The building regulation regulates the ventilation of inside located bathrooms and toilets in housings, hotels and other buildings. The mono tube system QuietVent ELS from Helios has convincing advantages.

**Space saving**
One central main riser for up to 20 floors and smallest cross-sections save money and useable living space.

**Installation and mounting**
The fan design reduces duct sizes leading to reduced material and labour costs. Keeping on site expenditure to a minimum.

**Energy saving**
QuietVent ELS units reduce the ventilation heat demand and contribute consequently an essential saving of heating energy. Low power consumption costs of only 16 Watt further guarantee high efficiency.

**Easy designing**
Due to the certificate of the Institute for Bautechnik all further measurements on site are unnecessary as they are guaranteed. This certified performance simplifies design. Resistance of riser duct is overcome by the fan, see pages 54 ans 55 for duct sizes.

---

**Mechanical ventilation air flow volumes**
In bathroom and toilets relating to mechanical ventilation,
- extract ventilation rate:
  - bathroom = 15 l/s (54 m³/h)
  - single toilet = 6 l/s (22 m³/h)
  - toilet cubicles = 6 l/s (22 m³/h)/cubicle
- with a minimum running on time of 15 minutes for internal rooms and some others. In kitchen the air flow volume should be 30 l/s (108 m³/h) over the hob and 60 l/s (216 m³/h) for the room. In utility rooms 30 l/s (108 m³/h).

**BS 7671:2001 Covering Electrical protection levels in bathrooms.**

1) **Zone 0** is the interior of the bath tub or shower basin. Also where there is no shower basin then up to 0.05 m above the floor to a vertical plane(s) radius of 1.2 m horizontally from the water outlet at the wall where the shower head is demountable and able to be moved around in use or to a radius 0.60m if the shower head is not demountable.

Electrical equipment inside this zone IPX7.

1) **Zone 1** is the area from the upper plane of zone 0 to the horizontal plane 2.25 m above the floor and a) by the vertical plane(s) circumscribing the bath tub or shower basin and includes the space below the bath tub or shower basin where the space is accessible without the use of a tool. b) for a shower without a basin and with a demountable shower head able to be moved around in use the vertical plane(s) at a radius of 1.2 m horizontally from the water outlet at the wall. c) for a shower without a basin and with a shower head which is not demountable, the vertical plane(s) at a radius of 0.60 m from the shower head.

Electrical equipment inside this zone IPX4.

---

**Acknowledgment**
The BS 7671:2001 information shown here is based on extracts from the standard. For a full copy please contact:
The Institution of Electrical Engineers
P.O. Box 96, Stevenage SG1 2SD
Tel.: 01438/767328
Mono tube ventilation system ELS to DIN 18017 Pt. 3

Mono tube ventilation system
QuietVent ELS
with single units for toilet, bathroom and apartment kitchens

Extract air
Wonderfully quiet QuietVent ELS units that are controlled as required, carry the used air from bathroom and toilet via the central main duct. Using a single rising duct for up to 20 floors or 40 single units, without the need for a central fan. QuietVent ELS guarantees efficient ventilation at low energy costs.

Outside air
Outside air intake grilles and valves bring in fresh air to the bedrooms and living rooms. Helios offer grilles and valves for wall and window installation, manual or temperature controlled, with automatic air flow and acoustic lining.

Fire protection
To prevent fire transfer to other floor levels we offer the following solutions corresponding to the circumstances on the site.

1. When installing in fire rated installation shafts
   Integrated fire protection with casings ELS-GB.., GDB.., GA.. integrated fire protection shutters.

2. When installing in non fire rated installation shafts
   (Cover e.g. from 12.5 mm thick plaster board)
   a) Fire damper ELS-D, to be placed below the storey ceiling.
   b) Fire protection sleeve BSH, to be installed into the duct course of the main duct.

Both solutions lower the investment costs and enlarge the usable room space. The installation is low on costs, installation friendly and maintenance free. Specification see product pages.

Up to 40 single units on 20 floors at one single main riser.
Fire protection elements prevent the transfer of fire and smoke in other storeys.
Only 29 dB(A)*. Wonderfully quiet.

Above all in bathrooms the ventilation must be nearly noiseless. This is achieved with the single ventilation units QuietVent ELS. HELIOS achieved the seemingly impossible: With 36° dB(A) at V = 60 m³/h and Aₐ = 10 m² or 29° dB(A) on trickle ventilation the QuietVent ELS class is dreamlike quiet.

The sound levels are to DIN 18017, Pt. 3 as follows and are guaranteed by HELIOS:
- sound power level, A-rated (Lₚₐₐ) in dB(A) or
- sound pressure level, A-rated (Lₚₐ) in dB(A) related on an absorption surface Aₐ = 4 m². When related to Aₐ = 10 m² the sound levels will be 4 dB(A) lower.

➀ The sound power level Lₚₐₐ shows the real emitted sound power, independent from the distance and room conditions, and is the sound at source.
➁ The sound pressure level Lₚₐ is the sound received by our ear and in dependence on the absorption of the room, or the ability of the room to absorb noise.

Exclusive permanent filter and filter change display

All QuietVent ELS fan units have permanent filters as standard. This ensures trouble free quiet installation. Preventing the fan and sound insulation from becoming clogged.

Resulting unsatisfied tenants, landlords and owners.

The exclusive filter change display ensures that the filter cleaning time should not be missed.

Filter cleaning
The filter change is child’s play: Flip up facia and take out the dirty permanent filter.

To clean the filter, put it in the dish washer and replace it in the QuietVent ELS fan unit after drying. The large filter cross section area and the even flow through the filter ensures long intervals between cleaning and constant air flow.

Excellent design.
Good-looking, Flat, Clean.

The HELIOS QuietVent ELS ventilation system fits in everywhere: The facia complements every tile, wallpaper or marble – and thus satisfies the highest demands of designers.

The QuietVent ELS flush mounted looks so slim. That way it integrates completely – also in small rooms, on walls or ceilings. The ideal solution in the noblest home.
QuietVent ELS mono tube system

Highlights

Lightning fast installation.

Electric plug connector
fan only connects when the fan is pushed into place. Wiring can be done before plastering. No additional wiring is required and the fan can simply pushed in and locked into position. The fan is isolated as soon as it is removed from it’s case.

Bolt free connection
of the fan unit. Press in, turn bayonet plugs 90° without using tools – the fan unit is fixed. That way you have time and costs under control and it can be a last operation on site preventing pilferage.

Central fixing facia
Only one screw needs to be turned in and the facia is fixed. Permanently sealed, to prevent walls and ceiling smudges. Easy leveling without any problems if the unit is out of square.

More about plaster and leveling as well as installation details see pages 46-47.

Approved and certified.

