

RIS H




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 up to 65%.
- Electrical or water heater.
- Controlled air flow.
- Supply air temperature control.
- Anti-freeze protection of the heat exchanger.
- Low noise level.
- Every unit is tested
- RIS 400H - 1900H all versions can be controlled with 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.

 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 bis zu 65%.
- 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.

 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 trans- fère dans l'air neuf.

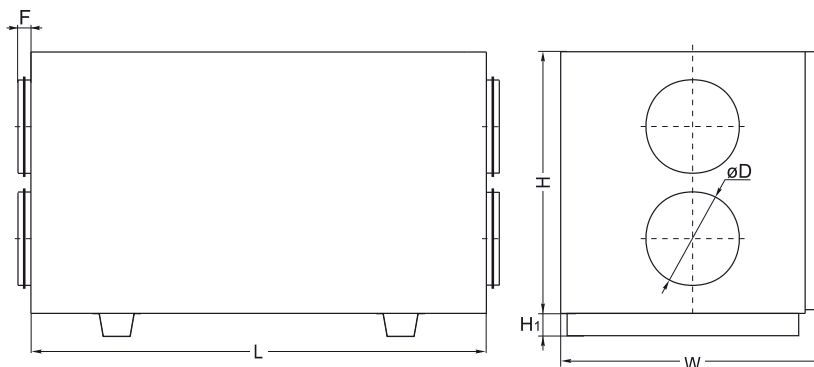
- Ventilateurs efficaces et silencieux.
- Échangeur de chaleur à plaques, rendement thermique jusqu'à 65%.
- Batterie électrique ou à eau chaude.
- Débit d'air réglable.
- Régulation de la température de l'air insufflé.
- Protection antigel de l'échangeur de chaleur.
- Faible niveau de bruit.
- Chaque 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.

 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 до 65%.
- 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

Remote controller	Programmable controller	Programmable controller	Circular duct silencer	Shuft-off damper	Mounting clamp
					
UNI	PRO	TPC	AKS	SKG	AP
p. 154	p. 153	p. 152	p. 198	p. 194	p. 197



RIS 1900 H E

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/HW	1500	645	865	315	70	40
RIS 1500HE/HW	1500	645	865	315	70	40
RIS 1900HE/HW	1800	790	1050	400	70	65

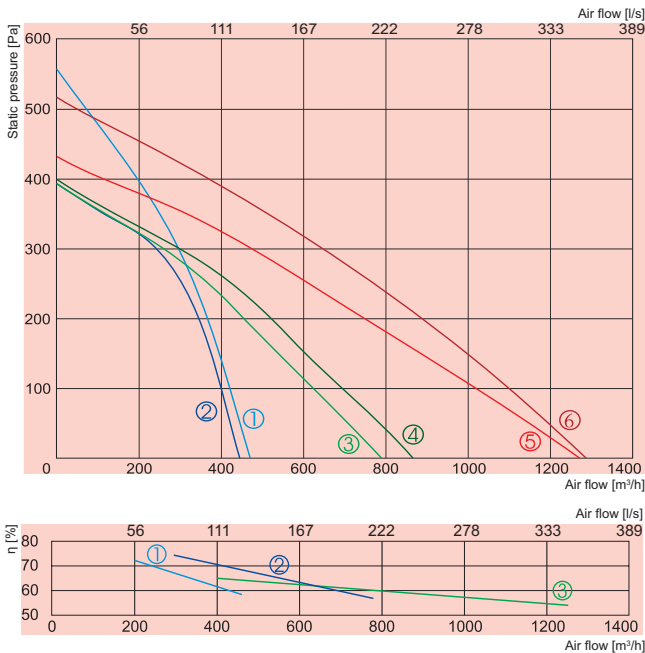
Type	Accessories											
	UNI, PRO TPC	AKS	SKS	SKG, AP	PS	SP	SP by-pass	SSB Heating	RMG 80/60°C	RMG 60/40°C	VVP/VXP 80/60°C	VVP/VXP 60/40°C
RIS 400HE	+	160	-	160	-	*	int	-	-	-	-	-
RIS 400HW	+	160	-	160	-	**	int	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 700HE	+	250	-	250	-	*	int	-	-	-	-	-
RIS 700HW	+	250	-	250	-	**	int	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 1000HE	+	315	-	315	-	*	int	-	-	-	-	-
RIS 1000HW	+	315	-	315	-	**	int	81	3-1,0-4	3-0,63-4	45.10-1,0	45.10-0,63
RIS 1500HE	+	315	-	315	-	*	int	-	-	-	-	-
RIS 1500HW	+	315	-	315	-	**	int	81	3-1,0-4	3-1,0-4	45.10-1,0	45.10-1,0
RIS 1900HE	+	400	-	400	-	*	int	-	-	-	-	-
RIS 1900HW	+	400	-	400	-	**	int	81	3-1,6-4	3-1,0-4	45.10-1,6	45.10-1,0

