



# Vallox 70 Compact

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• 3.10.2012  
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70 Compact, code A3475  
70K Compact, code A3476

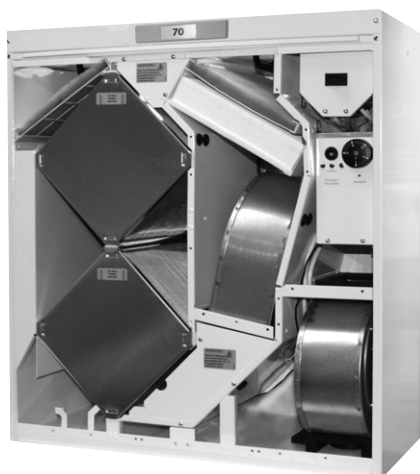
## Models:

### VALLOX 70 COMPACT R/L

### VALLOX 70K COMPACT R/L

- For dwelling-specific ventilation for detached houses, terraced houses and blocks of flats
- Supply and extract air ventilation with heat recovery
- Silent operation
- Good filtering
- Fireplace switch function (option).
- In-built heat recovery bypass for summer ventilation
- Control through a separate switch or cooker hood
- Service switch as standard
- Depth adjustment
- Fixed air flow measuring outlets

VALLOX 70K  
COMPACT R



VALLOX 70  
COMPACT R

# TECHNICAL SPECIFICATION

## Technical specifications

<b>Fans</b> <b>VALLOX 70/70K COMPACT</b>	Supply air	105 W	56 dm <sup>3</sup> /s	50 Pa
	Extract air	105 W	65 dm <sup>3</sup> /s	50 Pa
<b>Heat recovery</b>	2 x plate heat exchanger, efficiency approx. 75 %			
<b>Heat recovery bypass</b>	Summer / winter damper			
<b>Post-heating</b>	Electric, max. 900 W			
<b>Preheating (option)</b>	Electric, max. 900 W			
<b>Filters</b>	Supply air	G4 + F 7		
	Extract air	G4		
<b>Weight</b>	40 kg			
<b>Service switch</b>	Door switch			
<b>Power adjustment</b>	<b>VALLOX 70 COMPACT</b>	4-step speed selector or cooker hood PTPX/I 130		
	<b>VALLOX 70K COMPACT</b>	Cooker hood		
<b>Input power and data</b>	<b>VALLOX 70 COMPACT</b>	230 V, IP 34, 105 W		
	<b>VALLOX 70K COMPACT</b>	230 V, IP 30, 105 W		
<b>Options</b>	Fireplace switch function			
	Filter guard			

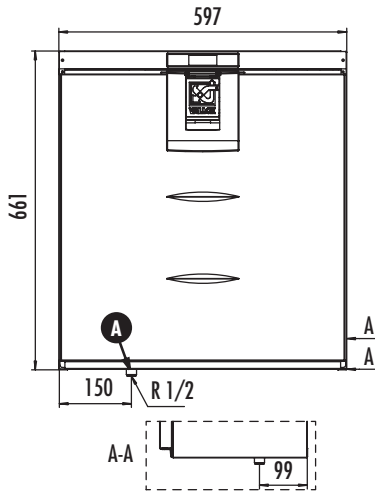


# VALLOX 70 COMPACT

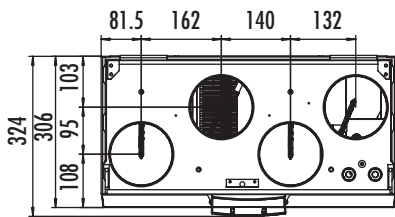
## DIMENSIONS AND MAIN PARTS

### Dimensions

#### VALLOX 70 COMPACT

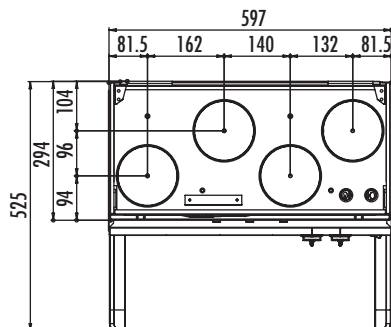
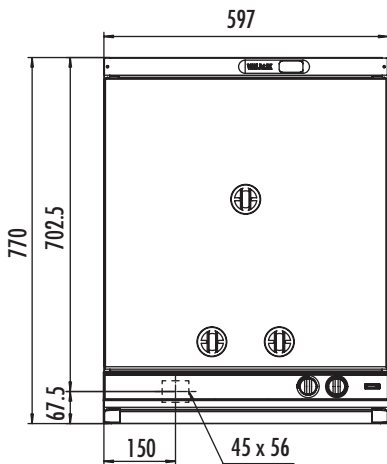


Location of condensing water connection (A) is same in both R and L models.



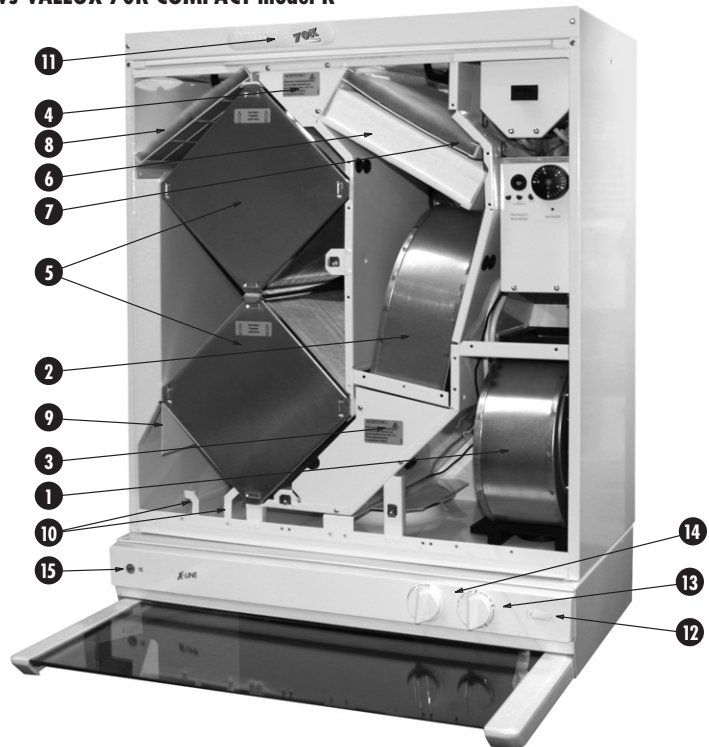
Model R in the picture.  
In model L, dimensions as a mirror image.

#### VALLOX 70K COMPACT



Model R in the picture.  
In model L, dimensions as a mirror image.

