TROX® TECHNIK
The art of handling air

COMBINATION OF EXTERNAL WEATHER LOUVRE AND NON-RETURN DAMPER, VARIANT WG-AL-KUL-1

WG-KUL

COMBINATION WITH A NON-RETURN DAMPER

Combinations of external weather louvres and non-return dampers as a protection against the direct ingress of rain as well as leaves and birds, and to prevent air from flowing against the intended airflow direction.

- Maximum width 1600 mm, maximum height 1615 mm
- Low differential pressure due to aerofoil blades
- Low air-regenerated noise
- Technical data measured in aerodynamic and acoustic laboratories
- Maximum permissible differential pressure in closing direction: 100 Pa
- In addition to the standard range of dimensions, intermediate dimensions in millimetre increments possible
- Pre-assembled combination, therefore fast and easy to install

Optional equipment and accessories

- Installation subframe
- Insect screen
- External weather louvre, powder-coated or anodised surface

General information

Application

- Combinations of Type WG external weather louvres and Type KUL non-return dampers for pecting fresh air and exhaust air openings in air conditioning systems
- Pection against the direct ingress of rain as well as against leaves and birds
- Recommended face velocity for fresh air openings: 2 – 2.5 m/s max.
- Prevention of unwanted airflows against the intended airflow direction when the system is not in operation
- Blades close automatically when the system is shut down

Special characteristics

- Any intermediate sizes within the standard size range are available
- Low installation effort on site since external weather louvre and non-return damper are factory combined and assembled
- Operating temperature 20 – 80 °C
- For very large sizes, several combinations can be arranged side by side or on top of each other
- Maximum pressure of 100 Pa
- Low differential pressure due to aerofoil blades
- Non-return dampers are opened and closed by the airflow; no actuator is required

Nominal sizes

- B: 200 – 1600 mm, in increments of 1 mm
- H: 180, 345, 510, 675, 840, 1005, 1170, 1335, 1500, 1665 mm (intermediate sizes 183 – 1664 in increments of 1 mm)
- Any combination of B × H

Variants

- WG-KUL: External weather louvre made of galvanised sheet steel, with non-return damper
- WG-AL-KUL: External weather louvre made of aluminium, with non-return damper
- 1: Fresh air opening
- 2: Exhaust air opening

Constructions

Cover grille

- Crimped wire mesh, galvanised steel
- 1: with insect screen, galvanised steel
- 2: with crimped wire mesh, stainless steel (WG-AL-KUL only)
- 3: with insect screen and crimped wire mesh, stainless steel (WG-AL-KUL only)

Parts and characteristics

External weather louvres

- Front border
- Regular blades and bottom blade
- Crimped wire mesh
- Insect screen, optional
- Visible mullion, or stabilising mullion at the rear, from B = 1280 mm

Non-return damper

- Casing
- Blades with low-friction bearings
- Blade restrictors
- Blade tip seals
- Bottom travel stop (angle section)
- Centre mullion, visible at the back, from B = 997 mm

Parts and characteristics

- Border
- Regular blades and bottom blade
- Wire mesh
- Optional insect screen
- Visible mullion or stabilising mullion at the rear, from B = 1385 mm
- Casing of non-return damper
- Blades with low-friction bearings
- Blade restrictors
- Blade tip seals
- Bottom travel stop (angle section)
- Visible mullion at the rear from B = 1000 mm

Construction features

External weather louvres

- Crimped wire mesh at the rear, mesh aperture 20 × 20 × 1.8 mm
- Optional insect screen at the rear, mesh aperture 1.25 × 1.25 × 0.4 mm
- Front border with fixing holes, for holes see product sheet WG, optionally without holes

Non-return damper

- Casing, material thickness 1.25 mm
- Blades, material thickness 1 mm
- With unperforated flange for air duct connection
- Side bars with drilled holes to accommodate the blade shafts and integrated blade restrictors
- Blade restrictors prevent the blades from opening beyond a certain angle

Accessories

- Installation subframe: Installation subframe for the fast and simple installation of external weather louvres

