



AHU with heat recovery

Rekuperatoriniai įrenginiai

Centrale wentylacyjne z odzyskiem ciepła

Вентиляционные агрегаты с рекуперацией тепла



Air handling units RIS H 3.0 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.
- Anti-freeze protection of the heat exchanger.
- Low noise level.
- Every unit is tested
- RIS 400H - 1900H 3.0 all versions can be controlled with Flex, Stouch and TPC remote control devices.
- Acoustic insulation of the walls – 50 mm.
- RIS 400H - 1900H 3.0 housing: powder coated painting RAL 7040.
- Easy mounting.



Vēdinimo ierēnginiai RIS H 3.0 pagaminti su efektyviu plokšteline šilumokaičiu. Rekuperatoriai montuojami vėdinti šil-domas patalpas.

- Energiją taupantys ir tyliai dirbantys ventiliatoriai.
- Efektyvus plokštelinis šilumokaitis, kurio grąžinama šiluma iki 65%.
- Elektrinis arba papildomai užsakomas kanalinis vandeninis šildytuvas.
- Keičiamas oro srautas.
- Tiekiamo oro temperatūros valdymas.
- Priešužšaliminė šilumokaičio apsauga.
- Žemas triukšmo lygis.
- Galima valdyti su Flex, Stouch ir TPC pulteliais.
- Sienelių triukšmo izoliacija – 50mm.
- Milteliniu būdu dažytas korpusas - spalva RAL 7040.
- Greitas ir lengvas montavimas.



Centrale wentylacyjne z odzyskiem ciepła – RIS H 3.0
Centrale wentylacyjne RIS H 3.0 są wyposażone w krzyżowy wymiennik ciepła. Przeznaczone są do wentylacji ogrzewanych pomieszczeń.

- Układ centrali – poziomy
- Wymiennik krzyżowy wykonany w całości z aluminium.
- Energooszczędne i ciche wentylatory AC.
- Zabezpieczenie wymiennika nagrzewnicą elektryczną lub BY-PASS.
- Zabudowane nagrzewnice elektryczne wtórne lub wodne (czasami - montowane na kanale).
- Zmiana wydatku (3 biegi).
- Zmiana temperatury powietrza nawiewanego.
- Strony serwisowe L-lewa oraz R-prawa.
- Możliwość sterownia sterownikami Flex, Stouch, TPC.
- Izolacja wełną mineralną 50 mm.
- Obudowa malowana proszkowo (RAL 7040).

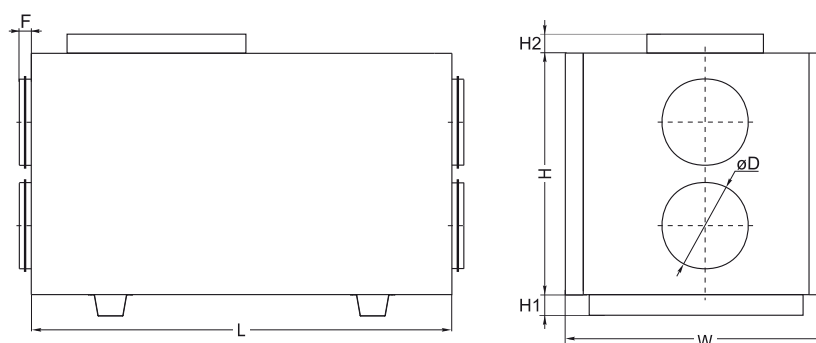


Установки с рекуперацией тепла RIS H 3.0 очищают, нагревают и подают свежий воздух. Установки RIS H 3.0 извлекают тепло у выходящего воздуха и передают его поступающему воздуху.

- 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 3.0 с интегрированными возможностями управления и наблюдения с помощью пультов управления Flex, Stouch и TPC.
- Акустическая изоляция стенок – 50мм.
- RIS 400H - 1900H 3.0 корпус: окрашенный RAL 7040.
- Легко монтируются.