The picture shows VALLOX 70K COMPACT model R



### Main parts

#### VALLOX 70 COMPACT

- 1 Extract air fan
- 2 Supply air fan
- 3 Preheating radiator (option)
- 4 Post-heating radiator (standard)
- 5 Heat recovery cells (2)
- 6 Outdoor air filter F7
- 7 Outdoor air filter G4
- 8 Extract air filter G4
- 9 Summer / winter damper
- 10 Summer / winter damper lock
- 11 Air flow measuring outlets

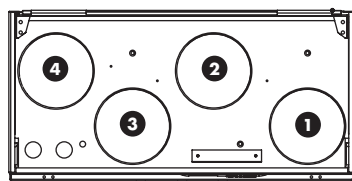
### Cooker hood parts

#### VALLOX 70K COMPACT

- 12 Light switch
- 13 Speed selector switch
- 14 Damper controller
- 15 Post-heating/filter guard indicator (filter guard is an option)

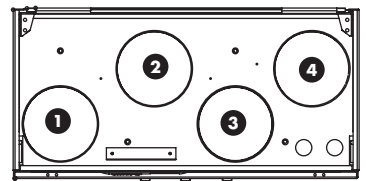
### DUCT OUTLETS VALLOX 70 COMPACT / 70K COMPACT

#### Model L



- 1 Extract air from the dwelling
- 2 Supply air to the dwelling
- 3 Outdoor air to the unit
- 4 Exhaust air outside

#### Model R



### AIR FLOW MEASUREMENT OUTLETS



The fixed air flow measurement outlets are located behind the nameplate (11) in the upper part of the unit. You may remove the nameplate (11) by sliding it to the right in a model R unit and to the left in a model L unit.

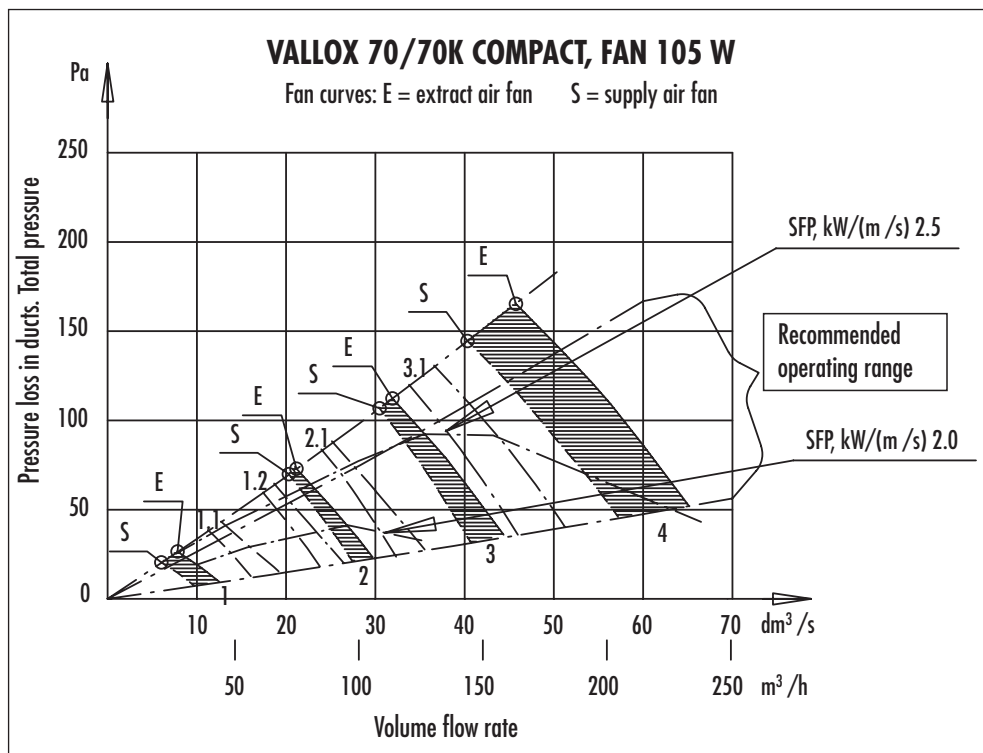
You can measure the total pressure of the supply and extract air ductwork at the measurement outlets, using a differential pressure instrument. For volume flow rates at various adjustment positions, compare the pressure readings with the air volume curves (p. 3). There is a sticker on the support plate of the measurement tubes showing the pressure (supply air) side and suction (extract air) side of the fan.

# VALLOX 70 COMPACT



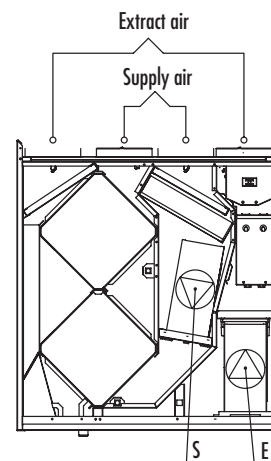
## SOUND VALUES AND POWER

### Air volumes / power and SFP



### Measuring points VALLOX 70 COMPACT

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



### VALLOX 70 COMPACT, 105 W fan

Input power includes a transformer 0.86 A

### SOUND VALUES VALLOX 70K COMPACT, FAN 105 W

Medium frequency of the octave band, Hz	Sound power level from the ventilation unit to supply air ducts by octave band $L_w$ , dB								Sound power level from the ventilation unit to extract air ducts by octave band $L_w$ , dB							
	ADJUSTMENT POSITION / AIR FLOW (dm <sup>3</sup> /s)								ADJUSTMENT POSITION / AIR FLOW (dm <sup>3</sup> /s)							
	1/70 V 9	1.1/90 V 16	1.2/110 V 22	2/120 V 25	2.1/135 V 31	3/160 V 38	3.1/180 V 42	4/230 V 50	1/70 V 12	1.1/90 V 19	1.2/110 V 24	2/120 V 27	2.1/135 V 32	3/160 V 41	3.1/180 V 45	4/230 V 58
63	59	67	72	75	79	79	80	84	59	66	70	72	74	76	76	80
125	49	56	61	64	66	71	73	77	44	50	55	57	60	64	67	71
250	34	40	45	48	50	54	56	60	35	41	46	48	50	53	55	58
500	25	31	34	36	38	41	43	47	22	29	34	36	38	40	43	46
1000	20	25	30	33	36	40	42	45	19	25	30	33	35	39	42	43
2000	14	18	23	26	30	34	37	42	14	17	22	25	27	31	34	39
4000	16	16	17	17	22	22	23	27	16	16	17	17	19	22	23	27
8000	21	21	21	21	21	21	21	22	21	21	21	21	21	21	21	22
$L_w$ , dB	59	67	72	75	80	80	81	85	59	67	70	72	74	77	77	80
$L_{WA}$ , dB(A)	35	42	48	51	54	56	58	62	34	41	45	47	49	52	53	57
Sound pressure level coming from the unit through the envelope in the room where the unit is mounted (10m <sup>2</sup> sound absorption)	ADJUSTMENT POSITION / AIR FLOW (dm <sup>3</sup> /s)								<b>VALLOX 70 COMPACT/105W</b>							
* $L_{pAr}$ , dB(A)	18	24	29	31	33	37	39	42								

Fan speeds	Input power of fans (2 fans)	Control voltage
*1	20 W	70 V
1.1	33 W	90 V
1.2	49 W	110 V
*2	55 W	120 V
2.1	67 W	135 V
*3	90 W	160 V
3.1	108 W	180 V
*4	160 W	230 V

\*) Factory preselected control speeds

\*) In VALLOX 70K Compact, flap closed. (1.2/110V calculatory values)



# VALLOX 70 COMPACT

## VENTILATION ADJUSTMENT



Speed selector

### Speed selector

The VALLOX 70 COMPACT delivery includes a four-step switch. The flush-mounted switch can be mounted in a standard instrument box. The switch can be used to select four of the seven speeds for the unit. The speeds selected for the unit are 1, 2, 3 and 4. An expert can select different speeds at the transformer of the unit.



