



# MR Modulo MR Mono

Constant Airflow Regulator

Commercial Premises







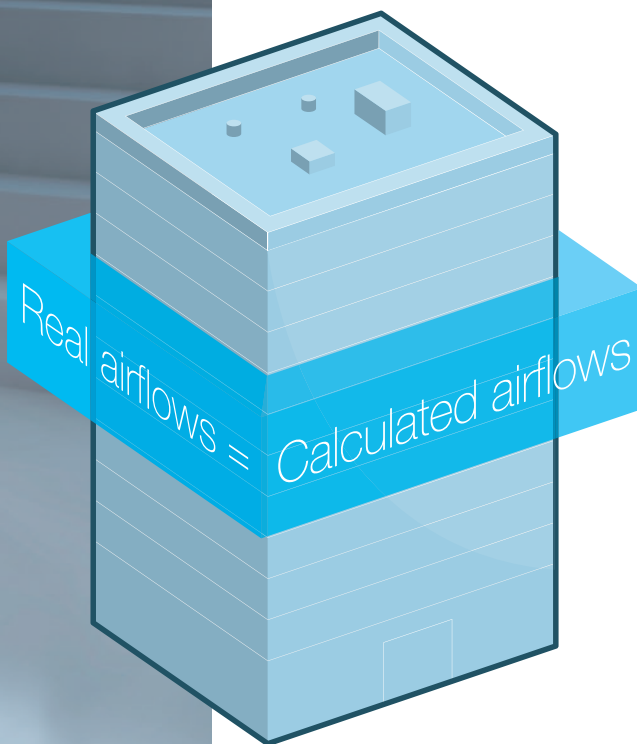
## MR Modulo and MR Mono, getting the right balance in aeraulic networks

Modern constructions need to be airtight in order to be energy efficient.

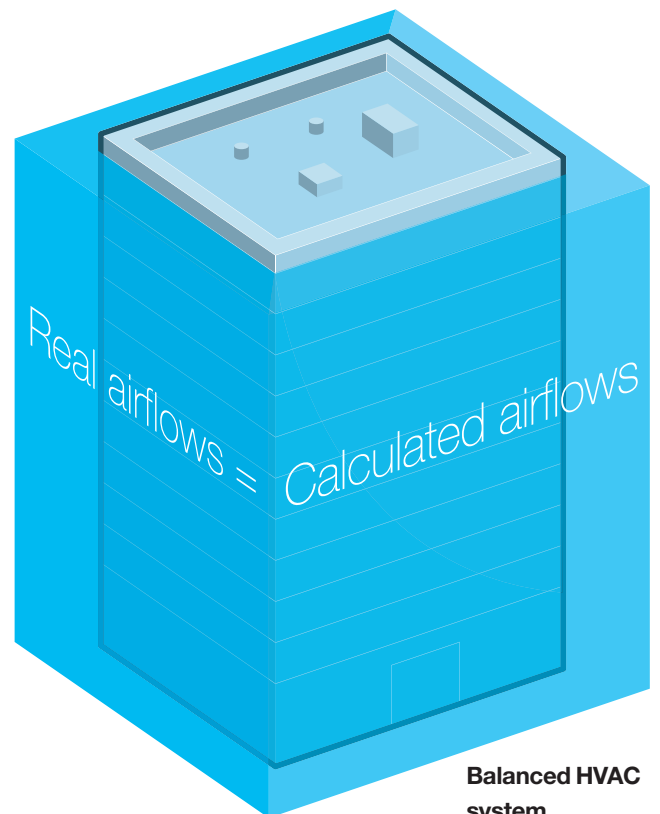
In addition to thermal comfort (heating or cooling) air-conditioning systems are now specifically sized to guarantee a supply of fresh air into the building for health purposes (notably in terms of oxygen content).

Therefore it is increasingly important to ensure that operating airflows correspond to the ones calculated for the HVAC system sizing (air balancing). Correct air balancing is key to a properly commissioned HVAC system and to avoid side effects generated by over-ventilation (noise, high temperatures, high energy consumption) or by under-ventilation (deteriorated air quality and uncomfortably cold temperatures...).

