

Aluminum Linear Grilles

Type AH . AF



TROX Linear Grilles are all made from extruded aluminum sections.

- They are designed to be mounted onto walls or directly to ventilation ductwork for the purpose of supply or return air application.
- Other special grilles, such as the "AF" Type is designed to be mounted either to the floor or wall.

Type		Page
AH. AF	Contents . Description. Construction . Materials	2
	Standard Sizes . Dimensions	3
	Selection Table for Linear Grille	4
	Rear Assemblies	6
	Order Details	8
	Geometric Free Area Ageo(m ²)	9

General specification

The AH & AF grilles will be powder coated in matte white; RAL 9010 as standard supply. If required, volume control damper can be provided. This will be fitted to the back of the grille and, painted black; RAL 9005, the volume control damper is adjustable from the face of the grille with a screw driver as indicated on page 6.

Notes

The dimensions given for the standard sizes (i.e., 'L' for length and 'H' for height) in this catalogue represent the connecting duct sizes or opening sizes in the wall where the grilles are meant to be installed.

Construction variants

Type AH

This can be used as a supply or return grille with fixed horizontal blades. It can be supplied with either 0° or 15° deflection blade profile, identified as Type AH-0 or AH-15 respectively. It has a 30 mm wide front border with counter punched holes for screw fixing (i.e., visible). Alternatively concealed fixings with sub-frame can be provided if requested

Type AF

This is designed for either supply or return air application with fixed horizontal blades, suitable for mounting on the wall or floor with recessed aluminum 'Z' frame. The grille face can be removed from the frame by releasing the 'W' clips. It can be supplied with either 0° or 15° deflection blade profile, identified as Type AF-0 or AF-15 respectively.

Type	Air Discharge	Blade pitch (mm)
AF-0 / AH-0	Straight	12.5
AF-15 / AH-15	15° angled	12.5

Note

Without the border, the grille core is referred to as Type 'EH' Grille with identical blade profile as Type 'AH' and 'AF' grilles.

Material

The grilles are made from extruded aluminum sections with the front section (i.e., just the grille and excluding rear assemblies) will be powder coated to RAL 9010 with matte finish as standard supply.

The blade width is 5.5 mm wide, viewing at the grille face. The blades are set at 12.5 mm pitch with 7 mm wide air gap between the blades.

All rear assemblies are made from steel and/or extruded aluminum painted in black to RAL 9005 as standard supply.

Notes

- Only Type 'AH' and 'AF' grilles as presented in this catalogue can be supplied as linear grilles.
- If the Type 'AF' grilles are meant to be floor mounted (floor grilles), they will be supplied in mill finish as standard supply.

Type AH



Type AF



Table 3 : Standard Heights for Grilles

Type	AF . AH
H (mm)	
75	*
100	*
125	*
150	*
175	*
200	*
225	*
250	*
275	*
300	*

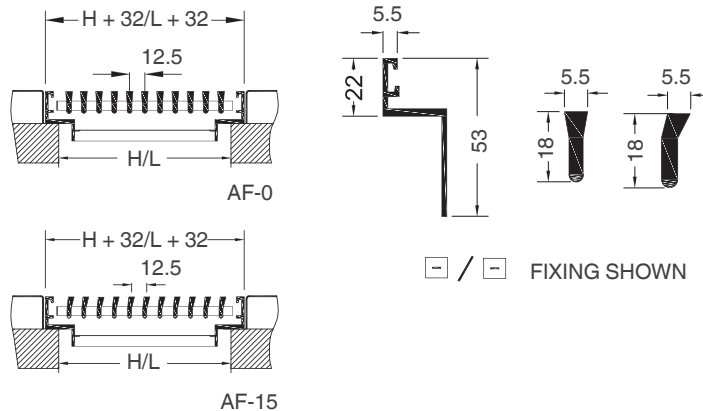
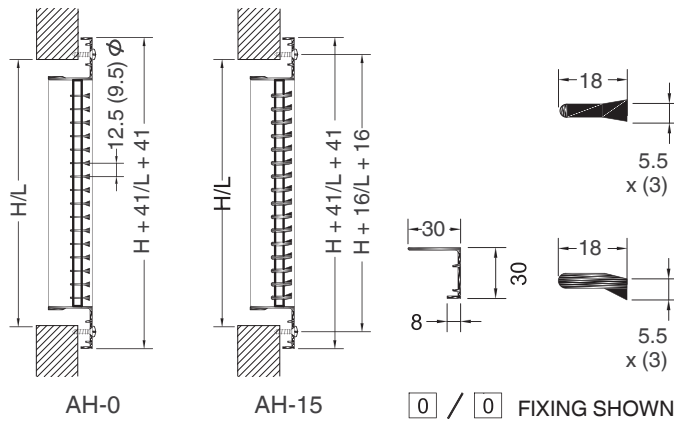
Minimum H : 300 mm
Maximum L : 2000 mm

