

# Heat Recovery

Home Ventilation with Heat Recovery



# Controlled

## Systems with

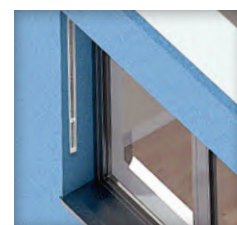
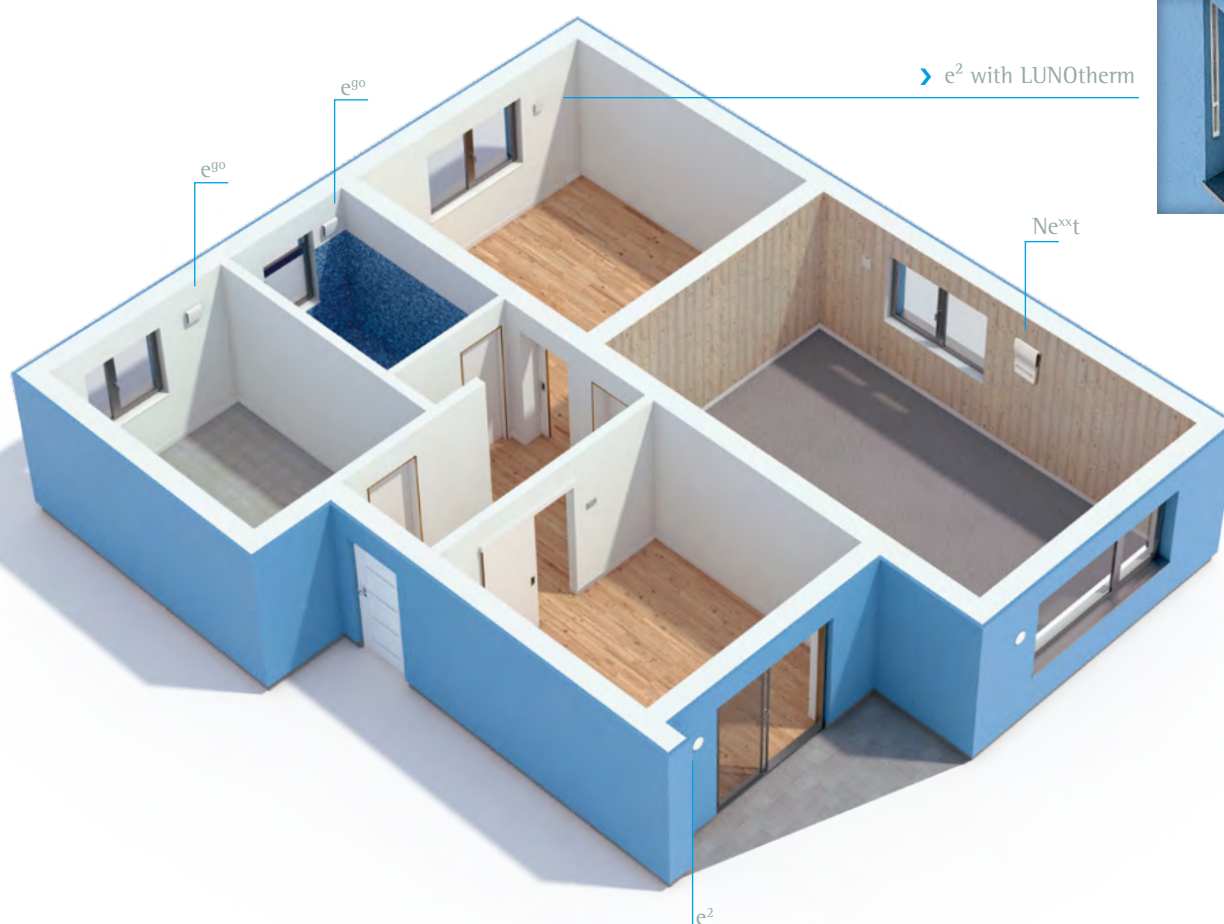
### Systems with HR

We need fresh air to be able to live healthy lives. We do not feel well and may even fall ill without it. Fresh air is therefore essential for us – and just as well for our four walls. But how can we make sure that our house is sufficiently ventilated when we're traveling so often? How can we also ensure that our home stays nice and warm, so we feel comfortable and do not waste valuable heating energy? With decentralised domestic ventilation systems with heat recovery from LUNOS that's no problem.

Ventilation systems with heat recovery are particularly efficient and provide fresh air and a pleasant living environment in every room. For supply and exhaust ventilation, all rooms of the apartment or house can be equipped with heat recovery devices.

