

# Leo

The variable ventilator



- Tested in acc. with EN 12101-2 pneumatic or electric
- Standalone unit or integrated in the continuous rooflight
- Installation on roof or wall
- Tested in acc. with VdS directives
- Tested fall-through protection



# Ventilation and smoke extraction for roof and wall

**100 tested unit sizes for installation on roofs and walls, as a standalone unit Leo-star or integrated in the continuous rooflight as Leo-vent – the INDU LIGHT rooflight Leo is the answer to any requirements of a ventilation and smoke extraction unit.**

In addition to the VdS-tested-and-confirmed compliance with EN 12101-2 Leo this rooflight achieves high marks in terms of fall-through protection. Optionally, a tested version can be employed for unusually high snow load ratings. As an inlet air device, Leo-star also helps SHEV units arranged in continuous rooflights.

## **Special highlights: tested fall-through protection and enhanced snow load rating**

As well as the variety of 100 different unit sizes, the INDU LIGHT rooflight Leo has two special highlights to offer: fall-through protection and an enhanced snow load rating!

Alongside the version with steel mesh grids, the rooflight only requires slight modifications to comply with the requirements of DIN 4426 as well as GS-Bau-18 and the Swiss SUVA standard, thereby assuring fall-through protection. There is also no need here for the perforated sheet attachments or grid attachments that obstruct natural lighting.

Leo also sets new standards regarding opening forces for increased snow loads in excess of 500 N/m<sup>2</sup>. It is tested in several standard sizes and is approved in accordance with EN 12101-2.

## **With safety: VdS-tested acc. to DIN EN 12101-2**

Play it safe when it comes to protecting persons and property:

INDU LIGHT as your safety partner designs, delivers and installs individually dimensioned SHEV units.

INDU LIGHT is a VdS-approved specialist constructor company certified in accordance with ISO 9001:2000 and an active member of the trade association Tageslicht und Rauchschutz e.V. (Daylight and Smoke Protection).

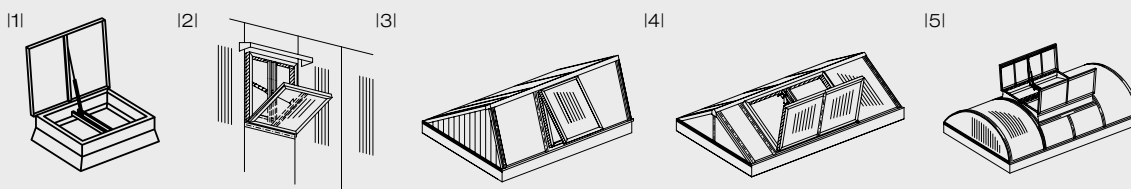
The CE approval of our products was carried out by the VdS and, alongside the tried and tested pneumatic technology, is also available with modern 24V technology.

During project planning of your smoke and heat exhaust units, we also take due account of all the dimensional definition standards including:

- DIN 18232
- VdS directives
- Industrial building directives
- VDI 3564
- TRVB S 125

## **Application variants as a ventilation and SHEV unit**

The INDU LIGHT rooflight Leo-star can be used as a standalone unit in the entire roof area [1] and in the facade as a ventilation and inlet air unit [2]. As Leo-vent, it has also been tested integrated in shed rooflights such as the INDU LIGHT Shedline [3] or ridge-shaped rooflights such as the INDU LIGHT Skyline [4]. Also in its curved forms, Proline and Topline ELS, installation is possible, e.g. as a double flap [5].



## Technical data for SHEV rooflight Leo, pneumatic CO<sub>2</sub>

Purely as a ventilation wing, Leo can be dimensioned to any size. The values quoted here relate to tested natural smoke and heat exhaust units (SHEV) with VdS system approval in acc. with VdS directive 2159 and in acc. with DIN EN 12101-2 or SHEV units in conjunction with natural ventilation.

