

RoofVent® RP

Operating instructions



RoofVent® RP

Original operating manual
4218 023-en-01

Hoval

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1 Use

1.1 Intended use

RoofVent® RP units are supply and extract air handling units for use in tall, single-floor halls. They have the following functions:

- Fresh air supply
- Extract air removal
- Heating and cooling with heat pump
- Supplementary heating with electric heating coil (option)
- Supplementary heating with hot water (with connection to a hot water supply, option)
- Energy recovery with highly efficient plate heat exchanger
- Filtering of the fresh air and the extract air
- Air distribution with adjustable Air-Injector

RoofVent® RP units comply with all the requirements of the Ecodesign Directive 2009/125/EC relating to environmentally friendly design of ventilation systems. They are systems of the 'non-residential ventilation unit' (NRVU) and 'bidirectional ventilation unit' (BVU) type.

Intended use also includes compliance with the operating instructions. Any usage over and above this use is considered to be not as intended. The manufacturer can accept no liability for damage resulting from improper use.

1.2 User group

The units are only allowed to be installed, operated and maintained by authorised and instructed personnel who are well acquainted with the units and are informed about possible dangers.

The operating instructions are for operating engineers and technicians as well as specialists in building, heating and ventilation technology.

2 Safety

2.1 Symbols

**Caution**

This symbol warns against risk of injury. Please heed all instructions designated by this symbol to prevent injuries and/or death.

**Attention**

This symbol warns against property damage. Please heed the respective instructions to prevent risk of damage to the unit and its functions.

**Notice**

This symbol denotes information about the economic use of the equipment or special tips.

2.2 Operational safety

The unit is built to conform to the state-of-the-art and is operationally safe. Despite every precaution being taken, potential and not immediately obvious risks always remain, for example:

- Dangers when working with the electrical system
- Parts (e.g. tools) can fall down below when working on the ventilation unit.
- Dangers from working on the roof
- Damage to devices or components due to lightning
- Malfunctions as a result of defective parts
- Hazards from hot components when working on the electric heating coil
- Hazards from hot water when working on the hot water supply
- Water penetration through the roof unit if the access panels are not closed correctly

Therefore:

- Please read the operating instructions before unpacking, installing, commissioning and before maintaining the equipment.
- Store the operating instructions so that they are easily accessible.
- Observe any attached information and warning signs.
- Immediately replace damaged or removed informational and warning signs.
- Follow the local safety and accident prevention regulations at all times.
- When working in the unit, take precautions against unprotected, sharp metal edges.
- The unit may only be installed, operated and serviced by authorised, trained and instructed skilled personnel:
 - Specialists as defined by these operating instructions are those persons who, based on their training, knowledge and experience as well as their knowledge of the relevant regulations and guidelines, can carry out the work assigned to them and recognise potential hazards.
- Unauthorised reconfiguration or modification of the unit is not permitted.

3 Construction and operation

3.1 Construction

RoofVent® RP units consist of the following components:

- Roof unit with energy recovery
- Below-roof unit
- Heat pump system

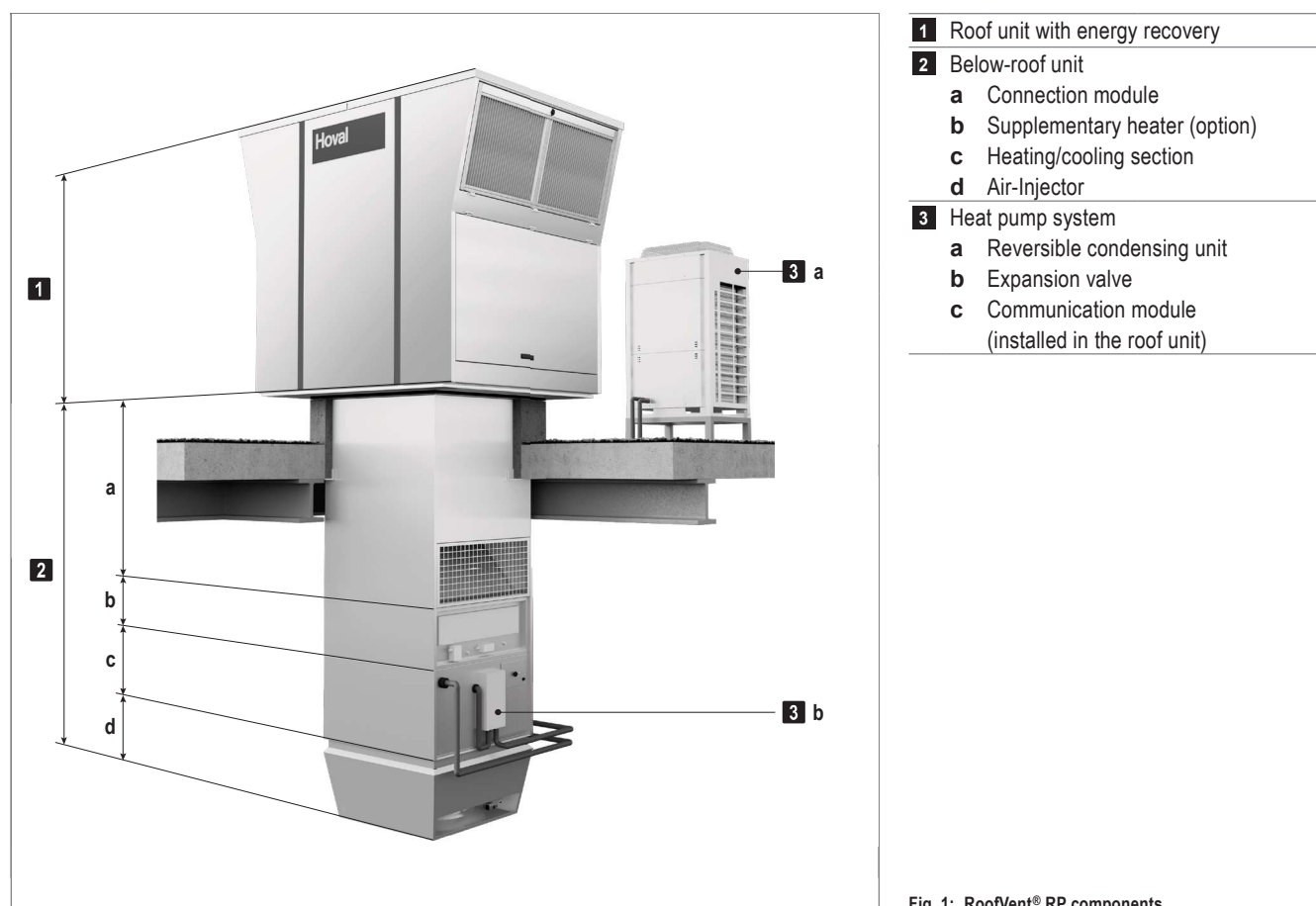


Fig. 1: RoofVent® RP components

3.2 Construction variants

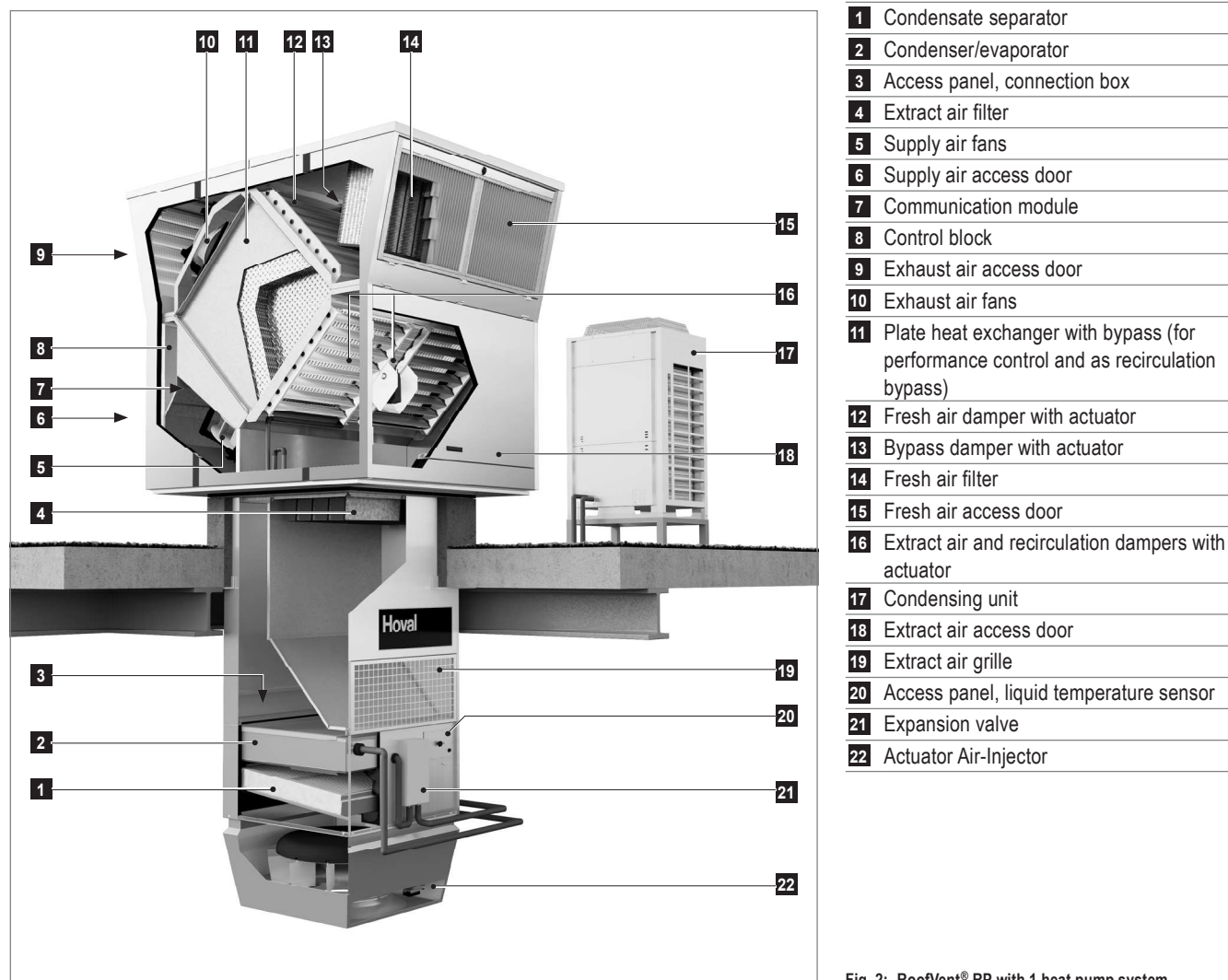
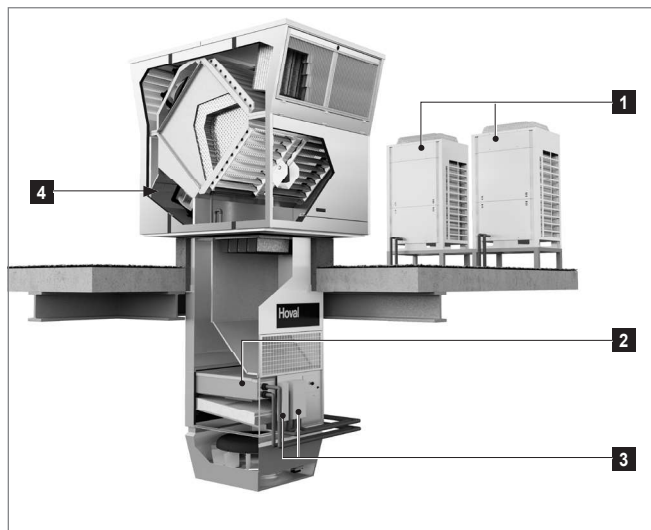
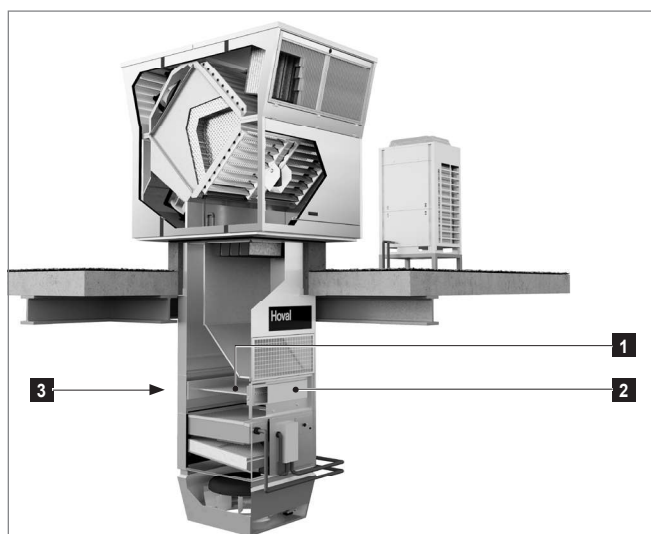


Fig. 2: RoofVent® RP with 1 heat pump system



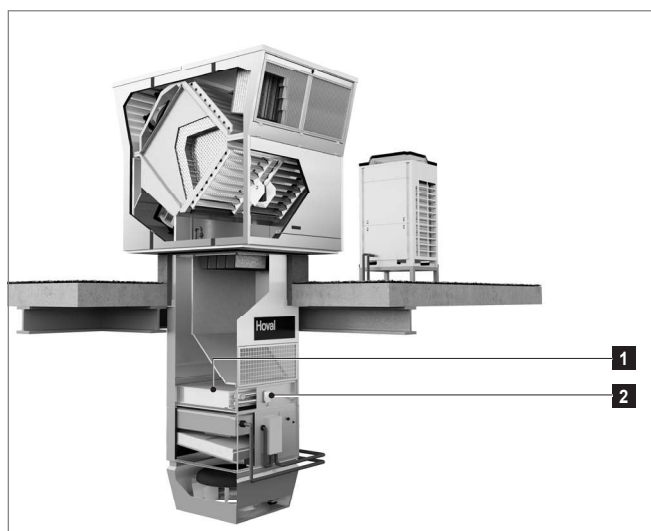
- 1 2 condensing units
- 2 Condenser/evaporator with 2 circuits
- 3 2 expansion valves
- 4 2 communication modules

Fig. 3: RoofVent® RP with 2 heat pump systems



- 1 Electric heating coil
- 2 Access panel, electric heating coil
- 3 Access panel, electric heating coil connection

Fig. 4:
RoofVent® RP with supplementary heater
(electric heating coil)

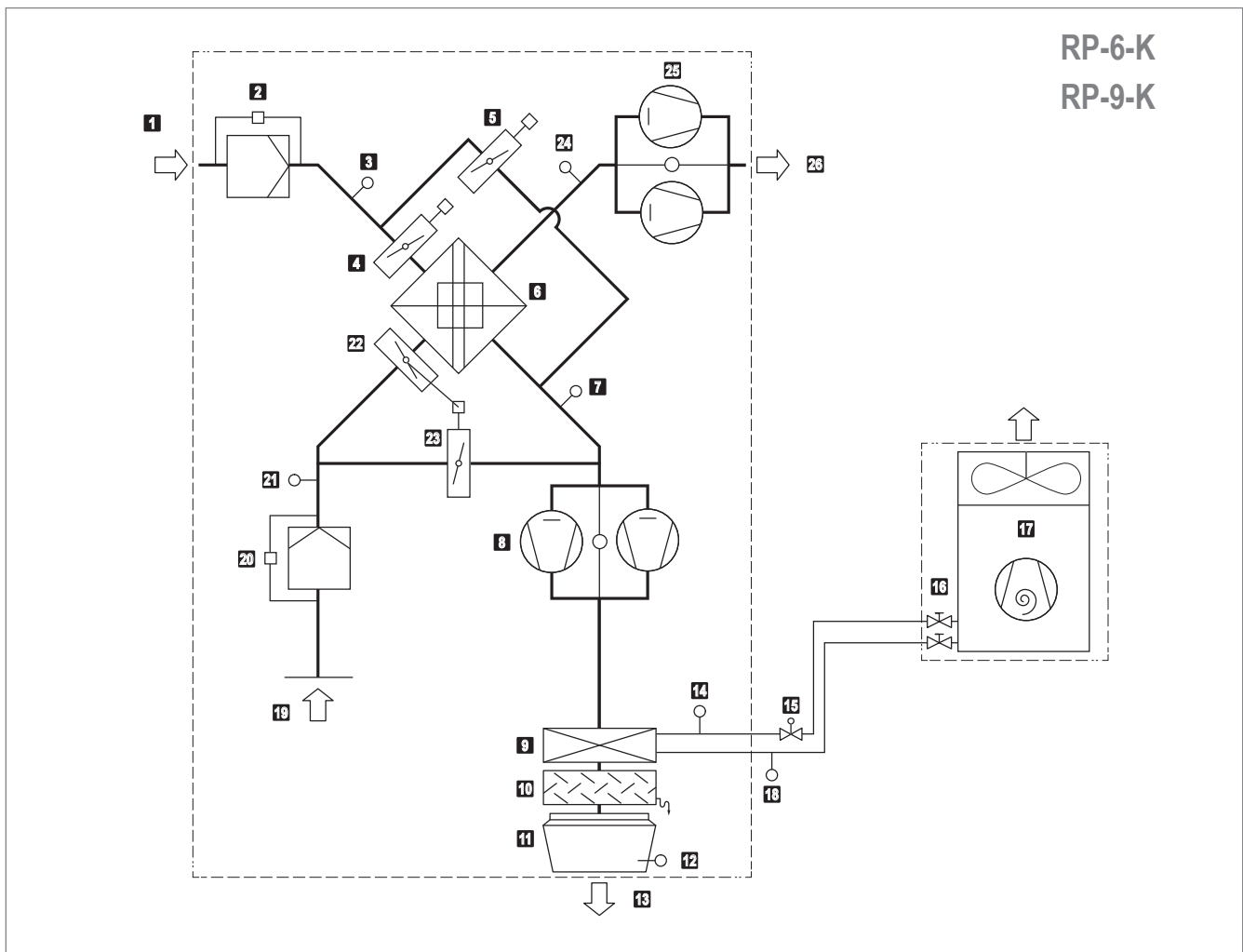


- 1 Heating coil (hot water)
- 2 Frost stat

Fig. 5:
RoofVent® RP with supplementary heater (hot water)

