Difair

Serie LME_TR



MOTORIZED LINEAR GRILLE WITH A NARROW PERIMETER FRAME

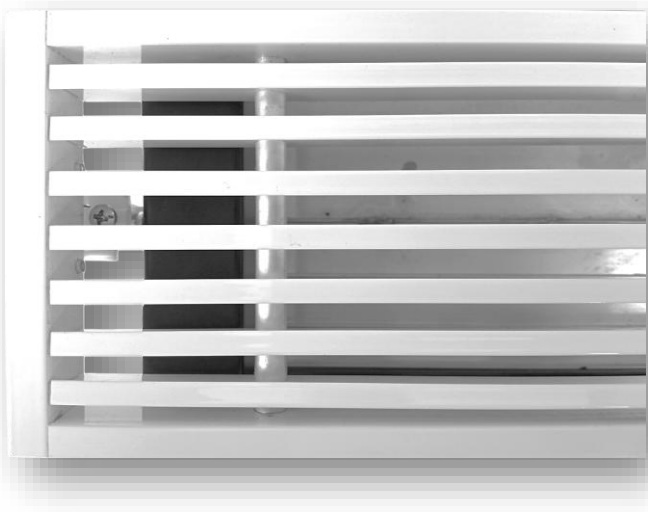
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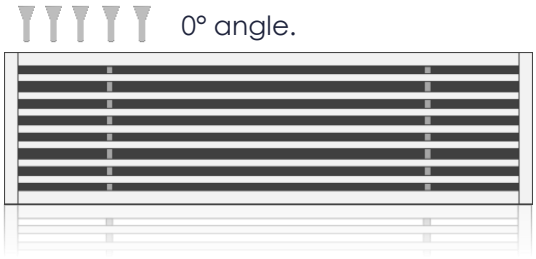
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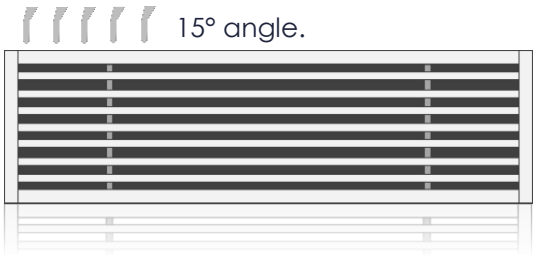
MOTORIZED LINEAR GRILLE WITH A NARROW PERIMETER FRAME
SERIE LME_TR



MODELS



LME100TR
Motorized linear grille with a narrow perimeter frame and blades set at 0° angle.



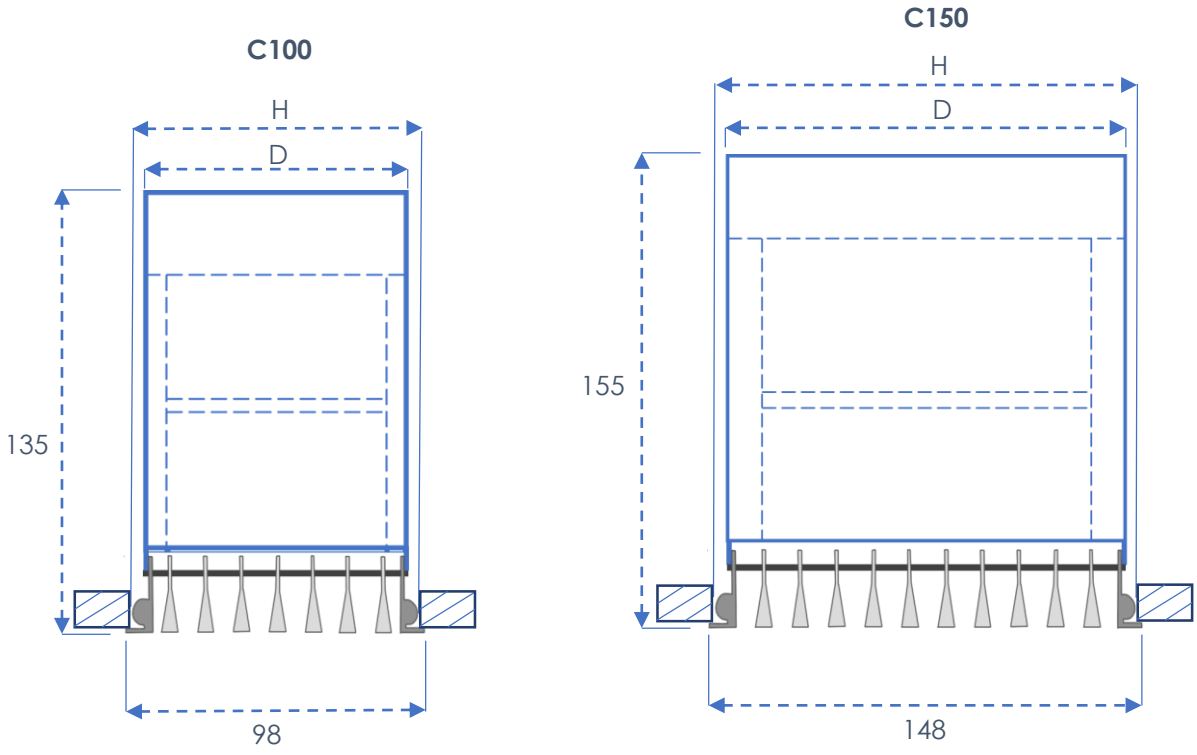
LME1015TR
Motorized linear grille with a narrow perimeter frame and blades set at 15° angle.