Cooker hood PTPX/1 130

### Control with a cooker hood

When desired, cooking smoke abatement can be connected directly to VALLOX 70 COMPACT and controlled with cooker hood VALLOX PTPX / I 130.

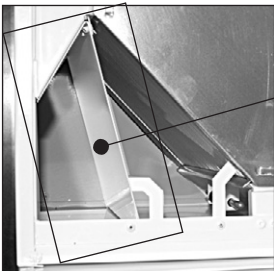
## FIREPLACE SWITCH FUNCTION (option)

If the unit has been equipped with a fireplace switch (timer), it can be used to stop the extract air fan for a certain period, such as 15 minutes, producing overpressure in the ventilation zone. This makes it easier to light the fireplace, for instance.

The situation will normalise in a while, after the functions stops.

**Note! The starting of the extract air fan may weaken draught in the fireplace.**

## HEAT RECOVERY BYPASS



### Winter use

In winter use the heat recovery cell of VALLOX COMPACT recovers heat from the air leaving the dwelling and uses it to heat the air coming from the outside.



### Summer use

The heat recovery cell is bypassed in VALLOX 70 COMPACT with an in-built damper. In the summer position air flow through the cell is prevented, and heat recovery bypass is activated.

# VALLOX 70 COMPACT



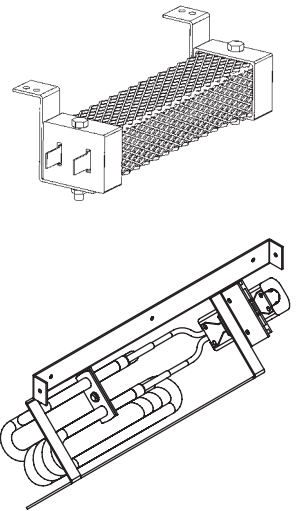
## PRE- AND POST-HEATING

### Post-heating radiator

The post-heating radiator of the VALLOX 70 COMPACT unit is a PTC resistor, which aims at heating the air blown to the rooms to preset temperature. The temperature of supply air is adjusted at the thermostat regulator located inside the unit. The post-heating radiator is a PTC resistor, the laminas of which are live when the unit is in operation. The PTC resistor must not be touched before the unit has been switched off. It is advisable to set the thermostat at 0 °C in summer. In this case, the radiator does not heat air.

### Preheating radiator

Vallox 70 Compact comes standard with a preheating radiator. The antifreeze thermostat switches the radiator on instead of stopping the outdoor air fan. The radiator heats outdoor air before the cell, preventing 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 minus 30 degrees Celsius, maximum air flow is 30 dm<sup>3</sup>/s, which corresponds to speed 2 or 3). The threshold values for automatic antifreeze can be adjusted inside the unit. The tubular preheating radiator is connected to two overheat protectors. One of the overheat protectors is automatically resetting (type BTS) and the other is a cut-off one (type BTC, cut-off). If the overheat protectors have tripped, switch off the unit for a moment.

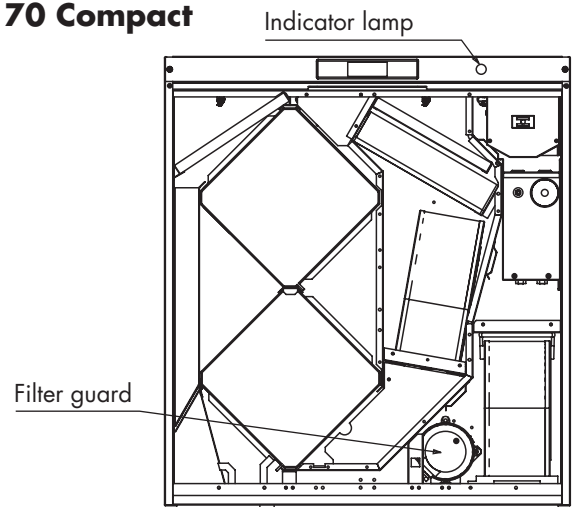


## FILTER GUARD (option)

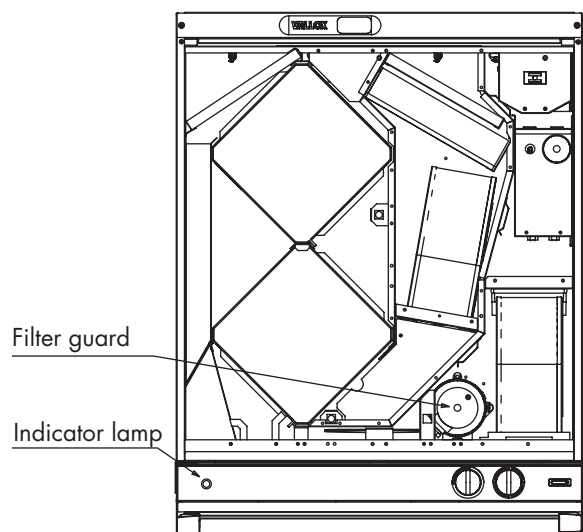
### Filter guard

VALLOX 70 COMPACT can be equipped with an **optional** filter guard. The filter guard indicator lights up at speeds 3 and 4 when the filters are clean; this is normal and does not call for any maintenance activities. If the indicator does not light up at speed 4, the pressure in the ventilation ductwork of the building differs from the factory setting. When needed, an expert may change the setpoint. **If the filter guard symbol already lights up at fan speed 1 or 2, the filters need cleaning.** If they are clean, the lighting up may be caused by a clogged up dense mosquito net installed against mounting instructions in the external grille or by the closing of the supply air valves in the rooms.

