

External weather louvers Type EWL



For the most diverse applications, available also in large sizes

External weather louvers as a protection of air conditioning systems against the direct ingress of rain, leaves and birds into fresh air and exhaust air openings

- Maximum width of 2400 mm, maximum height of 2310 mm, maximum area of 4 m² (aluminium variant also for continuous horizontal runs)
- Low differential pressure due to aerofoil blades
- Low air-regenerated noise
- All aerodynamic data is measured in aerodynamics and acoustics laboratories
- Available in standard sizes and many intermediate sizes
- Simple and quick installation due to perimeter border
- Variants made of galvanised sheet steel, aluminium or stainless steel
- Flexible arrangement of sections for covering large areas (should then be fixed on a support structure which is to be provided by others)

Optional equipment and accessories

- Installation subframe
- Can be combined with multileaf or non-return dampers
- Insect screen
- Powder-coated or anodised



Bottom blade



Regular blades

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Application

Application

- External Weather louvers of Type EWL for the fresh air and exhaust air openings of air conditioning systems
- Protection 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.

Special characteristics

- Large areas can be provided by arranging multiple single sections horizontally and/or vertically (subdivided construction); single sections made of aluminium can also be combined into continuous horizontal runs
- Low differential pressure and low air-regenerated noise due to aerofoil blades
- Simple and quick installation due to perimeter border
- Free area of approx. 60 %, with insect screen approx. 45 %
- Silicone free

Nominal sizes

- B: 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400 mm (intermediate sizes: 201 – 2399 mm, in increments of 1 mm)
- Width subdivided max. = 4900 mm (intermediate sizes: 2401 – 4899 mm, in increments of 1 mm)
- H: 165, 330, 495, 660, 825, 990, 1155, 1320, 1485, 1650, 1815, 1980, 2145, 2310 mm (intermediate sizes: 166 – 2309 mm, in increments of 1 mm)
- Height subdivided max. = 4720 mm (intermediate sizes: 2311 – 4719 mm, in increments of 1 mm)
- Any combination of B x H
- Undivided construction up to 4 m²

EWL-B-AL

- EWL-B-AL-M (middle section) B: 2000mm
- EWL-B-AL-E (end section) B: 1000– 2000 mm (intermediate sizes: 1001 – 1999 mm, in increments of 1 mm)
- H: 165 – 1980 mm (intermediate sizes: 166 – 1979 mm, in increments of 1 mm)

Description

Variants

- WL: External weather louvre made of galvanised sheet steel
- WL-A2: External weather louvre made of stainless steel
- WL-AL: External weather louvre made of aluminium
- WL-B-AL: External weather louvre made of aluminium, for continuous horizontal runs

Construction

Cover grille

- Wire mesh, galvanised steel (only WL, WL- AL, WL-B-AL)
- 1: With insect screen, galvanised steel (only WL, WL-AL, WL-B-AL)
- 2: With wire mesh, stainless steel (only WL- AL,

WL-B-AL)

- 3: With insect screen and wire mesh, stainless steel (only WL-A2, WL-AL, WL-B-AL)

Border

- Border fixing holes
- U: Without fixing holes

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

Accessories

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

Construction features

- Free area of approx. 60 %, with insect screen approx. 45 %
- Wire mesh at the rear, mesh aperture $20 \times 20 \times 1.8$ mm
- Optional insect screen at the rear, mesh aperture $1.25 \times 1.25 \times 0.4$ mm
- Border fixing holes

Materials and surfaces

- Border, mullion and blades made of formed galvanised sheet steel, aluminium or stainless steel
- Wire mesh made of galvanised steel or stainless steel
- P1: Powder-coated, RAL CLASSIC colour
- PS: Powder-coated, NCS or DB colour

Maintenance

- Maintenance-free as construction and materials are not subject to wear

Functional description

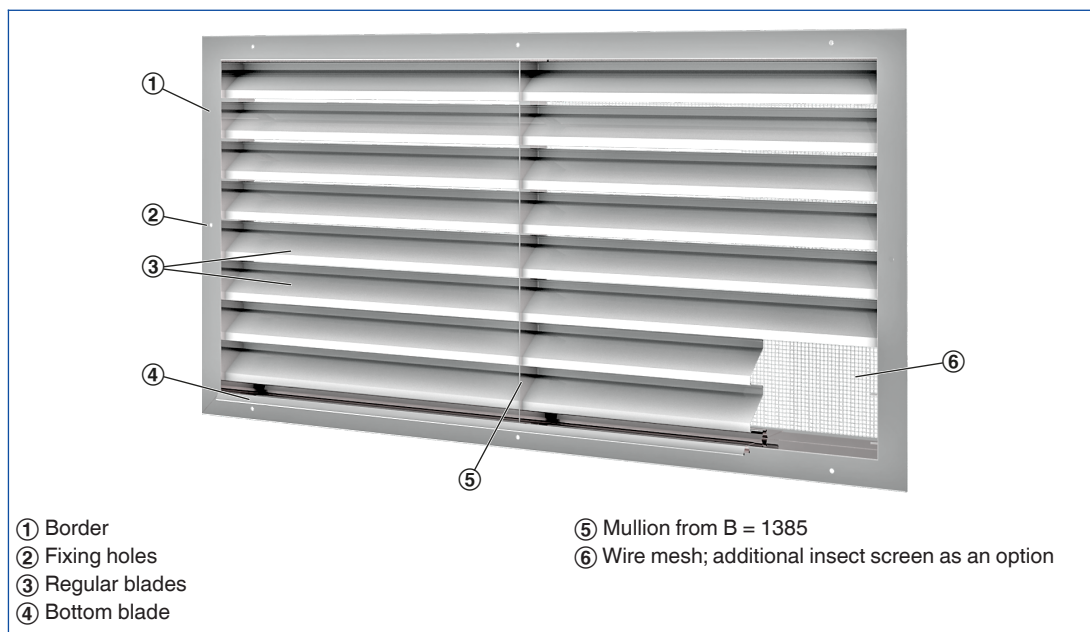
External weather louvres are externally mounted air transfer devices for the fresh air and exhaust air of air conditioning systems. They are installed in external walls and façades. Their narrowly arranged blades give good protection against the direct ingress of rain as well as against leaves and

birds.

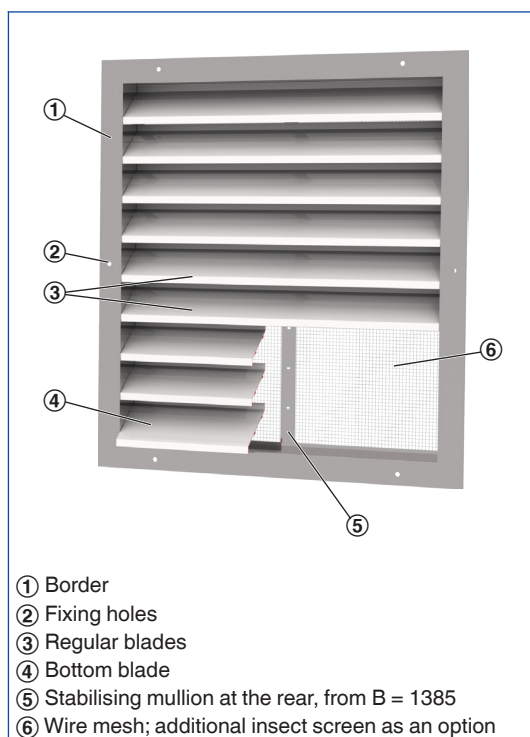
Under certain unfavourable conditions, such as heavy rain, and depending on the airflow velocity it might happen that slight quantities of water enter together with the air.

This is why the airflow velocity in fresh air openings should not exceed 2 – 2.5 m/s.

