



## TECHNICAL DATA SHEET

# FIREFIGHTER

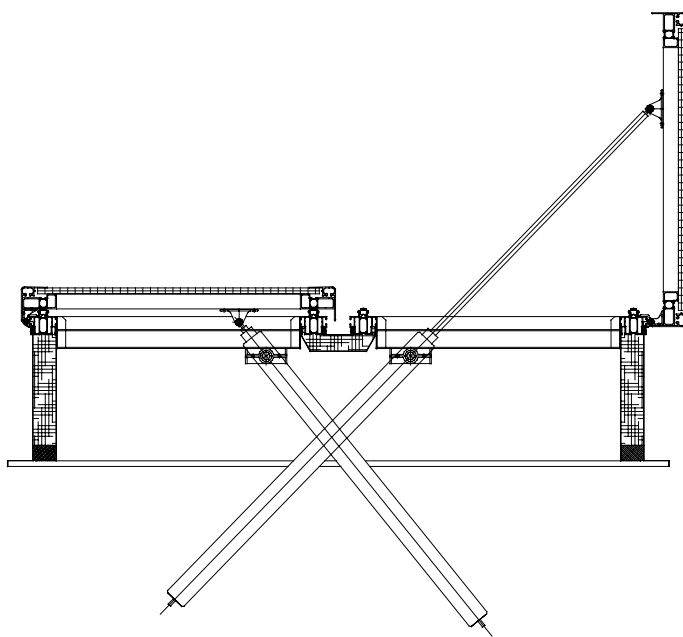
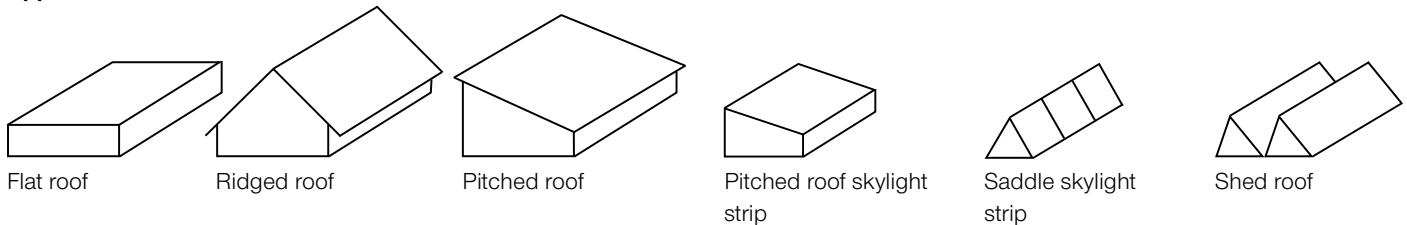
### Product description

In addition to its use as a SHEV system, the FIREFIGHTER can be used for daily ventilation and is designed to withstand extreme weather conditions. The FIREFIGHTER is available as a double or single opening vent version with a combination of benefits from natural ventilation and automatic fire ventilation to room illumination with daylight. A thermally separated version is also available which is perfectly suited for use in glass constructions where high thermal or sound insulation values are required.

## Construction features

Frame and covers are made of extruded aluminium alloy AlMgSi05F22 (tub for frame made of AlMg3). The cover(s) compress air by means of two pneumatic cylinders with locking in both end positions or via 24V linear drives. Tightness is achieved by means of vulcanised EPDM profile seals. The FIREFIGHTER can be supplied with fall-through protection grids on request, which the operator can use to ensure the required fall-through protection is achieved. The unit modules are delivered fully assembled for easy fixing on site and tested ready for operation.

## Applications



## Advantages

- Bespoke adaptation to every building for roof openings up to 4.75m<sup>2</sup>
- Use for daily ventilation
- Full ventilation with ventilation opening angle of 90°
- High sound insulation up to 42 dB as standard
- Special constructions up to 54 dB have already been implemented
- Reduce the risk of condensation water by thermal separation according to DIN 4108
- Testing of the design and high quality materials used through endurance tests with 10,000 opening and closing operations
- Good aerodynamic efficiency
- Low U-values and low clearance losses
- Suitable for high snow and wind loads
- Available with dark flap
- Hinges made from cast aluminium parts
- Drives connected via Teflon-coated bronze bushes and stainless steel bolts, therefore maintenance-free
- Efficient rainwater drainage via central gutters
- Completely silicone-free unit with EPDM seals

## Cover designs

The single flap FIREFIGHTER MONO and the double flap DUO from roda are available as non-thermally separated variant 22 or as thermally separated variant 33.

