

**CONTROL DAMPERS
PITCH 100 mm**

**WM-10
SERIES**

**OVERVIEW
TECHNICAL DIAGRAMS**

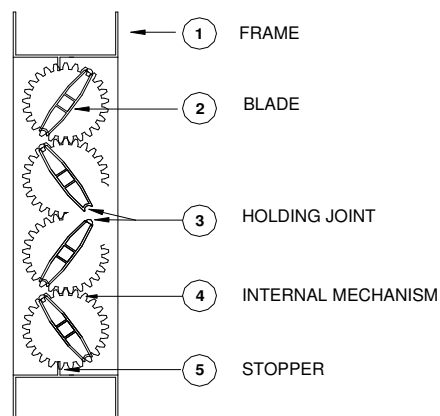
OVERVIEW :

WM-10 control dampers are a new series of products from the WM series. The WM-10 series of control dampers are suitable for the application on square and rectangular ducts. The control of these dampers can be manual, electric or pneumatic, according to the needs of the ventilation system. The installation of these components allows the control of the air flow rate variation (VAV) or the pressure variation control on several kinds of plants. Specifically:

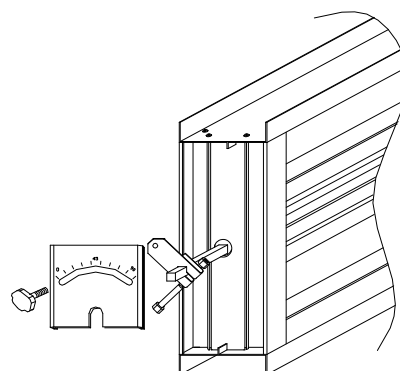
- a) HVAC plants regulation
- b) modulated calibration
- c) modulated or total closing

WM-10 control damper is new in its type due to the innovative movement transmission system of gear-drives, the non-existent friction of the mechanism, the assembly method of the materials used, the particular requirement of air flow control with the wing design of the movable blades and the integrated interchangeable controls, allow for a diverse integration and installation in ventilation systems.

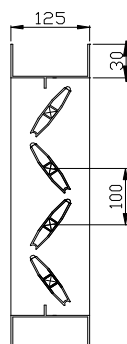
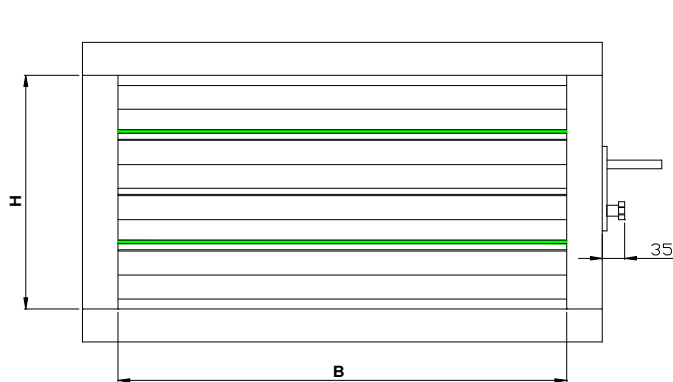
WM-10 Figure n° 1



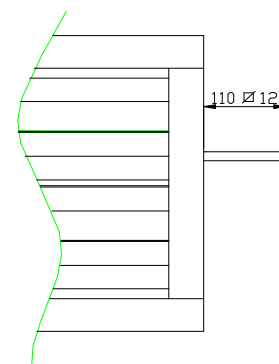
MANUAL COMMAND DETAIL

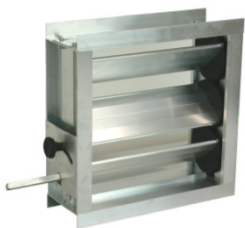


ASSEMBLY DIAGRAMS :



SPECIAL ASSEMBLY WITH HINGE :





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**TECHNICAL DATA
INSTALLATION PROCEDURE**

CHARACTERISTICS :

Damper

Mobile closing system mounted into an air duct, designed to control and close air flow.

Frame, materials and construction method

The frame is manufactured in extruded aluminium and designed to withstand the lateral stress from to air pressure, and built with lateral frame to protect the drive gears.

Flange

Manufactured with 30 mm height.

Blades, materials and construction system

The blades are manufactured from extruded aluminium with a particular profile in order to be a better sealing surface and a good strength to air pressure.

Transversal reinforcement

Present on all dampers with B dimension wider than 1300 mm.

Finishing

Extruded aluminium.

