Technical documentation

MR Mono - MR Modulo

Measuring, control and connectivity

aldes | At the heart of buildings

Aldes, a French family history and international presence

Aldes was founded in Lyon by Bernard Lacroix in 1925. It originally started out forming and manufacturing metal ventilation grilles.

Our solutions bring healthy, clean indoor air to buildings. Ventilation, thermal comfort, fire protection, and more: Aldes systems bring comfort and well-being.
Aldes designs and manufactures reliable, efficient solutions. Through expert airflow management and driven by a capacity for regular innovation, Aldes solutions ensure the health of buildings and their occupants over the long term.

Aldes experts devote their time and energy to serve those responsible for erecting sustainable buildings.
In the heart of French regions, close to trade professionals, our production sites breathe fresh air into construction and refurbishment projects, ensuring quality and energy savings for the long term.

aldesgroupe

Family-owned multi-brand group founded in France in 1925. Designer and manufacturer of air quality and thermal comfort solutions at the heart of the building.

aldes AERECO ACTHYS

€330M*
revenue 2025
60% in France / 40% international
* Net pro forma revenue 2025

1600
employees
as of end 2025

60
countries covered

5
areas of expertise
Ventilation, Thermal Comfort, Fire protection, Air purication, Central vacuum cleaning

9
production sites

Active in **12** countries through our 21 subsidiaries

8
logistics platforms

6
R&D centres

3
sales regions
Southern Europe (incl. France)
Northern Europe
Asia, Middle East and Americas

Main markets

Multi-occupancy housing | Individual housing | Offices | Schools | Hotels | Health

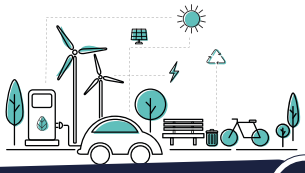
Logistics platforms | Production sites | R&D centres

A structured CSR strategy:

SILVER | Top 15% ecovadis Sustainability Rating JAN 2025

aldes impact
Together, let's act with commitment and awareness

The Aldes Group has built its CSR strategy, Aldes ImpACT, around four major commitments. Its aim is to take tangible action for its employees, its customers, its industry and society as a whole.



ACT USING RESPONSIBLE SOLUTIONS

Increase the positive impact of our products. Protect indoor air quality.

In 2024, in France

21 products with **LCA***

**LCA: Life Cycle Assessment*

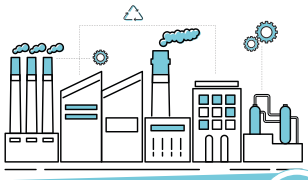
ACT USING A SUSTAINABLE MODEL

Build a low-carbon value chain. Share a sustainable vision.

In 2024, at Group level

60% of spending with **strategic suppliers** active in **CSR**

Aldes carried out its **carbon footprint** assessment on **82%** of the Group's operational sites.



ACT FOR OUR REGIONS AND INDUSTRY

Contribute to creating value in our regions: Drive a sustainable industrial vision.

In 2024, at Group level

5 partnerships with local players active in housing or education.

39 initiatives with the local ecosystem

ACT FOR PEOPLE

Give meaning and reinforce the collective Build career paths to success and drive our performance.

In 2024, at Group level

100% **of new managers** supported in managerial performance.

Responsible and eco-designed solutions

Thermal comfort and heat recovery ventilation products, air handling units that optimise the heating and cooling needs of buildings and contribute to the objective of a carbon-neutral building stock by 2050.

T.One® AquaAIR air/air heat pump

Uses a renewable and free energy source: air

1 kW of electricity consumed = up to **4 kW** returned

R32 refrigerant environmentally-friendly and offering the best energy class **A+++** for heating

The "product eco-card" created by Aldes, for each new product.

Raw materials
50% recycled plastic
15% low-emission metal
80% of suppliers <500 km

Weight and packaging
10% reduction in product weight
15% reduction in packaging weight
Zero plastic packaging
Component packaging reuse circuit

Power consumption
5% reduction in electricity consumption

Leaflet - Eco guide
Service life - Recyclability
Digital instructions
Eco-guide online
5-year warranty

Average service life of an Aldes product

17 years for active products (with motor)

30 years for passive products

Availability of **spare parts** at Aldes

10 years

CARBON FOOTPRINT

SCOPE 1

2,222 $tCO_2eq.$

0.4%

Company direct emissions

SCOPE 2

314 $tCO_2eq.$

0.1%

indirect emissions, related to company energy consumption

OBJECTIVE **2030**

-42% GHG emissions in absolute terms

SCOPES 1 and 2

-5.87%/year in absolute terms

SCOPE 3

564,364w $tCO_2eq.$

99.5%

indirect emissions upstream and downstream induced by company activities

OBJECTIVE **2030**

-51% GHG emissions in intensity

SCOPE 3

-7.75%/year in value relative to revenue

Scope: France, Canada, Denmark

MR Mono - MR Modulo

INTRODUCTION

- Aeraulic disturbances within HVAC systems generate airflow variations.
- Managing to set real airflows as per those calculated in design stage, will ensure hygiene (ventilation) and thermal comfort (air conditioning) while limiting noise and optimizing fan or AHU operating costs.

RANGE

2 models:
- MR Mono - 1 code = 1 factory-set airflow,
- MR Modulo - 1 code = several airflow set point

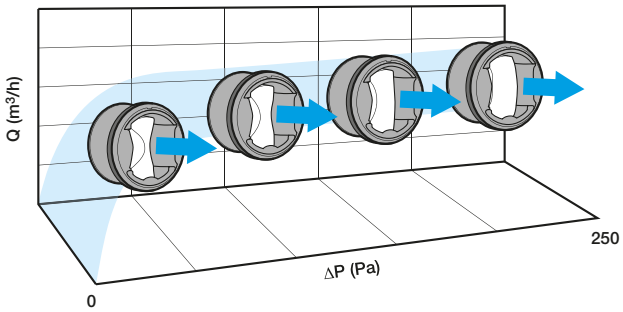
(8 references). 7 diameters (mm) : 80, 100, 125, 150, 160, 200, et 250.

3 Pressure ranges :
- between 50 and 250 Pa for the standard MR Mono and the MR Modulo (except D80, D100 et D125 : 50-200 Pa),
- between 150 and 650 Pa for the MR High Pressure,

PRINCIPLE OF OPERATION

- CARs (MR) purpose is airflow balancing in HVAC ductwork.
- It can be easily inserted into a portion of a circular duct network in order to regulate an accurate and constant airflow within a large differential pressure range.
- The membrane inflates or deflates depending on the pressure drop on both sides of the CAR, changing consequently the free air passage (see illustration below).

> This principle guarantees a constant airflow when the upstream/ downstream differential pressure varies.

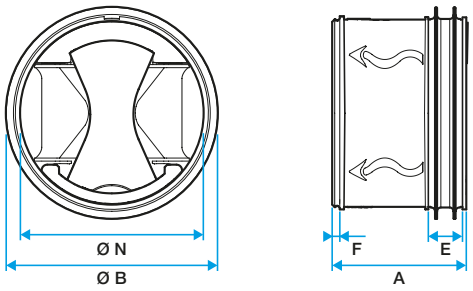


CONSTRUCTION AND MATERIAL

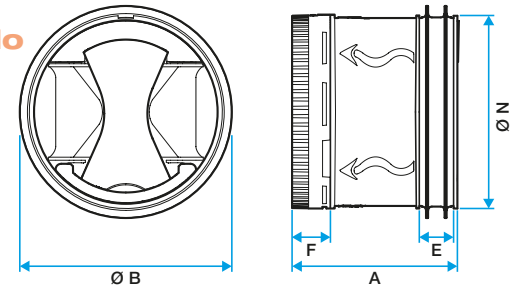
① Removable clips in PC / ABS plastic,
② Regulating silicon membrane,
③ Double-lip airtightness seal in elastomer,
④ Housing in PC / ABS plastic,
⑤ Rotating adjustment ring in PC / ABS plastic for airflow setting.