### 70 Compact



### 70K Compact

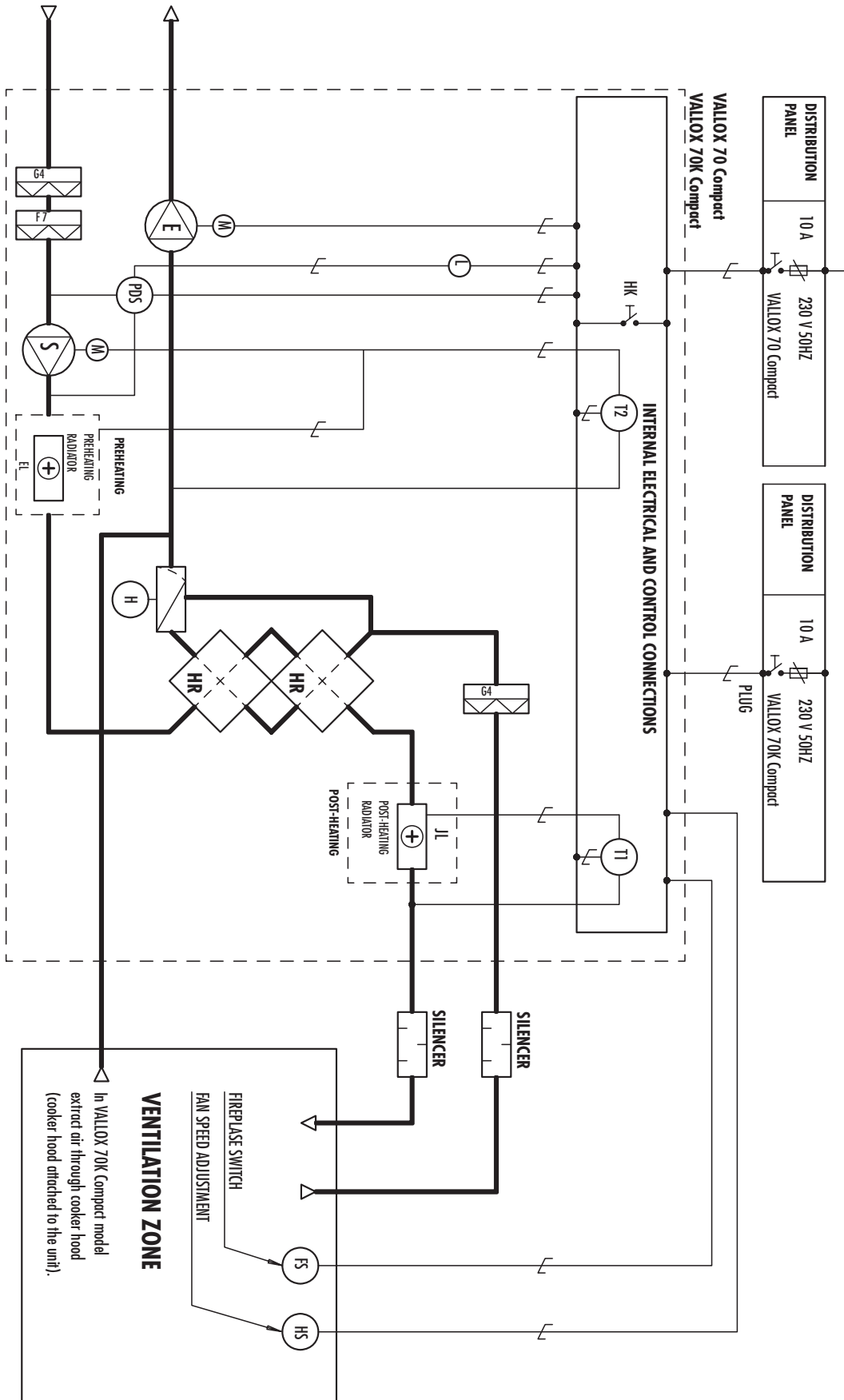




# VALLOX 70 COMPACT

## CONTROL DIAGRAM

### VALLOX 70 COMPACT / VALLOX 70K COMPACT





### Description of operation VALLOX 70 COMPACT / VALLOX 70K COMPACT

#### Control of operation

Power supply to the VALLOX 70 COMPACT unit is controlled with the 0/1 switch in the distribution panel. There is also a maintenance switch **HK** inside the unit.

VALLOX 70K COMPACT is equipped with a plug. There is also a maintenance switch **HK** inside the unit.

#### Fan speed adjustment

The **S** and **E** fans of the unit are controlled depending on operating conditions with a separate 4-step (1, 2, 3 and 4) switch **HS** located in the ventilation zone, or with a cooker hood.

#### Heat recovery bypass

Summer-time bypass of the heat recovery cell **HR** is done manually by turning the **HR** damper **H** in the bypass position for the summer.

#### Supply air temperature

Regulating thermostat **T1** controls the operation of the electric radiator **JL**, keeping the supply air going out from the unit at the setpoint.

#### Preheating of outdoor air

Regulating thermostat **T2** controls the operation of the electric radiator **EL** as follows: the radiator heats outdoor air before the cell and prevents the heat recovery cell from freezing. In very cold temperatures the preheating radiator **EL** is not enough to heat maximum air flow to a sufficient degree (in a temperature of minus 30 degrees, maximum air flow is 30 dm<sup>3</sup>/s, which corresponds to speed 2 or 3). The threshold of thermostat **T2** can be adjusted inside the unit.

#### Heat recovery defrosting

(alternative to preheating radiator)

The anti-freezing thermostat **T2** of the **HR** cell keeps stopping the supply air fan **S**, thereby preventing the risk of the freezing of the **HR** cell. The fan starts automatically as soon as the risk of freezing has passed. The threshold temperature of freezing risk can be set at thermostat **T2**.

#### Fireplace switch function

The unit can be equipped with an optional fireplace switch **FS**. It can be a timer equipped with opening points. Timing period can be 15...30 minutes.

#### Alarms

Pressure difference switch **PDS** is an optional device for controlling pressure difference on the supply air side. If the pressure difference rises above the setup, because of dirty filters or clogged ducts, an indicator is lit on the front panel of the unit.

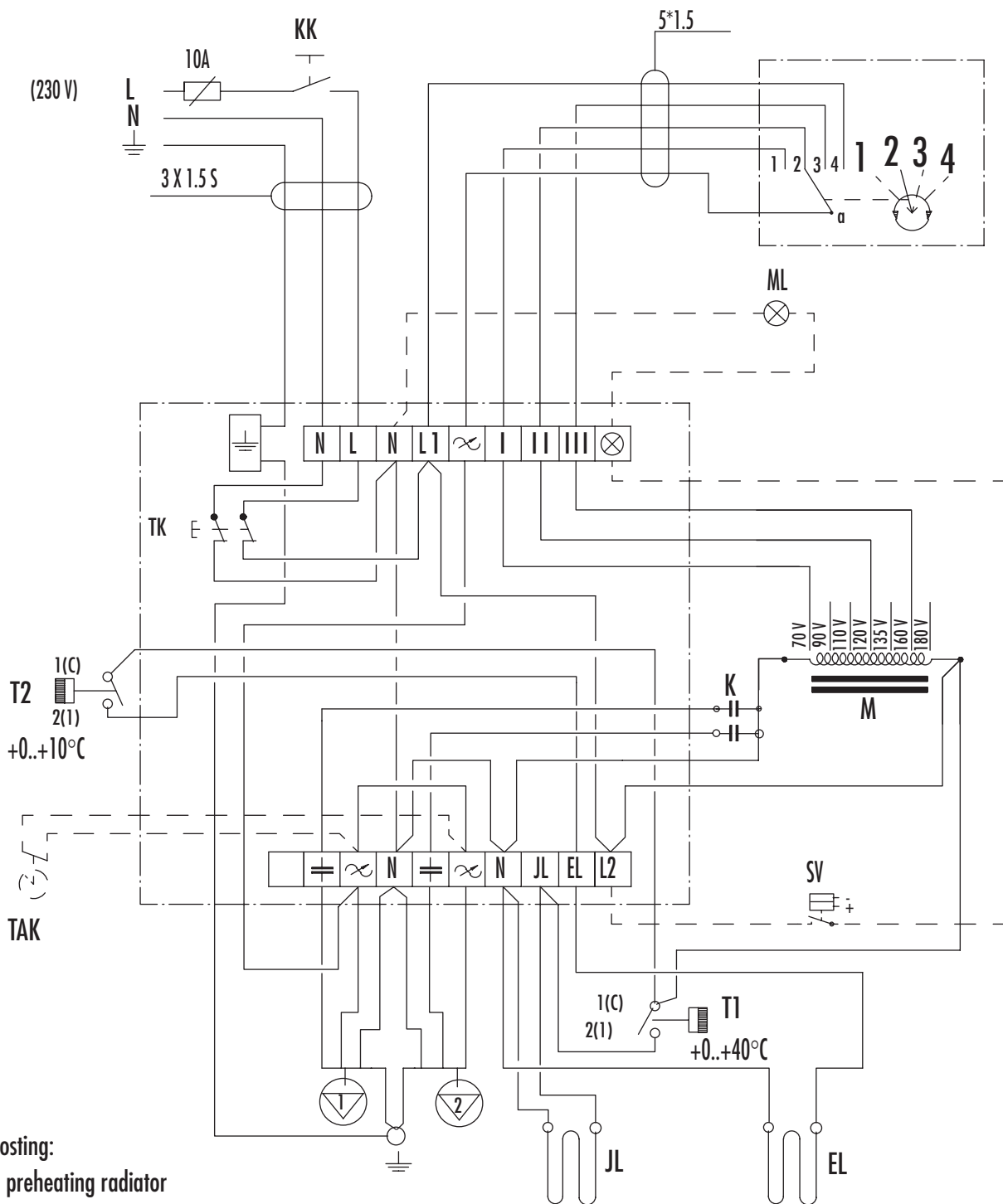
#### Parts list VALLOX 70 COMPACT/VALLOX 70K COMPACT