Note

If rear assemblies are required (i.e., AG; D or DG), the minimum height for the grilles is 100 mm. End section length in 5mm steps possible.

Table 4 : Standard End and Intermediate Sections for Linear Grilles

Intermediate section, M (mm)	End section, E (mm)
	AF . AH
2000	950
	1010
	1070
	1130
	1190
	1250
	1310
	1370
	1430
	1490
	1550
	1610
	1670
	1730
	1790
	1850
1910	
1970	



Type AF

Selection example

Data given;

Type AF Grille

Total length, L = 18910 mm long

From Table 5, select the next length, 'L' down, which is 18899 mm long (i.e., opening size).

According to Table 5 below, when L = 18899 mm long, the number of intermediate sections,

M are 8, each measuring 2000 mm long and the two end sections (i.e., E1 and E2) are 1430 and 1490 mm long respectively.

L = Inside dimension of opening
n = number of M sections

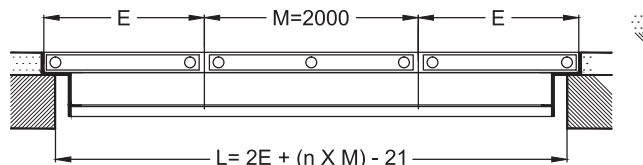


Figure 1 - Typical Section of intermediate and end sections for Type 'AF' Linear Grille

Table 5 - Opening length "L" for Type 'AF' Grille with associated intermediate and end sections

E	E	L = 2E - 21	L = 2E + (n x M) - 21									
			1 X M	2 X M	3 X M	4 X M	5 X M	6 X M	7 X M	8 X M	9 X M	10 X M
			2000	4000	6000	8000	10000	12000	14000	16000	18000	20000
950	950	1879	3879	5879	7879	9879	11879	13879	15879	17879	19879	21879
950	1010	1939	3939	5939	7939	9939	11939	13939	15939	17939	19939	21939
1010	1010	1999	3999	5999	7999	9999	11999	13999	15999	17999	19999	21999
1010	1070	2059	4059	6059	8059	10059	12059	14059	16059	18059	20059	22059
1070	1070	2119	4119	6119	8119	10119	12119	14119	16119	18119	20119	22119
1070	1130	2179	4179	6179	8179	10179	12179	14179	16179	18179	20179	22179
1130	1130	2239	4239	6239	8239	10239	12239	14239	16239	18239	20239	22239
1130	1190	2299	4299	6299	8299	10299	12299	14299	16299	18299	20299	22299
1190	1190	2359	4359	6359	8359	10359	12359	14359	16359	18359	20359	22359
1190	1250	2419	4419	6419	8419	10419	12419	14419	16419	18419	20419	22419
1250	1250	2479	4479	6479	8479	10479	12479	14479	16479	18479	20479	22479
1250	1310	2539	4539	6539	8539	10539	12539	14539	16539	18539	20539	22539
1310	1310	2599	4599	6599	8599	10599	12599	14599	16599	18599	20599	22599
1310	1370	2659	4659	6659	8659	10659	12659	14659	16659	18659	20659	22659
1370	1370	2719	4719	6719	8719	10719	12719	14719	16719	18719	20719	22719
1370	1430	2779	4779	6779	8779	10779	12779	14779	16779	18779	20779	22779
1430	1430	2839	4839	6839	8839	10839	12839	14839	16839	18839	20839	22839
1430	1490	2899	4899	6899	8899	10899	12899	14899	16899	18899	20899	22899
1490	1490	2959	4959	6959	8959	10959	12959	14959	16959	18959	20959	22959
1490	1550	3019	5019	7019	9019	11019	13019	15019	17019	19019	21019	23019
1550	1550	3079	5079	7079	9079	11079	13079	15079	17079	19079	21079	23079
1550	1610	3139	5139	7139	9139	11139	13139	15139	17139	19139	21139	23139
1610	1610	3199	5199	7199	9199	11199	13199	15199	17199	19199	21199	23199
1610	1670	3259	5259	7259	9259	11259	13259	15259	17259	19259	21259	23259
1670	1670	3319	5319	7319	9319	11319	13319	15319	17319	19319	21319	23319
1670	1730	3379	5379	7379	9379	11379	13379	15379	17379	19379	21379	23379
1730	1730	3439	5439	7439	9439	11439	13439	15439	17439	19439	21439	23439
1730	1790	3499	5499	7499	9499	11499	13499	15499	17499	19499	21499	23499
1790	1790	3559	5559	7559	9559	11559	13559	15559	17559	19559	21559	23559
1790	1850	3619	5619	7619	9619	11619	13619	15619	17619	19619	21619	23619
1850	1850	3679	5679	7679	9679	11679	13679	15679	17679	19679	21679	23679
1850	1910	3739	5739	7739	9739	11739	13739	15739	17739	19739	21739	23739
1910	1910	3799	5799	7799	9799	11799	13799	15799	17799	19799	21799	23799
1910	1970	3859	5859	7859	9859	11859	13859	15859	17859	19859	21859	23859
1970	1970	3919	5919	7919	9919	11919	13919	15919	17919	19919	21919	23919

