



## Product overview

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Differential pressure systems

**strulik** 



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# Fans

## General information



The supply air fan ensures sufficient supply air for the staircase or escape area to be protected. The required air volume depends on the protection goal of the system and the leaks determined.

The intake of smoke-free, clean air must be guaranteed. Each intake of air is assigned to a louver damper with spring return motor. In case of redundant fans, there are additional airtight dampers on each fan.

A repair switch with auxiliary contacts for monitoring is mounted on each fan.

## Supply air fan with casing for indoor installation type DV1



Type DV1

Type	DV1
Installation sizes	400 mm to 800 mm
Power range	0.75 to 15 kW
Accessories, standard	Repair switch, 1 x protection grille, rubber vibration damper
Accessories, optional	Flexible connectors, internal suspension, louver damper
Short text	Axial fan with characteristic curve stabiliser, in casing, impeller with adjustable blade and adjustable guide wheel
Colour	RAL 9006 or as requested

## Supply air fan without casing for utility rooms type DV2



Type DV2

Type	DV2
Installation sizes	400 mm to 1,120 mm
Power range	0.75 to 45 kW
Accessories, standard	Repair switch, air-intake nozzle, extension shaft, shaft feet
Accessories, optional	Flexible connectors, counterflanges, protection grille, diffuser, spring vibration damper, vertical brackets
Short text	Axial fan with characteristic curve stabiliser, impeller with adjustable blade and adjustable guide wheel
Colour	RAL 7030

## Supply air fan with sandwich casing for outdoor installation type DV1-WSG



Type DV1-WSG

Type	DV1-WSG
Installation sizes	400 mm to 1,120 mm
Power range	0.75 to 45 kW
Accessories, standard	Repair switch, 1 x insulating connector, roof frame
Accessories, optional	Insulating damper, air-intake hood, 2 x insulating connectors
Short text	Axial fan with characteristic curve stabiliser, in casing made of sandwich panels, impeller with adjustable blade and adjustable guide wheel
Colour	RAL 9002 or as requested

## Supply air fan with integrated pressure relief unit for indoor installation type DV-RK1



Type DV-RK1

Type	DV-RK1
Installation sizes	450 mm to 800 mm
Power range	0.75 to 11 kW, 5,000–35,000 m <sup>3</sup> /h
Accessories, standard	Repair switch, 1 x protection grille, rubber vibration damper
Accessories, optional	Flexible connectors, internal suspension, louver damper
Short text	Supply-air device with automatic pressure relief damper in casing, axial fan with characteristic curve stabiliser, impeller with adjustable blade and adjustable guide wheel
Colour	RAL 9006 or as requested

# Supply air grille

## General information



Grilles with the designated dimensions must be provided to allow the entry of supply air in the staircase. The measurement of the grilles must be dimensioned to approx. 2 m/s flow velocity with a distributed positioning on a supply air shaft.

The selection of perforation is based on the pressure loss of the grill, which determines the distribution of supply air in the staircase.

The grilles can also be used as individual grilles for supply air without shaft. In order to compensate for convection in winter or summer, it may be necessary to install adjustable grilles. The design is as described above. In addition, the grille is equipped with an electrically adjustable louver damper and a modulated actuator.

When used on an exhaust-air shaft in front of a smoke extraction damper, special attention has to be paid on the available pressure difference at the grille.

## Supply air grille with electric regulating damper type ZE-NIQ-JZL65



Type ZE-NIQ-JZL65

Type	ZE-NIQ-JZL65
Installation sizes	280 x 380 mm – 1,080 x 1,180 mm
Power range	850–15,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Actuator SLM-SLC
Accessories, optional	–
Short text	Air outlet front made of perforated sheet with regulating damper and installation frame
Colour	RAL 9010 or as requested

## Supply air grille type NIQ



Type NIQ

Type	NIQ
Installation sizes	300 x 300 mm – 1,200 x 1,200 mm
Power range	850–15,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	2. layer perforated sheet for pressure loss adjustment
Accessories, optional	Black PU sight protection mat between the perforated sheets
Short text	Air outlet front made of perforated sheet with installation frame
Colour	RAL 9010 or as requested

# Pressure relief unit

## General information



The pressure relief unit is installed directly along the pressure area and is intended to discharge excess air from the pressure room when the door is closed.

The unit consists of an automatically regulating pressure relief damper, a louver damper made of insulating material and a hood blowing out on four sides. The entire unit ensures pressure relief independently of wind direction.

In order to prevent cold draughts and condensation, the pressure relief damper must be connected „normally open“ with a downstream louver damper made of insulating material with a spring return motor.