DIMENSIONS - WEIGHT

MR Mono

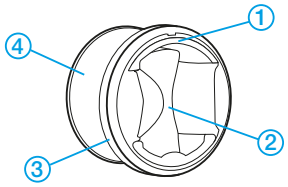


MR Modulo

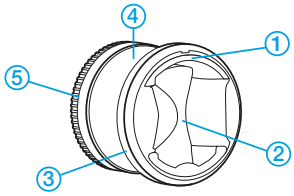


				MR Mono			MR Modulo		
Duct Ø	Ø N	Ø B	E	F	A	Weight	F	A	Weight
(mm)				(mm)		(kg)	(mm)		(kg)
80	76	85	14	3	53	0,06	15	65	0,08
100	92	105	14	4	61	0,10	13	70	0,12
125 15-90 m³/h	116	132	14	4	61	0,14	13	70	0,15
125 100-190 m³/h	116	132	14	4	97	0,20	17	110	0,17
150	147	153	14	4	103	0,30	19	118	0,37
160	153	167	14	4	103	0,30	19	118	0,37
200	190	210	20	7	128	0,60	23	144	0,59
250	238	262	20	5	159	1,06	26	180	1,02

MR Mono



MR Modulo



The following information is directly indicated on the product:
- Flow direction, diameter in mm and inch, operating differential pressure range, code, production traceability,
- MR Mono: factory airflow calibration (both in m³/h) and cfm),
- MR Modulo: airflow setting range correlation table (both in m³/h and cfm).

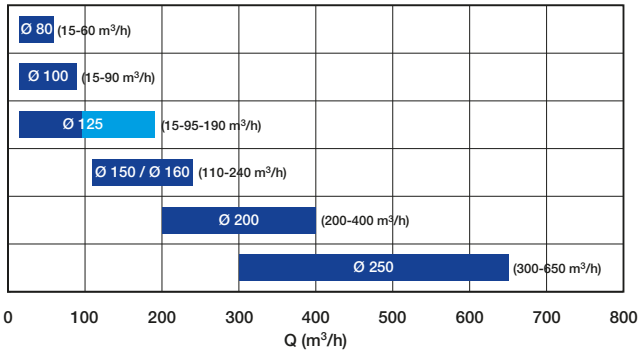
FIELD OF APPLICATION

- Maintaining airflows in ventilation or air conditioning ductworks.
- Use in air supply and air exhaust.
- Operating airflow range (see diagrams).
- Tolerance in airflow over operating range: :
  - +/- 5 m³/h for an airflow ≤ 50 m³/h except VMT MR,
  - +/- 10 % for an airflow > 50 m³/h except MR Mono D80, D100 and D125 (+/-15%), MR Modulo D80, D100 and D125 (+/-10% maximum airflow).
- Functional differencial pressure :

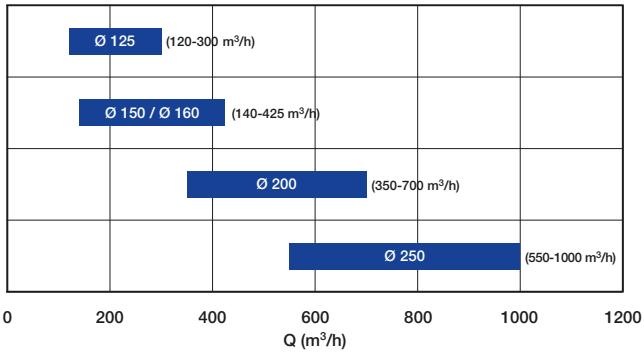
- MR Modulo and standard MR: range between 50 and 250 Pa, (except D80, D100 et D125: 50-200 Pa).
- MR Mono High Pressure: range between 150 and 650 Pa,

- Temperature range of use: -10 to 60° C.
- Compliant with DIN EN 1506 (dimensions).

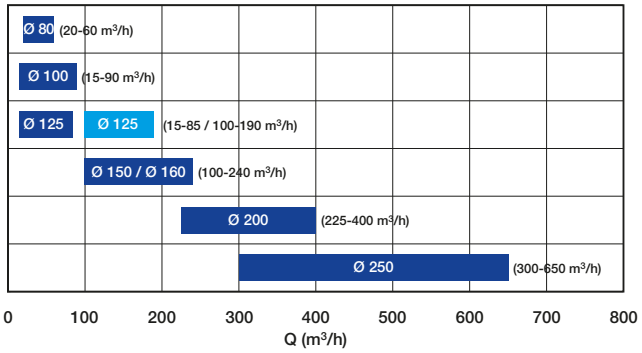
MR Mono Standard



MR Mono HP



MR Modulo Standard



MR MONO STANDARD

Acoustic features

Sound power levels of noise (Lw) at duct output:

The following tables give the sound power levels of noise (Lw) expressed in decibels per octave (dB/oct) as well as the global sound power levels in dB(A) according to the pressure drop.

These sound power levels are results of tests carried out by a Dutch independent laboratory (PEUTZ) and are given at the duct outlet.

Measures were carried out in accordance with NF EN ISO 3741 and NF EN ISO 5135 norms, with a CAR fitted into a duct with an upstream and downstream straight length equal to 3 diameters.

Ø 80	Differiencial Pressure ΔP (Pa)																													
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
15	25	21	21	15	14	9	6	**23**	25	30	30	27	28	23	19	**34**	25	32	34	34	34	31	25	**40**	26	34	38	40	40	37	31	**45**
20	25	22	22	16	15	9	6	**24**	26	31	31	28	28	24	19	**34**	26	34	35	34	35	31	26	**40**	27	36	38	40	40	38	32	**46**
25	25	23	23	17	15	10	7	**24**	26	32	31	28	29	24	19	**35**	27	35	35	34	35	32	26	**41**	28	37	39	40	41	38	33	**46**
30	25	24	23	18	16	10	7	**25**	27	32	32	29	29	25	19	**36**	28	36	36	35	36	32	27	**41**	29	39	40	40	41	38	33	**46**
35	25	25	24	18	17	11	7	**25**	27	33	32	29	30	25	20	**36**	28	37	37	35	36	32	27	**42**	30	41	40	40	42	39	34	**47**
40	25	25	24	19	18	11	8	**26**	28	34	33	30	30	26	20	**36**	29	38	37	35	37	33	28	**42**	31	42	41	40	42	39	35	**47**
45	25	26	25	20	18	12	8	**27**	28	35	33	30	31	26	20	**37**	30	39	38	36	37	33	28	**43**	32	44	42	40	43	39	36	**48**
50	25	27	26	21	19	12	8	**27**	29	35	33	31	32	27	20	**37**	31	41	38	36	38	34	29	**43**	33	45	43	40	43	40	36	**48**
60	25	29	27	23	20	13	9	**29**	30	37	34	32	33	28	21	**39**	33	43	40	36	39	35	30	**44**	36	49	44	41	44	41	38	**49**