Accessories

Control panel	Sensor controller	Programmable controller	Circular duct silencer	Shift-off damper	Mounting clamp
					
Flex	Stouch	TPC	AKS	SKG	AP
p. 178	p. 179	p. 180	p. 230	p. 226	p. 229



RIS 1900 H E 3.0

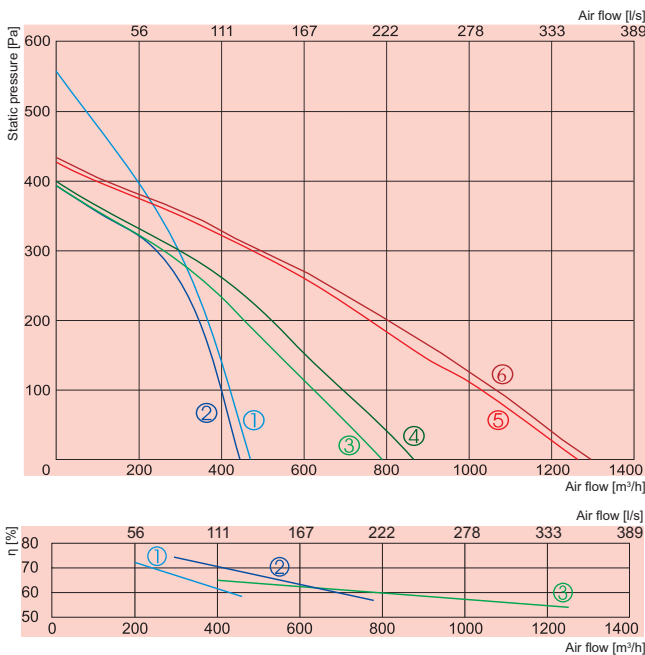
- Equipped with new PRV V1.1 control board
- Heater type (E - integrated electrical heater; W - optional water heater)
- Housing type (V - vertical, H - horizontal, P - under - ceiling)
- AHU size according to air flow range m³/h
- AHU with plate heat-exchanger

Type	Dimensions [mm]						
	L	W	H	ØD	H ₁	H ₂	F
RIS 400HE 3.0	1000	354	600	160	30	55	30
RIS 400HW 3.0	1170	354	600	160	30	55	30
RIS 700HE 3.0	1170	504	600	250	30	55	40
RIS 700HW 3.0	1320	504	600	250	30	55	40
RIS 1000HE/HW 3.0	1500	645	865	315	70	-	40
RIS 1500HE/HW 3.0	1500	645	865	315	70	-	40
RIS 1900HE/HW 3.0	1800	795	1050	400	70	-	65

Type	Accessories										
	Flex, Stouch, TPC	AKS	SKS	SKG, AP	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 3.0	+	160	-	160	LM230A-TP	-	-	-	-	-	-
RIS 400HW 3.0	+	160	-	160	TF230	-	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 700HE 3.0	+	250	-	250	LM230A-TP	-	-	-	-	-	-
RIS 700HW 3.0	+	250	-	250	TF230	-	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 1000HE 3.0	+	315	-	315	LM230A-TP	int	-	-	-	-	-
RIS 1000HW 3.0	+	315	-	315	LF230	int	81	3-1,0-4	3-0,63-4	45.10-1,0	45.10-0,63
RIS 1500HE 3.0	+	315	-	315	LM230A-TP	int	-	-	-	-	-
RIS 1500HW 3.0	+	315	-	315	LF230	int	81	3-1,0-4	3-1,0-4	45.10-1,0	45.10-1,0
RIS 1900HE 3.0	+	400	-	400	SM230A-TP	int	-	-	-	-	-
RIS 1900HW 3.0	+	400	-	400	SF230A	int	81	3-1,6-4	3-1,0-4	45.10-1,6	45.10-1,0

Accessories

Actuator for dampers	Thermic water valve actuator	Mixing point	2 and 3 - way valves
			
