



Vallox TSK Multi 50 80

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• Code 50/3601
• Code 80/3600
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Type	TSK MULTI 50	3601
	TSK MULTI 80	3600

SUPPLY AND EXTRACT AIR VENTILATION WITH HEAT RECOVERY



VALLOX TSK Multi 50



VALLOX TSK Multi 80

- Low-energy ventilation unit with flexible location possibilities
- Can be installed above the door to the dwelling maintenance operations can be carried out from outside the dwelling (blocks of flats)
- High heat recovery efficiency ($\eta > 80\%$)
- Integrated direct current fans
- 4-step Vallox SC adjustment
- Supply air filtering G3 + F7
- Extract air filtering G3
- Motorised summer/winter damper
- Antifreeze
- Hanging installation from the ceiling
- Duct outlets behind or on the sides
- Unit height only
 - 235 mm (Multi 50) or
 - 295 mm (Multi 80)

TECHNICAL SPECIFICATION



Simple Control

Models:

VALLOX TSK MULTI 50 R
VALLOX TSK MULTI 50 L
VALLOX TSK MULTI 80 R
VALLOX TSK MULTI 80 L

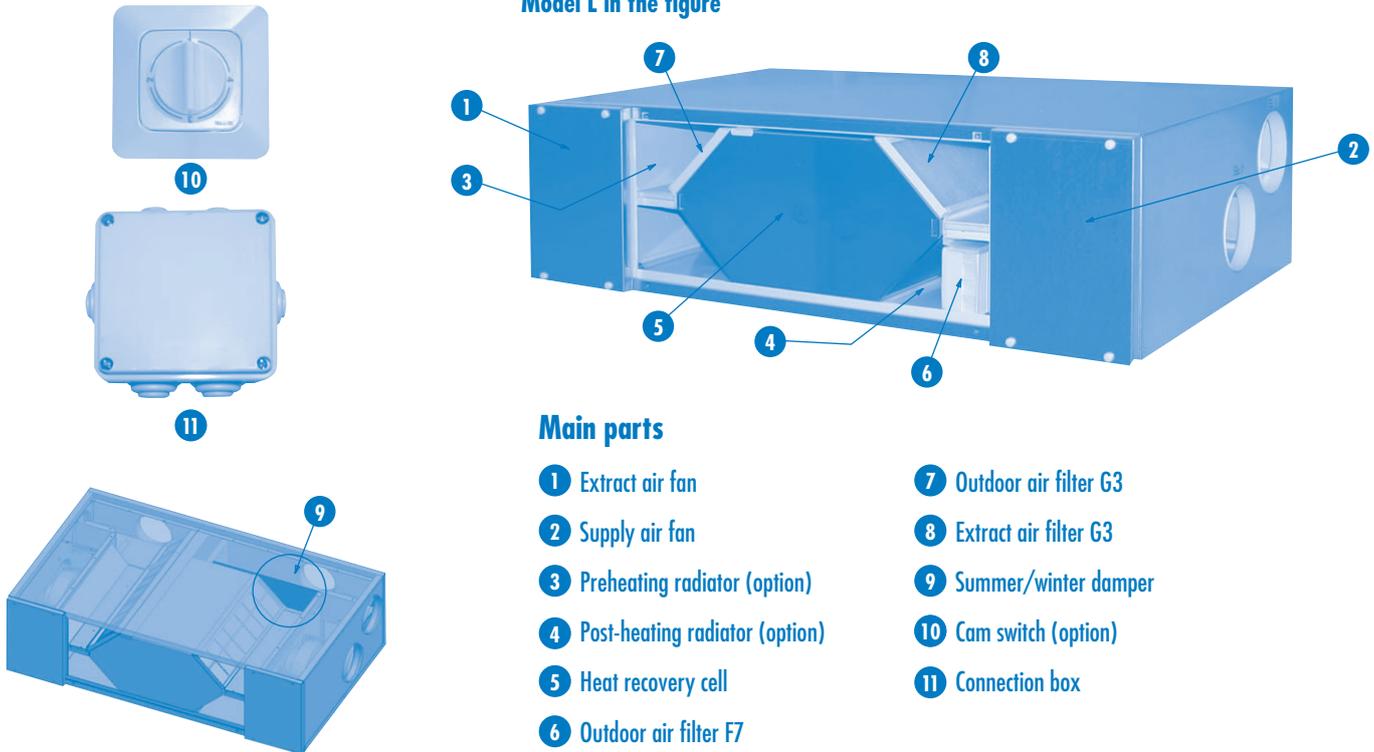
	VALLOX TSK MULTI 80	VALLOX TSK MULTI 50
Electrical connection	230 V, 50 Hz \approx 1.0 A	230 V, 50 Hz \approx 0.64 A
Class of protection	IP 34	IP 34
Integrated direct current fan	Extract air	0.071 kW 0.5 A 85 dm ³ /s 100 Pa
	Supply air	0.071 kW 0.5 A 70 dm ³ /s 100 Pa
Heat recovery	Cross-counter flow cell, $\eta > 80\%$	Cross-counter flow cell, $\eta > 80\%$
Heat recovery bypass	Motorised damper	Motorised damper
Electric preheating unit (option)	max. 500 W	max. 500 W
Electric post-heating unit (option)	max. 500 W	max. 500 W
Filters	Supply air	G3 + F7
	Extract air	G3
Weight	58.5 kg	45 kg
Power adjustment of ventilation	SC controller, 0–10 VDC	SC controller, 0–10 VDC
	Remote monitoring control 0–10 VDC	Remote monitoring control 0–10 VDC
Options	SC controller	SC controller
	SlimLine PTXPA SC cooker hood	SlimLine PTXPA SC cooker hood
	Preheating radiator	Preheating radiator
	Post-heating radiator	Post-heating radiator