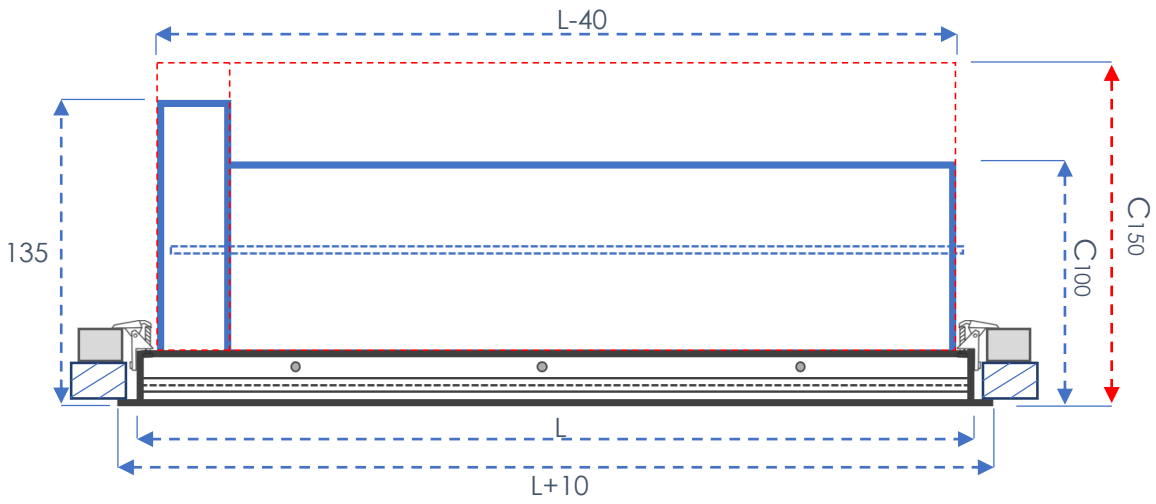
DESCRIPTION

The new zone control and home automation systems allow for individualized temperature control of different zones using a single **HVAC** unit, thereby increasing comfort in each room. These systems reduce the unit's operating time, extending its service life and providing energy savings. The motor operates completely silently, promoting rest and comfort when the vents are installed in bedrooms or offices.

DIFAIR's exclusive **LME_TR** grilles can be integrated into any existing control system on the market, since all they require to operate is a **220 V** or **24 V** power supply to open them. This system can range from a simple switch to the most complex home automation system on the market.

DIMENSIONS





	Size	H (mm)	C (mm)	D (mm)
LME100TR – LME1015TR	L x 100 L x 200	88	C_{100} = 105	C_{100} = 87
LME100TR – LME1015TR	L x 150 L x 250 L x 300	143	C_{150} = 155	C_{150} = 135

L x H → Nominal Size= Hole Size

Dimensions may be specified as L x H, with a maximum of 1000 x 300 and a minimum of 200 x 100.

ACCESSORIES

- **PLENUM BOX** (View the **PLENUM SERIES** technical data sheet).

FINISH (Diffuser)

- Grille made of **ANODIZED ALUMINUM.**
- Grille made of **WHITE-PAINTED** aluminum **(RAL 9016).**
- On request, it can be manufactured in lacquered aluminum according to the **RAL** color chart.

CONSTRUCTION FEATURES

Linear grille made of anodized or painted aluminum, with motorized adjustment (damper) consisting of a frame made of aluminum or steel sheet painted with black epoxy paint. A single natural aluminum blade with built-in rubber gaskets to ensure optimal airtightness in this type of installation. Highly durable brass bushings.