### Cover designs for variant 22

- PC-HKP-16 mm polycarbonate clear (with Lumira® insulation on request), opal, opaque or softlite
- Different laminated safety glass and other types of glass available on request (fire protection class A1)
- A2 – Double-skin aluminium version (50 mm insulated)

### Cover designs for variant 33

- PC-HKP-16 mm polycarbonate clear (with Lumira® insulation on request), opal, opaque or softlite
- Different laminated safety glass and other types of glass available on request (fire protection class A1)
- A2 – Double-skin aluminium version (50 mm or 70 mm insulated)

## Designs

The FIREFIGHTER from roda is available in the versions MONO as a single opening vent and DUO as a double opening vent with flat covers and DELTA as a double opening vent with covers at an inclination of 30°. The single or double opening vent is optionally available in a thermally separated design according to DIN 4108, which is achieved by rolled-in polyamide webs. In addition to aluminium and PC multi-wall panels, the FIREFIGHTER can also be fitted with insulating glass. Frame and cover frame are made of extruded aluminium alloy AlMg Si05.

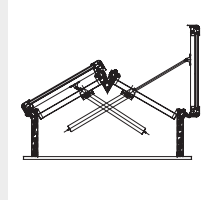
The covers are opened and closed by means of compressed air via two pneumatic cylinders with end position locking in both positions. Vulcanised EPDM profile seals ensure tightness. Our products are made to your specifications and can be fully adapted to the conditions on site.



### Double opening vent system FIREFIGHTER DUO

With our products we offer you real tailor-made solutions.

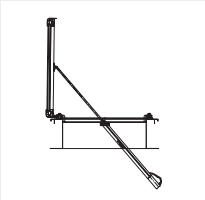
- Length (mm): 1000 - 2500
- Width (mm): 1000 - 1900 (pneumatic)  
1000 - 1750 (electric)



### Double opening vent system FIREFIGHTER DUO

The FIREFIGHTER DELTA is inherently thermally separated. It offers optimal water drainage thanks to the incline of its opening vents.

- Length (mm): 1000 - 2500
- Width (mm): 1000 - 1500



### Single opening vent system FIREFIGHTER MONO

As a single opening vent system, the FIREFIGHTER MONO is optimised for gabled and shed roofs that allow such a design.

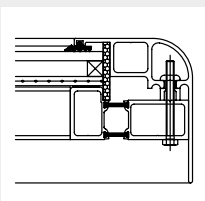
- Length (mm): 1000 - 2500
- Width (mm): 500 - 950 (pneumatic)  
500 - 875 (electric)

Furthermore, depending on the location and requirements, the most suitable variations can be selected. Especially in relation to different:

- Base connections
- Flange designs

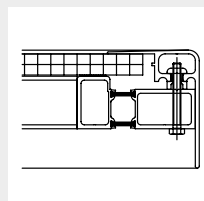
## Glazing types

The FIREFIGHTER is available in various cover designs: Insulating glazing, sound- and heat-insulated double-ply aluminium covers and covers with polycarbonate multi-panels are considered standard versions. Due to the frame construction, versatile special constructions are still possible.



### Insulating glass cover

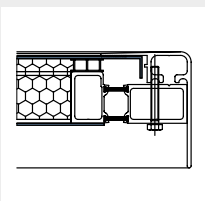
Different laminated safety glass and other types of glass available on request (fire protection class A1)



### Polycarbonate cover

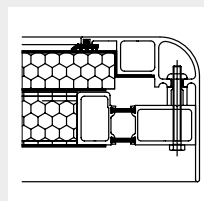
PC 16 mm polycarbonate clear (Lumira® insulation on request), opal, opaque or softlite

Glazing up to PC 32 mm polycarbonate in various designs possible



### Aluminium cover

Double-skin aluminium 50 mm



### Aluminium cover including insulation

Insulated or 70 mm insulated (thermally separated), multi-wall combination of aluminium/steel/aluminium with 70 mm insulation for sound insulation possible

## Sample applications

Climate changes and ever higher precipitation rates have pushed conventional ventilation and fire ventilation systems – especially in the flat roof area – to their application limits. Not to mention the damage caused by environmental and weather influences. That's why we set ourselves the task of developing a system that offers optimal protection even in extreme bad weather. Ventilation, fire protection, smoke and heat exhaust ventilation work together effectively here.