3.3 Function diagrams

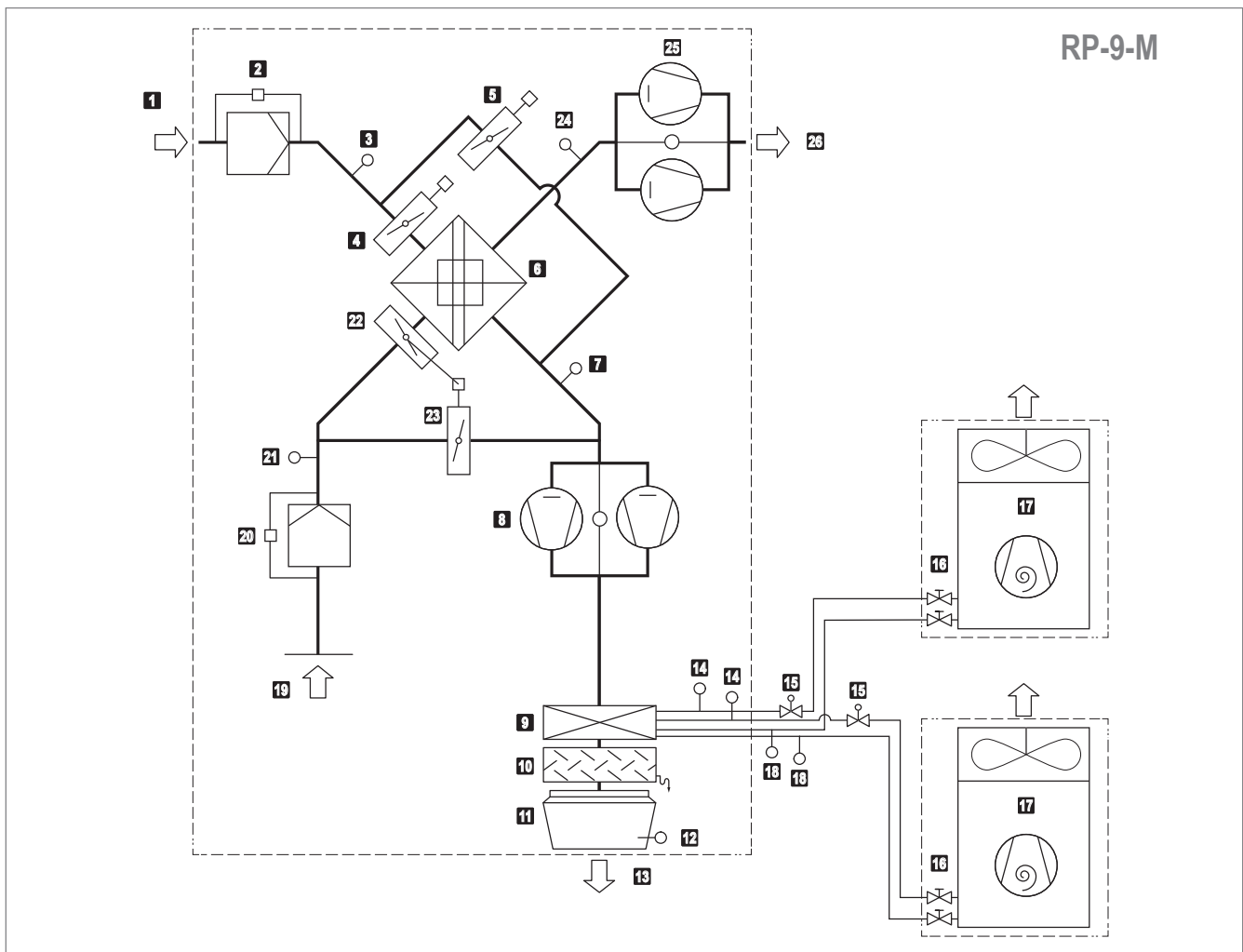
RoofVent® RP with 1 heat pump system



1 Fresh air	14 Liquid temperature sensor
2 Fresh air filter with differential pressure switch	15 Expansion valve (supplied loose)
3 Temperature sensor air inlet ER (optional)	16 Shut-off valves
4 Fresh air damper with actuator	17 Condensing unit
5 Bypass damper with actuator	18 Gas temperature sensor (supplied loose)
6 Plate heat exchanger	19 Extract air
7 Temperature sensor air outlet ER (optional)	20 Extract air filter with differential pressure switch
8 Supply air fans with flow rate monitoring	21 Extract air temperature sensor
9 Heating/cooling coil	22 Extract air damper with actuator
10 Condensate separator	23 Recirculation damper (opposed to the extract air damper)
11 Air-Injector with actuator	24 Exhaust air temperature sensor
12 Supply air temperature sensor	25 Exhaust air fans with flow rate monitoring
13 Supply air	26 Exhaust air