It incorporates a low-power, thermosilicon-coated electrical device. This damper control mechanism is an exclusive **DIFAIR** design that makes no noise when activated (only the sound of air flowing through it can be heard).

CONSIDERATIONS:
To achieve zone-by-zone temperature control, any supply grille in an HVAC system may be replaced with one from this series (**LME_TR**), provided that, if the grilles being replaced account for more than 60% of the system's total airflow, a weighted overpressure damper (RCSLP SERIES) must be installed to divert the excess airflow back to the unit's return duct, thereby preventing noise and/or potential duct damage caused by excess pressure.

TECH. SPECIFICATIONS OF THE THERMOACTUATOR MOTOR

Unless otherwise specified, the following characteristics must be verified at room temperature = **25 ± 5°C** and relative humidity = **45–75%**.

- **CORROSION RESISTANCE OF METAL PARTS**
  According to **UNE-EN-60335-1**, section **31**.

- **HUMIDITY RESISTANCE**
  Degree of protection against water ingress: **IP 00** (unprotected, per **IEC 60529**). Resistance to humid conditions: per **UNE-EN 60730-2-14**, Section **12.2** (Part **2-14** – Section **12.2**). Although the "silicone-molded" actuator does not have a higher IP rating, it can operate under severe environmental and relative humidity conditions (see **2.2** Operating Conditions).

- **HEAT AND FIRE RESISTANCE**
  According to **UNE-EN-60730-2-14**, Section **21** (Part **2-14** – Section **21**). The plastic materials of the thermoactuator that come into contact with the active parts are classified as **V0** self-extinguishing (**0.8 mm**) according to **UL94**. The thermoactuator also successfully passes the **140°C** ball test, **ref. UNE-EN-60335-1**, section **30.1** (Part **1** – Section **30.1**).

- **RESISTANCE TO SURFACE CURRENTS**
  According to **UNE-EN 60730-2-14**, section **21** (Part **2-14** – section **21**), the plastic materials of the thermoactuator that come into contact with live parts are guaranteed to have a **PTI 250** resistance to surface currents, in accordance with **IEC 60112**.

ELECTRICAL CHARACTERISTICS

- **POWER SUPPLY VOLTAGE**
  Available power ranges:
  -110/240 VAC at 50/60 Hz.
  -12/24 VAC at 50/60 Hz.
  -12/24 VDC.

- **ENERGY ABSORPTION:**
  Power absorption under steady-state conditions after 300 seconds of operation.

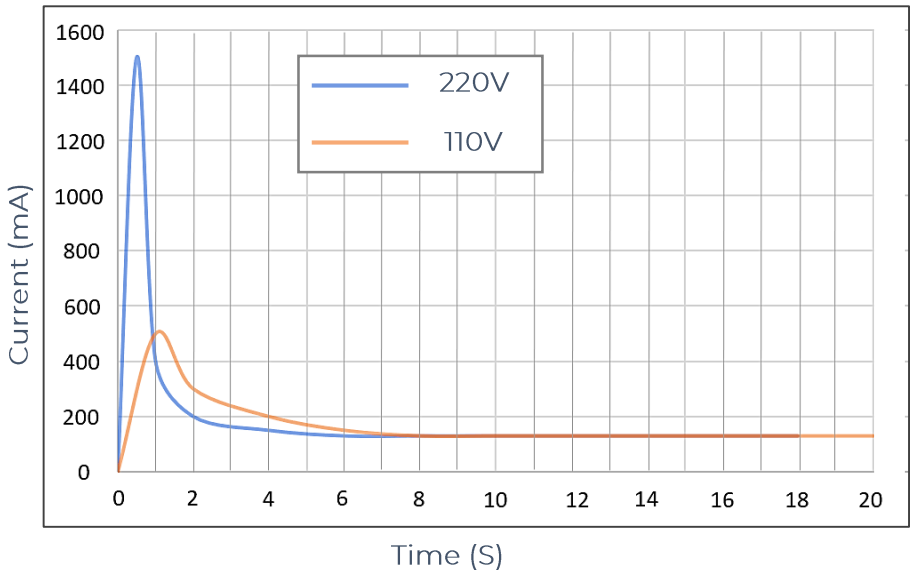
12/24 V	110V	220V
2.8 ± 1W	5.8 ± 1W	5.5 ± 1W

