

MFA/UFA/UFK

Universal grille for mounting in floors, walls and window sill



QUICK FACTS

- Can be used for both supply and extract air
- Extremely versatile as it can be tailor made for all needs
- It is possible to construct unlimited lengths of grille
- The grille is manufactured in anodised aluminium
- Standard colour Anodised/electroplated aluminium
 - 6 alternative standard colours (powder coating)
 - Other colours upon request

AIR FLOW - SOUND PRESSURE ROOM (Lp10A) *)							
Size	Length	15 dB(A)		20 dB(A)		25 dB(A)	
		l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
5-5 ^{*)}	1000	75	270	87	313	105	378
5-8 ^{*)}	1000	110	396	130	468	155	558
5-10 ^{*)}	1000	130	468	155	558	180	648
10-5	1000	110	396	140	504	175	630
10-8	1000	155	558	185	666	240	864
10-10	1000	170	612	215	774	265	954
14-5	1000	175	630	200	720	235	846
14-8	1000	245	882	275	990	330	1188
14-10	1000	280	1008	310	1116	370	1332

*) L_{p10A} = Sound pressure incl. A-filter with 4 dB room attenuation and 10 m² room absorption area.

^{*)}5 mm slot width sizes are only applicable for MFA and UFA.

Technical description

Design

The grille consists of strong aluminium profiles held together by a number of circular tubes and, in one model, an outer frame.

The Universal grille is available in three models: MFA, UFA and UFK.

MFA is designed for mounting in floors, window sills and walls, and has an outer frame profile that can be selected in three different versions: A, B or C.

UFA is designed for floor and window sills installations and does not have an outer frame profile.

UFK is designed for mounting in floors and does not have an outer frame profile but is supplied with a frame for cementing to the floor. MFA and UFA are available in three different slot widths: 5, 10 and 14 mm. UFK is available with two slot widths: 10 and 14 mm.

Materials and surface treatment

The grille is made from extruded aluminium profiles and is anodised/electroplated.

- The diffuser is available in six alternative standard colours (powder coating):
 - White semi-gloss, lustre 40, RAL 9003/NCS S 0500-N
 - White semi-gloss, lustre 40, RAL 9010
 - Silver gloss, lustre 80, RAL 9006
 - Grey aluminium gloss, lustre 80, RAL 9007
 - Black semi-gloss, lustre 35, RAL 9005
 - Grey semi-gloss, lustre 30, RAL 7037
- Other colours available on request

Planning

When MFA / UFA / UFK are selected as supply air terminals mounted in floors or window service ducts, the throw length is selected as distance from grille to ceiling plus the depth of the room.

Installation

MFA, UFA and UFK are designed to be mounted horizontally in floors, window sills etc. The grille is laid in place on the grooves cut for it. MFA can be supplied with countersunk screw holes in the flange for it to be fixed to the wall. This must be clearly stated in the specifications when ordering the grille.

Grilles exceeding 2000 mm in length are constructed by putting several units together.

Commissioning

The airflow is obtained by measuring the velocity of the air through the gaps and multiplying by the net area.

Maintenance

The grille is cleaned when necessary using lukewarm water with detergent added.

Environment

The declaration of construction materials is available at www.swegon.com.

