



## E-RA

Return grille with fixed 45° curved blades



## **Description E-RA**

E-RA: Return grille with fixed 45º curved blades, made in aluminium.

### **Fixtures:**

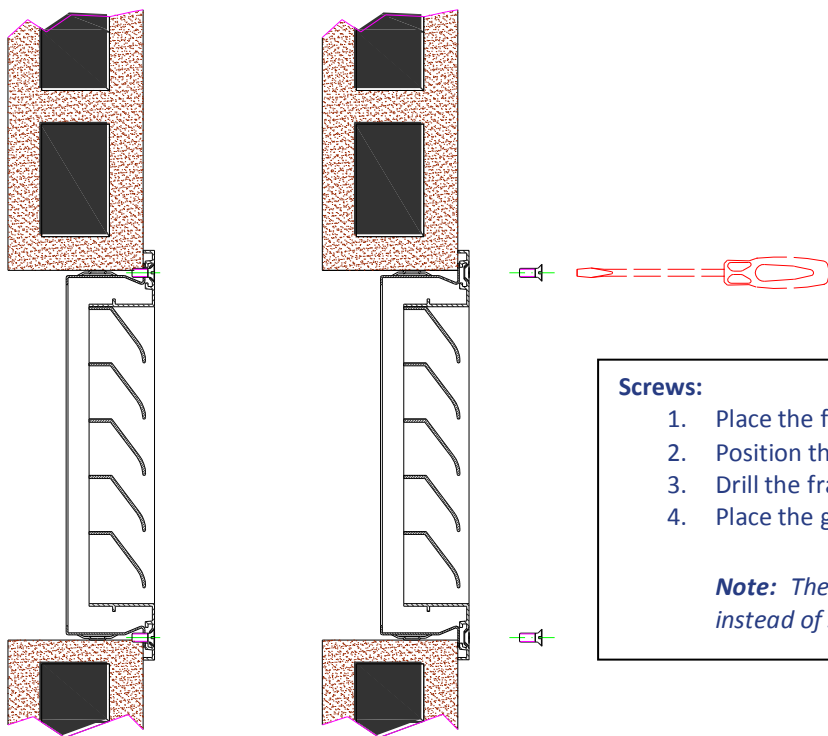
- ✓ Springs with frame E-MM, E-MAM or E-CLIPO
- ✓ Screws with frame E-MM.

**Finish:** Anodized or white aluminium. It can be supplied in other colours on request.

**Applications:** The E-RA grille is the most used for air return both on walls and ceiling. Its fixed 45º curved blades block the inside view.



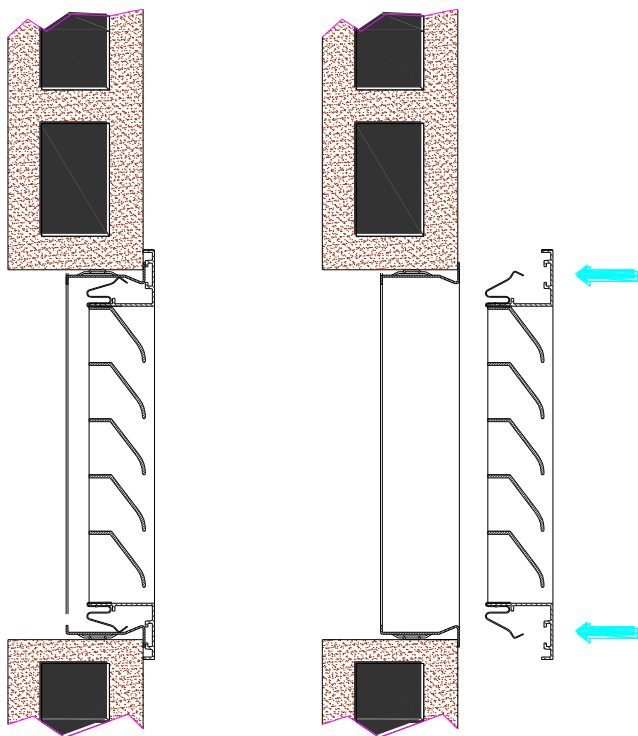
## Fixtures E-RA



### Screws:

1. Place the frame in the wall cavity.
2. Position the grille and mark the holes to be made.
3. Drill the frame and the wall at the points marks.
4. Place the grille and screw it down.

