



AHU with heat recovery

Centrales de traitement d'air
avec récupération de chaleur

Lüftungsgeräte mit wärmerückgewinnung

Вентиляционные агрегаты с
рекуперацией тепла



Air handling units RIS have high efficiency plate heat exchanger. AHU is used for ventilation of houses and other heated areas.
Efficient low-noise fans.
Efficiency of plate heat exchanger 54-60%.
Electrical or water heater.
Controlled air flow.
Supply air temperature control.
Anti-freeze protection of the heat exchanger.
Low noise level.
RIS 400H - 1900H all versions can be controlled by UNI, PRO and TPC remote control devices.
Acoustic insulation of the walls – 50 mm.
RIS 400H - 1900H housing: powder coated painting RAL 7040.
Easy mounting.



Les centrales de traitement d'air avec récupération de chaleur RIS filtrent, chauffent et fournissent de l'air frais. Les centrales RIS prennent la chaleur de l'air extrait et la transfèrent dans l'air neuf.
Ventilateurs efficaces et silencieux.
Échangeur de chaleur à plaques, rendement thermique de 54-60%.
Batterie électrique ou à eau chaude.
Débit d'air réglable.
Régulation de la température de l'air insufflé.
Protection antigel de l'échangeur de chaleur.
Faible niveau de bruit.
Chaque unité est vérifiée séparément.
RIS 400H - 1900H avec fonction de commande et de contrôle intégrée en utilisant les boîtiers de commande UNI, PRO et TPC.
Isolation acoustique des parois de 50mm.
Enveloppe RIS 400H - 1900H : peinte avec RAL 7040.
Montage facile.



Rekuperator-Einrichtungen RIS säubern, erwärmen und liefern frische Luft. RIS-Einrichtungen nehmen Wärme aus der ausgestoßenen Luft auf und leiten sie in die gelieferte Luft weiter.
Leistungsfähige und leise funktionierende Ventilatoren.
Plattenwärmeaustauscher, Wärmerückgewinnungsgrad 54-60%.
Elektrische oder Wasser-Erwärmungseinrichtung.
Regelung des Luftstromes.
Regelung der Temperatur der gelieferten Luft.
Gefrierschutz des Wärmeaustauschers.
Niedriges Geräuschniveau.
Jedes Aggregat ist getrennt geprüft.
RIS 400H - 1900H mit integrierten Steuerungs- und Überwachungsmöglichkeiten mithilfe von UNI, PRO und TPC Steuerpulten.
Akustische Isolation der Wände - 50mm.
RIS 400H - 1900H das Gehäuse: gestrichen RAL 7040.
Leicht montierbar.



Установки с рекуперацией тепла RIS очищают, нагревают и подают свежий воздух. Установки RIS извлекают тепло у выходящего воздуха и передают его поступающему воздуху.
Производительные и бесшумные вентиляторы.
Пластинчатый теплообменник, эффективность теплоотдачи 54-60%.
Электрический или водяной нагреватель.
Регулируемый воздушный поток.
Регулируемая температура подаваемого воздуха.
Защита теплообменника от замерзания.
Низкий уровень шума.
Каждый агрегат проверен отдельно.
RIS 400H - 1900H с интегрированными возможностями управления и наблюдения с помощью пультов управления UNI, PRO и TPC.
Акустическая изоляция стенок – 50мм.
RIS 400H - 1900H корпус: окрашенный RAL 7040.
Легко монтируются.

Accessories



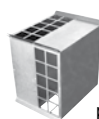
SKG
p. 210



AKS
p. 206



AP
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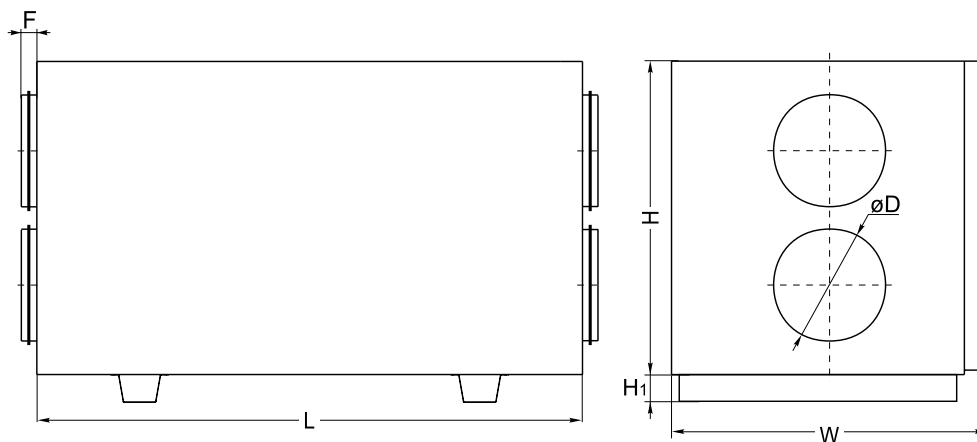
VK
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AVS
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SP
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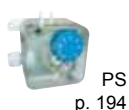