All HELIOS mono tube units have the approval of the Institut for Bautechnik, Berlin. In addition there are international certificates and conformities with the relevant standards and regulations. Further there are following certificates:

- TÜV approved performance.
- Certificate of the Bundesanstalt for Materialprüfung (BAM) for noise transmission regulations in buildings (DIN 4109).
- TÜV approved leakage rate of backdraught shutter.
- Outside inspection of production by TÜV Bayern-Sachsen.

Additionally for units with fire protection:
- Fire protection tests of backdraught shutter and casing with fire protection, carried out by the institute for Haustechnik and Bauphysik of the technical university, Munich, swiss fire protection code BZ 5491.

Various operations:

QuietVent ELS units are available in approximately 50 variants and 3 air flows for ventilation of kitchen, bathroom, toilet in the apartment sector.

User friendly controls with overrun timer and interval function, automatic PIR sensor or humidity controlled operation (in trickle and general ventilation) are optional units.

Pressure intensive performance curves for small cross-section of main duct are an additional advantage.

Information

Further information about:
QuietVent ELS in low energy houses
- with humidity control as well as PIR detector
see pages 42 and 43
Energy saving matched controllers for the QuietVent ELS fans are part of the range.

Clever design allows the required and efficient ventilation of the room to suit its needs.

Automatic operation
controlled with motion sensor or on humidity controlled function. See below and on the page opposite.

What and when is the optimum?

General ventilation with run on time
Typical use: For ventilation of bathrooms and toilets (overflow time regulated to DIN 18017) with normal user frequency, e.g. in apartment sectors.
Suitable units: QuietVent ELS-VEZ models or standard units with separated overrun timer.
Control: Manually, possibly via the light switch.

General ventilation without run on time
Typical use: For ventilation of bathrooms as well as rooms with windows. With high user frequency in apartment houses, hotels, hostels and others.
Suitable units: All standard models QuietVent ELS-VE..
Control: Manually, by a switch or via light switch or automatically with a timer.

Interval ventilation
Use: For ventilation of bathrooms and toilets (also inside located) with periodical low user frequency as for example in hotel rooms, holiday apartments and students’ hostels.
The adjustable interval and operation times ensure a periodical economic room ventilation when absent. Musty rooms and damage due to humidity are avoided.
Suitable units: QuietVent ELS-VEB or standard models in combination with accessory ZNI.
Function: If room is not used, operation to the chosen preset time.
When operated manually (possibly switched parallel to the light) run on time takes place irrespective of chosen time.

Time controlled ventilation
Use: Ventilation of toilets, showers, bathrooms and other applications in office and administration sector, in hostels, hospitals etc.
Control: In intervals or depending on use, via a time switch.

The automatic solution = PIR.
That’s automatic and ensures good ventilation.

Optimum fan control in toilets and sanitary facilities with industrial and private use for example in hostels, hotels, offices etc.

Helios offers the ideal solution; QuietVent ELS-VEB 60 is fitted with a PIR as standard; the fan starts automatically when a person enters the room. The electrical connection is direct to the power supply without need for a switch.

QuietVent ELS-VEB with motion sensor ventilates automatically as required when entering the room.

An integrated PIR sensor registers the heat emission of human beings and switches on the unit with a delay of approximately 45 seconds. According to the setting, the unit operates 3, 7, 10 or 15 minutes. If the impulse is repeated within that time, the operation time prolongs respectively.

When leaving the room, there is a run on time as preset.

Ideally the fan should be fitted so the movement in the room is always detected, so position is important.
Typical use: Automatic ventilation without using a switch.
Control: PIR controlled.

QuietVent ELS-VEB with PIR sensor
High humidity in buildings causes poor health and mould growth. Continuous ventilation uses energy when not always required. So to preserve the air quality, hygiene and the fabric of a building, “optimised ventilation”, together in harmony with energy saving targets, is the aim.

Intelligence creates well-being. Steamed up mirrors are a indication of too high humidity. That means an unhealthy room climate for human beings and buildings. In a 4-person household, approx. 10-15 litres of water are created daily in the room air. This has to be extracted through ventilation. To ventilate ecologically, efficiently and economically through manual window ventilation is impossible. But it’s easy with the humidity controlled QuietVent ELS-VEF 60 from Helios.

Progressive electronics control the QuietVent ELS-VEF automatic and results in:
- With normal increase of the humidity (e.g. caused by washing, drying of textiles or decrease of temperature) the fan starts automatically when the limiting value of approx. 70% relative humidity is achieved. The unit operates until the relative humidity is lowered by at least 10%.
- With fast increase of the humidity (e.g. caused from showering) the microprocessor controlled electronic starts the fan automatically after a short time. After the comfortable zone is achieved (relative humidity of 40–70%) the fan turns off automatically.

These new units are head and shoulders above a conventional hygrostat function and prevents steaming up on walls, ceilings and equipment. As a result, the QuietVent ELS-VEF 60 creates a comfortable climate without mould and annoying smells with a minimum of energy use.

Typical use: For ventilation of humidity polluted rooms (e.g. bathrooms).

Control: Automatically, on the humidity levels.

Replacement air is necessary so that humid air can be extracted by the fan.

If required an override switch can be fitted for full speed. If the QuietVent ELS-VEF is to be controlled via the light switch. After switching off the manual operation, there is a run on time of approx. 6 minutes.

The Helios QuietVent VEF-AL system humidity ventilation control is an optimised solution for the low energy house. Can be used to ventilate the whole living area. The rooms with polluted air (bathroom, toilet, kitchen) are to be ventilated. Fresh outside air flows in through temperature or pressure controlled air intakes into the living and sleeping rooms.

The system components
- ELS-VEF 60/30
  Humidity controlled waste air fan in the bathroom that guarantees a minimum air change. Turns on maximum power when the humidity rises and after reaching the rated value back to normal again. Combined with an overrun timer controlled QuietVent ELS in toilet.
- Air intake elements AL..
  Model ALEF.. or ZL.. for wall or window frame installation.

Weighty advantages of the QuietVent VEF-AL system technic
- With this decentralized unit, the ducting system in the house or apartment can be dropped.
- Relevant expert opinions and practical experiences prove that the ventilation heat demand in houses or apartments can be reduced to 65 % due to a humidity controlled, mechanical ventilation.

The achievements of these savings, connected with a “feel good climate in your own 4 walls” and the qualitative securing of the fabric of the building is a compelling result.
Easy accessible for maintenance: Spigot (diameter 75/80) with airtight backdraught shutter.

Very quiet: High efficiency high pressure centrifugal impeller with special power characteristic for smaller ducting.

Intelligent: Circuit board with electrical control components in a splash proof casing.

Economically: Energy saving motor with low power consumption (8/16 W/h). Totally enclosed. Ball bearings, maintenance free for approx. 40,000 running hours.

Practical: Bayonet plugs for easy and fast installation without using tools.

