

TECHNICAL DATA SHEET

SMOKEJET

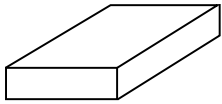
Product description

The SMOKEJET is a louvre ventilator which, in addition to its function as a smoke and heat exhaust ventilation system, can also be used as a natural ventilation unit. It uses the advantages of a smoke and heat exhaust ventilation unit and also ensures natural air exchange and daylight in buildings. In addition to a variety of installation options in the roof, the SMOKEJET can also be integrated into any wall construction as a supply air system. Due to its high stability, its low weight and the comprehensive application possibilities, the SMOKEJET is always appreciated by architects and building owners.

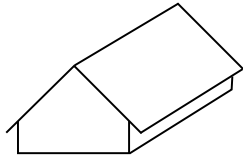
Construction features

The SMOKEJET consists of an aluminium frame construction made of alloy AlMg3 and a number of pivoting, aerodynamically shaped louvres corresponding to the size. For the infill of the louvres, you can choose between aluminium, glass and PC. The louvres are opened and closed with the aid of an internal pneumatic cylinder, actuator or pressure spring triggering unit (DFA drive). The louvre pivots are made of aluminium and mounted in UV-resistant nylon bushes. Sealing brushes or EPDM seals reduce the outflow of warm air to a minimum.

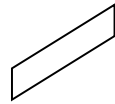
Applications



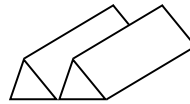
Flat roof



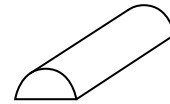
Ridged roof



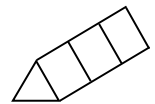
Wall



Shed roof



Barrel skylight strip



Saddle skylight strip



Advantages

- Ideal for installation in shed roofs and roofs with an inclination of between 30° and 90° as well as in wall constructions
- Can be customised for all roof openings up to 5.71m²
- Can be used for daily ventilation (full ventilation with louvre position 90°)
- Only one drive per unit required
- The pneumatic or electric drive is fully concealed in the frame
- Version with only one control line possible
- Good aerodynamic efficiency
- Gutters integrated into the louvres guide rainwater into lateral drainage channels and keep rainwater outside the building
- Fire class A1 (in appropriate design)
- Natural, energy-saving daylight illumination without glare when using PC softlite (the incidence of light from above is several times more effective than through side windows)
- Hail- and fall-through-proof according to manufacturer's specifications
- Low-maintenance
- Use of dimensionally accurate cast parts for all brackets
- Individual colouring possible thanks to powder coating
- Drill-hole-free base connection via tension locks
- The product is recyclable and comes without harmful materials

Natural ventilation and SHEV combined

The SMOKEJET ventilation and natural smoke exhaust ventilation system uses the thermal lift in the building depending on the pressure and temperature difference for natural ventilation or natural smoke exhaust ventilation in the event of a fire. Daily ventilation independent of weather conditions is provided via automated rain sensors. In case of fire, SMOKEJET opens automatically via the temperature or smoke detector.

Fire protection – for your safety

Whether in the industrial sector or in office buildings – in today's world, materials are predominantly used that release toxic gases when burnt. The SMOKEJET louvre ventilator is equipped with an automatic thermal triggering mechanism. When the trigger temperature is reached in case of fire, the unit opens independently of all other functions. The SMOKEJET functions via smoke detector impulse and the fire alarm control panel in equal measures.