Aldes offers a wide range of solutions for airflow balancing from the manual damper to VAV boxes, including two Constant Airflow Regulators: the MR Modulo and MR Mono.



**Unbalanced HVAC system**



**Balanced HVAC system**

# Features of the MR range

## Guaranteed quality



- Design and production in France.
- Each unit off the production line is individually checked.



## Easy to install



- Commissioning free.
  - Tool-free airflow setting (MR Modulo).
- No wiring required: mechanically self-powered.
  - Can be fitted in both ducting and fittings.
- Multiposition mounting.



MR Modulo  
multi-airflow  
(on-site airflow setting)

MR Modulo and MR Mono Constant Airflow Regulators balance airflows in the ventilation or air conditioning ductworks. They fit easily into a part of the circular ductwork to maintain constant and reliable airflow within a wide range of differential pressure (50 - 250 Pa) for the standard version and for the high-pressure version (150 - 650 Pa).

Its flexible membrane inflates and deflates according to the difference in pressure between the upstream and downstream flow, thus modifying the airflow. **This principle of operation guarantees constant airflow regardless of the pressure variations in the ductwork.**

## Best Constant Airflow Regulator



- Best constant airflow regulation thanks to the silicone membrane (avoids clogging).
- Optimum silent operation (no mechanical clatter or other noise interference due to variations in pressure).

MR Mono  
*one airflow*  
*(factory set airflow)*

## Smart design



- Elastomer double lip-seal for better positioning and airtightness.
- Rotative ring for on-site airflow setting (Aldes Patent for the MR Modulo).
- Recyclable, chlorine-free plastic with fire-resistance rating B-S3-d0 (Euroclass).
- Stainless steel regulation spring.
- MR Modulo available in 8 references only.

# Product Range

Aldes Constant Airflow Regulators are available in 7 diameters (from 80 mm to 250 mm) and 2 models: MR Mono and MR Modulo.

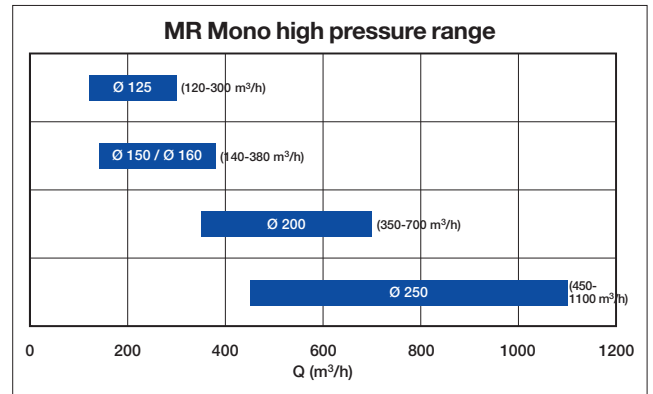
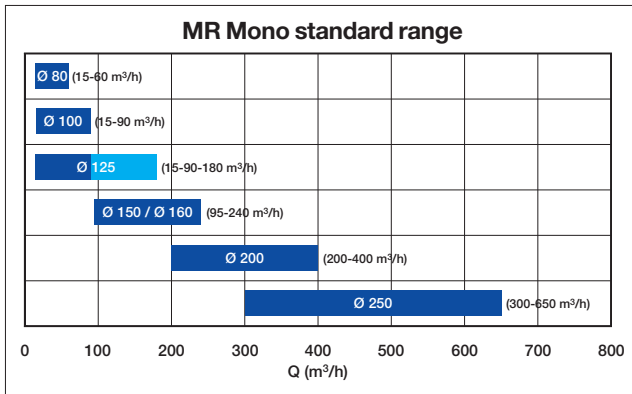
## MR Mono



The MR Mono regulates to a calibrated airflow pre-set by the manufacturer.  
One code equals one airflow.