For this purpose LUNOS has developed various units: The e<sup>2</sup> family consisting of the well-known e<sup>2</sup>, the e<sup>2</sup>mini and e<sup>2</sup>short, and now the new e<sup>2</sup>neo. They are preferably installed in living rooms and bedrooms, whereas the e<sup>go</sup> is employed in exhaust air rooms such as bathrooms and kitchens. Here the brand new Ne<sup>xt</sup> from LUNOS falls into line. It provides ventilation no longer only for domestic rooms with decentralised systems, but now also hotels, hospitals and schools can be equipped by LUNOS.

You will find all the information you need in this brochure about the technical details and possible applications – and we will be happy to answer any question you may have.



# Home Ventilation

## heat recovery



### > Supply & exhaust air with HR



#### **e², e²neo, e²short** **A** **A+**

Axial outer wall fans with regenerative heat recovery for living rooms and bedrooms, combinable with LUNOtherm.



#### **e⁹⁰** **A**

Axial outer wall fan with regenerative heat recovery for functional rooms.



#### **Neˣᵗ** **A**

Radial outer wall fan with recuperative heat recovery for living rooms, bedrooms and functional rooms. Wall duct via 160 wall-tube.



#### **e²mini** **A**

Axial outer wall fan with regenerative heat recovery for living rooms and bedrooms.



#### **9/MRD**

Wall installation housing to hold the 160 wall-tube.

H x W x D in mm:

240 x 210 x masonry thickness.



#### **e², e²neo und e²short + LUNOtherm**

Wall installation housing to hold the 160 wall-tube.

H x W x D in mm:

240 x 210 x masonry thickness.

### The principle of regenerative heat recovery

The e⁹⁰ is the perfect enhancement to the e² family in a ventilation system with heat recovery. By reason of the decentralised alignment, the individual ventilation devices can be used exactly where they are required.

Except for the e²mini, the e² family can also be combined with the LUNOtherm façade element. When using the façade element the outer grille is not required. What remains is a narrow ventilation gap in the reveal or in the lintel.

### The new Neˣᵗ with recuperative heat recovery

The Neˣᵗ makes it possible to provide ventilation and air exhaust in large rooms with just one device. Two extremely quiet radial fans achieve up to 110 m³/h. You can choose between two versions with crossflow or counterflow heat exchanger.

### Living rooms and bedrooms:

The Neˣᵗ and the e² family are ideally suited for use in living rooms and bedrooms.

### Bathroom, WC, utility room (UR) and kitchen:

The e⁹⁰ is used for functional areas such as bathroom, WC, utility room and kitchen. Thanks to the two separate air channels in one unit, a second fan is not required here. The e⁹⁰ can be operated both in heat recovery operation and in the exhaust air mode (airflow level 45 m³/h).

Also LUNOS supports the objectives of the Federal Republic of Germany concerning the energy turnaround, and so our systems are of course eligible due to their high heat provision level and their high efficiency. Detailed calculations are available from your energy advisor.