SP p. 188	SSB p. 184	RMG p. 185	VVP/VXP p. 186



Calculated temperature efficiency (balanced mass flow) EN 13141-7:
Extract air = 20°C/60%RH
Outdoor air = -20°C

- ① supply
- ② exhaust
- ③ supply
- ④ exhaust
- ⑤ supply
- ⑥ exhaust

RIS 400HE 3.0

RIS 700HE 3.0

RIS 1000HE 3.0

- ① RIS 400HE 3.0
- ② RIS 700HE 3.0
- ③ RIS 1000HE 3.0

		400HE 3.0	700HE 3.0	1000HE 3.0
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	6,45/10,64
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	G4	G4	M5
	supply	M5	M5	M5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	48,0	57,0	152,0
Comply with ERP 2013		+	+	-

Designed for operation indoors only

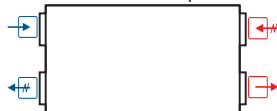
RIS 400HE 3.0 ver.



RIS 700HE 3.0 ver.



RIS 1000HE 3.0 (convertible) ver.



View from inspection side

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

400HE 3.0	Lwa total, dB(A)	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	72	69	63	62	64	61	59	55
Extract	56	49	51	52	45	44	39	35
Surrounding	51	42	45	46	43	41	37	35

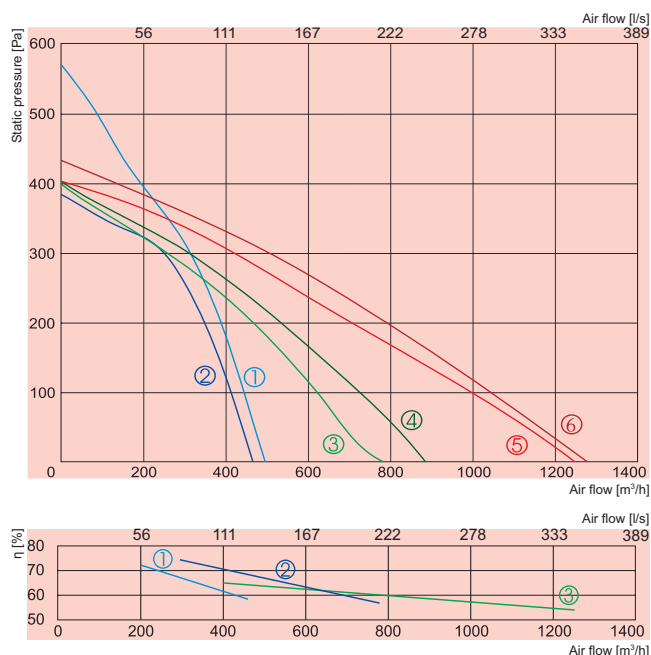
Measured at 413 m³/h, 120 Pa

700HE 3.0	Lwa total, dB(A)	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	74	66	65	67	68	64	63	55
Extract	60	51	55	57	51	45	40	36
Surrounding	53	45	46	47	46	43	40	36

Measured at 622 m³/h, 100 Pa

1000HE 3.0	Lwa total, dB(A)	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	75	69	65	69	70	66	59	56
Extract	58	52	50	53	51	46	41	35
Surrounding	55	48	45	50	48	44	38	34

Measured at 1050 m³/h, 90 Pa



Calculated temperature efficiency (balanced mass flow) EN 13141-7:
Extract air = 20°C/60%RH
Outdoor air = -20°C

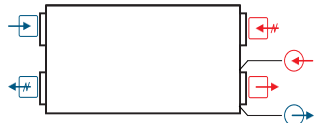
		400HW 3.0	700HW 3.0	1000HW 3.0
Water heater	-power [kW]	2,7	4,7	6,75
	-water temp. T_{in}/T_{out} [°C]	80/60	80/60	80/60
	-water flow rate [l/s]	0,03	0,06	0,08
	-water pressure drop [kPa]	2,47	4,9	1,8
	-kvs value [m³/h]	0,7	1	2,2
Pre-heater for heat exchanger	[kW]	1	1,2	-
Fans	-phase/voltage [50Hz/VAC]	~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]	1,35/5,90	1,65/7,19	0,44/1,98
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	G4	G4	M5
	supply	M5	M5	M5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	48,0	57,0	152,0
Comply with ERP 2013		+	+	-

Designed for operation indoors only

RIS 400HW 3.0 ver.