Note

The opening size 'L' and the number of end and intermediate sections required (i.e., 'E' and 'M' respectively) and their associated lengths are given in the selection table above. All dimensions given in the table are in millimeters (mm).

Type AH

Selection example

Data given;
Type AH Grille
Total length, L = 18930 mm long
From Table 6, select the next length, 'L' down,
which is 18888 mm long (i.e., opening size).

From Table 6, when L = 18888 mm long,
8 number of intermediate sections,
M are needed and, each end section (i.e., E1 and E2)
is 1430 mm long.

L = Inside dimension of opening
n= number of M sections
Installation without installation subframe
 $L = 2E + (n \times M) + 19$

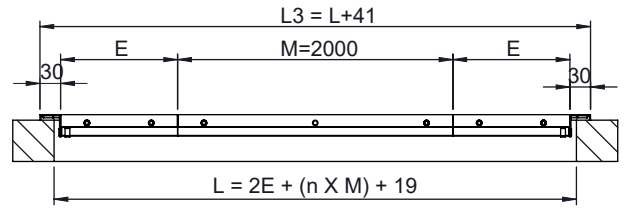


Figure 2 - Typical Section of intermediate and end sections for a Type 'AH' Linear Grille.

Table 6 - Opening length "L" for Type 'AH' Grille with associated intermediate and end sections.

