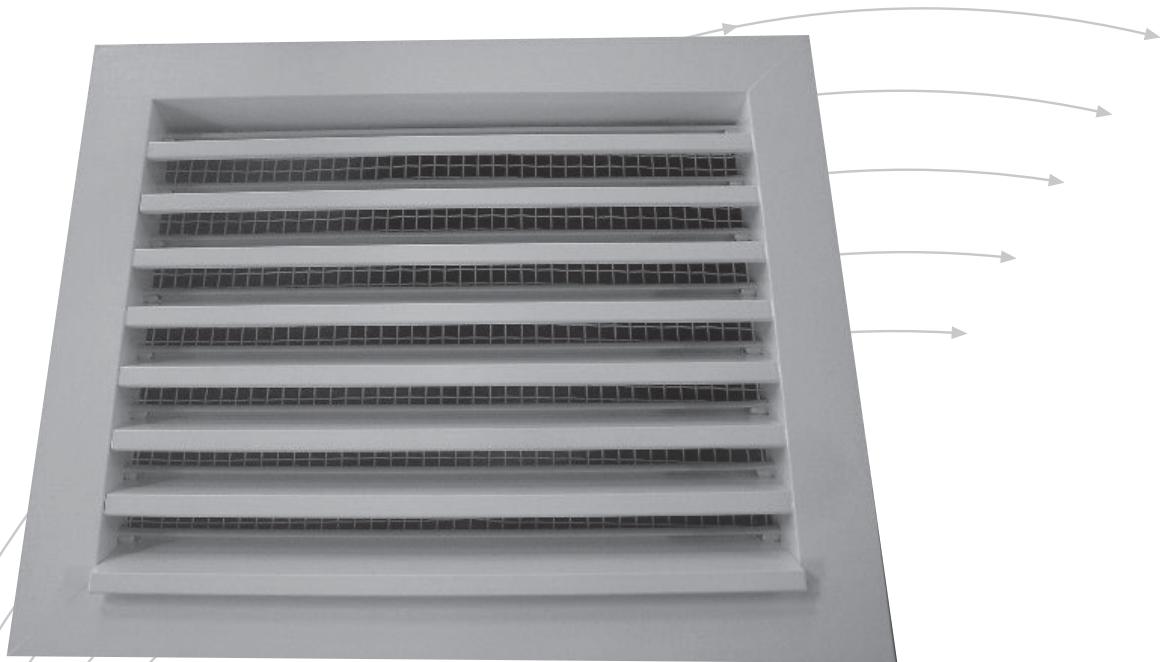


Weather-Resistant Louvres

Type AWG • AWK



TROX[®] TECHNIK

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Type AWG



Type AWK



TROX Weather louvers provide good protection against direct ingress of rain water, leaves and birds, provided that the selection and installation of weather louvers comply with TROX recommendations. It should be noted however, small amount of rain water penetration can still be expected under extreme conditions.

Type AWG

- Frames and blades are of extruded aluminium sections
- 20 x 20 mm sq. wire mesh screen in galvanised steel as standard supply
- 50 mm wide flange with counter punched holes as standard

Type WGE

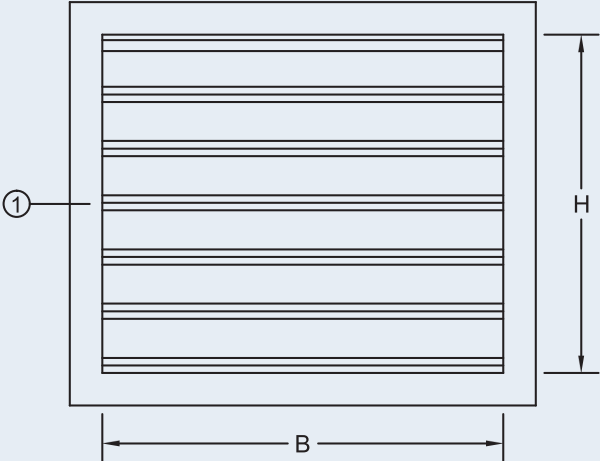
- This similar to Type AWG as stated above except, the frame, blades and wire mesh are all in stainless steel