		Leo-star SHEV pneumatic				Leo-star_double SHEV pneumatic			
Installation position		on the roof area at inclined angles (pitches) of up to 25°				on the roof area at inclined angles (pitches) of up to 25°			
EC conformity certificate		RAI-22J				RAI-22J			
Classification		WL 1500; SL 500; T(-05); RE 1000; B 300-E				WL 1500; SL 500; T(-05); RE 1000; B 300-E			
Opening angle of units		155°				95°			
Energy for activation		CO <sub>2</sub>				CO <sub>2</sub>			
Daily ventilation		pneumatic, 24V, 230V				pneumatic, 24V, 230V			
		Nominal dimensions [m]	A <sub>v</sub> [m <sup>2</sup> ]	c <sub>v</sub>	A <sub>s</sub> [m <sup>2</sup> ]	Nominal dimensions [m]	A <sub>v</sub> [m <sup>2</sup> ]	c <sub>v</sub>	A <sub>s</sub> [m <sup>2</sup> ]
		1.00 x 1.00	1.00	0.75	0.750	1.20 x 1.20	1.44	0.65	0.936
		1.00 x 1.50	1.50	0.75	1.125	1.20 x 1.50	1.80	0.65	1.170
		1.00 x 2.00	2.00	0.75	1.500	1.20 x 1.80	2.16	0.65	1.404
		1.20 x 1.20	1.44	0.75	1.080	1.20 x 2.50	3.00	0.65	1.950
		1.20 x 1.50	1.80	0.75	1.350	1.50 x 1.50	2.25	0.65	1.463
		1.20 x 1.80	2.16	0.75	1.620	1.50 x 1.80	2.70	0.65	1.755
		1.20 x 2.50	3.00	0.75	2.250	1.50 x 2.40	3.60	0.65	2.340
		1.50 x 1.50	2.25	0.75	1.688	1.50 x 2.50	3.75	0.65	2.438
		1.50 x 1.80	2.70	0.75	2.025	1.80 x 1.80	3.24	0.65	2.106
		1.50 x 2.50	3.75	0.75	2.813	1.80 x 2.40	4.32	0.65	2.808
		1.80 x 1.80	3.24	0.75	2.430	1.80 x 2.50	4.50	0.65	2.925
		1.80 x 2.50	4.50	0.75	3.375	2.20 x 2.20	4.84	0.65	3.146
		2.00 x 2.00	4.00	0.75	3.000	2.50 x 2.50	6.25	0.65	4.063
		2.00 x 2.50	5.00	0.75	3.750				
						Units tested for even higher snow loads in accordance with EN-12101-2 and are available on request.			
		Leo-vent 30° SHEV pneumatic				Leo-vent 45° SHEV pneumatic			
Installation position		on ridge-shaped rooflights with 30° inclination				on ridge-shaped rooflights with 45° inclination			
EC conformity certificate		RAI-22J				RAI-22J			
Classification		WL 1500; SL 500; T(-05); RE 1000; B 300-E				WL 1500; SL 500; T(-05); RE 1000; B 300-E			
Opening angle of units		75°				60°			
Energy for activation		CO <sub>2</sub>				CO <sub>2</sub>			
Daily ventilation		pneumatic, 230V				pneumatic, 230V			
		Nominal dimensions [m]	A <sub>v</sub> [m <sup>2</sup> ]	c <sub>v</sub>	A <sub>s</sub> [m <sup>2</sup> ]	Nominal dimensions [m]	A <sub>v</sub> [m <sup>2</sup> ]	c <sub>v</sub>	A <sub>s</sub> [m <sup>2</sup> ]