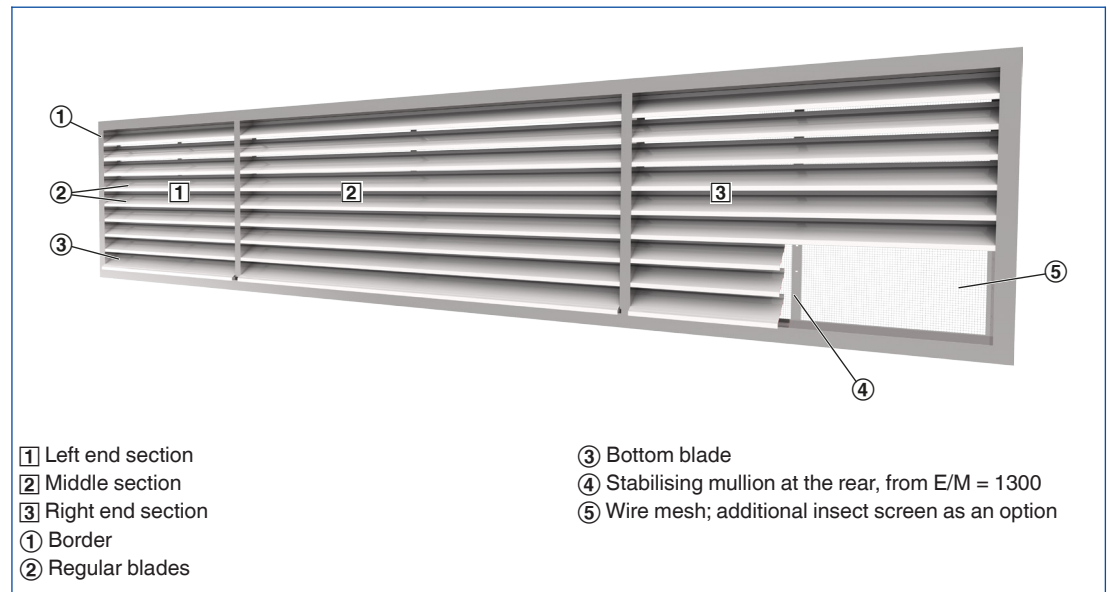
Schematic illustration of EWL, EWL-A2



Schematic illustration of EWL-AL



Schematic illustration of WL-B-AL



Nominal sizes	200 × 165 – 2400 × 1650 / 1600 × 2310 mm
Width subdivided	Up to 4900 mm
Height subdivided	Up to 4720 mm
Horizontal runs (WL-B-AL)	H: 165 – 1980 mm
Volume flow rate range (undivided construction)	40 – 13350 l/s or 144 – 48660 m ³ /h at 2.5 m/s
Free area	Approx. 60 %, with insect screen approx. 45 %
Total differential pressure – exhaust air	30 Pa at 2.5 m/s
Total differential pressure – fresh air	35 Pa at 2.5 m/s

Quick sizing tables provide a good overview of the volume flow rates with an airflow velocity of 2.5 m/s. Values for intermediate widths can be interpolated. Precise intermediate values and volume flow rates for other airflow velocities can be calculated with our Easy Product Finder design programme.

The sound power levels L_{WA} apply to external weather louvres with a flow cross section of 1 m².

WL, width 200 – 1200 mm, volume flow rate at 2.5 m/s

Height	Width [mm]											
	200		400		600		800		1000		1200	
mm	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
165	40	144	80	288	120	432	160	576	200	720	240	864
330	125	450	245	882	370	1332	490	1764	615	2214	735	2646
495	205	738	410	1476	615	2214	820	2952	1025	3690	1230	4428
660	290	1044	575	2070	865	3114	1150	4140	1440	5184	1725	6210
825	370	1332	740	2664	1110	3996	1480	5328	1850	6660	2220	7992
990	455	1638	905	3258	1360	4896	1810	6516	2265	8154	2715	9774
1155	535	1926	1070	3852	1605	5778	2140	7704	2675	9630	3210	11556
1320	620	2232	1235	4446	1855	6678	2470	8892	3090	11124	3705	13338
1485	700	2520	1400	5040	2100	7560	2800	10080	3500	12600	4200	15120
1650	785	2826	1565	5634	2350	8460	3130	11268	3915	14094	4695	16902
1815	865	3114	1730	6228	2595	9342	3460	12456	4325	15570	5190	18684
1980	950	3420	1895	6822	2845	10242	3790	13644	4740	17064	5690	20484
2145	1030	3708	2060	7416	3090	11124	4120	14832	5150	18540	6180	22248
2310	1115	4014	2225	8010	3340	12024	4450	16020	5560	20016	6680	24048
2740	1235	4446	2470	8892	3705	13338	4940	17784	6180	22248	7410	26676
3070	1400	5040	2800	10080	4200	15120	5600	20160	7000	25200	8400	30240
3400	1565	5634	3130	11268	4695	16902	6260	22536	7830	28188	9390	33804
3730	1730	6228	3460	12456	5190	18684	6920	24912	8650	31140	10380	37368
4060	1895	6822	3790	13644	5690	20484	7580	27288	9480	34128	11370	40932
4390	2060	7416	4120	14832	6180	22248	8240	29664	10300	37080	12360	44496
4720	2225	8010	4450	16020	6680	24048	8900	32040	11130	40068	13350	48060

WL, width 1400 – 2400 mm, volume flow rate at 2.5 m/s

Height	Width [mm]											
	1400		1600		1800		2000		2200		2400	
mm	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
165	280	1008	320	1152	360	1296	400	1440	440	1584	480	1728
330	860	3096	980	3528	1105	3978	1225	4410	1350	4860	1470	5292
495	1435	5166	1640	5904	1845	6642	2050	7380	2255	8118	2460	8856
660	2015	7254	2300	8280	2590	9324	2875	10350	3165	11394	3450	12420
825	2590	9324	2960	10656	3330	11988	3700	13320	4070	14652	4440	15984
990	3170	11412	3620	13032	4075	14670	4525	16290	4980	17928	5430	19548
1155	3745	13482	4280	15408	4815	17334	5350	19260	5890	21204	6420	23112
1320	4325	15570	4940	17784	5560	20016	6180	22248	6790	24444	7410	26676
1485	4900	17640	5600	20160	6300	22680	7000	25200	7700	27720	8400	30240
1650	5480	19728	6260	22536	7040	25344	7830	28188	8610	30996	9390	33804
1815	6060	21816	6920	24912	7790	28044	8650	31140	9520	34272	10380	37368
1980	6630	23868	7580	27288	8530	30708	9480	34128	10420	37512	11370	40932
2145	7210	25956	8240	29664	9270	33372	10300	37080	11330	40788	12360	44496
2310	7790	28044	8900	32040	10010	36036	11130	40068	12240	44064	13350	48060
2740	8650	31140	9880	35568	11120	40032	12350	44460	13590	48924	14820	53352
3070	9800	35280	11200	40320	12600	45360	14000	50400	15400	55440	16800	60480
3400	10960	39456	12520	45072	14090	50724	15650	56340	17220	61992	18780	67608
3730	12110	43596	13840	49824	15570	56052	17300	62280	19030	68508	20760	74736
4060	13270	47772	15160	54576	17060	61416	18950	68220	20850	75060	22740	81864
4390	14420	51912	16480	59328	18540	66744	20600	74160	22660	81576	24720	88992
4720	15580	56088	17800	64080	20030	72108	22250	80100	24480	88128	26700	96120

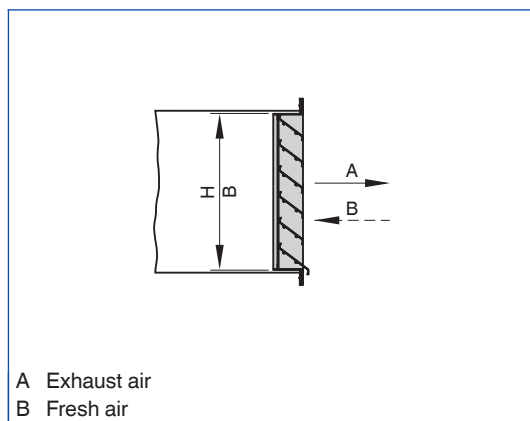
WL, width 2900 – 4900 mm, volume flow rate at 2.5 m/s

Height	Width [mm]											
	2900		3300		3700		4100		4500		4900	
mm	l/s	m³/h	l/s	m³/h	l/s	m³/h	l/s	m³/h	l/s	m³/h	l/s	m³/h
165	560	2016	640	2304	720	2592	800	2880	880	3168	960	3456
330	1715	6174	1960	7056	2205	7938	2450	8820	2695	9702	2940	10584
495	2870	10332	3280	11808	3690	13284	4100	14760	4510	16236	4920	17712
660	4025	14490	4600	16560	5180	18648	5750	20700	6330	22788	6900	24840
825	5180	18648	5920	21312	6660	23976	7400	26640	8140	29304	8800	31968
990	6340	22824	7240	26064	8150	29340	9050	32580	9960	35856	10860	39096
1155	7490	26964	8560	30816	9630	34668	10700	38520	11770	42372	12840	46224
1320	8650	31140	9880	35568	11120	40032	12350	44460	13590	48924	14820	53352
1485	9800	35280	11200	40320	12600	45360	14000	50400	15400	55440	16800	60480
1650	10960	39456	12520	45072	14090	50724	15650	56340	17220	61992	18780	67608
1815	12110	43596	13840	49824	15570	56052	17300	62280	19030	68508	20750	74736
1980	13270	47772	15160	54576	17060	61416	18950	68220	20850	75060	22750	81864
2145	14420	51912	16480	59328	18540	66744	20600	74160	22660	81576	24700	88992
2310	15580	56088	17800	64080	20030	72108	22250	80100	24480	88128	26700	96120
2740	17290	62244	19760	71136	22230	80028	24700	88920	27170	97812	29650	106704
3070	19600	70560	22400	80640	25200	90720	28000	100800	30800	110880	33600	120960
3400	21910	78876	25040	90144	28170	101412	31300	112680	34430	123948	37550	135216
3730	24220	87192	27680	99648	31140	112104	34600	124560	38060	137016	41500	149472
4060	26530	95508	30320	109152	34110	122796	37900	136440	41690	150084	45500	163728
4390	28840	103824	32960	118656	37080	133488	41200	148320	45320	163152	49450	177984
4720	31150	112140	35600	128160	40050	144180	44500	160200	48950	176220	53400	192240