* - 227S - 230 - 05 for the fresh air dampers
 ** - 341-230-05
 *** - by-pass actuator 227S-024-05

Accessories



RIS H



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

- ① — **RIS 400HE**
- ② — **RIS 700HE**
- ③ — **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]	0,162/0,70	0,230/1,0	0,230/1,0
	-fan speed [min ⁻¹]	2100	2000	2650
supply	-power/current [kW/A]	0,199/0,87	0,230/1,0	0,226/0,98
	-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]	3,36/14,61	4,66/15,91	6,456/10,64
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	G3	G3	F5
	supply	F5	F5	F5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	48,0	57,0	152,0

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

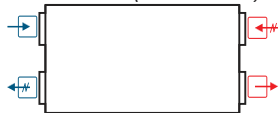
Designed for operation indoors only

Thermal efficiency of RIS 400HE was measured at 400m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

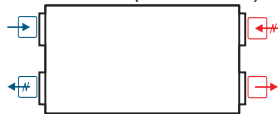
Thermal efficiency of RIS 700HE was measured at 700m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 1000HE was measured at 1000m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

RIS 400HE (convertible) ver.



RIS 700HE (convertible) ver.

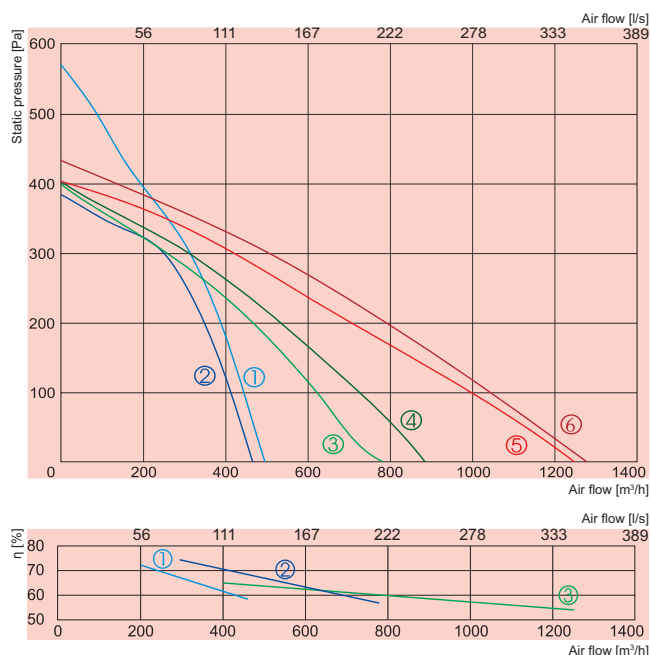


RIS 1000HE (convertible) ver.



