



CATALOGUE  
PRICE LIST

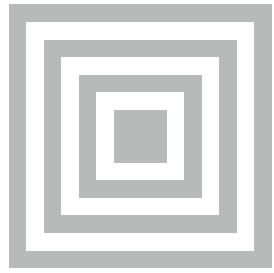
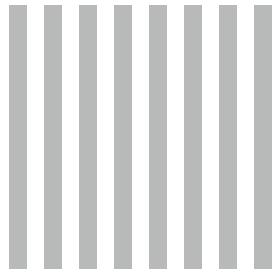
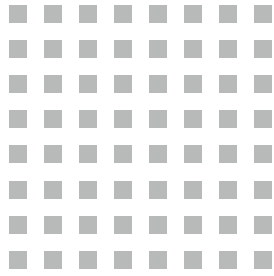
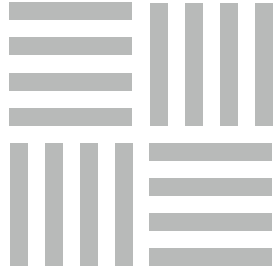
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we shape the air

**MADDEL**<sup>®</sup>



# GENERAL TERMS AND SALE CONDITIONS

## 1. Generalities.

The prices of MADEL price-list are always intended as "ex-factory", without taxes and with MADEL standard packing.

The delivery of a purchase order implies the acceptance on the part of the customer of MADEL applicable price list at the moment.

MADEL reserves the right to modify, add or exclude the products included in the price list or general catalogue at any time.

## 2. Order acceptance.

All purchase order shall be in EURO, in writing and with its correspondent purchase order number.

## 3. Order cancellation or modification.

Once the purchase order is placed, the CUSTOMER will not be allowed to make any cancellation or modification, unless MADEL has expressly accepted it in writing.

The cancellation of purchase orders, which have not been accepted by MADEL, entitles MADEL to invoice them to the CUSTOMER with all the expenses and damages incurred because of this cancellation.

## 4. Terms of delivery and claims.

**4.1** MADEL will not accept any claim from the CUSTOMER when one (1) month has passed since the date of delivery of the material.

After this period, MADEL will only accept the claims of material with manufacturing defects. The material can be returned only when the claim has been done within the warranty period and MADEL has accepted such defects by means of a writing statement.

**4.2** Upon acceptance of the purchase order, MADEL shall in a timely manner provide to the CUSTOMER a written statement, informing the delivery date. MADEL shall not under any circumstance be liable to compensate or pay any penalties due to delays in the delivery of purchase orders.

## 5. Warranty.

MADEL warrants its products against manufacturing defects for a period of two (2) years, from the date of delivery of the goods to the CUSTOMER.

The warranty shall only cover the replacement of defective products, not including workmanship, trips, replacement of other damaged products, etc., or any other disbursements, charges or different damage, and under no circumstance claims for damages for loss of profit that the CUSTOMER or third parties may claim. The warranty of MADEL will not be effective in following circumstances:

- When the product has been incorporated or applied by the CUSTOMER or third parties to other products or plant, without observing the technical and installation methods arranged by MADEL.
- When the installation of selection of products had been inaccurately or wrongly made.
- When the product has been manipulated or applied to different purposes than those for which it was originally conceived or in any other way different that the provisions included in MADEL technical guide.
- When the products has been damaged due to manipulations or repairs subsequent to their first installation.

## 6. Payment.

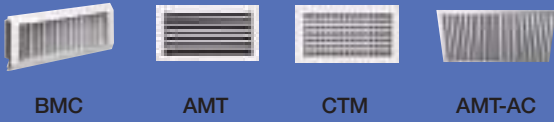
MADEL is entitled to demand the prepayment of new supplies, or according to its judgement, a warranty high enough for the payment of such products, when the risk to collect the CUSTOMER debt before the maturity date is equal or higher to the highest sum of the credit settled by the Insurance Company with which MADEL has insured the CUSTOMER trade operations. If such insurance does not exist, MADEL is equally entitled to unilaterally settle the limit amount for the operations that may be supplied on credit, being able to demand the prepayment or a warranty high enough according to its judgement for the supplies that exceed such limit.

Payments must comply with Spanish Law 15/2010, of July 5, amending Law 3/2004, of December 29, which regulates payment terms in commercial operations at 60 days.

Likewise, the indicated legal text establishes that the indicated payment period will be calculated from the delivery of the goods or the provision of services, without in any case exceeding the established 60 days and without the possibility of an agreement between the parties that modifies the indicated maximum terms.

## 7. Jurisdiction.

For the interpretation, application, resolution and execution of this terms and conditions of sale, only the Tribunals and Courts of the city of Barcelona (Spain) shall be authorised.



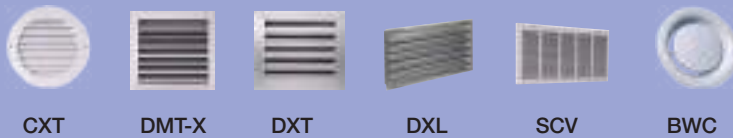
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Air supply  
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**PAG 24**  
Linear  
**grilles**



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Air return  
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WAAB 300    WAAB 600    WAAB 4-WAY    WAAB SUITE    WAAB-ROOM

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PAG 13  
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TAU    LMT-SHD    LMT-S

PAG 138  
Floor  
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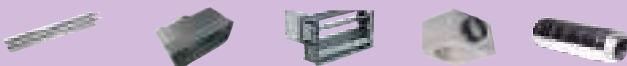
SCC    SQR    SVA-C    SVA-R    SKP    SKC-C    SKC-R    SMS

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Air volume  
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Fire  
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**The nominal size of the grilles (L x H) indicates the opening sizes for their installation.**

When the installation is planned with CM mounting frames, the opening size would be 8 mm bigger (L+8 x H+8) according Sizes of the catalogue in mm. General tolerances to norm ISO 2768-1.

**RAL finishes (www.ral.de)**

**RAL...B** Shiny RAL, 85-95% gloss

**RAL...S** Semi-matt RAL, 60-70% gloss.

**RAL...M** Matt RAL, 20-30% gloss.

**RAL colors of fixed supplement per color 161,04 € + 6% per painted unit**

All the colors of the 7000 and 9000 series of the RAL CLASSIC chart in RAL finish ... S (semi-matt color with 60-70% gloss)

Colors 7048, 9022,9023 and 9007 are excluded.

The following colors are also included in this fixed supplement: 9010B, 9010M, 9016B, 9016M, 9003B, 9003M, 9005M and 9006M.

**Other RAL colors: Fixed supplement per color to CONSULT + 6% per painted unit.**

**RAL colors: Exceptions**

**AMT, CTM** Fixed supplement and % per unit CONSULT.

**LMT-DD, LMT-MISS-DD, TRH** Fixed supplement per special RAL color to CONSULT + 25% per painted unit.

**Series DMT, DMT-X, DXT, DXL, RMT-A** Fixed supplement per special RAL color to CONSULT + 12% per painted unit.

**DCN, DCN-MOD, DCG, DCG-MOD, DSO, DSO-MOD** Fixed supplement per special RAL color to CONSULT + 8% per painted unit.

Level of sonorous power (*)		
Premises	Lw dB (A)	NC
Libraries	40	35
Halls	45	40
Laboratories	45	40
Museums	40	35
Banks	45	40
Restaurants	45	40
Snack bars	50	45
Supermarkets	50	45
Gymnasia	45	40
Swimming pools	50	45
Hotels	40	35
Offices	45	40
Rooms	35	30
Cinemas	40	35
Theatres	35	30

**Symbols**

**Q (m3/h)** = Air flow.

**dB(A)** = LwA1 = dB(A) = Sound power level.

**Ak (m2)** = Area of the duct (Diameter of the duct)

**Vk (m/s)** = Velocity of the air in Ak.

**P (Pa)** = Pressure in Pascals.

**Formulas to calculate**

Velocity for grilles and diffusers:  $V (m/s) = Q (m3/h) / A (m2) \times 3600$

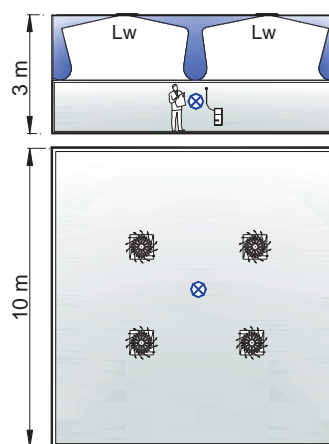
Maximum velocity for dampers: **Vk max. = 7 m/s.**

**Comfort conditions**

- A)** A higher air temperature in the summer and a lower one in the winter concerning the mean radiant temperature.
- B)** A maximum average velocity of the air of 0,15 m/s in an air conditioned room. In case of  $T > 26^\circ$ , the velocity can be increased.
- C)** Relative humidity of the air: 20% - 60%
- D)** A maximum difference of 3°C between the zone occupied by the feet and the head.
- E)** Floor temperature: Max 26°C, Min 17°C.
- F)** A max. of 5°C for the asymmetric radiant temperature on the vertical plane and 10°C for the horizontal plane.
- G)** Max. 0,1% of carbon dioxide in the air.
- H)** A maximum sound pressure level of 35 dB[A] and 80 dB[A], depending on what activity the place is for.

**Quick selection chart considering NC curves and the Lw data in dB (A) from this price-list.**

ROOM TYPE



\*Calculate realized according to room TYPE (10x10x3) m³ Point of measurement of sonorous pressure LP (dB (A)) Sound pressure.

1) Technical catalogues, online calculation programs and BIM files at [www.madel.com](http://www.madel.com)  
 2) Sales conditions available at [www.madel.com](http://www.madel.com)  
 3) **MADEL** reserves the right to modify the characteristics and sizes of the products in this catalog without prior notice.

# Active chilled beams

Maximum comfort, minimum consumption

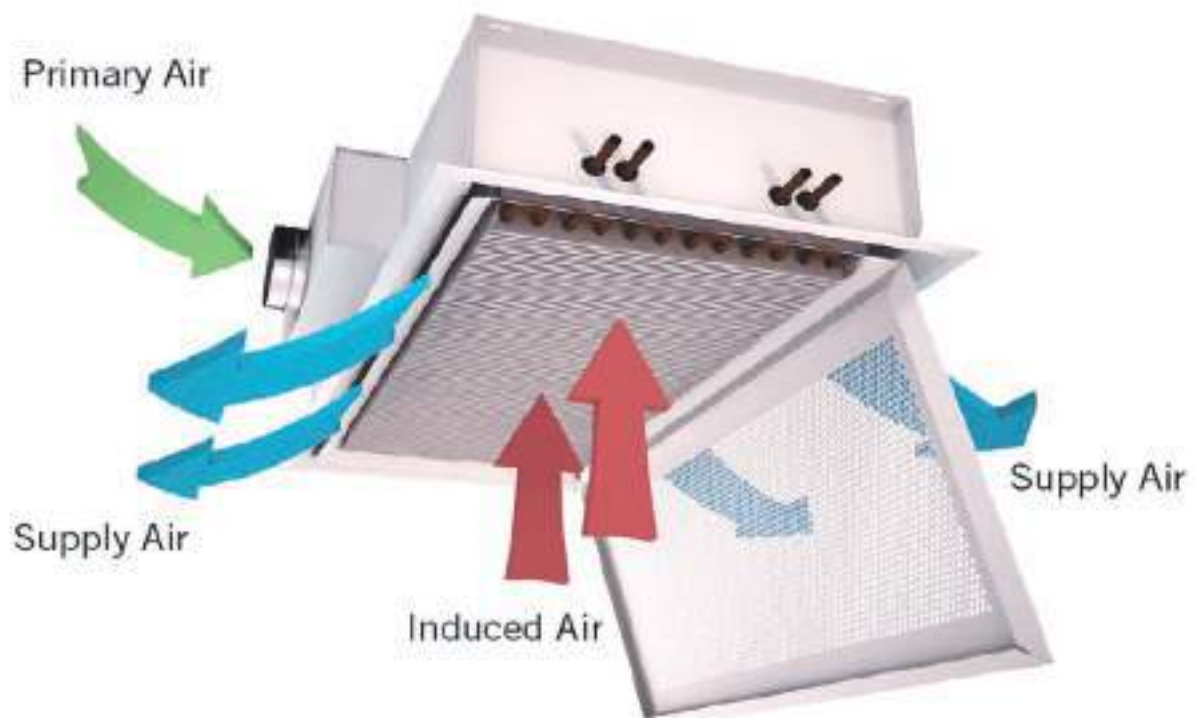


High energy efficiency, high energy savings

High acoustic confort, high thermal confort, adjustable air flow

Reduced maintenance. No refrigerant gases in the facility

No need for fan, no need for air filter, no need for condensation tray



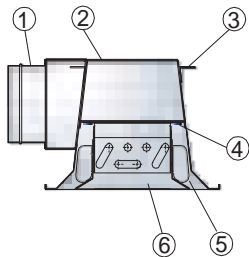
## INDEX

- 08 **WAAB-300** active chilled beams – width 300
- 09 **WAAB-600** active chilled beams – width 600
- 10 **WAAB-4 WAY** 4-Way active chilled beams
- 11 **WAAB-SUITE** active chilled beams - 1 way diffusion
- 12 **WAAB-ROOM** active chilled beams for rooms

**Active chilled beams – width 300**



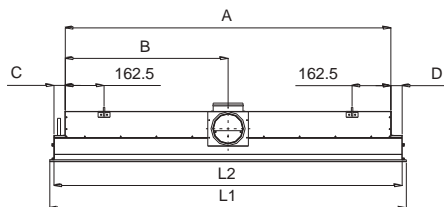
**Technical data**



- 1.- Primary air inlet
- 2.- Plenum box
- 3.- Supports to hang
- 4.- Nozzles
- 5.- Adjustable deflector
- 6.- Accessible diffuser

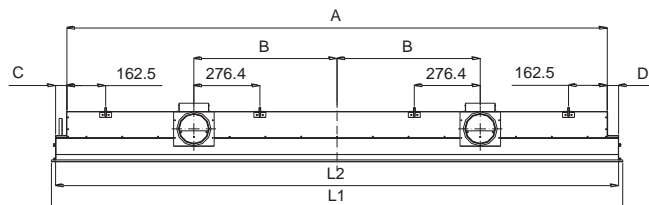
**Configuration LI, LD, S**

LN = 900, 1200, 1500 y 1800 mm



**Configuration LI, LD, S**

LN = 2100, 2400 y 2700 mm



**Specification text**

Supply and installation of active chilled beam for supply air and return air, with 4-tube battery, right side connection plenum, pre-set medium nozzles, circular perforated front panel, type **LD**, with deflection blades, **WAAB-300 / 4T / LD / KM / FC / 1200 / DEF** Made in lacquered white galvanised steel **R9010S**. Brand **MADEL**.

**Description**

The **WAAB-300** chilled beam is an air/water induction terminal unit that simultaneously provides the supply, thermal treatment and diffusion of supply air, to set internal conditions at the desired comfort levels. Chilled beams take advantage of the excellent thermal properties of water to guarantee optimal comfort levels, with minimal power consumption.

**WAAB-300 Beam for supply air.**

- .../2T/ 2-tube battery.
- .../4T/ 4-tube battery.
- .../LD/ Right side connection.
- .../LI/ Left side connection.
- .../S/ Top connection.
- .../ / Standard support.
- .../T15/ Support for dropped panel, 15-mm profile modular ceilings.
- .../T24/ Support for dropped panel, 24-mm profile modular ceilings.
- .../KS/ Small discharge nozzles.
- .../KM/ Medium discharge nozzles.
- .../KL/ Large discharge nozzles.
- .../FC/ Front panel with circular perforations.
- .../FQ/ Front panel with square perforations.
- .../FL/ Front panel with lineal aluminium grill.
- .../TY/ Consult the PDF at [www.madel.com](http://www.madel.com) for different typologies.

**Accessories**

**DEF** Deflection blades.

**Fixing**

**(D)** Angle bracket for suspending from ceiling.

**Finishes**

- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

**Typology and sizes**

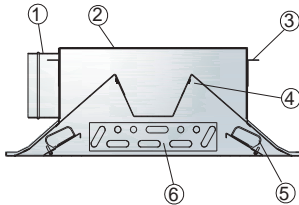
For other typologies, concerning supply and return air, it is necessary to indicate the total length of the Beam and the coil length. (Consult the PDF at [www.madel.com](http://www.madel.com) for different configurations)

LI, LD, S											
L <sub>1</sub> (mm)		L <sub>N</sub> (mm)	W (mm)	L <sub>2</sub> (mm)		A (mm)	B (mm)	C (mm)	D (mm)		Ø (mm)
min	max			min	max				min	max	
895	2995	900	295	860	2960	765,5	382,8	47,3	47,3	2147,2	1-125
1195	2995	1200	295	1160	2960	1065,5	532,8	47,3	47,3	1847,2	1-125
1495	2995	1500	295	1460	2960	1365,5	682,8	47,3	47,3	1547,2	1-125
1795	2995	1800	295	1760	2960	1665,5	832,8	47,3	47,3	1247,2	1-125
2095	2995	2100	295	2060	2960	1965,5	450	47,3	47,3	947,2	2-125
2395	2995	2400	295	2360	2960	2265,5	600	47,3	47,3	647,2	2-125
2695	2995	2700	295	2660	2960	2565,5	750	47,3	47,3	47,3	2-125
2995	2995	3000	295	2960	2960	2865,5	900	47,3	47,3	47,3	2-125

**Active chilled beams – width 600**



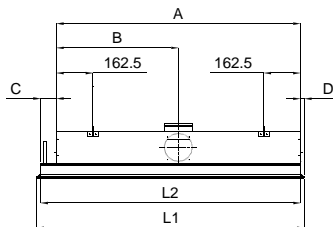
**Technical data**



- 1.- Primary air inlet
- 2.- Plenum box
- 3.- Supports to hang
- 4.- Nozzles
- 5.- Adjustable deflector
- 6.- Accessible diffuser

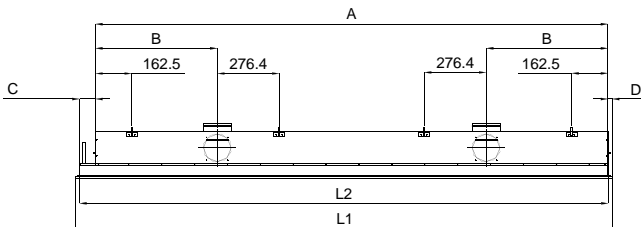
**Configuration LI, LD, S**

LN = 900, 1200, 1500, 1800



**Configuration LI, LD, S**

LN = 1800, 2100, 2400



For other typologies, concerning supply and return air, it is necessary to indicate the total length of the Beam and the coil length.  
(Consult the PDF at [www.madel.com](http://www.madel.com) for different configurations)

**Specification text**

Fourniture et installation de poutre froide pour soufflage et reprise, avec batterie à 4 tuyaux, plénum de connexion latérale droite, buses moyennes préfixées, plaque frontale perforée et circulaire, typologie **LD**, avec ailettes déflectrices, **WAAB-600 / 4T / LD / KM / FC / 1200 / DEF**, construite en acier galvanisé laqué couleur blanche **R9010S**.  
Marque **MADEL**.

**Description**

The **WAAB-600** chilled beam is an air/water induction terminal unit that simultaneously provides the supply, thermal treatment and diffusion of supply air, to set internal conditions at the desired comfort levels. Chilled beams take advantage of the excellent thermal properties of water to guarantee optimal comfort levels, with minimal power consumption.

**WAAB-600** Beam for supply air.

- .../2T/ 2-tube battery.
- .../4T/ 4-tube battery.
- .../LD/ Right side connection.
- .../LI/ Left side connection.
- .../S/ Top connection.
- .../ / Standard support.
- .../T15/ Support for dropped panel, 15-mm profile modular ceilings.
- .../T24/ Support for dropped panel, 24-mm profile modular ceilings.
- .../KS/ Small discharge nozzles.
- .../KM/ Medium discharge nozzles.
- .../KL/ Large discharge nozzles.
- .../FC/ Front panel with circular perforations.
- .../FQ/ Front panel with square perforations.
- .../FL/ Front panel with lineal aluminium grill.
- .../TY/ Consult the PDF at [www.madel.com](http://www.madel.com) for different typologies.

**Accessories**

**DEF** Deflection blades.

**Fixing**

**(D)** Angle bracket for suspending from ceiling.

**Finishes**

- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

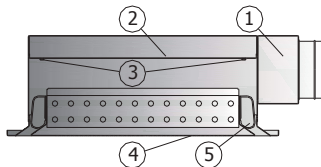
**Typology and sizes**

LI, LD, S											
L <sub>1</sub> (mm)		L <sub>N</sub> (mm)	W (mm)	L <sub>2</sub> (mm)		A (mm)	B (mm)	D (mm)	C (mm)		Ø (mm)
min	max			min	max				min	max	
895	2995	900	595	860	2960	788	394	18,5	71	2171	1-125
1195	2995	1200	595	1160	2960	1088	544	18,5	71	1871	1-125
1495	2995	1500	595	1460	2960	1388	694	18,5	71	1571	1-125
1795	2995	1800	595	1760	2960	1688	844	18,5	71	1271	1-125
2095	2995	2100	595	2060	2960	1988	450	18,5	71	971	2-125
2395	2995	2400	595	2360	2960	2288	600	18,5	71	671	2-125
2695	2995	2700	595	2660	2960	2588	750	18,5	71	371	2-125
2995	2995	3000	595	2960	2960	2888	900	18,5	71	71	2-125

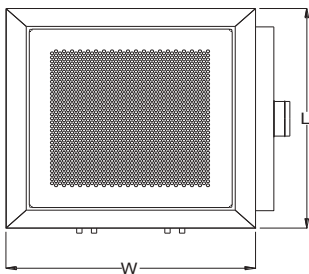
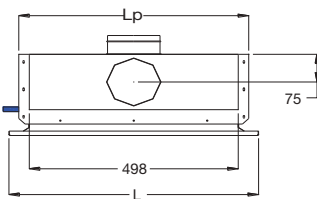
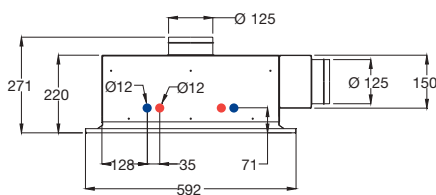
## 4-Way active chilled beams



### Technical data



- 1.- Primary air inlet
- 2.- Plenum box
- 3.- Nozzles
- 4.- Accessible diffuser
- 5.- Adjustable deflector



mm	W	L	Lp
600x600	592	592	547
625x625	620	620	547
675x675	670	670	547
600x1200	592	1192	1147
625x1250	620	1245	1147
675x1350	670	1345	1147

### Description

The **WAAB 4-WAY** is an air/water induction terminal unit that simultaneously provides the supply, thermal treatment and diffusion of supply air, to set internal conditions at the desired comfort levels. Chilled beams take advantage of the excellent thermal properties of water to guarantee optimal comfort levels, with minimal power consumption.

**WAAB 4-WAY** Beam for air supply in 4 directions.

- .../2T/ 2-tube battery
- .../4T/ 4-tube battery.
- .../LD/ Right side connection.
- .../LI/ Left side connection.
- .../S/ Top connection.
- .../ / Standard support
- .../T15/ Support for dropped panel, 15-mm profile modular ceilings.
- .../T24/ Support for dropped panel, 24-mm profile modular ceilings.
- .../KS/ Small discharge nozzles.
- .../KM/ Medium discharge nozzles.
- .../KL/ Large discharge nozzles.
- .../FC/ Front panel with circular perforations.
- .../FQ/ Front panel with square perforations.
- .../FL/ Front panel with lineal aluminium grill.
- .../TY/ Type (see types pages)

### Accessories

**DEF** Deflection blades.

### Fixing

**(D)** Angle bracket for suspending from ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification text

Supply and installation of active chilled beam for supply air and return air, with 4-tube battery, right side connection plenum, pre-set medium nozzles, circular perforated front panel, type **LDR1**, with deflection blades, **WAAB 4-WAY / 4T / LD / KM / FC / 600x600 / DEF**.

Made in lacquered white galvanised steel **R9010S**. Brand **MADEL**.

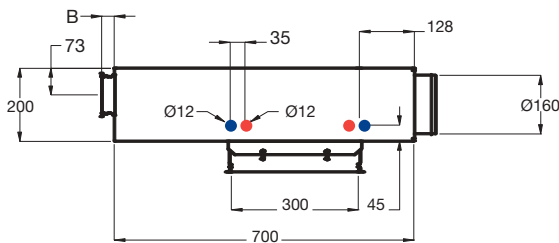
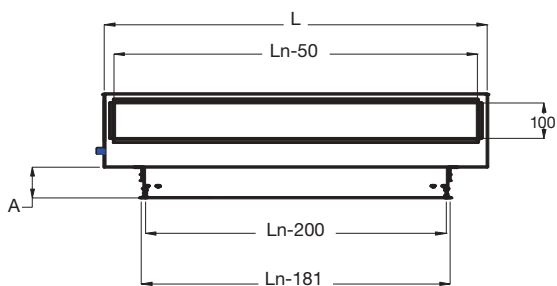
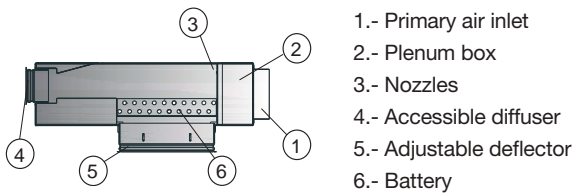




## Active chilled beams – 1 way diffusion



### Technical data



**AMT**

**LMT**

**LMT-15**



### Description

The **WAAB -SUITE** is an air/water induction terminal unit that simultaneously provides the supply, thermal treatment and diffusion of supply air, to set internal conditions at the desired comfort levels. Chilled beams take advantage of the excellent thermal properties of water to guarantee optimal comfort levels, with minimal power consumption.

**WAAB-SUITE** air impulsion chilled beam in 1 direction. Designed for a room installation.

- .../2T/ 2-tube battery
- .../4T/ 4-tube battery
- .../LD/ Right side connection
- .../LI/ Left side connection
- .../KS/ Small discharge nozzles
- .../KM/ Medium discharge nozzles.
- .../KL/ Large discharge nozzles.
- .../AMT/ Simple deflection grille.
- .../LMT/ Supply through lineal grille.
- .../LMT-15/ Supply through lineal 15° grille.
- .../LN/ Nominal length 900, 1200 or 1500.

### Fixing

(D) Angle bracket for suspending from ceiling.

### Finishes

- AA** Matt silver anodised.
- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

### Specification text

Supply and installation of active chilled beam for supply air and return air, with 4-tube battery, right side connection plenum, pre-set medium nozzles, **WAAB-SUITE /4T/LD/KM/LMT AA /1200** made in matt silver anodised **AA**. Brand **MADEL**.



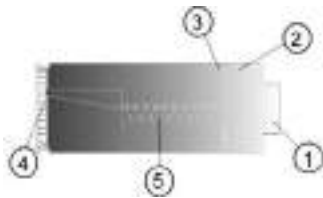
mm	L	A	B
900	895	65-85	59-40
1200	1195		
1500	1495		



## Active chilled beams for rooms



### Technical data



- 1.- Primary air inlet
- 2.- Plenum
- 3.- Nozzles
- 4.- Removable supply-return grille (S)
- 5.- Battery

### Description

The **WAAB-ROOM** chilled beam is an air-water induction terminal unit that simultaneously allows the supply, heat treatment and diffusion of supply air, in order to maintain indoor conditions at the desired level of comfort. The chilled beams take advantage of water's excellent thermal properties guarantee an optimum level of comfort with minimum energy consumption. WAAB-ROOM is specially designed to be installed on a false ceiling where the return grille cannot be placed at the bottom, using a single grille for supply and return.

**WAAB-ROOM** Horizontal active chilled beams with front supply / return grille.

#### AMT



#### LMT



#### LMT-15



- .../2T/ Two-pipe battery.
- .../4T/ Four-pipe battery.
- .../LD/ Right side connection.
- .../LI/ Left side connection.
- .../KS/ Small supply nozzles.
- .../KM/ Medium supply nozzles.
- .../KL/ Large supply nozzles.
- .../AMT/ AMT single deflection grille.
- .../LMT/ LMT linear grille.
- .../LMT-15/ LMT-15 linear grille.
- .../LN/ Nominal length (1200 and 1500)

### Fixing

(D) Slots on the plenum for securing to ceiling.

### Finishes

- AA...** Matt silver anodised (only for LMT grilles)
- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

### Prescription text

Supply and installation of Horizontal active chilled beams with front supply / return grille, with 4-pipe battery, plenum with right side connection, prefixed medium nozzles **WAAB-ROOM / 4T / LD / KM / LMT / 1200** with fixed bars **LMT** linear grille in matt silver anodized **AA. MADEL** trademark.



## Air supply grilles



### Premium air supply grilles

AMT & CTM with nylon bearings for optimal control of blades

Gasket around the perimeter to seal the wall or ceiling

## INDEX

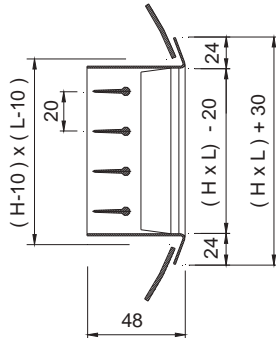
- 14 **BMC** circular duct grilles
- 15 **AMT** single deflection grilles
- 18 **CTM** double deflection grilles
- 21 **AMT-AC** curved blades ceiling grilles

# Circular duct grilles

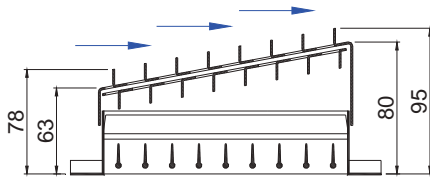


## Technical data

### CMC



### CMC+SD



## Description

Grilles in galvanised steel to be placed in circular ducts. Individually adjustable blades parallels to the shortest side (H size)

**BMC** Single deflection grille.

**CMC** Double deflection grille.

## Accessories

**SD** Sliding damper from galvanised steel.

## Fixing

**(T)** Visible screws.

## Finishes

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

Supply and mounting of double deflection grille for circular ducts with individually adjustable blades and 1st line parallels to the shortest side series **CMC+SD (T) R9006M dim. LxH**, constructed from galvanised steel paint in aluminium color RAL 9006 Mat with sliding damper from steel, visible fixing by screws. Manufacturer **MADEL**.

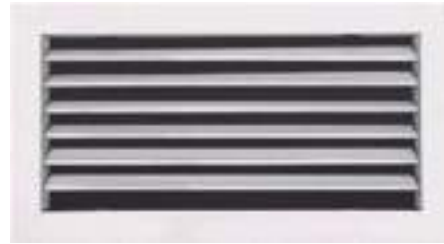
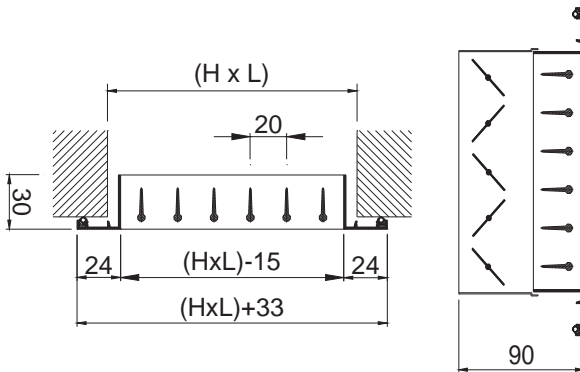
L x H	BMC	CMC	BMC+SD	CMC+SD	duct Ø	Lwa1 < 35 dB(A) without SD	Lwa1 = 45 dB(A) without SD
mm	eur	eur	eur	eur	mm	m³/h	m³/h
300x75	15,21	24,22	29,85	38,85	200 - 400	108-150	195
400x75	19,21	28,26	37,27	46,30	200 - 400	145-205	260
500x75	23,21	32,29	44,69	53,76	200 - 400	180-250	325
600x75	27,16	37,42	50,07	60,35	200 - 400	225-315	405
700x75	32,08	45,81	67,07	80,79	200 - 400	260-370	475
800x75	35,67	50,16	75,38	89,89	200 - 400	290-410	530
900x75	38,84	54,05	82,24	97,47	200 - 400	325-460	595
1000x75	42,05	57,93	90,29	106,17	200 - 400	350-500	645
1200x75	50,45	69,49	108,36	127,39	200 - 400	420-600	774
300x125	18,17	27,11	36,15	45,11	300 - 900	210-290	375
400x125	22,00	31,98	42,79	52,80	300 - 900	280-390	500
500x125	25,84	36,89	49,48	60,48	300 - 900	350-490	630
600x125	30,26	42,80	58,53	71,10	300 - 900	425-590	760
700x125	35,80	52,41	74,58	91,19	300 - 900	490-700	900
800x125	39,99	57,65	83,53	101,20	300 - 900	550-785	1010
900x125	43,57	62,16	91,64	110,24	300 - 900	630-895	1160
1000x125	47,31	66,91	100,05	119,64	300 - 900	720-1010	1300
1200x125	56,77	80,29	120,09	143,58	300 - 900	865-1200	1560
300x225	21,35	33,68	41,45	53,89	600 - 1600	410-570	730
400x225	26,27	40,12	55,58	69,45	600 - 1600	545-760	975
500x225	31,17	46,54	69,66	85,00	600 - 1600	685-960	1230
600x225	36,82	53,66	79,91	96,78	600 - 1600	785-1094	1410
700x225	43,11	67,26	94,28	118,46	600 - 1600	900-1280	1640
800x225	48,45	74,17	110,70	136,44	600 - 1600	1035-1470	1880
900x225	53,21	80,36	123,37	150,53	600 - 1600	1170-1660	2130
1000x225	57,84	86,49	136,30	164,99	600 - 1600	1300-1830	2360
1200x225	69,40	103,80	163,56	197,98	600 - 1600	1560-2195	2830

## Single deflection grilles

### Technical data

**AMT**

**AMT+SP**



### Description

Single deflection grilles for air supply. Individually adjustable blades. Made from aluminium.

**AMT-AN** Grille with blades parallels to the largest side (L size)

**BMT-AN** Grille with blades parallels to the shortest side (H size)

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PLRO** Connection plenum: see Accessories.

### Fixing

**(S)** Clips. It requires mounting frame CM.

**(O)** Hidden screw. It requires mounting frame CM (supplement \*)

**(T)** Visible screws (supplement \*)

### Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016. (85-95% gloss)

**R9010S** Pre-lacquered in white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of single deflection grille for air supply with individually adjustable blades parallels to the largest side serie **AMT-AN+SP+CM (S) M9016 dim. LxH**, constructed from aluminium paint in white **M9016** with opposed blades volume damper from electro-zinc steel in black colour **SP**, invisible fixing by clips **(S)** and mounting frame **CM**. Manufacturer **MADEL**.





L x H	AMT-AN M9016	AMT-AN+SP M9016	AMT-AN R9010S	AMT-AN+SP R9010S	AMT-AN AA	AMT-AN+SP AA	SP	CM	Lwa1 < 35 dB(A)	Lwa1 45 dB(A)
mm	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x100	10,06	17,08	10,27	17,29	10,16	17,19	7,02	2,53	120-175	200
250x100	11,11	19,11	11,34	19,33	11,24	19,23	7,99	2,73	155-215	275
300x100	12,26	21,69	12,50	21,94	12,39	21,83	9,43	2,89	180-250	325
350x100	14,44	25,21	14,74	25,50	14,58	25,36	10,77	3,02	215-300	390
400x100	14,88	26,73	15,18	27,04	15,04	26,87	11,85	3,19	245-340	435
450x100	17,37	30,49	17,71	30,84	17,52	30,66	13,13	3,36	280-390	500
500x100	17,85	32,08	18,20	32,45	18,01	32,27	14,23	3,46	305-430	550
600x100	21,97	38,37	22,42	38,81	22,20	38,58	16,39	3,94	370-515	665
700x100	25,61	46,77	26,11	47,29	25,85	47,02	21,18	4,66	440-615	795
800x100	28,51	51,79	29,07	52,35	28,79	52,07	23,29	5,02	500-700	910
900x100	31,51	57,31	32,14	57,96	31,82	57,63	25,82	5,41	560-790	1020
1000x100	33,75	61,77	34,43	62,46	34,09	62,11	28,03	6,04	630-880	1135
<b>200x150</b>	<b>12,33</b>	<b>20,00</b>	<b>12,58</b>	<b>20,25</b>	<b>12,46</b>	<b>20,13</b>	<b>7,68</b>	<b>2,69</b>	<b>190-265</b>	<b>340</b>
250x150	13,12	21,98	13,38	22,24	13,25	22,11	8,87	2,84	235-330	420
300x150	14,46	24,80	14,76	25,09	14,61	24,95	10,34	3,02	290-405	520
350x150	17,00	28,49	17,35	28,83	17,18	28,68	11,49	3,14	335-465	600
400x150	17,54	30,21	17,88	30,56	17,72	30,40	12,68	3,34	385-540	695
450x150	20,48	34,33	20,89	34,73	20,69	34,55	13,85	3,46	440-615	795
500x150	20,88	36,13	21,29	36,54	21,07	36,33	15,25	3,63	485-680	875
600x150	24,94	42,47	25,43	42,96	25,18	42,71	17,54	4,07	595-830	1070
700x150	30,49	53,06	31,10	53,66	30,80	53,35	22,57	4,78	690-970	1250
800x150	33,36	58,30	34,03	58,98	33,69	58,64	24,95	5,13	790-1110	1425
900x150	37,28	64,49	38,03	65,24	37,66	64,86	27,20	5,57	890-1245	1610
1000x150	39,91	69,80	40,71	70,59	40,30	70,19	29,89	6,14	990-1380	1780
<b>200x200</b>	<b>14,96</b>	<b>23,42</b>	<b>15,25</b>	<b>23,72</b>	<b>15,10</b>	<b>23,57</b>	<b>8,47</b>	<b>2,81</b>	<b>245-340</b>	<b>435</b>
250x200	16,63	26,30	16,96	26,62	16,80	26,45	9,65	3,00	315-440	565
300x200	18,29	29,33	18,64	29,71	18,47	29,53	11,06	3,16	380-530	680
350x200	20,89	33,17	21,30	33,57	21,08	33,36	12,27	3,30	450-630	810
400x200	21,70	35,21	22,13	35,65	21,93	35,43	13,50	3,46	515-720	925
450x200	25,24	40,04	25,74	40,54	25,49	40,29	14,80	3,65	575-805	1035
500x200	25,97	42,25	26,48	42,77	26,22	42,51	16,28	3,78	650-905	1165
600x200	30,23	49,08	30,85	49,70	30,55	49,40	18,85	4,21	785-1095	1410
700x200	37,67	61,75	38,42	62,50	38,04	62,13	24,08	4,92	915-1280	1650
800x200	40,89	67,50	41,72	68,33	41,30	67,91	26,60	5,28	1045-1450	1880
900x200	46,19	75,22	47,11	76,14	46,65	75,68	29,04	5,74	1170-1645	2120
1000x200	49,73	81,71	50,72	82,70	50,22	82,20	31,98	6,28	1310-1830	2365
<b>250x250</b>	<b>18,85</b>	<b>29,42</b>	<b>19,23</b>	<b>29,79</b>	<b>19,04</b>	<b>29,60</b>	<b>10,57</b>	<b>3,16</b>	<b>395-555</b>	<b>715</b>
300x250	20,84	32,53	21,25	32,94	21,04	32,72	11,69	3,36	485-680	875
400x250	25,48	39,89	26,00	40,41	25,74	40,15	14,40	3,68	655-920	1185
500x250	31,31	48,65	31,93	49,28	31,63	48,98	17,35	3,94	830-1160	1490
600x250	36,09	56,21	36,82	56,94	36,46	56,58	20,11	4,40	1000-1400	1800
700x250	41,40	65,59	42,21	66,41	41,80	66,00	24,21	4,92	1165-1630	2095
800x250	46,68	74,96	47,62	75,89	47,15	75,44	28,28	5,47	1340-1870	2410
900x250	51,69	82,87	52,74	83,91	52,21	83,40	31,18	5,90	1505-2105	2710
1000x250	56,72	90,83	57,84	91,96	57,28	91,40	34,12	6,48	1700-2375	3070
<b>300x300</b>	<b>24,28</b>	<b>36,85</b>	<b>24,77</b>	<b>37,35</b>	<b>24,52</b>	<b>37,10</b>	<b>12,59</b>	<b>3,54</b>	<b>575-805</b>	<b>1035</b>
400x300	29,77	45,26	30,36	45,87	30,07	45,55	15,49	3,86	785-1095	1410
500x300	36,43	55,16	37,15	55,88	36,78	55,51	18,73	4,13	980-1375	1765
600x300	42,02	63,66	42,88	64,52	42,45	64,10	21,65	4,60	1190-1665	2140
700x300	48,10	74,13	49,06	75,11	48,57	74,62	26,04	5,30	1385-1940	2495
800x300	54,14	84,56	55,22	85,64	54,67	85,10	30,43	5,68	1600-2240	2880
900x300	60,97	94,57	62,19	95,80	61,57	95,19	33,63	6,09	1800-2520	3240
1000x300	67,82	104,62	69,15	105,96	68,47	105,29	36,80	6,66	2000-2800	3610
<b>400x400</b>	<b>37,64</b>	<b>55,29</b>	<b>38,38</b>	<b>56,03</b>	<b>38,01</b>	<b>55,66</b>	<b>17,66</b>	<b>4,16</b>	<b>1050-1470</b>	<b>1895</b>
500x400	44,74	66,20	45,63	67,08	45,19	66,64	21,45	4,42	1325-1850	2381
600x400	51,76	76,67	52,79	77,71	52,27	77,19	24,93	4,89	1600-2240	2880
700x400	59,98	89,83	61,19	91,03	60,58	90,43	29,85	5,60	1865-2610	3355
800x400	68,22	102,99	69,59	104,36	68,90	103,67	34,76	5,95	2140-2990	3860
900x400	75,87	114,34	77,37	115,84	76,62	115,09	38,46	6,38	2405-3365	3860
1000x400	83,52	126,44	85,19	128,11	84,36	127,28	42,92	6,99	2675-3735	4850

(*)	eur
(O)	3,15
(T)	1,17

L x H	BMT-AN	BMT-AN+SP	BMT-AN	BMT-AN+SP	BMT-AN	BMT-AN+SP	SP	CM	Lwa1	Lwa1
mm	M9016	M9016	R9010S	R9010S	AA	AA			< 35 dB(A)	45 dB(A)
	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x100	12,81	19,84	13,06	20,09	12,95	19,97	7,02	2,53	120-175	200
250x100	14,05	22,03	14,33	22,32	14,18	22,18	7,99	2,73	155-215	275
300x100	16,36	25,79	16,69	26,11	16,52	25,96	9,43	2,89	180-250	325
350x100	17,94	28,72	18,31	29,08	18,12	28,90	10,77	3,02	215-300	390
400x100	20,12	31,97	20,53	32,36	20,32	32,17	11,85	3,19	245-340	435
450x100	21,74	34,89	22,19	35,32	21,97	35,10	13,13	3,36	280-390	500
500x100	23,94	38,17	24,42	38,66	24,17	38,41	14,23	3,46	305-430	550
600x100	27,95	44,33	28,52	44,90	28,23	44,62	16,39	3,94	370-515	665
700x100	31,92	53,10	32,56	53,74	32,24	53,42	21,18	4,66	440-615	795
800x100	36,85	60,14	37,58	60,87	37,22	60,51	23,29	5,02	500-700	910
900x100	40,56	66,38	41,39	67,20	40,96	66,77	25,82	5,41	560-790	1020
1000x100	44,28	72,31	45,17	73,18	44,73	72,75	28,03	6,04	630-880	1135
<b>200x150</b>	<b>13,38</b>	<b>21,05</b>	<b>13,65</b>	<b>21,32</b>	<b>13,51</b>	<b>21,20</b>	<b>7,68</b>	<b>2,69</b>	<b>190-265</b>	<b>340</b>
250x150	15,21	24,07	15,51	24,37	15,36	24,23	8,87	2,84	235-330	420
300x150	17,62	27,96	17,97	28,31	17,81	28,14	10,34	3,02	290-405	520
350x150	19,31	30,81	19,70	31,19	19,51	31,01	11,49	3,14	335-465	600
400x150	21,63	34,31	22,07	34,73	21,86	34,53	12,68	3,34	385-540	695
450x150	23,35	37,20	23,81	37,67	23,58	37,43	13,85	3,46	440-615	795
500x150	25,53	40,79	26,06	41,30	25,79	41,05	15,25	3,63	485-680	875
600x150	29,91	47,44	30,51	48,05	30,20	47,75	17,54	4,07	595-830	1070
700x150	34,05	56,62	34,72	57,29	34,39	56,96	22,57	4,78	690-970	1250
800x150	39,26	64,20	40,05	64,99	39,64	64,59	24,95	5,13	790-1110	1425
900x150	43,27	70,47	44,14	71,35	43,69	70,91	27,20	5,57	890-1245	1610
1000x150	47,10	76,98	48,03	77,91	47,56	77,44	29,89	6,14	990-1380	1780
<b>200x200</b>	<b>14,96</b>	<b>23,42</b>	<b>15,25</b>	<b>23,72</b>	<b>15,10</b>	<b>23,57</b>	<b>8,47</b>	<b>2,81</b>	<b>245-340</b>	<b>435</b>
250x200	17,00	26,66	17,35	27,00	17,18	26,83	9,65	3,00	315-440	565
300x200	19,80	30,85	20,19	31,24	19,98	31,04	11,06	3,16	380-530	680
350x200	21,77	34,04	22,21	34,47	21,99	34,27	12,27	3,30	450-630	810
400x200	24,44	37,95	24,93	38,43	24,68	38,18	13,50	3,46	515-720	925
450x200	26,36	41,16	26,89	41,68	26,63	41,43	14,80	3,65	575-805	1035
500x200	29,02	45,29	29,60	45,89	29,30	45,58	16,28	3,78	650-905	1165
600x200	33,71	52,56	34,40	53,25	34,05	52,90	18,85	4,21	785-1095	1410
700x200	38,98	63,08	39,77	63,85	39,38	63,46	24,08	4,92	915-1280	1650
800x200	44,04	70,65	44,93	71,52	44,49	71,09	26,60	5,28	1045-1450	1880
900x200	48,79	77,83	49,77	78,81	49,28	78,31	29,04	5,74	1170-1645	2120
1000x200	53,27	85,25	54,33	86,31	53,80	85,79	31,98	6,28	1310-1830	2365
<b>250x250</b>	<b>18,85</b>	<b>29,42</b>	<b>19,23</b>	<b>29,79</b>	<b>19,04</b>	<b>29,60</b>	<b>10,57</b>	<b>3,16</b>	<b>395-555</b>	<b>715</b>
300x250	21,96	33,65	22,41	34,09	22,19	33,88	11,69	3,36	485-680	875
400x250	27,07	41,47	27,60	42,01	27,34	41,75	14,40	3,68	655-920	1185
500x250	32,75	50,08	33,40	50,74	33,06	50,41	17,35	3,94	830-1160	1490
600x250	37,97	58,08	38,72	58,84	38,35	58,46	20,11	4,40	1000-1400	1800
700x250	43,61	67,82	44,49	68,68	44,04	68,24	24,21	4,92	1165-1630	2095
800x250	49,23	77,51	50,22	78,50	49,73	78,00	28,28	5,47	1340-1870	2410
900x250	54,29	85,48	55,38	86,56	54,85	86,03	31,18	5,90	1505-2105	2710
1000x250	59,37	93,48	60,55	94,68	59,96	94,07	34,12	6,48	1700-2375	3070
<b>300x300</b>	<b>24,28</b>	<b>36,85</b>	<b>24,77</b>	<b>37,35</b>	<b>24,52</b>	<b>37,10</b>	<b>12,59</b>	<b>3,54</b>	<b>575-805</b>	<b>1035</b>
400x300	29,85	45,33	30,45	45,94	30,15	45,64	15,49	3,86	785-1095	1410
500x300	36,05	54,78	36,77	55,50	36,41	55,15	18,73	4,13	980-1375	1765
600x300	41,88	63,51	42,70	64,35	42,29	63,94	21,65	4,60	1190-1665	2140
700x300	47,95	74,00	48,93	74,96	48,43	74,48	26,04	5,30	1385-1940	2495
800x300	54,04	84,47	55,14	85,56	54,60	85,03	30,43	5,68	1600-2240	2880
900x300	60,27	93,88	61,47	95,08	60,86	94,48	33,63	6,09	1800-2520	3240
1000x300	66,48	103,28	67,82	104,62	67,14	103,94	36,80	6,66	2000-2800	3610
<b>400x400</b>	<b>37,64</b>	<b>55,29</b>	<b>38,38</b>	<b>56,03</b>	<b>38,01</b>	<b>55,66</b>	<b>17,66</b>	<b>4,16</b>	<b>1050-1470</b>	<b>1895</b>
500x400	44,40	65,86	45,30	66,75	44,86	66,31	21,45	4,42	1325-1850	2381
600x400	51,80	76,71	52,82	77,74	52,30	77,23	24,93	4,89	1600-2240	2880
700x400	60,11	89,96	61,31	91,17	60,72	90,56	29,85	5,60	1865-2610	3355
800x400	68,41	103,19	69,80	104,57	69,11	103,89	34,76	5,95	2140-2990	3860
900x400	75,57	114,03	77,09	115,55	76,33	114,79	38,46	6,38	2405-3365	3860
1000x400	82,70	125,62	84,36	127,28	83,53	126,45	42,92	6,99	2675-3735	4850

(*)	eur
(O)	3,15
(T)	1,17

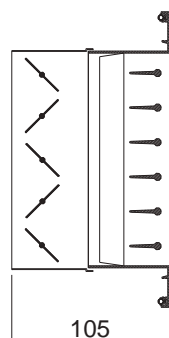
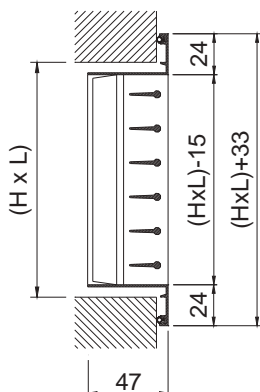
## Double deflection grilles



### Technical data

**CTM**

**CTM+SP**



### Description

Double deflection grilles for air supply. Individually adjustable blades. Made from aluminium.

**CTM-AN** Grille with front blades parallels to the largest side (L size)

**CMT-AN** Grille with front blades parallels to the shortest side (H size)

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PLRO** Connection plenum: see Accessories.

### Fixing

**(S)** Clips. It requires mounting frame CM.

**(O)** Hidden screw. It requires mounting frame CM (supplement \*)

**(T)** Visible screws (supplement \*)

### Finishes CTM-AN

**SLAA** Matt silver anodised. Rear blades in black colour.

**SL16** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)  
Rear blades in black colour.

**SL10** Pre-lacquered in white RAL 9010 semi-matt (60-70% gloss)  
Rear blades in black colour.

**RAL...** Painted in other RAL colours: see INFO page.

### Finishes CMT-AN

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**R9010S** Pre-lacquered in white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours: see INFO page.

### Specification Text

Supply and mounting of double deflection grille for air supply with individually adjustable blades parallels to the largest side series

**CTM-AN+SP+CM (S) SL16 dim. LxH**, constructed from aluminium paint in white similar to R9016 (85-90% gloss), rear blades in black colour, with opposed blades volume damper in black colour, fixing by clips and mounting frame. Manufacturer **MADEL**.





L x H	CTM-AN	CTM-AN+SP	CTM-AN	CTM-AN+SP	CTM-AN	CTM-AN+SP	CM	Lwa1	Lwa1
mm	SL16	SL16	SL10	SL10	SLAA	SLAA	eur	< 35 dB(A)	45 dB(A)
	eur	eur	eur	eur	eur	eur		m³/h	m³/h
<b>200x100</b>	<b>15,21</b>	<b>22,23</b>	<b>15,50</b>	<b>22,54</b>	<b>15,64</b>	<b>22,37</b>	<b>2,53</b>	<b>110-160</b>	<b>200</b>
250x100	17,13	25,12	17,47	25,46	17,63	25,30	2,73	140-180	250
300x100	19,37	28,81	19,77	29,20	19,94	28,99	2,89	175-240	300
350x100	22,38	33,17	22,84	33,61	23,05	33,40	3,02	200-290	380
400x100	23,58	35,42	24,05	35,90	24,28	35,67	3,19	225-325	410
450x100	26,48	39,62	27,03	40,15	27,27	39,89	3,36	275-375	490
500x100	27,54	41,78	28,08	42,32	28,34	42,04	3,46	290-400	500
600x100	34,26	50,65	34,95	51,35	35,26	50,99	3,94	350-500	600
700x100	40,91	62,08	41,74	62,90	42,09	62,48	4,66	390-560	715
800x100	46,57	69,84	47,51	70,78	47,93	70,32	5,02	450-640	830
900x100	50,60	76,42	51,62	77,44	52,10	76,93	5,41	510-720	925
1000x100	54,56	82,59	55,65	83,68	56,16	83,13	6,04	660-790	1020
<b>200x150</b>	<b>18,39</b>	<b>26,07</b>	<b>18,77</b>	<b>26,44</b>	<b>18,93</b>	<b>26,24</b>	<b>2,69</b>	<b>180-250</b>	<b>310</b>
250x150	19,97	28,83	20,37	29,24	20,56	29,04	2,84	220-320	400
300x150	22,65	32,98	23,10	33,44	23,31	33,21	3,02	280-380	500
350x150	26,45	37,95	26,97	38,46	27,23	38,21	3,14	300-440	560
400x150	27,99	40,65	28,54	41,21	28,80	40,93	3,34	350-500	600
450x150	31,53	45,37	32,16	46,01	32,45	45,69	3,46	410-580	700
500x150	33,06	48,32	33,73	49,00	34,03	48,65	3,63	450-610	800
600x150	38,91	56,45	39,69	57,24	40,05	56,85	4,07	550-800	950
700x150	48,79	71,36	49,76	72,33	50,22	71,84	4,78	630-880	1135
800x150	55,43	80,38	56,54	81,48	57,04	80,93	5,13	705-1005	1300
900x150	60,53	87,74	61,75	88,95	62,29	88,34	5,57	810-1130	1460
1000x150	65,37	95,26	66,69	96,57	67,29	95,92	6,14	900-1270	1640
<b>200x200</b>	<b>21,49</b>	<b>29,95</b>	<b>21,93</b>	<b>30,40</b>	<b>22,11</b>	<b>30,17</b>	<b>2,81</b>	<b>230-330</b>	<b>420</b>
250x200	24,43	34,08	24,92	34,57	25,12	34,32	3,00	290-430	550
300x200	27,78	38,83	28,33	39,39	28,58	39,10	3,16	380-500	650
350x200	31,58	43,86	32,22	44,50	32,51	44,17	3,30	425-600	750
400x200	33,53	47,04	34,20	47,70	34,51	47,37	3,46	500-700	880
450x200	37,84	52,63	38,61	53,41	38,95	53,02	3,65	560-810	960
500x200	39,45	55,73	40,24	56,52	40,61	56,12	3,78	600-880	1100
600x200	46,31	65,16	47,24	66,08	47,67	65,62	4,21	800-1100	1350
700x200	59,46	83,54	60,65	84,73	61,20	84,13	4,92	860-1210	1555
800x200	66,26	92,86	67,60	94,20	68,20	93,53	5,28	990-1385	1785
900x200	72,71	101,75	74,18	103,21	74,84	102,49	5,74	1115-1560	2010
1000x200	78,83	110,81	80,39	112,38	81,12	111,59	6,28	1240-1735	2240
<b>250x250</b>	<b>27,60</b>	<b>38,17</b>	<b>28,15</b>	<b>38,71</b>	<b>28,43</b>	<b>38,45</b>	<b>3,16</b>	<b>390-550</b>	<b>700</b>
300x250	31,39	43,07	32,02	43,69	32,30	43,38	3,36	460-645	825
400x250	39,58	53,99	40,38	54,78	40,75	54,39	3,68	595-830	1070
500x250	47,60	64,92	48,53	65,87	48,98	65,39	3,94	775-1085	1395
600x250	55,62	75,73	56,73	76,84	57,25	76,29	4,40	935-1310	1685
700x250	65,84	90,04	67,16	91,36	67,76	90,70	4,92	1090-1525	1965
800x250	76,08	104,36	77,60	105,88	78,30	105,12	5,47	1260-1760	2270
900x250	83,23	114,41	84,90	116,08	85,67	115,25	5,90	1515-1980	2555
1000x250	90,38	124,50	92,19	126,31	93,03	125,40	6,48	1575-2200	2835
<b>300x300</b>	<b>35,78</b>	<b>48,37</b>	<b>36,50</b>	<b>49,08</b>	<b>36,82</b>	<b>48,73</b>	<b>3,54</b>	<b>560-780</b>	<b>1005</b>
400x300	45,27	60,76	46,16	61,66	46,58	61,21	3,86	750-1045	1345
500x300	54,43	73,15	55,51	74,24	56,01	73,71	4,13	945-1325	1700
600x300	63,36	85,00	64,62	86,27	65,21	85,62	4,60	1135-1585	2050
700x300	75,12	101,16	76,61	102,65	77,32	101,91	5,30	1325-1845	2390
800x300	86,89	117,31	88,62	119,05	89,42	118,17	5,68	1520-2125	2740
900x300	96,04	129,66	97,96	131,58	98,84	130,61	6,09	1710-2390	3085
1000x300	105,20	142,01	107,31	144,11	108,28	143,07	6,66	1910-2680	3450
<b>400x400</b>	<b>58,93</b>	<b>76,59</b>	<b>60,11</b>	<b>77,77</b>	<b>60,65</b>	<b>77,18</b>	<b>4,16</b>	<b>1000-1410</b>	<b>1815</b>
500x400	69,72	91,18	71,11	92,57	71,75	91,87	4,42	1270-1785	2300
600x400	84,91	109,83	86,60	111,53	87,40	110,67	4,89	1530-2150	2770
700x400	99,10	128,96	101,09	130,94	102,01	129,96	5,60	1785-2505	3115
800x400	113,27	148,04	115,54	150,31	116,59	149,17	5,95	2060-2880	3710
900x400	124,29	162,76	126,78	165,25	127,92	164,01	6,38	2310-3240	4175
1000x400	135,26	178,18	137,96	180,88	139,21	179,54	6,99	2600-3640	4680

(*)	eur
(O)	3,15
(T)	1,17

L x H	CMT-AN	CMT-AN+SP	CMT-AN	CMT-AN+SP	CMT-AN	CMT-AN+SP	CM	Lwa1	Lwa1
mm	M9016	M9016	R9010S	R9010S	AA	AA	eur	< 35 dB(A)	45 dB(A)
	eur	eur	eur	eur	eur	eur		m³/h	m³/h
200x100	15,51	22,55	15,82	22,85	15,67	22,69	2,53	110-160	200
250x100	17,48	25,47	17,83	25,82	17,66	25,66	2,73	140-180	250
300x100	19,79	29,21	20,18	29,60	19,97	29,41	2,89	175-240	300
350x100	22,85	33,63	23,31	34,08	23,08	33,86	3,02	200-290	380
400x100	24,06	35,91	24,54	36,39	24,31	36,15	3,19	225-325	410
450x100	27,04	40,16	27,57	40,71	27,31	40,44	3,36	275-375	490
500x100	28,10	42,34	28,66	42,90	28,37	42,62	3,46	290-400	500
600x100	34,95	51,35	35,66	52,05	35,31	51,69	3,94	350-500	600
700x100	41,75	62,91	42,58	63,75	42,16	63,33	4,66	390-560	715
800x100	47,52	70,80	48,48	71,75	48,00	71,27	5,02	450-640	830
900x100	51,63	77,46	52,66	78,49	52,15	77,97	5,41	510-720	925
1000x100	55,67	83,70	56,78	84,81	56,24	84,24	6,04	660-790	1020
<b>200x150</b>	<b>18,77</b>	<b>26,44</b>	<b>19,14</b>	<b>26,82</b>	<b>18,95</b>	<b>26,63</b>	<b>2,69</b>	<b>180-250</b>	<b>310</b>
250x150	20,37	29,24	20,80	29,66	20,58	29,45	2,84	220-320	400
300x150	23,10	33,44	23,58	33,92	23,34	33,68	3,02	280-380	500
350x150	27,00	38,49	27,53	39,03	27,27	38,76	3,14	300-440	560
400x150	28,55	41,22	29,12	41,79	28,83	41,51	3,34	350-500	600
450x150	32,17	46,02	32,82	46,67	32,49	46,35	3,46	410-580	700
500x150	33,73	49,00	34,42	49,68	34,08	49,33	3,63	450-610	800
600x150	39,70	57,25	40,51	58,04	40,10	57,65	4,07	550-800	950
700x150	49,78	72,35	50,77	73,34	50,27	72,84	4,78	630-880	1135
800x150	56,58	81,51	57,70	82,64	57,12	82,07	5,13	705-1005	1300
900x150	61,77	88,97	63,01	90,22	62,39	89,59	5,57	810-1130	1460
1000x150	66,71	96,59	68,04	97,92	67,38	97,27	6,14	900-1270	1640
<b>200x200</b>	<b>21,93</b>	<b>30,40</b>	<b>22,37</b>	<b>30,84</b>	<b>22,16</b>	<b>30,61</b>	<b>2,81</b>	<b>230-330</b>	<b>420</b>
250x200	24,93	34,58	25,42	35,07	25,17	34,82	3,00	290-430	550
300x200	28,34	39,40	28,91	39,96	28,61	39,68	3,16	380-500	650
350x200	32,23	44,51	32,88	45,16	32,55	44,82	3,30	425-600	750
400x200	34,21	47,72	34,90	48,40	34,56	48,06	3,46	500-700	880
450x200	38,63	53,42	39,40	54,19	39,01	53,80	3,65	560-810	960
500x200	40,26	56,54	41,06	57,34	40,65	56,94	3,78	600-880	1100
600x200	47,26	66,11	48,19	67,04	47,73	66,58	4,21	800-1100	1350
700x200	60,67	84,77	61,89	85,97	61,27	85,36	4,92	860-1210	1555
800x200	67,62	94,22	68,98	95,57	68,29	94,90	5,28	990-1385	1785
900x200	74,20	103,24	75,68	104,71	74,94	103,97	5,74	1115-1560	2010
1000x200	80,43	112,41	82,04	114,02	81,24	113,22	6,28	1240-1735	2240
<b>250x250</b>	<b>28,18</b>	<b>38,74</b>	<b>28,73</b>	<b>39,29</b>	<b>28,46</b>	<b>39,03</b>	<b>3,16</b>	<b>390-550</b>	<b>700</b>
300x250	32,03	43,70	32,67	44,35	32,34	44,03	3,36	460-645	825
400x250	40,40	54,80	41,20	55,61	40,80	55,21	3,68	595-830	1070
500x250	48,55	65,90	49,52	66,87	49,04	66,38	3,94	775-1085	1395
600x250	56,75	76,86	57,89	77,99	57,31	77,43	4,40	935-1310	1685
700x250	67,19	91,39	68,53	92,72	67,86	92,05	4,92	1090-1525	1965
800x250	77,62	105,90	79,19	107,46	78,41	106,69	5,47	1260-1760	2270
900x250	84,93	116,12	86,62	117,81	85,79	116,97	5,90	1515-1980	2555
1000x250	92,22	126,34	94,07	128,19	93,15	127,27	6,48	1575-2200	2835
<b>300x300</b>	<b>36,51</b>	<b>49,10</b>	<b>37,24</b>	<b>49,82</b>	<b>36,87</b>	<b>49,47</b>	<b>3,54</b>	<b>560-780</b>	<b>1005</b>
400x300	46,19	61,68	47,11	62,60	46,65	62,14	3,86	750-1045	1345
500x300	55,54	74,26	56,64	75,38	56,09	74,82	4,13	945-1325	1700
600x300	64,64	86,29	65,95	87,59	65,29	86,94	4,60	1135-1585	2050
700x300	76,64	102,69	78,19	104,22	77,41	103,45	5,30	1325-1845	2390
800x300	88,65	119,08	90,43	120,86	89,55	119,97	5,68	1520-2125	2740
900x300	98,00	131,61	99,96	133,59	98,97	132,59	6,09	1710-2390	3085
1000x300	107,36	144,16	109,50	146,31	108,43	145,23	6,66	1910-2680	3450
<b>400x400</b>	<b>60,13</b>	<b>77,80</b>	<b>61,34</b>	<b>78,99</b>	<b>60,74</b>	<b>78,39</b>	<b>4,16</b>	<b>1000-1410</b>	<b>1815</b>
500x400	71,14	92,60	72,56	94,02	71,85	93,31	4,42	1270-1785	2300
600x400	86,65	111,56	88,37	113,30	87,50	112,42	4,89	1530-2150	2770
700x400	101,14	130,99	103,16	133,00	102,15	131,99	5,60	1785-2505	3115
800x400	115,59	150,35	117,89	152,67	116,74	151,51	5,95	2060-2880	3710
900x400	126,83	165,29	129,37	167,83	128,09	166,55	6,38	2310-3240	4175
1000x400	138,01	180,93	140,78	183,70	139,39	182,32	6,99	2600-3640	4680

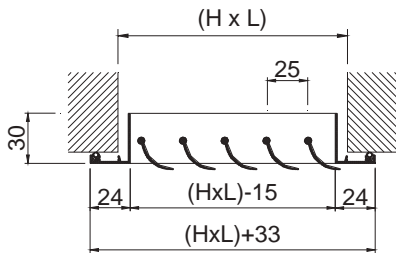
(*)	eur
(O)	3,15
(T)	1,17

## Curved blades ceiling grilles

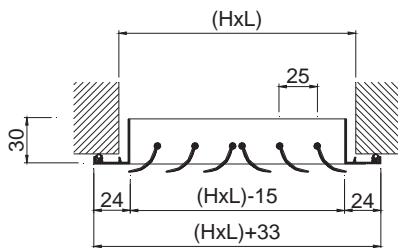


### Technical data

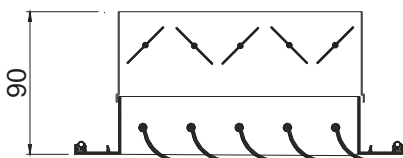
#### AMT-AC



#### AMT-ACO



#### AMT-AC+SP



### Description

Grilles with individually adjustable curved blades to be used in premises from 2,6 metres high. Constructed from aluminium.

**AMT-AC** One-Way grille with blades parallels to the largest side (L size)

**AMT-ACO** Two-Way grille with blades parallels to the largest side.

**BMT-AC** One-Way grille with blades parallels to the shortest side (H size)

**BMT-ACO** Two-Way grille with blades parallels to the shortest side.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PLRO** Connection plenum: see Accessories.

### Fixing

**(T)** Visible screws.

**(O)** Hidden screw. It requires mounting frame CM (supplement \*)

### Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016. (85-95% gloss)

### Specification Text

Supply and mounting of grille in One-Way for air supply with individually adjustable curved blades parallels to the largest side series **AMT-AC+SP+CM (O) M9016 dim. LxH**, constructed from aluminium paint in white **M9016** with opposed blades volume damper from electro-zinc steel in black colour **SP**, hidden screw



L x H mm	AMT-AC	AMT-AC+SP	AMT-ACO	AMT-ACO+SP	AMT-AC	AMT-AC+SP	AMT-ACO	AMT-ACO+SP	CM eur	Lwa1	Lwa1
	M9016 eur	M9016	M9016 eur	M9016	AA eur	AA eur	AA eur	AA eur		< 35 dB(A) m³/h	45 dB(A) m³/h
200x100	12,42	19,44	14,30	21,31	12,77	19,57	14,43	21,45	2,53	54-80	100
250x100	13,72	21,71	15,79	23,78	14,12	21,86	15,94	23,94	2,73	75-105	130
300x100	15,31	24,73	17,57	27,00	15,75	24,90	17,74	27,17	2,89	90-125	165
350x100	16,62	27,40	19,08	29,85	17,11	27,56	19,26	30,03	3,02	108-150	200
400x100	17,94	29,79	20,59	32,45	18,47	29,96	20,80	32,64	3,19	120-165	210
450x100	19,18	32,31	22,07	35,20	19,73	32,51	22,30	35,42	3,36	135-190	245
500x100	20,93	35,16	24,04	38,27	21,55	35,38	24,28	38,51	3,46	155-215	275
600x100	25,74	42,14	29,54	45,93	26,49	42,39	29,84	46,23	3,94	180-255	325
700x100	29,08	50,25	33,46	54,64	29,93	50,54	33,79	54,97	4,66	220-305	390
800x100	32,55	55,84	37,41	60,68	33,51	56,16	37,78	61,07	5,02	235-330	425
900x100	35,48	61,30	40,80	66,62	36,52	61,66	41,21	67,02	5,41	270-380	490
1000x100	38,40	66,41	44,18	72,20	39,52	66,81	44,62	72,64	6,04	310-430	555
<b>200x150</b>	<b>14,77</b>	<b>22,44</b>	<b>16,97</b>	<b>24,66</b>	<b>15,21</b>	<b>22,60</b>	<b>17,14</b>	<b>24,81</b>	<b>2,69</b>	<b>90-125</b>	<b>165</b>
250x150	16,39	25,25	18,87	27,74	16,86	25,42	19,07	27,92	2,84	120-165	210
300x150	18,32	28,66	21,06	31,40	18,86	28,84	21,28	31,61	3,02	145-205	260
350x150	19,97	31,46	22,96	34,45	20,56	31,66	23,19	34,68	3,14	175-240	310
400x150	21,60	34,27	24,85	37,53	22,23	34,47	25,11	37,78	3,34	190-270	340
450x150	23,16	37,02	26,65	40,50	23,84	37,26	26,91	40,77	3,46	220-305	390
500x150	25,55	40,81	29,39	44,63	26,31	41,07	29,67	44,93	3,63	245-345	440
600x150	31,43	48,98	36,14	53,68	32,35	49,29	36,51	54,04	4,07	290-405	520
700x150	35,51	58,06	40,83	63,40	36,54	58,42	41,25	63,82	4,78	345-480	620
800x150	39,86	64,80	45,89	70,82	41,02	65,21	46,35	71,28	5,13	380-530	680
900x150	43,58	70,78	50,13	77,33	44,86	71,22	50,63	77,84	5,57	435-605	780
1000x150	47,35	77,23	54,43	84,32	48,73	77,70	54,97	84,85	6,14	490-680	875
<b>200x200</b>	<b>17,50</b>	<b>25,97</b>	<b>20,13</b>	<b>28,59</b>	<b>18,01</b>	<b>26,15</b>	<b>20,33</b>	<b>28,80</b>	<b>2,81</b>	<b>125-180</b>	<b>230</b>
250x200	19,49	29,15	22,41	32,06	20,06	29,33	22,63	32,29	3,00	165-230	295
300x200	21,74	32,81	24,96	36,02	22,37	33,02	25,20	36,27	3,16	200-280	360
350x200	23,73	36,01	27,26	39,53	24,42	36,25	27,53	39,80	3,30	225-315	405
400x200	25,74	39,26	29,54	43,05	26,49	39,52	29,84	43,34	3,46	265-365	470
450x200	27,66	42,45	31,80	46,60	28,46	42,71	32,11	46,91	3,65	300-415	535
500x200	30,49	46,77	35,07	51,36	31,39	47,08	35,42	51,70	3,78	335-470	600
600x200	37,46	56,31	43,07	61,92	38,56	56,68	43,52	62,37	4,21	395-555	715
700x200	42,36	66,45	48,72	72,80	43,59	66,87	49,19	73,27	4,92	360-630	810
800x200	47,62	74,22	54,77	81,37	49,01	74,70	55,31	81,92	5,28	525-735	940
900x200	52,24	81,28	60,01	89,04	53,76	81,79	60,61	89,64	5,74	595-835	1070
1000x200	56,75	88,72	65,26	97,23	58,40	89,30	65,91	97,89	6,28	665-935	1200
<b>250x250</b>	<b>22,53</b>	<b>33,07</b>	<b>25,91</b>	<b>36,47</b>	<b>23,18</b>	<b>33,30</b>	<b>26,17</b>	<b>36,73</b>	<b>3,16</b>	<b>210-290</b>	<b>375</b>
300x250	25,12	36,80	28,90	40,57	25,85	37,05	29,19	40,87	3,36	245-340	440
400x250	29,83	44,24	34,28	48,69	30,69	44,53	34,63	49,03	3,68	335-470	600
500x250	35,43	52,78	40,76	58,09	36,47	53,13	41,17	58,50	3,94	425-595	765
600x250	43,49	63,60	50,01	70,11	44,76	64,04	50,50	70,62	4,40	490-680	875
800x250	55,46	83,73	63,78	92,05	57,08	84,30	64,41	92,69	5,47	670-935	1200
1000x250	66,31	100,43	76,27	110,39	68,25	101,08	77,04	111,15	6,48	850-1185	1525
<b>300x300</b>	<b>28,71</b>	<b>41,29</b>	<b>33,02</b>	<b>45,61</b>	<b>29,54</b>	<b>41,57</b>	<b>33,34</b>	<b>45,94</b>	<b>3,54</b>	<b>300-415</b>	<b>535</b>
400x300	34,00	49,49	39,06	54,54	35,00	49,82	39,44	54,93	3,86	405-565	730
500x300	40,53	59,26	46,62	65,34	41,70	59,66	47,08	65,82	4,13	535-745	960
600x300	49,60	71,25	57,02	78,67	51,06	71,74	57,59	79,23	4,60	595-835	1070
800x300	63,31	93,73	72,81	103,24	65,16	94,36	73,54	103,96	5,68	810-1135	1460
1000x300	75,73	112,53	87,08	123,88	77,94	113,29	87,95	124,75	6,66	1065-1490	1915
<b>400x400</b>	<b>42,21</b>	<b>59,87</b>	<b>48,55</b>	<b>66,22</b>	<b>43,45</b>	<b>60,30</b>	<b>49,04</b>	<b>66,70</b>	<b>4,16</b>	<b>550-770</b>	<b>990</b>
500x400	50,47	71,92	58,06	79,52	51,94	72,43	58,65	80,10	4,42	795-970	1250
600x400	61,84	86,77	71,13	96,05	63,64	87,37	71,84	96,76	4,89	810-1135	1460
800x400	78,99	113,76	90,83	125,60	81,31	114,55	91,73	126,50	5,95	10100-1535	1980
<b>1000x400</b>	<b>94,76</b>	<b>137,68</b>	<b>108,94</b>	<b>151,86</b>	<b>97,52</b>	<b>138,62</b>	<b>110,03</b>	<b>152,96</b>	<b>6,99</b>	<b>1385-1940</b>	<b>2495</b>

(*)	eur
(O)	3,15

L x H mm	BMT-AC M9016 eur	BMT-AC+SP M9016	BMT-ACO M9016 eur	BMT-ACO+SP M9016	BMT-AC AA eur	BMT-AC+SP AA eur	BMT-ACO AA eur	BMT-ACO+SP AA eur	CM eur	Lwa1 < 35 dB(A) m³/h	Lwa1 45 dB(A) m³/h
200x100	13,28	20,31	15,32	22,34	13,68	20,45	15,47	22,48	2,53	54-80	100
250x100	15,24	23,24	17,46	25,45	15,69	23,38	17,62	25,62	2,73	75-105	130
300x100	17,45	26,87	20,06	29,49	17,95	27,05	20,26	29,69	2,89	90-125	165
350x100	19,29	30,07	22,18	32,95	19,86	30,26	22,38	33,17	3,02	108-150	200
400x100	21,37	33,22	24,58	36,43	21,99	33,43	24,81	36,67	3,19	120-165	210
450x100	24,65	37,77	28,31	41,45	25,36	38,02	28,59	41,74	3,36	135-190	245
500x100	27,02	41,25	31,05	45,29	27,80	41,52	31,35	45,59	3,46	155-215	275
600x100	31,15	47,53	35,81	52,19	32,06	47,85	36,16	52,55	3,94	180-255	325
700x100	36,07	57,25	41,50	62,67	37,13	57,61	41,91	63,09	4,66	220-305	390
800x100	40,91	64,19	47,01	70,29	42,11	64,60	47,48	70,76	5,02	235-330	425
900x100	47,23	73,05	54,28	80,10	48,61	73,51	54,84	80,64	5,41	270-380	490
1000x100	51,60	79,62	59,34	87,35	53,11	80,13	59,92	87,94	6,04	310-430	555
200x150	15,35	23,03	17,62	25,30	15,80	23,18	17,81	25,47	2,69	90-125	165
250x150	17,58	26,44	20,23	29,09	18,09	26,62	20,44	29,29	2,84	120-165	210
300x150	20,14	30,48	23,16	33,51	20,73	30,68	23,40	33,73	3,02	145-205	260
350x150	22,35	33,85	25,72	37,21	23,00	34,07	25,97	37,46	3,14	175-240	310
400x150	24,70	37,38	28,37	41,05	25,42	37,63	28,66	41,32	3,34	190-270	340
450x150	28,28	42,14	32,52	46,37	29,11	42,42	32,84	46,69	3,46	220-305	390
500x150	31,29	46,54	35,94	51,19	32,21	46,87	36,31	51,56	3,63	245-345	440
600x150	36,21	53,76	41,65	59,18	37,28	54,13	42,05	59,61	4,07	290-405	520
700x150	41,75	64,31	48,02	70,58	42,95	64,73	48,50	71,06	4,78	345-480	620
800x150	47,53	72,47	54,67	79,62	48,91	72,94	55,22	80,16	5,13	380-530	680
900x150	54,53	81,74	62,73	89,93	56,12	82,29	63,36	90,56	5,57	435-605	780
1000x150	59,77	89,65	68,71	98,59	61,51	90,26	69,39	99,28	6,14	490-680	875
200x200	17,50	25,97	20,13	28,59	18,01	26,15	20,33	28,80	2,81	125-180	230
250x200	20,01	29,67	23,03	32,68	20,60	29,87	23,26	32,92	3,00	165-230	295
300x200	22,94	34,00	26,37	37,43	23,62	34,23	26,65	37,70	3,16	200-280	360
350x200	25,41	37,68	29,26	41,53	26,15	37,93	29,54	41,81	3,30	225-315	405
400x200	28,14	41,65	32,36	45,89	28,95	41,92	32,70	46,21	3,46	265-365	470
450x200	32,08	46,89	36,95	51,74	33,02	47,19	37,31	52,11	3,65	300-415	535
500x200	35,61	51,89	40,99	57,27	36,66	52,25	41,41	57,68	3,78	335-470	600
600x200	41,17	60,02	47,35	66,20	42,36	60,41	47,81	66,66	4,21	395-555	715
700x200	47,52	71,61	54,67	78,75	48,90	72,08	55,22	79,30	4,92	360-630	810
800x200	54,24	80,84	62,33	88,93	55,82	81,38	62,95	89,56	5,28	525-735	940
900x200	61,95	90,98	71,26	100,29	63,77	91,61	71,97	101,00	5,74	595-835	1070
1000x200	67,89	99,88	78,12	110,11	69,88	100,56	78,91	110,88	6,28	665-935	1200
250x250	22,53	33,07	25,91	36,47	23,18	33,30	26,17	36,73	3,16	210-290	375
300x250	25,82	37,50	29,67	41,34	26,57	37,76	29,96	41,65	3,36	245-340	440
400x250	31,59	46,00	36,34	50,75	32,51	46,30	36,70	51,11	3,68	335-470	600
500x250	39,87	57,22	45,90	63,23	41,04	57,61	46,35	63,67	3,94	425-595	765
600x250	46,28	66,39	53,25	73,36	47,64	66,86	53,78	73,88	4,40	490-680	875
800x250	60,87	89,16	70,07	98,34	62,65	89,77	70,76	99,04	5,47	670-935	1200
1000x250	76,12	110,24	87,52	121,63	78,33	110,99	88,39	122,51	6,48	850-1185	1525
300x300	28,71	41,29	33,02	45,61	29,54	41,57	33,34	45,94	3,54	300-415	535
400x300	35,07	50,55	40,35	55,85	36,09	50,91	40,76	56,25	3,86	405-565	730
500x300	44,25	62,97	50,87	69,60	45,54	63,42	51,38	70,10	4,13	535-745	960
600x300	51,31	72,95	59,01	80,66	52,82	73,48	59,61	81,25	4,60	595-835	1070
800x300	67,71	98,14	77,84	108,26	69,69	98,81	78,61	109,05	5,68	810-1135	1460
1000x300	84,44	121,24	97,12	133,92	86,91	122,10	98,08	134,88	6,66	1065-1490	1915
400x400	42,21	59,87	48,55	66,22	43,45	60,30	49,04	66,70	4,16	550-770	990
500x400	52,97	74,43	60,96	82,41	54,52	74,95	61,55	83,01	4,42	795-970	1250
600x400	61,60	86,53	70,85	95,77	63,40	87,15	71,56	96,47	4,89	810-1135	1460
800x400	81,24	116,00	93,42	128,19	83,61	116,80	94,36	129,13	5,95	10100-1535	1980
1000x400	101,12	144,04	116,21	159,14	104,06	145,04	117,37	160,29	6,99	1385-1940	2495

(*)	eur
(O)	3,15



## Linear grilles

### Architectural integration

LMT-MISS reduced frame grille

LMT-MINI Linear grilles for laminated plaster board mounting

LMT-SW model for leveled mounting



## INDEX

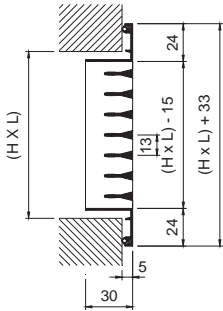
- 25** LMT linear grilles: frame 24 mm
- 28** LMT-MISS linear grilles: frame 15 mm
- 31** LMT-MINI linear grilles for laminated plaster board mounting
- 33** LMT-SW linear grilles for leveled mounting

## Linear grilles: frame 24 mm

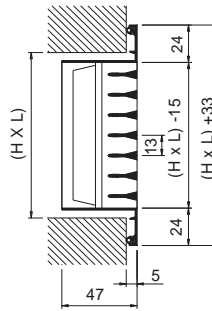


### Technical data

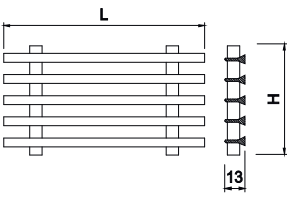
#### LMT



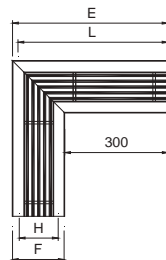
#### LMT-DD



#### EMP



#### A90/LMT



H	E	L	F
75	408	391,5	108
100	433	416,5	133
125	458	441,5	158
150	483	466,5	183
200	533	516,5	233
250	583	566,5	283
300	633	616,5	333



### Description

Linear grilles in aluminium for supply or air return, with fixed bars parallels to the largest side (L size)

**LMT** Grille with end borders and fixed bars at 0°. Suitable for lengths ≤ 2 m.

**LMT-15** Grille LMT with fixed bars at 15°.

**...-DD** LMT grille with individually adjustable rear blades, parallels to the shortest side, in black colour.

**...-ARI** Grille with an end border on the left side, required to form lines > 2 m.

**...-ARD** Grille with an end border on the right side, required to form lines > 2 m.

**...-INT** Grille without end borders, required to form lines > 4 m.

**EMP** Linear core grille.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PLRO** Connection plenum: see Accessories.