Type AWK

- Frames and blades are of extruded aluminium sections
- 6 x 6 mm sq. wire mesh screen in galvanised steel as standard supply
- 28 mm wide flange with counter punched holes as standard

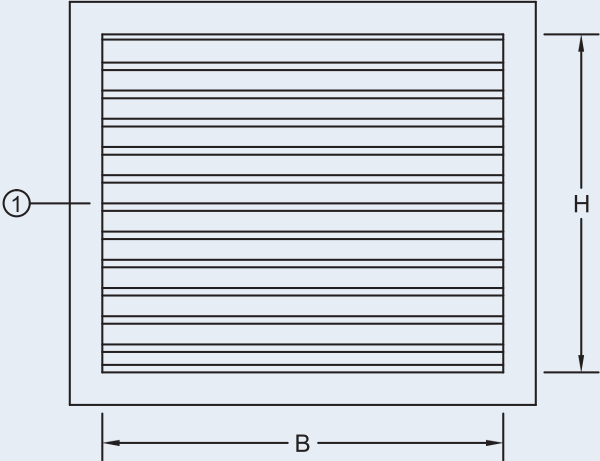
Note:
Mesh size of insect screen for 'AWG', 'WGE' and 'AWK' Type louvers, if required, is 3 x 3 mm sq.

Type AWG/WGE



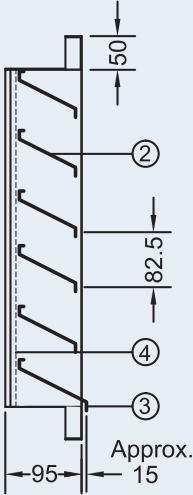
Free cross-section approx. 60 %
based on B X (H - 0.085m)
With insect screen, free cross-section
is approx. 45%.

Type AWK

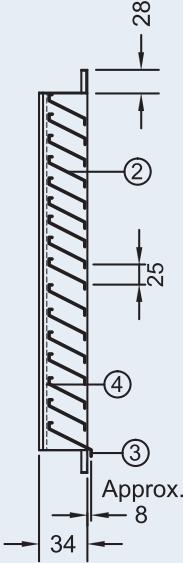


Free cross-section approx. 60 %
based on B X (H - 0.028m)
With insect screen, free cross-section
is approx. 45%