E	E	L = 2E + 19	L = 2E + (n x M) + 19									
			1 X M	2 X M	3 X M	4 X M	5 X M	6 X M	7 X M	8 X M	9 X M	10 X M
			2000	4000	6000	8000	10000	12000	14000	16000	18000	20000
950	950	1919	3919	5919	7919	9919	11919	13919	15919	17919	19919	21919
950	1010	1979	3979	5979	7979	9979	11979	13979	15979	17979	19979	21979
1010	1010	2039	4039	6039	8039	10039	12039	14039	16039	18039	20039	22039
1010	1070	2099	4099	6099	8099	10099	12099	14099	16099	18099	20099	22099
1070	1070	2159	4159	6159	8159	10159	12159	14159	16159	18159	20159	22159
1070	1130	2219	4219	6219	8219	10219	12219	14219	16219	18219	20219	22219
1130	1130	2279	4279	6279	8279	10279	12279	14279	16279	18279	20279	22279
1130	1190	2339	4339	6339	8339	10339	12339	14339	16339	18339	20339	22339
1190	1190	2399	4399	6399	8399	10399	12399	14399	16399	18399	20399	22399
1190	1250	2459	4459	6459	8459	10459	12459	14459	16459	18459	20459	22459
1250	1250	2519	4519	6519	8519	10519	12519	14519	16519	18519	20519	22519
1250	1310	2579	4579	6579	8579	10579	12579	14579	16579	18579	20579	22579
1310	1310	2639	4639	6639	8639	10639	12639	14639	16639	18639	20639	22639
1310	1370	2699	4699	6699	8699	10699	12699	14699	16699	18699	20699	22699
1370	1370	2759	4759	6759	8759	10759	12759	14759	16759	18759	20759	22759
1370	1430	2819	4819	6819	8819	10819	12819	14819	16819	18819	20819	22819
1430	1430	2879	4879	6879	8879	10879	12879	14879	16879	18879	20879	22879
1430	1490	2939	4939	6939	8939	10939	12939	14939	16939	18939	20939	22939
1490	1490	2999	4999	6999	8999	10999	12999	14999	16999	18999	20999	22999
1490	1550	3059	5059	7059	9059	11059	13059	15059	17059	19059	21059	23059
1550	1550	3119	5119	7119	9119	11119	13119	15119	17119	19119	21119	23119
1550	1610	3179	5179	7179	9179	11179	13179	15179	17179	19179	21179	23179
1610	1610	3239	5239	7239	9239	11239	13239	15239	17239	19239	21239	23239
1610	1670	3299	5299	7299	9299	11299	13299	15299	17299	19299	21299	23299
1670	1670	3359	5359	7359	9359	11359	13359	15359	17359	19359	21359	23359
1670	1730	3419	5419	7419	9419	11419	13419	15419	17419	19419	21419	23419
1730	1730	3479	5479	7479	9479	11479	13479	15479	17479	19479	21479	23479
1730	1790	3539	5539	7539	9539	11539	13539	15539	17539	19539	21539	23539
1790	1790	3599	5599	7599	9599	11599	13599	15599	17599	19599	21599	23599
1790	1850	3659	5659	7659	9659	11659	13659	15659	17659	19659	21659	23659
1850	1850	3719	5719	7719	9719	11719	13719	15719	17719	19719	21719	23719
1850	1910	3779	5779	7779	9779	11779	13779	15779	17779	19779	21779	23779
1910	1910	3839	5839	7839	9839	11839	13839	15839	17839	19839	21839	23839
1910	1970	3899	5899	7899	9899	11899	13899	15899	17899	19899	21899	23899
1970	1970	3959	5959	7959	9959	11959	13959	15959	17959	19959	21959	23959

Note

The opening size 'L' and the number of end and intermediate sections required (i.e., 'E' and 'M' respectively) and their associated lengths are given in the selection table above. All dimensions given in the table are in millimeters (mm).

The rear assemblies as described below are factory fitted. They are available in different combinations for Types AF and AH grille as indicated in tables below.

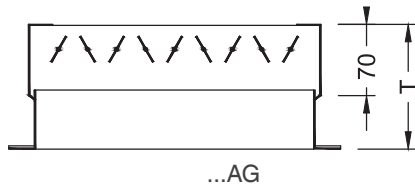
Materials

The rear assemblies are made from formed sheet steel, painted in black to RAL 9005.

Table 7 : Installation Depth

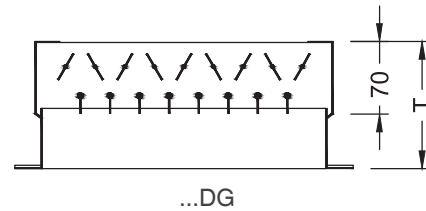
Code for Rear Assemblies	Installation Depth, T (mm)	
	AF	AH
AG	123	100
D	85	62
DG	123	100

Rear Assemblies



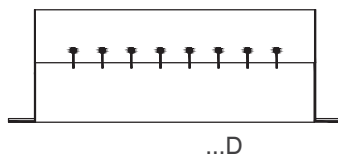
Opposed blade action volume control damper, adjustable from the front face.

'AG' is for opposed blade action volume control damper (OBD). This is adjustable from the face of the grille.



Volume control damper as -AG plus a set of individually adjustable vertical air pattern control blades.

'DG' will include both opposed blade damper and a second set of deflection blades.