Technical data

- Nominal sizes: 200 × 180 to 1600 × 1665 mm
- Free area: approx. 60 %, with insect screen approx. 45 %
- Total differential pressure – exhaust air: 55 Pa at 2.5 m/s
- Total differential pressure – fresh air: 60 Pa at 2.5 m/s
- Operating temperature: –20 – 80 °C
- Maximum pressure: 100 Pa

TECHNICAL INFORMATION

Function, Technical data, Specification text, Order code

External weather louvres are air diffusers for the outdoor air and exhaust air of ventilation and air conditioning systems. They are installed in external walls and façades. Their narrowly arranged blades protect against the direct ingress of rain as well as against leaves and birds.

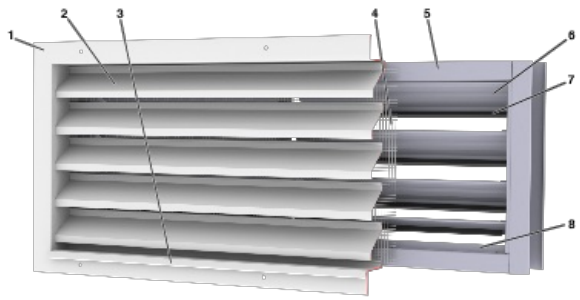
Depending on type and intensity of the rain and the flow velocity, small amounts of water may occasionally enter together with the airflow.

Therefore, the airflow velocity in outdoor air openings should not exceed 2 – 2.5 m/s.

Non-return dampers open and close automatically.

When the system is in operation, the blades open when air flows.

When the system is shut down, the blades close due to their weight. They safely prevent air from flowing against the intended airflow direction.



1 Front border WG (for holes see product data sheet WG)

2 Regular blades WG

3 Bottom blade WG

4 Crimped wire mesh; optionally with additional insect screen

5 Casing KUL

6 Blade KUL

7 Blade tip seals KUL

8 Travel stop (angle section)

Nominal sizes	200 × 215 to 1600 × 1615 mm
Operating temperature	-20 to 80 °C
Maximum permissible differential pressure in closing direction	100 Pa

For the WG-KUL combination, the acoustic data of the external weather louvre can be used as an approximation, valid for the fully open non-return damper.

You can find the Easy Product Finder on our website: https://www.trox.de/en/mytrox/easy-product-finder-design-programme-ff6bb52b92a8aa3e

Combinations of an external weather louvre with a non-return damper.

Rectangular external weather louvre to protect against the direct ingress of rain as well as leaves and birds via outdoor air and exhaust air openings.

Rectangular non-return damper to prevent air from flowing against the intended airflow direction.

Ready-to-install component consisting of a front border, aerofoil rain defence blades, and a crimped wire mesh grille at the rear.

Non-return damper, consisting of the casing, blades with low-friction bearings, and travel stop and sealing parts.

Special characteristics

- Any intermediate sizes within the standard size range are available
- Low installation effort on site since external weather louvre and non-return damper are factory combined and assembled
- Operating temperature 20 – 80 °C
- For very large sizes, several combinations can be arranged side by side or on top of each other
- Maximum pressure of 100 Pa
- Low differential pressure due to aerofoil blades
- Non-return dampers are opened and closed by the airflow; no actuator is required

Accessories

- Installation subframe: Installation subframe for the fast and simple installation of external weather louvres

Constructions

Cover grille

- Crimped wire mesh, galvanised steel
- 1: with insect screen, galvanised steel
- 2: with crimped wire mesh, stainless steel (WG-AL-KUL only)
- 3: with insect screen and crimped wire mesh, stainless steel (WG-AL-KUL only)

Technical data

- Nominal sizes: 200 × 180 – 1600 × 1665 mm
- Operating temperature: -20 to 80 °C
- Maximum permissible differential pressure in closing direction: 100 Pa

Sizing data

- q_v [m³/h]
- Δp_t [Pa]

Air-regenerated noise

- L_{WA} [dB(A)]