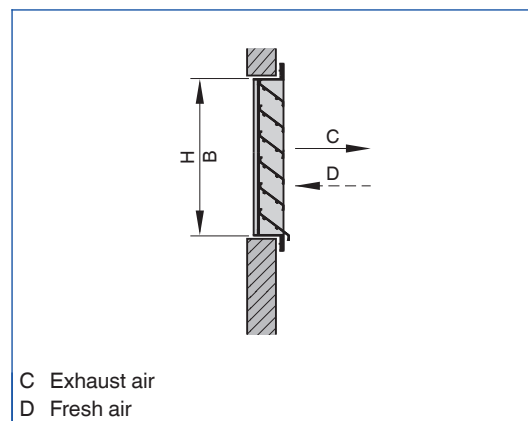
Differential pressure and sound power level

v	Installation type			
	A and C		B and D	
	Δp_t	L_{WA}	Δp_t	L_{WA}
m/s	Pa	dB(A)	Pa	dB(A)
1.5	10	32	14	34
2	20	41	25	43
2.5	30	48	35	50
3	45	54	55	56
4	75	63	95	66
5	115	70	145	73
6	170	76	210	79

Installation into rectangular ducts (installation types A and B)



Plenum installation (installation types C and D)



Sizing example

Given data

$\dot{V} = 1400 \text{ l/s}$ (5040 m³/h)

$v = 2.5 \text{ m/s}$

Fresh air, installation type B

Maximum width: 800 mm

Quick sizing

WG/800 × 825 mm

Calculation procedure

$A = 0.800 \times (0.825 - 0.085) = 0.592 \text{ m}^2$

$v = \dot{V} / A = 1400 / 0.592 (\text{/1000}) = 2.4 \text{ m/s}$

$\Delta p_{\text{st}} = 35 \text{ Pa}$

$L_{\text{WA}} = 50 \text{ dB(A)}$

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Rectangular external weather louvre as a protection of air conditioning systems against the direct ingress of rain, leaves and birds into fresh air and exhaust air openings.

Ready-to-install component which consists of a border, aerofoil rain defence blades, and a bird mesh at the rear.

Special characteristics

- Large areas can be provided by arranging multiple single sections horizontally and/or vertically (subdivided construction); single sections made of aluminium can also be combined into continuous horizontal runs
- Low differential pressure and low air-regenerated noise due to aerofoil blades
- Simple and quick installation due to perimeter border
- Free area of approx. 60 %, with insect screen approx. 45 %
- Silicone free

Materials and surfaces

- Border, mullion and blades made of formed galvanised sheet steel, aluminium or stainless steel
- Wire mesh made of galvanised steel or stainless steel
- P1: Powder-coated, RAL CLASSIC colour
- PS: Powder-coated, NCS or DB colour

Construction

Cover grille

- Wire mesh, galvanised steel (only WL, WL- AL, WL-B-AL)
- 1: With insect screen, galvanised steel (only

WL, WL-AL, WL-B-AL)

- 2: With wire mesh, stainless steel (only WL- AL, WL-B-AL)
- 3: With insect screen and wire mesh, stainless steel (only WL-A2, WL-AL, WL-B-AL)

Border

- Border fixing holes
- U: Without fixing holes

Technical data

- Nominal sizes: 200 × 165 – 2400 × 1650/1600 × 2310 mm
- Width subdivided: Up to 4900 mm
- Height subdivided: Up to 4720 mm
- Continuous horizontal runs (WG-B-AL): Height 165 – 1980 mm
- Volume flow rate range (undivided construction): 40 – 13350 l/s or 144 – 48660 m³/h at 2.5 m/s
- Free area: approx. 60 %, with insect screen approx. 45 %
- Total differential pressure – exhaust air: 30 Pa at 2.5 m/s
- Total differential pressure – fresh air: 35 Pa at 2.5 m/s

Sizing data

- $\dot{V}$ _____
[m³/h]
- Δp_t _____
[Pa]

Air-regenerated noise

- L_{WA} _____
[dB(A)]

WL

WL – AL – 2 – ... / 600x1155 / ER / P1 – RAL ...

1 2 3 4 5 6 7

1 Type

WL External weather louvres

2 Material

No entry: galvanised sheet steel

A2 Stainless steel

AL Aluminium

3 Construction

No entry: wire mesh, galvanised steel (only WL, WL-AL)

1 Insect screen, galvanised steel (only WL, WL-AL)

2 Wire mesh, stainless steel (only WG-AL)

3 Wire mesh and insect screen, stainless steel, (only WG-AL, WG-A2)

4 Border

No entry: With fixing holes

U Without fixing holes

5 Nominal size [mm]

B × H

(B × H > 4 m² when subdivided)

6 Installation subframe

No entry: None

ER With (not for construction without fixing holes)

7 Surface

No entry: standard construction

P1 Powder-coated, RAL Classic colour

PS Powder-coated, DB colour

Only for WL-AL

S2 Anodised to EURAS standard, E6-C-... (31 to 35)

S3 Anodised to EURAS standard, E6-C-0

Gloss level

RAL 9010 50 %

RAL 9006 30 %

All other RAL colours 70 %

Order example: WL-AL-1-U/1200x1150/S2-E6-C-31

Material	Aluminium
Construction	Insect screen, galvanised steel, border without fixing holes
Nominal size	1200x1150 mm
Installation subframe	Without
Surface	Anodised to EURAS standard, E6-C-31, pale bronze

WL-B-AL

WL - B - AL - E - R - 2 - ... / 5500×1320 / ER / P1 - RAL ...

1 2 3 4 5 6 7 8

1 Type

WL-B External weather louvre, for continuous horizontal runs of any width

2 Material

AL Aluminium

3 Section

No entry: complete horizontal run, nominal size

E-R Right end section

E-L Left end section

M Middle section

4 Construction

No entry: wire mesh, galvanised steel (only WL-B, WL-B-AL)

1 Insect screen, galvanised steel (only WG-B, WG-B-AL)

2 Wire mesh, stainless steel (only WG-B-AL)

3 Wire mesh and insect screen, stainless steel (only WL-B-AL, WL-B-A2)

5 Border

No entry: With fixing holes

U Without fixing holes

6 Nominal size [mm]

B × H

For complete horizontal run

B ≤ 4 m: 2 end sections (E)

B > 4 m: 2 end sections (E) and n middle sections (M)

7 Installation subframe

No entry: None

ER With (not for construction without fixing holes)

8 Surface

No entry: raw aluminium

P1 Powder-coated, RAL Classic colour

PS Powder-coated, DB colour

S2 Anodised to EURAS standard, E6-C-... (31 to 35)

S3 Anodised to EURAS standard, E6-C-0

Gloss level

RAL 9010 50 %

RAL 9006 30 %

All other RAL colours 70 %

Order example: WL-B-AL/4500×1980/ER

Material	Aluminium
Section	1 right end section of 1250 mm, 1 middle section of 2000 mm, 1 left end section of 1250 mm
Construction	Wire mesh
Nominal size	4500×1980 mm
Installation subframe	With
Surface	Standard construction

External weather louvre, variant WL



External weather louvre made of galvanised steel sections

WL

Variant

- External weather louvre made of galvanised sheet steel

Construction

- Galvanised sheet steel
- 1: With insect screen, galvanised steel
- U: Border without fixing holes
- 1 can be combined with U

Parts and characteristics

- Border
- Regular blades and bottom blade
- Wire mesh
- Optional insect screen
- Visible mullion from B = 1385 mm

Construction features

- Border, material thickness 1.5 mm
- Blades, material thickness 0.63 mm
- Free area of approx. 60 %, with insect screen approx. 45 %
- 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
- Border fixing holes

Materials and surfaces

- Border, mullion and blades made of formed galvanised sheet steel
- Wire mesh made of galvanised steel
- P1: Powder-coated, RAL CLASSIC colour
- PS: Powder-coated, NCS or DB colour