Table 1: RoofVent® RP-6-K, RP-9-K function diagram

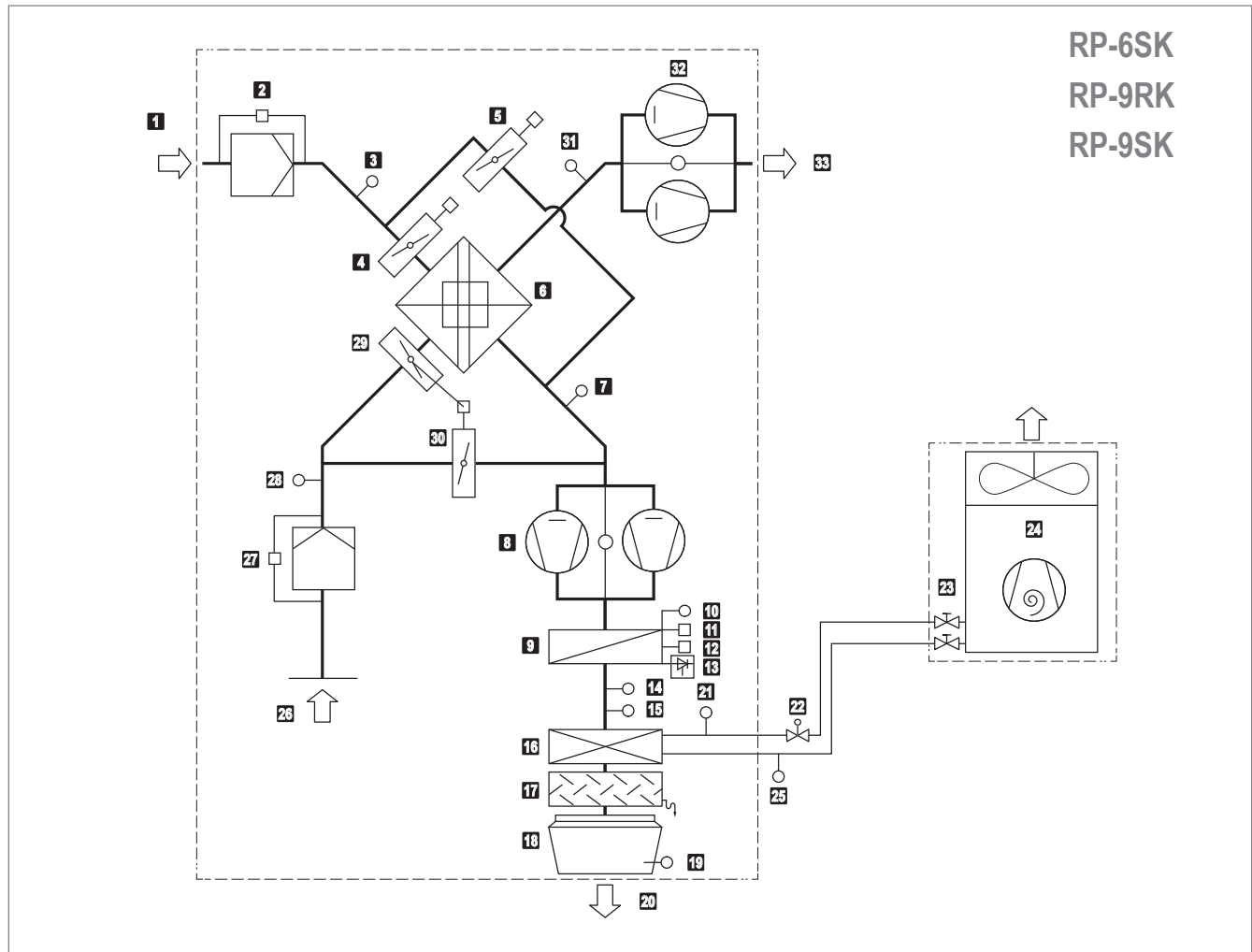
RoofVent® RP with 2 heat pump systems



1 Fresh air	14 Liquid temperature sensor
2 Fresh air filter with differential pressure switch	15 Expansion valve (supplied loose)
3 Temperature sensor air inlet ER (optional)	16 Shut-off valves
4 Fresh air damper with actuator	17 Condensing unit
5 Bypass damper with actuator	18 Gas temperature sensor (supplied loose)
6 Plate heat exchanger	19 Extract air
7 Temperature sensor air outlet ER (optional)	20 Extract air filter with differential pressure switch
8 Supply air fans with flow rate monitoring	21 Extract air temperature sensor
9 Heating/cooling coil	22 Extract air damper with actuator
10 Condensate separator	23 Recirculation damper (opposed to the extract air damper)
11 Air-Injector with actuator	24 Exhaust air temperature sensor
12 Supply air temperature sensor	25 Exhaust air fans with flow rate monitoring
13 Supply air	26 Exhaust air

Table 2: RoofVent® RP-9-M function diagram

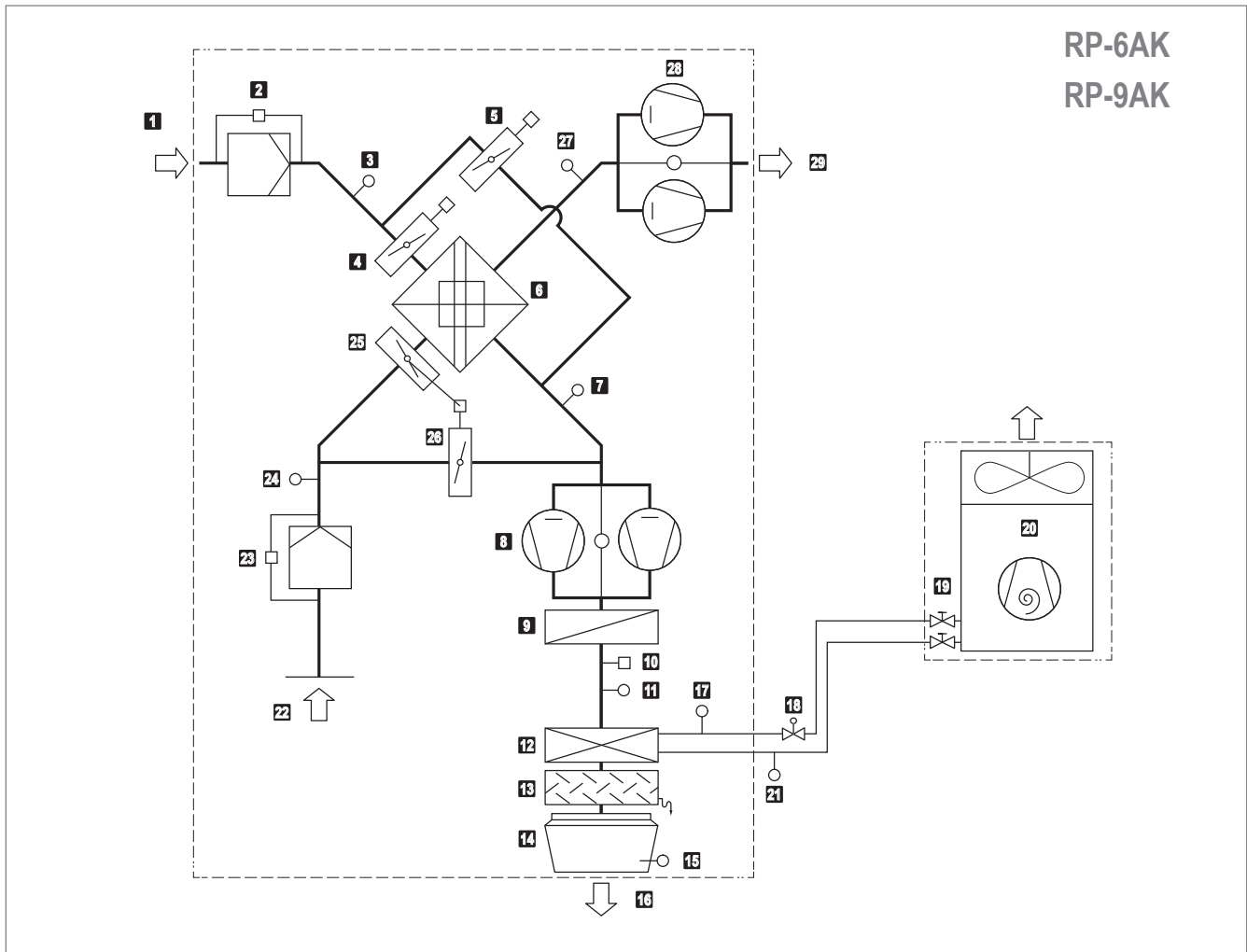
RoofVent® RP with supplementary heater (electric heating coil)



1 Fresh air	18 Air-Injector with actuator
2 Fresh air filter with differential pressure switch	19 Supply air temperature sensor
3 Temperature sensor air inlet ER (optional)	20 Supply air
4 Fresh air damper with actuator	21 Liquid temperature sensor
5 Bypass damper with actuator	22 Expansion valve (supplied loose)
6 Plate heat exchanger	23 Shut-off valves
7 Temperature sensor air outlet ER (optional)	24 Condensing unit
8 Supply air fans with flow rate monitoring	25 Gas temperature sensor (supplied loose)
9 Heating coil (electric)	26 Extract air
10 Run-on thermostat	27 Extract air filter with differential pressure switch
11 Temperature monitor	28 Extract air temperature sensor
12 Safety temperature limiter	29 Extract air damper with actuator
13 Thyristor controller	30 Recirculation damper (opposed to the extract air damper)
14 Temperature sensor air outlet supplementary heater	31 Exhaust air temperature sensor
15 Air flow monitoring	32 Exhaust air fans with flow rate monitoring
16 Heating/cooling coil	33 Exhaust air
17 Condensate separator	

Table 3: RoofVent® RP-6SK, RP-9RK, RP-9SK function diagram

RoofVent® RP with supplementary heater (hot water)



1 Fresh air	16 Supply air
2 Fresh air filter with differential pressure switch	17 Liquid temperature sensor
3 Temperature sensor air inlet ER (optional)	18 Expansion valve (supplied loose)
4 Fresh air damper with actuator	19 Shut-off valves
5 Bypass damper with actuator	20 Condensing unit
6 Plate heat exchanger	21 Gas temperature sensor (supplied loose)
7 Temperature sensor air outlet ER (optional)	22 Extract air
8 Supply air fans with flow rate monitoring	23 Extract air filter with differential pressure switch
9 Heating coil (hot water)	24 Extract air temperature sensor
10 Frost controller	25 Extract air damper with actuator
11 Temperature sensor air outlet supplementary heater	26 Recirculation damper (opposed to the extract air damper)
12 Heating/cooling coil	27 Exhaust air temperature sensor
13 Condensate separator	28 Exhaust air fans with flow rate monitoring
14 Air-Injector with actuator	29 Exhaust air
15 Supply air temperature sensor	

Table 4: RoofVent® RP-6AK, RP-9AK function diagram

3.4 Operating modes

The RoofVent® RP has the following operating modes:

- Ventilation
- Ventilation (reduced)
- Air quality
- Recirculation
- Exhaust air
- Supply air
- Standby

The TopTronic® C control system regulates these operating modes automatically for each control zone in accordance with the specifications in the calendar. The following points also apply:

- The operating mode of a control zone can be switched over manually.
- Each RoofVent® RP unit can operate individually in a local operating mode: Off, Recirculation, Supply air, Exhaust air, Ventilation, Forced heating.