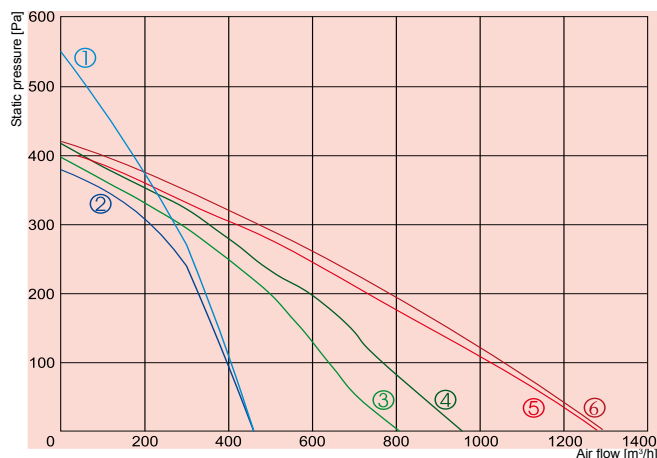
RIS 2000 H E K

→	Air intake side (Models RIS 2000-3000: K - left; D - right)
→	Heater type (E - electrical; W - water)
→	Housing type (H - horizontal)
→	Air flow m ³ /h
→	AHU with plate heat-exchanger

Type	Dimensions [mm]					
	L	W	H	ØD	H ₁	F
RIS 400HE	1000	354	670	160	30	30
RIS 400HW	1170	354	670	160	30	30
RIS 700HE	1170	504	690	250	30	40
RIS 700HW	1320	504	690	250	30	40
RIS 1000HE	1500	645	865	315	70	40
RIS 1000HW	1500	645	865	315	70	40
RIS 1500HE	1500	645	865	315	70	40
RIS 1500HW	1500	645	865	315	70	40
RIS 1900HE	1800	790	1120	400	70	65
RIS 1900HW	1800	790	1120	400	70	65
RIS 2000HE	2100	790	1130	400	120	65
RIS 2000HW	2100	790	1130	400	120	65
RIS 3000HE	2400	830	1130	400	120	65
RIS 3000HW	2400	830	1130	400	120	65

Accessories





- ① supply
② exhaust
- ③ supply
④ exhaust
- ⑤ supply
⑥ exhaust
- RIS 400HE**
- RIS 700HE**
- RIS 1000HE**

		400HE	700HE	1000HE
Heater	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~3, 400
	-power consumption [kW]	2,0	3	6,0
Pre-heater for heat exchanger	[kW]	1,0	1,2	-
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,175/0,77	0,255/1,12	0,185/0,81
	-fan speed [min ⁻¹]	2100	2000	2650
supply	-power/current [kW/A]	0,225/1,1	0,255/1,12	0,185/0,81
	-fan speed [min ⁻¹]	1850	2000	2650
Motor protection class		IP-54/IP-44	IP-54	IP-44
Thermal efficiency		60%	60%	54%
Max power consumption	[kW/A]	3,40/14,8	4,71/20,5	6,37/10,6
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	EU3	EU3	EU5
	supply	EU5	EU5	EU5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	48,0	57,0	152,0

Air flow temperature range from -20°C to +40°C

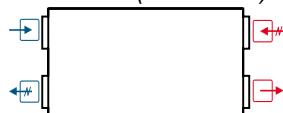
Designed for operation indoors only

Thermal efficiency of RIS 400HE was measured at 400m³/h at temperature range from -20°C to +20°C

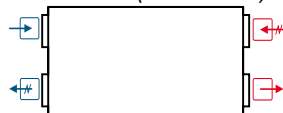
Thermal efficiency of RIS 700HE was measured at 700m³/h at temperature range from -20°C to +20°C

Thermal efficiency of RIS 1000HE was measured at 1000m³/h at temperature range from -20°C to +20°C

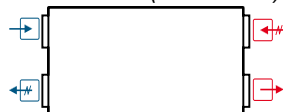
RIS 400HE (convertible) ver.



RIS 700HE (convertible) ver.

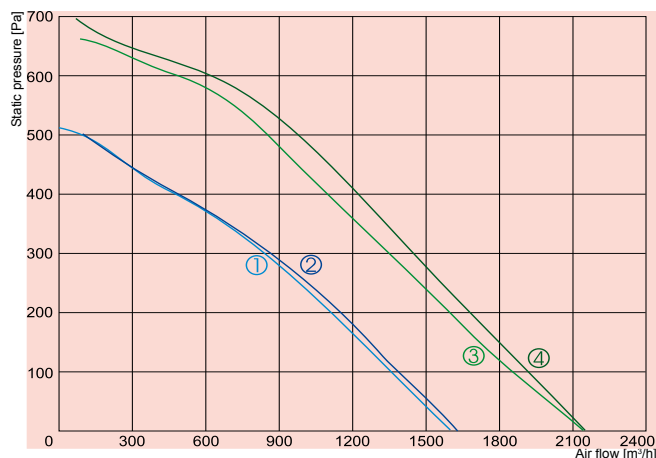


RIS 1000HE (convertible) ver.