Quiet: Acoustically lined labyrinth pattern, that ensures whisper quiet results.

Elegant: Easy-care facia with clean lines finished in a friendly white. Easy clean surface.

Unique: Filter change display indicates when the filter needs cleaning to prevent a drop in performance. Permanent long life washable filter as standard.
The surface mounted QuietVent ELS family offers additionally features:

- **Surface mounted universal:** The complete range of fan units can be inserted in the surface mounted casings. So all fan options are accommodated. The simple surface mounted installation offers substantial advantages in old buildings.

- **Exclusive design:** Even more important for surface mounted units: Clean lines and easy clean surfaces.

- **Electric plug connector:** Simplifies service and cleaning. Disconnects fan unit from the mains as the fan is removed.

- **Acoustical lining:** Surrounding, 12 mm thick absorption-lining for whisper quiet operation.

- **Cable entry:** Large cable storage area within the casing makes installation quick and easy. Cable entry can be in any position.

- **Wall unevennesses:** Designed to fit on most walls.

- **Spigot:** Can be positioned in any of the 4 corners. Diameter: 80 mm, including airtight backdraught shutter.

- **Leveling:** Elongated fixing holes make correct positioning easier.
Delivery sets
The concept of the ELS units makes installation easy. The unit is delivered in two cartons. First the casing for wiring and plastering. Second the fan for fitting and finish. Easier for building site safety and installation planning.

Direct installation for fire rated applications
The fan can be mounted in the fire rated casings. The casings allow the fans to be mounted in fire rated walls. Alternatively fire rated dampers and casings provide fire protection of the duct system with the fan unit sacrificed.

Fast installation and leveling on site
The unique electrical plug allows quick fan fixing to the casing. The revolutionary facia fixing by a central screw allows the facia to be square even when the casing in the wall has been fixed out of square. Two fixing screws allow the casing to be deeply recessed and still easily fitted.

Spacer frame-ancillary
Where walls are unable to accommodate the full depth of the casing or with casings that jut out over the plaster or the tiles the AR frame allows a 40 mm protrusion. The spacer frame is to be fitted between facia and wall or ceiling.

QuietVent ELS – Integration in plasterboard and thin partitions.
For ceiling and plasterboard installation the ELS flush mounted casing locates by a spigot and is held up against a shoulder. Making this type of application easy. Optimum results are achieved through:
- low cost installation
- no need for special tools or parts
- choice of casings
- cost effective fire protection using fire rated case or damper system with any choice of fan.

First fix set
Fan casing with electrical connector for initial fixing and wiring. Supplied with cardboard protector for plastering.

Final fix set
Fan and facia for quick assembly on site, 3 quarter turn screws and final facia screw.

Straight duct connection with ceiling casing ELS-GDB.

Direct connection to the main ducting direct with only one 90° bend. Connection to the second room using the side spigot.

Facia design allows up to 10° error to be corrected.

When the casing has been installed too deep, the distance can be bridged easily with the long screw supplied.
Surface mounted version
Two part supply and installation

- General modular component concept
  All QuietVent ELS fan units (VE..) fit in surface and flush mounted casings. That simplifies design, installation and storing. Casing and fan unit are delivered separately in cartons, so that the casing can be fitted while the fan is still in its carton.

- No complicated duct system
  The fire protection casing enables the shortest and most direct duct runs. This guarantees a fast installation with minimal material.

- Minimum installation expenditure
  The QuietVent ELS installation is so easy. Large electrical cable storage speeds installation. Elongated fixing holes for easy leveling.

- Unrestricted installation
  The surface mounted QuietVent ELS casings can be installed with the outlet duct in any corner allowing easy fixing close to wall or ceiling. With the facia vertical the installation looks the same no matter which corner the outlet is on.

- Explanation of symbols for pages 48-53

- Without fire rating
  Connection on common main riser up to two floors. When exhausting to the outside through one main duct there are no restrictions on floor levels in reference to fire protection regulations. Connection of several levels is allowed.

- Fire resistance class K 60-18017
  Fire rated 60 minutes, in accordance with DIN 4102, regulated for ventilation systems – with common main duct – in buildings with up to 8 floors.\(^1\) Connection of 1 or 2 casings per floor is possible.

- Fire resistance class K 90-18017
  Fire rated 90 minutes, in accordance with DIN 4102, regulated for ventilation systems – with common main duct – in buildings with up to 20 floors.\(^1\) Connection of 1 or 2 casings per floor up to 20 floors is possible.

- Fire resistance class K 90-18017 in kitchen
  Fire rated 90 minutes, in accordance with DIN 4102, regulated for ventilation systems – for aeration of apartment kitchen – with common main duct – in buildings with more than 2 floors.\(^1\) Connection of 1 or 2 casings per floor up to 20 floors is possible.

- Recommended use in type of room:
  - Bathroom
  - Toilet
  - Kitchen

Note: For second room ventilation a unit with \(V = 100 \text{ m}^3/\text{h}\) is recommended. Note: UK building regulations require an air flow of \(V = 216 \text{ m}^3/\text{h}\) for kitchens.
## Flush mounted QuietVent ELS

### one room ventilation

<table>
<thead>
<tr>
<th>Type of installation</th>
<th>Type of room</th>
<th>With/without fire protection</th>
<th>Casing (For first fix)</th>
<th>Type, Ref. No., Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flush mounted in walls</strong></td>
<td>WC</td>
<td></td>
<td>ELS-G, ELS-D</td>
<td>ELS-G Ref. No. 0579</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The low cost and maintenance free fire protection solution Z-41.3-366: ELS-D fire damper used, in main riser ducts, between floors allows standard fans to be used with fire rated floors. Details see product page.</td>
</tr>
<tr>
<td><strong>Flush mounted in ventilation shafts</strong></td>
<td>WC</td>
<td></td>
<td>ELS-GB, ELS-D</td>
<td>ELS-GB Ref. No. 0549</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flush mounted casing with fire protection K 90. Airtight metal backdraught shutter, quick plug connector for electrical connection and cover plate. Spigot diameter ø 75/80 mm. Application: Flush mounted installation in partition walls or ventilated shafts. Fire protection approval No. Z-41.3-365</td>
</tr>
<tr>
<td><strong>Flush mounted in false ceilings</strong></td>
<td>WC</td>
<td></td>
<td>ELS-GBK, ELS-D</td>
<td>ELS-GBK Ref. No. 0433</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flush mounted casing with fire protection K 90 (K). Approved for apartment kitchens. Airtight metal backdraught shutter, quick plug connector for electrical connection and cover plate. Spigot diameter ø 75/80 mm. Application: Ventilation of bathroom and toilets. Fire protection approval No. Z-41.3-562</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kitchen unit with 216 m³/h for the UK on request</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ELS-GDB Ref. No. 0554</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ceiling casing with fire protection K 90. Adjustable mounting bracket, airtight metal backdraught shutter, quick plug connector for electrical connection and cover plate. Spigot diameter ø 75/80 mm. Application: Horizontal installation in false ceilings. Straight connection to main ducting with use of spiral wound ducting. Fire protection approval No. Z-41.3-512</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ELS-GDBK Ref. No. 0436</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ceiling casing with fire protection to K 90 (K) for apartment kitchen. Other details as ELS-GDB. Note: kitchen unit with 216 m³/h on request. Fire protection approval No. Z-41.3-562</td>
</tr>
</tbody>
</table>