Code	Operating mode	Description
VE	Ventilation The unit blows fresh air into the room and exhausts polluted room air. The room temperature set value day is active. Depending on the temperature conditions, the system continuously controls: ■ the energy recovery ■ the heating/cooling	Supply air fan on *) Exhaust air fan on *) Energy recovery 0-100 % Extract air damper open Recirculation damper closed Heating/cooling 0-100 % *) Adjustable flow rate
VEL	Ventilation (reduced) As VE, but the unit only operates with the set minimum values for the supply and exhaust air volumes	Supply air fan MIN Exhaust air fan MIN Energy recovery 0-100 % Extract air damper open Recirculation damper closed Heating/cooling 0-100 %
AQ	Air quality This is the operating mode for demand-controlled ventilation of the room. The room temperature set value day is active. Depending on the temperature conditions, the system continuously controls: ■ the energy recovery ■ the heating/cooling Depending on the room air quality, the system operates in one of the following operating states:	
AQ_REC	■ Air quality Recirculation: When air quality is good, the unit heats or cools in recirculation operation.	Like REC
AQ_ECO	■ Air quality Mixed air: When ventilation requirements are medium, the unit heats or cools in mixed air operation. The supply/exhaust air volume is based on the air quality.	Supply air fan MIN-MAX Exhaust air fan MIN-MAX Energy recovery 0-100 % Extract air damper 50 % Recirculation damper 50 % Heating/cooling 0-100 %
AQ_VE	■ Air quality Ventilation: When ventilation requirements are high, the unit heats or cools in pure ventilation operation. The supply/exhaust air volume is based on the air quality.	Supply air fan MIN-MAX Exhaust air fan MIN-MAX Energy recovery 0-100 % Extract air damper open Recirculation damper closed Heating/cooling 0-100 %
REC	Recirculation On/Off recirculation operation with TempTronic algorithm: During heat or cool demand, the unit draws in room air, heats or cools it and blows it back into the room. The room temperature set value day is active. The flow rate is controlled in 2 stages.	Supply air fan 0 / 50 / 100 % *) Exhaust air fan off Energy recovery 0 % Extract air damper closed Recirculation damper open Heating/cooling on *)
DES	■ Destratification: To avoid heat build-up under the ceiling, it may be appropriate to switch on the fan when there is no heat or cool demand (either in permanent operation or in on/off operation depending on the temperature stratification).	*) Depending on heat or cool demand

Code	Operating mode	Description
EA	Exhaust air The unit extracts spent room air. There is no room temperature control. Unfiltered fresh air enters the room through open windows and doors or another system provides air supply.	Supply air fan off Exhaust air fan on *) Energy recovery 0 % Extract air damper open Recirculation damper closed Heating/cooling off *) Adjustable flow rate
SA	Supply air The unit blows fresh air into the room. The room temperature set value day is active. Depending on the temperature conditions, the system controls the heating/cooling. Spent room air passes through open windows and doors or another system provides extraction.	Supply air fan on *) Exhaust air fan off Energy recovery 0 % **) Extract air damper open Recirculation damper closed Heating/cooling 0-100 % *) Adjustable flow rate **) Fresh air and bypass dampers are open
ST	Standby The unit is normally switched off. The following functions remain active:	
CPR	■ Cooling protection: If the room temperature drops below the set value for cooling protection, the unit heats up the room in recirculation operation.	Supply air fan MAX Exhaust air fan off Energy recovery 0 % Extract air damper closed
OPR	■ Overheating protection: If the room temperature rises above the set value for overheating protection, the unit cools down the room in recirculation operation. If the temperatures also permit fresh air cooling, the units automatically switches to night cooling (NCS) to save energy.	Recirculation damper open Heating/cooling on
NCS	■ Night cooling: If the room temperature exceeds the set value for night cooling and the current fresh air temperature permits it, the unit blows cool fresh air into the room and extracts warmer room air.	Supply air fan on *) Exhaust air fan on *) Energy recovery 0 % Extract air damper open Recirculation damper closed Heating/cooling off *) Adjustable flow rate
L_OFF	Off (local operating mode) The unit is switched off. Frost protection remains active.	Supply air fan off Exhaust air fan off Energy recovery 0 % Extract air damper closed Recirculation damper open Heating/cooling off
–	Forced heating (only for units with supplementary heater) The unit draws in room air, warms it and blows it back into the room. Forced heating is activated by inserting a wire jumper in the control block. For example, it is suitable for heating the hall before taking the control system into operation or if the controller fails during the heating period. Connecting a room thermostat makes it possible to specify a room temperature set value.	Supply air fan MAX Exhaust air fan off Energy recovery 0 % Extract air damper closed Recirculation damper open Heating on

Table 5: RoofVent® RP operating modes

4 Type code

RP - 6 A K -RX / ST . -- / V0 . D1 . LU / AF . SI / Y . KP . -- . SD / TC . EM . PH . RF

Unit type

RoofVent® RP

Unit size

6 or 9

Heating section

- without heating section
- A with coil type A (hot water)
- R with coil type R (electric)
- S with coil type S (electric)

Heating/cooling section

- K with coil type K (1 heat pump)
- M with coil type M (2 heat pumps)

Heat recovery

RX Temperature efficiency ErP 2018

Design

ST Standard

Connection module

- V0 Standard
- V1 Length + 250 mm
- V2 Length + 500 mm
- V3 Length + 1000 mm

Air outlet

- D1 Design with 1 Air-Injector
- D2 Design with 2 Air-Injectors
- D0 Design without Air-Injector

Paint finish

- without
- LU Paint finish of below-roof unit

Silencer outside

- without
- AF Fresh air and exhaust air silencer

Silencer inside

- without
- SI Supply air and extract air silencer

RP - 6 A K -RX / ST . -- / V0 . D1 . LU / AF . SI / Y . KP . -- . SD / TC . EM . PH . RF

Hydraulics

- without
- Y Hydraulic assembly diverting system
- M Mixing valve

Condensate pump

- without
- KP Condensate pump

Socket

- without
- SD Socket in the unit
- CH Socket in the unit Switzerland

Control system

- TC TopTronic® C

Energy monitoring

- without
- EM Energy monitoring

Pump control

- without
- PH Heating pump

Return temperature sensor

- without
- RF Return temperature sensor

5 Technical data

5.1 Application limits

Fresh air temperature heating mode		min.	°C	-20
		max.	°C	15
Fresh air temperature cooling mode		min.	°C	-5
		max.	°C	40
Extract air temperature		max.	°C	50
Extract air relative humidity ¹⁾		max.	%	60
Moisture content of extract air ¹⁾		max.	g/kg	12.5
Supply air temperature		max.	°C	45
Air flow rate	Size 6:	min.	m³/h	3100
	Size 9:	min.	m³/h	5000
Condensate quantity	Size 6:	max.	kg/h	90
	Size 9:	max.	kg/h	150
Temperature of the heating medium ²⁾		max.	°C	90
Pressure of the heating medium ²⁾		max.	kPa	800
The units cannot be used in: ■ Damp locations ■ Rooms with mineral oil vapours in the air ■ Rooms with a high salt content in the air ■ Rooms with acidic or alkaline vapours in the air				
¹⁾ Units for applications where the humidity in the room increases by more than 2 g/kg are available on request.				
²⁾ For units with supplementary hot water heater				

Table 6: Application limits

5.2 Heat recovery system (HRS)

Unit type		RP-6	RP-9
Temperature efficiency, dry	%	77	78
Temperature efficiency, wet	%	89	90

Table 7: Thermal transfer level of the plate heat exchanger

5.3 Air filtration

Filter	Fresh air	Extract air
Class acc. to ISO 16890	ePM ₁ 55 %	ePM ₁₀ 65 %
Class acc. to EN 779	F7	M5
Factory setting of differential pressure switches	250 Pa	350 Pa

Table 8: Air filtration

5.4 Electrical connection

RoofVent® RP

Unit type		RP-6...K	RP-9...K RP-9-M
Supply voltage	V AC	3 × 400	3 × 400
Permitted voltage tolerance	%	± 5	± 5
Frequency	Hz	50	50
Connected load	kW	4.6	8.6
Current consumption max.	A	7.8	14.4
Series fuse	A	13.0	20.0

Table 9: RoofVent® RP electrical connections

Electric heating coil		6S	9R	9S
Connected load	kW	14	14	28
Current consumption max.	A	20	20	40
Series fuse	A	20	20	40

Table 10: Electric heating coil electrical connections

ERQ250 condensing unit

Unit type		RP...6-K RP...9-K	RP-9-M
Supply voltage	V AC	3 × 400	3 × 400
Permitted voltage tolerance	%	± 10	± 10
Frequency	Hz	50	50
Connected load	kW	13.5	2 × 13.5
Current consumption max.	A	21.6	2 × 21.6
Series fuse	A	25	2 × 25.0
Inrush current	A	74	2 × 74.0

Table 11: Daikin ERQ250 condensing unit electrical connections

5.5 Flow rate, product parameters

Unit type		RP-6			RP-9					
Nominal air flow rate	m³/h	5500			8000					
	m³/s	1.53			2.22					
Floor area covered	m²	480			797					
Specific fan power SFP _{int}	W/(m³/s)	920			940					
Face velocity	m/s	2.69			2.98					
Static efficiency of the fans	%	62			63					
Internal pressure drop of ventilation components										
	Fresh air/supply air	Pa	270			268				
	Extract air/exhaust air	Pa	300			316				
Maximum leakage rate										
	External	%	0.45			0.25				
	Internal	%	1.5			1.2				
Heating/cooling section		6-K	6AK	6SK	9-K	9-M	9AK	9RK	9SK	
Nominal external pressure										
	Supply air	Pa	130	110	130	240	200	210	230	220
	Extract air	Pa	190	190	190	300	300	300	300	300
Effective electric power input	kW	2.13	2.18	2.14	3.31	3.42	3.45	3.34	3.38	