VALLOX TSK MULTI 50/80

DIMENSIONS AND MAIN PARTS

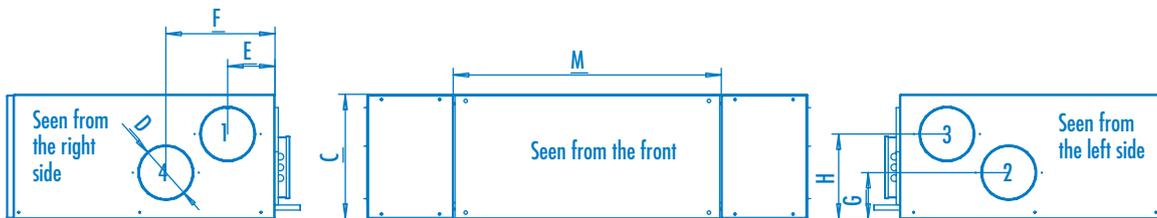
Model L in the figure



Main parts

- 1 Extract air fan
- 2 Supply air fan
- 3 Preheating radiator (option)
- 4 Post-heating radiator (option)
- 5 Heat recovery cell
- 6 Outdoor air filter F7
- 7 Outdoor air filter G3
- 8 Extract air filter G3
- 9 Summer/winter damper
- 10 Cam switch (option)
- 11 Connection box

Measurements and duct outlets / VALLOX TSK MULTI 80, VALLOX TSK MULTI 50

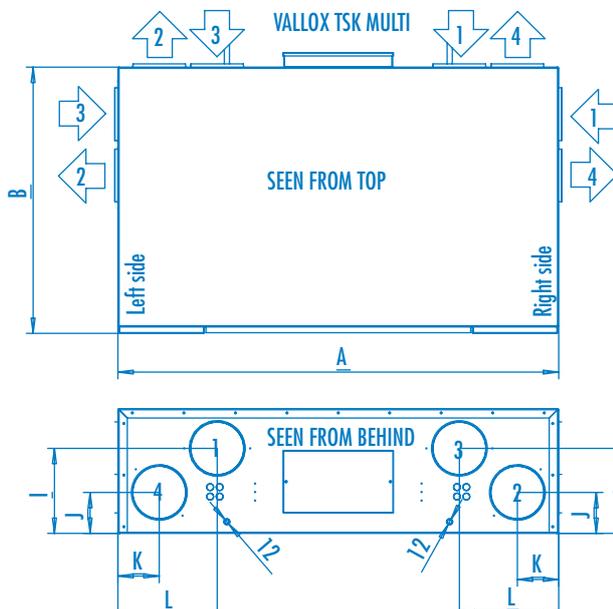


Model R:

- 1. Outdoor air to the unit
- 2. Supply air to rooms
- 3. Extract air to the unit
- 4. Exhaust air outside

Model L:

- 1. Extract air to the unit
- 2. Exhaust air outside
- 3. Outdoor air to the unit
- 4. Supply air to rooms