		1.00 x 1.00	1.00	0.65	0.650	1.00 x 1.00	1.00	0.60	0.600
		1.00 x 1.50	1.50	0.65	0.975	1.00 x 1.50	1.50	0.60	0.900
		1.00 x 2.00	2.00	0.65	1.300	1.00 x 2.00	2.00	0.60	1.200
		1.20 x 1.20	1.44	0.65	0.936	1.20 x 1.20	1.44	0.60	0.864
		1.20 x 1.50	1.80	0.65	1.170	1.20 x 1.50	1.80	0.60	1.080
		1.20 x 1.80	2.16	0.65	1.404	1.20 x 1.80	2.16	0.60	1.296
		1.20 x 2.50	3.00	0.65	1.950	1.20 x 2.50	3.00	0.60	1.800
		1.50 x 1.50	2.25	0.65	1.463	1.50 x 1.50	2.25	0.60	1.350
		1.50 x 1.80	2.70	0.65	1.755	1.50 x 1.80	2.70	0.60	1.620
		1.50 x 2.50	3.75	0.65	2.438	1.50 x 2.50	3.75	0.60	2.250
		1.80 x 1.80	3.24	0.65	2.106	1.80 x 1.80	3.24	0.60	1.944
		1.80 x 2.50	4.50	0.65	2.925	1.80 x 2.50	4.50	0.60	2.700
		2.00 x 2.00	4.00	0.65	2.600	2.00 x 2.00	4.00	0.60	2.400
		2.00 x 2.50	5.00	0.65	3.250	2.00 x 2.50	5.00	0.60	3.000
		Leo-vent 60° SHEV pneumatic				Leo-vent 90° SHEV pneumatic			
Installation position		on ridge-shaped rooflights with 60° inclination				on ridge-shaped rooflights with 90° inclination			
EC conformity certificate		RAI-22J				RAI-22J			
Classification		WL 1500; SL 500; T(-05); RE 1000; B 300-E				WL 1500; SL 500; T(-05); RE 1000; B 300-E			
Opening angle of units		75°				30°			
Energy for activation		CO <sub>2</sub>				CO <sub>2</sub>			
Daily ventilation		pneumatic, 230V				pneumatic, 230V			
		Nominal dimensions [m]	A <sub>v</sub> [m <sup>2</sup> ]	c <sub>v</sub>	A <sub>s</sub> [m <sup>2</sup> ]	Nominal dimensions [m]	A <sub>v</sub> [m <sup>2</sup> ]	c <sub>v</sub>	A <sub>s</sub> [m <sup>2</sup> ]
		1.00 x 1.00	1.00	0.65	0.650	1.00 x 1.00	1.00	0.35	0.350
		1.00 x 1.50	1.50	0.65	0.975	1.00 x 1.50	1.50	0.35	0.525
		1.00 x 2.00	2.00	0.65	1.300	1.00 x 2.00	2.00	0.35	0.700
		1.20 x 1.20	1.44	0.65	0.936	1.20 x 1.20	1.44	0.35	0.504
		1.20 x 1.50	1.80	0.65	1.170	1.20 x 1.50	1.80	0.35	0.630
		1.20 x 1.80	2.16	0.65	1.404	1.20 x 1.80	2.16	0.35	0.756
		1.20 x 2.50	3.00	0.65	1.950	1.20 x 2.50	3.00	0.35	1.050
		1.50 x 1.50	2.25	0.65	1.463	1.50 x 1.50	2.25	0.35	0.788
		1.50 x 1.80	2.70	0.65	1.755	1.50 x 1.80	2.70	0.35	0.945
		1.50 x 2.50	3.75	0.65	2.438	1.50 x 2.50	3.75	0.35	1.313
		1.80 x 1.80	3.24	0.65	2.106	1.80 x 1.80	3.24	0.35	1.134
		1.80 x 2.50	4.50	0.65	2.925	1.80 x 2.50	4.50	0.35	1.575
		2.00 x 2.00	4.00	0.65	2.600	2.00 x 2.00	4.00	0.35	1.400
		2.00 x 2.50	5.00	0.65	3.250	2.00 x 2.50	5.00	0.35	1.750

