

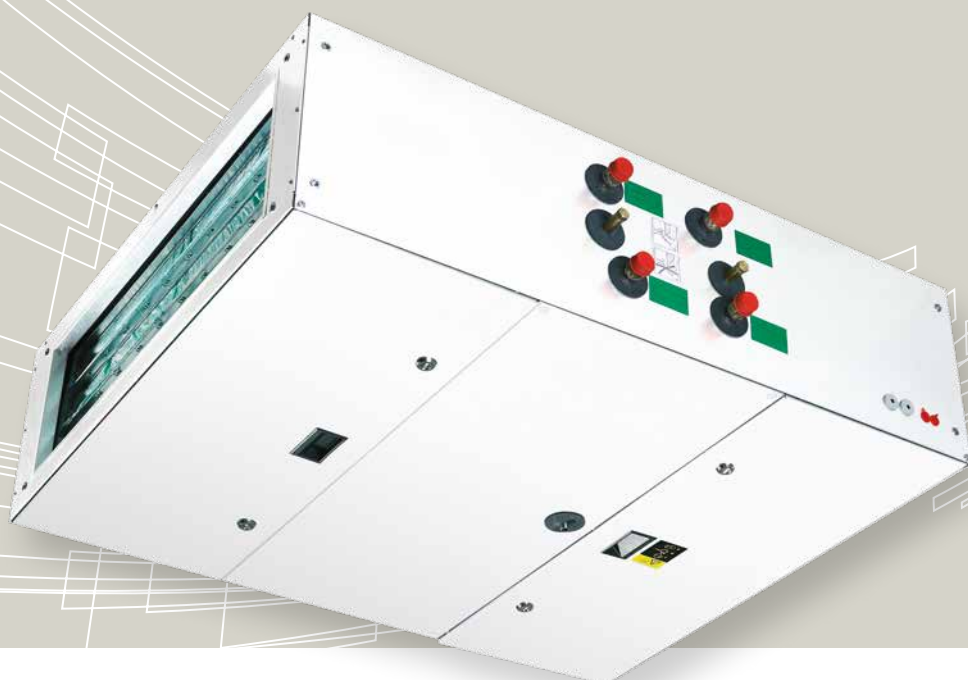
 AIR COMFORT

AIR TREATMENT

VEKA ver C

VEKA ver C™ SUPPLY AIR UNIT

» TECHNICAL DATA





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DESCRIPTION

DESCRIPTION

VEKA is an air treatment unit with a low overall height and offers the right solution when the installation space is limited. VEKA is available in two sizes.

VEKA can be supplied with the following combinations of components installed inside the casing:

- Filter + fan
- Filter + air heater/cooler + fan
- Filter + air heater + air cooler + fan

A sound attenuator and an electrical heater are installed in the duct.

DESIGN

The unit is made of galvanized sheet steel and the outside is painted white. The casing is insulated with 25 mm mineral wool. VEKA can be placed visible.

The recessed handles provide a smooth surface. VEKA has large service hatches equipped with locking handles that can be opened with tools.

VEKA is hygienic and easy to clean thanks to its smooth inside.

EXTERIOR DIMENSIONS

VEKA is a compact unit with small dimensions. The height is only 355 mm, and the combination of a filter + air heater + fan is only 1 000 mm long. Thanks to the small dimensions, VEKA is easily positioned, e.g. above a false ceiling.

ALTERNATIVE INSTALLATION

VEKA is normally installed hanging it from the ceiling.

The unit is arranged so that the service hatches open downwards. Therefore no service space is required next to the unit. Suspension loops are supplied for use in installation.

VEKA without cooling coil can also be installed on a wall with a horizontal or vertical air direction.

APPLICATIONS

VEKA is a supply air unit for ventilation of business premises, cafés, service stations or similar premises. VEKA is also suitable as a circulation unit, for heating or cooling.

CONTROL SYSTEM

VEKA can be ordered with integrated control platform Curo for 1-phase connection, with the additional ability to control an external exhaust air fan.

The VEKA unit can also be ordered without a control equipment.



