutralisation box, running metre | 260420 | 260420 | 260420 | 260420 |
| **Refill granulate** for neutralisation box, 1.4 kg | 260430 | 260430 | 260430 | 260430 |

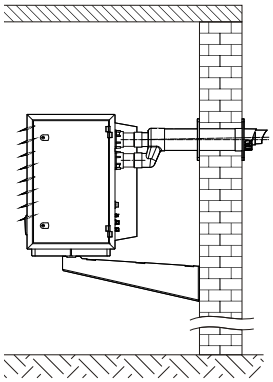
# **REMKO** GPC SERIES

Wall-mounted calorific value heating systems with modulating gas burner in a condensing design

REMKO GPC 20

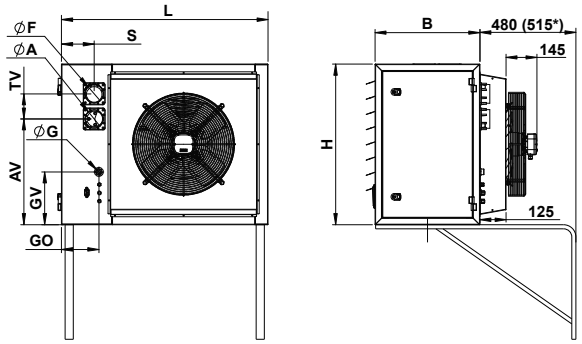
**Outside wall installation**

Unit installation, including the exhaust gas and fresh air versions, takes place according to classifications C13, C33, C43, C53, C63, and B23 of DVGW-TRGI 2008. The gas connection must be performed by a licensed fitter. Before the installation of the exhaust gas duct through the outside wall, the district heating inspector must be consulted.

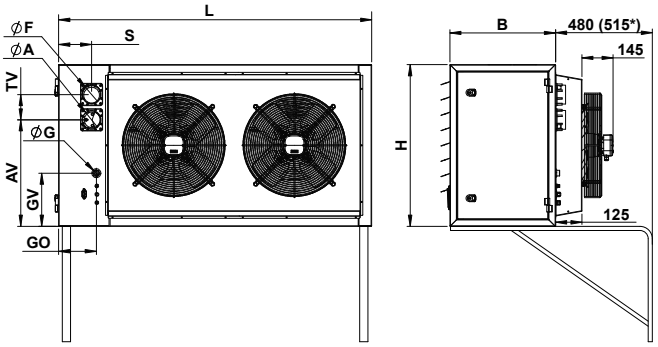


Chimney duct through wall with burner fresh air supply

**Dimensions of GPC 20/-40**




**Dimensions of GPC 60/-80**



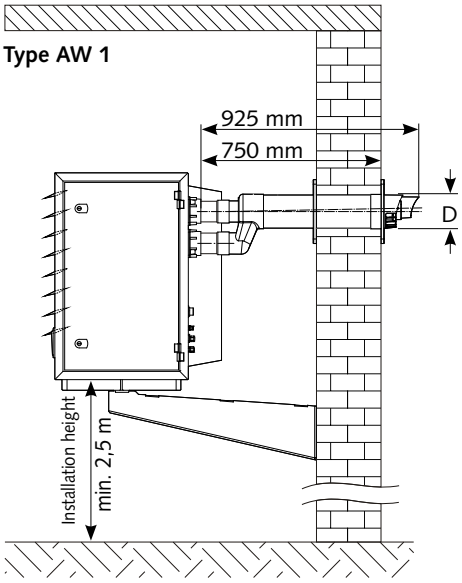

## Dimensions of GPC 20/-80

| Unit type | | L | B | H | Ø A | Ø F | AV | TV | S | G0 | GV | ØG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GPC 20 | mm | 795 | 500 | 690 | 80 | 80 | 430 | 120 | 155 | 180 | 255 | ¾" |
| GPC 40 | mm | 985 | 500 | 690 | 80 | 80 | 430 | 120 | 155 | 180 | 255 | ¾" |
| GPC 60 | mm | 1310 | 500 | 765 | 80 | 80 | 505 | 120 | 155 | 180 | 255 | ¾" |
| GPC 80 | mm | 1515 | 500 | 845 | 100 ** | 100 ** | 560 | 140 | 185 | 210 | 275 | ¾" |

** The exhaust gas and fresh air diameter is achieved by an adapter that is included with the standard version.

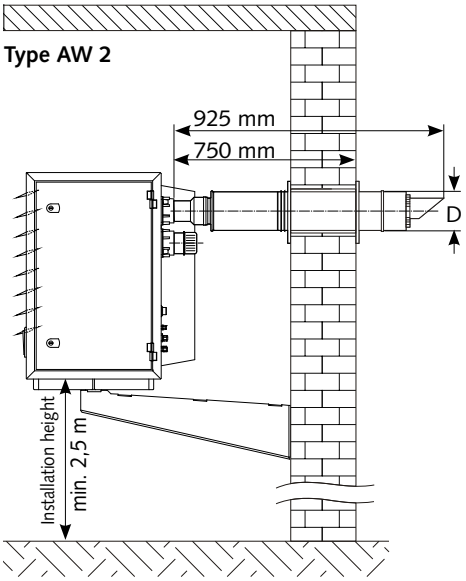
**LAS balanced flue system through the wall with burner fresh air supply**

**Type AW 1**




**Chimney duct through wall**

**Type AW 2**




**Note**

Please observe the following pipe diameters during planning.

| | AW1 Ø 80 | AW1 Ø 100 | AW2 Ø 80 | AW2 Ø 100 |
|---|---|---|---|---|
| Ø connection | 80 mm | 100 mm | 80 mm | 100 mm |
| Ø of wall opening | 125 mm | 150 mm | 125 mm | 150 mm |

Plan a wall opening with 5 mm clearance

**Maximum additional pipe length** [1]

| | GPC 20 | GPC 40 | GPC 60 | GPC 80 |
|---|---|---|---|---|
| AW1 Ø 80 [2] | 30+30 m | 30+30 m | 5+5 m | - |
| AW1 Ø 100 [2] | - | - | - | 5+5 m |
| AW2 Ø 80 | 30 m | 30 m | 15 m | - |
| AW2 Ø 100 | - | - | - | 30 m |

[1] After the determination of the chimney duct, the pressure loss for the respective unit must be established. When using chimney bends, the pressure losses must especially be taken into account. [2] Specification of the maximum fresh air and exhaust gas length. For GPC 60 in design AW1, longer variants are also available on request.

## Exhaust gas duct, outside wall

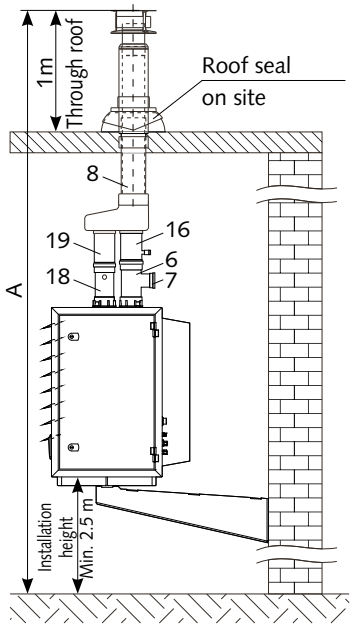
| Unit type | GPC 20 | GPC 40 | GPC 60 | GPC 80 |
|---|---|---|---|---|
| **AW 1 Ø 80/100** [2]<br>LAS balanced flue system with integrated burner fresh air supply for exterior wall installation, including wind guard, 925 mm long | 228774 | 228774 | 228774 | 228775 |
| **AW 2 Ø 80/100** [2]<br>Exhaust gas pipe for exterior wall installation, including wind guard and protective grid for combustion air intake, 925 mm long | 228772 | 228772 | 228772 | 228773 |
| **Individual sections** | | | | |
| **Exhaust gas or fresh air pipe**<br>length 250 mm | 228868 | 228868 | 228868 | 228869 |
| **Exhaust gas or fresh air pipe**<br>length 500 mm | 228871 | 228871 | 228871 | 228876 |
| **Exhaust gas or fresh air pipe**<br>length 1000 mm | 228872 | 228872 | 228872 | 228877 |
| **Exhaust or fresh air bend**<br>90° | 228910 | 228910 | 228910 | 229010 |
| **Exhaust or fresh air bend**<br>45° | 228909 | 228909 | 228909 | 229009 |
| **Exhaust gas pipe with condensate drain**<br>horizontal, length 185 mm, including adapter Ø 32 mm | 228956 | 228956 | 228956 | 229056 |
| **Protective grid**<br>for combustion air intake | 228960 | 228960 | 228960 | 229060 |
| **Connection ports**<br>with test nipple | 228981 | 228981 | 228981 | 228981 |

CE certificate no. CE 0432-BPR-119933 [2] Exhaust gas system without test nipple

# **REMKO** GPC SERIES

Wall-mounted calorific value heating systems with modulating gas burner in a condensing design

**LAS balanced flue system**
**Type WSA 81/101**




**LAS balanced flue system through roof with burner fresh air supply WSA 81/101 series, single-walled aluminium, complete, comprising: ***

Pos. 6 1 T-connection, 90°

Pos. 7 1 cleaning component with condensate drain

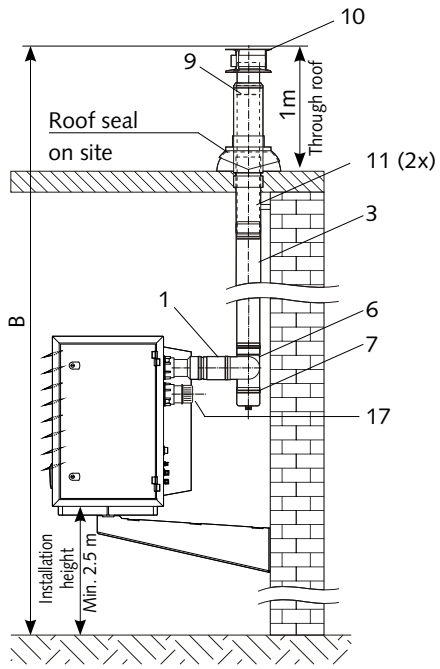
Pos. 8 1 unit roof penetration, LAS system with burner fresh air supply, including rain hood, overall length 1850 mm

Pos. 16 1 exhaust gas pipe with condensate drain, vertical, length 185 mm, including adapter Ø32