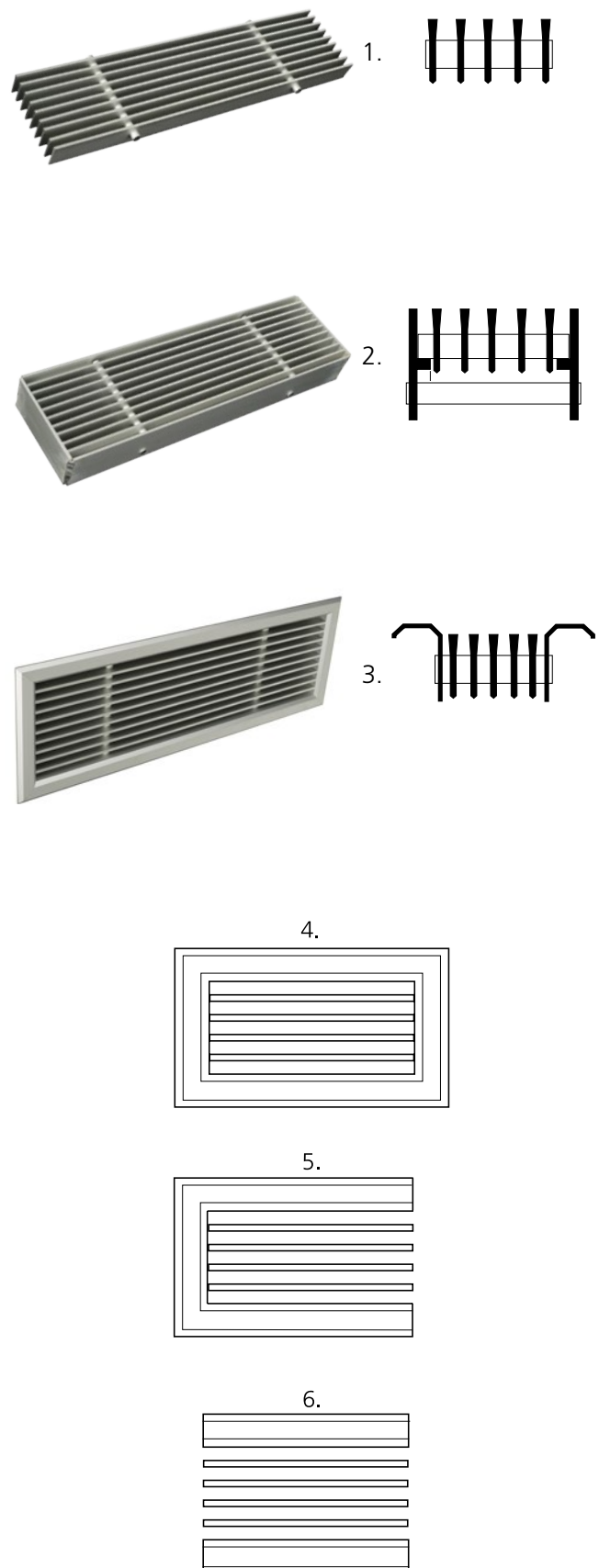


Figure 1.

1. Model UFA
2. Model UFK
3. Model MFA

4. Flange A for MFA
5. Flange B for MFA
6. Flange C for MFA

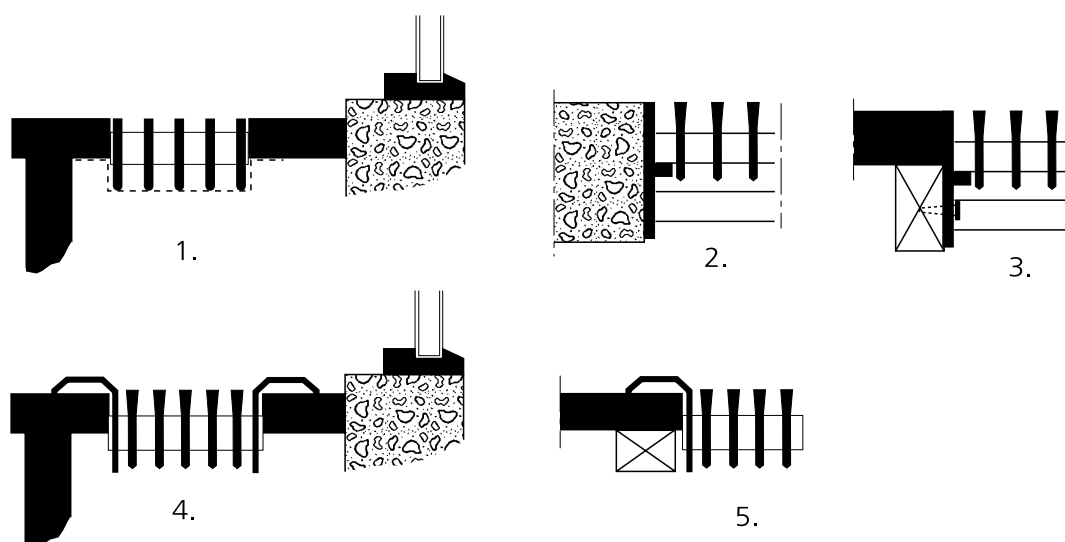


Figure 2.