AWG



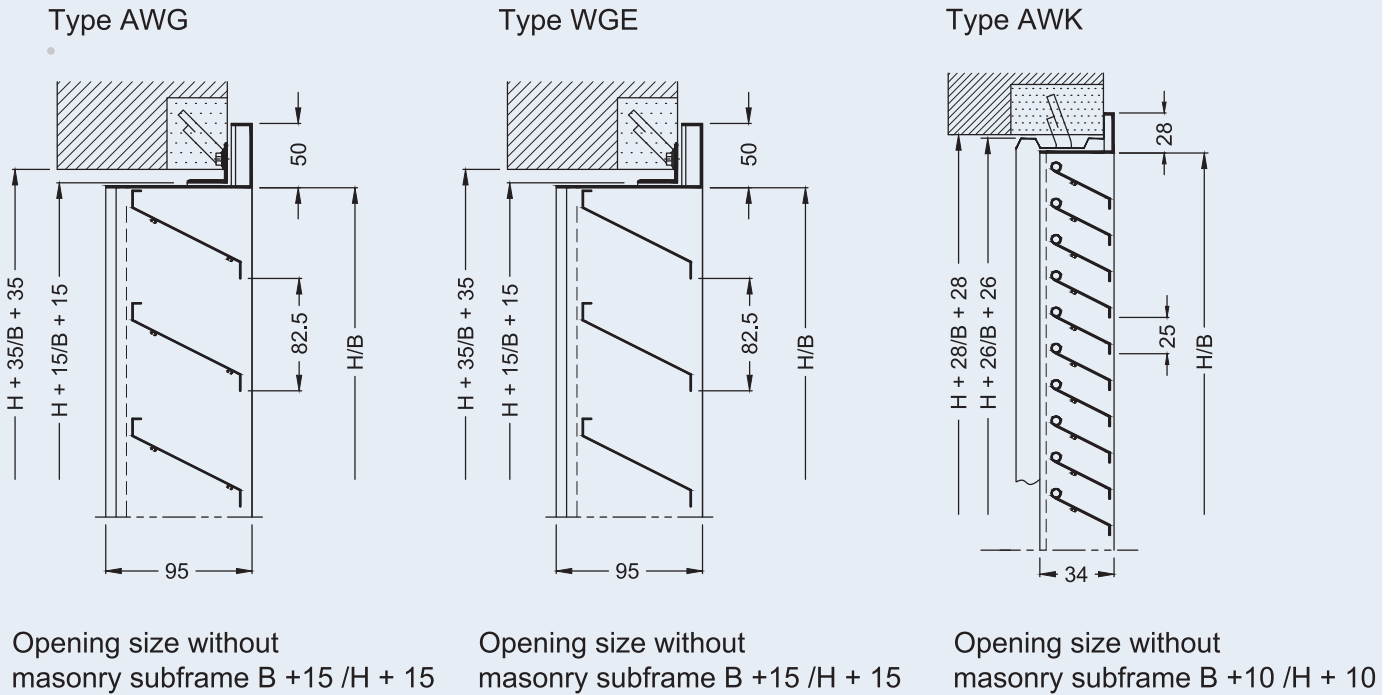
AWK



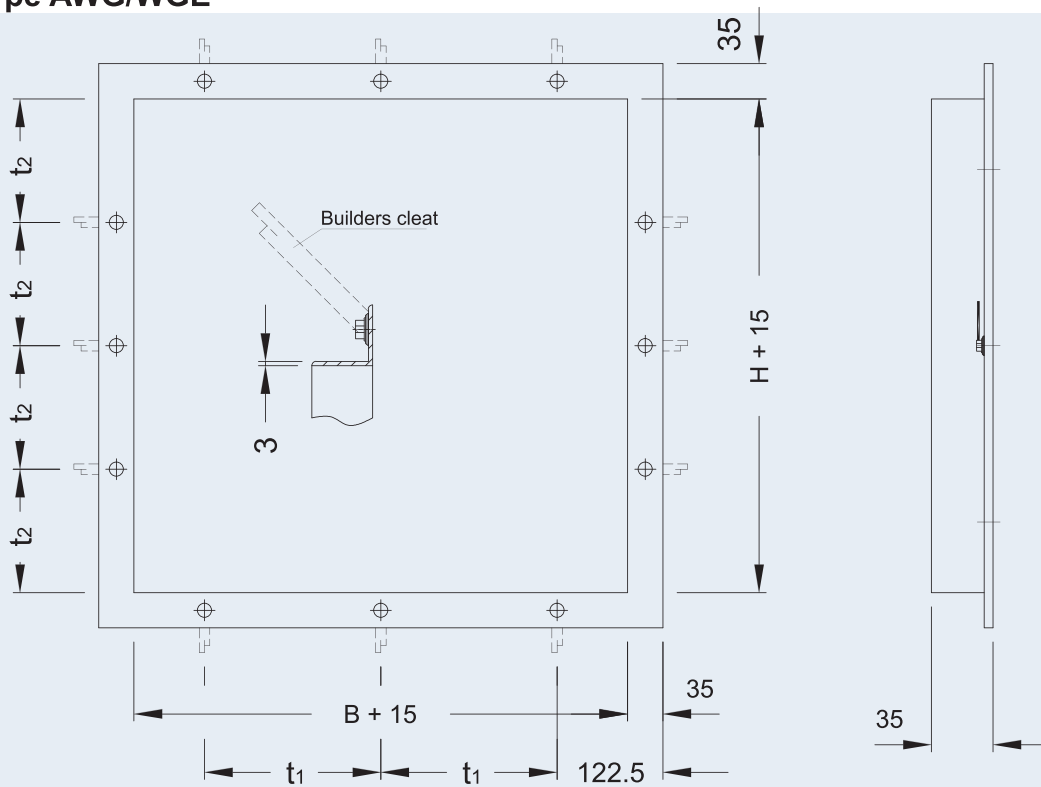
- ① Frame
- ② Blade
- ③ Bottom blade
- ④ Wire mesh screen