The automatic pressure relief damper integrated in the pressure relief unit is factory-set to the desired response pressure using a spring system.

### **In order to ensure the pressure relief, the following should be observed:**

The maximum total pressure loss calculated during the design of the system including the pressure relief unit may not be exceeded at the required pressure relief volume flow.

The dimensions of the pressure relief unit, the selection of on-site protection grilles etc. as well as installation conditions must be coordinated with the manufacturer.

The spring return motors in use are supplied with 2-wire technology (SLC). The supply air fan may only be put into operation when the louver damper in the pressure relief unit is completely opened. Otherwise, the pressure relief cannot be guaranteed, and impermissibly high pressure levels may be reached in the pressure area.

### **Set-up of the pressure relief damper:**

The pressure difference for opening the pressure relief damper is specified via the factory-set pretensioning length of the spring system in such a way that the pressure relief damper reacts spontaneously to changes in pressure resulting from opening or closing doors.

The factory-set spring tension may only be changed by qualified personnel from Strulik GmbH. The minimum overpressure in the staircase prior to relieving pressure corresponds with closed doors to the flow-through pressure loss of the entire pressure relief unit with an open pressure relief damper.

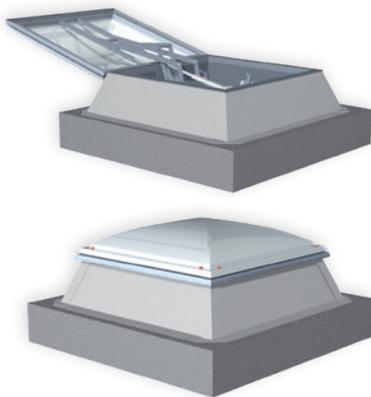
## Pressure-relief unit for roof installation with slatted hood type DE-RK2-JZI-DS-AH



Type DE-RK2-JZI-DS-AH

Type	DE-RK2-JZI-DS-AH
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1.102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Insulating damper with spring return motor
Accessories, optional	Emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for roof assembly with base and slotted hood, incl. insulating damper with spring return motor
Colour	RAL 7001 or as requested

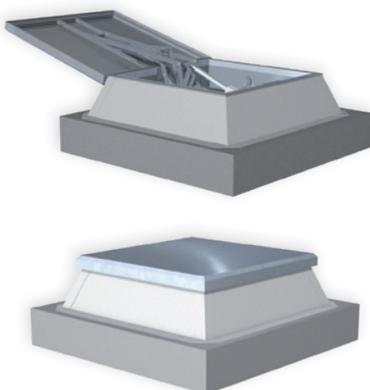
## Pressure relief unit for roof installation with dome light type DE-RK2-LK1



Type DE-RK2-LK1

Type	DE-RK2-LK1
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1.102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Roof base 300 mm
Accessories, optional	Roof base 400 mm, 500 mm, emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for roof installation with base 300 mm and dome light, single-wing, 165° opening angle, motor 24 VDC
Colour	Inside RAL 9006 or as requested, pressure relief damper in aluminium

## Pressure relief unit for roof installation with opaque skylight type DE-RK2-DK1



Type DE-RK2-DK1

Type	DE-RK2-DK1
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1.102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Roof base 300 mm
Accessories, optional	Roof base 400 mm, 500 mm, emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for roof installation with base 300 mm and insulated opaque skylight, single-wing, 165° opening angle, motor 24 VDC
Colour	Inside RAL 9006 or as requested, pressure relief damper in aluminium

## Pressure relief unit for pitched roof type DE-RK2-AF



Type DE-RK2-AF

Type	DE-RK2-AF
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1,102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Covering frame for profiled covering materials
Accessories, optional	Additional covering frames, emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for roof pitch 20–60° with smoke extraction window, motor 24 VDC
Colour	Inside RAL 9006 or as requested, pressure relief damper in aluminium

## Pressure relief unit for wall installation without weather protection grille type DE-RK2-JZI



Type DE-RK2-JZI

Type	DE-RK2-JZI
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1,102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Insulating damper with spring return motor
Accessories, optional	Emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for wall installation, insulating damper with spring return motor, without weather protection grille
Colour	Inspection cover RAL 9006 or as requested, pressure relief damper in aluminium

## Pressure relief unit for wall installation with front baffle plate type DE-RK2-JZI-PBV



Type DE-RK2-JZI-PBV

Type	DE-RK2-JZI-PBV
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1,102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Insulating damper with spring return motor
Accessories, optional	Emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for wall installation, insulating damper with spring return motor, front baffle plate
Colour	Outside: stainless steel or RAL as requested Inside: inspection cover stainless steel or RAL as requested