Ø 100	Differiencial Pressure ΔP (Pa)																													
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
15	30	27	25	19	15	7	7	**26**	29	28	31	30	28	22	20	**35**	29	32	34	36	37	33	32	**42**	31	36	37	41	45	44	45	**51**
20	29	27	25	19	15	7	7	**26**	29	28	31	30	28	23	20	**35**	29	33	34	36	37	33	32	**42**	31	37	38	41	45	43	44	**50**
25	28	27	25	19	16	8	7	**26**	28	29	32	30	28	23	20	**35**	29	33	35	36	37	33	31	**42**	32	37	38	41	45	43	43	**50**
30	27	27	25	19	16	8	7	**27**	28	30	32	30	29	24	20	**35**	30	34	35	36	37	33	31	**42**	32	37	39	41	44	42	41	**49**
35	26	27	25	20	16	8	7	**27**	28	30	32	30	29	24	20	**36**	30	34	36	36	37	33	30	**42**	32	38	39	41	44	42	40	**49**
40	25	27	25	20	17	8	7	**27**	28	31	33	30	30	25	20	**36**	30	35	36	36	37	33	30	**42**	33	38	40	41	44	41	39	**49**
50	22	27	26	20	18	9	7	**27**	28	33	34	30	31	26	21	**37**	31	36	38	36	37	34	28	**43**	34	40	42	41	43	41	35	**48**
55	23	27	26	20	17	9	7	**27**	28	32	33	30	31	26	20	**37**	31	36	37	36	37	34	29	**43**	34	39	41	41	43	41	36	**48**
60	22	27	26	20	18	9	7	**27**	28	34	34	30	32	27	21	**38**	31	37	39	36	37	34	28	**43**	34	40	43	41	43	41	34	**48**
65	23	28	26	21	19	10	8	**28**	29	34	34	31	32	27	21	**38**	32	38	39	36	38	34	28	**43**	35	41	43	42	43	41	34	**48**
70	25	28	26	21	19	10	9	**28**	29	35	35	31	32	27	20	**38**	33	39	39	37	38	35	27	**43**	36	42	43	42	43	41	34	**49**
75	26	29	26	22	20	11	10	**28**	30	36	35	31	33	28	20	**38**	34	40	40	37	38	35	27	**44**	37	43	44	42	43	41	34	**49**
85	29	30	27	23	22	13	13	**30**	32	38	35	32	33	29	20	**39**	36	42	40	37	39	35	27	**44**	39	46	45	42	44	41	34	**49**
90	31	30	27	24	22	13	14	**30**	33	39	36	32	34	29	19	**40**	37	43	41	37	39	36	27	**45**	40	47	45	42	44	41	34	**50**

Ø 125	Differiencial Pressure ΔP (Pa)																													
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
15	24	30	27	20	15	6	13	**28**	27	33	36	33	31	24	21	**38**	29	34	38	37	35	30	29	**42**	31	34	40	40	39	36	36	**46**
25	25	30	28	21	16	7	14	**28**	28	33	35	33	31	24	21	**38**	30	34	38	37	35	30	28	**42**	31	35	40	40	39	37	35	**46**
30	25	30	28	21	16	8	14	**28**	28	33	35	33	31	24	21	**38**	30	34	38	37	35	31	28	**42**	32	35	40	40	39	37	34	**46**
45	26	31	28	23	17	9	14	**29**	29	33	35	33	32	23	20	**38**	31	35	38	37	36	31	27	**42**	33	37	41	40	39	38	33	**46**
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60	28	31	28	24	19	11	14	**30**	30	34	35	34	33	23	19	**39**	32	36	38	37	36	32	25	**42**	34	38	41	40	40	39	32	**46**
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70	29	31	28	25	20	12	14	**30**	31	34	34	34	33	23	18	**39**	33	37	38	37	37	32	25	**42**	35	39	41	40	41	40	31	**47**
75	30	31	28	26	20	12	14	**30**	31	34	34	34	34	23	18	**39**	33	37	38	37	37	32	24	**43**	35	39	41	40	41	40	31	**47**
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85	31	31	28	26	21	13	15	**31**	32	34	34	34	34	23	18	**39**	34	37	38	37	38	33	24	**43**	36	40	41	41	43	41	30	**48**
90	32	31	29	27	21	14	15	**31**	32	34	34	34	35	23	17	**39**	34	38	38	38	38	33	23	**43**	36	41	41	41	43	42	29	**48**
95	32	32	29	28	22	14	15	**32**	32	34	34	34	35	23	17	**40**	35	38	38	38	38	33	23	**43**	37	41	41	41	44	42	29	**49**

Ø 125	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
100	31	33	30	25	15	11	15	**31**	36	39	40	37	29	25	19	**41**	39	41	44	43	35	32	26	**47**	42	43	48	49	41	38	32	**51**
110	32	33	30	26	16	12	15	**31**	38	40	40	37	30	26	20	**41**	41	43	45	43	36	33	27	**47**	45	45	49	49	42	39	33	**52**
120	33	33	30	26	17	13	15	**31**	40	41	40	38	32	27	21	**42**	44	44	45	44	38	34	28	**47**	48	47	50	49	43	40	35	**53**
130	34	33	30	27	18	14	16	**32**	42	41	40	38	33	28	22	**42**	47	46	45	44	39	35	29	**48**	51	49	50	50	44	41	36	**53**
140	36	33	30	27	20	15	16	**32**	44	42	40	39	34	29	23	**43**	49	47	46	45	40	36	30	**49**	54	52	51	50	45	43	37	**54**
150	37	33	30	28	21	16	17	**32**	47	43	40	40	36	30	24	**44**	52	49	46	45	41	37	32	**50**	57	54	51	51	47	44	39	**55**
160	38	33	30	28	22	16	17	**33**	49	43	40	40	37	31	24	**45**	55	50	47	46	43	38	33	**51**	60	56	52	51	48	45	40	**56**
190	42	34	31	29	25	19	19	**35**	56	46	40	43	41	33	27	**48**	63	55	48	49	46	41	36	**54**	69	63	54	54	51	48	44	**61**

Ø 160	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
110	28	31	32	28	27	19	14	**34**	34	36	38	41	39	32	23	**45**	38	42	44	46	45	39	31	**50**	41	46	49	51	49	45	38	**57**
120	29	30	31	28	26	18	14	**34**	35	37	39	40	38	31	22	**44**	39	42	44	46	44	38	30	**50**	43	47	49	50	49	44	38	**56**
130	29	30	31	27	25	17	13	**33**	36	37	39	39	38	30	22	**43**	40	43	44	45	43	37	30	**49**	44	47	49	50	48	44	38	**56**
140	29	30	30	26	23	15	13	**32**	36	38	39	38	37	30	22	**43**	41	43	45	44	42	37	30	**49**	46	48	50	49	47	43	38	**56**
150	29	30	30	26	22	14	13	**32**	37	38	39	38	36	29	21	**42**	43	44	45	44	41	36	30	**48**	47	49	50	49	46	43	38	**56**
160	29	30	29	25	21	12	13	**31**	38	39	39	37	35	28	21	**42**	44	44	45	43	41	35	30	**48**	49	49	50	49	46	42	38	**57**
170	30	29	29	25	20	11	13	**31**	39	39	39	37	34	27	21	**42**	45	45	45	43	40	35	30	**48**	50	50	50	49	45	42	38	**57**
180	30	29	28	24	19	10	13	**31**	39	40	39	36	33	26	20	**41**	46	46	45	43	39	34	30	**48**	52	50	51	49	44	41	39	**58**
190	30	29	29	24	19	10	13	**30**	40	40	39	36	33	26	21	**41**	46	46	45	43	39	34	30	**47**	52	51	51	48	44	41	38	**58**
200	30	30	29	24	19	10	13	**30**	40	40	40	36	33	26	21	**41**	47	46	46	43	39	34	29	**48**	52	51	51	48	44	41	37	**58**
210	30	30	29	24	19	10	13	**30**	41	40	40	36	33	26	21	**42**	47	46	46	43	39	34	29	**48**	52	51	51	48	45	41	36	**58**
240	30	31	29	24	18	10	14	**30**	42	41	40	37	33	26	21	**42**	48	46	46	42	40	34	28	**48**	53	51	51	47	45	41	35	**59**