View from inspection side

Exhaust air Extract air Fresh air Supply air



- ① supply **RIS 1500HE**
 ② exhaust
- ③ supply **RIS 1900HE**
 ④ exhaust

		1500HE	1900HE
Heater	-phase/voltage [50Hz/VAC]	~3, 400	~3, 400
	-power consumption [kW]	9,0	15,0
Pre-heater for heat exchanger	[kW]	-	-
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,280/1,23	0,610/2,7
	-fan speed [min ⁻¹]	2750	2830
supply	-power/current [kW/A]	0,280/1,23	0,610/2,7
	-fan speed [min ⁻¹]	2750	2830
Motor protection class		IP-44	IP-54
Thermal efficiency		54%	60%
Max power consumption	[kW/A]	9,56/16,2	16,22/27,0
Automatic control		integrated	integrated
Filter class	-exhaust	EU5	EU5
	supply	EU5	EU5
Thermal insulation	[mm]	50	50
Weight	[kg]	152,0	214,0

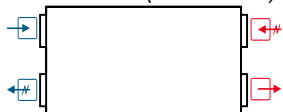
Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

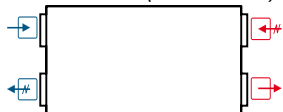
Thermal efficiency of RIS 1500HE was measured at 1500m³/h at temperature range from -20°C to +20°C

Thermal efficiency of RIS 1900HE was measured at 1900m³/h at temperature range from -20°C to +20°C

RIS 1500HE (convertible) ver.



RIS 1900HE (convertible) ver.



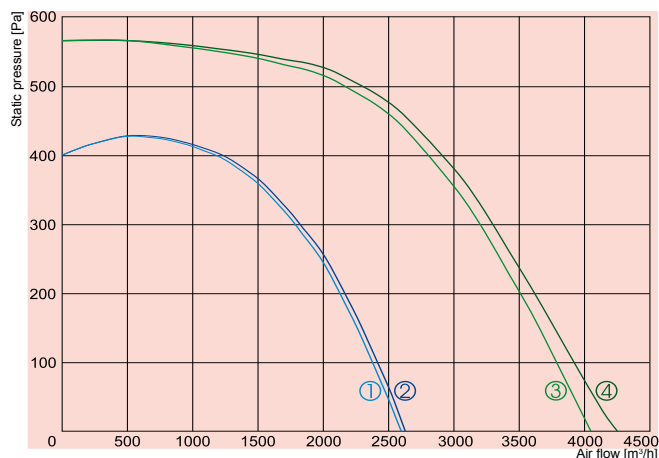
View from inspection side

↔ Exhaust air

↔ Extract air

↔ Fresh air

↔ Supply air



① supply **RIS 2000HE**
② exhaust

③ supply **RIS 3000HE**
④ exhaust

		2000HE	3000HE
Heater	-phase/voltage [50Hz/VAC]	~3, 400	~3, 400
	-power consumption [kW]	15,0	24,0 (9+15)
Fans	-phase/voltage [50Hz/VAC]	~3, 400	~3, 400
	exhaust -power/current [kW/A]	1,5/2,6	2,5/4,1
	-fan speed [min ⁻¹]	1310	1300
	supply -power/current [kW/A]	1,5/2,6	2,5/4,1
	-fan speed [min ⁻¹]	1310	1300
Motor protection class		IP-54	IP-54
Thermal efficiency		60%	59%
Max power consumption [kW/A]		18,0/26,9	29,0/44,7
Automatic control		optional	optional
Filter class	-exhaust	EU5	EU5
	-supply	EU5	EU5
Thermal insulation [mm]		50	50
Weight [kg]		328,0	395,0

Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

Thermal efficiency of RIS 2000HE was measured at 2000m³/h at temperature range from -20°C to +20°C

Thermal efficiency of RIS 3000HE was measured at 3000m³/h at temperature range from -20°C to +20°C

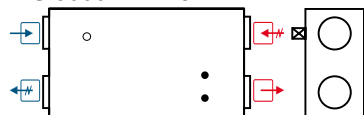
RIS 2000HEK ver.



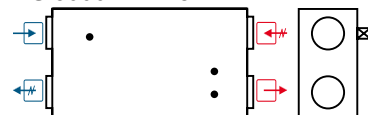
RIS 2000HED ver.



RIS 3000HEK ver.



RIS 3000HED ver.



View from inspection side

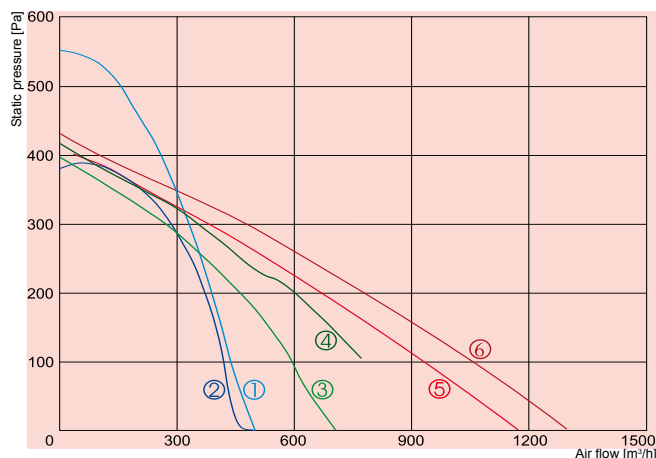
View from inspection side

Exhaust air

Extract air

Fresh air

Supply air



- ① supply **RIS 400HW**
② exhaust
- ③ supply **RIS 700HW**
④ exhaust
- ⑤ supply **RIS 1000HW**
⑥ exhaust