Pos. 18 1 connection port with test nipple

Pos. 19 1 exhaust gas or fresh air pipe, length 300 mm

**Exhaust gas duct**
**Type WSA 82/102**




**Exhaust gas duct through roof, WSA 82/102 series, single-walled aluminium, complete, comprising: ***

Pos. 1 1 exhaust gas or fresh air pipe, length 250 m (with WSA 102)

Pos. 2 1 exhaust gas or fresh air pipe, length 500 mm (with WSA 82)

Pos. 3 1 exhaust gas or fresh air pipe, length 1000 mm

Pos. 6 1 T-connection, 90°

Pos. 7 1 cleaning component with condensate drain

Pos. 9 1 roof penetration

Pos. 10 1 rain hood

Pos. 11 2 wall mounts

Pos. 17 1 protective grid for combustion air intake

* The slanted/flat roof penetration must be ordered as well if required

## Exhaust gas duct through roof

| Unit type | GPC 20-60 ** | GPC 80 |
|---|---|---|
| **WSA 81 ***<br>LAS balanced flue system with integrated burner fresh air supply, rated diameter 80 mm | 228911 | – |
| **WSA 101 ***<br>LAS balanced flue system with integrated burner fresh air supply, rated diameter 100 mm | – | 229011 |
| **WSA 82 ***<br>Exhaust system including protective grid, for combustion air extraction from the installation room | 228902 | – |
| **WSA 102 ***<br>Exhaust system including protective grid, for combustion air extraction from the installation room | – | 229002 |

* The slanted/flat roof penetration must be ordered as well if required
** In the case of GPC 60, the appropriate type must be selected depending on the total length of the exhaust system

| Individual sections | | |
|---|---|---|
| 1 **Exhaust gas or fresh air pipe**<br>Length 250 mm | 228868 | 228869 |
| 2 **Exhaust gas or fresh air pipe**<br>Length 500 mm | 228871 | 228876 |
| 3 **Exhaust gas or fresh air pipe**<br>Length 1000 mm | 228872 | 228877 |
| 4 **Exhaust or fresh air bend**<br>90° | 228910 | 229010 |
| 5 **Exhaust or fresh air bend**<br>45° | 228909 | 229009 |
| 6 **T-connection**<br>90° | 228915 | 229015 |
| 7 **Cleaning component**<br>With condensate drain | 228920 | 229020 |
| 8 **LAS system roof penetration**<br>With burner fresh air supply, including rain hood, total length 1850 mm | 228965 | 229065 |
| 9 **Extension of LAS system roof penetration**<br>Total length 1000 mm | 228990 | 228990 |
| 10 **Rain hood** | 228935 | 229035 |
| 11 **Wall mount** | 228940 | 229040 |
| 12 **Universal slanted roof penetration**<br>For WSA 82/102 | 228945 | 229045 |
| 13 **Flat roof penetration**<br>for WSA 82/102 | 228950 | 229050 |
| 14 **Universal slanted roof penetration**<br>For WSA 81/101 | 228970 | 229070 |
| 15 **Flat roof penetration**<br>for WSA 81/101 | 228975 | 229075 |
| 16 **Exhaust gas pipe with condensate drain**<br>Length 185 mm, including adapter Ø 32 mm | 228956 | 229056 |
| 17 **Protective grid**<br>For combustion air intake | 228960 | 229060 |
| 18 **Connection ports**<br>With test nipple | 228981 | 229081 |
| 19 **Exhaust gas or fresh air pipe**<br>Length 300 mm | 228968 | 229068 |
| 20 **Siphon connecting set**<br>Ø 32 mm | 228874 | 228874 |
| 21 **Siphon**<br>Inlet pipe diameter 32 mm, outlet pipe diameter 40 mm | 228867 | 228867 |

CE certificate no. CE 0432-BPR-119933

### Note

Please observe the following pipe diameters when planning the necessary roof penetrations.

| Unit type | Type | Pipe connection Ø | Pipe Ø |
|---|---|---|---|
| GPC 20 | WSA 81 | 80 mm | 125 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPC 40 | WSA 81 | 80 mm | 125 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPC 60 | WSA 81 | 80 mm | 125 mm |
| | WSA 101 | 100 mm | 150 mm |
| | WSA 82 | 80 mm | 95 mm |
| GPC 80 | WSA 101 | 100 mm | 150 mm |
| | WSA 102 | 100 mm | 115 mm |

### Chimney height

| | GPC 20 | GPC 40 | GPC 60 | GPC 80 |
|---|---|---|---|---|
| A | 5,15 m | 5,25 m | 5,30 m | 5,30 m |
| B | 5,65 m | 5,75 m | 5,80 m | 5,80 m |

### Maximum additional pipe length

| | GPC 20 | GPC 40 | GPC 60 | GPC 80 |
|---|---|---|---|---|
| WSA 81 [1] | 30+30 m | 10+10 m | 1+1 m | - |
| WSA 101 [1] | - | - | On request [2] | 8+8 m |
| WSA 82 | 30 m | 30 m | 15 m | 3 m |
| WSA 102 | - | - | On request [2] | 30 m |

[1] Specification of the maximum fresh air and exhaust gas length.
[2] GPC 60 available in the designs WSA 81 & WSA 82 in the standard version. Designs WSA 101 and WSA 102 on request.

# **REMKO** VRS E SERIES

Universal heating systems in a planning-oriented modular system for oil and gas combustion

REMKO VRS E
Vertical design

## **REMKO** VRS E SERIES

**Rapid heat, adapted to your needs**

For economical heating in industrial halls and warehouses, workshops, sports centres and exhibition halls, or glass and plastic film greenhouses, these REMKO heaters are incomparable. Whether you use EL heating oil, propane or natural gas, VRS E heaters always generate the heat you need: quickly, safely, and economically. In contrast with conventional hot water heating systems, these heaters function without a preheating time. In addition, the decentralized setup lowers mounting and investment costs in rooms to be heated. The combustion-technical efficiency amounts to 93% maximum.

- Space-saving installation with low mounting effort
- Combustion chamber with stainless steel heat exchanger
- Individual equipping with air filters and louvre dampers possible in the air intake
- Air duct connection possibilities
- Flexible usage possibilities
- High quality and long service life
- Noiseless radial fans
- Easy access to all components due to maintenance-friendly design
- Burner in two-stage design (VRS 75 E through VRS 540 E)

With switch box in the standard design

Ready-to-install combustion chamber with stainless steel heat exchanger

ETR-1
Electronic moisture-proof room thermostat, without connection accessories
Ref no. 1011241

ATR-5
Electronic temperature control, surface mounting
Ref no. 1011342

**Tailored solutions for every situation**

REMKO VRS E heating units are manufactured according to the highest technical specifications. The devices are suited not only as individual units, but also as centralized units for channel connection. The intake air is heated using a heat exchanger with an oil or gas burner and is then distributed evenly throughout the room using a silent radial fan. In summer, this fan provides pleasant fresh air. The program selection with heat outputs between 32 and 543 kW always permits an appropriate device choice.

REMKO VRS E
Horizontal design

## Technical data

| Unit type | | VRS 25 E | VRS 50 E | VRS 75 E | VRS 100 E | VRS 130 E | VRS 170 E | VRS 200 E | VRS 270 E | VRS 340 E | VRS 440 E | VRS 540 E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal heat load | kW | 32 | 54 | 89 | 120 | 160 | 208 | 249 | 276 | 332 | 442 | 543 |
| Nominal thermal output | kW | 29 | 50 | 81 | 110 | 149 | 193 | 232 | 254 | 305 | 405 | 499 |
| Nominal air flow rate [1] | m³/h | 3,880 | 4,800 | 5,270 | 6,650 | 9,080 | 10,720 | 13,280 | 18,960 | 22,680 | 30,480 | 37,170 |
| Fuel | | Heating oil EL according to DIN 51603-1/diesel fuel, natural or liquid gas | | | | | | | | | | |
| Oil flow rate (heating oil EL) | kg/h | 2.7 | 4.5 | 7.5 | 10.1 | 13.7 | 17.7 | 21.3 | 23.3 | 28.0 | 37.1 | 45.7 |
| Oil nozzle (Danfoss) [2] | USG | 0.75 | 1.35 | 1.75 | 2.0 | 3.0 | 4.0 | 4.5 | 4.5 | 5.5 | 7.5 | 9.0 |
| Pump pressure, approx. [2] | bar | 12 | 11 | 10/15 | 11/19 | 10/16 | 10/19 | 10/17 | 10/19 | 10/19 | 20/21 | 10/19 |
| Gas flow rate (natural gas H) | m³/h | 3.0 | 5.2 | 8.6 | 11.6 | 15.7 | 20.3 | 24.5 | 26.7 | 32.0 | 42.5 | 52.4 |
| Gas flow rate (natural gas L) | m³/h | 3.6 | 6.1 | 10.0 | 13.6 | 18.4 | 23.8 | 28.7 | 31.3 | 37.5 | 49.9 | 61.4 |
| Gas flow rate (liquid gas) | m³/h | 1.2 | 2.5 | 3.4 | 4.6 | 6.3 | 8.1 | 9.7 | 10.6 | 12.8 | – | – |
| Exhaust gas mass flow $V_{Af}$ [3] | kg/h | 49 | 95 | 140 | 195 | 250 | 325 | 390 | 420 | 506 | 690 | 865 |
| Approx. exhaust gas temperature [4] | °C | 170 - 200 | | | | | | | | 185 - 200 | | |
| Necessary chimney draft | Pa | 0 | | | | | | | | | | |
| Exhaust gas loss VA min./max. | % | 7 / 9 | 7 / 9 | 7 / 9 | 7 / 9 | 7 / 9 | 7 / 9 | 7 / 9 | 8 / 9 | 8 / 9 | 8 / 9 | 8 / 9 |
| Furnace resistance | Pa | 6 | 8 | 18 | 20 | 25 | 31 | 38 | 55 | 60 | 60 | 65 |
| Sound pressure level $L_{pA}$ 1m [5] | dB(A) | 60 | 62 | 63 | 60 | 65 | 65 | 65 | 79 | 80 | 82 | 80 |
| Voltage supply | V/Ph/Hz | 230/1~/50 | | | | | | 400/3~N/50 | | | | |
| Rated current [6] | A | 6.8 | 8.0 | 2.8 | 3.7 | 3.7 | 3.7 | 5.2 | 8.8 | 11.4 | 15.5 | 2x11.4 |
| Power consumption [6] | kW | 0.55 | 0.55 | 1.1 | 1.5 | 1.5 | 1.5 | 2.2 | 4.0 | 5.5 | 7.5 | 2 x 5.5 |
| Power consumption [7] | kW | 0.21 | 0.21 | 0.21 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 1.1 | 1.1 |
| Exhaust connection Ø | mm | 150 | 150 | 180 | 180 | 200 | 200 | 200 | 300 | 300 | 350 | 350 |
| Weight [8] | kg | 150 | 240 | 310 | 360 | 550 | 730 | 820 | 832 | 874 | 1542 | 1792 |