Code	Name	Technical details	Standard / Option
G4	Filter, extract air and supply air	G4	Standard
F7	Fine filter, supply air	F7	Standard
H	HR bypass damper	Manual	Standard
HS	Speed adjustment <b>VALLOX 70 Compact</b>	4-step switch Standard or cooker hood	Standard Option
HS	Speed adjustment <b>VALLOX 70K Compact</b>	Cooker hood	Standard
EL	Preheating radiator	Electric, max 0.9 kW	Standard
JL	Post-heating radiator	Electric, max 0.9 kW	Standard
HR	Heat recovery cell, pair	efficiency ~75 %	Standard
S	Supply air fan	105 W 56 dm <sup>3</sup> /s 50 Pa	Standard
E	Extract air fan	105 W 65 dm <sup>3</sup> /s 50 Pa	Standard
HK	Maintenance / safety switch	Door switch	Standard
T1	Regulating thermostat	0...40 °C	Standard
T2	HR defrost thermostat	Factory setting +4 °C	Standard
FS	Fireplace switch	Opening points 15...30 minutes	Option
PDS	Pressure difference switch Pressure guard for the supply air side	Adjustment range 0...500 Pa Factory setting 190 Pa	Option



# VALLOX 70 COMPACT

## INTERNAL ELECTRICAL CONNECTIONS



Defrosting:  
With preheating radiator

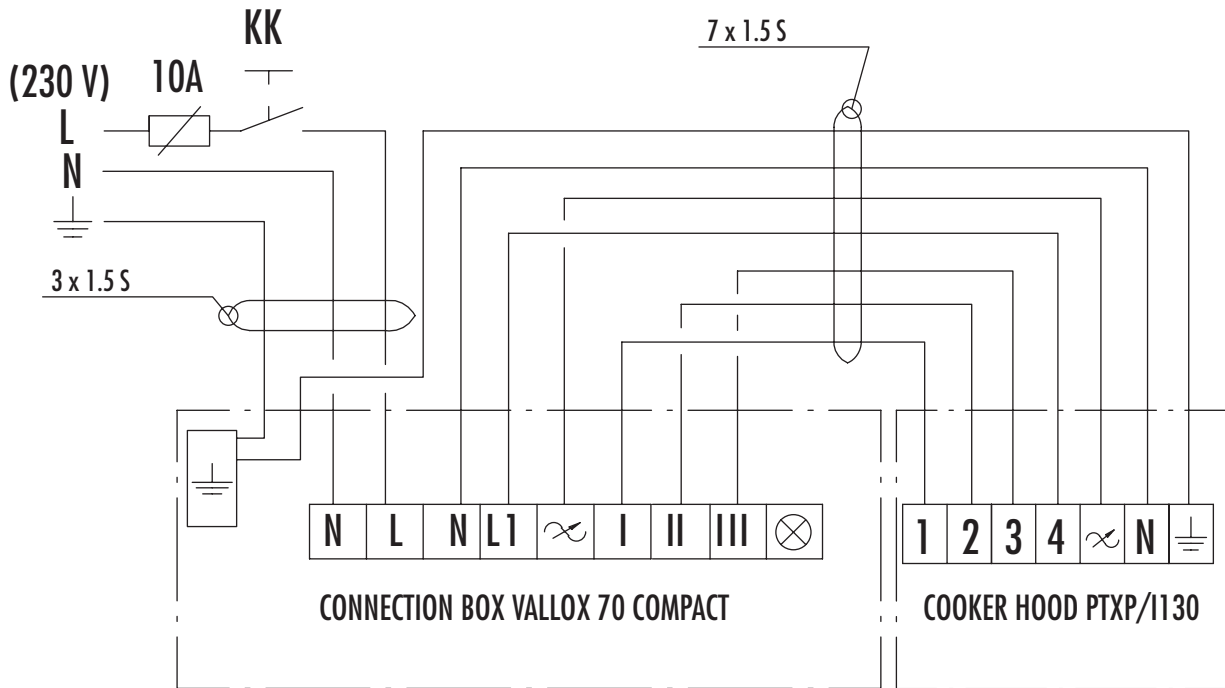
- |    |                       |     |  |
|----|-----------------------|-----|--|
| 1  | Supply fan            | T1  | Post-heating radiator regulating thermostat +0...+40 °C  |
| 2  | Extract fan           | T2  | Defrost thermostat +0...+10 °C   |
| K  | Capacitor             | SV  | Filter guard (option)  |
| M  | Autotransformer       | ML  | Filter guard indicator light   |
| TK | Safety switch         | TAK | Fireplace switch, (option).<br>For instance a 15-minute timer<br>with opening points.<br>Mounted to replace wire $\infty - \infty$ |
| KK | Operating switch      |     |  |
| JL | Post-heating radiator |     |  |
| EL | Preheating radiator   |     |  |