		400HW	700HW	1000HW
Water heater	-power [kW]	2,7	4,7	6,75
	-water temp. T_{in}/T_{out} [°C]	80/60	80/60	80/60
	-water flow rate [l/s]	0,03	0,06	0,08
	-water pressure drop [kPa]	2,47	4,9	1,8
	-kvs value [m³/h]	0,7	1	2,2
Pre-heater for heat exchanger	[kW]	1	1,2	-
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,175/0,77	0,255/1,12	0,185/0,81
	-fan speed [min⁻¹]	2100	2000	2650
supply	-power/current [kW/A]	0,225/1,1	0,255/1,12	0,185/0,81
	-fan speed [min⁻¹]	1850	2000	2650
Motor protection class		IP-54	IP-54	IP-44
Thermal efficiency		60%	60%	54%
Max power consumption	[kW/A]	1,40/6,2	1,71/7,5	0,37/1,62
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	EU3	EU3	EU5
	supply	EU5	EU5	EU5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	48,0	57,0	152,0

Air flow temperature range from -20°C to +40°C

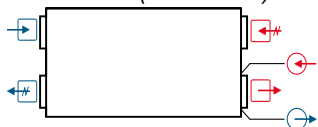
Designed for operation indoors only

Thermal efficiency of RIS 400HW was measured at 400m³/h at temperature range from -20°C to +20°C

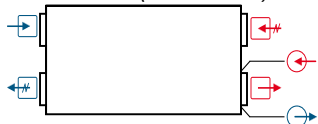
Thermal efficiency of RIS 700HW was measured at 700m³/h at temperature range from -20°C to +20°C

Thermal efficiency of RIS 1000HW was measured at 1000m³/h at temperature range from -20°C to +20°C

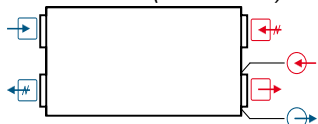
RIS 400HW (convertible) ver.



RIS 700HW (convertible) ver.

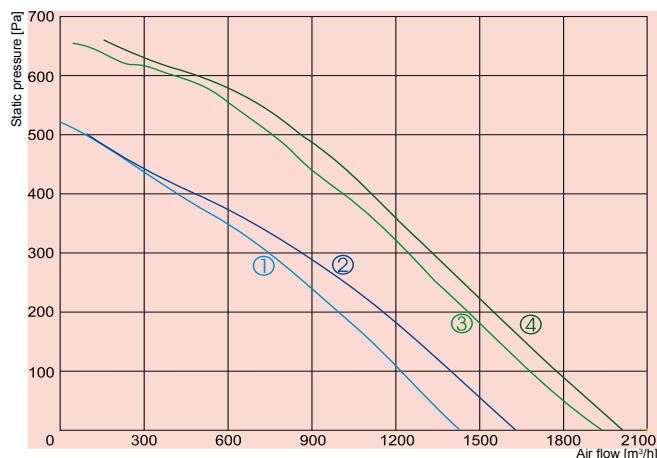


RIS 1000HW (convertible) ver.



View from inspection side

- Used water outlet
 Hot water inlet
 Exhaust air
 Extract air
 Fresh air
 Supply air



- ① supply **RIS 1500HW**
 ② exhaust
- ③ supply **RIS 1900HW**
 ④ exhaust

		1500HW	1900HW
Water heater	-power [kW]	10,12	12,82
	-water temp. T_{in}/T_{out} [°C]	80/60	80/60
	-water flow rate [l/s]	0,12	0,16
	-water pressure drop [kPa]	3,3	4,70
	-kvs value [m³/h]	2,4	2,7
Pre-heater for heat exchanger	[kW]	-	-
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,280/1,23	0,610/2,7
	-fan speed [min⁻¹]	2750	2830
supply	-power/current [kW/A]	0,280/1,23	0,610/2,7
	-fan speed [min⁻¹]	2750	2830
Motor protection class		IP-44	IP-55
Thermal efficiency		54%	60%
Max power consumption	[kW/A]	0,56/2,46	1,22/5,4
Automatic control		integrated	integrated
Filter class	-exhaust	EU5	EU5
	supply	EU5	EU5
Thermal insulation	[mm]	50	50
Weight	[kg]	152,0	216,0

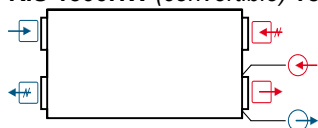
Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

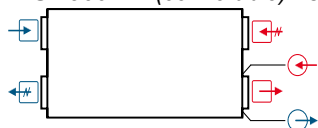
Thermal efficiency of RIS 1500HW was measured at 1500m³/h at temperature range from -20°C to +20°C

Thermal efficiency of RIS 1900HW was measured at 1900m³/h at temperature range from -20°C to +20°C

RIS 1500HW (convertible) ver.