[1] Air flow at Δt 40K / 1.2 kg/m³
[2] The listed nozzle sizes and pump pressures were determined on the basis of adjustment tests on a test stand. The oil throughput was measured out. The specifications serve only as reference values due to product-specific nozzle and pressure tolerances and oil temperatures.
[3] Approx. volume in case of oil operation
[4] Measured temperature minus the room temperature
[5] Noise emission measurement (without burner) DIN 45635-01-KL3
[6] Unit without burner
[7] For factory-supplied burners
[8] For standard design, without burner and other accessories

**Max. air intake temperature 40°C / max. air discharge temperature 100°C**

**Calorific value $H_i$ in normal condition:**

| | | |
|---|---|---|
| Heating oil EL | 11.83 | kWh/kg |
| Natural gas H | 10.35 | kWh/m³ |
| Natural gas L | 8.83 | kWh/m³ |
| Propane gas | 25.99 | kWh/m³ |
| Propane gas | 12.87 | kWh/kg |

# **REMKO** VRS E SERIES

Universal heaters in a planning-oriented modular system
for oil and gas combustion

## Technical data

| Unit type | | | VRS 25 E | VRS 50 E | VRS 75 E | VRS 100 E |
|---|---|---|---|---|---|---|
| Max. nominal heat load | | kW | 32 | 54 | 89 | 120 |
| Nominal thermal output | | kW | 29 | 50 | 81 | 110 |
| Air capacity | | m³/h | 3,880 | 4,800 | 5,270 | 6,650 |
| Fuel | | | | EL heating oil, natural gas, or liquid gas | | |
| Max. fuel consumption [1] | | | 2.6 | 4.5 | 7.5 | 10.1 |
| Voltage supply [2] | | | 230/1~/50 | 230/1~/50 | 400/3~N/50 | 400/3~N/50 |
| **Heaters with oil burner** [3] With air discharge hood, 3-sided, with switching and control units, rear chimney adapter, vertical unit | **Upper air discharge** | | 370110 | 371110 | 372110 | 373110 |
| **Heaters with oil burner** [3] With air discharge hood HB-90, with switching and control units, rear chimney adapter, horizontal unit | **Left air discharge** | | 370210 | 371210 | 372210 | 373210 |
| **Heaters with oil burner** [3] With air discharge hood HB-90, with switching and control units, rear chimney adapter, horizontal unit | **Right air discharge** | | 370310 | 371310 | 372310 | 373310 |
| **Heater without burner** Without air discharge hood, with switchgear and control units, rear exhaust gas adapter | | | | | | |
| Vertical unit | **Discharge above** | Pressure | 1.7 370001 | 0.6 371001 | 1.0 372001 | 0.8 373001 |
| Horizontal unit | **Discharge left** | p external | 1.7 370050 | 0.6 371050 | 1.0 372050 | 0.8 373050 |
| Horizontal unit | **Discharge right** | mbar | 1.7 370060 | 0.6 371060 | 1.0 372060 | 0.8 373060 |
| **Surcharge for increased pressure** | | Pressure | 2.2 370007 | 1.4 371006 | 1.6 372006 | 1.7 373006 |
| | | p external | 2.8 370008 | 2.0 371007 | 2.3 372007 | 2.4 373007 |
| | | mbar | | 3.3 371008 | 3.0 372008 | 3.5 373008 |
| | | | | 4.7 371009 | 4.3 372009 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Burner version WLE** [3] [4] | | | | | | |
| **Fan oil burner** | | | 945010 | 946010 | 949020 | 949005 |
| Oil filter 3/8", 2-line design | | | 1002526 | 1002526 | 1002526 | 1002526 |
| Oil connection set, 1-line design, including automatic bleeder (flow control) | | | 1002531 | 1002531 | 1002531 | 1002531 |
| **Burner fresh-air box** | | | 290205 | 291205 | 292205 | 293205 |
| **Burner fresh-air pipe** flexible (delivery length, 5 m jumped) | | | 1090207 | 1090207 | 1090207 | 1090207 |
| **Intake part** with protective grid (burner fresh air) | | | 1090209 | 1090209 | 1090209 | 1090209 |
| **Natural gas fan burner** [5] | | | 955050 | 955045 | 955005 | 955015 |
| **Propane gas fan burner** [5] | | | 955055 | 955030 | 955010 | 955020 |
| **Air outlet hoods with air outlet grilles for direct air outlet** | | | | | | |
| **3-Sided** | F+Ri+L / Re+Ri+L | Type HG | 290169 | 291169 | 292169 | 293169 |
| **3-Sided** | F+Ri+Re / F+L+Re | Type HG | 290170 | 291170 | 292170 | 293170 |
| **4-Sided** | F+Ri+L+Re | Type HG | 360171 | 361171 | 362171 | 363171 |
| **Discharge hood 90°** | F/Re | Type HB-90 | 290172 | 291172 | 292172 | 293172 |
| **Air intake accessories and wall brackets** | | | | | | |
| **Metal panel** | Pos. IV | Type BB | 290105 | 291105 | 292105 | 293105 |
| **Protective grid for air intake** | Pos. IV | Type S | 290109 | 291109 | 292109 | 293109 |
| **Flexible pipe** | Pos. I-III | Type SG | 290110 | 291110 | 292110 | 293110 |
| **Flexible pipe** | Pos. IV | Type SG | 290123 | 291123 | 292123 | 293123 |
| **Dust filter** 3-sided (for free air intake) | Pos. I-III | Type F | 290111 | 291111 | 292111 | 293111 |
| **Replacement filter mat** | | Type EF | 290112 | 291112 | 292112 | 293112 |
| **Dust filter** for duct connection | Pos. I-III | Type FK | 290113 | 291113 | 292113 | 293113 |
| **Dust filter** for duct connection | Pos. IV | Type FK | 290114 | 291114 | 292114 | 293114 |
| **Replacement filter mat** | | Type EFK | 290115 | 291115 | 292115 | 293115 |
| **Shutter flap combinations** | Pos. I-III | Type JK | 290119 | 291119 | 292119 | 293119 |
| **Shutter flap combinations** | Pos. I-III / IV | Type JK | 290120 | 291120 | 292120 | 293120 |
| **Actuator** with surface-mounted switch Open/Stop/Close | | | 320245 | 320245 | 320245 | 320245 |
| **Actuator** infinitely variable, with remote potentiometer, surface mounting | | | 320251 | 320251 | 320251 | 320251 |
| **Wall bracket** for vertical unit | | | 290210 | 291210 | 292210 | 293210 |
| **Wall bracket** for horizontal unit [6] | | | 322210 | 321212 | 325210 | 325210 |
| **Exhaust gas adapter** (ref. no. last digit of 2 = left, ref. no. last digit of 3 = top) | | | 290061 | 291061 | 292061 | 293061 |

## Accessories

| | | | | |
|---|---|---|---|---|
| **RT-1** moisture-proof room thermostat, type of protection IP54 | 1011240 | 1011240 | 1011240 | 1011240 |
| **RT-5** moisture-proof room thermost., type of protect. IP54, ready for plug-in | 1011250 | 1011250 | – | – |
| **ETR-1** electronic moisture-proof room thermostat, with display, type of protection IP 54, including separate temperature probe | 1011241 | 1011241 | 1011241 | 1011241 |
| **ATR-3** fully automatic differential temperature controller, including temperature probe, weekly programme, type of protection IP54 | 1011290 | 1011290 | 1011290 | 1011290 |
| **ATR-4** electronic temperature controller, with temperature probe, surface mounting, weekly programme, type of protection IP20 | 1011340 | 1011340 | 1011340 | 1011340 |
| **ATR-5** electronic temperature controller, temperature probe, surface mounting, weekly programme, type of protection IP54 | 1011342 | 1011342 | 1011342 | 1011342 |
| **Temperature probe set** for 4-point blended temperature [7] | 1011343 | 1011343 | 1011343 | 1011343 |

[1] When heating oil EL is used [2] In case of standard pressure [3] Brand selected by REMKO
[4] **Attention:** For orders without combustion-technical commissioning, we provide the burners separately in the box without pre-adjustment.