1. UFA in window sill
2. UFK in floor
3. UFK in floor
4. MFA in window sill
5. MFA in floor

Sizing

- Sound pressure level dB(A) applies to rooms of 10 m² equivalent absorption area.
- Throw $I_{0,2}$ is measured under isothermal conditions.
- Throw diagrams apply to plane airstreams, i.e. discharge of air through slots.
- Graphs for capacity apply to grilles with a length of 1000 mm. For other lengths, the data is converted to the equivalent of 1000 mm.
- Due to the type of construction, the free area for UFK is less than that of UFA or MFA
- For the UFK 10, the free area is two slots less.
- For the UFK 14, the free area is one slot less.

Example: Calculate of the throw 20 l/s is to be discharged from a grille with a length of 800 mm.
Airflow is corrected as follows:

$$\frac{20}{0,8} = 25 \text{ l/s}$$

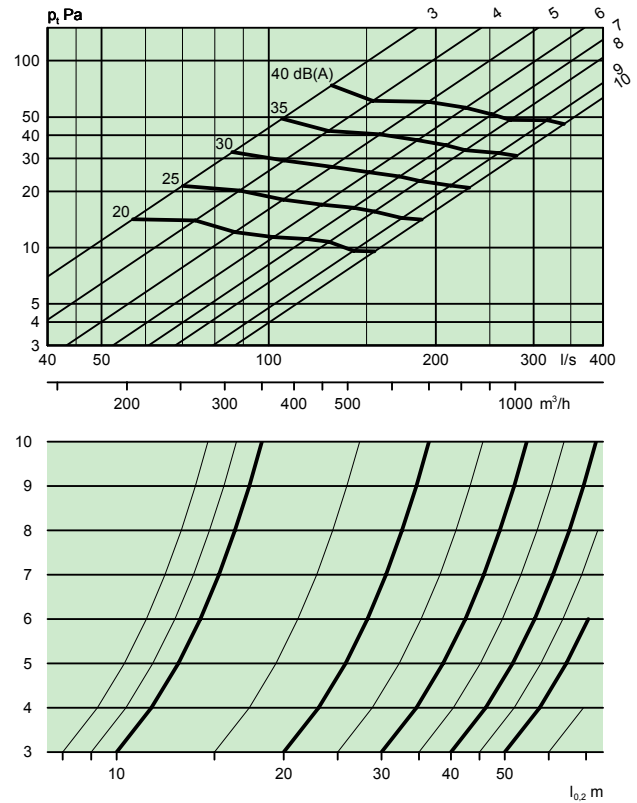
I.e. use 25 l/s as the value for the calculation of throw, pressure drop and sound level.

**Engineering graphs –
MFA, UFA, UFK - Supply air**

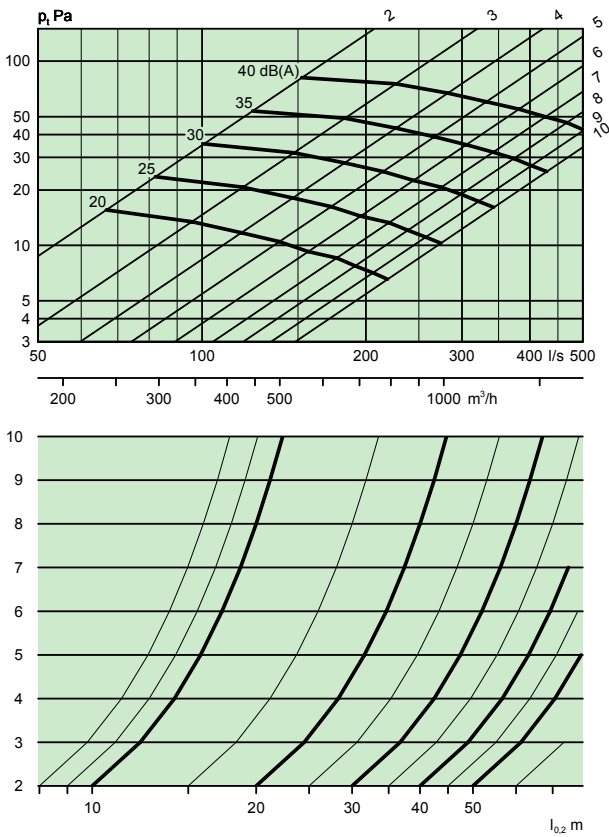
Air flow – Pressure drop – Sound level

- Graphs for capacity apply to grilles with a length of 1000 mm. For other lengths, the data is converted to the equivalent of 1000 mm.
- The graphs must not be used for commissioning.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value.

