

TurboSwing filtering solution

Product description

TurboSwing filtering solution was developed for separating grease in professional kitchens. TurboSwing is based on rotary movement and efficiently removes grease particles from 2 µm.

The fast rotating separation plate isolates even the smallest particles and slings them at high speed to the outer edges of the separation chamber, from which grease and other impurities drain into the collection basin.

TurboSwing is suitable for energy-saving environments which use heat recovery and varying airflow, because the separation rate of TurboSwing remains high even when a small airflow is in use.

TurboSwing separates liquid grease and impurities and they are removed by means of a tap. This needs to be done once a week or less, depending on the kitchen workload.

During the annual check-up and cleaning of the exhaust channels the TurboSwing dome and separation plate can easily be removed and washed in a dishwasher.

TurboSwing is available for all Jeven cooker and supply air hoods and ceiling solutions.



Material

TurboSwing basic material is stainless steel, AISI 304. The separation plate has been treated with dirt and fat resistant nano-coating.

Accessories

FC control unit

Product marking

TurboSwing is always added to the Jeven extractor hood or supply air hood solution as follows.

Jeven Supply Air Hood JSI-R-Turbo 3000x1500x540 2x250 -2x315 + 250 l/s - 380 l/s + Control unit FC

The Cooker Hood or Supply Air Hood model

TurboSwing

Hood length x width x height

Total of supply air connections and their size

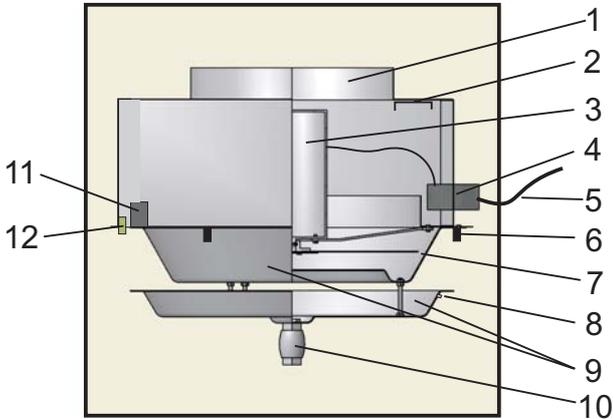
Total of exhaust air connections and their size