Fan and short filter (cc = 12)



Fan and long filter (cc = 13)

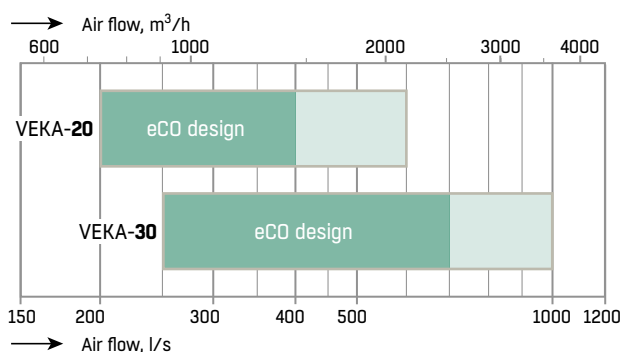


Fan, heating or cooling coil and long filter (cc = 14)



Fan, heating and cooling coil and long filter (cc = 15)

QUICK SELECTION AIR FLOW DIAGRAM

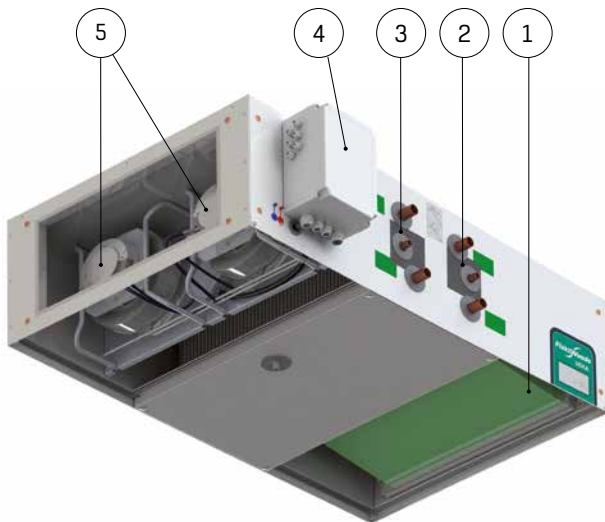


eCO Design applies only when the unit is used for supply air to provide the building with fresh air.

eCO Design is not applicable when the unit is used for circulation.

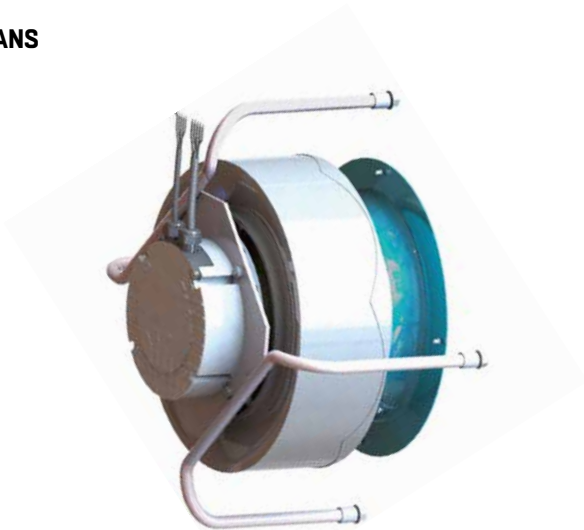
COMPONENTS

COMPONENTS



1. Filter
2. Heating coil, water
3. Cooling coil, water
4. Control box
5. Fans

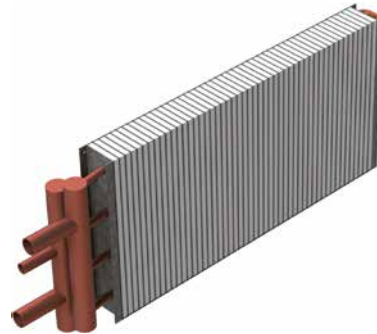
FANS



VEKA gives you top performance and overall economy combined with low noise levels. The high efficiency plug fans are powered by energy saving EC motors. The unit has measuring nipples for air flow measurement.

Air flow indicator VEKZ-27 is available as an accessory.

HEATING AND COOLING COIL, WATER



Heat exchangers with copper tubes and aluminum fins. The heating coil are available with 2 or 3 pipe rows.

The cooling coil has 4 pipe rows and is provided with a stainless steel drip tray with an outlet on the bottom of the unit.

A unit with cooling coil has to be mounted horizontally and with the service hatches facing downwards.