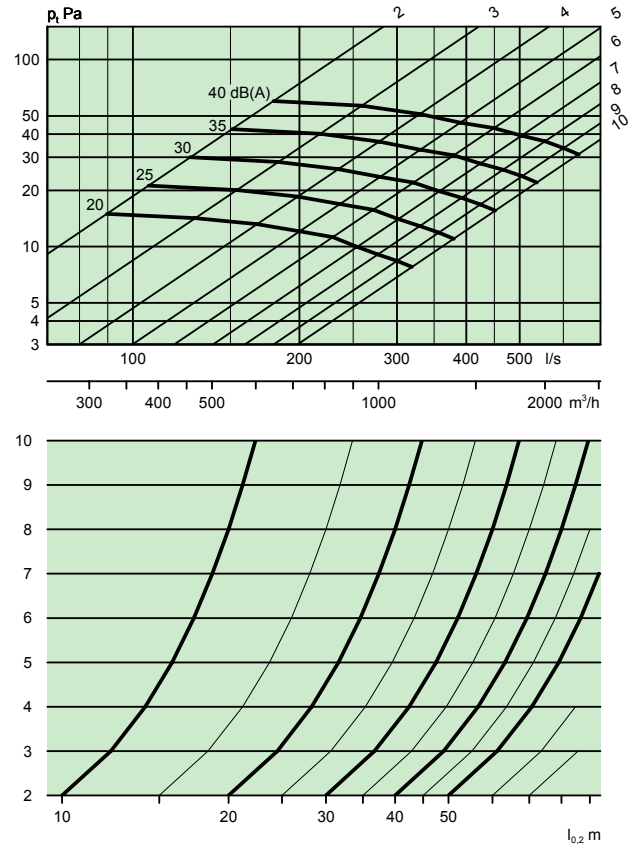
MFA, UFA – 5 mm



MFA, UFA, UFK – 10 mm



MFA, UFA, UFK – 14 mm



Dimensions and weight

The UNIVERSAL GRILLE has the following dimensions:

Length: As desired from 200 mm to 2000 mm in one and the same unit.

Height: See the table below. This dimension depends on the number of slots. Grilles with heights exceeding 200 mm are not recommended for installation in floors.

Grilles with 5 mm gap between blades

No. of air slots	Grille height (inlet dim.), H mm		Free area in m ² per 1000 mm length
	MFA-5	UFA-5	
3	27	-	0.015
4	36	40	0.020
5	45	49	0.025
6	54	58	0.030
7	63	67	0.035
8	72	76	0.040
9	81	85	0.045
10	90	94	0.050

Hole cutting size: MFA: H + 8 mm x L + 5 mm.
UFA, UFK: H + 8 mm x L + 2 mm.

Grilles with 10 mm gap between blades

No. of air slots	Grille height (inlet dim.), H mm			Free area in m ² per 1000 mm length
	MFA-10	UFA-10	UFK-10	
2	28	32	-	0.02
3	42	46	-	0.03
4	56	60	-	0.04
5	70	74	74	0.05
6	84	88	88	0.06
7	98	102	102	0.07
8	112	116	116	0.08
9	126	130	130	0.09
10	140	144	144	0.10

Hole cutting size: MFA: H + 8 mm x L + 5 mm.
UFA, UFK: H + 8 mm x L + 2 mm.

Grilles with 14 mm gap between blades

No. of air slots	Grille height (inlet dim.), H mm			Free area in m ² per 1000 mm length
	MFA-14	UFA-14	UFK-14	
2	36	40	-	0.028
3	54	58	-	0.042
4	72	76	76	0.056
5	90	94	94	0.070
6	108	112	112	0.084
7	126	130	130	0.098
8	144	148	148	0.112
9	162	166	166	0.126
10	180	184	184	0.140

Hole cutting size: MFA: H + 8 mm x L + 5 mm.
UFA, UFK: H + 8 mm x L + 2 mm.