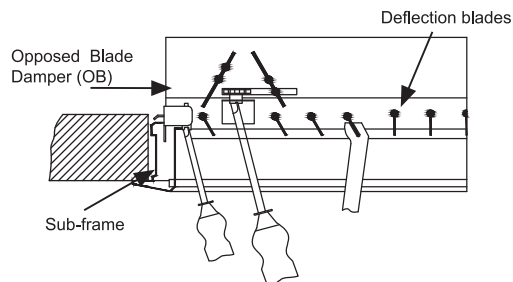
A set of individually adjustable vertical air pattern control blades

'D' is for a second set of individually adjustable deflection blades located behind the grille face to provide double deflection.

Table 8 - Accessories and options available

Options for rear assemblies	Grille		Linear Grille	
	AH-0 / AH-15	AF-0 / AF-15	AH-0 / AH-15	AF-0 / AF-15
Grille Face only	A	*	*	*
Grille with OBD	AG	*	*	*
Grille with deflection blades	D	*	*	*
Grille with OBD and deflection blades	DG	*	*	*

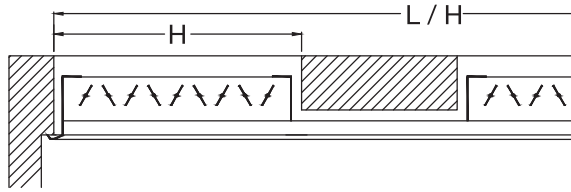
Component Adjustment



Rear Assemblies ...-D, ...-AG, ...-DG concealed fixing

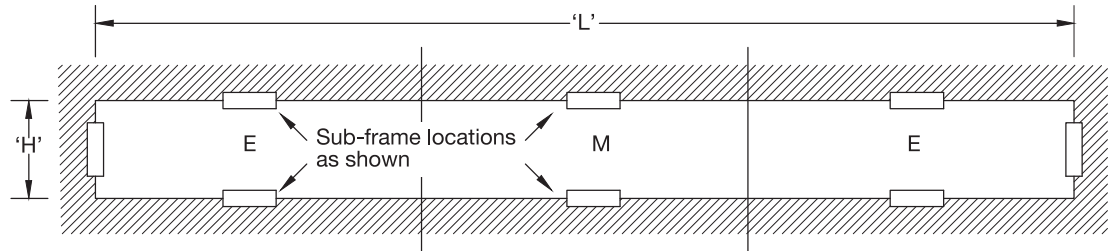
The rear assemblies as described on this page (i.e., 'AG', 'D' and 'DG') including the latch fixing can be adjusted from the face of the grille as shown above.

Installation sub-frame
for Linear Grilles



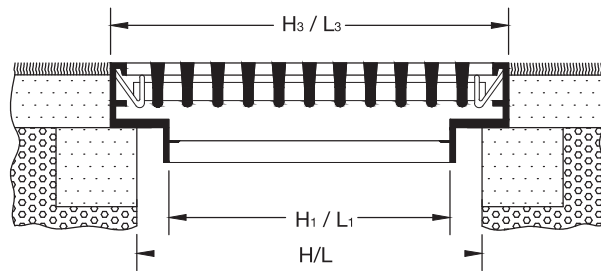
L/H = internal dimension of opening

When a linear grille is required with non- active sections the rear sections are supplied loose for site assembly to meet the local requirements.



"E" and "M" sections corresponding to the face grille lengths for grille arrangement with sub-frame fixing positions to the opening.

Fixing Details



$$H1 = H - 20$$

$$L1 = L - 20$$

$$H3 = H + 32$$

$$L3 = L + 32$$

Rear Assemblies

The rear assemblies are largely made from formed galvanized sheet steel, painted in black to RAL 9005

Table 21 Sub-frame and fixing options

Type		No Subframe (Standard)	With Subframe	Visible Border Width (mm)	Fixing Options			
					Screw Fixings	Concealed Fixing		
						Spring Clip Fastening	Latch Fastening	
Grilles	AH	0	R1	30	0	P11	S11	
	AF	-	-	5.5 (Note ii)	0	-	-	
Linear Grilles	End Section	AH	R1	30	0	P11	S11	
		AF	-	-	5.5 (Note ii)	0	-	-
	Intermediate Section	AH	0	R1	30	0	P11	S11
		AF	-	-	5.5 (Note ii)	0	-	-

Notes

- i. '0' is for standard construction
- ii. The Type 'AF' grille has 'Z' shaped border that is suitable for screw fixing and, which is concealed. The visible part of the border is of the same width as the blades, giving the appearance that there is no visible border around the grille.