Ø 200	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
225	27	26	23	19	13	8	14	**25**	36	35	34	30	27	21	15	**36**	41	41	40	36	34	29	20	**42**	45	46	45	42	39	35	26	**47**
250	29	28	25	21	16	10	15	**27**	38	37	35	33	29	23	16	**37**	42	42	41	38	36	30	22	**43**	47	47	46	43	41	37	27	**48**
275	30	29	26	23	18	12	16	**28**	39	38	36	35	31	24	17	**39**	44	43	41	40	38	32	23	**45**	48	47	46	44	44	39	28	**50**
300	32	31	27	25	20	14	16	**30**	41	40	37	38	32	26	18	**41**	46	44	42	42	40	33	24	**46**	51	48	47	46	46	40	30	**51**
325	33	33	29	27	21	15	16	**32**	42	41	38	39	34	28	20	**42**	46	46	44	43	41	35	26	**48**	50	50	49	47	47	41	31	**53**
350	35	34	30	29	23	17	17	**33**	44	43	39	40	35	29	23	**44**	47	47	45	44	42	36	27	**49**	50	51	51	48	48	42	32	**54**
400	38	37	33	33	27	20	17	**37**	46	46	42	43	38	33	27	**47**	48	50	48	47	44	38	31	**52**	50	55	54	51	49	43	34	**56**

Ø 250	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
300	34	30	24	17	19	12	13	**28**	47	41	36	36	32	26	20	**41**	53	47	42	33	37	34	27	**45**	60	51	48	32	41	40	34	**50**
350	35	31	26	21	20	13	13	**29**	48	42	38	38	33	27	21	**42**	52	47	43	37	38	34	28	**46**	57	51	49	37	43	40	34	**51**
400	36	32	28	25	21	13	13	**31**	48	43	39	40	34	28	21	**43**	51	47	45	41	40	35	28	**48**	54	52	50	43	45	41	34	**52**
450	36	33	31	29	21	14	13	**33**	49	43	41	42	35	28	21	**45**	50	48	47	45	41	35	28	**50**	52	52	52	49	47	42	34	**54**
500	37	34	33	35	22	14	13	**37**	49	44	43	44	35	29	22	**47**	49	48	49	50	43	36	28	**53**	49	53	55	55	50	42	34	**58**
550	38	35	34	35	23	16	14	**37**	49	45	44	45	37	30	22	**48**	50	49	49	50	44	36	29	**53**	51	53	54	54	49	42	35	**57**
650	40	36	36	36	26	18	14	**39**	48	46	46	47	40	32	22	**50**	50	50	50	50	44	37	30	**53**	53	53	54	53	48	41	36	**57**

MR MODULO

Acoustic features

Sound power levels of noise (Lw) at duct output:

The following tables give the sound power levels of noise (Lw) expressed in decibels per octave (dB/oct) as well as the global sound power levels in dB(A) according to the pressure drop.

These sound power levels are results of tests carried out by a Dutch independent laboratory (PEUTZ) and are given at the duct outlet.

Measures were carried out in accordance with NF EN ISO 3741 and NF EN ISO 5135 norms, with a CAR fitted into a duct with an upstream and downstream straight length equal to 3 diameters.

Ø 80	Differencial Pressure ΔP (Pa)																													
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
15	19	25	24	18	21	7	6	**26**	19	29	30	28	32	22	18	**36**	25	35	36	36	43	34	22	**45**	31	40	42	43	53	48	26	**56**
20	19	25	24	19	21	8	7	**26**	20	30	31	29	32	23	18	**36**	26	35	36	36	42	34	23	**45**	31	41	42	43	52	47	27	**55**
25	20	25	24	19	21	8	7	**27**	21	30	31	29	32	23	19	**36**	27	36	37	36	42	34	24	**45**	32	41	42	43	51	46	29	**54**
30	20	25	24	20	21	8	8	**27**	22	31	31	29	32	24	19	**37**	28	37	37	36	42	34	25	**45**	33	42	42	42	50	45	31	**53**
35	20	25	24	20	21	9	8	**27**	23	32	32	30	33	25	19	**37**	29	37	37	36	41	35	26	**44**	33	42	42	42	49	45	33	**52**
40	20	26	24	21	21	9	8	**27**	24	32	32	30	33	25	20	**37**	30	38	37	36	41	35	27	**44**	34	43	42	42	48	44	34	**51**
45	20	26	24	21	21	10	9	**27**	26	33	32	30	33	26	20	**37**	30	38	37	36	40	35	28	**44**	35	44	42	42	47	44	36	**51**
50	21	26	24	21	21	10	9	**27**	27	33	33	31	33	27	20	**38**	31	39	38	36	40	35	30	**44**	36	44	42	41	46	43	38	**50**
60	21	26	25	22	21	12	10	**28**	29	34	34	31	33	29	21	**39**	33	40	38	36	39	36	32	**44**	37	45	42	41	44	43	41	**50**

Ø 100	Differencial Pressure ΔP (Pa)																													
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
15	20	26	22	14	15	8	3	**23**	24	32	31	29	25	18	17	**34**	31	32	35	34	34	31	29	**40**	38	32	38	38	43	43	40	**48**
20	21	27	22	15	14	8	4	**24**	25	32	32	30	25	19	17	**34**	31	33	35	34	34	31	28	**40**	37	33	39	39	42	42	39	**48**
25	22	27	23	16	14	8	6	**24**	25	33	33	30	26	19	17	**35**	31	34	36	35	34	31	28	**41**	36	34	39	40	42	42	38	**48**
30	23	27	24	17	14	8	7	**25**	26	33	33	31	27	20	17	**35**	31	35	37	36	35	31	27	**41**	35	36	40	41	42	41	37	**48**
35	23	28	24	18	15	8	8	**25**	27	34	34	31	27	21	17	**36**	31	35	38	37	35	31	27	**42**	34	37	41	41	42	41	36	**48**
45	24	28	25	19	15	7	9	**26**	27	34	35	32	28	21	17	**37**	31	36	39	37	35	31	26	**42**	34	38	42	42	42	40	35	**48**
50	27	30	28	21	15	7	13	**28**	29	36	37	34	30	23	17	**39**	31	39	41	40	36	31	25	**44**	32	42	45	45	42	39	32	**49**
55	26	29	27	20	15	7	11	**27**	29	35	36	34	29	22	17	**38**	31	38	40	39	36	31	25	**43**	32	40	44	44	42	40	33	**49**
60	28	31	28	22	15	7	14	**29**	30	36	38	35	30	24	18	**40**	31	40	42	41	37	32	24	**45**	31	43	46	46	42	39	31	**50**
65	27	30	27	22	16	7	14	**29**	30	36	37	34	31	24	18	**39**	31	40	42	40	37	32	25	**44**	32	43	46	45	43	39	32	**50**
70	26	29	27	22	16	8	14	**28**	30	36	37	34	31	24	18	**39**	32	40	41	39	38	33	25	**44**	33	44	45	44	43	40	32	**49**
75	26	28	26	21	17	8	14	**28**	30	36	36	33	32	25	18	**39**	32	41	41	39	38	33	26	**44**	34	45	45	44	44	41	33	**50**
80	24	27	24	21	18	9	14	**27**	30	37	35	32	33	26	18	**38**	33	42	40	38	40	34	27	**45**	36	46	44	42	46	42	35	**50**
90	23	26	24	20	18	10	14	**27**	31	37	34	32	34	26	18	**39**	34	42	39	37	40	35	27	**45**	37	47	44	42	47	42	35	**51**