**TP** Hinged access door (supplement \*)

**A90/LMT** Inactive grille without end borders, making a 90° angle.

### Fixing

**(S)** Clips. It requires mounting frame CM.

**(O)** Hidden screw. It requires mounting frame CM (supplement \*)

**(T)** Visible screws (supplement \*)

### Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of linear grille with fixed bars at 0° parallels to the largest side series **LMT+SP+CM (S) M9016 dim. LxH**, constructed from aluminium paint in white **M9016** with opposed blades volume damper from electro-zinc steel in black colour **SP**, invisible fixing by clips **(S)** and mounting frame **CM**. Manufacturer **MADEL**.





L x H	LMT	LMT+SP	LMT	LMT+SP	LMT	LMT+SP	EMP	SP	CM	Lwa1	Lwa1
	M9016	M9016	R9010S R9016S	R9010S R9016S	AA	AA				< 35 dB(A)	45 dB(A)
mm	eur	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x75	14,09	21,12	14,94	21,96	14,22	21,25	7,98	7,02	2,47	45-75	110
250x75	15,72	23,71	16,67	24,66	15,86	23,85	9,28	7,99	2,69	50-90	125
300x75	16,21	25,65	17,19	26,62	16,37	25,80	9,30	9,43	2,84	65-115	160
400x75	18,08	29,92	19,16	31,01	18,24	30,10	10,28	11,85	3,14	85-150	215
500x75	21,77	36,02	23,08	37,32	21,98	36,23	13,07	14,23	3,42	110-190	270
600x75	24,62	41,01	26,10	42,49	24,87	41,26	14,56	16,39	3,88	135-240	340
700x75	27,18	47,02	28,81	48,65	27,45	47,30	16,28	19,84	4,62	155-280	395
800x75	29,73	53,01	31,52	54,79	30,02	53,30	17,98	23,29	4,94	180-315	450
900x75	33,00	58,66	34,97	60,64	33,32	58,99	20,06	25,67	5,37	205-355	505
1000x75	36,28	64,29	38,45	66,48	36,64	64,65	22,18	28,03	5,95	230-405	575
200x100	15,87	22,91	16,83	23,85	16,04	23,06	9,68	7,02	2,53	60-100	145
250x100	17,10	25,08	18,12	26,11	17,26	25,27	10,50	7,99	2,73	70-125	180
300x100	18,44	27,86	19,55	28,97	18,62	28,06	11,48	9,43	2,89	95-165	235
400x100	20,73	32,58	21,98	33,84	20,95	32,80	12,94	11,85	3,19	120-215	305
500x100	23,08	37,32	24,46	38,70	23,32	37,55	14,48	14,23	3,46	160-275	395
600x100	28,49	44,88	30,20	46,60	28,78	45,17	18,54	16,39	3,94	195-340	485
700x100	31,48	52,64	33,36	54,53	31,80	52,97	20,71	21,18	4,66	230-395	565
800x100	34,46	57,75	36,53	59,82	34,81	58,09	22,92	23,29	5,02	260-455	650
900x100	38,53	64,35	40,84	66,66	38,92	64,75	25,90	25,82	5,41	235-510	730
1000x100	42,66	70,69	45,23	73,24	43,08	71,11	28,86	28,03	6,04	325-565	810
200x125	17,48	25,16	18,54	26,20	17,66	25,33	11,15	7,68	2,67	70-130	180
250x125	18,89	27,77	20,03	28,90	19,09	27,95	12,22	8,87	2,81	90-165	240
300x125	20,50	30,84	21,72	32,06	20,70	31,04	13,43	10,34	3,00	110-210	290
400x125	23,19	35,85	24,58	37,26	23,42	36,09	15,36	12,68	2,27	140-255	365
500x125	28,51	43,76	30,21	45,47	28,79	44,04	19,46	15,25	3,57	200-355	505
600x125	32,47	50,01	34,41	51,94	32,80	50,35	22,62	17,54	4,03	240-430	615
700x125	35,91	57,15	38,06	59,33	36,27	57,52	25,31	21,25	4,75	280-525	715
800x125	39,34	64,28	41,69	66,64	39,74	64,66	27,99	24,95	5,10	320-570	815
900x125	44,19	71,62	46,85	74,26	44,63	72,06	31,79	27,42	5,52	360-640	915
1000x125	49,07	78,96	52,03	81,91	49,56	79,45	35,57	29,89	6,12	400-710	1010
200x150	19,38	27,07	20,56	28,23	19,58	27,26	12,98	7,68	2,69	100-175	250
250x150	21,04	29,91	22,31	31,17	21,25	30,12	14,30	8,87	2,84	130-225	325
300x150	22,81	33,16	24,18	34,52	23,04	33,38	15,73	10,34	3,02	165-290	415
400x150	25,97	38,65	27,53	40,20	26,22	38,90	18,13	12,68	3,34	215-380	540
500x150	29,22	44,49	30,97	46,24	29,52	44,77	20,65	15,25	3,63	275-480	685
600x150	36,63	54,17	38,82	56,36	37,00	54,53	26,87	17,54	4,07	330-580	830
700x150	40,50	63,05	42,92	65,49	40,89	63,46	29,94	22,57	4,78	385-675	965
800x150	44,35	69,29	47,01	71,96	44,79	69,74	33,02	24,95	5,13	445-780	1115
900x150	49,98	77,18	52,97	80,18	50,47	77,67	37,57	27,20	5,57	500-875	1255
1000x150	55,61	85,49	58,95	88,83	56,16	86,05	42,14	29,89	6,14	560-985	1405
200x200	22,85	31,31	24,22	32,68	23,07	31,54	16,30	8,47	2,81	135-240	340
250x200	24,97	34,63	26,46	36,12	25,21	34,88	18,09	9,65	3,00	180-315	450
300x200	27,48	38,53	29,14	40,18	27,75	38,81	20,26	11,06	3,16	225-390	560
400x200	31,46	44,98	33,34	46,87	31,79	45,29	23,58	13,50	3,46	295-515	740
500x200	35,63	51,90	37,76	54,03	35,98	52,26	27,05	16,28	3,78	375-655	935
600x200	44,84	63,70	47,53	66,38	45,29	64,14	35,29	18,85	4,21	455-795	1135
700x200	49,60	73,70	52,57	76,66	50,11	74,19	39,20	24,08	4,92	530-925	1320
800x200	54,37	80,97	57,63	84,23	54,91	81,51	43,14	26,60	5,28	605-1060	1510
900x200	61,50	90,54	65,20	94,22	62,11	91,16	49,40	29,04	5,74	680-1190	1695
1000x200	68,64	100,63	72,76	104,74	69,33	101,31	55,67	31,98	6,28	765-1335	1910
250x250	29,27	39,83	31,03	41,58	29,56	40,13	22,26	10,57	3,16	225-390	560
300x250	31,98	43,66	33,91	45,58	32,30	43,99	24,68	11,69	3,36	280-490	700
400x250	37,12	51,53	39,35	53,76	37,49	51,89	29,21	14,40	3,68	375-655	935
500x250	43,05	60,39	45,64	62,97	43,49	60,83	34,63	17,35	3,94	470-820	1170
600x250	54,26	74,37	57,52	77,62	54,80	74,92	45,04	20,11	4,40	570-995	1420
700x250	59,58	83,76	63,14	87,33	60,16	84,37	49,59	24,21	5,15	665-1160	1655
800x250	64,87	93,15	68,76	97,05	65,52	93,80	54,10	28,28	5,47	765-1335	1910
900x250	73,83	105,01	78,26	109,44	74,57	105,76	62,34	31,18	5,90	860-1500	2145
1000x250	82,78	116,89	87,74	121,86	83,61	117,72	70,57	34,12	6,48	960-1675	2395
300x300	36,63	49,22	38,82	51,41	37,00	49,57	29,18	12,59	3,54	340-590	845
400x300	42,77	58,26	45,33	60,83	43,19	58,68	34,83	15,49	3,86	455-795	1135
500x300	49,62	68,35	52,60	71,34	50,12	68,85	41,10	18,73	4,13	570-995	1420
600x300	62,78	84,43	66,56	88,20	63,41	85,06	53,65	21,65	4,60	685-1195	1710
700x300	69,00	95,04	73,13	99,18	69,70	95,73	59,24	26,04	5,30	800-1395	1995
800x300	75,20	105,63	79,71	110,14	75,95	106,38	64,82	30,43	5,68	920-1615	2305
900x300	85,73	119,35	90,86	124,49	86,58	120,21	74,78	33,63	6,09	1035-1815	2595
1000x300	96,26	133,07	102,04	138,84	97,22	134,04	84,77	36,80	6,66	1160-2030	2900

	H	75	100	125	150	200	250	300
A90/LMT	M9016	50,04	53,10	65,57	67,19	81,95	99,01	114,07
A90/LMT	R9010S /R9016S	53,05	56,28	69,50	71,21	86,85	104,95	120,92
A90/LMT	AA	50,53	53,62	66,23	67,86	82,76	100,00	115,23

L x H mm	LMT-DD M9016	LMT-DD+SP M9016	LMT-DD R9010S R9016S	LMT-DD+SP R9010S R9016S	LMT-DD AA	LMT-DD+SP AA	SP eur	CM eur	Lwa1 < 35 dB(A)	Lwa1 45 dB(A)
	eur	eur	eur	eur	eur	eur			m³/h	m³/h
200x75	<b>18,91</b>	<b>25,94</b>	<b>20,04</b>	<b>27,07</b>	<b>19,10</b>	<b>26,12</b>	<b>7,02</b>	<b>2,47</b>	<b>45-75</b>	<b>110</b>
250x75	21,41	29,41	22,69	30,68	21,62	29,61	7,99	2,69	50-90	125
300x75	23,04	32,47	24,42	33,85	23,28	32,70	9,43	2,84	65-115	160
400x75	26,45	38,30	28,05	39,89	26,71	38,56	11,85	3,14	85-150	215
500x75	29,95	44,19	31,75	45,99	30,24	44,50	14,23	3,42	110-190	270
600x75	36,70	53,09	38,90	55,29	37,06	53,45	16,39	3,88	135-240	340
700x75	41,26	61,10	43,74	63,58	41,67	61,51	19,84	4,62	155-280	395
800x75	45,77	69,06	48,52	71,81	46,24	69,51	23,29	4,94	180-315	450
900x75	50,79	76,46	53,85	79,51	51,30	76,96	25,67	5,37	205-355	505
1000x75	55,80	83,82	59,14	87,17	56,35	84,37	28,03	5,95	230-405	575
<b>200x100</b>	<b>21,28</b>	<b>28,30</b>	<b>22,56</b>	<b>29,57</b>	<b>21,49</b>	<b>28,52</b>	<b>7,02</b>	<b>2,53</b>	<b>60-100</b>	<b>145</b>
250x100	23,36	31,35	24,77	32,76	23,60	31,59	7,99	2,73	70-125	180
300x100	26,04	35,46	27,60	37,04	26,31	35,73	9,43	2,89	95-165	235
400x100	30,16	42,00	31,96	43,81	30,46	42,30	11,85	3,19	120-215	305
500x100	34,34	48,57	36,40	50,65	34,68	48,93	14,23	3,46	160-275	395
600x100	42,15	58,52	44,68	61,07	42,57	58,96	16,39	3,94	195-340	485
700x100	47,49	68,66	50,36	71,51	47,96	69,13	21,18	4,66	230-395	565
800x100	52,87	76,15	56,04	79,32	53,41	76,68	23,29	5,02	260-455	650
900x100	58,83	84,65	62,35	88,17	59,41	85,23	25,82	5,41	235-510	730
1000x100	64,78	92,80	68,66	96,69	65,44	93,44	28,03	6,04	325-565	810
<b>200x125</b>	<b>23,41</b>	<b>31,09</b>	<b>24,81</b>	<b>32,49</b>	<b>23,65</b>	<b>31,32</b>	<b>7,68</b>	<b>2,67</b>	<b>70-130</b>	<b>180</b>
250x125	25,77	34,64	27,32	36,17	26,03	34,90	8,87	2,81	90-165	240
300x125	28,79	39,13	30,52	40,86	29,07	39,41	10,34	3,00	110-210	290
400x125	33,61	46,28	35,63	48,30	33,95	46,63	12,68	2,27	140-255	365
500x125	38,49	53,75	40,80	56,05	38,88	54,14	15,25	3,57	200-355	505
600x125	47,62	65,15	50,47	68,00	48,08	65,62	17,54	4,03	240-430	615
700x125	53,69	74,95	56,91	78,18	54,24	75,49	21,25	4,75	280-525	715
800x125	59,78	84,72	63,37	88,31	60,38	85,33	24,95	5,10	320-570	815
900x125	66,77	94,20	70,78	98,21	67,45	94,87	27,42	5,52	360-640	915
1000x125	73,80	103,68	78,23	108,12	74,54	104,42	29,89	6,12	400-710	1010
<b>200x150</b>	<b>25,84</b>	<b>33,52</b>	<b>27,40</b>	<b>35,07</b>	<b>26,10</b>	<b>33,77</b>	<b>7,68</b>	<b>2,69</b>	<b>100-175</b>	<b>250</b>
250x150	28,53	37,40	30,23	39,10	28,81	37,68	8,87	2,84	130-225	325
300x150	31,92	42,26	33,84	44,17	32,24	42,58	10,34	3,02	165-290	415
400x150	37,39	50,05	39,62	52,29	37,76	50,43	12,68	3,34	215-380	540
500x150	42,96	58,23	45,55	60,80	43,39	58,65	15,25	3,63	275-480	685
600x150	53,33	70,87	56,53	74,07	53,86	71,40	17,54	4,07	330-580	830
700x150	60,09	82,66	63,70	86,25	60,68	83,24	22,57	4,78	385-675	965
800x150	66,82	91,76	70,82	95,77	67,49	92,43	24,95	5,13	445-780	1115
900x150	74,82	102,03	79,31	106,52	75,57	102,77	27,20	5,57	500-875	1255
1000x150	82,81	112,69	87,79	117,67	83,65	113,53	29,89	6,14	560-985	1405
<b>200x200</b>	<b>30,32</b>	<b>38,79</b>	<b>32,14</b>	<b>40,59</b>	<b>30,63</b>	<b>39,09</b>	<b>8,47</b>	<b>2,81</b>	<b>135-240</b>	<b>340</b>
250x200	33,70	43,36	35,73	45,39	34,04	43,69	9,65	3,00	180-315	450
300x200	38,10	49,16	40,39	51,44	38,47	49,53	11,06	3,16	225-390	560
400x200	44,92	58,42	47,62	61,12	45,36	58,87	13,50	3,46	295-515	740
500x200	51,87	68,14	54,98	71,26	52,39	68,66	16,28	3,78	375-655	935
600x200	64,59	83,44	68,46	87,31	65,24	84,09	18,85	4,21	455-795	1135
700x200	72,75	96,83	77,11	101,19	73,48	97,56	24,08	4,92	530-925	1320
800x200	80,88	107,49	85,74	112,35	81,70	108,29	26,60	5,28	605-1060	1510
900x200	90,96	120,00	96,42	125,45	91,87	120,90	29,04	5,74	680-1190	1695
1000x200	101,00	132,98	107,06	139,05	102,02	133,99	31,98	6,28	765-1335	1910
<b>250x250</b>	<b>39,24</b>	<b>49,80</b>	<b>41,59</b>	<b>52,16</b>	<b>39,63</b>	<b>50,19</b>	<b>10,57</b>	<b>3,16</b>	<b>225-390</b>	<b>560</b>
300x250	44,13	55,81	46,77	58,46	44,56	56,25	11,69	3,36	280-490	700
400x250	52,59	66,99	55,74	70,15	53,12	67,52	14,40	3,68	375-655	935
500x250	61,90	79,24	65,61	82,96	62,52	79,87	17,35	3,94	470-820	1170
600x250	77,13	97,23	81,76	101,88	77,89	98,01	20,11	4,40	570-995	1420
700x250	86,32	110,53	91,51	115,71	87,19	111,38	24,21	5,15	665-1160	1655
800x250	95,52	123,80	101,25	129,52	96,47	124,75	28,28	5,47	765-1335	1910
900x250	107,94	139,12	114,41	145,60	109,03	140,21	31,18	5,90	860-1500	2145
1000x250	120,35	154,46	127,58	161,69	121,55	155,66	34,12	6,48	960-1675	2395
<b>300x300</b>	<b>50,28</b>	<b>62,88</b>	<b>53,30</b>	<b>65,90</b>	<b>50,79</b>	<b>63,39</b>	<b>12,59</b>	<b>3,54</b>	<b>340-590</b>	<b>845</b>
400x300	60,28	75,76	63,89	79,38	60,87	76,36	15,49	3,86	455-795	1135
500x300	70,99	89,72	75,24	93,98	71,70	90,43	18,73	4,13	570-995	1420
600x300	88,80	110,43	94,11	115,76	89,67	111,31	21,65	4,60	685-1195	1710
700x300	99,38	125,41	105,34	131,38	100,37	126,40	26,04	5,30	800-1395	1995
800x300	109,92	140,35	116,52	146,95	111,02	141,45	30,43	5,68	920-1615	2305
900x300	124,45	158,06	131,92	165,53	125,70	159,32	33,63	6,09	1035-1815	2595
1000x300	138,97	175,78	147,31	184,11	140,36	177,16	36,80	6,66	1160-2030	2900

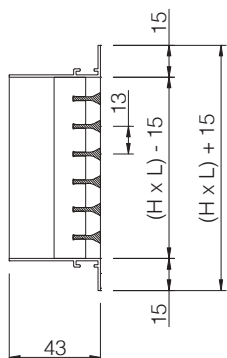
(*)	eur
TP	39,97
(O)	3,15
(T)	1,17

Linear grilles: frame 15 mm

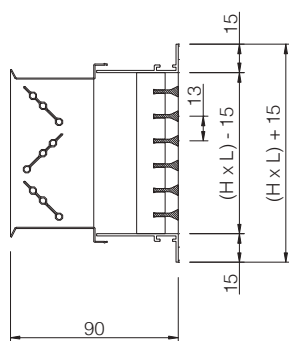


Technical data

**LMT-MISS**



**LMT-MISS+SP**



**Description**

Linear grilles in aluminium for supply or air return, with fixed bars parallels to the largest side (L size). Reduced frame linear grilles at 15 mm which makes adaptable the integration.

**LMT-MISS** Grille with end borders and fixed bars at 0°. Suitable for lengths ≤ 2 m.

**LMT-MISS-15** Grille LMT-MISS with bars at 15°.

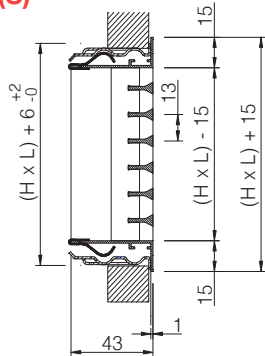
**...-DD** grille with individually adjustable rear blades, parallels to the shortest side, in black colour.

**...-ARI** Grille with an end border on the left side, required to form lines > 2 m.

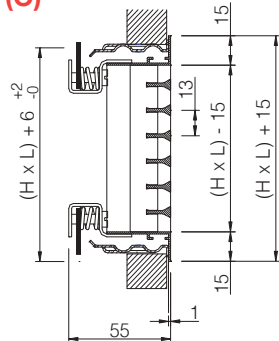
**...-ARD** Grille with an end border on the right side, required to form lines > 2 m.

**...-INT** Grille without end borders, required to form lines > 4 m.

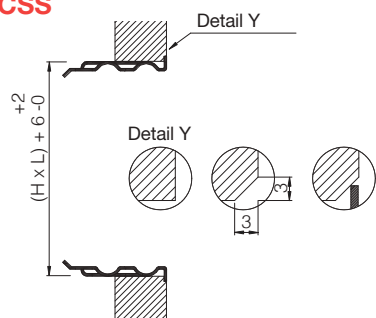
**(S)**



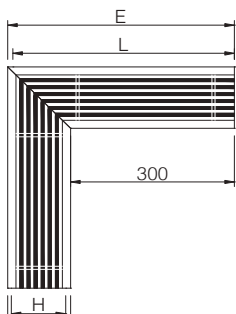
**(O)**



**CSS**



**A90/LMT-MISS**



H	E	L	F
75	390	383	90
100	415	408	115
125	440	433	140
150	465	458	165
200	515	508	215
250	565	558	265
300	615	608	315

**Accessories**

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**CSS** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PMIS** Connection plenum: see Accessories.

**A90/LMT-MISS** Inactive grille without end borders, making a 90° angle.

**Fixing**

**(S)** Clips. It requires mounting frame CSS.

**(O)** Hidden screw. It requires mounting frame CSS (supplement \*)

**Finishes**

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**Specification Text**

Supply and mounting of linear grille with fixed bars at 0° parallels to the largest side series **LMT-MISS+SP(S)AA dim. LxH**, constructed from aluminium matt silver anodised **AA** with opposed blades volume damper from electro-zinc steel in black colour **SP**, invisible fixing by clips **(S)** and mounting frame **CSS**. Manufacturer **MADEL**.

L x H mm	MISS M9016	MISS +SP M9016	MISS R9010S R9016S	MISS +SP R9010S R9016S	MISS AA	MISS+SP AA	SP	CSS	Lwa1< 35 dB(A)	Lwa1= 45 dB(A)
	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x75	16,05	23,07	17,01	24,04	16,21	23,24	7,02	2,47	45-75	110
250x75	16,60	24,60	17,61	25,61	16,77	24,77	7,99	2,69	50-90	125
300x75	17,02	26,45	18,06	27,48	17,19	26,62	9,43	2,84	65-115	160
400x75	19,19	31,04	20,34	32,20	19,37	31,22	11,85	3,14	85-150	215
500x75	22,46	36,71	23,81	38,05	22,69	36,94	14,23	3,42	110-190	270
600x75	25,16	41,54	26,67	43,05	25,41	41,79	16,39	3,88	135-240	340
700x75	27,41	47,25	29,06	48,89	27,68	47,52	19,84	4,62	155-280	395
800x75	29,84	53,12	31,63	54,91	30,14	53,42	23,29	4,94	180-315	450
900x75	32,76	58,42	34,72	60,39	33,08	58,75	25,67	5,37	205-355	505
1000x75	35,81	63,84	37,96	65,98	36,16	64,19	28,03	5,95	230-405	575
<b>200x100</b>	<b>17,08</b>	<b>24,10</b>	<b>18,11</b>	<b>25,14</b>	<b>17,24</b>	<b>24,28</b>	<b>7,02</b>	<b>2,53</b>	<b>60-100</b>	<b>145</b>
250x100	18,07	26,06	19,14	27,14	18,23	26,22	7,99	2,73	70-125	180
300x100	19,25	28,69	20,41	29,84	19,44	28,86	9,43	2,89	95-165	235
400x100	21,77	33,63	23,08	34,93	21,98	33,84	11,85	3,19	120-215	305
500x100	23,81	38,05	25,24	39,47	24,05	38,29	14,23	3,46	160-275	395
600x100	28,78	45,17	30,49	46,89	29,06	45,44	16,39	3,94	195-340	485
700x100	31,42	52,59	33,30	54,48	31,73	52,90	21,18	4,66	230-395	565
800x100	34,22	57,50	36,28	59,55	34,57	57,84	23,29	5,02	260-455	650
900x100	37,85	63,66	40,13	65,95	38,22	64,05	25,82	5,41	235-510	730
1000x100	41,66	69,69	44,16	72,18	42,07	70,09	28,03	6,04	325-565	810
<b>200x125</b>	<b>18,42</b>	<b>26,09</b>	<b>19,53</b>	<b>27,19</b>	<b>18,60</b>	<b>26,28</b>	<b>7,68</b>	<b>2,67</b>	<b>70-130</b>	<b>180</b>
250x125	19,67	28,54	20,85	29,72	19,87	28,74	8,87	2,81	90-165	240
300x125	21,07	31,42	22,34	32,68	21,29	31,63	10,34	3,00	110-210	290
400x125	23,95	36,61	25,38	38,05	24,18	36,84	12,68	2,27	140-255	365
500x125	28,68	43,92	30,40	45,65	28,95	44,21	15,25	3,57	200-355	505
600x125	32,34	49,89	34,29	51,84	32,67	50,20	17,54	4,03	240-430	615
700x125	35,39	56,64	37,51	58,76	35,75	57,00	21,25	4,75	280-525	715
800x125	38,57	63,51	40,88	65,83	38,95	63,90	24,95	5,10	320-570	815
900x125	42,90	70,32	45,47	72,88	43,32	70,74	27,42	5,52	360-640	915
1000x125	47,41	77,30	50,25	80,13	47,88	77,77	29,89	6,12	400-710	1010
<b>200x150</b>	<b>20,11</b>	<b>27,79</b>	<b>21,31</b>	<b>28,98</b>	<b>20,31</b>	<b>27,99</b>	<b>7,68</b>	<b>2,69</b>	<b>100-175</b>	<b>250</b>
250x150	21,56	30,43	22,86	31,72	21,77	30,64	8,87	2,84	130-225	325
300x150	23,10	33,44	24,49	34,83	23,34	33,68	10,34	3,02	165-290	415
400x150	26,42	39,09	28,00	40,67	26,68	39,35	12,68	3,34	215-380	540
500x150	29,27	44,53	31,03	46,28	29,56	44,82	15,25	3,63	275-480	685
600x150	36,03	53,56	38,18	55,72	36,39	53,93	17,54	4,07	330-580	830
700x150	39,46	62,03	41,83	64,40	39,86	62,42	22,57	4,78	385-675	965
800x150	43,07	68,02	45,66	70,60	43,52	68,45	24,95	5,13	445-780	1115
900x150	48,08	75,29	50,97	78,19	48,56	75,77	27,20	5,57	500-875	1255
1000x150	53,27	83,16	56,47	86,34	53,80	83,69	29,89	6,14	560-985	1405
<b>200x200</b>	<b>23,18</b>	<b>31,64</b>	<b>24,57</b>	<b>33,03</b>	<b>23,41</b>	<b>31,88</b>	<b>8,47</b>	<b>2,81</b>	<b>135-240</b>	<b>340</b>
250x200	25,06	34,71	26,57	36,23	25,31	34,96	9,65	3,00	180-315	450
300x200	27,31	38,37	28,94	40,01	27,57	38,64	11,06	3,16	225-390	560
400x200	31,32	44,83	33,20	46,70	31,64	45,16	13,50	3,46	295-515	740
500x200	35,02	51,29	37,10	53,38	35,37	51,64	16,28	3,78	375-655	935
600x200	43,41	62,26	46,02	64,87	43,86	62,71	18,85	4,21	455-795	1135
700x200	47,64	71,72	50,49	74,57	48,11	72,19	24,08	4,92	530-925	1320
800x200	52,07	78,68	55,19	81,80	52,59	79,20	26,60	5,28	605-1060	1510
900x200	58,41	87,45	61,91	90,95	59,00	88,03	29,04	5,74	680-1190	1695
1000x200	64,97	96,94	68,87	100,85	65,61	97,59	31,98	6,28	765-1335	1910
<b>250x250</b>	<b>29,23</b>	<b>39,80</b>	<b>30,98</b>	<b>41,55</b>	<b>29,53</b>	<b>40,09</b>	<b>10,57</b>	<b>3,16</b>	<b>225-390</b>	<b>560</b>
300x250	31,64	43,32	33,54	45,23	31,96	43,64	11,69	3,36	280-490	700
400x250	36,37	50,77	38,55	52,96	36,73	51,14	14,40	3,68	375-655	935
500x250	41,68	59,02	44,18	61,52	42,11	59,43	17,35	3,94	470-820	1170
600x250	51,86	71,97	54,97	75,08	52,38	72,48	20,11	4,40	570-995	1420
700x250	56,60	80,80	59,99	84,19	57,15	81,36	24,21	5,15	665-1160	1655
800x250	61,48	89,76	65,16	93,44	62,09	90,36	28,28	5,47	765-1335	1910
900x250	69,49	100,67	73,66	104,85	70,19	101,37	31,18	5,90	860-1500	2145
1000x250	77,66	111,78	82,32	116,43	78,44	112,55	34,12	6,48	960-1675	2395
<b>300x300</b>	<b>35,72</b>	<b>48,31</b>	<b>37,87</b>	<b>50,45</b>	<b>36,07</b>	<b>48,66</b>	<b>12,59</b>	<b>3,54</b>	<b>340-590</b>	<b>845</b>
400x300	41,44	56,92	43,92	59,41	41,86	57,34	15,49	3,86	455-795	1135
500x300	47,53	66,26	50,39	69,11	48,01	66,73	18,73	4,13	570-995	1420
600x300	59,51	81,16	63,10	84,73	60,11	81,75	21,65	4,60	685-1195	1710
700x300	65,07	91,09	68,97	95,01	65,71	91,74	26,04	5,30	800-1395	1995
800x300	70,75	101,18	74,99	105,42	71,46	101,89	30,43	5,68	920-1615	2305
900x300	80,18	113,79	84,98	118,60	80,97	114,60	33,63	6,09	1035-1815	2595
1000x300	89,77	126,58	95,16	131,96	90,67	127,47	36,80	6,66	1160-2030	2900

H		75	100	125	150	200	250	300
A90/MISS	M9016	52,62	55,84	68,95	70,65	86,15	104,11	119,95
A90/MISS	R9010S / R9016S	55,78	59,17	73,09	74,89	91,31	110,35	127,14
A90/MISS	AA	53,15	56,38	69,63	71,36	87,01	105,14	121,15

L x H mm	MISS-DD M9016	MISS-DD +SP M9016	MISS-DD R9010S R9016S	MISS-DD +SP R9010S R9016S	MISS-DD AA	MISS-DD+SP AA	SP	CSS	Lwa1< 35 dB(A)	Lwa1= 45 dB(A)
	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x75	21,30	28,33	22,58	29,60	21,51	28,54	7,02	2,47	45-75	110
250x75	22,71	30,70	24,08	32,07	22,94	30,93	7,99	2,69	50-90	125
300x75	24,24	33,67	25,69	35,12	24,48	33,92	9,43	2,84	65-115	160
400x75	27,87	39,74	29,55	41,41	28,16	40,02	11,85	3,14	85-150	215
500x75	31,04	45,28	32,91	47,14	31,34	45,58	14,23	3,42	110-190	270
600x75	37,65	54,02	39,90	56,29	38,02	54,40	16,39	3,88	135-240	340
700x75	41,88	61,72	44,38	64,22	42,29	62,14	19,84	4,62	155-280	395
800x75	46,28	69,57	49,06	72,35	46,74	70,02	23,29	4,94	180-315	450
900x75	50,94	76,61	54,00	79,67	51,45	77,12	25,67	5,37	205-355	505
1000x75	55,80	83,82	59,14	87,17	56,35	84,37	28,03	5,95	230-405	575
200x100	22,94	29,96	24,32	31,34	23,16	30,19	7,02	2,53	60-100	145
250x100	24,77	32,76	26,24	34,25	25,02	33,01	7,99	2,73	70-125	180
300x100	27,30	36,72	28,93	38,37	27,56	37,00	9,43	2,89	95-165	235
400x100	31,63	43,47	33,53	45,37	31,95	43,80	11,85	3,19	120-215	305
500x100	35,46	49,72	37,62	51,85	35,82	50,06	14,23	3,46	160-275	395
600x100	43,00	59,39	45,58	61,98	43,42	59,82	16,39	3,94	195-340	485
700x100	48,01	69,16	50,88	72,06	48,49	69,65	21,18	4,66	230-395	565
800x100	53,25	76,54	56,43	79,72	53,78	77,06	23,29	5,02	260-455	650
900x100	58,78	84,60	62,32	88,14	59,38	85,19	25,82	5,41	235-510	730
1000x100	64,52	92,55	68,38	96,41	65,16	93,18	28,03	6,04	325-565	810
200x125	24,84	32,53	26,34	34,01	25,09	32,77	7,68	2,67	70-130	180
250x125	27,05	35,91	28,68	37,53	27,32	36,17	8,87	2,81	90-165	240
300x125	29,87	40,21	31,66	42,00	30,17	40,51	10,34	3,00	110-210	290
400x125	34,90	47,57	37,00	49,67	35,26	47,92	12,68	2,27	140-255	365
500x125	39,34	54,60	41,69	56,96	39,74	54,98	15,25	3,57	200-355	505
600x125	48,23	65,77	51,12	68,65	48,72	66,25	17,54	4,03	240-430	615
700x125	53,93	75,19	57,18	78,43	54,48	75,73	21,25	4,75	280-525	715
800x125	59,84	84,79	63,44	88,37	60,43	85,38	24,95	5,10	320-570	815
900x125	66,40	93,82	70,39	97,81	67,06	94,48	27,42	5,52	360-640	915
1000x125	73,14	103,03	77,54	107,42	73,87	103,76	29,89	6,12	400-710	1010
200x150	27,10	34,78	28,73	36,40	27,37	35,05	7,68	2,69	100-175	250
250x150	29,61	38,47	31,39	40,26	29,91	38,77	8,87	2,84	130-225	325
300x150	32,82	43,16	34,79	45,12	33,16	43,49	10,34	3,02	165-290	415
400x150	38,46	51,14	40,78	53,45	38,85	51,53	12,68	3,34	215-380	540
500x150	43,67	58,93	46,29	61,54	44,11	59,37	15,25	3,63	275-480	685
600x150	53,65	71,19	56,87	74,42	54,19	71,73	17,54	4,07	330-580	830
700x150	60,02	82,58	63,61	86,18	60,62	83,18	22,57	4,78	385-675	965
800x150	66,58	91,53	70,58	95,52	67,24	92,19	24,95	5,13	445-780	1115
900x150	74,09	101,30	78,54	105,75	74,83	102,04	27,20	5,57	500-875	1255
1000x150	81,79	111,67	86,70	116,57	82,60	112,49	29,89	6,14	560-985	1405
200x200	31,32	39,79	33,20	41,66	31,64	40,10	8,47	2,81	135-240	340
250x200	34,48	44,15	36,57	46,23	34,83	44,50	9,65	3,00	180-315	450
300x200	38,66	49,72	40,98	52,04	39,05	50,11	11,06	3,16	225-390	560
400x200	45,63	59,13	48,36	61,86	46,07	59,60	13,50	3,46	295-515	740
500x200	52,18	68,46	55,33	71,61	52,72	68,99	16,28	3,78	375-655	935
600x200	64,41	83,25	68,28	87,13	65,07	83,91	18,85	4,21	455-795	1135
700x200	72,15	96,23	76,48	100,57	72,87	96,95	24,08	4,92	530-925	1320
800x200	80,03	106,64	84,83	111,44	80,83	107,44	26,60	5,28	605-1060	1510
900x200	89,57	118,60	94,95	123,98	90,46	119,50	29,04	5,74	680-1190	1695
1000x200	99,22	131,21	105,17	137,17	100,21	132,20	31,98	6,28	765-1335	1910
250x250	40,06	50,62	42,46	53,02	40,46	51,02	10,57	3,16	225-390	560
300x250	44,71	56,39	47,40	59,09	45,17	56,85	11,69	3,36	280-490	700
400x250	52,88	67,28	56,05	70,46	53,42	67,83	14,40	3,68	375-655	935
500x250	61,74	79,07	65,45	82,78	62,35	79,69	17,35	3,94	470-820	1170
600x250	76,38	96,50	80,97	101,08	77,15	97,27	20,11	4,40	570-995	1420
700x250	85,11	109,31	90,22	114,41	85,96	110,16	24,21	5,15	665-1160	1655
800x250	94,04	122,32	99,68	127,97	94,98	123,26	28,28	5,47	765-1335	1910
900x250	105,82	137,00	112,18	143,36	106,88	138,07	31,18	5,90	860-1500	2145
1000x250	117,79	151,90	124,87	158,97	118,98	153,08	34,12	6,48	960-1675	2395
300x300	50,45	63,04	53,49	66,07	50,96	63,55	12,59	3,54	340-590	845
400x300	60,22	75,72	63,85	79,34	60,83	76,32	15,49	3,86	455-795	1135
500x300	70,39	89,12	74,60	93,34	71,10	89,83	18,73	4,13	570-995	1420
600x300	87,54	109,18	92,80	114,43	88,42	110,06	21,65	4,60	685-1195	1710
700x300	97,60	123,64	103,46	129,50	98,58	124,63	26,04	5,30	800-1395	1995
800x300	107,85	138,29	114,32	144,75	108,92	139,35	30,43	5,68	920-1615	2305
900x300	121,63	155,26	128,94	162,54	122,85	156,47	33,63	6,09	1035-1815	2595
1000x300	135,62	172,42	143,76	180,56	136,98	173,78	36,80	6,66	1160-2030	2900

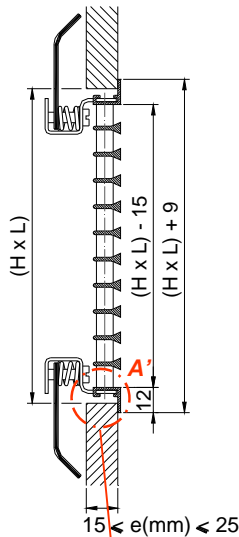
(*)	eur
(O)	315



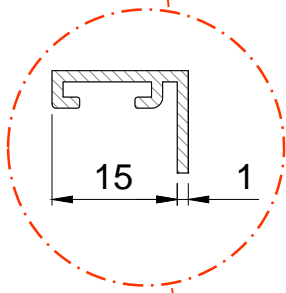
# Linear grilles for laminated plaster board mounting

**Technical data**

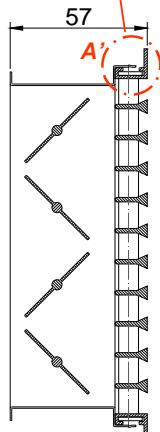
**LMT-MINI (O)**



**DETAIL A' (LMT-MINI frame)**



**LMT-MINI + SP**



**Description**

Linear grilles in aluminium for supply or air return, with fixed bars parallels to the largest side (L size). Reduced frame linear grilles at 12 mm which makes adaptable the integration.

**LMT-MINI** Grille with end borders and fixed bars at 0°. Suitable for lengths ≤ 2 m.

**LMT-MINI-15** Grille with bars at 15°.

**...-ARI** Grille with an end border on the left side, required to form lines > 2 m.

**...-ARD** Grille with an end border on the right side, required to form lines > 2 m.

**...-INT** Grille without end borders, required to form lines > 4 m.

**Accessories**

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**Fixing**

**(O)** Hidden screw.

**Finishes**

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**Specification Text**

Supply and mounting of reduced frame linear grille at 12 mm with fixed bars at 0° parallels to the largest side series **LMT-MINI+SP (O) AA dim. LxH**, constructed from aluminium and anodised in matt silver **AA** with opposed blades volume damper from electro-zinc steel in black colour **SP**, fixing hidden screws **(O)** Manufacturer **MADEL**.

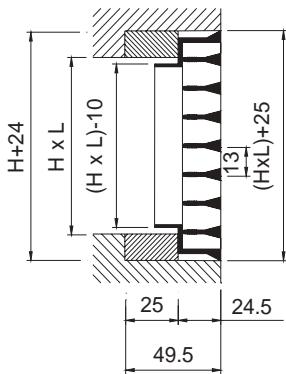
L x H mm	LMT-MINI	LMT-MINI+SP	LMT-MINI	LMT-MINI+SP	SP	Lwa1 < 35	Lwa1 = 45
	R9016B / RAL9016S R9010S	R9016B / RAL9016S R9010S	AA	AA	eur	dB(A)	dB(A)
	eur	eur	eur	eur	eur	m³/h	m³/h
200x75	<b>18,36</b>	<b>25,40</b>	<b>18,53</b>	<b>25,54</b>	<b>7,02</b>	<b>45-75</b>	<b>110</b>
250x75	20,11	28,10	20,28	28,27	7,99	50-90	125
300x75	20,63	30,07	20,81	30,23	9,43	65-115	160
400x75	22,63	34,47	22,84	34,68	11,85	85-150	215
500x75	26,65	40,88	26,87	41,12	14,23	110-190	270
600x75	29,71	46,10	29,97	46,37	16,39	135-240	340
700x75	32,48	52,31	32,77	52,61	19,84	155-280	395
800x75	35,21	58,49	35,54	58,80	23,29	180-315	450
900x75	38,74	64,40	39,09	64,76	25,67	205-355	505
1000x75	42,27	70,29	42,66	70,69	28,03	230-405	575
<b>200x100</b>	<b>20,29</b>	<b>27,32</b>	<b>20,47</b>	<b>27,49</b>	<b>7,02</b>	<b>60-100</b>	<b>145</b>
250x100	21,59	29,57	21,77	29,77	7,99	70-125	180
300x100	23,08	32,52	23,29	32,71	9,43	95-165	235
400x100	25,52	37,38	25,74	37,58	11,85	120-215	305
500x100	28,06	42,29	28,30	42,54	14,23	160-275	395
600x100	33,90	50,27	34,20	50,59	16,39	195-340	485
700x100	37,09	58,27	37,44	58,62	21,18	230-395	565
800x100	40,31	63,60	40,70	63,97	23,29	260-455	650
900x100	44,74	70,56	45,16	70,97	25,82	235-510	730
1000x100	49,17	77,19	49,64	77,64	28,03	325-565	810
<b>200x125</b>	<b>22,00</b>	<b>29,68</b>	<b>22,20</b>	<b>29,87</b>	<b>7,68</b>	<b>70-130</b>	<b>180</b>
250x125	23,57	32,43	23,77	32,63	8,87	90-165	240
300x125	25,27	35,60	25,48	35,82	10,34	110-210	290
400x125	28,16	40,83	28,42	41,08	12,68	140-255	365
500x125	33,91	49,16	34,21	49,47	15,25	200-355	505
600x125	38,18	55,72	38,53	56,08	17,54	240-430	615
700x125	41,91	63,16	42,29	63,55	21,25	280-525	715
800x125	45,58	70,52	46,01	70,96	24,95	320-570	815
900x125	50,85	78,26	51,31	78,73	27,42	360-640	915
1000x125	56,06	85,95	56,60	86,48	29,89	400-710	1010
<b>200x150</b>	<b>24,07</b>	<b>31,75</b>	<b>24,29</b>	<b>31,96</b>	<b>7,68</b>	<b>100-175</b>	<b>250</b>
250x150	25,84	34,70	26,07	34,93	8,87	130-225	325
300x150	27,79	38,13	28,04	38,38	10,34	165-290	415
400x150	31,15	43,82	31,43	44,10	12,68	215-380	540
500x150	34,67	49,92	34,98	50,24	15,25	275-480	685
600x150	42,64	60,17	43,03	60,57	17,54	330-580	830
700x150	46,82	69,38	47,26	69,82	22,57	385-675	965
800x150	50,99	75,93	51,47	76,42	24,95	445-780	1115
900x150	57,05	84,25	57,60	84,81	27,20	500-875	1255
1000x150	63,12	92,99	63,72	93,60	29,89	560-985	1405
<b>200x200</b>	<b>27,82</b>	<b>36,29</b>	<b>28,07</b>	<b>36,53</b>	<b>8,47</b>	<b>135-240</b>	<b>340</b>
250x200	30,09	39,75	30,35	40,02	9,65	180-315	450
300x200	32,81	43,87	33,09	44,16	11,06	225-390	560
400x200	37,10	50,62	37,45	50,96	13,50	295-515	740
500x200	41,56	57,84	41,95	58,24	16,28	375-655	935
600x200	51,52	70,36	52,00	70,85	18,85	455-795	1135
700x200	56,65	80,73	57,19	81,28	24,08	530-925	1320
800x200	61,80	88,42	62,40	89,01	26,60	605-1060	1510
900x200	69,49	98,53	70,15	99,19	29,04	680-1190	1695
1000x200	77,18	109,16	77,93	109,90	31,98	765-1335	1910
<b>250x250</b>	<b>34,72</b>	<b>45,29</b>	<b>35,05</b>	<b>45,61</b>	<b>10,57</b>	<b>225-390</b>	<b>560</b>
300x250	37,66	49,33	38,00	49,68	11,69	280-490	700
400x250	43,19	57,60	43,59	58,00	14,40	375-655	935
500x250	49,59	66,94	50,05	67,39	17,35	470-820	1170
600x250	61,67	81,78	62,25	82,36	20,11	570-995	1420
700x250	67,39	91,60	68,03	92,23	24,21	665-1160	1655
800x250	73,13	101,41	73,83	102,11	28,28	765-1335	1910
900x250	82,78	113,96	83,58	114,76	31,18	860-1500	2145
1000x250	92,43	126,55	93,33	127,45	34,12	960-1675	2395
<b>300x300</b>	<b>42,64</b>	<b>55,23</b>	<b>43,03</b>	<b>55,62</b>	<b>12,59</b>	<b>340-590</b>	<b>845</b>
400x300	49,30	64,79	49,76	65,25	15,49	455-795	1135
500x300	56,65	75,39	57,19	75,92	18,73	570-995	1420
600x300	70,85	92,48	71,51	93,16	21,65	685-1195	1710
700x300	77,56	103,59	78,30	104,34	26,04	800-1395	1995
800x300	84,25	114,68	85,08	115,50	30,43	920-1615	2305
900x300	95,63	129,23	96,53	130,15	33,63	1035-1815	2595
1000x300	106,99	143,79	108,02	144,82	36,80	1160-2030	2900



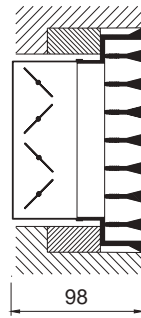
## Linear grilles for leveled mounting in masonry wall

### Technical data

#### LMT-SW+CW



#### LMT-SW+SP



### Description

Linear grilles in aluminium for supply or air return, with fixed bars parallels to the largest side (L size)

**LMT-SW** Linear grille with fixed bars at 0° for lengths ≤ 2 m, for levelled mounting on ceiling or masonry wall.

**LMT-SW-15** Grille with fixed bars at 15°.

**...-ARI** Grille with an end border on the left side, required to form lines > 2 m.

**...-ARD** Grille with an end border on the right side, required to form lines > 2 m.

**...-INT** Grille without end borders, required to form lines > 4 m.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**CW** Wooden mounting frame.

### Fixing

1) LMT-SW are supplied with a special screws for fixing the grille to CW frame.

### Finishes

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of linear grille for levelled mounting with fixed bars at 0° parallels to the largest side series **LMT-SW+CWAA dim. LxH**, constructed from aluminium and anodised in matt silver **AA**, fixing by screws and mounting frame **CW**. Manufacturer **MADEL**.

L x H mm	LMT-SW	LMT-SW+SP	LMT-SW	LMT-SW+SP	SP	CW	Lwa1 < 35	Lwa1 = 45
	R9016B / RAL9016S R9010S	R9016B / RAL9016S R9010S	AA	AA	eur	eur	dB(A)	dB(A)
	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x75	<b>27,34</b>	<b>34,36</b>	<b>25,79</b>	<b>32,82</b>	<b>7,02</b>	<b>42,66</b>	<b>45-75</b>	<b>110</b>
250x75	30,45	38,44	28,73	36,72	7,99	42,66	50-90	125
300x75	31,66	41,09	29,87	39,30	9,43	42,66	65-115	160
400x75	35,81	47,66	33,78	45,64	11,85	42,66	85-150	215
500x75	40,13	54,37	37,85	52,10	14,23	45,65	110-190	270
600x75	49,57	65,97	46,77	63,16	16,39	45,65	135-240	340
800x75	59,28	82,56	55,92	79,21	23,29	48,64	180-315	450
1000x75	71,27	99,29	67,24	95,26	28,03	51,61	230-405	575
<b>200x100</b>	<b>30,23</b>	<b>37,27</b>	<b>28,53</b>	<b>35,56</b>	<b>7,02</b>	<b>42,66</b>	<b>60-100</b>	<b>145</b>
250x100	32,81	40,80	30,94	38,93	7,99	42,66	70-125	180
300x100	35,33	44,76	33,32	42,76	9,43	42,66	95-165	235
400x100	40,27	52,12	38,00	49,84	11,85	42,66	120-215	305
500x100	45,41	59,65	42,84	57,08	14,23	45,65	160-275	395
600x100	56,80	73,19	53,59	69,98	16,39	45,65	195-340	485
800x100	68,11	91,40	64,26	87,54	23,29	48,64	260-455	650
1000x100	82,45	110,48	77,79	105,80	28,03	51,61	325-565	810
<b>200x125</b>	<b>33,08</b>	<b>40,77</b>	<b>31,21</b>	<b>38,89</b>	<b>7,68</b>	<b>42,66</b>	<b>70-130</b>	<b>180</b>
250x125	36,07	44,94	34,03	42,90	8,87	42,66	90-165	240
300x125	39,37	49,70	37,14	47,47	10,34	42,66	110-210	290
400x125	44,78	57,46	42,25	54,92	12,68	45,65	140-255	365
500x125	50,69	65,95	47,82	63,09	15,25	45,65	200-355	505
600x125	64,35	81,89	60,72	78,25	17,54	45,65	240-430	615
800x125	77,20	102,15	72,83	97,78	24,95	48,64	320-570	815
1000x125	93,66	123,54	88,35	118,24	29,89	51,61	400-710	1010
<b>200x150</b>	<b>35,78</b>	<b>43,45</b>	<b>33,75</b>	<b>41,43</b>	<b>7,68</b>	<b>42,66</b>	<b>100-175</b>	<b>250</b>
250x150	39,19	48,06	36,98	45,84	8,87	42,66	130-225	325
300x150	42,46	52,80	40,06	50,40	10,34	42,66	165-290	415
400x150	49,06	61,74	46,28	58,96	12,68	45,65	215-380	540
500x150	55,78	71,03	52,62	67,88	15,25	45,65	275-480	685
600x150	76,86	94,40	72,51	90,05	17,54	45,65	330-580	830
800x150	85,85	110,80	81,00	105,94	24,95	48,64	445-780	1115
1000x150	104,99	134,87	99,04	128,94	29,89	51,61	560-985	1405
<b>200x200</b>	<b>41,36</b>	<b>49,82</b>	<b>39,03</b>	<b>47,48</b>	<b>8,47</b>	<b>42,66</b>	<b>135-240</b>	<b>340</b>
250x200	45,57	55,23	42,99	52,64	9,65	42,66	180-315	450
300x200	50,02	61,08	47,18	58,25	11,06	42,66	225-390	560
400x200	58,15	71,66	54,87	68,37	13,50	45,65	295-515	740
500x200	66,52	82,80	62,76	79,04	16,28	45,65	375-655	935
600x200	86,13	104,99	81,26	100,12	18,85	48,64	455-795	1135
800x200	103,90	130,50	98,01	124,62	26,60	48,64	605-1060	1510
1000x200	127,78	159,77	120,54	152,53	31,98	51,61	765-1335	1910
<b>250x250</b>	<b>53,52</b>	<b>64,09</b>	<b>50,49</b>	<b>61,05</b>	<b>10,57</b>	<b>42,66</b>	<b>225-390</b>	<b>560</b>
300x250	58,61	70,28	55,29	66,97	11,69	45,65	280-490	700
400x250	69,12	83,53	65,22	79,62	14,40	45,65	375-655	935
500x250	80,75	98,09	76,18	93,52	17,35	45,65	470-820	1170
600x250	105,15	125,26	99,20	119,30	20,11	48,64	570-995	1420
800x250	126,11	154,40	118,98	147,25	28,28	51,61	765-1335	1910
1000x250	156,06	190,18	147,22	181,34	34,12	51,61	960-1675	2395
<b>300x300</b>	<b>66,00</b>	<b>78,59</b>	<b>62,26</b>	<b>74,86</b>	<b>12,59</b>	<b>45,65</b>	<b>340-590</b>	<b>845</b>
400x300	78,29	93,78	73,85	89,34	15,49	45,65	455-795	1135
500x300	91,56	110,29	86,37	105,11	18,73	48,64	570-995	1420
600x300	120,41	142,06	113,60	135,24	21,65	48,64	685-1195	1710
800x300	144,55	174,98	136,36	166,79	30,43	51,61	920-1615	2305
1000x300	179,43	216,23	169,27	206,07	36,80	54,61	1160-2030	2900

## Air return **grilles**

Designed for easy maintenance

MOD models to replace a false ceiling tile

Grilles with filter DMT-FY with easy open by hidden levers

Hinged removable core without tools KLIN models



## INDEX

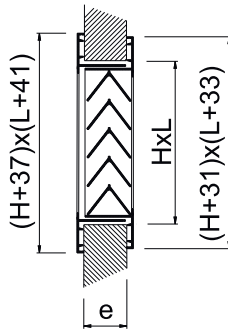
- 36 TRH** transfer grilles
- 37 DMT** fixed blades grilles
- 40 DMT-FY** fixed blades grilles with filter
- 42 DMT-MOD** modular fixed blades grilles
- 43 DMT-KLIN** accessible fixed blades grilles
- 44 RMT** egg-crate grilles
- 46 RMT-MOD** modular egg-crate grilles
- 47 RMT-KLIN** accessible egg-crate grilles

# Transfer grilles



## Technical data

### TRH-A



## Description

Grilles in aluminium with telescopic frame and "V" shaped blades for air transfer.

**TRH-A** Grille with blades parallels to the largest side to use on thickness 30-55 mm.

**TRV-...** Blades parallels to the shortest side.

**...-B** Grille to use on thickness 47-72 mm.

## Fixing

**(T)** Visible screws.

## Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

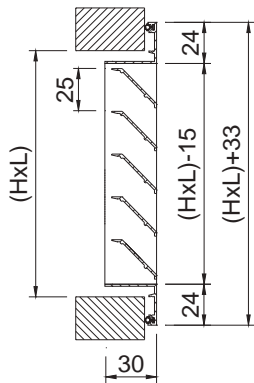
Supply and mounting of air transfer grille with telescopic frame and "V" shaped blades parallels to the largest side series **TRH-A (T) AA dim. LxH**, constructed from aluminium and anodised in matt silver **AA**, visible fixing by screws **(T)**. Manufacturer **MADEL**.

L x H mm	TRH-A	TRH-B	TRV-A	TRV-B	TRH-A	TRH-B	TRV-A	TRV-B	Q min/max m³/h	A free m²
	M9016 eur	M9016 eur	M9016 eur	M9016 eur	AA eur	AA eur	AA eur	AA eur		
200x100	21,13	22,21	25,27	27,06	21,34	22,43	25,50	27,33	15-25	0,005
260x100	24,28	25,50	30,21	32,34	24,52	25,77	30,52	32,67	20-30	0,007
300x100	26,87	28,20	34,18	36,61	27,15	28,48	34,52	36,98	20-35	0,008
400x100	32,43	34,04	41,28	44,17	32,76	34,39	41,69	44,61	30-50	0,011
500x100	37,68	39,52	48,88	52,40	38,05	39,91	49,37	52,91	40-70	0,015
600x100	43,70	45,89	56,50	60,52	44,15	46,35	57,05	61,12	50-80	0,018
200x160	25,71	27,02	26,59	28,53	25,97	27,28	26,86	28,81	30-50	0,011
260x160	29,46	30,92	31,15	33,36	29,76	31,22	31,45	33,69	40-65	0,014
300x160	32,68	34,35	35,29	37,78	33,01	34,69	35,64	38,16	45-75	0,017
400x160	39,50	41,49	43,08	46,15	39,89	41,90	43,53	46,62	60-105	0,023
500x160	45,93	48,26	51,05	54,67	46,39	48,74	51,55	55,22	80-130	0,029
600x160	52,39	54,99	59,01	63,19	52,90	55,55	59,61	63,83	90-150	0,036
200x200	30,28	31,80	30,28	32,42	30,59	32,11	30,59	32,75	40-65	0,014
260x200	34,67	36,40	35,39	37,90	35,02	36,77	35,75	38,27	50-85	0,019
300x200	38,51	40,47	40,02	42,80	38,90	40,87	40,41	43,21	60-105	0,023
400x200	46,60	48,89	49,14	52,62	47,06	49,38	49,65	53,15	85-140	0,031
500x200	54,26	56,98	58,29	62,41	54,80	57,54	58,87	63,03	105-175	0,039
600x200	61,96	65,09	67,41	72,24	62,58	65,73	68,09	72,98	125-210	0,047
300x300	50,00	52,51	50,00	53,55	50,49	53,03	50,49	54,09	100-165	0,037
400x300	60,72	63,74	62,16	66,63	61,33	64,38	62,78	67,29	135-225	0,050
500x300	70,88	74,44	73,81	79,04	71,60	75,18	74,55	79,84	175-290	0,064
600x300	81,08	85,10	85,47	91,51	81,89	85,95	86,32	92,42	210-345	0,077
400x400	74,84	78,59	74,84	80,16	75,59	79,38	75,59	80,96	190-320	0,070
500x400	87,49	91,89	88,98	95,31	88,36	92,80	89,87	96,26	240-400	0,089
600x400	100,14	105,17	103,11	110,40	101,14	106,23	104,14	111,51	290-490	0,107
500x500	104,12	109,32	104,12	111,52	105,15	110,42	105,15	112,64	310-515	0,114
600x500	119,21	125,24	119,08	127,48	120,40	126,49	120,26	128,75	370-620	0,137
600x600	138,36	145,27	138,36	148,17	139,74	146,71	139,74	149,66	470-780	0,173

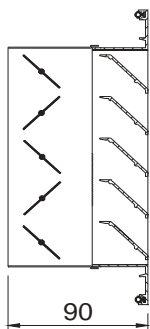
## Fixed blades return grilles

### Technical data

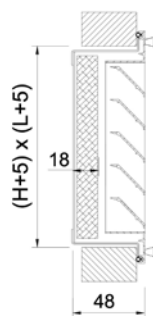
#### DMT-AR



#### DMT-AR+SP



#### DMT-AR+PFT



### Description

Air return grilles with fixed blades at 45° constructed from aluminium.

**DMT-AR** Grille with blades parallels to the largest side (L size)

**EMT-AR** Grille with blades parallels to the shortest side (H size)

### Accessories

**SP** Opposed blades volume damper from zinc plated steel in black colour.

**PFT** Filter box constructed from galvanised steel with filter K/8 class EN 779 G3. The opening size LxH must be increased by 5 mm.

**MLL** Galvanised mesh of 13x13 mm.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements) The opening size LxH must be increased by 8 mm.

**PLRO** Connection plenum: see Accessories.

### Fixing

**(S)** Clips. It requires mounting frame CM or plenum box PLRO.

**(O)** Hidden screw. It requires mounting frame CM or plenum PLRO (supplement \*)

**(T)** Visible screws (supplement \*)

1) The filter box is fixed in place with screws or sidepieces. The grille is held to the PFT by threaded knobs. The opening dimension LxH must be increased by 5 mm.

### Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**R9010S** Painted in white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of air return grille with fixed blades at 45° parallels to the largest side series **DMT-AR+SP+CM (S) M9016 dim. LxH**, constructed from aluminium paint in white M9016 with opposed blades volume damper from zinc plated steel in black colour **SP**, invisible fixing by clips **(S)** and mounting frame **CM**. Manufacturer **MADEL**.





L x H	DMT-AR M9016	DMT-AR R9010S	DMT-AR AA	SP	PFT	MLL	CM	Lwa1 < 35 dB(A)	Lwa1 < 45 dB(A)
mm	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x100	11,26	11,49	11,37	7,02	12,39	10,74	2,53	55-120	160
250x100	12,89	13,14	13,01	7,99	12,65	10,97	2,72	70-140	190
300x100	13,73	14,00	13,87	9,43	12,86	11,18	2,89	80-185	230
350x100	15,45	15,75	15,59	10,77	13,11	11,39	3,02	90-200	260
400x100	16,57	16,91	16,74	11,85	13,39	11,62	3,21	110-230	310
450x100	17,82	18,17	17,98	13,13	13,62	11,86	3,36	125-260	350
500x100	19,09	19,47	19,28	14,23	13,92	12,06	3,46	140-300	390
600x100	24,04	24,52	24,28	16,39	14,37	12,50	3,94	165-350	460
700x100	27,04	27,56	27,31	21,18	15,00	13,00	4,66	195-400	540
800x100	30,31	30,92	30,61	23,29	15,50	13,42	5,02	225-465	620
200x150	13,76	14,05	13,92	7,68	12,88	11,18	2,68	85-175	230
250x150	15,31	15,60	15,46	8,87	13,24	11,47	2,84	110-220	300
300x150	16,34	16,67	16,50	10,34	13,61	11,80	3,02	130-270	360
350x150	18,55	18,91	18,73	11,49	13,94	12,09	3,14	150-315	420
400x150	19,16	19,54	19,34	12,68	14,28	12,38	3,34	170-360	475
450x150	21,48	21,91	21,69	13,85	14,65	12,74	3,46	195-410	550
500x150	22,25	22,69	22,47	15,25	15,00	13,00	3,63	225-455	605
600x150	27,92	28,49	28,21	17,54	15,74	13,62	4,07	260-545	730
700x150	32,75	33,40	33,07	22,57	16,37	14,17	4,77	300-640	850
800x150	36,81	37,55	37,18	24,95	17,10	14,85	5,13	350-735	980
200x200	16,34	16,67	16,50	8,47	13,39	11,62	2,81	115-240	320
250x200	18,21	18,59	18,39	9,65	13,85	12,01	3,00	145-300	405
300x200	19,47	19,86	19,66	11,06	14,28	12,38	3,18	175-365	490
350x200	22,25	22,69	22,47	12,27	14,77	12,81	3,31	210-430	580
400x200	23,08	23,56	23,32	13,50	15,25	13,20	3,46	235-500	660
450x200	25,93	26,44	26,18	14,80	15,64	13,59	3,65	270-560	750
500x200	27,02	27,54	27,28	16,28	16,06	13,99	3,78	300-620	830
600x200	34,72	35,42	35,07	18,85	16,96	14,76	4,21	360-750	1010
700x200	39,78	40,57	40,17	24,08	17,82	15,43	4,92	425-880	1170
800x200	43,98	44,86	44,40	26,60	18,73	16,25	5,29	485-1005	1340
1000x200	54,98	56,08	55,54	31,95	23,40	20,29	6,28	595-1185	1585
250x250	20,82	21,24	21,03	10,57	14,39	12,51	3,18	185-385	510
300x250	22,30	22,72	22,53	11,69	15,00	13,00	3,36	225-465	620
400x250	27,57	28,12	27,84	14,40	16,06	13,99	3,68	300-625	835
500x250	31,69	32,32	32,02	17,35	17,21	14,91	3,94	380-790	1050
600x250	38,89	39,66	39,28	20,07	18,26	15,85	4,40	460-950	1270
800x250	51,14	52,16	51,64	28,28	20,30	17,61	5,47	620-1275	1700
1000x250	63,92	65,21	64,57	34,12	25,38	22,05	6,46	760-1500	2015
300x300	26,60	27,15	26,87	12,59	15,74	13,62	3,53	270-565	750
400x300	31,58	32,21	31,90	15,49	16,96	14,76	3,86	360-760	1010
500x300	37,78	38,52	38,16	18,73	18,26	15,85	4,13	460-960	1275
600x300	46,58	47,51	47,05	21,65	19,54	16,97	4,60	560-1160	1540
800x300	59,09	60,27	59,67	30,43	21,94	19,03	5,67	750-1550	2065
1000x300	73,85	75,33	74,59	36,80	27,45	23,80	6,66	965-1935	2575
350x350	32,55	33,21	32,88	15,04	17,12	14,88	3,81	375-780	1035
400x350	35,66	36,38	36,02	16,57	17,49	15,25	3,97	448-896	1195
500x350	42,02	42,88	42,45	20,11	18,99	16,51	4,23	561-1123	1497
600x350	51,88	52,90	52,40	23,28	20,50	17,81	4,72	675-1350	1800
800x350	65,73	67,03	66,39	32,59	23,06	20,03	5,79	907-1814	2419
1000x350	82,17	83,80	82,99	40,76	28,84	25,03	6,79	1135-2275	3035
400x400	39,87	40,67	40,27	17,66	18,76	16,30	4,16	495-1025	1370
500x400	46,89	47,82	47,36	21,45	20,51	17,81	4,42	625-1290	1725
600x400	57,61	58,76	58,18	24,93	22,21	19,28	4,89	755-1560	2080
800x400	73,87	75,35	74,62	34,76	25,17	21,86	5,95	1010-2090	2790
1000x400	92,35	94,19	93,28	43,47	31,47	27,34	6,99	1295-2595	3455
500x500	57,02	58,16	57,59	24,22	22,72	19,71	4,72	785-1625	2170
600x500	71,48	72,90	72,20	28,10	24,30	21,06	5,16	982-1965	2620
800x500	88,86	90,62	89,74	42,16	27,80	24,10	6,23	1317-2630	3513
1000x500	111,10	113,32	112,20	52,69	34,77	30,18	7,24	1645-3295	4395
600x600	78,70	80,26	79,49	31,34	27,39	23,75	5,61	1145-2370	3160
800x600	102,46	104,51	103,49	49,00	31,58	27,45	6,70	1580-3180	4240
1000x600	128,08	130,63	129,37	61,26	39,50	34,34	7,71	1985-3975	5300

(*)	eur
(O)	3,16
(T)	1,17

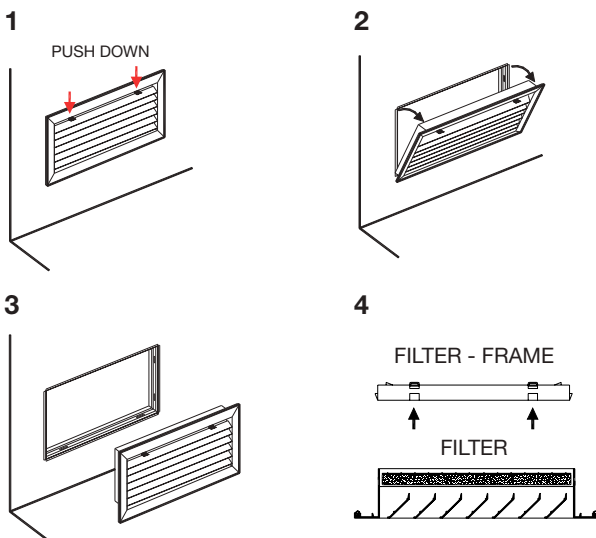
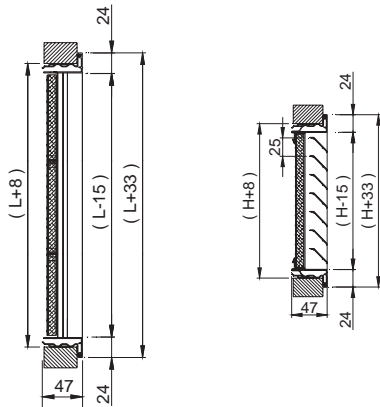
L x H	EMT-AR M9016	EMT-AR R9010S	EMT-AR AA	SP	PFT	MLL	CM	Lwa1 < 35 dB(A)	Lwa1 < 45 dB(A)
mm	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x100	12,68	12,93	12,80	7,02	12,39	10,74	2,53	55-120	160
250x100	14,11	14,39	14,24	7,99	12,65	10,97	2,72	70-140	190
300x100	16,25	16,57	16,43	9,43	12,86	11,18	2,89	80-185	230
350x100	17,77	18,13	17,95	10,77	13,11	11,39	3,02	90-200	260
400x100	19,72	20,11	19,93	11,85	13,39	11,62	3,21	110-230	310
450x100	21,82	22,25	22,03	13,13	13,62	11,86	3,36	125-260	350
500x100	24,03	24,50	24,26	14,23	13,92	12,06	3,46	140-300	390
600x100	27,19	27,74	27,47	16,39	14,37	12,50	3,94	165-350	460
700x100	31,71	32,33	32,03	21,18	15,00	13,00	4,66	195-400	540
800x100	35,58	36,29	35,93	23,29	15,50	13,42	5,02	225-465	620
<b>200x150</b>	<b>14,51</b>	<b>14,80</b>	<b>14,65</b>	<b>7,68</b>	<b>12,88</b>	<b>11,18</b>	<b>2,68</b>	<b>85-175</b>	<b>230</b>
250x150	16,36	16,69	16,52	8,87	13,24	11,47	2,84	110-220	300
300x150	18,81	19,18	18,99	10,34	13,61	11,80	3,02	130-270	360
350x150	20,63	21,05	20,84	11,49	13,94	12,09	3,14	150-315	420
400x150	22,92	23,38	23,13	12,68	14,28	12,38	3,34	170-360	475
450x150	25,36	25,87	25,62	13,85	14,65	12,74	3,46	195-410	550
500x150	27,92	28,49	28,21	15,25	15,00	13,00	3,63	225-455	605
600x150	31,95	32,58	32,27	17,54	15,74	13,62	4,07	260-545	730
700x150	37,07	37,81	37,44	22,57	16,37	14,17	4,77	300-640	850
800x150	41,81	42,65	42,22	24,95	17,10	14,85	5,13	350-735	980
<b>200x200</b>	<b>16,34</b>	<b>16,67</b>	<b>16,50</b>	<b>8,47</b>	<b>13,39</b>	<b>11,62</b>	<b>2,81</b>	<b>115-240</b>	<b>320</b>
250x200	18,62	18,99	18,82	9,65	13,85	12,01	3,00	145-300	405
300x200	21,37	21,79	21,59	11,06	14,28	12,38	3,18	175-365	490
350x200	23,70	24,17	23,94	12,27	14,77	12,81	3,31	210-430	580
400x200	26,34	26,86	26,59	13,50	15,25	13,20	3,46	235-500	660
450x200	29,14	29,72	29,43	14,80	15,64	13,59	3,65	270-560	750
500x200	32,22	32,86	32,54	16,28	16,06	13,99	3,78	300-620	830
600x200	36,65	37,39	37,02	18,85	16,96	14,76	4,21	360-750	1010
700x200	43,21	44,08	43,65	24,08	17,82	15,43	4,92	425-880	1170
800x200	47,99	48,95	48,47	26,60	18,73	16,25	5,29	485-1005	1340
1000x200	59,97	61,16	60,57	31,95	23,40	20,29	6,28	595-1185	1585
<b>250x250</b>	<b>20,82</b>	<b>21,24</b>	<b>21,03</b>	<b>10,57</b>	<b>14,39</b>	<b>12,51</b>	<b>3,18</b>	<b>185-385</b>	<b>510</b>
300x250	24,02	24,49	24,25	11,69	15,00	13,00	3,36	225-465	620
400x250	29,52	30,11	29,81	14,40	16,06	13,99	3,68	300-625	835
500x250	36,80	37,54	37,17	17,35	17,21	14,91	3,94	380-790	1050
600x250	41,98	42,83	42,41	20,07	18,26	15,85	4,40	460-950	1270
800x250	54,68	55,78	55,23	28,28	20,30	17,61	5,47	620-1275	1700
1000x250	68,35	69,73	69,03	34,12	25,38	22,05	6,46	760-1500	2015
<b>300x300</b>	<b>26,60</b>	<b>27,15</b>	<b>26,87</b>	<b>12,59</b>	<b>15,74</b>	<b>13,62</b>	<b>3,53</b>	<b>270-565</b>	<b>750</b>
400x300	32,91	33,55	33,23	15,49	16,96	14,76	3,86	360-760	1010
500x300	40,93	41,76	41,33	18,73	18,26	15,85	4,13	460-960	1275
600x300	46,85	47,79	47,32	21,65	19,54	16,97	4,60	560-1160	1540
800x300	60,96	62,16	61,55	30,43	21,94	19,03	5,67	750-1550	2065
1000x300	76,21	77,73	76,98	36,80	27,45	23,80	6,66	965-1935	2575
<b>350x350</b>	<b>32,55</b>	<b>33,21</b>	<b>32,88</b>	<b>15,04</b>	<b>17,12</b>	<b>14,88</b>	<b>3,81</b>	<b>375-780</b>	<b>1035</b>
400x350	36,69	37,42	37,05	16,57	17,49	15,25	3,97	448-896	1195
500x350	44,96	45,88	45,41	20,11	18,99	16,51	4,23	561-1123	1497
600x350	51,74	52,78	52,26	23,28	20,50	17,81	4,72	675-1350	1800
800x350	67,17	68,53	67,85	32,59	23,06	20,03	5,79	907-1814	2419
1000x350	83,96	85,62	84,80	40,76	28,84	25,03	6,79	1135-2275	3035
<b>400x400</b>	<b>39,87</b>	<b>40,67</b>	<b>40,27</b>	<b>17,66</b>	<b>18,76</b>	<b>16,30</b>	<b>4,16</b>	<b>495-1025</b>	<b>1370</b>
500x400	49,06	50,04	49,55	21,45	20,51	17,81	4,42	625-1290	1725
600x400	56,56	57,68	57,12	24,93	22,21	19,28	4,89	755-1560	2080
800x400	74,72	76,21	75,46	34,76	25,17	21,86	5,95	1010-2090	2790
1000x400	93,40	95,28	94,33	43,47	31,47	27,34	6,99	1295-2595	3455
<b>500x500</b>	<b>57,02</b>	<b>58,16</b>	<b>57,59</b>	<b>24,22</b>	<b>22,72</b>	<b>19,71</b>	<b>4,72</b>	<b>785-1625</b>	<b>2170</b>
600x500	68,21	69,58	68,89	28,10	24,30	21,06	5,16	982-1965	2620
800x500	87,43	89,18	88,30	42,16	27,80	24,10	6,23	1317-2630	3513
1000x500	109,26	111,47	110,36	52,69	34,77	30,18	7,24	1645-3295	4395
<b>600x600</b>	<b>78,70</b>	<b>80,26</b>	<b>79,49</b>	<b>31,34</b>	<b>27,39</b>	<b>23,75</b>	<b>5,61</b>	<b>1145-2370</b>	<b>3160</b>
800x600	120,28	122,69	121,49	49,00	31,58	27,45	6,70	1580-3180	4240
1000x600	150,36	153,39	151,86	61,26	39,50	34,34	7,71	1985-3975	5300

(*)	eur
(O)	3,16
(T)	1,17

## Fixed blades return grilles with filter

### Technical data

#### DMT-FY



### Description

Air return grilles with fixed blades at 45°, constructed from aluminium, with incorporated filter (F1 fire rated according to the norm DIN 53438) By pressing on two semi-hidden levers, the grille can be easily removed from its mounting frame or plenum box, for washing or filter replacement in compliance with the regulations required for maintenance of HVAC installations. The FY system means so much an economy of time in installation like in the later maintenances, as well as an aesthetic evolution.