Installation Details

Installation Dimensions



Masonry Sub-frame Type AWG/WGE



Interval t = flange hole pitch (page 6)

Material: Galvanised steel

Installation Details

Type AWG (split on B or H dimension)

If the B dimension is more than 1985 mm or the H dimension more than 1980 mm, then the louver will be sub-divided into modular sections. These sections will be mounted either side by side or one on top of another as shown in Figure 1 below.

Note:

For the purpose of in-house powder coating, the maximum module size should be limited to 1900mm(B) by 1300mm(H) if possible.

Type AWG (in linear construction)

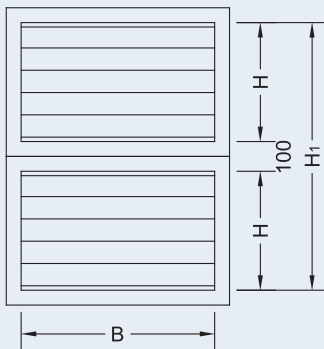
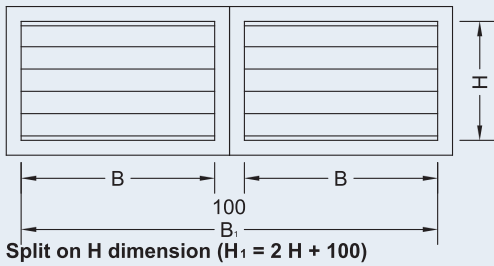
Type AWG louvers are available in linear construction if the B dimensions is more than 1985 mm wide. The width of the separating mullions between each section is 2 x 20 mm.

Linear louver construction for $B > 1985 - 3985$ mm consists of two end sections, represented in Figure 2 below as "E".

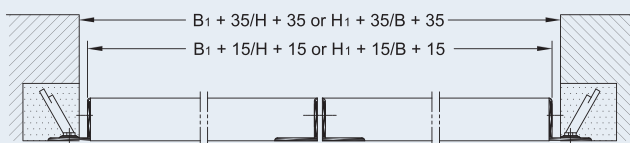
Linear louver construction of $B > 3985$ mm consists of two end sections and a number of centre sections, represent in Figure 2 below as "M".

Masonry sub-frames can be provided as optional extras, if required.

Figure 1: Split on B dimension ($B_1 = 2B + 100$)

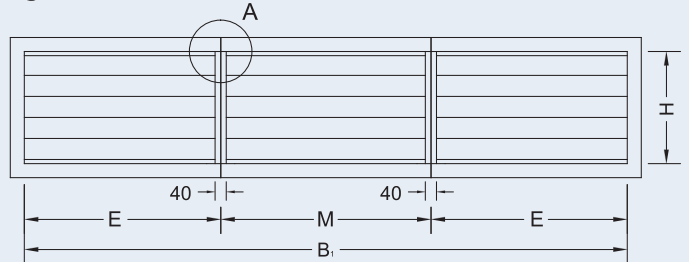


Special Masonry Sub-frame Shown split on B dimension



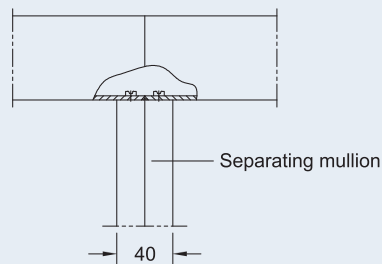
Opening size without masonry subframe
 $B_1 + 15 / H + 15$ h.v. $H_1 + 15 / B + 15$