## Technical data for SHEV Leo rooflight, 24V electrical

Purely as a ventilation wing, Leo can be dimensioned to any size. The values quoted here relate to tested natural smoke and heat exhaust units (SHEV) in acc. with DIN EN 12101-2 or SHEV units in conjunction with natural ventilation.

		Leo-star SHEV 24V				Leo-star double SHEV 24V			
Installation position	on the roof area at inclined angles (pitches) of up to 25°	on the roof area at inclined angles (pitches) of up to 25°				on the roof area at inclined angles (pitches) of up to 25°*			
EC conformity certificate	RAI-22J-E2	RAI-22J-E				RAI-22J-E			
Classification	WL 1500; SL 500; T(-05); RE 1000; B 300-E	WL 1500; SL 500; T(-05); RE 1000; B 300-E				WL 1500; SL 500; T(-05); RE 1000; B 300-E			
Opening angle of units	155°	95°				95°			
Energy for activation	24V	24V				24V			
Daily ventilation	24V	24V				24V			
	<b>Nominal dimensions [m]</b>	<b>A<sub>v</sub> [m<sup>2</sup>]</b>	<b>c<sub>v</sub></b>	<b>A<sub>s</sub> [m<sup>2</sup>]</b>	<b>Nominal dimensions [m]</b>	<b>A<sub>v</sub> [m<sup>2</sup>]</b>	<b>c<sub>v</sub></b>	<b>A<sub>s</sub> [m<sup>2</sup>]</b>	
	1.00 x 1.00	1.00	0.71	0.71	1.20 x 1.20	1.44	0.65	0.936	
	1.00 x 1.50	1.50	0.71	1.07	1.50 x 1.20	1.80	0.65	1.170	
	1.00 x 2.00	2.00	0.71	1.42	1.80 x 1.20	2.16	0.65	1.404	
	1.00 x 2.50	2.50	0.71	1.78	2.50 x 1.20	3.00	0.65	1.950	
	1.20 x 1.20	1.44	0.71	1.02	1.50 x 1.50	2.25	0.65	1.463	
	1.20 x 1.50	1.80	0.71	1.28	1.80 x 1.50	2.70	0.65	1.755	
	1.20 x 1.80	2.16	0.71	1.53	2.40 x 1.50	3.60	0.65	2.340	
	1.20 x 2.50	3.00	0.71	2.13	2.50 x 1.50	3.75	0.65	2.438	
	1.50 x 1.50	2.25	0.71	1.60	(* or in barrel vault rooflight)				
	1.50 x 1.80	2.70	0.71	1.92					
	1.50 x 2.50	3.75	0.71	2.66					
		Leo-vent 30° SHEV 24V				Leo-vent 45° SHEV 24V			
Installation position	on ridge-shaped rooflights with 30° inclination	on ridge-shaped rooflights with 30° inclination				on ridge-shaped rooflights with 45° inclination			
EC conformity certificate	Skyline-E	Skyline-E				Skyline-E			
Classification	WL 1500; SL 500; T(-05); RE 1000; B 300-E	WL 1500; SL 500; T(-05); RE 1000; B 300-E				WL 1500; SL 500; T(-05); RE 1000; B 300-E			
Opening angle of units	75°	60°				60°			
Energy for activation	24V	24V				24V			
Daily ventilation	24V	24V				24V			
	<b>Nominal dimensions [m]</b>	<b>A<sub>v</sub> [m<sup>2</sup>]</b>	<b>c<sub>v</sub></b>	<b>A<sub>s</sub> [m<sup>2</sup>]</b>	<b>Nominal dimensions [m]</b>	<b>A<sub>v</sub> [m<sup>2</sup>]</b>	<b>c<sub>v</sub></b>	<b>A<sub>s</sub> [m<sup>2</sup>]</b>	
	1.00 x 1.00	1.00	0.65	0.65	1.00 x 1.00	1.00	0.60	0.60	
	1.20 x 1.00	1.20	0.65	0.78	1.20 x 1.00	1.20	0.60	0.72	
	1.20 x 1.20	1.44	0.65	0.94	1.20 x 1.20	1.44	0.60	0.86	
	1.20 x 1.50	1.80	0.65	1.17	1.20 x 1.50	1.80	0.60	1.08	
	1.20 x 1.80	2.16	0.65	1.40	1.20 x 1.80	2.16	0.60	1.30	
	1.50 x 1.00	1.50	0.65	0.98	1.50 x 1.00	1.50	0.60	0.90	
	1.50 x 1.20	1.80	0.65	1.17	1.50 x 1.20	1.80	0.60	1.08	
	1.50 x 1.50	2.25	0.65	1.46	1.50 x 1.50	2.25	0.60	1.35	
	1.50 x 1.80	2.70	0.65	1.76	1.50 x 1.80	2.70	0.60	1.62	
		Leo-vent 60° SHEV 24V				Leo-vent 90° SHEV 24V			
Installation position	on ridge-shaped rooflights with 60° inclination	on ridge-shaped rooflights with 60° inclination				on ridge-shaped rooflights with 90°/30° inclination			
EC conformity certificate	Skyline-E	Skyline-E				Skyline-E			
Classification	WL 1500; SL 500; T(-05); RE 1000; B 300-E	WL 1500; SL 500; T(-05); RE 1000; B 300-E				WL 1500; SL 500; T(-05); RE 1000; B 300-E			
Opening angle of units	75°	30°				30°			
Energy for activation	24V	24V				24V			
Daily ventilation	24V	24V				24V			
	<b>Nominal dimensions [m]</b>	<b>A<sub>v</sub> [m<sup>2</sup>]</b>	<b>c<sub>v</sub></b>	<b>A<sub>s</sub> [m<sup>2</sup>]</b>	<b>Nominal dimensions [m]</b>	<b>A<sub>v</sub> [m<sup>2</sup>]</b>	<b>c<sub>v</sub></b>	<b>A<sub>s</sub> [m<sup>2</sup>]</b>	
	1.00 x 1.00	1.00	0.65	0.65	1.00 x 1.00	0.77	0.54	0.42	
	1.20 x 1.00	1.20	0.65	0.78	1.20 x 1.00	0.93	0.54	0.50	
	1.20 x 1.20	1.44	0.65	0.94	1.20 x 1.20	1.16	0.54	0.63	
	1.20 x 1.50	1.80	0.65	1.17	1.20 x 1.50	1.48	0.53	0.78	
	1.20 x 1.80	2.16	0.65	1.40	1.20 x 1.80	1.81	0.52	0.94	
	1.50 x 1.00	1.50	0.65	0.98	1.50 x 1.00	1.20	0.54	0.65	
	1.50 x 1.20	1.80	0.65	1.17	1.50 x 1.20	1.47	0.53	0.78	
	1.50 x 1.50	2.25	0.65	1.46	1.50 x 1.50	1.89	0.52	0.98	
	1.50 x 1.80	2.70	0.65	1.76	1.50 x 1.80	2.30	0.52	1.20	

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