### Technical features

The MR Mono is available in a standard version (50 - 250 Pa) and high pressure version (150 - 650 Pa).



#### Airflow accuracy:

- +/- 5 m³/h for nominal flow ≤ 50 m³/h.
- +/- 10% for nominal flow > 50 m³/h.

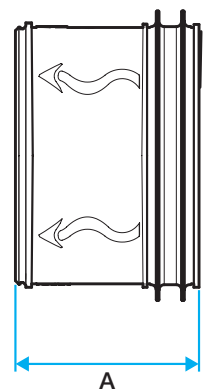
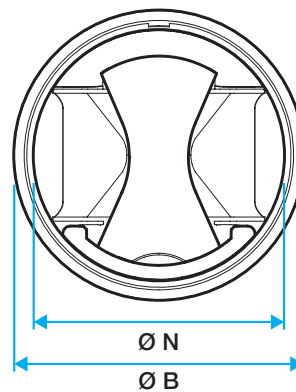
#### Operating differential pressure range:

- Standard range: 50 - 250 Pa.
- High pressure range: 150 - 650 Pa.

**Temperature range of use:** 10 - 60°C.

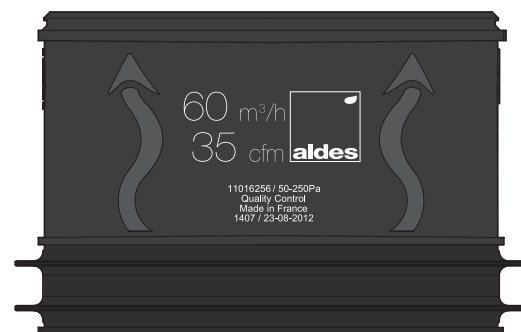
### Dimensions - weights

Ø Duct	ØN	ØB	A	Weight (kg)
80	76	85	53	0.06
100	92	105	61	0.10
125	116	132	61	0.14
125	116	132	97	0.20
150	147	153	103	0.30
160	153	167	103	0.31
200	190	210	130	0.60
250	238	262	159	1.06



#### The following information is indicated directly on the product:

- Airflow direction.
- Diameter in mm and inch.
- Operating differential pressure range.
- Product code.
- Traceability data.
- Quality control.
- Made in France.
- Aldes Logo.



For the MR Mono: the calibrated airflow (in m³/h and cfm).

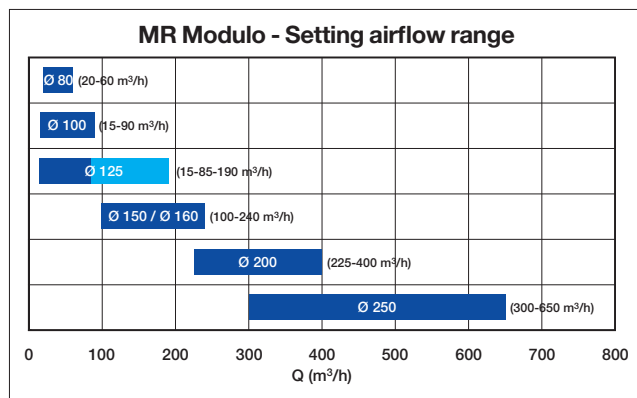
# MR Modulo



The MR Modulo regulates to an adjustable airflow.  
 One code corresponds to several airflow setting options.  
 The MR MODULO incorporates a rotating ring for a tool-free airflow setting.  
 8 codes, 7 diameters.

## Technical features

The MR Modulo is available in a standard version (50 - 250 Pa).



### Airflow accuracy:

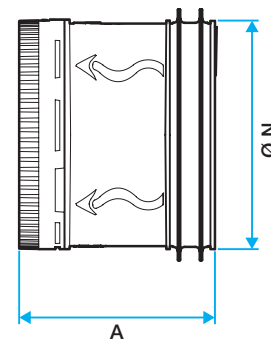
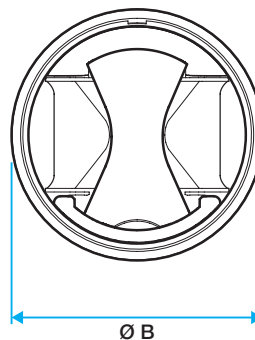
- +/- 5 m³/h for nominal flow ≤ 50 m³/h.
- +/- 10% for nominal flow > 50 m³/h.