Gear drive, materials and construction system

Opposed rotation gears made from PBT with 30% of glass fibre. The gear drive is closed and protected on the frame. The materials used allow a use between a a temperature range between - 40 °C and + 130 °C.

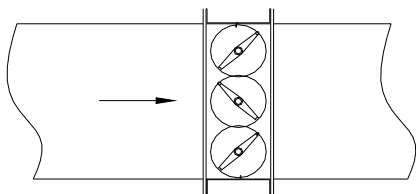
Mounting

By screws through damper flange and duct flange or by self-threading screws through damper flange and air-treatment unit panel.

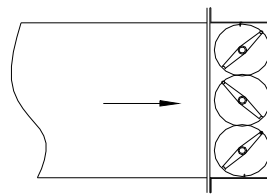
MOUNTING SYSTEM :

Damper mounted inside (figure n°2) or at the beginning or at the end of the air duct (figure n°3 and 4) fixed by the frame flange to the duct flange. The control damper can be mounted on the floor or ceiling (figure n°5).

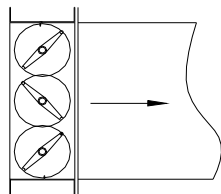
WM-10 Figure no. 2



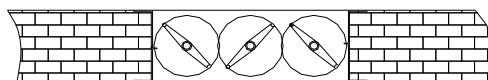
WM Figure no. 3



WM-10 Figure no.4



WM-10 Figure no. 5



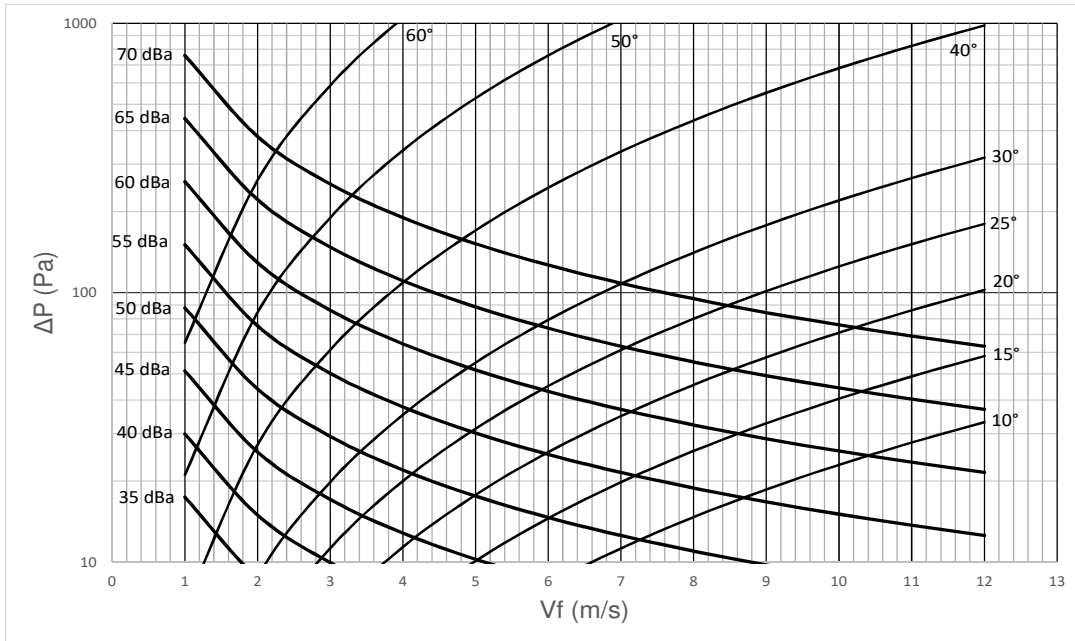


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**AIR FLOWS - PRESSURE DROP
ANGLE OF OPENING
AREA OF THE DAMPER**

Pressure drop and sound power for frontal area = 1m²



Vf Frontal velocity

Data: B Base in mm

H Height in mm

Q Air flow in m³/h

A= (B/1000)*(H/1000) Area in m²

Vf= Q/A/3600

CORRECTION FACTOR "K" OF THE SOUND POWER FOR DAMPERS WITH FRONTAL AREA DIFFERENT FROM 1m ²														
Sezione A in m ²	0,10	0,13	0,25	0,30	0,40	0,50	0,60	0,80	1,00	1,25	1,55	2,00	3,00	4,00
K dB(a)	-9	-8	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5