**DMT-FY** Grille with blades fixed at 45°, parallels to the longer side (size L) with filter G3 class according to the norm EN 779.

**EMT-FY** Grille with blades fixed at 45°, parallels to the shorter side (size H) with filter G3 class according to the norm EN 779.

### Accessories

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements) The opening size LxH must be increased by 8 mm.

**PLRO** Connection plenum: see Accessories.

### Fixing

**(S)** Clips. For wall mounting. It requires CM mounting frame or PLRO plenum box.

**(O)** Hidden screw. For ceiling mounting. It requires mounting frame CM or plenum PLRO (supplement \*)

### Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**R9010S** Pre-lacquered in white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

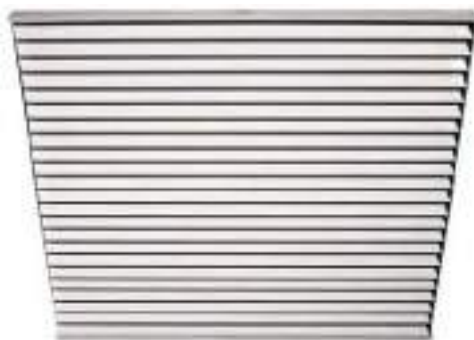
Supply and mounting of air return grille with fixed blades at 45° with filter G3 class included, with hinged removable core by pressing on two semi-hidden levers, series **DMT-FY+CM (S) M9016 dim. LxH**, constructed from aluminium paint in white M9016, invisible fixing by clips **(S)** and mounting frame **CM**. Manufacturer **MADEL**.



L x H mm	DMT-FY M9016 eur	DMT-FY R9010S eur	DMT-FY AA eur	EMT-FY M9016 eur	EMT-FY R9010S eur	EMT-FY AA eur	CM eur	Lwa1 < 35 dB(A) m³/h	Lwa1 < 45 dB(A) m³/h
200x100	22,90	23,35	23,11	-	-	-	2,53	55-120	160
250x100	24,75	25,25	25,00	-	-	-	2,72	70-140	190
300x100	25,79	26,31	26,06	-	-	-	2,89	80-185	230
350x100	27,77	28,33	28,05	-	-	-	3,02	90-200	260
400x100	29,14	29,72	29,43	-	-	-	3,21	110-230	310
450x100	30,54	31,14	30,84	-	-	-	3,36	125-260	350
500x100	32,12	32,77	32,45	-	-	-	3,46	140-300	390
600x100	37,53	38,27	37,91	-	-	-	3,94	165-350	460
700x100	41,09	41,91	41,51	-	-	-	4,66	195-400	540
800x100	44,87	45,75	45,31	-	-	-	5,02	225-465	620
200x150	25,85	26,36	26,11	-	-	-	2,68	85-175	230
250x150	27,73	28,29	28,02	-	-	-	2,84	110-220	300
300x150	29,08	29,67	29,39	-	-	-	3,02	130-270	360
350x150	31,59	32,22	31,91	-	-	-	3,14	150-315	420
400x150	32,57	33,23	32,91	-	-	-	3,34	170-360	475
450x150	35,22	35,92	35,58	-	-	-	3,46	195-410	550
500x150	36,32	37,04	36,69	-	-	-	3,63	225-455	605
600x150	42,69	43,56	43,13	-	-	-	4,07	260-545	730
700x150	48,06	49,03	48,54	-	-	-	4,77	300-640	850
800x150	52,87	53,93	53,41	-	-	-	5,13	350-735	980
200x200	28,89	29,47	29,18	28,89	31,44	29,18	2,81	115-240	320
250x200	31,20	31,83	31,52	31,63	34,40	31,95	3,00	145-300	405
300x200	32,88	33,53	33,21	34,75	37,81	35,09	3,18	175-365	490
350x200	36,05	36,78	36,41	37,52	40,82	37,90	3,31	210-430	580
400x200	37,38	38,13	37,75	40,62	44,20	41,02	3,46	235-500	660
450x200	40,59	41,42	41,00	43,83	47,69	44,27	3,65	270-560	750
500x200	42,03	42,89	42,46	47,31	51,47	47,78	3,78	300-620	830
600x200	50,67	51,66	51,17	52,56	57,19	53,10	4,21	360-750	1010
700x200	56,43	57,58	57,01	59,89	65,17	60,50	4,92	425-880	1170
800x200	61,54	62,77	62,16	65,57	71,34	66,23	5,29	485-1005	1340
1000x200	78,38	79,49	78,94	83,37	84,56	83,98	6,28	595-1185	1585
250x250	34,34	35,03	34,68	34,34	37,37	34,68	3,18	185-385	510
300x250	36,35	37,07	36,72	38,08	41,43	38,45	3,36	225-465	620
400x250	42,66	43,53	43,08	44,58	48,51	45,03	3,68	300-625	835
500x250	47,81	48,77	48,30	52,94	57,61	53,48	3,94	380-790	1050
600x250	56,03	57,14	56,60	59,15	64,35	59,74	4,40	460-950	1270
800x250	70,18	71,59	70,88	73,73	80,21	74,47	5,47	620-1275	1700
1000x250	89,30	90,59	89,95	93,73	95,11	94,41	6,46	760-1500	2015
300x300	41,36	42,18	41,78	41,36	44,99	41,78	3,53	270-565	750
400x300	47,47	48,42	47,94	48,80	53,11	49,29	3,86	360-760	1010
500x300	54,92	56,02	55,48	58,10	63,22	58,68	4,13	460-960	1275
600x300	64,89	66,20	65,54	65,15	70,87	65,80	4,60	560-1160	1540
800x300	79,67	81,26	80,46	81,57	88,73	82,37	5,67	750-1550	2065
1000x300	101,30	102,78	102,04	103,66	105,18	104,43	6,66	965-1935	2575
350x350	48,63	49,60	49,11	48,63	52,91	49,11	3,81	375-780	1035
400x350	52,09	53,12	52,60	53,11	57,76	53,64	3,97	448-896	1195
500x350	59,86	61,07	60,46	62,76	68,28	63,39	4,23	561-1123	1497
600x350	71,11	72,52	71,82	70,98	77,22	71,69	4,72	675-1350	1800
800x350	87,33	89,10	88,21	88,80	96,59	89,67	5,79	907-1814	2419
1000x350	111,01	112,64	111,83	112,80	114,46	113,64	6,79	1135-2275	3035
400x400	57,49	58,65	58,06	57,49	62,55	58,06	4,16	495-1025	1370
500x400	66,11	67,43	66,76	68,29	74,31	68,98	4,42	625-1290	1725
600x400	78,39	79,96	79,19	77,36	84,17	78,14	4,89	755-1560	2080
800x400	97,47	99,44	98,46	98,32	106,98	99,30	5,95	1010-2090	2790
1000x400	123,82	125,66	124,74	124,87	126,74	125,79	6,99	1295-2595	3455
500x500	78,31	79,88	79,08	78,31	85,20	79,08	4,72	785-1625	2170
600x500	94,27	96,15	95,20	90,94	98,94	91,85	5,16	982-1965	2620
800x500	114,92	117,21	116,06	113,50	123,50	114,63	6,23	1317-2630	3513
1000x500	145,87	148,09	146,97	144,04	146,24	145,14	7,24	1645-3295	4395
600x600	104,34	106,41	105,39	104,34	113,51	105,39	5,61	1145-2370	3160
800x600	132,08	134,71	133,40	149,93	163,12	151,42	6,70	1580-3180	4240
1000x600	167,58	170,14	168,87	189,86	192,89	191,36	7,71	1985-3975	5300

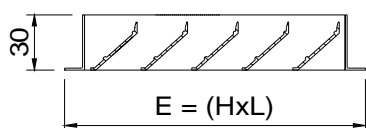
(*)	eur
(O)	3,15

## Modular fixed blades return grilles



### Technical data

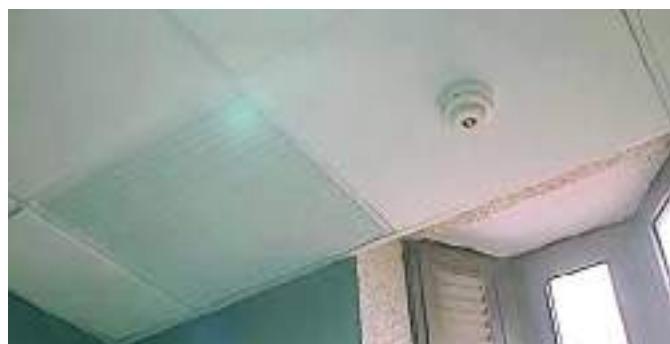
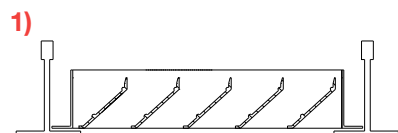
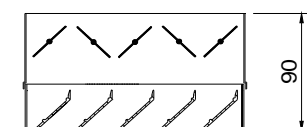
#### DMT-MOD



#### DMT-MOD-PFT



#### DMT-MOD+SP



### Description

Air return grilles with fixed blades at 45° designed to replace a false ceiling plate. Constructed from aluminium.

**DMT-MOD** Grille with blades parallels to the largest side (L size)

**EMT-MOD** Grille with blades parallels to the shortest side (H size)

**...-MOD-PFT** Grille with filter type K/8 class EN 779 G3.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel in black colour.

### Fixing

1) Suspended at the false ceiling. Replace a false ceiling plate.

### Finishes

**AA** Matt silver anodised.

**M9016** Pre-lacquered in white similar to RAL 9016 (85-95% gloss)

**R9010S** Painted in white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of air return grille with fixed blades at 45° parallels to the largest side series **DMT-AR-MOD+PFT M9016 dim. 595x595**, with filter box **PFT** and filter type K/8 efficiency EN 779 G3, designed to replace false ceiling tile, constructed from aluminium paint in white **M9016**. Manufacturer **MADEL**.

L x H mm	DMT-MOD	DMT-MOD-PFT	DMT-MOD	DMT-MOD-PFT	SP	Lwa1 < 35 dB(A)	Lwa1 < 45 dB(A)
	M9016 / R9010S eur	M9016 / R9010S eur	AA eur	AA eur		m³/h	m³/h
595x295	46,58	66,11	47,05	66,58	21,65	560-1160	1540
1195x295	88,60	121,53	89,49	122,42	43,29	1120-2320	3080
595x595	78,70	106,04	79,49	106,82	31,34	1180-1975	2760
1195x595	153,69	208,42	155,21	209,94	62,72	2310-3960	5540
620x620	85,38	115,10	86,23	115,96	39,12	1280-2140	2995
670x670	99,59	134,25	100,59	135,25	45,64	1495-2500	3500

L x H mm	EMT-MOD	EMT-MOD-PFT	EMT-MOD	EMT-MOD-PFT	SP	Lwa1 < 35 dB(A)	Lwa1 < 45 dB(A)
	M9016 / R9010S eur	M9016 / R9010S eur	AA eur	AA eur		m³/h	m³/h
595x295	46,85	66,37	47,32	66,85	21,65	560-1160	1540
1195x295	91,44	124,37	92,36	125,29	43,29	1120-2320	3080
1195x595	157,39	212,12	158,96	213,69	62,72	2310-3960	5540

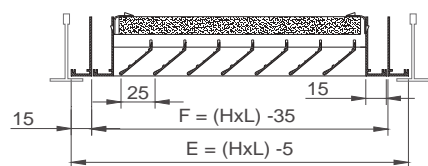


## Accessible fixed blades return grilles



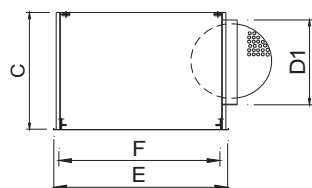
### Technical data

#### DMT-KLIN / DMT-KLIN+PFT

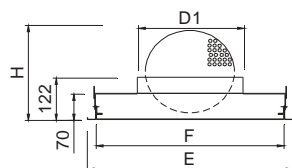


L x H	E	F
600 x 300	595 x 295	565 x 265
625 x 313	620 x 308	605 x 278
675 x 338	670 x 333	640 x 300
600 x 600	595 x 595	565 x 565
625 x 625	620 x 620	605 x 605
675 x 675	670 x 670	640 x 640

#### PLK/L/...-R



#### PLK...-R



H ÷ L (nominal)	E	F	D1	H	C
600 x 300	595 x 295	565 x 265	198	353	320
625 x 313	620 x 308	605 x 278	198	353	320
675 x 338	670 x 333	640 x 303	198	353	320
600 x 600	595 x 595	565 x 565	313	353	435
625 x 625	620 x 620	590 x 590	313	353	435
675 x 675	670 x 670	640 x 640	313	353	435



### Description

Air return grilles with fixed blades at 45°, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the grille that conforms with the regulations required for maintenance of HVAC installations. Constructed from aluminium.

**DMT-KLIN** Air return grille with fixed blades.

### Accessories

- PFT** Filter type K/8 class EN 779 G3.
- PLK** Plenum box with an upper connection.
- ...-R** Air flow damper in the spigot.
- .../L/** Lateral connection.
- .../AIS/** Thermal insulation inside.

### Fixing

- 1) Support brackets to hang from the ceiling.

### Finishes

- M9016** Painted in white similar to RAL 9016 (85-95% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of air return grille with fixed blades with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **DMT-KLIN+PFT M9016 dim. LxH**, with filter type K/8 efficiency EN 779 G3, constructed from aluminium paint in white **M9016**. Manufacturer **MADEL**.

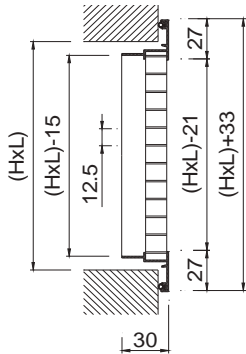
L x H mm	DMT-KLIN eur	Lwa1 < 35 dB(A) m3/h	Lwa1 < 45 dB(A) m3/h	DMT-KLIN+PLK eur	Lwa1 < 35 dB(A) m³/h	Lwa1 < 45 dB(A) m³/h	PFT eur
600x600	98,72	1100-2300	3145	149,04	2300	3145	27,39
625x625	105,24	1200-2500	3400	156,40	2500	3400	29,69
675x675	119,49	1400-2900	3900	173,61	2900	3900	34,40
600x300	66,61	560-1150	1500	109,39	1150	1500	19,54
625x313	70,47	620-1250	1700	115,09	1250	1700	21,24
675x338	79,00	700-1450	1900	124,84	1450	1900	24,77

L x H mm	PLK eur	PLK-R eur	PLK/L/ eur	PLK/L/-R eur	PLK /AIS/ eur	PLK-R /AIS/ eur	PLK/L/AIS/ eur	PLK/L/-R/AIS/ eur
600x600	85,19	67,93	87,21	92,35	111,63	85,19	67,93	87,21
625x625	86,44	69,07	88,40	93,97	113,28	86,44	69,07	88,40
675x675	89,68	73,06	89,84	98,41	115,20	89,68	73,06	89,84
600x300	78,58	57,74	74,51	83,43	100,19	78,58	57,74	74,51
625x313	80,29	60,23	77,02	85,95	102,75	80,29	60,23	77,02
675x338	82,16	61,88	78,66	88,44	105,20	82,16	61,88	78,66

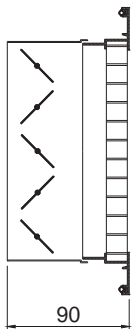
## Egg-crate grilles

### Technical data

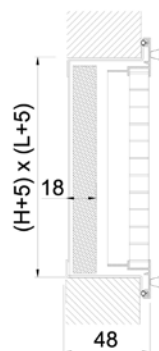
#### RMT-A



#### RMT-A+SP



#### RMT-A+PFT



### Description

Egg-crate grilles for air return. Constructed from aluminium.

**RMT-A** Egg-crate return grilles of 13x13 mm lattice core.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel in black colour.

**PFT** Filter box constructed from galvanised steel with filter K/8 class EN 779 G3. The opening dimension LxH must be increased by 5 mm.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements) The opening dimension LxH must be increased by 8 mm.

**PLRO** Connection plenum : see Accessories.

### Fixing

**(S)** Clips. It requires CM mounting frame or PLRO plenum box.

**(O)** Hidden screw. It requires CM mounting frame or PLRO plenum box (supplement \*)

**(T)** Visible screws (supplement \*)

1) The filter box is fixed in place with screws or sidepieces. The grille is held to the PFT by threaded knobs. The opening dimension LxH must be increased by 5 mm.

### Finishes

**AA** Matt silver anodised.

**R9016S** Painted in white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted in white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of egg-crate grille for air return series **RMT-A+SP+CM (S) AA dim. LxH**, constructed from aluminium and anodised in matt silver **AA** with opposed blades volume damper from electro-zinc steel in black colour **SP**, invisible fixing by clips **(S)** and mounting frame **CM**. Manufacturer **MADEL**.



L x H mm	RMT-A AA	RMT-A R9016B / R9010S R9010S	SP	PFT	CM	Lwa1 < 35 dB(A)	Lwa1 < 45 dB(A)
	eur	eur	eur	eur	eur	m³/h	m³/h
200x100	11,80	13,21	7,02	12,39	2,53	70-140	185
250x100	13,75	15,40	7,99	12,65	2,72	90-185	245
300x100	15,30	17,12	9,43	12,86	2,89	115-225	300
350x100	16,80	18,82	10,77	13,11	3,02	135-270	360
400x100	18,64	20,89	11,85	13,39	3,21	150-300	400
450x100	20,20	22,62	13,13	13,62	3,36	175-345	460
500x100	21,72	24,33	14,23	13,92	3,46	195-390	520
600x100	25,18	28,21	16,39	14,37	3,94	230-465	620
700x100	28,74	32,20	21,18	15,00	4,66	275-550	735
800x100	31,89	35,70	23,29	15,50	5,02	305-610	820
<b>200x150</b>	<b>14,11</b>	<b>15,80</b>	<b>7,68</b>	<b>12,88</b>	<b>2,68</b>	<b>120-240</b>	<b>315</b>
250x150	16,52	18,53	8,87	13,24	2,84	150-300	405
300x150	18,43	20,65	10,34	13,61	3,02	185-365	490
350x150	20,37	22,82	11,49	13,94	3,14	215-430	575
400x150	22,61	25,32	12,68	14,28	3,34	250-495	660
450x150	24,65	27,58	13,85	14,65	3,46	280-560	750
500x150	26,55	29,74	15,25	15,00	3,63	315-625	835
600x150	30,98	34,70	17,54	15,74	4,07	380-755	1010
700x150	35,40	39,64	22,57	16,37	4,77	440-885	1180
800x150	39,28	44,00	24,95	17,10	5,13	505-1015	1355
<b>200x200</b>	<b>16,50</b>	<b>18,48</b>	<b>8,47</b>	<b>13,39</b>	<b>2,81</b>	<b>160-325</b>	<b>430</b>
250x200	19,33	21,66	9,65	13,85	3,00	205-410	545
300x200	21,65	24,24	11,06	14,28	3,18	255-510	675
350x200	24,00	26,89	12,27	14,77	3,31	295-595	790
400x200	26,69	29,90	13,50	15,25	3,46	345-690	920
450x200	29,05	32,54	14,80	15,64	3,65	390-780	1035
500x200	31,42	35,20	16,28	16,06	3,78	430-865	1150
600x200	36,78	41,20	18,85	16,96	4,21	525-1050	1395
700x200	42,00	47,05	24,08	17,82	4,92	600-1200	1600
800x200	46,77	52,39	26,60	18,73	5,29	690-1380	1840
1000X200	58,45	65,47	31,98	23,40	6,28	860-1730	2300
<b>250x250</b>	<b>22,07</b>	<b>24,71</b>	<b>10,57</b>	<b>14,39</b>	<b>3,18</b>	<b>265-530</b>	<b>705</b>
300x250	24,79	27,77	11,69	15,00	3,36	325-650	865
400x250	30,63	34,31	14,40	16,06	3,68	435-875	1165
500x250	36,25	40,58	17,35	17,21	3,94	555-1110	1485
600x250	42,58	47,68	20,07	18,26	4,40	670-1340	1785
800x250	54,27	60,78	28,28	20,30	5,47	870-1740	2315
1000X250	67,85	75,98	34,12	25,38	6,46	1110-2220	2970
<b>300x300</b>	<b>23,54</b>	<b>26,35</b>	<b>12,59</b>	<b>15,74</b>	<b>3,53</b>	<b>395-790</b>	<b>1050</b>
400x300	34,64	38,80	15,49	16,96	3,86	535-1070	1425
500x300	41,06	46,00	18,73	18,26	4,13	675-1350	1800
600x300	48,38	54,19	21,65	19,54	4,60	815-1630	2175
800x300	61,75	69,14	30,43	21,94	5,67	1080-2160	2880
1000X300	77,20	86,47	36,80	27,45	6,66	1350-2700	3600
<b>350x350</b>	<b>34,79</b>	<b>38,96</b>	<b>15,04</b>	<b>17,12</b>	<b>3,81</b>	<b>545-1090</b>	<b>1455</b>
400x350	38,59	43,23	16,57	17,49	3,97	632-1263	1684
500x350	45,89	51,38	20,11	18,99	4,23	793-1587	2117
600x350	54,12	60,61	23,28	20,50	4,72	961-1922	2563
800x350	69,21	77,50	32,59	23,06	5,79	1274-2548	3398
1000X350	86,48	96,85	40,76	28,84	6,79	1585-3175	4235
<b>400x400</b>	<b>42,76</b>	<b>47,88</b>	<b>17,66</b>	<b>18,76</b>	<b>4,16</b>	<b>725-1450</b>	<b>1930</b>
500x400	50,75	56,84	21,45	20,51	4,42	910-1825	2435
600x400	59,95	67,14	24,93	22,21	4,89	1105-2215	2950
800x400	76,67	85,87	34,76	25,17	5,95	1460-2925	3900
1000X400	95,89	107,38	43,47	31,47	6,99	1820-3650	4870
<b>500x500</b>	<b>60,62</b>	<b>67,89</b>	<b>24,22</b>	<b>22,72</b>	<b>4,72</b>	<b>1155-2310</b>	<b>3080</b>
600x500	71,48	80,06	28,10	24,30	5,16	1393-2786	3715
800x500	91,62	102,61	42,16	27,80	6,23	1868-3736	4982
1000X500	114,53	128,27	52,69	34,77	7,24	2310-4620	6150
<b>600x600</b>	<b>83,41</b>	<b>93,41</b>	<b>31,34</b>	<b>27,39</b>	<b>5,61</b>	<b>1680-3370</b>	<b>4490</b>
800x600	106,58	119,37	49,00	31,58	6,70	2225-4450	5930
1000X600	133,23	149,22	61,26	39,50	7,71	2775-5544	7380

(*)	eur
(O)	3,16
(T)	1,17

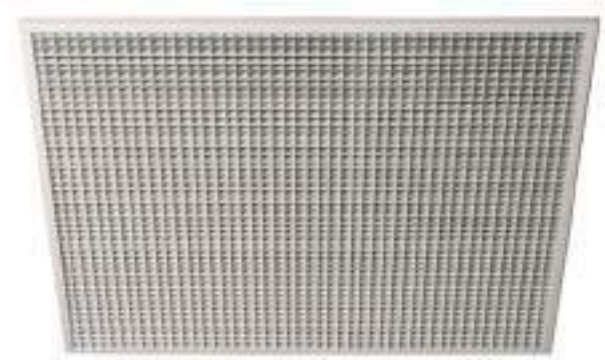
## Modular egg-crate grilles

### Technical data

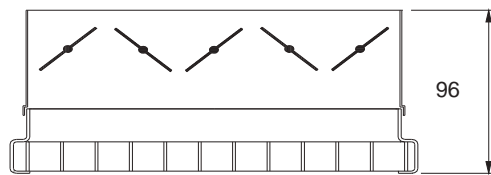
**RMT-MOD**



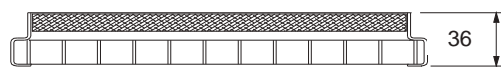
**RMT-45-MOD**



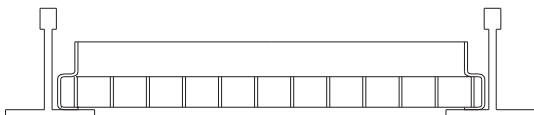
**RMT-MOD+SP**



**RMT-MOD-PFT**



1)



### Description

Egg-crate grilles for air return specially designed to replace false ceiling tile. Constructed from aluminium and galvanised steel.

**RMT-MOD** Square netting grille of 13x13 mm.

**RMT-45-MOD** Square netting grille at 45° of 13x13 mm.

**...-MOD-PFT** Grille with filter type K/8 efficiency EN 779 G3.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour. Not available for RMT-45.

### Fixing

1) Suspended at the false ceiling. Replace a false ceiling plate.

### Finishes

**AA** Matt silver anodised.

**R9016S** Painted in white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted in white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of egg-crate grille for air return series **RMT-MOD+PFT AA dim. 595x595**, with filter type K/8 efficiency EN 779 G3, designed to replace false ceiling tile, constructed from aluminium and anodised in matt silver **AA**. Manufacturer **MADEL**.

L x H mm	RMT-MOD R9016S / R9010S eur	RMT-MOD-PFT R9016S / R9010S eur	RMT-MOD AA eur	RMT-MOD-PFT AA eur	SP eur	Lwa1 < 35 dB(A) m3/h	Lwa1 < 45 dB(A) m3/h
595x295	54,19	73,73	48,38	67,92	22,24	815-1630	2175
595x595	80,97	108,36	72,30	99,68	31,74	1950-3240	4540
620x620	114,91	147,93	104,06	137,08	40,19	2115-3515	4925

L x H mm	RMT-45-MOD R9016S / R9010S eur	RMT-45-MOD-PFT R9016S / R9010S eur	RMT-45-MOD AA eur	RMT-45-MOD-PFT AA eur	Lwa1 < 35 dB(A) m3/h	Lwa1 < 45 dB(A) m3/h
595x595	93,41	120,80	83,37	128,99	1950-3240	4540

## Accessible egg-crate grilles



### Technical data

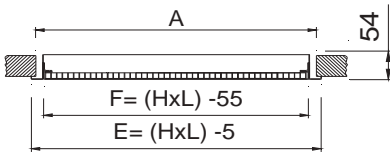


#### RMT-KLIN

#### RMT-45-KLIN



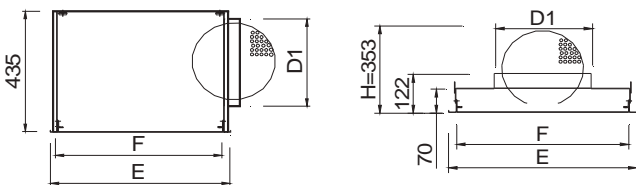
#### RMT-KLIN+PFT



L x H	E	A	F
600	595	569	545
625	620	594	570
675	670	644	620

L x H	E	A	F
600 x 300	595 x 295	569 x 269	545 x 245

#### PLFZ...-R



L x H	E	A	D1
600	595	545	313
625	620	570	313
675	670	620	313

L x H	E	A	D1
600 x 300	595 x 295	569 x 269	248

### Description

Egg-crate grilles for air return with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy maintenance of HVAC installations. Constructed from aluminium and galvanised steel.

**RMT-KLIN** Square netting grille of 13x13 mm.

**RMT-45-KLIN** Square netting grille at 45° of 13x13 mm.

### Accessories

**PFT** Filter type K/8 class EN 779 G3.

**PLFZ** Plenum con conexión superior.

**...-R** Air flow damper in the spigot.

**.../L/** Lateral connection.

**.../AIS/** Thermal insulation inside.

### Fixing

1) Support brackets to hang from the ceiling.

### Finishes

**R9016S** Painted in white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted in white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of egg-crate grille for air return with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **RMT-KLIN+PFT R9016S dim. LxH**, with filter type K/8 efficiency EN 779 G3, constructed from aluminium paint in white **R9016S**. Manufacturer **MADEL**.

L x H	RMT-KLIN	RMT-45-KLIN	Lwa1 < 35 dB(A)	Lwa1 < 45 dB(A)	RMT-KLIN +PLFZ	RMT-45-KLIN +PLFZ	Lwa1 < 45 dB(A)	PFT
mm	eur	eur	m3/h	m3/h	eur	eur	m3/h	eur
600x600	99,99	112,39	1500-3300	4400	150,31	162,71	4400	27,39
625x625	123,20	-	1500-3370	4490	174,36	-	4490	29,69
675x675	132,45	148,87	1500-3695	4900	186,56	202,98	4900	34,40
600x300	71,49	-	815-1630	2175	133,42	-	2175	19,54

L x H	PLFZ	PLFZ-R	PLFZ/L/	PLFZ/L/-R	PLFZ /AIS/	PLFZ-R /AIS/	PLFZ/L /AIS/	PLFZ/L/-R /AIS/
mm	eur	eur	eur	eur	eur	eur	eur	eur
600x600	50,32	69,60	68,41	85,19	67,93	87,21	92,35	111,63
625x625	51,16	70,49	69,61	86,44	69,07	88,40	93,97	113,28
675x675	54,12	70,91	72,89	89,68	73,06	89,84	98,41	115,20
600x300	61,92	84,91	61,80	84,81	83,61	106,58	83,43	106,42



## External & Ventilation **grilles**

Fresh air grilles-profile anti-rain  
Circular fresh air grilles



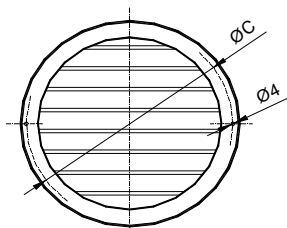
## **INDEX**

- 49 CXT** circular external grilles
- 50 DMT-X** external grilles - 25 mm pitch
- 52 DXT** external grilles - 50 mm pitch
- 54 DXL** external grilles - 100 mm pitch
- 56 SCV** pressed grilles
- 57 BWC** ventilation valves

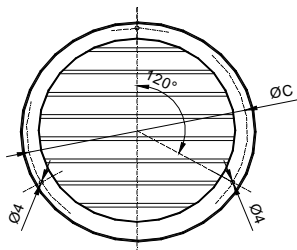
## Circular external grilles

### Technical data

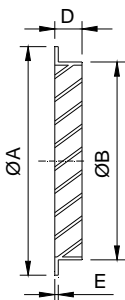
125 / 160 / 200 / 250



315 / 400



H	ØA	ØB	ØC	D	E
125	155	124	139,5	25	3
160	190	1159	174,5	25	3
200	230	199	214,5	25	3
250	280	248	264	28	3
315	350	314	332	20	3
400	440	399	419,5	25	7



### Description

External use circular grilles in aluminium with fixed blades for expel or air intake.

**CXT** Circular grille with mesh.

### Fixing

(T) Visible screws.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminium colour RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of external use circular grille with mesh series **CXT (T) R9016S dim. 400**, constructed from aluminium paint in white RAL 9016 (60-70% gloss) and visible fixing by screws. Manufacturer **MADEL**.

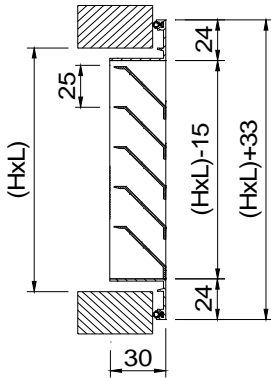


Ø mm	CXT eur	Lwa1= 45 dB(A) m³/h	A free m²
125	19,35	200	0,0123
160	23,56	325	0,0201
200	29,81	508	0,0314
250	45,44	795	0,0491
315	108,83	1260	0,0779
400	226,07	2025	0,125

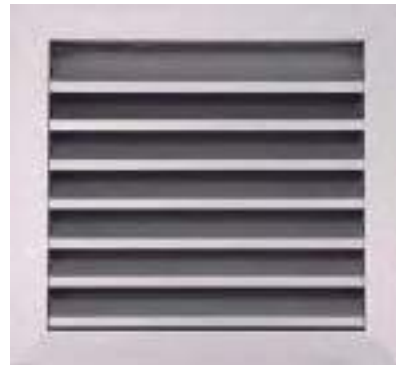
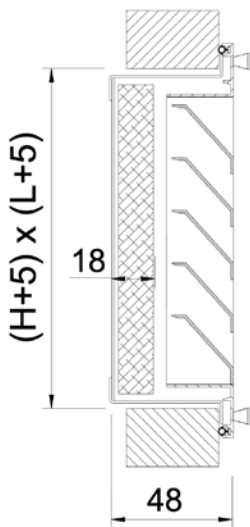
## External grilles - 25 mm pitch

### Technical data

#### DMT-X



#### DMT-X+PFT



### Description

External use grilles in aluminium with fixed blades, 25 mm pitch, for expel or air intake.

**DMT-X** Grille with blades parallels to the largest side (L size)

**EMT-X** Grille with blades parallels to the shortest side (H size)

### Accessories

**PFT** Filter box constructed from galvanised steel with filter K/8 class EN 779 G3. The opening size LxH must be increased by 5 mm.

**MLL** Galvanised mesh of 13x13 mm.

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements) The opening size LxH must be increased by 8 mm.

### Fixing

**(S)** Clips. It requires mounting frame CM.

**(T)** Visible screws (supplement \*)

**(P)** Sidepieces to fix in place (supplement \*)

1) The filter box is fixed in place with screws or sidepieces. The grille is held to the PFT by threaded knobs. The opening dimension LxH must be increased by 5 mm.

### Finishes

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of external use grille with galvanised mesh of 13x13 mm. Fixed blades at 45° parallels to the largest side series **DMT-X+MLL AA dim. LxH**, constructed from aluminium and anodised in matt silver **AA**, visible fixing by screws **(T)**. Manufacturer **MADEL**.



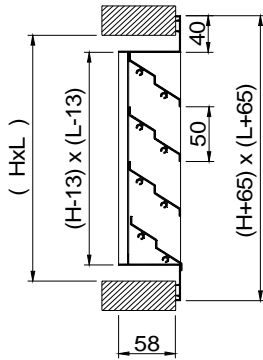
L x H mm	DMT-X	DMT-X	EMT-X	EMT-X	PFT	MLL	CM	Lwa1 45 dB(A) m³/h	A free m²
	AA eur	R9016B/R9016S R9010S eur	AA eur	R9016B/R9016S R9010S eur					
200x100	12,79	14,33	13,87	15,54	12,39	10,74	2,53	80	0,004
250x100	14,06	15,74	15,45	17,29	12,65	10,97	2,72	110	0,006
300x100	15,61	17,49	17,72	19,84	12,86	11,18	2,89	130	0,007
350x100	16,84	18,86	19,41	21,73	13,11	11,39	3,02	145	0,008
400x100	18,10	20,26	21,48	24,06	13,39	11,62	3,21	170	0,009
450x100	19,43	21,75	23,81	26,67	13,62	11,86	3,36	190	0,01
500x100	20,88	23,38	26,23	29,40	13,92	12,06	3,46	210	0,012
600x100	26,27	29,42	29,65	33,21	14,37	12,50	3,94	255	0,014
700x100	29,51	33,04	34,64	38,80	15,00	13,00	4,66	295	0,016
800x100	33,09	37,07	38,89	43,56	15,50	13,42	5,02	340	0,019
200x150	15,04	16,83	15,85	17,75	12,88	11,18	2,68	165	0,009
250x150	16,74	18,75	17,89	20,04	13,24	11,47	2,84	200	0,011
300x150	18,60	20,83	20,53	22,99	13,61	11,80	3,02	250	0,014
350x150	20,24	22,67	22,54	25,22	13,94	12,09	3,14	290	0,016
400x150	21,84	24,45	25,03	28,04	14,28	12,38	3,34	330	0,018
450x150	23,49	26,32	27,71	31,03	14,65	12,74	3,46	380	0,021
500x150	25,28	28,30	30,49	34,15	15,00	13,00	3,63	420	0,023
600x150	31,78	35,58	34,86	39,05	15,74	13,62	4,07	505	0,028
700x150	35,78	40,07	40,52	45,37	16,37	14,17	4,77	590	0,033
800x150	40,18	45,01	45,68	51,16	17,10	14,85	5,13	690	0,038
200x200	17,87	20,01	17,87	20,01	13,39	11,62	2,81	240	0,013
250x200	19,89	22,30	20,32	22,77	13,85	12,01	3,00	310	0,017
300x200	22,10	24,75	23,33	26,12	14,28	12,38	3,18	370	0,02
350x200	24,29	27,19	25,85	28,95	14,77	12,81	3,31	435	0,024
400x200	26,27	29,42	28,75	32,21	15,25	13,20	3,46	490	0,027
450x200	28,34	31,73	31,82	35,64	15,64	13,59	3,65	560	0,031
500x200	30,76	34,44	35,21	39,43	16,06	13,99	3,78	630	0,035
600x200	37,96	42,51	40,03	44,82	16,96	14,76	4,21	760	0,042
700x200	43,44	48,65	47,23	52,89	17,82	15,43	4,92	890	0,049
800x200	48,05	53,81	52,41	58,71	18,73	16,25	5,29	1010	0,056
1000x200	60,10	67,32	65,53	73,39	23,40	20,29	6,28	1260	0,07
250x250	22,69	25,42	22,69	25,42	14,39	12,51	3,18	420	0,023
300x250	25,32	28,36	26,23	29,40	15,00	13,00	3,36	495	0,027
400x250	30,15	33,76	32,28	36,15	16,06	13,99	3,68	670	0,037
500x250	36,04	40,37	40,18	45,01	17,21	14,91	3,94	835	0,046
600x250	44,26	49,55	45,90	51,40	18,26	15,85	4,40	1010	0,056
800x250	55,87	62,57	59,71	66,88	20,30	17,61	5,47	1350	0,075
1000x250	69,82	78,21	74,66	83,62	25,38	22,05	6,46	1695	0,094
300x300	29,04	32,53	29,04	32,53	15,74	13,62	3,53	615	0,034
400x300	34,45	38,59	35,91	40,22	16,96	14,76	3,86	830	0,046
500x300	41,20	46,14	44,74	50,11	18,26	15,85	4,13	1045	0,058
600x300	50,88	56,99	51,13	57,26	19,54	16,97	4,60	1260	0,07
800x300	64,52	72,26	66,58	74,57	21,94	19,03	5,67	1695	0,094
1000x300	80,67	90,34	83,20	93,18	27,45	23,80	6,66	2160	0,12
350x350	35,50	39,76	35,50	39,76	17,12	14,88	3,81	870	0,048
400x350	38,93	43,61	40,05	44,86	17,49	15,25	3,97	990	0,055
500x350	45,93	51,44	49,08	54,98	18,99	16,51	4,23	1242	0,069
600x350	56,67	63,48	56,49	63,25	20,50	17,81	4,72	1512	0,084
800x350	71,75	80,36	73,34	82,13	23,06	20,03	5,79	1980	0,11
1000x350	89,68	100,45	91,66	102,65	28,84	25,03	6,79	2520	0,14
400x400	43,55	48,77	43,55	48,77	18,76	16,30	4,16	1160	0,064
500x400	51,20	57,35	53,61	60,05	20,51	17,81	4,42	1460	0,081
600x400	62,92	70,48	61,75	69,15	22,21	19,28	4,89	1765	0,098
800x400	80,68	90,35	81,61	91,41	25,17	21,86	5,95	2370	0,131
1000x400	100,84	112,93	102,03	114,28	31,47	27,34	6,99	2880	0,16
500x500	62,27	69,75	62,27	69,75	22,72	19,71	4,72	1880	0,104
600x500	78,09	87,47	74,49	83,43	24,30	21,06	5,16	2340	0,13
800x500	86,93	97,36	84,98	95,18	27,80	24,10	6,23	3060	0,17
1000x500	108,67	121,70	106,21	118,97	34,77	30,18	7,24	3780	0,21
600x600	89,55	100,29	89,55	100,29	27,39	23,75	5,61	2900	0,161
800x600	111,89	125,32	131,37	147,13	31,58	27,45	6,70	3890	0,216
1000x600	139,84	156,63	164,21	183,92	39,50	34,34	7,71	4860	0,27

L x H	eur
(T)	1,17
(P)	2,77

## External grilles - 50 mm pitch

### Technical data

#### DXT



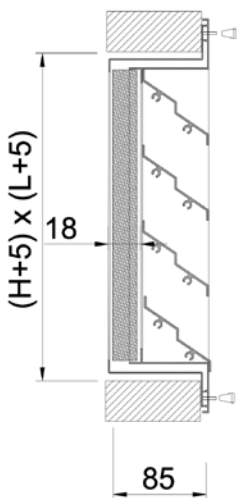
### Description

External use grilles in aluminium with fixed blades, 50 mm pitch, for expel or air intake.

**DXT** Grille with galvanised mesh and blades parallels to the largest side (L size)

**EXT** Grille with galvanised mesh and blades parallels to the shortest side (H size)

#### DXT+PFX



### Accessories

**PFX** Filter box constructed from galvanised steel with filter K/8 class EN 779 G3.

**CX** Mounting frame in galvanised steel. It includes sidepieces to fix in place.

### Fixing

**(T)** Visible screws. Mounting frame CX is recommended.

**(P)** Sidepieces to fix in place (supplement \*)

### Finishes

**NAT** Natural aluminium no anodised.

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of external use grille with galvanised mesh and blades parallels to the largest side series **DXT+PFX (T) AA dim. LxH**, with filter box **PFX** and filter type K/8 efficiency EN 779 G3, constructed from aluminium and anodised in matt silver **AA**, visible fixing by screws **(T)**. Manufacturer **MADEL**.





L x H mm	DXT NAT	DXT AA	DXT R9016B/R9016S R9010S	EXT NAT	EXT AA	EXT R9016B/R9016S R9010S	PFX	CX	Lwa1 45 dB(A)	Lwa1 < 65 dB(A)
	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
200x200	43,75	48,62	49,00	43,75	48,62	49,00	14,15	9,00	364	678
300x200	49,16	54,63	55,05	53,88	59,87	60,34	15,06	9,70	559	1041
400x200	56,71	62,99	63,50	63,62	70,68	71,26	15,99	10,35	754	1404
500x200	64,84	72,07	72,62	74,73	83,05	83,70	17,36	11,42	949	1767
600x200	69,33	77,05	77,64	85,48	94,95	95,73	18,20	12,10	1145	2130
800x200	80,34	89,29	89,98	106,01	117,78	118,73	20,10	13,47	1535	2856
1000x200	100,15	111,26	112,16	137,76	153,06	154,29	21,71	14,82	1477	3134
1250x200	125,17	139,09	140,19	172,22	191,34	192,88	27,14	18,52	1837	3926
1500x200	150,24	166,92	168,27	206,66	229,60	231,45	32,55	22,22	2233	4724
<b>300x300</b>	<b>62,63</b>	<b>69,58</b>	<b>70,15</b>	<b>62,63</b>	<b>69,58</b>	<b>70,15</b>	<b>16,71</b>	<b>10,40</b>	<b>933</b>	<b>1736</b>
400x300	71,06	78,96	79,59	74,73	83,05	83,70	18,04	11,05	1258	2341
500x300	79,34	88,15	88,86	87,61	97,35	98,13	20,01	12,15	1583	2945
600x300	85,55	95,04	95,81	99,09	110,08	110,99	21,04	12,82	1464	3106
800x300	102,11	113,48	114,36	125,12	139,04	140,13	23,84	14,19	1963	4165
1000x300	121,45	134,92	136,01	156,97	174,41	175,81	26,37	15,48	2462	5223
1250x300	151,81	168,69	170,02	196,23	218,03	219,78	32,96	19,36	3084	6543
1500x300	182,17	202,43	204,01	235,49	261,64	263,74	39,53	23,25	3044	6974
<b>400x400</b>	<b>84,30</b>	<b>93,65</b>	<b>94,40</b>	<b>84,30</b>	<b>93,65</b>	<b>94,40</b>	<b>20,07</b>	<b>12,34</b>	<b>1352</b>	<b>2867</b>
500x400	95,67	106,31	107,14	99,38	110,42	111,30	22,70	13,23	1701	3608
600x400	103,44	114,96	115,85	115,34	128,15	129,18	23,87	13,91	2050	4349
800x400	125,36	139,29	140,41	142,48	158,32	159,58	27,56	15,29	2749	5831
1000x400	152,74	169,70	171,07	177,05	196,70	198,30	30,30	16,60	2821	6477
1250x400	190,89	212,10	213,80	221,29	245,88	247,84	37,85	20,72	3533	8113
1500x400	229,07	254,55	256,56	265,52	295,03	297,38	45,44	24,88	4251	9763
1750x400	267,24	296,93	299,31	309,79	344,21	346,99	53,02	29,05	4965	11400
2000x400	305,42	339,35	342,07	354,04	393,42	396,53	60,59	33,17	5258	11567
<b>500x500</b>	<b>112,72</b>	<b>125,25</b>	<b>126,24</b>	<b>112,72</b>	<b>125,25</b>	<b>126,24</b>	<b>25,33</b>	<b>13,91</b>	<b>2187</b>	<b>4639</b>
600x500	122,06	135,58	136,70	128,14	142,37	143,51	26,71	14,57	2636	5592
800x500	144,49	160,55	161,82	161,91	179,87	181,33	31,29	15,94	2892	6640
1000x500	177,66	197,38	198,99	197,87	219,85	221,63	34,20	17,27	3626	8327
1250x500	222,07	246,72	248,72	247,36	274,85	277,05	42,78	21,60	4542	10432
1500x500	266,46	296,09	298,43	296,82	329,81	332,43	51,32	25,91	5061	11135
1750x500	310,86	345,41	348,16	346,28	384,76	387,83	59,87	30,22	5910	13003
2000x500	355,25	394,75	397,88	395,76	439,72	443,24	68,44	34,57	6760	14872
<b>600x600</b>	<b>149,25</b>	<b>165,82</b>	<b>167,16</b>	<b>149,25</b>	<b>165,82</b>	<b>167,16</b>	<b>29,58</b>	<b>16,11</b>	<b>2636</b>	<b>6053</b>
800x600	171,07	190,09	191,60	175,91	195,45	197,04	35,04	17,90	3534	8115
1000x600	207,22	230,24	232,07	219,63	244,02	245,97	39,47	19,23	4432	10178
1250x600	259,02	287,79	290,12	274,52	305,02	307,46	49,33	24,02	5141	11310
1500x600	310,81	345,37	348,12	329,44	366,01	368,98	59,18	28,80	6186	13609
1750x600	362,64	402,92	406,17	384,33	427,04	430,46	69,08	33,63	7223	15892
2000x600	414,44	460,47	464,18	439,22	488,02	491,94	78,93	38,44	8262	18176
<b>700x700</b>	<b>180,47</b>	<b>200,54</b>	<b>202,12</b>	<b>180,47</b>	<b>200,54</b>	<b>202,12</b>	<b>31,72</b>	<b>18,23</b>	<b>3646</b>	<b>8372</b>
800x700	192,99	214,42	216,16	199,97	222,19	223,98	34,80	19,81	4177	9591
1000x700	234,86	260,96	263,05	242,63	269,57	271,74	41,01	21,17	5238	12028
1250x700	293,60	326,20	328,84	303,27	336,96	339,67	51,30	26,46	6076	13366
1500x700	352,28	391,43	394,56	363,96	404,38	407,63	61,58	31,74	7311	16084
1750x700	411,00	456,67	460,32	424,60	471,76	475,54	71,85	37,02	8537	18782
2000x700	469,70	521,89	526,06	485,23	539,16	543,46	82,12	42,32	9764	21481
<b>800x800</b>	<b>230,57</b>	<b>256,17</b>	<b>258,23</b>	<b>230,57</b>	<b>256,17</b>	<b>258,23</b>	<b>38,12</b>	<b>21,78</b>	<b>4819</b>	<b>11066</b>
1000x800	258,68	287,42	289,73	266,74	296,39	298,75	45,18	23,14	5596	12312
1250x800	323,37	359,29	362,17	333,44	370,49	373,46	56,45	28,87	7010	15423
1500x800	388,01	431,14	434,58	400,14	444,59	448,16	67,73	34,68	8435	18558
1750x800	452,69	502,96	507,00	466,84	518,71	522,86	79,01	40,47	9850	21671
2000x800	517,37	574,86	579,47	533,53	592,81	597,55	90,31	46,22	11266	24786
<b>900x900</b>	<b>267,84</b>	<b>297,59</b>	<b>299,99</b>	<b>267,84</b>	<b>297,59</b>	<b>299,99</b>	<b>45,20</b>	<b>24,43</b>	<b>5700</b>	<b>12540</b>
1000x900	283,46	314,98	317,49	283,89	315,41	317,96	49,23	25,09	6342	13953
1250x900	354,36	393,72	396,88	354,88	394,30	397,46	61,52	31,36	7945	17573
1500x900	425,23	472,48	476,25	425,83	473,16	476,93	73,85	37,66	9560	21033
1750x900	496,10	551,23	555,63	496,80	552,02	556,41	-	43,93	11164	24561
2000x900	566,96	629,94	634,98	567,79	630,88	635,92	-	50,19	12768	28091
<b>1000x1000</b>	<b>301,06</b>	<b>334,53</b>	<b>337,19</b>	<b>301,06</b>	<b>334,53</b>	<b>337,19</b>	<b>53,34</b>	<b>25,74</b>	<b>7089</b>	<b>15595</b>
1250x1000	376,33	418,14	421,50	376,33	418,14	421,50	66,69	32,17	8880	19536
1500x1000	451,58	501,74	505,78	451,58	501,74	505,78	80,05	38,63	9560	23507
1750x1000	526,88	585,41	590,09	526,88	585,41	590,09	-	45,03	11164	27450
2000x1000	602,13	669,03	674,37	602,13	669,03	674,37	-	51,46	14271	31395

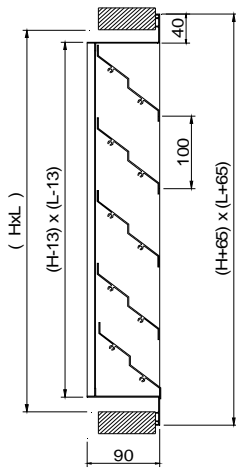
(*)	eur
(P)	2,77

# External grilles - 100 mm pitch

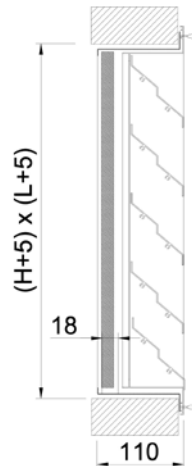


## Technical data

### DXL



### DXL+PFXL



## Description

External use grilles in aluminium with fixed blades, 100 mm pitch, for expel or air intake.

**DXL** Grille with galvanised mesh and blades parallels to the largest side (L size)

**EXL** Grille with galvanised mesh and blades parallels to the shortest side (H size)

## Accessories

**PFXL** Filter box constructed from galvanised steel with filter K/8 class EN 779 G3.

**CXL** Mounting frame in galvanised steel. It includes sidepieces.

## Fixing

**(T)** Visible screws. Mounting frame CXL is recommended.

**(P)** Sidepieces to fix in place (supplement \*)

## Finishes (painted available to 2000x1200)

**NAT** Natural aluminium no anodised.

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

Supply and mounting of external use grille with galvanised mesh and blades parallels to the largest side series **DXL+PFXL (T) NAT dim. LxH**, with filter box and filter type K/8 efficiency EN 779 G3, constructed from natural finish aluminium, visible fixing by screws. Manufacturer **MADEL**.



L x H	DXL NAT	DXL AA	DXL R9016B/R9016S R9010S	EXTL NAT	EXL AA	EXL R9016B/R9016S R9010S	PFXL	CXL	Lwa1 45 dB(A)	Lwa1 < 65 dB(A)
mm	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
300x300	53,23	59,13	59,61	53,23	59,13	59,61	17,02	10,52	755	1405
400x300	60,38	67,13	67,63	63,54	70,59	71,17	18,38	11,15	1018	1895
500x300	67,43	74,92	75,51	74,48	82,73	83,42	20,41	12,28	1282	2384
600x300	72,70	80,79	81,42	84,22	93,59	94,33	21,44	12,96	1545	2874
800x300	86,80	96,46	97,21	106,37	118,18	119,13	24,31	14,34	1589	3372
1000x300	103,25	114,67	115,63	133,44	148,28	149,45	26,90	15,65	1993	4228
1250x300	129,03	143,36	144,53	166,79	185,33	186,81	33,60	19,58	2486	5296
1500x300	154,84	172,05	173,43	200,16	222,39	224,17	40,32	23,48	2458	5645
1750x300	180,65	200,73	202,33	233,51	259,40	261,55	47,04	27,39	2870	6592
2000x300	206,45	229,40	231,24	266,87	296,52	298,91	53,75	31,32	3283	7539
400x400	71,66	79,61	80,25	71,66	79,61	80,25	20,47	12,48	1528	2842
500x400	81,31	90,34	91,05	84,46	93,86	94,58	23,15	13,35	1475	3129
600x400	87,93	97,69	98,48	98,04	108,92	109,80	24,33	14,02	1778	3772
800x400	106,53	118,39	119,33	121,11	134,58	135,63	28,10	15,42	2384	5057
1000x400	129,84	144,25	145,43	150,46	167,19	168,54	30,91	16,76	2990	6342
1250x400	162,26	180,29	181,73	188,11	209,02	210,69	38,65	20,95	3064	7037
1500x400	194,73	216,38	218,09	225,69	250,81	252,77	46,33	25,12	3688	8468
1750x400	227,17	252,41	254,41	263,34	292,60	294,94	54,10	29,31	4305	9888
2000x400	259,60	288,44	290,75	300,94	334,39	337,06	61,80	33,52	4925	11309

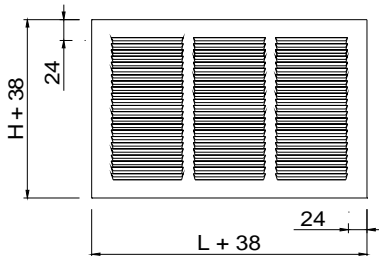
L x H mm	DXL NAT	DXL AA	DXL R9016B/R9016S R9010S	EXL NAT	EXL AA	EXL R9016B/R9016S R9010S	PFXL	CXL	Lwa1 45 dB(A)	Lwa1 < 65 dB(A)
	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h
500x500	95,80	106,45	107,31	95,80	106,45	107,31	25,82	14,02	1967	4173
600x500	103,74	115,28	116,20	108,91	121,00	121,98	27,22	14,73	2371	5029
800x500	122,83	136,48	137,58	137,62	152,91	154,13	31,89	16,12	3179	6743
1000x500	151,02	167,80	169,13	168,19	186,88	188,38	34,90	17,44	3262	7490
1250x500	188,76	209,72	211,41	210,27	233,62	235,50	43,62	21,82	4086	9383
1500x500	226,50	251,64	253,68	252,31	280,34	282,58	52,38	26,16	4917	11290
1750x500	264,25	293,62	295,95	294,34	327,05	329,67	61,08	30,55	5316	11695
2000x500	301,98	335,53	338,19	336,40	373,78	376,74	69,80	34,91	6080	13376
<b>600x600</b>	<b>126,87</b>	<b>140,96</b>	<b>142,09</b>	<b>126,87</b>	<b>140,96</b>	<b>142,09</b>	<b>30,19</b>	<b>16,24</b>	<b>2964</b>	<b>6287</b>
800x600	145,39	161,56	162,83	149,53	166,15	167,46	35,72	18,10	3251	7465
1000x600	176,13	195,69	197,27	186,67	207,42	209,07	40,26	19,41	4077	9363
1250x600	220,17	244,61	246,59	233,36	259,29	261,36	50,32	24,26	5107	11729
1500x600	264,22	293,56	295,92	280,00	311,11	313,58	60,37	29,10	5690	12520
1750x600	308,23	342,50	345,21	326,69	362,99	365,89	70,46	33,96	6645	14620
2000x600	352,28	391,43	394,56	373,36	414,81	418,16	80,50	38,83	7600	16721
<b>700x700</b>	<b>153,42</b>	<b>170,45</b>	<b>171,81</b>	<b>153,42</b>	<b>170,45</b>	<b>171,81</b>	<b>32,35</b>	<b>18,43</b>	<b>3406</b>	<b>7820</b>
800x700	164,03	182,25	183,70	169,98	188,86	190,36	35,50	20,00	3901	8959
1000x700	199,63	221,80	223,58	206,23	229,12	230,99	41,86	21,38	4893	11235
1250x700	249,54	277,28	279,48	257,78	286,42	288,71	52,35	26,72	5675	12485
1500x700	299,42	332,69	335,36	309,35	343,72	346,47	62,80	32,07	6828	15024
1750x700	349,36	388,18	391,29	360,90	401,00	404,19	73,27	37,42	7974	17543
2000x700	399,24	443,61	447,17	412,43	458,28	461,93	83,74	42,75	9120	20065
<b>800x800</b>	<b>195,99</b>	<b>217,77</b>	<b>219,50</b>	<b>195,99</b>	<b>217,77</b>	<b>219,50</b>	<b>38,87</b>	<b>22,00</b>	<b>4552</b>	<b>10452</b>
1000x800	219,88	244,33	246,26	226,74	251,96	253,95	46,07	23,38	5285	11628
1250x800	274,86	305,40	307,85	283,41	314,93	317,43	57,56	29,17	6617	14566
1500x800	329,82	366,46	369,39	340,13	377,90	380,94	69,09	35,02	7966	17527
1750x800	384,79	427,53	430,96	396,80	440,90	444,41	80,60	40,85	9303	20468
2000x800	439,76	488,61	492,54	453,50	503,88	507,92	92,11	46,70	10640	23409
<b>900x900</b>	<b>227,65</b>	<b>252,95</b>	<b>254,96</b>	<b>227,65</b>	<b>252,95</b>	<b>254,96</b>	<b>46,10</b>	<b>24,67</b>	<b>5428</b>	<b>11943</b>
1000x900	240,94	267,72	269,86	241,33	268,11	270,27	50,22	25,37	6040	13289
1250x900	301,21	334,66	337,35	301,65	335,18	337,85	62,77	31,68	7566	16647
1500x900	361,44	401,59	404,81	361,97	402,18	405,42	75,31	38,01	9105	20031
1750x900	421,68	468,54	472,29	422,28	469,21	472,95	87,89	44,35	10632	23391
2000x900	481,92	535,45	539,74	482,61	536,24	540,52	100,45	50,70	12160	26753
<b>1000x1000</b>	<b>255,89</b>	<b>284,33</b>	<b>286,62</b>	<b>255,89</b>	<b>284,33</b>	<b>286,62</b>	<b>54,40</b>	<b>25,97</b>	<b>6795</b>	<b>14950</b>
1250x1000	319,87	355,43	358,25	319,87	355,43	358,25	68,02	32,50	8512	18728
1500x1000	383,84	426,49	429,90	383,84	426,49	429,90	81,63	39,01	10243	22535
1750x1000	447,82	497,57	501,57	447,82	497,57	501,57	95,26	45,50	11961	26316
2000x1000	511,82	568,69	573,22	511,82	568,69	573,22	108,89	51,99	13680	30097
<b>1250x1100</b>	<b>338,56</b>	<b>376,15</b>	<b>379,18</b>	<b>338,10</b>	<b>375,70</b>	<b>378,68</b>	<b>73,27</b>	<b>33,26</b>	<b>9459</b>	<b>20809</b>
1500x1100	406,25	451,40	455,01	405,71	450,80	454,39	87,95	39,97	11382	25039
1750x1100	473,99	526,64	530,87	473,39	525,96	530,18	102,63	46,63	13291	29239
2000x1100	541,72	601,91	606,72	541,00	601,11	605,92	117,33	53,29	13985	30401
<b>1250x1200</b>	<b>357,22</b>	<b>396,93</b>	<b>400,08</b>	<b>356,34</b>	<b>395,91</b>	<b>399,09</b>	<b>78,52</b>	<b>33,26</b>	<b>10405</b>	<b>22890</b>
1500x1200	428,66	476,27	480,09	427,60	475,11	478,91	94,29	39,97	12520	27543
1750x1200	500,12	555,70	560,13	498,90	554,35	558,76	102,63	46,63	13450	29239
2000x1200	571,60	635,12	640,20	570,18	633,53	638,60	125,76	53,29	15383	33441
<b>1500x1300</b>	<b>451,07</b>	<b>501,19</b>	-	<b>449,47</b>	<b>499,41</b>	-	<b>100,58</b>	<b>39,97</b>	<b>12565</b>	<b>27315</b>
1750x1300	526,28	584,73	-	524,43	582,70	-	110,01	46,63	14672	31897
2000x1300	601,52	668,36	-	599,37	665,98	-	134,21	53,29	16781	36481
<b>1500x1400</b>	<b>473,48</b>	<b>526,08</b>	-	<b>471,36</b>	<b>523,70</b>	-	<b>106,90</b>	<b>39,97</b>	<b>13612</b>	<b>29592</b>
1750x1400	552,42	613,83	-	549,99	611,09	-	117,39	46,63	15895	34555
2000x1400	631,43	701,58	-	628,56	698,41	-	142,62	53,29	18180	39521
<b>1500x1500</b>	<b>495,86</b>	<b>550,98</b>	-	<b>495,86</b>	<b>550,98</b>	-	<b>113,20</b>	<b>39,97</b>	<b>14659</b>	<b>31869</b>
1750x1500	578,58	642,85	-	575,52	639,45	-	124,77	46,63	17118	37214
2000x1500	661,31	734,82	-	657,75	730,86	-	151,06	53,29	19578	42562
<b>1750x1600</b>	<b>604,73</b>	<b>671,91</b>	-	<b>601,05</b>	<b>667,85</b>	-	<b>132,15</b>	<b>46,63</b>	<b>18340</b>	<b>39872</b>
2000x1600	691,23	768,06	-	684,27	760,33	-	159,51	53,29	20977	45602
<b>1750x1700</b>	<b>630,88</b>	<b>700,97</b>	-	<b>626,59</b>	<b>696,23</b>	-	<b>139,53</b>	<b>46,63</b>	<b>19564</b>	<b>42530</b>
2000x1700	721,15	801,28	-	716,12	795,71	-	167,93	53,29	21000	48642
<b>2000x1800</b>	<b>751,07</b>	<b>834,52</b>	-	<b>745,32</b>	<b>828,15</b>	-	<b>176,39</b>	<b>54,58</b>	<b>21889</b>	<b>51200</b>
<b>2000x1900</b>	<b>780,95</b>	<b>867,74</b>	-	<b>774,49</b>	<b>860,58</b>	-	<b>184,83</b>	<b>55,87</b>	<b>22000</b>	<b>51439</b>
<b>2000x2000</b>	<b>810,86</b>	<b>900,97</b>	-	<b>810,86</b>	<b>900,97</b>	-	<b>193,26</b>	<b>57,19</b>	<b>23105</b>	<b>54296</b>

(*)	eur
(P)	2,77

## Pressed grilles

### Technical data

SCV



### Description

Printed grilles in galvanised steel for extraction or air supply.

**SCV** Grille with blades in One-Way, parallels to the largest side (L size)

**CCV** SC models incorporating volume damper with external key.

### Accessories

**JT** Wind of 10 m of autoadhesive seal.

### Fixing

**(T)** Visible screws.

### Finishes

**R9006M** Painted aluminium colour RAL 9006 matt (20-30% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**S/PT** Without finish.

### Specification Text

Supply and mounting of printed grille for extraction and air supply with blades in One-Way series **SCV R9016S dim. LxH**, constructed from galvanised steel paint in white **R9016S**, visible fixing by screws **(T)**.

Manufacturer **MADEL**.



L x H mm	SCV eur	CCV eur	SCV S/PT eur	CCV S/PT eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
100x100	3,48	11,13	3,33	10,58	65-90	115
200x100	5,16	13,80	4,88	13,11	125-175	225
300x100	6,76	15,98	6,43	15,18	190-265	340
400x100	8,37	18,59	7,95	17,66	260-365	470
500x100	9,94	21,36	9,45	20,31	325-455	585
600x100	11,56	24,01	10,98	22,81	405-565	730
<b>150x150</b>	<b>5,84</b>	<b>14,65</b>	<b>5,54</b>	<b>13,92</b>	<b>155-215</b>	<b>275</b>
200x150	6,88	16,34	6,54	15,51	205-285	370
300x150	8,85	19,73	8,40	18,75	295-415	535
400x150	10,92	23,11	10,37	21,95	395-555	715
500x150	12,91	26,57	12,27	25,25	495-695	890
600x150	14,94	29,95	14,19	28,45	630-880	1135
<b>200x200</b>	<b>8,17</b>	<b>19,42</b>	<b>7,77</b>	<b>18,45</b>	<b>260-365</b>	<b>470</b>
300x200	10,56	23,66	10,02	22,47	385-540	695
400x200	13,45	28,85	12,78	27,42	520-730	940
500x200	16,36	33,04	15,54	31,40	655-920	1185
600x200	19,26	37,33	18,30	35,45	855-1195	1540
<b>300x300</b>	<b>14,29</b>	<b>30,47</b>	<b>13,57</b>	<b>28,94</b>	<b>585-820</b>	<b>1055</b>
400x300	18,23	36,21	17,31	34,41	785-1095	1410
500x300	21,73	41,95	20,65	39,84	980-1375	1765
600x300	25,49	47,63	24,22	45,26	1315-1840	2365
<b>400x400</b>	<b>26,71</b>	<b>53,11</b>	<b>25,38</b>	<b>50,47</b>	<b>1055-1475</b>	<b>1895</b>

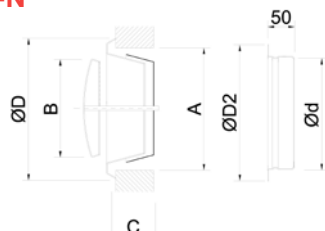
	eur
<b>JT</b>	3,50

## Ventilation valves



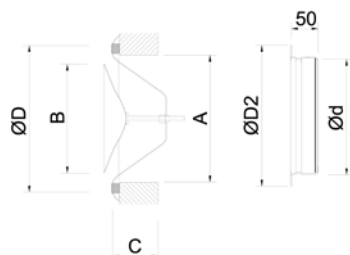
### Technical data

#### BWC-N



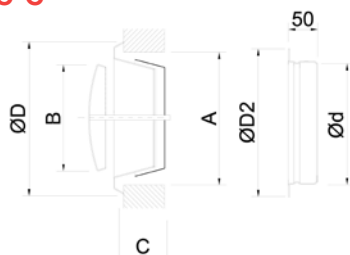
Ø	A	B	C	Ød	ØD2	ØD
<b>BWC-N-100</b>	104	75	40	99	123	138
<b>BWC-N-125</b>	129	100	46	124	148	164
<b>BWC-N-160</b>	169	130	54	159	184	211
<b>BWC-N-200</b>	209	158	63	199	227	248

#### BWC-S



Ø	A	B	C	Ød	ØD2	ØD
<b>BWC-S-100</b>	104	75	40	99	122	140
<b>BWC-S-125</b>	129	99	46	124	148	170
<b>BWC-S-160</b>	169	119	54	159	184	202
<b>BWC-S-200</b>	209	157	64	199	225	254

#### BWC-C



Ø	ØD	Ød	ØD2	B
<b>BWC-C-100</b>	148	100	80	86
<b>BWC-C-125</b>	168	125	100	106
<b>BWC-C-150</b>	186	150	120	130
<b>BWC-C-200</b>	240	200	170	178

### Description

Ventilation valves with adjustable core for extract or air supply.

**BWC-N** Extract valve in galvanised steel, including mounting neck.

**BWC-S** Air supply valve in galvanised steel, including mounting neck.

**BWC-C** Extract and supply valve in white polypropylene, including mounting neck.

### Fixing

1) Clips and mounting neck.

### Finishes

**R9010** Painted in white RAL 9010.

### Specification Text

Supply and mounting of circular valve with adjustable core for extract or air supply with mounting neck series **BWC-N R9010 dim.**

**100** constructed from galvanised steel paint in white **R9010**, invisible fixing by clips and mounting neck. Manufacturer **MADEL**.

Ø mm	BWC-N eur	BWC-S eur	BWC-C eur	Q min. m³/h	Q max. m³/h
100	8,89	17,92	8,81	10	150
125	9,98	19,31	9,30	20	220
150	-	-	12,28	20	250
160	12,57	23,67	-	20	280
200	15,51	28,36	15,11	30	440





## Radial **diffusers**



Timeless classic design

MOD models to replace a false ceiling tile

Hinged removable core without tools KLIN models

DSO and DIMO diffusers, design with high capacity for integration

Supply and return in a single unit with diffusers DRIM

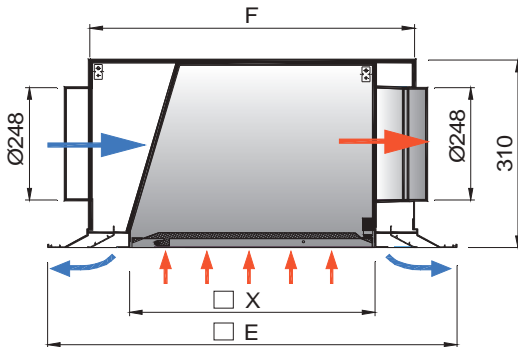
## INDEX

- 59 **DRIM** supply-return modular diffusers
- 60 **DCN** fixed cones diffusers
- 62 **DSO** central disc diffusers
- 63 **DBQ** four-way diffusers
- 65 **DBQ-MOD** four-way diffusers
- 66 **DIMO** decorative core modular diffusers

# Supply-return modular diffusers



## DRIM...-R



Dim.	E	F	X
1x600	595	473	438
2x600	595	473	374
1x625	620	498	465
2x625	620	498	399
1x675	670	548	513
2x675	670	548	449

### Description

Modular diffusers to be used from 2,6 up to 4 metres high, with hinged removable core without tools. by PUSH fasteners. KLIN system allows for the easy access to the diffuser for maintenance. Constructed from aluminium and galvanised steel.

**DRIM** Four-Way diffuser for air supply with return core and connection plenum box incorporated.

### Accessories

**...-RR** Plenum box with air flow damper in the spigot, as much of supply as of return.

**PFT** Filter K/8 class EN 779 G3 in the air return.

**.../AIS/** Thermal insulation inside.

### Fixing

1) Suspended at the false ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of Four-Way diffuser for air supply with return core and lateral circular connection plenum box incorporated series **DRIM R9016S dim. 2x600** constructed from aluminium and galvanised steel, paint in white RAL 9016 (60-70% gloss)



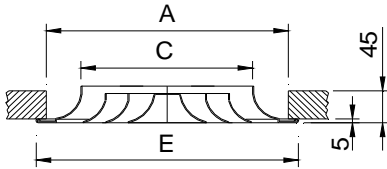
Dim. mm	DRIM	DRIM-RR	PFT	supply	supply	return
	eur	eur		eur	Lwa1<40 dB(A) m³/h	Lwa1=45 dB(A) m³/h
1x600	238,68	267,73	27,22	242-338	482	580
2x600	246,42	275,44	25,97	404-565	808	800
1x625	244,78	273,83	27,62	247-346	495	600
2x625	252,50	281,50	26,60	420-588	840	850
1x675	253,43	282,43	28,51	284-398	568	650
2x675	261,30	290,31	27,54	463-648	927	950

Dim. mm	DRIM	DRIM-RR	PFT	supply	supply	return
	/AIS/ eur	/AIS/ eur		eur	Lwa1<40 dB(A) m³/h	Lwa1=45 dB(A) m³/h
1x600	267,33	296,37	27,22	242-338	482	580
2x600	275,99	305,01	25,97	404-565	808	800
1x625	274,17	303,20	27,62	247-346	495	600
2x625	282,81	311,79	26,60	420-588	840	850
1x675	283,84	312,84	28,51	284-398	568	650
2x675	292,64	321,66	27,54	463-648	927	950

## Fixed cones diffusers

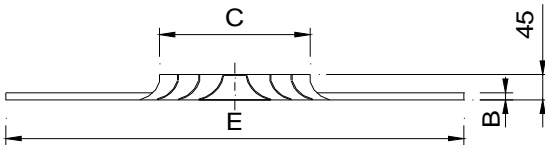
### Technical data

#### DCN



Dim.	E	A	C
160	263	223	154
200	303	263	194
250	353	313	244
315	418	378	309
355	458	418	349
400	503	463	394

#### DCN-MOD



Dim.	MOD/600		MOD/625		MOD/675		
	C	B	E	B	E	B	E
160	154	12	595	12	620	15	670
200	194	12	595	12	620	15	670
250	244	12	595	12	620	15	670
315	309	12	595	12	620	15	670
355	349	12	595	12	620	15	670
400	394	12	595	12	620	15	670



### Description

Circular diffusers in aluminium to be used in premises from 2,6 up to 4 metres high.

**DCN** Fixed cones circular diffuser.

**DCN-MOD** Diffuser specially designed for modular ceilings.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

### Accessories

**R3E** Flap damper, manually operated.

**PMN** Crossbar suitable for mounting a false ceiling with rectangular duct.

**PFLEX** Neck-crossbar suitable for mounting in false ceiling with flexible duct.

**PLDN** Plenum box with a lateral circular.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

### Fixing

- 1) Connection into the crossbar or to the plenum box by means of central screw.
- 2) MOD Suspended at the false ceiling, replacing a ceiling plate.

### Finishes

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of fixed cones circular diffuser series

**DCN+R3E+PFLEX R9016S dim. 125**, constructed from aluminium paint in white RAL 9016 (60-70% gloss), With flap damper and neck-crossbar suitable for mounting in false ceiling with flexible duct. Manufacturer **MADEL**.



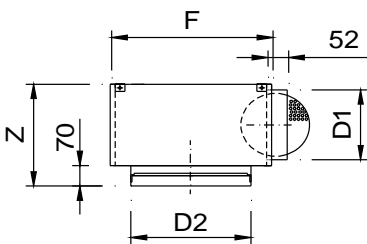
Ø	DCN R9016S / R9010S	DCN AA	PMN	Lwa1 < 30 dB(A)	Lwa1 = 35 dB(A)	Lwa1 = 40 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
160	18,32	19,98	3,17	144-205	250	300
200	21,98	24,21	3,29	180-270	340	425
250	27,83	31,85	3,49	295-385	475	595
315	35,30	40,01	3,66	415-520	655	835
355	42,98	49,91	3,76	490-555	735	970
400	50,53	60,74	3,90	625	810	1060

Ø	DCN-MOD/ 600 R9016S / R9010S	DCN-MOD/ 625 R9016S / R9010S	DCN-MOD/ 675 R9016S / R9010S	Lwa1 < 30 dB(A)	Lwa1 = 35 dB(A)	Lwa1 = 40 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
160	48,55	56,73	64,90	144-205	250	300
200	50,47	58,68	66,85	180-270	340	425
250	54,22	62,37	70,56	295-385	475	595
315	58,90	67,06	75,25	415-520	655	835
355	63,41	71,63	79,79	490-555	735	970
400	68,86	77,06	85,21	625	810	1060

Ø	DCN-MOD/ T/ 600 R9016S / R9010S	DCN-MOD/ T/ 625 R9016S / R9010S	DCN-MOD/T/ 675 R9016S / R9010S	Lwa1 < 30 dB(A)	Lwa1 = 35 dB(A)	Lwa1 = 40 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
160	57,93	66,72	76,21	144-205	250	300
200	59,87	68,66	78,17	180-270	340	425
250	63,60	72,35	81,85	295-385	475	595
315	68,28	77,07	86,58	415-520	655	835
355	72,81	81,61	91,09	490-555	735	970
400	78,26	87,04	96,52	625	810	1060

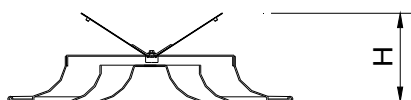
Ø	R3E	PFLEX	PLDN	PLDN-R	PLDN / AIS	PLDN-R / AIS
mm	eur	eur	eur	eur	eur	eur
160	63,80	68,93	81,66	63,80	68,93	81,66
200	69,47	75,94	89,18	69,47	75,94	89,18
250	74,98	82,37	96,34	74,98	82,37	96,34
315	83,91	92,71	107,94	83,91	92,71	107,94
355	90,85	102,12	117,33	90,85	102,12	117,33
400	93,97	104,18	120,98	93,97	104,18	120,98

**PLDN**



	D2	F	Z	D1
160	245	285	300	123
200	285	335	300	158
250	335	385	300	198
315	400	435	340	248
355	440	485	340	248
400	485	535	420	313

**DCN+R3E**



	H
160	122
200	145
250	170
315	200
355	220
400	248

**PFLEX**

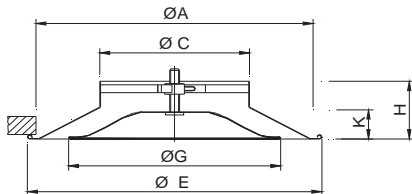


# Central disc diffusers



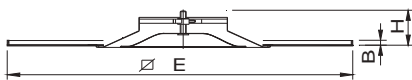
## Technical data

### DSO



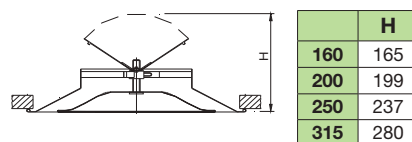
	E	A	G	H	K	C
160	325	300	206	101	44	157
200	425	398	325	115	58	197
250	510	487	380	128	72	248
315	575	550	435	137	80	313

### DSO-MOD



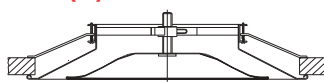
	MOD/600		MOD/625		MOD/675	
	H	C	B	E	B	E
160	101	157	12	595	12	620
200	115	197	12	595	12	620
250	114	247	12	595	12	620
315	137	13	12	595	12	620

### DSO+R3G



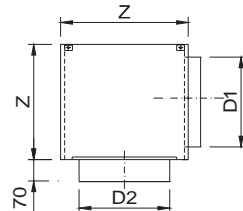
	H
160	165
200	199
250	237
315	280

### DSO (O)



	D2	Z	D1
160	160	220	158
200	200	260	198
250	250	310	248
315	317	375	313

### PLDG



## Description

Central disc diffusers to be used in premises from 2,6 up to 4 metres high. Constructed from aluminium.