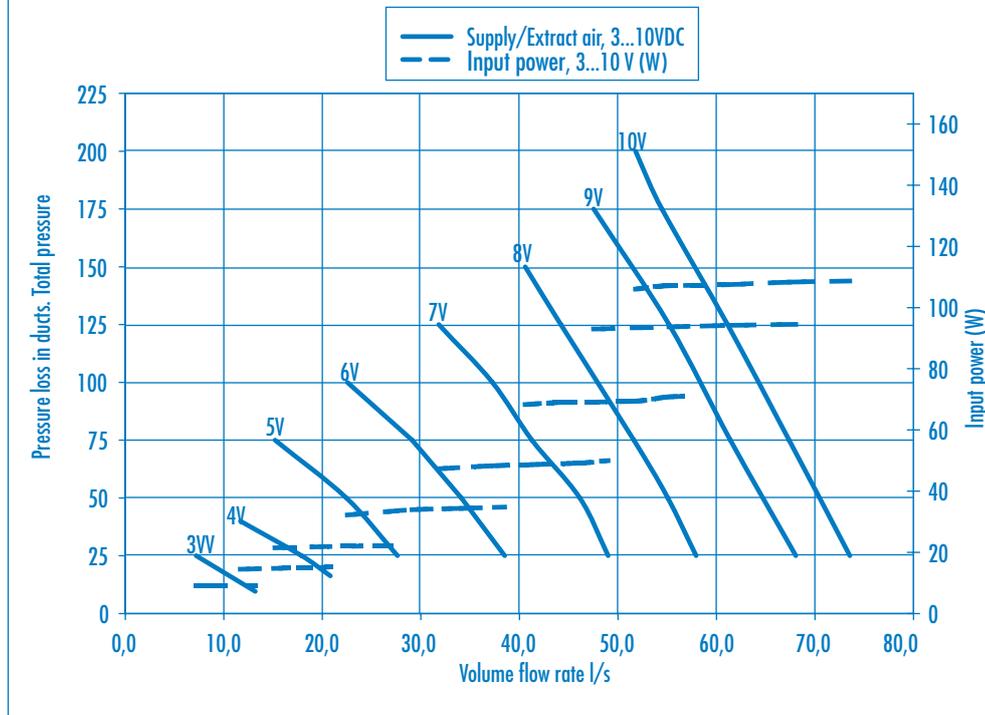
MEASUREMENT	VALLOX TSK MULTI 80	VALLOX TSK MULTI 50
A	1026	900
B	626	547
C	293	236
D	125 (female)	100 (female)
E	110	87
F	254	197
G	110	86
H	200	161
I	200	161
J	96	86
K	96	96
L	231	206
M	624	498



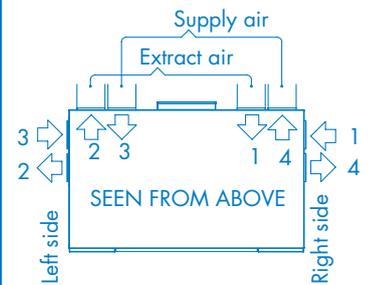
Air volumes

Vallox TSK Multi 50 supply air (G3), extract air (G3)

F7 filter decreases supply air flow by circa 10%



Measuring points after the connection outlet.
Fan curves indicate the total pressure available for duct losses.



Model L:

1. Extract air to the unit
2. Exhaust air outside
3. Outdoor air to the unit
4. Supply air to rooms

Model R:

1. Outdoor air to the unit
2. Supply air to rooms
3. Extract air to the unit
4. Exhaust air outside

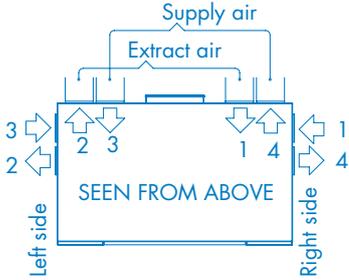


VALLOX TSK MULTI 50/80

PERFORMANCE / TSK MULTI 80

Measuring points after the connection outlet.

Fan curves indicate the total pressure available for duct losses.