Ø 125	Differencial Pressure ΔP (Pa)																													
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
15	32	23	22	19	16	4	2	**24**	29	29	28	28	33	15	15	**36**	31	31	32	31	36	26	24	**39**	33	32	35	34	47	37	32	**49**
25	32	25	23	20	17	5	5	**26**	31	31	30	29	33	17	15	**36**	33	33	34	33	36	28	24	**40**	35	35	38	37	45	37	32	**47**
30	32	26	24	21	17	6	6	**26**	32	32	31	30	32	18	15	**37**	34	34	36	34	36	28	24	**41**	35	36	39	38	43	37	32	**47**
45	33	29	26	22	19	8	10	**28**	34	35	35	32	32	21	16	**38**	36	38	39	37	37	30	24	**43**	37	41	44	42	42	37	31	**48**
50	33	30	27	23	19	9	12	**29**	35	36	36	33	32	22	17	**38**	36	39	41	38	37	30	24	**44**	38	42	45	44	42	38	31	**49**
60	34	32	28	24	20	11	15	**30**	36	38	38	34	32	24	17	**40**	38	42	43	40	38	32	24	**46**	39	45	49	46	43	38	30	**51**
65	34	33	29	24	20	12	16	**31**	37	39	39	35	32	25	17	**40**	39	43	45	41	38	32	24	**46**	40	46	50	48	44	38	30	**52**
70	34	34	30	25	21	13	18	**32**	38	40	40	35	32	26	18	**41**	39	44	46	42	39	33	24	**47**	41	48	52	49	45	38	30	**53**
75	34	35	31	25	21	14	19	**32**	39	42	41	36	32	27	18	**42**	40	46	47	44	39	33	24	**48**	42	49	53	50	46	39	29	**54**
80	35	36	31	26	22	14	20	**33**	39	43	43	37	32	29	18	**43**	41	47	49	45	39	34	24	**49**	42	51	55	52	47	39	29	**56**
85	35	37	32	27	22	15	22	**34**	40	44	44	37	32	30	19	**44**	42	48	50	46	40	34	24	**50**	43	52	56	53	48	39	29	**57**
90	35	38	33	27	23	16	23	**35**	41	45	45	38	32	31	19	**45**	42	49	51	47	40	35	24	**51**	44	54	58	54	48	39	29	**59**
95	36	39	34	28	23	17	25	**36**	42	46	46	39	33	32	19	**46**	43	51	53	48	40	36	24	**53**	45	55	60	56	49	39	28	**60**

Ø 125	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
100	36	35	32	30	25	16	14	**34**	43	43	42	39	36	31	23	**44**	46	45	47	45	41	38	32	**50**	48	48	51	50	46	44	39	**54**
110	36	35	31	30	25	17	15	**34**	43	43	42	39	36	31	24	**44**	47	46	47	45	42	38	32	**50**	50	48	51	50	47	45	40	**55**
120	36	34	31	30	25	18	15	**34**	44	43	42	40	36	31	24	**44**	48	46	47	46	43	39	33	**50**	52	49	52	51	48	45	40	**55**
130	37	34	31	29	25	18	16	**34**	44	42	41	40	37	32	25	**44**	50	47	47	46	43	40	33	**51**	54	50	52	51	49	46	41	**56**
140	37	34	31	29	25	19	17	**34**	45	42	41	40	37	32	25	**45**	51	47	47	47	44	40	34	**51**	56	51	52	52	50	47	42	**57**
150	37	34	31	29	24	20	17	**34**	45	42	41	41	37	33	26	**45**	52	47	47	47	45	41	34	**52**	58	52	53	53	51	48	42	**58**
160	38	34	31	29	24	20	18	**34**	46	42	41	41	38	33	26	**46**	54	48	47	48	46	42	35	**53**	61	53	53	54	53	49	43	**59**
190	39	33	31	29	24	22	20	**34**	47	41	41	43	39	35	28	**46**	58	49	48	50	48	44	37	**54**	67	57	54	56	56	51	46	**62**

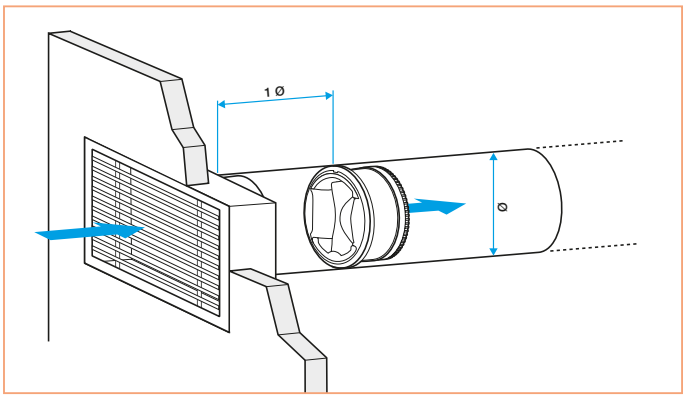
Ø 160	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
110	31	31	30	24	19	10	12	**33**	36	37	40	34	31	25	17	**40**	38	40	44	39	37	32	26	**45**	39	43	48	44	43	38	33	**52**
120	31	31	30	24	19	11	13	**32**	37	38	40	34	31	25	17	**41**	39	41	44	40	37	32	26	**46**	41	44	48	44	43	39	33	**53**
130	31	31	30	24	19	11	13	**31**	38	38	40	35	32	26	18	**41**	41	42	44	40	38	33	26	**46**	42	45	49	44	43	39	33	**53**
140	31	31	30	25	20	11	13	**31**	39	39	40	36	32	26	18	**41**	42	43	45	40	38	33	26	**46**	44	47	49	45	44	39	33	**54**
150	31	31	30	25	20	11	13	**31**	40	40	40	36	33	26	18	**41**	43	44	45	41	39	33	26	**46**	46	48	49	45	44	39	33	**55**
160	31	31	30	26	20	11	13	**31**	42	41	39	37	33	27	19	**42**	44	45	45	41	39	33	26	**47**	47	49	50	45	44	40	33	**56**
170	31	31	30	26	21	12	14	**31**	43	41	39	38	34	27	19	**42**	46	46	45	42	40	34	27	**47**	49	51	50	45	45	40	33	**56**
180	32	31	30	27	21	12	14	**32**	44	42	39	39	34	27	20	**43**	47	47	45	42	40	34	27	**48**	50	52	50	45	45	40	33	**57**
190	31	31	30	27	22	13	14	**32**	43	42	39	39	35	28	21	**43**	47	47	45	42	40	34	27	**48**	50	51	50	45	45	40	33	**57**
200	31	31	30	27	22	13	14	**32**	43	42	39	39	35	29	21	**43**	47	46	45	42	40	35	28	**47**	50	51	49	45	44	40	33	**56**
210	30	31	31	28	22	14	14	**32**	43	41	39	39	36	30	22	**43**	47	46	45	42	40	35	28	**47**	50	50	49	45	44	40	34	**56**
240	29	31	31	28	23	17	13	**33**	42	40	40	40	37	32	25	**44**	46	44	44	42	40	37	30	**48**	50	48	48	44	43	40	34	**55**