- **INTENSITY-TIME CURVE CHARACTERISTICS**

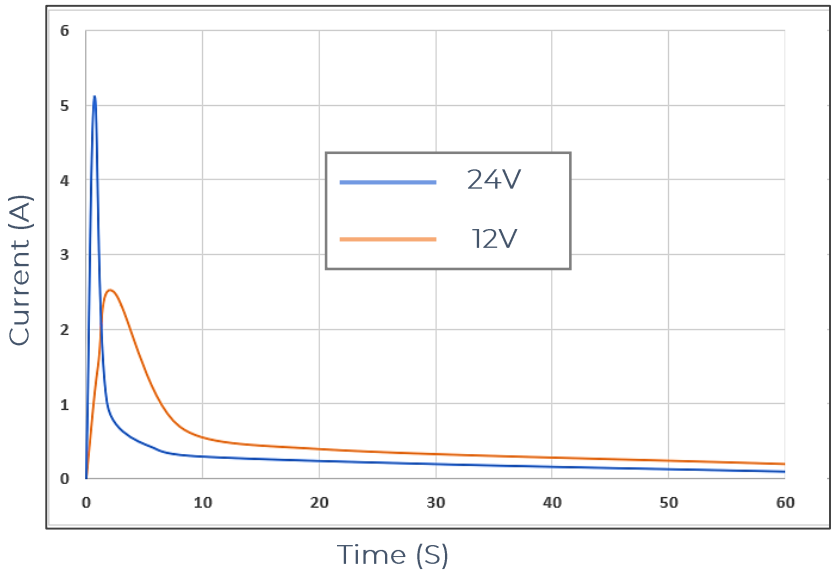
  A diagram illustrating the variation in current absorption over time. The curves are categorized by thermoactuator type and voltage.

  The diagram was obtained under the following conditions:
  - thermoactuators energized for more than 5 minutes;
  - no counteracting load;
  - ambient temperature of 25°C.

CURRENT ABSORPTION FOR 110-220V MOTOR



CURRENT ABSORPTION FOR 12-24 Vdc MOTOR



ENERGY CONSUMPTION PER MOTOR

MODEL	Consumption:			
	Peak consumption up to 120 s		Stable consumption starting at 120 s	
DF10TR-220V	110 V	0,5 A	110 V	0,05 A
	220 V	1,5 A	230 V	0,03 A
DF10TR-24V	12 VDC	2,4 A	12 VDC	0,25A
	24 VDC	5 A	24 VDC	0,15 A

MODEL	Available voltage supply range:
DF10TR-220V	110 ÷240 VAC a 50 ÷ 60 Hz.
DF10TR-24V	- 12 ÷ 24 VAC a 50 ÷ 60 Hz - 12 ÷ 24 VDC

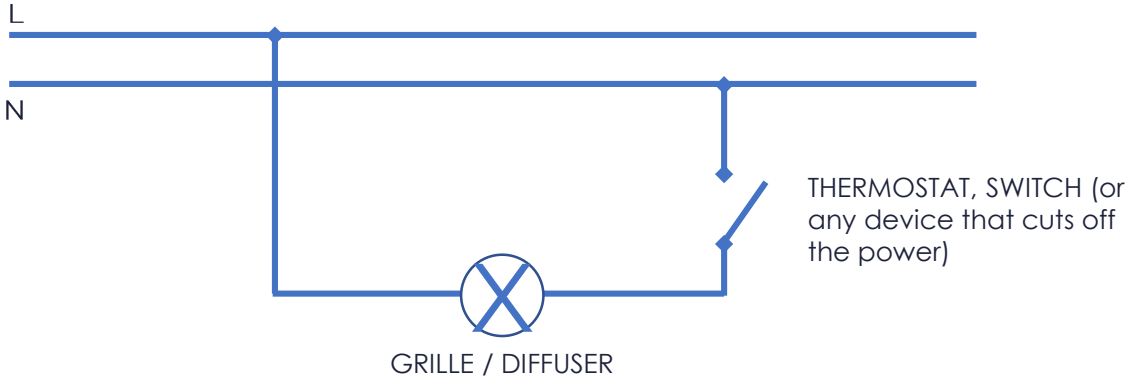
Nota: The LME_TR SERIES motorized grilles are manufactured in a standard 220V configuration; therefore, unless otherwise specified at the time of ordering, they will be supplied at this voltage.