**DSO** Removable central disc diffuser.

**DSO-MOD** Difuser specially designed for modular ceilings.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

## Accessories

**R3G** Flap damper, manually operated.

**PMG** Crossbar for mounting in false ceiling with rectangular duct.

**PLDG** Plenum box with a lateral connection.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

## Fixing

1) Connection into a circular metallic duct.

(P) Connection into the crossbar or plenum box by central screw. Unsuitable for SPC.

(O) Hidden screws for false ceiling mounting with flexible duct.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

Supply and mounting of removable central disc diffuser series

**DSO+R3G+PLDG R9016S 160** constructed from aluminium paint in white RAL 9016 (60-70% gloss), flap damper and lateral circular connection plenum box. Manufacturer **MADEL**.

Ø	DSO	DSO (O)	DSO-MOD 600	DSO-MOD 625	DSO-MOD 675	Lwa1 < 30 dB(A)	Lwa1= 35 dB(A)	Lwa1= 40 dB(A)
mm	eur	eur	eur	eur	eur	m³/h	m³/h	m³/h
160	45,45	54,06	67,85	74,74	81,61	180-240	290	360
200	58,99	68,21	79,62	86,50	93,38	280-420	500	620
250	79,81	89,95	93,97	100,84	107,71	440-670	790	960
315	102,40	113,51	118,17	125,04	131,94	700-965	1150	1380

Ø	DSO-MOD/T 600	DSO-MOD/T 625	DSO-MOD/T 675	R3G	PMG	PLDG	PLDG-R	PLDG / AIS	PLDG-R / AIS
mm	eur	eur	eur	eur	eur	eur	eur	eur	eur
160	75,74	83,16	91,13	8,91	3,29	49,93	63,17	67,38	80,61
200	87,53	94,91	102,89	9,51	3,66	57,58	71,59	77,74	91,76
250	101,87	109,24	117,22	10,84	3,84	61,29	76,50	82,76	97,93
315	126,08	133,46	141,45	13,27	4,71	69,96	86,70	94,42	111,18

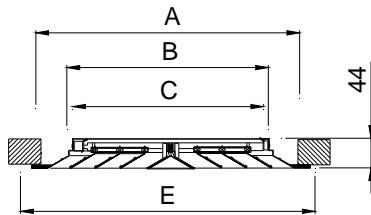


## Four-way square diffusers



### Technical data

#### DBQ



	E	A	C	B
150 x 150	259	219	138	148
225 x 225	332	292	212	223
300 x 300	407	367	287	298
375 x 375	482	442	362	373
450 x 450	557	517	437	448
525 x 525	632	592	511	523
600 x 600	707	667	587	598

	R3Q	SPQ	PLDQ	ADPQ
DBQ (D)	ok	ok	x	ok
DBQ (P)	ok	x	ok	x
DBQ (O)	x	x	x	x

### Description

Four-Way diffusers in aluminium to be used in premises from 2,6 up to 4 metres high.

**DBQ** Four-Way square diffuser with removable core.

### Accessories

**R3Q** Flap damper, manually operated. Compatible with (O) fixing.

**SPQ** Opposed blades volume damper from black electro-zinc steel. Compatible with (D) fixing.

**PMQ** Crossbar suitable for mounting in a false ceiling with rectangular duct.

**CQ** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PLDQ** Plenum box with a lateral circular. Compatible with (P) fixing.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

**ADPQ** Adapter to circular connection. Riveted directly to the diffuser. Compatible with (D) fixing.

...-R Air flow damper in the spigot.

.../L/ Lateral connection.

.../AIS/ Thermal insulation inside.

### Fixing

(D) Direct fixing into a circular metallic duct.

(P) Connection into the crossbar or to the plenum box by means of central screw.

(O) Hidden screws (supplement \*)

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminium colour RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of four-way square diffuser with removable core series **DBQ+PLDQ-R R9016S 150x150**, constructed from aluminium paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

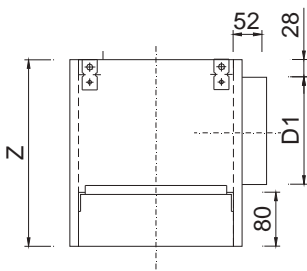


L x H	DBQ	R3Q	SPQ	PMQ	CQ	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)
mm	eur	eur	eur	eur	eur	m³/h	m³/h
150x150	25,45	9,90	7,69	3,23	4,21	125-175	225
225x225	36,29	11,80	10,43	3,46	4,70	250-350	450
300x300	47,56	13,58	13,58	3,70	5,50	435-610	785
375x375	61,16	15,37	17,82	3,97	5,94	625-875	1125
450x450	75,39	16,59	22,05	4,21	7,25	875-1225	1575
525x525	109,54	17,82	27,84	4,48	7,25	1165-1635	2100
600x600	130,07	19,22	33,02	4,94	8,10	1600-2100	2700

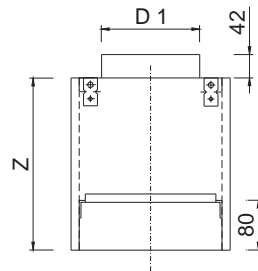
L x H	ADPQ	ADPQ-R	ADPQ /AIS/ eur	ADPQ-R /AIS/ eur	PLDQ	PLDQ-R	PLDQ /AIS/ eur	PLDQ-R /AIS/ eur
mm	eur	eur	eur	eur	eur	eur	eur	eur
150x150	39,52	52,77	53,35	66,60	42,76	55,99	57,72	70,96
225x225	43,91	57,12	59,28	72,49	47,37	60,58	63,95	77,17
300x300	52,05	66,02	70,27	84,24	55,74	69,72	75,25	89,23
375x375	57,41	72,60	77,51	92,70	61,38	76,57	82,85	98,05
450x450	67,84	84,60	91,58	108,36	72,06	88,83	97,27	114,04
525x525	78,35	95,16	105,77	122,59	82,82	99,64	111,81	128,63
600x600	84,54	101,34	114,12	130,94	89,48	106,29	120,80	137,61

(*)	eur
(O)	6,33

**PLDQ**

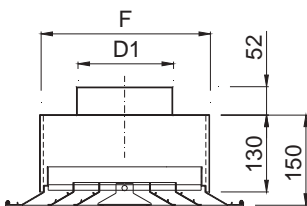


**PLDQ/S**

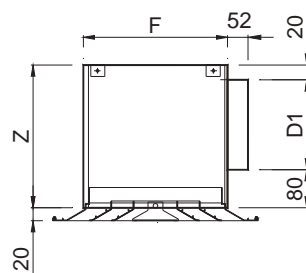


	F	Z	D1
150 x 150	256	275	125
225 x 225	332	300	158
300 x 300	406	375	198
375 x 375	480	375	248
450 x 450	555	450	313
525 x 525	630	490	313
600 x 600	705	490	313

**DBQ+ADPQ**



**DBQ+ADPQ/L**



**DBQ+CQ (O)**

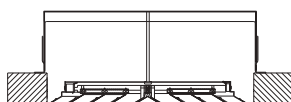


	F	D1
150 x 150	152	125
225 x 225	227	198
300 x 300	302	248
375 x 375	377	313
450 x 450	452	353
525 x 525	527	398
600 x 600	602	398

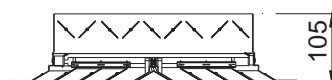
	F	Z	D1
150 x 150	152	225	125
225 x 225	227	260	158
300 x 300	302	300	198
375 x 375	377	350	248
450 x 450	452	415	315
525 x 525	527	455	355
600 x 600	602	455	355

L ó H	A
150	233
225	308
300	383
375	458
450	533
525	608
600	683

**DBQ (P)+PMQ**



**DBQ+SPQ**



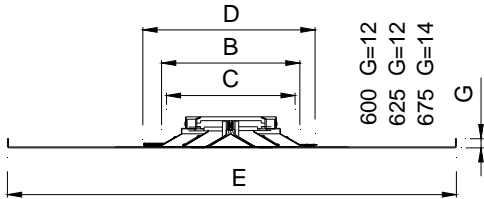
**DBQ (O)**



# Modular four-way square diffusers

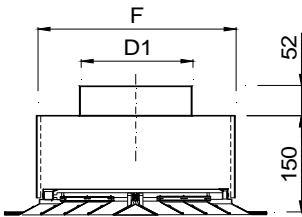
## Technical data

### DBQ-MOD



	C	B	D	600	625	675
				E	E	E
150 x 150	137	148	259	595	620	670
225 x 225	212	223	332	595	620	670
300 x 300	287	298	407	595	620	670
375 x 375	362	373	482	595	620	670
450 x 450	437	448	557	595	620	670

### DBQ+ADPQ



	F	D1
150 x 150	152	125
225 x 225	227	198
300 x 300	302	248
375 x 375	377	313
450 x 450	452	353
525 x 525	527	398
600 x 600	602	398



## Description

Four-Way diffusers in aluminium to be used in premises from 2,6 up to 4 metres high, specially designed to be mounted in modular ceilings.

**DBQ-MOD** Four-Way square diffuser with removable core.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

## Accessories

**SPQ** Opposed blades volume damper from black electro-zinc steel.

**R3Q** Flap damper, manually operated.

**ADPQ** Adapter to circular connection. Riveted to the diffuser.

...-R Air flow damper in the spigot.

.../L/ Lateral connection: see page DBQ series.

.../AIS/ Thermal insulation inside.

## Fixing

1) Suspended at the false ceiling. To replace a false ceiling plate.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

Supply and mounting of fixed cones square diffuser series **DBQ-MOD R9016S dim. LxH**, designed to replace a false ceiling plate.

Constructed from aluminium paint in white RAL 9016 (60-70% gloss)

Manufacturer **MADEL**.

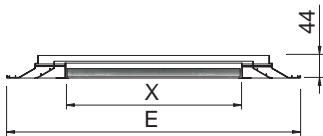
L x H	DBQ-MOD 600	DBQ-MOD 625	DBQ-MOD 675	DBQ-MOD /T/ 600	DBQ-MOD /T/ 625	DBQ-MOD /T/ 675	Lwa1 < 35 dB(A)	Lwa1 40 dB(A)
mm	eur	eur	eur	eur	eur	eur	m³/h	m³/h
150x150	53,85	58,77	68,09	63,15	68,66	79,30	125-175	225
225x225	62,67	67,57	76,89	71,96	77,46	88,09	250-350	450
300x300	72,37	77,26	86,62	81,68	87,16	97,81	435-610	785
375x375	82,68	87,59	96,93	91,97	97,47	108,13	625-875	1125
450x450	78,60	99,47	106,54	87,91	109,36	117,77	875-1225	1575

L x H	SPQ	R3Q	ADPQ	ADPQ-R	ADPQ AIS/	ADPQ-R AIS/
mm	eur	eur	eur	eur	eur	eur
150x150	7,69	9,90	39,52	52,77	53,35	66,60
225x225	10,43	11,80	43,91	57,12	59,28	72,49
300x300	13,58	13,58	52,05	66,02	70,27	84,24
375x375	17,82	15,37	57,41	72,60	77,51	92,70
450x450	22,05	16,59	67,84	84,60	91,58	108,36

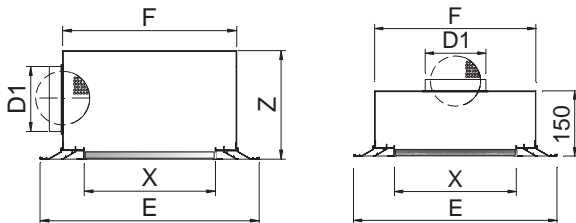
## Decorative core modular diffusers

### Technical data

#### DIMO



#### DIMO+PLMO...-R



	E	F	Z	X	D1
1 x 600	595	473	310	438	248
2 x 600	595	473	310	374	248
3 x 600	595	473	370	310	313
4 x 600	595	473	370	247	313
1 x 625	620	498	310	465	248
2 x 625	620	498	310	399	248
3 x 625	620	498	370	335	313
4 x 625	620	498	370	272	313
1 x 675	670	548	310	513	248
2 x 675	670	548	310	449	248
3 x 675	670	548	370	385	313
4 x 675	670	548	370	322	313

### Description

Modular diffusers to be used from 2,6 up to 4 metres high. Diffuser with removable core to be replaced by a piece of false ceiling plate in order to integrate it to the maximum. Constructed from aluminium.

**DIMO** Four-Way diffuser for air supply.

### Accessories

**PLMO** Plenum with an upper connection.

**...-R** Air flow damper in the spigot.

**.../L/** Lateral connection.

**.../AIS/** Thermal insulation inside.

### Fixing

1) Suspended at the false ceiling.

P) Sidepieces to fix in ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of Four-Way modular diffuser for air supply with decorative core series **DIMO+PLMO/L/-R R9016S dim. 2x600** constructed from aluminium paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



Dim.	DIMO	PLMO	PLMO-R	PLMO/L/	PLMO/L/-R	Lwa1 < 35 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	eur	eur	eur	m³/h	m³/h
<b>1x600</b>	<b>79,36</b>	<b>63,91</b>	<b>79,10</b>	<b>66,76</b>	<b>81,97</b>	<b>242-338</b>	<b>482</b>
2x600	90,83	63,91	79,10	66,76	81,97	404-565	808
3x600	95,72	65,57	82,35	68,41	85,19	543-761	1087
4x600	106,42	65,57	82,35	68,41	85,19	660-922	1317
<b>1x625</b>	<b>81,86</b>	<b>63,77</b>	<b>78,97</b>	<b>66,62</b>	<b>81,80</b>	<b>255-351</b>	<b>502</b>
2x625	93,66	63,77	78,97	66,62	81,80	421-589	842
3x625	113,07	66,76	83,54	69,61	86,41	575-850	1150
4x625	124,09	66,76	83,54	69,61	86,41	685-960	1371
1x675	94,76	66,48	81,67	69,34	84,52	284-398	568
<b>2x675</b>	<b>107,40</b>	<b>66,48</b>	<b>81,67</b>	<b>69,34</b>	<b>84,52</b>	<b>564-650</b>	<b>928</b>
3x675	120,70	70,06	86,81	72,89	89,68	640-895	1280
4x675	132,44	70,06	86,81	72,89	89,68	770-1079	1542

Dim.	PLMO	PLMO-R	PLMO/L/	PLMO/L/-R
mm	/AIS/ eur	/AIS/ eur	/AIS/ eur	/AIS/ eur
<b>1x600</b>	<b>86,28</b>	<b>101,47</b>	<b>90,15</b>	<b>105,33</b>
2x600	86,28	101,47	90,15	105,33
3x600	88,52	105,30	92,35	109,15
4x600	88,52	105,30	92,35	109,15
<b>1x625</b>	<b>86,09</b>	<b>101,29</b>	<b>89,93</b>	<b>105,13</b>
2x625	86,09	101,29	89,93	105,13
3x625	90,15	106,91	93,98	110,76
4x625	90,15	106,91	93,98	110,76
1x675	89,73	104,93	93,60	108,79
<b>2x675</b>	<b>89,73</b>	<b>104,93</b>	<b>93,60</b>	<b>108,79</b>
3x675	94,57	111,32	98,41	115,16
4x675	94,57	111,32	98,41	115,16







## Swirl diffusers

The diffusers NEX give color to the air

NEX diffusers designed by Lievore, Altherr & Molina at an affordable price

OTO diffuseurs. Superb organic design of Lievore, Altherr & Molina

Lievore,  
Altherr  
& Molina



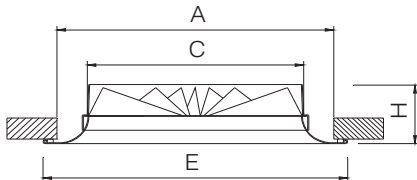
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- 74 NEX-KLIN** accessible NEX-S diffusers
- 76 NEX-C** circular concave elements swirl diffusers
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- 78 OTO-C** circular curved vents swirl diffusers
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- 83 RXO-C** circular fixed vanes swirl diffusers

## Fixed blades swirl diffusers

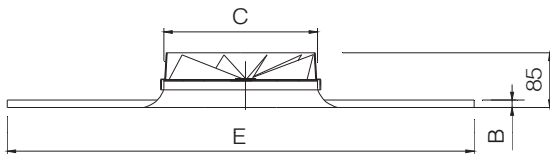
### Technical data

#### AXP



Ø	E	A	C	H
125	230	192	123	75
160	262	227	158	75
200	305	270	198	75
250	355	320	248	75
315	418	383	313	85

#### AXP-MOD



	MOD/600			MOD/625		MOD/675	
	C	E	B	E	B	E	B
125	123	595	12	620	12	670	15
160	158	595	12	620	12	670	15
200	198	595	12	620	12	670	15
250	248	595	12	620	12	670	15
315	313	595	12	620	12	670	15



### Description

Circular swirl diffusers with fixed blades to be used from 2,6 up to 4 metres high. Constructed from aluminium.

**AXP** Circular swirl diffuser.

**AXP-MOD** Difuser specially designed for modular ceilings.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

### Accessories

**PMX** Crossbar suitable for mounting AXP model in false ceiling with rectangular duct.

**PLXP** Plenum box with lateral connection.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

### Fixing

1) Connection into a circular metallic duct by means of rivets.

(P) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of circular swirl diffuser with fixed blades series **AXP+PLXP-R R9016S dim. 125** constructed from aluminium paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



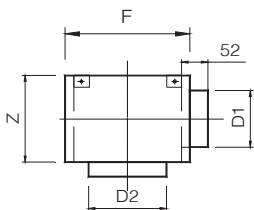
Ø	AXP	Lwa1 < 30 dB(A)	Lwa1 = 35 dB(A)	Lwa1 = 40 dB(A)
mm	eur	m³/h	m³/h	m³/h
125	51,94	55-100	120	140
160	52,49	80-160	190	220
200	57,38	120-180	220	270
250	64,69	175-260	320	390
315	91,03	345-420	490	590

Ø	AXP-MOD 600	AXP-MOD 625	AXP-MOD 675	Lwa1 < 30 dB(A)	Lwa1 = 35 dB(A)	Lwa1 = 40 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
125	77,34	82,71	84,31	55-100	120	140
160	77,89	83,24	84,83	80-160	190	220
200	81,48	86,97	88,42	120-180	220	270
250	83,76	89,19	90,70	175-260	320	390
315	108,38	77,75	115,29	345-420	490	590

Ø	AXP-MOD /T/ 600	AXP-MOD /T/ 625	AXP-MOD /T/ 675	Lwa1 < 30 dB(A)	Lwa1 = 35 dB(A)	Lwa1 = 40 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
125	86,74	92,70	95,57	55-100	120	140
160	87,28	93,26	96,15	80-160	190	220
200	90,85	96,94	99,72	120-180	220	270
250	93,16	99,17	102,01	175-260	320	390
315	117,75	87,77	126,61	345-420	490	590

Ø	PMX	PLXP	PLXP-R	PLXP/ AIS	PLXP-R / AIS
mm	eur	eur	eur	eur	eur
125	3,08	44,30	57,02	60,11	72,78
160	3,19	45,03	57,72	60,78	73,46
200	3,46	49,93	63,17	67,38	80,61
250	4,02	57,58	71,59	77,74	91,76
315	4,57	70,25	85,48	94,87	110,07

**PLXP**

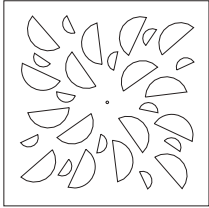


	D2	F	Z	D1
<b>125</b>	125	200	150	98
<b>160</b>	160	250	175	123
<b>200</b>	200	300	220	158
<b>250</b>	250	380	270	198
<b>315</b>	315	480	335	248

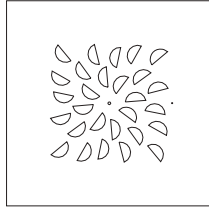
## Concave elements swirl diffusers

### Technical data

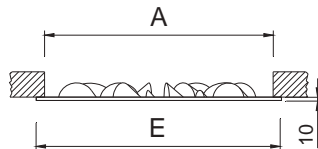
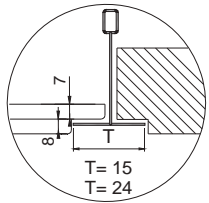
#### NEX-S



#### NEX-S.../SR/



#### NEX-S.../T/



	E	A
400	395	376
500	495	476
600	595	576
610	605	591
625	620	601
675	670	651



### Description

Swirl diffusers with fixed concave elements to be used from 2,6 up to 4 metres high. Constructed from galvanised steel and diffusion elements in ABS plastic.

**NEX-S** Square diffuser with black ABS elements.

**.../SR/** Reduced supply area.

**.../T15/** False ceiling panel 15 mm profile with angled borders.

**.../T24/** False ceiling panel 24 mm profile with angled borders.

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**BOXSTAR** Pyramidal plenum box with a lateral connection.

**...-R** Air flow damper in the spigot.

**.../S/** Upper connection.

**.../AIS/** Thermal insulation inside.

**BOXTHERM** Plenum box thermo accoustically insulated with a lateral circular connection.

**...-R** Plenum box with a flow damper in the spigot.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**.../EB/** ABS plastic elements in white.

**.../EL/** ABS plastic elements in lavanda blue.

**.../EV/** ABS plastic elements in pistachio green.

**.../ER/** ABS plastic elements in red.

### Specification Text

Supply and mounting of square swirl diffuser with fixed concave elements in radial disposition series **NEX-S+BOXSTAR-R R9016S dim. 600** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) and diffusion elements in black ABS. With lateral circular connection pyramidal plenum box and air flow damper in the spigot. Manufacturer **MADEL**.





Dim. mm	NEX-S eur	NEX-S /T.../ eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
400	47,11	53,92	175-230	290	360
500	58,04	67,37	290-375	470	595
600	60,17	69,57	430-560	700	880
610	62,11	71,76	430-560	700	880
625	64,05	73,97	430-560	700	880
675	67,10	78,39	430-560	700	880
<b>/SR/ 600-400</b>	<b>51,10</b>	<b>60,49</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
<b>/SR/ 600-500</b>	<b>60,58</b>	<b>69,98</b>	<b>290-375</b>	<b>470</b>	<b>595</b>
<b>/SR/ 610-400</b>	<b>52,77</b>	<b>62,43</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
<b>/SR/ 610-500</b>	<b>61,86</b>	<b>71,51</b>	<b>290-375</b>	<b>470</b>	<b>595</b>
<b>/SR/ 625-400</b>	<b>54,44</b>	<b>64,38</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
<b>/SR/ 625-500</b>	<b>63,14</b>	<b>73,07</b>	<b>290-375</b>	<b>470</b>	<b>595</b>
<b>/SR/ 675-400</b>	<b>57,97</b>	<b>69,27</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
<b>/SR/ 675-500</b>	<b>66,66</b>	<b>77,95</b>	<b>290-375</b>	<b>470</b>	<b>595</b>

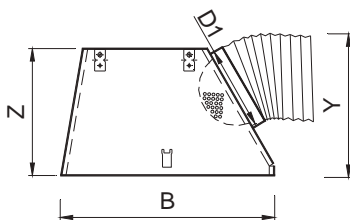
Dim. mm	BOXSTAR eur	BOXSTAR-R eur	BOXSTAR/AIS/ eur	BOXSTAR-R/AIS/ eur	PMXO eur
400	43,50	57,49	58,72	72,72	3,97
500	55,96	69,96	75,55	89,55	4,50
<b>600 (D1:250)</b>	<b>66,35</b>	<b>81,55</b>	<b>89,58</b>	<b>104,77</b>	<b>4,95</b>
600 (D1:200)	65,44	79,44	88,33	102,34	4,95
<b>610 (D1:250)</b>	<b>67,07</b>	<b>82,26</b>	<b>90,55</b>	<b>105,74</b>	<b>5,12</b>
610 (D1:200)	66,02	80,04	89,15	103,14	5,12
<b>625 (D1:250)</b>	<b>67,77</b>	<b>82,96</b>	<b>91,51</b>	<b>106,68</b>	<b>5,26</b>
625 (D1:200)	66,62	80,61	89,93	103,93	5,26
<b>675 (D1:250)</b>	<b>78,07</b>	<b>94,84</b>	<b>105,40</b>	<b>122,17</b>	<b>16,98</b>
675 (D1:200)	76,94	90,93	103,88	117,86	16,98

Dim. mm	BOXTHERM eur	BOXTHERM-R eur
600 (D1:250)	<b>54,85</b>	<b>69,47</b>
600 (D1:200)	53,47	66,93

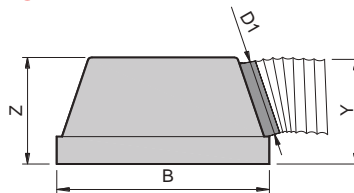
Nota: Difusores de 610 compatibles con BOXTHERM 600.

Note: Size 610 diffusers compatible with BOXTHERM 600.

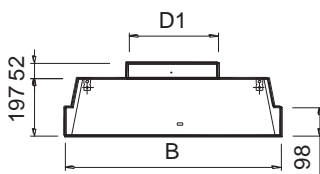
## BOXSTAR



## BOXTHERM



## BOXSTAR/S



	Z	D1
<b>BOXTHERM 600-DIAM250</b>	350	248
<b>BOXTHERM 600-DIAM200</b>	300	198

	B	Z	Y	D1
<b>400</b>	390	300	325	198
<b>500</b>	490	300	325	198
<b>600-D1:250</b>	590	350	375	248
<b>600-D1:200</b>	590	300	325	198
<b>610-D1:250</b>	600	350	375	248
<b>610-D1:200</b>	600	300	325	198
<b>625-D1:250</b>	615	350	375	248
<b>625-D1:200</b>	615	300	325	198
<b>675-D1:250</b>	665	350	375	248
<b>675-D1:200</b>	665	300	325	198

**Accessible concave elements swirl diffusers**

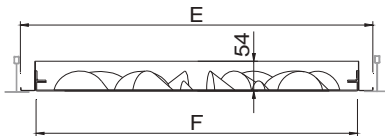
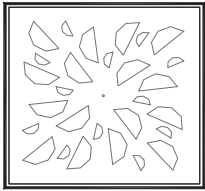


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**Technical data**

**NEX-S-KLIN**



	E	A	F
400	395	369	345
500	495	469	445
600	595	569	545
610	605	579	555
625	620	594	570
675	670	644	620
600-400	595	569	545
600-500	595	569	545
610-400	605	579	555
610-500	605	579	555
625-400	620	594	570
625-500	620	594	570
675-400	670	644	620
675-500	670	644	620



**Description**

Swirl diffusers with fixed concave elements to be used from 2,6 up to 4 metres high, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the diffuser that conforms with the regulations required for maintenance of HVAC systems. Constructed from galvanised steel and diffusion elements in ABS plastic.

**NEX-S-KLIN** Diffuser with black ABS elements.

.../SR/ Reduced supply area.

**Accessories**

**PLK** Plenum box with an upper connection.

...-R Air flow damper in the spigot.

.../L/ Lateral connection.

.../AIS/ Thermal insulation inside.

**Fixing**

1) Suspended at the false ceiling.

**Finishes**

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../EB/ ABS plastic elements in white.

.../EL/ ABS plastic elements in lavender blue.

.../EV/ ABS plastic elements in pistachio green.

.../ER/ ABS plastic elements in red.

**Specification Text**

Supply and mounting of square swirl diffuser with fixed concave elements with hinged removable core without tools, by PUSH fasteners series **NEX-S-KLIN+PLK-R R9016S dim. (mm)** constructed from galvanised paint in white RAL 9016 (60-70% gloss) and diffusion elements in black ABS. With upper circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

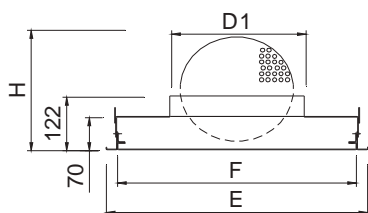


Dim.	NEX-S-KLIN	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
400	63,66	175-230	290	360
500	76,09	290-375	470	595
600	80,13	430-560	700	880
610	82,18	430-560	700	880
625	84,20	430-560	700	880
675	87,67	430-560	700	880
<b>/SR/ 600-400</b>	<b>71,85</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
/SR/ 600-500	80,56	290-375	470	595
<b>/SR/ 610-400</b>	<b>73,24</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
/SR/ 610-500	82,05	290-375	470	595
<b>/SR/ 625-400</b>	<b>74,62</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
/SR/ 625-500	83,53	290-375	470	595
<b>/SR/ 675-400</b>	<b>78,54</b>	<b>175-230</b>	<b>290</b>	<b>360</b>
/SR/ 675-500	87,21	290-375	470	595

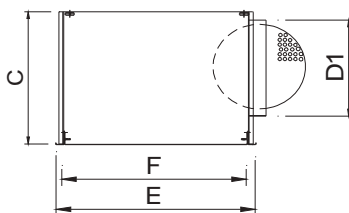
Dim.	PLK	PLK-R	PLK /AIS/	PLK-R /AIS/
mm	eur	eur	eur	eur
400	38,43	54,74	51,88	68,21
500	42,92	60,72	57,94	75,75
600	50,32	69,60	67,93	87,20
610	50,75	70,02	68,52	87,80
625	51,16	70,49	69,07	88,40
675	54,12	70,91	73,06	89,84

Dim.	PLK/L/	PLK/L/-R	PLK/L/AIS/	PLK/L/-R/AIS/
mm	eur	eur	eur	eur
400	54,18	68,12	73,14	87,09
500	57,41	72,60	77,51	92,70
600	68,41	85,19	92,35	109,13
610	69,01	85,80	93,16	109,94
625	69,61	86,44	93,97	110,79
675	72,89	89,68	98,41	115,18

### NEX-S-KLIN+PLK...-R



### NEX-S-KLIN+PLK/L/...-R



	E	F	D1	H	C
<b>400</b>	395	365	198	205	320
<b>500</b>	495	465	248	286	370
<b>600</b>	595	565	313	353	435
<b>610</b>	605	575	313	353	435
<b>625</b>	620	590	313	353	435
<b>675</b>	670	640	313	353	435

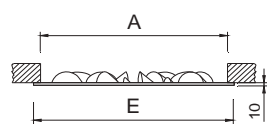
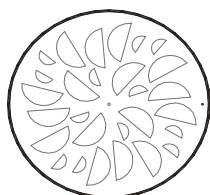
## Concave elements swirl diffusers

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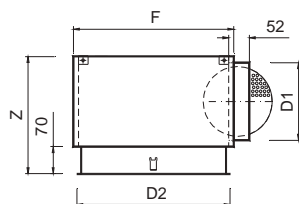
### Technical data

#### NEX-C



	E	A
400	400	376
500	500	476
625	625	601

#### PLXOC



	D2	F	Z	D1
400	395	415	300	198
500	495	515	300	198
625	620	640	350	248



### Description

Circular swirl diffusers with fixed concave elements to be used from 2,6 up to 4 metres high. Constructed from galvanised steel and diffusion elements in ABS plastic.

**NEX-C** Circular diffuser with black ABS elements.

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum box with a lateral connection.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../EB/ ABS plastic elements in white.

.../EL/ ABS plastic elements in lavender blue.

.../EV/ ABS plastic elements in pistachio green.

.../ER/ ABS plastic elements in red.

### Specification Text

Supply and mounting of circular swirl diffuser with fixed concave elements in radial disposition series **NEX-C+PLXOC-R R9016S dim. 600** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) and diffusion elements in black ABS. With lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



Dim.	NEX-C	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)	PLXOC	PLXOC-R	PLXOC /AIS/ eur	PLXOC-R /AIS/ eur	PMXOC eur
400	54,84	175-230	290	360	58,67	72,65	79,21	93,18	3,97
500	65,52	290-375	470	595	69,58	83,54	93,92	107,89	4,50
625	76,45	430-560	700	880	87,44	102,65	118,05	133,25	5,26

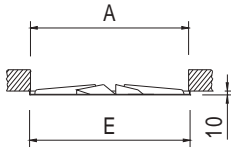
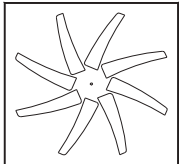
# Curved vents swirl diffusers for modular ceiling

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& Molina



## Technical data

### OTO-S

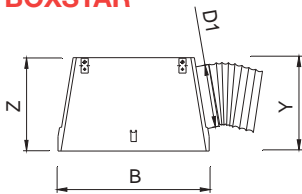


	E	A
600	595	569
610	605	579
625	620	594

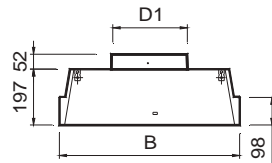
## Description

Swirl diffusers with curved vents in radial configuration to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

### BOXSTAR

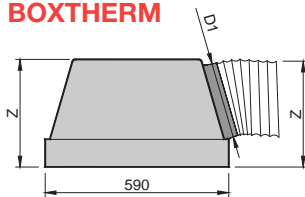


### BOXSTAR/S



	B	Z	Y	D1
600-D1:250	590	350	375	248
600-D1:200	590	300	325	198
610-D1:250	600	350	375	248
610-D1:200	600	300	325	198
625-D1:250	615	350	375	248
625-D1:200	615	300	325	198

### BOXTHERM



	Z	D1
BOXTHERM 600-DIAM250	350	248
BOXTHERM 600-DIAM200	300	198

Nota: Difusores de 610 compatibles con BOXTHERM 600.

Nota: Size 610 diffusers compatible with BOXTHERM 600.

**OTO-S** Square diffuser designed for modular ceiling mounting.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

## Accessories

**BOXSTAR** Pyramidal plenum box with a lateral connection.

...-R Air flow damper in the spigot (COR required)

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

**BOXTHERM** Plenum box thermo accoustically insulated with a lateral circular connection.

...-R Plenum box with a flow damper in the spigot.

**COR** Set of 2 cords to regulate the plenum damper type-R from the face of the diffuser.

## Fixing

1) Connection to the plenum box by means of central screw.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

Supply and mounting of square swirl diffuser with curved vents in radial configuration series **OTO-S+BOXSTAR R9016S dim. mm** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with lateral circular connection pyramidal plenum box. Manufacturer **MADEL.**

Dim. mm	OTO-S	OTO-S /T/	COR eur	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
	eur	eur		m³/h	m³/h	m³/h
600	53,82	57,39	4,97	325-390	470	570
610	58,51	62,14	4,97	325-390	470	570
625	63,27	66,87	4,97	325-390	470	570

Dim. mm	BOXSTAR	BOXSTAR-R	BOXSTAR/AIS/	BOXSTAR-R/AIS/	BOXTHERM	BOXTHERM-R
	eur	eur	eur	eur	eur	eur
600 (D1:250)	66,35	81,55	89,59	104,78	54,85	69,47
600 (D1:200)	65,44	79,44	88,33	102,34	53,47	66,93
610 (D1:250)	67,07	82,26	90,54	105,73	-	-
610 (D1:200)	66,02	80,04	89,15	103,14	-	-
625 (D1:250)	67,77	82,96	91,51	106,68	-	-
625 (D1:200)	66,62	90,93	89,94	103,94	-	-



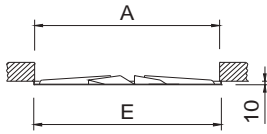
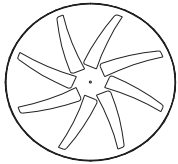
## Curved vents swirl diffusers for continuous ceiling

Lievore,  
Altherr  
& Molina



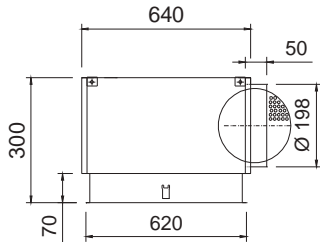
### Technical data

#### OTO-C

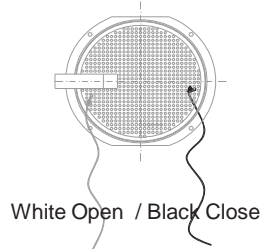


	E	A
625	625	601

#### PLXOC



#### COR



### Description

Swirl diffusers with curved vents in radial configuration to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

**OTO-C** Circular diffuser. Designed for continuous ceiling mounting.

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum box with a lateral circular connection.

...-R Air flow damper in the spigot (COR required)

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

**COR** Set of 2 cords to regulate the plenum damper type-R from the face of the diffuser.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of circular swirl diffuser with curved vents in radial configuration series **OTO-C+PLXOC R9016S dim. mm** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box. Manufacturer **MADEL**.

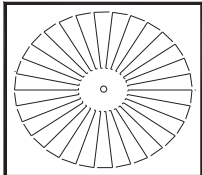


Dim.	OTO-C	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)	PLXOC	PLXOC-R	PLXOC /AIS/	PLXOC-R /AIS/	PMXO	COR
mm	eur	m³/h	m³/h	m³/h	eur	eur	eur	eur	eur	eur
625	70,88	325-390	470	570	87,44	102,65	118,05	133,25	5,26	4,97

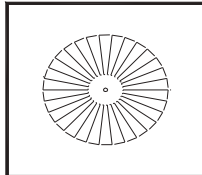
## Fixed vanes swirl diffusers

### Technical data

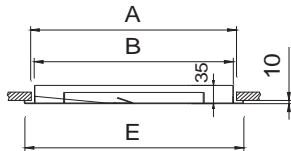
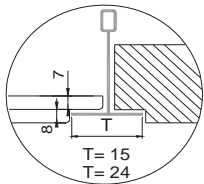
**RXO-S**



**RXO-S/SR/**



**RXO-S.../T/**



	E	A	B
400	395	370	340
500	495	470	440
600	595	568	538
610	605	568	538
625	620	568	538
675	670	568	538



### Description

Square swirl diffuser with fixed blades to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

**RXO-S** Diffuser with radial vanes.

.../SR/ Reduced supply area.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**BOXSTAR** Pyramidal plenum box with a lateral connection.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

**BOXTHERM** Plenum box thermo accoustically insulated with a lateral circular connection.

...-R Plenum box with a flow damper in the spigot.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of square swirl diffuser with fixed blades with radial vanes series **RXO-S+BOXSTAR-R R9016S dim. mm** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with lateral circular connection pyramidal plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



Dim.	RXO-S	RXO-S /T/	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	m³/h	m³/h	m³/h
400	60,04	67,16	150-280	340	410
500	74,72	82,81	300-405	490	600
600	81,37	90,57	450-585	695	820
610	83,38	92,67	450-585	695	820
625	85,38	94,76	450-585	695	820
675	88,31	99,63	450-585	695	820
<b>/SR/ 600-400</b>	<b>77,55</b>	<b>86,77</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 600-500	82,99	92,19	300-405	490	600
<b>/SR/ 610-400</b>	<b>78,43</b>	<b>87,70</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 610-500	83,75	93,04	300-405	490	600
<b>/SR/ 625-400</b>	<b>79,31</b>	<b>88,64</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 625-500	84,53	93,88	300-405	490	600
<b>/SR/ 675-400</b>	<b>84,47</b>	<b>95,77</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 675-500	89,91	101,21	300-405	490	600

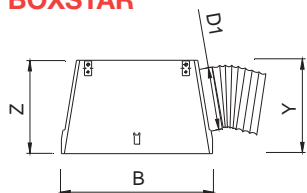
Dim.	BOXTHERM	BOXTHERM-R
mm	eur	eur
600 (D1:250)	54,85	69,47
600 (D1:200)	53,47	66,93

Nota: Difusores de 610 compatibles con BOXTHERM 600.

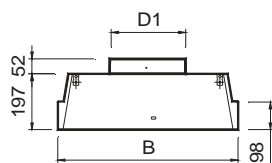
Note: Size 610 diffusers compatible with BOXTHERM 600.

Dim.	BOXSTAR	BOXSTAR-R	BOXSTAR/AIS/	BOXSTAR-R/AIS/	PMXO
mm	eur	eur	eur	eur	eur
400	43,50	57,49	58,72	72,72	3,97
500	55,96	69,96	75,55	89,55	4,50
<b>600 (D1:250)</b>	<b>66,35</b>	<b>81,55</b>	<b>89,58</b>	<b>104,77</b>	<b>4,95</b>
600 (D1:200)	65,44	79,44	88,33	102,34	4,95
<b>610 (D1:250)</b>	<b>67,07</b>	<b>82,26</b>	<b>90,55</b>	<b>105,74</b>	<b>5,12</b>
610 (D1:200)	66,02	80,04	89,15	103,14	5,12
<b>625 (D1:250)</b>	<b>67,77</b>	<b>82,96</b>	<b>91,51</b>	<b>106,68</b>	<b>5,26</b>
625 (D1:200)	66,62	80,61	89,93	103,93	5,26
<b>675 (D1:250)</b>	<b>78,07</b>	<b>94,84</b>	<b>105,40</b>	<b>122,17</b>	<b>16,98</b>
675 (D1:200)	76,94	90,93	103,88	117,86	16,98

**BOXSTAR**

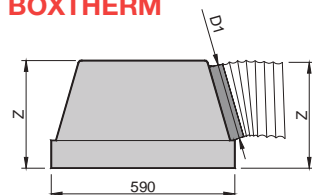


**BOXSTAR/S**



	B	Z	Y	D1
400	390	300	325	198
500	490	300	325	198
600-D1:250	590	350	375	248
600-D1:200	590	300	325	198
610-D1:250	600	350	375	248
610-D1:200	600	300	325	198
625-D1:250	615	350	375	248
625-D1:200	615	300	325	198
675-D1:250	665	350	375	248
675-D1:200	665	300	325	198

**BOXTHERM**



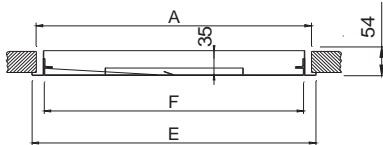
	Z	D1
BOXTHERM 600-DIAM250	350	248
BOXTHERM 600-DIAM200	300	198

## Accessible fixed vanes swirl diffusers



### Technical data

#### RXO-S-KLIN



	E	A	F
400	395	369	345
500	495	469	445
600	595	569	545
610	605	579	555
625	620	594	570
675	670	644	620
600-400	595	569	545
600-500	595	569	545
610-400	605	579	555
610-500	605	579	555
625-400	620	594	570
625-500	620	594	570
675-400	670	644	620
675-500	670	644	620



### Description

Swirl diffuser with fixed blades to be used in premises from 2,6 up to 4 metres high, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the diffuser that conforms with the regulations required for maintenance of HVAC systems. Constructed from galvanised steel.

**RXO-S-KLIN** Fixed blade diffuser.

### Accessories

**PLK** Plenum with an upper connection.

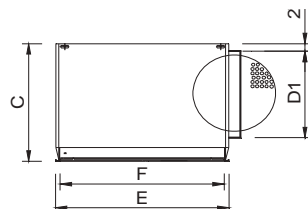
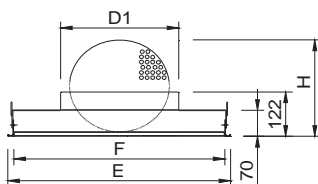
**...-R** Air flow damper in the spigot.

**.../L/** Lateral connection.

**.../AIS/** Thermal insulation inside.

#### RXO-KLIN+PLK...-R

#### RXO-KLIN+PLK/L/...-R



	E	F	D1	H	C
400	395	365	198	205	320
500	495	465	248	286	370
600	595	565	313	353	435
610	605	575	313	353	435
625	620	590	313	353	435
675	670	640	313	353	435

### Fixing

1) Suspended at the false ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of square swirl diffuser with fixed blades with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **RXO-S-KLIN+PLK-R R9016S dim. (mm)** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with upper circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

Dim.	RXO-S-KLIN	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
400	77,22	150-280	340	410
500	91,87	300-405	490	600
600	98,56	450-585	695	820
610	100,56	450-585	695	820
625	102,55	450-585	695	820
675	105,49	450-585	695	820
<b>/SR/ 600-400</b>	<b>94,75</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 600-500	100,16	300-405	490	600
<b>/SR/ 610-400</b>	<b>95,60</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 610-500	100,92	300-405	490	600
<b>/SR/ 625-400</b>	<b>96,46</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 625-500	101,68	300-405	490	600
<b>/SR/ 675-400</b>	<b>101,56</b>	<b>150-280</b>	<b>340</b>	<b>410</b>
/SR/ 675-500	106,99	300-405	490	600

Dim.	PLK	PLK-R	PLK /AIS/	PLK-R /AIS/
mm	eur	eur	eur	eur
400	38,43	54,74	51,88	68,21
500	42,92	60,72	57,94	75,75
600	50,32	69,60	67,93	87,20
610	50,75	70,02	68,52	87,80
625	51,16	70,49	69,07	88,40
675	54,12	70,91	73,06	89,84

Dim.	PLK/L/	PLK/L/-R	PLK/L/AIS/	PLK/L/-R/AIS/
mm	eur	eur	eur	eur
400	54,18	68,12	73,14	87,09
500	57,41	72,60	77,51	92,70
600	68,41	85,19	92,35	109,13
610	69,01	85,80	93,16	109,94
625	69,61	86,44	93,97	110,79
675	72,89	89,68	98,41	115,18

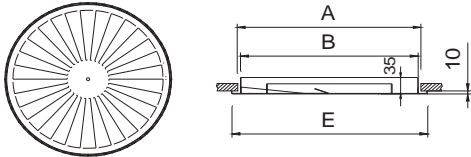


## Fixed vanes swirl diffusers



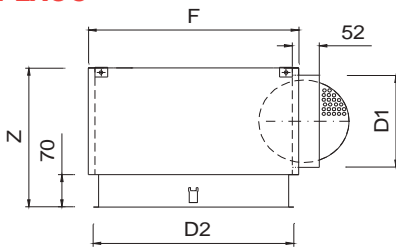
### Technical data

#### RXO-C



	E	A	B
400	400	370	340
500	500	470	440
625	625	568	538

#### PLXOC



	D2	F	Z	D1
400	395	415	300	198
500	495	515	300	198
625	620	640	350	248

### Description

Circular swirl diffuser with fixed blades to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

**RXO-C** Diffuser with radial vanes.

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum with a lateral connection.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of circular swirl diffuser with fixed blades with radial vanes series **RXO-C+PLXOC-R R9016S dim. mm** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



Dim.	RXO-C	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h	PLXOC	PLXOC-R	PLXOC /AIS/ eur	PLXOC-R /AIS/ eur	PMXOC
400	62,04	150-280	340	410	58,67	72,65	79,21	93,18	3,97
500	74,59	300-405	490	600	69,58	83,54	93,92	107,89	4,50
625	85,00	450-585	695	820	87,44	102,65	118,05	133,25	5,26



## Adjustable swirl **diffusers**

### Diffusers at your convenience

PLAY series of Benedito Design,  
maximum flexibility in the diffusion of air

PLAY modules manually adjustable by the  
user

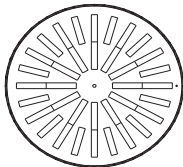
## INDEX

- 85 AXO-C** circular adjustable vanes swirl diffusers
- 86 AXO-S** square adjustable vanes swirl diffusers
- 88 AXO-KLIN** accessible AXO-S swirl diffusers
- 90 AXO-R** rectangular adjustable vanes swirl diffusers
- 91 AXO-TWIN** square diffusers with VAV plenum box
- 92 PLAY-C** circular adjustable sectors diffuser
- 93 PLAY-R** rectangular adjustable sectors diffuser
- 94 PLAY-S** square adjustable sectors diffuser
- 96 PLAY-KLIN** accessible adjustable sectors diffuser

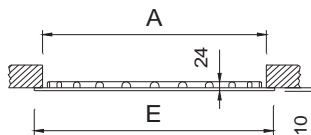
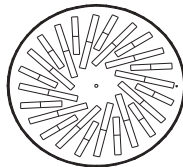
# Adjustable vanes swirl diffusers

## Technical data

### AXO-C

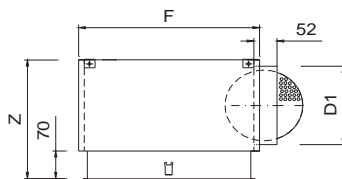


### AXO-CY



	E	A
300	300	284
400	400	376
500	500	476
625	625	601
825	825	801

### PLXOC



	D2	F	Z	D1
300	295	315	300	198
400	395	415	300	198
500	495	515	300	198
625	620	640	350	248
825	820	840	415	313



## Description

Circular swirl diffusers with individually adjustable blades to be used from 2,6 up to 4 metres high. Constructed from galvanised steel and black ABS plastic vanes.

**AXO-C** Diffuser with vanes in radial arrangement.

**...-CY** Vanes in radial inclined arrangement.

## Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum box with a lateral connection.

**...-R** Air flow damper in the spigot.

**.../S/** Upper connection.

**.../AIS/** Thermal insulation inside.

## Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**.../AB/** ABS plastic vanes in white.

## Specification Text

Supply and mounting of circular swirl diffuser with individually adjustable radial vanes series **AXO-C+PLXOC-R R9016S dim. 600** constructed from galvanised steel paint in white R9016S (60-70% gloss) and black ABS plastic vanes. With lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

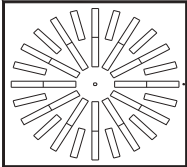


Dim.	AXO-C AXO-CY	PLXOC	PLXOC-R	PLXOC /AIS/	PLXOC-R /AIS/	PMXO	Lwa1 < 35 dB(A) m³/h	Lwa1= 40 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
mm	eur	eur	eur	eur	eur	eur			
300	57,24	56,06	70,06	75,69	89,68	3,91	90-150	185	225
400	67,51	58,67	72,65	79,21	93,18	3,97	180-330	405	430
500	86,05	69,58	83,54	93,92	107,89	4,50	270-385	465	565
625	96,71	87,44	102,65	118,05	133,25	5,26	390-535	670	845
825	156,48	120,86	137,68	163,16	179,99	19,41	600-715	855	1025

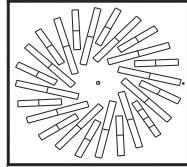
# Adjustable vanes swirl diffusers

## Technical data

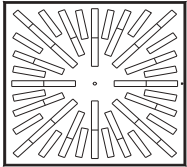
**AXO-S**



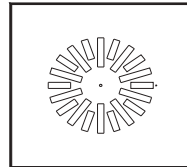
**AXO-SY**



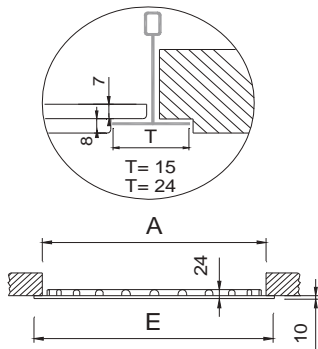
**AXO-SX**



**AXO-S.../SR/**

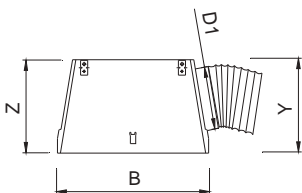


**AXO-S.../T/**

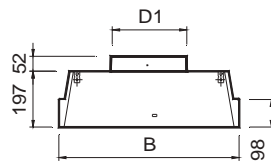


	E	A
300	295	280
310	308	289
400	395	376
500	495	476
600	595	576
610	605	591
625	620	601
675	670	651
800	795	776
825	820	801

**BOXSTAR**



**BOXSTAR/S**



	B	Z	Y	D1
300	290	250	275	123
310	303	250	275	123
400	390	300	325	198
500	490	300	325	198
600-D1:250	590	350	375	248
600-D1:200	590	300	325	198
610-D1:250	600	350	375	248
610-D1:200	600	300	325	198
625-D1:250	615	350	375	248
625-D1:200	615	300	325	198
675-D1:250	665	350	375	248
675-D1:200	665	300	325	198
800	790	415	440	313
825	815	415	440	313



## Description

Square swirl diffusers with individually adjustable blades to be used from 2,6 up to 4 metres high. Constructed from galvanised steel and black ABS plastic vanes.

**AXO-S** Diffuser with vanes in radial arrangement.

**...-SY** Vanes in radial inclined arrangement.

**...-SX** Vanes in square radial arrangement.

**.../SR/** Reduced supply area.

**.../T15/** False ceiling panel 15 mm profile with angled borders.

**.../T24/** False ceiling panel 24 mm profile with angled borders.

## Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**BOXSTAR** Pyramidal plenum box with a lateral connection.

**...-R** Air flow damper in the spigot.

**.../S/** Upper connection.

**.../AIS/** Thermal insulation inside.

**BOXTHERM** Plenum box thermo acoustically insulated with a lateral circular connection.

**...-R** Plenum box with a flow damper in the spigot.

## Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**.../AB/** ABS plastic vanes in white.

## Specification Text

Supply and mounting of square swirl diffuser with individually adjustable radial vanes series **AXO-S+BOXSTAR-R R9016S dim.**

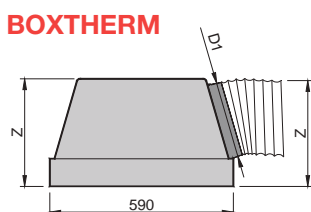
**600** constructed from galvanised steel paint in white R9016S (60-70% gloss) and black ABS plastic vanes with lateral circular connection pyramidal plenum box and air flow damper in the spigot. Manufacturer **MADEL.**

Dim. mm	AXO-S AXO-SY eur	AXO-S /T/ AXO-SY/T/ eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
300	49,00	55,13	90-150	185	225
310	49,17	55,27	90-150	185	225
400	58,24	65,26	180-330	405	430
500	72,26	81,85	270-385	465	565
600	79,23	88,90	390-535	670	845
610	80,69	90,35	390-535	670	845
625	87,77	97,96	390-535	670	845
675	88,08	99,40	390-535	670	845
800	144,74	160,93	600-715	855	1025
825	146,59	162,99	600-715	855	1025
<b>/SR/ 600-300</b>	<b>66,15</b>	<b>74,44</b>	<b>90-150</b>	<b>185</b>	<b>225</b>
/SR/ 600-400	68,70	77,99	180-330	405	430
/SR/ 600-500	76,82	86,09	270-385	465	565
<b>/SR/ 610-300</b>	<b>68,10</b>	<b>76,62</b>	<b>90-150</b>	<b>185</b>	<b>225</b>
/SR/ 610-400	70,17	79,45	180-330	405	430
/SR/ 610-500	78,27	87,56	270-385	465	565
<b>/SR/ 625-300</b>	<b>69,08</b>	<b>77,72</b>	<b>90-150</b>	<b>185</b>	<b>225</b>
/SR/ 625-400	71,70	81,59	180-330	405	430
/SR/ 625-500	85,13	95,03	270-385	465	565
<b>/SR/ 675-300</b>	<b>73,50</b>	<b>82,69</b>	<b>90-150</b>	<b>185</b>	<b>225</b>
/SR/ 675-400	75,61	86,79	180-330	405	430
/SR/ 675-500	85,57	96,84	270-385	465	565

Dim. mm	AXO-SX eur	AXO-SX /T/ eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
310	53,07	59,17	100-180	215	265
400	63,96	70,99	225-400	490	600
500	77,60	87,18	280-440	540	655
600	92,97	102,59	520-640	760	880
610	94,33	104,05	520-640	760	880
625	96,33	106,53	520-640	760	880
675	99,91	111,19	520-640	760	880
800	155,41	171,63	710-780	930	1110
825	157,41	173,81	710-780	930	1110
<b>/SR/ 600-310</b>	<b>71,64</b>	<b>79,89</b>	<b>100-180</b>	<b>215</b>	<b>265</b>
/SR/ 600-400	74,44	83,71	225-400	490	600
/SR/ 600-500	82,12	91,44	280-440	540	655
<b>/SR/ 610-310</b>	<b>73,76</b>	<b>82,25</b>	<b>100-180</b>	<b>215</b>	<b>265</b>
/SR/ 610-400	75,92	85,18	225-400	490	600
/SR/ 610-500	83,59	92,91	280-440	540	655
<b>/SR/ 625-310</b>	<b>74,82</b>	<b>83,44</b>	<b>100-180</b>	<b>215</b>	<b>265</b>
/SR/ 625-400	77,39	87,30	225-400	490	600
/SR/ 625-500	90,45	100,36	280-440	540	655
<b>/SR/ 675-310</b>	<b>79,61</b>	<b>88,78</b>	<b>100-180</b>	<b>215</b>	<b>265</b>
/SR/ 675-400	81,32	92,51	225-400	490	600
/SR/ 675-500	90,98	102,17	280-440	540	655

Dim. mm	BOXSTAR eur	BOXSTAR-R eur	BOXSTAR/AIS/ eur	BOXSTAR-R/AIS/ eur	PMXO eur
300	41,66	54,36	56,24	68,94	3,91
310	41,66	55,75	56,24	70,33	3,91
400	43,50	57,49	58,72	72,72	3,97
500	55,96	69,96	75,54	89,55	4,50
600 (D1:250)	66,35	81,55	89,59	104,78	4,95
600 (D1:200)	65,44	79,44	88,33	102,34	4,95
610 (D1:250)	67,07	82,26	90,54	105,73	5,12
610 (D1:200)	66,02	80,04	89,15	103,14	5,12
625 (D1:250)	67,77	82,96	91,51	106,68	5,26
625 (D1:200)	66,62	80,61	89,94	103,94	5,26
675 (D1:250)	78,07	94,84	105,41	122,17	16,98
675 (D1:200)	76,94	90,93	103,87	117,85	16,98
800	78,07	94,84	105,41	122,17	18,20
825	79,44	96,20	107,23	124,00	19,41

**BOXTHERM**



	Z	D1
<b>BOXTHERM 600-DIAM250</b>	350	248
<b>BOXTHERM 600-DIAM200</b>	300	198

Dim. mm	BOXTHERM eur	BOXTHERM-R eur
600 (D1:250)	54,85	69,47
600 (D1:200)	53,47	66,93

Nota: Difusores de 610 compatibles con BOXTHERM 600.  
Note: Size 610 diffusers compatible with BOXTHERM 600.

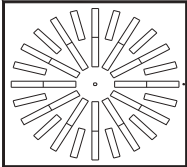


## Accessible adjustable vanes swirl diffusers

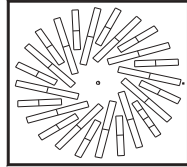


### Technical data

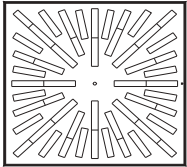
**AXO-S-KLIN**



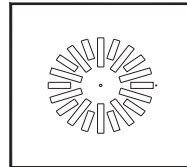
**AXO-SY-KLIN**



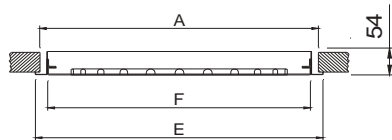
**AXO-SX-KLIN**



**AXO-S.../SR/-KLIN**



**AXO-S-KLIN**



	E	A	F
<b>400</b>	395	369	345
<b>500</b>	495	469	445
<b>600</b>	595	569	545
<b>610</b>	605	579	555
<b>625</b>	620	594	570
<b>675</b>	670	644	620
<b>600-400</b>	595	569	545
<b>600-500</b>	595	569	545
<b>610-400</b>	605	579	555
<b>610-500</b>	605	579	555
<b>625-400</b>	620	594	570
<b>625-500</b>	620	594	570
<b>675-400</b>	670	644	620
<b>675-500</b>	670	644	620



### Description

Swirl diffuser with adjustable vanes to be used in premises from 2,6 up to 4 m high, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the diffuser that conforms with the regulations required for maintenance of HVAC systems. Constructed from galvanised steel and black ABS plastic vanes.

- AXO-S-KLIN** Diffuser with vanes in radial arrangement.
- ...-**SY** Vanes in radial inclined arrangement.
- ...-**SX** Vanes in square radial arrangement.
- .../**SR/** Reduced supply area.

### Accessories

- PLK** Plenum with an upper connection.
- ...-**R** Air flow damper in the spigot.
- .../**L/** Lateral connection.
- .../**AIS/** Thermal insulation inside.

### Fixing

- 1) Suspended at the false ceiling.

### Finishes

- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- R9016B** Painted white RAL 9016 glossy (85-95% gloss)
- RAL...** Painted in other RAL colours : see INFO page.
- .../**AB/** ABS plastic vanes in white.

### Specification Text

Supply and mounting of square swirl diffuser with adjustable vanes with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **AXO-S-KLIN+PLK-R R9016S dim. (mm)** constructed from galvanised steel paint in white R9016S (60-70% gloss) and black ABS plastic vanes. With upper circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

Dim. mm	AXO-S-KLIN eur	AXO-SY-KLIN eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
400	74,82	-	180-330	405	430
500	97,84	97,84	270-385	465	565
600	99,20	99,20	390-535	670	845
610	102,24	102,24	390-535	670	845
625	107,91	107,91	390-535	670	845
675	112,72	112,72	390-535	670	845
<b>/SR/ 600-400</b>	<b>85,29</b>	<b>85,29</b>	<b>180-330</b>	<b>405</b>	<b>430</b>
<b>/SR/ 600-500</b>	<b>98,89</b>	<b>98,89</b>	<b>270-385</b>	<b>465</b>	<b>565</b>
<b>/SR/ 610-400</b>	<b>86,86</b>	<b>86,86</b>	<b>180-330</b>	<b>405</b>	<b>430</b>
<b>/SR/ 610-500</b>	<b>100,72</b>	<b>100,72</b>	<b>270-385</b>	<b>465</b>	<b>565</b>
<b>/SR/ 625-400</b>	<b>88,28</b>	<b>88,28</b>	<b>180-330</b>	<b>405</b>	<b>430</b>
<b>/SR/ 625-500</b>	<b>101,89</b>	<b>101,89</b>	<b>270-385</b>	<b>465</b>	<b>565</b>
<b>/SR/ 675-400</b>	<b>92,19</b>	<b>92,19</b>	<b>180-330</b>	<b>405</b>	<b>430</b>
<b>/SR/ 675-500</b>	<b>105,79</b>	<b>105,79</b>	<b>270-385</b>	<b>465</b>	<b>565</b>

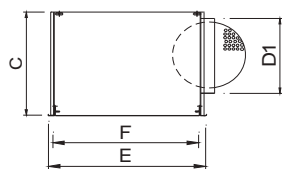
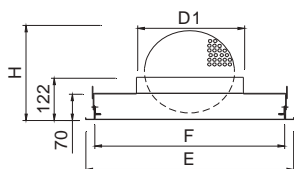
Dim. mm	AXO-SX-KLIN eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
400	80,56	225-400	490	600
500	103,20	280-440	540	655
600	109,54	520-640	760	880
610	111,56	520-640	760	880
625	112,94	520-640	760	880
675	120,60	520-640	760	880
<b>/SR/ 600-400</b>	<b>91,02</b>	<b>225-400</b>	<b>490</b>	<b>600</b>
<b>/SR/ 600-500</b>	<b>104,22</b>	<b>280-440</b>	<b>540</b>	<b>655</b>
<b>/SR/ 610-400</b>	<b>92,70</b>	<b>225-400</b>	<b>490</b>	<b>600</b>
<b>/SR/ 610-500</b>	<b>106,14</b>	<b>280-440</b>	<b>540</b>	<b>655</b>
<b>/SR/ 625-400</b>	<b>94,02</b>	<b>225-400</b>	<b>490</b>	<b>600</b>
<b>/SR/ 625-500</b>	<b>107,22</b>	<b>280-440</b>	<b>540</b>	<b>655</b>
<b>/SR/ 675-400</b>	<b>97,91</b>	<b>225-400</b>	<b>490</b>	<b>600</b>
<b>/SR/ 675-500</b>	<b>111,11</b>	<b>280-440</b>	<b>540</b>	<b>655</b>

Dim. mm	PLK eur	PLK-R eur	PLK /AIS/ eur	PLK-R /AIS/ eur
400	38,43	54,74	51,88	68,21
500	42,92	60,72	57,94	75,75
600	50,32	69,60	67,93	87,20
610	50,75	70,02	68,52	87,80
625	51,16	70,49	69,07	88,40
675	54,12	70,91	73,06	89,84

Dim. mm	PLK/L/ eur	PLK/L/-R eur	PLK/L/AIS/ eur	PLK/L/-R/AIS/ eur
400	54,18	68,12	73,14	87,09
500	57,41	72,60	77,51	92,70
600	68,41	85,19	92,35	109,13
610	69,01	85,80	93,16	109,94
625	69,61	86,44	93,97	110,79
675	72,89	89,68	98,41	115,18

## AXO-S-KLIN+PLK...-R

## AXO-S-KLIN+PLK/L/...-R

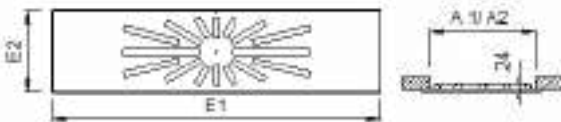


	E	F	D1	H	C
<b>400</b>	395	365	198	205	320
<b>500</b>	495	465	248	286	370
<b>600</b>	595	565	313	353	435
<b>610</b>	605	575	313	353	435
<b>625</b>	620	590	313	353	435
<b>675</b>	670	640	313	353	435

## Adjustable vanes swirl diffusers

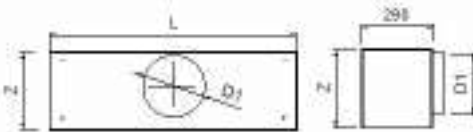
### Technical data

#### AXO-R



AXO-R	E1	E2	A1	A2
/GC300/ 600x300	595	295	576	276
/GR400/ 600x300	595	295	576	276
/GC300/ 1200x300	1195	295	1176	276
/GR400/ 1200x300	1195	295	1176	276
/GR500/ 1200x300	1195	295	1176	276
/GR600/ 1200x300	1195	295	1176	276

#### PLAR



PLAR	L	D1	Z
/GC300/	340	158	210
/GR400/	590	198	250
/GR500/	730	198	250
/GR600/	880	248	300



### Description

Rectangular swirl diffusers with individually adjustable blades to be used from 2,6 up to 4 metres high. Constructed from galvanised steel and black ABS plastic vanes.

**AXO-R** Rectangular diffuser with vanes in radial arrangement.

.../GC/ Vanes in circular radial arrangement.

.../GR/ Vanes in rectangular radial arrangement.

### Accessories

**PMXO-300** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLAR/L/** Plenum box with a lateral connection.

...-R Air flow damper in the spigot.

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../AB/ ABS plastic vanes in white.

### Specification Text

Supply and mounting of rectangular swirl diffuser with individually adjustable radial vanes series **AXO-R/GC300/+PLAR R9016S dim. 600X300** constructed from galvanised steel paint in white R9016S (60-70% gloss) and black ABS plastic vanes. With lateral circular connection plenum box. Manufacturer **MADEL**.



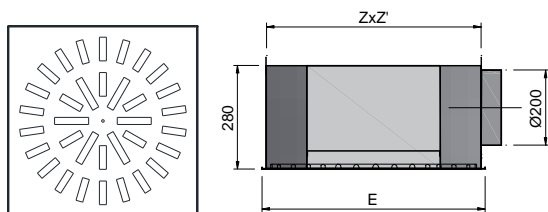
Plate dimension mm	Diffuser geometry mm	AXO-R eur	PLAR/L/ PLAR/S/ eur	PLAR/L-R PLAR/S-R eur	PLAR/L/AIS PLAR/S/AIS eur	PLAR/L-R/AIS/ PLAR/S-R/AIS/ eur	PMXO-300 eur	Lwa1 < 35 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
600x300	GC300	60,62	59,27	74,91	80,01	101,13	3,91	90-150	225
600x300	GR400	67,83	69,39	85,04	93,68	114,80	3,91	190-260	400
1200x300	GC300	67,96	59,27	74,91	80,01	101,13	3,91	90-150	225
1200x300	GR400	74,95	69,39	85,04	93,68	114,80	3,91	190-260	400
1200x300	GR500	89,84	75,44	91,09	101,84	122,97	3,91	270-385	565
1200x300	GR600	97,26	89,48	105,13	120,80	141,92	3,91	390-535	845

## Swirl diffusers with VAV plenum box



### Technical data

#### AXO-TWIN



	E	Z x Z'
<b>AXO-TWIN 610</b>	605	576 x 568
<b>AXO-TWIN 625</b>	620	591 x 583
<b>AXO-TWIN 675</b>	670	641 x 633
<b>AXO-TWIN 600</b>	595	566 x 558

### Description

Double chamber VAV Plenum and swirl diffuser assembly with lateral circular connection, to be installed in heights from 2.6 to 4 m and with a temperature differential of up to 15° C. Operating range of diffusers between 175-550 m<sup>3</sup> / h. Diffusers made of galvanized steel and black ABS plastic vanes. Plenum box in galvanized steel with polymeric membrane.

**AXO-TWIN** Assembly of adjustable vanes swirl diffuser in radial arrangement and double chamber VAV plenum.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

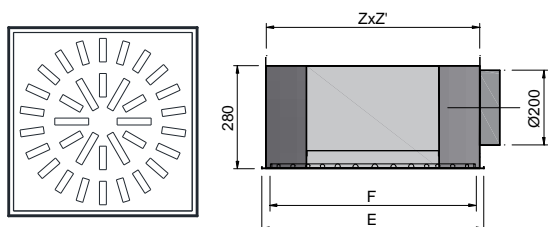
.../AIS/ Thermally insulated plenum box.

#### AXO-TWIN-KLIN



**AXO-TWIN-KLIN** Assembly of adjustable vanes swirl diffuser in radial arrangement, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the diffuser that conforms with the regulations required for maintenance of HVAC systems; and double chamber VAV plenum.

.../AIS/ Thermally insulated plenum box.



	E	F	Z x Z'
<b>AXO-TWIN/KLIN 610</b>	605	575	602 x 582
<b>AXO-TWIN/KLIN 675</b>	595	565	617 x 597
<b>AXO-TWIN/KLIN 625</b>	670	590	592 x 572
<b>AXO-TWIN/KLIN 600</b>	620	640	667 x 647

### Fixing

1) Diffuser attached to the plenum by means of a central screw. Plenum box with brackets for ceiling suspension.

1) KLIN model: Framed of the diffuser attached to plenum by rivets. Plenum box with suspension brackets the ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../AB/ ABS plastic vanes in white.

### Specification Text

Supp. and mount. of square swirl diffuser with individually adjustable radial vanes, with VAV plenum box series **AXO-TWIN R9016S dim.600** made from galvanized steel , polymeric membrane and black ABS plastic vanes, paint in white R9016S (60-70% gloss). Manufacturer **MADEL**.

Diam.	AXO-TWIN	AXO-TWIN /T.. /	AXO-TWIN /AIS/	AXO-TWIN /AIS/	AXO-TWIN KLIN	AXO-TWIN KLIN /AIS/	Lwa1< 15 dB(A)	Lwa1= 35 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	eur	eur	eur	eur	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h
600	179,64	189,31	202,10	211,77	196,80	216,03	175	370	550
610	184,47	194,13	207,12	216,79	201,72	221,12	175	370	550
625	189,29	198,97	212,15	221,81	206,62	226,19	175	370	550
675	192,38	202,06	216,30	225,96	214,52	235,02	175	370	550

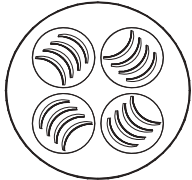
## Adjustable sectors diffusers

BENEDITO Design

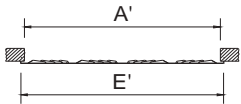
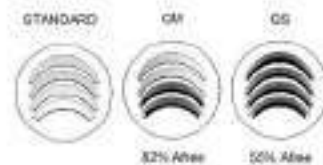
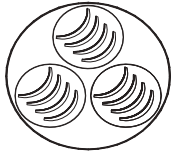


### Technical data

#### PLAY-C - 825



#### PLAY-C - 625



	E	A
625	625	601
825	825	801

### Description

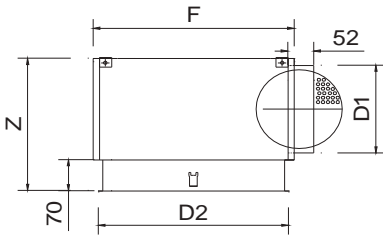
Multi-directional diffusers by manually adjustable sectors to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

**PLAY-C** Circular diffuser able to act like a 1, 2, 3, 4-way or swirl diffuser.

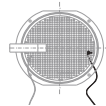
.../QM/ Diffuser with medium effective section. 82% free area compared to standard PLAY.

.../QS/ Diffuser with small effective section. 55% free area compared to standard PLAY.

#### PLXOC



#### COR



White open  
Black close

	D2	F	Z	D1
625	620	640	350	248
825	820	840	415	313

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOC** Plenum box with a lateral circular connection.

...-R Air flow damper in the spigot (COR required)

.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

**COR** Set of 2 cords to regulate the plenum damper type-R from the face of the diffuser.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of circular multi-directional diffuser by adjustable sectors able to act like a 1, 2, 3, 4-way or swirl series **PLAY-C+PLXOC**

**R9016S dim. 625** constructed from galvanised steel paint in white R9016S (60-70% gloss) with lateral circular connection plenum box.

Manufacturer **MADEL**.

Diam.	PLAY-C	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
625	105,41	270-375	445	530
825	136,09	360-470	565	680

Diam.	PLAY-C/QM	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
625	111,81	224-311	369,00	439
825	144,62	298-390	468,00	564

Diam.	PLAY-C/QS	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
625	124,78	148-205	244,00	291
825	161,93	198-258	310,00	374

Diam.	PLXOC	PLXOC-R	PLXOC /AIS/	PLXOC-R /AIS/	PMXO	COR
mm	eur	eur	eur	eur	eur	eur
625	87,44	102,65	118,05	133,25	5,26	4,97
825	120,86	137,68	163,16	179,99	19,41	4,97

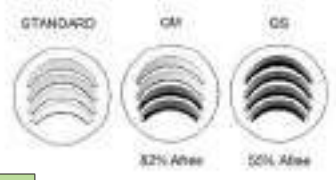
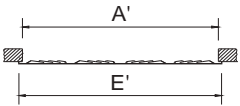


# Adjustable sectors diffusers



## Technical data

### PLAY-R



	E	A	F'	A'
<b>1000 300</b>	1000	981	295	276
<b>1000 310</b>	1000	981	308	289
<b>1200 300</b>	1195	1176	295	276
<b>1250 310</b>	1245	1226	308	289

## Description

Multi-directional diffusers by manually adjustable sectors to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

**PLAY-R** Rectangular diffuser able to act like a 1 or 2-way diffuser.

.../QM/ Diffuser with medium effective section. 82% free area compared to standard PLAY.

.../QS/ Diffuser with small effective section. 55% free area compared to standard PLAY.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

### PLXOR



	L (mm)	Z	E	D1
<b>1000 300</b>	990	324	270	248
<b>1000 310</b>	990	324	285	248
<b>1200 300</b>	1190	324	270	248
<b>1250 310</b>	1240	324	285	248

## Accessories

**PMYR** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLXOR** Plenum box with a lateral circular connection.

...-R Air flow damper in the spigot (COR required)

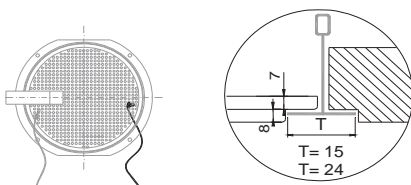
.../S/ Upper connection.

.../AIS/ Thermal insulation inside.

**COR** Set of 2 cords to regulate the plenum damper type-R from the face of the diffuser.

### COR

### PLAY-R.../T/



White open Black close

## Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

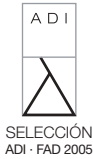
Supply and mounting of rectangular multi-directional diffuser by adjustable sectors able to act like a 1 or 2-way series **PLAY-R+PLXOR R9016S dim. 1000x300** constructed from galvanised steel paint in white R9016S (60-70% gloss) with lateral circular connection plenum box. Manufacturer **MADEL**.

Dim.	PLAY-R	PLAY-R /T/	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	eur	m³/h	m³/h	m³/h
1000 x 300	97,89	-	270-375	445	530
1000 x 310	98,27	108,13	270-375	445	530
1200 x 300	111,89	-	360-470	565	680
1250 x 310	113,43	124,79	360-470	565	680

Dim.	PLAY-R/QMS	PLAY-R/QM/T/	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	eur	m³/h	m³/h	m³/h
1000 x 300	104,29	-	224-311	369,00	439
1000 x 310	104,67	114,53	224-311	369,00	439
1200 x 300	120,42	-	298-390	468,00	564
1250 x 310	121,96	133,32	298-390	468,00	564

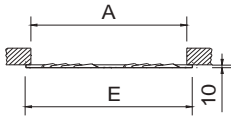
Dim.	PLAY-R/QS	PLAY-R/QS/T/	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)	PLXOR	PLXOR-R	PLXOR /AIS/	PLXOR-R /AIS/	PMYR	COR
mm	eur	eur	m³/h	m³/h	m³/h	eur	eur	eur	eur	eur	eur
1000 x 300	123,66	-	148-206	244,00	291	74,82	89,98	101,01	116,16	15,70	4,97
1000 x 310	124,04	133,90	148-206	244,00	291	80,88	96,10	109,18	124,40	15,70	4,97
1200 x 300	146,25	-	198-258	310,00	374	82,60	97,79	111,51	126,70	15,70	4,97
1250 x 310	147,79	159,16	198-258	310,00	374	90,87	106,12	116,14	131,33	15,70	4,97

## Adjustable sectors diffusers

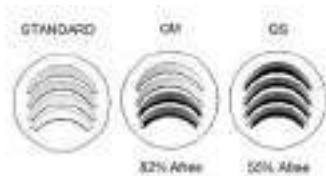


### Technical data

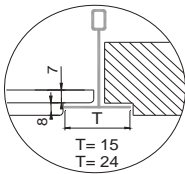
#### PLAY-S



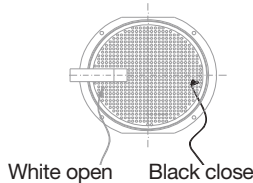
	E	A
600	595	576
610	605	586
625	620	601
675	670	651



#### PLAY-S.../T/



#### COR



### Description

Multi-directional diffusers by manually adjustable sectors to be used from 2,6 up to 4 metres high. Constructed from galvanised steel.