Table 12: RoofVent® RP technical data

5.6 Condensing unit technical data

Rated heat output ¹⁾	kW	31.5
Rated cooling capacity ²⁾	kW	28.0
COP value	–	4.09
EER value	–	3.77
Condensation temperature	°C	46
Evaporation temperature	°C	6
Working medium	–	R410a
Fill volume working medium (prefilled)	kg	8.4
1) With fresh air temperature 7 °C / extract air temperature 20 °C		
2) With fresh air temperature 35 °C / extract air temperature 27 °C / 45% rel. humidity		

Table 13: Daikin ERQ250 condensing unit technical data

5.7 Heat output

t_F °C	Type RP-	Q kW	Q_{TG} kW	H_{max} m	t_S °C	P_{HP} kW	P_E kW	Δp_W kPa	m_W l/h
-15	6-K	22.1	11.6	20.5	24.2	7.50	–	–	–
	6AK	37.5	26.9	13.8	32.5	8.18	–	1.0	446.0
	6SK	35.9	25.4	14.2	31.7	8.04	14.0	–	–
	9-K	22.1	7.7	25.0	20.9	7.50	–	–	–
	9-M	44.2	29.8	16.2	29.1	15.00	–	–	–
	9AK	48.7	34.3	15.1	30.7	8.45	–	1.0	769.0
	9RK	36.0	21.6	18.8	26.0	7.77	14.0	–	–
	9SK	49.9	35.5	14.9	31.2	8.45	28.0	–	–
Legend: t_F = Fresh air temperature Q = Heat output Q_{TG} = Output to cover fabric heat losses H_{max} = Maximum mounting height t_S = Supply air temperature P_{HP} = Power consumption of the condensing unit(s) P_E = Power consumption of the electric heating coil Δp_W = Water pressure drop m_W = Water quantity									
Reference: Room air 18 °C, extract air 20 °C / 20 % rel. humidity Supplementary heater with hot water: Flow/Return 60 °C/30 °C									

Table 14: RoofVent® RP heat output

5.8 Cooling capacities

t _F	RH _F	Type	Q _{sen}	Q _{tot}	Q _{TG}	t _S	m _C	P _{HP}
°C	%	RP-	kW	kW	kW	°C	kg/h	kW
32	40	6...K	18.6	28.6	13.2	18.9	14.8	6.91
		9...K	18.3	28.6	10.6	22.1	15.1	6.91
		9–M	35.7	54.1	28.0	15.6	27.0	13.06
	60	6...K	12.4	29.7	7.0	22.2	25.3	6.97
		9...K	12.3	29.7	4.6	24.3	25.5	6.97
		9–M	25.6	59.4	17.8	19.4	49.7	13.96
Legend:	t _F = Fresh air temperature RH _F = Relative humidity of the fresh air Q _{sen} = Sensible cooling capacity Q _{tot} = Total cooling capacity Q _{TG} = Output for coverage of transmission sensible gains (→ sensible cooling load) t _S = Supply air temperature m _C = Condensate quantity P _{HP} = Power consumption of the condensing unit(s)							
Reference:	Room air 26 °C, extract air 28 °C / 50 % rel. humidity							

Table 15: RoofVent® RP cooling capacity

Unit type		RP-6				RP-9			
A	mm	1400				1750			
B	mm	1040				1240			
C	mm	848				1048			
F	mm	410				450			
G	mm	470				670			
M	mm	620				610			
S	mm	490				570			
T	mm	500				630			
U	mm	767				937			
V	mm	900				1100			
H	mm	984				1184			
Connection module		V0	V1	V2	V3	V0	V1	V2	V3
D	mm	940	1190	1440	1940	980	1230	1480	1980
E	mm	530	780	1030	1530	530	780	1030	1530
W	mm	2050	2300	2550	3050	2160	2410	2660	3160

Table 16: RoofVent® RP dimensions

Unit type		RP-6-K	RP-9-K
N	mm	68	88
O	mm	123	95
P	mm	254	360
Q	mm	71	96
R	mm	54	53

Table 17: Dimensions for connection

Unit type		RP-6-K	RP-9-K
Total	kg	889	1151
Roof unit	kg	704	904
Below-roof unit	kg	185	247
Air-Injector	kg	37	56
Heating/cooling section	kg	70	94
Expansion valve	kg	3	3
Connection module V0	kg	75	94
Additional weight V1	kg	+ 11	+ 13
Additional weight V2	kg	+ 22	+ 26
Additional weight V3	kg	+ 44	+ 52

Table 18: RoofVent® RP weights

RoofVent® RP with 2 heat pump systems

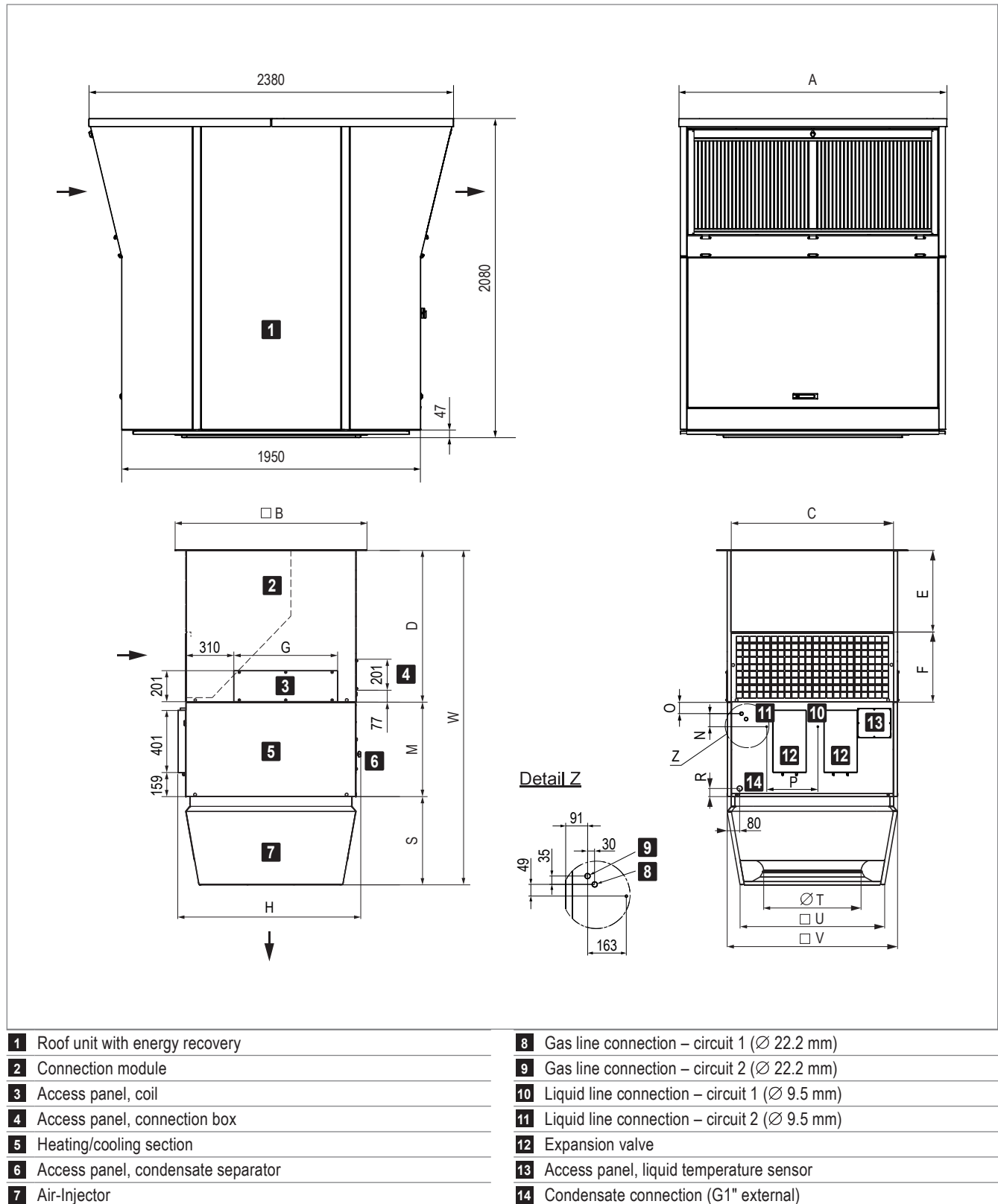


Fig. 7: RoofVent® RP-9-M dimensional drawing (dimensions in mm)