| VRS 130 E | VRS 170 E | VRS 200 E | VRS 270 E | VRS 340 E | VRS 440 E | VRS 540 E |
|---|---|---|---|---|---|---|
| 160 | 208 | 249 | 277 | 332 | 442 | 543 |
| 149 | 193 | 232 | 254 | 305 | 405 | 499 |
| 9,080 | 10,720 | 13,280 | 18,960 | 22,680 | 30,480 | 37,170 |
| | | | EL heating oil, natural gas, or liquid gas | | | |
| 13.7 | 17.7 | 21.3 | 23.2 | 28.0 | 37.1 | 45.7 |
| 400/3~N/50 | 400/3~N/50 | 400/3~N/50 | 400/3~N/50 | 400/3~N/50 | 400/3~N/50 | 400/3~N/50 |
| | | | | | | |
| 374110 | 375110 | 376110 | – | – | – | – |
| | | | | | | |
| – | – | – | – | – | – | – |
| | | | | | | |
| – | – | – | – | – | – | – |
| | | | | | | |
| 1.0 374001 | 0.5 375001 | 0.7 376001 | 0.5 340000 | 0.6 341000 | 0.5 342000 | 0.5 343000 |
| 1.0 374050 | 0.5 375050 | 0.7 376050 | 0.5 340010 | 0.6 341010 | 0.5 342010 | 0.5 343010 |
| 1.0 374060 | 0.5 375060 | 0.7 376060 | 0.5 340020 | 0.6 341020 | 0.5 342020 | 0.5 343020 |
| 1.7 374006 | 1.3 375006 | 1.4 376006 | 0.9 340006 | 1.0 341006 | 0.9 342006 | 0.9 343006 |
| 2.6 374007 | 1.7 375007 | 2.2 376007 | 2.1 340007 | 1.9 341007 | 2.0 342007 | 2.1 343007 |
| | 2.6 375008 | 3.4 376008 | 2.9 340008 | 2.8 341008 | 2.9 342008 | 3.0 343008 |
| | 4.1 375009 | | 4.0 340009 | | 3.8 342009 | 3.9 343009 |
| | | | | | | |
| 949005 | 948510 | 949010 | 949010 | 949010 | 950015 | 950015 |
| 1002526 | 1002526 | 1002526 | 1002526 | 1002526 | 1002526 | 1002526 |
| 1002531 | 1002531 | 1002531 | 1002531 | 1002531 | 1002531 | 1002531 |
| 294205 | 295205 | 296205 | 330205 | 331205 | 332205 | 333205 |
| 1008400 | 1008400 | 1008400 | 1008400 | 1008400 | 1008400 | 1008400 |
| 1094209 | 1094209 | 1094209 | 1094209 | 1094209 | 1094209 | 1094209 |
| 955015 | 954650 | 954660 | 954660 | 954660 | 954685 | 954695 |
| 955020 | 954750 | 954760 | 954760 | 954760 | – | – |
| | | | | | | |
| 294169 | 295169 | 296169 | 330169 | 331169 | 332169 | 333169 |
| 294170 | 295170 | 296170 | 330170 | 331170 | 332170 | 333170 |
| 364171 | 365171 | 366171 | 330171 | 331171 | 332171 | 333171 |
| 294172 | 295172 | 296172 | 330172 | 331172 | 332172 | 333172 |
| | | | | | | |
| 294105 | 295105 | 296105 | 330105 | 331105 | 332105 | 333105 |
| 294109 | 295109 | 296109 | 330109 | 331109 | 332109 | 333109 |
| 294110 | 295110 | 296110 | 330110 | 331110 | 332110 | 333110 |
| 294123 | 295123 | 296123 | 330123 | 331123 | 332123 | 333123 |
| 294111 | 295111 | 296111 | 330111 | 331111 | 332111 | 333111 |
| 294112 | 295112 | 296112 | 330112 | 331112 | 332112 | 333112 |
| 294113 | 295113 | 296113 | 330113 | 331113 | 332113 | 333113 |
| 294114 | 295114 | 296114 | 330114 | 331114 | 332114 | 333114 |
| 294115 | 295115 | 296115 | 330115 | 331115 | 332115 | 333115 |
| 294119 | 295119 | 296119 | 330119 | 331119 | 332119 | 333119 |
| 294120 | 295120 | 296120 | 330120 | 331120 | 332120 | 333120 |
| 320245 | 320245 | 320245 | 320245 | 320245 | 320245 | 320245 |
| 320251 | 320251 | 320251 | 320251 | 320251 | 320251 | 320251 |
| 294210 | 295210 | 296210 | 325210 | 325210 | – | – |
| 328210 | 327212 | 327212 | 327212 | 327212 | – | – |
| – | – | – | – | – | – | – |
| | | | | | | |
| 1011240 | 1011240 | 1011240 | 1011240 | 1011240 | 1011240 | 1011240 |
| – | – | – | – | – | – | – |
| 1011241 | 1011241 | 1011241 | 1011241 | 1011241 | 1011241 | 1011241 |
| 1011290 | 1011290 | 1011290 | 1011290 | 1011290 | 1011290 | 1011290 |
| 1011340 | 1011340 | 1011340 | 1011340 | 1011340 | 1011340 | 1011340 |
| 1011342 | 1011342 | 1011342 | 1011342 | 1011342 | 1011342 | 1011342 |
| 1011343 | 1011343 | 1011343 | 1011343 | 1011343 | 1011343 | 1011343 |

[5] The gas connection must be implemented by a licensed installer [6] In the case of exhaust gas plants for internal mounting, please enter the bracket length in the order
[7] Only usable in combination with electronic temperature regulation (ETR-1, ATR-3, ATR-4, ATR-5, and MAK-2)

# **REMKO** PWN H SERIES

## Hot water heaters in low-temperature design with EC fan for heating

### **REMKO** PWN H SERIES

**The efficient heating system for warehouses and supermarkets**

The PWN H hot water heaters are optimally suited for use in commercial applications due to their high-quality, robust plastic housing. Through the universal colouring of the devices, they fit in discreetly in almost every environment.

Thanks to the modern, energy-efficient EC motors, the user obtains not only energy savings in comparison with conventional AC motors, but also a considerably increased regulating comfort as the fan can be adapted variably to the operating conditions as required. Individually adjustable air control fins guarantee a precise adaptation of the air flow and reduce the flow resistance to a minimum. The interaction of housing design, fan selection and heat exchanger dimensioning ensure an even flow-through of the fin heat exchanger and therefore an optimum utilisation of the heat exchanger surface for the transmission of power.

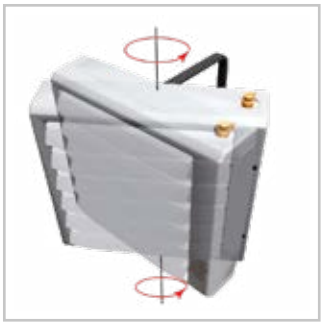
A sophisticated mounting system guarantees that, in addition to the wall or ceiling mounting, a mounting inclined by 30° is also possible. The mounting bar on the device itself can continue to be inclined by up to 70°, therefore enabling an adaptation of the device alignment to the most difficult mounting conditions. The brackets are included in the scope of supply of the standard version. An optionally fittable condensate drip pan enables an operation of the device even in cooling mode in case of wall mounting, therefore forming the ideal addition for securing the comfort zone.

- High-quality plastic housing for industrial applications
- Discreet design
- Modern, efficient EC technology
- Versatile mounting possibilities using series-standard bracket
- Cooling optionally possible in case of wall mounting

**Accessories**

- Room temperature controller
- Air control fins, vertical
- Condensate drip pan


Precision room temperature controller RR 21.2



Pivotable 3D mounting system for optimum air distribution

## Technical data

| Unit type | | PWN 35-1 H | PWN 45-2 H | PWN 75-3 H | PWN 95-2 H | PWN 105-3 H |
|---|---|---|---|---|---|---|
| Heating capacity [1) 2)] | kW | 9.7 / 8.1 | 19.0 / 15.2 | 33.9 / 27.0 | 54.9 / 44.1 | 69.4 / 55.3 |
| Cooling capacity [3)] | kW | 2.6 | 4.7 | 8.4 | 15.7 | 36.4 |
| Air flow rate | m³/h | 300 - 2850 | 250 - 2550 | 350 - 3900 | 1270 - 8560 | 715 - 7950 |
| Rated flow rate, heating [1)] | m³/h | 0.43 | 0.83 | 1.49 | 2.41 | 3.05 |
| Rated flow rate, cooling [3)] | m³/h | 0.46 | 0.81 | 1.47 | 2.69 | 2.99 |
| Sound pressure level [4)] | db(A) | 29 - 64 | 29 - 64 | 32 - 67 | 37 - 71 | 35 - 70 |
| Voltage supply | V/Ph/Hz | 230/1~/50 | 230/1~/50 | 230/1~/50 | 230/1~/50 | 230/1~/50 |
| Power consumption [1)] | W | 108 | 111 | 315 | 635 | 635 |
| Current consumption [1)] | A | 0.77 | 0.83 | 2.10 | 4.24 | 4.16 |
| Operating limit temperature | °C | 105 | 105 | 105 | 105 | 105 |
| Maximum operating pressure | bar | 16 | 16 | 16 | 16 | 16 |
| Pressure loss, heating [1)] | kPa | 2.4 | 5.7 | 11.8 | 12.3 | 9.4 |
| Pressure loss, cooling [3)] | kPa | 2.8 | 5.5 | 14.5 | 19.2 | 11.5 |
| Maximum blowing range (wall mounting) | m | 15.4 | 13.9 | 21.2 | 23.6 | 22.3 |
| Water volume of registers | l | 1.8 | 2.5 | 3.2 | 5.3 | 6.5 |
| Medium connectors | Inch | R 3/4 | R 3/4 | R 3/4 | R 1 | R 1 |
| Dimensions height | mm | 730 | 730 | 730 | 730 | 730 |
| Dimensions width | mm | 765 | 765 | 765 | 1390 | 1390 |
| Dimensions depth with mounting bar | mm | 595 | 595 | 595 | 595 | 595 |
| Weight | kg | 20 | 21 | 26 | 38 | 40 |
| Ref. no. | | 1684035 | 1684045 | 1684075 | 1684095 | 1684105 |

[1)] Water inlet temp. 70 °C, water outlet temp. 50 °C, water inlet temp. 15 °C, maximum air volume flow rate
[2)] Water inlet temp. 55 °C, water outlet temp. 45 °C, water inlet temp. 15 °C, maximum air volume flow rate
[3)] Water inlet temp. 7 °C, water outlet temp. 12 °C, water inlet temp. 27 °C TK, air volume flow rate at 5 V
[4)] Measured in a 100 m³ room with a reverberation period of 0.3 seconds, distance of 1.5 m

## Accessories

| Unit type | PWN 35-1 H | PWN 45-2 H | PWN 75-3 H | PWN 95-2 H | PWN 105-3 H |
|---|---|---|---|---|---|
| **Condensate drip pan** for mounting into the unit to use the unit in cooling operation. | 1684195 | 1684195 | 1684195 | 1684196 | 1684196 |
| **Air control fins, vertical** for mounting into the device for the adjustability of the vertical distribution of air. | 1684193 | 1684193 | 1684193 | 1684193 | 1684193 |
| **Precision room temperature controller RR 21.2** for controlling one or more indoor units (max. 50), programmable, electronic controller with summer/winter operation changeover, external start/stop, infinitely variable control of EC fans across 0-10 V and many other features | 1611401 | 1611401 | 1611401 | 1611401 | 1611401 |
| **Room temperature controller RR 21.2** type of protection IP54 | 1684402 | 1684402 | 1684402 | 1684402 | 1684402 |

# **REMKO** PWW SERIES

Hot water heaters as supplement to hot water heating plant

## **REMKO** PWW SERIES

**Best suited for warehouses and supermarkets**

The sophisticated design is suitable for both wall and ceiling installation. With a heat output of 4 to 135 kW, an optimum expansion of existing or planned hot water heating systems is possible at any time.