Ø 200	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
225	29	27	24	23	18	11	13	**27**	39	39	36	33	31	26	18	**39**	43	42	41	39	37	32	24	**44**	46	45	46	44	42	38	29	**49**
250	30	28	26	24	19	12	13	**29**	41	40	37	35	33	26	19	**40**	44	43	42	40	38	32	24	**45**	47	47	45	44	42	37	28	**49**
275	31	30	27	26	20	13	13	**30**	42	41	38	38	34	27	20	**42**	46	45	42	41	38	32	24	**45**	49	48	45	44	42	36	27	**49**
300	32	32	29	27	21	14	14	**31**	44	41	39	40	36	28	21	**44**	47	46	42	42	39	32	23	**46**	50	50	45	44	42	35	26	**49**
325	34	33	30	29	23	16	14	**33**	45	42	40	41	37	30	23	**44**	48	47	44	43	40	34	26	**48**	51	51	48	45	44	38	28	**51**
350	36	34	31	31	25	18	15	**35**	46	43	40	42	37	31	25	**45**	49	48	46	44	42	36	28	**49**	52	53	52	47	46	40	31	**53**
400	39	37	34	35	28	21	17	**38**	48	45	42	43	39	34	28	**47**	51	51	50	47	45	40	32	**53**	55	57	59	50	50	44	36	**58**

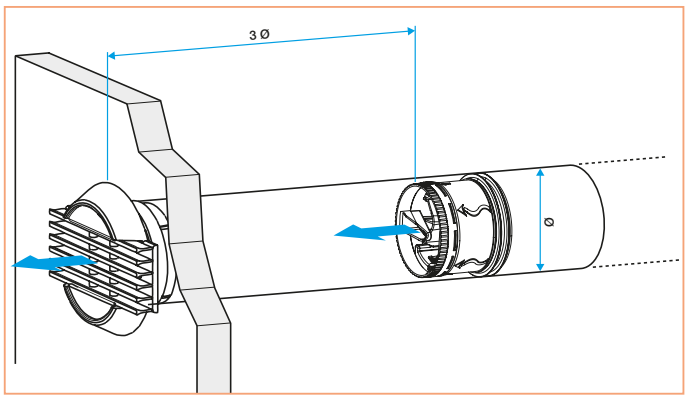
Ø 250	Differiencial Pressure ΔP (Pa)																											
Airflow (m³/h)	50 Pa								100 Pa								150 Pa								200 Pa							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall Lw (dB(A))
300	38	33	29	25	22	12	12	**33**	44	38	40	40	31	22	15	**42**	43	44	42	38	37	29	22	**44**	43	49	44	36	41	36	30	**47**
350	38	33	30	27	22	13	12	**33**	46	40	41	41	33	24	17	**44**	46	46	44	41	38	31	24	**46**	46	51	46	40	43	38	32	**49**
400	38	34	31	30	23	13	13	**34**	47	42	42	43	34	26	18	**46**	49	47	45	44	40	33	26	**48**	50	52	48	44	45	40	33	**52**
450	37	34	33	33	23	14	13	**36**	49	44	43	45	36	28	20	**47**	51	49	47	47	42	35	28	**50**	54	54	51	49	47	42	35	**54**
500	37	34	34	36	24	15	14	**38**	50	46	45	47	37	29	22	**49**	54	51	49	50	43	37	30	**53**	58	55	53	53	49	44	37	**57**
550	38	36	37	38	26	18	15	**40**	50	46	45	47	38	31	23	**49**	53	51	49	50	44	38	31	**53**	57	55	53	54	50	44	37	**57**
650	40	39	41	42	31	23	18	**44**	49	46	46	46	40	33	25	**50**	52	50	50	51	45	39	32	**54**	55	54	54	55	51	45	38	**58**

MR MONO - MR MODULO

- The MR will push-fit into circular ducts in close proximity to a take-off or a terminal.
- It is important to observe the MR orientation corresponding to the airflow direction indicated on the MR.
- Horizontal / vertical mounting possible.
- In order to avoid acoustic and aeraulic disturbance it is recommended to respect the following distance between the MR and the terminal (grille / diffuser / inlet):
  - in exhaust: D = 1 Ø,
  - in supply: D = 3 Ø.

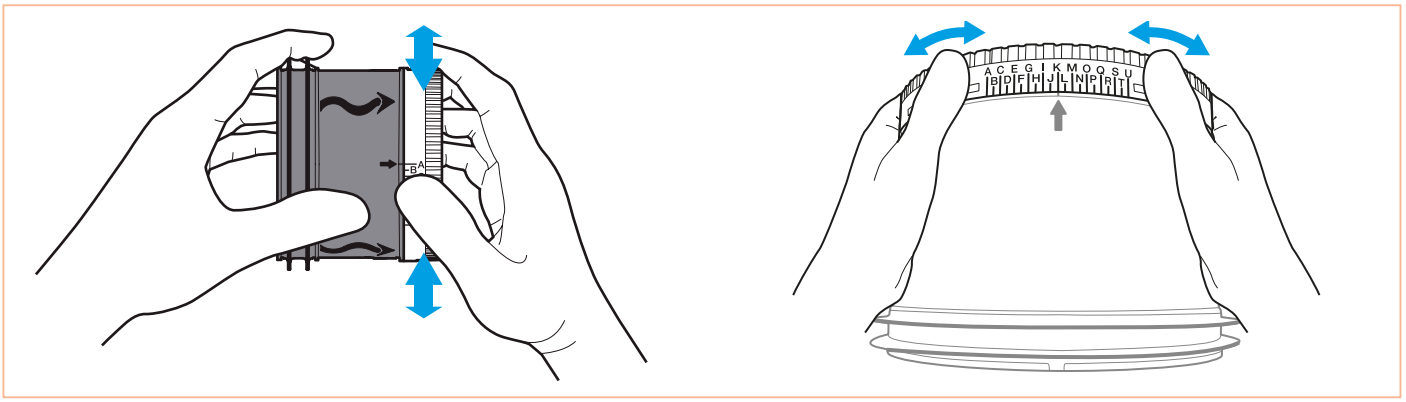


Air exhaust



Air supply

MR Modulo mounting and setting

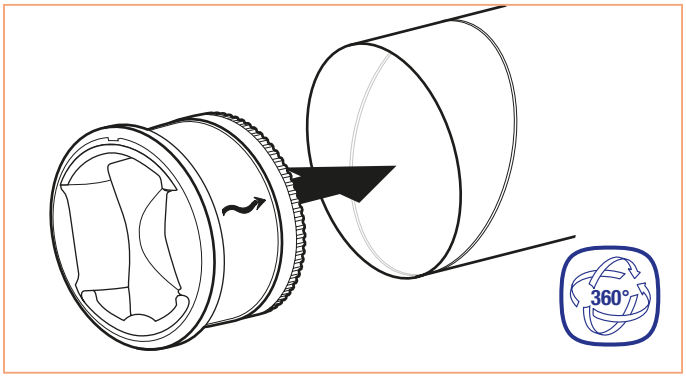


Small diameters

Big diameters

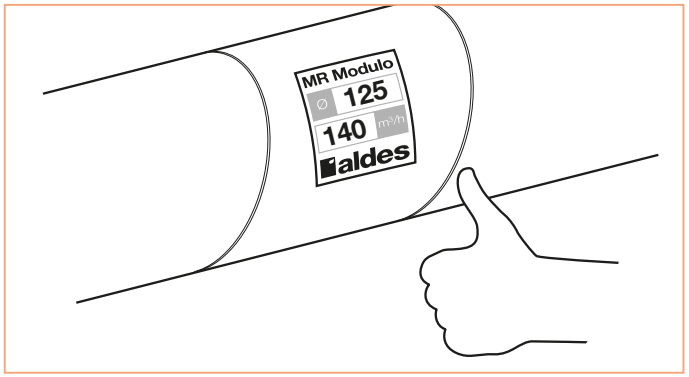
1. Adjust the airflow setting

Rotate the adjustment ring for a tool-free airflow setting until the desired airflow according to the correlation table p. 6.