Unit type		RP-9			
A	mm	1750			
B	mm	1240			
C	mm	1048			
F	mm	450			
G	mm	670			
M	mm	610			
S	mm	570			
T	mm	630			
U	mm	937			
V	mm	1100			
H	mm	1184			
Connection module		V0	V1	V2	V3
D	mm	980	1230	1480	1980
E	mm	530	780	1030	1530
W	mm	2160	2410	2660	3160

Table 19: RoofVent® RP dimensions

Unit type		RP-9-M
N	mm	84
O	mm	73
P	mm	330
R	mm	53

Table 20: Dimensions for connection

Unit type		RP-9-M
Total	kg	1174
Roof unit	kg	908
Below-roof unit	kg	266
Air-Injector	kg	56
Heating/cooling section	kg	110
Expansion valve	kg	6
Connection module V0	kg	94
Additional weight V1	kg	+ 13
Additional weight V2	kg	+ 26
Additional weight V3	kg	+ 52

Table 21: RoofVent® RP weights

RoofVent® RP with supplementary heater (electric heating coil)

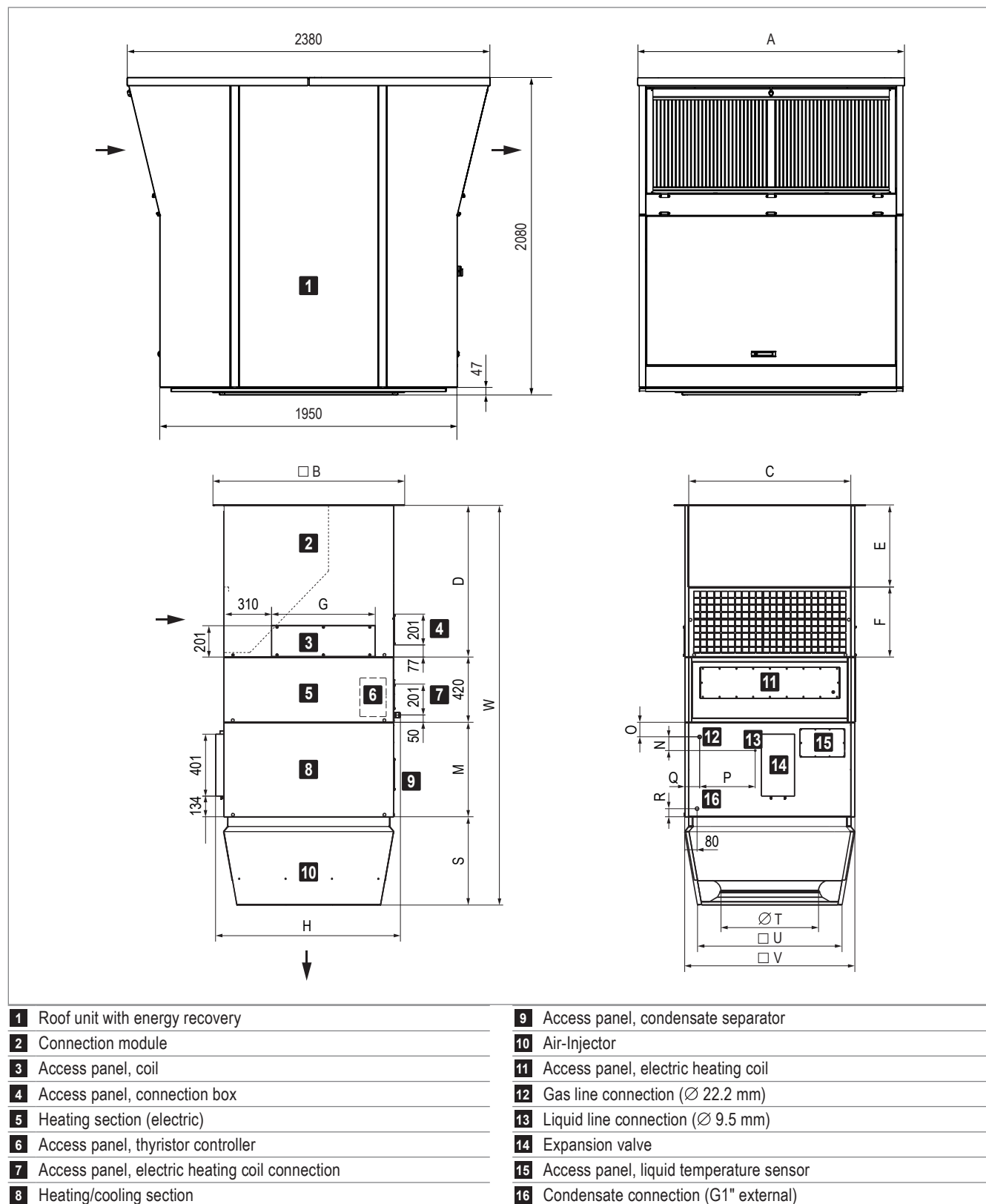


Fig. 8: RoofVent® RP-6SK, RP-9RK, RP-9SK dimensional drawing (dimensions in mm)

Unit type		RP-6SK				RP-9RK, RP-9SK			
A	mm	1400				1750			
B	mm	1040				1240			
C	mm	848				1048			
F	mm	410				450			
G	mm	470				670			
M	mm	620				610			
S	mm	490				570			
T	mm	500				630			
U	mm	767				937			
V	mm	900				1100			
H	mm	993				1192			
Connection module		V0	V1	V2	V3	V0	V1	V2	V3
D	mm	940	1190	1440	1940	980	1230	1480	1980
E	mm	530	780	1030	1530	530	780	1030	1530
W	mm	2470	2720	2970	3470	2580	2830	3080	3580

Table 22: RoofVent® RP dimensions

Unit type		RP-6SK	RP-9RK	RP-9SK
N	mm	68	88	88
O	mm	123	95	95
P	mm	254	360	360
Q	mm	71	96	96
R	mm	54	53	53

Table 23: Dimensions for connection

Unit type		RP-6SK	RP-9RK	RP-9SK
Total	kg	938	1212	1220
Roof unit	kg	704	904	904
Below-roof unit	kg	234	308	316
Air-Injector	kg	37	56	56
Heating section	kg	49	61	69
Heating/cooling section	kg	70	94	94
Expansion valve	kg	3	3	3
Connection module V0	kg	75	94	94
Additional weight V1	kg	+ 11	+ 13	+ 13
Additional weight V2	kg	+ 22	+ 26	+ 26
Additional weight V3	kg	+ 44	+ 52	+ 52

Table 24: RoofVent® RP weights

RoofVent® RP with supplementary heater (hot water)

