

Compact central ventilation systems for energy-saving application in residential and commercial buildings.



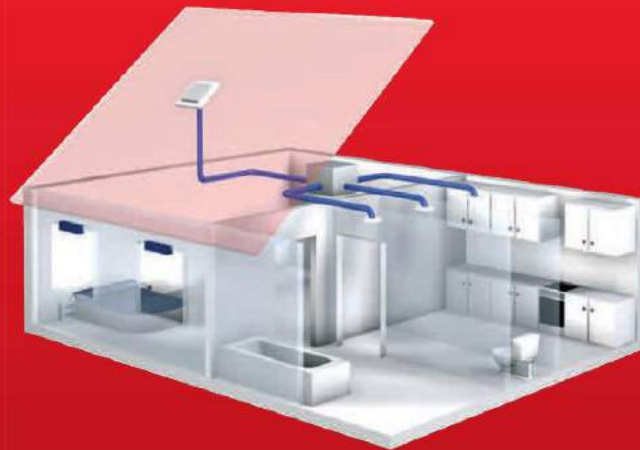
ZEB EC.
The powerful energy-saving box – ideal in low energy houses or in multi-storey buildings.

Passive and low energy houses set the standard with regard to the insulation and impermeability of building envelopes. The compliance with provisions must be proven by a special test upon a building inspection. In order to comply with the Energy Savings Ordinance (EnEV), ventilation units with highest efficiency levels must be used in full load and controlled operation.

A prerequisite for a pleasant room climate and maintaining structurally-sound buildings is extraction of humidity, odorous and pollutant substances, as well as the draught-free, controlled introduction of fresh outside air.

The ZEB system fulfils this task perfectly. Whether in a single family house, the floor-by-floor extraction of residential units through a common central shaft (DIN 18017-3) or in commercial applications.





EXTRACT AIR



ZEB as an extract air box positioned under the roof or in an adjoining room. Manual or automatic operation, i.e. time-dependent on basic, normal or peak demand.

The extract air is extracted from used rooms, such as kitchens, bathrooms and toilets. Innovative extract air elements allow a constant or demand-driven air flow volume, tuned to individual user requirements or space requirements. The ducting system is created with commercial spiral ducting.

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OUTSIDE AIR EXHAUST AIR



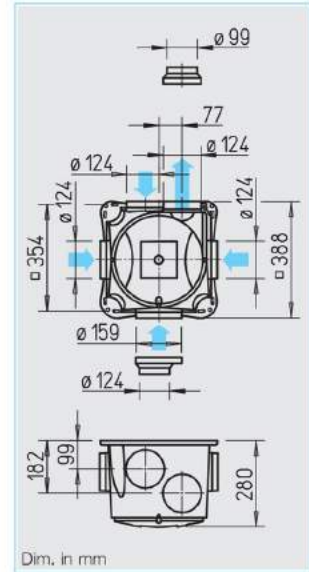
The outside air gradually flows in via differential pressure controlled intake air elements, which are to be installed in the walls or windows of living rooms or bedrooms. Overflow elements ensure air circulation within the room unit.

The exhaust air is discharged outside via a roof or wall outlet.

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Efficiency class
E ZEB 380



Dim. in mm

■ **Compact ventilation box with four spigots for connecting extract air ducting.** For various private, commercial and industrial applications.

■ **Operation**

- As central extraction unit for several rooms or areas.
- For apartment ventilation according to DIN 18017. Extraction in e.g. kitchens, bathrooms, toilets in multiple apartments with central main duct in multi-storey construction. Extraction in multiple rooms (e.g. living room, kitchen, bathroom, toilet) in one apartment. Easy installation (in any position) in storerooms or below the roof.
- For commercial and industrial applications to ventilate humid rooms, toilet facilities, extraction of vapour in workplace, etc.

■ **Casing**

- Robust casing made from impact-resistant polymer, light-grey.
- The three intake spigots and the one discharge spigot are designed for ducting size 100 and 125 mm. One intake spigot is designed for ducting size 100, 125 and 160 mm.

■ **Impeller**

- Low-noise centrifugal impeller made from steel in aerodynamically optimised spiral. Inlet via bell mouth.

■ **Motor**

- Totally enclosed, ball bearing mounted external rotor motor protected to IP 44, with humidity protection, insulation class B, for permanent operation, maintenance-free and interference-free.
- Motor/impeller unit removable for cleaning and service with one grip.