**Note:** The version with E-MMF uses threaded knobs instead of screws.



### Springs:

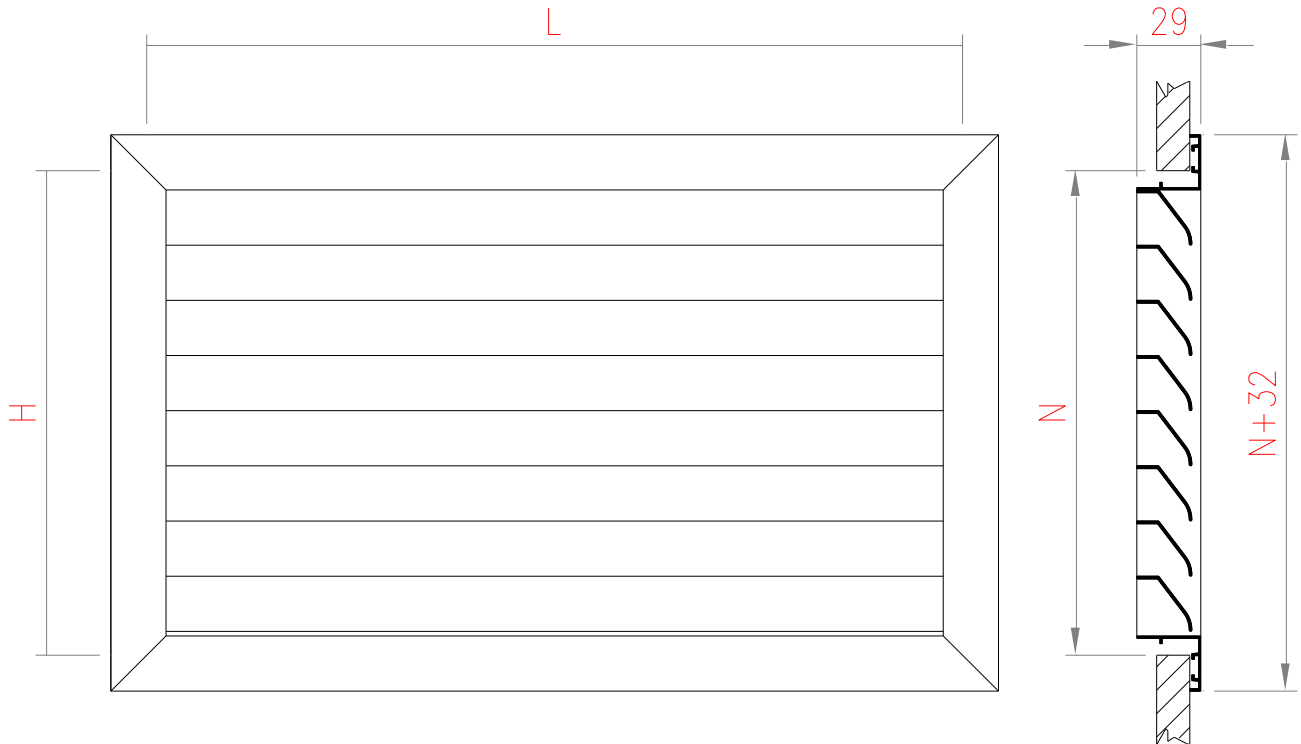
1. Place the frame in the wall cavity.
2. Position the grille in the frame.
3. Press until the springs are fixed.



## Dimensions E-RA:

The nominal dimensions are established by the L and H heights which coincide with the size of the hole necessary to install the grille.

SIZE OF THE HOLE	
With frame	L x H
Without frame	(L + 12) x (H + 12)