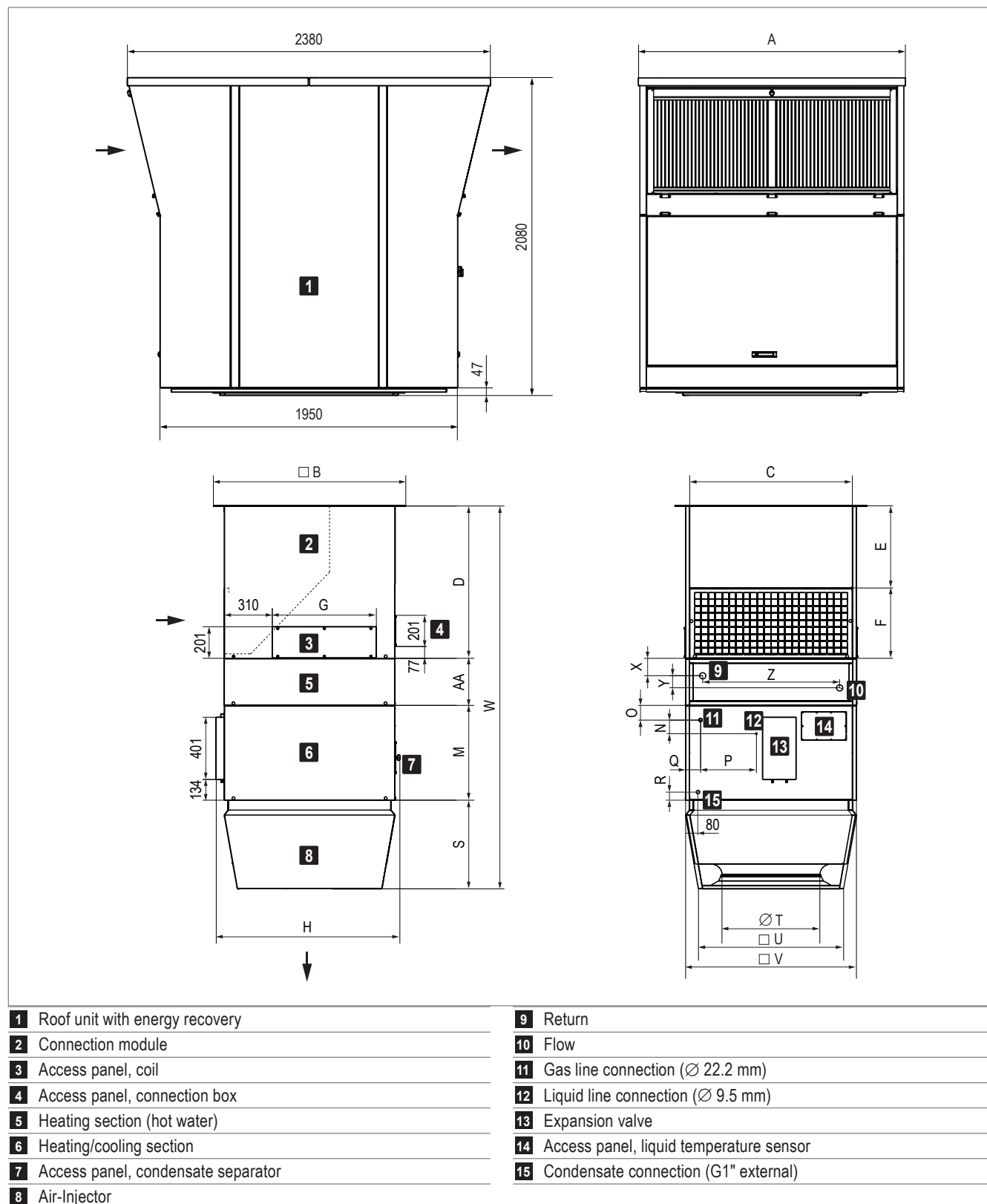


Fig. 9: RoofVent® RP-6AK, RP-9AK dimensional drawing (dimensions in mm)

Unit type		RP-6AK				RP-9AK			
A	mm	1400				1750			
B	mm	1040				1240			
C	mm	848				1048			
F	mm	410				450			
G	mm	470				670			
M	mm	620				610			
S	mm	490				570			
T	mm	500				630			
U	mm	767				937			
V	mm	900				1100			
H	mm	984				1184			
X	mm	101				111			
Y	mm	78				78			
Z	mm	758				882			
AA	mm	270				300			
Connection module		V0	V1	V2	V3	V0	V1	V2	V3
D	mm	940	1190	1440	1940	980	1230	1480	1980
E	mm	530	780	1030	1530	530	780	1030	1530
W	mm	2320	2570	2820	3320	2460	2710	2960	3460

Table 25: RoofVent® RP dimensions

Unit type		RP-6AK		RP-9AK	
N	mm	68		88	
O	mm	123		95	
P	mm	254		360	
Q	mm	71		96	
R	mm	54		53	
Hot water heating coil					
Connection	"	Rp 1½ internal		Rp 1½ internal	
Water capacity	l	4.6		7.4	

Table 26: Dimensions for connection

Unit type		RP-6AK		RP-9AK	
Total	kg	919		1195	
Roof unit	kg	704		904	
Below-roof unit	kg	215		291	
Air-Injector	kg	37		56	
Heating section	kg	30		44	
Heating/cooling section	kg	70		94	
Expansion valve	kg	3		3	
Connection module V0	kg	75		94	
Additional weight V1	kg	+ 11		+ 13	
Additional weight V2	kg	+ 22		+ 26	
Additional weight V3	kg	+ 44		+ 52	

Table 27: RoofVent® RP weights

Condensing unit

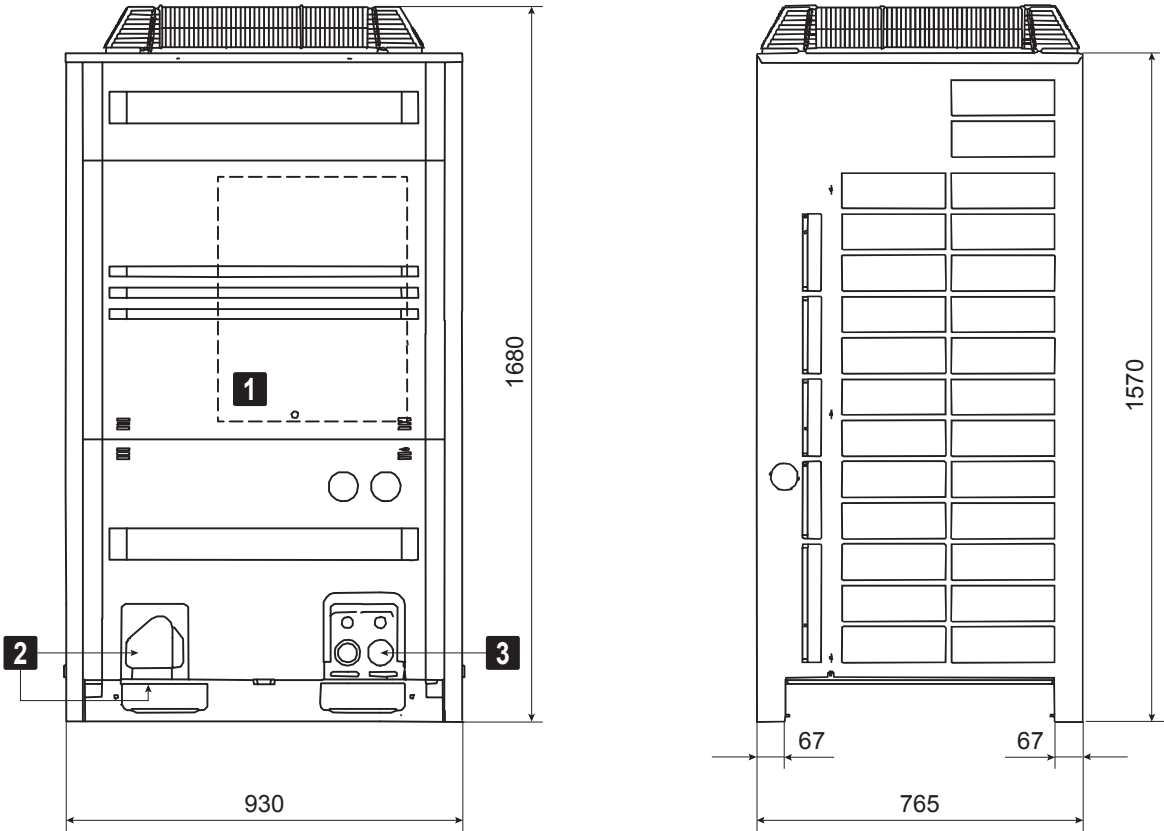
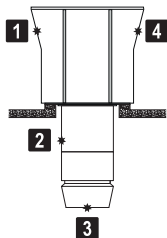
 The drawing shows two views of the condensing unit. The front view on the left has a height of 1680 mm and a width of 930 mm. It features a condenser coil at the top, a fan, and a compressor at the bottom. Callouts 1, 2, and 3 point to the electrical connection box, working medium circuit connection, and cable feedthroughs respectively. The side view on the right has a height of 1570 mm and a width of 765 mm, showing the unit's profile and mounting brackets.		
1	Electrical connection box	Unit type
2	Working medium circuit connection (front or bottom)	Weight
3	Cable feedthroughs	kg
		ERQ250
		240

Table 28: Dimensions and weights of the Daikin ERQ250 condensing unit

Position			1	2	3	4
RP-6	Sound pressure level (at a distance of 5 m) ¹⁾	dB(A)	44	44	51	56
	Total sound power level	dB(A)	66	66	73	78
	Octave sound power level	63 Hz	43	43	44	46
		125 Hz	54	54	59	61
		250 Hz	60	60	64	67
		500 Hz	62	62	67	71
		1000 Hz	57	57	70	74
		2000 Hz	55	55	65	70
		4000 Hz	51	51	60	66
		8000 Hz	49	49	58	64
RP-9	Sound pressure level (at a distance of 5 m) ¹⁾	dB(A)	42	42	51	55
	Total sound power level	dB(A)	64	64	73	77
	Octave sound power level	63 Hz	43	42	44	48
		125 Hz	54	54	60	65
		250 Hz	57	57	63	69
		500 Hz	60	59	67	73
		1000 Hz	56	56	69	76
		2000 Hz	55	55	66	74
		4000 Hz	49	48	58	67
		8000 Hz	42	42	53	62

1) With hemispherical radiation in a low-reflection environment



- 1 Fresh air
- 2 Extract air
- 3 Supply air
- 4 Exhaust air

Table 29: RoofVent® RP sound data

ERQ250 condensing unit	Sound pressure level (at a distance of 5 m) ¹⁾	dB(A)	58
	Total sound power level ²⁾	dB(A)	78
	Octave sound power level	63 Hz	79
		125 Hz	84
		250 Hz	80
		500 Hz	77
		1000 Hz	73
		2000 Hz	66
		4000 Hz	60
		8000 Hz	53

1) With hemispherical radiation in a low-reflection environment

2) The values given are maximum values; the noise level is fluctuating due to scroll technology.

Table 30: Daikin ERQ250 condensing unit sound data



Notice

The values are increased by 3 dB for 2 condensing units.