RIS 700HW 3.0 ver.



RIS 1000HW 3.0 (convertible) ver.



View from inspection side

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

400HW 3.0	Lwa total, dB(A)	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	72	69	63	62	64	61	59	55
Extract	56	49	51	52	45	44	39	35
Surrounding	51	42	45	46	43	41	37	35

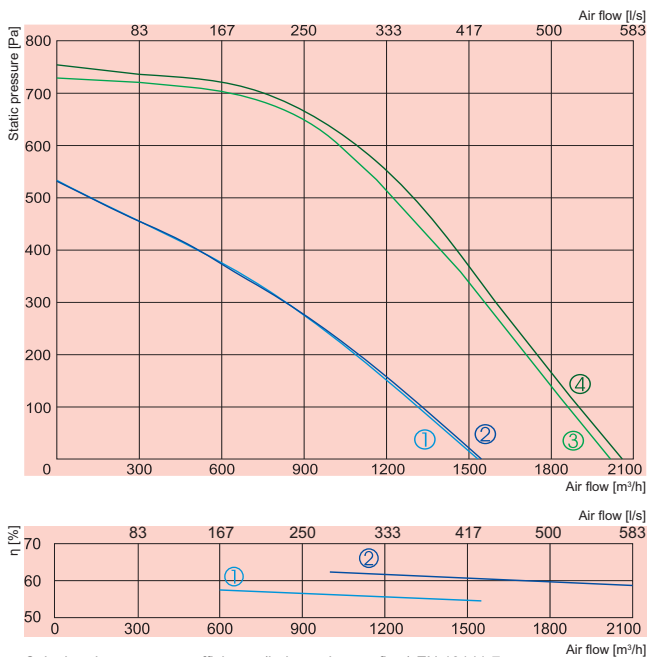
Measured at 413 m³/h, 120 Pa

700HW 3.0	Lwa total, dB(A)	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	74	66	65	67	68	64	63	55
Extract	60	51	55	57	51	45	40	36
Surrounding	53	45	46	47	46	43	40	36

Measured at 622 m³/h, 100 Pa

1000HW 3.0	Lwa total, dB(A)	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	75	69	65	69	70	66	59	56
Extract	58	52	50	53	51	46	41	35
Surrounding	55	48	45	50	48	44	38	34

Measured at 1050 m³/h, 90 Pa

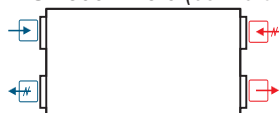


Calculated temperature efficiency (balanced mass flow) EN 13141-7:
Extract air = 20°C/60%RH
Outdoor air = -20°C

		1500HE 3.0	1900HE 3.0
Heater	-phase/voltage [50Hz/VAC]	~3, 400	~3, 400
	-power consumption [kW]	9,0	15,0
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230
	-power/current [kW/A]	0,356/1,55	0,669/2,95
exhaust	-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	M5	M5
	supply	M5	M5
Thermal insulation [mm]		50	50
Weight [kg]		152,0	214,0
Comply with ERP 2013		-	-

Designed for operation indoors only

RIS 1500HE 3.0 (convertible) ver.



RIS 1900HE 3.0 (convertible) ver.