Supply air l/sec

Exhaust air total l/sec

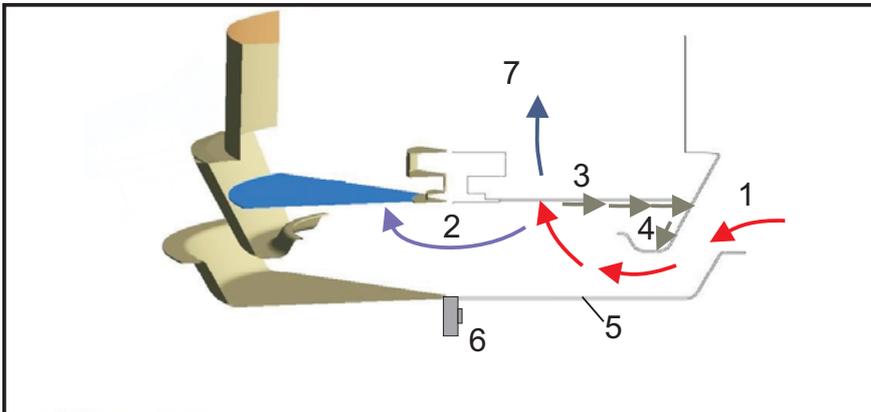
Accessories

Structure

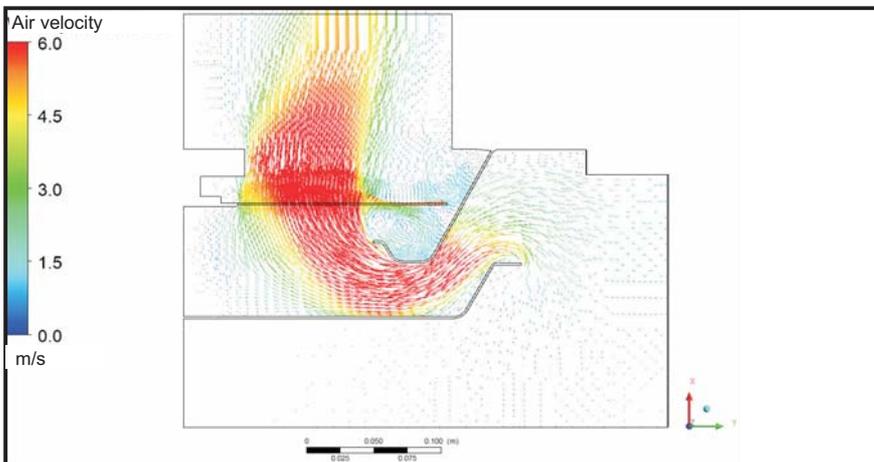


1. Collar saddle
2. Damper
3. Motor
4. Motor connection box
5. Motor cable
6. Dome fixing
7. Separation plate
8. Airflow measuring tap
9. Protective domes
10. Tap
11. Limit switch
12. Signal light

Operation principle



Dirty air enters the TurboSwing(1). The separation plate rotates (2), grease and impurities are separated (3) and moved (4) to the edges of the separation chamber from where they drain into the collection basin (5). Liquid grease is removed by turning on the tap (6). Cleansed air exits (7) to ducts.



The picture shows the air flowing through TurboSwing. Different colours and arrows are used to describe different airflow speeds and directions in different areas. All of the dirty air flows through the fast rotating separation plate. A sealing flow with vortices is formed on the edge of the separation plate, preventing the dirty air short-circuit flow into the exhaust.

Filtering efficiency

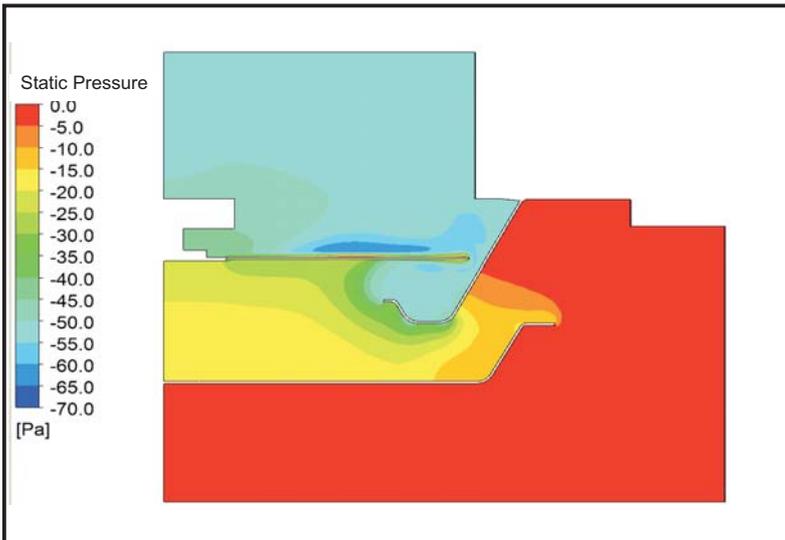
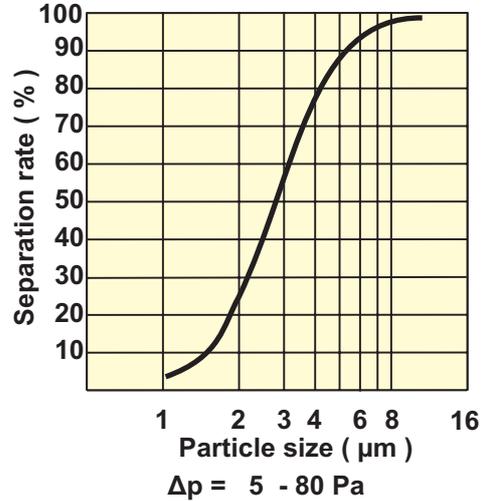
TurboSwing's high separation rate is based on the fast rotating separation plate.