■ **Motor protection**

- Motor protection through built-in thermal contacts, wired in series with the windings, automatic switch off and reset after cooling.

■ **Electrical connection**

- Service and installation friendly. Delivered ready to operate with cable pre-wired terminal box.
- For 3 speed operation NYM-J 5x1.5 mm² required.

■ **Speed control**

- Variable power adjustment through 3 speeds by means of operating switch (accessories).

■ **Installation**

- Without restriction in any position. To reduce noise levels in ventilated rooms install unit as remotely as possible.

■ **Ducting**

The ducting used may be rigid spiral ducting, flexible aluminium or even polymer ducting. When crossing fire sections, fire protection regulations must be considered.

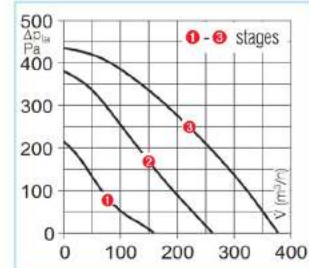


■ **Accessories** Page

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■ **Accessory details** Page

| | |
|--|--------|
| Flexible ducting, roof ducts, shutters and grilles | 487 on |
| Extract air elements | 500 on |
| Intake air elements | 512 on |
| Fire protection elements for use in multi-stor. con. | 516 on |
| Controllers | 525 on |



■ **Accessories**

Three speed operation and operating switch with 0 position. Convenient flush mounted speed controller. Room light not switchable in parallel. Installation in flush switch box. Dim. mm (WxHxD) 80 x 80 x 23
Type DSEL 3 Ref. no. 1611



■ **Week timer**

Digital timer with LCD display for autom. control of operation, all weekdays are programmable. For flush and surface mounting. Dim. mm (WxHxD) 85 x 85 x 52
Type WSUP Ref. no. 9990



Fig. WSUP

For switch cabinet installation (2 space units required). Dim. mm (WxHxD) 36 x 90 x 69
Type WSUP-S Ref. no. 9577

| Type | ZEB 380 |
|---|----------------|
| Ref. no. | 1456 |
| Air flow volume m ³ /h* | 380/260/160 |
| R.P.M. min ⁻¹ approx. | max. 2730 |
| Voltage/Frequency | 230 V- 50 Hz |
| Power consumption max. W* | 67/36/20 |
| Nominal current max. A* | 0.28/0.23/0.17 |
| Sound pressure level, case breakout at 4 m* | 33/26/19 |
| L _{WA} intake dB(A)* | 62/57/45 |
| L _{WA} exhaust dB(A)* | 69/63/52 |
| Wiring diagram no. | 908 |
| Max. permissible temperature °C | +40 |
| Weight approx. kg | 5.9 |

*The three performance stages (see performance curve).



ZEB with EC technology – because of the DC motors, the EC version of the ZEB has become the “energy-saving ventilation box”, which is ideally designed for operation in a low energy house. Brushless DC motors operate with extremely low losses and thus with higher efficiency than conventional motors, even on controlled operation. This results in convincing advantages:

- Short pay back period due to high energy savings.
- Simple and convenient speed control in nine possible performance stages.

Operation

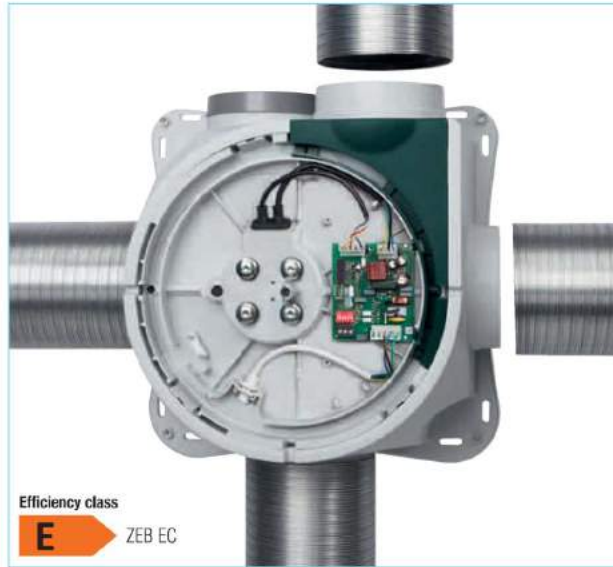
- For controlled residential ventilation according to DIN 18017-3 and DIN 1946-6.
- Ideal in low energy houses.
- For ventilation with a common main duct in houses, apartments and multi-storey buildings.