View from inspection side

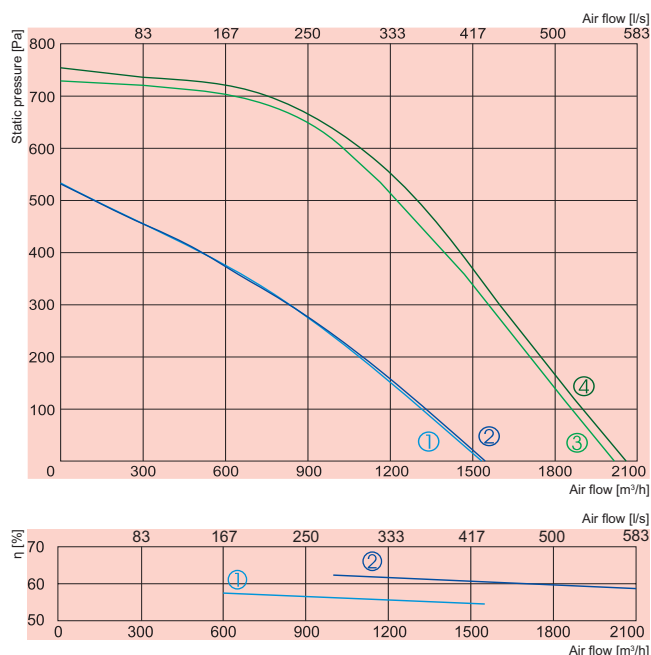
Exhaust air Extract air Fresh air Supply air

1500HE 3.0	Lwa total, dB(A)	LWA, dB(A)						
		125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	76	67	66	70	70	67	62	56
Extract	58	51	49	53	51	45	40	33
Surrounding	57	49	50	52	48	45	41	37

Measured at 1380 m³/h, 70 Pa

1900HE 3.0	Lwa total, dB(A)	LWA, dB(A)						
		125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	83	65	69	75	79	77	71	63
Extract	68	53	59	65	61	52	47	41
Surrounding	60	46	51	54	56	53	47	42

Measured at 1885 m³/h, 120 Pa



① supply **RIS 1500HW 3.0**
② exhaust

③ supply **RIS 1900HW 3.0**
④ exhaust

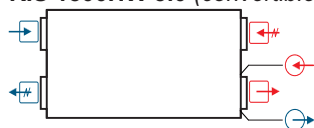
① **RIS 1500HW 3.0**

② **RIS 1900HW 3.0**

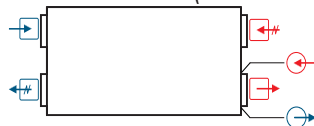
		1500HW 3.0	1900HW 3.0
Water heater	-power [kW]	10,12	12,82
	-water temp. T_{in}/T_{out} [°C]	80/60	80/60
	-water flow rate [l/s]	0,12	0,16
	-water pressure drop [kPa]	3,3	4,70
	-kvs value [m³/h]	2,4	2,7
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,351/1,52	0,669/2,95
	-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	M5	M5
	supply	M5	M5
Thermal insulation	[mm]	50	50
Weight	[kg]	152,0	216,0
Comply with ERP 2013		-	-

Designed for operation indoors only

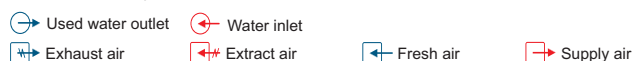
RIS 1500HW 3.0 (convertible) ver.



RIS 1900HW 3.0 (convertible) ver.



View from inspection side



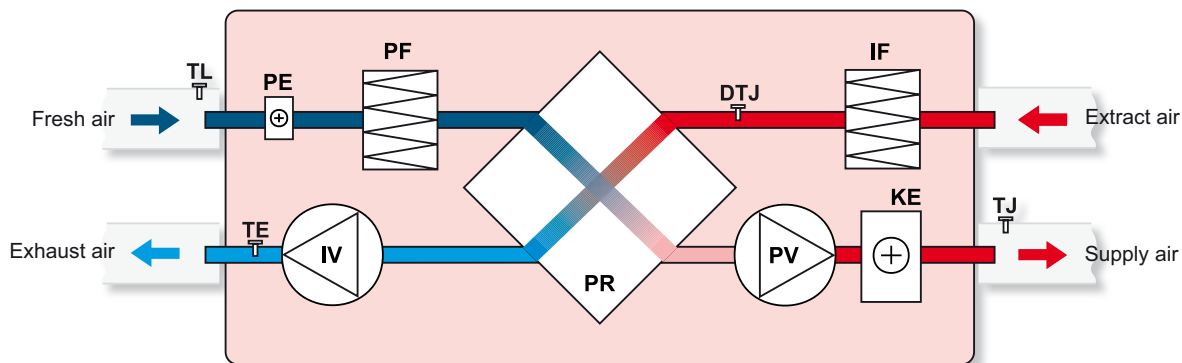
1500HW 3.0	Lwa total, dB(A)	LWA, dB(A)						
		125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	76	67	66	70	70	67	62	56
Extract	58	51	49	53	51	45	40	33
Surrounding	57	49	50	52	48	45	41	37