**PLAY-S** Square diffuser able to act like a 1, 2, 3, 4-way or swirl diffuser.

**.../QM/** Diffuser with medium effective section. 82% free area compared to standard PLAY.

**.../QS/** Diffuser with small effective section. 55% free area compared to standard PLAY.

**.../T15/** False ceiling panel 15 mm profile with angled borders.

**.../T24/** False ceiling panel 24 mm profile with angled borders.

### Accessories

**PMXO** Crossbar suitable for mounting in false ceiling with rectangular duct.

**BOXSTAR** Pyramidal plenum box with a lateral connection.

**...-R** Air flow damper in the spigot (COR required)

**.../S/** Upper connection.

**.../AIS/** Thermal insulation inside.

**BOXTHERM** Plenum box thermo acoustically insulated with a lateral circular connection.

**...-R** Plenum box with a flow damper in the spigot.

**COR** Set of 2 cords to regulate the plenum damper type-R from the face of the diffuser.

### Fixing

1) Connection into the crossbar or to the plenum box by means of central screw.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of square multi-directional diffuser by 4 adjustable sectors able to act like a 1, 2, 3, 4-way or swirl series **PLAY-S+BOXSTAR R9016S dim. 600** constructed from galvanised steel paint in white R9016S (60-70% gloss) with lateral circular connection pyramidal plenum box. Manufacturer **MADEL**.



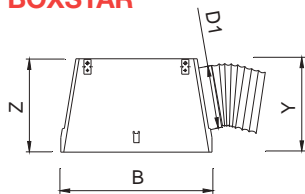
Dim.	PLAY-S	PLAY-S /T/	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	m³/h	m³/h	m³/h
600	100,05	111,19	360-470	565	680
610	100,13	111,25	360-470	565	680
625	104,99	116,60	360-470	565	680
675	106,99	118,30	360-470	565	680

Dim.	PLAY-S/QM	PLAY-S /QM/T/	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	m³/h	m³/h	m³/h
600	108,56	119,70	298-390	468,00	564
610	108,63	119,76	298-390	468,00	564
625	113,50	125,10	298-390	468,00	564
675	115,49	126,80	298-390	468,00	564

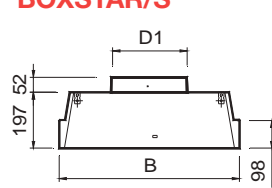
Dim.	PLAY-S/QS	PLAY-S /QS/T/	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	m³/h	m³/h	m³/h
600	125,88	137,01	198-258	310,00	374
610	125,95	137,07	198-258	310,00	374
625	130,81	142,42	198-258	310,00	374
675	132,81	144,12	198-258	310,00	374

Dim.	BOXSTAR	BOXSTAR-R	BOXSTAR /AIS/ eur	BOXSTAR-R /AIS/ eur	BOXTHERM	BOXTHERM-R	PMXO
mm	eur	eur	eur	eur	eur	eur	eur
600 (D1:250)	66,35	81,55	89,59	104,78	54,85	69,47	4,95
600 (D1:200)	65,44	79,44	88,33	102,34	53,47	66,93	4,95
610 (D1:250)	67,07	82,26	90,54	105,73	-	-	5,12
610 (D1:200)	66,02	80,04	89,15	103,14	-	-	5,12
625 (D1:250)	67,77	82,96	91,51	106,68	-	-	5,26
625 (D1:200)	66,62	80,61	89,94	103,94	-	-	5,26
675 (D1:250)	78,07	94,84	105,41	122,17	-	-	16,98
675 (D1:200)	76,94	90,93	103,87	117,85	-	-	16,98

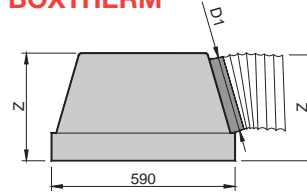
**BOXSTAR**



**BOXSTAR/S**



**BOXTHERM**



	B	Z	Y	D1
600-D1:250	590	350	375	248
600-D1:200	590	300	325	198
610-D1:250	600	350	375	248
610-D1:200	600	300	325	198
625-D1:250	615	350	375	248
625-D1:200	615	300	325	198
675-D1:250	665	350	375	248
675-D1:200	665	300	325	198

	Z	D1
BOXTHERM 600-DIAM250	350	248
BOXTHERM 600-DIAM200	300	198

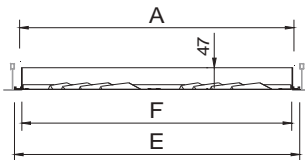
Nota: Difusores de 610 compatibles con BOXTHERM 600.  
Note: Size 610 diffusers compatible with BOXTHERM 600.

**Accessible adjustable sectors diffusers**

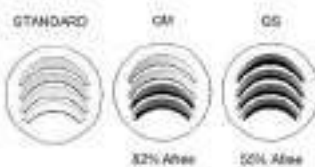


**Technical data**

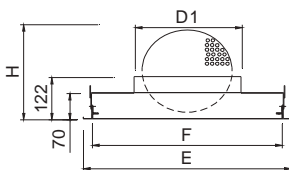
**PLAY-S-KLIN**



	E	F	A
600	595	565	569
610	605	575	579
625	620	590	594
675	670	640	544

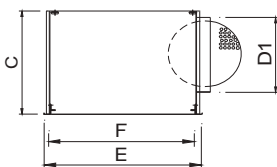


**PLAY-S-KLIN+PLK...-R**



	E	F	D1	H
600	595	563	313	353
610	605	573	313	353
625	620	588	313	353
675	670	638	313	353

**PLAY-S-KLIN+PLK/L/...-R**



	E	F	D1	H
600	595	563	313	435
610	605	573	313	435
625	620	588	313	435
675	670	638	313	353

Dim. mm	PLAY-KLIN eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
600	120,03	360-470	565	680
610	120,09	360-470	565	680
625	125,13	360-470	565	680
675	127,15	360-471	565	680

Dim. mm	PLAY-KLIN/QM eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
600	128,53	298-390	468,00	564
610	128,60	298-390	468,00	564
625	133,64	298-390	468,00	564
675	135,66	298-390	468,00	564

Dim. mm	PLAY-KLIN/QS eur	Lwa1 < 35 dB(A) m³/h	Lwa1 = 40 dB(A) m³/h	Lwa1 = 45 dB(A) m³/h
600	145,85	198-258	310,00	374
610	145,91	198-258	310,00	374
625	150,96	198-258	310,00	374
675	152,98	198-258	310,00	374

Dim. mm	PLK eur	PLK-R eur	PLK /AIS/ eur	PLK-R /AIS/ eur	PLK/L/ eur	PLK/L-R eur	PLK/L/AIS/ eur	PLK/L-R/AIS/ eur
600	50,32	69,60	67,93	87,20	68,41	85,19	92,35	109,13
610	50,75	70,02	68,52	87,80	69,01	85,80	93,16	109,94
625	51,16	70,49	69,07	88,40	69,61	86,44	93,97	110,79
675	54,12	70,91	73,06	89,84	72,89	89,68	98,41	115,18



**Description**

Multi-directional diffusers by manually adjustable sectors to be used from 2,6 up to 4 metres high, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the diffuser that conforms with the regulations required for maintenance of HVAC systems. Constructed from galvanised steel.

**PLAY-S-KLIN** Square diffuser able to act like a 1, 2, 3, 4-way or swirl diffuser.

.../QM/ Diffuser with medium effective section. 82% free area compared to standard PLAY.

.../QS/ Diffuser with small effective section. 55% free area compared to standard PLAY.

**Accessories**

**PLK** Plenum box with an upper connection.

...-R Air flow damper in the spigot.

.../L/ Lateral connection.

.../AIS/ Thermal insulation inside.

**Fixing**

1) Suspended at the false ceiling.

**Finishes**

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**Specification Text**

Supply and mounting of square multi-directional diffuser by 4 adjustable sectors able to act like a 1, 2, 3, 4-way or swirl, with hinged removable core without tools, by pressing on the invisible PUSH fasteners, series **PLAY-S-KLIN+PLK-R R9016S dim. (mm)** constructed from galvanised steel paint in white R9016S (60-70% gloss) with upper circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.







Perforated  
**face diffusers**

Maximum discretion

Hinged removable core without tools

DFR models to replace a false ceiling tile

## INDEX

**99 DFZ** accessible perforated face diffusers

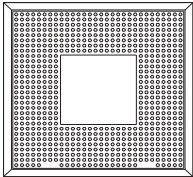
**101 DFR** modular air return perforated face diffusers

## Accessible perforated face diffusers

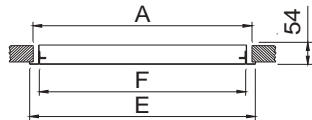
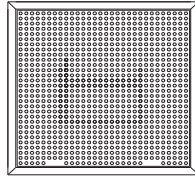


### Technical data

#### DFZ-S4

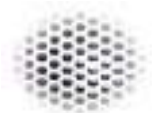
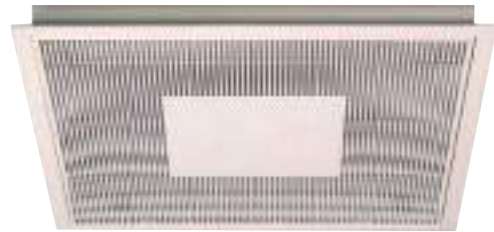


#### DFZ-R



	E	A	F
300	295	269	265
400	395	369	365
500	495	469	465
600	595	569	565
625	620	594	590
675	670	644	640

L x H	E	F
600 x 300	595 x 295	565 x 265
675 x 338	670 x 333	640 x 303
1200 x 300	1195 x 295	1165 x 265
1200 x 600	1195 x 595	1165 x 565
1350 x 338	1345 x 333	1315 x 303
1350 x 675	1345 x 670	1315 x 640



### Description

Square perforated face diffusers to be used in premises from 2,6 up to 4 m high, with hinged removable core without tools, by pressing on the invisible PUSH fasteners. KLIN system allows for the easy access to the diffuser that conform with the required regulations for maintenance of HVAC installations. Constructed from galvanised steel.

**DFZ-S4** Four-Way diffuser.

**DFZ-R** Four-Way return diffuser.

### Accessories

**PLK** Upper connection diffuser.

**...-R** Air flow damper in the spigot.

**.../L/** Lateral connection.

**.../AIS/** Thermal insulation inside.

**PFT** K/8 class EN 779 G3 filter for DFZ-R.

### Fixing

1) Suspended at the false ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

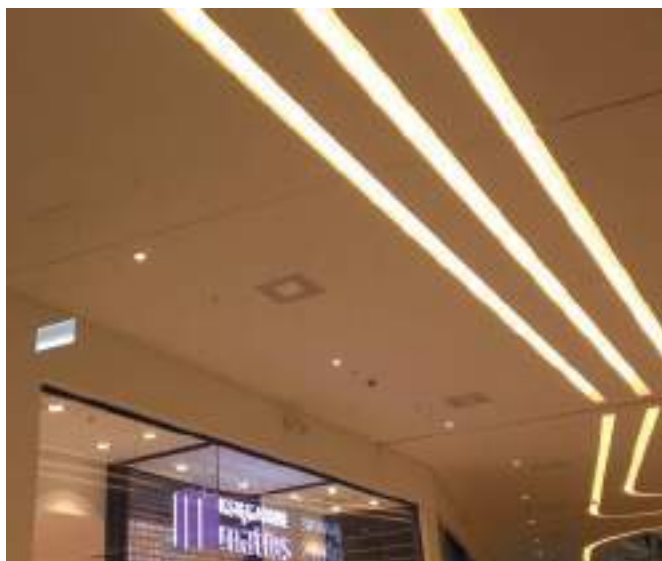
**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of four-way square perforated face diffuser with hinged removable core without tools by pressing on the invisible PUSH fasteners, series **DFZ-S4+PLK-R/L/ R9016S dim. mm** constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

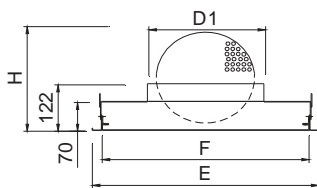


L x H	DFZ-S4	Lwa1 < 35 dB(A)	Lwa1= 40 dB(A)	Lwa1= 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
300	34,86	135-215	250	290
400	39,58	280-350	420	500
500	48,04	375-445	560	700
600	54,55	600-630	755	900
625	61,38	600-630	755	900
675	63,64	600-630	755	900

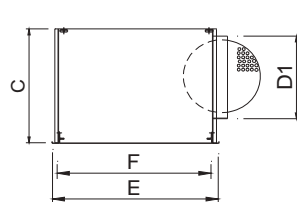
L x H	DFZ-R	DFZ-R-PFT	Lwa1 < 35 dB(A)	Lwa1= 45 dB(A)
mm	eur	eur	m³/h	m³/h
300	34,86	59,55	108-180	210
400	39,58	66,20	230-390	460
500	48,04	76,54	360-600	720
600	54,55	86,86	540-900	1080
625	61,38	94,64	540-900	1080
675	63,64	98,85	540-900	1080
600x300	45,51	65,02	270-450	540
675x338	48,33	73,09	270-450	540
1200x300	67,27	94,92	540-900	1080
1200x600	88,25	129,31	1080-1800	2160
1350x338	72,76	107,17	540-900	1080
1350x675	105,44	157,08	1080-1800	2160

L x H	PLK	PLK-R	PLK/L	PLK/L-R	PLK /AIS/ eur	PLK-R /AIS/ eur	PLK/L /AIS/ eur	PLK/L-R /AIS/ eur
mm	eur	eur	eur	eur	eur	eur	eur	eur
300	48,69	61,90	66,51	79,22	50,15	63,76	68,50	81,59
400	75,33	89,70	75,33	89,70	75,33	89,70	75,33	89,70
500	79,83	95,48	79,83	95,48	79,83	95,48	79,83	95,48
600	95,12	112,40	95,12	112,40	95,12	112,40	95,12	112,40
625	96,79	114,11	96,79	114,11	96,79	114,11	96,79	114,11
675	101,36	118,64	101,36	118,64	101,36	118,64	101,36	118,64
600x300	85,93	103,20	85,93	103,20	85,93	103,20	85,93	103,20
675x338	90,88	108,18	90,88	108,18	90,88	108,18	90,88	108,18
1200x300	95,12	112,40	95,12	112,40	95,12	112,40	95,12	112,40
1200x600	142,67	160,49	142,67	160,49	142,67	160,49	142,67	160,49
1350x338	101,36	118,64	101,36	118,64	101,36	118,64	101,36	118,64
1350x675	152,03	169,31	152,03	169,31	152,03	169,31	152,03	169,31

**DFZ-R+PLK...-R**



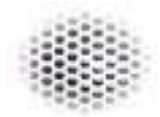
**DFZ-R+PLK /L...-R**



	E	F	D1	H	C
300	295	265	123	185	280
400	395	365	198	205	320
500	495	465	248	286	370
600	595	565	313	353	435
625	620	590	313	353	435
675	670	640	313	353	435

H o L (nominal)	E	F	D1	H	C
300 x 300	295 x 295	265 x 265	123	353	280
400 x 400	395 x 395	365 x 365	198	353	320
500 x 500	495 x 495	465 x 465	248	353	370
600 x 600	595 x 595	565 x 565	313	353	435
625 x 625	620 x 620	590 x 590	313	353	435
675 x 675	670 x 670	640 x 640	313	353	435
600 x 300	595 x 295	565 x 265	198	353	320
675 x 338	670 x 333	640 x 303	198	353	320
1200 x 300	1195 x 295	1165 x 265	2/198	353	320
1200 x 600	1195 x 595	1165 x 565	2/313	353	435
1350 x 338	1345 x 333	1315 x 303	2/198	353	320
1350 x 675	1345 x 670	1315 x 640	2/313	353	435

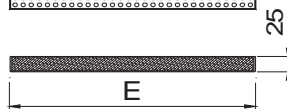
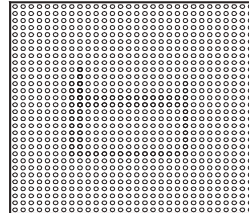
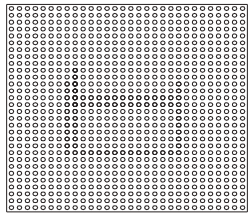
# Modular air return perforated face diffusers



## Technical data

### DFR

### DFR+PFT



	E
300	295
400	395
500	495
600	595
625	620
675	670

L x H	E
600 x 300	595 x 295
675 x 338	670 x 333
1200 x 300	1195 x 295
1200 x 600	1195 x 595
1350 x 338	1345 x 333
1350 x 675	1345 x 670

## Description

Air return perforated face diffuser specially designed to replace a false ceiling tile. Constructed from galvanised steel.

**DFR** Square perforated face diffuser.

.../T15/ False ceiling panel 15 mm profile with angled borders.

.../T24/ False ceiling panel 24 mm profile with angled borders.

## Accessories

**PFT** K/8 class EN 779 G3 filter.

## Fixing

1) Suspended at the false ceiling. Replace a false ceiling plate.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

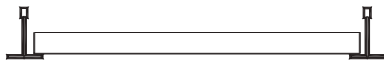
## Specification Text

Supply and mounting of air return perforated face diffuser series

**DFR+PFT R9016S dim. mm** designed to replace a false ceiling plate.

Constructed from galvanised steel paint in white RAL 9016 (60-70% gloss) with filter. Manufacturer **MADEL**.

1)



L x H mm	DFR	DFR / T.../	DFR+PFT	DFR / T.../+PFT	Lwa1 < 35 dB(A)	Lwa1 = 45 dB(A)
	eur	eur	eur	eur	m³/h	m³/h
300	26,15	33,08	50,85	57,78	125-210	245
400	39,00	45,96	55,42	62,40	270-455	540
500	44,08	53,61	68,47	77,99	550-800	1050
600	35,65	60,02	67,98	92,35	600-950	1200
625	52,02	62,12	85,29	95,40	630-1050	1260
675	56,18	67,59	92,11	103,53	630-950	1260
600x300	39,61	48,52	58,53	67,45	300-475	600
675x338	43,14	51,99	67,23	76,09	300-475	600
1200x300	52,80	61,58	79,33	88,11	600-950	1200
1200x600	79,19	96,87	119,02	136,70	1200-1900	2400
1350x338	59,85	69,10	93,35	102,61	600-950	1200
1350x675	91,83	112,06	143,44	163,67	1200-1900	2400



## Variable geometry **diffusers**



## INDEX

**103 AX6** synchronically adjustable blades diffuser

**105 DCG** adjustables cones diffuser

### High-rise solutions

Synchronically adjustable blades AX6 diffuser

DCG diffuser, a classic re-designed by Lievore, Altherr & Molina

ACTIF models, Thermo-adjustable diffusers independently



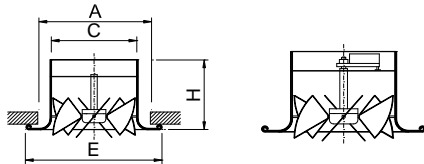
## Synchronously adjustable blades diffuser



### Technical data

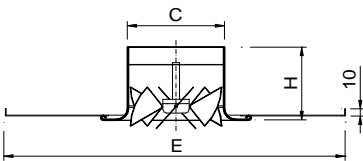
#### AX6-MA

#### AX6-MO+SERVO



	E	A	H	C
250	360	300	202	248
315	464	400	225	313
400	560	500	250	398
500	390	620	306	497
630	870	780	350	627

#### AX6-.../MOD



	E	H	C
AX6 - MOD 600/250	595	202	248
AX6 - MOD 600/315	595	225	313
AX6 - MOD 600/400	595	250	401
AX6 - MOD 625/250	620	202	248
AX6 - MOD 625/315	620	225	313
AX6 - MOD 625/400	620	250	401
AX6 - MOD 675/250	670	202	248
AX6 - MOD 675/315	670	225	313
AX6 - MOD 675/400	670	250	401



### Description

Circular swirl diffusers with adjustable blades to be used in different premises from 2,6 metres high. Constructed from aluminium and galvanised steel.

**AX6-MA** Manually regulable diffuser.

**AX6-MO** Regulable diffuser by means of an actuator.

**AX6-ACTIF** Thermo-adjustable diffuser independently. To be used in different premises from 4 metres high. Time from 30° to 60°: 30 min.

**AX6-.../-MOD** Diffusers specially designed for modular ceilings.

### Accessories

**GLB141.1E -24v** Siemens On/Off actuator.

**GLB341.1E -230v** Siemens On/Off actuator.

**GLB161.1E -24v** Siemens proportional actuator.

**GLB111.1E/MO -24v** Siemens proportional actuator with Modbus.

**NM24A** Belimo On/Off actuator.

**NM230A** Belimo On/Off actuator.

**NM24A-SR** Belimo 24 Vac proportional actuator.

**NM230A-SR** Belimo 230 Vac proportional actuator.

**NM24A-MOD** Belimo proportional actuator with Modbus.

**CH6** Protection grille suitable for sport installations.

**PLX6** Plenum box with a lateral connection.

**.../M/** Access door for servomotor.

**.../S/** Upper connection.

**.../AIS/** Thermal insulation inside.

### Fixing

- 1) Connection into a circular metallic duct.
- 2) Connection into the plenum box by means of rivets to hang the whole from the ceiling.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of circular swirl diffuser with manually adjustable blades series **AX6-MA+PLX6 R9016S dim. mm** constructed from aluminium paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box. Manufacturer **MADEL**.



Ø	AX6-MA	AX6-MO	AX6-ACTIF	Lwa1 < 40 dB(A)	Lwa1= 45 dB(A)	Lwa1= 50 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
250	181,53	192,23	276,82	529-690	820	985
315	205,24	215,94	300,52	853-970	1115	1285
400	276,26	286,95	371,53	1360-1600	1900	2200
500	332,08	342,76	427,37	2000	2500	3000
630	423,45	434,15	-	3369-3510	4200	5005

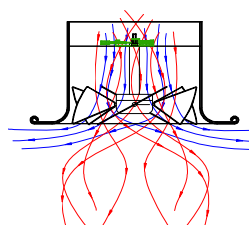
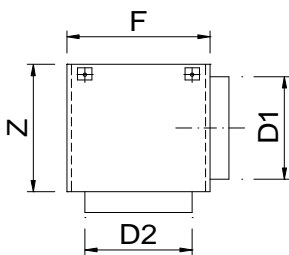
Ø	AX6-MA/MOD 600	AX6-MO/MOD 600	AX6-ACTIF/MOD 600	Lwa1 < 40 dB(A)	Lwa1= 45 dB(A)	Lwa1= 50 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
250	208,98	219,68	304,27	529-690	820	985
315	230,12	240,86	325,42	853-970	1115	1285
400	297,23	307,91	392,49	1360-1600	1900	2200

Ø	AX6-MA/MOD 625 AX6-MA/MOD 675	AX6-MO/MOD 625 AX6-MO/MOD 675	AX6-ACTIF/MOD 625 AX6-ACTIF/MOD 675	Lwa1 < 40 dB(A)	Lwa1= 45 dB(A)	Lwa1= 50 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
250	211,27	221,98	306,55	529-690	820	985
315	232,19	242,89	327,48	853-970	1115	1285
400	299,89	310,60	395,18	1360-1600	1900	2200

Ø	PLX6	PLX6 /AIS/	PLX6 /M/	PLX6 /M/ AIS/	CH6
mm	eur	eur	eur	eur	eur
250	54,37	73,39	74,55	100,64	107,01
315	69,96	94,43	90,10	121,64	122,85
400	80,80	109,08	100,97	136,32	142,68
500	93,07	125,65	116,50	157,28	162,47
630	105,66	142,63	132,06	178,27	202,11

Accessories		eur
GLB141.1E -24v	Siemens On/Off actuator	154,52
GLB341.1E -230v	Siemens On/Off	154,52
GLB161.1E -24v	Siemens proportional actuator	247,58
GLB111.1E/MO -24v	Siemens proportional actuator with MODBUS	330,07
NM24A	Belimo On/Off actuator	163,67
NM230A	Belimo On/Off actuator	169,52
NM24A-SR	Belimo 24 Vac proportional actuator	252,49
NM230A-SR	Belimo 230 Vac proportional actuator	307,16
NM24A-MOD	Belimo proportional actuator with MODBUS 24 Vac	364,43

## PLX6



Time from 30° to 60°: 30 min

	D2	F	Z	D1
250	243	320	308	248
315	308	385	373	313
400	396	500	450	313
500	492	600	500	448
630	622	730	558	498

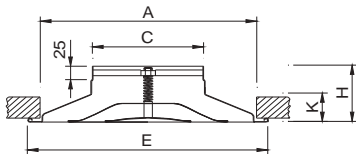
# Adjustables cones diffuser

Lievore,  
Altherr  
& Molina

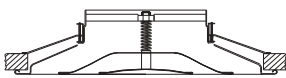


## Technical data

### DCG

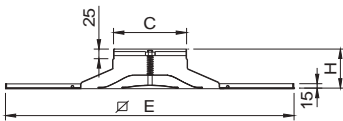


### DCG (O)



	E	A	H	K	C
160	325	303	101	44	157
200	416	385	115	58	197
250	500	464	114	57	247
315	592	564	137	80	313
355	665	630	140	83	353
400	666	630	131	74	398
450	840	793	173	106	447
500	840	793	163	97	497

### DCG-MOD



	MOD/600		MOD/625		MOD/675	
	H	C	B	E	B	E
160	101	157	12	595	12	620
200	115	197	12	595	12	620
250	114	247	12	595	12	620
315	137	313	12	595	12	620



## Description

Adjustable cones diffusers to be used in different premises from 2,6 metres high. Constructed from aluminium.

**DCG** Manually regulable diffuser.

**DCG-ACTIF** hermo-adjustable diffuser independently. To be used in different premises from 4 metres high.

**DCG-MOD-...** Diffusers specially designed for modular ceilings.

**.../T15/** False ceiling panel 15 mm profile with angled borders.

**.../T24/** False ceiling panel 24 mm profile with angled borders.

## Accessories

**R3G** Flap damper, manually operated.

**R2G** Flap damper, manually operated. Fixing screw.

**PMG** Crossbar suitable for mounting in false ceiling with rectangular duct.

**PLDG** Plenum box with a lateral connection.

**...-R** Air flow damper in the spigot.

**.../S/** Upper connection.

**.../AIS/** Thermal insulation inside.

## Fixing

1) Connection into a circular metallic duct.

**(P)** Connection into the crossbar or plenum box by central screw. Unsuitable for DCG-ACTIF.

**(O)** Hidden screws for false ceiling mounting with flexible duct. Unsuitable for DCG-ACTIF.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

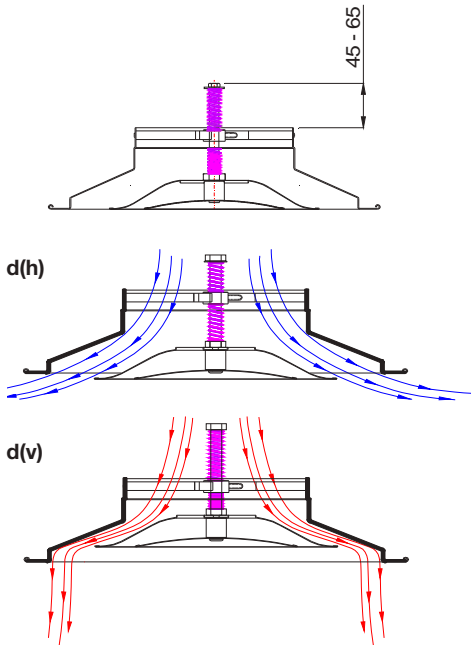
Supply and mounting of circular diffuser with adjustable blades series **DCG+PLDG R9016S dim. mm** constructed from aluminium paint in white RAL 9016 (60-70% gloss) with lateral circular connection plenum box made from galvanized steel. Manufacturer **MADEL**.



Ø	DCG	DCG-MOD /T/	DCG (O)	DCG-ACTIF	Lwa1 < 40 dB(A)	Lwa1= 45 dB(A)	Lwa1= 50 dB(A)
mm	eur	eur	eur	eur	m³/h	m³/h	m³/h
160	33,02	-	41,65	105,71	215-350	410	-
200	43,05	-	52,25	115,61	340-560	660	-
250	58,45	-	68,62	132,08	530-680	795	-
315	75,18	-	86,27	148,57	835-1040	1295	1615
355	114,88	-	127,35	-	1035-1485	1795	2175
400	115,30	-	127,74	-	1350-1970	2320	2730
450	139,82	-	153,54	-	1560-1860	2220	2655
500	144,09	-	158,17	-	1890	2450	3160
MOD/ 600 - 160	55,43	63,33	-	128,14	215-350	410	-
MOD/ 600 - 200	63,66	71,59	-	136,24	340-560	660	-
MOD/ 600 - 250	72,62	80,49	-	146,23	530-680	795	-
MOD/ 600 - 315	90,96	98,85	-	164,36	835-1040	1295	1615
MOD/ 625 - 160	62,34	70,75	-	135,02	215-350	410	-
MOD/ 625 - 200	70,56	78,97	-	143,12	340-560	660	-
MOD/ 625 - 250	79,49	87,90	-	153,08	530-680	795	-
MOD/ 625 - 315	97,82	106,23	-	171,23	835-1040	1295	1615
MOD/ 675 - 160	69,22	78,72	-	141,91	215-350	410	-
MOD/ 675 - 200	77,44	86,94	-	149,99	340-560	660	-
MOD/ 675 - 250	86,37	95,90	-	159,97	530-680	795	-
MOD/ 675 - 315	104,70	114,22	-	178,11	835-1040	1295	1615

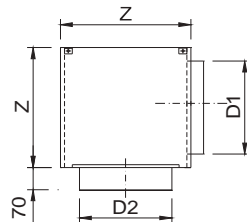
Ø	R3G	R2G	PMG	PLDG	PLDG-R	PLDG / AIS	PLDG-R / AIS
mm	eur	eur	eur	eur	eur	eur	eur
160	8,91	18,89	3,29	49,93	63,17	67,40	80,66
200	9,51	19,79	3,66	57,58	71,59	77,73	91,74
250	10,84	24,11	3,84	61,29	76,50	82,74	97,95
315	13,27	26,73	4,71	69,96	86,70	94,43	111,18
355	20,21	33,68	5,35	75,87	94,01	102,43	120,57
400	21,10	34,63	5,33	80,80	-	109,08	-
450	21,97	35,51	5,98	87,40	-	117,99	-
500	26,11	40,55	6,94	93,07	-	125,65	-

**DCG-ACTIF**



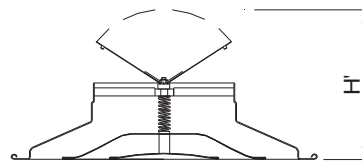
Time from 30° to 60°: 30 min

**PLDG**



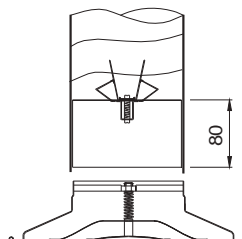
	D2	Z	D1
160	160	220	158
200	200	260	198
250	250	310	248
315	317	375	313
355	357	415	353
400	402	460	398
450	450	510	448
500	499	560	498

**DCG + R3G**



	H'
160	180
200	218
250	242
315	298
355	331
400	360
450	402
500	417

**R2G**





## Jet nozzles



## INDEX

- 108 **KIN** long throw mini jet nozzles
- 109 **KAM** long throw jet nozzles
- 111 **KOO** long throw multi-jet nozzles
- 113 **KAP** long throw jet nozzles panel
- 114 **KOBE** medium-long throw linear jet nozzles
- 117 **LINKIN** m-long throw hidden linear jet nozzles

### Long throw design

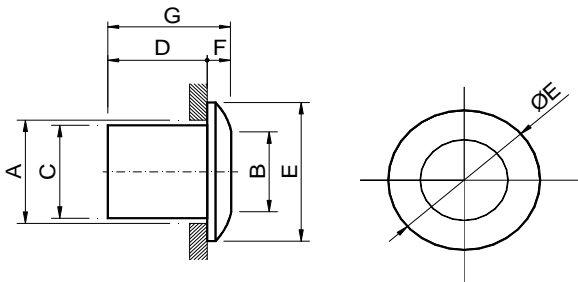
KAM Series of Benedito Design, only for the best interiors  
Automated solutions for large areas



# Long throw mini jet nozzles



## Technical data



Ø	A	B	C	D	E	F	G
63	73	53	61	60	91	14,5	74,5
80	90	70	78	60,5	115,5	18	78,5

## Description

Long throw mini jet nozzle for air diffusion. Nozzles constructed from aluminium.

**KIN** Non-orientable mini jet nozzle suitable for wall or ceiling mounting.

## Fixing

1) Neck installation by means of screw and jet nozzle pressed into the neck.

## Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

Supply and mounting of non-orientable long throw mini jet nozzle series **KIN R9016S diam. 80**, constructed from aluminium and paint in white RAL 9010 (60-70% gloss) or another defined by the D.F., pressing fixation and neck mounting included. Manufacturer **MADEL**.



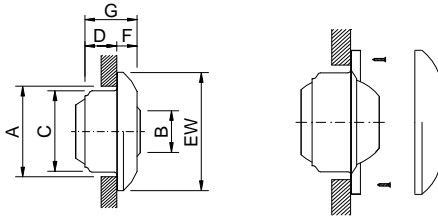
Ø	KIN	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	m³/h	m³/h	m³/h
63	25,68	20-80	95	125
80	28,72	35-135	165	215

## Long throw jet nozzles

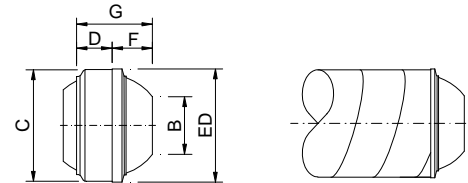


### Technical data

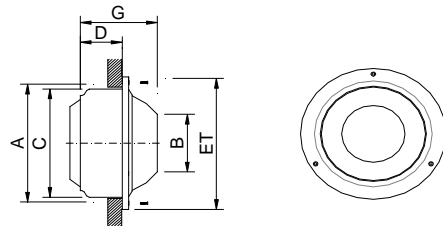
#### KAM-W



#### KAM-D



#### KAM-T



Ø	A	B	C	D	EW	ED	ET	F	G
125	135	61	123	55	181	126	165	27	85
160	170	80	158	55	231	162	205	34	92
200	210	102	198	74	289	203	252	40	122
250	260	130	248	99	359	253	304	48	158
315	325	166	313	126	423	320	390	44	171
400	410	212	398	162	503	404	490	62	224

### Description

Long throw jet nozzles to provide air diffusion into large spaces. Constructed from aluminium and seal of rotation from immutable material.

**KAM-W** Manually adjustable jet nozzle, suitable for wall or ceiling mounting. Installation by means of hidden screws behind the ring.

**KAM-D** Manually adjustable jet nozzle, suitable for mounting into a visible duct. Connection into a circular metallic duct.

**KAM-T** Manually adjustable jet nozzle, suitable for wall or ceiling mounting. Installation by means of visible screws.

...-**M5-24 / 230** Jet nozzle with angle of impulsion regulable by means of a servomotor On / Off.

...-**ACTIF** Thermo-adjustable jet nozzle independently. Time from 30° to 60°: 30 min.

### Accessories

**IEH** Pressed collar saddle for KAM-D mounting into a visible circular duct.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

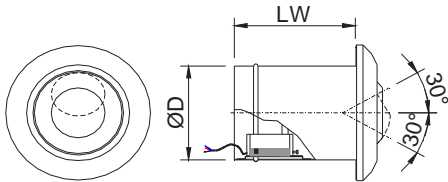
Supply and mounting of manually adjustable long throw jet nozzle for wall mounting series **KAM-W R9016S dim. 125** constructed from aluminium, with seal of rotation from immutable material classified M1 and paint in white RAL 9010 (60-70% gloss) with hidden screws behind ring. Manufacturer **MADEL**.



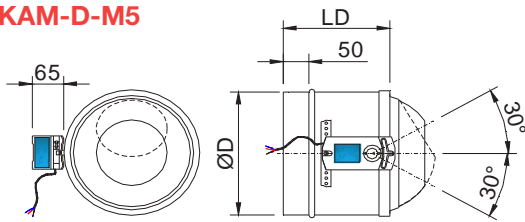
Ø	KAM-W	KAM-D	KAM-T	IEH	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	eur	eur	eur	m³/h	m³/h	m³/h
125	76,84	64,59	64,56	27,53	28-150	180	220
160	90,14	75,66	75,23	27,53	45-195	245	305
200	117,40	94,98	95,72	27,53	97-310	400	515
250	186,05	151,97	151,66	37,99	176-450	595	790
315	255,31	216,82	220,50	49,02	330-640	850	1130
400	357,93	306,84	307,60	56,74	550-1000	1350	1750

Ø	KAM-W-M5	KAM-D-M5	KAM-T-M5	KAM-W	KAM-D	KAM-T
mm	24 / 230 v	24 / 230 v	24 / 230 v	ACTIF	ACTIF	ACTIF
	eur	eur	eur	eur	eur	eur
200	-	-	-	228,03	205,61	206,34
250	356,54	298,43	322,14	296,68	262,58	262,26
315	429,80	381,36	395,00	378,94	340,46	344,14
400	539,50	477,21	489,23	-	-	-

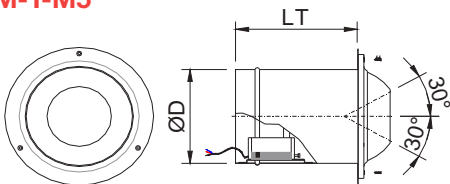
**KAM-W-M5**



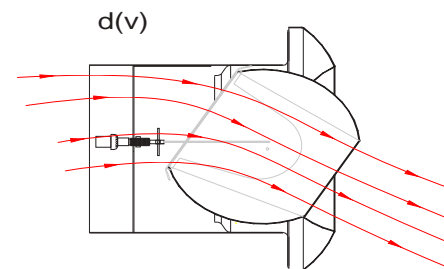
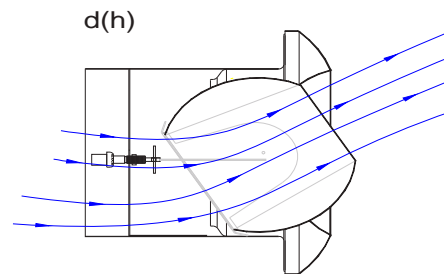
**KAM-D-M5**



**KAM-T-M5**

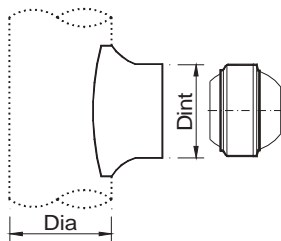


**KAM-...ACTIF**



Time from d(h) to d(v): 30 min

**IEH**



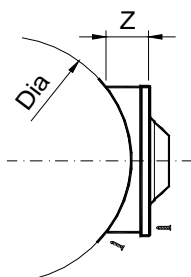
	D int	D min
IEH-KAM-D-125-Dia	125	160
IEH-KAM-D-160-Dia	160	200
IEH-KAM-D-200-Dia	200	250
IEH-KAM-D-250-Dia	250	315
IEH-KAM-D-315-Dia	315	400
IEH-KAM-D-400-Dia	400	500

## Long throw multi-jet nozzles



### Technical data

#### IEK



IEK- Dia - L x H	Dia Conducto Dia Duct	Z
IEK- Dia - L x 100	200 - 1600	48
IEK- Dia - L x 150	250 - 1600	48
IEK- Dia - L x 200	315 - 1600	65
IEK- Dia - L x 300	400 - 1600	95



### Description

Long throw multi-jet nozzle, giving complete flexibility of direction, suitable for wall mounting. Nozzles constructed from aluminium and panel from galvanised steel. Seal of rotation from immutable material.

**KOO** Manually adjustable multi-jet nozzle.

### Accessories

**CM** Mounting frame from galvanised steel (delivered separately in 4 linear elements)

**PLRO** Connection plenum: see page Accessories.

**IEK** Pressed collar saddle for mounting into a visible circular duct. (T) fixing required.

### Fixing

(S) Clips. It requires mounting frame CM.

(T) Visible screws. Mandatory for ceiling mounting.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

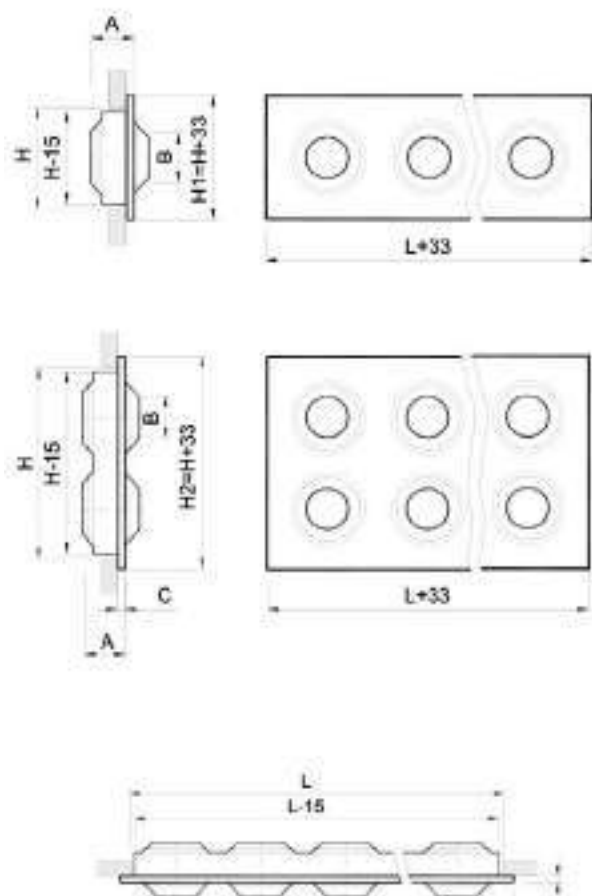
### Specification Text

Supply and mounting of long throw multi-jet nozzle manually adjustable in all directions **series KOO+CM (S) R9016S dim. LxH** constructed from aluminium and galvanised steel, paint in white RAL 9010 (60-70% gloss) or another defined by the D.F., invisible fixing by clips and mounting frame. Manufacturer **MADEL**.



L x H	KOO	CM	IEK	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
mm	eur	eur	eur	m³/h	m³/h	m³/h
200x100	64,09	2,53	32,65	95	115	140
300x100	82,98	2,89	34,53	145	175	210
400x100	99,24	3,19	37,70	180	220	270
500x100	116,93	3,46	43,47	210	265	330
600x100	130,18	3,94	46,60	240	300	375
700x100	152,41	4,66	49,77	270	340	420
800x100	164,03	5,02	55,54	300	375	465
900x100	180,01	5,41	58,67	325	410	510
1000x100	192,65	6,04	61,83	355	445	555
300x150	83,54	3,02	35,08	160	200	250
450x150	113,37	3,46	41,31	240	300	370
600x150	139,85	4,07	47,50	320	395	495
750x150	168,02	4,94	53,71	390	475	590
900x150	190,52	5,57	59,95	450	555	680
1050x150	213,89	6,64	66,17	520	630	770
1200x150	242,45	7,67	69,81	585	710	860
200x200	90,90	2,81	34,79	160	210	265
300x200	120,84	3,16	36,94	245	315	400
400x200	152,35	3,46	40,30	280	385	520
500x200	178,16	3,78	46,33	320	455	640
600x200	204,71	4,21	49,73	395	535	720
700x200	237,63	4,92	53,10	470	615	795
800x200	264,37	5,28	59,09	550	690	870
900x200	286,75	5,74	62,49	625	770	950
1000x200	318,08	6,28	65,94	700	850	1025
300x300	127,54	3,54	38,01	300	360	435
450x300	176,53	4,00	44,76	450	540	650
600x300	222,16	4,60	51,50	595	720	870
750x300	269,54	5,47	58,28	740	905	1105
900x300	316,18	6,09	65,04	890	1090	1340
1050x300	363,17	7,15	71,82	1035	1275	1575
1200x300	410,74	8,17	75,98	1180	1460	1810

**KOO**



Lx100	n Jets	Lx200	n Jets
200x100	2	200x200	4
300x100	3	300x200	6
400x100	4	400x200	8
500x100	5	500x200	10
600x100	6	600x200	12
700x100	7	700x200	14
800x100	8	800x200	16
900x100	9	900x200	18
1000x100	10	1000x200	20

Lx150	n Jets	Lx300	n Jets
300x150	2	300x300	4
450x150	3	450x300	6
600x150	4	600x300	8
750x150	5	750x300	10
900x150	6	900x300	12
1050x150	7	1050x300	14
1200x150	8	1200x300	16

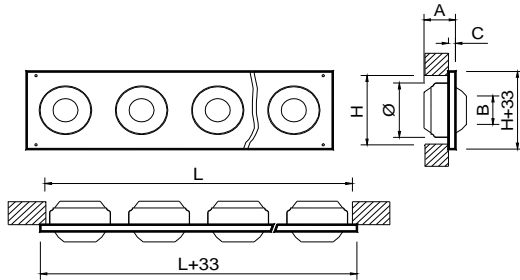
Ø	LxH	B	A	H1	H2	UN.	
80	Lx100	44	46	133	-	L/H	1 line
	Lx200	44	46	-	233	4x(L/H)	2 lines
125	Lx150	61	63	183	-	L/H	1 line
	Lx300	61	63	-	333	4x(L/H)	2 lines



# Long throw jet nozzles panel



## Technical data



LxH	n	Ø	A	B	C	Ø
500 x 200	2	160	90	80	10	158
800 x 200	4	160	90	80	10	158
1000 x 200	5	160	90	80	10	158
1500 x 200	7	160	90	80	10	158
2000 x 200	9	160	90	80	10	158
500 x 250	2	200	115	102	10	198
800 x 250	3	200	115	102	10	198
1000 x 250	4	200	115	102	10	198
1500 x 250	6	200	115	102	10	198
2000 x 250	7	200	115	102	10	198
800 x 300	2	250	125	130	15	248
1000 x 300	3	250	125	130	15	248
1500 x 300	4	250	125	130	15	248
2000 x 300	6	250	125	130	15	248
800 x 400	2	315	180	166	15	313
1000 x 400	2	315	180	166	15	313
1500 x 400	3	315	180	166	15	313
2000 x 400	4	315	180	166	15	313

## Description

Panel of long throw multi-jet nozzle, giving complete flexibility of direction suitable for wall mounting. Nozzles constructed from aluminium and panel from galvanised steel. Seal of rotation from immutable material.

**KAP** Manually adjustable multi-jet nozzle.

## Accessories

**IBK** Pressed collar saddle for mounting into a visible circular duct.

## Fixing

**(T)** Visible screws.

## Finishes

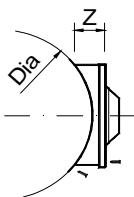
**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**R9006M** Painted aluminum color RAL 9006 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO pag.



IBK- Dia - L x H	Dia Conducto Dia Duct	Z
IBK- Dia - L x 200	315 - 1600	65
IBK- Dia - L x 250	400 - 1600	75
IBK- Dia - L x 300	500 - 1600	85
IBK- Dia - L x 400	630 - 1600	170

## Specification Text

Supply and mounting of long throw multi-jet nozzle manually adjustable in all directions series **KAP (T) R9016S dim. LxH** constructed from aluminium and galvanised steel, paint in white RAL 9010 (60-70% gloss) or another defined by the D.F., fixing by visible screws. Manufacturer **MADEL**.

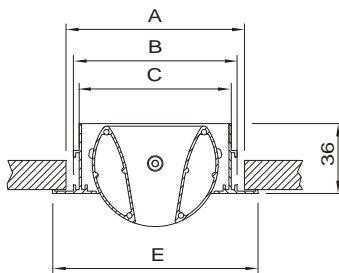
L x H mm	KAP	IBK	Lwa1 < 35 dB(A)	Lwa1 = 40 dB(A)	Lwa1 = 45 dB(A)
	eur	eur	m³/h	m³/h	m³/h
500x200	163,26	46,33	90-290	370	460
800x200	234,19	50,69	135-430	540	670
1000x200	371,73	65,94	225-720	910	1130
1500x200	512,21	70,33	315-960	1200	1500
2000x200	652,12	74,72	405-1170	1470	1830
500x250	197,71	55,68	194-500	640	824
800x250	285,90	60,77	291-682	880	1140
1000x250	374,41	65,92	388-930	1200	1550
1500x250	548,85	71,03	582-1333	1720	2220
2000x250	639,86	76,14	679-1519	1960	2530
800x300	311,31	65,04	352-720	952	1264
1000x300	453,75	75,98	528-1080	1430	1900
1500x300	600,12	81,84	704-1440	1900	2525
2000x300	881,67	87,68	1056-1980	2620	3480
800x400	417,85	79,35	660-1150	1530	2040
1000x400	424,11	87,43	660-1150	1530	2040
1500x400	624,11	95,46	990-1600	2125	2825
2000x400	823,02	103,52	1320-1985	2635	3500

# Mid-long throw linear jet nozzles



## Technical data

### KOBE



	A	B	C	E
15	93,5	84,5	78,5	106
20	93,5	84,5	78,5	106
25	93,5	84,5	78,5	106
30	93,5	84,5	78,5	106
40	107,5	84,5	92,5	120
50	118,5	109,2	103,5	131

## Description

KOBE mid-long throw linear jet nozzles have been designed to combine aesthetics with technical performance. Its mounting is carried out both on the wall and on the ceiling. With various slot sizes available and an adjustable supply angle of  $\pm 30^\circ$ , KOBE nozzles are suitable for all types of architectures. KOBE jet nozzles are ideal for installation in large spaces such as shopping centers, airports, stations, sports halls, etc. Due to their performance and linear aesthetics, along with airflow control, KOBE jet nozzles are also suitable for use in residential and commercial facilities. Diffusers made of aluminum with steel shafts and fastening elements. Length from 300 to 2000mm. Nozzle with a maximum length of 1000 mm. For longer lengths the diffuser incorporates two nozzles of equal size.

**KOBE** Mid-long throw linear jet nozzle.

## Accessories

- PLKB** Plenum box with a lateral circular connection. It incorporates supports for wall and ceiling suspension. Made in galvanised steel.
- ...-R** Plenum box with a flow damper in the spigot (available only for lateral connection)
- .../S/** Plenum box with an upper elliptical connection.
- .../AIS/** Thermally insulated plenum box with foam.
- IOK** Pressed collar saddle for mounting into a visible circular duct. (PM) fixing required.

## Fixing systems

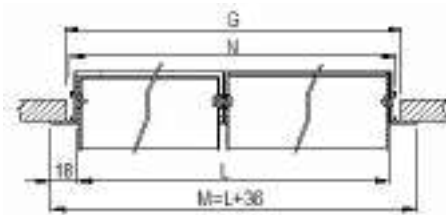
- (D)** Nozzle with brackets for ceiling or wall mounting by threaded rod or wire.
- (PM)** Set of crossbars for ceiling or wall installation of the nozzle. The nozzle is screwed onto the crossbars.
- (PL)** Plenum box with circular connection for installation of the nozzle on the ceiling or on the wall. The nozzle is screwed onto the plenum rails.

## Finishes

- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- R9016B** Painted white RAL 9016 glossy (85-95% gloss)
- R9005M** Painted black RAL 9005 matt (20-30% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

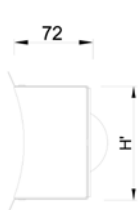
## Specification text

Supply and mounting of medium-long throw adjustable linear nozzle **KOBE+PLKB-R R9016S 20x2000** made of aluminum and white lacquered finish RAL 9010 (60-70% gloss) or another to be defined by the D.F. With lateral circular connection plenum with flow regulator in the neck and elements necessary for assembly. Brand **MADEL**.

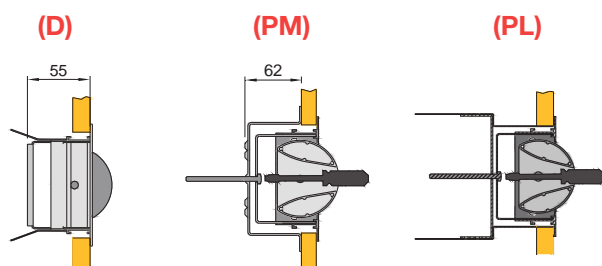


L	M	N	G
500	536	509	517
1000	1036	1009	1017
1500	1536	1509	1517
2000	2036	2009	2017

### IOK



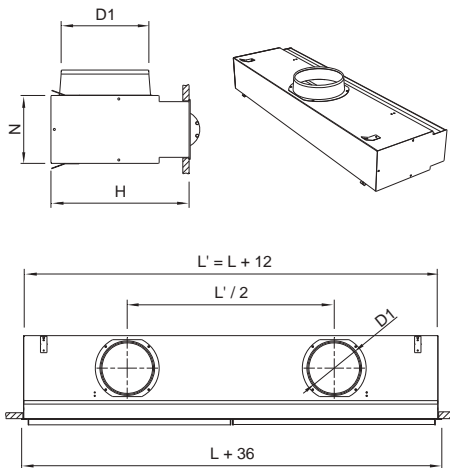
	H'
15	111
20	111
25	111
30	111
40	125
50	135



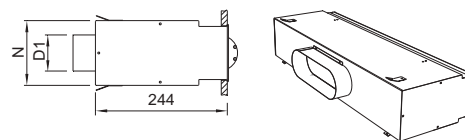
Dim.	KOBE	PLKB	PLKB-R	PLKB/S/	PLKB	PLKB-R	PLKB/S/	IOK	(PM)	Lwa1	Lwa1=	Lwa1=
mm	eur	eur	eur	eur	/AIS/ eur	/AIS/ eur	/AIS/ eur	eur	eur	< 25 dB(A) m³/h	30 dB(A) m³/h	35 dB(A) m³/h
15x300	63,62	46,25	57,98	53,42	62,43	74,17	72,11	42,01	9,28	40-105	130	160
15x400	66,03	47,56	59,29	54,73	64,21	75,94	73,89	45,18	9,28	50-120	170	200
15x500	68,99	48,87	60,61	56,05	65,98	77,71	75,67	50,95	9,28	60-170	205	250
15x600	73,36	50,19	61,92	57,38	67,76	79,50	77,46	54,08	9,28	75-190	250	300
15x700	76,71	51,52	63,25	58,68	69,56	81,29	79,22	57,25	9,28	90-230	280	340
15x800	79,27	52,84	64,57	60,01	71,34	83,07	81,00	63,02	9,28	100-250	320	380
15x900	82,50	54,15	65,88	61,33	73,10	84,83	82,79	66,15	9,28	115-280	350	410
15x1000	83,04	56,50	68,23	66,74	76,27	88,01	90,10	69,31	9,28	130-310	380	450
15x1100	135,51	60,16	71,89	70,41	81,23	92,96	95,06	72,47	9,28	145-340	410	475
15x1200	136,29	60,95	72,66	71,18	82,26	93,99	96,09	75,63	9,28	150-360	440	530
15x1300	142,71	67,25	78,98	77,50	90,78	102,52	104,62	78,79	17,36	155-390	480	570
15x1400	143,49	71,68	83,41	78,84	96,76	108,49	106,44	81,95	17,36	180-420	590	610
15x1500	144,25	72,97	96,43	87,31	98,51	121,97	117,87	85,11	17,36	195-450	540	650
15x1600	154,46	80,60	104,06	94,95	108,81	132,27	128,18	88,27	17,36	210-470	550	675
15x1700	155,22	82,16	105,63	96,51	110,92	134,37	130,27	91,43	17,36	225-500	600	710
15x1800	156,01	85,46	108,91	99,80	115,37	138,83	134,73	94,59	17,36	230-510	600	740
15x1900	156,79	85,60	109,07	99,95	115,57	139,04	134,94	97,75	17,36	250-550	650	770
15x2000	157,52	85,80	109,26	100,15	115,81	139,29	135,19	100,91	17,36	260-550	650	800
20x300	63,57	46,25	57,98	53,42	62,43	74,17	72,11	42,01	9,28	50-120	145	170
20x400	65,98	47,56	59,29	54,73	64,21	75,94	73,89	45,18	9,28	70-155	190	225
20x500	68,93	54,05	65,79	56,05	72,98	84,71	75,67	50,95	9,28	85-190	230	285
20x600	73,31	50,19	61,92	57,38	67,76	79,50	77,46	54,08	9,28	100-220	280	330
20x700	76,66	51,52	63,25	58,68	69,56	81,29	79,22	57,25	9,28	120-250	320	370
20x800	79,22	52,84	64,57	60,01	71,34	83,07	81,00	63,02	9,28	140-290	350	420
20x900	82,45	54,15	65,88	61,33	73,10	84,83	82,79	66,15	9,28	160-330	430	390
20x1000	82,98	59,59	83,04	73,92	80,43	103,89	99,80	69,31	9,28	175-350	410	490
20x1100	135,46	63,25	86,72	77,60	85,40	108,86	104,76	72,47	9,28	175-350	420	540
20x1200	136,23	64,01	87,48	78,36	86,43	109,89	105,79	75,63	9,28	200-410	490	590
20x1300	142,66	70,33	93,79	84,68	94,95	118,41	114,31	78,79	17,36	230-440	520	630
20x1400	143,43	71,68	95,14	86,03	96,76	120,22	116,12	81,95	17,36	240-470	560	470
20x1500	144,20	72,97	96,43	87,31	98,51	121,97	117,87	85,11	17,36	260-490	590	700
20x1600	154,41	80,60	104,06	94,95	108,81	132,27	128,18	88,27	17,36	280-520	620	750
20x1700	155,17	82,16	105,63	96,51	110,92	134,37	130,27	91,43	17,36	300-540	660	790
20x1800	155,94	85,46	108,91	99,80	115,37	138,83	134,73	94,59	17,36	310-560	690	820
20x1900	156,72	85,60	109,07	99,95	115,57	139,04	134,94	97,75	17,36	330-600	720	850
20x2000	157,46	85,80	109,26	100,15	115,81	139,29	135,19	100,91	17,36	350-620	750	900
25x300	63,62	46,25	57,98	53,42	62,43	74,17	72,11	42,01	9,28	65-130	160	190
25x400	66,03	47,56	59,29	54,73	64,21	75,94	73,89	45,18	9,28	90-170	210	250
25x500	68,99	54,05	65,79	56,05	72,98	84,71	75,67	50,95	9,28	110-210	260	300
25x600	73,36	50,19	61,92	57,38	67,76	79,50	77,46	54,08	9,28	130-250	300	360
25x700	76,71	51,52	63,25	58,68	69,56	81,29	79,22	57,25	9,28	150-280	340	410
25x800	79,27	52,84	64,57	60,01	71,34	83,07	81,00	63,02	9,28	175-320	390	460
25x900	82,50	54,15	65,88	61,33	73,10	84,83	82,79	66,15	9,28	195-340	420	500
25x1000	83,04	59,59	83,04	73,92	80,43	103,89	99,80	69,31	9,28	220-380	450	550
25x1100	135,51	63,25	86,72	77,60	85,40	108,86	104,76	72,47	9,28	240-410	500	600
25x1200	136,29	64,01	87,48	78,36	86,43	109,89	105,79	75,63	9,28	260-440	540	650
25x1300	142,71	70,33	93,79	84,68	94,95	118,41	114,31	78,79	17,36	280-480	580	700
25x1400	143,49	71,68	95,14	86,03	96,76	120,22	116,12	81,95	17,36	300-510	600	740
25x1500	144,25	72,97	96,43	87,31	98,51	121,97	117,87	85,11	17,36	330-550	650	780
25x1600	154,46	80,60	104,06	94,95	108,81	132,27	128,18	88,27	17,36	350-570	680	820
25x1700	155,22	82,16	105,63	96,51	110,92	134,37	130,27	91,43	17,36	370-600	720	860
25x1800	156,01	85,46	108,91	99,80	115,37	138,83	134,73	94,59	17,36	390-630	760	910
25x1900	156,79	85,60	109,07	99,95	115,57	139,04	134,94	97,75	17,36	420-650	800	940
25x2000	157,52	85,80	109,26	100,15	115,81	139,29	135,19	100,91	17,36	440-670	820	980
30x300	63,67	46,25	57,98	53,42	62,43	74,17	72,11	42,01	9,28	75-140	180	220
30x400	66,10	47,56	59,29	54,73	64,21	75,94	73,89	45,18	9,28	100-190	230	280
30x500	69,05	54,05	65,79	56,05	72,98	84,71	75,67	50,95	9,28	130-230	280	340
30x600	73,42	50,19	61,92	57,38	67,76	79,50	77,46	54,08	9,28	150-280	340	400
30x700	76,79	51,52	63,25	58,68	69,56	81,29	79,22	57,25	9,28	181-320	380	450
30x800	79,34	52,84	64,57	60,01	71,34	83,07	81,00	63,02	9,28	200-350	430	520
30x900	82,56	54,15	65,88	61,33	73,10	84,83	82,79	66,15	9,28	240-400	480	570
30x1000	83,09	59,59	83,04	73,92	80,43	103,89	99,80	69,31	9,28	260-430	500	605
30x1100	135,57	63,25	86,72	77,60	85,40	108,86	104,76	72,47	9,28	290-460	560	660
30x1200	136,34	64,01	87,48	78,36	86,43	109,89	105,79	75,63	9,28	320-500	600	720
30x1300	142,78	70,33	93,79	84,68	94,95	118,41	114,31	78,79	17,36	340-550	650	770
30x1400	143,55	71,68	95,14	86,03	96,76	120,22	116,12	81,95	17,36	370-570	700	820
30x1500	144,31	72,97	96,43	87,31	98,51	121,97	117,87	85,11	17,36	390-600	750	880
30x1600	154,52	80,60	104,06	94,95	108,81	132,27	128,18	88,27	17,36	425-650	780	920
30x1700	155,29	82,16	105,63	96,51	110,92	134,37	130,27	91,43	17,36	450-710	820	980
30x1800	156,07	85,46	108,91	99,80	115,37	138,83	134,73	94,59	17,36	480-720	840	1010
30x1900	156,84	85,60	109,07	99,95	115,57	139,04	134,94	97,75	17,36	500-750	880	1050
30x2000	157,57	85,80	109,26	100,15	115,81	139,29	135,19	100,91	17,36	530-790	900	1100

Dim.	KOBE	PLKB	PLKB-R	PLKB/S/	PLKB /AIS/	PLKB-R /AIS/	PLKB/S/ /AIS/	IOK	(PM)	Lwa1 < 25 dB(A)	Lwa1= 30 dB(A)	Lwa1= 35 dB(A)
mm	eur	eur	eur	eur	eur	eur	eur	eur	eur	m³/h	m³/h	m³/h
40x300	63,76	47,26	58,99	54,43	63,79	75,52	73,48	51,90	9,62	100-160	210	260
40x400	66,19	48,76	60,49	55,94	65,83	77,56	75,52	55,26	9,62	135-220	270	330
40x500	68,60	60,89	72,63	68,08	82,21	93,95	91,91	61,29	9,62	170-270	330	400
40x600	73,51	51,79	63,52	58,98	69,93	81,66	79,62	64,69	9,62	200-310	380	480
40x700	76,87	55,04	66,77	62,23	74,31	86,05	84,01	68,06	9,62	240350	450	540
40x800	79,42	56,77	68,51	63,94	76,63	88,36	86,32	74,05	9,62	280-400	500	600
40x900	82,66	58,48	70,22	65,66	78,95	90,68	88,65	77,45	9,62	315-440	550	660
40x1000	83,18	62,94	86,41	77,29	84,96	108,43	104,33	80,90	9,62	350-480	600	710
40x1100	135,71	67,82	91,28	82,16	91,56	115,02	110,92	84,35	9,62	385-520	650	780
40x1200	136,49	68,71	92,17	83,06	92,74	116,21	112,13	87,80	9,62	420-550	670	840
40x1300	142,91	72,10	95,56	86,45	97,34	120,80	116,71	91,25	18,06	460-590	725	890
40x1400	143,69	73,75	97,21	88,10	99,56	123,02	118,92	94,70	18,06	490-630	770	950
40x1500	144,47	75,35	98,82	89,70	101,74	125,21	121,11	98,15	18,06	530-660	820	1000
40x1600	154,66	84,87	108,35	99,22	114,60	138,05	133,95	101,60	18,06	560-700	860	1060
40x1700	155,44	86,83	110,29	101,18	117,22	140,69	136,58	105,05	18,06	600-740	910	1100
40x1800	156,21	90,99	114,46	105,34	122,85	146,31	142,21	108,50	18,06	640-760	940	1150
40x1900	156,98	91,16	114,62	105,50	123,04	146,52	142,43	111,95	18,06	690-800	980	1210
40x2000	157,77	91,31	103,04	105,66	123,27	135,00	142,63	115,40	18,06	700-830	1010	1240
50x300	63,95	48,37	60,09	55,53	65,28	77,01	74,96	51,90	9,62	130-190	250	320
50x400	66,37	49,89	61,62	57,06	67,36	79,09	77,02	55,26	9,62	170-245	320	410
50x500	68,78	61,79	73,52	68,97	83,42	95,15	93,11	61,29	9,62	215-305	390	490
50x600	73,71	52,96	64,69	60,14	71,49	83,22	81,19	64,69	9,62	260-360	460	580
50x700	77,06	56,26	67,99	63,44	75,95	87,68	85,64	68,06	9,62	300-520	520	660
50x800	79,61	58,01	69,74	65,17	78,31	90,04	87,98	74,05	9,62	350-450	570	730
50x900	82,83	59,74	71,47	66,92	80,66	92,39	90,34	77,45	9,62	390-500	600	800
50x1000	83,37	64,73	88,19	79,08	87,36	110,83	106,76	80,90	9,62	440-530	700	870
50x1100	135,95	69,60	93,06	83,96	93,96	117,42	113,35	84,35	9,62	480-570	750	920
50x1200	136,72	70,49	93,96	84,85	95,16	118,63	114,55	87,80	9,62	525-630	800	970
50x1300	143,15	73,88	97,35	88,24	99,76	123,22	119,13	91,25	18,06	575-670	840	1070
50x1400	143,92	75,54	99,00	89,90	101,96	125,42	121,35	94,70	18,06	620-690	880	1100
50x1500	144,70	77,14	100,60	91,51	104,14	127,61	123,53	98,15	18,06	660-720	920	1160
50x1600	154,90	86,66	110,13	101,02	116,99	140,45	136,38	101,60	18,06	710-760	960	1250
50x1700	155,67	88,61	112,07	102,97	119,62	143,08	139,01	105,05	18,06	750-800	1000	1300
50x1800	156,46	92,78	116,25	107,15	125,26	148,72	144,63	108,50	18,06	790-850	1050	1370
50x1900	157,22	92,94	116,40	107,30	125,46	148,93	144,85	111,95	18,06	815-900	1100	1410
50x2000	158,00	93,09	116,55	107,46	125,67	149,14	145,07	115,40	18,06	880-930	1150	1450

**PLKB**



**PLKB /S/**



**PLKB PLKB/S**

LxH	0,3 = L = 0,6			0,6 < L = 1			1 < L = 1,5			1,5 < L = 2		
	D1	H	N	D1	H	N	D1	H	N	D1	H	N
KOBE15	1/158	244	111	1/158	244	111	2/158	244	111	2/158	244	111
KOBE20	1/158	244	111	1/158	244	111	2/158	244	111	2/198	284*	111
KOBE25	1/158	244	111	1/198	284*	111	2/198	284*	111	2/198	284*	111
KOBE30	1/198	284*	111	1/198	284*	111	2/198	284*	111	2/198	284*	111
KOBE40	1/198	284*	125	1/198	284*	125	2/198	284*	125	2/198	284*	125
KOBE50	1/198	284*	135	1/198	284*	135	2/198	284*	135	2/198	284*	135

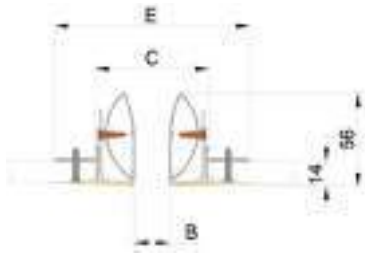
(\*) H= 244 mm for PLKB /S/

## Mid-long throw hidden linear jet nozzles



### Technical data

#### LINKIN



	C	E
15	62	109.5
20	67	114.5
25	73	119.5
30	78	124.5
40	83	134.5
50	88	144.5

### Description

Medium and High throw hidden linear jet nozzle LINKIN has been designed to combine estetical aspect and technical benefits. Its mounting can be done on false ceiling as well as on wall, hiding the frame with mastic, leaving visible only the linear diffuser slot. The internal deflector is immovable and doesn't allow orientation. To be installed at a height between 2.6 and 6 m. Length from 500 to 1000mm. Allows the formation of continuous lines by joining diffuser sections. Diffusers made of aluminum, axes and fastening elements made of steel.

**LINKIN** Mid-long throw hidden linear jet nozzle.

### Accessories

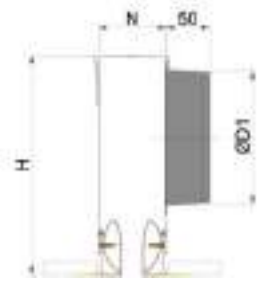
**PLIN/L/** Plenum box with a lateral circular connection. It incorporates supports for wall and ceiling suspension. Made in galvanised steel.

**.../S/** Plenum box with an upper elliptical connection.

**...-R** Plenum box with a flow damper in the spigot (available only for lateral connection)

**.../AIS/** Thermally insulated plenum box with foam.

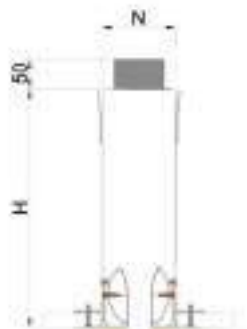
#### LINKIN(D)+PLIN/L/



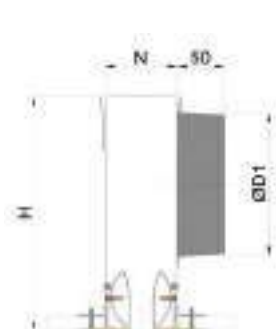
#### LINKIN(D)+PLIN/S/



#### LINKIN(L)+PLIN/L/



#### LINKIN(L)+PLIN/S/



### Fixing systems

**(D)** Brackets for ceiling or wall mounting by threaded rod or wire.

**(L)** Brackets for false ceiling installation.

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

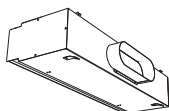
**R9005M** Painted black RAL 9005 matt (20-30% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification text

Supply and mounting of medium-long throw hidden linear nozzle **LINKIN+PLIN/L/-R R9016S 20x2000** made of aluminum and white lacquered finish RAL 9010 (60-70% gloss) or another to be defined by the D.F. With lateral circular connection plenum with flow regulator in the neck and elements necessary for assembly. Brand **MADEL**.

#### PLIN/S/



PLIN	L ≤ 1000		
	D1	H	N
15	1/158	256	57.4
20	1/158	256	62.4
25	1/158	256	67.4
30	1/198	296	72.4
40	1/198	296	77.4
50	1/198	296	82.4



Dim. mm	LINKIN eur	PLIN/L/ eur	PLIN/L/-R eur	PLIN/S/ eur	PLIN/L/ /AIS/ eur	PLIN/L/-R /AIS/ eur	PLIN/S/ /AIS/ eur	Lwa1 < 25 dB(A) m³/h	Lwa1= 30 dB(A) m³/h	Lwa1= 35 dB(A) m³/h
15x500	45,74	48,87	60,61	56,05	65,98	77,71	75,67	60-150	200	250
15x600	48,35	50,19	61,92	57,38	67,76	79,50	77,46	75-180	250	300
15x700	50,98	51,52	63,25	58,68	69,56	81,29	79,22	90-200	290	360
15x800	53,55	52,84	64,57	60,01	71,34	83,07	81,00	100-250	330	410
15x900	56,18	54,15	65,88	61,33	73,10	84,83	82,79	115-280	375	470
15x1000	58,92	56,50	68,23	66,74	76,27	88,01	90,10	130-315	420	520
20x500	45,77	54,05	65,79	56,05	72,98	84,71	75,67	85-175	235	285
20x600	48,38	50,19	61,92	57,38	67,76	79,50	77,46	100-215	280	340
20x700	51,01	51,52	63,25	58,68	69,56	81,29	79,22	120-250	330	410
20x800	53,58	52,84	64,57	60,01	71,34	83,07	81,00	140-290	380	470
20x900	56,21	54,15	65,88	61,33	73,10	84,83	82,79	160-330	430	530
20x1000	58,95	59,59	83,04	73,92	80,43	103,89	99,80	175-370	480	590
25x500	45,83	54,05	65,79	56,05	72,98	84,71	75,67	100-210	260	345
25x600	48,43	50,19	61,92	57,38	67,76	79,50	77,46	130-250	325	410
25x700	51,06	51,52	63,25	58,68	69,56	81,29	79,22	150-300	380	490
25x800	53,63	52,84	64,57	60,01	71,34	83,07	81,00	170-345	440	560
25x900	56,26	54,15	65,88	61,33	73,10	84,83	82,79	195-390	490	630
25x1000	59,02	59,59	83,04	73,92	80,43	103,89	99,80	220-435	550	710
30x500	45,90	54,05	65,79	56,05	72,98	84,71	75,67	130-240	280	390
30x600	48,50	50,19	61,92	57,38	67,76	79,50	77,46	150-290	350	480
30x700	51,13	51,52	63,25	58,68	69,56	81,29	79,22	181-340	410	560
30x800	53,70	52,84	64,57	60,01	71,34	83,07	81,00	200-390	470	640
30x900	56,33	54,15	65,88	61,33	73,10	84,83	82,79	240-445	530	730
30x1000	59,09	59,59	83,04	73,92	80,43	103,89	99,80	260-500	590	815
40x500	46,02	60,89	72,63	68,08	82,21	93,95	91,91	170-290	385	480
40x600	48,62	51,79	63,52	58,98	69,93	81,66	79,62	200-350	460	580
40x700	51,25	55,04	66,77	62,23	74,31	86,05	84,01	240-410	550	690
40x800	53,82	56,77	68,51	63,94	76,63	88,36	86,32	280-475	630	790
40x900	56,45	58,48	70,22	65,66	78,95	90,68	88,65	315-535	710	890
40x1000	59,21	62,94	86,41	77,29	84,96	108,43	104,33	350-600	790	1000
50x500	46,21	61,79	73,52	68,97	83,42	95,15	93,11	210-340	435	580
50x600	48,81	52,96	64,69	60,14	71,49	83,22	81,19	260-400	525	700
50x700	51,44	56,26	67,99	63,44	75,95	87,68	85,64	300-480	620	825
50x800	54,01	58,01	69,74	65,17	78,31	90,04	87,98	350-550	710	950
50x900	56,64	59,74	71,47	66,92	80,66	92,39	90,34	390-625	800	1075
50x1000	59,40	64,73	88,19	79,08	87,36	110,83	106,76	440-700	900	1200

(\*)

PLU 0,96



## Linear **diffusers**

### Continuous design

Diffusers suitable to create continuous lines

Plenum boxes with quick mounting clips

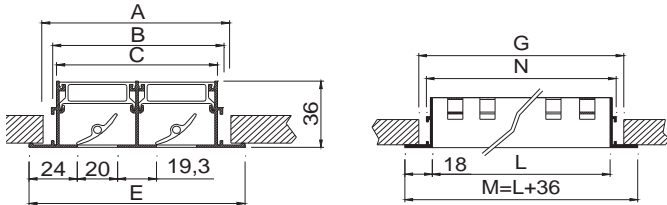
KIS diffuser, attractive design of Lievore,  
Altherr & Molina

## INDEX

- 120 LSD** sectored slot linear diffusers
- 122 LNG** linear slot diffusers
- 142 KIS** micro-jet nozzles linear diffusers
- 126 LSD&LNG-MOD** modular linear diffusers
- 127 LRT** LNG linear diffusers for air return
- 129 LESS** Supply-return linear slot diffusers
- 131 LOF&LAIF** fixed linear diffusers with minimized frame
- 133 LOOK** hidden linear diffusers
- 136 LOOK-CURVED** hidden curved linear diffusers

## Sectored slot linear diffusers

### Technical data



slots	E	A	B	C
1	68	55	47	40
2	107	95	86	80
3	147	134	125	119
4	186	173	165	159

L	M	N	G
500	536	507	516
1000	1036	1007	1016
1200	1236	1207	1216
1500	1536	1507	1516
2000	2036	2007	2016



### Description

Linear slot diffuser with sectored adjustable vanes to be used from 2,6 up to 4 m high. Diffuser constructed from aluminium and deflection vanes from PVC in black colour.

**LSD** Diffuser with sectored vanes at 100 mm.

...-AR Diffuser with end borders included, for lengths ≤ 2 m.

...-ARI Diffuser with an end border on the left side, required to form lines > 2 m.

...-ARD Diffuser with an end border on the right side, required to form lines > 2 m.

...-INT Diffuser without end borders, required to form lines > 4 m. (in case of needing sections of equal length, it must be indicated)

### Accessories

**PLSD** Plenum box with lateral connection.

...-R Air flow damper in the spigot.

.../AIS/ Thermal insulation inside.