2. Position the MR Modulo

Introduce the MR in the duct according to the arrow which shows the airflow direction. Minimum straight upstream and downstream distances must be observed. There is no recommendation regarding the membane positioning.



3. Product localization

MR Modulo is delivered with a sticker which will be needed to be manually filled on site (MR diameter and airflow setting) and placed directly onto the duct to show where the MR Modulo has been mounted.

MR MODULO

Correlation table

For certain diameters, the same letter on the ring may correspond to two airflow values. To enable this, the shim must be inserted or removed .

Ø 80

	m³/h	cfm	m³/h	cfm
J	20	12	-	-
I	25	15	-	-
G	30	18	-	-
F	35	20	-	-
E	-	-	50	29
D	45	24	-	-
B	-	-	60	35
A	45	26	-	-

Ø 100

	m³/h	cfm	m³/h	cfm
L	15	9	-	-
K	20	12	-	-
H	30	18	60	35
F	40	24	65	38
E	45	26	70	41
D	50	29	75	44
C	55	32	80	47
B	-	-	85	49
A	-	-	90	53

Ø 125 (15 à 85 m³/h)

	m³/h	cfm	m³/h	cfm
L	15	9	-	-
H	25	15	60	35
F	30	18	65	38
E			70	41
D	45	26	75	44
B	50	29	80	47
A			85	50

Ø 125 (100 à 190 m³/h)

	m³/h	cfm
K	100	59
J	110	65
I	120	71
H	130	76
G	150	88
E	160	94
C	170	100
A	190	112

Ø 150 - Ø 160

	m³/h	cfm
R	100	59
P	110	65
O	120	71
M	130	76
L	140	82
K	150	88
J	160	94
H	170	100
G	180	106
F	190	112
E	200	118
D	210	124
A	240	141

MAINTENANCE

- To keep the MR's performances, it is advisable to clean it regularly, especially if it is used in a dusty atmosphere.
- To facilitate regular inspection and cleaningles, provide access via an inspection window (see MAF page 14) .
- Clean with soapy water. When cleaning, plug the hole on the plastic body, at the base of the bulb, in order to avoid any blocking of this orifice and to prevent any liquid or foreign body from passing inside the bulb.

MODULO SPECIFICATION TEXT

- CARs will be manufactured from ABS plastic without chlorine. They will provide a constant airflow rate, for use in air conditioning and ventilation systems. They will include an airflow adjustment system and a regulation system as describe below:
  - regulation mechanism with a stainless steel spring and a silicone membrane,
  - airflow setting system thanks to an adjustment rotating ring (tool-free).

They provide accuracy in airflow over a differential pressure range between 50 and 250 Pa, (except D80, D100 et D125 : 50-200 Pa) of:
- +/- 5 m³/h for airflow ≤ 50 m³/h,
- +/- 10% for airflow > 50 m³/h except MR Mono D80, D100 et D125 (+/-15%) and MR Modulo D80, D100 et D125 (+/-10% max airflow).

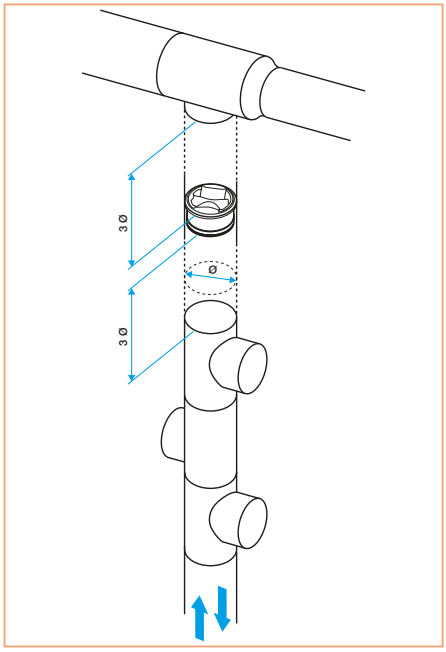
Installation will be possible in duct and accessories as well independent of orientation.

Positioning and sealing will be ensured by a double-lip seal in elastomer. Type MR Modulo, Aldes brand.

MR MONO - MR MODULO

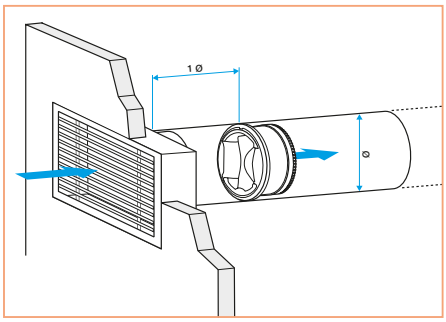
Application example

Airflow stabilization within an HVAC network portion

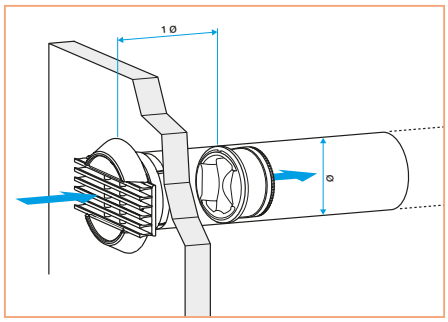


Exhausted airflow stabilization

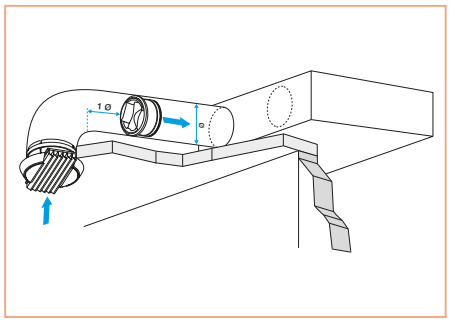
- In exhaust, a 1Ø-distance is recommended between the CAR and the terminal to insure air velocity harmonization in the duct to avoid aeraulic and acoustic disturbance.



1/ MR installed after a supply plenum box



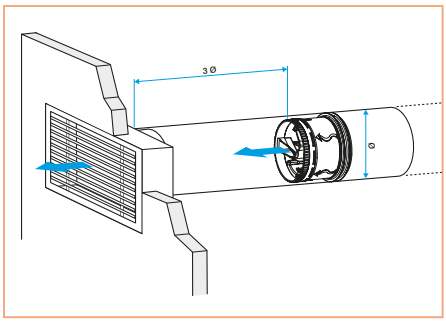
2/ MR installed after a BIM-type grille



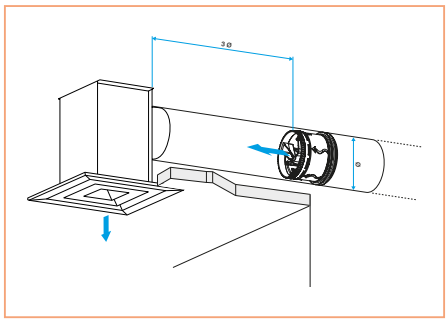
3/ MR installed before a fancoil

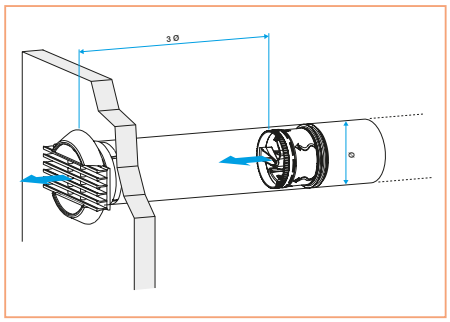
Supply airflow stabilization throughout a termina

- In supply as well a 3Ø-distance is recommended between the CAR and the terminal to insure air velocity harmonization in the duct to avoid aeraulic and acoustic disturbance.