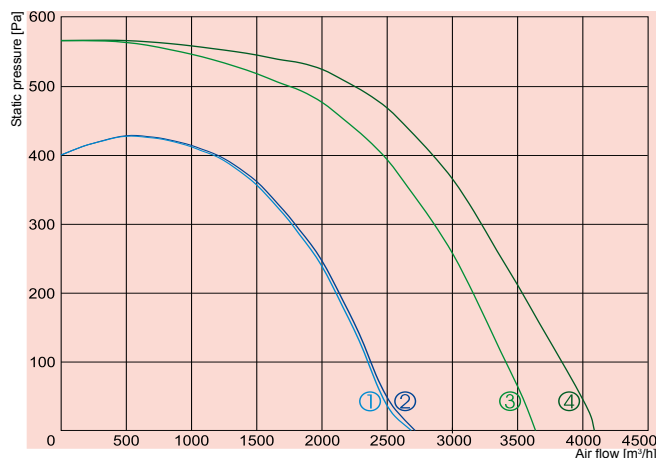


RIS 1900HW (convertible) ver.



View from inspection side

- Used water outlet
 Hot water inlet
 Exhaust air
 Extract air
 Fresh air
 Supply air



① supply
② exhaust
RIS 2000HW

③ supply
④ exhaust
RIS 3000HW

		2000HW	3000HW
Water heater	-power [kW]	15,6	20,2
	-water temp. T_{in}/T_{out} [°C]	80/60	80/60
	-water flow rate [l/s]	0,2	0,25
	-water pressure drop [kPa]	5,8	10,3
	-kvs value [m³/h]	3	2,8
Fans	-phase/voltage [50Hz/VAC]	~3, 400	~3, 400
exhaust	-power/current [kW/A]	1,5/2,6	2,5/4,1
	-fan speed [min ⁻¹]	1310	1300
supply	-power/current [kW/A]	1,5/2,6	2,5/4,1
	-fan speed [min ⁻¹]	1310	1300
Motor protection class		IP-54	IP-54
Thermal efficiency		60%	59%
Max power consumption	[kW/A]	3,0/5,2	5,0/8,2
Automatic control		optional	optional
Filter class	-exhaust	EU5	EU5
	supply	EU5	EU5
Thermal insulation	[mm]	50	50
Weight	[kg]	325,0	395,0

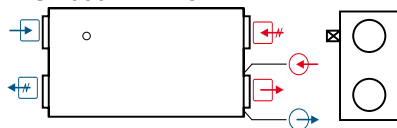
Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

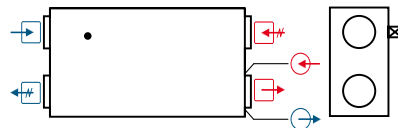
Thermal efficiency of RIS 2000HW was measured at 2000m³/h at temperature range from -20°C to +20°C

Thermal efficiency of RIS 3000HW was measured at 3000m³/h at temperature range from -20°C to +20°C

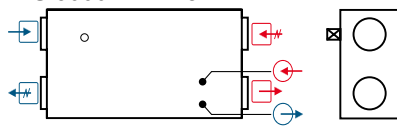
RIS 2000HWK ver.



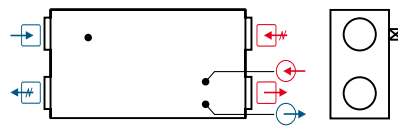
RIS 2000HWD ver.



RIS 3000HWK ver.



RIS 3000HWDK ver.

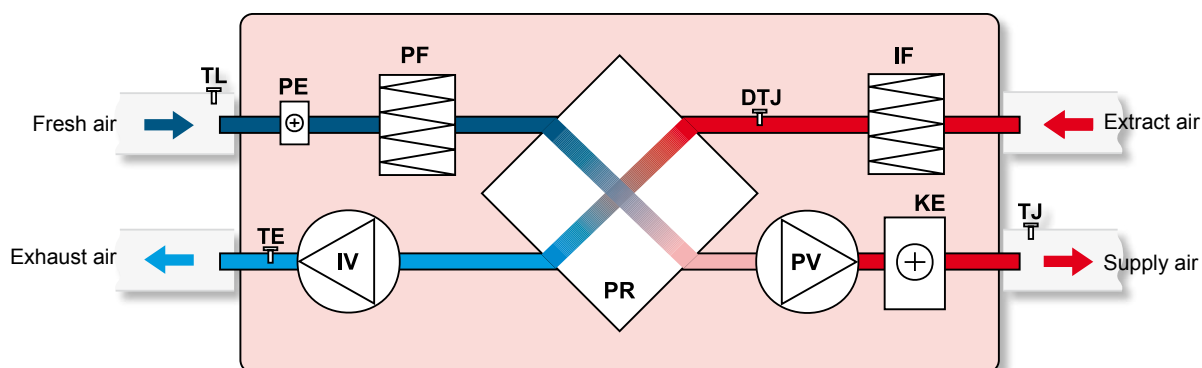


View from inspection side

View from inspection side

Used water outlet
 Hot water inlet
 Exhaust air
 Extract air
 Fresh air
 Supply air