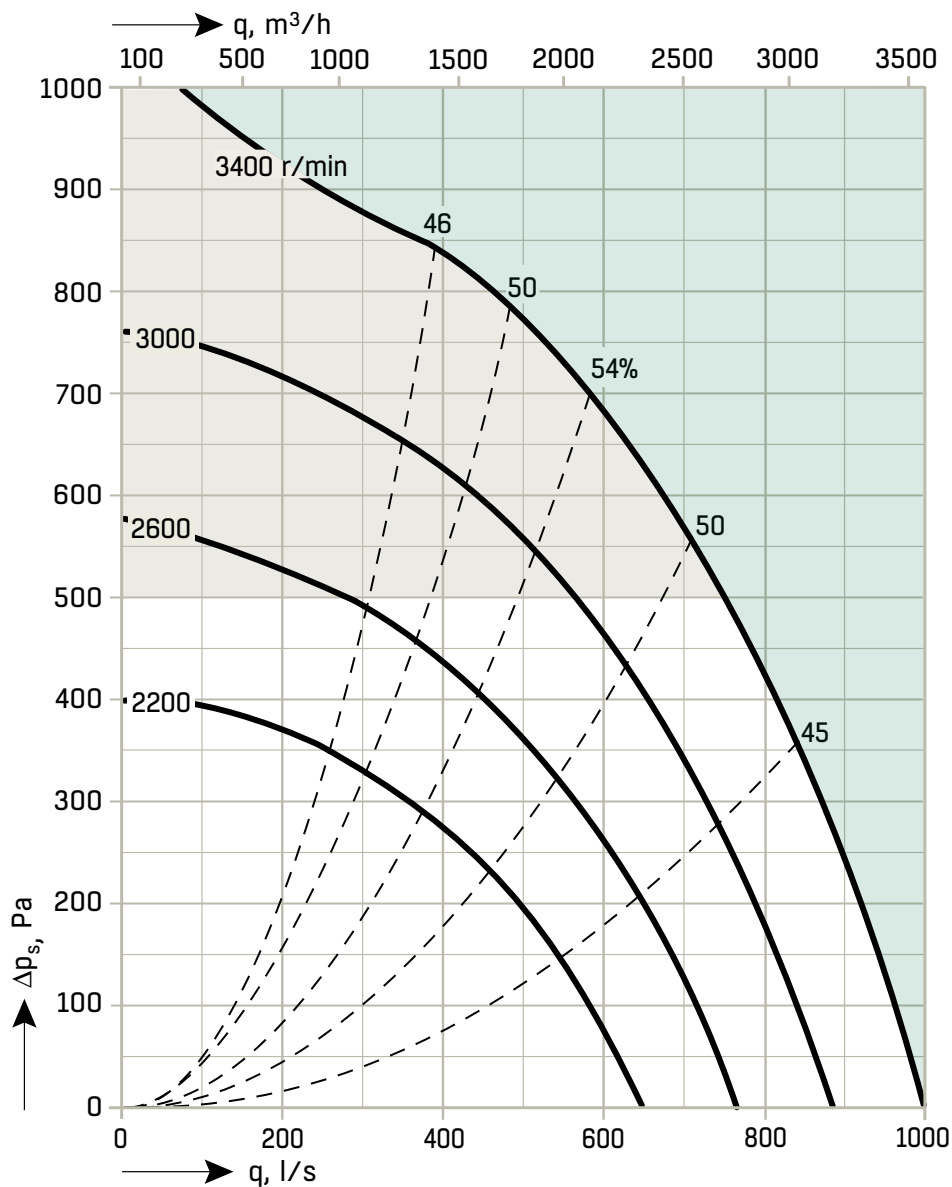
FILTER



VEKA is provided with a bag filter that is available in two lengths. Good sealing around the filter is achieved with a clamping device, which presses the filter frame against a soft rubber gasket.

TECHNICAL DATA - SIZE 20

FAN WITH EC MOTOR 0,77 kW (0,385 kW x 2)



FAN DIAGRAM

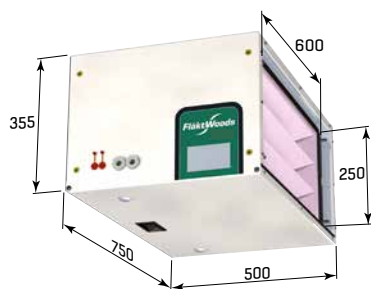
The graph is intended to provide an overview showing the fans pressure, air flow and efficiency. Exact data can be found in our unit selection program, Acon.

Pressure drop through the filter and any coils must be added to the external pressure drop.