Note: kitchen unit with 216 m³/h for the UK on request.
### Type, Ref. No., Specification

<table>
<thead>
<tr>
<th>Fan unit including facia</th>
<th>(For final fix)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>60 m³/h</strong></td>
<td><strong>100 m³/h</strong></td>
</tr>
<tr>
<td><strong>Designed air flow volume</strong></td>
<td><strong>Designed air flow volume</strong></td>
</tr>
<tr>
<td>ELS-VE 60/30 Ref. No. 0535</td>
<td>ELS-VE 100/60/40 Ref. No. 0430</td>
</tr>
<tr>
<td>ELS-VE 100 Ref. No. 0429</td>
<td>ELS-VE 100/60 Ref. No. 0430</td>
</tr>
<tr>
<td>ELS-VE 100/60 Ref. No. 0430</td>
<td>ELS-VE 100/60/40 Ref. No. 0432</td>
</tr>
<tr>
<td>ELS-VEI 60 Ref. No. 0427</td>
<td>ELS-VE 60/30 Ref. No. 0536</td>
</tr>
<tr>
<td>ELS-VEI 60 Ref. No. 0427</td>
<td>ELS-VE 100/60 Ref. No. 0430</td>
</tr>
<tr>
<td>ELS-VEI 60/30 Ref. No. 0536</td>
<td>ELS-VE 100/60/40 Ref. No. 0432</td>
</tr>
</tbody>
</table>

### Accessory Specifications on page 27-28

<table>
<thead>
<tr>
<th>Switching</th>
<th>Electronic overrun timer with built-in PIR detector, variable run on time 3, 7, 10, 15 min. adjustable.</th>
<th>Electronic overrun timer with stepless adjustable run on time (4 -15 minutes).</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZNE Ref. No. 0342</td>
<td>ZNI Ref. No. 0343</td>
<td>ZVE Ref. No. 0345</td>
</tr>
<tr>
<td>ZVE 100 Ref. No. 0329</td>
<td>ZVE 100 Ref. No. 0329</td>
<td>ZNE 2 Ref. No. 0330</td>
</tr>
</tbody>
</table>

### Flush mounted QuietVent ELS-program

**one room ventilation**

**60 m³/h**

**Designed air flow volume**

<table>
<thead>
<tr>
<th>Type</th>
<th>Ref. No.</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS-VE 60/30 Ref. No. 0535</td>
<td>Fan unit with 2 speeds (60/30 m³/h) for general and trickle ventilation.</td>
<td>With facia, attenuation plate and quick plug connector for electrical connection. Insulation class II, protection to IP 55, for installation in zone 1 of bathrooms. Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz; 16/8 W. Flat facia (white), acoustically lined for low noise levels. Indicator to monitor the permanent filter. Filter changed in seconds. Sound levels: sound power: 40 dB(A), sound pressure 36 dB(A). Approval No. Z-51.1-56</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0425</td>
<td>Fan unit with 60 m³/h air flow volume, built-in electronic overrun timer and delayed start.</td>
<td>Function: Background ventilation at continuous operation. If the set humidity level is reached the fan runs automatically on high speed until the room humidity is back to normal. When function as ELS-VEZ .. Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VEZ 60/30 Ref. No. 0536</td>
<td>Fan unit with 60 m³/h air flow volume, built-in electronic overrun timer and delayed start.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VEF 60 Ref. No. 0426</td>
<td>Fan unit with 60 m³/h air flow volume and built-in PIR detector for automatic run when room is occupied and run on (3, 7, 10, 15 min. adjustable). Electrical activation without using a switch. Other details as ELS-VEF 60/30.</td>
<td></td>
</tr>
<tr>
<td>ELS-VEI 60 Ref. No. 0427</td>
<td>Fan unit with 60 m³/h air flow volume with built-in electronic interval timer, overrun timer and delayed start.</td>
<td>Factory set interval 6 hours, run on time 32 minutes. Other intervals and run on time are adjustable. Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz; 16 W. Sound levels: sound power: 40 dB(A), sound pressure 36 dB(A). Other details as ELS-VE 60.</td>
</tr>
<tr>
<td>ELS-VEF 60/30 Ref. No. 0515</td>
<td>Fan unit with 2 speeds (60/30 m³/h) with built-in electronic dynamic humidity sensor.</td>
<td>Function: Background ventilation at continuous operation. If the set humidity level is reached the fan runs automatically on high speed until the room humidity is back to normal. When switched manually (e.g. via light switch) high air flow volume with overrun timer. Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0431</td>
<td>Fan unit with 60 m³/h air flow volume.</td>
<td>Other details as ELS-VEF 60/30.</td>
</tr>
</tbody>
</table>

**100 m³/h**

**Designed air flow volume**

<table>
<thead>
<tr>
<th>Type</th>
<th>Ref. No.</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS-VE 100 Ref. No. 0429</td>
<td>Fan unit with 100 m³/h air flow volume.</td>
<td>Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz, 33 W. Sound levels: sound power: 47 dB(A), sound pressure 43 dB(A). Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 100/60 Ref. No. 0430</td>
<td>Fan unit with 2 speeds (100/60 m³/h) and overrun timer.</td>
<td>Sound levels: sound power: 47/49 dB(A), sound pressure 43/46 dB(A). Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 100/60/40 Ref. No. 0432</td>
<td>Fan unit with 3 speeds (100/60/30 m³/h) for general and trickle ventilation.</td>
<td>Sound levels: sound power: 47/49/33 dB(A), sound pressure 43/46/29 dB(A). Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VEI 60 Ref. No. 0427</td>
<td>Fan unit with 100 m³/h air flow volume and built-in overrun timer.</td>
<td>(Function as ELS-VE 100). Other details as ELS-VE 100.</td>
</tr>
<tr>
<td>ELS-VEI 60/30 Ref. No. 0430</td>
<td>Fan unit with 2 speeds (100/60 m³/h) and overrun timer.</td>
<td>Other details as ELS-VEI 60.</td>
</tr>
</tbody>
</table>