In the separation plate the impurity particles collide with the surfaces of the plate holes and separate from the air flow, sticking to the separation plate surface for a moment. From the nano-coated separation plate the particles flow into the separation chamber with centrifugal force.

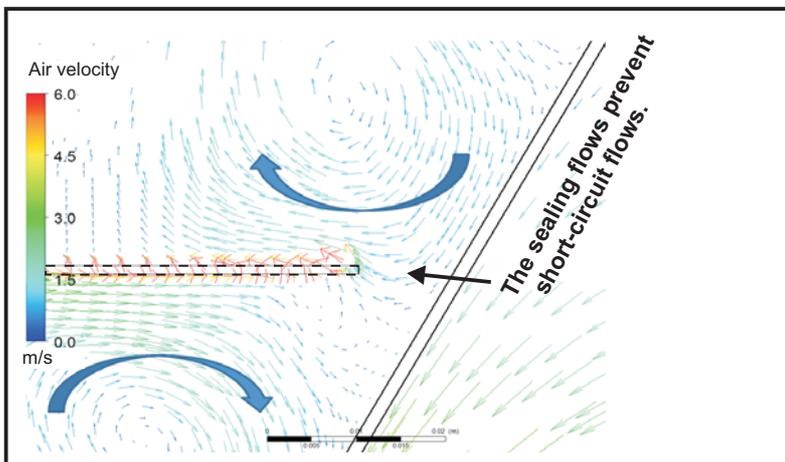
The sealing flows forming on the edges of the separation plate prevent short-circuit flows.

TurboSwing also filters grease in steam and gas form in normal air pressure, because the grease is condensed to the rotating separation plate due to the thin limit layers of the flow and the fast variations of the static pressure on the plate surface.

TurboSwing separation rate
(standard VDI 2052 Part 1)



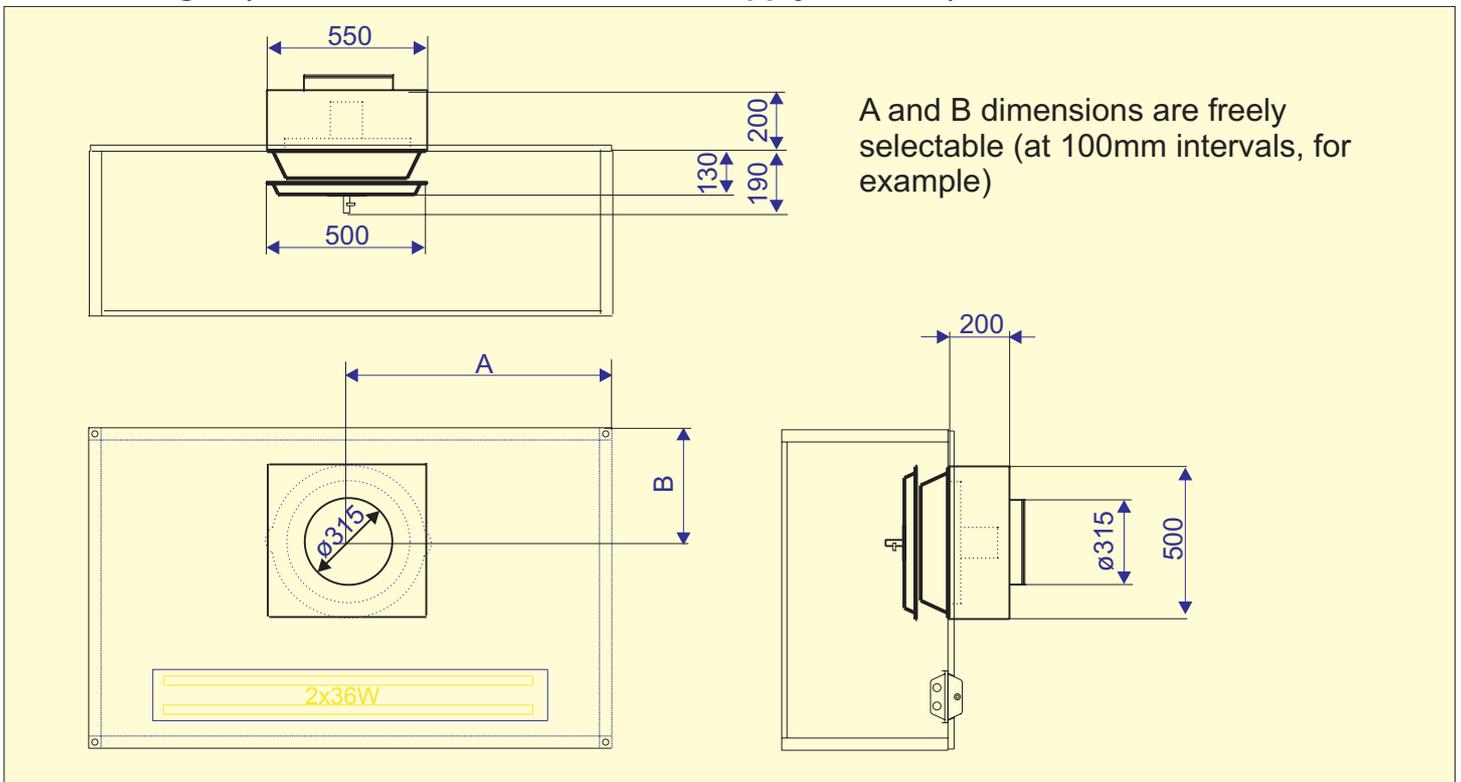
The picture shows fluctuation of static pressure of the flowing air in different colours during the TurboSwing separation process.