Measured at 1250 m³/h, 70 Pa

1900HW 3.0	Lwa total, dB(A)	LWA, dB(A)						
		125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply	86	65	68	77	82	81	75	66
Extract	71	57	59	69	64	55	49	44
Surrounding	63	48	50	55	57	56	50	45

Measured at 1812 m³/h, 124 Pa

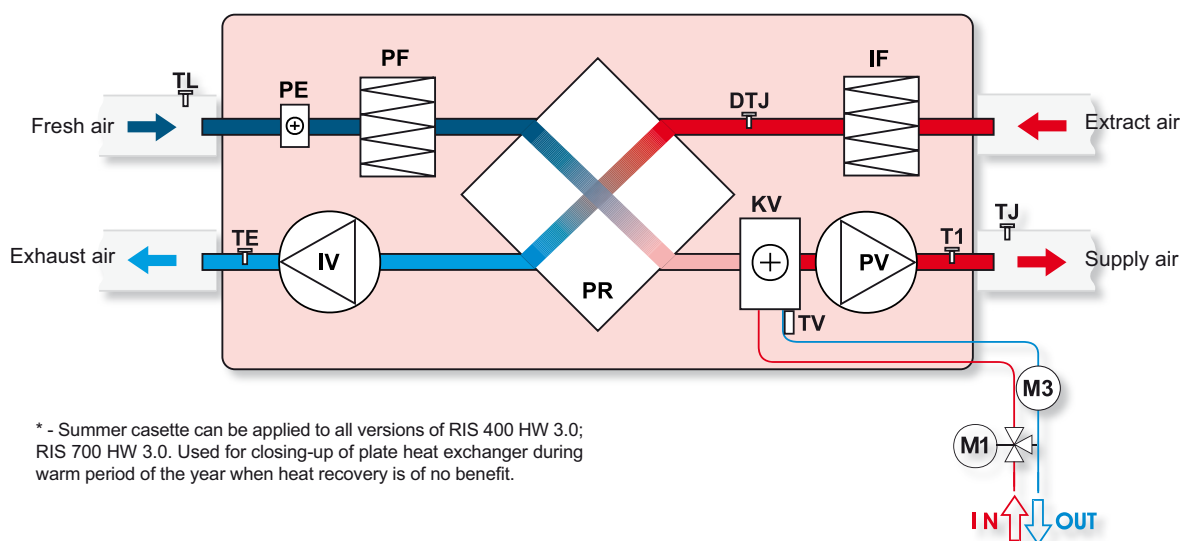
RIS 400HE 3.0; 700HE 3.0 versions with electrical heater *



- 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 M5)
- IF - filter for extract air (class G4)
- 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 3.0; RIS 700 HE 3.0. Used for closing-up of plate heat exchanger during warm period of the year when heat recovery is of no benefit.