**A90/LSD** Inactive angle at 90°.

### Fixing

**(D)** Brackets for suspension to the ceiling of the diffuser without plenum box.

**(PL)** Brackets for suspension from the ceiling of the diffuser screwed to the plenum box.

**(PM)** Crossbars for installation of the diffuser without plenum box in false ceiling (supplement \*)

### Finishes

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

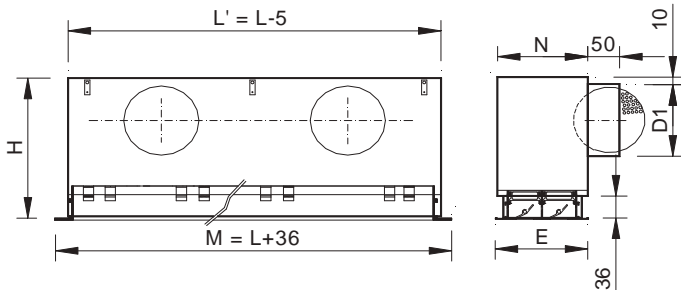
**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../AB/ ABS plastic vanes in white (supplement \*)

### Specification Text

Supply and mounting of linear slot diffuser with sectored adjustable vanes at 100 mm **LSD-AR+PLSD-R AA 1x558** constructed from aluminium and anodised in matt silver **AA**. With lateral circular connection plenum box and air flow damper in the spigot **PLSD-R**. Manufacturer **MADEL**.



slots	L ≤ 0,5		L ≤ 1		L ≤ 1,2		L ≤ 1,5		L ≤ 2		N	E
	H	D1	H	D1	H	D1	H	D1	H	D1		
1	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	69	68
2	256	1/158	256	1/158	256	1/158	256	2/158	256	2/158	108	107
3	296	1/198	296	1/198	296	2/198	296	2/198	296	2/198	147	147
4	296	1/198	296	1/198	296	2/198	296	2/198	296	2/198	186	186

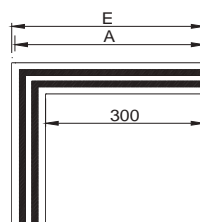


Dim. mm	LSD AR eur	LSD ARI/ARD eur	LSD INT eur	PLSD eur	PLSD-R eur	PLSD /AIS/ eur	PLSD-R /AIS/ eur	Lwa1 < 35 dB(A) m³/h	Lwa1 40 dB(A) m³/h	Lwa1 45 dB(A) m³/h
1x1000	37,56	33,63	29,66	55,74	67,60	75,24	87,11	80-110	130	150
1x1100	42,92	38,96	35,02	60,38	72,30	81,50	93,43	85-120	135	160
1x1200	43,38	39,42	35,46	61,15	73,06	82,55	94,44	95-125	145	165
1x1300	48,01	44,05	40,12	62,64	74,51	84,58	96,44	100-135	160	180
1x1400	48,48	44,52	40,56	63,98	75,84	86,37	98,21	110-150	175	200
1x1500	48,95	44,98	41,02	65,29	77,15	88,16	100,01	120-160	190	215
1x1600	58,64	54,67	50,74	76,52	100,26	103,31	127,03	125-175	205	240
1x1700	58,85	54,88	50,93	78,08	101,82	105,42	129,15	135-190	225	260
1x1800	59,11	55,16	51,19	81,43	105,16	109,93	133,64	140-205	240	280
1x1900	59,38	55,42	51,47	81,60	105,32	110,16	133,88	150-220	260	305
1x2000	59,63	55,66	51,70	81,72	105,44	110,32	134,05	160-235	275	325
2x1000	52,10	48,03	43,99	58,36	70,22	78,78	90,64	160-240	280	330
2x1100	57,79	53,76	49,72	62,07	73,94	83,79	95,66	170-250	290	340
2x1200	58,55	54,51	50,44	62,84	74,72	84,84	96,71	190-260	300	345
2x1300	65,41	61,37	57,30	69,23	92,93	93,45	117,15	205-285	330	380
2x1400	66,17	62,11	58,08	70,59	94,32	95,28	119,03	220-310	360	415
2x1500	66,90	62,86	58,80	71,88	95,58	97,04	120,75	235-335	390	450
2x1600	82,19	78,17	74,09	79,60	103,32	107,44	131,18	250-360	425	500
2x1700	82,67	78,61	74,56	81,17	104,92	109,57	133,32	265-390	460	545
2x1800	83,11	79,05	75,01	84,49	108,23	114,07	137,81	280-415	495	590
2x1900	83,59	79,54	75,47	84,66	108,38	114,28	138,01	300-445	530	635
2x2000	84,06	80,00	75,96	84,84	108,56	114,53	138,27	315-470	565	680
3x1000	67,50	63,35	59,21	61,75	74,27	83,37	95,90	235-325	375	430
3x1100	75,66	71,49	67,36	66,68	91,72	90,02	115,08	260-365	430	505
3x1200	76,67	72,55	68,39	67,58	92,70	91,23	116,35	280-405	485	580
3x1300	85,38	81,24	77,09	71,01	96,09	95,85	120,93	305-445	530	635
3x1400	87,45	83,29	79,16	72,66	97,76	98,10	123,20	330-480	580	690
3x1500	88,47	84,33	80,19	74,30	99,38	100,30	125,40	350-500	625	745
3x1600	107,00	102,85	98,70	83,91	108,98	113,27	138,34	375-550	660	785
3x1700	108,63	104,48	100,34	85,89	110,93	115,93	141,00	400-580	695	825
3x1800	109,30	105,15	101,00	90,09	115,16	121,63	146,70	425-610	730	865
3x1900	109,93	105,79	101,65	90,24	115,35	121,84	146,93	445-640	765	905
3x2000	110,62	106,48	102,36	90,41	115,47	122,06	147,11	470-670	795	945
4x1000	82,80	78,58	74,34	62,83	75,34	84,81	97,34	315-445	520	610
4x1100	92,84	88,61	84,41	67,97	93,05	91,74	116,84	345-475	580	540
4x1200	94,17	89,98	85,75	68,93	94,01	93,04	118,12	375-540	640	755
4x1300	106,14	101,94	97,70	75,76	100,82	102,28	127,34	410-595	710	840
4x1400	107,48	103,28	99,04	77,50	102,55	104,62	129,66	440-650	775	925
4x1500	108,83	104,62	100,38	79,18	104,25	106,88	131,95	470-705	845	1010
4x1600	132,64	128,47	124,24	87,41	112,50	118,00	143,08	500-750	900	1080
4x1700	133,57	129,37	125,12	89,36	114,43	120,64	145,72	530-795	960	1150
4x1800	135,42	131,18	126,97	93,64	118,68	126,39	151,44	565-840	1015	1220
4x1900	136,26	132,04	127,82	93,82	118,90	126,67	151,73	595-890	1070	1285
4x2000	137,13	132,93	128,69	93,97	119,08	126,87	151,97	625-935	1130	1355
1x558 *	30,58	-	-	47,26	59,11	63,79	75,64	45-60	80	95
1x633 *	34,07	-	-	51,52	63,37	69,56	81,40	50-70	89	95
1x1158 *	43,42	-	-	61,15	73,06	82,55	94,44	92-130	165	165
2x558 *	35,59	-	-	49,16	61,00	66,36	78,21	90-125	160	190
2x633 *	43,86	-	-	53,75	65,60	72,55	84,40	100-140	175	190
2x1308 *	66,15	-	-	70,59	94,31	95,28	119,02	205-285	365	380
3x558 *	46,30	-	-	50,37	62,89	67,99	80,50	130-185	235	280
3x1158 *	76,68	-	-	67,58	92,70	91,23	116,35	275-385	480	520
3x1308 *	87,44	-	-	72,66	97,76	98,10	123,20	305-430	550	635
4x558 *	59,87	-	-	50,76	63,29	68,53	81,07	175-245	315	355
4x633 *	71,36	-	-	56,79	69,34	76,67	89,20	200-275	355	380
4x1158 *	94,16	-	-	68,93	93,99	93,04	118,11	370-510	650	695

(\*) Diffusers with special lenght for modular border instalation. Sizes 600 675 or 1200.

A90/LSD

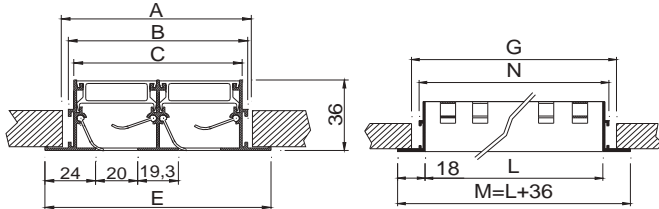
(*)	eur
A90/LSD-1	94,32
A90/LSD-2	118,30
A90/LSD-3	146,12
A90/LSD-4	176,11
/AB/	3%
(PM)	14,30



Nº VÍAS	E	A
1	368	358
2	407	397
3	447	437
4	486	476

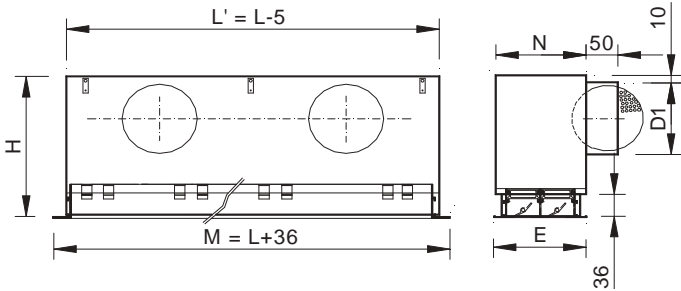
# Linear slot diffusers

## Technical data



Nº VÍAS	E	A	B	C
1	68	55	47	40
2	107	95	86	80
3	147	134	125	119
4	186	173	165	159

L	M	N	G
500	536	507	516
1000	1036	1007	1016
1200	1236	1207	1216
1500	1536	1507	1516
2000	2036	2007	2016



slots	L ≤ 0,5		L ≤ 1		L ≤ 1,2		L ≤ 1,5		L ≤ 2		N	E
	H	D1	H	D1	H	D1	H	D1	H	D1		
1	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	69	68
2	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	108	107
3	296	1/198	296	1/198	296	2/198	296	2/198	296	2/198	147	147
4	296	1/198	296	1/198	296	2/198	296	2/198	296	2/198	186	186



## Description

Linear slot diffuser with directional vanes to be used from 2,6 up to 4 metres high. Diffuser constructed from aluminium and vanes also from aluminium in black colour.

**LNG-AR** Diffuser with end borders included. Suitable for lengths ≤ 2 m.

...-**ARI** Diffuser with an end border on the left side, required to form lines > 2 m.

...-**ARD** Diffuser with an end border on the right side, required to form lines > 4 m.

...-**INT** Diffuser without end borders, required to form lines > 4 m. (in case of needing sections of equal length, it must be indicated)

## Accessories

**PLSD** Plenum box with lateral connection.

...-**R** Air flow damper in the spigot.

.../**AIS**/ Thermal insulation inside.

**A90/LNG** Inactive angle at 90°.

## Fixing

(**D**) Brackets for suspension to the ceiling of the diffuser without plenum box.

(**PL**) Brackets for suspension from the ceiling of the diffuser screwed to the plenum box.

(**PM**) Crossbars for installation of the diffuser without plenum box in false ceiling (supplement \*)

## Finishes

**AA** Matt silver anodised.

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../**AB**/ Vanes in white (supplement \*)

## Specification Text

Supply and mounting of linear slot diffuser with directional vanes series **LNG-AR+PLSD-R AA 1x558** constructed from aluminium and anodised in matt silver **AA**. With lateral circular connection plenum box and air flow damper in the spigot **PLSD-R**. Manufacturer **MADEL**.

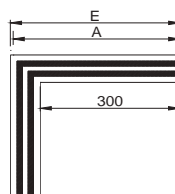




Dim. mm	LNG AR eur	LNG ARI/ARD eur	LNG INT eur	PLSD eur	PLSD-R eur	PLSD /AIS/ eur	PLSD-R /AIS/ eur	Lwa1 < 35 dB(A) m³/h	Lwa1 40 dB(A) m³/h	Lwa1 45 dB(A) m³/h
1x1000	45,76	41,92	38,06	55,74	67,60	75,24	87,11	80-110	130	150
1x1100	50,50	46,68	42,83	60,38	72,30	81,50	93,43	85-120	135	160
1x1200	51,31	47,44	43,61	61,15	73,06	82,55	94,44	95-125	145	165
1x1300	56,64	52,80	48,93	62,64	74,51	84,58	96,44	100-135	160	180
1x1400	57,41	53,55	49,72	63,98	75,84	86,37	98,21	110-150	175	200
1x1500	58,16	54,30	50,45	65,29	77,15	88,16	100,01	120-160	190	215
1x1600	69,89	66,00	62,19	76,52	100,26	103,31	127,03	125-175	205	240
1x1700	70,39	66,56	62,72	78,08	101,82	105,42	129,15	135-190	225	260
1x1800	70,89	67,01	63,19	81,43	105,16	109,93	133,64	140-205	240	280
1x1900	71,39	67,58	63,71	81,60	105,32	110,16	133,88	150-220	260	305
1x2000	71,89	68,07	64,22	81,72	105,44	110,32	134,05	160-235	275	325
2x1000	62,65	58,72	54,77	58,36	70,22	78,78	90,64	160-240	280	330
2x1100	69,82	65,86	61,94	62,07	73,94	83,79	95,66	170-250	290	340
2x1200	71,14	67,21	63,28	62,84	74,72	84,84	96,71	190-260	300	345
2x1300	82,75	78,85	74,87	69,23	92,93	93,45	117,15	205-285	330	380
2x1400	84,09	80,16	76,24	70,59	94,32	95,28	119,03	220-310	360	415
2x1500	85,43	81,49	77,56	71,88	95,58	97,04	120,75	235-335	390	450
2x1600	104,43	100,51	96,57	79,60	103,32	107,44	131,18	250-360	425	500
2x1700	105,41	101,47	97,55	81,17	104,92	109,57	133,32	265-390	460	545
2x1800	106,37	102,42	98,50	84,49	108,23	114,07	137,81	280-415	495	590
2x1900	107,34	103,39	99,48	84,66	108,38	114,28	138,01	300-445	530	635
2x2000	108,27	104,33	100,41	84,84	108,56	114,53	138,27	315-470	565	680
3x1000	86,15	82,11	78,12	61,75	74,27	83,37	95,90	235-325	375	430
3x1100	94,38	90,38	86,34	66,68	91,72	90,02	115,08	260-365	430	505
3x1200	94,55	90,56	86,56	67,58	92,70	91,23	116,35	280-405	485	580
3x1300	110,93	106,87	102,84	71,01	96,09	95,85	120,93	305-445	530	635
3x1400	112,82	108,79	104,76	72,66	97,76	98,10	123,20	330-480	580	690
3x1500	114,67	110,66	106,66	74,30	99,38	100,30	125,40	350-500	625	745
3x1600	139,04	135,02	130,99	83,91	108,98	113,27	138,34	375-550	660	785
3x1700	140,44	136,42	132,40	85,89	110,93	115,93	141,00	400-580	695	825
3x1800	141,84	137,81	133,76	90,09	115,16	121,63	146,70	425-610	730	865
3x1900	143,24	139,24	135,20	90,24	115,35	121,84	146,93	445-640	765	905
3x2000	144,69	140,68	136,63	90,41	115,47	122,06	147,11	470-670	795	945
4x1000	106,82	102,68	98,60	62,83	75,34	84,81	97,34	315-445	520	610
4x1100	114,77	110,66	106,58	67,97	93,05	91,74	116,84	345-475	580	540
4x1200	117,28	113,18	109,12	68,93	94,01	93,04	118,12	375-540	640	755
4x1300	137,56	133,47	129,33	75,76	100,82	102,28	127,34	410-595	710	840
4x1400	140,02	135,93	131,82	77,50	102,55	104,62	129,66	440-650	775	925
4x1500	142,48	138,42	134,30	79,18	104,25	106,88	131,95	470-705	845	1010
4x1600	173,51	169,40	165,33	87,41	112,50	118,00	143,08	500-750	900	1080
4x1700	175,35	171,27	167,15	89,36	114,43	120,64	145,72	530-795	960	1150
4x1800	177,16	173,09	169,00	93,64	118,68	126,39	151,44	565-840	1015	1220
4x1900	179,04	174,97	170,88	93,82	118,90	126,67	151,73	595-890	1070	1285
4x2000	180,93	176,85	172,74	93,97	119,08	126,87	151,97	625-935	1130	1355
1x558 *	34,86	-	-	47,26	59,11	63,79	75,64	45-60	80	95
1x633 *	43,11	-	-	51,52	63,37	69,56	81,40	50-70	89	95
1x1158 *	51,31	-	-	61,15	73,06	82,55	94,44	92-130	165	165
2x558 *	45,03	-	-	49,16	61,00	66,36	78,21	90-125	160	190
2x633 *	58,10	-	-	53,75	65,60	72,55	84,40	100-140	175	190
2x1308 *	84,09	-	-	70,59	94,31	95,28	119,02	205-285	365	380
3x558 *	58,10	-	-	50,37	62,89	67,99	80,50	130-185	235	280
3x1158 *	94,55	-	-	67,58	92,70	91,23	116,35	275-385	480	520
3x1308 *	112,82	-	-	72,66	97,76	98,10	123,20	305-430	550	635
4x558 *	71,09	-	-	50,76	63,29	68,53	81,07	175-245	315	355
4x633 *	94,19	-	-	56,79	69,34	76,67	89,20	200-275	355	380
4x1158 *	117,28	-	-	68,93	93,99	93,04	118,11	370-510	650	695

(\*) Diffusers with special lenght for modular border instalation. Sizes 600 675 or 1200.

(*)	eur
A90/LNG-1	112,15
A90/LNG-2	142,44
A90/LNG-3	184,22
A90/LNG-4	224,54
/AB/	3%
(PM)	14,30



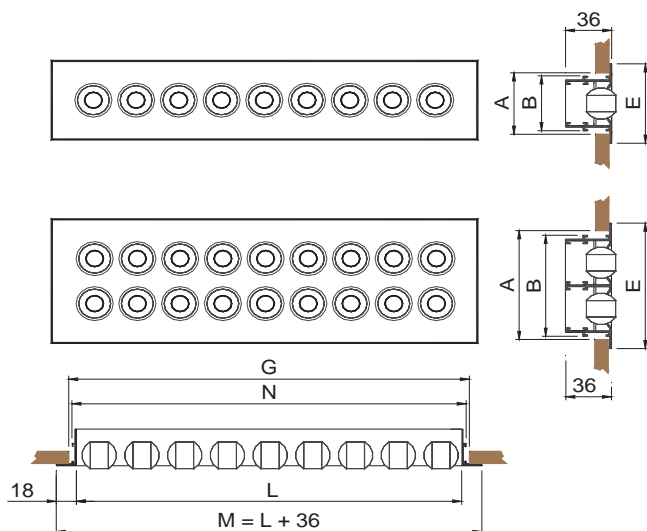
A90/LNG

Nº VÍAS	E	A
1	368	358
2	407	397
3	447	437
4	486	476

# Micro-jet nozzles linear diffusers

Lievore,  
Altherr  
& Molina

## Technical data



	E	A	B	C
KIS 1	68	55	47	40
KIS 2	107	95	86	80

L	M	N	G
500	536	507	516
1000	1036	1007	1016
1200	1236	1207	1216
1500	1536	1507	1516
2000	2036	2007	2016



## Description

Micro-jet nozzles linear diffusers, giving complete flexibility of direction, suitable for wall or ceiling mounting. Diffuser constructed from aluminium and nozzles from PP.

- KIS-AR** Diffuser with end borders included. Suitable for lengths ≤ 2 m.
- ...-ARI** Diffuser with an end border on the left side, required to form lines > 2 m.
- ...-ARD** Diffuser with an end border on the right side, required to form lines > 2 m.
- ...-INT** Diffuser without end borders, required to form lines > 4 m. (in case of needing sections of equal length, it must be indicated)

## Accessories

- PLSD** Plenum box with lateral connection.
- ...-R** Air flow damper in the spigot.
- .../AIS/** Thermal insulation inside.

## Fixing

- (D)** Brackets for suspension to the ceiling of the diffuser without plenum box.
- (PL)** Brackets for suspension from the ceiling of the diffuser screwed to the plenum box.
- (PM)** Crossbars for installation of the diffuser without plenum box in false ceiling (supplement \*)

## Finishes (Indicate nozzle color: white or black)

- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- R9006M** Painted aluminium colour RAL 9006 matt (20-30% gloss)
- R9005M** Painted in black RAL 9005 matt (20-30% gloss)
- RAL...** Painted in other RAL colours : see INFO page.

## Specification Text

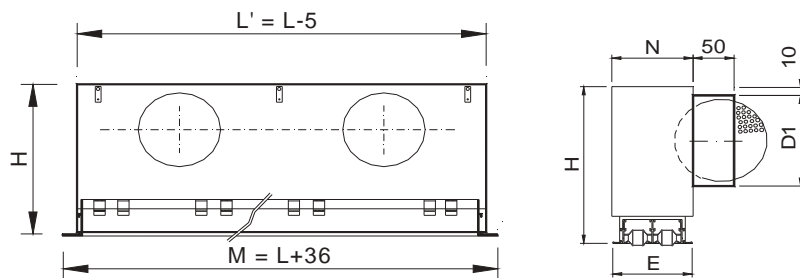
Supply and mounting of linear diffuser with micro-jet nozzles adjustable in all directions series **KIS-AR+PLSD-R R9016S 1x1000** constructed from aluminium paint in white RAL 9016 (60-70% gloss) with lateral connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



Dim. mm	KIS AR eur	KIS ARI/ARD eur	KIS INT eur	PLSD eur	PLSD-R eur	PLSD /AIS/ eur	PLSD-R /AIS/ eur	Lwa1 < 35 dB(A) m³/h	Lwa1= 40 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
1x500	37,63	35,94	34,33	45,90	57,74	61,96	73,81	20	45	55
1x558	38,88	37,21	35,58	47,26	59,11	63,79	75,64	25	48	60
1x600	40,63	38,98	37,32	48,95	60,82	66,10	77,96	27	57	67
1x700	43,65	41,99	40,37	50,63	62,53	68,35	80,25	30	65	80
1x800	46,68	45,02	43,38	52,35	64,22	70,66	82,54	35	75	90
1x900	49,70	48,05	46,40	54,04	65,92	72,95	84,84	40	85	100
1x1000	52,73	51,10	49,44	55,74	67,60	75,25	87,11	43	95	115
1x1100	55,73	54,10	52,44	60,38	72,30	81,51	93,43	48	105	125
1x1200	58,77	57,12	55,48	61,15	73,06	82,55	94,45	52	115	135
1x1300	62,70	61,04	59,39	62,64	74,51	84,57	96,44	56	125	150
1x1400	65,71	64,09	62,41	63,98	75,84	86,37	98,22	60	133	160
1x1500	68,73	67,08	65,45	65,29	77,15	88,16	100,01	65	143	170
1x1600	71,75	70,10	68,47	76,52	100,26	103,31	127,03	69	153	180
1x1700	74,77	73,12	71,48	78,08	101,82	105,42	129,15	74	162	190
1x1800	77,80	76,15	74,52	81,43	105,16	109,93	133,67	78	173	200
1x1900	80,81	79,17	77,54	81,60	105,32	110,15	133,88	82	182	215
1x2000	83,84	82,20	80,57	81,72	105,44	110,32	134,05	86	190	225
2x500	51,86	49,90	47,91	47,75	59,55	64,46	76,27	40	95	115
2x558	54,14	52,16	50,18	49,16	61,00	66,37	78,21	43	96	120
2x600	57,46	55,49	53,53	50,86	62,70	68,66	80,49	52	115	135
2x700	63,09	61,09	59,12	52,53	64,38	70,93	82,76	60	135	160
2x800	68,66	66,70	64,73	54,26	66,06	73,24	85,06	70	150	180
2x900	74,26	72,30	70,29	55,93	67,77	75,51	87,35	78	170	205
2x1000	79,86	77,86	75,90	58,36	70,22	78,78	90,64	86	190	225
2x1100	85,45	83,47	81,50	62,07	73,94	83,80	95,67	95	210	248
2x1200	91,04	89,08	87,09	62,84	74,72	84,83	96,71	104	230	270
2x1300	97,54	95,56	93,60	69,23	92,93	93,45	117,15	112	250	295
2x1400	103,13	101,18	99,18	70,59	94,32	95,29	119,03	122	266	315
2x1500	108,73	106,77	104,80	71,88	95,58	97,05	120,75	130	286	340
2x1600	114,35	112,37	110,39	79,60	103,32	107,46	131,19	139	306	360
2x1700	119,93	117,96	115,98	81,17	104,92	109,57	133,32	148	324	385
2x1800	125,53	123,54	121,58	84,49	108,23	114,07	137,80	157	346	405
2x1900	131,12	129,14	127,18	84,66	108,38	114,28	138,00	165	364	430
2x2000	136,73	134,75	132,80	84,84	108,56	114,53	138,25	174	380	452

(*)	eur
(PM)	14,30

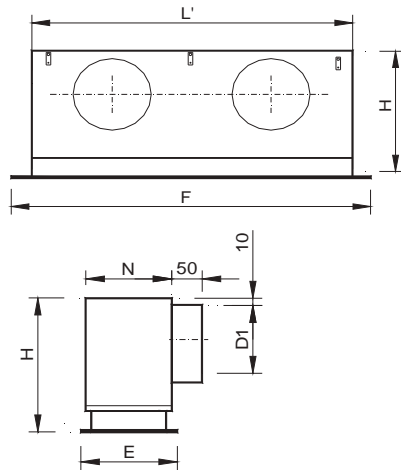
PLSD



	0,5 < L < 1,2		1,3 < L < 1,5		1,6 < L < 2		N	E
	H	D1	H	D1	H	D1		
KIS 1	256	1/158	256	1/158	256	1/158	69	68
KIS 2	256	1/158	256	1/158	256	1/158	108	107

**Modular linear diffusers**

**Technical data**



MOD	SLOTS	F	E	L'	H	D1	N
1200x300	1	1195	295	1145	256	1/158	69
1200x300	2	1195	295	1145	256	1/158	108
1200x300	3	1195	295	1145	296	2/198	147
1200x300	4	1195	295	1145	296	2/198	186
1350x300	1	1345	295	1295	256	1/158	69
1350x300	2	1345	295	1295	256	1/158	108
1350x300	3	1345	295	1295	296	2/198	147
1350x300	4	1345	295	1295	296	2/198	186



**Description**

Linear diffusers LSD & LNG specially designed to be mounted in modular ceilings.

**LSD-MOD** Modular LSD linear diffuser.

**LNG-MOD** Modular LNG linear diffuser.

**Accessories**

**PLSD** Plenum box with lateral connection.

**...-R** Air flow damper in the spigot.

**.../AIS/** Thermal insulation inside.

**Fixing**

**(D)** Support brackets to hang from the ceiling.

**Finishes**

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

**.../AB/** Vanes in white (supplement \*)

**Specification Text**

Supply and mounting of linear slot diffuser with sectored vanes

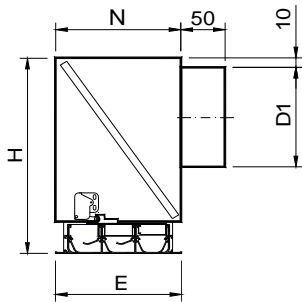
**LNG-MOD+PLSD-R R9010 1200x600** constructed from aluminium and painted white in RAL 9010 (60-70% gloss) with lateral circular plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

(*)	
/AB/	3%

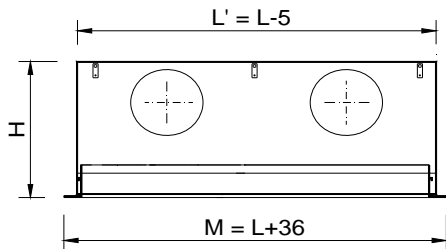
Dim.	LSD-MOD	LNG-MOD	PLSD	PLSD-R	PLSD	PLSD-R	Lwa1	Lwa1=	Lwa1=
mm	eur	eur	eur	eur	/AIS/	/AIS/	< 35 dB(A)	40 dB(A)	45 dB(A)
					eur	eur	m³/h	m³/h	m³/h
1-1200x300	81,48	89,40	55,74	67,60	75,24	87,11	85-120	135	160
2-1200x300	96,66	109,24	62,07	73,94	83,79	95,66	170-250	290	340
3-1200x300	114,77	132,64	61,75	74,27	83,37	95,90	260-365	430	505
4-1200x300	132,27	155,35	62,83	75,34	84,81	97,34	345-475	580	680
<b>1-1350x300</b>	<b>82,70</b>	<b>90,61</b>	<b>61,15</b>	<b>73,06</b>	<b>82,55</b>	<b>94,44</b>	<b>100-135</b>	<b>160</b>	<b>180</b>
2-1350x300	97,87	110,47	62,84	74,72	84,84	96,71	205-285	330	380
3-1350x300	115,99	133,86	67,58	92,70	91,23	116,35	305-445	530	635
4-1350x300	133,49	156,58	68,93	94,01	93,04	118,12	410-595	710	840

# LNG linear diffusers for air return

## Technical data



	N	E
3	147	147
4	186	186



	L ≤ 0,5		L ≤ 1		L ≤ 1,2		L ≤ 1,5	
	H	D1	H	D1	H	D1	H	D1
3	296	1/198	296	1/198	296	2/198	296	2/198
4	296	1/198	296	1/198	296	2/198	296	2/198



## Description

Linear slot diffuser with directional blades for air return, removable without tools by pressing on the invisible PUSH fastener.

**LRT** linear diffuser for air return with lateral conexión plenum Filter (K/8 clase EN 779 G3) included.

...-AR Diffuser with end borders included. Suitable for lengths ≤ 1,5 m.

...-ARI Diffuser with an end border on the left side, required to form lines > 1,5 m.

...-ARD Diffuser with an end border on the right side, required to form lines > 1,5 m.

...-INT Diffuser without end borders, required to form lines > 3 m. (in case of needing sections of equal length, it must be indicated)

## Accessories

**AIS** Plenum box with thermal insulation inside.

## Fixing

**(D)** Support brackets to hang LRT from the ceiling.

## Finishes

**AA** Matt silver anodised.

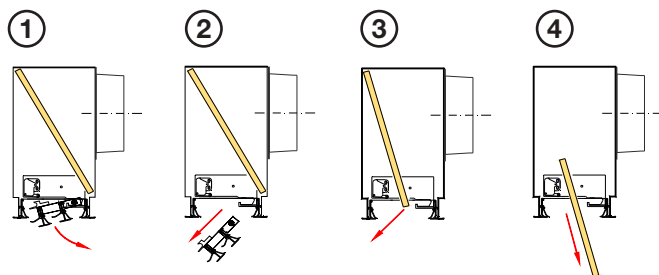
**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

.../AB/ Vanes in white (supplement \*)



## Specification Text

Supply and mounting of linear slot diffuser with directional blades with plenum and filter, for air return, removable without tools by pressing PUSH fastener **LRT-AR R9016S 3x1000**, constructed from aluminium and painted white RAL 9016 (60-70% gloss) Manufacturer **MADEL**.

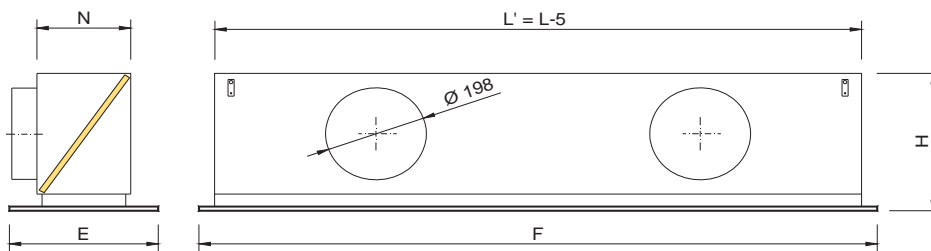


Dim. mm	LRT-AR eur	LRT-ARI LRT-ARD eur	LRT-INT eur	LRT-AR /AIS/ eur	LRT-ARI /ARD /AIS/ eur	LRT-INT /AIS/ eur	Lwa1 <35 dB(A) m³/h	Lwa1= 40 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
3x1000	232,91	228,88	224,86	253,15	249,13	245,13	235-330	425	490
3x1100	247,57	243,58	239,53	269,44	265,45	261,43	260-360	465	505
3x1200	250,25	246,27	242,24	272,44	268,43	264,42	280-395	510	580
3x1300	271,44	267,40	263,36	294,74	290,69	286,66	305-430	550	635
3x1400	276,53	272,54	268,50	300,39	296,37	292,34	330-460	590	690
3x1500	281,60	277,55	273,54	305,98	301,95	297,93	650-495	635	745
4x1000	255,22	251,11	247,01	275,83	271,73	267,65	315-440	565	610
4x1100	269,90	265,79	261,71	292,18	288,09	284,02	345-480	620	540
4x1200	274,99	270,92	266,82	297,62	293,54	289,44	375-525	680	755
4x1300	303,36	299,26	295,13	328,21	324,12	319,97	410-570	735	840
4x1400	309,12	305,03	300,92	334,55	330,47	326,35	440-615	790	925
4x1500	314,87	310,78	306,67	340,85	336,77	332,64	470-660	845	1010
3x558	188,72	-	-	205,22	-	-	130-185	235	280
3x633	212,43	-	-	230,81	-	-	150-210	265	285
3x1158	248,62	-	-	270,81	-	-	275-385	480	520
3x1308	274,91	-	-	298,75	-	-	305-430	550	635
4x558	202,55	-	-	219,19	-	-	175-245	315	355
4x633	231,45	-	-	250,08	-	-	200-275	355	380
4x1158	273,33	-	-	295,93	-	-	370-510	650	695
4x1308	307,41	-	-	332,87	-	-	410-570	735	840

Dim. mm	LRT MOD 1200x300 eur	LRT /AIS/ MOD 1200x300 eur	Lwa1 < 35 dB(A) m³/h	Lwa1= 40 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
3	287,85	319,06	275-385	480	520
4	312,56	344,20	370-510	650	695

Dim. mm	LRT MOD 1350x300 eur	LRT /AIS/ MOD 1350x300 eur	Lwa1 < 35 dB(A) m³/h	Lwa1= 40 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
3	314,45	349,08	305-430	550	635
4	346,33	382,54	410-570	735	840

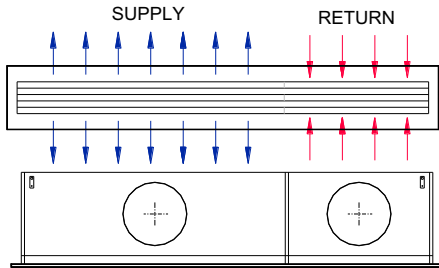
(°)	2%
/AB/	2%



	slots	F	E	L'	H	D1	N
LRT MOD 1200x300	3	1195	295	1145	296	2/198	147
LRT MOD 1200x300	4	1195	295	1145	296	2/198	186
LRT MOD 1350x300	3	1345	295	1345	296	2/198	147
LRT MOD 1350x300	4	1345	295	1345	296	2/198	186

# Supply-return linear slot diffusers

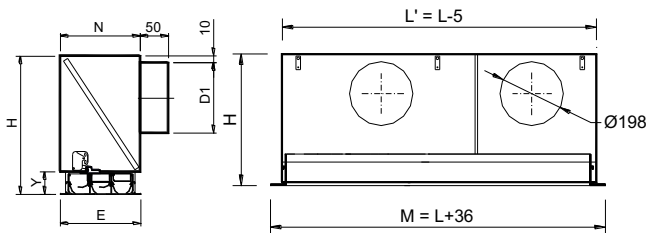
## Technical data



## Description

The linear diffusers of the LESS series have been designed to combine aesthetics and technical performance. It can be installed in a false ceiling or suspended from the ceiling. These diffusers allow the supply and return of air on the same unit, contributing to better architectural aesthetics and easy and quick installation, with a distribution of the diffuser of 60% supply and 40% return. LESS diffusers are suitable for CAV and VAV installations. These diffusers can be used from 2.6 up to 4 meters high and with a temperature differential up to 12° C. By adjusting the blades, you obtain a horizontal distribution of the air in one direction or another or in vertical projection without modifying the air volume. Diffusers accessible from the front without tools, by means of invisible PUSH system to access the return filter. from aluminium and deflection vanes from aluminium in black colour. Plenum box built in galvanized steel.

## LESS



slots	L	F	E	A	L'	H	Y	N	D1
3	1000	1036	147	135	995	296	66	147	198
4	1000	1036	186	174	995	296	66	186	198
5	1000	1036	225	213	995	296	66	225	198
6	1000	1036	264	252	995	296	66	264	198
3	1100	1136	147	135	1095	296	66	147	198
4	1100	1136	186	174	1095	296	66	186	198
5	1100	1136	225	213	1095	296	66	225	198
6	1100	1136	264	252	1095	296	66	264	198
3	1200	1236	147	135	1195	296	66	147	198
4	1200	1236	186	174	1195	315	50	186	248
5	1200	1236	225	213	1195	315	50	225	248
6	1200	1236	264	252	1195	315	50	264	248
3	1300	1336	147	135	1295	296	66	147	198
4	1300	1336	186	174	1295	315	50	186	248
5	1300	1336	225	213	1295	315	50	225	248
6	1300	1336	264	252	1295	315	50	264	248
3	1400	1436	147	135	1395	296	66	147	198
4	1400	1436	186	174	1395	315	50	186	248
5	1400	1436	225	213	1395	315	50	225	248
6	1400	1436	264	252	1395	315	50	264	248
3	1500	1536	147	135	1495	296	66	147	198
4	1500	1536	186	174	1495	315	50	186	248
5	1500	1536	225	213	1495	315	50	225	248
6	1500	1536	264	252	1495	315	50	264	248

**LESS** Linear diffuser for air supply and air return with side connection plenum and filter (K / 8 class EN 779 G3) incorporated.

**...-MOD** Modular linear diffuser. Specially designed to replace a false ceiling tile.

## Accessories

**.../AIS/** Plenu box with thermal insulation inside.

## Fixing

**(D)** Support brackets to hang from the ceiling.

## Finishes

**AA** Matt silver anodised (not available for MOD version)

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**R9016B** Painted white RAL 9016 glossy (85-95% gloss)

**RAL...** Painted in other RAL colours.

## Specification text

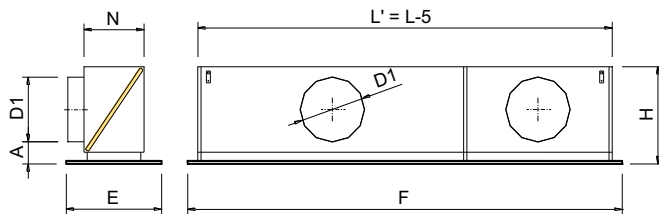
Supply and installation of linear diffuser for supply air return with side connection plenum and incorporated filter (K/8 class EN 779 G3), accessible from the front without tools, by means of invisible PUSH system, **LESS R9016S 3x1000**, series, made of aluminum and plenum galvanized steel; painted white color RAL 9016 (60-70% gloss) **MADEL** brand.

Dim.	LESS	LESS/AIS/	Lwa1	Lwa1=	Lwa1=
mm	eur	eur	<35 dB(A)	40 dB(A)	45 dB(A)
			m³/h	m³/h	m³/h
3x1000	222,18	244,89	186	226	254
3x1100	236,90	261,28	205	248	279
3x1200	233,43	258,11	223	271	304
3x1300	254,87	280,72	242	293	330
3x1400	259,70	286,11	260	316	355
3x1500	264,45	291,42	279	338	381
4x1000	245,59	268,69	248	301	338
4x1100	260,45	285,27	273	331	372
4x1200	259,48	284,63	298	361	406
4x1300	288,33	315,80	322	391	440
4x1400	293,86	321,33	347	421	474
4x1500	299,31	327,94	372	451	507
5x1000	269,42	292,87	310	376	423
5x1100	284,20	309,46	341	413	465
5x1200	285,70	311,32	372	451	507
5x1300	321,91	350,98	403	489	550
5x1400	323,95	352,47	434	526	592
5x1500	334,27	364,55	465	564	634
6x1000	293,22	317,04	372	451	507
6x1100	307,94	333,64	409	496	558
6x1200	311,93	337,99	446	541	609
6x1300	355,47	386,17	484	586	660
6x1400	354,02	383,58	521	631	710
6x1500	369,21	401,15	558	677	761

Dim.	LESS-MOD	LESS-MOD/AIS/	Lwa1	Lwa1=	Lwa1=
mm	1200x300	1200x300	<35 dB(A)	40 dB(A)	45 dB(A)
	eur	eur	m³/h	m³/h	m³/h
3	272,27	296,95	213	258	290
4	298,28	323,43	284	344	387
5	324,97	350,57	355	430	484
6	351,63	377,70	426	516	581

Dim.	LESS-MOD	LESS-MOD/AIS/	Lwa1	Lwa1=	Lwa1=
mm	1350x300	1350x300	<35 dB(A)	40 dB(A)	45 dB(A)
	eur	eur	m³/h	m³/h	m³/h
3	299,75	326,16	241	292	329
4	333,18	361,23	321	389	438
5	367,99	397,67	402	487	548
6	402,78	434,10	482	584	657

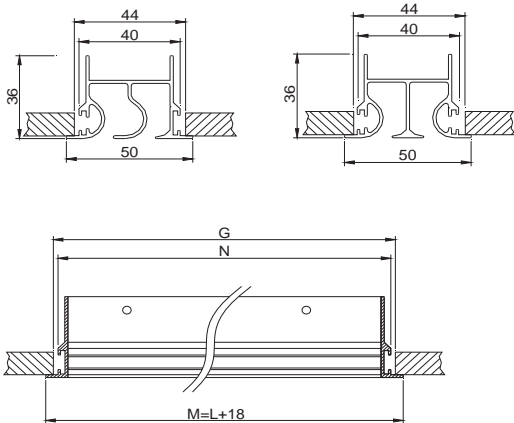
**LESS-MOD**



MOD	SLOTS	F	E	L'	H	D1	N	Y
1200x300	3	1195	295	1145	296	198	147	66
1200x300	4	1195	295	1145	315	248	186	50
1200x300	5	1195	295	1145	315	248	225	50
1200x300	6	1195	295	1145	315	248	264	50
1350x300	3	1345	295	1295	296	198	147	66
1350x300	4	1345	295	1295	315	248	186	50
1350x300	5	1345	295	1295	315	248	225	50
1350x300	6	1345	295	1295	315	248	264	50

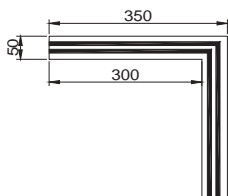
## Fixed linear slot diffusers with minimized frame

### Technical data



L	M	N	G
500	518	508	513
1000	1018	1008	1013
1200	1218	1208	1213
1500	1518	1508	1513
2000	2018	2008	2013

### A90/LOF & LAIF



### Description

Fixed linear slot diffuser to be used from 2,6 up to 4 m high. Fixed slots for air supply with ceiling effect in 1-way or 2-way depending on the model. Diffuser constructed from aluminium.

**LOF-AR** Diffuser for air supply in 1-way, end borders included.

Suitable for lengths ≤ 2 m.

**LAIF-AR** Diffuser for air supply in 2-way, end borders included.

Suitable for lengths ≤ 2 m.

**...-ARI** Diffuser with an end border on the left side, required to form lines > 2 m.

**...-ARD** Diffuser with an end border on the right side, required to form lines > 2 m.

**...-INT** Diffuser without end borders, required to form lines > 4 m. (in case of needing sections of equal length, it must be indicated)

### Accessories

**PLF** Plenum box with lateral connection.

**...-R** Air flow damper in the spigot.

**.../AIS/** Thermal insulation inside.

**A90/LOF&LAIF** Inactive angle at 90°.

### Fixing

**(D)** Support brackets to hang the diffuser LOF or LAIF from the ceiling or the diffuser riveted to the plenum box LOF or LAIF+PLF.

**(PM)** Set of crossbars for installation of the diffuser without plenum box in false ceiling or for installation of the diffuser to the plenum box (see prices in the table)

### Finishes

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

Supply and mounting of fixed linear slot diffuser for air supply with ceiling effect in 1-way series **LOF-AR (D)+PLF-R RAL9016S 2x1000** constructed from aluminium painted RAL 9016 (60-70% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

Dim. mm	LOF-AR LAIF-AR	LOF-ARI LAIF-ARD	LOF-INT LAIF-INT	(PM) eur	PLF eur	PLF-R eur	PLF /AIS/ eur	PLF-R /AIS/ eur	Lwa1 < 35 dB(A) m³/h	Lwa1= 40 dB(A) m³/h	Lwa1= 45 dB(A) m³/h
2x1000	33,00	32,07	31,16	9,72	55,74	67,60	75,24	87,11	100-140	165	210
2x1100	35,84	34,93	34,01	9,72	60,38	72,30	81,50	93,43	110-154	248	230
2x1200	36,83	35,91	35,00	9,72	61,15	73,06	82,55	94,44	120-168	198	252
2x1300	39,20	38,29	37,35	9,72	62,64	74,51	84,58	96,44	130-182	215	162
2x1400	41,05	40,15	39,22	9,72	63,98	75,84	86,37	98,21	140-196	231	294
2x1500	41,77	40,83	39,92	14,57	65,29	77,15	88,16	100,01	155-210	250	310
2x1600	46,63	45,70	44,79	14,57	76,52	100,26	103,31	127,03	167-225	268	333
2x1700	48,79	47,87	46,95	14,57	78,08	101,82	105,42	129,15	179-241	286	356
2x1800	49,13	48,23	47,31	14,57	81,43	105,16	109,93	133,64	191-257	304	379
2x1900	49,51	48,60	47,67	14,57	81,60	105,32	110,16	133,88	203-273	322	402
2x2000	50,19	49,26	48,36	14,57	81,72	105,44	110,32	134,05	215-288	340	425
2x558 *	26,35	-	-	9,72	47,26	59,11	63,79	75,64	55-78	92	117
2x633 *	31,59	-	-	9,72	54,22	66,04	73,20	85,03	63-88	104	132
2x1158 *	36,83	-	-	9,72	61,15	73,06	82,55	94,44	115-162	191	243
2x1308 *	41,05	-	-	9,72	63,98	75,84	86,37	98,21	130-183	215	274

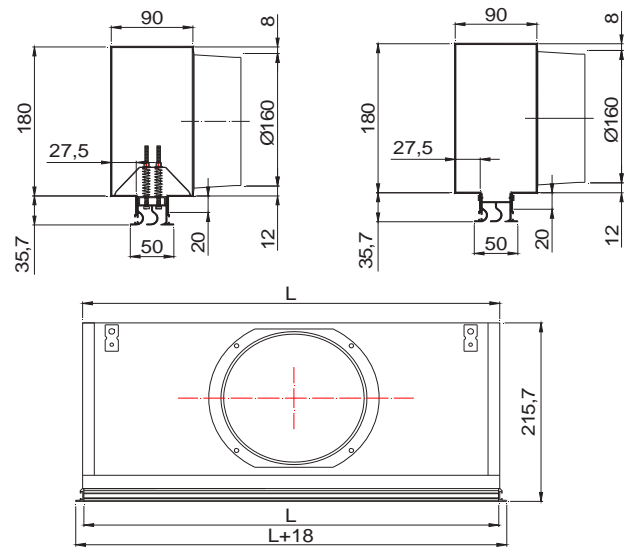
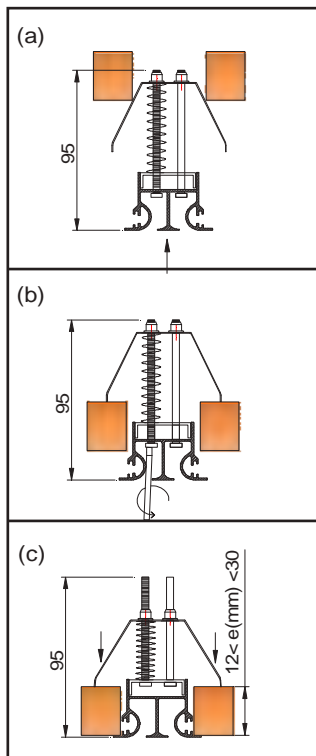
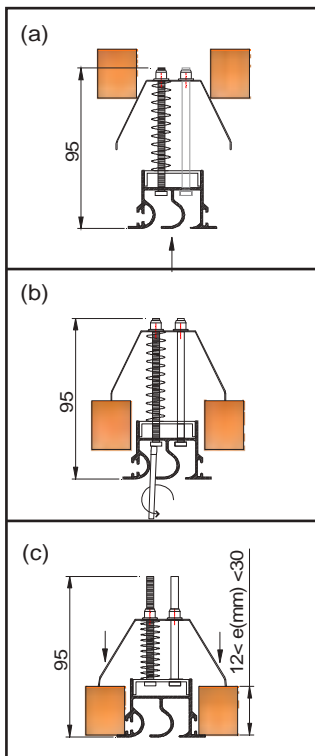
(*)	eur
A90/LOF - LAIF	100,75

(\*) Diffusers with special length for modular border installation. Sizes 600, 675 or 1200.

**LOF-AR (PM)**

**LAIF-AR (PM)**

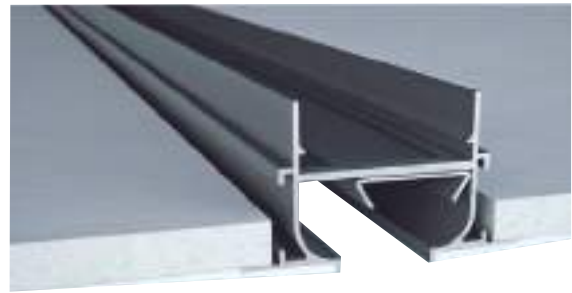
**LOF&LAIF-AR (PM) + PLF    LOF&LAIF-AR (D) + PLF**



LOF / LAIF			
L < 1500		L ≥ 1500	
n	Ø	n	Ø
1	160	2	160

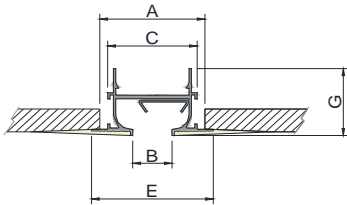


## Hidden linear diffusers



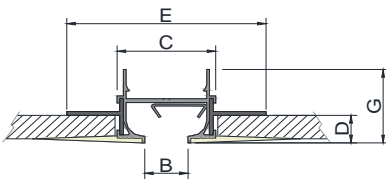
### Technical data

#### LOOK-CM



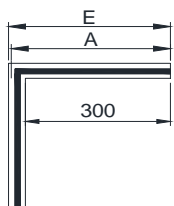
	A	B	C	G	E
20	55	20	47	38,2	63,5
30	84	30	76	45,2	97,3
40	94	40	86	45,2	107,3

#### LOOK-SM



	B	C	D	G	E
20	20	47	14	38,2	94,3
30	30	76	14	45,2	123,5
40	40	86	14	45,2	133,5

#### A90/LOOK-...



LOOK-CM	E	A
20	364	359
30	397	391
40	407	401

LOOK-SM	E	A
20	347	347
30	376	376
40	386	386

### Description

Linear slot diffuser with a directional vane to be used from 2,6 up to 4 metres high. Diffusers for ceiling mounting, hiding the frame with filler and leaving visible only the slot. Diffuser constructed from aluminium and vane from galvanised steel.

**LOOK-CM** Diffuser with large frame.

**LOOK-SM** Diffuser with short frame.

...-AR Diffuser suitable for lengths  $\leq 2$  m.

...-ARI / ARD Diffuser with an end border on the left or right side, required to form lines  $> 2$  m.

...-INT Diffuser without end borders, requires to form lines  $> 4$  m. (in case of needing sections of equal length, it must be indicated)

### Accessories

**PLOK-CM** Plenum box with lateral connection for LOOK-CM.

**PLOK-SM** Plenum box with lateral connection for LOOK-SM. Plenum box always riveted to the diffuser.

...-R Air flow damper in the spigot.

.../AIS/ Thermal insulation inside.

**A90/LOOK** Inactive angle at 90°.

### Fixing

**(D)** Support brackets to hang the diffuser LOOK-... from the ceiling or the diffuser riveted to the plenum box LOOK-...+PLOK-...

**(PM)** Set of crossbars for installation of LOOK-CM in the false ceiling or for mounting into a plenum box PLOK-CM.

**(L)** Support brackets to hang the diffuser LOOK-SM from the ceiling or the diffuser riveted to the plenum LOOK-SM+PLOK-SM.

### Finishes

**R9005M** Painted in black RAL 9005 matt (20-30% gloss)

**R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)

**R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)

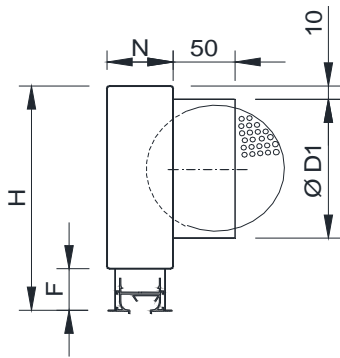
**RAL...** Painted in other RAL colours : see INFO page.

### Specification Text

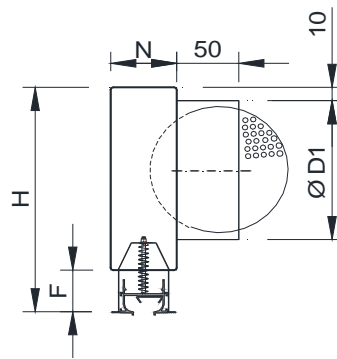
Supply and mounting of hidden linear slot diffuser with directional vane, series **LOOK-CM-AR+PLOK-CM-R R9005M 20x1000 (D)** constructed from aluminium and steel, paint in black RAL 9005 matt (20-30% gloss) with lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.



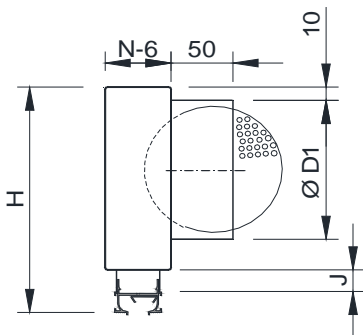
**LOOK-CM (D) + PLOK-CM...-R**



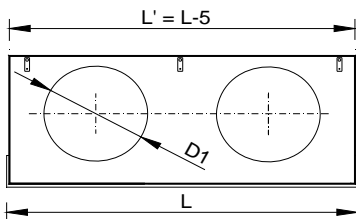
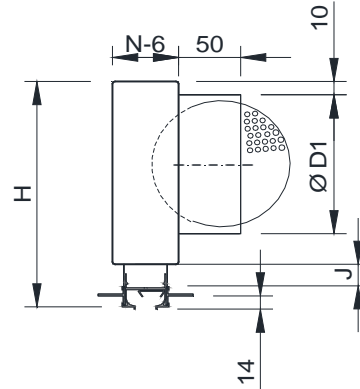
**LOOK-CM (PM) + PLOK-CM...-R**



**LOOK-SM (D) + PLOK-SM...-R**



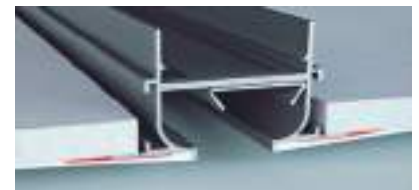
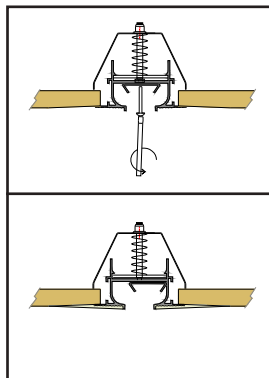
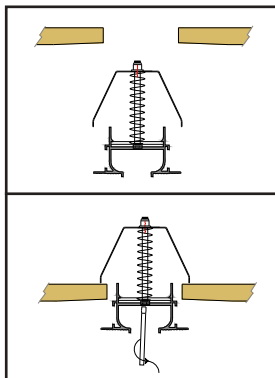
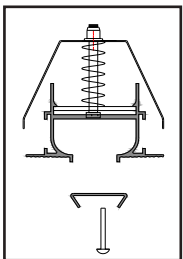
**LOOK-SM (L) + PLOK-SM...-R**



	L ≤ 0,5		L ≤ 1		L ≤ 1,2		L ≤ 1,5		L ≤ 2		N	F	J
	H	D1	H	D1	H	D1	H	D1	H	D1			
20	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	69	36	14,3
30	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	98	42	20,3
40	256	1/158	296	1/198	296	1/198	296	2/198	296	2/198	108	42	20,3

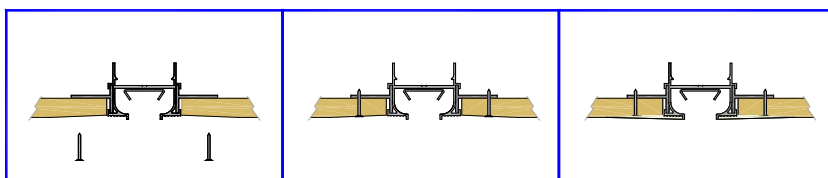
**LOOK-CM (PM)**

- 1) Remove deflector
- 2) Adjust Crossbar
- 3) Put deflector
- 4) Protect with anti-cracks tape and cover with filler the frame.



**LOOK-SM (L)**

- 1) Adjust and screw L



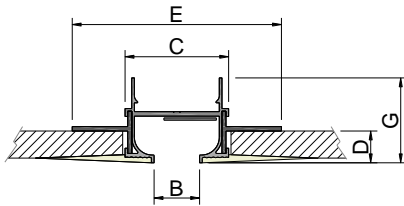
Dim.	LOOK-CM	LOOK-CM	LOOK-CM	PLOK-CM	PLOK-CM-R	PLOK-CM	PLOK-CM-R	(PM)	A90	Lwa1	Lwa1	Lwa1
mm	AR (D)	ARI / ARD (D)	INT (D)	eur	eur	/AIS/	/AIS/	eur	LOOK	< 35 dB(A)	40 dB(A)	45 dB(A)
	eur	eur	eur			eur	eur	eur	eur	m³/h	m³/h	m³/h
20x1000	38,22	38,29	37,81	55,74	67,60	75,24	87,11	9,72	101,59	120-140	170	210
20x1100	46,57	46,62	46,14	60,38	72,30	81,50	93,43	9,72	101,59	130-160	185	225
20x1200	47,76	47,80	47,35	61,15	73,06	82,55	94,44	9,72	101,59	140-170	200	240
20x1300	50,94	51,01	50,51	62,64	74,51	84,58	96,44	9,72	101,59	160-185	215	255
20x1400	52,17	52,24	51,74	63,98	75,84	86,37	98,21	9,72	101,59	170-195	230	275
20x1500	55,43	55,49	55,02	65,29	77,15	88,16	100,01	14,57	101,59	180-205	245	290
20x1600	60,57	60,62	60,14	76,52	100,26	103,31	127,03	14,57	101,59	190-220	260	310
20x1700	62,28	62,34	61,87	78,08	101,82	105,42	129,15	14,57	101,59	205-230	270	325
20x1800	63,49	63,52	63,05	81,43	105,16	109,93	133,64	14,57	101,59	215-240	290	345
20x1900	64,84	64,89	64,40	81,60	105,32	110,16	133,88	14,57	101,59	230-250	300	360
20x2000	65,45	65,51	65,02	81,72	105,44	110,32	134,05	14,57	101,59	240-260	310	375
30x1000	45,30	45,36	44,88	57,04	68,91	77,01	88,87	11,80	108,64	170-200	240	290
30x1100	53,88	53,93	53,47	61,35	73,24	82,82	94,72	11,80	108,64	195-215	260	310
30x1200	56,76	56,84	56,35	62,20	74,09	83,96	95,85	11,80	108,64	215-230	275	335
30x1300	59,38	59,43	58,97	65,94	77,82	89,01	100,89	11,80	108,64	220-245	300	355
30x1400	60,72	60,78	60,30	67,29	79,12	90,86	102,69	11,80	108,64	240-260	315	375
30x1500	64,85	64,90	64,42	68,58	80,44	92,59	104,44	17,71	108,64	255-280	340	400
30x1600	69,12	69,16	68,71	78,05	101,77	105,38	129,10	17,71	108,64	265-295	350	420
30x1700	70,78	70,85	70,38	79,64	103,36	107,52	131,23	17,71	108,64	275-310	370	450
30x1800	72,14	72,19	71,71	82,99	106,71	112,03	135,76	17,71	108,64	280-325	390	470
30x1900	73,42	73,47	73,00	83,28	106,98	112,41	136,11	17,71	108,64	300-340	400	490
30x2000	74,73	74,77	74,30	83,48	107,17	112,71	136,39	17,71	108,64	315-355	420	510
40x1000	45,73	45,78	45,30	58,36	70,22	78,78	90,64	11,80	109,08	205-235	280	325
40x1100	54,41	54,48	53,97	62,28	74,20	84,10	96,02	11,80	109,08	220-250	300	345
40x1200	57,31	57,38	56,89	63,26	75,13	85,40	97,27	11,80	109,08	245-270	325	380
40x1300	59,96	60,01	59,51	69,23	81,09	93,45	105,32	11,80	109,08	250-285	345	400
40x1400	61,30	61,37	60,86	70,59	82,41	95,28	107,11	11,80	109,08	270-310	360	425
40x1500	65,49	65,53	65,03	71,88	83,74	97,04	108,90	17,71	109,08	285-325	380	455
40x1600	69,81	69,86	69,36	79,60	103,32	107,44	131,18	17,71	109,08	290-340	405	480
40x1700	71,49	71,56	71,05	81,17	104,88	109,57	133,28	17,71	109,08	305-355	425	510
40x1800	72,84	72,88	72,40	84,56	108,28	114,14	137,89	17,71	109,08	310-365	450	530
40x1900	74,13	74,20	73,71	84,90	108,64	114,62	138,35	17,71	109,08	330-385	475	550
40x2000	75,47	75,49	75,01	85,21	108,93	115,05	138,75	17,71	109,08	345-405	495	580

Dim.	LOOK-SM	LOOK-SM	LOOK-SM	PLOK-SM	PLOK-SM-R	PLOK-SM	PLOK-SM-R	(L)	A90	Lwa1	Lwa1=	Lwa1=
mm	AR (D)	ARI / ARD (D)	INT (D)	eur	eur	/AIS/	/AIS/	eur	LOOK	< 35 dB(A)	40 dB(A)	45 dB(A)
	eur	eur	eur			eur	eur	eur	eur	m3/h	m3/h	m3/h
20x1000	37,44	37,49	37,03	55,74	67,60	75,24	87,11	0,77	101,59	120-140	170	210
20x1100	45,65	45,70	45,23	60,38	72,30	81,50	93,43	0,77	101,59	130-160	185	225
20x1200	46,80	46,85	46,38	61,15	73,06	82,55	94,44	0,77	101,59	140-170	200	240
20x1300	49,85	49,90	49,44	62,64	74,51	84,58	96,44	0,77	101,59	160-185	215	255
20x1400	51,02	51,09	50,61	63,98	75,84	86,37	98,21	0,77	101,59	170-195	230	275
20x1500	54,27	54,33	53,85	65,29	77,15	88,16	100,01	1,17	101,59	180-205	245	290
20x1600	59,13	59,21	58,72	76,52	100,26	103,31	127,03	1,17	101,59	190-220	260	310
20x1700	60,80	60,86	60,39	78,08	101,82	105,42	129,15	1,17	101,59	205-230	270	325
20x1800	61,98	62,03	61,54	81,43	105,16	109,93	133,64	1,17	101,59	215-240	290	345
20x1900	63,27	63,36	62,88	81,60	105,32	110,16	133,88	1,17	101,59	230-250	300	360
20x2000	63,87	63,92	63,44	81,72	105,44	110,32	134,05	1,17	101,59	240-260	310	375
30x1000	44,49	44,55	44,07	57,04	68,91	77,01	88,87	0,77	108,64	170-200	240	290
30x1100	52,97	53,03	52,56	61,35	73,24	82,82	94,72	0,77	108,64	195-215	260	310
30x1200	55,82	55,87	55,40	62,20	74,09	83,96	95,85	0,77	108,64	215-230	275	335
30x1300	58,27	58,33	57,86	65,94	77,82	89,01	100,89	0,77	108,64	220-245	300	355
30x1400	59,58	59,63	59,14	67,29	79,12	90,86	102,69	0,77	108,64	240-260	315	375
30x1500	63,65	63,73	63,24	68,58	80,44	92,59	104,44	1,17	108,64	255-280	340	400
30x1600	67,71	67,76	67,29	78,05	101,77	105,38	129,10	1,17	108,64	265-295	350	420
30x1700	69,33	69,38	68,93	79,64	103,36	107,52	131,23	1,17	108,64	275-310	370	450
30x1800	70,62	70,68	70,22	82,99	106,71	112,03	135,76	1,17	108,64	280-325	390	470
30x1900	71,86	71,92	71,46	83,28	106,98	112,41	136,11	1,17	108,64	300-340	400	490
30x2000	73,13	73,21	72,74	83,48	107,17	112,71	136,39	1,17	108,64	315-355	420	510
40x1000	44,95	45,00	44,50	58,36	70,22	78,78	90,64	0,77	109,08	205-235	280	325
40x1100	53,50	53,54	53,06	62,28	74,20	84,10	96,02	0,77	109,08	220-250	300	345
40x1200	56,37	56,41	55,92	63,26	75,13	85,40	97,27	0,77	109,08	245-270	325	380
40x1300	58,85	58,90	58,41	69,23	81,09	93,45	105,32	0,77	109,08	250-285	345	400
40x1400	60,17	60,21	59,72	70,59	82,41	95,28	107,11	0,77	109,08	270-310	360	425
40x1500	64,28	64,33	63,85	71,88	83,74	97,04	108,90	1,17	109,08	285-325	380	455
40x1600	68,38	68,43	67,95	79,60	103,32	107,44	131,18	1,17	109,08	290-340	405	480
40x1700	70,03	70,06	69,58	81,17	104,88	109,57	133,28	1,17	109,08	305-355	425	510
40x1800	71,33	71,38	70,89	84,56	108,28	114,14	137,89	1,17	109,08	310-365	450	530
40x1900	72,60	72,65	72,17	84,90	108,64	114,62	138,35	1,17	109,08	330-385	475	550
40x2000	73,87	73,92	73,45	85,21	108,93	115,05	138,75	1,17	109,08	345-405	495	580

## Hidden curved linear diffusers

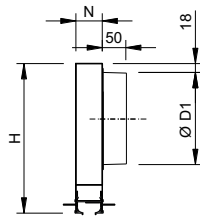
### Technical data

#### LOOK-CURVED



LOOK	B	C	D	G	E
20	20	47	14	38,2	94,3
30	30	76	14	45,2	123,5
40	40	86	14	45,2	133,5

#### LOOK-CURVED+PLOK-CURVED



LOOK	L ≤ 0,5		L ≤ 1		L ≤ 1,2		L ≤ 1,5		L ≤ 2		N
	H	D1	H	D1	H	D1	H	D1	H	D1	
20	240	1/158	240	1/158	240	1/158	240	1/158	240	1/158	42,5
30	240	1/158	240	1/158	240	1/158	240	1/158	240	1/158	72
40	280	1/198	280	1/198	280	1/198	280	1/198	280	1/198	82

### Finishes

- R9005M** Painted black RAL 9005 matt (20-30% gloss)
- R9016S** Painted white RAL 9016 semi-matt (60-70% gloss)
- R9010S** Painted white RAL 9010 semi-matt (60-70% gloss)
- RAL...** Painted other RAL colours.



### Description

Concealed frame curved linear diffusers designed to combine aesthetics with technical performance. Its assembly is carried out suspended from the false ceiling, hiding the frame with filler and leaving only the slot visible.

Suitable for both supply and return.

Minimum diameters of 2500 mm.

Flow variation of 60% maintaining the stability of the air jet.

Suitable for heights from 2.6 to 4 meters and with a temperature differential of up to 12° C.

**LOOK-CURVED** Curved linear diffuser with short frame and brackets for suspended ceiling. Factory adjustable deflector for outward, inward or vertical discharge.

...-AR Diffuser with end angles at both ends for arc length ≤ 2m..

...-ARD Diffuser with an end angle on the right side, to form curves with an arc length > 2m..

...-ARI Diffuser with an end angle on the left side and connecting plates on the right side, to form curves with arc length > 2m.

...-IND Curved diffuser without finishing angles and with connecting plates on the right side, to form arch lengths greater than 4m.

...-INI Curved diffuser without finishing angles and with connecting plates on the left side, to form arch lengths greater than 4m.

### Accessories

**PLOK-CURVED** Plenum box with connection to circular duct. Diffuser attached to plenum box with screws.

.../AIS/ Thermal insulation inside.

...-I Plenum box with connection on the concave side (inside)

...-O Plenum box with connection on the convex side (external)

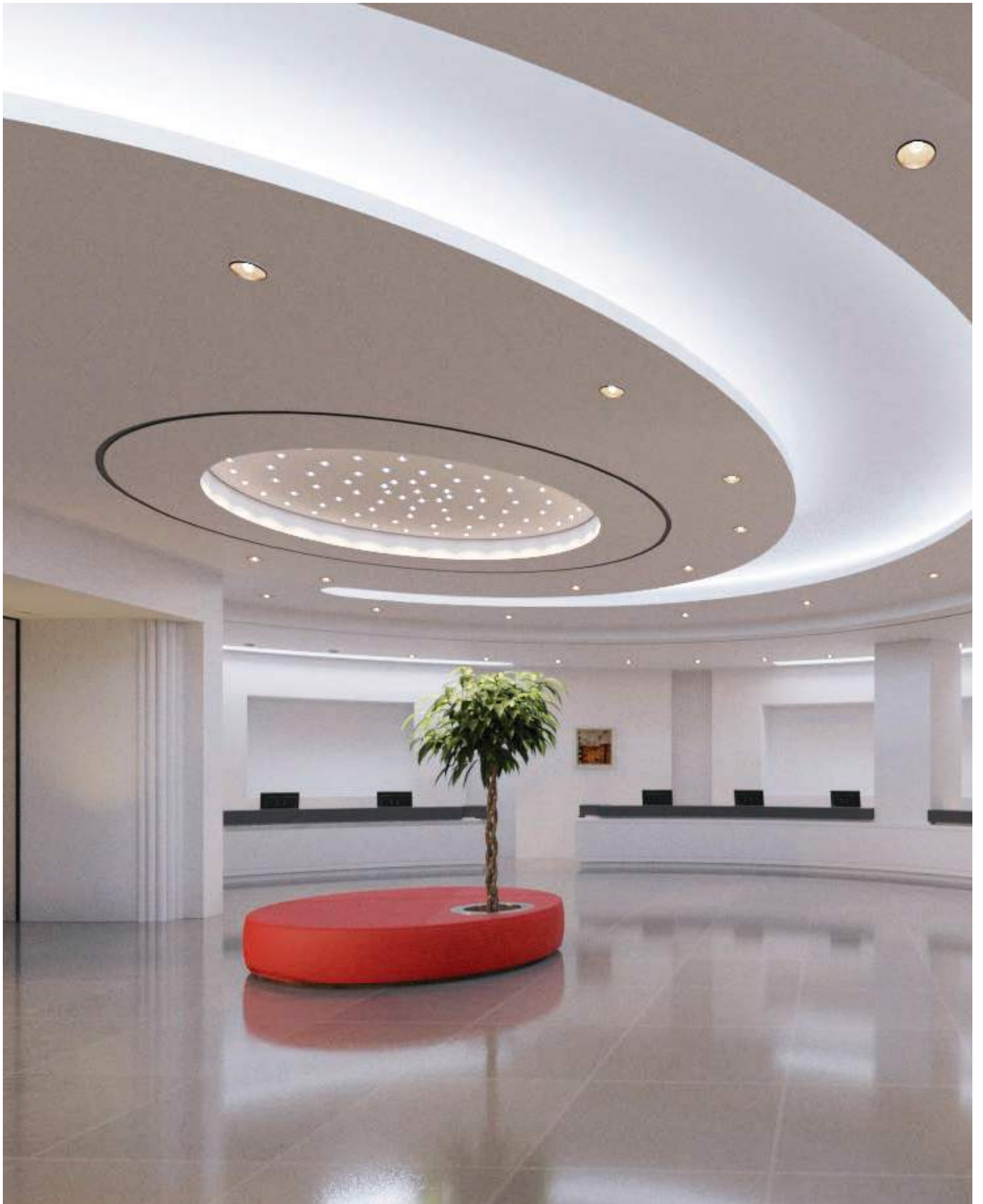
...-DR Plenum position on the right side of the diffuser.

...-IZ Plenum position on the left side of the diffuser.

...-C/L1 Remote plenum position L1 from the left side.

### Fixation

- 1) Suspension brackets in false ceiling for LOOK-CURVED with and without plenum box. The plenum box incorporates some pins for suspension by means of rods to the ceiling.





## Floor **diffusers**



Quality diffusion and proven resistance

Floor diffusers with dust collector for an easy maintenance

Floor grilles tested and classified

## **INDEX**

**139 TAU** aluminium floor diffusers

**140 LMT-SHD** linear floor grilles classified L15

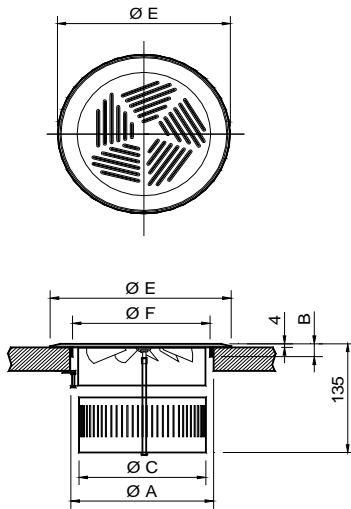
**141 LMT-S** linear floor grilles classified H1.5

# Aluminium floor diffusers



## Technical data

**TAU**



	A	E	F	C	B
150	150	190	140	132	19
200	200	240	190	182	19

### Description

Circular floor diffuser with sliding volume damper and dust collector. Designed for mounting either in the floor or under seat. Diffuser made from aluminium.

**TAU** Floor swirl diffuser made from aluminium for creating a turbulent vertical discharge, mixing the room air.

### Fixing

1) Fixing by screws supplied with the diffuser.

### Finishes

1) Natural aluminium.

**RAL...** Painted RAL colors, for non-passable areas: Consult.

### Specification Text

Supply and mounting of floor circular swirl diffuser with sliding volume damper and dust collector series **TAU dim. 150** constructed from natural aluminium. Manufacturer **MADEL**.



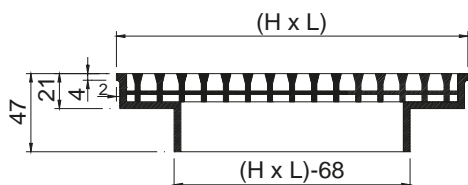
Dim.	TAU	Lwa1= < 25 dB(A)	Lwa1= 30 dB(A)	Lwa1= 35 dB(A)
mm	eur	m³/h	m³/h	m³/h
150	72,10	30-40	45	57
200	79,23	60-70	90	105

## Linear floor grilles classified L15

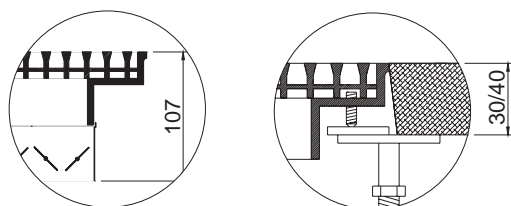


### Technical data

#### LMT-SHD



#### LMT-SHD+SP-HD 1)



### Description

Aluminium heavy-duty floor grilles with fixed bars for supply or air return. Suitable for mounting in raised access floors on any applications where heavy foot or equipment traffic is to be experienced.

L15 classification (installation in areas with traffic of light vehicles, excluded the forklift trucks, according to test carried out by a credited independent laboratory, in conformity with the standard EN 1253-2.

**LMT-SHD** Linear floor grille with fixed bars parallels to the largest side (L size)

### Accessories

**SP-HD** Opposed blades volume damper from electro-zinc steel, in black colour.

### Fixing

1) Adaptable to different floor thickness forwards four screws frontally accessible.

### Finishes

1) Shadowline – linished finish.

### Specification Text

Supply and mounting of linear floor grille with fixed bars parallels to the largest side series **LMT-SHD dim. LxH**, constructed from aluminium and shadowline – linished finish. L15 classification in conformity with the standard EN 1253-2. Manufacturer **MADEL**.

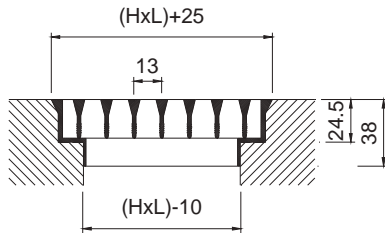
L x H mm	LMT-SHD eur	LMT-SHD+SP-HD eur	Vf= 0,5 m/s m³/h	Vf= 1,5 m/s m³/h	Vf= 3 m/s m³/h
600x145	130,03	146,58	36	108	216
600x210	155,83	175,16	67	200	400
600x275	181,53	203,50	99	297	594
600x340	208,42	232,42	130	389	777
600x405	233,70	260,50	160	481	961
600x470	259,94	292,86	191	572	1144
600x535	285,22	323,78	223	669	1339
600x600	332,47	365,97	254	761	1522
1000x145	202,68	236,96	63	189	378
1000x210	237,94	274,24	119	356	712
1000x275	270,99	310,36	173	518	1036
1000x340	307,41	355,45	238	712	1425
1000x405	346,13	394,02	283	847	1695
1000x470	387,10	437,81	337	1009	2020
1000x535	429,27	485,63	391	1171	2343
1000x600	478,23	534,64	484	1452	2905

## Linear floor grilles classified H1.5

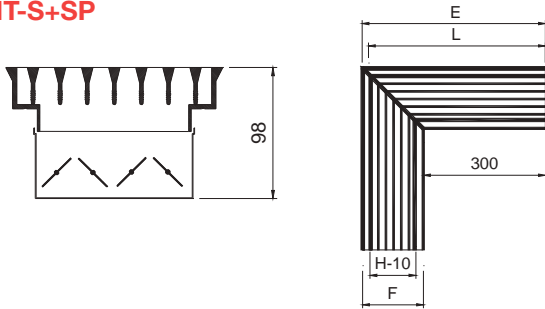


### Technical data

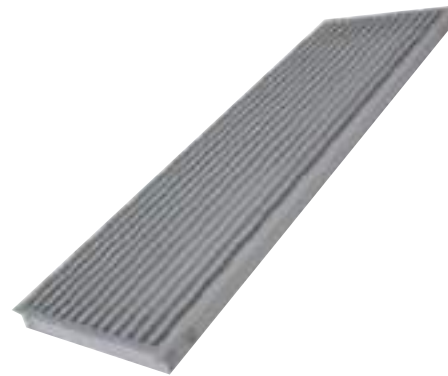
#### LMT-S



#### LMT-S+SP



H	E	L	F
75	400	387.5	100
100	425	412.5	125
125	450	437.5	150
150	475	462.5	175
200	525	512.5	225
250	575	562.5	275
300	625	612.5	325



### Description

Linear floor grilles in aluminium for supply or air return, with fixed bars parallels to the largest side (L size)

H1.5 classification (installation in perimeter areas, only walkable by people) according to test carried out by a credited independent laboratory, in conformity with the standard EN 1253-2.