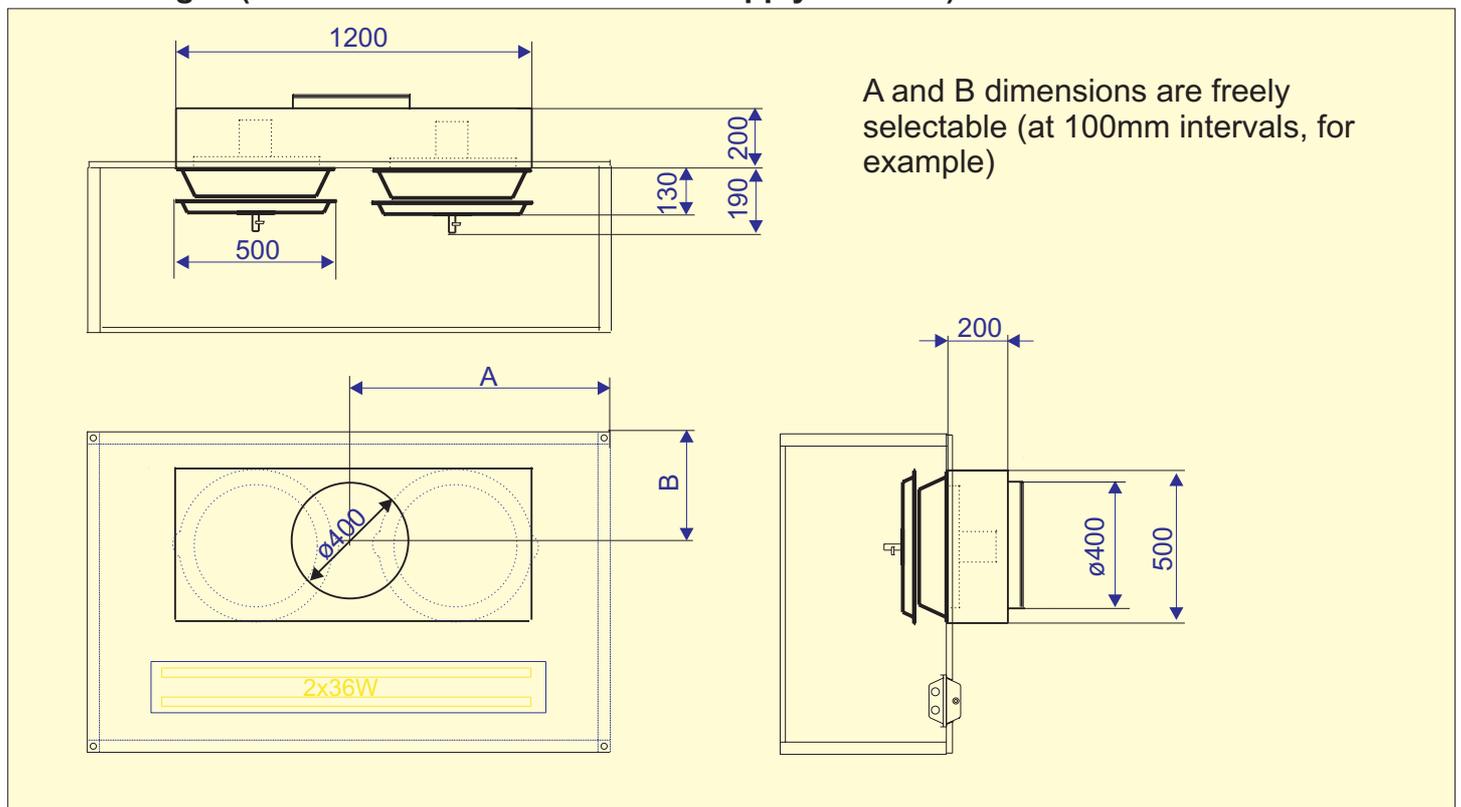
The picture shows the sealing flow forming on the edge of the separation plate.