WL-A2

Variant

- External weather louvres made of stainless steel

Construction

- Stainless steel
- 3: With insect screen, stainless steel
- U: Border without fixing holes
- 3 can be combined with U

Parts and characteristics

- Border
- Regular blades and bottom blade
- Wire mesh
- Optional insect screen
- Visible mullion from B = 1385 mm

Construction features

- Border, material thickness 1.5 mm
- Blades, material thickness 0.63 mm
- Free area of approx. 60 %, with insect screen

- approx. 45 %
- Wire mesh at the rear, mesh aperture $20 \times 20 \times 1.8$ mm
- Optional insect screen at the rear, mesh aperture $1.25 \times 1.25 \times 0.4$ mm
- Border fixing holes

Materials and surfaces

- Border, mullion, blades and wire mesh made of stainless steel, material no. 1.4301
- P1: Powder-coated, RAL CLASSIC colour
- PS: Powder-coated, NCS or DB colour

External weather louvre, variant WL-AL



External weather louvre made of aluminium sections

WL-AL

Variant

- External weather louvres made of aluminium

Construction

- Aluminium
- 1: With insect screen, galvanised steel
- 2: With wire mesh, stainless steel
- 3: With insect screen and wire mesh, stainless steel
- U: Border without fixing holes
- 1, 2, 3 can be combined with U

Parts and characteristics

- Border
- Regular blades and bottom blade
- Wire mesh
- Optional insect screen
- Stabilising mullion at the rear, from $B = 1385$ mm

Construction features

- Border, material thickness 1.7 mm
- Blades, material thickness 1.35 mm
- Free area of approx. 60 %, with insect screen approx. 45 %
- Wire mesh at the rear, mesh aperture $20 \times 20 \times 1.8$ mm
- Optional insect screen at the rear, mesh aperture $1.25 \times 1.25 \times 0.4$ mm
- Border fixing holes

Materials and surfaces

- Border, stabilising mullion and blades made of extruded aluminium sections, material nr. EN AW-6060 T66
- Wire mesh made of galvanised steel
- P1: Powder-coated, RAL CLASSIC colour
- PS: Powder-coated, NCS or DB colour
- S2: Anodised to EURAS standard, E6-C-31...35
- S3: Anodised to EURAS standard, E6-C-0

External weather louvre, variant WL-B-AL



External weather louvre, horizontal run, aluminium

WL-B-AL

Variant

- External weather louvres made of aluminium, for continuous horizontal runs

Construction

- Aluminium
- 1: With insect screen, galvanised steel
- 2: With wire mesh, stainless steel
- 3: With insect screen and wire mesh, stainless steel
- U: Border without fixing holes
- 1, 2, 3 can be combined with U

Parts and characteristics

- Border
- Regular blades and bottom blade
- Wire mesh
- Optional insect screen
- Stabilising mullion at the rear (for stability), from E/M = 1300 mm

Construction features

- Continuous horizontal runs include either two

end sections (up to B = 4000 mm) or two end sections plus any number of middle sections (from B = 4001 mm)

- Border, material thickness 1.7 mm
- Blades, material thickness 1.35 mm
- Free area of approx. 60 %, with insect screen approx. 45 %
- 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
- Border fixing holes

Materials and surfaces

- Border, stabilising mullion and blades made of extruded aluminium sections, material nr. EN AW-6060 T66
- Wire mesh made of galvanised steel
- P1: Powder-coated, RAL CLASSIC colour
- PS: Powder-coated, NCS or DB colour
- S2: Anodised to EURAS standard, E6-C-31...35
- S3: Anodised to EURAS standard, E6-C-0

Materials

Part	Order code detail	Material	Notes
Border	–	Profiled, galvanised sheet steel	Material thickness 1.5 mm
Border	A2	Stainless steel, material no. 1.4301	Material thickness 1.5 mm
Border	AL	Extruded aluminium sections, material no. EN AW-6060 T66	Material thickness 1.7 mm
Blades	–	Profiled, galvanised sheet steel	Material thickness 0.63 mm
Blades	A2	Stainless steel, material no. 1.4301	Material thickness 0.63 mm
Blades	AL	Extruded aluminium sections, material no. EN AW-6060 T66	Material thickness 1.35 mm
Mullion	–	Profiled, galvanised sheet steel	From B = 1385 mm
Mullion	A2	Stainless steel, material no. 1.4301	From B = 1385 mm
Stabilising mullion	AL	Extruded aluminium sections, material no. EN AW-6060 T66	From B = 1385 mm
Wire mesh	–	Galvanised steel	
Wire mesh	2	Stainless steel, material no. 1.4301	Only WL-AL, WL-B-AL
Wire mesh	3	Stainless steel, material no. 1.4301	Only WL-A2, WL-AL, WL-B-AL
Insect screen	1	Galvanised steel	Only WL, WL-AL, WL-B-AL
Insect screen	3	Stainless steel, material no. 1.4301	Only WL-A2, WL-AL, WL-B-AL

Surfaces

Part	Order code detail	Surface	Notes
Border and blades	–	Untreated	
Border and blades	P1-RAL ...	Powder-coated, RAL colour ... CLASSIC	
Border and blades	PS-NCS ...	Powder-coated, NCS colour ...	
Border and blades	S2	Anodised to EURAS standard, E6-C-31 to E6-C-35	Only WL-AL, WL-B-AL
Border and blades	S3	Anodised to EURAS standard, E6-C-0	Only WL-AL, WL-B-AL

External weather louvres

Dimensions and weight

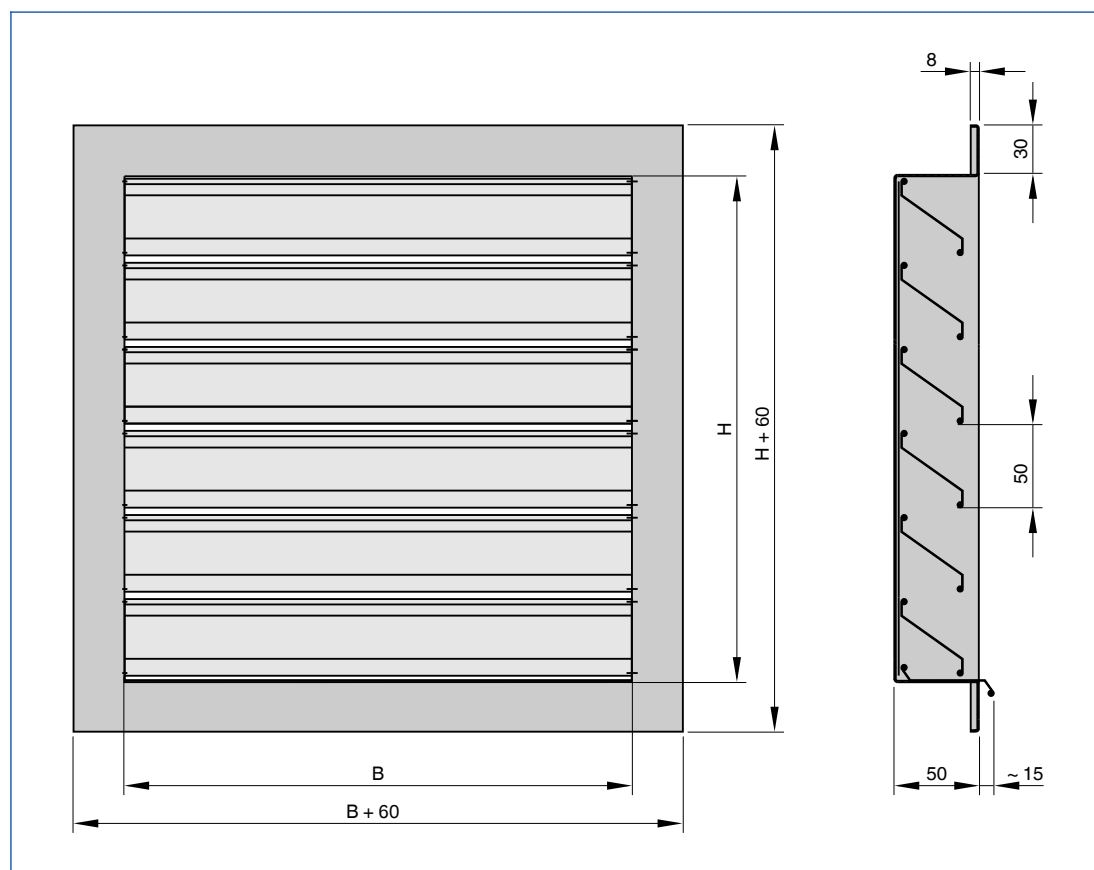
EWL

Flow cross section to calculate the airflow velocity

- Undivided louvres: $A = B \times (H - 0.085)$
- Width subdivided louvres: $A = 2B \times (H - 0.085)$
- Height subdivided louvres: $A = B \times 2(H - 0.085)$
- Horizontal runs: $A = ((E - 0.02) + n(M - 0.04) + (E - 0.02)) \times (H - 0.085)$