TECHNICAL DATA - SIZE 20

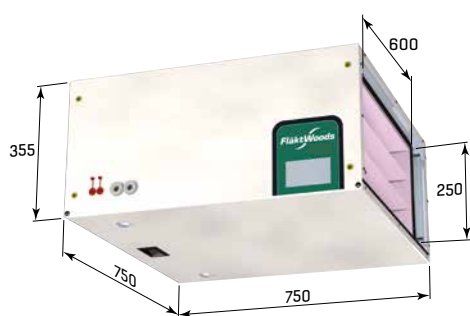
DIMENSIONS AND WEIGHT

Fan and short filter (cc = 12)



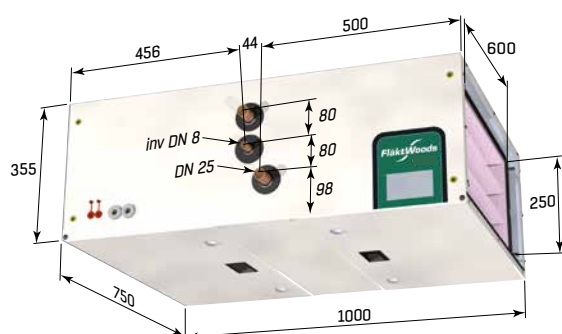
Weight: 50 kg

Fan and long filter (cc = 13)



Weight: 55 kg

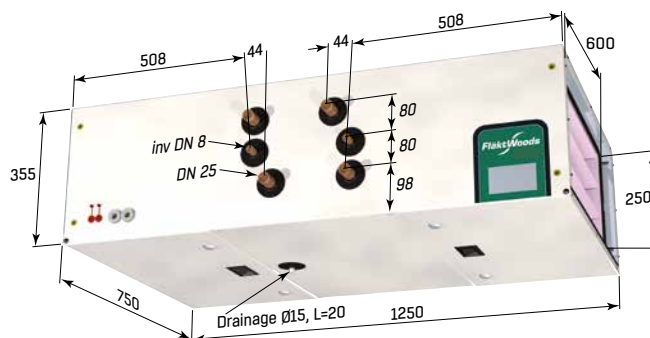
Fan, heating or cooling coil and long filter (cc = 14)



Weight: 70 kg

The pictures shows the unit in left hand version.

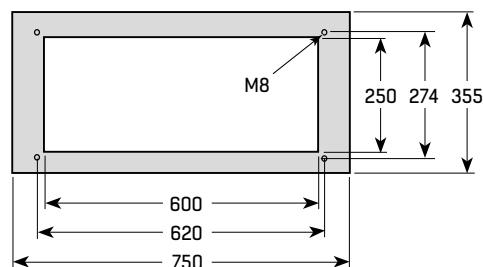
Fan, heating coil and cooling coil and long filter (cc = 15)



Weight: 80 kg

The pictures shows the unit in left hand version.

CONNECTION DIMENSIONS, INLET AND OUTLET



FILTER DATA

Filter	Filter size	Filter length
Short filter cc = 12	287 x 592	120
Long filter, cc = 13, 14, 15	287 x 592	360

Dimensions in mm.

ELECTRICAL DATA

The mains supply cable must be fitted with an external safety switch, which can cut the current to the entire unit.

Ambient temperature during operation 0 - 40° C

Main supply 1 x 230 V. Fuse protection 10 A.