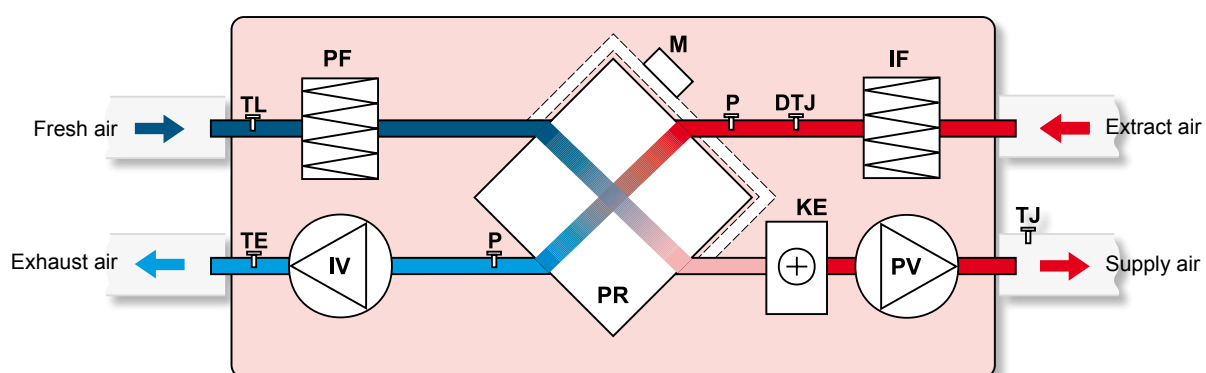
RIS 400HE; 700HE versions with electrical heater *



- | | |
|------------|---|
| IV | - exhaust air fan |
| PV | - supply air fan |
| PR | - plate heat exchanger |
| KE | - electrical heater |
| PE | - anti-freeze heater for heat exchanger |
| PF | - filter for supply air (class EU5) |
| IF | - filter for extract air (class EU3) |
| TJ | - temperature sensor for supply air |
| TL | - temperature sensor for fresh air |
| TE | - temperature sensor for extract air |
| DTJ | - humidity + temperature sensor |

* - Summer cassette can be applied to all versions of RIS 400 HE; RIS 700 HE. Used for closing-up of plate heat exchanger during warm period of the year when heat recovery is of no benefit.

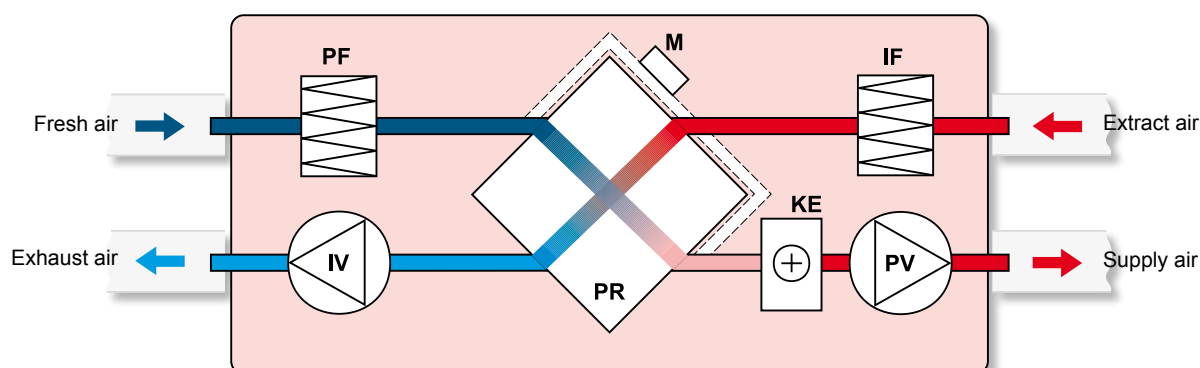
RIS 1000HE; 1500HE; 1900HE versions with electrical heater



- | | |
|-----------|--------------------------------------|
| IV | - exhaust air fan |
| PV | - supply air fan |
| PR | - plate heat exchanger |
| KE | - electrical heater |
| PF | - filter for supply air (class EU5) |
| IF | - filter for extract air (class EU5) |