CORRECTION FACTOR "C" OF THE PRESSURE DROP FOR INSTALLATION DIFFERENT THAN FIGURE2								
Type of installation	Control damper opening as function of blades inclination							
	0°	10°	20°	30°	40°	50°	60°	70°
Figure No. 3	6,1	5,4	3,1	2,0	1,5	1,2	1,1	1,0
Figure No. 4	4,0	3,6	2,3	1,8	1,4	1,3	1,2	1,1
Figure No. 5	8,9	8,2	4,5	2,8	2,0	1,7	1,6	1,2



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TECHNICAL DATA

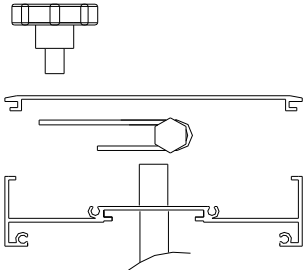
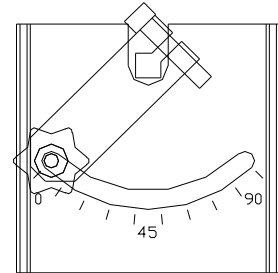
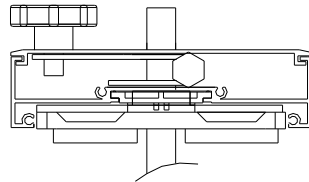


Figure n° 7



Mechanism, manual control: The basic kit (figure n° 7) includes a handle for the movement and locking, a transmission lever for the strength of the transmission shaft axle and a numbered modular plate inserted in the internal mechanism, inside the frame.

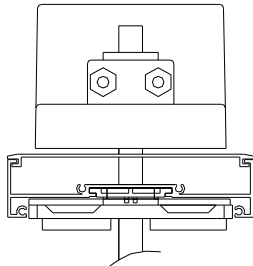
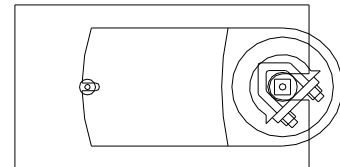
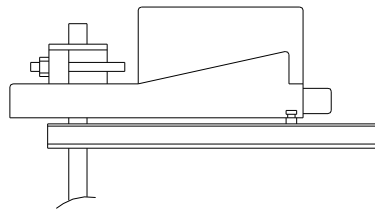
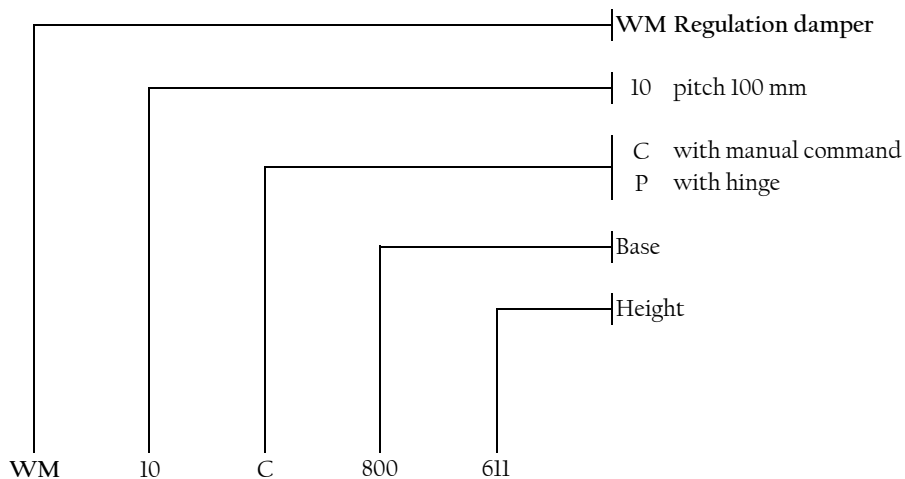


Figure n° 8



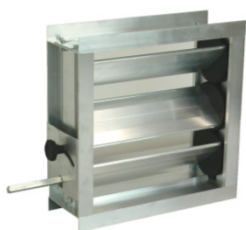
Mechanism, servo control: The complete kit (figure no. 8) guarantees the functionality of the mechanism via means of an electrical signal. It includes the transmission axle and adjustable plate fixed to the frame. This plate is drilled in order to fix standard actuators available on the market.








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OPTIONALS

Image	Description	Code
	Aluminium graduated plate for actuator support.	WM 20
	Fixing lever with fixing bolt, complete with knob for graduated plate for motor support.	WM 21
	Complete manual command kit, complete with graduated plate, actioning lever, fixing bolt and knob.	WM 22