General Specification

TROX offers a wide variety of grilles and linear grilles that are suitable for supply air or return air application. Some of these are designed to be fitted onto walls or, directly to sheet metal ducting. Others are meant to be mounted onto the wall or floor.

All of these TROX grilles and linear grilles as described in this catalogue are made from extruded aluminum sections.

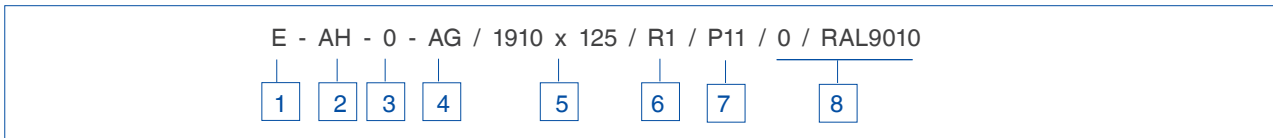
These aluminum grilles are generally powder coated to RAL 9010 in matt white and the rear assemblies will be painted black to RAL 9005.

Note

if other color is needed for the grilles, customer should state the RAL color code and the level of gloss needed for TROX to provide a timely respond to your requirement.

Special stainless steel or plastic grilles are available, if requested. Delivery lead-time for such item can long.

Order Code



1 Section

E End section
M Intermediate section

2 Type

AH
AF

3 Blade deflection

0 Deflection 0°
15 Deflection 15°

4 Rear assemblies

A Without (Grille face only)
AG Damper unit, opposed action blades
D Air direction control, blades installed at 90° to the front blades, independently adjustable
DG D combined with AG

5 Dimensions

ExH Min 950 (B) x 75 (H)
 Max 1970 (B) x 325 (H)
MxH Min 2000 (B) x 75 (H)
 Max 2000 (B) x 600 (H)