Dimensions

TurboSwing 1 (with the cooker hood and the supply air hood)



TurboSwing 2 (with the cooker hood and the supply air hood)

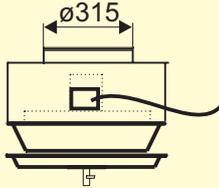


Exhaust flow rates

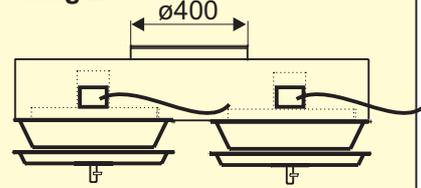
Operating areas

Product	Connection size Ø	Air volume		Pressure loss
	mm	l/s	m3/h	Pa
TurboSwing 1	315	0 - 200	0 - 720	0 - 60
TurboSwing 2	400	0 - 400	0 - 1440	0 - 60

TurboSwing 1



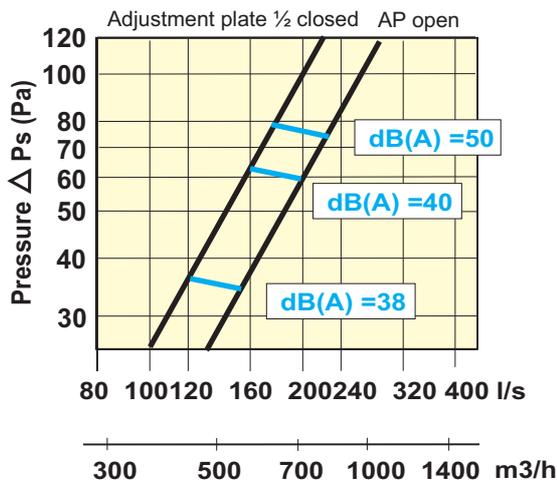
TurboSwing 2



Technical information

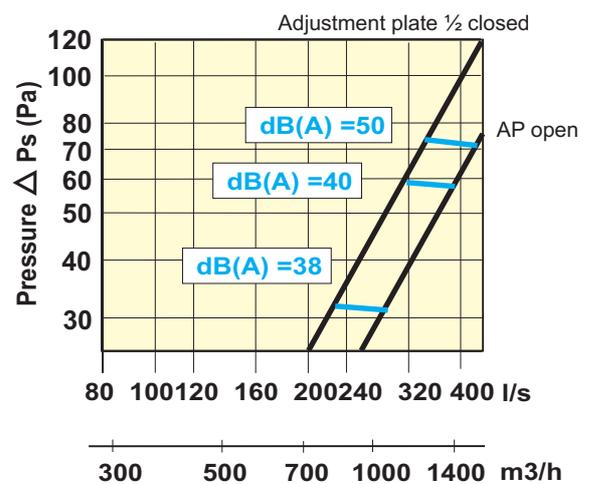
Pressure loss and noise information

TurboSwing 1



Pressure loss and noise information

TurboSwing 2



Noise output level, Lw

The noise output level according to octave band is achieved by adding correction K_{ok} to the noise level output L_{pA} according to the following formula
 $L_w = L_{pA} + K_{ok}$

Correction, K_{ok}

Hz	125	250	500	1000	2000	4000
K_{ok}	7	-1	-5	-5	-7	-6
tol.	±3	±3	±2	±2	±3	±4

Motor features

Power connection: 230V

Power consumption:

TurboSwing1 90W ; 0,40A

TurboSwing2 2x90W ; 0,80A