**Operating Pressure range:** 50 - 250 Pa.

**Temperature range of use:** -10 - 60°C.

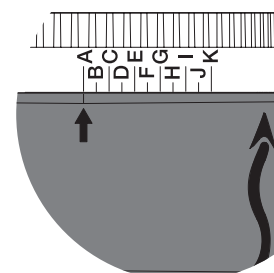
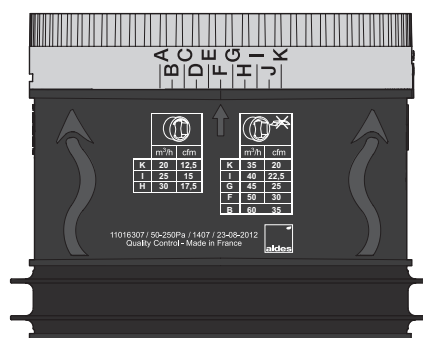
## Dimensions - weight

Ø Duct	ØN	ØB	A	Weight (kg)
80	76	85	65	0.07
100	92	105	70	0.11
125	116	132	70	0.17
125	116	132	110	0.22
150	147	153	118	0.30
160	153	167	118	0.34
200	190	210	144	0.65
250	238	262	179	1.20



### The following information is indicated directly on the product:

- Airflow direction.
- Diameter in mm and inch.
- Operating differential pressure range.
- Product code.
- Traceability data.
- Quality control.
- Made in France.
- Aldes Logo.

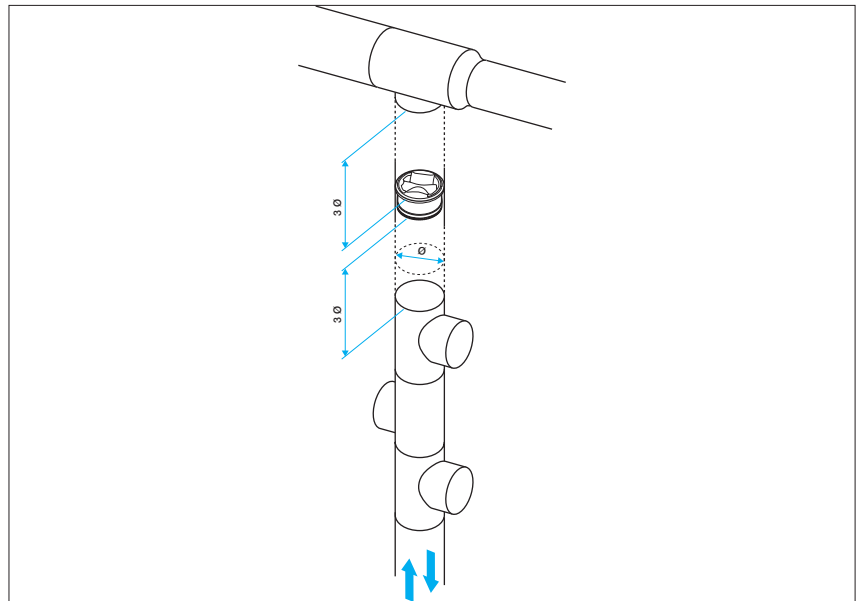


For the MR Modulo: the airflow setting range correlation table (in m³/h and cfm).