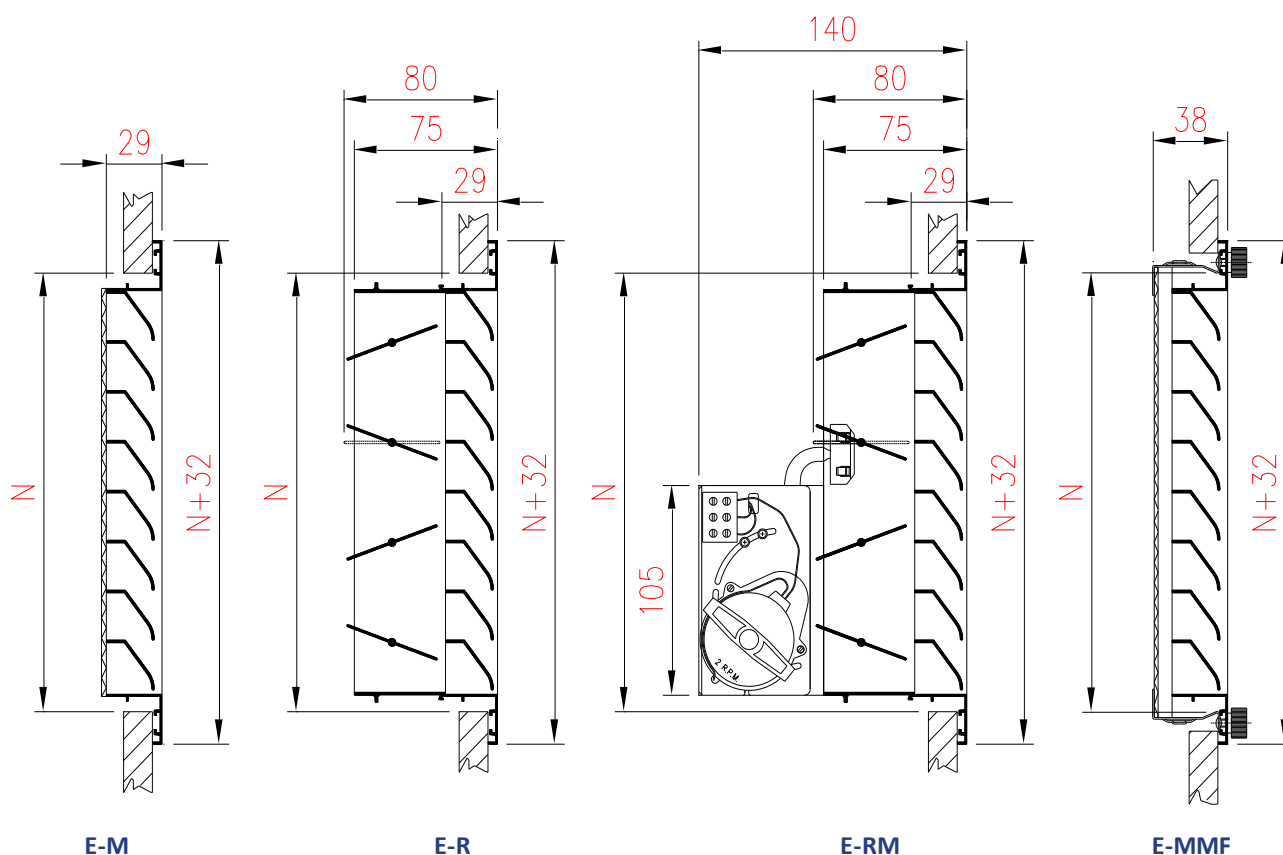


H \ L	100	200	300	400	500	600	700	800	900	1000	1200	1300	1400	1500
100	*	*	*	*	*	*	*	*	*	*	*	*	*	*
150	*	*	*	*	*	*	*	*	*	*	*	*	*	*
200	*	*	*	*	*	*	*	*	*	*	*	*	*	*
250	*	*	*	*	*	*	*	*	*	*	*	*	*	*
300	*	*	*	*	*	*	*	*	*	*	*	*	*	*
350	*	*	*	*	*	*	*	*	*	*	*	*	*	*
400	*	*	*	*	*	*	*	*	*	*	*	*	*	*
450	*	*	*	*	*	*	*	*	*	*	*	*	*	*
500	*	*	*	*	*	*	*	*	*	*	*	*	*	*
600	*	*	*	*	*	*	*	*	*	*	*	*	*	*
700	*	*	*	*	*	*	*	*	*	*	*	*	*	*
800	*	*	*	*	*	*	*	*	*	*	*	*	*	*
900	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1000	*	*	*	*	*	*	*	*	*	*	*	*	*	*

**Note:** The dimensions indicated on the table are standard. Other grilles of larger or intermediate sizes can be manufactured on request.