Protection grade: IP55

Insulating class: 155

CE- approved

Design service

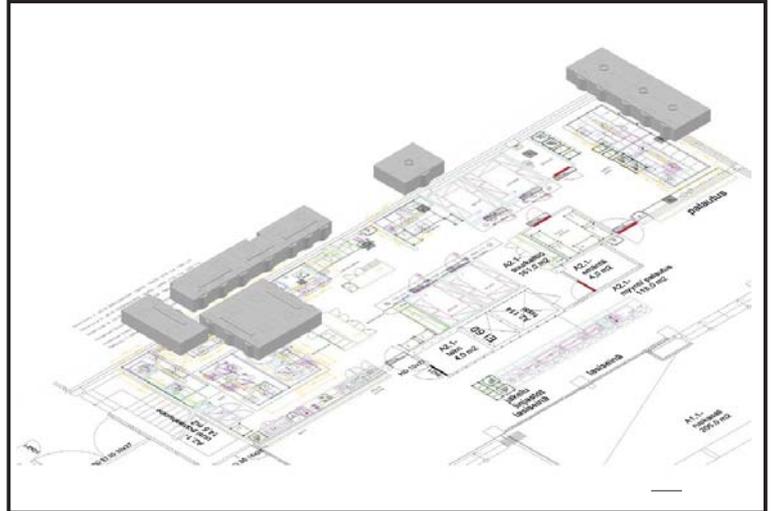
Our design service helps you to find functional and individual project-specific 2D or 3D solutions for your plans.

The design service speeds up your planning and improves quality.

You save time and increase the productivity at work!

Contact us at jeven@jeven.fi or +358 15 321 700 and send your kitchen layout with the appliance information. Our design service measures the airflows needed in the kitchen and provides you with detailed measurements and product information.

Our design service is free (€ 0)



Electrical planning instructions for TurboSwing

HPAC designer

Records in the plans the types and locations of the products to be wired.

Goes through the required cabling and the purchase of **safety switch (compulsory)** and appliance sockets, together with the electrical designer.

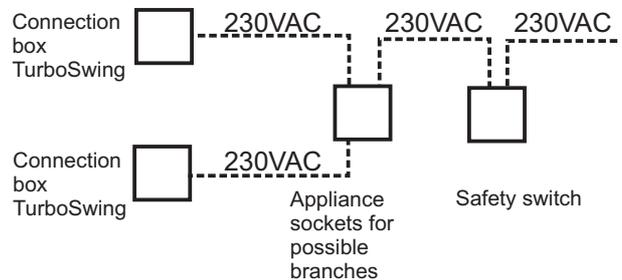
Electrical designer

Records in the plans the location of the **safety switch (compulsory)** and the required appliance sockets.