Ne<sup>xt</sup>

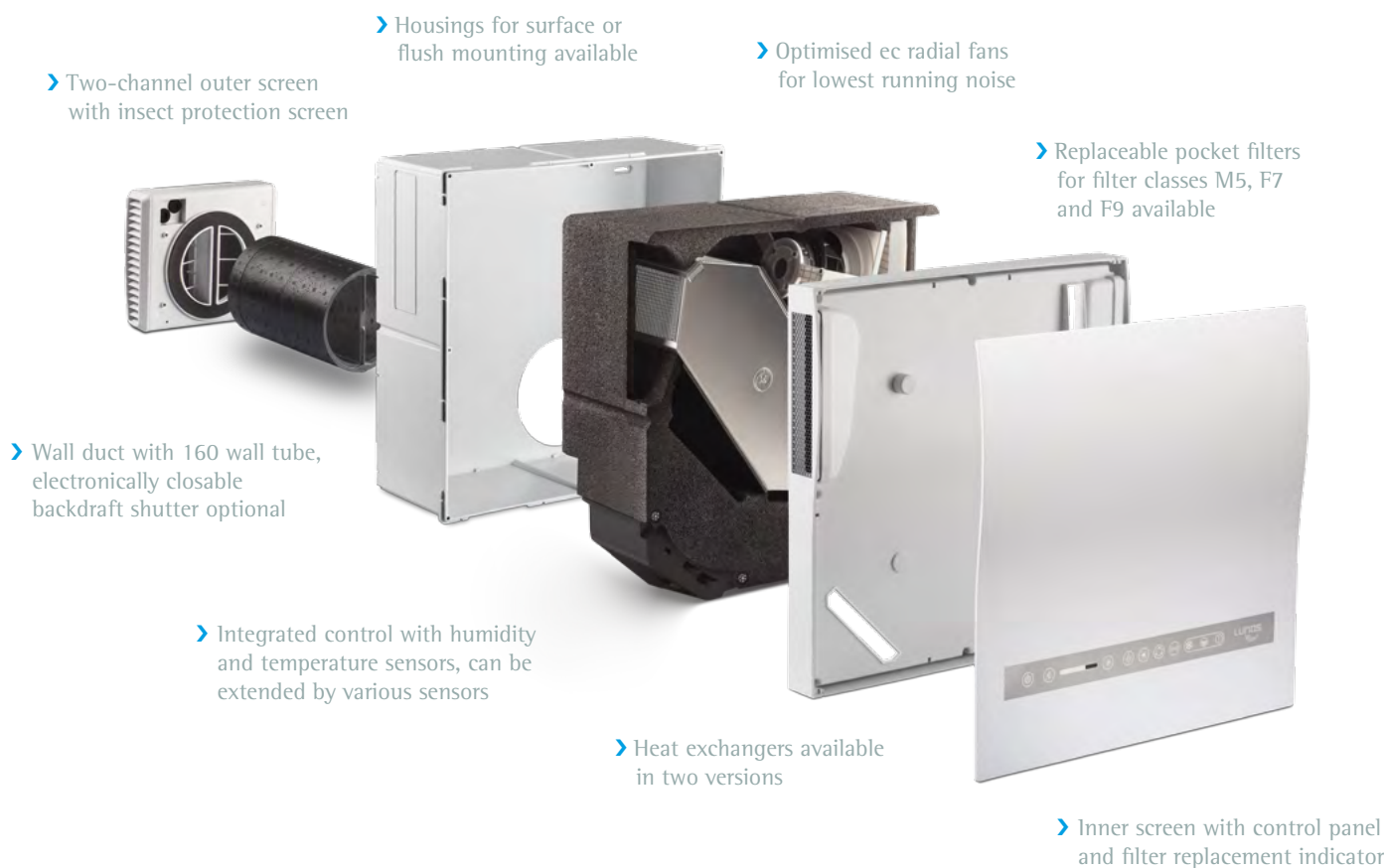
# Home ventilation with

## Ne<sup>xt</sup>, the evolution

### All features at the highest quality level

LUNOS now opens up the market of decentralised ventilation units for completely new application areas: The Ne<sup>xt</sup> is a decentralised heat recovery unit, which is used in kindergartens, schools, offices, hotels and medical practices and of course, classically, in apartments and houses. In regions or altitudes where extraordinary wind loads prevail, the Ne<sup>xt</sup> is just as well suited as in areas that need to be particularly soundproof. By the optional use of an F9 filter the Ne<sup>xt</sup> exceeds all standards of hygiene requirements many times over. The Ne<sup>xt</sup> achieves a heat recovery rate of up to 90 %. The heat transfer is effected by a crossflow heat exchanger or optionally by a counterflow heat exchanger.

The Ne<sup>xt</sup> is topped off by a completely new operating concept. Placed behind an elegant screen, the control - when operated - provides a clear but subtle feedback by backlighting. By default, the Ne<sup>xt</sup> is controlled via humidity or temperature sensors. The Ne<sup>xt</sup> can be installed both under and on plaster. The installation housing of the surface-mounted version includes a stylish design frame making an attractive visual impact. The well-known 160 wall tube is used for the duct to the outside.



# heat recovery

## in the decentralised system



### Maximum passive noise protection

Thanks to the intelligent design a maximum standard sound level difference of 56 dB is achieved, which means that the Ne<sup>xt</sup> can even be used at airports.

### Low noise level thanks to ec technology

While the well-known e<sup>2</sup> with the axial ec technology has already achieved top ratings, the radial ec motors of the Ne<sup>xt</sup> are convincing all along the line. Nestled in a flow-optimised EPP chassis, the ec motors, which are already very quiet, are virtually "silenced". That is why the Ne<sup>xt</sup> is currently one of the quietest units in its class.

### Filters

The filters meet the highest quality standard of M5 filters, F7 filters or F9 filters.

### Efficiency

With its very low power consumption, the Ne<sup>xt</sup> is extremely energy efficient, thus making an active contribution to environmental protection. The highly efficient ec technology enables a low power consumption.

### The Ne<sup>xt</sup>-housing can be used universally

A stylish design frame is available for the surface-mounted version. The flush-mounted version requires a wall thickness of at least 280 mm.