## Accessories E-RA

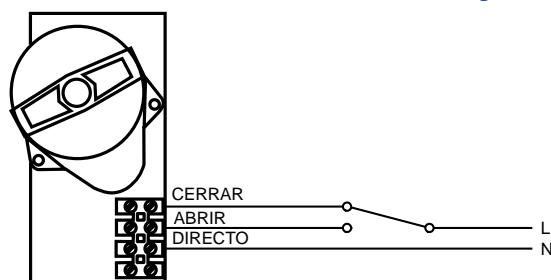


**E-M:** Anti-bird mesh. Used when E-RAE is used as exterior air intake.

**E-R:** Opposed blades flow regulation valve, made with aluminium profiles. In this closing position the blades are totally flat, while when in open position the blades are parallel to the air flow.

The opening and closing of the flow regulation is performed through a manually operated crown wheel.

**E-RM:** Motorization of the regulation valve. It can be 24 V or 220 V, according to that specified on the order.



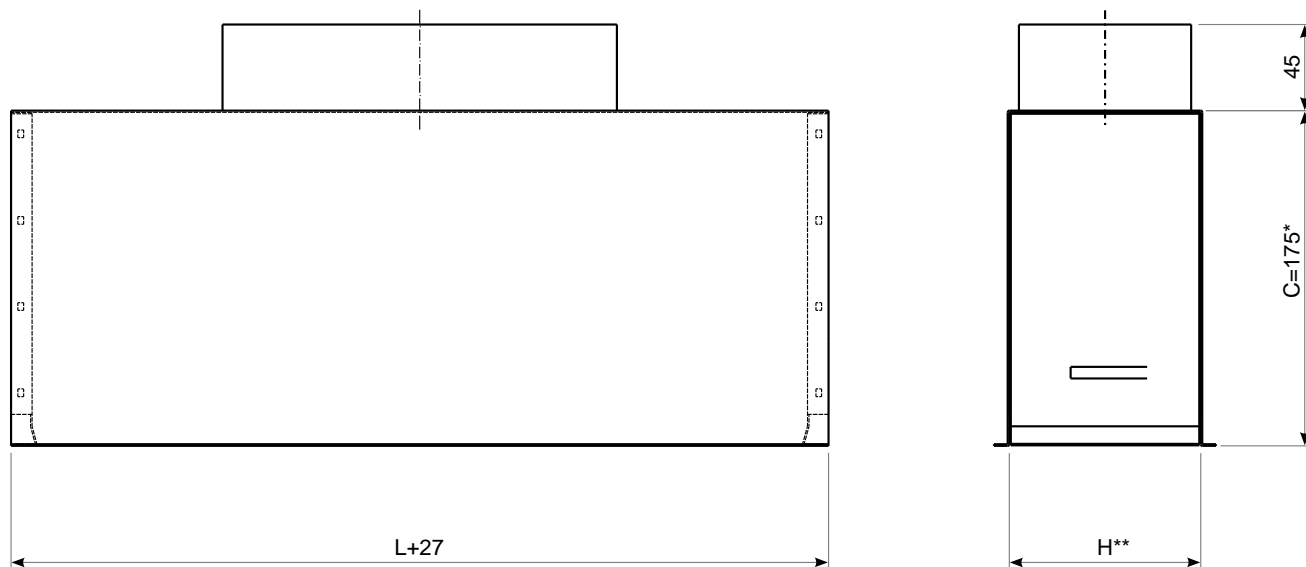
**Connection scheme**

**E-MMF:** Filter carrier frame, metallic mesh and filter. Drill fixing is usually used with this accessory, as knurling nuts and screws are supplied which facilitate the maintenance. Fixing with springs without knurling nuts may also be used.



## Plenum E-RA

02.276: Plenum mounted in galvanized sheet with one or more circular (or oval) collars of the same diameter located on the side opposite the one to which the grid is placed.



$\varnothing D_{\text{duct}}$	A	B
100	107	90
100	100	100
125	150	190
125	125	125
150	190	90
150	162	130
150	150	150
160	206	90
160	178	130
160	160	160
200	270	90
200	242	130
200	200	200
250	281	190
250	250	250
300	300	300

Si  $H \leq \varnothing D_{\text{duct}} \rightarrow$  Oval collar  
 Si  $H > \varnothing D_{\text{duct}} \rightarrow$  Circular collar