**Single unit on base on an industrial roof**

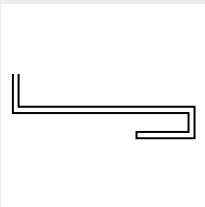


**FIREFIGHTER in a glass-roofed construction**



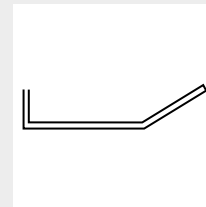
**NSHEV type FIREFIGHTER in ridged roof continuous rooflight**

## Flange variations



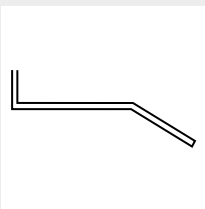
### F1

- Use in glazing



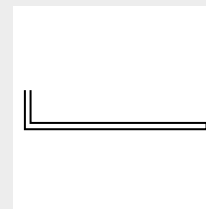
### F2

- Use under profiled roof



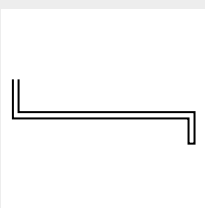
### F3

- Use on profiled roof



### F4

- Direct bonding



### F5

- Use on base

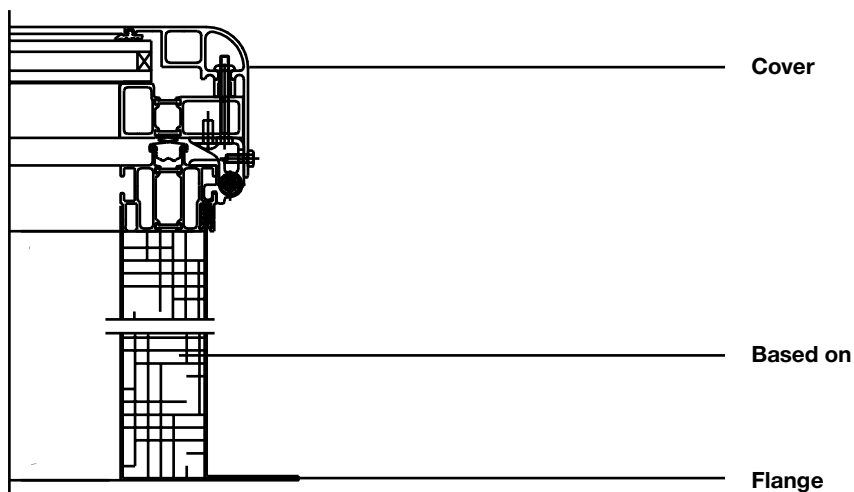


### S

- Special construction

## Product structure

Variant thermally separated



## Controls

The covers are controlled by means of compressed air via two pneumatic cylinders or electrically via actuators. Pneumatically, the FIREFIGHTER is locked in the open and in the closed position and, with electrical control, the FIREFIGHTER is moved to the respective end position. Due to optimised force application points, the FIREFIGHTER offers high mechanical load capacity and permanent sealing.

## SHEV designs



### (Thermal) Release

Thermal releases, often also called thermal triggering devices or TTDs, are used to trigger a smoke and heat exhaust ventilation unit (SHEV) locally in the event of a fire.



### Pneumatic

Pneumatically operated: via a thermal priority valve (TPV) and connected CO<sub>2</sub> cartridge.



### Electrical

Electrically operated via a SHEV control panel with buffer accumulators.

## Other technical values

### R<sub>w</sub> = weighted building sound insulation index

The weighted building sound reduction index R<sub>w</sub> is a component-related parameter for airborne sound insulation and a characteristic value for sound insulation requirements according to the DIN 4109 standard.

Based on	Cover infill	Type	U <sub>g</sub> in W/m <sup>2</sup> K	R <sub>w</sub>
Polycarbonate cover	PC-HKP-16 mm- polycarbonate (clear/opal)	16/3	2.2	21 dB
Polycarbonate cover	PC-HKP-16 mm- polycarbonate (softlite)	16/5	2.1	21 dB
Polycarbonate cover	Polycarbonate with Lumira®	16/3, 100% Lumira®	1.1	21 dB
Insulating glass cover	Insulating glazing of your choice (classic, with reinforced insulation, sun protection, acoustics...)	Depending on the version, Building material class A1	1.1	32 dB
Aluminium hood incl. insulation	Double-skin aluminium mineral fibre insulation 50 mm	50 mm, Building material class A1	0.71	33 dB
Aluminium hood incl. insulation	Double-skin aluminium mineral fibre insulation 70 mm	70 mm, Building material class A1	0.54	up to 42 dB