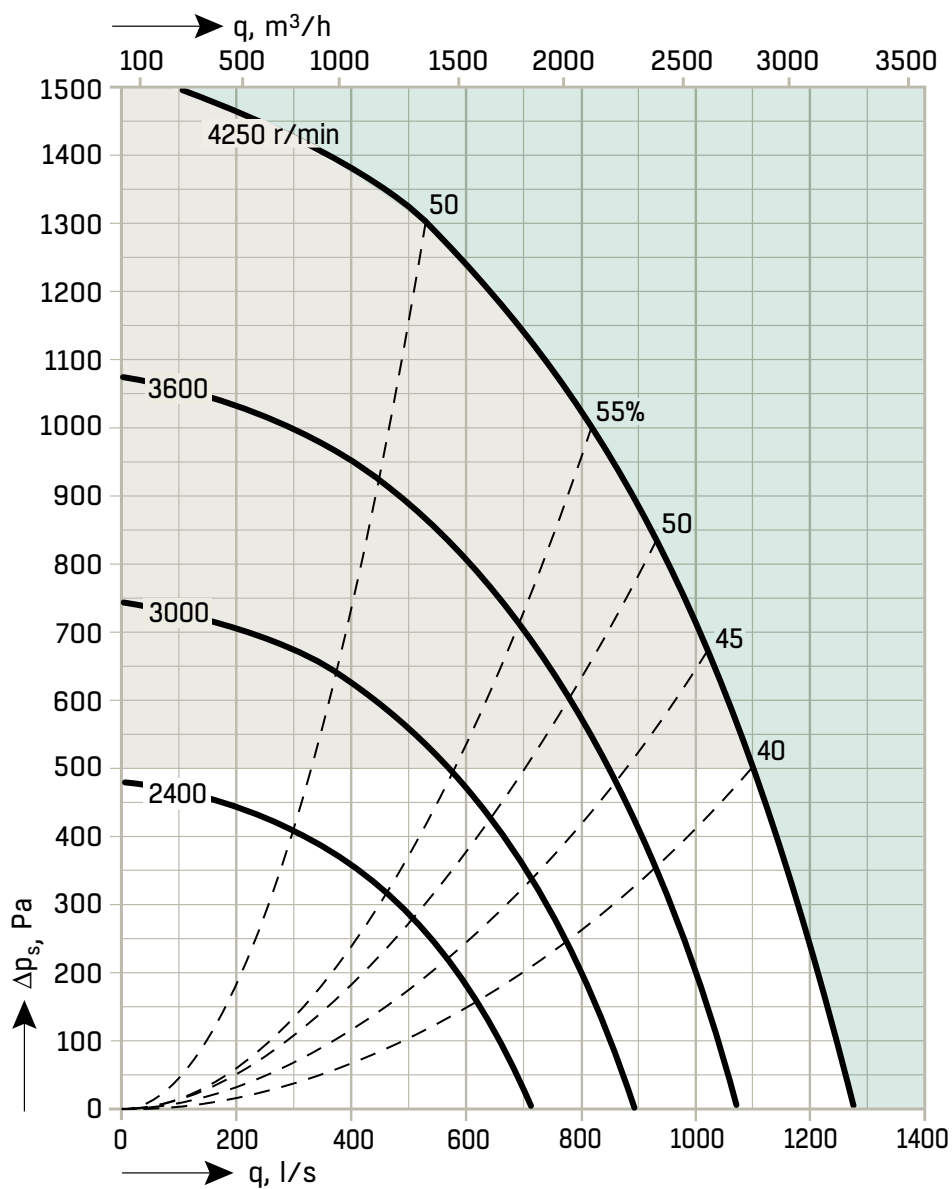
Motor data		
0,77 kW (0,385 kW x 2)	5 A (2,5 A x 2)	1 x 230 V

Electrical heater ¹⁾	Power, kW	Current, A	Voltage, V
	9	13	3 x 400
	15	22	3 x 400
	21	30	3 x 400

¹⁾ Electrical heater has separate supply.

TECHNICAL DATA - SIZE 30

FAN WITH EC MOTOR 1,5 kW (0,75 kW X 2)



FAN DIAGRAM

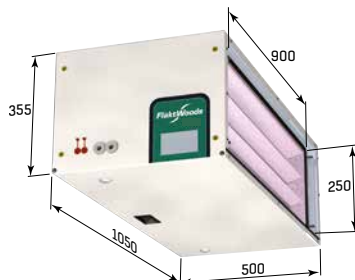
The graph is intended to provide an overview showing the fans pressure, air flow and efficiency. Exact data can be found in our unit selection program, Acon.

Pressure drop through the filter and any coils must be added to the external pressure drop.

TECHNICAL DATA - SIZE 30

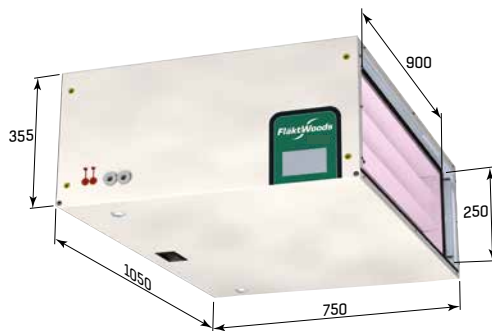
MÅTT OCH VIKT

Fläkt och kort filter (cc = 12)



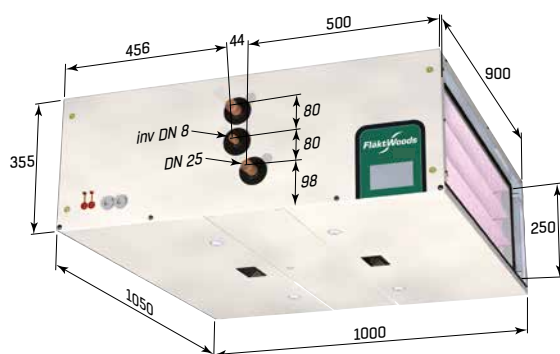
Weight: 65 kg

Fläkt och långt filter (cc = 13)



Weight: 70 kg

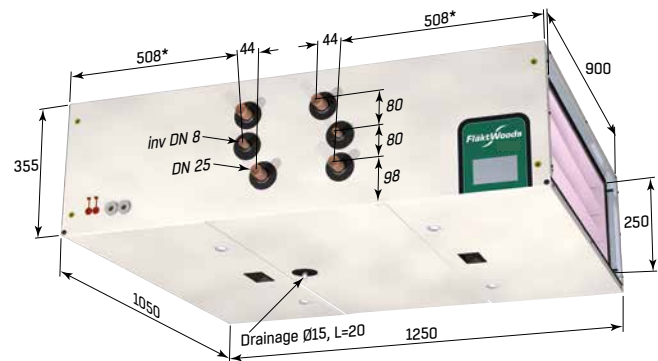
Fläkt, värme- eller kylbatteri och långt filter (cc = 14)



Weight: 85 kg

The pictures shows the unit in left hand version.