The load-bearing, galvanised, solid steel sheet housings are already supplied. The air discharge fins are individually infinitely variable. REMKO PWW units are designed for warm and hot pump water at temperatures up to a maximum of 110 °C and a max. permissible operating pressure of 16 bar.

An aerodynamically shaped, silent Ziehl-Abegg sickle-shaped axial fan with a maintenance-free three-phase two-speed external rotor motor is installed as standard.

- Fitted as standard with a Ziehl-Abegg sickle-shaped axial fan
- Speed range regulation, 2-way and 5-way optional
- Low spatial requirements
- Extremely low noise by using optimum coordinated components
- Extremely easy to service
- Painted design, optional

## Technical data

| **Unit type** | | **PWW 30-2** | **PWW 30-3** | **PWW 30-4** | **PWW 30-6** | **PWW 50-2** | **PWW 50-3** | **PWW 50-4** | **PWW 50-6** |
|---|---|---|---|---|---|---|---|---|---|
| Electrical connection | V | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N |
| Frequency | HZ | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Power consumption | kW | 0.19/0.14 | 0.19/0.14 | 0.19/0.14 | 0.19/0.14 | 0.28/0.19 | 0.28/0.19 | 0.28/0.19 | 0.28/0.19 |
| Nominal current | A | 0.40/0.23 | 0.40/0.23 | 0.40/0.23 | 0.40/0.23 | 0.58/0.31 | 0.58/0.31 | 0.58/0.31 | 0.58/0.31 |
| Speed | rpm | 1390/1170 | 1390/1170 | 1390/1170 | 1390/1170 | 1340/1080 | 1340/1080 | 1340/1080 | 1340/1080 |
| Air capacity | m³/h | 2140/1660 | 1950/1550 | 1760/1380 | 1620/1230 | 3610/2850 | 3230/2850 | 2990/2420 | 2790/2230 |
| Sound pressure level [1] | dB(A) | 52/46 | 53/48 | 55/49 | 57/50 | 55/50 | 55/51 | 58/54 | 58/54 |
| Heating medium connection | Inch | R ¾“ | R 1“ | R 1¼“ | R 1¼“ | R ¾“ | R 1“ | R 1¼“ | R 1¼“ |
| Heating medium | | Warm or hot pump water up to maximum 80 °C | | | | | | | |
| Max. operating pressure | bar | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Weight | kg | 24 | 25 | 28 | 30 | 31 | 33 | 36 | 39 |

| **Unit type** | | **PWW 80-2** | **PWW 80-3** | **PWW 80-4** | **PWW 80-6** | **PWW 100-2** | **PWW 100-3** | **PWW 100-4** | **PWW 100-6** |
|---|---|---|---|---|---|---|---|---|---|
| Electrical connection | V | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N | 400/3~N |
| Frequency | HZ | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Power consumption | kW | 0.34/0.21 | 0.34/0.21 | 0.34/0.21 | 0.34/0.21 | 0.62/0.44 | 0.62/0.44 | 0.62/0.44 | 0.62/0.44 |
| Nominal current | A | 0.70/0.38 | 0.70/0.38 | 0.70/0.38 | 0.70/0.38 | 1.25/0.75 | 1.25/0.75 | 1.25/0.75 | 1.25/0.75 |
| Speed | rpm | 870/630 | 870/630 | 870/630 | 870/630 | 900/720 | 900/720 | 900/720 | 900/720 |
| Air capacity | m³/h | 5500/4260 | 5120/4070 | 4490/3540 | 4080/3110 | 8600/6350 | 7820/5990 | 7280/5580 | 6570/4760 |
| Sound pressure level [1] | dB(A) | 55/49 | 55/49 | 55/49 | 55/49 | 58/54 | 58/54 | 59/55 | 59/55 |
| Heating medium connection | Inch | R 1“ | R 1¼“ | R 1¼“ | R 1¼“ | R 1¼“ | R 1¼“ | R 1½“ | R 1½“ |
| Heating medium | | Warm or hot pump water up to maximum 110°C | | | | | | | |
| Max. operating pressure | bar | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Weight | kg | 42 | 46 | 48 | 54 | 55 | 59 | 64 | 71 |

[1] Measurement at a distance of 5 m, volume of measurable space 800 m³, average reverberation time 1.4 s

## Technical data

| Unit type | | PWW 30-2 | PWW 50-2 | PWW 80-2 | PWW 100-2 |
|---|---|---|---|---|---|
| Heat exchanger package with 2 register rows | | 1686010 | 1686040 | 1686070 | 1686100 |
| **Unit type** | | **PWW 30-3** | **PWW 50-3** | **PWW 80-3** | **PWW 100-3** |
| Heat exchanger package with 3 register rows | | 1686020 | 1686050 | 1686080 | 1686110 |
| **Unit type** | | **PWW 30-4** | **PWW 50-4** | **PWW 80-4** | **PWW 100-4** |
| Heat exchanger package with 4 register rows | | 1686030 | 1686060 | 1686090 | 1686120 |
| **Unit type** | | **PWW 30-6** | **PWW 50-6** | **PWW 80-6** | **PWW 100-6** |
| Heat exchanger package with 6 register rows | | 1686033 | 1686063 | 1686093 | 1686123 |

## Special design

| Unit type | | PWW 30 | PWW 50 | PWW 80 | PWW 100 |
|---|---|---|---|---|---|
| **Extra cost** for unit lacquer coating in RAL colours as required | | 1686001 | 1686002 | 1686003 | 1686004 |
| **Switchgear** | | | | | |
| **Switchgear MSRD 4.0** 2-speed, 400 V | | 1686200 | 1686200 | 1686200 | 1686200 |
| **Switchgear MSRD-K** 2-speed, 400 V, including frost protection and mixed-air flap control (open/close) | | 1686201 | 1686201 | 1686201 | 1686201 |
| **MAK-2** 2-speed, 400 V, fully electronic design for automatic operation, including frost-protection and mixed-air flap control (infinitely variable), day/night temperature regulation | | 385330 | 385330 | 385330 | 385330 |
| **Switchgear 3 EG** 5-stage, 3.0 A, 400 V | | 385300 | 385300 | 385300 | 385300 |
| **Switchgear 5 EG** 5-stage, 5.2 A, 400 V | | 385301 | 385301 | 385301 | 385301 |
| **Repair switch RS 3** separate | | 513100 | 513100 | 513100 | 513100 |
| **Motor terminal box AKG-5** for a parallel group control of max. 5 units | | 385303 | 385303 | 385303 | 385303 |
| **Accessories** | | | | | |
| **Brackets** for wall and ceiling mounting | KO | 385217 | 385218 | 385219 | 385220 |
| **Wall bracket** For filter and blended air cover combination | WFM | 385370 | 385371 | 385372 | 385373 |
| **Fresh-air intake hood** | ALH | 385375 | 385376 | 385377 | 385378 |
| **Rain collar** with duct section, 1000 mm | RK | 385380 | 385381 | 385382 | 385383 |
| **Duct adapter**, 500 mm | KA 5 | 385385 | 385386 | 385387 | 385388 |
| **Duct adapter**, 1000 mm | KA 10 | 385390 | 385391 | 385392 | 385393 |
| **Flexible pipe** | SG | 385395 | 385396 | 385397 | 385398 |
| **Filter box** | FK | 385400 | 385401 | 385402 | 385403 |
| **Replacement filter mat** | EF | 385405 | 385406 | 385407 | 385408 |
| **Mixed-air box** without actuator | MLK | 385410 | 385411 | 385412 | 385413 |
| **Recirculation air intake fitting** | UA | 385415 | 385416 | 385417 | 385418 |
| **Fresh-air intake grid** | AG | 385420 | 385421 | 385422 | 385423 |
| **Air discharge shutter** (vertical fins) | B | 385193 | 385194 | 385195 | 385196 |
| **Ceiling air discharge nozzle** | AD | 385213 | 385214 | 385215 | 385216 |
| **Air discharge hood**, 4-sided | HG | 385197 | 385198 | 385199 | 385212 |
| **Flap actuator**, Off/Pause/On | KSH | 385290 | 385290 | 385290 | 385290 |
| **Flap actuator** infinitely variable | KSP | 385289 | 385289 | 385289 | 385289 |
| **3-position switch** surface mounting | SK | 290246 | 290246 | 290246 | 290246 |
| **Remote potentiometer** surface mounting | FP | 385288 | 385288 | 385288 | 385288 |
| **Frost protection thermostat** | FS | 385305 | 385305 | 385305 | 385305 |
| **Circular exhaust** for foil tube connector 450 Ø | RF | 1085310 | 1085320 | – | – |
| **Circular exhaust** for foil tube connector 600 Ø | RF | – | – | 1085330 | 1085340 |
| **Injection vent** fitted to the wall | IJ | 385350 | 385351 | 385352 | 385353 |
| **Injection vent** fitted to the ceiling | IJ | 385360 | 385361 | 385362 | 385363 |

## Accessories

| Unit type | PWW 30 | PWW 50 | PWW 80 | PWW 100 |
|---|---|---|---|---|
| **Moisture-proof room thermostat RT-1** type of protection IP 54, without connection accessories | 1011240 | 1011240 | 1011240 | 1011240 |
| **Electronic moisture-proof room thermostat ETR-1** with display, type of protection IP 54 without connection accessories, including separate temperature probe | 1011241 | 1011241 | 1011241 | 1011241 |
| **Differential temperature controller ATR-3** fully automatic, including temperature probe, weekly programme, IP 54 protection class | 1011290 | 1011290 | 1011290 | 1011290 |
| **Electronic temperature controller ATR-4** with temperature probe weekly, surface mounting, type of protection IP20 | 1011340 | 1011340 | 1011340 | 1011340 |
| **Electronic temperature controller ATR-5** including temperature probe, weekly programme, s urface mounting, type of protection IP54 | 1011342 | 1011342 | 1011342 | 1011342 |
| **Temperature probe set** for 4-point blended temperature recording* | 1011343 | 1011343 | 1011343 | 1011343 |

* Can only be set in combination with electronic temperature regulation (ETR-1, ATR-3, ATR-4, ATR-5, and MAK-2)

REMKO injection shutter

REMKO PWW with mounted injection shutter

## Injection shutter

**An economical expansion to your REMKO PWW unit.**

The supply air is blown in optimally through the injection shutter, while the position of the air control fins influences the air speed and the air discharge temperature of the entire air stream. With this technology, REMKO PWW units achieve greater blowing ranges and a quick heating of the areas subject to temperature control. Intake of the already heated room air prevents the occurrence of layers with varying air temperatures. The heat is distributed evenly throughout the room. The injection shutter can be mounted to your REMKO PWW unit at a later point in time without a problem and without great effort. The position of the fins can also be electrically regulated via an optional controller.