NUMBER OF MOTORS PER GRILLE BASED ON SIZE

	200	250	300	350	400	450	500	600	700	800	900	1000
100	1	1	1	1	1	1	1	2	2	2	2	2
150	1	1	1	1	1	1	1	2	2	2	2	2
200	2	2	2	2	2	2	2	4	4	4	4	4
250	2	2	2	2	2	2	2	4	4	4	4	4
300	2	2	2	2	2	2	2	4	4	4	4	4

Note: When calculating electricity consumption, take into account the number of motors per grille

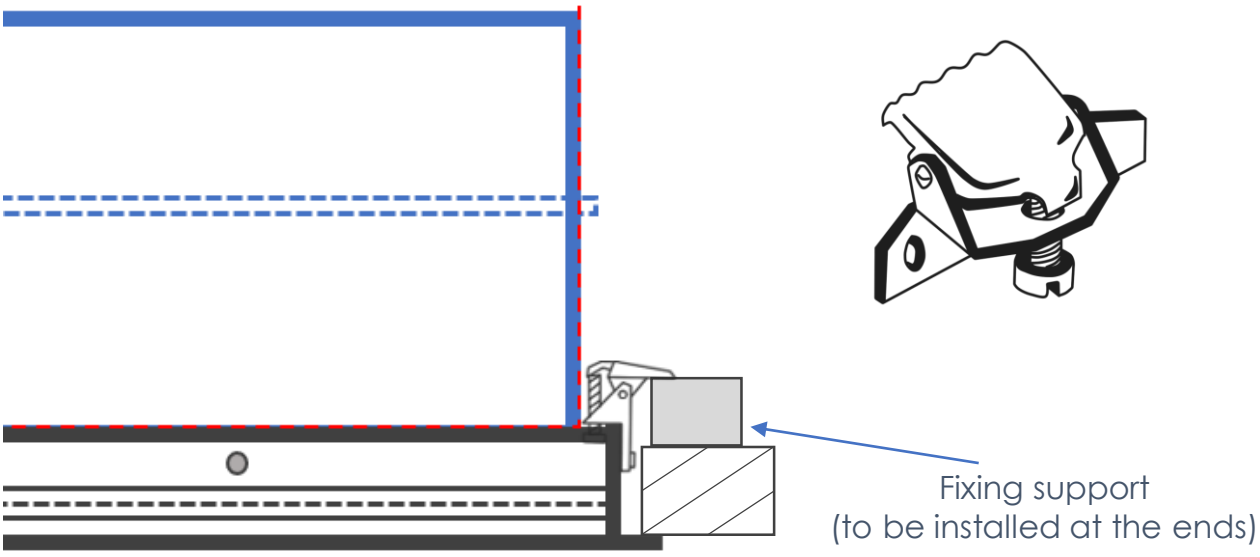
CONNECTION DIAGRAM

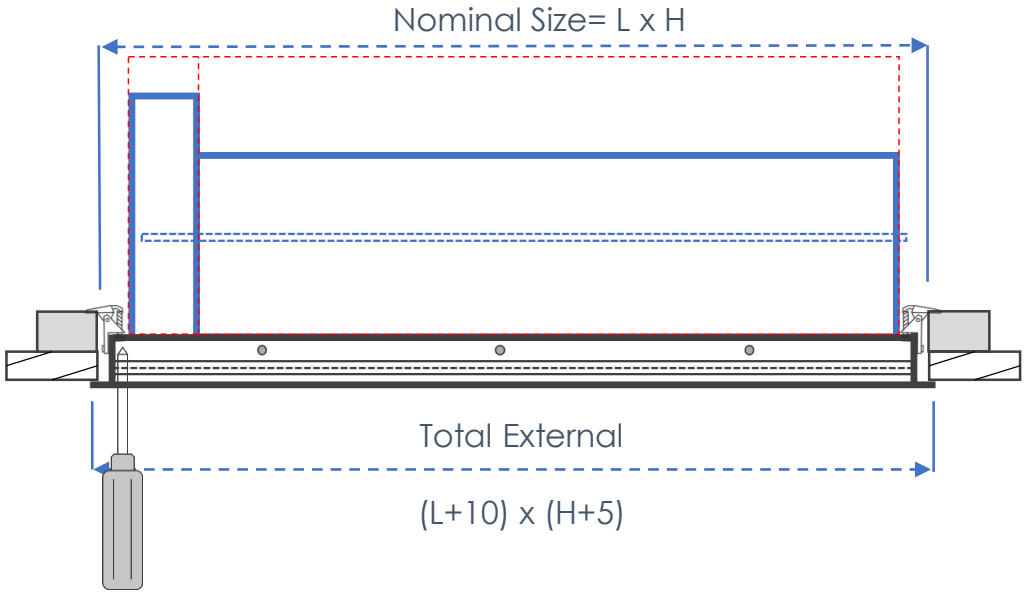


FIXING SYSTEM