### A<sub>v</sub> values\* in m<sup>2</sup>

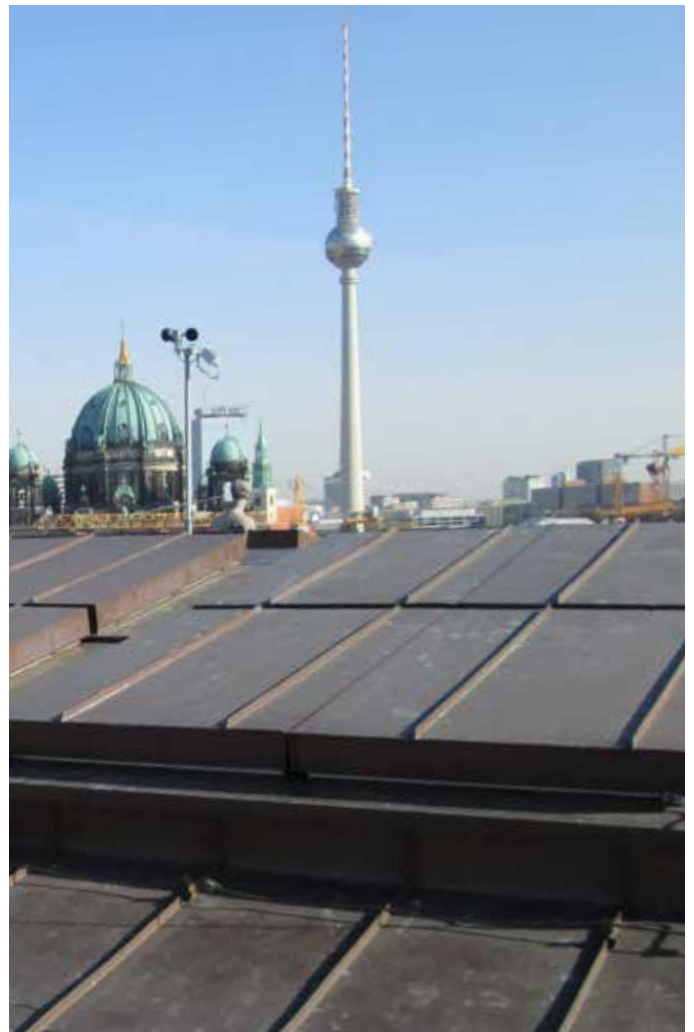
Height in mm	Length in mm				
	1000	1300	1500	1700	1900
1000	1	1.3	1.5	1.7	1.9
1300	1.3	1.69	1.95	2.21	2.47
1500	1.5	1.95	2.25	2.55	2.85
1700	1.7	2.21	2.55	2.89	3.23
1900	1.9	2.47	2.85	3.23	3.61
2100	2.1	2.73	3.15	3.57	3.99
2300	0.3	2.99	3.45	3.91	4.37
2500	2.5	3.25	3.75	4.25	4.75

### A<sub>a</sub> values\* in m<sup>2</sup>

Height in mm	Length in mm				
	1000	1300	1500	1700	1900
1000	0.6	0.78	0.9	1.02	1.14
1300	0.78	1.01	1.17	1.33	1.48
1500	0.9	1.17	1.35	1.53	1.71
1700	1.02	1.33	1.53	1.73	1.94
1900	1.14	1.48	1.71	1.94	2.17
2100	1.26	1.64	1.89	2.14	2.39
2300	1.38	1.79	2.07	2.35	2.62
2500	1.5	1.95	2.25	2.55	2.85

\*Values may vary with different installation positions





## COLLEGE, FURTWANGEN

### Project:

Several glass roof structures on a green and partially gravelled roof over corridors and staircases were equipped with ventilation and SHEV elements.

### Systems:

- 13 FIREFIGHTER double opening vent systems insulated with SHEV boxes, network box and control panel
- 4 FIREFIGHTER single opening vent systems in the staircase as lighting units for ventilation, daylight and SHEV functions

## STATE OPERA UNTER DEN LINDEN, BERLIN

### Project:

For the auditorium and the stage tower, the Berlin Senate Administration demanded the highest possible sound insulation value to prevent acoustic influences from outside. The Firefighters were clad with copper sheets to match the roof design to avoid standing out in accordance with the requirements for protecting the monument.