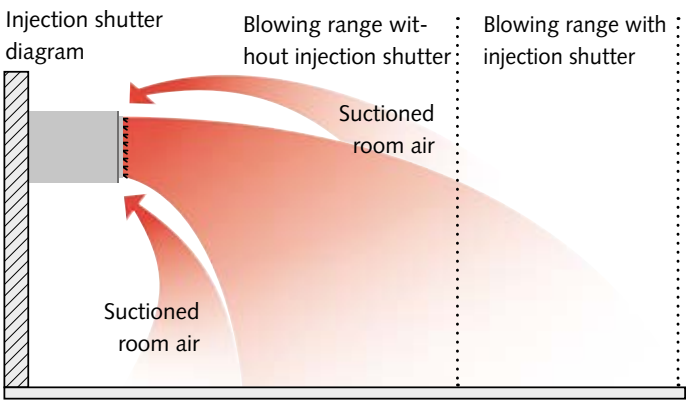
- Further blowing range due to addition of room air
- Faster and more even heating at same unit output
- Suited for wall and ceiling operation
- Problem-free mounting (even later)
- Electrical adjustment and regulation of the fin position possible

**Installation**

Unclip the existing fins and fix the injection shutter with four screws. The position of the fins can also be electrically regulated via an optional controller.

**Nozzle-shaped air outlet opening**

The air outlet speed is increased by the nozzle-shaped air outlet opening and, at the same time, secondary air is laterally inducted by the profile. The air jet penetrates more deeply into the room. The desired room temperature is thus achieved more quickly.



# **REMKO** PWL H SERIES

Ceiling ventilation units for heating

## **REMKO** PWL H SERIES

**Modern technology in an attractive design**

Their flat design and variable technology allows their subtle application, both in low-ceilinged and high-ceilinged rooms. The individually adjustable fins in the upper and lower parts of the housing allow optimum air distribution and thus provide a comfortable room climate. Ease of service and a simple, uncomplicated assembly are the characteristic features of these units. The media connections and the mains cabling can be installed out of sight in the false ceiling. The elegant plastic housing can easily be removed from its bearing elements thanks to the rapid release couplings. The units are fitted as standard with a high-performance condensate pump.

**Areas of application**

- Sales and commercial premises
- Exhibition and lobby areas
- Industrial and trade fair halls
- Shopping centres, retailers and supermarkets

- Quiet operation
- Installation-friendly design
- Service friendliness
- Universal use
- Self-extinguishing plastic housing, fire class V-0

## Technical data

| **Unit type** | | **PWL 101 H** | | **PWL 102 H** | | **PWL 103 H** | |
|---|---|---|---|---|---|---|---|
| Max. thermal output at 90/70 and air intake temperature of 0 °C | kW | 16.5 | | 26.7 | | 34.4 | |
| PWW heating medium | °C | 90/70 | 70/50 | 90/70 | 70/50 | 90/70 | 70/50 |
| Thermal output | kW | 16.5/14.7 | 12.0/10.7 | 26.7/24.1 | 19.5/17.8 | 34.4/29.7 | 25.4/22.0 |
| At air intake temperature | tLE °C | 0 | 0 | 0 | 0 | 0 | 0 |
| At air outlet temperature | tLA °C | 23/24 | 16/18 | 38/41 | 28/31 | 51/54 | 37/40 |
| Air capacity | m³/h | 2030/1685 | 2030/1685 | 1960/1610 | 1960/1610 | 1885/1530 | 1885/1530 |
| Sound pressure level | dB(A) | 56/47 | 56/47 | 56/47 | 56/47 | 56/47 | 56/47 |
| Heating medium connection | Inch | R1" | R1" | R1“ | R1“ | R1“ | R1“ |
| Voltage supply | V/Ph/Hz | 400/3~N/50 | | 400/3~N/50 | | 400/3~N/50 | |
| Weight | kg | 31 | | 35 | | 38 | |
| Ref. no. | | 1687101 | | 1687102 | | 1687103 | |
| **Switchgear** | | | | | | | |
| **Switchgear MSRD 4.0** 2-speed, 400 V | | 1686200 | | 1686200 | | 1686200 | |
| **Switchgear MSRD-K** 2-speed, 400 V | | 1686201 | | 1686201 | | 1686201 | |
| **Switchgear MAK-2** 2-speed, 400 V, fully electronic for automatic operation, including 24-hour temperature regulation | | 385330 | | 385330 | | 385330 | |
| **Switchgear 3 EG** 5-stage, 3.0 A, 400 V | | 385300 | | 385300 | | 385300 | |
| **Switchgear 5 EG** 5-stage, 5.2 A, 400 V | | 385301 | | 385301 | | 385301 | |
| **Motor terminal box AKG-5** for a parallel group control of max. 5 units | | 385303 | | 385303 | | 385303 | |
| **Frequency converter** | | 1687405 | | 1687405 | | 1687405 | |
| **Accessories** | | | | | | | |
| **Unit brackets** fixed length 90 mm | | Series | | Series | | Series | |
| **Unit brackets** adjustable, 90-145 mm | | 1687400 | | 1687400 | | 1687400 | |

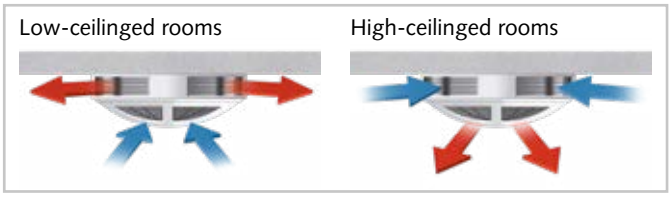
## Miscellaneous accessories

| | | | |
|---|---|---|---|
| **Moisture-proof room thermostat RT-1** IP54, without connection accessories | 1011240 | 1011240 | 1011240 |
| **Electronic moisture-proof room thermostat ETR-1** with display, type of protection IP54, including separate temperature probe | 1011241 | 1011241 | 1011241 |
| **Electronic temperature controller ATR-4** with temperature probe, surface mounting, IP 20 protection class | 1011340 | 1011340 | 1011340 |
| **Electronic temperature controller ATR-7** with temperature probe, surface mounting, IP 54 protection class | 1011292 | 1011292 | 1011292 |
| **Temperature probe set** for 4-point blended temperature recording | 1011343 | 1011343 | 1011343 |

**Versatile**

The possibility of altering the rotation of the fans allows optimal air distribution in both low-ceilinged and high-ceilinged rooms. In addition, this technology is ideal for always achieving the perfect outlet layout for heating operation.

**Heating**




| PWL 201 H | | PWL 202 H | | PWL 203 H | | PWL 301 H | | PWL 302 H | | PWL 303 H | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20.8 | | 36.3 | | 47.2 | | 26.9 | | 44.0 | | 61.1 | |
| 90/70 | 70/50 | 90/70 | 70/50 | 90/70 | 70/50 | 90/70 | 70/50 | 90/70 | 70/50 | 90/70 | 70/50 |
| 20.8/18.7 | 14.5/13.0 | 36.3/32.3 | 26.6/23.7 | 47.2/41.4 | 34.5/30.4 | 26.9/20.3 | 18.8/14.3 | 44.0/31.5 | 31.0/22.3 | 61.1/34.7 | 44.8/25.6 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19/20 | 13/14 | 35/37 | 25/27 | 46/49 | 34/36 | 17/21 | 12/15 | 29/36 | 21/26 | 43/56 | 32/41 |
| 3110/2580 | 3110/2580 | 2900/2400 | 2900/2400 | 2850/2350 | 2850/2350 | 4300/2650 | 4300/2650 | 4150/2400 | 4150/2400 | 3900/1710 | 3900/1710 |
| 61/53 | 61/53 | 61/56 | 61/56 | 61/56 | 61/56 | 66/59 | 66/59 | 66/59 | 66/59 | 68/61 | 68/61 |
| R1“ | R1“ | R1“ | R1“ | R1“ | R1“ | R1“ | R1“ | R1“ | R1“ | R1“ | R1“ |
| 400/3~N/50 | | 400/3~N/50 | | 400/3~N/50 | | 400/3~N/50 | | 400/3~N/50 | | 400/3~N/50 | |
| 32 | | 35 | | 38 | | 43 | | 46 | | 48 | |
| 1687201 | | 1687202 | | 1687203 | | 1687301 | | 1687302 | | 1687303 | |
| 1686200 | | 1686200 | | 1686200 | | 1686200 | | 1686200 | | 1686200 | |
| 1686201 | | 1686201 | | 1686201 | | 1686201 | | 1686201 | | 1686201 | |
| 385330 | | 385330 | | 385330 | | 385330 | | 385330 | | 385330 | |
| 385300 | | 385300 | | 385300 | | 385300 | | 385300 | | 385300 | |
| 385301 | | 385301 | | 385301 | | 385301 | | 385301 | | 385301 | |
| 385303 | | 385303 | | 385303 | | 385303 | | 385303 | | 385303 | |
| 1687405 | | 1687405 | | 1687405 | | 1687405 | | 1687405 | | 1687405 | |
| Series | | Series | | Series | | Series | | Series | | Series | |
| 1687400 | | 1687400 | | 1687400 | | 1687400 | | 1687400 | | 1687400 | |
| 1011240 | | 1011240 | | 1011240 | | 1011240 | | 1011240 | | 1011240 | |
| 1011241 | | 1011241 | | 1011241 | | 1011241 | | 1011241 | | 1011241 | |
| 1011340 | | 1011340 | | 1011340 | | 1011340 | | 1011340 | | 1011340 | |
| 1011292 | | 1011292 | | 1011292 | | 1011292 | | 1011292 | | 1011292 | |
| 1011343 | | 1011343 | | 1011343 | | 1011343 | | 1011343 | | 1011343 | |

# **REMKO** WPS SERIES

## Ceiling heating systems

### **REMKO** WPS SERIES

**The "heating island principle": Heat where it is needed**

REMKO ceiling heating systems create new dimensions in the heating of production lines, warehouses, sports halls, sports stands, sales rooms, exhibition halls, etc.