**LMT-S** Linear floor grille with end borders and fixed bars at 0° for lengths ≤ 2 m.

**LMT-S-15** Grille with fixed bars at 15°.

...-**ARI** Grille with an end border on the left side, required to form lines > 2 m.

...-**ARD** Grille with an end border on the right side, required to form lines > 2 m.

...-**INT** Grille without end borders, required to form lines > 4 m.

### Accessories

**SP** Opposed blades volume damper from zinc plated steel, in black colour.

**A90/LMT-S** Inactive grille without end borders, making a 90° angle.

### Fixing

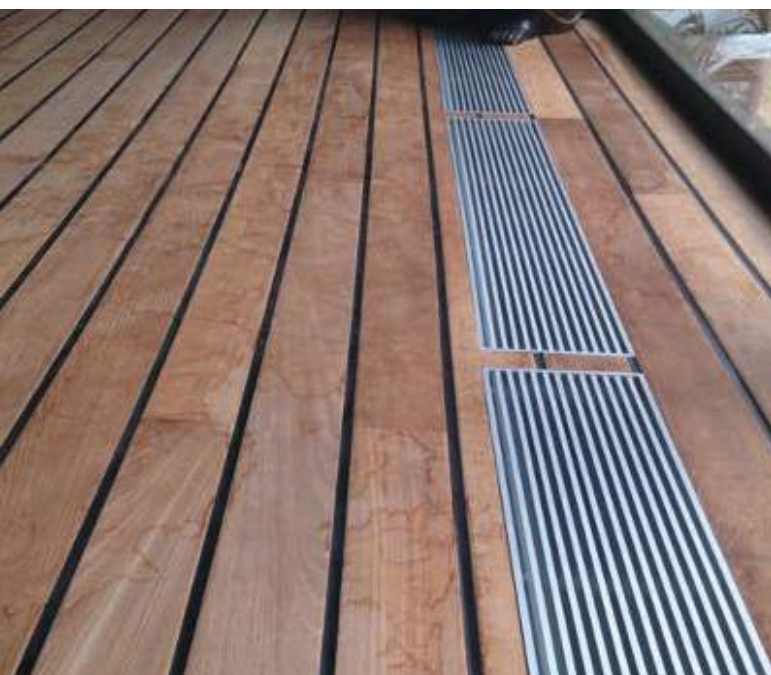
1) Hold on the floor.

### Finishes

**AA** Matt silver anodised.

### Specification Text

Supply and mounting of linear floor grille with fixed bars at 0° parallels to the largest side series **LMT-S AA dim. LxH**, constructed from aluminium and anodised in matt silver **AA**. H1,5 classification in conformity with the standard EN 1253-2. Manufacturer **MADEL**.



L x H	LMT-S	SP	Lwa1 < 35 dB(A)	Lwa1 = 45 dB(A)
mm	eur	eur	m³/h	m³/h
<b>200x75</b>	<b>23,92</b>	<b>7,02</b>	<b>45-75</b>	<b>110</b>
250x75	26,59	7,99	50-90	125
300x75	27,60	9,43	65-115	160
400x75	31,32	11,85	85-150	215
500x75	35,07	14,23	110-190	270
600x75	43,30	16,39	135-240	340
800x75	51,77	23,29	180-315	450
1000x75	62,26	28,03	230-405	575
A90/LMT-S-...x75	80,66	-	-	-
<b>200x100</b>	<b>26,40</b>	<b>7,02</b>	<b>60-100</b>	<b>145</b>
250x100	28,68	7,99	70-125	180
300x100	30,84	9,43	95-165	235
400x100	35,17	11,85	120-215	305
500x100	39,67	14,23	160-275	395
600x100	49,66	16,39	195-340	485
800x100	59,48	23,29	260-455	650
1000x100	72,00	28,03	325-565	810
A90/LMT-S-...x100	91,20	-	-	-
<b>200x125</b>	<b>28,94</b>	<b>7,68</b>	<b>70-130</b>	<b>180</b>
250x125	31,52	8,87	90-165	240
300x125	34,39	10,34	110-210	290
400x125	39,12	12,68	140-255	365
500x125	44,29	15,25	200-355	505
600x125	56,22	17,54	240-430	615
800x125	67,50	24,95	320-570	815
1000x125	81,81	29,89	400-710	1010
A90/LMT-S-...x125	101,85	-	-	-
<b>200x150</b>	<b>31,24</b>	<b>7,68</b>	<b>100-175</b>	<b>250</b>
250x150	34,23	8,87	130-225	325
300x150	37,10	10,34	165-290	415
400x150	42,87	12,68	215-380	540
500x150	48,74	15,25	275-480	685
600x150	67,14	17,54	330-580	830
800x150	75,03	24,95	445-780	1115
1000x150	91,70	29,89	560-985	1405
A90/LMT-S-...x150	112,06	-	-	-
<b>200x200</b>	<b>36,14</b>	<b>8,47</b>	<b>135-240</b>	<b>340</b>
250x200	39,82	9,65	180-315	450
300x200	43,70	11,06	225-390	560
400x200	50,84	13,50	295-515	740
500x200	58,09	16,28	375-655	935
600x200	75,23	18,85	455-795	1135
800x200	90,73	26,60	605-1060	1510
1000x200	111,62	31,98	765-1335	1910
A90/LMT-S-...x200	133,60	-	-	-
<b>250x250</b>	<b>46,76</b>	<b>10,57</b>	<b>225-390</b>	<b>560</b>
300x250	51,16	11,69	280-490	700
400x250	60,38	14,40	375-655	935
500x250	70,52	17,35	470-820	1170
600x250	91,92	20,11	570-995	1420
800x250	110,14	28,28	765-1335	1910
1000x250	136,33	34,12	960-1675	2395
A90/LMT-S-...x250	162,19	-	-	-
<b>300x300</b>	<b>57,66</b>	<b>12,59</b>	<b>340-590</b>	<b>845</b>
400x300	68,36	15,49	455-795	1135
500x300	79,96	18,73	570-995	1420
600x300	105,18	21,65	685-1195	1710
800x300	126,26	30,43	920-1615	2305
1000x300	156,76	36,80	1160-2030	2900
A90/LMT-S-...x300	183,91	-	-	-





## Air volume **control**

### The precise adjustment

SQR with cover gear to prevent the entry of dust

New constant air volume damper SKC

New variable air volume damper SVA

## INDEX

- 144 SCC** circular air volume dampers
- 145 SQR** rectangular air volume dampers
- 148 SVA-C** circular dampers
- 149 SVA-R** rectangular dampers
- 152 SKP** low pressure CAV dampers
- 153 SKC-C** adjustable CAV rectangular dampers
- 155 SKC-R** adjustable CAV circular dampers
- 157 SMS** pressure dampers

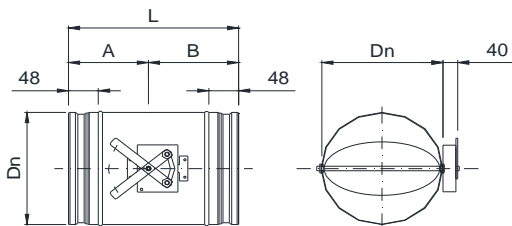
# Circular air volume dampers



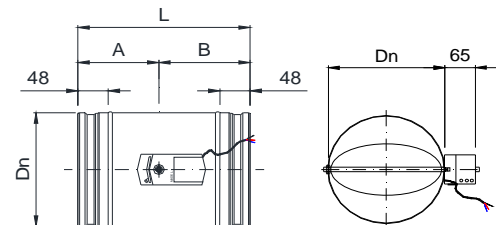
## Technical data



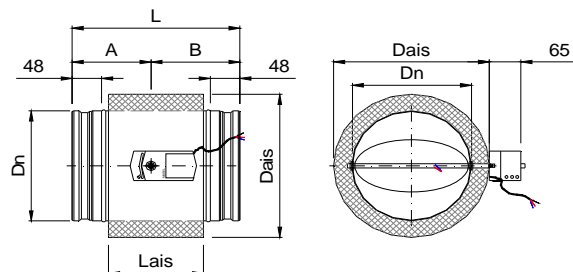
### SCC-../MA/



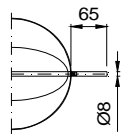
### SCC-../actuator



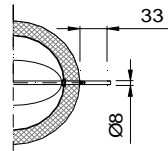
### SCC-../actuator/AIS/



### SCC-../MO/



### SCC-../MO/AIS/



D	Dn	Dais	L	Lais	A	B
100	98	178	265	150	105	160
125	123	203	265	150	105	160
150	148	228	265	150	105	160
160	158	238	265	150	105	160
200	198	278	295	180	130	165
250	248	328	335	220	145	190
315	313	393	345	230	155	190
355	353	433	400	285	180	220
400	398	478	420	305	190	230

## Description

Dampers to control the air flow volume and the pressure rate in circular ducts. Constructed from galvanised steel and bearings from nylon.

**SCC-R** Circular control damper.

**SCC-E** Circular control damper with air tightness joint according to EN-1751 standard and rubber connection joints.

.../MA/ Manual control lever.

.../MO/ Special axle to motorise.

.../AIS/ Thermo-acoustical insulation

## Accessories

See Volume control accessories page. Mounting included on actuators price.

## Fixing

1) Connection into a circular metallic duct.

## Specification Text

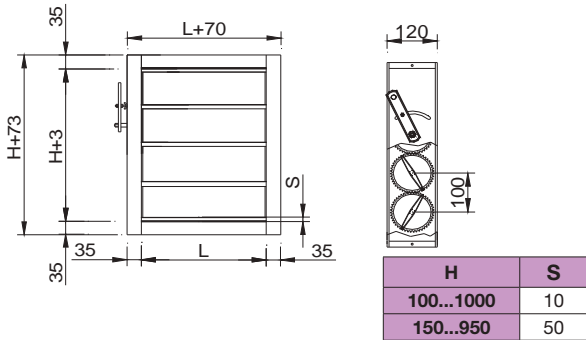
Supply and mounting of airtight damper to control the air flow volume in circular ducts with manual control lever series **SCC-MA dim. 100** constructed from galvanised steel bearings from nylon. Manufacturer **MADEL**.

Ø mm	actuator N	SCC-R eur	SCC-E eur	SCC-R /AIS/ eur	SCC-E /AIS/ eur	Ak m <sup>2</sup>
100	2	31,90	37,17	64,21	69,47	0,0078
125	2	33,52	38,89	68,40	73,76	0,0123
150	2	35,02	40,62	76,64	82,25	0,0176
160	2	35,13	40,89	76,75	82,52	0,0201
200	2	36,71	42,70	85,64	91,64	0,0314
250	5	38,29	44,63	98,41	104,74	0,0491
315	5	41,53	48,27	118,60	125,33	0,0779
355	5	47,16	54,44	141,88	149,16	0,0989
400	5	53,15	61,35	164,45	172,65	0,1244

# Rectangular air volume dampers

## Technical data

### SQR-...



## Description

Airtight dampers to control the air flow volume and the pressure rate in rectangular ducts. Dampers with blades of 100 mm, made from raw aluminium and gears from polyamide.

**SQR-H** Damper with rhomboidal profile blades, parallels to the largest side (L size)

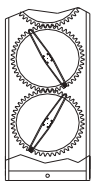
**SQR-V** Damper with rhomboidal profile blades, parallels to the shortest side (H size)

**SQR-CC** Square damper with rhomboidal profile blades and circular connections.

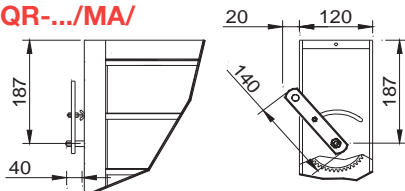
.../MA/ Damper with manual control lever.

.../MO/ Damper with special axle to motorise.

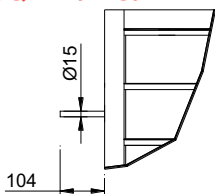
### SQR-...



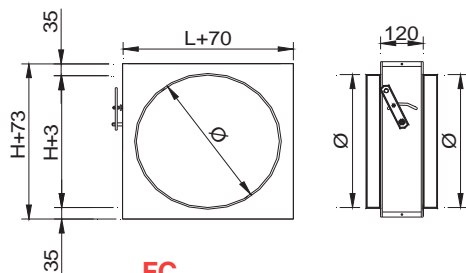
### SQR-.../MA/



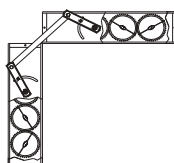
### SQR-.../MO/



### SQR-ECC



### FC



## Accessories

/FC/ Free-cooling kit for assembling 2 dampers at 90° (supplement\*)

See Volume control Accessories page.

Mounting included on actuators price.

## Fixing

1) Damper designed to be jointed in ducts.

(CR) Flat connection flange.

## Specification Text

Supply and mounting of airtight damper to control the air flow volume in rectangular ducts with manual control lever series

**SQR-H/MA/ LxH** constructed from raw aluminium and gears from polyamide. Manufacturer **MADEL**.

L x H mm	actuator N	SQR-H eur	SQR-V eur	SQR-H (CR) eur	SQR-V (CR) eur	L x H mm	actuator N	SQR-H eur	SQR-V eur	SQR-H (CR) eur	SQR-V (CR) eur
200x100	2 N	42,44	50,73	53,05	63,40	400x400	5 N	110,03	110,03	137,55	137,55
300x100	2 N	49,16	65,47	61,46	81,82	500x400	5 N	119,11	127,45	148,90	159,31
400x100	2 N	54,75	80,01	68,44	100,02	600x400	5 N	129,33	145,42	161,65	181,76
500x100	5 N	60,34	97,05	75,42	121,28	700x400	5 N	138,34	165,98	172,92	207,48
600x100	5 N	65,90	111,56	82,37	139,46	800x400	5 N	147,40	184,10	184,26	230,12
700x100	5 N	71,50	128,72	89,39	160,90	900x400	5 N	156,44	202,49	195,55	253,11
800x100	5 N	77,11	143,32	96,39	179,16	1000x400	5 N	166,62	220,21	208,27	275,28
900x100	5 N	82,62	158,28	103,29	197,85	1200x400	5 N	185,85	256,33	232,32	320,41
1000x100	5 N	85,96	172,56	107,45	215,69	1400x400	5 N	225,64	-	282,04	-
1200x100	5 N	99,46	201,74	124,32	252,19	1600x400	5 N	257,85	-	322,31	-
1400x100	5 N	139,75	-	174,69	-	1800x400	5 N	290,13	-	362,64	-
1600x100	5 N	158,83	-	198,54	-	2000x400	5 N	322,32	-	402,89	-
1800x100	5 N	179,66	-	224,58	-	500x500	5 N	139,99	139,99	174,98	174,98
2000x100	5 N	199,64	-	249,57	-	600x500	5 N	150,18	156,74	187,73	195,93
200x150	2 N	51,10	55,21	63,86	69,01	700x500	5 N	160,34	178,48	200,43	223,09
300x150	2 N	57,78	69,95	72,22	87,43	800x500	5 N	171,70	197,68	214,64	247,10
400x150	2 N	63,99	85,07	79,99	106,34	900x500	5 N	181,90	217,21	227,36	271,53
500x150	5 N	70,11	102,11	87,65	127,63	1000x500	5 N	193,19	236,10	241,48	295,13
600x150	5 N	76,31	117,17	95,39	146,48	1200x500	5 N	213,60	274,53	267,03	343,14
700x150	5 N	82,47	134,92	103,08	168,65	1400x500	5 N	268,60	-	335,76	-
800x150	5 N	88,62	150,12	110,79	187,66	1600x500	10 N	306,98	-	383,73	-
900x150	5 N	95,32	165,67	119,15	207,07	1800x500	10 N	345,37	-	431,70	-
1000x150	5 N	100,36	180,51	125,45	225,63	2000x500	10 N	383,74	-	479,67	-
1200x150	5 N	113,88	210,83	142,35	263,55	600x600	5 N	170,78	170,78	213,51	213,51
1400x150	5 N	163,33	-	204,17	-	700x600	5 N	182,13	190,89	227,66	238,62
1600x150	5 N	184,03	-	230,03	-	800x600	5 N	194,65	211,27	243,33	264,09
1800x150	5 N	203,47	-	254,34	-	900x600	5 N	205,97	232,01	257,46	290,01
2000x150	5 N	223,54	-	279,42	-	1000x600	5 N	218,44	252,01	273,05	315,00
200x200	2 N	59,73	59,73	74,68	74,68	1200x600	5 N	242,31	292,75	302,88	365,92
300x200	2 N	66,45	74,39	83,05	92,98	1400x600	10 N	311,60	-	389,48	-
400x200	2 N	73,21	90,14	91,52	112,66	1600x600	10 N	356,10	-	445,12	-
500x200	5 N	79,95	107,18	99,94	133,97	1800x600	10 N	400,63	-	500,80	-
600x200	5 N	86,72	122,86	108,40	153,57	2000x600	10 N	445,14	-	556,42	-
700x200	5 N	93,44	141,17	116,80	176,44	700x700	5 N	206,61	206,61	258,25	258,25
800x200	5 N	100,14	156,91	125,17	196,12	800x700	5 N	219,12	224,88	273,91	281,09
900x200	5 N	108,04	173,04	135,05	216,30	900x700	5 N	231,55	246,74	289,45	308,41
1000x200	5 N	114,80	188,42	143,51	235,53	1000x700	5 N	245,20	267,92	306,50	334,91
1200x200	5 N	128,25	219,96	160,30	274,94	1200x700	5 N	271,35	310,88	339,20	388,60
1400x200	5 N	182,63	-	228,28	-	1400x700	10 N	351,73	-	439,68	-
1600x200	5 N	208,74	-	260,94	-	1600x700	10 N	402,00	-	502,49	-
1800x200	5 N	234,84	-	293,55	-	1800x700	10 N	452,22	-	565,28	-
2000x200	5 N	260,95	-	326,19	-	2000x700	10 N	502,49	-	628,11	-
300x250	5 N	75,14	79,11	93,93	98,89	800x800	5 N	242,12	242,12	302,66	302,66
400x250	5 N	82,46	94,63	103,07	118,29	900x800	5 N	255,73	261,49	319,65	326,85
500x250	5 N	89,79	112,25	112,24	140,32	1000x800	10 N	270,52	283,81	338,15	354,76
600x250	5 N	97,08	128,51	121,34	160,64	1200x800	10 N	300,12	329,11	375,15	411,39
700x250	5 N	105,00	147,36	131,25	184,21	1400x800	10 N	397,44	-	496,78	-
800x250	5 N	112,30	163,69	140,38	204,62	1600x800	10 N	454,21	-	567,76	-
900x250	5 N	121,90	180,39	152,39	225,49	1800x800	15 N	510,95	-	638,69	-
1000x250	5 N	127,49	196,35	159,37	245,43	2000x800	15 N	567,75	-	709,68	-
1200x250	5 N	142,69	229,02	178,37	286,28	900x900	10 N	280,21	280,21	350,27	350,27
1400x250	5 N	182,63	-	228,28	-	1000x900	10 N	296,16	299,69	370,19	374,61
1600x250	5 N	187,87	-	234,84	-	1200x900	10 N	328,06	347,31	410,06	434,12
1800x250	5 N	234,84	-	293,55	-	1400x900	10 N	359,92	-	449,90	-
2000x250	5 N	260,95	-	326,19	-	1600x900	15 N	391,81	-	489,75	-
300x300	5 N	83,83	83,83	104,78	104,78	1800x900	15 N	423,70	-	529,62	-
400x300	5 N	91,71	99,10	114,64	123,88	2000x900	15 N	455,58	-	569,47	-
500x300	5 N	99,63	117,28	124,52	146,60	1000x1000	10 N	321,11	321,11	401,40	401,40
600x300	5 N	107,46	134,13	134,33	167,65	1200x1000	10 N	356,47	365,51	445,59	456,89
700x300	5 N	116,53	153,56	145,67	191,96	1400x1000	10 N	391,83	-	489,79	-
800x300	5 N	124,47	170,49	155,57	213,11	1600x1000	15 N	427,20	-	534,00	-
900x300	5 N	135,77	187,74	169,73	234,66	1800x1000	15 N	462,56	-	578,19	-
1000x300	5 N	140,21	204,32	175,25	255,39	2000x1000	15 N	497,83	-	622,27	-
1200x300	5 N	157,16	238,12	196,44	297,64	L x H mm	actuator N	SQR-CC eur			
1400x300	5 N	225,64	-	282,04	-	400	5 N	146,10			
1600x300	5 N	257,85	-	322,31	-	450	5 N	181,59			
1800x300	5 N	290,13	-	362,64	-	500	5 N	187,47			
2000x300	5 N	322,32	-	402,89	-	630	5 N	275,23			

(*)	eur
Kit FC	29,59

## Air volume control dampers accessories

ON/OFF actuators		eur
<b>GSD141.1A-24v</b>	Siemens On/Off 2N	107,68
<b>GSD141.1A-230v</b>	Siemens On/Off 2N	107,68
<b>GDB141.1E-24v</b>	Siemens On/Off 5N	123,39
<b>GDB341.1E-230v</b>	Siemens On/Off 5N	123,39
<b>GLB141.1E-24v</b>	Siemens On/Off 10N	159,30
<b>GLB341.1E-230v</b>	Siemens On/Off 10N	159,30
<b>GEB141.1E -24v</b>	Siemens On/Off 20N	215,27
<b>GEB341.1E -230v</b>	Siemens On/Off 20N	215,27
<b>LM24A</b>	Belimo On/Off 5N	139,75
<b>LM230A</b>	Belimo On/Off 230 VAC 5N	139,75
<b>NM24A</b>	Belimo On/Off 10N	167,50
<b>NM230A</b>	Belimo On/Off 10N	173,38

ON/OFF actuators with switches device		eur
<b>GDB146.1E-24v</b>	Siemens On/Off 5N, 2 FC	160,71
<b>GDB346.1E-230v</b>	Siemens On/Off 5N, 2 FC	160,71
<b>GLB146.1E-24v</b>	Siemens On/Off 10N, 2 FC	193,59
<b>GLB346.1E-230v</b>	Siemens On/Off 10N, 2 FC	193,59
<b>GEB146.1E -24v</b>	Siemens On/Off 15N 2 FC	256,93
<b>GEB346.1E -230v</b>	Siemens On/Off 15N 2 FC	256,93
<b>LM24A-S</b>	Belimo On/Off 5N, 1 FC (*)	157,70
<b>LM230A-S</b>	Belimo On/Off 5 N, 1 FC (*)	157,70
<b>NM24A-S</b>	Belimo On/Off 10N, 1 FC (*)	201,46
<b>NM230A-S</b>	Belimo On/Off 10N, 1 FC (*)	207,33

\* Belimo actuator with end of course switch for 2 contacts.

ON/OFF actuators with spring return		eur
<b>GPC121.1A-24v</b>	Siemens On/Off 4N	224,28
<b>GPC321.1A-230v</b>	Siemens On/Off 4N	245,63
<b>GMA121.1E-24v</b>	Siemens On/Off 7N	274,99
<b>GMA321.1E-230v</b>	Siemens On/Off 7N	300,13
<b>LF-24</b>	Belimo On/Off 4N	247,82
<b>LF-230</b>	Belimo On/Off 4N	266,43
<b>NFA</b>	Belimo On/Off 24-230 VAC, 10N	352,96

ON/OFF actuators with spring return and with switches device		eur
<b>GPC126.1A-24v</b>	Siemens On/Off 4N	262,38
<b>GPC326.1A-230v</b>	Siemens On/Off 4N	283,74
<b>GMA126.1E-24v</b>	Siemens On/Off 7N	311,92
<b>GMA326.1E-230v</b>	Siemens On/Off 7N	337,06
<b>LF-24-S</b>	Belimo On/Off 4N	281,68
<b>LF-230-S</b>	Belimo On/Off 4N	302,02
<b>NFA-S2</b>	Belimo 24-230 VAC On/Off 10N	402,52

Proportional actuators		eur
<b>GDB161.1E-24v</b>	Siemens proportional 5N	191,86
<b>GLB161.1E-24v</b>	Siemens proportional 10N	251,71
<b>GEB161.1E -24v</b>	Siemens proporcional 15N	312,44
<b>LM24A-SR</b>	Belimo proportional 5N	195,58
<b>LM230A-SR</b>	Belimo proportional 5N	248,15
<b>NM24A-SR</b>	Belimo proportional 10N	256,64
<b>NM230A-SR</b>	Belimo proportional 10N	311,49

Proportional actuators with MODBUS		eur
<b>GDB111.1E/MO-24v</b>	Siemens proportional 5N	289,29
<b>GLB111.1E/MO-24v</b>	Siemens proportional 10N	334,48
<b>LM24A-MOD</b>	Belimo proportional 5N	306,92
<b>NM24A-MOD</b>	Belimo proportional 10N	368,96

Temperature controllers		eur
<b>TF</b>	Delta-dore TYBOX 51 Thermostat	69,41
<b>RDG400</b>	Siemens RDG400 Room Thermostat	198,15
<b>CO2-WP</b>	Belimo 22-RTM-19-1 Room Sensor	287,31
<b>CO2-D</b>	Sistema S154/T+CO2 Duct Sensor	569,97
<b>CO2-WR</b>	Sistema S151W Room Controller	526,42
<b>CO2-WPD</b>	Belimo P-RTM-1900D-1 Room Sensor	473,38

**TF** Thermostat with cables for temperature control of 1 zone, using On/Off actuator. Manual seasonal change over.

**RDG 400** Proportional temperature controller ambiance 0..10Vcc power supply 24vac with backlit digital display, selector comfort eco/off, for proportional damper actuators.

**CO2-WP** Room sensor CO2 / Humidity / Temperature AC/DC Power supply. 0...5 V, 0...10 V, 2...10 V, MP-Bus outputs. Setting with NFC and Belimo App Display. Quality indicator by LED. Proportional actuator required.

**CO2-D** Duct mounting multiparametric sensor, T/HR/VOC and CO2. Power supply 230 V. 4 analogic outputs 0-10Vdc, Modbus RTU communication port. IP 66. Proportional actuator required.

**CO2-WR** Multiparametric Room controller, CO2/T. Power supply 230 VAC. 1 analogic output 0-10 Vdc and 2 configurable relay outputs (ON/OFF). Modbus RTU communication port. IP54. LCD display. ON/OFF or proportional actuators depending on the application.

**CO2-WPD** Room sensor CO2 / Humidity / Temperature AC/DC Power supply. 0...5 V, 0...10 V, 2...10 V, MP-Bus outputs. Setting with NFC and Belimo App Display. Quality indicator by LED and e-ink screen. Proportional actuator required.

NOTE:  
Ask for a technical specification related to configuration, cable connections and features of the accessories.



**SIEMENS**

**BELIMO**

**Modbus**

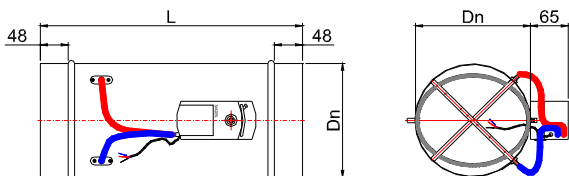


## Variable air volume circular dampers (VAV)



### Technical data

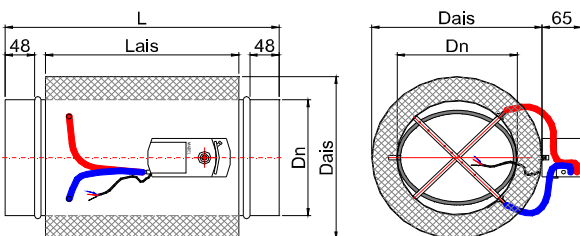
#### SVA-C



### Description

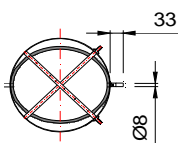
Circular air flow damper for VAV installations. They are used to adjust the air flow to a bypass or a room based on a 0-10v signal provided by a controller of temperature. The command signal sent by the controller position the actuator to control the flow of the need the enclosure. A foam seal inside the perimeter of the damper seals the air in case of total closure order according to EN-1751 standard. You can change a posteriori the flow  $V_{min}$  &  $V_{max}$  using a remote control. Galvanized steel housing, cross differential pressure measurement aluminum, connect in ABS and measuring tubes the actuator in red/blue silicone. Damper foam seal from EPDM.

#### SVA-C/AIS/



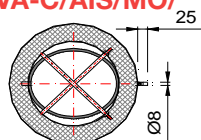
**SVA-C** Variable air flow circular damper. Maximum air flow ( $V_{max}$ ) and minimum ( $V_{min}$ ) setting calibrated at the factory according to customer specifications. In case  $V_{min}$  and  $V_{max}$  it is not specified on customer's order dampers will be calibrated according to Operating Limits specified on price table.

#### SVA-C/MO/



The dampers will be configured for a parallel , 0-10 V connection. In case of using of a Master/Slave, 2-10V, 3P or other control configuration must be indicated on the order.

#### SVA-C/AIS/MO/



D	Dn	Dais	L	Lais
100	98	178	350	250
125	123	203	350	250
160	158	238	400	300
200	198	278	400	300
250	248	328	450	350
315	313	393	500	400
355	353	433	550	450
400	398	478	600	500

.../MO/ Damper with special axle to motorise.

.../AIS/ Thermo-acoustical insulation.

### Accessories

See page Accessories VAV. Mounting and calibration is included on the actuators price.

### Specification Text

Supply and mounting of circular VAV damper with cross differential pressure measurement for adjusting the air flow, series **SVA-C/MO+GDB181.1E/3/ Diam (mm)  $V_{min}$   $V_{max}$** , mode of operation of the damper type Master and 0-10V proportional control. Galvanized steel housing, cross differential pressure from aluminum, ABS fittings, measuring tubes from silicone, damper foam seal from EPDM. Manufacturer **MADEL**.

### Fixing

1) Connection into a rectangular metallic duct.

### Note

(\*) Below the regulation Min flow, the VAV damper can be calibrated to  $V_{min}=0$

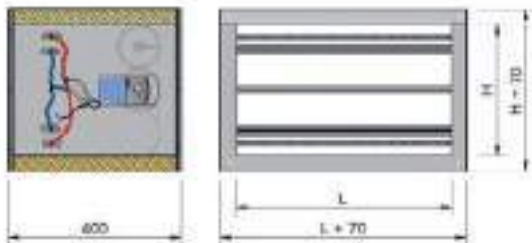
Ø mm	SVA-C /MO	SVA-C /MO/ /AIS/	SVA-C Siemens GDB181.1E/3	SVA-C /AIS/ Siemens GDB181.1E/3	SVA-C Belimo LMV-D3-MF	SVA-C /AIS/ Belimo LMV-D3-MF	Standard operating Airflow m³/h	Min - Max (*) Operating Airflow m³/h	Actuator min torque N
	eur	eur	eur	eur	eur	eur			
100	63,57	94,10	294,69	325,22	338,12	368,65	60 - 212	43 - 340	4 N
125	67,63	100,60	298,75	331,72	342,18	375,15	116 - 331	66 - 532	4 N
160	69,65	108,99	300,77	340,11	344,20	383,54	197 - 543	109 - 871	4 N
200	72,40	118,61	303,52	349,73	346,95	393,16	290 - 848	170 - 1361	4 N
250	77,70	134,54	308,82	365,66	352,25	409,09	520 - 1325	266 - 2126	4 N
315	82,99	155,83	314,11	386,95	357,54	430,38	745 - 2104	422 - 3375	4 N
355	91,20	180,73	322,32	411,85	365,75	455,28	950 - 2672	536 - 4287	4 N
400	98,31	203,52	329,43	434,64	372,86	478,07	1050 - 3393	680 - 5443	4 N

## Variable air volume rectangular dampers (VAV)

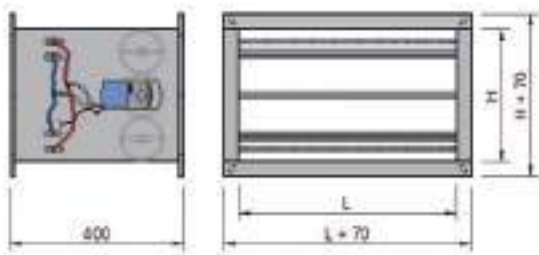


### Technical data

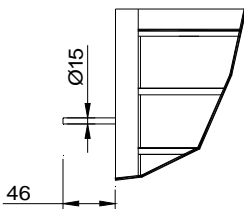
#### SVA-R/AIS/



#### SVA-R



#### SVA-R/.../MO/



### Description

Rectangular air flow damper for VAV installations. These dampers are used to adjust the air flow to a bypass or a room based on a 0-10 V signal provided by a controller of temperature. The command signal sent by the controller of the room, position the actuator to control the flow of the need the enclosure. A foam seal inside the perimeter of the damper seals the air in case of total closure order. You can change a posteriori the flow  $V_{min}$  and  $V_{max}$  using a remote control.

Galvanized steel housing, cross differential pressure measurement aluminum, connect in ABS and measuring tubes the actuator in red / blue silicone. Damper foam seal from EPDM.

**SVA-R** Variable air volume rectangular damper. Maximum air flow ( $V_{max}$ ) and minimum ( $V_{min}$ ) setting calibrated at the factory according to customer specifications. In case  $V_{min}$  and  $V_{max}$  it is not specified on customer's order dampers will be calibrated according to OPERATING LIMITS specified on price table.

The dampers will be configured for a parallel , 0-10 V connection. In case of using of a Master/Slave, 2-10V, 3P or other control configuration must be indicated on the order.

- .../MO/ Damper with special axle to motorise
- .../AIS/ Thermo-acoustical insulation

### Accessories

See page Accessories VAV. Mounting and calibration is included on the actuators price.

### Fixing

- 1) Connection into a rectangular metallic duct.

### Specification Text

Supply and mounting of rectangular VAV damper with cross differential pressure measurement for adjusting the air flow, series **SVA-R/MO+GDB181.1E/3/ LxH (mm)  $V_{min}$   $V_{max}$** , mode of operation of the damper type Master and 0-10 V proportional contro. Galvanized steel housing, cross differential pressure measurement aluminum, connect in ABS and measuring tubes the actuator in red / blue silicone. Damper foam seal from EPDM. Manufacturer **MADÉL**.



LxH	SVA-R/MO	SVA-R/MO/AIS	SVA-R Siemens GDB181.1E/3	SVA-R /AIS/ Siemens GDB181.1E/3	SVA-R Belimo LMV-D3-MF	SVA-R /AIS/ Belimo LMV-D3-MF	Standard operating Airflow m³/h	Min - Max (*) Operating Airflow m3/h	Actuator min torque N
mm	eur	eur	eur	eur	eur	eur			
200x100	109,66	138,17	340,78	369,29	384,21	412,72	144-540	108-720	4 N
200x150	116,13	144,29	347,25	375,41	390,68	418,84	216-810	162-1080	4 N
200x200	121,92	157,99	353,04	389,11	396,47	432,54	288-1080	216-1440	4 N
<b>300x100</b>	<b>118,59</b>	<b>150,91</b>	<b>349,71</b>	<b>382,03</b>	<b>393,14</b>	<b>425,46</b>	<b>215-810</b>	<b>162-1080</b>	<b>4 N</b>
300x150	121,82	157,51	352,94	388,63	396,37	432,06	325-1215	243-1620	4 N
300x200	132,12	171,96	363,24	403,08	406,67	446,51	435-1620	324-2160	4 N
300x250	135,34	178,57	366,46	409,69	409,89	453,12	540-2025	405-2700	4 N
300x300	157,94	206,11	389,06	437,23	432,49	480,66	648-2430	486-3240	4 N
<b>400x100</b>	<b>122,65</b>	<b>160,32</b>	<b>353,77</b>	<b>391,44</b>	<b>397,20</b>	<b>434,87</b>	<b>288-1080</b>	<b>216-1440</b>	<b>4 N</b>
400x150	126,36	167,45	357,48	398,57	400,91	442,00	430-1620	324-2160	4 N
400x200	137,12	182,45	368,24	413,57	411,67	457,00	575-2160	432-2880	4 N
400x250	140,85	189,56	371,97	420,68	415,40	464,11	720-2700	540-3600	4 N
400x300	164,45	218,31	395,57	449,43	439,00	492,86	864-3240	648-4320	4 N
400x400	183,08	245,46	414,20	476,58	457,63	520,01	1155-4320	864-5760	4 N
<b>500x100</b>	<b>129,96</b>	<b>171,39</b>	<b>361,08</b>	<b>402,51</b>	<b>404,51</b>	<b>445,94</b>	<b>360-1350</b>	<b>270-1800</b>	<b>4 N</b>
500x150	134,19	179,03	365,31	410,15	408,74	453,58	540-2025	405-2700	4 N
500x200	145,60	194,69	376,72	425,81	420,15	469,24	720-2700	540-3600	4 N
500x250	149,83	202,30	380,95	433,42	424,38	476,85	900-3375	675-4500	4 N
500x300	174,84	232,47	405,96	463,59	449,39	507,02	1080-4050	810-5400	4 N
500x400	194,79	261,30	425,91	492,42	469,34	535,85	1440-5400	1080-7200	4 N
500x500	219,13	292,91	450,25	524,03	493,68	567,46	1800-6750	1350-9000	4 N
<b>600x100</b>	<b>134,88</b>	<b>181,71</b>	<b>366,00</b>	<b>412,83</b>	<b>409,43</b>	<b>456,26</b>	<b>432-1620</b>	<b>324-2160</b>	<b>4 N</b>
600x150	139,61	189,87	370,73	420,99	414,16	464,42	648-2430	486-3240	4 N
600x200	151,46	206,07	382,58	437,19	426,01	480,62	865-3240	648-4320	4 N
600x250	156,19	214,20	387,31	445,32	430,74	488,75	1080-4050	810-4320	4 N
600x300	181,33	244,65	412,45	475,77	455,88	519,20	1295-4860	972-6480	4 N
600x400	202,27	274,30	433,39	505,42	476,82	548,85	1730-6480	1296-8640	4 N
600x500	228,12	307,89	459,24	539,01	502,67	582,44	2160-8100	1620-10800	4 N
600x600	244,70	332,24	475,82	563,36	519,25	606,79	2595-9720	1944-12960	4 N
<b>700x100</b>	<b>138,91</b>	<b>191,18</b>	<b>370,03</b>	<b>422,30</b>	<b>413,46</b>	<b>465,73</b>	<b>504-1890</b>	<b>378-2520</b>	<b>4 N</b>
700x150	144,15	199,81	375,27	430,93	418,70	474,36	755-2835	567-3780	4 N
700x200	156,45	216,58	387,57	447,70	431,00	491,13	1010-3780	756-5040	4 N
700x250	161,70	225,21	392,82	456,33	436,25	499,76	1260-4725	945-6300	4 N
700x300	187,87	256,88	418,99	488,00	462,42	531,43	1515-5670	1134-7560	4 N
700x400	209,75	287,68	440,87	518,80	484,30	562,23	2016-7560	1512-10080	4 N
700x500	237,12	322,88	468,24	554,00	511,67	597,43	2520-9450	1890-12600	4 N
700x600	254,67	348,26	485,79	579,38	529,22	622,81	3024-11340	2268-15120	4 N
<b>800x200</b>	<b>164,93</b>	<b>230,53</b>	<b>396,05</b>	<b>461,65</b>	<b>439,48</b>	<b>505,08</b>	<b>1155-4320</b>	<b>864-5760</b>	<b>4 N</b>
800x250	170,69	239,67	401,81	470,79	445,24	514,22	1440-5400	1080-7200	4 N
800x300	198,25	272,94	429,37	504,06	472,80	547,49	1730-6480	1296-8640	4 N
800x400	221,47	305,25	452,59	536,37	496,02	579,80	2305-8640	1728-11520	4 N
800x500	250,53	342,26	481,65	573,38	525,08	616,81	2880-10800	2160-14400	4 N
800x600	269,26	368,93	500,38	600,05	543,81	643,48	3456-12960	2592-17280	4 N
<b>900x300</b>	<b>211,96</b>	<b>292,03</b>	<b>443,08</b>	<b>523,15</b>	<b>486,51</b>	<b>566,58</b>	<b>1944-7290</b>	<b>1458-9720</b>	<b>4 N</b>
900x400	237,35	325,71	468,47	556,83	511,90	600,26	2592-9720	1944-12960	4 N
900x500	265,97	364,00	497,09	595,12	540,52	638,55	3240-12150	2430-16200	4 N
900x600	286,33	391,36	517,45	622,48	560,88	665,91	3888-14580	2916-19440	4 N
<b>1000x300</b>	<b>222,66</b>	<b>310,37</b>	<b>453,78</b>	<b>541,49</b>	<b>497,21</b>	<b>584,92</b>	<b>2160-8100</b>	<b>1620-10800</b>	<b>4 N</b>
1000x400	249,37	345,68	480,49	576,80	523,92	620,23	2880-10800	2160-14400	4 N
1000x500	279,60	385,89	510,72	617,01	554,15	660,44	3600-13500	2700-18000	4 N
1000x600	301,08	414,36	532,20	645,48	575,63	688,91	4320-16200	3240-21600	4 N

## Variable air volume control accessories

Stand Alone actuators		eur
<b>GDB181.1E/3</b>	Siemens VAV 24 VAC 5N.	231,12
<b>GLB181.1E/3</b>	Siemens VAV 24 VAC 10N.	311,90
<b>LMV-D3-MF</b>	Belimo VAV 24 VAC/VDC, 5N.	274,55
<b>NMV-D3-MF</b>	Belimo VAV 24 VAC/VDC, 10N.	304,99
<b>LMV-D3-MP</b>	Belimo VAV 24 VAC/VDC 5N. MP-BUS & NFC	293,26
<b>NMV-D3-MP</b>	Belimo VAV 24 VAC/VDC 10N.MP-BUS & NFC	339,54

Communicating actuators		eur
<b>GDB181.1E/MO</b>	Siemens VAV MODBUS 5N.	351,46
<b>GLB181.1E/MO</b>	Siemens VAV MODBUS 10N.	390,58
<b>GDB181.1E/KN</b>	Siemens VAV KNX 5N.	386,55
<b>GLB181.1E/KN</b>	Siemens VAV KNX 10N.	412,10
<b>GDB181.1E/BA</b>	Siemens VAV BACNET 5N.	363,98
<b>GLB181.1E/BA</b>	Siemens VAV BACNET 10N.	402,18
<b>LMV-D3-MOD</b>	Belimo VAV MODBUS 5N.	356,97
<b>NMV-D3-MOD</b>	Belimo VAV MODBUS 10N.	404,52
<b>LMV-D3-KNX</b>	Belimo VAV KNX 5N.	404,52
<b>NMV-D3-KNX</b>	Belimo VAV KNX 10N.	454,61

Calibration tools		eur
<b>AST20</b>	Service-tool for VAV Siemens compact controller GDB/GLB 181.1E/3	791,50
<b>ZTH-EU</b>	Service-tool for VAV Belimo compact controller Converter and connection cables included	573,30

**AST20**



**ZTH-EU**



Temperature controllers		eur
<b>RDG400</b>	Siemens RDG400 Room Thermostat	198,15
<b>CO2-WP</b>	Belimo 22-RTM-19-1 Room Sensor	287,31
<b>CO2-D</b>	Sistema S154/T+CO2 Duct Sensor	569,97
<b>CO2-WR</b>	Sistema S151W Room Controller	526,42
<b>CO2-WPD</b>	Belimo P-RTM-1900D-1 Room Sensor	473,38

**RDG 400** Proportional temperature controller ambiance 0..10Vcc power supply 24vac with backlit digital display, selector comfort eco/off; for proportional damper actuators.

**CO2-WP** Room sensor CO2 / Humidity / Temperature AC/DC Power supply. 0...5 V, 0...10 V, 2...10 V, MP-Bus outputs. Setting with NFC and Belimo App Display. Quality indicator by LED. Proportional actuator required.

**CO2-D** Duct mounting multiparametric sensor, T/HR/VOC and CO2. Power supply 230 V. 4 analogic outputs 0-10Vdc, Modbus RTU communication port. IP 66. Proportional actuator required.

**CO2-WR** Multiparametric Room controller, CO2/T. Power supply 230 VAC. 1 analogic output 0-10 Vdc and 2 configurable relay outputs (ON/OFF). Modbus RTU communication port. IP54. LCD display. ON/OFF or proportional actuators depending on the application.

**CO2-WPD** Room sensor CO2 / Humidity / Temperature AC/DC Power supply. 0...5 V, 0...10 V, 2...10 V, MP-Bus outputs. Setting with NFC and Belimo App Display. Quality indicator by LED and e-ink screen. Proportional actuator required.

**CO2-WP**



**CO2-D**



**RDG 400**



**CO2-WPD**



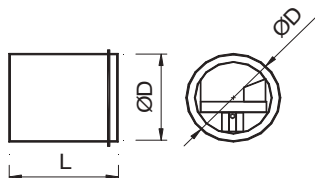
**CO2-WR**



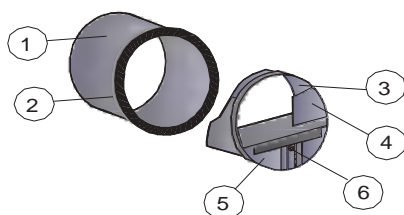
NOTE:  
Ask for a technical specification related to configuration, cable connections and features of the accessories.

## Low pressure dampers (CAV)

### Technical data



DN	ØD	L
80	76	55
100	96	70
125	120	86
160	155	91
200	195	91
250	244	245



- 1.- Plastic case
- 2.- Joint
- 3.- Damper body
- 4.- Damper
- 5.- Cushioning piston
- 6.- Wedges of volume adjustment



### Description

Constant air volume dampers for circular duct, which facilitates balancing of ventilation systems. Those dampers maintain the constant air volume within a zone of pressure between 50 and 250 Pa. SKP is a self-adjustable damper. The damper is operated by an opposed opening force from a spring on the blade. Housing and regulator blade are constructed from plastic and tightness joint from rubber.

**SKP** Self-adjustable constant air volume damper. Air flow adjustment on site before installation.

### Fixing

- 1) Connection into a circular metallic duct.

### Specification Text

Supply and mounting of circular constant air volume damper and self-adjustable to facilitate balancing of ventilation systems series **SKP dim. 125-30**. Constructed from plastic and tightness joint from rubber. Manufacturer **MADEL**.

Diam - Q	SKP	Q	50 Pa	150 Pa	200 Pa	250 Pa
mm - m³/h	eur	m³/h	dB(A)	dB(A)	dB(A)	dB(A)
80-30	24,83	15-50	26	35	38	41
100-30	29,14	15-50	26	35	38	41
100-60	29,14	50-100	32	39	42	45
125-30	32,40	15-50	26	35	38	41
125-60	32,40	50-100	32	39	42	45
125-120	32,40	100-180	30	39	42	45
160-150	45,95	100-180	33	41	45	49
160-210	45,95	180-300	34	42	44	46
200-300	66,74	180-300	33	42	45	48
200-350	66,74	300-500	35	44	47	50
250-500	85,94	300-500	39	48	53	58
250-600	85,94	500-700	39	48	54	60

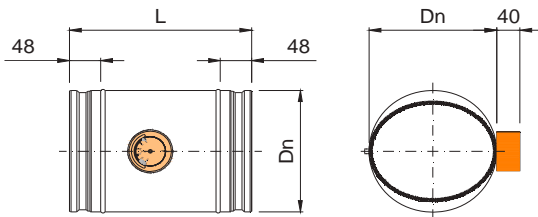


## Adjustable constant air volume dampers (CAV)

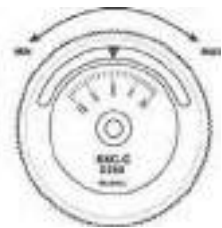
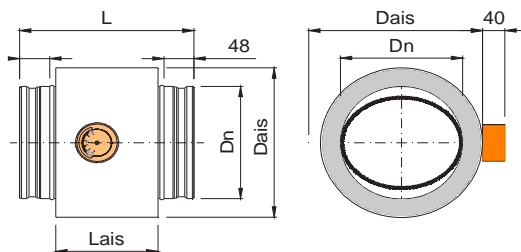


### Technical data

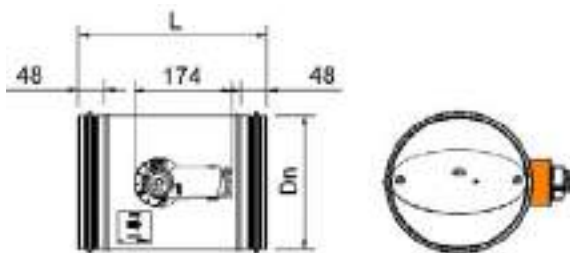
#### SKC-C /MA/



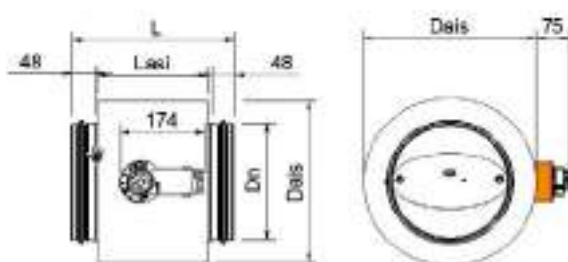
#### SKC-C /AIS/MA/



#### SKC-C /MK...



#### SKC-C /AIS/MK...



### Description

Constant air volume dampers which facilitates balancing of ventilation systems. Those dampers maintain the constant air volume at varying pressures, caused by connection and disconnection of system parts, clogging of filters and ducts, wind effects, window opening etc. SKC is an automatic damper independent of external energy sources. The damper is operated by an opposed opening force from a spring on the blade. Housing and damper blade are constructed from galvanized steel.

**SKC-C/MA** Circular damper with manual device for setting of one flow and tightness joint from rubber.

**SKC-C/MK/CM 24L...230L** Damper with Belimo On / Off actuator at 24v or 230v 2N.

**SKC-C/MK/CM 24-SX-L** Damper with proportional Belimo actuator (2-10V) at 24v 2N.

.../AIS/ Thermal insulation with foam.

### Fixing

1) Connection into a circular metallic duct.

### Specification Text

Supply and mounting of circular constant air volume damper to facilitate balancing of ventilation systems series **SKC-C/MA dim (mm)** Constructed from galvanized steel and tightness joint from rubber. Manufacturer **MADEL**.

D	Dn	Dais	L	Lais
80	78	-	225	-
100	98	178	270	157
125	123	203	270	157
160	158	238	295	182
200	198	278	295	182
250	248	328	335	222
315	313	393	340	227
355	353	433	380	267
400	398	478	420	307

Ø	SKC-C /MA/	SKC-C /MK/CM24L	SKC-C /MK/CM230L	SKC-C/MK/CM 24-SX-L	P	Q
mm	eur	eur	eur	eur	Pa	m³/h
80	121,68	287,22	295,33	356,20	100-1000	60-136
100	75,13	240,67	248,78	309,65	100-1000	80-220
125	77,74	243,28	251,39	312,26	100-1000	130-360
160	78,51	244,05	252,16	313,03	100-1000	200-620
200	82,45	247,99	256,10	316,97	100-1000	300-1020
250	85,17	250,71	258,82	319,69	100-1000	450-1400
315	92,91	258,45	266,56	327,43	100-1000	700-2100
355	98,21	263,75	271,86	332,73	100-1000	1000-2550
400	105,96	271,50	279,61	340,48	100-1000	1000-2800

Ø	SKC-C /MA/ /AIS/	SKC-C /MK/CM24L /AIS/	SKC-C /MK/CM230L /AIS/	SKC-C/MK/CM 24-SX-L /AIS/	P	Q
mm	eur	eur	eur	eur	Pa	m3/h
100	130,21	295,75	303,86	364,73	100-1000	80-220
125	137,12	302,66	310,77	371,64	100-1000	130-360
160	152,79	318,33	326,44	387,31	100-1000	200-620
200	165,58	331,12	339,23	400,10	100-1000	300-1020
250	196,37	361,91	370,02	430,89	100-1000	450-1400
315	219,80	385,34	393,45	454,32	100-1000	700-2100
355	247,20	412,74	420,85	481,72	100-1000	1000-2550
400	267,33	432,87	440,98	501,85	100-1000	1000-2800

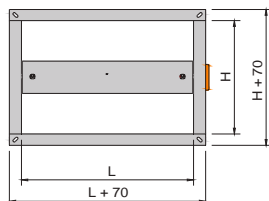
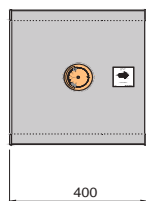
## Adjustable constant air volume dampers (CAV)



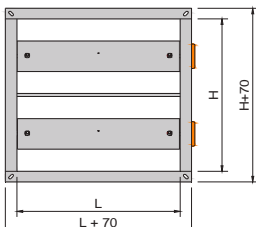
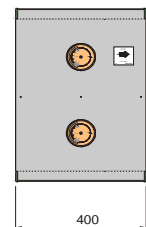
### Technical data

#### SKC-R/ MA

100 ≤ H ≤ 350



400 ≤ H ≤ 600



### Description

Constant air volume dampers which facilitates balancing of ventilation systems. Those dampers maintain the constant air volume at varying pressures, caused by connection and disconnection of system parts, clogging of filters and ducts, wind effects, window opening etc. SKC is an automatic damper independent of external energy sources. The damper is operated by an opposed opening force from a spring on the blade. Housing and damper blade are constructed from galvanized steel and tightness joint from rubber.

**SKC-R/MA** Rectangular damper with manual device for setting of one flow (standard factory configuration)

**SKC-R/MK/CM 24L...230L** Damper with Belimo On / Off actuator at 24v or 230v 2N.

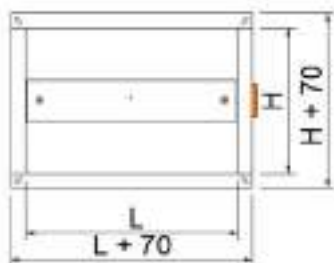
**SKC-C/MK/CM 24-SX-L** Damper with proportional Belimo actuator (2-10V) at 24v 2N.

.../AIS/ Thermal insulation with foam. Check the dimensions in the PDF.

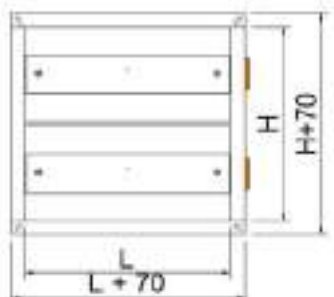
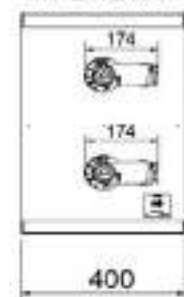
.../TAR/ Damper configured at the factory to customer's flow specifications (supplement \*)

#### SKC-R//MK...

100 < H < 350



400 ≤ H ≤ 600



### Fixing

- 1) Connection into a circular metallic duct.
- 1) Assembly of dampers vertically: Consult PDF

### Specification Text

Supply and mounting of rectangular constant air volume damper to facilitate balancing of ventilation systems series **SKC-R/MA dim (mm)** Constructed from galvanized steel and tightness joint from rubber. Manufacturer **MADEL**.



/AIS/ models: check the dimensions in the PDF

L x H	SKC-R /MA/	SKC-R /MK/CM24L	SKC-R /MK/CM230L	SKC-C/MK/CM 24-SX-L	P	Q
mm	eur	eur	eur	eur	Pa	m³/h
200x100	231,79	397,33	405,44	466,31	100-1000	200-470
300x100	232,30	397,84	405,95	466,82	100-1000	200-850
150x150	231,10	396,64	404,75	465,62	100-1000	300-520
200x150	233,54	399,08	407,19	468,06	100-1000	200-920
300x150	235,27	400,81	408,92	469,79	100-1000	300-1200
200x200	233,82	399,36	407,47	468,34	100-1000	300-980
250x200	237,00	402,54	410,65	471,52	100-1000	500-1300
300x200	241,99	407,53	415,64	476,51	100-1000	500-1400
350x200	248,97	414,51	422,62	483,49	100-1000	600-1800
400x200	255,50	421,04	429,15	490,02	100-1000	700-2100
450x200	259,38	424,92	433,03	493,90	100-1000	800-2500
500x200	261,10	426,64	434,75	495,62	100-1000	900-2100
250x250	251,27	416,81	424,92	485,79	100-1000	450-1500
300x250	249,68	415,22	423,33	484,20	100-1000	800-1650
350x250	251,40	416,94	425,05	485,92	100-1000	850-2000
400x250	264,23	429,77	437,88	498,75	100-1000	800-2500
450x250	262,84	428,38	436,49	497,36	100-1000	700-2700
500x250	267,71	433,25	441,36	502,23	100-1000	1200-3000
550x250	272,02	437,56	445,67	506,54	100-1000	1200-3500
600x250	275,07	440,61	448,72	509,59	100-1000	1600-3300
300x300	259,02	424,56	432,67	493,54	100-1000	900-2100
350x300	260,78	426,32	434,43	495,30	100-1000	900-2300
400x300	267,30	432,84	440,95	501,82	100-1000	1150-3000
450x300	265,10	430,64	438,75	499,62	100-1000	1400-3000
500x300	267,97	433,51	441,62	502,49	100-1000	1400-3300
600x300	277,32	442,86	450,97	511,84	100-1000	1900-3900
400x400	388,78	554,32	562,43	623,30	100-1000	1300-4900
500x400	396,72	562,26	570,37	631,24	100-1000	1600-5600
600x400	399,17	564,71	572,82	633,69	100-1000	3000-5150
500x500	410,11	575,65	583,76	644,63	100-1000	2700-5500
600x500	420,26	585,80	593,91	654,78	100-1000	3000-7400
600x600	438,40	603,94	612,05	672,92	100-1000	3700-8000

L x H	SKC-R /MA/ /AIS/	SKC-R /MK/CM24L /AIS/	SKC-R /MK/CM230L /AIS/	SKC-C/MK/CM 24-SX-L /AIS/	P	Q
mm	eur	eur	eur	eur	Pa	m³/h
200x100	323,42	488,96	497,07	557,94	100-1000	200-470
300x100	335,06	500,60	508,71	569,58	100-1000	200-850
150x150	337,20	502,74	510,85	571,72	100-1000	300-520
200x150	347,88	513,42	521,53	582,40	100-1000	200-920
300x150	362,15	527,69	535,80	596,67	100-1000	300-1200
200x200	354,57	520,11	528,22	589,09	100-1000	300-980
250x200	362,06	527,60	535,71	596,58	100-1000	500-1300
300x200	375,31	540,85	548,96	609,83	100-1000	500-1400
350x200	386,59	552,13	560,24	621,11	100-1000	600-1800
400x200	396,15	561,69	569,80	630,67	100-1000	700-2100
450x200	411,07	576,61	584,72	645,59	100-1000	800-2500
500x200	421,12	586,66	594,77	655,64	100-1000	900-2100
250x250	384,08	549,62	557,73	618,60	100-1000	450-1500
300x250	391,28	556,82	564,93	625,80	100-1000	800-1650
350x250	396,91	562,45	570,56	631,43	100-1000	850-2000
400x250	420,02	585,56	593,67	654,54	100-1000	800-2500
450x250	421,00	586,54	594,65	655,52	100-1000	700-2700
500x250	436,16	601,70	609,81	670,68	100-1000	1200-3000
550x250	441,18	606,72	614,83	675,70	100-1000	1200-3500
600x250	454,44	619,98	628,09	688,96	100-1000	1600-3300
300x300	403,21	568,75	576,86	637,73	100-1000	900-2100
350x300	411,25	576,79	584,90	645,77	100-1000	900-2300
400x300	424,06	589,60	597,71	658,58	100-1000	1150-3000
450x300	428,12	593,66	601,77	662,64	100-1000	1400-3000
500x300	439,26	604,80	612,91	673,78	100-1000	1400-3300
600x300	461,20	626,74	634,85	695,72	100-1000	1900-3900
400x400	568,49	734,03	742,14	803,01	100-1000	1300-4900
500x400	585,15	750,69	758,80	819,67	100-1000	1600-5600
600x400	600,16	765,70	773,81	834,68	100-1000	3000-5150
500x500	611,38	776,92	785,03	845,90	100-1000	2700-5500
600x500	637,98	803,52	811,63	872,50	100-1000	3000-7400
600x600	669,00	834,54	842,65	903,52	100-1000	3700-8000

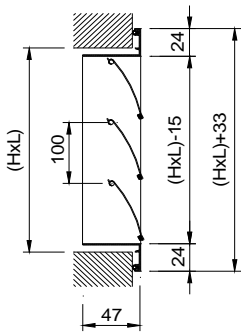
(*)	eur
/TAR/	119,02

# Pressure dampers

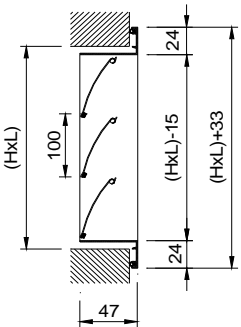


## Technical data

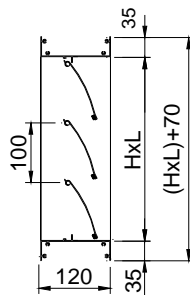
### SMS



### SMD



### SMG



## Description

Pressure dampers in raw aluminium with blades of 100 mm.

**SMS** Back pressure damper with blades parallel to the largest side (L size)

**SVS** Back pressure damper with blades parallel to the shortest side (H size)

...-**D** Front pressure dampers.

....-**G** Dampers suitable for mounting into a rectangular duct.

## Fixing

- 1) Visible screws (for wall mounting)

## Specification Text

Supply and mounting of pressure dampers with blades of 100 mm series **SMS (T) LxH** constructed from raw aluminium and visible fixing by screws **(T)**. Manufacturer **MADEL**.

L x H	SMS	SVS	SMS-G	SVS-G
mm	SMS-D	SVS-D		
	eur	eur	eur	eur
200x200	23,18	23,18	33,61	33,61
300x200	29,43	32,12	42,66	46,58
400x200	35,75	38,95	51,82	56,50
500x200	42,03	45,76	60,97	66,37
600x200	48,35	52,57	70,09	76,23
700x200	54,68	59,42	79,29	86,16
800x200	60,89	66,22	88,31	96,01
300x300	34,78	34,78	50,43	50,43
400x300	42,13	45,31	61,08	65,71
500x300	49,47	53,24	71,72	77,19
600x300	56,84	61,08	82,41	88,57
700x300	64,19	68,95	93,07	99,97
800x300	71,50	76,79	103,69	111,34
400x400	48,48	48,49	70,31	70,29
500x400	56,90	60,62	82,50	87,90
600x400	65,31	69,56	94,69	100,87
700x400	73,69	78,46	106,85	113,76
800x400	82,07	87,35	119,01	126,66
500x500	64,29	64,29	93,23	93,22
600x500	73,73	83,24	106,90	120,72
700x500	83,21	93,28	120,65	135,25
800x500	92,64	103,28	134,32	149,74
600x600	82,22	82,22	119,23	119,23
700x600	92,72	97,52	134,46	141,39
800x600	103,32	108,63	149,81	157,52
700x700	102,25	102,25	148,25	148,25
800x700	113,93	119,13	165,20	172,75
800x800	124,35	124,35	180,33	180,33





## Air **filtration**

Efficiency for air quality

Products, solutions and systems to ensure the best possible environment

## INDEX

**159** Guiding criteria for filters in terminal units

**160** UFA terminal units with HEPA filter

**161** DIF, DEC, TAS Extraction, filtering ceilings, etc...

**1 – Guiding criteria for filters in terminal units**

There are increasing applications in which it is necessary to control the quality conditions and airflow direction, as well as the over or under-pressure levels, to guarantee that the corresponding activities can take place and eliminate uncontrolled air infiltration.

To select the type of filter, diffuser and system that is best adapted to the requirements of the project, the project designer needs to be aware of the standard practices and regulations. The products must be easy to clean and maintain (filter replacement)

**1.1 – Applications**

**Industrial:** Clean rooms for industrial processes: food / chemical / pharmaceutical / microelectronic industries.

**Hospital:** Operating rooms, laboratories, infection isolation rooms, rooms for people with immunodepression.

**1.2 – Airflow**

To maintain optimal air quality conditions, the airflow, which in most cases exceeds the sum of the ventilation flow and airflow, needs to be filtered, to lower the thermal load which will be defined by the project designer in accordance with the required ISO classification.

**1.3 – Pressurisation**

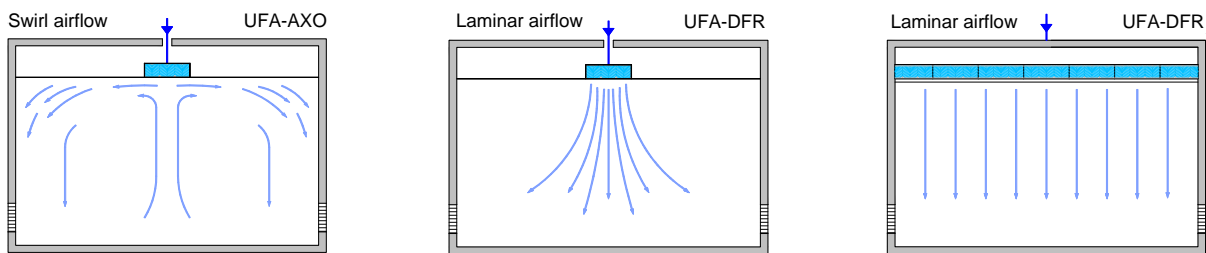
The most commonly used Pressure Differences are between +/- 8 Pa, +/- 20 Pa. Exceeding 50 Pa is not recommended as it will generate problems such as unwanted opening of doors, etc. There should be a small amount of air transfer between rooms. The pressure in the room that has to be controlled should be measured and compared against a room with stable pressure. To generate the +/- Pressure Difference, the most commonly used benchmark is 10% of the supply Flow Difference.

**1.4 – Type of diffusion**

Depending on the air flow and the type of flow required, the corresponding diffuser should be chosen:

**Swirl airflow:** For low flow rates; in this case the air quality is ensured through dissolution.

**Laminar flow:** For low and high flow rates; in this case the idea is to sweep the working areas with the primary flow.



**2 – Basic regulations on filtering in clean rooms**

SELECTION TABLE FOR CLEAN ROOMS									
ISO 14644	9	8	7	6	5	4	3	2	1
VDI 2083	7	6	5	4	3	2	1	0	
Fed-Std-209-D		100000	10000	1000	100	10	1	0,1	
Fed-Std-209-E		M 6,5	M 5,5	M 4,5	M 3,5	M 2,5	M 1,5		
Fresh Air p/h	> 20	20-40	30-60	50-150	300-600				
Filtration Area %		5-10	10-20	30-70	>80			>90	
1 phase		G4 / M5 (F5)			M5 (F5) / F7		M6 (F6) / F7		
2 phase		F7				F9/H10		H11/H13	H13
3 phase	H 10 / H 11	H 11 / H 13			H 14	U 15	U 16	U 17	
Flow shape		Turbulent flow			Unidirectional flow				
Terminal DIFFUSER	UFA-AXO	UFA-AXO	UFA-AXO	UFA-AXO	UFA-AXO	UFA-DFR			
	UFA-DFR	UFA-DFR	UFA-DFR	UFA-DFR	UFA-DFR				

Classification according to ISO 14644-1						
Maximum values for particle concentration (particles per m3)						
Class	0,1 µm	0,2 µm	0,3 µm	0,5 µm	1 µm	5,0 µm
ISO 1	10	2	-	4	-	-
ISO 2	100	24	10	35	-	-
ISO 3	1.000	237	102	352	8	-
ISO 4	10.000	2.370	1.020	3.520	83	-
ISO 5	100.000	23.700	10.200	35.200	832	29
ISO 6	1.000.000	237.000	102.000	352.000	8.320	293
ISO 7	-	-	-	352.000	83.200	2.930
ISO 8	-	-	-	3.520.000	832.000	29.300
ISO 9	-	-	-	35.200.000	8.320.000	293.000

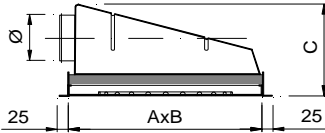
**3 – Operating rooms/surgeries: Specific Standards EN-UNE 11425, DIN 1946, NF S 90-351, ASHRAE 170**

In surgeries, the supply and extraction flows must be constant, maintaining a Flow difference to ensure the correct Pressure Difference. In surgeries, 100% of the flow will be ventilation.

## Terminal units with HEPA filter



### Technical data



#### UFA-AXO

Swirl air flow				Q nominal		DPT
A	B	C	Ø(mm)	m³/h	l/s	Pa
330	330	345	173	150	42	150
482	482	345	173	400	111	150
538	538	365	198	500	138	150
635	635	415	248	650	180	150

#### UFA-DFR

Laminar air flow				Q nominal		DPT
sizes				m³/h	l/s	Pa
A	B	C	Ø(mm)	m³/h	l/s	Pa
330	330	345	173	150	42	130
330	635	345	173	300	84	130
482	482	345	173	350	97	130
538	538	365	198	500	135	130
635	635	415	248	600	167	130
635	940	445	313	900	250	135
635	1245	510	313	1200	333	135



### Description

The terminal units of the series UFA have the dual function of filtering the air with high efficiency absolute filters, while making the air diffusion of air into the enclosure. It consists of a plenum box made from polystyrene with a lateral circular connection.

Can be equipped with swirl diffusers or perforated face diffusers for a laminar air flow. Incorporates a pressure connector to control the pressure drop of the filter.

UFA units are suitable for high purity air installations germ free such as clean rooms and pharmaceutical laboratories.

**UFA-AXO** UFA terminal unit with an AXO swirl diffuser and H14 filter included.

**UFA-DFR** UFA terminal unit with a DFR perforated face diffuser for a laminar air flow and H14 filter included.

### Accessories

**RH14** H14 filter for replacement in UFA units.

### Finishes

**AA** Matt silver anodised. Plenum box from white polystyrene.

**S9010** Painted in white similar to RAL 9010. Plenum box from white polystyrene.

### Specification Text

Supply and mounting of swirl diffuser AXO-S integrated in a polystyrene plenum box in white with lateral circular connection **UFA-AXO AA LxH**. Includes a HEPA filter H14 with a pressure connector to control the pressure drop of the filter. Matt silver anodised **AA**.

Manufacturer **MADEL**.

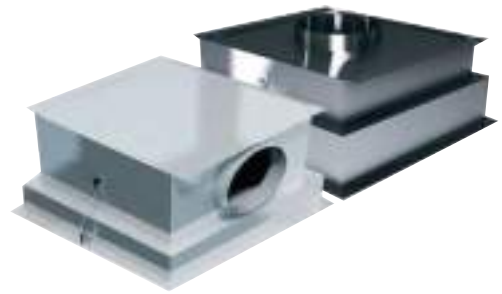
Dim.	UFA-AXO AA	UFA-AXO S9R010	RH14 replacement filter	Filter surface	DPT nominal	DPT final
mm	eur	eur	eur	m2	Pa	Pa
330x330	611,30	661,08	139,13	2,5	150	400
482x482	709,58	751,72	182,49	5,5	150	400
538x538	783,85	827,07	227,78	7,0	150	400
635x635	823,68	869,86	276,81	10,0	150	400

Dim.	UFA-DFR AA	UFA-DFR S9010	RH14 replacement filter	Filter surface	DPT nominal	DPT final
mm	eur	eur	eur	m2	Pa	Pa
330x330	611,81	734,87	139,13	2,5	130	400
330x635	749,68	799,98	182,49	5,0	130	400
482x482	794,92	843,56	227,78	5,5	130	400
538x538	874,20	924,56	276,81	7,0	130	400
635x635	913,83	970,76	293,20	10,0	130	400
635x940	1.193,27	1.266,81	405,79	12,0	135	400
635x1245	1.397,24	1.482,53	507,04	14,0	135	400

**Steel terminal units**

**DIF.K** Steel terminal unit painted white with HEPA filter (ask for price)

**DIF.S** Inox steel unit with HEPA filter (ask for price)



**Extract grilles**

**DEC A** Extract grille from aluminium with G4 and/or F9 filter (ask for price)

**DEC S** Extract grille from inox steel with G4 and/or F9 filter (ask for price)



**Filtering ceilings for operating rooms with uniform flow**

**TAS-OP** Filtering ceiling from inox steel for operating rooms with uniform unidirectional flow (ask for price)

**TAS-FV** Filtering ceiling from painted steel for operating rooms with uniform unidirectional flow (ask for price)



**Filtering ceilings for operating rooms with controlled flow and air velocity**

**DIF-O.T.** Filtering ceiling from inox steel for operating rooms with controlled flow and air velocity (ask for price)





## Accessories

### INDEX

- 163 CM & K** mounting frames
- 164 PLRO** plenum boxes for grilles & multi-jet nozzles
- 167 ZP-A** motorised dampers for grilles
- 168 DP** device for air flow measuring
- 169 INC** circular silencers with acoustic mineral wool



## Mounting frames

### Technical data

L	CM
mm	eur
75	0,55
100	0,57
125	0,61
150	0,62
200	0,71
250	0,82
300	0,89
350	0,95
400	1,05
450	1,12
500	1,17
600	1,40
700	1,75
800	1,94
900	2,14
1000	2,44
1100	2,93
1200	3,19

	eur
(K)	6,33



### Description

**CM** Linear elements to compose a CM mounting frame for grilles. Constructed from galvanised steel.

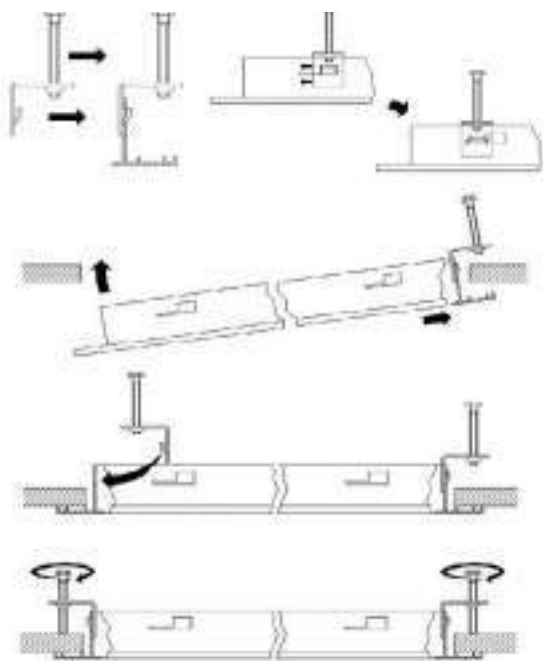
The nominal size of the grilles (L x H) indicates the opening sizes for their installation. When the installation is planned with CM mounting frames, the opening size would be 8 mm bigger (L+8 x H+8). Sizes of the catalogue in mm. General tolerances to norm ISO 2768-1.

## K

## Mounting frames



### Technical data



### Description

**(K)** This fixing system consists of 4 pieces in the form of an angle for mounting KLIN diffusers without plenum in continuous false ceiling. Not compatible with RMT-KLIN.

## Plenum boxes for grilles



### Technical data

#### Description

Plenum boxes with circular connection, made from galvanised steel.

**PLRO** Plenum box with upper connection suitable for AMT, CTM, LMT AMT-AC grilles, and KOO et nozzle. Suitable for both wall and ceiling mounting and for lines > 2m (H=75 only available for LMT)

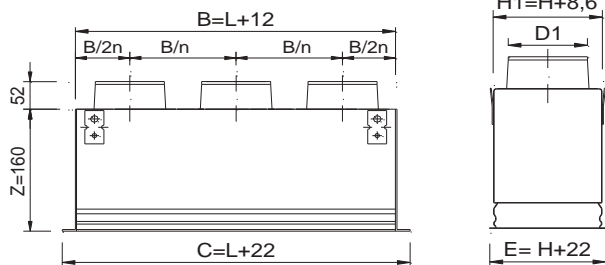
**PMIS** Plenum box with upper connection suitable for LMT-MISS grilles. Suitable for both wall and ceiling mounting and for lines > 2m.

.../L/ Plenum de conexión lateral (H=75 solo disponible para LMT)

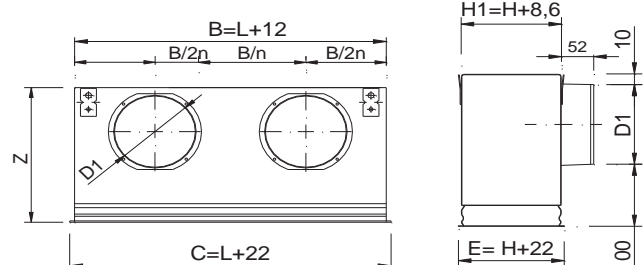
...-R Regulador de caudal en el cuello.

.../AIS/ Thermo-acoustical insulation.