Figure 2: Linear construction

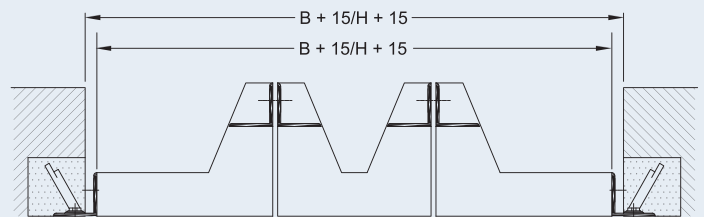


E = End section = 1092-1992 mm in increments of 100
 M = Center section = 2000mm

Detail 'A'



Special Masonry Sub-frame



Opening size without masonry subframe $B + 15 / H + 15$

Standard Sizes · Drilling Details

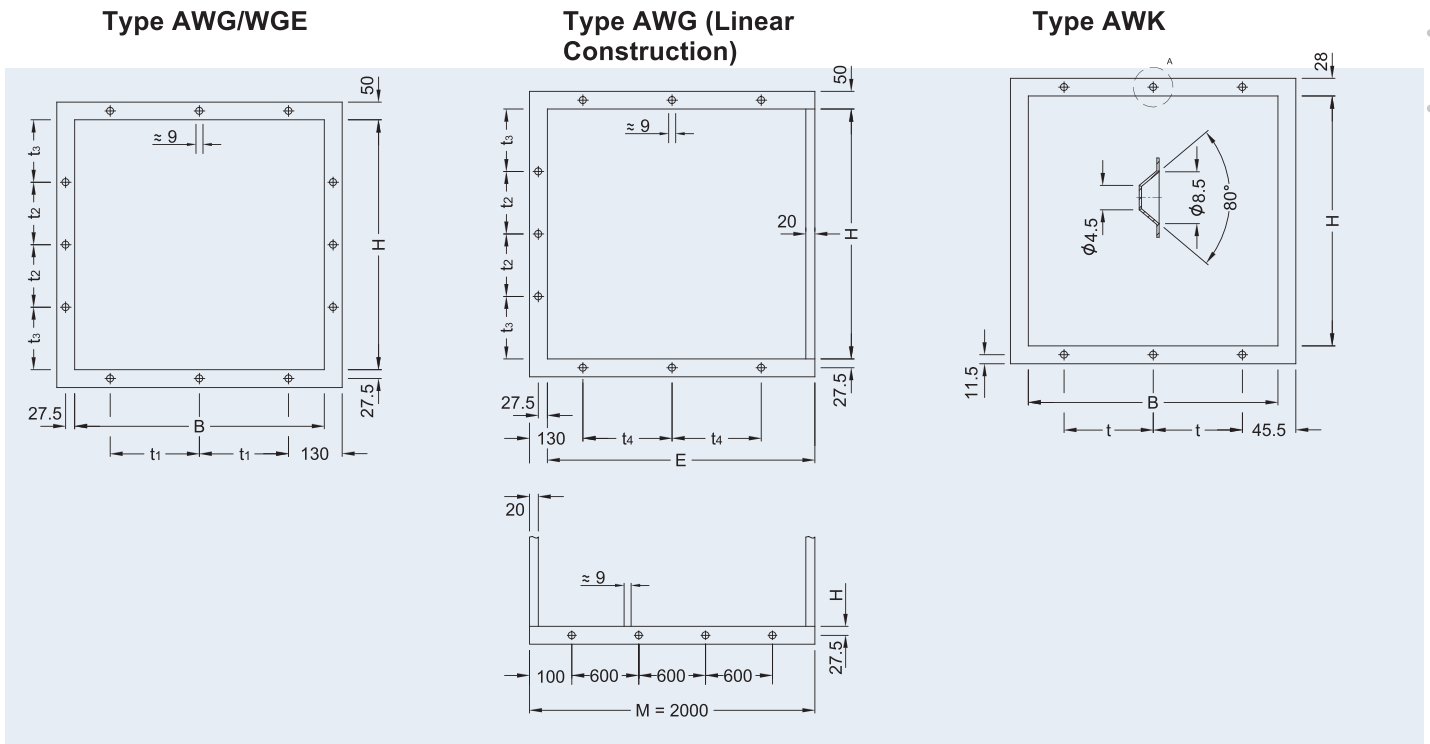


Table 1: Type 'AWG'/'WGE'

B in mm	H in mm	Number of Holes B dim.	H dim.	≈ t ₁ in mm	≈ t ₂ in mm	≈ t ₃ in mm
385	330	2	-	225	-	-
585	495	2	-	425	-	-
785	660	2	1	625	-	330
985	825	3	1	413	-	413
1185	990	3	1	513	-	495
1385	1155	3	1	613	-	578
1585	1320	4	2	475	445	437
1785	1485	4	2	542	550	492
1985	1650	4	2	608	555	547
	1815		2		610	602
	1980		3		499	491

Table 2: Type 'AWG' (for Linear Construction)

B in mm	H in mm	E in mm	Number of Holes E dimension	≈ t ₄ in mm
2185	330	1092	3	456
	495	1192	3	506
	660	1292	3	556
In increments of 200	825	1392	4	404
	990	1492	4	437
	1155	1592	4	471
	1320	1692	4	504
	1485	1792	4	537
	1650	1892	4	571
	1815	1992	4	604
	1980			

Table 3: Type 'AWG'/'WGE' (Split on 'B' or 'H' dimensions)

B ₁ in mm	H in mm	H ₁ in mm	B in mm
2070	330	2080	385
2470	495	2410	585
2870	660	2740	785
3270	825	3070	985
3670	990	3400	1185
4070	1155	3730	1385
	1320	4060	1585
	1485		1785
	1650		1985
	1815		
	1980		

Table 4: Type 'AWK'

B in mm	H in mm	Number of Holes D dimension	≈ t in mm
297	197	2	262
397	297	2	362
497	397	3	231
597	497	3	281
797		3	381
997		4	321
1197		4	388

Number of holes and pitch as individual grille type

Product Range

Type	Material	Description	Wall Frame	
AWG ¹	Aluminium construction	Basic construction (Louver only).	11	