Records in the plans the wiring from the group switchgear to the safety switch.

Records in the plans the required wiring from the safety switch to the appliance sockets.

Goes through the required cabling and the purchase of safety switches and appliance sockets, together with the HPAC designer.



Safety switch is compulsory and it should be situated close to the hood in the kitchen.

The safety switch, appliance sockets and the cables marked with the broken line are not included in the Jeven delivery.

Control unit FC (Accessory)

Product description

TurboSwing's control unit was developed to ensure the correct air volumes in the kitchen ventilation and to make maintenance operations easier.

The control unit displays the airflows and pressure variations. The planned airflows are programmed into the unit, so any variations between the planned airflows and current airflows are easily noticeable.

In fault situations the screen displays the set alerts, including the ones for airflow and pressure.

Contact details for the designated maintenance engineers can be stored in the unit for the kitchen staff.

TurboSwing's FC control unit has a touch screen built into the hood's front cover, a control centre and pressure transmitters.



Functions

Switches TurboSwing on and off. Displays the current/planned airflows and pressure losses. Displays the set alerts.



Electrical planning instructions for the TurboSwing control unit.

HPAC designer

Records in the plans the types and locations of the products to be wired. (TurboSwing, control centre and touch screen). Goes through the required cabling and the purchase of **safety switch (compulsory)** and appliance sockets, together with the electrical designer.

Turboswing connection boxes, control centre, touch screen and pressure transmitters are already in the cooker hood. Cables for these are included separately in the delivery. One Turboswing control centre (and touch screen) can serve maximum five TurboSwing motors.

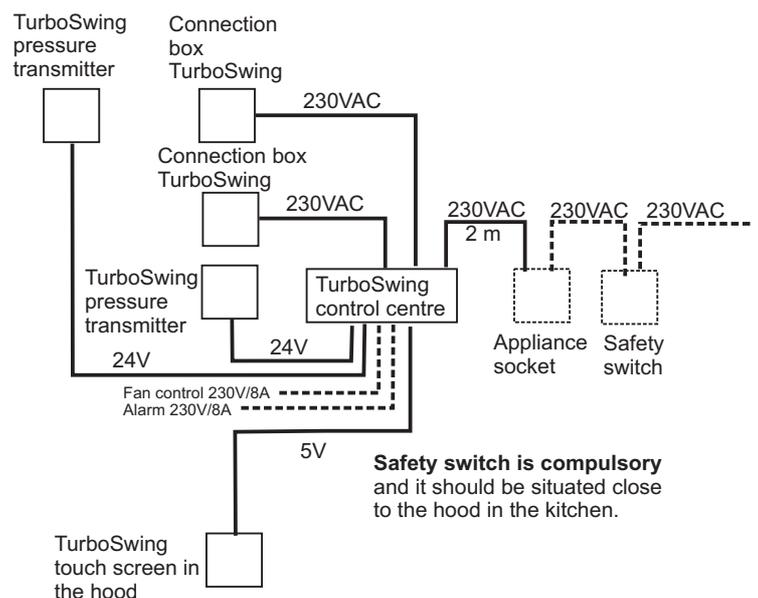
Electrical designer

Records in the plans the location of the **safety switch (compulsory)** and the required appliance sockets.

Records in the plans the wiring from the group switch gear to the maintenance switch.

Records in the plans the required wiring from the safety switch to the appliance sockets.