### Heat recovery and control technology

The key component of the Ne<sup>xt</sup> is the built-in device with heat exchanger, which is available in two versions: **Ne<sup>xt</sup> K**: The crossflow heat exchanger achieves heat recovery levels of up to 80 %. 62 % according to EN 13141-8 at 75 m<sup>3</sup>/h (reference airflow volume). **Ne<sup>xt</sup> G**: The bigger counterflow heat exchanger has a significantly higher efficiency, providing a heat recovery level of up to 90 %, 84 % according to EN 13141-8 at 60 m<sup>3</sup>/h (reference airflow volume).

The integrated control provides the perfect interaction of the various components. Equipped with humidity-temperature sensors, even the standard version of the automatic control ensures efficient ventilation with humidity protection. Optionally, additional sensors such as, for example, the CO<sub>2</sub> sensor can be integrated or connected with the EnOcean wireless technology.

### LUNOS design line

The Ne<sup>xt</sup> adds the waveform to the current design of LUNOS products while maintaining its basic principles and recognition value. With an inner screen size of 510 x 510 mm, the fan thus remains a stylish element of home technology. The front screen also contains the plainly designed control panel. The total depth of 240 mm can be lowered up to 67 mm into the outer wall.

### LUNOS compatibility

By using the LUNOS 160 standard wall-tube as wall duct, the Ne<sup>xt</sup> is compatible with the fans of the 160 series. Only for the outer covering a two-way outer screen or outer hood must be used. In the surface-mounted version, it is particularly easy to replace a 160 fan by the Ne<sup>xt</sup>.

### Tested according to EN 13141-8

Conforming to standards: All device data of the ErP product data sheet and the energy labels have been determined according to EN 13141-8





# Ne<sup>xt</sup>

## A modular system for

NEW

Ne<sup>xt</sup> modular system

### > Functions

In both versions of the built-in device, the Ne<sup>xt</sup> is equipped as standard with humidity-temperature sensors both on the supply air and the exhaust air side. Thereby, the rooms are always ventilated automatically and in accordance with the respective requirements. Manual intervention is not necessary. For additional sensors and the radio module 5/FM there are slots available on the control board. The Ne<sup>xt</sup> can be integrated into an EnOcean wireless network via the radio module and thus receive information from external sensors. In addition, a WiFi module will be available by which the Ne<sup>xt</sup> can be remotely controlled via WLAN. The inner screen for the operation of the Ne<sup>xt</sup> is equipped with the following functions:

- Airflow levels adjustable: Ne<sup>xt</sup> K 0-110 m<sup>3</sup>/h and Ne<sup>xt</sup> G 0-90 m<sup>3</sup>/h
- Automatic: Activation of the humidity-temperature control
- Summer mode: The humidity-temperature control automatically switches the fan down to a lower step
- Anti-freeze function: The airflow level is reduced to prevent freezing of the heat exchanger
- Filter change indicator

	Ne <sup>xt</sup> K	Ne <sup>xt</sup> G
Efficiency*	62 %	84 %
Airflow volume	15-110 m <sup>3</sup> /h (stagelessly adjustable)	15-90 m <sup>3</sup> /h (stagelessly adjustable)
Power Consumption**	22 Watt	20 Watt
Mains Voltage	230 V / 50 Hz 115 V / 60 Hz US version (available on request)	230 V / 50 Hz 115 V / 60 Hz US version (available on request)
Sound Power Level**	40 dB(A)	39 dB(A)
Core Drilling	162 mm	
Minimum Wall Thickness (surface mounting/flush mounting)	110 mm / 280 mm	
Depth in Wall Installation	172 mm housing + 105 mm flap closure in wall duct	
Cutout Installation Housing	min. 482 mm x 482 mm	
Dimensions of the Unit	480 mm x 480 mm x 170 mm	
Size of the Inner Screen	510 mm x 510 mm x 66 mm	
Size of the Outer Hood	235 mm x 205 mm x 72 mm	
Energy Efficiency Class	A	

\* according to EN 13141-8

\*\* at 70 % of the maximum airflow volume, according to ErP Directive EU Regulation 1254, measured with M5 filters.

# the perfect fan



## > Configuration Ne<sup>xt</sup>

The modular system of the Ne<sup>xt</sup> enables easy combination of the various components with the two built-in devices. Five components are required to complete one fan. One product needs to be chosen for each component, so that the selection is complete:

Built-in device	Housing	Wall-tube + adapter *	Inner screen	External closure
Built-in device NXT-G 	Built-in housing without surface mounting set: 3/NXT  or	500 mm length: 9/R 160-500  Adapter 2/AD 160  or	With membrane keyboard: 9/NXT-IBF 	Two-way outer screen: 1/EGA  or
Built-in device NXT-K 	Built-in housing with surface mounting set: 3/NXT + 3/NXT-AP 	700 mm length: 9/R 160-700  Adapter 2/AD 160 		Two-way outer hood: White 1/HWE-2 Anthracite 1/HAZ-2 

\* An adapter is required per each 10 cm wall-tube or part thereof



### Electric flap closure

The electric flap closure 9/KVEN-2 for the Nexxt based on the 160 pipe is available as an option. It can be used to close the wall duct automatically if required.