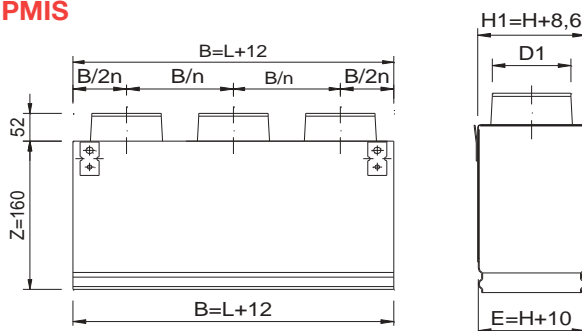
#### PLRO



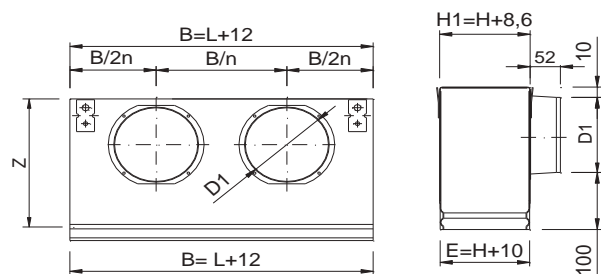
#### PLRO/L/



#### PMIS



#### PMIS/L/



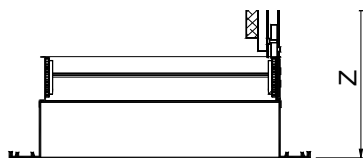
L x H	PLRO PMIS	PLRO-R PMIS-R	PLRO PMIS /AIS/ eur	PLRO-R PMIS-R /AIS/ eur	Vfree= Vk/3 Ø	PLRO/L PMIS/L eur	PLRO /L-R PMIS/L-R eur	PLRO /L PMIS/L /AIS/ eur	PLRO/L-R PMIS/L-R /AIS/ eur	Vfree= Vk Ø
200x75	32,30	43,11	43,61	54,40	1/61	32,96	43,71	44,50	55,25	1/98
250x75	33,55	44,30	45,29	56,04	1/61	35,51	46,56	47,93	58,99	1/123
300x75	35,56	57,12	48,01	69,58	2/61	37,19	48,30	50,20	61,31	1/123
400x75	37,75	59,30	50,96	72,51	2/61	40,05	51,11	54,06	65,12	1/123
500x75	39,91	61,45	53,88	75,43	2/61	44,56	56,10	60,15	71,70	1/158
600x75	51,70	73,25	69,80	91,35	2/61	47,76	59,28	64,47	75,98	1/158
700x75	53,33	85,62	71,99	104,29	3/61	50,85	73,90	68,64	91,70	2/158
800x75	56,61	88,92	76,43	108,74	3/61	62,13	85,21	83,86	106,96	2/158
900x75	57,80	90,11	78,04	110,35	3/61	65,31	88,37	88,17	111,25	2/158
1000x75	61,47	104,51	82,98	126,03	4/61	68,44	91,47	92,40	115,43	2/158
1200x75	64,25	107,33	86,75	129,83	4/61	84,49	117,14	114,07	146,71	3/158
1400x75	71,38	125,24	96,38	150,23	5/61	88,23	120,88	119,12	151,76	3/158
1600x75	77,35	141,95	104,43	169,02	6/61	91,97	124,61	124,16	156,80	3/158
1800x75	80,37	144,17	108,50	172,29	6/61	102,05	146,20	137,77	181,92	4/158
2000x75	81,75	146,37	110,37	175,00	6/61	105,77	149,93	142,80	186,95	4/158
<b>200x100</b>	<b>32,30</b>	<b>43,12</b>	<b>43,61</b>	<b>54,41</b>	<b>1/98</b>	<b>33,93</b>	<b>44,99</b>	<b>45,79</b>	<b>56,87</b>	<b>1/123</b>
250x100	33,81	44,61	45,65	56,43	1/98	35,51	46,56	47,93	58,99	1/123
300x100	35,45	46,21	47,87	58,62	1/98	38,55	50,05	52,05	63,53	1/158
350x100	36,60	47,38	49,42	60,18	1/98	39,78	51,30	53,68	65,22	1/158
400x100	38,15	48,94	51,51	62,28	1/98	41,47	53,01	55,98	67,52	1/158
450x100	39,57	50,38	53,42	64,22	1/98	43,93	56,14	59,31	71,50	1/198
500x100	40,98	51,84	55,33	66,19	1/98	45,51	57,67	61,43	73,60	1/198
600x100	51,96	73,55	70,13	91,72	2/98	48,73	60,95	65,78	77,98	1/198
700x100	54,79	76,40	73,96	95,57	2/98	51,89	76,26	70,06	94,42	2/198
800x100	57,75	79,34	77,97	99,56	2/98	63,26	87,61	85,41	109,76	2/198
900x100	60,72	82,33	81,97	103,57	2/98	66,48	90,89	89,73	114,14	2/198
1000x100	63,54	85,12	85,80	107,38	2/98	69,68	94,06	94,06	118,43	2/198
1200x100	67,86	100,17	91,60	123,92	3/98	84,06	118,60	113,49	148,03	3/198
1400x100	70,17	102,51	94,72	127,07	3/98	88,35	122,90	119,27	153,82	3/198
1600x100	76,26	119,36	102,96	146,05	4/98	92,64	127,16	125,04	159,58	3/198
1800x100	78,61	121,67	106,13	149,20	4/98	101,68	147,74	137,27	183,34	4/198
2000x100	80,96	124,04	109,28	152,37	4/98	106,02	152,03	143,12	189,13	4/198
<b>200x125</b>	<b>33,59</b>	<b>44,65</b>	<b>45,35</b>	<b>56,40</b>	<b>1/123</b>	<b>35,25</b>	<b>46,33</b>	<b>47,58</b>	<b>58,67</b>	<b>1/123</b>
250x125	35,14	46,20	47,44	58,49	1/123	36,85	47,96	49,76	60,86	1/158
300x125	36,81	47,87	49,70	60,76	1/123	40,05	51,56	54,06	65,59	1/158
400x125	39,64	50,68	53,53	64,56	1/123	43,99	56,17	59,38	71,56	1/198
500x125	42,56	53,64	57,46	68,54	1/123	48,11	60,29	64,95	77,13	1/198
600x125	53,66	75,80	72,45	94,58	2/123	51,54	63,73	69,59	81,76	1/198
700x125	56,61	78,73	76,43	98,56	2/123	54,85	79,25	74,06	98,46	2/198
800x125	59,73	81,84	80,64	102,76	2/123	66,45	90,83	89,69	114,07	2/198
900x125	62,75	84,88	84,71	106,86	2/123	69,82	94,21	94,28	118,66	2/198
1000x125	65,66	87,81	88,65	110,79	2/123	73,20	97,57	98,81	123,20	2/198
1200x125	75,54	108,67	101,96	135,09	3/123	85,36	119,88	115,24	149,76	3/198
1400x125	77,97	111,15	105,27	138,43	3/123	89,77	124,29	121,20	155,72	3/198
1600x125	80,44	113,61	108,58	141,76	3/123	94,18	128,70	127,14	161,67	3/198
1800x125	89,99	134,20	121,49	165,69	4/123	103,39	149,41	139,58	185,60	4/198
2000x125	92,50	136,68	124,88	169,05	4/123	107,76	153,83	145,48	191,56	4/198
<b>200x150</b>	<b>33,59</b>	<b>44,65</b>	<b>45,35</b>	<b>56,40</b>	<b>1/123</b>	<b>36,51</b>	<b>48,05</b>	<b>49,29</b>	<b>60,82</b>	<b>1/158</b>
250x150	35,14	46,20	47,44	58,49	1/123	39,69	51,88	53,57	65,78	1/198
300x150	36,81	47,87	49,70	60,76	1/123	41,62	53,82	56,19	68,39	1/198
350x150	38,01	49,06	51,30	62,37	1/123	42,94	55,12	57,97	70,13	1/198
400x150	39,64	50,68	53,53	64,56	1/123	44,77	56,98	60,45	72,64	1/198
450x150	41,10	52,17	55,50	66,56	1/123	46,45	58,65	62,73	74,90	1/198
500x150	42,56	53,64	57,46	68,54	1/123	48,11	60,29	64,95	77,13	1/198
600x150	53,66	75,80	72,45	94,58	2/123	52,78	64,96	71,25	83,43	1/198
700x150	56,61	78,73	76,43	98,56	2/123	56,23	80,59	75,89	100,27	2/198
750x150	58,17	80,29	78,55	100,64	2/123	62,04	86,42	83,75	108,13	2/198
800x150	59,73	81,84	80,64	102,76	2/123	67,86	92,22	91,60	115,98	2/198
900x150	62,75	84,88	84,71	106,86	2/123	71,33	95,70	96,28	120,66	2/198
1000x150	65,66	87,81	88,65	110,79	2/123	74,74	99,12	100,90	125,26	2/198
1050x150	71,11	98,75	96,00	123,63	2/123	80,69	110,14	108,93	138,38	2/198
1200x150	76,56	109,70	103,34	136,50	3/123	86,62	121,14	116,94	151,45	3/198
1400x150	79,16	112,27	106,86	139,98	3/123	91,18	125,70	123,10	157,60	3/198
1600x150	88,84	133,01	119,93	164,12	4/123	95,69	130,25	129,19	163,76	3/198
1800x150	91,45	135,62	123,47	167,64	4/123	105,02	151,04	141,78	187,79	4/198
2000x150	94,04	138,22	126,97	171,13	4/123	109,54	155,60	147,88	193,95	4/198

L x H	PLRO PMIS	PLRO-R PMIS-R	PLRO PMIS /AIS/ eur	PLRO-R PMIS-R /AIS/ eur	Vfree= Vk/3 Ø	PLRO/L/ PMIS/L/ eur	PLRO /L/-R PMIS/L/-R eur	PLRO /L/ PMIS/L/ /AIS/ eur	PLRO/L/-R PMIS/L/-R /AIS/ eur	Vfree= Vk Ø
200x200	35,21	47,39	47,53	59,72	1/198	39,79	51,98	53,71	65,90	1/198
250x200	36,81	49,03	49,70	61,91	1/198	41,62	53,82	56,19	68,39	1/198
300x200	38,58	50,75	52,10	64,25	1/198	43,58	55,75	58,83	71,01	1/198
350x200	39,79	51,98	53,71	65,90	1/198	47,18	59,40	63,72	75,93	1/198
400x200	41,47	53,66	55,98	68,19	1/198	49,15	62,38	66,35	79,58	1/248
450x200	42,96	55,21	58,01	70,24	1/198	50,96	64,23	68,81	82,07	1/248
500x200	44,55	56,75	60,14	72,34	1/198	52,77	66,00	71,23	84,47	1/248
600x200	55,62	80,32	75,54	99,94	2/198	56,49	69,76	76,25	89,53	1/248
700x200	58,71	83,38	79,67	104,06	2/198	58,76	83,11	79,33	103,69	2/198
750x200	60,26	84,98	85,91	106,12	2/198	64,65	88,99	87,29	111,63	2/198
800x200	61,80	86,44	83,80	108,18	2/198	70,53	94,91	95,23	119,60	2/198
900x200	65,14	89,50	87,93	112,30	2/198	75,74	102,21	102,25	128,72	2/248
1000x200	68,20	92,56	92,06	116,42	2/198	79,30	105,83	107,05	133,59	2/248
1050x200	69,24	92,92	93,46	117,14	2/198	85,84	116,39	115,89	146,42	2/248
1200x200	70,25	93,29	94,83	117,87	2/198	92,39	126,90	124,71	159,23	3/198
1400x200	73,13	96,16	98,73	121,76	2/198	93,96	128,49	126,83	161,38	3/198
1600x200	75,98	99,01	102,58	125,61	2/198	103,62	143,45	139,87	179,71	3/248
1800x200	83,61	118,17	112,87	147,43	3/198	113,72	166,84	153,52	206,65	4/248
2000x200	90,36	124,89	121,99	156,52	3/198	119,05	172,19	160,72	213,86	4/248
250x250	39,21	51,42	52,94	65,15	1/198	44,30	56,49	59,80	71,99	1/198
300x250	40,99	54,27	55,34	68,62	1/248	46,38	58,50	62,60	74,74	1/198
350x250	42,33	55,61	57,14	70,41	1/248	50,15	63,42	67,70	80,98	1/248
400x250	44,05	57,33	59,48	72,74	1/248	52,18	65,49	70,45	83,75	1/248
450x250	45,63	58,91	61,60	74,88	1/248	54,10	67,35	73,03	86,28	1/248
500x250	47,24	60,50	63,77	77,04	1/248	55,97	69,26	75,56	88,85	1/248
600x250	50,49	63,73	68,14	81,40	1/248	59,82	73,10	80,75	94,03	1/248
700x250	64,50	91,13	87,24	113,79	2/248	63,58	90,09	85,83	112,35	2/248
800x250	66,06	92,68	89,30	115,85	2/248	75,54	102,05	101,96	128,48	2/248
900x250	67,63	94,22	91,36	117,91	2/248	79,35	105,91	107,13	133,69	2/248
1000x250	69,20	95,77	93,42	119,97	2/248	79,30	105,83	107,05	133,59	2/248
1200x250	72,33	98,90	97,64	124,21	2/248	92,71	132,57	125,16	165,03	3/248
1400x250	75,46	102,03	101,87	128,44	2/248	98,30	138,14	132,71	172,56	3/248
1600x250	78,58	105,16	106,07	132,65	2/248	103,91	143,75	140,27	180,12	3/248
1800x250	81,70	108,28	110,29	136,88	2/248	114,25	167,41	154,23	207,38	4/248
2000x250	84,84	111,40	114,53	141,10	2/248	119,87	173,01	161,82	214,97	4/248
300x300	42,87	56,14	57,87	71,13	1/248	50,75	64,96	68,52	82,72	1/248
350x300	44,50	57,73	60,05	73,29	1/248	52,68	66,94	71,13	85,38	1/248
400x300	46,21	59,50	62,38	75,67	1/248	54,79	69,07	73,96	88,24	1/248
450x300	47,87	61,13	64,62	77,88	1/248	60,11	75,86	81,13	96,90	1/313
500x300	49,53	62,78	66,87	80,12	1/248	62,13	77,94	83,86	99,67	1/313
600x300	52,89	66,14	71,39	84,66	1/248	66,35	82,22	89,58	105,44	1/313
700x300	68,86	95,31	92,96	119,40	2/248	66,52	94,43	89,81	117,72	2/248
750x300	70,20	96,68	94,78	121,24	2/248	72,58	100,58	97,97	125,98	2/248
800x300	71,55	98,05	96,60	123,09	2/248	78,63	106,76	106,16	134,27	2/248
900x300	72,90	99,76	98,43	124,93	2/248	87,05	118,06	117,50	148,53	2/313
1000x300	74,25	100,79	100,25	126,77	2/248	91,16	122,24	123,04	154,14	2/313
1050x300	75,61	102,15	102,07	128,61	2/248	102,89	133,87	138,90	169,88	2/313
1200x300	76,95	103,53	103,89	130,46	2/248	114,60	160,89	154,70	200,99	3/313
1400x300	80,34	106,91	108,45	135,04	2/248	121,13	167,51	163,53	209,90	3/313
1600x300	83,73	110,31	113,04	139,62	2/248	127,66	174,14	172,36	218,82	3/313
1800x300	87,15	113,71	117,65	144,21	2/248	134,20	180,77	181,16	227,73	3/313
2000x300	95,29	135,15	128,64	168,50	3/248	150,90	209,41	203,70	262,22	4/313

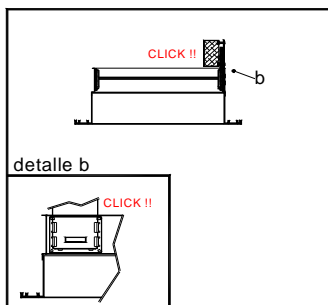
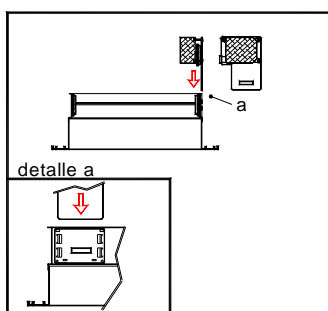
## Motorised dampers for grilles for uni-zone systems



### Technical data



Z=197	Z=180
CTM	AMT
LMT-DD	LMT
	AMT-AC
	DMT
	RMT



### Description

Motorised opposed blades volume damper for grilles. Blades incorporate a PVC airtight joint. Constructed from aluminium, galvanised steel and gears from polyamide. Incompatible fixing system (O) for grilles.

### Classification

**ZP-A230** Vac 230 motorised damper, On / Off type.

### Accessories

**TF** Thermostat with cables for temperature control, using On / Off motorised dampers. Manual seasonal change over.

L xH	ZP-A
mm	eur
200x100	125,90
250x100	126,19
300x100	126,50
350x100	126,83
400x100	127,15
450x100	127,46
500x100	127,77
600x100	128,40
<b>200x150</b>	<b>128,40</b>
250x150	128,90
300x150	129,01
350x150	129,90
400x150	130,43
450x150	130,90
500x150	131,39
600x150	132,40
<b>200x200</b>	<b>130,94</b>
250x200	131,62
300x200	132,32
350x200	132,98
400x200	133,64
450x200	134,34
500x200	135,01
600x200	135,65
<b>250x250</b>	<b>134,35</b>
300x250	135,18
400x250	136,90
500x250	138,60
600x250	140,35

**TF**

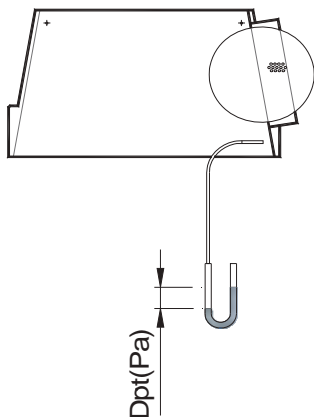


	eur
<b>TF</b>	69,41



## Device for air flow measuring

### Technical data



$$Q \text{ (m3/h)} = K \times \sqrt{DP \text{ (Pa)}}$$



### Description

Device incorporated in the plenum to facilitate the measurement of air flow. It is compatible with the families of diffusers with plenum:

- RADIAL DIFFUSERS
- FIXED SWIRL DIFFUSERS
- ADJUSTABLE SWIRL DIFFUSERS
- PERFORATED FACE DIFFUSERS

The factor K is a numerical constant, applied to a simple calculation. It allows control of each diffuser / grille to work on the predefined flow in the project. This value reports flow and pressure. With the pressure connection for all diffuser-plenum, you can know the air flow. To change the pressure measured, you must adjust air flow damper in the spigot of the plenum box.

**DP** Device for air flow measuring.

### Symbols

- Q (m3 / h) = Air flow in the diffuser.
- K = Is a constant value for each diffuser and plenum box. This value is given in the DP or ask MADEL.
- DP (Pa) = Value measured by a manometer.

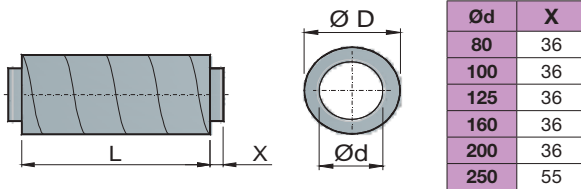
### Specification Text

Supply and mounting of stackable pyramidal plenum box with a lateral circular connection and air flow damper in the spigot, equipped with a device for air flow measuring **BOXSTAR-R+DP**, including supports to hang from the ceiling. Made from galvanised steel. Manufacturer **MADEL**.

	eur
DP	18,10

# Circular silencers with acoustic mineral wool

## Technical data



Ød	X
80	36
100	36
125	36
160	36
200	36
250	55



### Description

Circular silencers for circular ducts. Constructed with a helical outer tube and a perforated steel sheet inner tube, separated with acoustic mineral wool. There is a polyester tissue between the perforated steel sheet and the absorption material to avoid that the mineral wool is dragged by the air flow.

INC Circular silencer with acoustic mineral wool.

### Specification Text

Supply and mounting of circular silencer with acoustic mineral wool to mitigate the acoustic pressure series INC dim x L (mm). Constructed from galvanized steel and tightness joint from rubber. Manufacturer MADEL.

Ø d	Ø D	L	INC	Losses by inserting dB in octave bands						Weight
				125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
80	180	300	56,34	5	11	15	25	28	23	2
80	180	600	82,15	7	18	26	29	29	24	3
80	180	900	108,46	9	26	38	33	30	26	5
80	180	1200	133,81	11	30	36	37	31	27	7
100	200	300	58,69	5	9	12	20	25	17	2
100	200	600	85,67	7	15	25	33	29	24	3
100	200	900	113,85	9	22	32	36	33	31	5
100	200	1200	140,82	11	25	36	39	37	38	7
125	224	300	64,31	3	7	14	19	16	19	3
125	224	600	95,30	5	13	21	37	37	31	4
125	224	900	127,46	7	16	28	38	38	35	7
125	224	1200	157,73	9	20	34	39	39	36	9
160	260	300	84,04	2	8	12	15	15	14	3
160	260	600	119,94	3	11	22	33	42	29	6
160	260	900	158,67	8	14	23	39	37	25	8
160	260	1200	197,17	11	19	35	38	47	41	10
200	315	300	97,18	2	4	8	15	18	13	4
200	315	600	138,73	4	8	15	31	28	20	7
200	315	900	184,96	8	9	20	32	35	23	10
200	315	1200	226,26	11	17	26	34	40	26	12
250	355	600	170,89	6	9	13	24	15	15	9
250	355	900	226,52	8	11	20	33	24	18	12
250	355	1200	280,04	10	13	25	38	29	24	15



## Fire protection

Effective protection

Fire dampers with CE certification  
according EN 15650 standard

## INDEX

### 171 Selection table

**172 FMC** circular fire dampers EIS-90 / EIS-120 D. 100-315

**173 FOC-120** circular fire dampers EIS-90 / EIS-120 D. 355-630

**174 FOC-180** circular fire dampers EIS-180

**175 FBK-E1** rectangular fire dampers EIS-120 LxH < 1000x600

**177 FOK-120** rectangular fire dampers EIS-120 LxH > 1000x600

**179 FLX** rectangular fire dampers optimized for flexible wall

**181 FOK-180** rectangular fire dampers EIS-180

**183 FSC** fire damper cartridges EIS-60 / EIS-120






**184 FWC** fire damper ventilation valves EIS-60 / EIS-120

**185 FTR** transfer expanding grilles EIS-60 / EIS-120

## Fire dampers: Fire classification according to EN 13501-3






### RECTANGULAR FIRE DAMPERS

Technical data	Dimensions (mm)	Test depressure (Pa)	Vertical mounting (ve i↔o)			Horizontal mounting (ho i↔o)
			BRICK WALL	REINFORCED CONCRETE WALL	FLEXIBLE WALL	REINFORCED CONCRETE FLOOR
<b>FBK-E1</b> 	L: 100 to 1000 H: 100 to 600	500 Pa	≥ 105 mm <b>EI 120 S</b>	≥ 105 mm <b>EI 120 S</b>	≥ 98 mm <sup>(1)</sup> <b>EI 120 S</b>	≥ 150 mm <b>EI 120 S</b>
<b>FBK-E1-BP</b> 	L: 100 to 1000 H: 100 to 600	500 Pa	≥ 105 mm <b>EI 120 S</b>	≥ 105 mm <b>EI 120 S</b>		≥ 150 mm <b>EI 120 S</b>
<b>FLX-EIS-120</b> 	L: 200 to 1000 H: 200 to 600	500 Pa	≥ 123 mm <b>EI 120 S</b>	≥ 123 mm <b>EI 120 S</b>	≥ 98 mm <sup>(1)</sup> <b>EI 120 S</b>	≥ 200 mm <b>EI 120 S</b>
<b>FOK-EIS-120</b> 	L: 1000 to 1500 H: 600 to 800	300 Pa y 500 Pa	≥ 150 mm <b>EI 120 S</b> <i>(500Pa)</i>	≥ 150 mm <b>EI 120 S</b> <i>(500Pa)</i>		≥ 200 mm <b>EI 120 S</b> <i>(300Pa)</i>
<b>FOK-EIS-180</b> 	L: 200 to 1500 H: 200 to 800	300 Pa y 500 Pa	≥ 150 mm <b>EI 180 S</b> <i>(500Pa)</i>	≥ 150 mm <b>EI 180 S</b> <i>(500Pa)</i>		≥ 200 mm <b>EI 180 S</b> <i>(300Pa)</i>



### CIRCULAR FIRE DAMPERS

Fire damper model	Dimensions (mm)	Test depressure (Pa)	Vertical mounting (ve i↔o)			Horizontal mounting (ho i↔o)
			BRICK WALL	REINFORCED CONCRETE WALL	FLEXIBLE WALL	REINFORCED CONCRETE FLOOR
<b>FMC-EIS-120</b> 	Ø 100 a 315	500 Pa	≥ 110 mm <b>EI 120 S</b>	≥ 110 mm <b>EI 120 S</b>	≥ 98 mm <sup>(1)</sup> <i>Sealed with mortar</i> <b>EI 120 S</b> <i>Sealed with kit /ACF/</i> <b>EI 90 S</b>	≥ 150 mm <b>EI 120 S</b>
<b>FOC-EIS-120</b> 	Ø 355 a 630	500 Pa	≥ 110 mm <b>EI 120 S</b>	≥ 110 mm <b>EI 120 S</b>	≥ 98 mm <sup>(2)</sup> <b>EI 90 S</b>	
<b>FOC-EIS-180</b> 	Ø 100 <sup>(3)</sup> a 630	300 Pa	≥ 150 mm <b>EI 180 S</b>	≥ 150 mm <b>EI 180 S</b>		≥ 200 mm <b>EI 180 S</b>

(1) 98mm; Plasterboard type F (s/ EN 520), 12'5 x2 + 48(Mineral wool, 50 Kg/m<sup>3</sup>) + 12'5 x2, Modulation 600mm

(2) 98mm; Plasterboard tipo F (s/ EN 520), 12'5 x2 + 48(Mineral wool, 20 Kg/m<sup>3</sup>) + 12'5 x2, Modulation 400mm

(3) For diameters below 200 mm, Fire damper of diameter 200mm + reductions on both sides

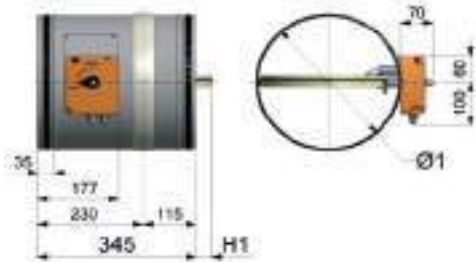
\* For more installation details, check on each fire damper technical information

# Circular fire dampers EIS-90 / EIS-120 D. 100-315

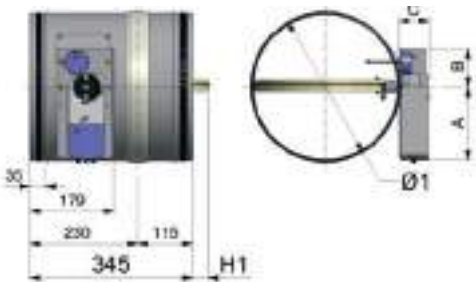


## Technical data

### FMC-EIS-120-MA

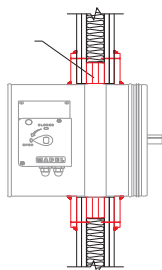


### FMC-EIS-120-MF...



Dn	Ø1	H1
100	98	-
125	123	-
150	148	-
160	158	-
200	198	-
250	248	6
315	313	38

### ACF



## Description

Fire dampers for circular duct mounting.  
 EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.  
 Dampers with shutting mechanism by thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Dampers made from galvanised steel and non-combustible board.

**FMC-EIS-120** Fire damper for the applications indicated in the Selection Table.

- ...-MA Manual resetting damper. Is not necessary to open the box device.
- ...-MFS Damper operated by SIEMENS actuator with switch off device.
- ...-MFB Damper operated by BELIMO actuator with switch off device.
- ...-MAF Damper operated by a solenoid. remote locking and manual reset: ask for price (sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

## Accessories for -MA dampers

/PIF/ Open / closed switches device.

## Fixing

- 1) Connection into a circular metallic duct.
- ACF** Square piece of plaster with a circular hole in the center for mounting on flexible wall (EIS 90)

## Specification Text

Supply and mounting of fire damper for circular duct with minimal pressure drop; tested in accordance to the standard EN-13501-3 and classed EIS, **FMC-EIS-120-MFS-24 Diam.** Operated by means of an actuator with switch off device at 24V **MFS-24**. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

Ø mm	FMC-MA eur	FMC-MFS-24 eur	FMC-MFS-230 eur	FMC-MFB-24 eur	FMC-MFB-230 eur	ACF eur
100	98,17	314,89	335,27	371,19	391,11	44,79
125	100,26	316,98	337,36	373,28	393,20	44,79
150	101,14	317,86	338,24	374,16	394,08	44,79
160	102,10	318,82	339,20	375,12	395,04	44,79
200	107,85	324,57	344,95	380,87	400,79	44,79
250	114,42	331,14	351,52	387,44	407,36	47,36
315	128,14	344,86	365,24	401,16	421,08	51,18
	eur					
/PIF/	22,37					

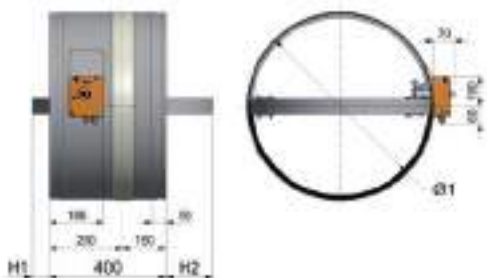


**Circular fire dampers EIS-90 / EIS-120 D. 355-630**

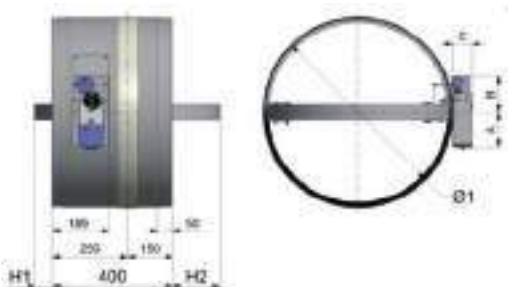


**Technical data**

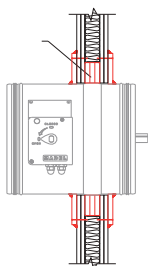
**FOC-EIS-120-MA**



**FOC-EIS-120-MF...**



**ACF**



Dn	Ø1	H1	H2
355	353	-	25
400	398	-	50
500	498	-	100
630	628	60	160



**Description**

Fire dampers for circular duct mounting.  
 EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.  
 Dampers with shutting mechanism by thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Dampers made from galvanised steel and non-combustible board.

**FOC-EIS-120** Fire damper for the applications indicated in the Selection Table.

- ...-MA Manual resetting damper. Is not necessary to open the box device.
- ...-MFS Damper operated by SIEMENS actuator with switch off device.
- ...-MFB Damper operated by BELIMO actuator with switch off device.
- ...-MAF Damper operated by a solenoid. remote locking and manual reset: ask for price (sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

**Accessories for -MA dampers**

/PIF/ Open / closed switches device.

**Fixing**

- 1) Connection into a circular metallic duct.
- ACF** Square piece of plaster with a circular hole in the center for mounting on flexible wall.

**Specification Text**

Supply and mounting of fire damper for circular duct classed EIS in accordance to the European standard EN-13501-3 series **FOC-EIS-120-MFS-24 Diam.** Operated by means of a servomotor at 24v **MFS-24**, start and end of course switches. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

Ø mm	FOC-120-MA eur	FOC-120-MFS-24 eur	FOC-120-MFS-230 eur	FOC-120-MFB-24 eur	FOC-120-MFB-230 eur	ACF eur
355	207,05	423,77	444,15	480,07	499,99	53,81
400	224,14	440,86	461,24	497,16	517,08	57,03
500	257,85	507,36	521,30	570,71	593,56	65,12
630	311,74	561,25	575,19	624,60	647,45	80,81

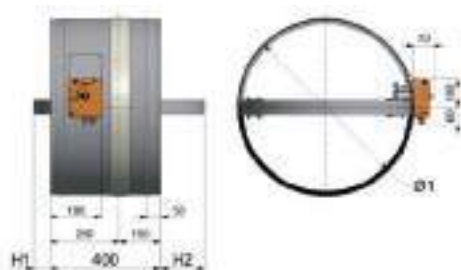
	eur
/PIF/	22,37

## Circular fire dampers EIS-180

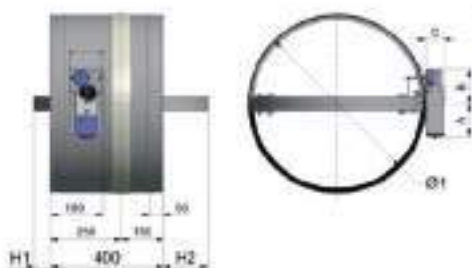


### Technical data

#### FOC-EIS-180-MA



#### FOC-EIS-180-MF...



#### Ø80...Ø160



Dn	Ø1	H1	H2
200	198	-	-
250	248	-	-
315	313	-	5
355	353	-	25
400	398	-	50
500	498	-	100
630	628	60	160

Dn	Ø2	L1
80	78	790
100	98	734
125	123	666
160	158	570

### Description

Fire dampers for circular duct mounting.

EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.

Dampers with shutting mechanism by thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Dampers made from galvanised steel and non-combustible board.

**FOC-EIS-180** Fire damper for the applications indicated in the Selection Table.

...-**MA** Manual resetting damper. Is not necessary to open the box device.

...-**MFS** Damper operated by SIEMENS actuator with switch off device.

...-**MAF** Damper operated by a solenoid. remote locking and manual reset: ask for price

(sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

### Accessories for -MA dampers

/PIF/ Open / closed switches device.

### Fixing

1) Connection into a circular metallic duct.

### Specification Text

Supply and mounting of fire damper for circular duct classed EIS-180 in accordance to the European standard EN-13501-3 series

**FOC-EIS-180-MFS-24 Diam.** Operated by means of a servomotor at 24v **MFS-24**, start and end of course switches. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

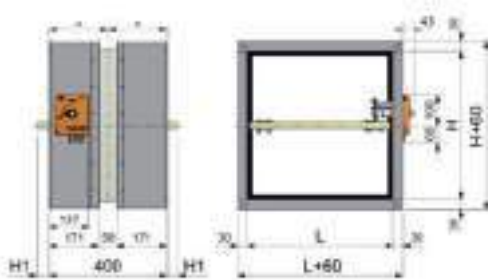
Ø mm	FOC-180-MA eur	FOC-180-MFS-24 eur	FOC-180-MFS-230 eur
80-160 (*reduction)	262,11	478,83	499,21
200	228,31	445,03	465,41
250	239,03	455,75	476,13
315	254,51	471,23	491,61
355	265,30	482,02	502,40
400	282,17	498,89	519,27
500	315,98	565,49	579,43
630	376,61	626,12	640,06
	eur		
/PIF/	22,37		

**Rectangular fire dampers EIS-120 LxH < 1000x600**



**Technical data**

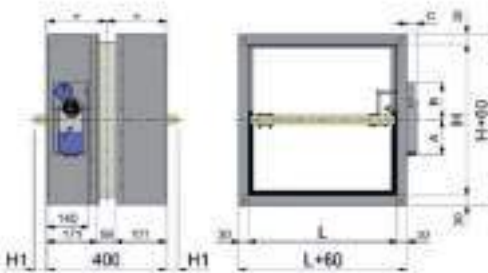
**FBK-E1-MA**



**Description**

Fire dampers for rectangular duct mounting.  
 EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.  
 Dampers with shutting mechanism by thermal fusible link at 72°C.  
 An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper.  
 Dampers made from galvanised steel and non-combustible board.

**FBK-E1-MF...**



**FBK-E1** Fire damper for the applications indicated in the Selection Table.

...-**H** Damper with blade parallel to the large side.

...-**V** Damper with blade parallel to the short side.

(Maximum size 600x600)

...-**MA** Manual resetting damper. Is not necessary to open the box device.

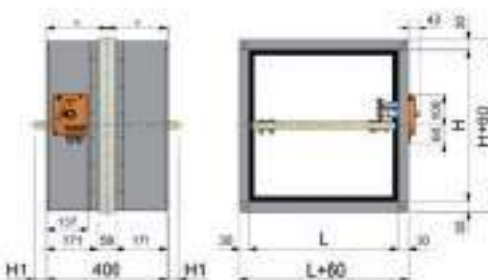
...-**MFS** Damper operated by SIEMENS actuator with switch off device.

...-**MFB** Damper operated by BELIMO actuator with switch off device.

...-**MAF** Damper operated by a solenoid. remote locking and manual reset: ask for price

(sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

**FBK-E1-BP-MA**



**Accessories for -MA dampers**

/PIF/ Open / closed switches device.

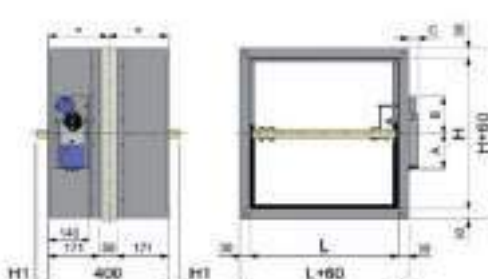
**Fixing**

1) Connection into a circular metallic duct.

(**BP**) Fire damper with perimeter frame of non-combustible board to facilitate assembly (supplement on MA version\*)

(**CR**) Flat connection flange (supplement on MA version\*)

**FBK-E1-BP-MF...**



**Specification Text**

Supply and mounting of fire damper for rectangular duct classed EIS in accordance to the European standard EN-13501-3 series **FBK-E1-H-MFS-24 LxH**. Operated by means of a servomotor at 24v **MFS-24**, start and end of course switches. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

H	H1
200...400	-
450	25
500	50
550	75
600	100

H	H1
650	125
700	150
750	175
800	200

L x H	FBK-E1 MA	FBK-E1 MFS-24	FBK-E1 MFS-230	FBK-E1 MFB-24	FBK-E1 MFB-230	L x H	FBK-E1 MA	FBK-E1 MFS-24	FBK-E1 MFS-230	FBK-E1 MFB-24	FBK-E1 MFB-230
mm	eur	eur	eur	eur	eur	mm	eur	eur	eur	eur	eur
<b>200x100</b>	<b>172,88</b>	<b>389,60</b>	<b>409,98</b>	<b>445,90</b>	<b>465,82</b>	<b>400x400</b>	<b>208,68</b>	<b>425,40</b>	<b>445,78</b>	<b>481,70</b>	<b>501,62</b>
250x100	178,09	394,81	415,19	451,11	471,03	450x400	214,69	431,41	451,79	487,71	507,63
300x100	182,03	398,75	419,13	455,05	474,97	500x400	221,94	438,66	459,04	494,96	514,88
350x100	186,74	403,46	423,84	459,76	479,68	550x400	228,03	444,75	465,13	501,05	520,97
400x100	190,76	407,48	427,86	463,78	483,70	600x400	235,21	451,93	472,31	508,23	528,15
450x100	194,75	411,47	431,85	467,77	487,69	700x400	249,07	465,79	486,17	522,09	542,01
500x100	199,97	416,69	437,07	472,99	492,91	800x400	263,18	512,69	526,63	576,04	598,89
550x100	204,04	420,76	441,14	477,06	496,98	900x400	276,01	525,52	539,46	588,87	611,72
600x100	207,49	424,21	444,59	480,51	500,43	1000x400	292,49	542,00	555,94	605,35	628,20
700x100	217,39	434,11	454,49	490,41	510,33	<b>450x450</b>	<b>223,41</b>	<b>440,13</b>	<b>460,51</b>	<b>496,43</b>	<b>516,35</b>
800x100	228,27	444,99	465,37	501,29	521,21	500x450	230,98	447,70	468,08	504,00	523,92
<b>200x200</b>	<b>164,78</b>	<b>381,50</b>	<b>401,88</b>	<b>437,80</b>	<b>457,72</b>	550x450	238,58	455,30	475,68	511,60	531,52
250x200	170,58	387,30	407,68	443,60	463,52	600x450	244,95	461,67	482,05	517,97	537,89
300x200	175,12	391,84	412,22	448,14	468,06	700x450	259,02	508,53	522,47	571,88	594,73
350x200	181,00	397,72	418,10	454,02	473,94	800x450	274,48	523,99	537,93	587,34	610,19
400x200	185,61	402,33	422,71	458,63	478,55	900x450	288,05	537,56	551,50	600,91	623,76
450x200	190,20	406,92	427,30	463,22	483,14	1000x450	305,34	554,85	568,79	618,20	641,05
500x200	196,01	412,73	433,11	469,03	488,95	<b>500x500</b>	<b>239,09</b>	<b>455,81</b>	<b>476,19</b>	<b>512,11</b>	<b>532,03</b>
550x200	200,66	417,38	437,76	473,68	493,60	550x500	245,89	462,61	482,99	518,91	538,83
600x200	205,30	422,02	442,40	478,32	498,24	600x500	252,06	468,78	489,16	525,08	545,00
700x200	216,36	433,08	453,46	489,38	509,30	700x500	267,46	516,97	530,91	580,32	603,17
800x200	228,42	445,14	465,52	501,44	521,36	800x500	283,75	533,26	547,20	596,61	619,46
900x200	238,16	454,88	475,26	511,18	531,10	900x500	298,10	547,61	561,55	610,96	633,81
1000x200	249,24	465,96	486,34	522,26	542,18	1000x500	315,67	565,18	579,12	628,53	651,38
<b>250x250</b>	<b>175,34</b>	<b>392,06</b>	<b>412,44</b>	<b>448,36</b>	<b>468,28</b>	<b>550x550</b>	<b>251,40</b>	<b>500,91</b>	<b>514,85</b>	<b>564,26</b>	<b>587,11</b>
300x250	180,18	396,90	417,28	453,20	473,12	600x550	258,50	508,01	521,95	571,36	594,21
350x250	186,46	403,18	423,56	459,48	479,40	700x550	274,56	524,07	538,01	587,42	610,27
400x250	191,39	408,11	428,49	464,41	484,33	800x550	291,49	541,00	554,94	604,35	627,20
450x250	196,36	413,08	433,46	469,38	489,30	900x550	305,88	555,39	569,33	618,74	641,59
500x250	202,48	419,20	439,58	475,50	495,42	1000x550	324,74	574,25	588,19	637,60	660,45
550x250	207,52	424,24	444,62	480,54	500,46	<b>600x600</b>	<b>265,19</b>	<b>514,70</b>	<b>528,64</b>	<b>578,05</b>	<b>600,90</b>
600x250	211,77	428,49	448,87	484,79	504,71	700x600	281,93	531,44	545,38	594,79	617,64
700x250	223,54	440,26	460,64	496,56	516,48	800x600	298,91	548,42	562,36	611,77	634,62
800x250	237,09	453,81	474,19	510,11	530,03	900x600	314,57	564,08	578,02	627,43	650,28
900x250	247,58	464,30	484,68	520,60	540,52	1000x600	334,08	583,59	597,53	646,94	669,79
1000x250	259,40	476,12	496,50	532,42	552,34						
<b>300x300</b>	<b>185,53</b>	<b>402,25</b>	<b>422,63</b>	<b>458,55</b>	<b>478,47</b>						
350x300	192,14	408,86	429,24	465,16	485,08						
400x300	197,46	414,18	434,56	470,48	490,40						
450x300	202,72	419,44	439,82	475,74	495,66						
500x300	208,54	425,26	445,64	481,56	501,48						
550x300	213,92	430,64	451,02	486,94	506,86						
600x300	219,27	435,99	456,37	492,29	512,21						
700x300	232,84	449,56	469,94	505,86	525,78						
800x300	245,98	462,70	483,08	519,00	538,92						
900x300	257,29	474,01	494,39	530,31	550,23						
1000x300	269,28	486,00	506,38	542,30	562,22						
<b>350x350</b>	<b>197,63</b>	<b>414,35</b>	<b>434,73</b>	<b>470,65</b>	<b>490,57</b>						
400x350	203,26	419,98	440,36	476,28	496,20						
450x350	208,20	424,92	445,30	481,22	501,14						
500x350	215,08	431,80	452,18	488,10	508,02						
550x350	220,84	437,56	457,94	493,86	513,78						
600x350	226,52	443,24	463,62	499,54	519,46						
700x350	240,79	457,51	477,89	513,81	533,73						
800x350	254,76	471,48	491,86	527,78	547,70						
900x350	266,17	515,68	529,62	579,03	601,88						
1000x350	279,56	529,07	543,01	592,42	615,27						

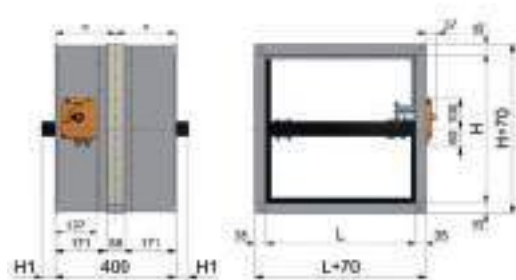
	eur
/PIF/	22,37
(BP)	15%
(CR)	7%

**Rectangular fire dampers EIS-120 LxH > 1000x600**

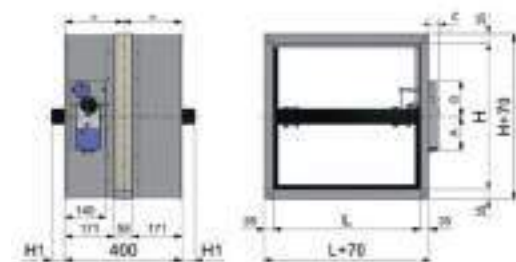


**Technical data**

**FOK-EIS-120-MA**



**FOK-EIS-120-MF...**



H	H1
200...400	-
450	25
500	50
550	75
600	100

H	H1
650	125
700	150
750	175
800	200



**Description**

Fire dampers for rectangular duct mounting.  
 EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.  
 Dampers with shutting mechanism by thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Dampers made from galvanised steel and non-combustible board.

**FOK-EIS-120** Fire damper for the applications indicated in the Selection Table.

- ...-H Damper with blade parallel to the large side.
- ...-V Damper with blade parallel to the short side. (Maximum size 800x800)
- ...-MA Manual resetting damper. Is not necessary to open the box device.
- ...-MFS Damper operated by SIEMENS actuator with switch off device.
- ...-MFB Damper operated by BELIMO actuator with switch off device.
- ...-MAF Damper operated by a solenoid. remote locking and manual reset: ask for price (sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

**Accessories for -MA dampers**

/PIF/ Open / closed switches device.

**Fixing**

- 1) Connection into a circular metallic duct.
- (CR) Flat connection flange (supplement on MA version\*)

**Specification Text**

Supply and mounting of fire damper for rectangular duct classed EIS in accordance to the European standard EN-13501-3 series **FOK-EIS-120-H-MFS-24 LxH**. Operated by means of a servomotor at 24v **MFS-24**, start and end of course switches. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.



L x H	FOK-120 MA	FOK-120 MFS-24	FOK-120 MFS-230	FOK-120 MFB-24	FOK-120 MFB-230
mm	eur	eur	eur	eur	eur
<b>1100 x 200</b>	<b>345,01</b>	<b>561,73</b>	<b>582,11</b>	<b>618,03</b>	<b>637,95</b>
1200 x 200	357,89	574,61	594,99	630,91	650,83
1300 x 200	370,79	587,51	607,89	643,81	663,73
1400 x 200	383,68	600,40	620,78	656,70	676,62
1500 x 200	405,88	622,60	642,98	678,90	698,82
<b>1100 x 250</b>	<b>364,26</b>	<b>580,98</b>	<b>601,36</b>	<b>637,28</b>	<b>657,20</b>
1200 x 250	387,90	604,62	625,00	660,92	680,84
1300 x 250	402,22	651,73	665,67	715,08	737,93
1400 x 250	416,54	666,05	679,99	729,40	752,25
1500 x 250	430,84	680,35	694,29	743,70	766,55
<b>1100 x 300</b>	<b>392,82</b>	<b>642,33</b>	<b>656,27</b>	<b>705,68</b>	<b>728,53</b>
1200 x 300	408,57	658,08	672,02	721,43	744,28
1300 x 300	424,30	673,81	687,75	737,16	760,01
1400 x 300	440,08	689,59	703,53	752,94	775,79
1500 x 300	455,79	705,30	719,24	768,65	791,50
1100 x 350	412,05	661,56	675,50	724,91	747,76
1200 x 350	429,24	678,75	692,69	742,10	764,95
1300 x 350	451,07	700,58	714,52	763,93	786,78
1400 x 350	468,24	717,75	731,69	781,10	803,95
1500 x 350	485,43	734,94	748,88	798,29	821,14
<b>1100 x 400</b>	<b>431,26</b>	<b>680,77</b>	<b>694,71</b>	<b>744,12</b>	<b>766,97</b>
1200 x 400	454,57	704,08	718,02	767,43	790,28
1300 x 400	473,14	722,65	736,59	786,00	808,85
1400 x 400	491,78	741,29	755,23	804,64	827,49
1500 x 400	510,39	759,90	773,84	823,25	846,10
<b>1100 x 450</b>	<b>455,55</b>	<b>705,06</b>	<b>719,00</b>	<b>768,41</b>	<b>791,26</b>
1200 x 450	475,57	725,08	739,02	788,43	811,28
1300 x 450	495,61	745,12	759,06	808,47	831,32
1400 x 450	515,66	765,17	779,11	828,52	851,37
1500 x 450	535,70	785,21	799,15	848,56	871,41
<b>1100 x 500</b>	<b>474,78</b>	<b>724,29</b>	<b>738,23</b>	<b>787,64</b>	<b>810,49</b>
1200 x 500	496,25	745,76	759,70	809,11	831,96
1300 x 500	517,73	767,24	781,18	830,59	853,44
1400 x 500	539,19	788,70	802,64	852,05	874,90
1500 x 500	560,67	810,18	824,12	873,53	896,38
<b>1100 x 550</b>	<b>493,99</b>	<b>743,50</b>	<b>757,44</b>	<b>806,85</b>	<b>829,70</b>
1200 x 550	516,90	766,41	780,35	829,76	852,61
1300 x 550	539,81	872,74	880,25	926,78	957,80
1400 x 550	562,74	895,67	903,18	949,71	980,73
1500 x 550	585,63	918,56	926,07	972,60	1.003,62
<b>1100 x 600</b>	-	<b>747,87</b>	<b>761,81</b>	<b>811,22</b>	<b>834,07</b>
1200 x 600	-	771,49	785,43	834,84	857,69
1300 x 600	-	877,55	885,06	931,59	962,61
1400 x 600	-	901,19	908,70	955,23	986,25
1500 x 600	-	924,81	932,32	978,85	1.009,87
<b>700 x 700</b>	<b>443,62</b>	<b>693,13</b>	<b>707,07</b>	<b>756,48</b>	<b>779,33</b>
800 x 700	470,81	720,32	734,26	783,67	806,52
900 x 700	498,01	747,52	761,46	810,87	833,72
1000 x 700	525,23	774,74	788,68	838,09	860,94
1100 x 700	-	785,53	799,47	848,88	871,73
1200 x 700	-	811,94	825,88	875,29	898,14
1300 x 700	-	920,80	928,31	974,84	1.005,86
1400 x 700	-	947,22	954,73	1.001,26	1.032,28
1500 x 700	-	973,63	981,14	1.027,67	1.058,69
<b>800 x 800</b>	<b>501,02</b>	<b>750,53</b>	<b>764,47</b>	<b>813,88</b>	<b>836,73</b>
900 x 800	531,11	780,62	794,56	843,97	866,82
1000 x 800	561,15	810,66	824,60	874,01	896,86
1100 x 800	-	823,22	837,16	886,57	909,42
1200 x 800	-	852,41	866,35	915,76	938,61
1300 x 800	-	964,06	971,57	1.018,10	1.049,12
1400 x 800	-	993,26	1.000,77	1.047,30	1.078,32
1500 x 800	-	1.022,45	1.029,96	1.076,49	1.107,51

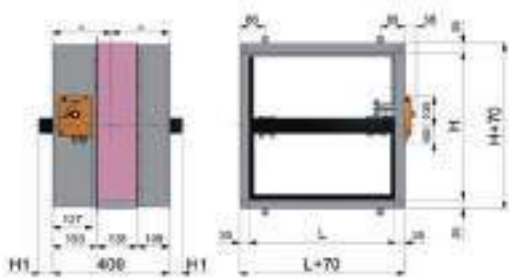
	eur
<b>/PIF/</b>	22,37
<b>(CR)</b>	7%

# Rectangular fire dampers EIS-120 optimized for flexible wall

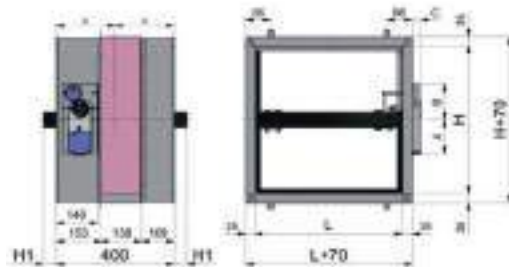


## Technical data

### FLX-EIS-120-MA



### FLX-EIS-120-MF..



H	H1
200...400	-
450	25
500	50
550	75
600	100



## Description

Fire dampers for rectangular duct mounting.  
 EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.  
 Dampers with shutting mechanism by thermal fusible link at 72°C.  
 An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper.  
 Dampers made from galvanised steel and non-combustible board.

**FLX-EIS-120** Fire damper for the applications indicated in the Selection Table.

- ...-H Damper with blade parallel to the large side.
- ...-V Damper with blade parallel to the short side.  
(Maximum size 600x600)
- ...-MA Manual resetting damper. Is not necessary to open the box device.
- ...-MFS Damper operated by SIEMENS actuator with switch off device.
- ...-MFB Damper operated by BELIMO actuator with switch off device.
- ...-MAF Damper operated by a solenoid. remote locking and manual reset: ask for price  
(sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

## Accessories for -MA dampers

/PIF/ Open / closed switches device.

## Fixing

- 1) Connection into a circular metallic duct.
- (CR) Flat connection flange (supplement on MA version\*)

## Specification Text

Supply and mounting of fire damper for rectangular duct classed EIS-120 in accordance to the European standard EN-13501-3 series **FLX-120-MFS-24 LxH**. Operated by means of a servomotor at 24v **MFS-24**, start and end of course switches. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

L x H	FLX MA	FLX MFS-24	FLX MFS-230	FLX MFB-24	FLX MFB-230	L x H	FLX MA	FLX MFS-24	FLX MFS-230	FLX MFB-24	FLX MFB-230
mm	eur	eur	eur	eur	eur	mm	eur	eur	eur	eur	eur
200x200	234,76	451,48	471,86	507,78	527,70	400x400	294,49	511,21	531,59	567,51	587,43
250x200	240,46	457,18	477,56	513,48	533,40	450x400	301,71	518,43	538,81	574,73	594,65
300x200	245,85	462,57	482,95	518,87	538,79	500x400	309,01	525,73	546,11	582,03	601,95
350x200	251,75	468,47	488,85	524,77	544,69	550x400	316,20	532,92	553,30	589,22	609,14
400x200	257,13	473,85	494,23	530,15	550,07	600x400	323,20	539,92	560,30	596,22	616,14
450x200	262,74	479,46	499,84	535,76	555,68	700x400	337,71	554,43	574,81	610,73	630,65
500x200	268,43	485,15	505,53	541,45	561,37	800x400	361,55	611,06	625,00	674,41	697,26
550x200	274,01	490,73	511,11	547,03	566,95	900x400	375,77	625,28	639,22	688,63	711,48
600x200	279,40	496,12	516,50	552,42	572,34	1000x400	390,28	639,79	653,73	703,14	725,99
700x200	290,69	507,41	527,79	563,71	583,63	450x450	309,47	526,19	546,57	582,49	602,41
800x200	311,29	528,01	548,39	584,31	604,23	500x450	317,17	533,89	554,27	590,19	610,11
900x200	322,30	539,02	559,40	595,32	615,24	550x450	324,79	541,51	561,89	597,81	617,73
1000x200	333,57	550,29	570,67	606,59	626,51	600x450	332,21	548,93	569,31	605,23	625,15
250x250	246,26	462,98	483,36	519,28	539,20	700x450	356,85	606,36	620,30	669,71	692,56
300x250	252,05	468,77	489,15	525,07	544,99	800x450	372,16	621,67	635,61	685,02	707,87
350x250	258,34	475,06	495,44	531,36	551,28	900x450	387,17	636,68	650,62	700,03	722,88
400x250	264,13	480,85	501,23	537,15	557,07	1000x450	402,49	652,00	665,94	715,35	738,20
450x250	270,13	486,85	507,23	543,15	563,07	500x500	325,57	542,29	562,67	598,59	618,51
500x250	276,23	492,95	513,33	549,25	569,17	550x500	333,57	550,29	570,67	606,59	626,51
550x250	282,22	498,94	519,32	555,24	575,16	600x500	350,75	567,47	587,85	623,77	643,69
600x250	297,36	514,08	534,46	570,38	590,30	700x500	366,83	616,34	630,28	679,69	702,54
700x250	309,45	526,17	546,55	582,47	602,39	800x500	382,96	632,47	646,41	695,82	718,67
800x250	321,54	538,26	558,64	594,56	614,48	900x500	398,79	648,30	662,24	711,65	734,50
900x250	333,32	550,04	570,42	606,34	626,26	1000x500	419,56	669,07	683,01	732,42	755,27
1000x250	345,41	562,13	582,51	618,43	638,35	550x550	351,12	600,63	614,57	663,98	686,83
300x300	258,25	474,97	495,35	531,27	551,19	600x550	359,34	608,85	622,79	672,20	695,05
350x300	264,95	481,67	502,05	537,97	557,89	700x550	376,27	625,78	639,72	689,13	711,98
400x300	271,16	487,88	508,26	544,18	564,10	800x550	393,20	642,71	656,65	706,06	728,91
450x300	277,54	494,26	514,64	550,56	570,48	900x550	414,50	664,01	677,95	727,36	750,21
500x300	293,36	510,08	530,46	566,38	586,30	1000x550	431,41	680,92	694,86	744,27	767,12
550x300	299,76	516,48	536,86	572,78	592,70	600x600	368,34	617,85	631,79	681,20	704,05
600x300	305,98	522,70	543,08	579,00	598,92	700x600	386,05	635,56	649,50	698,91	721,76
700x300	318,86	535,58	555,96	591,88	611,80	800x600	408,45	657,96	671,90	721,31	744,16
800x300	331,76	548,48	568,86	604,78	624,70	900x600	425,89	675,40	689,34	738,75	761,60
900x300	344,37	561,09	581,47	617,39	637,31	1000x600	443,64	693,15	707,09	756,50	779,35
1000x300	366,61	583,33	603,71	639,63	659,55						
350x350	271,54	488,26	508,64	544,56	564,48						
400x350	278,16	494,88	515,26	551,18	571,10						
450x350	294,27	510,99	531,37	567,29	587,21						
500x350	301,21	517,93	538,31	574,23	594,15						
550x350	307,98	524,70	545,08	581,00	600,92						
600x350	314,58	531,30	551,68	587,60	607,52						
700x350	328,31	545,03	565,41	601,33	621,25						
800x350	342,00	558,72	579,10	615,02	634,94						
900x350	364,73	614,24	628,18	677,59	700,44						
1000x350	378,43	627,94	641,88	691,29	714,14						

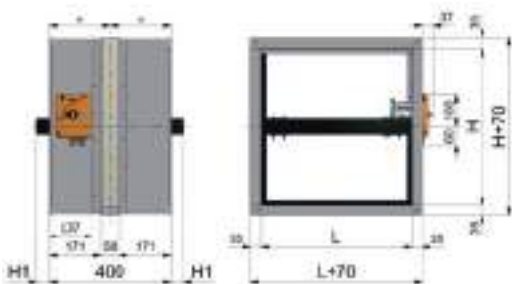
	eur
/PIF/	22,37
(CR)	7%

## Rectangular fire dampers EIS-180

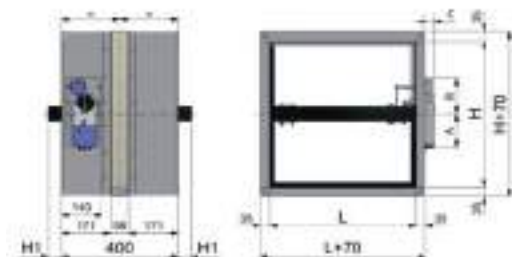


### Technical data

#### FOK-EIS-180-MA



#### FOK-EIS-180-MF...



H	H1
200...400	-
450	25
500	50
550	75
600	100
650	125
700	150
750	175
800	200



### Description

Fire dampers for rectangular duct mounting.

EIS rated dampers (integrity, insulation and smoke leakage) according to EN 13501-3 standard.

Dampers with shutting mechanism by thermal fusible link at 72°C.

An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper.

Dampers made from galvanised steel and non-combustible board.

**FOK-EIS-180** Fire damper for the applications indicated in the Selection Table.

...-H Damper with blade parallel to the large side.

...-V Damper with blade parallel to the short side.

(Maximum size 800x800)

...-MA Manual resetting damper. Is not necessary to open the box device.

...-MFS Damper operated by SIEMENS actuator with switch off device.

...-MAF Damper operated by a solenoid. remote locking and manual reset: ask for price

(sizes A, B, C for MF... and MAF see PDF at [www.madel.com](http://www.madel.com))

### Accessories for -MA dampers

/PIF/ Open / closed switches device.

### Fixing

1) Connection into a circular metallic duct.

(CR) Flat connection flange (supplement on MA version\*)

### Specification Text

Supply and mounting of fire damper for rectangular duct classed EIS-180 in accordance to the European standard EN-13501-3 series

**FOK-180-MFS-24 LxH.** Operated by means of a servomotor at 24v **MFS-24**, start and end of course switches. Dampers made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

L x H	FOK-180 MA	FOK-180 MFS-24	FOK-180 MFS-230	L x H	FOK-180 MA	FOK-180 MFS-24	FOK-180 MFS-230
mm	eur	eur	eur	mm	eur	eur	eur
200x200	219,95	436,67	457,05	800x400	375,44	624,95	638,89
250x200	226,27	442,99	463,37	900x400	394,05	643,56	657,50
300x200	232,63	449,35	469,73	1000x400	412,68	662,19	676,13
350x200	239,17	455,89	476,27	1100x400	435,59	685,10	699,04
400x200	245,50	462,22	482,60	1200x400	459,09	708,60	722,54
450x200	252,06	468,78	489,16	1300x400	477,89	727,40	741,34
500x200	258,42	475,14	495,52	1400x400	496,71	746,22	760,16
550x200	264,94	481,66	502,04	1500x400	515,47	764,98	778,92
600x200	271,29	488,01	508,39	450x450	311,34	528,06	548,44
700x200	284,18	500,90	521,28	500x450	321,27	537,99	558,37
800x200	306,36	523,08	543,46	550x450	331,40	548,12	568,50
900x200	319,25	535,97	556,35	600x450	341,33	558,05	578,43
1000x200	332,14	548,86	569,24	700x450	370,67	620,18	634,12
1100x200	348,46	565,18	585,56	800x450	390,72	640,23	654,17
1200x200	361,49	578,21	598,59	900x450	410,78	660,29	674,23
1300x200	374,50	591,22	611,60	1000x450	430,83	680,34	694,28
1400x200	387,51	604,23	624,61	1100x450	460,10	709,61	723,55
1500x200	409,93	626,65	647,03	1200x450	480,34	729,85	743,79
250x250	233,35	450,07	470,45	1300x450	500,56	750,07	764,01
300x250	240,41	457,13	477,51	1400x450	520,81	770,32	784,26
350x250	247,62	464,34	484,72	1500x450	541,09	790,60	804,54
400x250	254,73	471,45	491,83	500x500	331,94	548,66	569,04
450x250	261,96	478,68	499,06	550x500	342,74	559,46	579,84
500x250	269,03	485,75	506,13	600x500	362,71	579,43	599,81
550x250	276,28	493,00	513,38	700x500	384,21	633,72	647,66
600x250	292,67	509,39	529,77	800x500	405,69	655,20	669,14
700x250	307,00	523,72	544,10	900x500	427,14	676,65	690,59
800x250	321,30	538,02	558,40	1000x500	453,30	702,81	716,75
900x250	335,62	552,34	572,72	1100x500	479,53	729,04	742,98
1000x250	349,92	566,64	587,02	1200x500	501,22	750,73	764,67
1100x250	367,90	584,62	605,00	1300x500	522,91	772,42	786,36
1200x250	391,78	608,50	628,88	1400 x 500	544,59	794,10	808,04
1300 x 250	406,24	655,75	669,69	1500x500	566,29	815,80	829,74
1400x250	420,68	670,19	684,13	550x550	363,44	612,95	626,89
1500x250	435,14	684,65	698,59	600x550	374,79	624,30	638,24
300x300	248,17	464,89	485,27	700x550	397,70	647,21	661,15
350x300	256,12	472,84	493,22	800x550	420,61	670,12	684,06
400x300	263,93	480,65	501,03	900x550	448,18	697,69	711,63
450x300	271,89	488,61	508,99	1000x550	471,08	720,59	734,53
500x300	289,01	505,73	526,11	1100x550	498,93	748,44	762,38
550x300	296,97	513,69	534,07	1200x550	522,09	771,60	785,54
600x300	304,76	521,48	541,86	1300x550	545,23	787,16	805,67
700x300	320,48	537,20	557,58	1400x550	568,34	801,27	820,78
800x300	336,23	552,95	573,33	1500x550	591,50	824,43	831,94
900x300	352,01	568,73	589,11	600x600	387,22	636,73	650,67
1000x300	377,07	593,79	614,17	700x600	411,58	661,09	675,03
1100x300	396,74	646,25	660,19	800x600	440,58	690,09	704,03
1200x300	412,67	662,18	676,12	900x600	464,94	714,45	728,39
1300x300	428,55	678,06	692,00	1000x600	489,26	738,77	752,71
1400x300	444,46	693,97	707,91	1100x600	-	743,27	757,21
1500x300	460,36	709,87	723,81	1200x600	-	766,68	780,62
350x350	264,61	481,33	501,71	700x700	448,03	697,54	711,48
400x350	273,11	489,83	510,21	800x700	475,53	725,04	738,98
450x350	291,15	507,87	528,25	900x700	502,99	752,50	766,44
500x350	299,64	516,36	536,74	1000x700	530,48	779,99	793,93
550x350	308,32	525,04	545,42	1100x700	-	780,58	794,52
600x350	316,81	533,53	553,91	1200x700	-	806,74	820,68
700x350	334,02	550,74	571,12	800x800	506,04	755,55	769,49
800x350	351,18	567,90	588,28	900x800	536,40	785,91	799,85
900x350	377,69	627,20	641,14	1000x800	566,79	816,30	830,24
1000x350	394,86	644,37	658,31	1100x800	-	817,94	831,88
1100x350	416,18	665,69	679,63	1200x800	-	846,84	860,78
1200x350	433,52	683,03	696,97	1300x600	-	872,53	880,04
1300x350	455,58	705,09	719,03	1400x600	-	895,95	903,46
1400x350	472,93	722,44	736,38	1500x600	-	919,36	926,87
1500x350	490,28	739,79	753,73	1300x700	-	915,38	922,89
400x400	291,65	508,37	528,75	1400x700	-	941,56	949,07
450x400	301,05	517,77	538,15	1500x700	-	967,73	975,24
500x400	310,28	527,00	547,38	1300x800	-	958,26	965,77
550x400	319,64	536,36	556,74	1400x800	-	987,18	994,69
600x400	328,90	545,62	566,00	1500x800	-	1.016,11	1.023,62
700x400	347,50	564,22	584,60				

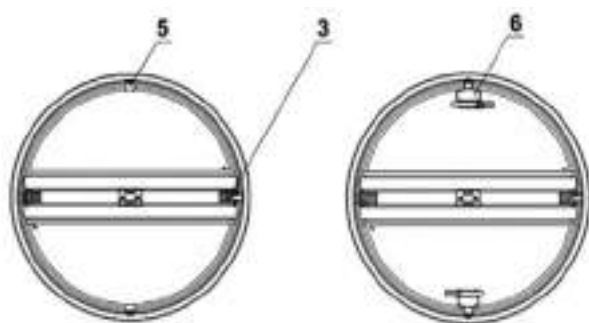
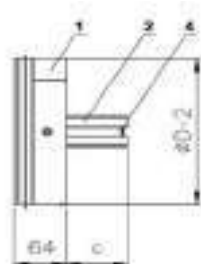
	eur
/PIF/	22,37
(CR)	7%



## Fire damper cartridges EIS-60 / EIS-120



### Technical data



1. Casing
2. Sealing leaf
3. Actuating spring
4. Thermal fuse
5. Locking strip
6. CIF

Ø nominal	Kg	Aeff (m2)	C
100	0,3	0,003	17,5
125	0,4	0,006	30,2
160	0,55	0,0119	48
200	0,75	0,0209	68

### Description

Fire damper cartridges for circular duct mounting. Tested and classed EIS-60 or 120 (Integrity, Insulation and smoke leakage during 60 or 120 minutes) in accordance to the European standard EN-13501-3 at a constant pressure of 300Pa. Fire damper cartridges with shutting mechanism by thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the fire damper cartridge. These fire damper cartridges full fill the required conditions for the (S) symbol, air-tightness to cold smoke. In case of fire, poisoning by smoke is the main cause of death. Made from galvanised steel and non-combustible board.

- FSC-60** Fire damper cartridge classed EIS 60.
- FSC-120** Fire damper cartridge classed EIS 120.

### Accessories

/CIF/ Open / closed switches device on both blades.

### Fixing

- 1) Mounting into the wall opening.

### Specification Text

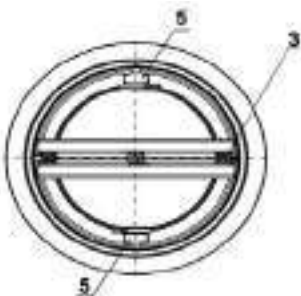
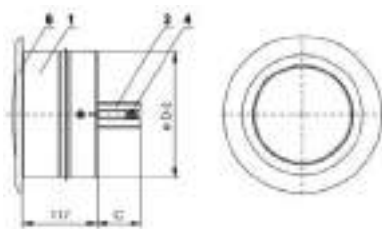
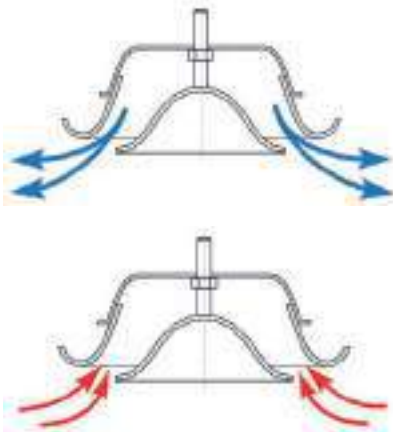
Supply and mounting of fire damper cartridge for circular duct classed EIS-60 in accordance to the European standard EN-13501-3 series **FSC-60 D.200**. Fire damper cartridge made from galvanised steel and non-combustible board. Thermal fusible link at 72°C. An air-tightness joint prevents the propagation of smoke to low temperature, while the expanding joint is dilating to seal the damper. Manufacturer **MADEL**.

Diam. mm	FSC-60 eur	FSC-120 eur	FSC-60 /CIF/ eur	FSC-120 /CIF/ eur
100	48,05	66,88	90,22	109,05
125	50,87	73,36	93,04	115,53
160	56,49	85,34	98,66	127,51
200	62,45	99,22	104,62	141,39

## Fire damper ventilation valves EIS-60 / EIS-120



### Technical data



1. Casing
2. Sealing leaf
3. Actuating spring
4. Thermal fuse
5. CIF
6. Ventilation valve

Ø nominal	Kg	Aeff (m2)	C
100	0,64	0,003	17,5
125	0,85	0,006	30,2
160	1,2	0,0119	48
200	1,59	0,0209	68



### Description

Fire damper cartridge equipped with a ventilation valve. They function as a separating element between two fire sectors and provide the same fire resistance as the structural elements of the compartments, limiting the risk of fire spreading inside the building. Fire damper cartridge closing through bimetallic fusible link 72°C. The assembly is to be installed on a constructive element (wall or slab), the ventilation valve must be placed at duct ends and the fire damper cartridge inside the ventilation duct, in the section of the structural element.

The closing blades are made of fiber plate and lined with intumescent material. The housing is entirely made of galvanized steel and welded together. Ventilation valve for supply / extract made of galvanized steel and painted in RAL9010.

**FWC-EIS-60** Adjustable ventilation valve for supply / extract equipped with a cartridge EIS-60.

**FWC-EIS-120** Adjustable ventilation valve for supply / extract equipped with a cartridge EIS-120.

### Accessories

/CIF/ Open / closed switches device on both blades.

### Fixing

- 1) Mounting into the wall opening.

### Finish

**R9010** Painted in white RAL 9010.

### Specification Text

Supply and installation of a fire damper cartridge equipped with a ventilation valve, series **FWC-EIS-120 /CIF/ diam. 200** with spring driven automatic closing through bimetallic fusible link 72°C. To be mounted inside same diameter circular ventilation duct, with the ventilation valve to be mounted at duct ends. Tested and certified EIS 120 according to EN 13501-3 and with CE certification according to EN 15650. Damper casing made of galvanized steel and blades made of fire resistant asbestos free boards made of mineral fibers. Fusible link set for 72° C. With intumescent sealing in order to stop the propagation of fire. Include a ventilation valve for supply / exhaust and a double limit switch contacts. With all necessary elements for installation. Brand **MADEL**.

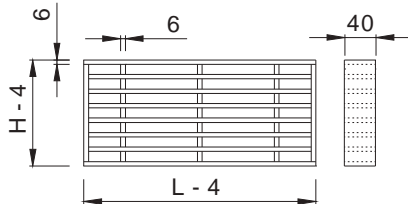
Diam. mm	FWC-60 eur	FWC-120 eur	FWC-60 /CIF/ eur	FWC-120 /CIF/ eur
100	67,74	91,04	109,91	133,21
125	78,46	100,96	120,63	143,13
160	90,56	119,42	132,73	161,59
200	108,80	145,57	150,97	187,74

# Transfer expanding grilles EIS-60 / EIS-120

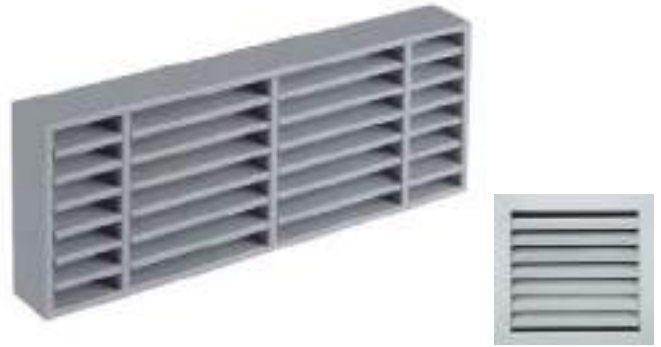
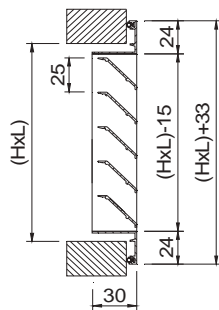


## Technical data

### FTR



### DMT-AR (T)



## Description

The intumescent FTR grilles allow natural ventilation through compartmentation elements. They expand at a temperature of 120°C, sealing the ventilation opening. Grille constructed from sodium silicate covered in PVC. Tested according to the general requirements of EN 1363-1, complying with the criteria of integrity against fire and thermal insulation for a time of 60/120 \* minutes (EI 60 / EI 120) according to the test standard EN 1366-3.

**FTR** Rectangular expanding grille EI 60 or EI 120 according to the mounting system.

## Accessories

**TM** Expanding filler tube of 310 ml.

**DMT-AR (T)** Return grille made from aluminium with fixed blades at 45°. Fixing by visible screws. More info at DMT series.

## Fixing

- 1) **FTR** mounting into the wall opening for a resistance EI 60.
- 2) **FTR** + 2 un **DMT-AR (T)** mounting into the wall opening for a resistance EI 120

## Specification text

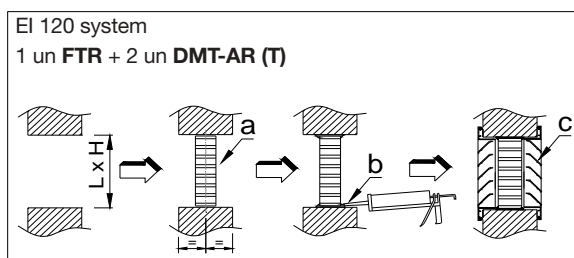
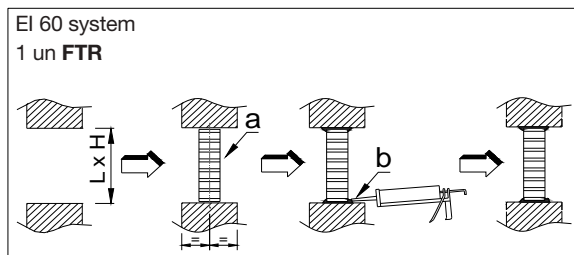
### EI 60

Supply and mounting of expanding grille for ventilation through compartmentation elements EI 60 (integrity and insulation during 60 min) FTR series, dim. LxH, constructed from sodium silicate covered in PVC. **MADEL** brand.

### EI 120

Supply and mounting of expanding grille for ventilation through compartmentation elements EI 120 (integrity and insulation during 120 min) FTR series + 2 units of **DMT-AR (T)** grilles, dim. LxH. FTR constructed from sodium silicate covered in PVC and DMT-AR series from aluminium. **MADEL** brand.

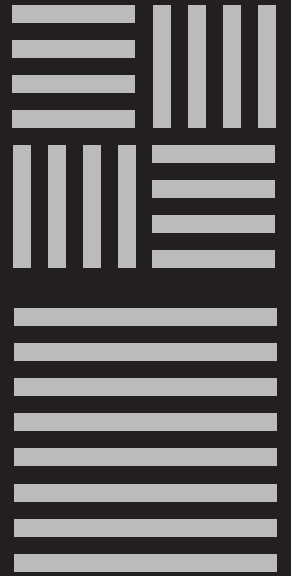
\* Meets the criteria described by following the corresponding mounting system



- a- FTR grille.
- b- Holes have to be plugged by expanding filler TM.
- c- 2 units of DMT-AR (T) grilles.

L x H mm	FTR eur	A free m <sup>2</sup>
100x100	43,85	0,006
200x100	59,90	0,012
150x150	64,47	0,014
300x150	88,45	0,028
200x200	87,00	0,025
400x200	133,92	0,050
300x300	146,29	0,056
600x300	235,21	0,112
400x400	219,27	0,100
500x500	312,56	0,156
600x600	427,34	0,224

(*)	eur
<b>TM</b>	20,54



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Αποκλειστικός Αντιπρόσωπος  
Αγίας Παρασκευής 29, Περιστερί, 121 32, Αττική  
Tel. (+30) 2105984628 - 2167000544  
info@progetti.gr / www.progetti.gr