GRILLE INSTALLATION WITH HIDDEN FASTENERS

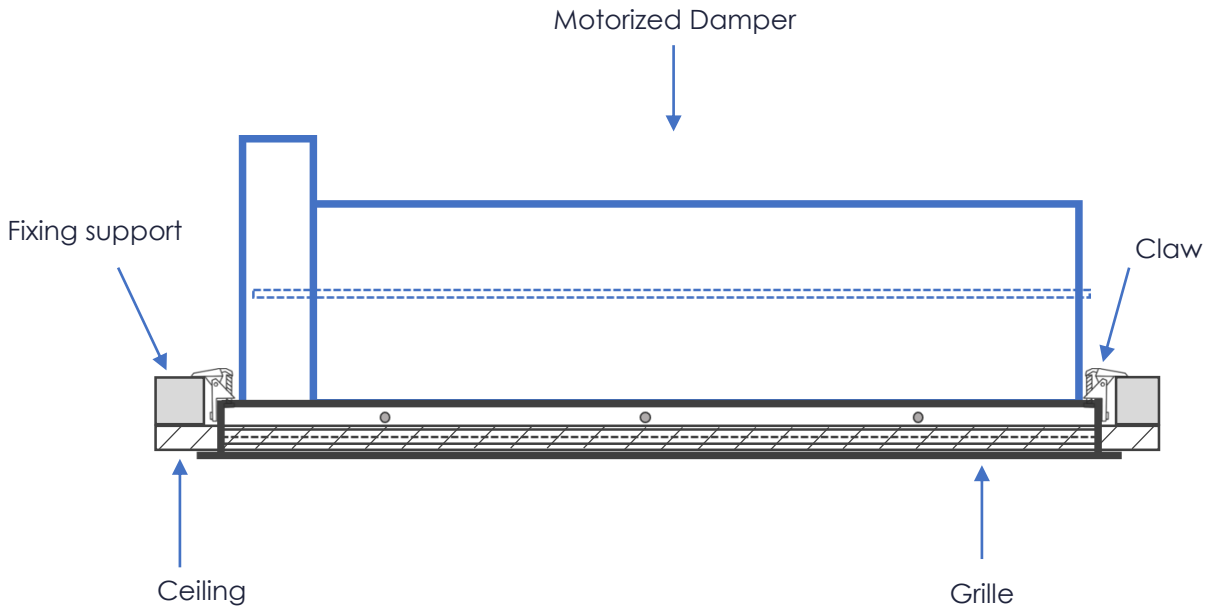
By turning the indicated screw with a screwdriver, the tab is pressed against the mounting bracket (which is 15 mm thick; when added to the 15 mm thickness of the drywall, this provides the 30 mm of height the claw needs to secure itself), thus holding the grille firmly in place. To remove the grille, simply loosen the screw; the steel spring will return the claw to its horizontal position.