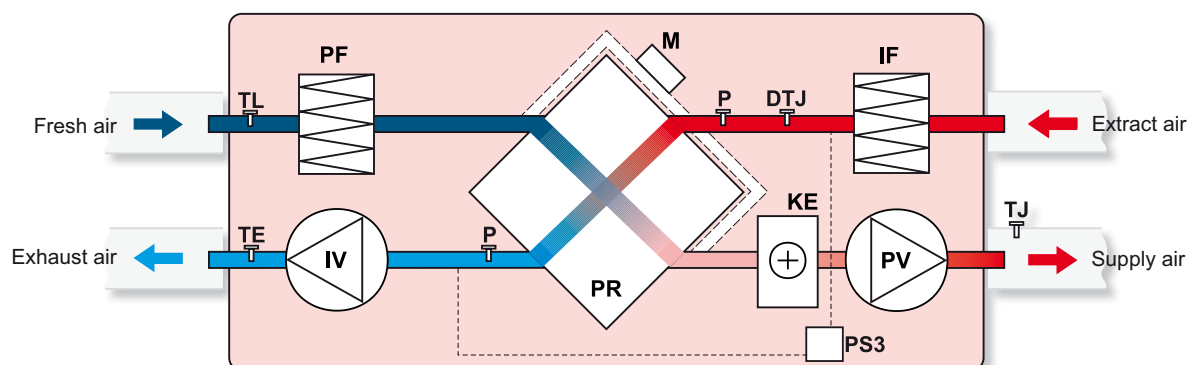
RIS 400HW 3.0; 700HW 3.0 versions with water heater *



* - Summer cassette can be applied to all versions of RIS 400 HW 3.0; RIS 700 HW 3.0. 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 M5)
- IF - filter for extract 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
- M3 - water heater circulatory pump

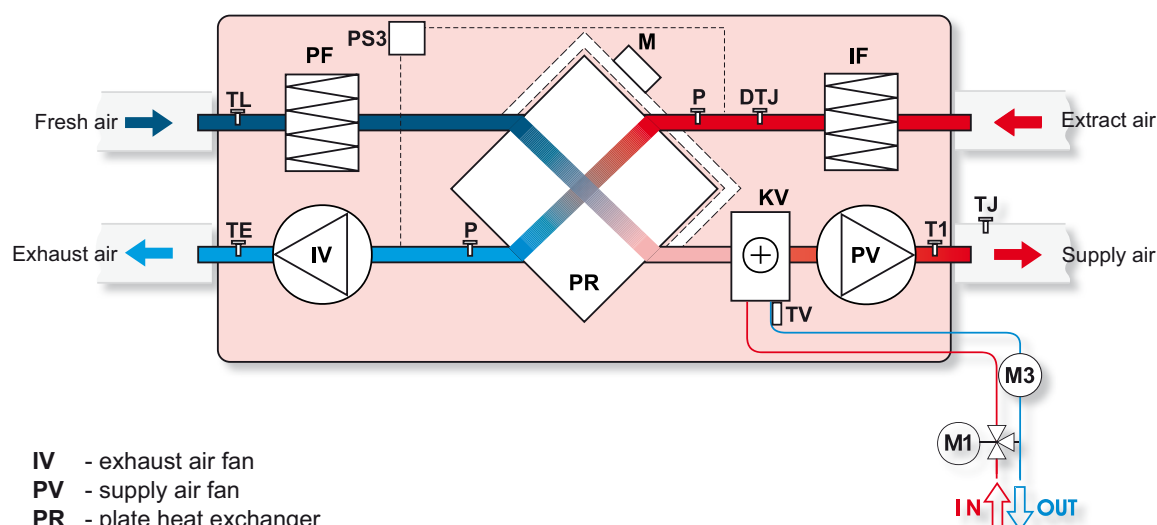
RIS 1000HE 3.0; 1500HE 3.0; 1900HE 3.0 versions with electrical heater



- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- KE - electrical heater
- PF - filter for supply air (class M5)
- IF - filter for extract air (class M5)

- 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
- PS3 - heat exchanger antifrost pressure switch

RIS 1000HW 3.0; 1500HW 3.0; 1900HW 3.0 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 M5)
- IF - filter for extract air (class M5)
- 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
- M3 - water heater circulatory pump
- PS3 - heat exchanger antifrost pressure switch