Natural ventilation

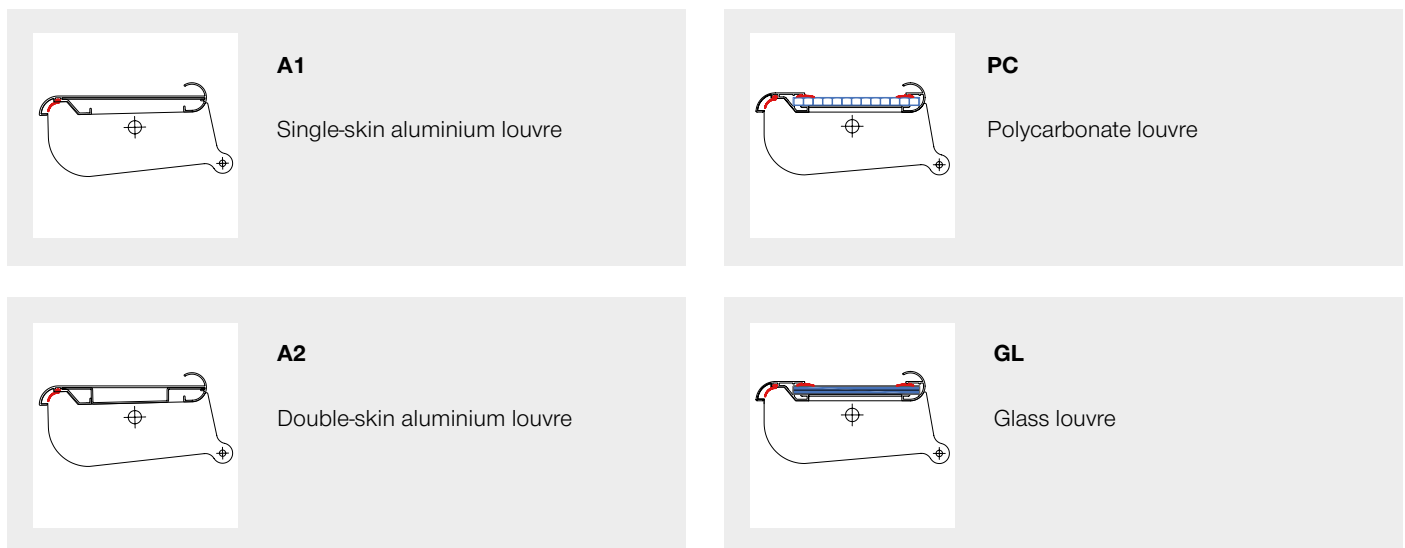
Especially in the summer months, industrial production facilities often experience production stoppages due to heat build-up and stale, bad air. The SMOKEJET louvre ventilator provides free and noiseless ventilation without additional energy expenditure. The higher the internal heat load, the more effective the ventilation effect. The natural ventilation of the SMOKEJET regulates itself via the temperature difference – without any additional control. 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.

Natural lighting

The transparent louvres of the SMOKEJET louvre vent allow natural daylight to enter the building even when it is closed. This not only saves lighting costs but also has a proven positive effect on employee motivation. In this way, SMOKEJET supports the amortisation of the system through active energy saving.

Louvre design

Depending on the area of application, the following louvre variants are available for the SMOKEJET louvre ventilator:



Opening mechanism in case of fire

Pneumatically operated:

- Automatically via a thermal valve (TVV) and connected CO₂ cartridge
- Via a fire emergency switch box with CO₂ cartridge
- Triggered via fire alarm control panel by smoke detector or SHEV button (optional)

Electrically operated via a SHEV control panel with buffer accumulators:

- Via a SHEV control panel with buffer accumulators
- Via smoke detector or SHEV button
- With interconnected fire alarm control panel (optional)

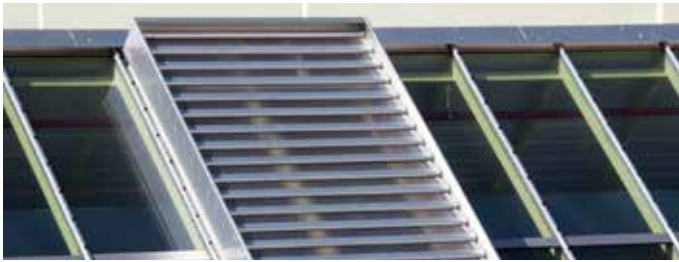
Activation for daily ventilation

Via on-site compressed air supply via ventilation control box (for pneumatics) or SHEV control panel (for 24V actuators):

- Ventilation control box
- Button
- Timer for night cooling (optional)
- Wind and rain sensor for bad weather protection (optional)

Sample applications

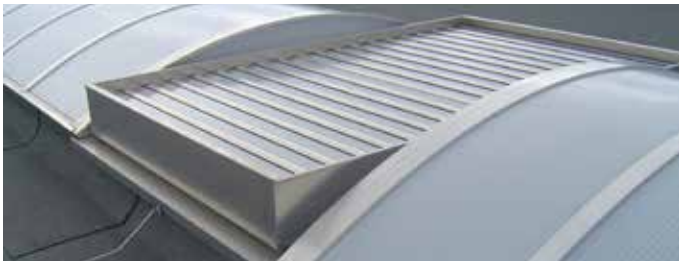
The Smokejet is compatible with all continuous rooflight systems and all on-site substructures in the roof and in the wall.