## Pressure relief unit for non-recessed wall installation with front baffle plate type DE-RK2-JZI-VS-PBV



Type DE-RK2-JZI-VS-PBV

Type	DE-RK2-JZI-VS-PBV
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1,102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Insulating damper with spring return motor
Accessories, optional	Emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for non-recessed wall installation, insulating damper with spring return motor in insulated shaft casing with front baffle plate
Colour	Stainless steel or RAL as requested

## Pressure relief unit for wall installation with glass louver window type DE-RK2-LF



Type DE-RK2-LF

Type	DE-RK2-LF
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1,102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	–
Accessories, optional	Emergency SHV function, ventilation function, modulated spring adjustment
Short text	Pressure relief unit for wall installation with glass louver window, without wind shield
Colour	RAL 9006 or as requested, pressure relief damper in aluminium

## Pressure relief damper with installation frame and grille type RK2-MG



Type RK2-MG

Type	RK2-MG
Installation sizes	420 x 550 mm, 670 x 688 mm, 840 x 826 mm, 960 x 964 mm, 930 x 1,102 mm, 930 x 1,240 mm, 1,000 x 1,240 mm, 1,125 x 1,240 mm
Power range	5,000–30,000 m <sup>3</sup> /h at 50 Pa
Accessories, standard	Installation frame with inspection opening
Accessories, optional	Installation frame without inspection opening, emergency SHV function, ventilation function, modulated spring adjustment
Short text	Automatic pressure relief damper with multiple-leaf design, opening/closing of damper system via rod connection, damper shafts with ball bearings, closing torques adjustable via tension spring systems
Colour	RAL 9006 or as requested, pressure relief damper in aluminium

# Safety exhaust air shaft

## General information



The safety exhaust air guarantees an air velocity in the door section of the door of the secured area of 2 m/s or 0.75 m/s. The safety exhaust air is guaranteed via openings in the facade or a smoke extraction shaft with or without fan support.

The smoke extraction shaft is equipped with smoke extraction dampers for each storey. In case of fire, smoke extraction dampers open on the fire level. The exhaust air shaft must continue straight and without misalignment until over the roof.

### Front baffle plate for wall mounting type PBV



Type PBV

Type	PBV
Installation sizes	775 mm, 1,045 mm, 1,225 mm, 1,315 mm, 1,405 mm (height of hood)
Power range	5,000–30,000 m <sup>3</sup> /h
Accessories, standard	–
Accessories, optional	–
Short text	Front baffle plate for wall mounting, blowing out on 4 sides, with surrounding framework and rain cover
Colour	Stainless steel or RAL as requested

### Opaque skylight with roof base type DK1



Type DK1

Type	DK1
Installation sizes	1,200 x 1,200 mm, 1,500 x 1,500 mm
Power range	–
Accessories, standard	Base, height 300 mm
Accessories, optional	Base, height 400 mm, 500 mm
Short text	Opaque skylight with insulating base and lid, opening angle 165°, motor 24 VDC
Colour	Plein aluminium

### Ventilation unit with insulating damper and slotted hood type LE-JZI-DS-AH



Type LE-JZI-DS-AH

Type	LE-JZI-DS-AH
Installation sizes	900 mm, 1,200 mm, 1,500 mm
Power range	2,700, 6,900, 13,000 m <sup>3</sup> /h at 10 Pa
Accessories, standard	Insulating damper with spring return motor
Accessories, optional	–
Short text	Ventilation unit for roof mounting with base and slotted hood, incl. insulating damper with spring return motor
Colour	RAL 7001 or as requested

# Exhaust air unit

## General information



In order to support the air outflow out of the building behind the door for the safety area to be protected (staircase or escape route), an exhaust air fan with suction-side pressure control is installed at the end of the exhaust air shaft. The essential components of the exhaust air unit are the smoke extraction fan up to 300°C and two spring-loaded pressure relief dampers similar to the pressure relief damper in the pressure area (staircase or tunnel).

The pressure relief dampers react to the opening or closing of doors to the pressure area. In order to prevent cold draughts and condensation, a louver damper made of insulating material with a spring return motor is mounted „normally open“ in front of each outside air damper and the fan. The pressure difference for opening the pressure relief damper is specified via the factory-set pretensioning length of the spring system. The factory-set spring tension may only be changed by qualified personnel from Strulik GmbH. A repair switch with auxiliary contacts is mounted to the fan for monitoring. The inspection opening in the base is to the right of the duct connection.