View from inspection side

Exhaust air
 Extract air
 Fresh air
 Supply air



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

- ① — **RIS 400HW**
- ② — **RIS 700HW**
- ③ — **RIS 1000HW**

		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]	0,161/0,7	0,233/1,0	0,214/0,93
	-fan speed [min ⁻¹]	2100	2000	2650
supply	-power/current [kW/A]	0,194/0,85	0,222/0,97	0,228/1,0
	-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]	1,355/5,90	1,655/7,19	0,442/1,98
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	G3	G3	F5
	supply	F5	F5	F5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	48,0	57,0	152,0

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

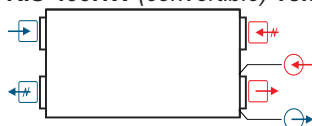
Designed for operation indoors only

Thermal efficiency of RIS 400HW was measured at 400m³/h (indoor conditions +20%/60%; outdoor conditions -20%/90%)

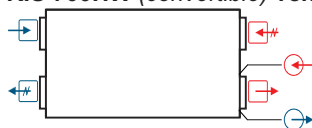
Thermal efficiency of RIS 700HW was measured at 700m³/h (indoor conditions +20%/60%; outdoor conditions -20%/90%)

Thermal efficiency of RIS 1000HW was measured at 1000m³/h (indoor conditions +20%/60%; outdoor conditions -20%/90%)

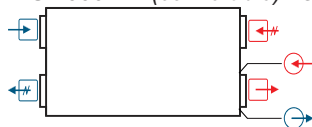
RIS 400HW (convertible) ver.



RIS 700HW (convertible) ver.



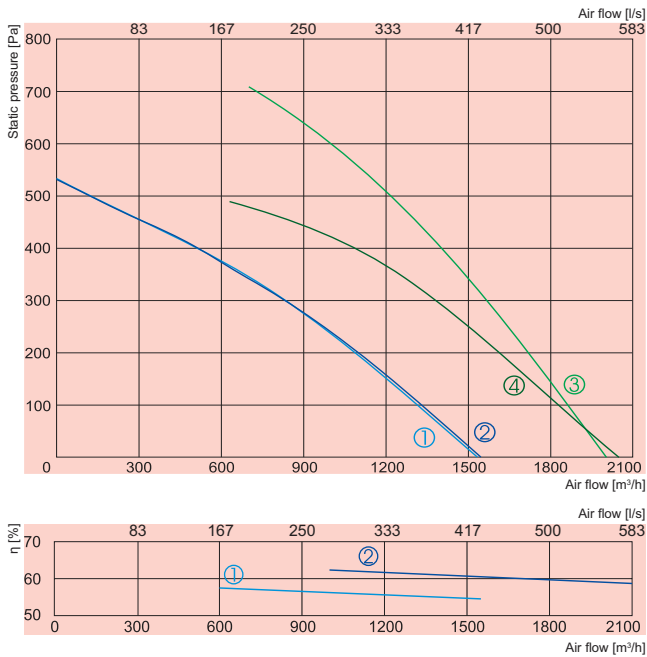
RIS 1000HW (convertible) ver.



View from inspection side

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

RIS H



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

- ① — **RIS 1500HE**
- ② — **RIS 1900HE**

		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]	0,356/1,55	0,669/2,95
	-fan speed [min ⁻¹]	2750	2830
supply	-power/current [kW/A]	0,369/1,6	0,669/2,95
	-fan speed [min ⁻¹]	2750	2830
Motor protection class		IP-44	IP-54
Thermal efficiency		54%	60%
Max power consumption	[kW/A]	9,725/16,14	16,34/27,55
Automatic control		integrated	integrated
Filter class	-exhaust	F5	F5
	supply	F5	F5
Thermal insulation	[mm]	50	50
Weight	[kg]	152,0	214,0

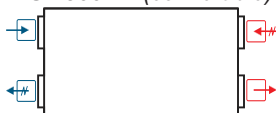
Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

Thermal efficiency of RIS 1500HE was measured at 1500m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 1900HE was measured at 1900m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

RIS 1500HE (convertible) ver.



RIS 1900HE (convertible) ver.