NEW

e<sup>2</sup>neo

## The e<sup>2</sup>neo - the reference in reverse technology

LUNOS works according to the principle of continuous improvement - this is how the e<sup>2</sup> was revolutionised: the new e<sup>2</sup>neo works from an extremely quiet operation of 5 m<sup>3</sup>/h. This was made possible by the development of a new motor with a significantly reduced operating noise, which can be controlled even more finely.

Therefore, the e<sup>2</sup>neo is not only quieter than the successful e<sup>2</sup> generation, but also more efficient. The approved and reliable effectiveness of the e<sup>2</sup> has, of course, been retained.



A+



# Heat Recovery

from the e<sup>2</sup> family



## Reverse technology: The heat recovery of the e<sup>2</sup> family for residential rooms

All fans of the e<sup>2</sup> family work according to the method of regenerative heat exchange. In reversing operation, a storage element charges up with thermal energy similar to a rechargeable battery and transfers the heat to the incoming outside air. e<sup>2</sup> fans are pref-

erably used in living rooms. There are always two devices running in paired operation, so that an even number of fans needs to be installed for the e<sup>2</sup>s to function properly.

### QUIET

#### › New ec technology and motor control

The new EC motor of the e<sup>2</sup>neo has been tuned even more finely to reverse technology requirements. The result is an even more precise control of the ventilation steps and an optimised change of air direction. The revised fan blades enable even lower running noises.

### ECO-FRIENDLY

#### › Efficiency

With the lower power consumption of its new ec motor, the e<sup>2</sup>neo has a particularly high efficiency thus ensuring significant energy savings in the heat supply. The e<sup>2</sup>neo thus achieves energy efficiency class A according to the ERP directive.

### INNOVATIVE

#### › Heat recovery

The compact heat store made of a ceramic composite material provides a heat provision level of more than 80 %.

### SLIM

#### › Small dimensions

In its class, the e<sup>2</sup>neo is among the world's smallest fans in decentralised home ventilation with heat recovery. The small, flat inner screens have approximately the size of a CD.

### COMPATIBLE

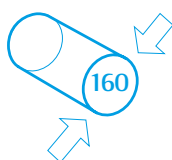
#### › Compatibility with other devices

If a LUNOS ventilation system has already been installed, an existing fan of the 160 series can be replaced by the e<sup>2</sup>neo. This is possible by the use of the same wall duct.

### UNIVERSAL

#### › Versatile installation options

All fans of the e<sup>2</sup> family can be used in new buildings as well as in modernisation work. In new buildings they are placed between the bricks by use of a wall installation housing. In modernisation work they are installed by means of a 162 mm core hole drilling. The wall must to be at least 300 mm thick.



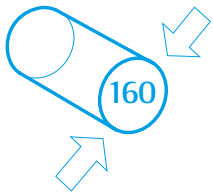
# e<sup>2</sup>

# Home Ventilation with e<sup>2</sup>, e<sup>2</sup>short & e<sup>2</sup>mini

e<sup>2</sup>, e<sup>2</sup>short & e<sup>2</sup>mini

e<sup>2</sup>

The classic one: proven and efficient for use in living rooms and bedrooms.



› Outer grille with insect protection screen

› EPP-thermal insulation elements with 0,038 W/mK

› Super-silent fan unit in sound-absorbing EPP-chassis

› Flow-optimised inner screen with washable G3 filter

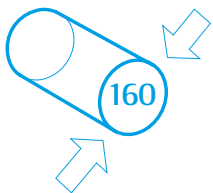
› Highly efficient ceramic heat store



A

e<sup>2</sup>short

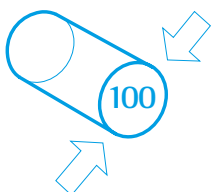
The short one: for narrow outer walls from 200 mm wall thickness



A

e<sup>2</sup>mini

The small one: for confined space conditions, from 167 mm to maximum 300 mm wall thickness



A

# Heat Recovery

from the e<sup>2</sup> family



## The classics of the e<sup>2</sup> family, three fans for all application purposes

No fan has characterised decentralised ventilation with heat recovery as strongly as the LUNOS e<sup>2</sup>. It is universally applicable and can be used even for high sound protection requirements. The e<sup>2</sup>short

and e<sup>2</sup>mini were developed for an even more flexible application range of the e<sup>2</sup> family. Thanks to these two fans even very narrow walls can be equipped with efficient ventilation devices.