**60 m³/h**

**Designed air flow volume**

<table>
<thead>
<tr>
<th>Type</th>
<th>Ref. No.</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS-VE 60/30 Ref. No. 0535</td>
<td>Fan unit including facia.</td>
<td>Fan unit including facia.</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0425</td>
<td>Fan unit with 60 m³/h air flow volume.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60/30 Ref. No. 0536</td>
<td>Fan unit with 60 m³/h air flow volume, built-in electronic overrun timer and delayed start.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0426</td>
<td>Fan unit with 60 m³/h air flow volume and built-in PIR detector for automatic run when room is occupied and run on (3, 7, 10, 15 min. adjustable). Electrical activation without using a switch. Other details as ELS-VEF 60/30.</td>
<td></td>
</tr>
<tr>
<td>ELS-VE 60/30 Ref. No. 0535</td>
<td>Fan unit with 2 speeds (60/30 m³/h) for general and trickle ventilation.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60/30 Ref. No. 0536</td>
<td>Fan unit with 60 m³/h air flow volume, built-in electronic overrun timer and delayed start.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0425</td>
<td>Fan unit with 60 m³/h air flow volume.</td>
<td>Other details as ELS-VEF 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60/30 Ref. No. 0535</td>
<td>Fan unit with 2 speeds (60/30 m³/h) for general and trickle ventilation.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60/30 Ref. No. 0536</td>
<td>Fan unit with 60 m³/h air flow volume, built-in electronic overrun timer and delayed start.</td>
<td>Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0425</td>
<td>Fan unit with 60 m³/h air flow volume.</td>
<td>Other details as ELS-VEF 60/30.</td>
</tr>
</tbody>
</table>
Flush mounted QuietVent ELS
second room ventilation with one unit

Type of installation | Type of room | With/without fire protection | Casing* (For first fix) | Type, Ref. No., Specification
--- | --- | --- | --- | ---
Flush mounted in walls |  |  | ELS-GZR Ref. No. 0581
Flush mounted in ventilation shafts |  |  | ELS-GBZRL Ref. No. 0547
Flush mounted in false ceilings |  |  | ELS-GDBZR Ref. No. 0554

### Flush mounted in walls
- **ELS-GZR** Ref. No. 0581
- Flush mounted casing with second room connection, without fire protection. Spigot for second room can be used left or right. Airtight backdraught shutter, quick plug connector for electrical connection and cover plate. Made from flame retardent polymer, class B 2. Spigot diameter ø 75/80 mm.
- **Application:** Ventilation of bathrooms and toilets of a housing unit. Flush mounted installation in walls or ceilings.

### Flush mounted in ventilation shafts
- **ELS-GBZRL** Ref. No. 0547
- Flush mounted casing with spigot for second room on the **left** and fire protection K 90. Airtight metal backdraught shutter, quick plug connector for electrical connection and cover plate. Spigot diameter ø 75/80 mm.
- **Application:** Ventilation of bathrooms and toilets of a housing unit. Flush mounted installation in partitions of installation shafts or in walls.

### Flush mounted in false ceilings
- **ELS-GBZRR** Ref. No. 0548
- Flush mounted casing with spigot for second room on the **right** and fire protection K 90. Other details as ELS-GBZRL.

### Ceiling casing with spigot for second room and fire protection K 90
- **ELS-GDBZR** Ref. No. 0554
- Ceiling casing with spigot for second room and fire protection K 90. Spigot for second room can be inserted left or right. Adjustable airtight metal backdraught shutter, quick plug connector for electrical connection and cover plate. Spigot diameter ø 75/80 mm.
- **Application:** Ventilation of bathrooms and toilets of a housing unit. Horizontal installation in false ceilings. Straight connection to main ducting with use of spiral wound ducting.
- **Fire protection approval No. Z-41.3-512**

---

**Extraction units for second room to be ordered separately, see accessory page 56.**

**Fire protection and connection see symbols page 47.**
**Flush mounted QuietVent ELS**

**second room ventilation with one unit**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Specification see page 56</th>
<th>ELS-ZA Ref. No. 20698</th>
<th>Spacer frame if casing protrudes from wall or ceiling.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF/ZA Ref. No. 0557</td>
<td>Spare air filters for ZA and ZAB (Contents: 5 pcs.)</td>
<td>ELS-ZA Ref. No. 0455</td>
<td>Second room unit without fire protection</td>
</tr>
<tr>
<td>ELS-VE 100 Ref. No. 0429</td>
<td>Fan unit with 100 m³/h air flow volume, with facia, attenuation plate and quick plug connector for electrical connection. Insulation class II, protection to IP 55, for installation in zone 1 of bathroom units. Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz, 33 W. Flat facia (white), acoustically lined for low noise levels. Indicator to monitor the permanent filter. Filter changed in seconds. Sound levels: sound power 47 dB(A), sound pressure 43 dB(A).</td>
<td>ELS-ZA Ref. No. 0456</td>
<td>Second room unit with fire protection</td>
</tr>
<tr>
<td>ELS-VEZ 100 Ref. No. 0434</td>
<td>Fan unit with 100 m³/h air flow volume and built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature). Sound levels: sound power 47 dB(A), sound pressure 43 dB(A). Other details as ELS-VE 100.</td>
<td>ELS-ZA Ref. No. 0557</td>
<td>Spare permanent filter for ELS fans, can be cleaned in dish washer (Contents: 2 pcs.).</td>
</tr>
<tr>
<td>ELS-VE 100/60/40 Ref. No. 0432</td>
<td>Fan unit with 3 speeds (100/60/30 m³/h) for general and trickle ventilation. Sound levels: sound power 47/40/33 dB(A), sound pressure 43/36/29 dB(A). Other details as ELS-VE 100.</td>
<td>ELS-ZA Ref. No. 0457</td>
<td>Spare filters for ELS fans.</td>
</tr>
<tr>
<td>ELS-VEZ 100/60 Ref. No. 0430</td>
<td>Fan unit with 2 speeds (100/60 m³/h) for general and trickle ventilation with built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature). Sound levels: sound power 47/40 dB(A), sound pressure 43/36 dB(A). Other details as ELS-VE 100.</td>
<td>ELS-ZA Ref. No. 1036</td>
<td>Electronic overrun timer with variable run on time. Used with light switch.</td>
</tr>
<tr>
<td>ZNE Ref. No. 0342</td>
<td>Electronic overrun timer with adjustable run on time 3, 7, 10, 15 minutes.</td>
<td>ELS-ZA Ref. No. 1270</td>
<td>Electronic overrun timer with stop adjustable run on time (4 - 15 minutes).</td>
</tr>
<tr>
<td>ELF/ELSD Ref. No. 0587</td>
<td>Spare permanent filter for ELS fans, can be cleaned in dish washer (Contents: 2 pcs.).</td>
<td>ELS-ZA Ref. No. 1279</td>
<td>Electronic overrun timer. Run on times as ZNE, intervals 4, 8, 12, 24 hours.</td>
</tr>
<tr>
<td>ELS-WF/..</td>
<td>Coloured facias. Overview see page 56.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Type of installation

| Surface mounted in walls and ceilings |
| Surface mounted in ventilation shafts |
| Surface mounted in kitchens, walls and ceilings |