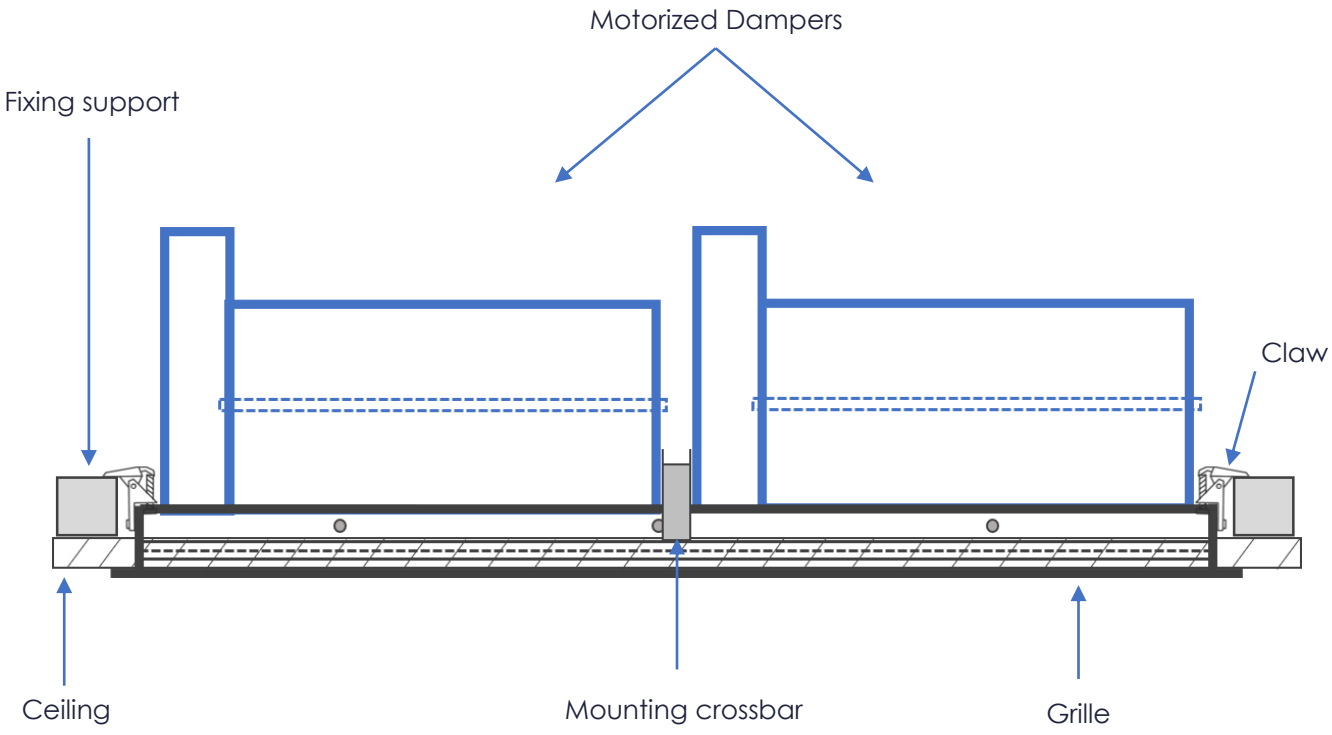




Mounting crossbar

Note: For grilles with L > 600 mm, two motorized dampers will be supplied, and a space will be left between the dampers in which a mounting crossbar will be installed to support the weight of the grille.





QUICK SELECTION TABLE

HEIGHT		LENGTH												
300									300	400	550	650	800	1000
250							250	300	400	500	650	800	950	
200					200	250	300	400	500	600	800	1000		
150			150	200	300	350	450	550	650	800	1000			
100		100	200	300	400	500	600	800	1000					
m³/h														
100	Alc dB(A) Δ P		2,2 6 0,7	1,8 3 0,1										
200	Alc DB(A) Δ P		4,2 23 2,2	3,5 17 0,9	3,1 15 0,5									
300	Alc dB(A) Δ P		6,5 33 6,5	5,2 26 1,7	4,7 21 1,2	4,0 17 0,7	3,5 15 0,4							
400	Alc dB(A) Δ P			7,5 35 3,3	6,0 30 1,9	5,5 25 1,0	4,7 20 0,9	4,2 15 0,4						
500	Alc dB(A) Δ P			8,5 38 5,3	7,8 33 3,3	6,7 29 1,7	6,3 25 1,2	5,5 22 0,7	4,5 14 0,3					
600	Alc dB(A) Δ P			1,8 3 0,1	9,5 41 4,4	8,3 34 2,1	7,5 29 1,8	6,2 26 1,0	5,7 20 0,7	5,1 15 0,4				
700	Alc dB(A) Δ P					9,8 42 4,4	9,5 38 3,2	7,5 30 1,2	6,5 24 0,7	6,2 20 0,6				
800	Alc dB(A) Δ P					10,2 42 3,9	9,7 37 2,9	8,5 35 1,8	8,0 27 1,0	7,0 23 0,9				
900	Alc dB(A) Δ P					11,9 45 5,0	10,5 40 3,7	9,5 36 1,9	8,5 30 1,2	8,0 26 1.0	7,2 22 0,7			
1.000	Alc dB(A) Δ P					13,3 47 5,7	12,5 43 4,5	10,2 39 2,5	9,5 33 1,7	9,0 28 1,2	8,3 23 1	7,6 19 0,7		
1.200	Alc dB(A) Δ P						13,8 50 5,8	12,9 44 3,9	11,0 37 2,1	10,2 34 1,7	9,0 28 0,9	8,2 25 0,6	7,6 21 0,3	
1.400	Alc dB(A) Δ P							14,5 48 5,3	13,3 42 3,3	12,4 37 2,1	10,2 33 1,3	9,4 28 0,7	8,6 23 0,5	7,9 18 0,3
1.600	Alc dB(A) Δ P								15,2 45 4,2	14,2 40 2,9	11,8 35 1,8	10,3 30 0,9	9,4 25 0,7	8,6 21 0,4
1.800	Alc dB(A) Δ P								17,0 47 5,2	15,7 43 3,4	13,4 39 2,1	11,2 32 1,2	11,0 28 1,0	9,7 22 0,4
2.000	Alc dB(A) Δ P									18,2 52 4,4	15,3 45 2,8	13,4 37 1,5	12,6 34 1,2	10,6 27 0,7
2.200	Alc dB(A) Δ P									19,5 49 5,2	16,5 45 3,3	14,2 35 1,7	13,4 33 1,5	11,9 28 0,9
2.400	Alc dB(A) Δ P										19,1 47 3,7	16,5 37 1,9	15,1 34 1,7	13,1 29 1,2
2.600	Alc dB(A) Δ P										21,3 49 4,4	18,2 39 2,1	16,6 35 1,9	14,1 31 1,2
2.800	Alc DB(A) Δ P										22,1 50 5,0	20,6 41 2,8	18,2 37 2,1	15,9 33 1,7
3.000	Alc dB(A) Δ P											21,4 43 3,1	19,0 39 2,5	17,3 35 1,8
3.500	Alc dB(A) Δ P											25,2 47 3,9	22,2 44 3,4	19,7 39 2,3