WG	–	AL	–	2	–		–	KUL	–	2	/	1600 × 600	/	ER	/	P1 - RAL 9010
|		|		|	|		|		|		|		|	
1		2		3		4		1		5		6		7		8

1 Type
WG-KUL Combination of external weather louvre and non-return damper

2 Material – WG
No entry: galvanised sheet steel
AL Aluminium

3 Construction – WG
No entry: crimped wire mesh, galvanised steel
1 Crimped wire mesh and insect screen, galvanised steel
2 Crimped wire mesh, stainless steel (with material AL only)
3 Crimped wire mesh and insect screen, stainless steel (material AL only)

4 WG border
No entry: with fixing holes
U without holes

5 Airflow direction
1 Outdoor air
2 Exhaust air

6 Nominal size [mm]
Specify size (width × height)

7 Installation subframe – WG
No entry: without installation subframe
ER With installation subframe (not with border U)

8 Surface – WG
No entry: standard construction
P1 powder-coated, specify RAL CLASSIC colour

Material AL only
S2 Anodised to EURAS standard, specify colour (E6-C-31 – E6-C-35)
S3 anodised, E6-C-0 (no colour)

Gloss level
RAL 9010 GU 50
RAL 9006 GU 30
All other RAL colours GU 70Order example: WG-AL-2-KUL-2/1600×600/ER/P1-RAL9010

Type	WG-KUL – Combination of external weather louvre and non-return damper
Material WG	Aluminium
Construction WG	with crimped wire mesh, stainless steel
Front border WG	with fixing holes
Airflow direction	Exhaust air
Nominal size [mm]	Width 1600, height 600
Installation subframe WG	with installation subframe
Surface WG	powder-coated, RAL 9010 (pure white)

Variants

WG-KUL

Variants

- External weather louvre made of galvanised sheet steel, with non-return damper
- 1: Fresh air opening
- 2: Exhaust air opening

WG-AL-KUL

Variant

- External weather louvre made of aluminium, with non-return damper
- 1: Fresh air opening
- 2: Exhaust air opening

Application

- Combinations of Type WG external weather louvres and Type KUL non-return dampers for protecting outdoor air and exhaust air openings in ventilation and air conditioning systems
- Protection against the direct ingress of rain as well as against leaves and birds
- Recommended face velocity for outdoor air openings: 2 – 2.5 m/s max.
- Prevention of unwanted airflows against the intended airflow direction when the system is not in operation
- Blades close automatically when the system is shut down

Product details

Product details

Installation and commissioning

- With or without installation subframe
- Ensure vertical installation
- Straight upstream section required (length at least B + H) on the discharge side of fans
- Ensure a gradual start-up of fans to avoid a sudden pressure increase

Installation with installation subframe:

- bend and spread welded wall fixing tabs before mortaring them in place
- after mortaring, position and fasten the product on the installation subframe

Component	External weather louvre type or variant	Material	Notes
Installation subframe	WG-KUL, WG-AL-KUL	Galvanised steel	Angle section frame 35 × 35 × 3 mm
Wall fixing tabs, screws and washers	WG-KUL, WG-AL-KUL	Galvanised steel	Welded wall fixing tabs

Wall installation without installation subframe

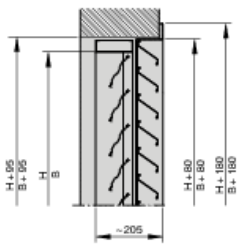
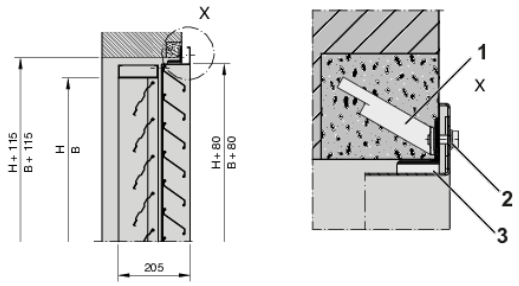


Illustration shows WG-KUL-1

Installation dimensions Type WG-KUL-2, WG-AL-KUL-1, WG-AL-KUL-2 with installation subframe



1 Wall fixing tabs

2 Hexagon screw with washer

3 Installation subframe