Model L:

1. Extract air to the unit
2. Exhaust air outside
3. Outdoor air to the unit
4. Supply air to rooms

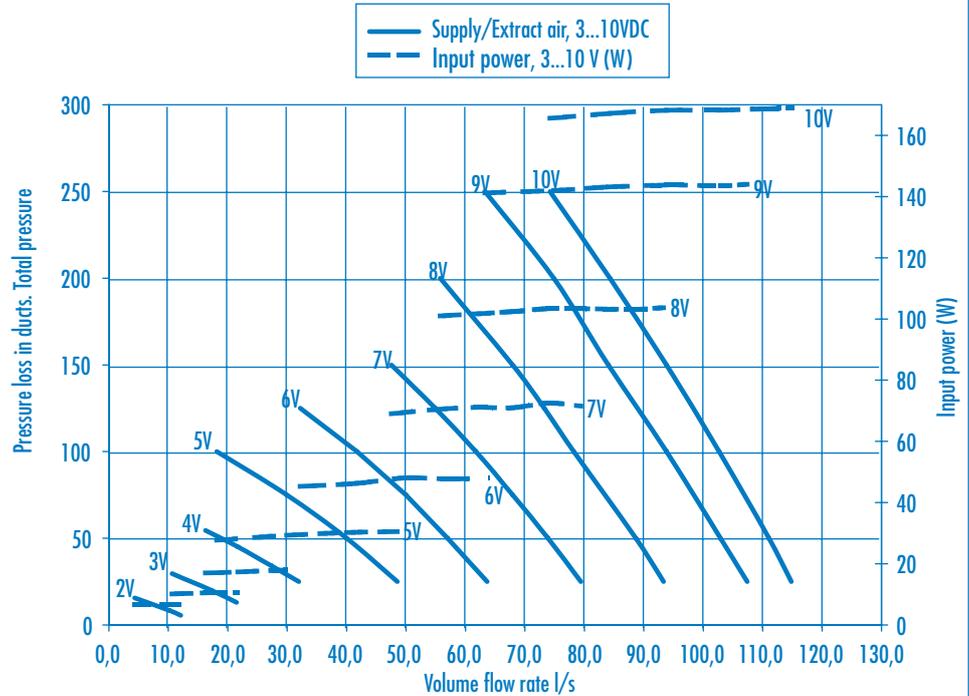
Model R:

1. Outdoor air to the unit
2. Supply air to rooms
3. Extract air to the unit
4. Exhaust air outside

Air volumes

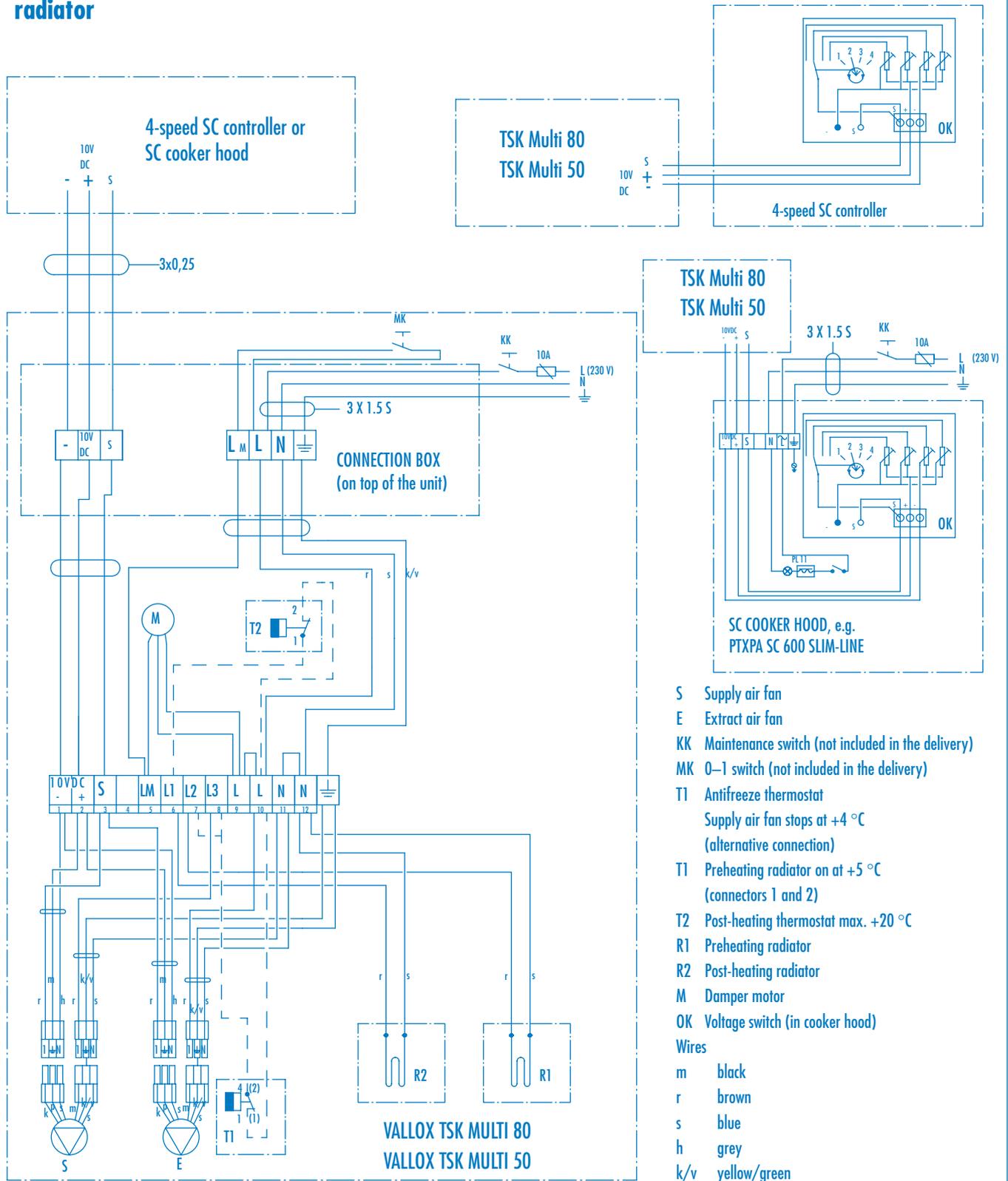
Vallox TSK Multi 80 supply air (G3), Poistoilma(G3)