In accordance with the "heating island principle", REMKO ceiling-mounted heating systems can be used to heat areas such as work-places, cash till areas, individual components, materials, audience seats, sales areas, and so on.

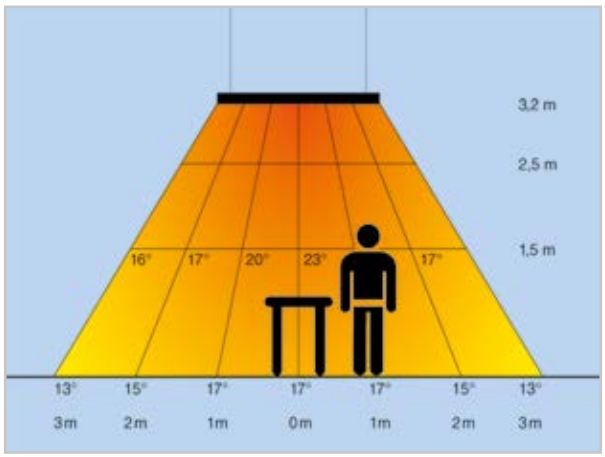
**The sun above your workstation**

REMKO ceiling heating systems generate soft waves of heating in accordance with the principle of solar heating. Not the air is heated, but rather only the radiated surface. There are only slight temperature differences between the floor and the hall ceiling. The cosy heating of the floor area prevents cold feet and increases motivation.

Electronic temperature controller, type ATR-7

**Ceiling heating systems for mounting directly above the useful or working area**

The installation above the working area should ideally be at a suspended height of 3.20 m, using a suspension bracket. Integrated installation into a false ceiling is also possible, as is mounting under a cable duct. An additional advantage of the REMKO ceiling heating systems are their universal application possibilities. When large useful or working areas are heated, it is possible to install several heating systems in series in a modular manner. The time-consuming and expensive installation of an exhaust gas plant is not necessary. REMKO ceiling heating systems are maintenance-free.




Temperature data based on a room temperature of 12 °C (WPS 3000)

## Technical data

| Unit type | | WPS 2000 | WPS 3000 |
|---|---|---|---|
| Area of application | approx. m | 6 x 4 | 6 x 4 |
| Heat range | | See temperature profile | See temperature profile |
| Voltage supply | V/Ph/Hz | 230/1~/50 | 230/1~/50 |
| Power consumption | kW | 2.2 | 2.4 |
| Nominal current | A | 9.8 | 10.9 |
| Minimum mounting height | m | 2.50 | 2.50 |
| Length | mm | 2000 | 2000 |
| Width | mm | 300 | 300 |
| Height | mm | 80 | 80 |
| Weight | kg | 22 | 22 |
| Serial colour | | white | white |
| Ref. no. | | 1640200 | 410100 |

| Accessories | | |
|---|---|---|
| **Suspension bracket** 2 mounting brackets for ceiling mounting or mounting under a cable duct, 2 suspension chains at 3.5 m each, 2 ceiling hooks with dowels | Included in price | Included in price |
| **Electronic temperature controller ATR-7** with temperature probe, surface mounting, IP 54 protection class | 1011292 | 1011292 |
| **Switchgear** with on/off switch and room thermostat connection, can be used for 2-6 heating systems | 412200 | 412200 |

# **REMKO** DVL AND ATR SERIES

Ceiling fans as supplement for hot air heating systems

## **REMKO** DVL SERIES

**Ceiling fans for reducing energy costs by activating lost ceiling heat in high-ceilinged halls**

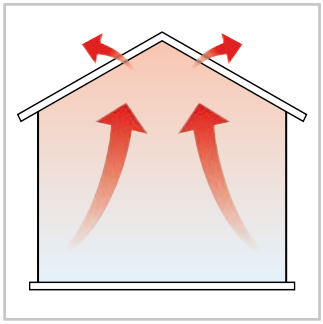
Thermal dynamic pushes heat upward.
Result: Unused quantities of heat dam up near the ceiling. With the REMKO DVL 140 ceiling fan, this lost heat potential can be retrieved from the ceiling and returned to the work area. Valuable thermal energy is saved by this type of "heat recovery."

- High ventilation capacity
- Long service life
- Quiet operation
- Low energy costs
- Single-phase a.c. motor, maintenance-free and malfunction-free for continuous operation
- White housing, stove enamelled
- Vibration-damping pendulum pipe suspension for low-vibration operation
- Easy to assemble
- Adjustable rotation speed, optional

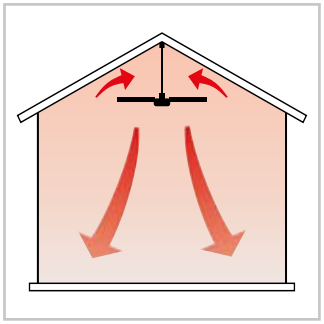
## **REMKO** ATR-3 SERIES

**Fully automatic differential temperature controller, the ideal complement to a ceiling fan**

With the fully automatic differential temperature controller, hot air that rises to the ceiling is made usable again in connection with the REMKO ceiling fan. The controller works with two probes: a room probe attached at working height and a ceiling probe. If the temperature falls below a previously set value, the ceiling fans are switched on to transport the hot air near the ceiling back down.



Based on the natural lift of hot air, most of the energy remains under the ceiling.



Through the use of a DVL ceiling fan, the warm air will be pushed downwards, constantly.

## Design

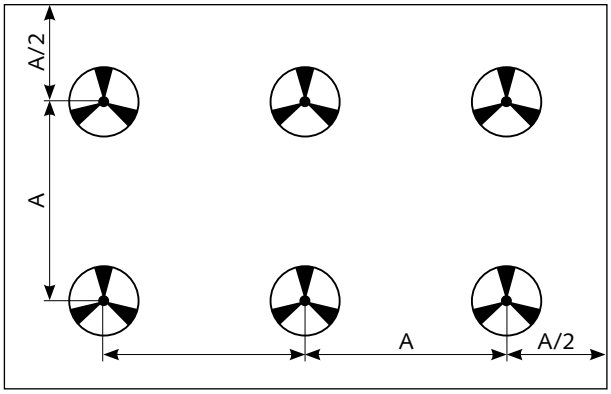
**Number of DVLs** = $\frac{\text{Hall floor area}}{\text{Hall height x 20}}$

**Distance of DVLs** = $\sqrt{\text{Hall height x 20}}$

## Energy savings calculation

$\frac{\Delta t \text{ with DVL}}{\Delta t \text{ without DVL}}$ $\qquad$ $\frac{\Delta t + 1.5}{\Delta t + (H \times 1.5)}$

Δt = inside ambient temperature - standard outside temperature
H = hall height




**Important mounting instructions:** The Unfallverhütungsvorschriften (German Accident Prevention Regulations (UVV)) proscribe a mandatory minimum distance of 2.5 m from the floor to the bottom edge of the blade.

## Technical data

| **Unit type** | | **DVL 140** | **DVL140 K*** |
|---|---|---|---|
| Air circulation | m³/h | 15,000 | 15,000 |
| Max. speed | rpm | 300 | 300 |
| Voltage supply | V/Ph/Hz | 230/1~/50 | 230/1~/50 |
| Power consumption | Watt | 75 | 75 |
| Blade diameter | mm | 1,420 | 1,420 |
| Construction height | mm | 690 | 440 |
| Weight | kg | 9.5 | 9.0 |
| Ref. no. | | 570400 | 570401 |

*short design

| **Temperature controllers** | | |
|---|---|---|
| **Differential temperature controller TR-2** with display, including temperature probe, type of protection IP54, max. 10 units | 1011291 | 1011291 |
| **Differential temperature controller ATR-3** fully automatic, including temperature probe, weekly programme, IP54 protection class, max. 14 units | 1011290 | 1011290 |

| **Other accessories** | | |
|---|---|---|
| **Thermal probe** for fully-automatic operation through ceiling temperature monitoring | 1011230 | 1011230 |
| **Speed controller DR-1** infinitely variable, max. 4 units | 1011294 | 1011294 |
| **Speed controller DR-3** infinitely variable, max. 8 units | 1011296 | 1011296 |

# **REMKO** ASE AND ASD SERIES

Exhaust gas plants

## **REMKO** ASE and ASD SERIES

**The ideal exhaust gas solution**

The REMKO ASE and ASD exhaust gas systems are especially designed for connection to modern hot air heating systems. The modular ASD systems with their three-shell design are delivered ready for assembly with continuous ceramic rock wool insulation. For reasons of corrosion protection, all components are basically manufactured from stainless steel. The exhaust gas system parts are simply connected by plugging and secured using clamps.