Unit of measure for B and H: m

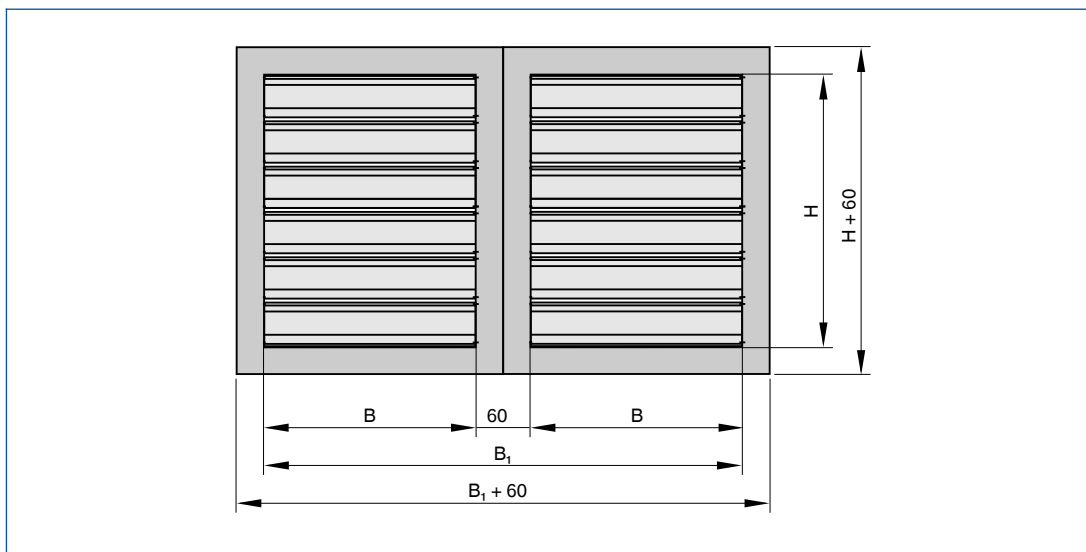
WL, WL-A2



WL, WL-A2, weight

H	B [mm]											
	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
mm	kg											
165	3	4	5	6	8	9	11	13	14	15	17	19
330	3	5	6	7	9	11	13	14	15	17	19	20
495	5	6	8	9	11	13	16	18	19	21	24	25
660	6	7	9	11	13	16	19	21	22	26	28	30
825	8	9	12	13	16	18	22	24	26	30	33	36
990	9	10	13	15	18	21	25	28	30	34	38	41
1155	11	12	15	17	20	24	28	31	33	39	43	46
1320	12	14	16	18	22	26	31	35	37	43	48	52
1485	14	16	18	20	24	29	34	38	41	47	52	57
1650	15	16	20	22	27	31	37	41	44	51	57	62
1815	17	18	21	24	29	34	40	45	48	56	62	
1980	18	19	22	26	31	37	43	48	52	60		
2145	20	21	23	28	33	39	46	52	56			
2310	21	23	25	30	35	42	49	55				

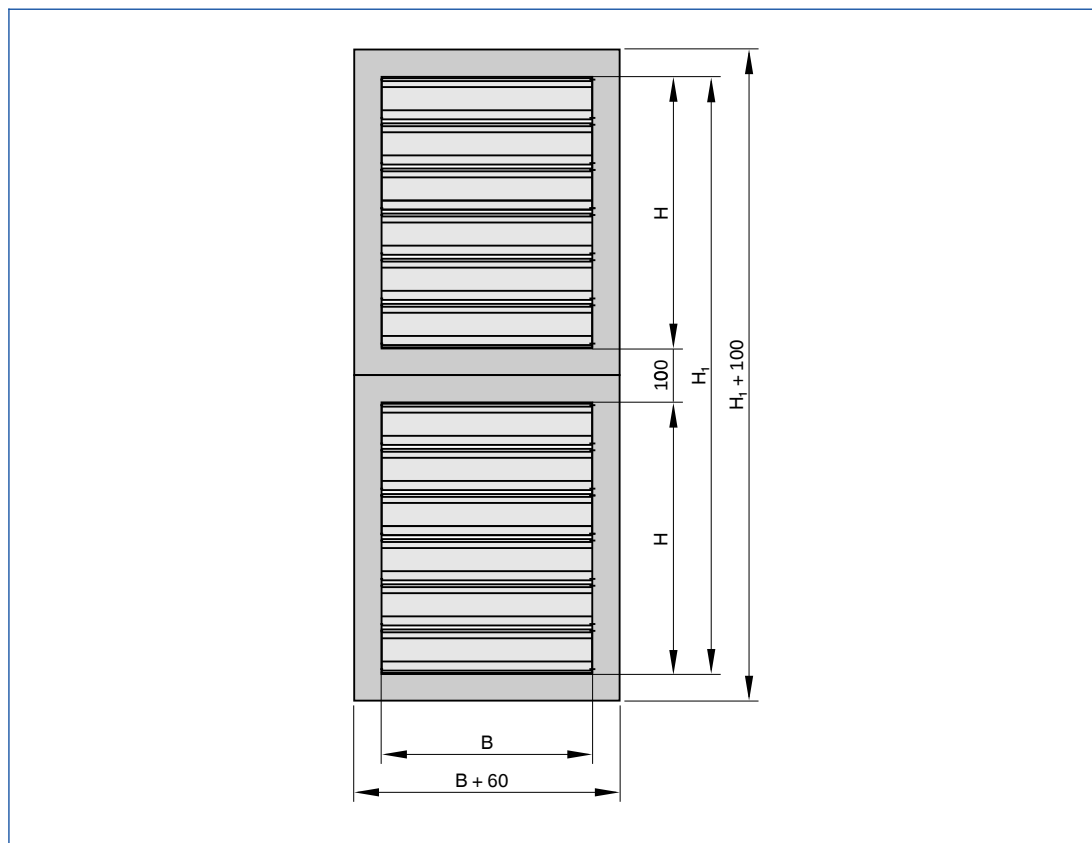
WL, WL-A2, WL-AL width subdivided



WL, WL-A2, width subdivided, weight

H	B ₁ [mm]									
	1900	2100	2300	2500	2900	3300	3700	4100	4500	4900
	B [mm]									
mm	900	1000	1100	1200	1400	1600	1800	2000	2200	2400
	kg									
165	14	15	17	18	22	25	27	30	34	37
330	16	18	20	21	26	28	30	34	38	40
495	20	22	24	26	32	35	37	43	47	50
660	24	27	29	31	38	42	44	51	57	61
825	28	31	34	37	44	49	52	60	66	71
990	32	36	39	42	50	56	59	68	76	82
1155	37	40	44	47	56	62	67	77	86	93
1320	41	44	48	52	62	69	74	86	95	103
1485	45	49	53	57	68	76	81	94	105	114
1650	49	53	58	63	74	83	89	103	114	124
1815	53	58	63	68	80	90	96	111	124	
1980	57	62	68	73	86	96	104	120		
2145	61	66	72	78	92	103	111			
2310	65	71	77	83	98	110				