Supply air is 10% lesser, when using F7 filter



VALLOX TSK MULTI 80 AND 50

Internal and external electrical diagram. Antifreeze by stopping the supply air fan or with preheating radiator

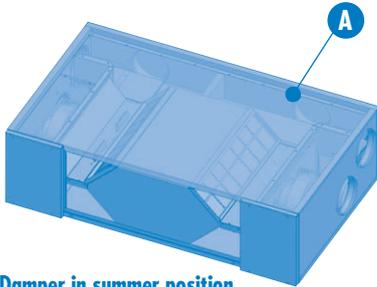




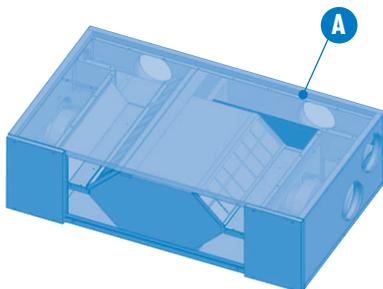
VALLOX TSK MULTI 50/80

INSTRUCTIONS FOR USE

**Damper in winter position
(heat recovery active)**



**Damper in summer position
(heat recovery bypass)**



The damper is controlled electronically with a separate 0-1 switch mounted in the dwelling.

2.4. Heat recovery bypass

In winter use, the heat recovery cell of VALLOX TSK Multi 50/80 recovers heat from the air leaving the dwelling and uses it to heat the air coming from the outside.

In summer use when it is warm outside, it is unnecessary to heat outdoor air. The heat recovery cell is then bypassed with damper (A) in VALLOX TSK Multi 50/80. The damper is controlled using a separate 0-1 switch (not included in the unit delivery). The switch is mounted in the flat at the same time with the electric installation for the unit. In the summer position air flow through the cell is prevented, and heat recovery bypass is activated.

2.5. Air filtering

VALLOX TSK Multi 50/80 features coarse filtering of both extract and supply air before the fans. The supply air side includes a G3 class coarse filter (B) and the extract air side a G3 class coarse filter (C). The unit can also be equipped with an F7 fine filter (D), which captures fine dust and pollen as well dust not seen to the eye. The filters need to be in place in the unit whenever ventilation is in operation.

