

**NSHEV**  
**NATURAL SMOKE AND**  
**HEAT EXHAUST VENTILATORS**

Technical presentation

**2007**



# Technical presentation **NSHEV**

## **NATURAL SMOKE AND HEAT EXHAUST VENTILATORS**

### **ROOF MOUNTED NSHEV**

Certiciel-T	06
Certilight-T	07
Certilux-T	08
Certilam-T	09

### **WALL MOUNTED NSHEV**

Exubaie-F	12
OTF	13
Certilux-F	14
Certilam-F	15

### **CONTROL PANELS**

Electric Activation	19
Pneumatic Activation	19

### **CERTIFICATION 22//23**



Technical presentation

# NSHEV

## NATURAL SMOKE AND HEAT EXHAUST VENTILATORS

### ROOF MOUNTED NSHEV

Certiciel-T

Certilight-T

Certilux-T

Certilam-T



# CERTICIEL-T



//ROOF MOUNTED NSHEV



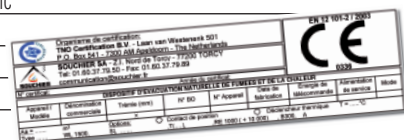
## Certiciel-T Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Roof mounted, twin flaps ventilator with invisible motorization concealed between fixed and opening frame.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type B - open and close
AvCv	• in accordance with size, wind shields and base types
Tests	• Re 1000 cycles • + 10000 option for daily ventilation, when appropriate
Snow load	• on request, to be calculated
Low temperature	• T(-15) electrical T(-25) pneumatic
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic and electric

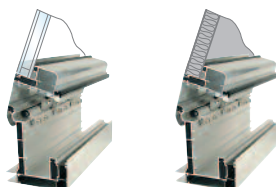


## Construction

- Double Flaps Natural Smoke and Heat Exhaust Ventilator (NSHEV)
- Infill: glazed or opaque, thermal or noise insulation
- Any RAL paint or anodised finish
- To be installed directly in a glazed structure
- Or on roof

## Frame

- Extruded aluminium, thermally broken for fixed frames
- Adaptation for glazed roof
- Adaptation with upstand



## Dimensions

- Custom made, double flaps
- Outside width per flap: min 950, max 2200 mm
- Outside length per flap: min 800, max 1600 mm

Double flaps throat dimensions (for upstand)

Width (A) Height (B)

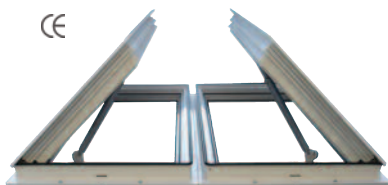
Min	Max	Min	Max
692	1942	1342	2942

with throat surface (Ax B)  $\geq 1 \text{ m}^2$

# CERTILIGHT-T



//ROOF MOUNTED NSHEV



## Certilight-T Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Roof mounted twin flaps ventilator with cylinders within the throat motorization.

## Performances as per EN 12101-2

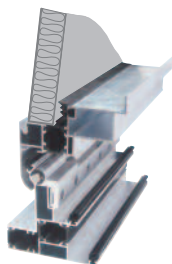


Release mechanism	• automatic and manual
Mode of operation	• type B - open and close
AvCv	• in accordance with size, wind shields and base types
Tests	• Re 1000 cycles • + 10000 option for daily ventilation (all types)
Snow load	• SL 250, 500 et 1000
Low temperature	• T(-15) electrical T(-25) pneumatic
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic and electric



## Construction

- Double Flaps Natural Smoke and Heat Exhaust Ventilator (NSHEV)
- Infill: glazed or opaque, thermal or noise insulation
- Any RAL paint or anodised finish
- To be installed directly in a glazed structure
- Or on roof
- Option thermal insulation:  $U (W/m^2/^\circ C) = \text{less than } 2.4 W/m^2/^\circ C$
- Option noise attenuation: up to 47dB reduction



## Frame

- Extruded aluminium, thermally broken profiles or both fixed frames and opening flaps
- Adaptation for glazed roof
- Adaptation with upstand

## Dimensions

- Custom made, double flaps
- Outside width per flap: min 950, max 2200 mm
- Outside length per flap: min 800, max 1600 mm

Double flaps throat dimensions (for upstand)