# Installation

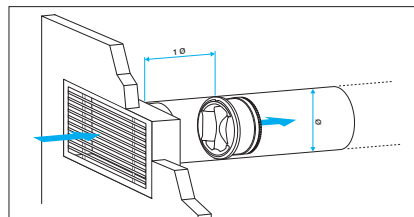
## Typical applications

### Airflow stabilization for a ventilation or air-conditioning ductwork section.

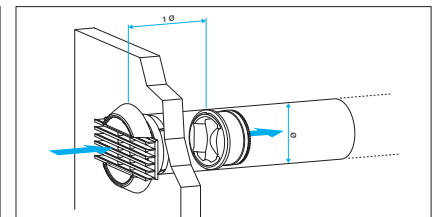


### Exhaust airflow stabilization.

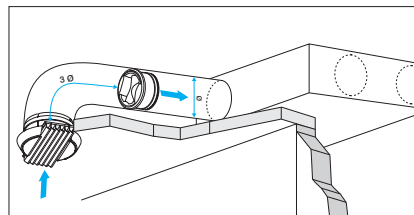
- In air extraction, we recommend a 1-diameter distance between the terminal and the MR to allow homogenization of air velocities in the duct and thus avoid acoustic or aeraulic disturbances.



1/ MR installed after a supply plenum



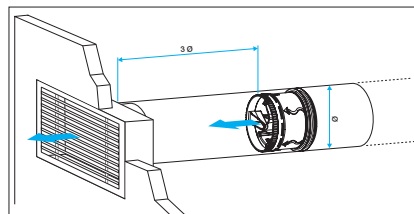
2/ MR installed after a BIM-type grille



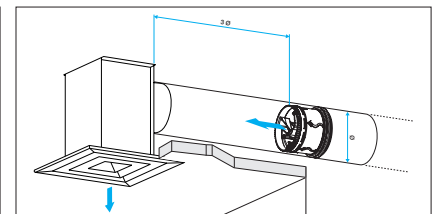
3/ MR installed before a fan coil

### Supply airflow stabilisation.

- In air supply, we also recommend a distance of 3 diameters between the terminal and the MR to allow homogenization of the air velocities in the duct and thus avoid acoustic or aeraulics disturbances.



1/ MR installed before a supply plenum box

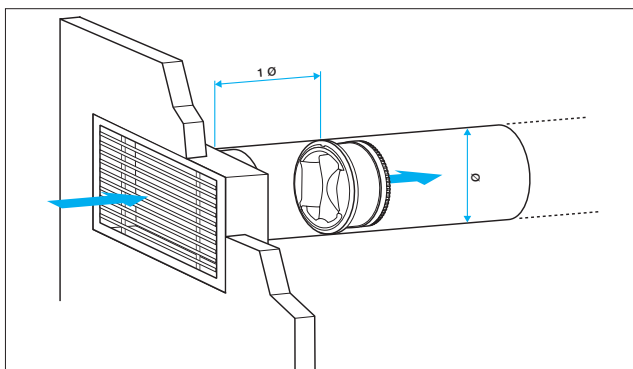


2/ MR installed before a BIM-type grille

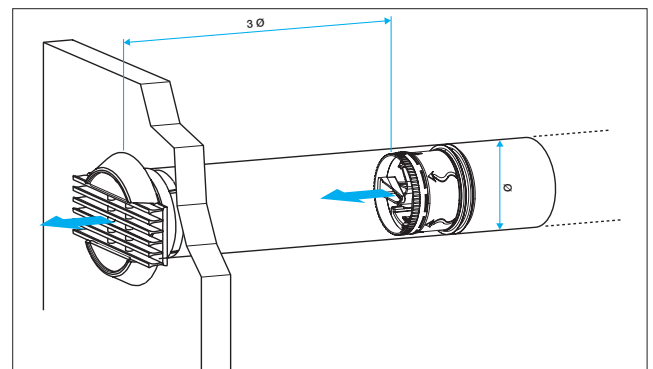


# Implementation

- MR Modulo and MR Mono will push-fit into circular ducts in close proximity to a take-off or a terminal.
- Observe the installation direction (corresponding to airflow) directly indicated with an arrow on the MR.
- Can be mounted either horizontally or vertically. There is no recommendation regarding the positioning of the membrane.
- In order to avoid acoustic and aeraulic interference it is recommended to respect a minimal distance between the MR and the terminal (grille / diffuser / inlet):
  - in extraction  $D = 3 \varnothing$ ,
  - in supply  $D = 1 \varnothing$ .