### QUIET

#### › Low noise level thanks to ec technology

Highly efficient motors with the state-of-the-art ec-technology combined with flow-optimised and specially balanced fans have eliminated nearly all running noises. The result is a low self-noise level.

### ECO-FRIENDLY

#### › Efficiency

Due to their very low power consumption, e<sup>2</sup>, e<sup>2</sup>short and e<sup>2</sup>mini are particularly energy-efficient. The units thus achieve very good energy efficiency classes.

### INNOVATIVE

#### › Heat recovery

The units of the e<sup>2</sup> family have a very low energy consumption. Using state-of-the-art production methods, LUNOS succeeded in developing a compact heat store of a ceramic composite material, which provides a heat recovery rate of up to 90 %.

### SLIM

#### › Small dimensions

The e<sup>2</sup>mini belongs to the smallest decentralised fans in the field of home ventilation with heat recovery. The 160 fans e<sup>2</sup> and e<sup>2</sup>short are extremely compact in their class and convince by their small dimensions.

### COMPATIBLE

#### › Compatibility with other devices

If a LUNOS ventilation system has already been installed, an existing fan of the 160 series can be replaced by the e<sup>2</sup>neo, e<sup>2</sup> and e<sup>2</sup>short. This is possible by the use of the same wall duct.

### UNIVERSAL

#### › Versatile installation options

In new buildings as well as modernisation work, all fans of the e<sup>2</sup> family can be used. In new buildings they are placed between the bricks by use of a wall installation housing. In modernisation work they are installed by means of a 162 mm or 100 mm (e<sup>2</sup>mini) core hole drilling.

### › Characteristics

e<sup>2</sup>neo

A+

QUIET	Measuring surface sound pressure level* (Sound power level)**	From 11 dB (38 dB)
ECO-FRIENDLY	Power consumption	From 0,3 W
INNOVATIVE	Average thermal efficiency level	Heat provision level according to scavenging air procedure: 82,6 %
SLIM	Dimensions	Fan size: Ø 154 x 243 mm
COMPATIBLE	Compatibility with other devices	All 160 systems incl. LUNOtherm and outer hoods as external closure
UNIVERSAL	Versatile installation options	Usable in new buildings and modernisation work, wall thickness from 280 mm

#### Definitions for sound:

\* Measuring surface sound pressure level: indicates how high the sound pressure level is on a measurement surface (hemisphere) around the inner screen of a fan in 1 m distance. The higher the value, the louder is the unit. This value cannot be measured directly, it is a calculated value.

\*\* Sound power level: At 70 % of the maximum airflow according to (EU 1253/1254/2014). The sound power level indicates the "loudness" of a device and is independent of the distance.



# Heat Recovery

of the e<sup>2</sup> family



e<sup>2</sup>

A

e<sup>2</sup>short

A

e<sup>2</sup>mini

A

From 17 dB  
(40 dB)

From 1,4 W

Heat provision level according to scavenging air procedure: 90,6 %

Fan size:  
Ø 154 x 243 mm

All 160 systems incl. LUNOtherm and outer hoods as external closure

Usable in new buildings and modernisation work, wall thickness from 280 mm

From 17 dB  
(40 dB)

From 1,0 W

Heat provision level according to scavenging air procedure: 82.7 %

Fan size:  
Ø 154 x 168 mm

All 160 systems incl. LUNOtherm and outer hoods as external closure

Usable in new buildings and modernisation work, wall thickness from 200 mm

From 18 dB  
(40 dB)

From 0,6 W

Heat provision level according to scavenging air procedure: 74.4 %

Fan size:  
Ø 98 x 160 mm

Compatible with wall-tubes with an inside diameter of 100 mm

Usable in new buildings and modernisation work, wall thickness from 167 mm to max. 300 mm

## The ego – reverse technology for exhaust air rooms

LUNOS developed the ego for optimum ventilation with heat recovery in bathrooms, WCs and kitchens.

Paired operation is not required, because in an ego two small fans provide air supply and exhaust air with heat recovery at the same time.