- Easy planning
- Optimum heat insulation
- High security
- Modular design
- Easy and economical mounting and design
- Condensate-proof implementation with seam plasma welding
- Simple double-casing plug-in technology
- Outer casing made of stainless steel 1.4301
- Testing by authorities, among other things for the following: corrosion resistance, pressure resistance, mounting safety, and temperature resistance

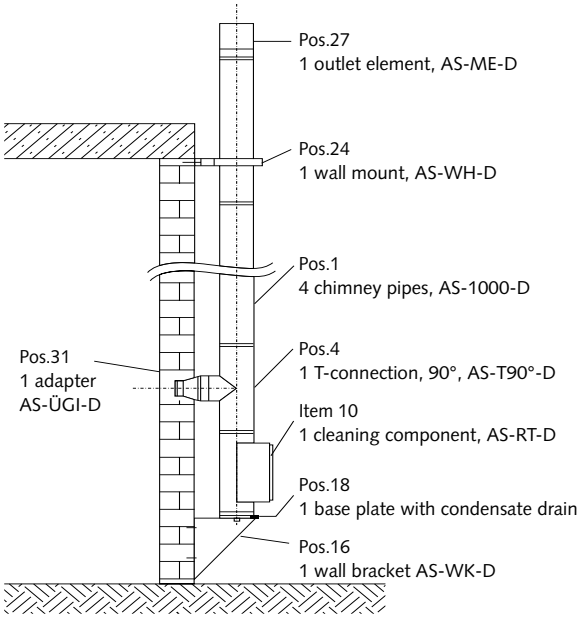
## Technical data

| **Single-walled stainless steel** | **Unit type** | **ASE** |
|---|---|---|
| Material | Inner wall | 1.4404 |
| | Wall thickness | 0,6 mm |
| Insulation | | possible |
| Thickness | | 25 mm |
| Internal rated diameter range | | Ø 130 - 200 mm |
| Temperature range | Continuous mode | 400 °C |
| Max. testing temperature | | 1000 °C ± 50 K |
| Function | | Dry, vacuum |
| Fuels | | Oil/gas/solid fuels |
| Approval | | CE 0432-BPR-119988 |
| Quality/external monitoring | | Yes |

| | **Unit type** | | **ASE 130** | **ASE 150** | **ASE 180** | **ASE 200** |
|---|---|---|---|---|---|---|
| | Internal nominal diameter range | mm | 130 Ø | 150 Ø | 180 Ø | 200 Ø |
| **Pos.** | **Individual sections** | | **Ref. no.** | **Ref. no.** | **Ref. no.** | **Ref. no.** |
| 1 | **Chimney pipe AS-1000-E** | | 1085325 | 1085326 | 1085327 | 1085328 |
| 2 | **Chimney pipe AS-500-E** | | 1085336 | 1085337 | 1085338 | 1085339 |
| 3 | **Chimney pipe AS-250-E** | | 1085740 | 1085741 | 1085742 | 1085743 |
| 4 | **T-connector AS-T90-E** | | 1085347 | 1085348 | 1085349 | 1085350 |
| 5 | **T-connector AS-T45-E** | | 1085370 | 1085371 | 1085372 | 1085373 |
| 6 | **Pipe bend AS-B45-E** | | 1085490 | 1085491 | 1085492 | 1085493 |
| 7 | **Cleaning bend**, adjustable 0-90°, AS-RB90-E | | 1085436 | 1085437 | 1085438 | 1085439 |
| 8 | **Cleaning component** with condensate drain AS-RT-E | | 1085424 | 1085425 | 1085426 | 1085427 |
| 9 | **Rain hood AS-RH-E** | | 1085479 | 1085480 | 1085481 | 1085482 |
| 10 | **Wall mount**, adjustable AS-WH-E | | 1085567 | 1085568 | 1085569 | 1085570 |
| 11 | **Roof bushing AS-D15-E** 1-15°, including weather collar | | 1085750 | 1085751 | 1085752 | 1085753 |
| 12 | **Roof bushing AS-D30-E** 15-30°, including weather collar | | 1085760 | 1085761 | 1085762 | 1085763 |
| 13 | **Adjusting length AS-JL-E** | | 1085739 | 1085770 | 1085771 | 1085772 |
| 14 | **Reduction piece** 130/150 mm | | 1085290 | – | – | – |

**REMKO ASD**

**Exhaust gas system, complete, for exterior assembly, consisting of:**




## Technical data

| Double-walled stainless steel | Unit type | ASD |
|---|---|---|
| Material: | Inner wall | 1.4404 |
| | Wall thickness | 0,4 mm |
| | Outside wall | 1.4301 |
| | Wall thickness | 0,4 mm |
| Insulation | | Mineral wool |
| Thickness | | 35 mm |
| Internal rated diameter range | | Ø 130 - 350 mm |
| Temperature range | Continuous mode | 600 °C |
| Max. testing temperature | | 1,000 °C ± 50 K |
| Function | | Moist and dry, vacuum |
| Fuels | | Oil/gas, solid fuels |
| CE Certificate No. | | CE 0432-BPR-119900 |
| Quality/external monitoring | | Constant monitoring |

| | Unit type | ASD 130 | ASD 150 | ASD 180 | ASD 200 | ASD 300 | ASD 350 |
|---|---|---|---|---|---|---|---|
| | Exhaust gas system, complete For outside mounting | 130 Ø | 150 Ø | 180 Ø | 200 Ø | 300 Ø | 350 Ø |
| | Application possibility of series ** | GPS 15-75, GPC 20-60 | VRS 25-50, GPS 75, GPC 80 | VRS 75-100 | VRS 130-200 | VRS 270-340 | VRS 440-540 |
| | Ref. no. | 1085354 | 1085355 | 1085360 | 1085375 | 1085390 | 1086395 |

| Pos. | Individual sections | Ref. no. | Ref. no. | Ref. no. | Ref. no. | Ref. no. | Ref. no. |
|---|---|---|---|---|---|---|---|
| 1 | **Chimney pipe AS-1000-D** | 1085000 | 1085001 | 1085002 | 1085003 | 1085005 | 1086006 |
| 2 | **Chimney pipe AS-500-D** | 1085007 | 1085008 | 1085009 | 1085010 | 1085012 | 1086013 |
| 3 | **Chimney pipe AS-250-D** | 1085013 | 1085015 | 1085016 | 1085017 | 1085019 | 1086020 |
| 4 | **T-connection AS-T90°-D** | 1085020 | 1085022 | 1085023 | 1085024 | 1085026 | 1086027 |
| 5 | **T-connection AS-T45°-D** | 1085028 | 1085029 | 1085030 | 1085031 | 1085033 | 1086034 |
| 6 | **Pipe bend AS-B45°-D** | 1085034 | 1085036 | 1085037 | 1085038 | 1085040 | 1086041 |
| 7 | **Pipe bend AS-B30°-D** | 1085041 | 1085043 | 1085044 | 1085045 | 1085047 | 1086048 |
| 8 | **Pipe bend AS-B15°-D** | 1085048 | 1085050 | 1085051 | 1085052 | 1085054 | 1086055 |
| 9 | **Cleaning bend AS-RB90°-D** | 1085722 | 1085724 | 1085725 | 1085726 | 1085728 | 1086729 |
| 10 | **Cleaning component AS-RT-D** | 1085055 | 1085057 | 1085058 | 1085059 | 1085061 | 1086062 |
| 11 | **Adjusting length AS-JL-D** | 1085069 | 1085071 | 1085072 | 1085073 | 1085075 | 1086076 |
| 12 | **Floor support AS-BS-D**, adjustable | 1085076 | 1085078 | 1085079 | 1085080 | 1085082 | 1086083 |
| 13 | **Intermediate bracket AS-ZK-D** | 1085090 | 1085092 | 1085093 | 1085094 | 1085096 | 1086097 |
| 14 | **Roof support AS-DS-D**, adjustable | 1085111 | 1085113 | 1085114 | 1085115 | 1085117 | 1086118 |
| 15 | **Ceiling guide sleeve AS-DF-D** | 1085314 | 1085316 | 1085317 | 1085318 | 1085321 | 1086322 |
| 16 | **Wall bracket AS-WK-D** | 1085104 | 1085106 | 1085107 | 1085108 | 1085110 | 1086111 |
| 18 | **Base plate AS-GI-D** | 1085125 | 1085127 | 1085128 | 1085129 | 1085131 | 1086132 |
| 19 | **Sealing cover AS-VD-D** | 1085174 | 1085176 | 1085177 | 1085178 | 1085180 | 1086181 |
| 20 | **Roof penetration AS-D15-D**, 1-15° | 1085149 | 1085151 | 1085152 | 1085153 | 1085155 | 1086156 |
| 21 | **Roof penetration, AS-D30-D**, 15-30° | 1085139 | 1085141 | 1085142 | 1085143 | 1085145 | 1086146 |
| 22 | **Roof penetration, AS-D45-D**, 30-45° | 1085160 | 1085162 | 1085163 | 1085164 | 1085166 | 1086167 |
| 24 | **Wall mount AS-WH-D** | 1085209 | 1085211 | 1085212 | 1085213 | 1085215 | 1086216 |
| 25 | **Wall mount AS-WHV-D**, adjustable | 1085673 | 1085675 | 1085676 | 1085677 | 1085679 | 1086680 |
| 27 | **Outlet element AS-ME-D** | 1085251 | 1085253 | 1085254 | 1085255 | 1085257 | 1086258 |
| 28 | **Rain hood AS-RH-D** | 1085258 | 1085260 | 1085261 | 1085262 | 1085264 | 1086265 |
| 29 | **Guy clamp AS-AS-D** | 1085279 | 1085281 | 1085282 | 1085283 | 1085285 | 1086286 |
| 31* | **Adapter AS-ÜGI-D** | 1085640 | 1085642 | 1085643 | 1085644 | 1085646 | 1086647 |
| 32 | **Adapter AS-ÜE-D** | 1085132 | 1085134 | 1085135 | 1085136 | 1085138 | 1086139 |
| 33 | **Testing element AS-PE-D** | 1085701 | 1085703 | 1085704 | 1085705 | 1085707 | 1086708 |
| 34 | **Drain pipe AS-EW-D** | 1085710 | 1085712 | 1085713 | 1085714 | 1085716 | 1086717 |
| 35 | **Replacement securing tape AS-SB-D** | 1085196 | 1085197 | 1085198 | 1085199 | 1085201 | 1086202 |
| 36 | **Replacement weather collar AS-WK-D** | 1085237 | 1085239 | 1085240 | 1085241 | 1085243 | 1086244 |
| 37 | **Wall mount, AS-WHV 300-D** Adjustable up to 300 mm | 1085680 | 1085681 | 1085682 | 1085683 | 1085685 | 1086686 |
| 38 | **Wall mount, AS-WHV 600-D** Adjustable up to 600 mm | 1085690 | 1085691 | 1085692 | 1085693 | 1085695 | 1086696 |
| 39 | **Wall bracket, AS-WHV 300-D** Adjustable up to 300 mm | 1085720 | 1085720 | 1085720 | 1085720 | 1085721 | 1086722 |
| 40 | **Wall bracket, AS-WHV 600-D** Adjustable up to 600 mm | 1085721 | 1085721 | 1085721 | 1085721 | 1085723 | 1086724 |
| 41 | **Chimney connector component AS-KA-D** GPS, 2-part | 1085730 | 1085735 | – | – | – | – |

* AS-ÜGI-D is used as a boiler connector component. All construction components are delivered with their securing straps.

** A cross-section calculation according to DIN 4705 is fundamentally recommended.

# **REMKO** QUALITY WITH SYSTEMS

Climate | Heating | New energies


**REMKO GmbH & Co. KG**
**Klima- und Wärmetechnik**

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