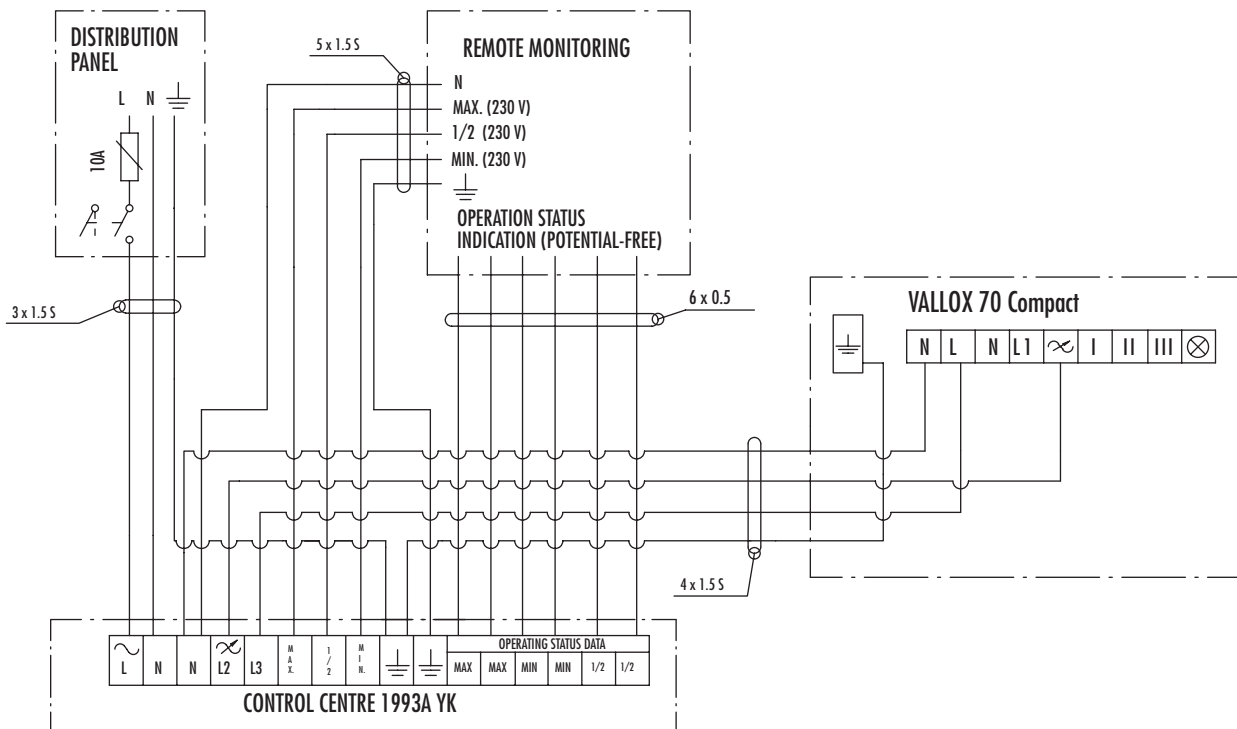
# VALLOX 70 COMPACT

## EXTERNAL ELECTRICAL DIAGRAMS

### VALLOX 70 COMPACT control with cooker hood PTPX /I 130



### Remote monitoring control with control centre 1993A YK



8095703A



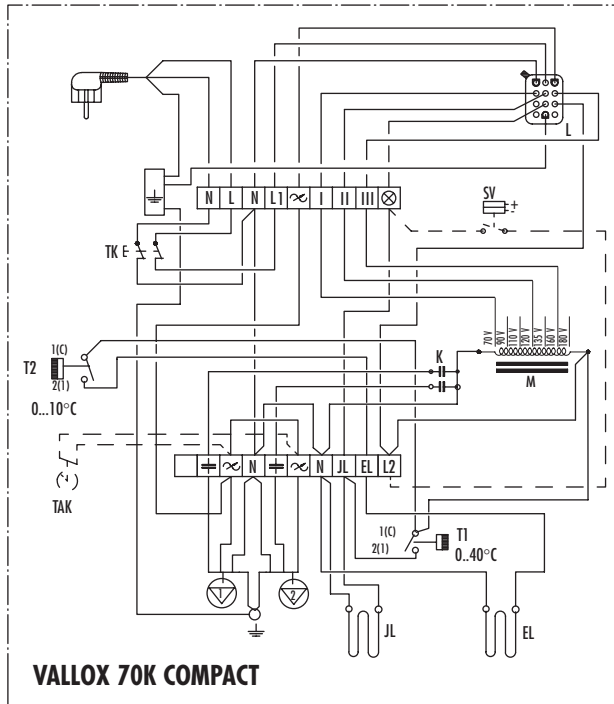
# VALLOX 70 COMPACT

## EXTERNAL ELECTRICAL DIAGRAMS

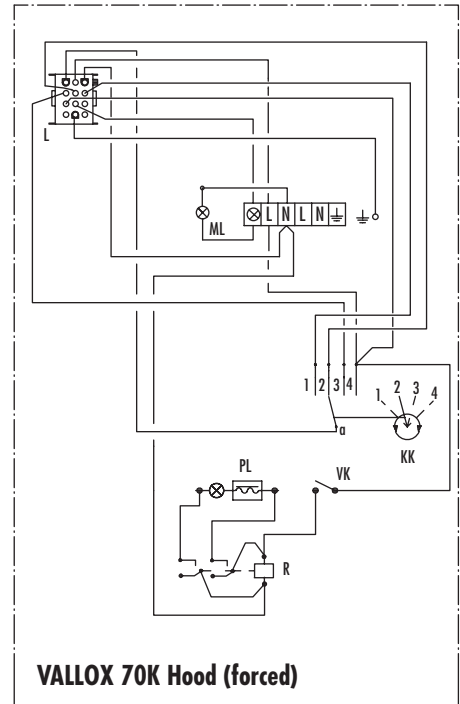
### VALLOX 70K COMPACT (cooker hood model) electrical connections

With forced cooker hood, pre- and post-heating radiator

- 1 Supply fan
- 2 Extract fan
- K Capacitor
- M Autotransformer
- TK Safety switch
- JL Post-heating radiator
- EL Preheating radiator
- T1 Post-heating radiator regulating thermostat +0...+40 °C
- T2 Defrost thermostat +0...+10 °C
- SV Filter guard (option)  
There is no wire between JL - ⊗ in unit with filter control
- KK Operating switch
- L Connector 12-pole
- PL Fluorescent lamp PL 11
- R Lighting relay
- VK Light switch
- ML Indicator lamp of filter control or post-heating
- TAK Fireplace switch, (option).  
For instance a 15-minute timer with opening points.  
Mounted to replace wire ∞ - ∞



VALLOX 70K COMPACT

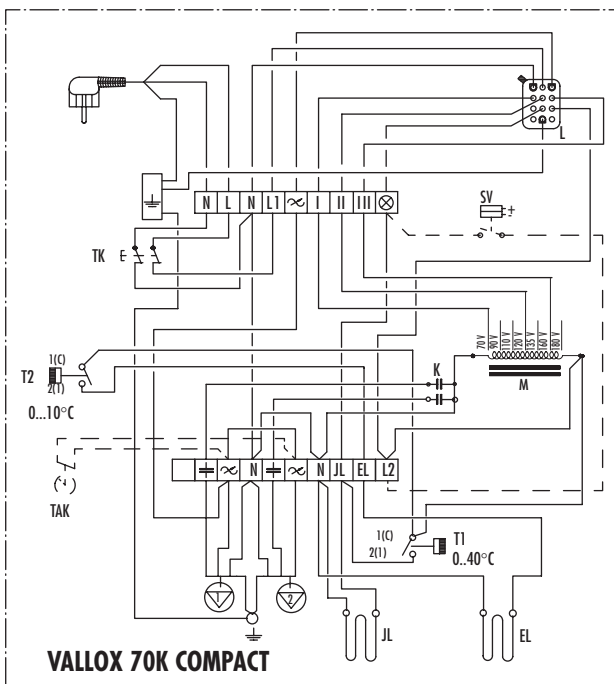


VALLOX 70K Hood (forced)