AWG-1 ¹		AWG louver with insect screen in galvanised steel.	11	
AWG-2 ¹		AWG with wire mesh screen in 430 grade stainless steel.	11	
AWG-3 ¹		AWG with wire mesh and insect screen in 430 grade stainless steel.	11	
AWG-BM		Basic construction with split 'B' dimension.	12	
AWG-1-BM		AWG-BM louver with insect screen in galvanised steel.	12	
AWG-2-BM		AWG-BM with wire mesh screen in 430 grade stainless steel.	12	
AWG-3-BM		AWG-BM with wire mesh and insect screen in 430 grade stainless steel.	12	
AWG-HM		Basic construction with split on 'H' dimension.	13	
AWG-1-HM		AWG-HM louver with insect screen in galvanised steel.	13	
AWG-2-HM		AWG-HM with wire mesh screen in 430 grade stainless steel.	13	
AWG-3-HM		AWG-HM with wire mesh and insect screen in 430 grade stainless steel.	13	
AWG-B		AWG in linear construction.	14	
AWG-1-B		AWG-B louver with insect screen in galvanised steel.	14	
AWG-2-B		AWG-B with wire mesh screen in 430 grade stainless steel.	14	
AWG-3-B		AWG-B with wire mesh and insect screen in 430 grade stainless steel.	14	
WGE		Stainless steel construction	Basic construction.	15
WGE 1			WGE plus insect screen in 430 grade stainless steel.	15
WGE-BM			Basic construction with split on 'B' dimension.	16
WGE 1-BM			WGE-BM plus insect screen in 430 grade stainless steel.	16
WGE-HM	Basic construction with split on 'H' dimension.		17	
WGE 1-HM	WGE-HM plus insect screen in 430 grade stainless steel.		17	
AWK	Aluminium construction	Basic construction (Louver only).	18	
AWK-1		AWK Louver with insect screen in galvanised steel.	18	
AWK-3		AWK Louver with insect screen in 430 grade stainless steel.	18	