Width (A)		Height (B)	
Min	Max	Min	Max
819	2019	1419	3019

with throat surface (Ax B)  $\geq 1 m^2$



# CERTILUX-T



//ROOF MOUNTED NSHEV



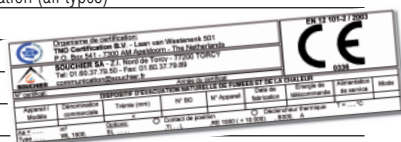
## Certilux-T Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Roof mounted with translucent pivoting blades.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type B - open and close
AvCv	• Throat area x 0,67 with upstand and Throat area x 0,62 without upstand
Tests	• Re 1000 cycles • + 10000 option for daily ventilation (all types)
Snow load	• SL 250, 500
Low temperature	• T(-25)
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic and electric

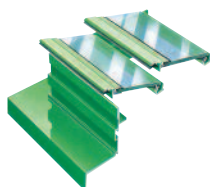


## Construction

- Frame, water drain and blade edge made of aluminium profiles
- Blade carriers made of extruded aluminium, windshields made of pressed aluminium
- Infill of blades: glass or polycarbonate
- Supplied with control
- Any RAL paint or anodised finish
- To be installed directly in a glazed structure
- Or on roof

## Frame

- Extruded aluminium frame to fit any type of roof structure
- Various types of profiles (C, F, G) in accordance with roofing type or glazing structure



## Dimensions

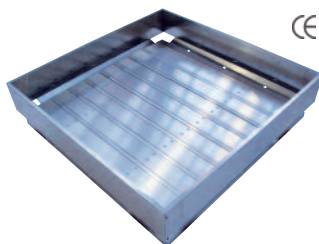
Custom made:

- Throat width per unit: min 500, max 2000 mm -
- Throat length per unit: min 800, max 3000 mm -
- Throat area: min 1 m<sup>2</sup>, max 6 m<sup>2</sup>

# CERTILAM-T



//ROOF MOUNTED NSHEV



## Certilam-T Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Roof mounted ventilator with aluminium pivoting blades, complete unit with motorization.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type B - open and close
AvCv	• Throat area x 0,67 with upstand and throat area x 0,62 without upstand
Tests	• Re 1000 cycles • + 10000 option for daily ventilation (all types)
Snow load	• SL 250, 500
Low temperature	• T(-25)
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic and electric

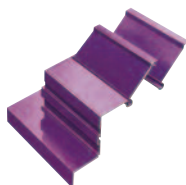


## Construction

- Frame and blades made of extruded aluminium
- Windshields made of pressed aluminium
- Supplied with control
- Standard finish: Mill finish
- Any RAL paint or anodised finish
- To be installed directly in a glazed structure
- Or on roof
- Option thermal insulation:  $U (W/m^2/^\circ C)$  of insulation infill:  $2 W/m^2/^\circ C$
- Option noise attenuation: up to 18 dB reduction

## Frame

- Extruded aluminium frame to fit any type of roof structure
- Various types of profiles (C, F, G) in accordance with roofing type or glazing structure
- Blades made of aluminium profile



## Dimensions

Custom made:

- Throat width per unit: min 500, max 2000 mm - Throat length per unit: min 800, max 3000 mm - Throat free area: min  $1 m^2$ , max  $6 m^2$





Technical presentation

# NSHEV

## NATURAL SMOKE AND HEAT EXHAUST VENTILATORS

### WALL MOUNTED NSHEV

Exubaie-F

OTF

Certilux-F

Certilam-F



# EXUBAIE-F



/WALL MOUNTED NSHEV



## Exubaie-F Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Wall mounted, single flap, window type ventilator with control concealed between fixed frame and opening section.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type A or B – open only or open and close
AvCv	• in accordance with size, type and angle of opening
Tests	• Re 1000 cycles • + 10000 option for daily ventilation, when appropriate
Low temperature	• T(00), tests to T(-15) in progress
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic, electric and manual

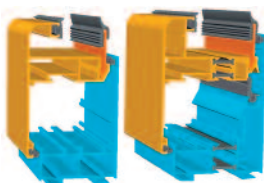


## Construction

- Single Flap Natural Smoke and Heat Exhaust Ventilator (NSHEV)
- Fixed and opening frame made of extruded aluminium
- Bottom, Top and side hung, inwards or outwards opening
- Infill: glazed or opaque, thermal or noise insulation
- Any RAL paint or anodised finish
- Option thermal insulation:  $U (W/m^2/^\circ C) = \text{less than } 2.4 W/m^2/^\circ C$
- Option noise attenuation: up to 47dB reduction

## Frame

- Standard extruded aluminium profiles
- Thermally broken extruded aluminium profiles
- To be installed directly in a glazed structure
- Or in wall structure



## Dimensions

Custom made:

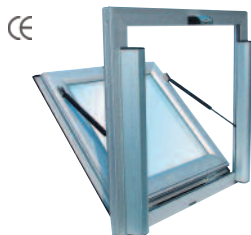
Throat dimensions minimum and maximum (width x height)  
Top and bottom hung ventilators

- Min: 550 x 550 mm
- Max: 1600 x 1600 or 2400 x 1200 mm
- Maximum weight of opening leaf: 60 kg
- For side hung ventilators, maximum dimensions are limited to 900 x 1800 or 800 x 2400 mm
- Maximum weight of opening leaf: 50 kg

# OTF



/WALL MOUNTED NSHEV



## OTF Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Wall mounted, single flap, window type ventilator. It is composed of a fixed frame and an opening section. It is delivered with its controls.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type A or B – open only or open and close
AvCv	• in accordance with size, type and angle of opening
Tests	• Re 1000 cycles • + 10000 option for daily ventilation, when appropriate
Low temperature	• T(00), tests to T(-15) in progress
Wind load	• WL = 1500 PA
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic, electric and manual



## Construction

- One Flap Natural Smoke and Heat Exhaust Ventilator (NSHEV)
- Fixed and opening frame made of extruded aluminium
- Bottom, Top and side hung, inwards or outwards opening
- Infill: glazed or opaque, thermal or noise insulation
- Control mounted on the frames of the window
- Any RAL paint or anodised finish
- Or in walls
- Option thermal insulation:  $U (W/m^2/^\circ C) = \text{less than } 2.4 W/m^2/^\circ C$
- Option noise attenuation: up to 47dB reduction

## Frame

- Standard extruded aluminium profiles
- Thermally broken extruded aluminium profiles
- To be installed directly in a glazed structure
- Or in wall structure



## Dimensions

Custom made:

- Throat dimensions minimum and maximum (width x height)
- Top and bottom hung ventilators
  - Min: 550 x 550 mm
  - Max: 1600 x 1600 or 2400 x 1200 mm
- Maximum weight of opening leaf: 60 kg
- For side hung ventilators, maximum dimensions are limited to 900 x 1800 or 800 x 2400 mm
- Maximum weight of opening leaf: 50 kg



# CERTILUX-F



//WALL MOUNTED NSHEV



## Certilux-F Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Wall mounted with translucent pivoting blades ventilator.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type B - open and close
AvCv	• SGO x 0,62
Tests	• Re 1000 cycles • + 10000 option for daily ventilation (all types)
Snow load	• Not relevant
Low temperature	• T(-25) pneumatic and electric
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic, electric or manual

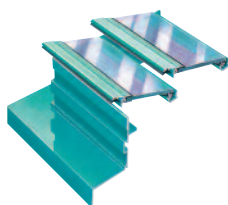


## Construction

- Frame, water drain and blade edge made of aluminium profiles
- Blade carriers and windshield made of sheet aluminium
- Infill of blades: glass or polycarbonate
- Short windshields made of pressed aluminium
- Supplied with motorization
- Any RAL paint or anodised finish
- To be installed directly in a glazed structure
- Or on roof

## Frame

- Extruded aluminium frame to fit any type of roof structure
- Various types of profiles (A, C, D, E, F, G) to fit wall mounting requirements or glazing structure



## Dimensions

Custom made:

- Throat width per unit: min 500, max 2000 mm -
- Throat length per unit: min 800, max 3000 mm -
- Throat area: min 1 m<sup>2</sup>, max 6 m<sup>2</sup>

# CERTILAM-F



/WALL MOUNTED NSHEV



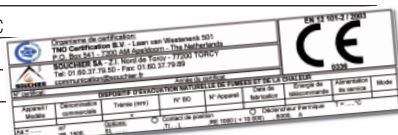
## Certilam-F Natural Smoke and Heat Exhaust Ventilator (NSHEV):

- Wall mounted ventilator with aluminium pivoting blades.