WL, WL-A2, WL-AL height subdivided



WL, WL-A2, height subdivided, weight

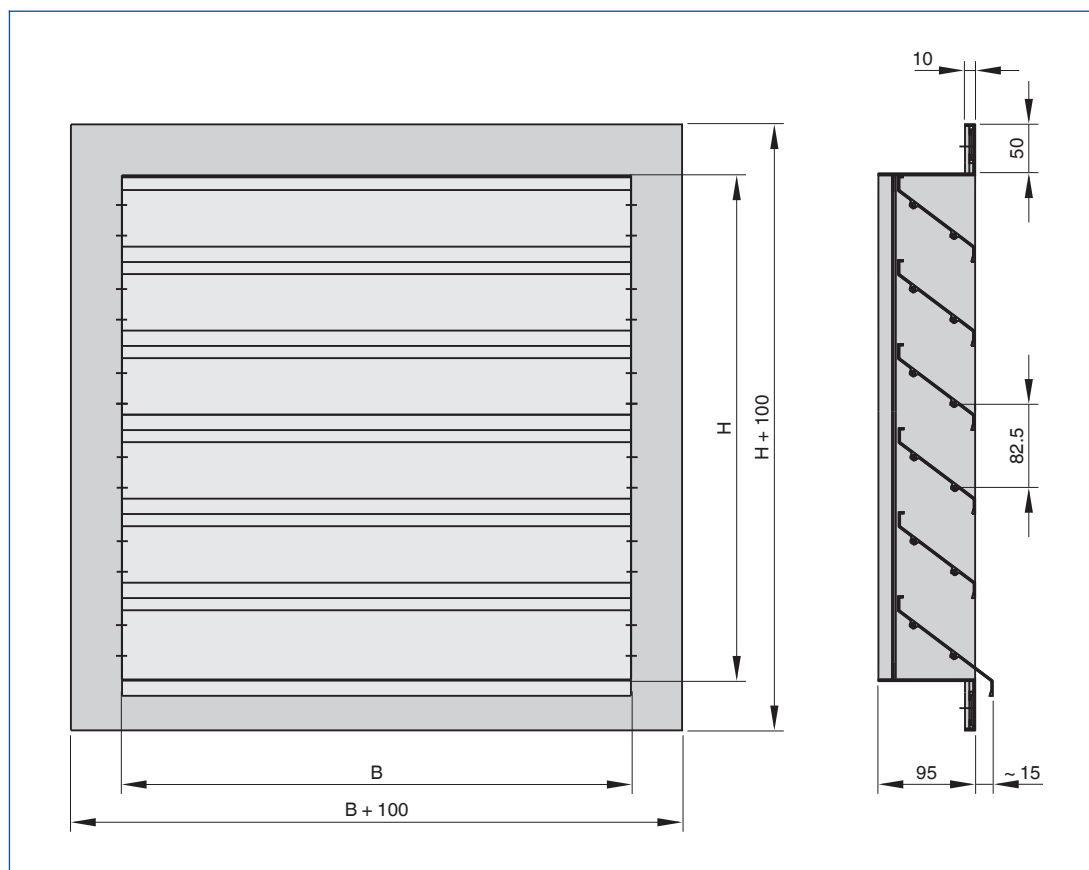
H ₁	H	B [mm]											
		200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
mm		kg											
2410	1155	21	24	30	33	40	47	56	62	67	77	86	93
2740	1320	24	28	33	37	44	52	62	69	74	86	95	103
3070	1485	27	31	37	41	49	57	68	76	81	94	105	114
3400	1650	30	32	40	44	53	63	74	83	89	103	114	124
3730	1815	33	36	42	48	58	68	80	90	96	111	124	
4060	1980	36	38	44	52	62	73	86	96	104	120		
4390	2145	39	42	46	56	66	78	92	103	111			
4720	2310	42	46	50	60	71	83	98	110				

External weather louvres Dimensions and weight EWL



AIRFLOW AC

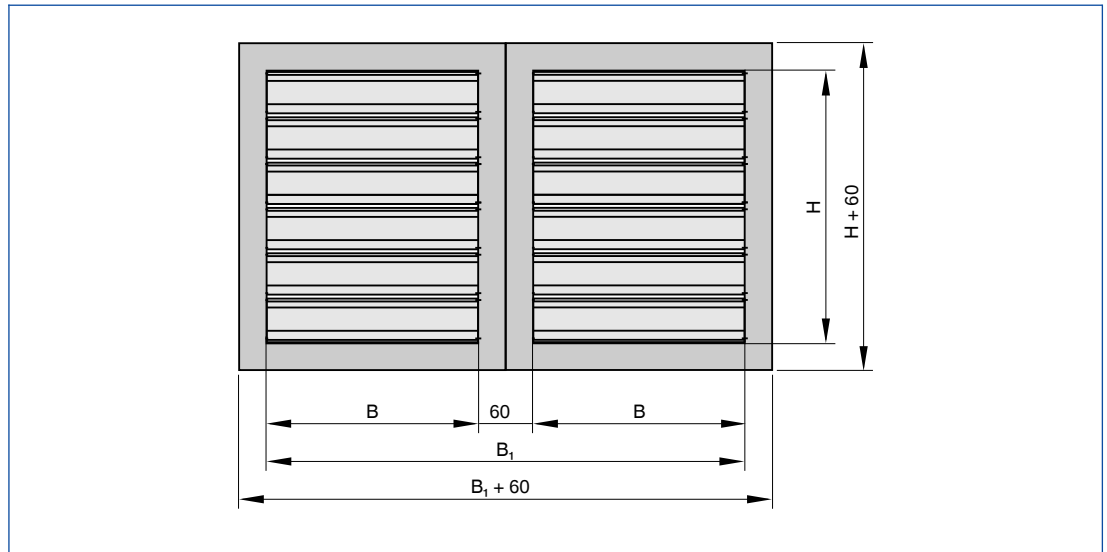
WL-AL



WL-AL, weight

H	B [mm]											
	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
mm	kg											
165	2	3	4	5	6	7	8	9	10	11	12	13
330	2	3	4	5	6	7	8	9	10	11	12	13
495	3	4	5	6	7	8	9	10	11	14	16	19
660	4	5	6	7	8	10	12	14	15	17	19	22
825	5	6	7	8	10	12	14	16	19	21	24	26
990	6	7	8	10	12	15	17	19	21	24	27	30
1155	7	8	10	12	14	16	18	21	24	27	30	33
1320	8	10	12	14	16	18	21	24	27	30	33	36
1485	10	12	14	16	18	21	24	27	30	33	36	39
1650	12	14	16	18	21	24	27	30	33	36	39	42
1815	14	16	18	21	24	27	30	33	36	39	42	
1980	16	18	20	24	27	30	33	36	39	42		
2145	18	20	22	27	30	33	36	39	42			
2310	20	22	24	29	33	36	39	42				

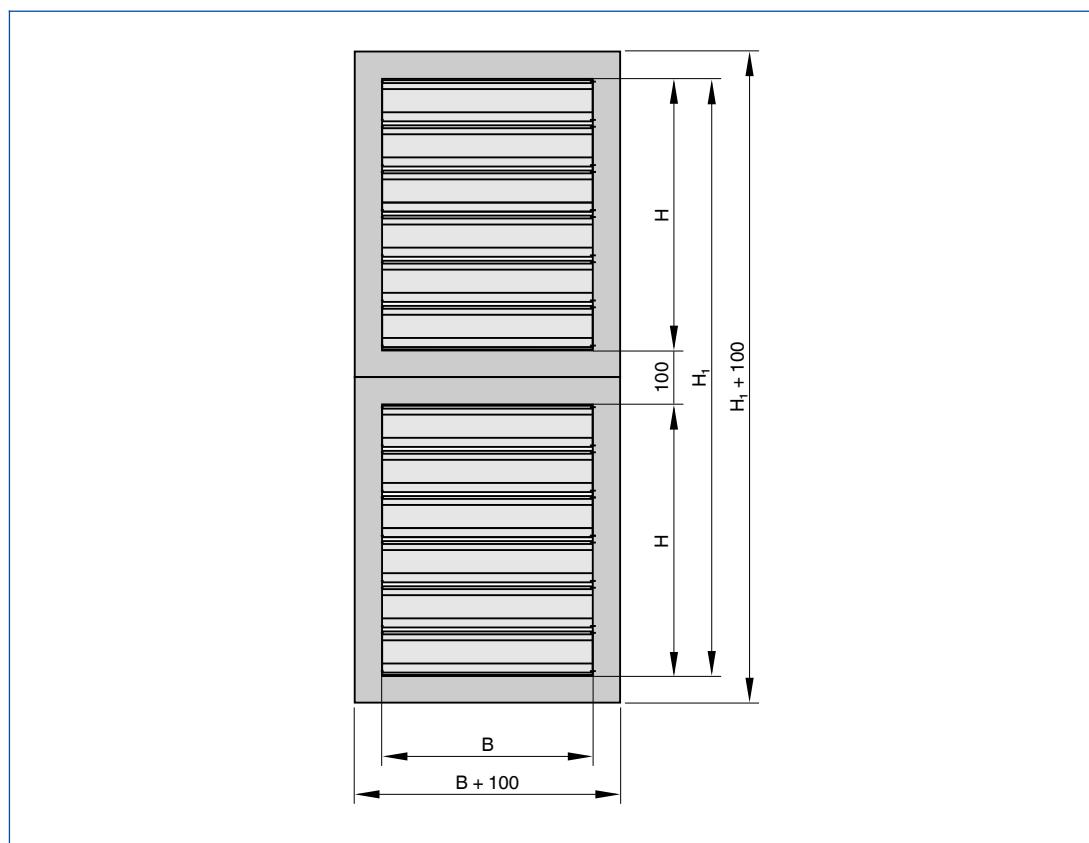
WL, WL-A2, WL-AL width subdivided



WL-AL, width subdivided, weight

H	B ₁ [mm]									
	1900	2100	2300	2500	2900	3300	3700	4100	4500	4900
	B [mm]									
mm	900	1000	1100	1200	1400	1600	1800	2000	2200	2400
	kg									
165	10	11	12	13	15	17	19	21	23	25
330	11	12	13	14	16	18	20	22	24	26
495	13	14	15	16	18	20	22	28	32	38
660	15	16	18	20	24	28	30	34	38	44
825	18	20	22	24	28	32	38	42	48	52
990	22	24	27	30	34	38	42	48	54	60
1155	26	28	30	32	36	42	48	54	60	66
1320	30	32	34	36	42	48	54	60	66	72
1485	34	36	39	42	48	54	60	66	72	78
1650	39	42	45	48	54	60	66	72	78	84
1815	45	48	51	54	60	66	72	78	84	
1980	51	54	57	60	66	72	78	84		
2145	57	60	63	66	72	78	84			
2310	62	66	69	72	78	84				