2.6. Antifreeze

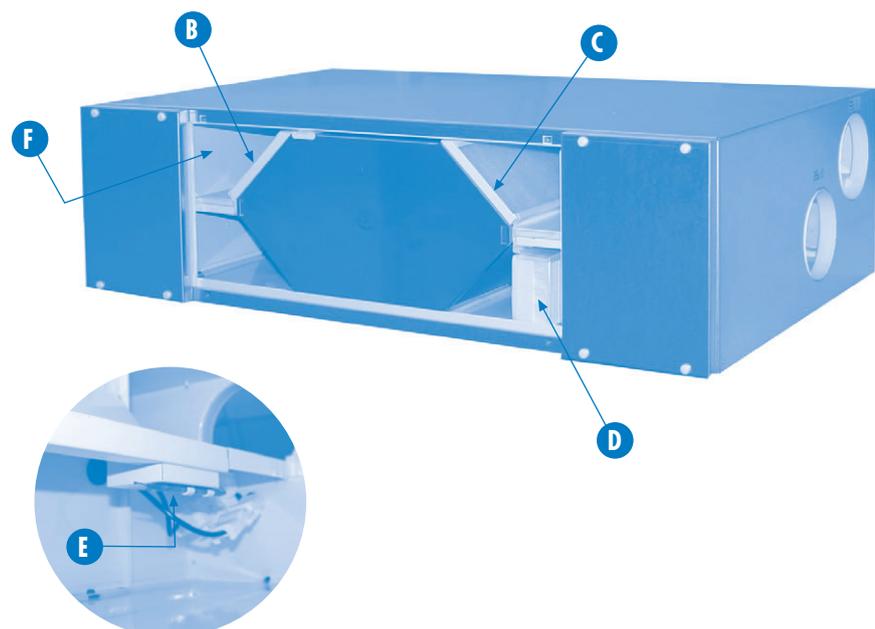
Water condensing from extract air may freeze in the heat recovery cell. Freezing can be prevented by stopping the supply air fan, or the unit can be equipped with a preheating resistor, which is switched on as needed.

2.6.1. Stopping the supply air fan

Antifreeze thermostat T1 stops the supply air fan whenever the temperature of extract air is below +5 °C after the cell. The fan restarts when temperature has risen by circa three degrees to +8 °C. The limit of the thermostat (E) can be adjusted. If the unit includes a preheating radiator (G), the supply air fan cannot be stopped.