### Notes:

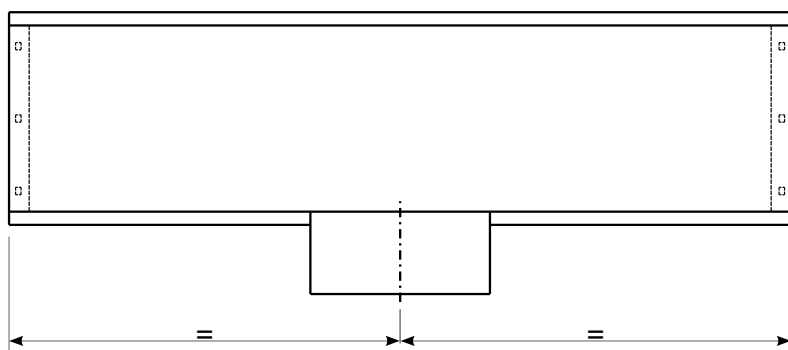
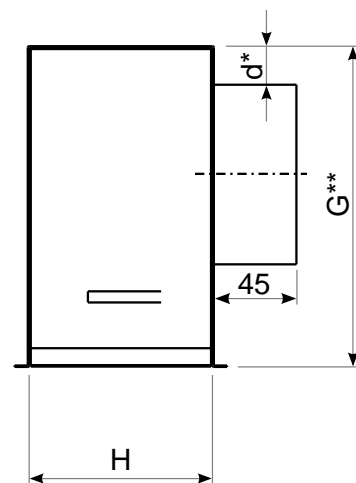
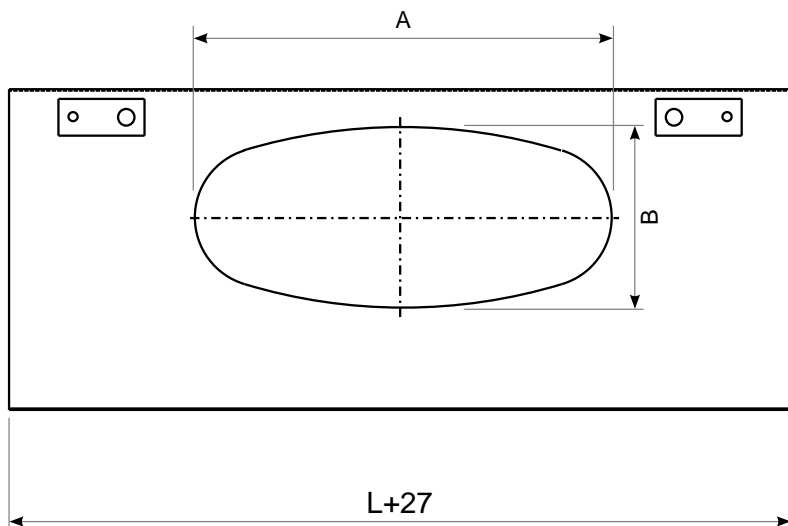
\*Possible other dimensions on request

\*\*Minimal H grid dimension B+10mm



## Plenums E-RA

**02.277:** Plenum mounted in galvanized sheet with one or more circular (or oval) collars of the same diameter located on the side of the grid.



$\varnothing D_{\text{duct}}$	A	B
100	107	90
100	100	100
125	150	190
125	125	125
150	190	90
150	162	130
150	150	150
160	206	90
160	178	130
160	160	160
200	270	90
200	242	130
200	200	200
250	281	190
250	250	250
300	300	300

### Notes:

\*25mm minimum height

\*\*G according to request



## Selection tables E-RA

HEIGHT		LENGTH												
500														
400														400
350														400
300									300		400	500		500
250								300		400	500			600
200			200				300		400		500	600	700	800
150		200		300			400		500	600	700	800	900	1000
100	200	300	400		500	600	700	800	900	1000	1200			

m³/h

100	Speed[m/s]	1,9												
	P [mm.c.a.]	2												
	Sound L. [dB(A)]	17												
150	Speed[m/s]	2,8												
	P [mm.c.a.]	4,4												
	Sound L. [dB(A)]	27												
200	Speed[m/s]	3,7	2,4	1,8										
	P [mm.c.a.]	7,7	3,3	1,9										
	Sound L. [dB(A)]	34	25	19										
300	Speed[m/s]		3,6	2,7	2,4	2,1	1,8							
	P [mm.c.a.]		7,2	4	3,2	2,6	1,8							
	Sound L. [dB(A)]		35	29	27	25	21							
400	Speed[m/s]				3,1	2,8	2,3	2	1,7					
	P [mm.c.a.]				5,5	4,5	3,1	2,3	1,8					
	Sound L. [dB(A)]				34	32	28	25	22					
500	Speed[m/s]						2,9	2,5	2,2	1,9	1,7			
	P [mm.c.a.]						4,8	3,5	2,8	2,2	1,8			
	Sound L. [dB(A)]						34	30	28	26	23			
600	Speed[m/s]									2,6	2,3	2,1	1,7	
	P [mm.c.a.]									3,8	3	2,5	1,8	
	Sound L. [dB(A)]									32	30	28	24	
700	Speed[m/s]									2,7	2,4	2	1,7	
	P [mm.c.a.]									4,1	3,3	2,4	1,7	
	Sound L. [dB(A)]									34	31	28	24	
800	Speed[m/s]										2,8	2,3	1,9	1,7
	P [mm.c.a.]										4,3	3	2,1	1,8
	Sound L. [dB(A)]										35	31	27	25