Casing

- Robust casing made from impact-resistant polymer, light-grey.
- The three intake spigots and the one discharge spigot are designed for ducting size 100 and 125 mm. One intake spigot is designed for ducting size 100, 125 and 160 mm.

Impeller

- Low-noise centrifugal impeller made from steel in aerodynamically optimised spiral. Inlet via bell mouth.



Efficiency class
E ZEB EC

Motor

- DC motor, electronically commutated, with high efficiency even during controlled operation. Ball bearing mounted external rotor motor protected to IP 44 for permanent operation, maintenance-free and interference-free.
- Motor/impeller unit removable for cleaning and service with one grip.

Motor protection

- An integrated thermal element monitors the temperature of the windings in conjunction with the built-in electronic circuit.

Electrical connection

- Service and installation friendly. Delivered ready to operate with terminal box.
- Connection directly to 230 V supply.
- For 3 speed operation NYM-J 5 x 1.5 mm² required.

Speed control

- Fan operation in three stages by means of operating switch (accessories). For individual performance adjustment, 9 speeds can be

selected with Dip-switches in the electronic unit.

Installation

- Without restriction in any position. To reduce noise levels in ventilated rooms install unit as remotely as possible.

Ducting

The ducting used may be rigid spiral ducting, flexible aluminium or even polymer ducting. When crossing fire sections, fire protection regulations must be considered.

Accessories

Three speed operation and operating switch with 0 position. Convenient flush mounted speed controller. Room light not switchable in parallel. Installation in flush switch box. (min. depth 55 mm). Dim. mm (WxHxD) 80 x 80 x 23
Type DSZ Ref. no. 1598

Week timer

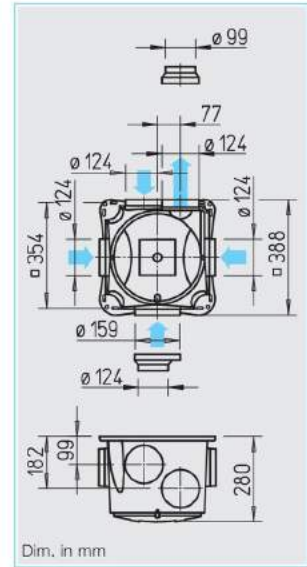
Digital timer with LCD display for autom. control of operation, all weekdays are programmable. For flush and surface mounting. Dim. mm (WxHxD) 85 x 85 x 52
Type WSUP Ref. no. 9990
For switch cabinet installation (2 space units required). Dim. mm (WxHxD) 36 x 90 x 69
Type WSUP-S Ref. no. 9577

Electronic control system

For stepless control or regulation of single and three phase EC fans. Dim. mm (WxHxD) 223 x 200 x 131
Type EUR EC Ref. no. 1347

Three-step switch 10 V / 0-10 V

For the three-step control of EC fans or frequency inverters, with a 0-10 V DC control input. For flush and surface mounting. Dim. mm (WxH) 80 x 80
SU-3 10/SA-3 10 No. 4266/4267



Dim. in mm

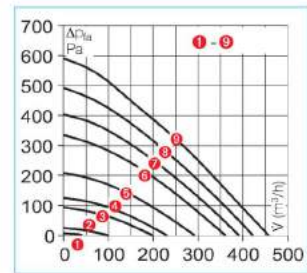


Fig. WSUP

| Type | ZEB EC |
|---|--|
| Ref. no. | 1457 |
| Air flow volume m ³ /h* | 460/430/400/360/300/230/200/100/40 |
| R.P.M. min ⁻¹ approx. | max. 3200 |
| Voltage/Frequency | 230 V~, 50 Hz |
| Power consumption max. W* | 69/55/44/34/19/11/8/3/2 |
| Nominal current max. A* | 0,58/0,47/0,38/0,30/0,18/0,10/0,08/0,04/0,04 |
| Sound pressure level, case breakout at 4 m* | 37/36/34/32/27/21/<20/<20/<20 |
| L _{wa} intake dB(A)* | 65/63/62/61/57/53/47/37/34 |
| L _{wa} exhaust dB(A)* | 74/72/70/68/62/57/54/39/26 |
| Wiring diagram no. | 1115 |
| Max. permissible temperature °C | +40 |
| Weight approx. kg | 5,9 |

*Values refer to the nine performance stages (see performance curve).