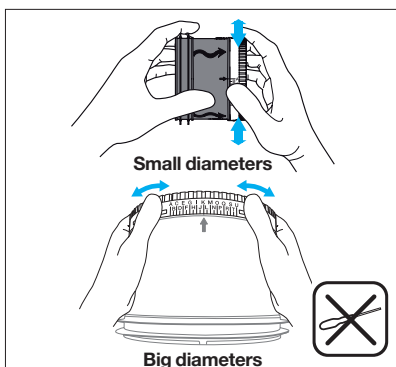


In extraction



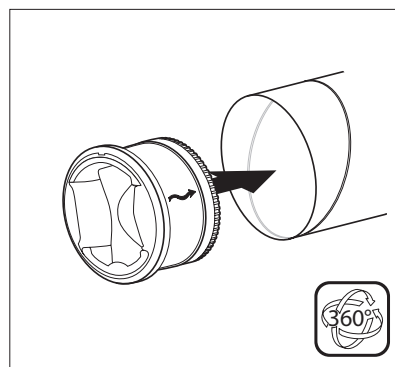
In supply

# MR Modulo installation



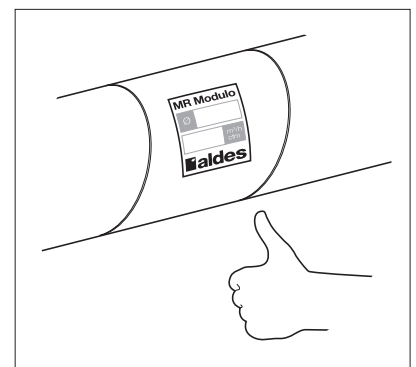
## 1. Adjust the airflow setting.

Rotate the adjustment ring for a tool-free airflow setting until the desired airflow is reached (see the correlation table p7).



## 2. Position the MR Modulo.

Introduce the MR in the duct according to the arrow showing the airflow direction. Minimum straight upstream and downstream distances must be observed.



## 3. Product localization.

MR Modulo is delivered with a marker tag which will be completed (CAR diameter and airflow setting) and placed directly onto the duct to indicate where MR Modulo has been mounted.

# Additional range

## MAF: sleeves with inspection window

---

MR performances are not altered by clogging, therefore it requires very little maintenance.

- If used in an atmosphere high in particles, sleeves with inspection windows are recommended to allow regular inspection.
- When cleaning, plug the hole onto the plastic body, at the base of the membrane, in order to avoid any blocking of this aperture or any liquid or foreign body from passing inside the membrane.

## MR Max

---



- The MR Max is a Constant Airflow Regulator to regulate airflow of specific systems requiring bigger diameters (up to 400 mm), higher differential pressure (up to 1,000 Pa) or higher airflow (up to 4,000 m<sup>3</sup>/h).
- Available from diameter 80 mm to diameter 400 mm.
- The MR Max is a Constant Airflow Regulator with a control damper and airflow setting on site accessible when the CAR is already installed in the ductwork.

# Regulation and air-balancing offer for HVAC ductworks

## 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 Airflow Regulator  
single-airflow



**MR Modulo**  
Constant Airflow Regulator  
multi-airflow



**MR Max**  
Constant Airflow Regulator  
high pressure, high airflows

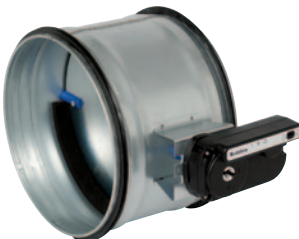


**RMA**  
Constant Airflow Regulator  
motorized

## Active range

---

Variable flow rate control according to instructions.



**VMT Mod**  
Timed proportional  
regulation damper



**VAV**  
Variable Air Volume

**aldes.fr**