### Systems:

- 10 FIREFIGHTERS with an overall sound insulation value of 54 dB





## Smoke and Heat Exhaust Ventilation Systems







Smoke and heat exhaust ventilation systems are a necessary component of preventive fire protection. Their task is to save lives by creating a smoke-free layer above the ground. At the same time, they ensure the protection of material assets and the immediate extinguishing of the fire through the removal of smoke.

SHEV systems contribute to this like no other fire protection measure:

- Keep rescue and firefighting routes clear
- Facilitate firefighting by creating a smoke-free layer
- Protect facilities
- Reduce consequential fire damage caused by fire gases and thermal decomposition products
- Avoid exposing components to fire

### Temperature parameters according to DIN EN 12101-2 and test results

Our NSHEVs reliably open into the SHEV position in less than 60 seconds...

	...and ensure high smoke discharge volumes	Flow rate coefficient $C_v$ between 0.48 and 0.65 Aerodynamically effective opening area $A_w$ between 0.31 m <sup>2</sup> and 4.75 m <sup>2</sup>
	...after endurance test – 1,000 times in SHEV position and 10,000 times in ventilation position	RE 1000 Ventilation 10,000
	...under snow load	up to SL 2750
	...down to indoor temperature of -15 °C	T (00), T (-05) and T (-10)
	...after suction loads caused by wind	WL 1500 to WL 3423
	...when exposed to fire	B300



MPA-geprüft nach:  
DIN EN 12101-2  
B9 / 106 / EWG  
Registrier-Nr.:  
0432-CPD-210005695



MITGLIED IM  
**FVLR**  
Fachverband Logistik und Rechenzentren e.V.

## Accessories

The FIREFIGHTER double opening vent from roda can be equipped with accessories on customer request, which bring further efficient advantages for the operator.



### Fall-through protection grating

- Approved fall-through protection according to GS-Bau 18
- No reduction in the aerodynamically effective smoke ventilation area



### Insect and bird protection grating

- Ideal for industries with stringent hygiene regulations
- Easy cleaning during operation
- Optionally as drawer



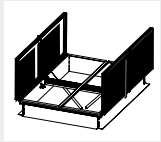
### Electric drive

- Available as a 24 V version
- Electric linear drive
- Suitable for daily ventilation
- 4A single opening
- 8A double opening



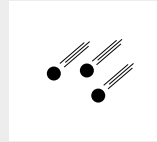
### Pneumatic crosshead

- End locking in open and closed positions
- Suitable for daily ventilation



### Night opening vent

- For halls where skylights are not required



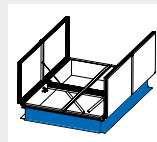
### Hail protection

- Composite glazing with hail protection class HR5 available



### Wind and rain sensors

- For automatic closing in wind and rain
- Operated as a group and individually
- Vents can open even under high wind speeds



### Paint coating in RAL

- Customised powder coating for special requirements



### Glare protection

- Avoidance of glare
- Material: Aluminium
- Material thickness: 0.6 mm
- Comb size: 15 x 15 mm
- Web height: 30 mm
- Anti-glare angle of 63°

### Base

- FIREFIGHTER: Frame and cover frames made of AlMg-Si05F22
- Thermal separation is possible
- Waterproofing with vulcanised EPDM profile seals
- Fastening with tension locks or screw connections + sealing washer



### Timer for night cooling

- For energy-efficient building air conditioning



Scan this to discover more about  
roda systems!



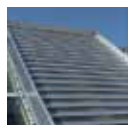
PHOENIX AND MEGAPHOENIX



FIREFIGHTER



VENTURISMOKE VS1/VS2



SMOKEJET AND MULTIJET



SMOKE CURTAINS



LOUVER WINDOWS



DAYLIGHT TECHNOLOGY



NATURAL AND MECHANICAL  
VENTILATION



SMOKE AND HEAT  
EXHAUST VENTILATION



RENOVATION



MIROTEC GLASS AND  
METAL CONSTRUCTIONS



LAMILUX DAYLIGHT SYSTEMS

The technical data listed in this brochure correspond to the current status at the time of printing and are subject to change. Our technical data refer to calculations, supplier information or have been determined by an independent testing institute in the course of a test in accordance with the applicable standards. The heat transfer coefficients for our plastic glazing were calculated using the "method of the finite elements" with reference values according to DIN EN 673 for insulating glass. In doing so, the temperature difference of 15 K between the outer surfaces of the material was defined, taking into account practical experience and the specific characteristics of the plastic. The functional values refer only to test pieces in the dimensions intended for the test. No further guarantee for technical values is given. This applies in particular to changed installation situations or if subsequent measurements are made on the building site.



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