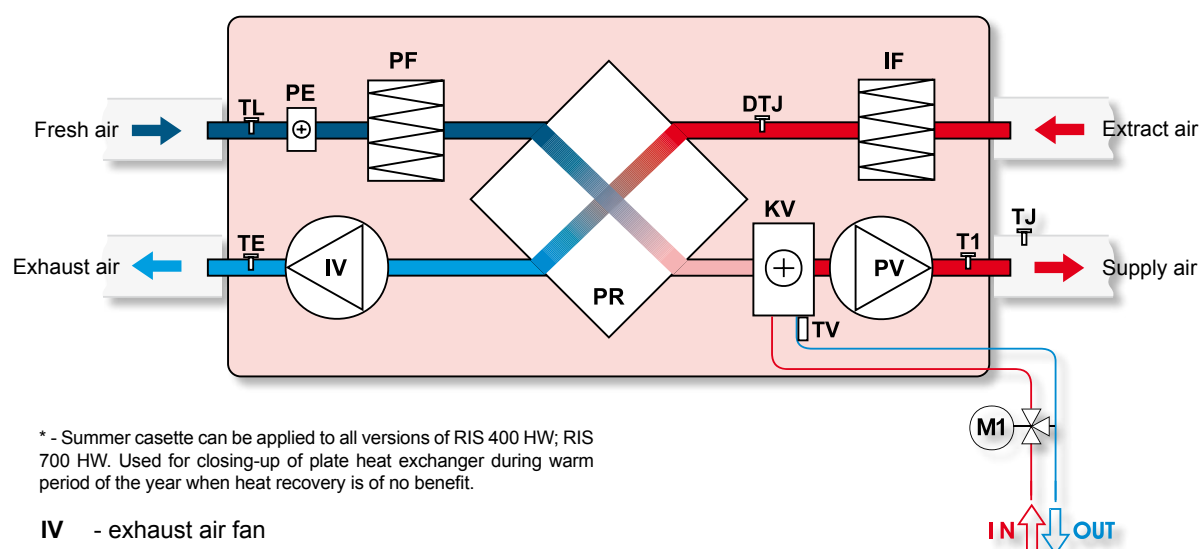
- | | |
|------------|--------------------------------------|
| TJ | - temperature sensor for supply air |
| TL | - temperature sensor for fresh air |
| TE | - temperature sensor for extract air |
| DTJ | - humidity + temperature sensor |
| P | - heat exchanger pressure switch |
| M | - by-pass damper |

RIS 2000HE; 3000HE versions with electrical heater



- IV** - exhaust air fan
- PV** - supply air fan
- PR** - plate heat exchanger
- KE** - electrical heater
- PF** - filter for supply air (class EU5)
- IF** - filter for extract air (class EU5)
- M** - by-pass damper

RIS 400HW; 700HW versions with water heater *

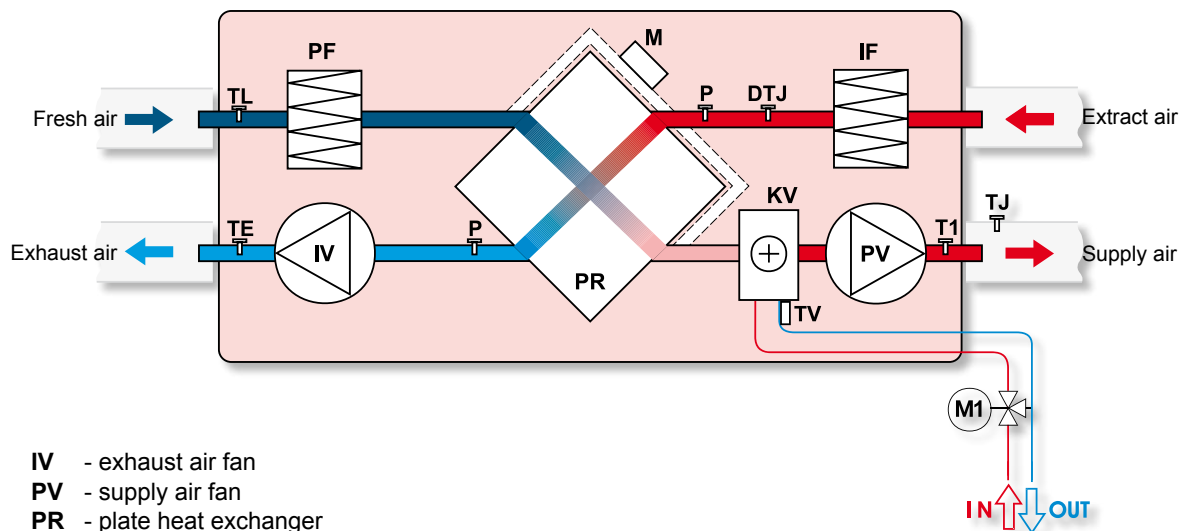


* - Summer cassette can be applied to all versions of RIS 400 HW; RIS 700 HW. Used for closing-up of plate heat exchanger during warm period of the year when heat recovery is of no benefit.

- IV** - exhaust air fan
- PV** - supply air fan
- PR** - plate heat exchanger
- KV** - water heater
- PE** - anti-freeze heater for heat exchanger
- PF** - filter for supply air (class EU5)
- IF** - filter for extract air (class EU5)
- TL** - temperature sensor for fresh air
- TE** - temperature sensor for extract air

- DTJ** - humidity + temperature sensor
- T1** - antifrost thermostat
- TV** - antifrost sensor
- TJ** - temperature sensor for supply air
- M1** - optionally supplied mixing valve and motor