### The following must be noted to guarantee the reliable functioning of the exhaust air unit:

- The intake of exhaust air has to be made in the necessary corridor behind the door to the staircase. The exhaust air may not be taken from the fire area.
- The exhaust air shaft should be constructed without misalignment and with a maximum 5 m/s flow velocity. Leaks in the shaft should be avoided. All connections are made via smoke extraction dampers in the floors.
- The doors of the pressure area (e.g. staircase) to the corridor must be provided with air vent openings. Dimensioning is calculated on basis of the minimum volume flow of the exhaust air unit (see data sheet).
- The underpressure required at the shaft head is precisely set at the factory. The pressure loss in the exhaust air duct must be determined by a duct network calculation.

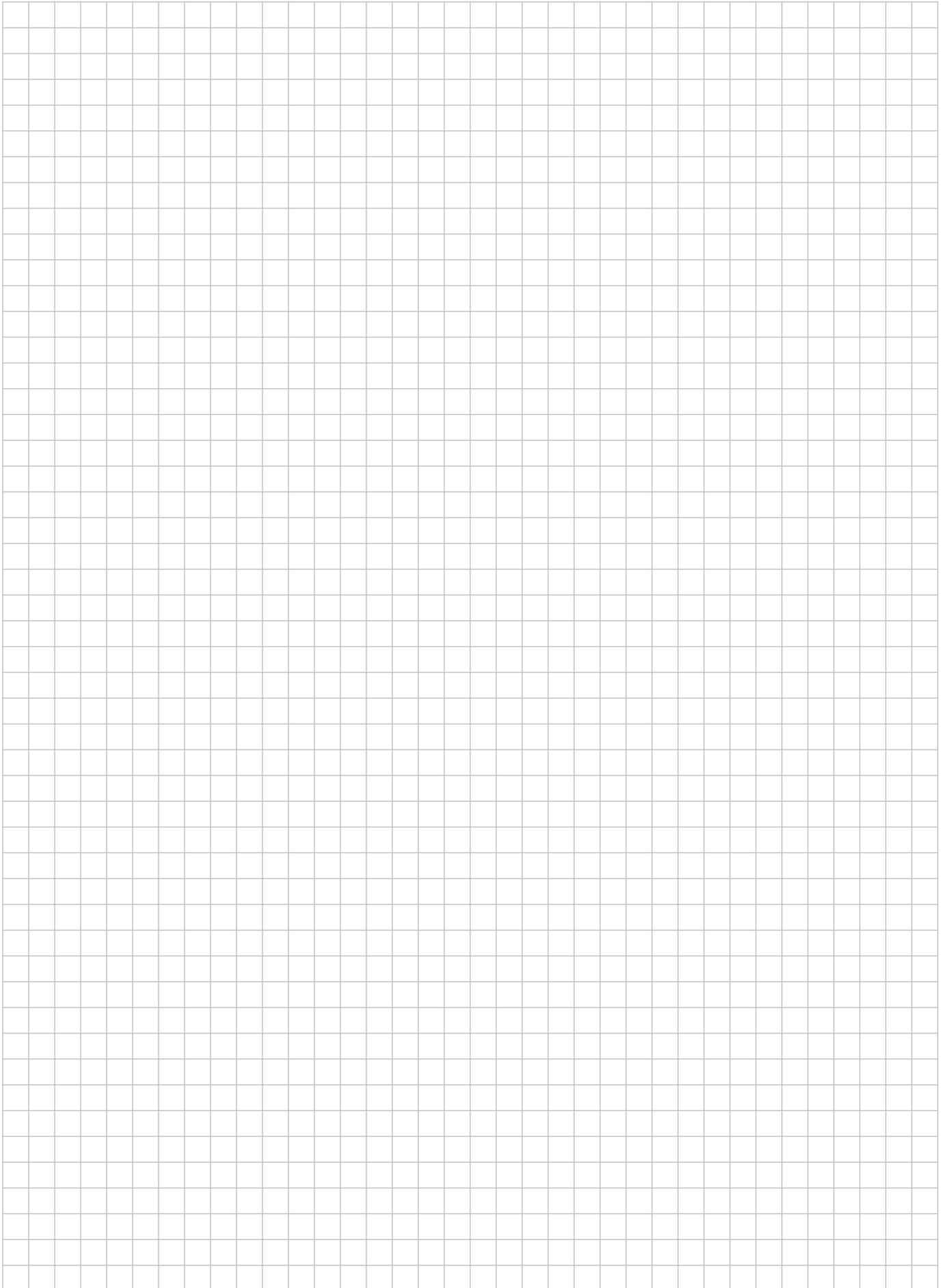
## Exhaust air unit with fan, integrated pressure-controlling dampers and slotted hood type AE-EV-RK3-JZI-DS-AH