## Type of room

- Kitchen unit with 216 m³/h for the UK on request

## Fire protection resistant class

- **K 60**
- **K 90**
- **K 90 (K)**

## Casing

- **ELS-GA Ref. No. 1592**
  - Surface mounted casing with fire protection K 60. Airtight backdraught shutter, 90° transferable spigot for any mounting position and quick plug connector for electrical connection as well as screws and wall plugs.
  - Made from flame retardant polymer (white), class B 2.
  - Spigot diameter ø 80 mm.
  - **Application:** Surface mounted installation on walls and ceilings. Fire protection and connection see symbol page 47.
  - Fire protection approval No. Z-41.3-367

- **ELS-GAB Ref. No. 1590**
  - Surface mounted casing with fire protection K 90. Airtight backdraught shutter, 90° transferable spigot for any mounting position and quick plug connector for electrical connection as well as screws and wall plugs.
  - Made from flame retardant polymer (white), class B 2.
  - Spigot diameter ø 75/80 mm.
  - **Application:** Surface mounted installation on walls and ceilings. Fire protection and connection see symbol page 47.
  - Fire protection approval No. Z-41.3-511

- **ELS-GAK Ref. No. 1599**
  - Surface mounted casing with fire protection K 90 (K). Airtight backdraught shutter, 90° transferable spigot for any mounting position and quick plug connector for electrical connection as well as screws and wall plugs.
  - Made from flame retardant polymer (white), class B 2.
  - Spigot diameter ø 75/80 mm.
  - **Application:** Surface mounted installation on walls and ceilings. Fire protection and connection see symbol page 47.
  - Fire protection approval No. Z-41.3-562

## Type, Ref. No., Specification

- **Symbol explanation:** see page 47
Surface mounted QuietVent ELS for toilets – bathrooms

**Type, Ref. No., Specification**

<table>
<thead>
<tr>
<th>Type, Ref. No.</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS-VE 60/30 Ref. No. 0535</td>
<td>Fan unit with 2 speeds (60/30 m³/h) with general and trickle ventilation, facia, attenuation plate and quick plug connector for electrical connection. Insulation class II, protection to IP 55, for installation in zone 1 of bathroom units. Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz, 16/8 W. Flat facia (white), acoustically lined for low noise levels. Indicator to monitor the permanent filter. Filter changed in seconds. Sound levels: sound power 41/34 dB(A), sound pressure 37/30 dB(A), (when installed in surface mounted casing). Approval No.: Z-51.1-56</td>
</tr>
<tr>
<td>ELS-VE 60 Ref. No. 0425</td>
<td>Fan unit with 60 m³/h air flow volume. 230 V / 1 ph. / 50 Hz, 16 W. Sound levels: sound power 41 dB(A), sound pressure 37 dB(A). Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VEZ 60/30 Ref. No. 0536</td>
<td>Fan unit with built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature). Other details as ELS-VE 60/30.</td>
</tr>
<tr>
<td>ELS-VEZ 60 Ref. No. 0426</td>
<td>Fan unit with 60 m³/h air flow volume and built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature), 230 V / 50 Hz / 19 W. Other details as ELS-VE 60.</td>
</tr>
<tr>
<td>ELS-VEB 60 Ref. No. 0509</td>
<td>With 60 m³/h air flow volume and built-in PIR sensor for automatic run (3, 7, 10, 15 min. adjustable) when entering the room. Electrical wiring to nearest power supply without using a switch. Other details as ELS-VE 60.</td>
</tr>
<tr>
<td>ELS-VEF 60 Ref. No. 0431</td>
<td>Fan unit with 60 m³/h air flow volume. Other details as ELS-VEF 60/30.</td>
</tr>
<tr>
<td>ELS-VEF 60/30 Ref. No. 0515</td>
<td>Fan unit with 2 speeds (60/30 m³/h) and with built-in electronic dynamic humidity sensor. Function: Background ventilation at continuous operation. If the set humidity level is reached the fan runs automatically on high speed until the room humidity is back to normal. When switched manually (e.g. via light switch) high air flow volume with overrun timer.</td>
</tr>
</tbody>
</table>

**Designated air flow volume**

- **60 m³/h**
  - ELS-VE 60 Ref. No. 0425
  - ELS-VEZ 60 Ref. No. 0426
  - ELS-VEB 60 Ref. No. 0509

- **100 m³/h**
  - ELS-VE 100 Ref. No. 0429
  - ELS-VEZ 100 Ref. No. 0434
  - ELS-VEZ 100/60 Ref. No. 0430
  - ELS-VE 100/60/40 Ref. No. 0432

**Fans with extra features**

- **ZT Ref. No. 1277** Thermal overrun timer with variable run on time, used with light switch.
- **ZNE Ref. No. 0342** Electronic overrun timer with adjustable run on time 3, 7, 10, 15 minutes.
- **ZNI Ref. No. 0343** Overrun and interval timer. Run on times as ZNE, intervals 4, 8, 12, 24 hours.
- **ZV Ref. No. 1279** Electronic overrun timer with stepless adjustable run on time (4 -15 minutes).
- **DSEL 2 Ref. No. 1306** 2 speed on/off switch.
- **DSEL 3 Ref. No. 1611** 3 speed on/off switch.
- **ELF/ELSD Ref. No. 0587** Spare permanent filter for ELS fans, can be cleaned in dishwasher (Contents: 2 pcs.).

**Fan units including facia**

- **ELS-VE 60/30 Ref. No. 0535** Fan unit with 2 speeds (60/30 m³/h) with general and trickle ventilation, facia, attenuation plate and quick plug connector for electrical connection. Insulation class II, protection to IP 55, for installation in zone 1 of bathroom units. Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz, 16/8 W. Flat facia (white), acoustically lined for low noise levels. Indicator to monitor the permanent filter. Filter changed in seconds. Sound levels: sound power 41/34 dB(A), sound pressure 37/30 dB(A), (when installed in surface mounted casing). Approval No.: Z-51.1-56 |
- **ELS-VEZ 60/30 Ref. No. 0536** Fan unit with built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature). Other details as ELS-VE 60/30. |
- **ELS-VEB 60 Ref. No. 0509** With 60 m³/h air flow volume and built-in PIR sensor for automatic run (3, 7, 10, 15 min. adjustable) when entering the room. Electrical wiring to nearest power supply without using a switch. Other details as ELS-VE 60. |
- **ELS-VEF 60 Ref. No. 0431** Fan unit with 60 m³/h air flow volume. Other details as ELS-VEF 60/30. |
- **ELS-VEF 60/30 Ref. No. 0515** Fan unit with 2 speeds (60/30 m³/h) and with built-in electronic dynamic humidity sensor. Function: Background ventilation at continuous operation. If the set humidity level is reached the fan runs automatically on high speed until the room humidity is back to normal. When switched manually (e.g. via light switch) high air flow volume with overrun timer. |