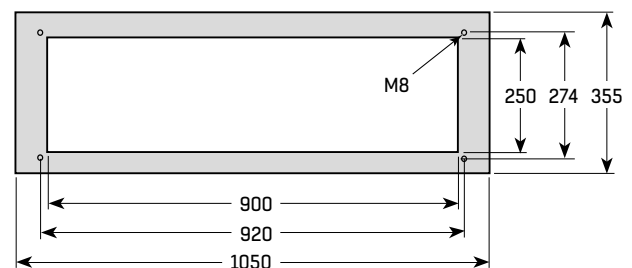
Fläkt, värmebatteri, kylbatteri och långt filter (cc = 15)



Weight: 100 kg

The pictures shows the unit in left hand version.

ANSLUTNINGSMÅTT, IN- OCH UTLOPP



FILTER DATA

Filter	Filter size	Filter length
Short filter cc = 12	287 x 892	120
Long filter, cc = 13, 14, 15	287 x 892	360

Dimensions in mm.

ELECTRICAL DATA

The mains supply cable must be fitted with an external safety switch, which can cut the current to the entire unit.

Ambient temperature during operation 0 - 40° C

Main supply 1 x 230 V. Fuse protection 10 A.

Motor data		
1,5 kW (0,75 kW x 2)	6,6 A (3,3 A x 2)	1 x 230 V

Electrical heater ¹⁾	Power, kW	Current, A	Voltage, V
	24	35	3 x 400

¹⁾ Electrical heater has separate supply.

ACCESSORIES

VEEK - ELECTRICAL HEATER, DUCT MOUNTED



Electrical heater, VEEK, for duct mounting. The casing is made of aluminum zinc coated steel sheet with heating elements in stainless material, EN 1.4541.1. The electrical heater casing has an air gap insulated heat shield and is provided with a PG connection. VEEK has a built-in thyristor control. The maximum permissible operating temperature for outgoing air is 40° C, and the ambient temperature of the heater must not exceed 30° C. It is equipped with automatic and manual overheating protection.

The electrical heater is available in 9, 15 and 21 kW output variants for VEKA size 20, and in a 24 kW output variant for VEKA size 30. Separate main supply 3 x 400 V. IP class 43. The heater can be mounted in a horizontal or vertical duct with the connection box to the side. Mounting with the connection box facing upwards or downwards is NOT permitted.

The air velocity over the front area of the heater must not be less than 1.5 m/s.

The output is regulated from an external control signal 0 – 10 V DC, with so-called time-proportional regulation (Pulse/Pause method). This gives very accurate temperature regulation. The heater has an alarm output with volt free contact, which indicates tripped overheating protection. The control circuit must be interlocked over the fan.

VEEK-aa-bb-c-d-3

Storlek aa	Effektvariant bb	Anslutning mm	Effekt kW	Yttre dimension mm (B x H x L)	Vikt kg	Min. luftflöde m ³ /s	Max. strömförbrukning vid 400V AC, A
20	11	600x250	9	769x288x800	30	0,225	13
20	12	600x250	15	769x288x800	35	0,225	22
20	13	600x250	21	769x288x800	40	0,225	30
30	23	900x250	24	1069x288x800	48	0,338	35

VELD - SOUND ATTENUATOR, DUCT MOUNTED



Rectangular sound attenuator VELD has an uninsulated casing made of hot-dip galvanized steel sheet. The built-in baffles have a surface made of Cleantec to avoid fibers to be carried into the airstream. Duct connections are provided with a PG connection. The baffle has a filling of glass wool for high attenuation in the low frequency ranges.

The attenuator can be used on both inlet and outlet.

VELD-aa-b-1

Storlek aa	Anslutning mm	Längd mm	Vikt kg
20	600x250	950	16
20	600x250	1250	20
30	900x250	950	21
30	900x250	1250	28

ACCESSORIES

VEVA – SHUT-OFF DAMPER, DUCT MOUNTED



Rectangular shut-off damper with PG connection for duct installation directly to the inlet of the unit. Made of galvanized steel sheet. Can be provided with an on/off spring return actuator.