Speed = Effective velocity P = Pressure loss Sound L. = Sound Level





## Tablas de selección E-RA

HEIGHT	LENGTH												
500							500	600	700	800	900	1000	1200
400			400		500	600	700	800	900	1000	1200		
350		400		500	600	700	800	900	1000	1200			
300	400	500	500	600	700	800	900	1000	1200				
250	500		600	700	800	1000		1200					
200	600	700	800	900	1000	1200							
150	800	900	1000	1200									
100	1200												

m<sup>3</sup>/h

900	Speed[m/s]	2,6	2,2	1,9	1,6									
	P [mm.c.a.]	3,8	2,7	2,2	1,6									
	Sound L.	34	30	28	24									
1000	Speed[m/s]		2,4	2,1	1,8	1,6								
	P [mm.c.a.]		3,3	2,7	1,9	1,5								
	Sound L.		33	31	27	24								
1200	Speed[m/s]				2,6	1,9	1,6							
	P [mm.c.a.]				3,8	2	1,5							
	Sound L.				35	29	25							
1400	Speed[m/s]				2,5	2,2	1,8	1,6						
	P [mm.c.a.]				3,5	2,7	1,9	1,5						
	Sound L.				35	33	29	26						
1600	Speed[m/s]						2,1	1,8	1,6	1,3				
	P [mm.c.a.]						2,5	1,9	1,7	1,1				
	Sound L.						32	29	27	23				
1800	Speed[m/s]							2	1,8	1,5	1,3			
	P [mm.c.a.]							2,4	2	1,4	1			
	Sound L.							32	30	26	23			
2000	Speed[m/s]								2	1,7	1,4	1,2		
	P [mm.c.a.]								2,4	1,7	1,3	1		
	Sound L.								33	29	26	23		
2500	Speed[m/s]									2,1	1,8	1,5	1,5	1,2
	P [mm.c.a.]									2,5	1,9	1,5	1,3	1
	Sound L.									35	31	28	27	24
3000	Speed[m/s]											1,9	1,8	1,5
	P [mm.c.a.]											2	1,8	1,3
	Sound L.											33	32	28
3500	Speed[m/s]													1,7
	P [mm.c.a.]													1,7
	Sound L.													32

Speed = Effective velocity P = Pressure loss Sound L. = Sound Level



## Effective surface (m<sup>2</sup>) E-RA

H \ L	100	200	300	400	500	600	700	800	900	1000	1200	1300	1400	1500
100	0,002	0,004	0,006	0,009	0,011	0,013	0,015	0,017	0,020	0,022	0,026	0,029	0,031	0,033
150	0,004	0,008	0,013	0,017	0,022	0,026	0,030	0,035	0,039	0,044	0,053	0,057	0,062	0,066
200	0,005	0,012	0,019	0,026	0,032	0,039	0,046	0,052	0,059	0,066	0,079	0,086	0,093	0,099
250	0,007	0,016	0,025	0,034	0,043	0,052	0,061	0,070	0,079	0,088	0,106	0,115	0,123	0,132
300	0,009	0,020	0,031	0,043	0,054	0,065	0,076	0,087	0,099	0,110	0,132	0,143	0,154	0,166
350	0,011	0,024	0,038	0,051	0,065	0,078	0,091	0,105	0,118	0,132	0,158	0,172	0,185	0,199
400	0,013	0,028	0,044	0,060	0,075	0,091	0,107	0,122	0,138	0,154	0,185	0,200	0,216	0,232
450	0,015	0,033	0,050	0,068	0,086	0,104	0,122	0,140	0,158	0,176	0,211	0,229	0,247	0,265
500	0,016	0,037	0,057	0,077	0,097	0,117	0,137	0,157	0,177	0,197	0,238	0,258	0,278	0,298
600	0,020	0,045	0,069	0,094	0,118	0,143	0,168	0,192	0,217	0,241	0,290	0,315	0,340	0,364
700	0,024	0,053	0,082	0,111	0,140	0,169	0,198	0,227	0,256	0,285	0,343	0,372	0,401	0,430
800	0,027	0,061	0,094	0,128	0,162	0,195	0,229	0,262	0,296	0,329	0,396	0,430	0,463	0,497
900	0,031	0,069	0,107	0,145	0,183	0,221	0,259	0,297	0,335	0,373	0,449	0,487	0,525	0,563
1000	0,035	0,077	0,120	0,162	0,205	0,247	0,289	0,332	0,374	0,417	0,502	0,544	0,587	0,629