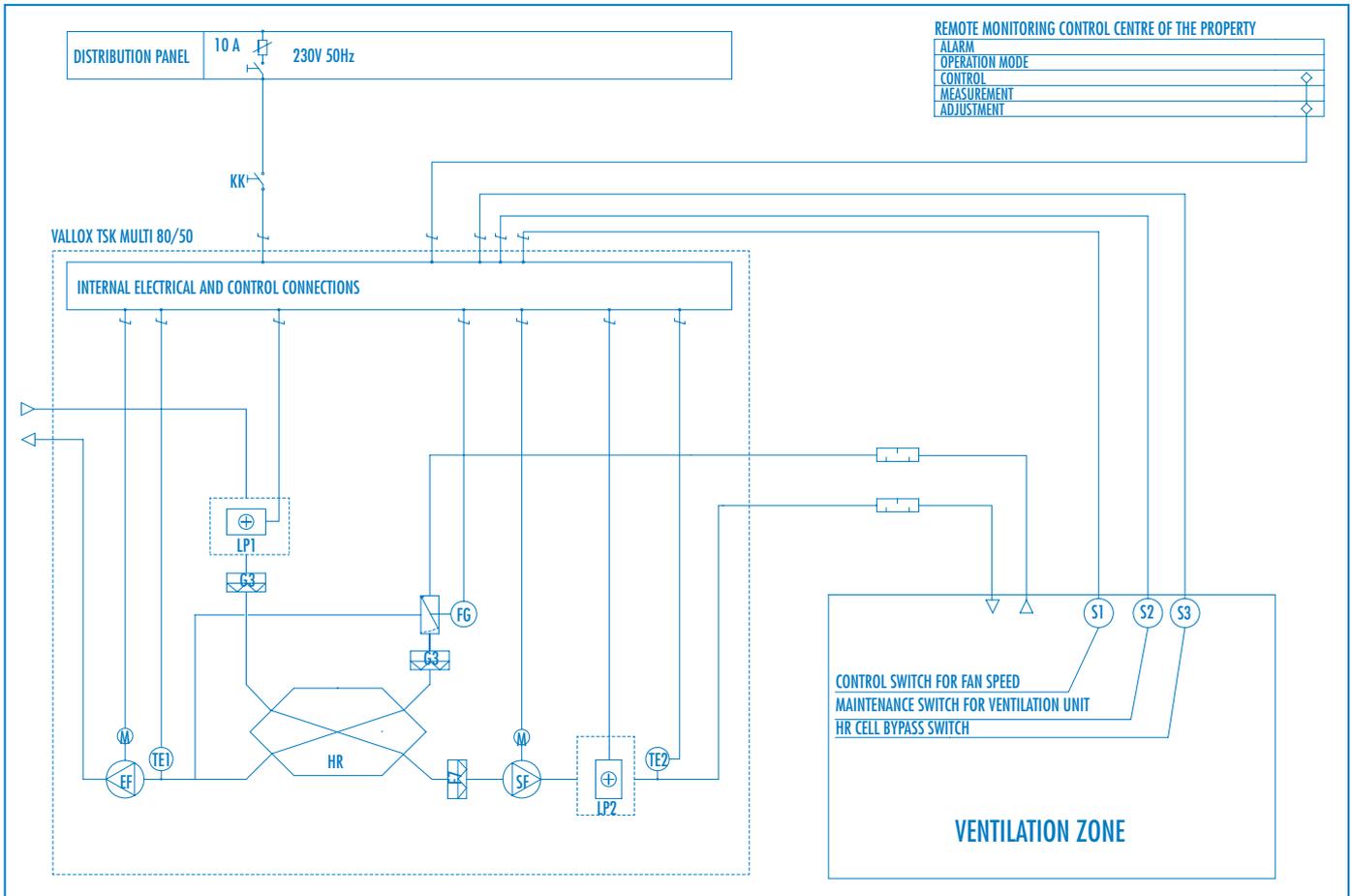
2.6.2. Outdoor air preheating

The unit has possibly been equipped with a preheating radiator (F) at the factory. If that is the case, antifreeze thermostat T1 switches the preheating radiator on whenever the temperature of extract air goes below +5 °C after the cell. The preheating radiator switches off when temperature has risen by circa three degrees to +8 °C. The preheating radiator heats outdoor air before the heat recovery cell and prevents it from freezing. In very cold temperatures the preheating radiator is not enough to heat maximum air flow to a sufficient degree (in a temperature of -30 °C, maximum air flow is 30 dm³/s). The limit of the thermostat can be adjusted.



VALLOX TSK MULTI 50/80

CONTROL DIAGRAM AND DESCRIPTION OF OPERATION FOR TSK MULTI 50/80



Control of operation

Power supply to the unit can be controlled with the 0/1 switch in the distribution panel if needed. After starting, the unit operates at the power selected on the fan speed adjustment switch. Maintenance switch KK must be mounted outside the unit for cutting off power supply to the unit for maintenance.

Fan speed adjustment

Cam switch

The fans of the unit, SF and EF, are controlled depending on operating conditions with a separate 4-step SC cam switch located in the ventilation zone.

Voltage signal control

The fan power of the unit can be controlled steplessly with voltage signal 0...10 VDC. With a voltage signal lower than 1.5 VDC, the fans will stop.

Supply air temperature

Supply air temperature can be raised using a post-heating radiator, which is controlled by thermostat TE2.

Heat recovery bypass

The bypass (FG) of the heat recovery cell HR in summer is done with a switch mounted indoors.

Heat recovery antifreeze

The antifreeze thermostat TS1 of the HR cell stops supply air fan SF, preventing the HR cell from freezing. The fan starts automatically as soon as the risk of freezing has passed. The operating point of the antifreeze thermostat can be changed; the factory setting is +5 °C.

The unit can alternatively be equipped with preheating radiator LP1, controlled by antifreeze thermostat TE1. When there is a risk of freezing, preheating radiator LP1 starts to heat air coming from outside to the unit, thereby preventing the HR cell from freezing.

Alarms

If a pressure difference switch has been mounted outside the unit, it controls the pressure difference on the supply or extract air side. If the pressure difference rises above the setpoint, because of dirty filters or clogged ducts, an indicator lights up on the pressure difference switch.