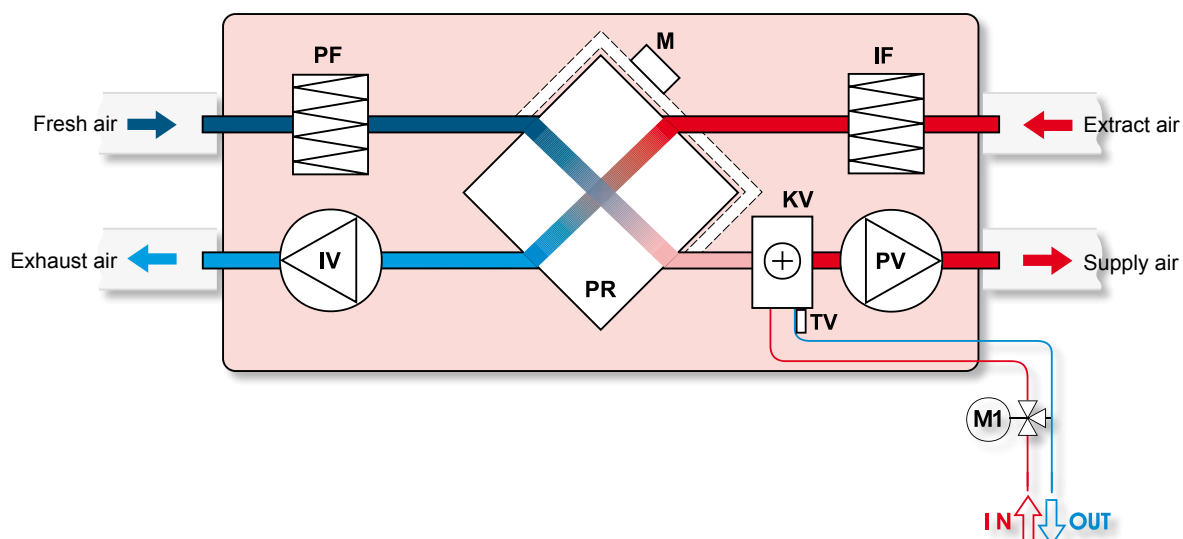
RIS 1000HW; 1500HW; 1900HW versions with water heater



- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- KV - water heater
- PF - filter for supply air (class EU5)
- IF - filter for extract air (class EU5)
- TJ - temperature sensor for supply air
- TL - temperature sensor for fresh air
- TE - temperature sensor for extract air
- DTJ - humidity + temperature sensor

- P - heat exchanger pressure switch
- T1 - antifrost thermostat
- TV - antifrost sensor
- M - by-pass damper
- M1 - optionally supplied mixing valve and motor

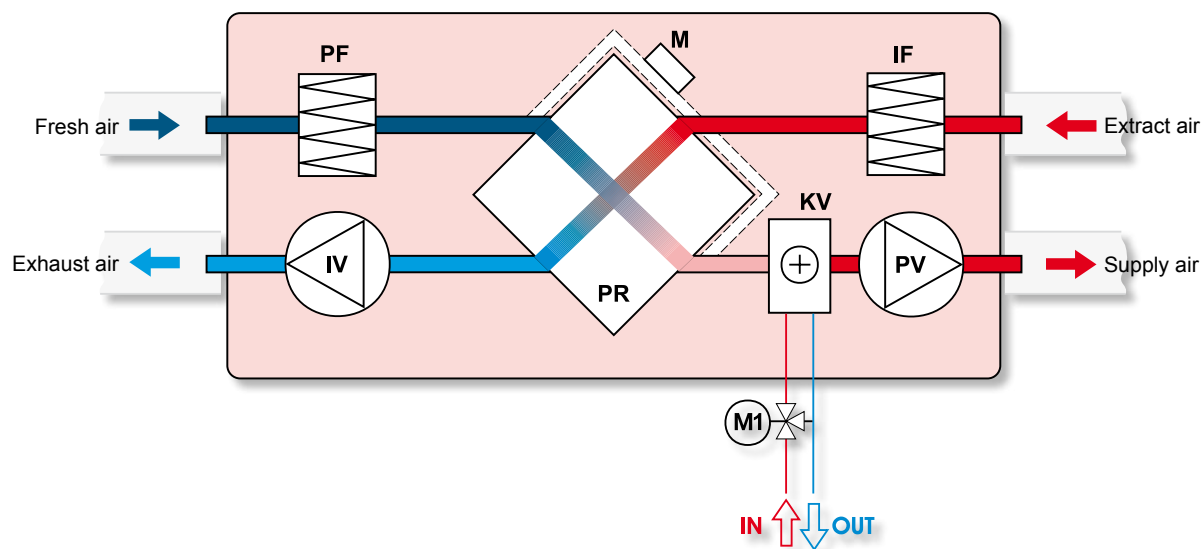
RIS 2000HW versions with water heater



- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- KV - water heater

- PF - filter for supply air (class EU5)
- IF - filter for extract air (class EU5)
- M - by-pass damper
- M1 - optionally supplied mixing valve and motor

RIS 3000HW versions with water heater



IV - exhaust air fan
PV - supply air fan
PR - plate heat exchanger
KV - water heater

PF - filter for supply air (class EU5)
IF - filter for extract air (class EU5)
M - by-pass damper
M1 - optionally supplied mixing valve and motor