Storlek aa	Connection mm	Length mm
20	600x250	120
30	900x250	120

VEKZ-53 - CONVERTER FROM PG TO FLANGE



Size aa	Connection mm	Length mm
20	600x250	100
30	900x250	100

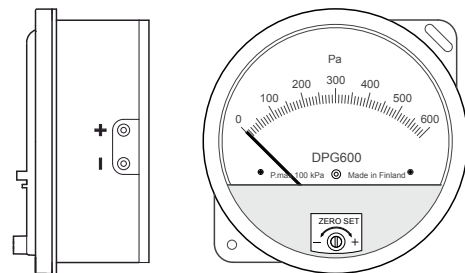
VEKZ-51 - FLEXIBLE CONNECTION



Flexible connection in fibre glass for connection of ducts.

Size aa	Connection mm	Length mm
20	600x250	120
30	900x250	120

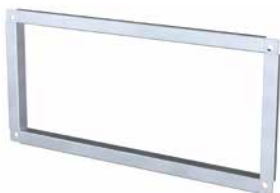
VEKZ-27 - AIR FLOW INDICATOR



Manometer for air flow measurement. Connects to nipple on the unit.

Delivered separately.

VEKZ-52 - COUNTERFLANGE



Used to mount a duct directly to the unit.

Size aa	Connection mm	Length mm
20	600x250	30
30	900x250	30

CONTROL SYSTEM

GENERAL

VEKA can be supplied with integrated control platform Curo including the Curo Touch control panel.

The Curo platform has been developed to be easy to use.

The control system can communicate via Modbus RS485 or Modbus TCP/IP.

Functions that are ordered together with the unit are activated and configured from factory. Some functions are possible to activate on site.



STANDARD FUNCTIONS

- Supply air control
- Fan control (3 speed)
- Frost protection sensor; units with hot water coil
- Schedules
- Control circuit for pumps, max 2A
- Inlet for external fire alarm

FUNCTIONS THAT CAN BE ACTIVATED ON SITE

- Outdoor air temperature compensation (not together with room control)

ACCESSORIES

- Filter monitor
- Room control
- Extended / forced operation through external timer or PIR

FAN SPEED CONTROL

The fans in the unit have three different speeds: Low, Normal and High. Switching fan speed is carried out using schedules, an external timer, push button or PIR.

TEMPERATURE CONTROL

Following options are available:

Supply air control

Maintain the supply air temperature.

Room control (accessory)

Maintain the room temperature through cascade control of the supply air temperature with minimum and maximum limitation.

OUTDOOR TEMPERATURE COMPENSATION

The supply air temperature set point is changing depending on the outdoor air temperature. Not in combination with room control.

CONTROL OF POST HEATER

Control signal 0-10 V for valve actuator or electrical heater with a built-in thyristor.

FREEZE PROTECTION

The valve is controlled to keep the water return temperature above 15°C. If the temperature drops below 7°C the unit is stopped and an alarm is generated. When the unit is not in operation the water temperature is maintained at 25°C.

CIRCULATION PUMPS

The control system can start and stop circulation pumps for heating and cooling. The pumps start up every 24 h for a test run. The maximum current for both pumps is 2A.

CONTROL OF COOLING COIL

Control signal 0-10 V for valve actuator or a start signal for a cooler with direct expansion, DX.



CONTROL SYSTEM

FIRE PROTECTION

A separate fire protection system can be connected to stop the unit. Smoke detectors and fire dampers can not be connected directly to the air handling unit, a separate fire system is needed.

COMMUNICATION

The control system can communicate via Modbus RS485 or Modbus TCP/IP.

FILTER MONITOR VEKZ-88 (ACCESSORY)

Generates an alarm if the pressure drop over the filter exceeds the set point.

EXTENDED/FORCED OPERATION, EXTERNAL TIMER VEKZ-91 (ACCESSORY)

External timer, 0-5 hours.

EXTENDED/FORCED OPERATION, PIR VEKZ-92 (ACCESSORY)

Delivered separately for mounting on site.

SAFETY SWITCH VEKZ-89

16 A, delivered separately for mounting in connection to the unit.

VALVE/ACTUATOR FOR HEATING/COOLING COIL VEKZ-70

Delivered separately for mounting on site.