## Performances as per EN 12101-2



Release mechanism	• automatic and manual
Mode of operation	• type B - open and close
AvCv	• SGO x 0,62
Tests	• Re 1000 cycles • + 10000 option for daily ventilation (all types)
Snow load	• Not relevant
Low temperature	• T(-25) pneumatic and electric
Wind load	• WL = 1500 Pa
Heat behaviour	• B 300°
Fire integrity	• in accordance with infill
Controls	• pneumatic, electric or manual



## Construction

- Frame and blades made of aluminium profiles
- Short windshields made of pressed aluminium
- Supplied with control
- Standard finish: mill finish
- Any RAL paint or anodised finish
- To be installed directly in a glazed structure
- Or on roof
- Option thermal insulation: U (W/m<sup>2</sup>/°C) of insulation infill: 2 W/m<sup>2</sup>/°C
- Option noise attenuation: 18 dB reduction

## Frame

- Extruded aluminium frame to fit any type of roof structure
- Various types of profiles (A, C, D, E, F, G) to fit wall mounting requirements or glazing structure
- Blades made of extruded aluminium profile



## Dimensions

Custom made:

- Throat width per unit: min 600, max 2000 mm - Throat length per unit: min 800, max 3000 mm - Throat free area: min 1m<sup>2</sup>, max 6 m<sup>2</sup>



Technical presentation

# **NSHEV**

## **NATURAL SMOKE AND HEAT EXHAUST VENTILATORS**

### **CONTROL PANELS**

Electric Activation

Pneumatic Activation





# ELECTRIC ACTIVATION



//CONTROL PANELS



For further information, contact us.

# PNEUMATIC ACTIVATION



//CONTROL PANELS



For further information, contact us.



Technical presentation

# **NSHEV**

## **NATURAL SMOKE AND HEAT EXHAUST VENTILATORS**

**CERTIFICATION**

# CE MARKING

//CERTIFICATION

## It means

- to be in accordance with EN 12101-2,
- product to be tested by certified body,
- a Factory Production Control audited at least once a year by third party.

## The level of performance

- «Euroclass», has to be of the level required in the country. It means that all «CE» marked products are not equivalent and that the NSHEV to be installed has to be selected taking the level of requirements needed for the job considered

## The European «CE» marking objectives


- To harmonize the technical rules within Europe in order to eliminate hindrances to the circulation and exchange of goods.
- To maintain the responsibility of nations to regulate as far as the level of safety within buildings is concerned.

## The choice of levels of performances covers 9 criterias

- Release mechanism: automatic and/or manual release of the NSHEV
- Mode of operation: the operating device opens or opens and close the NSHEV
- AvCv: Aerodynamic Free Area
- Tests: number of cycles «open and close» to be tested
- Snow load: mass of snow that the unit has to lift when it opens to fire position
- Low temperature: capacity of the NSHEV to operate in case of low ambient temperature
- Wind load: capacity of the NSHEV to withstand wind
- Heat behaviour: temperature at which the NSHEV has to open and exhaust smoke and heat
- Fire integrity: measure of the reaction to fire of the NSHEV

*before*

Local standard

for example in France:  
NFS 61.937 

*now*





NF EN 12101-2



DENFC VOLONTAIRE

# REQUIREMENTS

CERTIFICATION//

 <b>Certification body:</b> <b>TNO Certification B.V.</b> - Laan van Westenenk 501 P.O. Box 541 - 7300 AM Apeldoorn - The Netherlands <b>SOUCHIER SA</b> - Z.I. Nord de Torcy - 77200 TORCY Tel: 01.60.37.79.50 - Fax: 01.60.37.79.89 communication@souchier.fr						<b>EN 12 101-2 / 2003</b>  0336	
<b>Certificate number:</b>						<b>Certification year:</b>	
NATURAL SMOKE AND HEAT EXHAUST VENTILATORS							
Type / Model	Denomination	Opening size (mm)	Order number	Ventilator number	Manufacturing date	Energy for activation	Connection
		x				<input type="radio"/> Thermofuse <input type="radio"/> Contactor	T = .....°C
Aa = ..... Typ .....	m² WL 1500	Options: SL .....	RE 1000 (+ 10 000)		B300	A	

3

2

8

5

7

4

10

11

1

## French requirements

### 1 Release mechanism

- automatic and manual
- manual only

### 2 Mode of operation

- Type A open only
- Type B open and close

### 3 AvCv

- in accordance with size windshields and bases types

### 4 Tests

- Re = 1000
- Re = 10000

### 5 Snow load

- SL 250 Pa
- SL 500 Pa

### 6 Lateral wind\*

- wind 10 m/s

### 7 Low temperature

- T (0°)

### 8 Wind load

- WL 1500 Pa

### 9 Windshields vibration \*

- frequency 10 Hz

### 10 Heat behaviour

- B 300°

### 11 Fire integrity

- in accordance with euroclasses E

\* A = Specific value

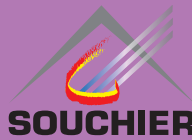
[www.souchier.com](http://www.souchier.com)

ROOF MOUNTED NSHEV ///

WALL MOUNTED NSHEV ///

CONTROL PANELS ///

CERTIFICATION ///



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