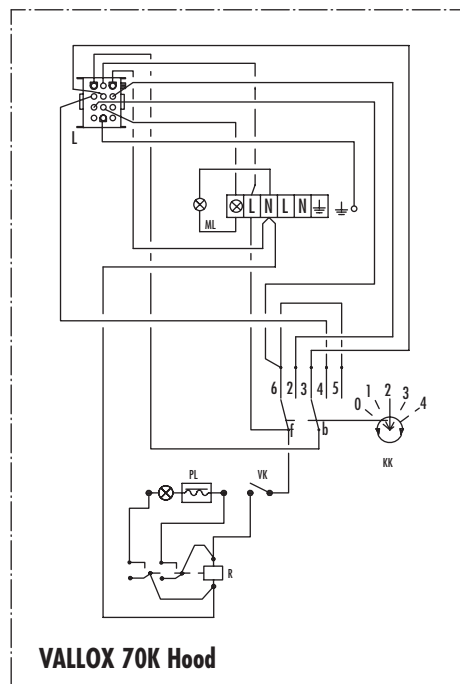
### VALLOX 70K COMPACT (cooker hood model) electrical connections

With pre- and post-heating radiator

- 1 Supply fan
- 2 Extract fan
- K Capacitor
- M Autotransformer
- TK Safety switch
- JL Post-heating radiator
- EL Preheating radiator
- T1 Post-heating radiator regulating thermostat +0...+40 °C
- T2 Defrost thermostat +0...+10 °C
- SV Filter guard (option)  
There is no wire between JL - ⊗ in unit with filter control
- KK Operating switch
- L Connector 12-pole
- PL Fluorescent lamp PL 11
- R Lighting relay
- VK Light switch
- TAK Fireplace switch, (option).  
For instance a 15-minute timer with opening points.  
Mounted to replace wire ∞ - ∞



VALLOX 70K COMPACT

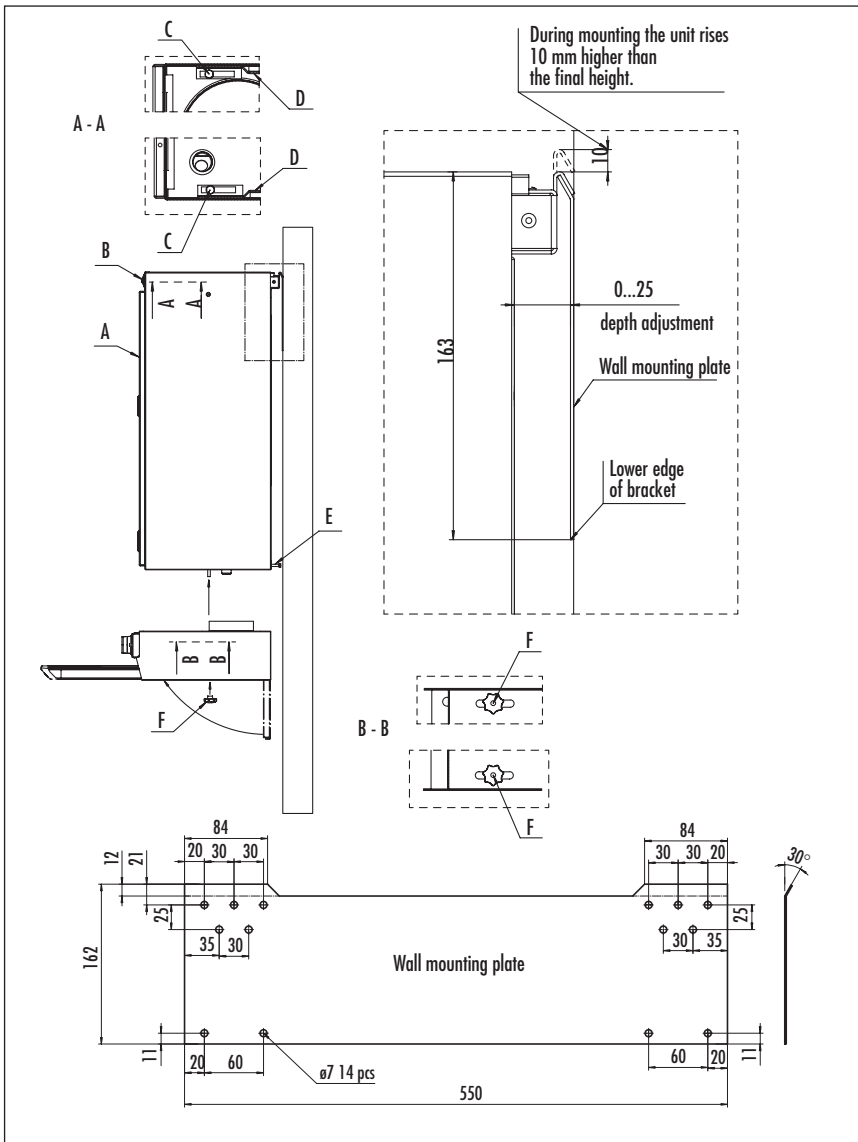


VALLOX 70K Hood

# VALLOX 70 COMPACT



## INSTALLATION



### Wall mounting

VALLOX 70 COMPACT is mounted in a place where temperature does not fall below +10 °C. Without protective casing, the unit has to be located in a place with no acoustic disturbance: storerooms, technical rooms etc.

VALLOX 70K COMPACT is mounted in the kitchen above the cooker. NOTE! Minimum distance of grease filter from cooker 480 mm.

### Wall construction

Pay attention to the wall construction when mounting the unit. Because of sound conduction, avoid mounting the unit on a hollow, echoing dividing wall or on a bedroom wall, or prevent sound conduction.

### Fixing

VALLOX 70 COMPACT / VALLOX 70K COMPACT is mounted on the wall with a fixing plate as shown in the adjacent figure. The units allow depth adjustment of circa 25 mm. Remove door A and upper moulding B; then open screws C, adjust depth as desired by sliding rail D, and tighten screws C. Adjust unit straightness with screws E.

### Hood mounting

In VALLOX 70K COMPACT, the hood is mounted directly below the unit. Open the knurled-head nuts F at the bottom of the unit and remove the transport support. Open the bottom plate of the hood with grease filter attached, lift the hood against the bottom of the ventilation unit, and fix the hood with the knurled-head nut F. It is possible to adjust the hood by ±10 mm in depth as compared to the ventilation unit.