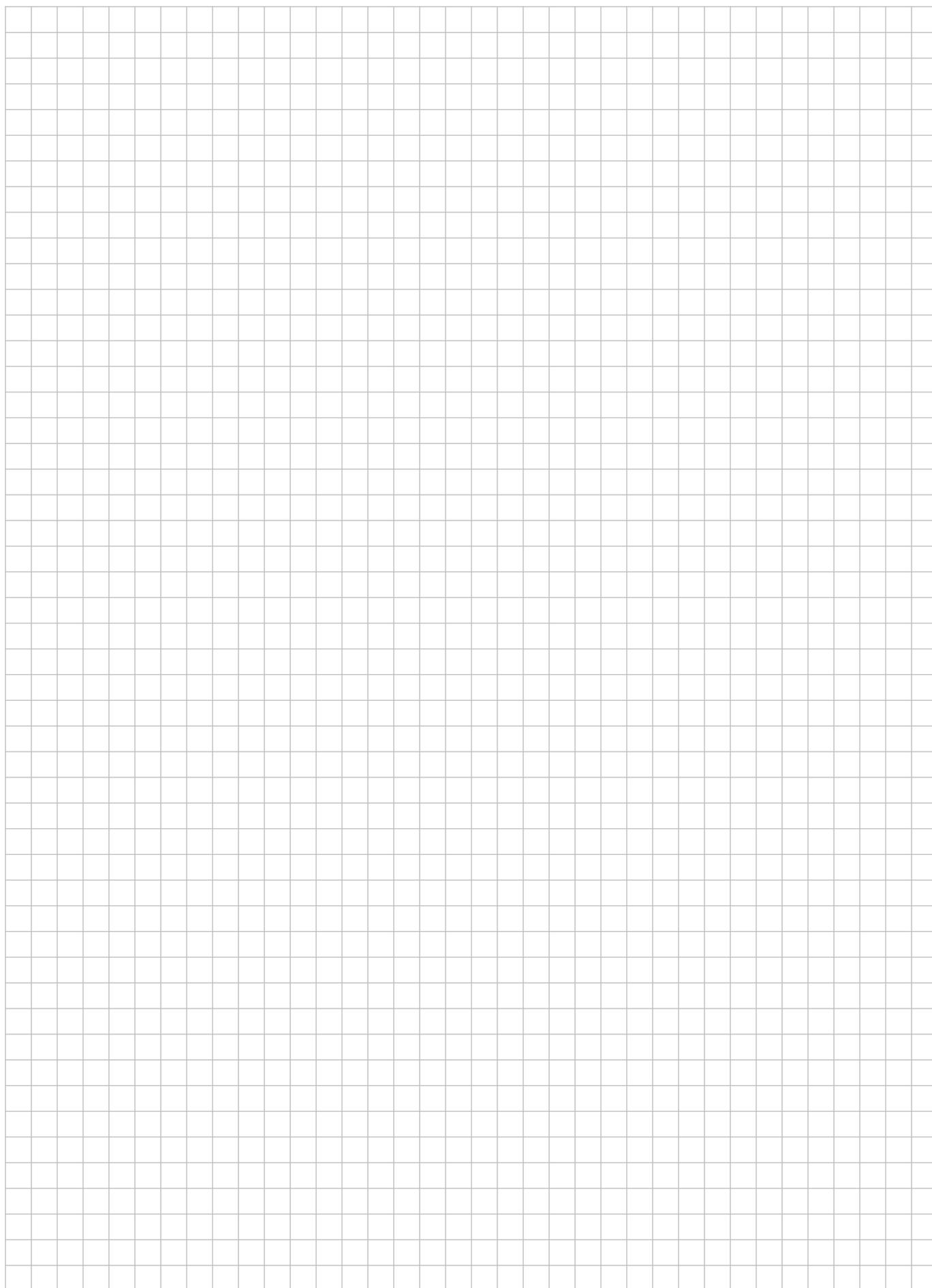
Type AE-EV-RK3-JZI-DS-AH

Type	AE-EV-RK3-JZI-DS-AH
Installation sizes	560 mm to 800 mm
Power range	3 to 15 kW
Accessories, standard	Repair switch
Accessories, optional	Modulated spring adjustment
Short text	Exhaust air unit with automatic pressure relief dampers, axial fan 300°C/120 min., impeller with adjustable blade and adjustable guide wheel, insulated casing with 2 insulating louver dampers, SLC technology
Colour	RAL 7001 or as requested

## Notes



## Notes



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