Extract air



AE
Ready-to-install extract air element with polymer mounting ring.
To be inserted into ducting with diam. 125 mm. With demand-based and standard ventilation stages, electrical, humidity, motion and time controlled for use pursuant to the following table.
Types AE and AE GB with self-regulating air flow volume stabilisation. Humidity controlled types AE Hygro or type AE FV with filter and air flow volume control are preferable for kitchens and bathrooms.
Adapter filter element VFE
For installation in front of AE, if room air is polluted and greasy. See product page for details.

Extract air (alternative to AE)



VKH
Automatic air flow volume stabiliser to be inserted into ducting and duct components. For constant air flow with a differential pressure range of approx. 50–250 Pa.



SVE **LG**
Noise reduction element inserted into ducting for simple sound insulation and volume control. Also for pressure regulation.
Ventilation grilles and valves elegant, especially for living spaces.

Intake air elements
– Installation in wall openings



ZL
Universal supply air unit and thermostatic valve for controlled air intake regulation.
See intake air element product pages for detailed descriptions.

– Installation in window frames



ALEF
Intake air element with air flow volume control and limiter. See intake air element product pages for detailed descriptions. Ideally suitable for retrofitting and new construction.

| Bathroom | | Toilet | | Kitchen | |
|---|----------|---------------|----------|-------------------------|-----------|
| Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| Extract air element with self-regulating air flow volume stabilisation * Air flow volume in m³/h | | | | | |
| AE 45* | 2031 | AE 30* | 2030 | AE 75* | 2033 |
| As above, but with two air flow volumes (demand-based and standard ventilation) | | | | | |
| AE GB 20/75* | 2036 | AE GB 15/30* | 2035 | AE GB 45/120* | 2038 |
| As AE GB, with additional electr. timer (without air flow volume stabilisation) | | | | | |
| AE GBE 30/60* | 2047 | AE GBE 15/30* | 2044 | AE GBE 45/120* | 2048 |
| As AE GBE, but with motion sensor | | | | | |
| | | AE B 15/30* | 2055 | | |
| Humidity controlled extract air unit with variable, limited air flow volume | | | | | |
| AE Hygro 10/45* | 2049 | | | | |
| As AE Hygro, with additional electrically controlled demand-based ventilation stage | | | | | |
| AE Hygro GBE 5/40/75* | 2053 | | | AE Hygro GBE 10/45/120* | 2054 |
| Extract air element AE FV, with filter and air volume control | | | | | |
| AE FV 125 | 9478 | | | AE FV 125 | 9478 |
| Adapter filter element VFE | | | | | |
| – to AE / AE GBE, AE Hygro, prevents contamination of the air extract element and ducting system | | | | | |
| | | | | VFE 70/VFE 90 | 2552/2553 |

| m³/h | Ø 80 | | Ø 100 | | Ø 125 | |
|---------|--------------|----------|----------------|----------|-----------------|----------|
| | Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| 15-50 | VKH 80/15-50 | 0001 | VKH 100/15-50 | 0002 | VKH 125/15-50 | 0004 |
| 50-100 | | | VKH 100/50-100 | 0003 | VKH 125/50-100 | 0005 |
| 100-180 | | | | | VKH 125/100-180 | 0006 |

| | | Ø 80 | | Ø 100 | | Ø 125 | |
|---|------------|------|----------|-------|----------|-------|----------|
| | | Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| Noise reduction element | | | | | | | |
| | SVE 80 | 8309 | SVE 100 | 8310 | SVE 125 | 8311 | |
| Ventilation grille (to put before/cover types VKH and SVE) | | | | | | | |
| | LGK 80 | 0259 | LGM 100 | 0254 | LGM 125 | 0258 | |
| Polymer valve for extraction | | | | | | | |
| | KTVA 75/80 | 0940 | KTVA 100 | 0941 | KTVA 125 | 0942 | |