PRODUCT CODE

Supply air unit

VEKC-aa-b-cc-d-e-f-g-h-i-jj

Unit size (aa) _____
20,30

Connection side (b) _____
1 = right
2 = left

Unit length (cc) _____
12 Fans + Filter short (120)¹⁾ (L = 500)
13 Fans + Filter long (360) (L = 750)
14 Fans + Heating **or** Cooling + Filter (L = 1000)
15 Fans + Heating **and** Cooling + Filter (L = 1250)
¹⁾ Only with g = 0 and h = 0

Fans, motor (d) _____
7 = size 20, 0.75 kW, 230/400V, 3-phase motor
8 = size 30, 1.5 kW, 230/400V, 3-phase motor

Control system (e) _____
0 = without
1 = Curo with control panel Curo Touch

Fan speed control (f) _____
1 = standard, 3-speed

Hot water coil (g) _____
0 = without
2 = 2 pipe rows
3 = 3 pipe rows

Cooling coil (h) _____
0 = without
4 = 4 pipe rows²⁾
²⁾ Not together with g = 3

Filter (i) _____
0 = without
1 = G3, 120 mm
2 = G3, 360 mm
3 = M6, 360 mm

Language (jj) _____
01 = swedish
02 = german
03 = english
04 = finnish
07 = french
11 = italian

Shut-off damper

VEVA-aa-b-1

Unit size (aa) _____
20, 30

Insulation of frame (b) _____
0 = without
1 = with

Damper actuator

VEKZ-87-1

Type (a) _____
1 = on/off with spring return, 15 Nm, 24 VAC

Electrical heater

VEEK-aa-bb-c-d-3

Unit size (aa) _____
20, 30

Power (bb) _____
11 = size 20, 9 kW
12 = size 20, 15 kW
13 = size 20, 21 kW
23 = size 30, 24 kW

Voltage (c) _____
2 = 3 x 400 V

Control (d) _____
2 = thyristor

Sound attenuator

VELD-aa-b-1

Unit size (aa) _____
20, 30

Length (b) _____
1 = short
2 = long

Flexible connection

VEKZ-51-bb-1

Unit size (bb) _____
20, 30

Counterflange

VEKZ-52-bb-1

Unit size (bb) _____
20, 30



PRODUCT CODE

Converter from PG to flange

VEKZ-53-bb-1

Unit size (bb) _____
20, 30

Spare filter

VEKZ-54-b

Type (b) _____
1 = size 20, G3 (EU 3), 120 mm
2 = size 20, G3 (EU 3), 360 mm
4 = size 20, F6 (EU 6), 360 mm
5 = size 30, G3 (EU 3), 120 mm
6 = size 30, G3 (EU 3), 360 mm
8 = size 30, F6 (EU 6), 360 mm

Air flow Indicator

VEKZ-27-2

Temperature control³⁾

VEKZ-61-b

Type (b) _____
3 = Room air control
4 = Supply air control with outdoor air compensation
(Not with room air control)

³⁾ Supply air control is standard, do not have to be selected.

Extended/forced operation, external timer

VEKZ-91-1

Extended/forced operation, PIR

VEKZ-92-1

Extension cable for control panel

VEKZ-76-10

Length (bb) _____
10 = 10 m

Valve/actuator for heating/cooling coil

VEKZ-70-b-c-d-eee

Scope of supply (b) _____
1 = Actuator only
2 = Valve with actuator
3 = Valve only

Type of valve (c) _____
0 = Without (b = 1)
2 = 2-way
3 = 3-way

Location (d) _____
1 = Heating
2 = Cooling

kvs-value (eee) _____
002 = 0.25 010 = 1.0
004 = 0.40 016 = 1.6
006 = 0.63 025 = 2.5

Safety switch

VEKZ-89-bbb

Size (bbb) _____
016 = 16 A

Filter monitor

VEKZ-88-1

WE BRING **BETTER AIR**TM TO LIFE

With over a century of innovation and expertise to share with our customers, Fläkt Woods is a global leader in Air Technology products and solutions. We specialize in the design and manufacturing of a wide range of products and solutions for Air Movement, Air Treatment, Air Distribution, Air Management and Air Diffusion with focus on two major benefits – **Air Comfort** and **Fire Safety**. With market presence in 65 countries we are in a unique position to be a local supplier and an international partner in our customer's projects.

Our product brands such as RegAsorp®, eQ®, eQ Prime®, JM Aerofoil®, Econet®, Veloduct®, Optivent®, Optimix®, Econovent® and Cleanvent® are well-known and trusted by customers all over the world to deliver high quality and energy efficient solutions.

» To learn more about our offering and get in contact with your nearest sales representative please visit www.flaktwoods.com

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