Parts list VALLOX TSK MULTI 50/80

Code	Name	Technical data (factory settings in parentheses)	Standard/ Option
G3	Filter	Supply air	Standard
		Extract air G3	
FG	HR bypass damper	Motorised	Standard
HR	Heat recovery cell	Cross-counter flow cell, efficiency 80%	Standard
EF	Extract air fan	TSK MULTI 50	Standard
		TSK MULTI 80	
SF	Supply air fan	TSK MULTI 50	Standard
		TSK MULTI 80	
LP1	Preheating radiator	max. 0.5 kW	Option
LP2	Post-heating radiator	max. 0.5 kW	Option
TE1	HR antifreeze thermostat	Factory setting +5 °C (Stopping of supply fan, or preheating)	Standard
TE2	Post-heating thermostat	Factory setting 10 °C	Option
S1	Control switch for fan speed	0–10 VDC 4-step cam switch	Option



VALLOX TSK MULTI 50/80

LOCATION OF VALLOX TSK MULTI 50/80

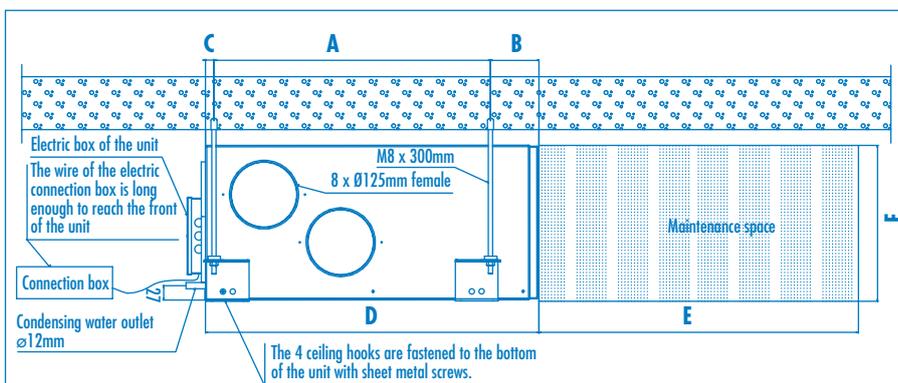
VALLOX TSK MULTI 50/80 has to be mounted in a place where temperature does not fall below +10 °C. Without protective casing, the unit must be located in a place with no acoustic disturbance: a storeroom, utility room, suspended ceiling etc.

Mounting

VALLOX TSK Multi 50/80 is mounted normally to a ceiling with 4 fastening hooks delivered with the unit. The weight of the unit, 45 kg, has to be taken into account during fastening.

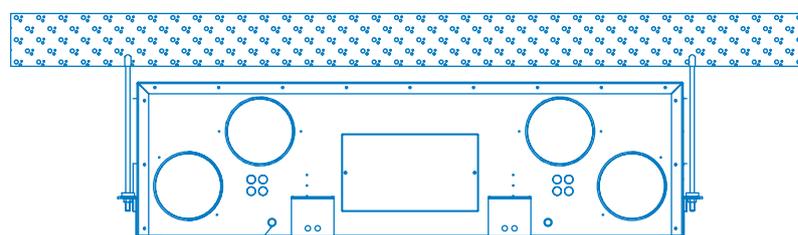
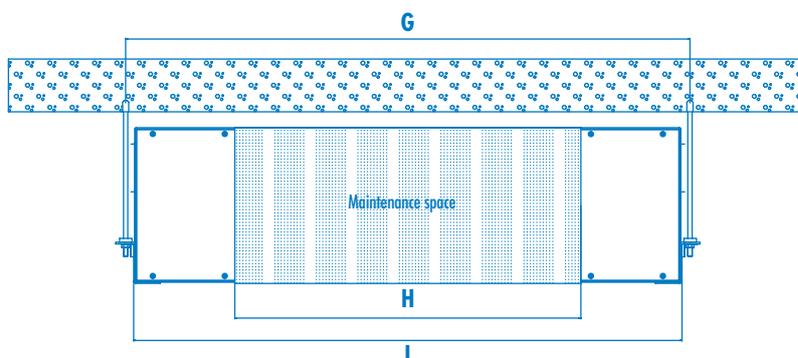
Condensing water

The delivery includes a water seal. With a pipe connected to the water seal, water condensing from extract air can be led to a floor drain (not straight to the drain). The pipe must not rise after the water seal. The unit has to be mounted level with the horizontal in order to ensure that condensing water can get out of the unit.



Take into account the potential need for an inspection door, used in order to check the condensing water outlet and the electric box of the unit.

	TSK MULTI 50 mm	TSK MULTI 80 mm
A	431	519
B	91	91
C	16	16
D	548	626
E	530	600
F	240	295
G	935	1060
H	500	650
I	905	1030



Condensing water outlet always on the exhaust air side

The unit delivery includes 4 shield caps for blocking up extra duct outlets. To ensure that the shields stay in place, use a metal plate and attach it with sheet metal screws to the body of the unit.



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