### EXAMPLE OF GRILLE SELECTION

Data: Air flow rate Q = 500 m<sup>3</sup>/h  
Sound Level = 30 dB(A)

HEIGHT	LENGTH														
500															
400														400	
350													400		
300										300		400	500	500	
250									300		400	500	600	600	
200					200			300		400		500	600	700	800
150				200	300			400		500	600	700	800	900	1000
100		200	300	400	500	600	700	800	900	1000	1200				

m<sup>3</sup>/h

500	Speed[m/s]						2,9	2,5	2,2	1,9	1,7			
	P [mm.c.a.]						4,8	3,5	2,8	2,2	1,8			
	Sound L. [dB(A)]						34	30	28	26	23			

Results: Dimensions 700mm X 100mm

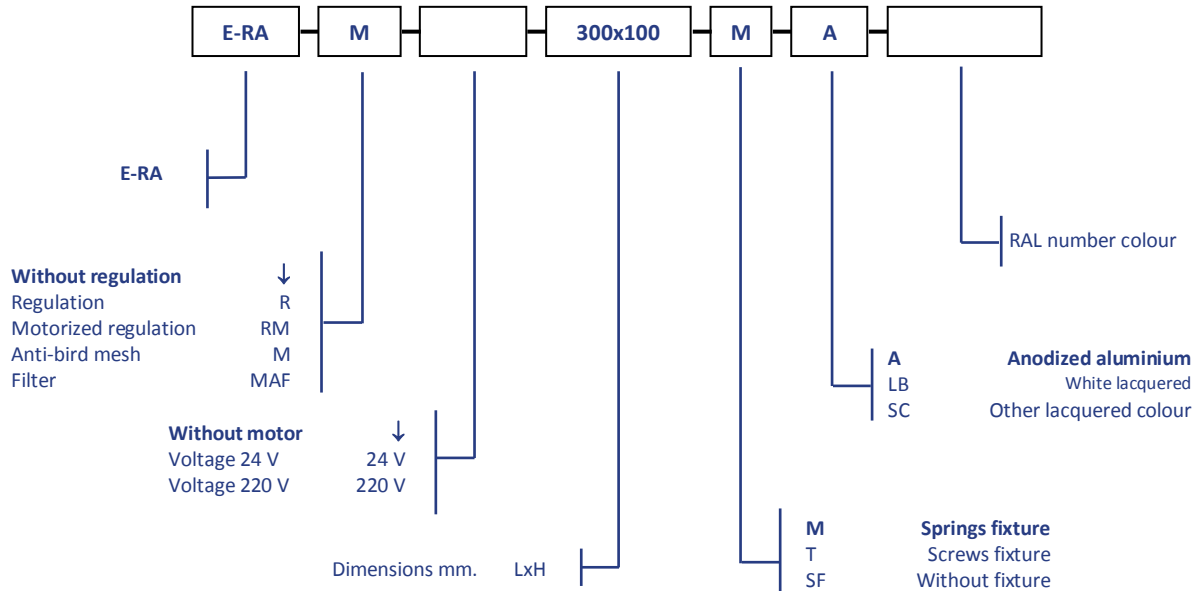
Speed = 2,5 m/s

Pressure loss P = 3,5 mm.c.a.

Sound Level = 30 dB(A)



**Order reference:**



**Note:** The options marked in bold will be used in the case no specification by the client is made.

EXAMPLE: E-RA-M-300x100-M-LB: RA grille with anti-bird mesh of 300 mm long and 100 mm high with spring fixtures and lacquered in white.