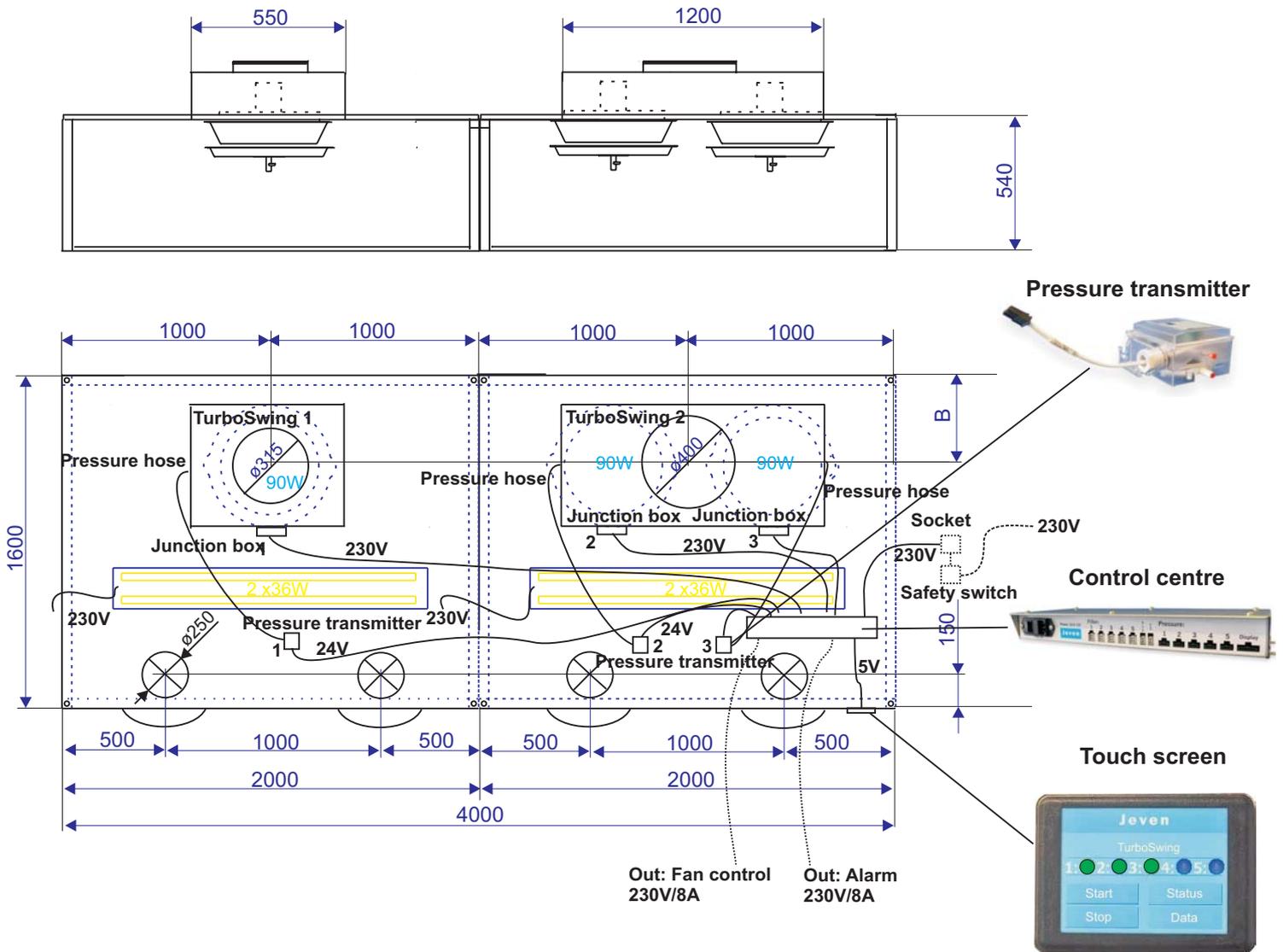
Goes through the required cabling and the purchase of safety switches and appliance sockets, together with the HPAC designer.



Safety switch is compulsory and it should be situated close to the hood in the kitchen.

Safety switch, appliance socket and the cables marked with the broken line are not included in the Jeven delivery.

Example



JSI-R-TURBO 4000x1600x540 -4x250 -1x400-1x315 +400 l/s -550 l/s+ Control unit FC

Pressure transmitters, control centre, touch screen, pressure hoses and their cables are ready-made in hood modules.

Cables from module to other module shall connect on the site.

The safety switch, the socket and their cables are not included in Jeven delivery.

Fan control cables and alarm cables are not included in Jeven delivery.