WL, WL-A2, WL-AL height subdivided

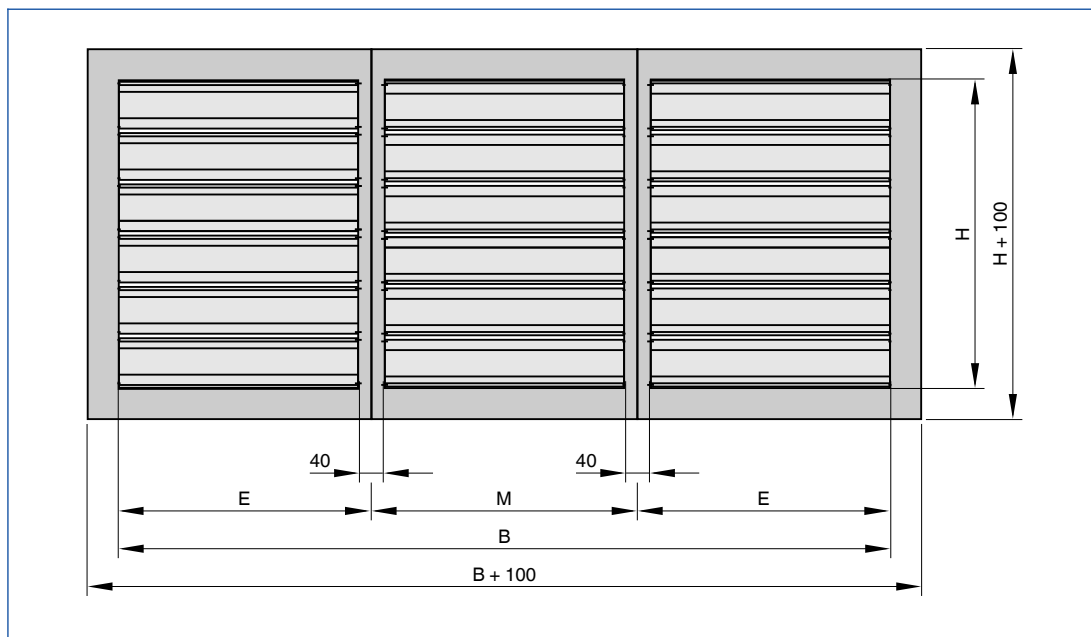


WG-AL, height subdivided, weight

H ₁	H	B [mm]											
		200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
mm		kg											
2410	1155	14	16	20	24	28	32	36	42	48	54	60	66
2740	1320	16	20	24	28	32	36	42	48	54	60	66	72
3070	1485	20	24	28	32	36	42	48	54	60	66	72	78
3400	1650	24	28	32	36	42	48	54	60	66	72	78	84
3730	1815	28	32	36	42	48	54	60	66	72	78	84	90
4060	1980	32	36	40	48	54	60	66	72	78	84	90	96
4390	2145	36	40	44	54	60	66	72	78	84	90	96	102
4720	2310	40	44	48	58	66	72	78	84	90	96	102	108

External weather louvres Dimensions and weight EWL

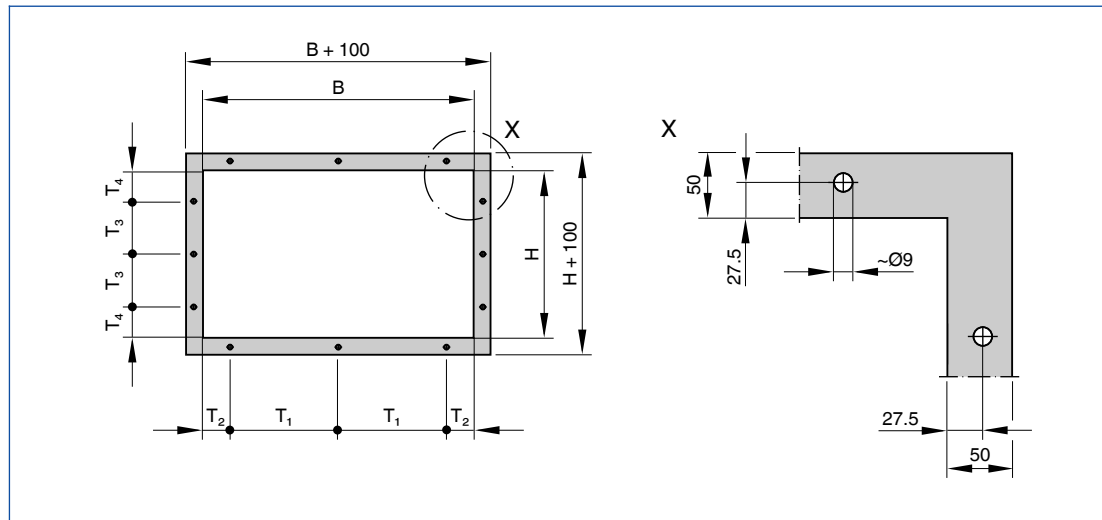
WL-B-AL



WL-B-AL, weight

H	M [mm]	E [mm]					
	2000	1000	1200	1400	1600	1800	2000
mm	kg						
165	10	5	6	7	8	9	10
330	11	6	7	8	9	10	11
495	14	7	8	9	10	11	14
660	17	8	10	12	14	15	17
825	21	10	12	14	16	19	21
990	24	12	15	17	19	21	24
1155	27	14	16	18	21	24	27
1320	30	16	18	21	24	27	30
1485	33	18	21	24	27	30	33
1650	36	21	24	27	30	33	36
1815	39	24	27	30	33	36	39
1980	42	27	30	33	36	39	42

Border fixing holes – WL, WL-A2, WL-AL



WL, standard sizes, width, no. of border fixing holes

Width	No. of holes		
B	n	T ₁	T ₂
mm		mm	
200	1	–	100
400	2	240	80
600	2	440	80
800	2	640	80
1000	3	420	80
1200	3	520	80
1400	3	620	80
1600	4	480	80
1800	4	547	80
2000	4	613	80
2200	5	510	80
2400	5	560	80

WL, standard sizes, height, no. of border fixing holes

Height	No. of holes		
H	n	T ₃	T ₄
mm		mm	
165	1	–	83
330	1	–	165
495	1	–	248
660	1	–	330
825	1	–	413
990	1	–	495
1155	1	–	578
1320	2	445	437
1485	2	500	492
1650	2	555	547
1815	2	610	602
1980	3	499	491
2145	3	540	533
2310	3	581	574