**Designated air flow volume**

- **ELS-VE 60 Ref. No. 0425** Fan unit with 60 m³/h air flow volume. 230 V / 1 ph. / 50 Hz, 16 W. Sound levels: sound power 41 dB(A), sound pressure 37 dB(A). Other details as ELS-VE 60/30. |
- **ELS-VEZ 60 Ref. No. 0426** Fan unit with 60 m³/h air flow volume and built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature), 230 V / 50 Hz / 19 W. Other details as ELS-VE 60. |
- **ELS-VE 100 Ref. No. 0429** Fan unit with 100 m³/h air flow volume. Maintenance free, energy saving ball bearing motor 230 V / 1 ph. / 50 Hz, 33 W. Sound levels: sound power 48 dB(A), sound pressure 44 dB(A), (when installed in surface mounted casing). Other details as ELS-VE 60/30. |
- **ELS-VEZ 100 Ref. No. 0434** Fan unit with 100 m³/h air flow volume with built-in overrun timer. (Function as ELS-VEZ 60). Other details as ELS-VE 100. |
- **ELS-VEZ 100/60 Ref. No. 0430** Fan unit with 2 speeds (100/60 m³/h) for general and trickle ventilation, with built-in overrun timer and delayed start (approx. 1 min.). Run on time 5-6 min. (variable by running time and temperature). Sound levels: sound power 48/41 dB(A), sound pressure 44/37 dB(A), (when installed in surface mounted casing). Other details as ELS-VEZ 60,30. |
- **ELS-VE 100/60/40 Ref. No. 0432** Fan unit with 3 speeds (100/60/40 m³/h) for general and trickle ventilation. Sound levels: sound power 48/41/34 dB(A), sound pressure 44/37/30 dB(A), (when installed in surface mounted casing). Other details as ELS-VE 60/30. |
Mono tube ventilation system QuietVent ELS
Determination of diameters of main ducts

For easy design, the regulations from DIN 18017, Pt. 3 have been integrated in the diagrams below.

60 m³/h Bathroom or toilets

1 unit per floor

Installation of 1 unit per floor with 60 m³/h designed air flow volume and operation of all units at the same time.

2 units per floor

Installation of 2 units per floor with 60 m³/h designed air flow volume and operation of all units at the same time.

Assuming a room height of 2.75 m, a straight ducting without bends, a ducting length of max. 1.5 m from last unit to air extract above the roof as well as max. 60 Pa. between ventilated room and exhaust opening, the required main riser diameter can be read from above's diagram. They are valid for a designed air flow volume of 60 or 100 m³/h per unit and operation of all units at the same time.

Copies of the following approvals are available on request. Approval No. Z-51.1.56.
Fire protection approval No. Z-41.3-365 for Casing -GB.
Z-41.3-366 for Casing -GBZFR - GBZFR.
Z-41.3-367 for Casing -GA.
Z-41.3-511 for Casing -GAB.
Z-41.3-562 for Casing -GBK, -GAK.
Z-41.3-512 for Casing -GDB, -GDBZFR.

Essential building regulations and BS 7671:2001 can be found in the extract on page 38. Possible options see page 42-53.
Mono tube ventilation system QuietVent ELS

Determination of diameters of main ducts

100 m³/h One and two room ventilation

Installation of one unit per floor
with 100 m³/h designed air flow volume and operation of all units at the same time. (Volume e.g. = 100 m³/h. Second room ventilation with one unit = bathroom 60 m³/h, toilet 40 m³/h).

Installation of 2 units per floor
with 100 m³/h designed air flow volume and operation of all units at the same time. (Volume e.g. = 100 m³/h. Second room ventilation with one unit = bathroom 60 m³/h, toilet 40 m³/h).

Example 1:
Type of room: bathroom/toilet
\( V = 60 \text{ m}^3/\text{h} \)
Units per floor: 1
Floor levels: 9
Main riser diameter: ?

______________________________
According to diagram ①
Main riser diameter: 160 mm

Example 2:
Type of room: bathroom and separated toilet with one unit or kitchen ventilation
\( V = 100 \text{ m}^3/\text{h} \) (bathroom 60 m³/h and toilet 40 m³/h)
Number of units per floor: 2
Floor level: 7
Main riser diameter: ?

______________________________
According to diagram ③
Main riser diameter: 225 mm
Interchangeable facias

The standard facia is white and can be replaced by one of the following coloured facias.

### ELS-WF/..../manhattan
- Ref. No. 2530

### ELS-WF/..../beige
- Ref. No. 2534

### ELS-WF/..../pergamon
- Ref. No. 2532

### ELS-WF/..../calypso
- Ref. No. 2536

### ELS-WF/..../lilac
- Ref. No. 2538

### ELS-WF/..../titan
- Ref. No. 2540

### ELS-WF/..../maghogany
- Ref. No. 2542

### ELS-WF/..../carrara bianco
- Ref. No. 2546

### ELS-WF/..../marquina nero
- Ref. No. 2544

* The listed facias can be used for all flush mounted QuitVent ELS ELS, except ELS-VEB and ..-VEF.
The transfer of fire and smoke to other floor levels must be prevented when buildings are higher than two storeys with certificated fire protection elements, classification K 90-DIN 18017.

Depending on the circumstances on site, the following can be used:

- **ELS-casing with fire protection** (e.g. ELS-GB, -GBK, -GAB and others, see product pages).
- **Fire damper ELS-D**
  - For installation in ventilation main duct. Advantage: Approved for use in ventilation shafts and within mixed service shafts (even with flammable services) shafts, only needs to be covered with a 12.5 mm plaster board panel. All ELS fans, connected with flexible aluminum ducting do not need any fire protection classifications.
- **Fire protection sleeve BSH**
  - Operation and installation as ELS-D. But the ventilation units need a metal backdraught shutter. Plus the use of flexible steel ducting for the connection ducting is required.

### Fire damper ELS-D

<table>
<thead>
<tr>
<th>Dia. mm main duct</th>
<th>100</th>
<th>125</th>
<th>140</th>
<th>160</th>
<th>180</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>ELS-D</td>
<td>ELS-D</td>
<td>ELS-D</td>
<td>ELS-D</td>
<td>ELS-D</td>
<td>ELS-D</td>
</tr>
<tr>
<td>Ref. No.</td>
<td>0270</td>
<td>0185</td>
<td>0186</td>
<td>0187</td>
<td>0188</td>
<td>0271</td>
</tr>
</tbody>
</table>

The low cost and mounting-friendly flexible aluminium ducting can be used for the connections. Detailed information see product pages and page 270.