- › Weatherproof outer screen with separate airflows and insect screen

- › Highly efficient ceramic heat store with a heat provision level of 81.4 %

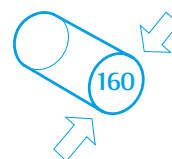


- › Quiet fan units in counterflow arrangement for simultaneous supply and exhaust ventilation

- › Flow-optimised inner screen with separate supply and exhaust air vents and washable G3 or pollen filter



- › On the façade side combinable with the new two-way outer hoods



# Heat Recovery

## in functional rooms



### Function of the reverse technology in exhaust air rooms

Like the all fans of the e<sup>2</sup> family, the e<sup>90</sup> uses the principle of regenerative heat exchange. However, the ego uses two fans operating in opposite direction so that supply and exhaust air are moved at the same time. A second device is not required for operation. Addi-

tionally, the system can be switched to an exhaust mode in which an airflow level of 45 m<sup>3</sup>/h is removed to quickly allow fresh air to flow into a room.

#### QUIET

##### › Low noise level thanks to ec technology

Highly efficient ec motors with flow-optimised fans ensure low running noises. This results in low sound values. Indication of the enveloping surface sound pressure level\* (sound power level)\*\*

From 17 dB  
(47 dB)

#### ECO-FRIENDLY

##### › Efficiency

The very low power consumption ensures high energy-efficiency. The e<sup>90</sup> thus achieves the energy efficiency class B.

From 1,0 W

#### INNOVATIVE

##### › Heat recovery

The compact heat store made of a ceramic composite material with an extraordinary honeycomb structure provides a high thermal efficiency.

Heat provision level according to scavenging air procedure: 81.4 %

#### SLIM

##### › Small dimensions

The e<sup>90</sup> belongs to the worldwide smallest fans in home ventilation with heat recovery in the class of two-way devices.

Fan size:  
Ø 154 x 300 mm

#### COMPATIBLE

##### › Compatibility with other devices

If a LUNOS ventilation system has already been installed, an existing fan of the 160 series can possibly be replaced by the e<sup>90</sup>.

Only when using e<sup>90</sup> inner screens and two-way outer screens

#### UNIVERSAL

##### › Versatile installation options

The e<sup>90</sup> can be used in new buildings as well as in modernisation work. In new buildings it is placed between the bricks using a wall installation housing. In modernisation work it is installed by means of a 162 mm core hole drilling - minimum wall thickness: 300 mm.

Usable in new buildings and modernisation work, wall thickness from 300 mm to max. 500 mm

#### Definitions for sound:

\* Measuring surface sound pressure level: indicates how high the sound pressure level is on a measurement surface (hemisphere) around the inner screen of a fan in 1 m distance. The higher the value, the louder is the unit. This value cannot be measured directly, it is a calculated value.

\*\* Sound power level: At 70 % of the maximum airflow according to (EU 1253/1254/2014). The sound power level indicates the "loudness" of a device and is independent of the distance.



# LUNOS Ventilation

for ventilation with heat recovery

Ventilation control systems

## › The universal control 5/UNI-FT for the e<sup>2</sup> family, e<sup>90</sup> and RA 15-60

NEW



By use of the new universal control 5/UNI-FT everything can be controlled automatically. It is equipped with considerably more functions than its predecessor and can also be switched to the humidity control mode. The delay timer is integrated as standard. Optionally, wireless sensors and switches can be connected via the attachable radio module 5/FM-UNI.

The universal control is a multifunctional 12 Volt control operated via a simple two-pole series switch. The fan type connected and the desired function have to be set. Various programs can be selected for each fan type.

The settings for the various ventilation modes can be made directly on the control via DIP switches. There are various settings for delay time and interval control as well as three ranges of humidity control available for selection.

## › The Touch Air Comfort (TAC)



This control is the multi-talent from LUNOS. Both the 12 V fans of the 160 series and the Silvento ec can be connected directly. Alternatively, almost any number of fans can be connected via universal controls, which can be operated via the TAC. Additionally, LUNOS 230 V fans can also be easily connected using the additional module 5/ACM.

The TAC can be configured for various fan scenarios. It proves to be an energy-efficient combination artist: Either different fans, the 230 V module 5/ACM for Silvento AC or individual universal controls are connected to the three outlets of the control. The integrated power pack is absolutely sufficient for e.g. a three-room apartment where four e<sup>2</sup> in the living rooms and one Silvento ec in the bathroom can be controlled. If more fans are required to supply larger apartments or single-family homes, the Touch Air Comfort can regulate several universal controls. Numerous universal controls can be connected to each outlet of the TAC control. In this way, almost any number of fans can be controlled via one Touch Air Comfort.

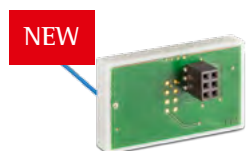


# Control Systems

## and accessories



### › Accessories for the new universal control 5/UNI-FT



#### Radio module with EnOcean technology

Communication between control, fans and external sensors has now become possible. By means of the radio module, the universal controller can optimally adjust the ventilation to the requirements through the use of the transmitted data.