6 Subframe

0 No subframe (Standard supply)
R1 With subframe

7 Mounting / fixing

P11 Spring clip
S11 Concealed screw fixing

8 Finish

0 RAL 9010 (Standard supply)
S1 Powder coated, specify RAL colour
S2 Mill finish (Standard supply for AF grille)

Order Examples

For Linear Grilles with sub-frame

Customer requirement

AF-0-A/5800 x 150/ S2

TROX Quote /OA

1 x M-AF-0-A/2000 x 150/S2

2 x E-AF-0-A/1910 x 150/S2

*Total nominal length: 5799mm

Type AH

Length (mm)	Height (mm)	Ageo AH (m ²)	Length (mm)	Height (mm)	Ageo AH (m ²)	Length (mm)	Height (mm)	Ageo AH (m ²)	Length (mm)	Height (mm)	Ageo AH (m ²)	
150	100	0.004	200	200	0.015	300	300	0.039	400	400	0.075	
200		0.006	250		0.020	350		0.047	450		0.085	
250		0.008	300		0.025	400		0.055	500		0.095	
300		0.010	350		0.030	450		0.062	550		0.106	
350		0.012	400		0.034	500		0.070	600		0.116	
400		0.014	450		0.039	550		0.077	650		0.126	
450		0.016	500		0.044	600		0.085	700		0.137	
500		0.018	550		0.049	650		0.092	750		0.147	
550		0.020	600		0.053	700		0.100	800		0.158	
600		0.022	650		0.058	750		0.107	850		0.168	
650		0.024	700		0.063	800		0.115	900		0.178	
700		0.026	750		0.068	850		0.122	950		0.189	
750		0.028	800		0.072	900		0.130	1000		0.199	
800		0.030	850		0.077	950		0.138	1050		0.209	
850		0.032	900		0.082	1000		0.145	1100		0.220	
900		0.034	950		0.087	1050		0.153	1150		0.230	
950		0.036	1000		0.091	1100		0.160	1200		0.240	
1000		0.037	1050		0.096	1150		0.168	1250		0.251	
1050		0.039	1100		0.101	1200		0.175	450		450	0.097
1100		0.041	1150		0.106	1250		0.183	500			0.108
1150	0.043	1200	0.110	350	350	550	0.120					
1200	0.045	1250	0.115	400		0.065	600	0.132				
1250	0.047	250	250	450		0.074	650	0.144				
150	150	0.007		300		0.032	500	0.083	700	0.155		
200		0.011		350		0.038	550	0.091	750	0.167		
250		0.014		400		0.044	600	0.100	800	0.179		
300		0.017		450		0.051	650	0.109	850	0.191		
350		0.021		500		0.057	700	0.118	900	0.202		
400		0.024		550		0.063	750	0.127	950	0.214		
450		0.028		600		0.069	800	0.136	1000	0.226		
500		0.031		650		0.075	850	0.145	1050	0.238		
550		0.034		700		0.081	900	0.154	1100	0.249		
600		0.038		750		0.087	950	0.163	1150	0.261		
650		0.041		800		0.094	1000	0.172	1200	0.273		
700		0.044		850		0.100	1050	0.181	1250	0.285		
750		0.048		900		0.106	1100	0.190				
800		0.051		950		0.112	1150	0.199				
850		0.054		1000		0.118	1200	0.208				
900		0.058		1050		0.124	1250	0.217				
950		0.061		1100		0.131						
1000		0.064		1150	0.137							
1050		0.068		1200	0.143							
1100		0.071	1250	0.149								
1150	0.074											
1200	0.078											
1250	0.081											

Type AH

Length (mm)	Height (mm)	Ageo AH (m ²)
500	500	0.121
550		0.134
600		0.148
650		0.161
700		0.174
750		0.187
800		0.200
850		0.213
900		0.226
950		0.240
1000		0.253
1050		0.266
1100		0.279
1150		0.292
1200		0.305
1250	0.318	
600	600	0.179
650		0.195
700		0.211
750		0.227
800		0.243
850		0.259
900		0.275
950		0.291
1000		0.307
1050		0.323
1100		0.338
1150		0.354
1200		0.370
1250		0.386

Type AF

Length (mm)	Height (mm)	Ageo AF (m ²)
150	100	0.012
200		0.017
250		0.021
300		0.026
350		0.031
400		0.037
450		0.041
500		0.046
550		0.053
600		0.058
650		0.063
700		0.067
750		0.076
800		0.081
850		0.086
900	0.091	
950	0.096	
1000	0.101	
1050	0.112	
1100	0.117	
1150	0.122	
1200	0.128	
1250	0.133	
150	150	0.025
200		0.033
250		0.040
300		0.048
350		0.055
400		0.063
450		0.070
500		0.078
550		0.088
600		0.096
650		0.104
700		0.111
750		0.119
800		0.127
850		0.135
900	0.142	
950	0.150	
1000	0.158	
1050	0.165	
1100	0.173	
1150	0.181	
1200	0.189	
1250	0.203	

Length (mm)	Height (mm)	Ageo AF (m ²)
200	200	0.045
250		0.055
300		0.066
350		0.076
400		0.086
450		0.096
500		0.107
550		0.117
600		0.127
650		0.137
700		0.147
750		0.158
800		0.168
850		0.178
900		0.188
950	0.199	
1000	0.214	
1050	0.225	
1100	0.235	
1150	0.246	
1200	0.256	
1250	0.267	
250	250	0.069
300		0.082
350		0.094
400		0.107
450		0.120
500		0.133
550		0.145
600		0.158
650		0.171
700		0.183
750		0.200
800		0.213
850		0.226
900		0.239
950		0.252
1000	0.265	
1050	0.278	
1100	0.291	
1150	0.304	
1200	0.317	
1250	0.330	

Length (mm)	Height (mm)	Ageo AF (m ²)
300	300	0.098
350		0.113
400		0.128
450		0.143
500		0.159
550		0.174
600		0.193
650		0.208
700		0.224
750		0.239
800		0.255
850		0.270
900		0.286
950		0.301
1000		0.317
1050	0.332	
1100	0.348	
1150	0.363	
1200	0.379	
1250	0.394	