NSHEV type SMOKEJET in a shed roof



SMOKEJET with VSG infill

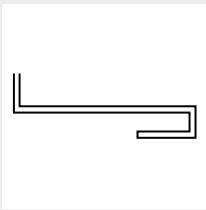


Unit integrated into a barrel skylight



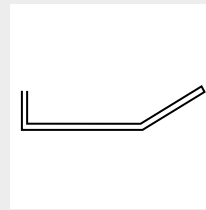
MULTIJET with PC louvres integrated as a ventilation unit in a DELTALIGHT

Aluminium flange variations



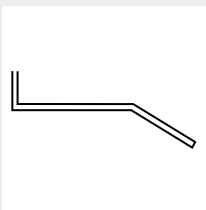
F1

- Use in glazing



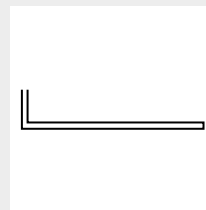
F2

- Use under profiled roof



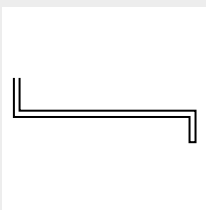
F3

- Use on profiled roof



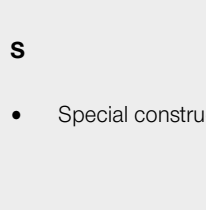
F4

- Direct bonding



F5

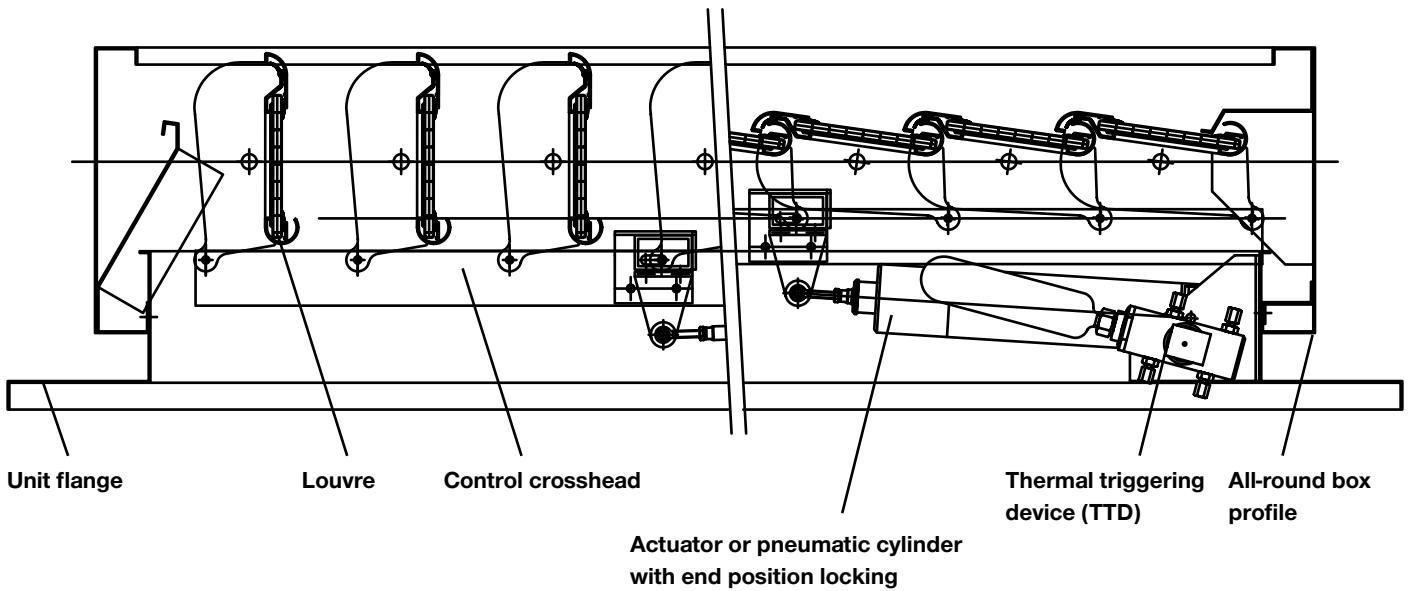
- Use on base



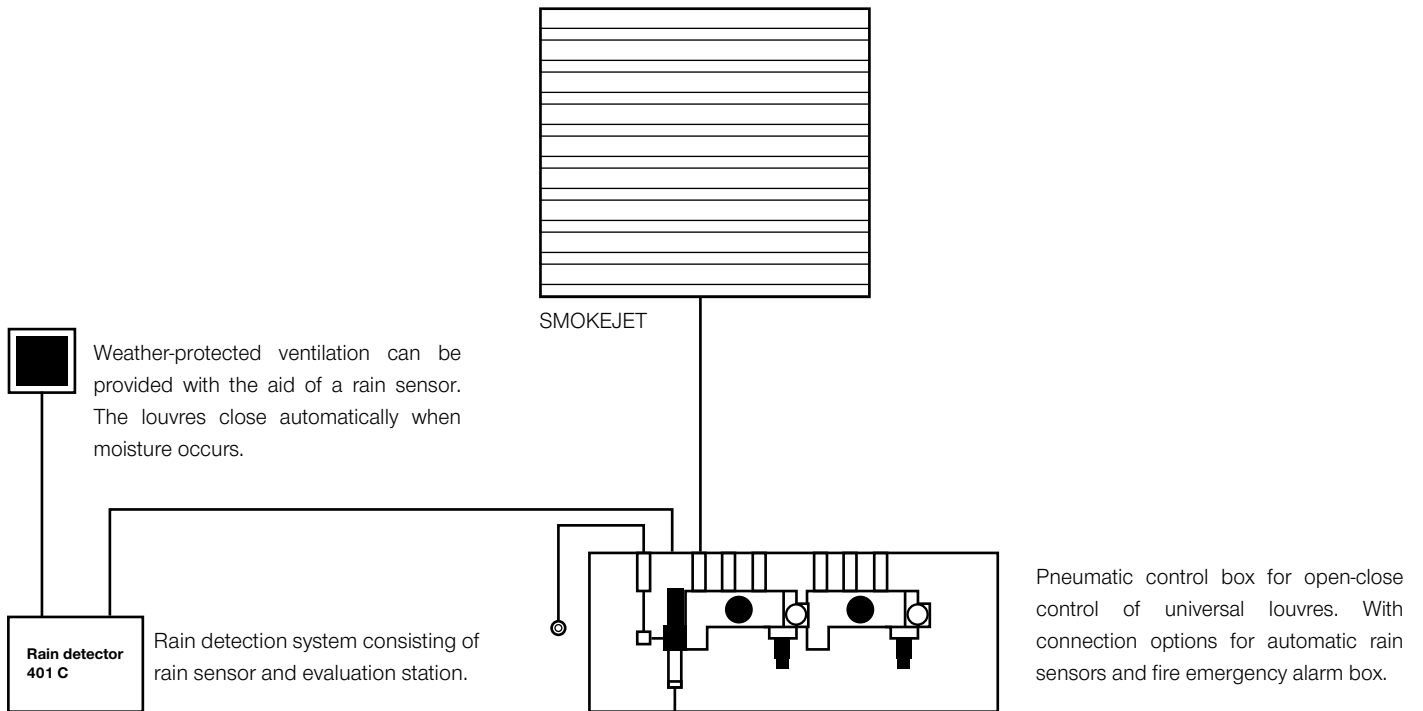
S

- Special construction

Product structure



SMOKEJET leading advantage in detail



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 thermal priority valve (TPV) and connected CO₂ cartridge.

Electrically

Electrically 24V (0,8A) operated via a SHEV control panel with buffer accumulators.