1/ MR installed before a supply plenum box





2/ MR installed before a BIM-type grille

MR MODULO

Standard range codes

- Ø 80 to 250 mm
- Qnom from 15 to 650 m³/h.

Ø (mm)	Airflow (m³/h)	Code
80	20-60	11016307
100	15-90	11016308
125	15-85	11016309
125	100-190	11016310

Ø (mm)	Airflow (m³/h)	Code
150	100-240	11016311
160	100-240	11016312
200	225-400	11016313
250	300-650	11016314

MR MONO

Standard range codes

- Ø 80 to 250 mm
- Qnom from 15 to 650 m³/h.

Ø (mm)	Airflow (m³/h)	Code
80	15	11016226
	20	11016227
	25	11016228
	30	11016229
	35	11016230
	40	11016231
	45	11016232
	50	11016233
	60	11016234
100	15	11016235
	20	11016236
	25	11016237
	30	11016238
	35	11016239
	40	11016240
	45	11016241
	50	11016242
	55	11016243
	60	11016244
	65	11016245
	70	11016246
	75	11016247
	80	11016248
	85	11016249
	90	11016250
125	15	11016251
	25	11016252
	30	11016253
	45	11016254
	50	11016255
	60	11016256
	65	11016257
	70	11016258
	75	11016259
	80	11016260
	85	11016261
	90	11016262
	95	11016263
	100	11016264
	105	11016265
	110	11016266

Ø (mm)	Airflow (m³/h)	Code
125	115	11016267
	120	11016268
	125	11016269
	130	11016270
	140	11016271
	150	11016272
	160	11016273
	190	11016274
150	110	11016275
	130	11016276
	150	11016277
	170	11016278
	210	11016279
	240	11016280
160	120	11016281
	130	11016282
	140	11016283
	150	11016284
	160	11016285
	170	11016286
	180	11016287
	190	11016288
	200	11016289
	210	11016290
	240	11016291
200	200	11016292
	225	11016293
	250	11016294
	275	11016295
	300	11016296
	325	11016297
	350	11016298
	400	11016299
250	300	11016300
	350	11016301
	400	11016302
	450	11016303
	500	11016304
	550	11016305
	650	11016306

High pressure range codes

- Ø 125 to 250 mm
- Q nominal = 110 to 1 000 m³/h

Ø (mm)	Airflow (m³/h)	Code
125	110	11016071
	150	11016072
	200	11016073
	240	11016074
	290	11016075
150	210	11016076
	260	11016077
	310	11016078
	380	11016079
	425	11016080
160	210	11016081
	260	11016082
	310	11016083
	380	11016084
	425	11016085

Ø (mm)	Airflow (m³/h)	Code
200	350	11016086
	440	11016087
	530	11016088
	620	11016089
	700	11016090
250	550	11016091
	600	11016092
	800	11016093
	950	11016094
	1 000	11016095

The metal slices of the product may slip during transport. They can easily be repositioned by sliding them into the slot provided above the membrane.

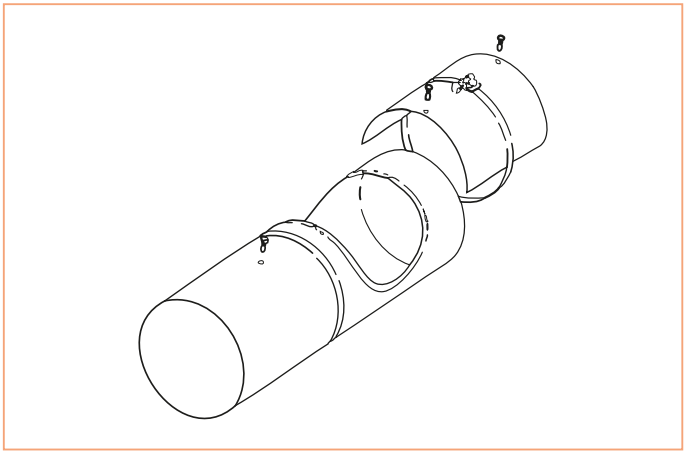
MR MONO - MR MODULO

MAF

To keep the MR's performances, it is advisable to clean it regularly, especially if it is used in a dusty atmosphere.

- To facilitate regular inspection and cleaningles, provide access via an inspection window.
- Clean with soapy water. When cleaning, plug the hole on the plastic body, at the base of the bulb, in order to avoid any blocking of this orifice and to prevent any liquid or foreign body from passing inside the bulb.

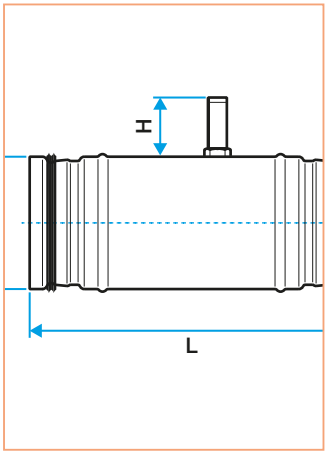
Description	Code
Window sleeve Ø 100	11013121
Window sleeve Ø 125	11013122
Window sleeve Ø 150	11013123
Window sleeve Ø 160	11013124
Window sleeve Ø 200	11013125
Window sleeve Ø 250	11013126



MR Max

- The MR Max is especially adapted for specific systems requiring big diameter (up to 400 mm), high pressure (up to 1 000 Pa) and high airflow (up to 4 000 m3/h).
- The MR Max is available from diameter 80 mm to 400 mm.
- The MR Max works with a free-moving control plate. The airflow can be set from outsite.

Description	Code
MR Max Ø 80	11016389
MR Max Ø 100	11016390
MR Max Ø 125	11016391
MR Max Ø 160	11016392
MR Max Ø 200	11016393
MR Max Ø 250	11016394
MR Max Ø 315	11016395
MR Max Ø 400	11016396



Duct Ø (mm)	Airflow range (m³/h)	L (mm)	H (mm)
80	40 - 125	215	70
100	70 - 220	245	70
125	100 - 280	245	70
160	180 - 500	315	70
200	250 - 900	315	70
250	500 - 150	315	70
315	800 - 280	345	110
400	1 000 - 4 000	415	110

MR MONO - MR MODULO

Regulation and air-balancing offer for hvac ducworks

As a leader in ventilation and thermal comfort, Aldes offers a wide range of products for airflow balancing and control:

Passive range

Balancing dampers

RG
Commissioning damper

CRGN
Rectangular balancing dampers

Iris
Iris damper

Automatic range

Constant airflow steadiness irrespective of pressure variations.

MR Mono
Constant Airf low Regulator singleairflow

MR Modulo
Constant Airflow Regulator multiairflow

MR Max
Constant Airflow Regulator high pressure, high airflows

RMA
Motorized Constant Airflow Regulator motorized

Active range

Variable flow rate control according to instructions.

MDA Mod
Timed proportional regulation damper

VAV
Variable Air Volume

For more information,
contact your Aldes advisor,
or visit **aldes.com**

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since 1925

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