View from inspection side

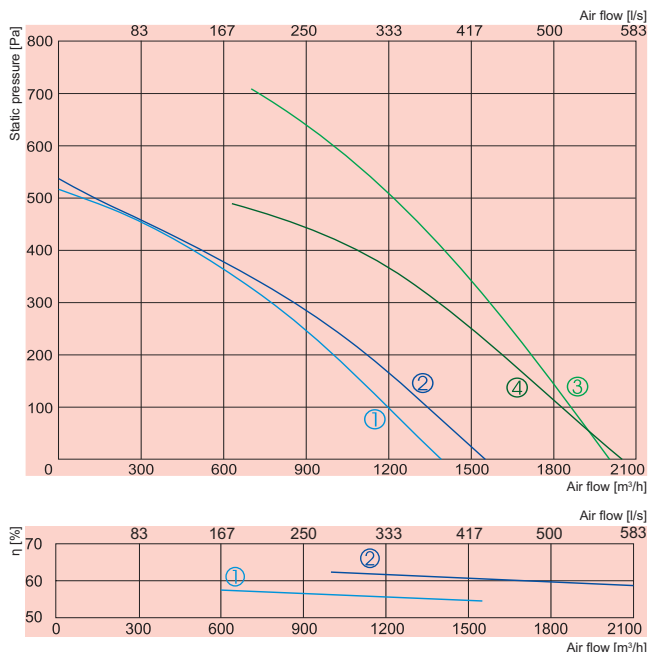
- Exhaust air
- Extract air
- Fresh air
- Supply air

Supply air 1900HE	Lpa dB(A)	Lwa total dB(A)	Lwa, dB(A)								
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz
Inlet	66	73	44	61	66	69	64	60	54	49	44
Outlet at 1 m dist.	76	83	50	65	69	75	79	77	71	62	56

Measured at 1881 m³/h, 118 Pa

Exhaust air 1900HE	Lpa dB(A)	Lwa total dB(A)	Lwa, dB(A)								
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz
Inlet	60	67	43	53	59	65	61	52	46	41	37
Outlet at 1 m dist.	75	82	48	63	68	74	78	77	72	63	56

Measured at 1777 m³/h, 91 Pa



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

- ① **RIS 1500HW**
- ② **RIS 1900HW**

		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
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,351/1,52	0,669/2,95
	-fan speed [min ⁻¹]	2750	2830
supply	-power/current [kW/A]	0,368/1,6	0,669/2,95
	-fan speed [min ⁻¹]	2750	2830
Motor protection class		IP-44	IP-55
Thermal efficiency		54%	60%
Max power consumption	[kW/A]	0,72/3,12	1,338/5,9
Automatic control		integrated	integrated
Filter class	-exhaust	F5	F5
	supply	F5	F5
Thermal insulation	[mm]	50	50
Weight	[kg]	152,0	216,0

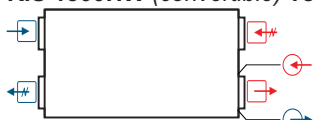
Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

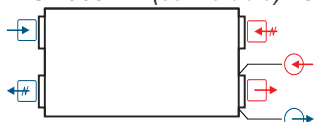
Thermal efficiency of RIS 1500HW was measured at 1500m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 1900HW was measured at 1900m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

RIS 1500HW (convertible) ver.



RIS 1900HW (convertible) ver.



View from inspection side

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

Supply air		Lwa, dB(A)									
1900HW	Lpa dB(A)	Lwa total dB(A)	Lwa, dB(A)								
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz
Inlet	67	74	46	61	67	70	66	63	57	50	51
Outlet at 1 m dist.	79	86	50	65	67	76	82	81	75	66	65