A_{geo} value in m² (geometrically free opening area)

Length in mm (fixed value)	Width in mm (freely selectable)														
	576	626	726	826	926	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926
705	0.41	0.44	0.51	0.58	0.65	0.72	0.79	0.86	0.93	1.01	1.08	1.15	1.22	1.29	1.36
838	0.48	0.52	0.61	0.69	0.78	0.86	0.94	1.03	1.11	1.19	1.28	1.36	1.45	1.53	1.61
971	0.56	0.61	0.7	0.8	0.9	1	1.09	1.19	1.29	1.38	1.48	1.58	1.68	1.77	1.87
1104	0.64	0.69	0.8	0.91	1.02	1.13	1.24	1.35	1.46	1.57	1.68	1.8	1.91	2.02	2.13
1237	0.71	0.77	0.9	1.02	1.15	1.27	1.39	1.52	1.64	1.76	1.89	2.01	2.14	2.26	2.38
1370	0.79	0.86	0.99	1.13	1.27	1.41	1.54	1.68	1.82	1.95	2.09	2.23	2.36	2.5	2.64
1503	0.87	0.94	1.09	1.24	1.39	1.54	1.69	1.84	1.99	2.14	2.29	2.44	2.59	2.74	2.89
1636	0.94	1.03	1.19	1.35	1.51	1.68	1.84	2.01	2.17	2.33	2.5	2.66	2.82	2.99	3.15
1769	1.02	1.11	1.28	1.46	1.64	1.81	1.99	2.17	2.35	2.52	2.7	2.88	3.05	3.23	3.41
1902	1.1	1.19	1.38	1.57	1.76	1.95	2.14	2.33	2.52	2.71	2.9	3.09	3.28	3.47	3.66
2035	1.17	1.27	1.48	1.68	1.88	2.09	2.29	2.49	2.7	2.9	3.11	3.31	3.51	3.72	3.92
2168	1.25	1.36	1.57	1.79	2.01	2.22	2.44	2.66	2.87	3.09	3.31	3.53	3.74	3.96	4.18
2301	1.33	1.44	1.67	1.9	2.13	2.36	2.59	2.82	3.05	3.28	3.51	3.74	3.97	4.2	4.43
2434	1.4	1.52	1.77	2.01	2.25	2.5	2.74	2.98	3.23	3.47	3.71	3.96	4.2	4.44	4.69
2567	1.48	1.61	1.86	2.12	2.38	2.63	2.89	3.15	3.4	3.66	3.92	4.17	4.43	4.69	4.94
2700	1.56	1.69	1.96	2.23	2.5	2.77	3.04	3.31	3.58	3.85	4.12	4.39	4.66	4.93	5.2
2833	1.63	1.77	2.06	2.34	2.62	2.91	3.19	3.47	3.76	4.04	4.32	4.61	4.89	5.17	5.46
2966	1.71	1.86	2.15	2.45	2.75	3.04	3.34	3.64	3.93	4.23	4.53	4.82	5.12	5.42	5.71

A_w value in m² * (aerodynamically effective opening area)

Length in mm (fixed value)	Width in mm (freely selectable)														
	576	626	726	826	926	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926
705	0.28	0.31	0.36	0.38	0.42	0.47	0.52	0.56	0.61	0.65	0.7	0.75	0.79	0.84	0.88
838	0.34	0.37	0.43	0.45	0.5	0.56	0.61	0.67	0.72	0.78	0.83	0.89	0.94	0.99	1.05
971	0.39	0.43	0.49	0.52	0.58	0.65	0.71	0.77	0.84	0.9	0.96	1.03	1.09	1.15	1.22
1104	0.45	0.48	0.56	0.59	0.66	0.74	0.81	0.88	0.95	1.02	1.1	1.17	1.24	1.31	1.38
1237	0.5	0.54	0.63	0.66	0.74	0.82	0.91	0.99	1.07	1.15	1.23	1.31	1.39	1.47	1.55
1370	0.55	0.6	0.7	0.74	0.82	0.91	1	1.09	1.18	1.27	1.36	1.45	1.54	1.63	1.72
1503	0.61	0.66	0.71	0.81	0.9	1	1.1	1.2	1.3	1.39	1.49	1.59	1.69	1.78	1.88
1636	0.66	0.72	0.77	0.88	0.98	1.09	1.2	1.3	1.41	1.52	1.62	1.73	1.84	1.94	2.05
1769	0.71	0.78	0.83	0.95	1.06	1.18	1.29	1.41	1.52	1.64	1.75	1.87	1.98	2.1	2.21
1902	0.77	0.83	0.9	1.02	1.14	1.27	1.39	1.52	1.64	1.76	1.89	2.01	2.13	2.26	2.38
2035	0.82	0.89	0.96	1.09	1.22	1.36	1.49	1.62	1.75	1.89	2.02	2.15	2.28	2.42	2.55
2168	0.87	0.95	1.02	1.16	1.3	1.45	1.59	1.73	1.87	2.01	2.15	2.29	2.43	2.57	2.71
2301	0.93	1.01	1.09	1.24	1.38	1.53	1.68	1.83	1.98	2.13	2.28	2.43	2.58	2.73	2.88
2434	0.98	1.07	1.15	1.31	1.47	1.62	1.78	1.94	2.1	2.26	2.41	2.57	2.73	2.89	3.05
2567	1.04	1.12	1.21	1.38	1.55	1.71	1.88	2.05	2.21	2.38	2.55	2.71	2.88	3.05	3.21
2700	1.09	1.18	1.27	1.45	1.63	1.8	1.98	2.15	2.33	2.5	2.68	2.85	3.03	3.2	3.38
2833	1.14	1.24	1.34	1.52	1.71	1.89	2.07	2.26	2.44	2.63	2.81	2.99	3.18	3.36	3.55
2966	1.2	1.3	1.4	1.59	1.79	1.98	2.17	2.36	2.56	2.75	2.94	3.13	3.33	3.52	3.71