### Fire protection sleeve BSH

To be installed vertically in the ceiling within the main duct run (spiral ducting). It acts as a fire barrier to prevent heat transfer to the floor above in the case of a fire. Approved for use in ventilation shafts and within mixed service shafts (even with flammable services) shafts, only needs to be covered with a 12.5 mm plaster board panel. To protect the upper floor from heat transfer in case of fire, the spiral duct must be cased with 50 mm thick insulation in every floor up to the height of 1 meter over the floor BSHI.. (accessory). The installed fans must have a metal backdraught shutter (e.g. casings ELS-GAK, -GK, -GKZR). Detailed information see following page.

### Passive ventilation units and thermostatic supply valves for universal use

- **Automatic passive ventilation unit** – Automatically temperature controlled, using a thermostatic valve, built-in attenuator and outside grille as standard
  - ZLA 80 0214
  - ZLA 100 0215
  - ZLA 160 0216
- **Manual passive ventilation unit** – Manually adjustable by a four step ratchet mechanism using a pull cord, built-in attenuator and outside grille as standard
  - ZLE 100 0079

### Thermostatic supply valves

- For installation in existing ventilation openings
  - ZTV 80 0078
  - ZTV 100 0073
  - ZTV 160 0074

### Air intake element with air flow controller and limiter

**ALEF.**

- Ideal for refit applications as well as new buildings.

### Air intake element to install in roller blind cabinets

**ALDR 600**

- 2106

### Air intake element to install in window frames

**ALEF 30**

- 2100

**ALEF 45**

- 2101

**ALEFS 30**

- 2102

**ALEFS 45**

- 2103

| V m³/h Type Ref. No. | Type Ref. No. Type Ref. No. Type Ref. No. |
|---------------------|-----------------|-----------------|
| Air intake element to install in window frames with air flow controller and limiter | ALEF 30 2100 | ALEF 45 2101 |
| Air intake element to install in roller blind cabinets with automatic air flow controller and noise cover | ALDR 600 2106 | ALEFS 30 2102 | ALEFS 45 2103 |

### Door grille

**Discreet, non vision door transfer grille** made from impact resistant polymers, to be installed into doors. Detailed information see product pages air grilles.

**LTGW**

- Made from white polymers.

**LTGB**

- Made from brown polymers.

Information

- Dimensions, detailed technical information as well as further sizes:
  - Pages
    - Air grilles 248-256
    - Air intake elements 271-274
    - Controllers and switches 275-290
    - Fire prot. elements for use in multi storey constr. with more than 2 floors 264-270
Fire protection sleeve BSH
For Ventilation systems K 90-DIN 18017. Maintenance free.

You can’t get smaller duct fire protection! In building shafts, this fire protection element does not need a millimetre more space than the ducting itself.

The essential advantages of the Helios BSH systems are:
- There are no further fire protection requirements for the covers of installation shafts with mixed mains.
- Absolutely maintenance free. There are no flexible parts, no intumiscient material and no fusible link.
- Installation with low-priced ducting system, that means main and connecting duct using spiral ducting and normal duct components. It’s impossible to get it simpler.
- Clear duct cross section in main ducting.
- Suitable for ventilation of sanitary facilities (bathroom, toilet) and kitchens.
- Installation of several fire protection elements within one fire sector.

General approved by the DIBt with approval No. Z-41.6-613.
Fire resistance class K 90-DIN 18017 S.

The BSH system consists of the following components:
1. Fire protection sleeve BSH acts in the case of fire as compensator and is to be inserted into the main ducting in floor opening (see installation detail). The design (with 1, 2 or without spigot) can be different per storey, according to the requirements.
2. BSHI insulation sleeve To prevent the upper storey from fire through heat transfer, the main duct must be insulated one meter over the floor with the insulation sleeve BSHI in every floor. A separation between ventilation ducting and other (also combustible) elements is therefore not necessary.
3. ELS ventilation unit The connected fan casings must be fire protected (airtight backdraught shutter etc.). Following types can be used:
   - Surface mounted casing ELS-GAK, Ref. No. 1599;
   - Flush mounted casing ELS-GK, Ref. No. 0591;
   - Flush mounted casing with second room connection ELS-GKZR, Ref. No. 0589.
   These casings are suitable for all ELS fans.
4. Steel duct SF 80 For the connection between the extract spigot of the ELS and the fire protection sleeve BSH, the steel duct SF 80, Ref. No. 2001, must be used. Nominal diameter 80; length 1.2 m. One connection spigot is included; further reducers are available as accessory (RZ 80/71, Ref. No. 5230).

<table>
<thead>
<tr>
<th>Diameter mm</th>
<th>Fire protection sleeve BSH</th>
<th>No. of spigots</th>
<th>Insulation</th>
<th>Dimensions in mm</th>
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Approval No. Z-41.6-613

Diagram of system
Plan view – installation shaft with mixed mains

Index 1 Storey ceiling
2 Ceiling sealing
3 Cover of installation shaft e.g. 12.5 mm plaster board panel
4 Main duct, spiral ducting
5 Insulation sleeve BSHI
6 Connection duct from flex. steel duct
7 Connection duct, rigid, spiral ducting
8 Reducer, diameter 80/71
9 ELS unit, flush mounted* 10 ELS unit, for second room extraction* 11 ELS second room extraction element 12 ELS unit, surface mounted* 13 Fire protection sleeve BSH.../. 14 Mains for water and heating *

* with fire protection shutter (maintenance free)
### Technical data

<table>
<thead>
<tr>
<th>Type</th>
<th>ELS</th>
<th>ELS-VE 60/30</th>
<th>ELS-VE 60</th>
<th>ELS-VEZ 60/30</th>
<th>ELS-VE 60</th>
<th>ELS-VFZ 60/30</th>
<th>ELS-VF 60</th>
<th>ELS-VE 100/60</th>
<th>ELS-VEZ 100/60</th>
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<td>36/29</td>
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</tbody>
</table>

### Notes

- All power and sound levels statements to DIN 24163, DIN 24166, DIN 45635, DIN 44974.
- *ELS-VEZ 100 as ELS-VE 100, but with overrun approx. 5-6 minutes.
- Depending on running time and temperature, delayed start approx. 1 minute.
- Factory set 6 minutes, other times can be set on site.
- At 30 m³/h

* Radio suppression to EN 55014/2.87, A2/1990; DIN VDE 0875-1/12.88. A2/10.90; EN 60555-2/4.87; DIN VDE 0838-2/6.87. Radio suppression to EN 50082-2/1.92; DIN VDE 0838 T.62/2.93 up to max. 2 kV.
- Additional steps are necessary when exceeded.
- Peak voltage protection type EG 0.1 Ref. No. 0273 as accessory.