Measured at 1812 m³/h, 124 Pa

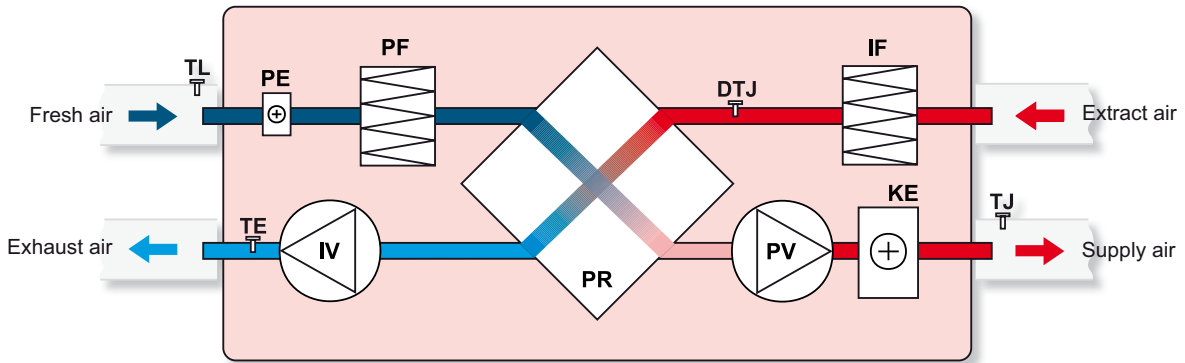
Exhaust air		Lwa, dB(A)									
1900HW	Lpa dB(A)	Lwa total dB(A)	Lwa, dB(A)								
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz
Inlet	64	71	42	56	59	69	64	55	49	45	48
Outlet at 1 m dist.	78	85	50	64	67	75	80	80	74	66	65

Measured at 1791 m³/h, 150 Pa

The company reserves the right to make changes of technical data without prior notice

RIS H

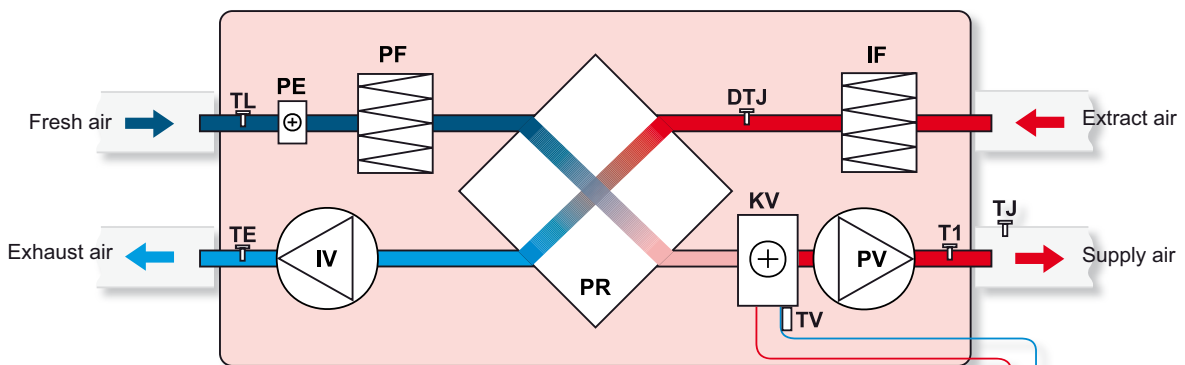
RIS 400HE; 700HE versions with electrical heater *



- 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 F5)
- IF** - filter for exhaust air (class G3)
- TJ** - temperature sensor for supply air
- TL** - temperature sensor for fresh air
- TE** - temperature sensor for exhaust 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.

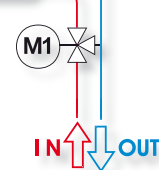
RIS 400HW; 700HW versions with water heater *