*Values may vary with different installation positions



M.A.I GMBH & CO. KG

Project:

According to the existing fire protection concept, SHEV systems were integrated into the three 60 m long shed buildings. In order to avoid glare in sunny weather, the decision was made to use the SMOKEJET louvre system for the renovation of the shed buildings.

Systems:

- 14 x ventilation systems with SHEV function type SMOKEJET JA11-0715-K-P2
- A total of 400 m² polycarbonate multi-wall panels type 16/6 HR5

LEBKUCHEN-SCHMIDT

Project:

To solve the problem of dissipating the enormous waste heat generated during baking, the entire ventilation system of the production halls was renewed.

Systems:

- Louvre ventilator type SMOKEJET for SHEV use
- Louvre ventilator type SMOKEJET with insect protection for SHEV and ventilation
- Multi-purpose ventilator type MULTIJET with insect protection for SHEV and all-weather ventilation
- Double opening vent type PHOENIX for SHEV use
- Single opening vent type PHOENIX with fixed cover as light element



Sizes

The units can be manufactured in all length dimensions and defined width dimensions between 576 x 705 mm and 2226 x 2966 mm. The length results from the height of the individual louvres of 133 mm. (Width = number of louvres x 133 mm + 40 mm for the frame)

Depending on the location and requirements, the most suitable version can also be selected from various designs with regard to different:

- Base connections (EUROZARGE/ EUROSOCKEL)
- Flange designs

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
- Avoid flashover and thus the full fire
- 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 0.5 and 0.7 Aerodynamically effective opening area A_w between 0.28 m ² and 3.71 m ²
	...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 1000
	...down to indoor temperature of -15 °C	T (00), T (-05) and T (-15)
	...after suction loads caused by wind	WL 750 to WL 2500
	...when exposed to fire	B300



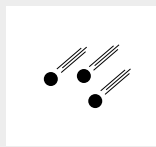
Accessories

The SMOKEJET ventilation and smoke exhaust ventilation unit can be equipped with further accessories on customer request, which brings effective advantages for the operator.



Insect protection grating

- Ideal for industries with stringent hygiene regulations
- Optionally available as a drawer
- Easy cleaning during operation
- No effect on ventilation performance



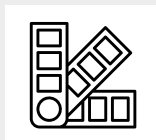
Hail protection

- With hail protection class HR5 available



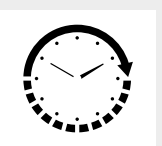
Wind and rain sensors

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



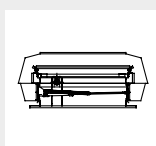
Paint coating in RAL

- Customised powder coating for special requirements



Timer for night cooling

- For energy-efficient building air conditioning



Variant MULTIJET

- weather independent ventilation



Scan this to discover more about
roda systems!



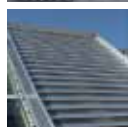
PHOENIX AND MEGAPHOENIX



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.