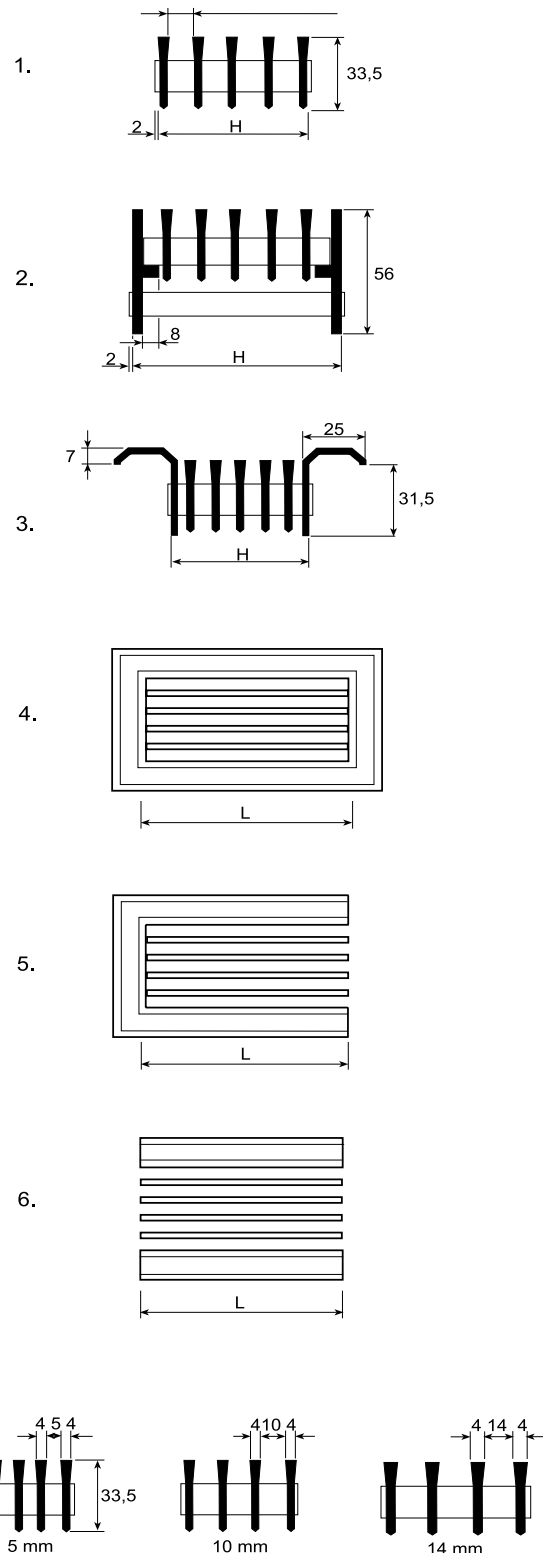


Figure 3. Dimensions.

1. Model UFA
2. Model UFK
3. Model MFA
4. Flange A for MFA
5. Flange B for MFA
6. Flange C for MFA
7. Width of slot: 5, 10, 14 mm

Order key

Product

Universal Grille MFA b -bb -cc -dddd -e -f -g

Version:

Slot width (space between blades):
5, 10, 14

Grille height:
For number of slots, see table

Length in mm

Wall/ window duct mounting: 0
Floor mounting: 1

Flange type: A, B, C
(Only for MFA)

Now screw holes in flange -0
Screw holes in flange -1
(Only for MFA)

Universal Grille UFA b -bb -cc -dddd -e

Version:

Slot width (space between blades):
5, 10, 14

Grille height:
For number of slots, see table

Length in mm

Wall/ window duct mounting: 0
Floor mounting: 1

Universal Grille UFK b -bb -cc -dddd -e

Version:

Slot width (space between blades):
10, 14

Grille height:
For number of slots, see table

Length in mm

Wall/ window duct mounting: 0
Floor mounting: 1

Specification example

Swegons rectangular UNIVERSAL GRILLE of the type MFA, having the following functions:

- Fixed blades
- Manufactured in anodised aluminium

Size: MFAb bb - cc - dddd -e - f- g xx items