Designation: 5/FM-UNI



#### External humidity-temperature sensor with EnOcean technology

This external sensor can be fixed almost anywhere and does not require additional power supply thanks to its extremely efficient solar cells. It can be linked to all LUNOS EnOcean radio network modules.

Designation: SFT-EO (H x W x D) 45 x 96 x 20 mm

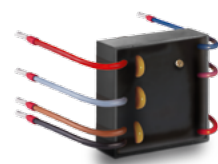
### › Accessories for Touch Air Comfort (TAC)



#### CO<sub>2</sub> module

Permanent measurements of the CO<sub>2</sub>-values enable the TAC to control the fans according to the air quality. The control range is adjustable, which allows fine-tuning towards various room conditions. The CO<sub>2</sub> program can be set concurrently with the humidity-temperature program. The automatic function will then react to the requirement that occurs first.

Designation: SCO2-TAC



#### Additional module for 230 V fans

By transmitting the control signal of the Comfort control TAC to 230 VAC the additional module enables the connection of the fan types Silvento AC und AB 30/60.

Designation: 5/ACM (H x W x D) 42 x 42 x 14 mm



# Accessories

160 screens,

## Accessories

### › The new comfort inner screens for the 160 series

NEW



#### Comfort inner screen

Thanks to the new design the direct noise input to the residents is reduced – the result is a more comfortable ambiance. The glass version of the new screen also stands out by its elegant design.

Plastic design

Designation: 9/IBK (H x W x D) 191 x 180 x 60 mm

NEW



Glass design

Designation: 9/IBG (H x W x D) 197 x 185 x 66 mm



### › Inner screens for the 160 series



#### Standard inner screen

Designation: 9/IBE (H x W x D) 180 x 180 x 35 mm



#### Noise protection inner screen

Sound insulation hood 9/IBS: increase of the standard sound level difference by up to 9 dB, reduction of self-noise, including washable filters of filter classes G2 and G3 1 pc each.

Designation: 9/IBS (H x W x D) 250 x 250 x 78 mm

\* All inner screens are lockable

## outer grilles and wall ducts



### > Outer grilles and screens for 160 systems

NEW



#### Plastic grille Ø 180 mm

for wall-tubes Ø 160 mm

NEW with façade protection ring, claw fixing and insect screen

Designation: 1/BE 180 sanded

Designation: 1/WE 180 white

Designation: 1/RE 180 red-brown



#### Outer hood aluminium

(H x B x T) 235 x 205 x 72 mm

For wall-tubes Ø 160 mm, insect screen, with sound insulation, to screw on.

Increase of standardised sound level difference by up to 6 dB.

Designation: 1/HWE white powder-coated

Designation: 1/HAZ anthracite powder-coated



#### Two-way outer screen, plastic

For wall-tubes Ø 160 mm, insect screen, with sound insulation, to screw on.

Designation: 1/EGA

(H x W x D) 217 x 257 x 63 mm

NEW



#### Two-way outer hood, aluminium

(H x W x D) 235 x 205 x 72 mm

For wall-tubes Ø 160 mm, insect screen, with sound insulation, to screw on. Increase of standardised sound level difference by up to 6 dB.

Designation: 1/HWE-2 white powder-coated

Designation: 1/HAZ-2 anthracite powder-coated

#### LUNOtherm Façade Elements

Variant diversity available with insulating thickness of 60–300 mm



##### 160 series with LUNOtherm A

W x H: 980 x 490 mm

Application in non-combustible ETICS

##### 160 series with LUNOtherm A FS

W x H: 980 x 505 mm

For mounting below the window.

Application in non-combustible ETICS

##### 160 series with LUNOtherm B

W x H: 1000 x 500 mm

Application in flame-resitant ETICS with mineral casing.

##### LUNOtherm B FS

W x H: 1000 x 515 mm

Application in flame-resitant ETICS with mineral casing. For mounting below the window.



### > Wall installation housings for the 160 series



#### Wall installation housing 9/MRD

(H x W) 240 x 210 mm

Designation: 9/MRD 18 cm

Designation: 9/MRD 24 cm

Designation: 9/MRD 30 cm

Designation: 9/MRD 36 cm

### > Wall-tubes for the 160 series



#### Wall-tube

for all devices of the 160 series (can also be used with LUNOtherm)

Designation: 9/R 160-500 (Ø x L) 160 x 500 mm

Designation: 9/R 160-700 (Ø x L) 160 x 700 mm

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