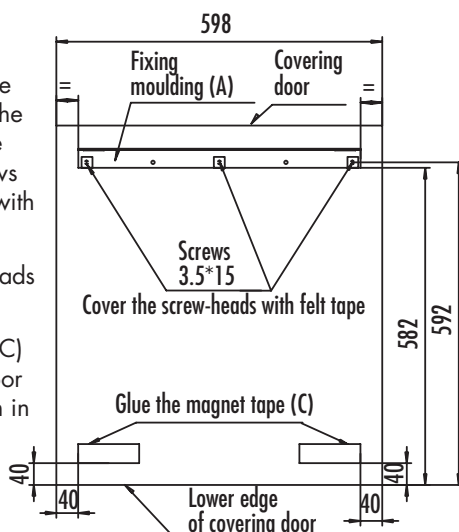
## VALLOX 70K COMPACT

### Mounting of covering door brackets

Fasten the fixing moulding (A) to the covering door at the point shown in the figure, using screws 3.5\*15 supplied with the unit.

Cover the screw-heads with felt tape.

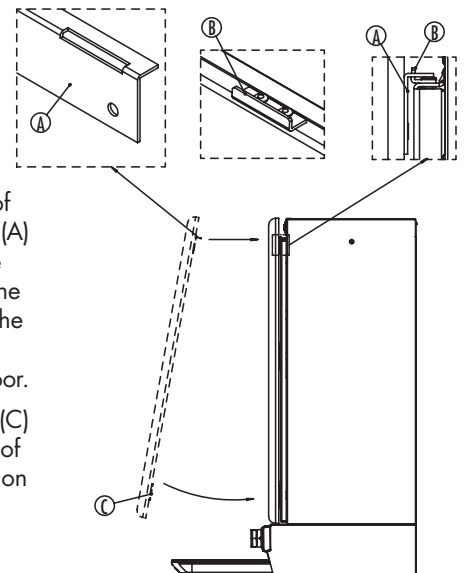
Glue the magnet (C) to the covering door at the point shown in the figure.



### Mounting of covering door

Insert the groove of the fixing moulding (A) at the upper of the covering door to the projections (B) at the upper edge of the ventilation unit's door.

Press the magnets (C) at the lower edge of the covering door on the door of the ventilation unit.





# VALLOX 70 COMPACT

## INSTALLATION

The condensing water pipe must have a downward slope.

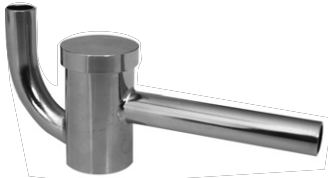
The condensing water pipe must never be connected directly to the sewer.

It is not recommended to connect a condensing water pipe to a water seal or a floor drain where hot washing or shower water goes.

(If hot washing water goes to the floor drain and condensing water seal gets dry during the summer, steaming air is released from the drain to the unit's negatively pressured outlet side, which causes water to condense from the air in the pipe. A condensed water drop may generate an audible sound from the floor drain. The sound may be generated in winter as well if the water seal of the condensing water pipe is not filled and does not prevent air from flowing.)

Air flow and the formation of water drops in the condensing water pipe should be prevented.)

### Vallox water seal "SILENT"

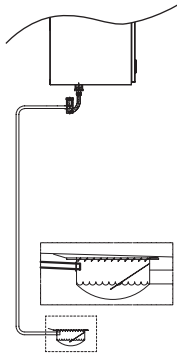


VALLOX SILENT non-return valve ensures a condensing water connection that will not gurgle.

### Examples of condensing water connections

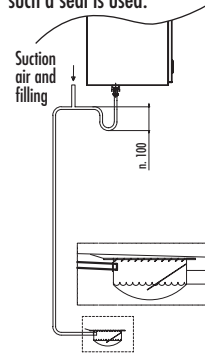
#### Normally to the floor drain through a non-return valve

The valve prevents air flow in the pipe but lets condensing water flow into the floor drain. No sound.



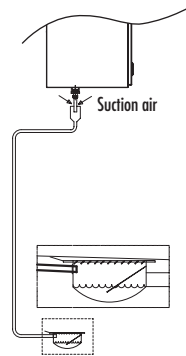
#### Normally to the floor drain

The pipe has a fork which decreases suction from the floor drain. No sound. Water seal not necessary. The fork can also be used to fill the water seal if such a seal is used.

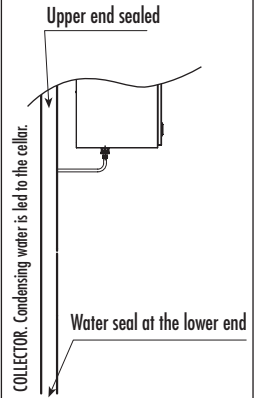


#### Normally to the floor drain through a funnel

No water seal. No sound because there is no suction in the pipe. The unit sucks replacement air from the funnel.

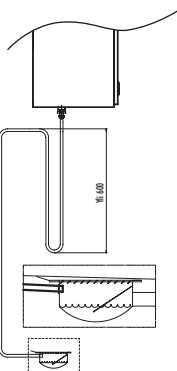


#### To the collector No sound. (Blocks of flats)



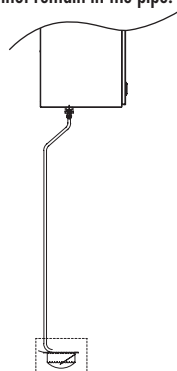
#### Normally to the floor drain with a long water seal

A long water seal ensures soundlessness for a long time.



#### Straight to the floor drain without a water seal

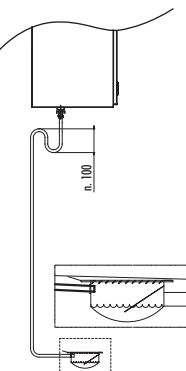
The downward slope of the pipe is so steep that a water drop generating sound cannot remain in the pipe.



#### Normally to the floor drain

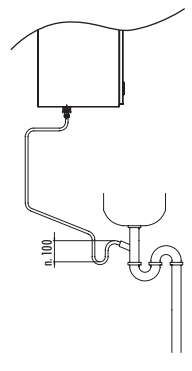
May generate sound when the water seal gets dry.

**When there is no condensing water, the water seal may get dry in 1 to 4 weeks.**



#### To the water seal in the wash basin

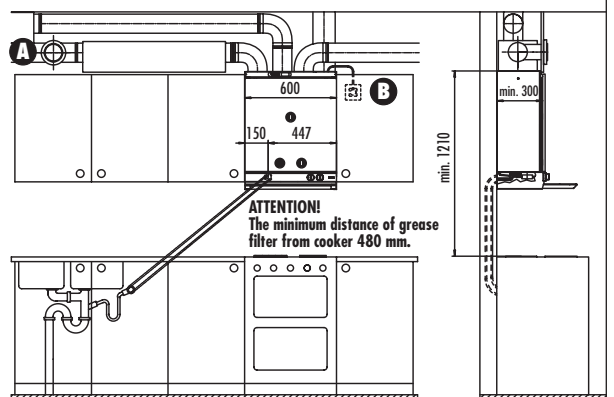
May generate sound when the water seal gets dry.



### VALLOX 70K Compact

#### ATTENTION!

- A** There must always be a separate outlet valve in the kitchen. Basic extraction is not possible through the hood when VALLOX 70K COMPACT is used. The cooker hood is used for boosted smoke abatement.
- B** VALLOX 70K COMPACT includes a 1.3-metre wire with a plug. In a model R unit the wire comes from the right side from the upper part of the unit. In a model L unit the wire comes from the left side from the upper part of the unit.



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