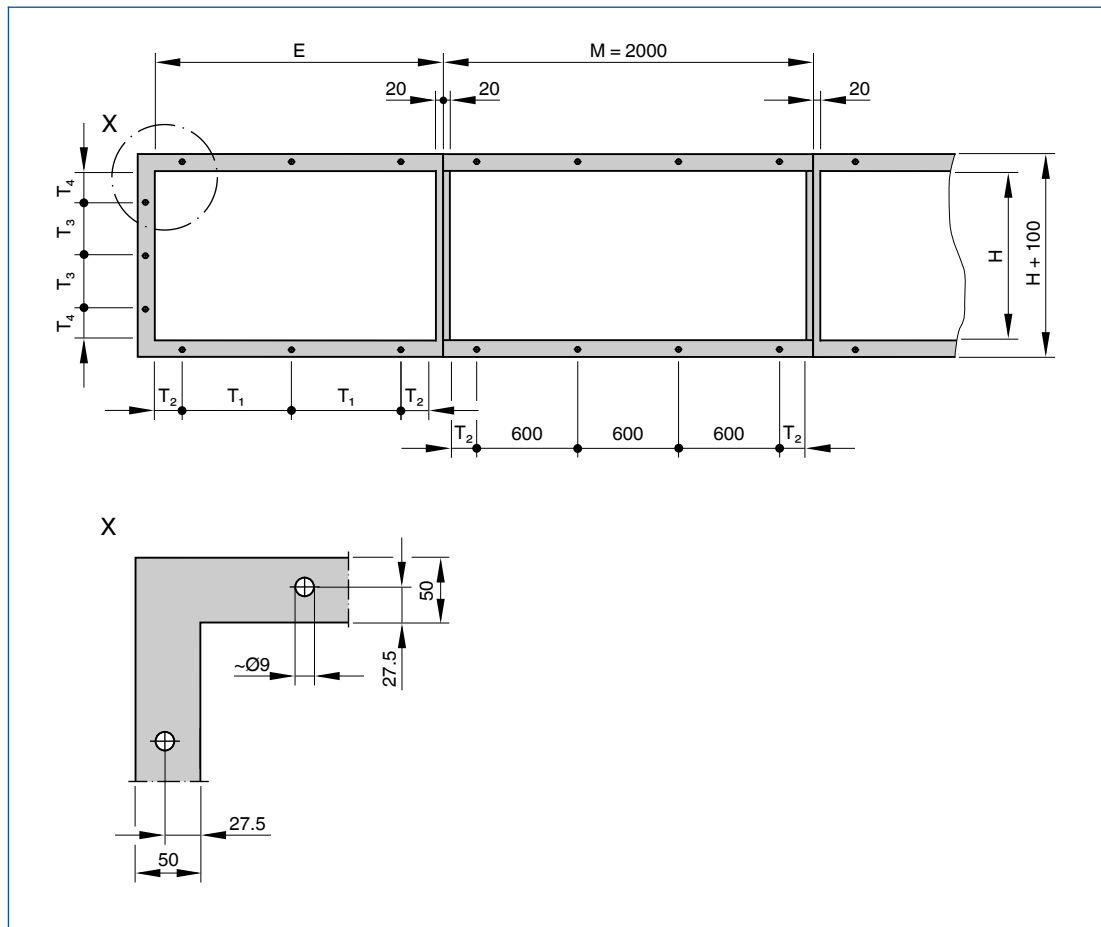
WL, intermediate sizes, width, no. of border fixing holes

Width	No. of holes		
B	n	T ₁	T ₂
mm		mm	
165 – 384	1	–	B/2
385 – 881	2	B – 160	80
882 – 1481	3	(B – 160)/2	80
1482 – 2081	4	(B – 160)/3	80
2082 – 2399	5	(B – 160)/4	80

WL, intermediate sizes, height, no. of border fixing holes

Height	No. of holes		
H	n	T ₃	T ₄
mm		mm	
166 – 1319	1	–	H/2
1321 – 1979	2	(H + 15)/3	T ₃ – 7.5
1981 – 2309	3	(H + 15)/4	T ₃ – 7.5

Border fixing holes – WL-B-AL



WL--B-AL, standard sizes, width, no. of border fixing holes

End section	No. of holes		
E	n	T ₁	T ₂
mm		mm	
1000	3	410	80
1200	3	510	80
1400	4	407	80
1600	4	473	80
1800	4	540	80
2000	4	607	80

WL-B-AL, standard sizes, height, no. of border fixing holes

Height	No. of holes		
H	n	T ₃	T ₄
mm		mm	
165	1	–	83
330	1	–	165
495	1	–	248
660	1	–	330
825	1	–	413
990	1	–	495
1155	1	–	578
1320	2	445	437
1485	2	500	492
1650	2	555	547
1815	2	610	602
1980	3	499	491

WL-B-AL, intermediate sizes, width, no. of border fixing holes

End section	No. of holes		
E	n	T ₁	T ₂
mm		mm	
1001 – 1481	3	$(E - 180)/2$	80
1482 – 1999	4	$(E - 180)/3$	80

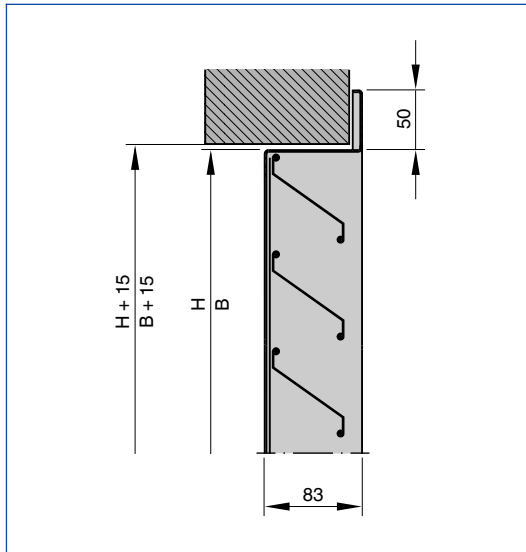
WL-B-AL, intermediate sizes, height, no. of border fixing holes

Height	No. of holes		
H	n	T ₃	T ₄
mm		mm	
1001 – 1319	1	–	H/2
1321 – 1979	2	$(H + 15)/3$	$T_3 - 7.5$

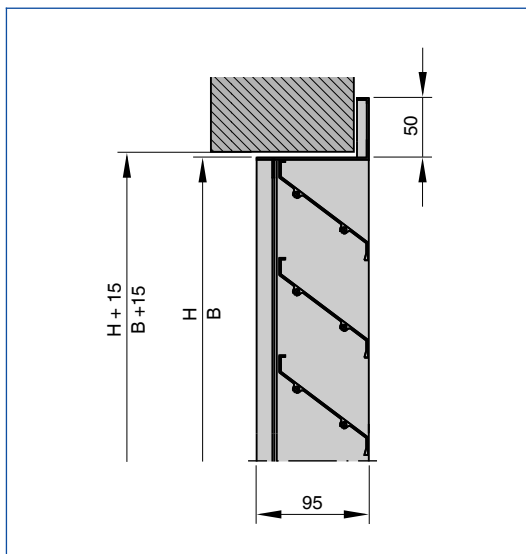
Installation and commissioning

- Install with or without installation subframe (construction U only without installation subframe)
- Install subdivided constructions either horizontally next to each other or vertically on top of each other
- Install end and middle sections of continuous horizontal runs individually, one after the other
- Install louvres for large areas on a support structure (to be provided by others)

Wall installation without installation subframe WL, WL-A2



Wall installation without installation subframe WL-AL



Width or height subdivided

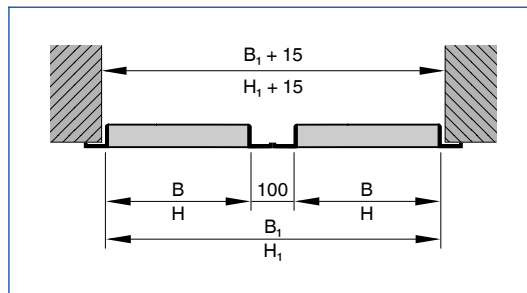
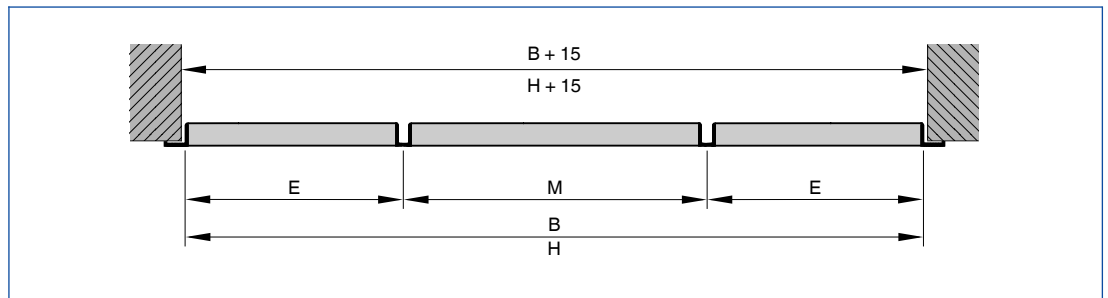


Illustration shows width subdivided

Horizontal runs of WL-B-AL



Nomenclature

L_{WA} [dB(A)]

A-weighted sound power level of air-regenerated noise for the louvre

A [m²]

Upstream cross section

v [m/s]

Airflow velocity based on the upstream cross section

v_t [m/s]

Airflow velocity based on the upstream cross section (type NL)

$\dot{V}$ [m³/h] and [l/s]

Volume flow rate

Δp_t [Pa]

Total differential pressure

All sound power levels are based on 1 pW.

Principal dimensions

B [mm]

Duct width

B_1 [mm]

Duct width for subdivided louvres

H [mm]

Duct height

H_1 [mm]

Duct height for subdivided louvres

n []

Number of border fixing holes

m [kg]

Weight