Notes:

1. This louvre can be supplied in combination with multi-leaf damper and/or pressure relief damper (see catalogue Ref. 3/4/EN/..).
2. Standard surface finish of the louver will be in powder coating to RAL 9010 (matt white, with approximately 30% gloss). Where mullion is required for multiple section construction, they will be painted black to in RAL 9005.

Technical Data

Nomenclature

v in m/s : Air velocity based on cross section A
 A in m² : Flow cross section :
 AWG : $B \times (H - 0.085 \text{ m})$
 AWK : $B \times (H - 0.028 \text{ m})$
 (use B and H dimensions in m)
 Δp_t in Pa: Total pressure drop
 $L_W = L_{W0} + K$ in dB/Oct.: Octave sound power level related to A
 L_{W0} in dB/Oct.: As before, but related to $A = 1.0 \text{ m}^2$
 $L_{WA} = L_{WAO} + K$ in dB(A): A-weighted sound power level related to A
 L_{WAO} in dB(A): As before, but related to $A = 1.0 \text{ m}^2$
 $L_{WNC} = L_{WNC0} + K$: NC rating of sound power level related to A
 L_{WNC0} : As before, but related to $A = 1.0 \text{ m}^2$
 K : Sound power level correction for octave, dB(A) or NC values at flow cross section greater than or smaller than 1.0 m^2
 f in Hz : Octave band centre frequency

Example

Data given : Louvre type AWG, installation type B
 $B = 585 \text{ mm}$, $H = 495 \text{ mm}$, $A \approx 0.24 \text{ m}^2$
 $v = 3 \text{ m/s}$

Required: - Total pressure drop Δp_t
 - A-weighted sound power level L_{WA}
 - Octave band sound power level of regenerated noise L_W
 - NC rating of sound power spectrum L_{WNC}

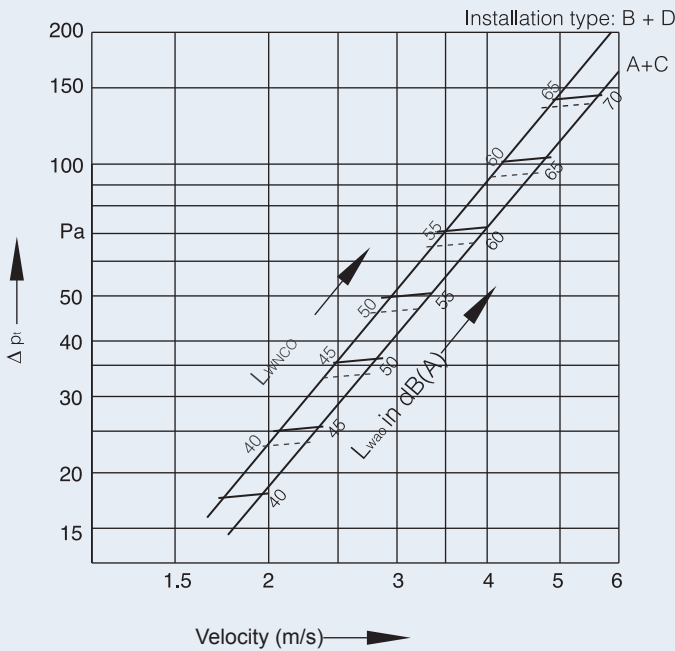
Result:

$P_t = 50 \text{ Pa}$ (from diagram)
 $L_{WA} = 55 - 6 = 49 \text{ dB(A)}$

f in Hz	63	125	250	500	1000	2000	4000	8000
L_W in dB/Oct.	44	46	48	48	48	41	34	24

$$L_{WNC} \approx 52 - 6 = 46$$

Type AWG · AWK



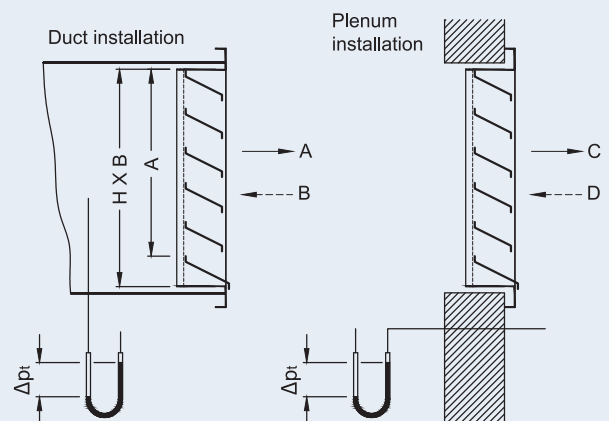
Sound Power Level Spectra

Type	Installation-type	v in m/s	Sound power level (L_{W0} in dB/Oct., $N_0 = 10^{-12} \text{ W}$)							
			f=63	125	250	500	1000	2000	4000	8000
A	1	26	23	22	19	11	-	-	-	
	2	45	44	42	40	37	30	18	12	
	3	54	55	54	51	50	43	35	20	
	4	59	63	62	60	58	56	48	36	
	5	63	72	73	72	69	68	61	53	
B	1	26	23	22	19	11	-	-	-	
	2	41	43	44	44	39	31	22	10	
	3	50	52	54	54	54	47	40	30	
	4	55	59	62	62	62	57	49	40	
	5	63	68	70	72	72	72	65	60	
C	1	26	23	22	19	11	-	-	-	
	2	45	44	41	40	37	29	18	11	
	3	54	55	54	51	50	43	35	20	
	4	59	63	62	60	58	56	48	36	
	5	63	72	73	72	69	68	61	53	
D	1	26	23	22	19	11	-	-	-	
	2	41	43	44	44	39	31	22	10	
	3	50	52	54	54	54	47	40	30	
	4	55	59	62	62	62	57	49	40	
	5	63	68	70	72	72	72	65	60	

Sound Power Level Correction Values

A in m ²	0.10	0.12	0.25	0.30	0.40	0.50	0.60	1.00	1.25	1.60	2.00	3.00	4.00
K	-10	-9	-6	-5	-4	-3	-2	0	+1	+2	+3	+5	+6

Installation Types



All technical details refer to the basic design.

AWG – 1 – BM / 4800 x 1815 / 12 / P1 / RAL 9003

Type (refer to page 9 for product range)

AWG
WGE
AWK

Without any type of screen

Type of screen

- 1 – With galvanised insect screen.
- 2 – With 20 x 20 mm sq. 430 grade stainless steel wire mesh screen.
- 3 – With 430 grade stainless steel wire mesh and insect screen.

Modular construction

BM – When the width, B > 1985 mm wide.
HM – When the height, H > 1980 mm high.
B – When the louvre comes with corner section(s).

General Specification

TROX Weather louvers will provide protection against ingress of rain, leaves and birds into air intake and exhaust openings for air conditioning systems.

Finish

0 – Standard supply in powder coating to RAL 9010 (white) with approximately 30% gloss.

P1 – Powder coating to the colour specified by customer.
(NB: Customer to state the required RAL colour code.)

Masonry Sub-frame

Refer to page 6 for detail.

Standard Sizes

For B x H (in mm), refer to this catalogue on page 6 of this catalogue for AWG/WGE and AWK Type louvres.

Order example

Make: TROX
Type: AWG/ 1600 x 1320/ 11/ 0
Quantity: 5 Nos.