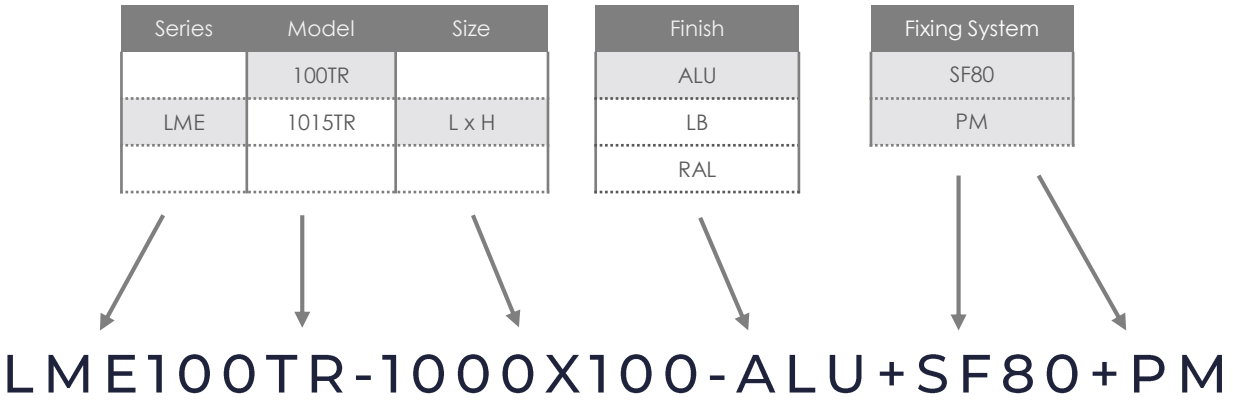
CORRECTION FACTORS		
Angle of divergence	*45º*	*90º*
Δ P = Tables x	1,1	1,5
dB(A) = Tables +	2	3
Alc = Tables x	0,7	0,5

Alc = For a residual velocity of 0.5 m/s.

dB(A) = Noise level of open blades without flow regulation.

Δ P = Static pressure drop mm c.a.

MOTORIZED LINEAR GRILLE WITH A NARROW PERIMETER FRAME
SERIE LME_TR



DESCRIPTION

SERIES

- LME: Linear grille with a narrow perimeter frame.

MODEL

- LME100TR: Motorized linear grille with a narrow perimeter frame.

SIZE (mm)

- LxH: 1000 x 100 mm.

FINISH

- Alu: Anodized aluminum.

FIXING SYSTEM

- SF80: LME Fixing support.
- PM: Mounting crossbar.

Order example: LME100TR 1000x100 ALU+SF80+PM

- To order a 1000x100mm motorized linear grille with a narrow perimeter frame, anodized aluminum finish, fixing support and mounting frame, you should request:

Order	Description
Grille LME100TR 1000x100-Alu	1000x100mm Motorized linear grille with a narrow perimeter frame, anodized aluminum finish.
2 Fixing supports SF80	Fixing support for LME grille.
Crossbar PM	Mounting crossbar for 100mm LME.

Order example: LME1015TR 400x150 ALU+SF80

- To order a 400x150mm motorized linear grille with a narrow perimeter frame, anodized aluminum finish, fixing support and mounting frame, you should request:

Order	Description
Grille LME1015TR 400x150-Alu	400x150mm motorized linear grille with a narrow perimeter frame, anodized aluminum finish.
2 Fixing supports SF80	Fixing support for LME grille.



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