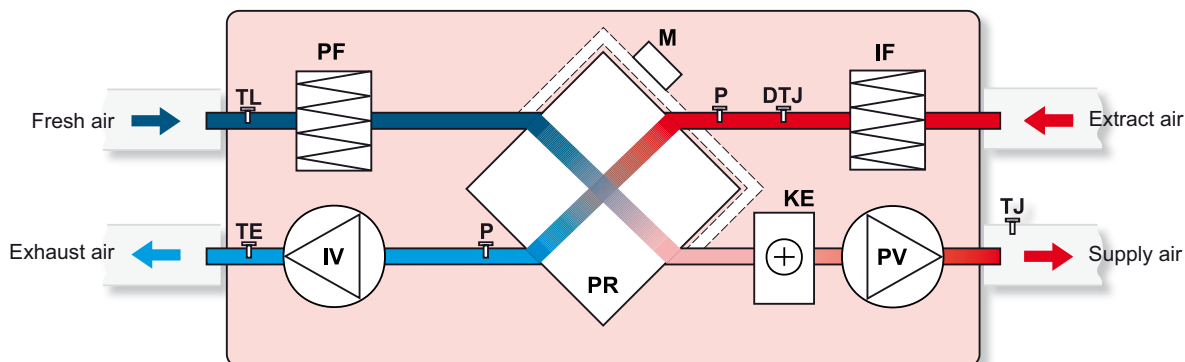
* - Summer cassette can be applied to all versions of RIS 400 HW; RIS 700 HW. Used for closing-up of plate heat exchanger during warm period of the year when heat recovery is of no benefit.

- 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 F5)
- IF** - filter for exhaust air (class G5)

- 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



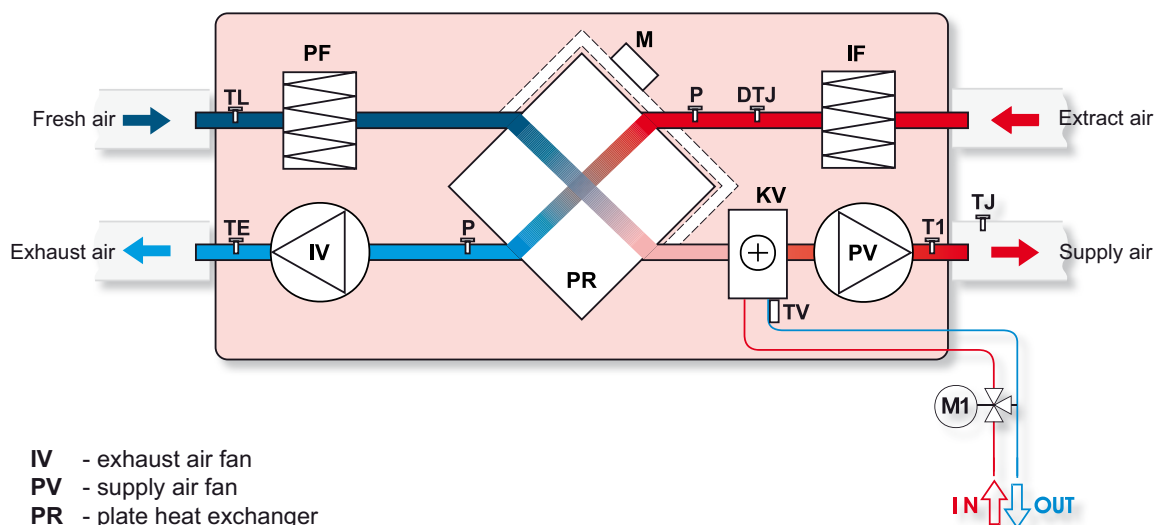
RIS 1000HE; 1500HE; 1900HE versions with electrical heater



- IV** - exhaust air fan
- PV** - supply air fan
- PR** - plate heat exchanger
- KE** - electrical heater
- PF** - filter for supply air (class F5)
- IF** - filter for extract air (class F5)

- TJ** - temperature sensor for supply air
- TL** - temperature sensor for fresh air
- TE** - temperature sensor for exhaust air
- DTJ** - humidity + temperature sensor
- P** - heat exchanger pressure switch
- M** - actuator of by-pass damper

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 F5)
- IF** - filter for extract air (class F5)
- TJ** - temperature sensor for supply air
- TL** - temperature sensor for fresh air
- TE** - temperature sensor for exhaust air
- DTJ** - humidity + temperature sensor

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