| | | Ø 80 | | Ø 100 | | Ø 160 | |
|---|--------|------|----------|-------|----------|-------|----------|
| | | Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| Supply air unit – Automatic temperature control incl. thermostatic valve, acoustic lining and external grille | | | | | | | |
| | ZLA 80 | 0214 | ZLA 100 | 0215 | ZLA 160 | 0216 | |
| Supply air element – Manual control in four stages incl. valve plate with pull cord, sound insulation and external grille | | | | | | | |
| | | | ZLE 100 | 0079 | | | |
| Thermostatic valve – For installation in existing ventilation openings | | | | | | | |
| | ZTV 80 | 0078 | ZTV 100 | 0073 | ZTV 160 | 0074 | |

| m³/h | Ø 80 | | Ø 100 | | Ø 160 | |
|--|-----------------|----------|-------|----------|------------------|----------|
| | Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| Intake air inlet element for installation in window frames – with air volume control and limiter | | | | | | |
| 30 | ALEF 30 | 2100 | | | ALEFS 30 | 2102 |
| 45 | ALEF 45 | 2101 | | | ALEFS 45 | 2103 |
| Intake air inlet element for installation in window frames – humidity control, with air volume control and limiter | | | | | | |
| 6/45 | ALEF Hygro 6/45 | 2056 | | | ALEFS Hygro 6/45 | 2057 |



Ducts, duct components

Ducts, duct components



Reduction

RZ



Attenuator, backdraught shutter

FSD



RVE



Wall and roof openings

DH, UDP, FDP



Overflow

LTG



| Ø 80 | | Ø 100 | | Ø 125 | |
|--|----------|---------|----------|---------|----------|
| Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| Fully flexible ducting | | | | | |
| ALF 80 | 5711 | ALF 100 | 5712 | ALF 125 | 5713 |
| Duct connector – made from galvanised sheet steel | | | | | |
| RVB 80 | 5993 | RVB 100 | 5994 | RVB 125 | 5995 |
| Worm drive clips – metal band with a snap on tension lock, contents = 10 pcs. | | | | | |
| SCH 80 | 5722 | SCH 100 | 5722 | SCH 125 | 5723 |
| T-pieces – made from galvanised sheet steel | | | | | |
| | | TS 100 | 1479 | TS 125 | 5720 |

| Ø 80 | | Ø 100 | | Ø 125 | |
|---|----------|-----------|----------|------------|----------|
| Type | Ref. no. | Type | Ref. no. | Type | Ref. no. |
| Duct reducers – made from polymer | | | | | |
| | | RZ 100/80 | 5223 | RZ 125/100 | 5222 |
| Flexible attenuator – from flexible aluminium duct | | | | | |
| | | FSD 100 | 0676 | FSD 125 | 0677 |
| Backdraught shutter – automatic, made from polymer | | | | | |
| | | RSKK 100 | 5106 | RSKK 125 | 5107 |
| Backdraught shutter – airtight, for duct insertion | | | | | |
| RVE 80 | 2584 | RVE 100 | 2587 | RVE 125 | 2588 |

| Ø 80 | | Ø 100 | | Ø 125 | |
|--|--|-----------|------|-------------|------|
| Wall mounting kit – to put air intakes and outlets through walls | | | | | |
| | | TMK 100 | 0844 | TMK 125/150 | 0845 |
| Universal roof outlet* DDF – adaptable to all kind of roof tiles, for pitched roofs and flat roofs. | | | | | |
| | | | | DDF 125 | 1964 |
| Roof outlet, plates for ridged roof/flat roofs and connector (see Figure on left) | | | | | |
| – Roof outlet* | | DH 100 S | 2015 | DH 125 S | 2017 |
| – Pitched roof universal pan tile* | | UDP 100 S | 2021 | UDP 125 S | 2021 |
| – Flat roof pan tile | | FDP 100 | 2024 | FDP 125 | 2013 |
| – Connector | | STV 100 | 2026 | STV 125 | 2027 |

* See product page for other colours.

Door grilles

Discreet, screened ventilation grille made from impact-resistant polymer for door installation. See ventilation grilles product page for detailed descriptions.

Type LTGW Ref. no. 0246
Made from white polymer.

Type LTGB Ref. no. 0247
Made from brown polymer.

| Information | Page |
|--|--------|
| Dimensions, more detailed technical data and other parameters: | |
| Grilles, | |
| ducting, moulded parts, | |
| Roof outlets | 487 on |
| Extract air elements | 500 on |
| Intake air elements | 512 on |
| Fire protection elements | |
| for use in multi-stor. con. | 516 on |
| Controllers | 525 on |