

CONSTANT VOLUME DAMPER DMR

The DMR Simplifies Controlling Airflows



- Automatically regulates airflows in low pressure systems.
- Eliminates on-site balancing of forced air heating, cooling and ventilation systems.
- No electrical or pneumatic controls.
- Simple maintenance-free design.
- Simplifies design engineering and compensates for minor errors.
- The **DMR** may be installed in either horizontal or vertical ducts. Gravity has no influence on its operation.

Article code: **DMR{Ø}/Q}**

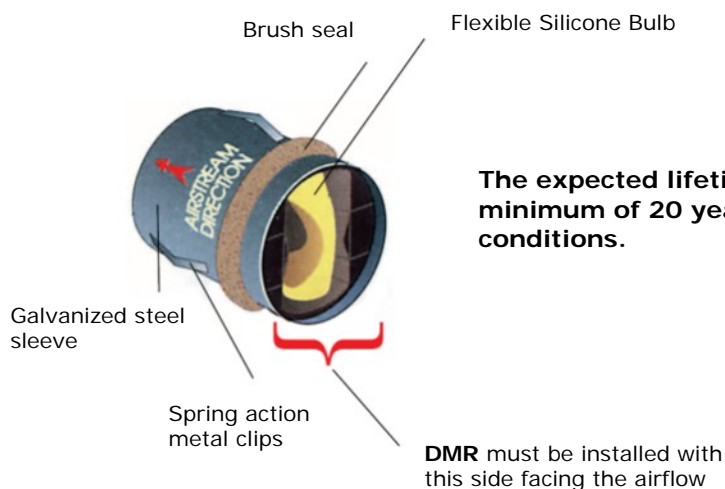
DESCRIPTION

The **DMR** is a device that automatically regulates airflows in ductwork to constant levels. Operation is completely passive. No electric or pneumatic sensors or controls are needed. The **DMR** provides a low cost solution to ballancing forced air systems, air conditioning and ventilation, eliminating the need for onsite balancing. To a large degree, it compensates for changes in duct pressure due to thermal stack effect, building pressure, dust clogging of filters, etc.

The active element of the **DMR** is a flexible silicone bulb which inflates and deflates in response to the static pressure difference across the control. The housing is made of polycarbonate (Lexan) or polyvinyl chloride (Lucorex), for minimum flame spread characteristics.

The **DMR** is made for use in a temperature range of **-10 to +60°C**.

Constant Airflow Dampers maintain airflow accurately to within 10% of rated flow (15% for units 125 M³/h or less). See "**How the DMR Works**" for conditions. The **DMR**'s sub-assembly, consisting of the silicone bulb and its housing, is mounted in a galvanized steel sleeve. The total assembly is designed to fit inside standard rigid round ducting, as well as duct fittings such as tees, etc. A brush type seal around the circumference ensures a tight fit. A set of spring action metal clips grip the interior of the duct or fitting to secure the control firmly in place with minimum installation effort.



The expected lifetime of the silicone bulb is a minimum of 20 years under normal non-corrosive conditions.

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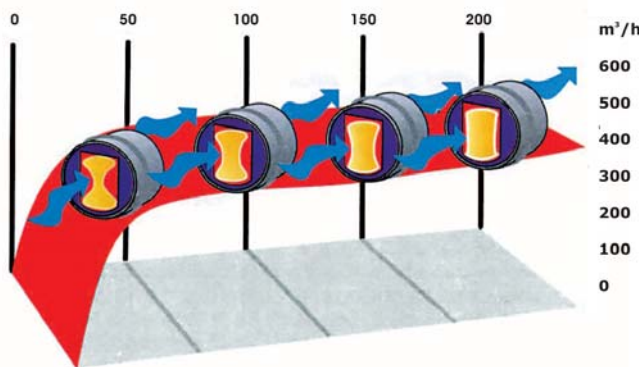
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HOW THE DAMPER WORKS

Constant airflow is achieved by the inflating action of **DMR's** silicone bulb. At minimum static air pressure, the bulb is deflated and has the shape similar to an hourglass. As the static pressure increases across the bulb it inflates, thereby reducing the free area around the bulb. At the same time the higher static pressure increases the air velocity resulting in **CONSTANT AIRFLOW** regardless of pressure differences in the range of 50 to 200 Pa (Low Pressure).

- Airflows are rounded to the nearest 5 m³/h.
- The sizes are nominal.
- The **DMR** is designed to be inserted into a duct of the indicated diameter.
- Airflows are factory preset and cannot be modified by the installer.

LOW PRESSURE Pressure difference



The curve illustrates the simultaneous action of a decreasing orifice area and increasing velocity resulting from increasing pressure to maintain constant airflow:
Area (m²) x velocity (m/h) = Q (m³/h)

Diameter	Q = M ³ /H
80	15-30-45-60
100	15-20-25-30-35-40-45-50-55-60-75-85-90
125	75-80-85-90-95-100-105-110-120-130-150-160-190
150	110-130-150-170-210-250
160	120-130-140-150-160-170-180-190-200-210-250
200	200-225-250-275-300-325-350-400
250	300-350-400-450-500-550-650

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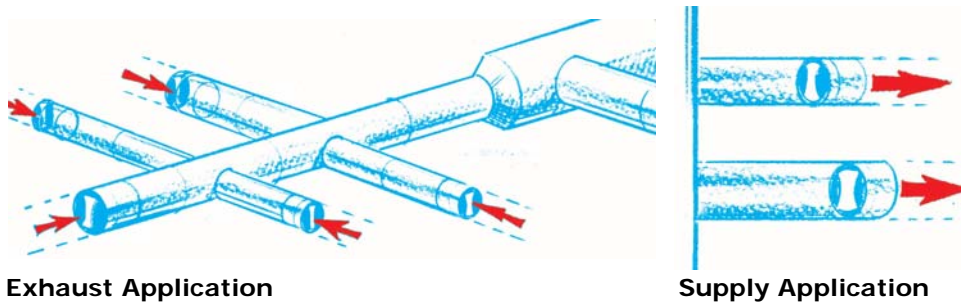
MAINTENANCE

The **DMR** needs no maintenance when used in normal conditions. There is no risk of dust deposit or obstruction because the **DMR** has no airways subject to clogging. If the intended application includes air heavily loaded with grease or dust, a fitting with an access panel or door, such as that used for flame dampers, must be provided.

WARRANTY

Guaranteed for 5 years, from date of shipment, against all defects in material or workmanship, provided that the material has been installed and utilized under normal conditions. This warranty is limited to the repair or replacement of the material upon its return freight paid to our factory.

*The **DMR** is a patented product. We reserve the right to change specifications without notice.*



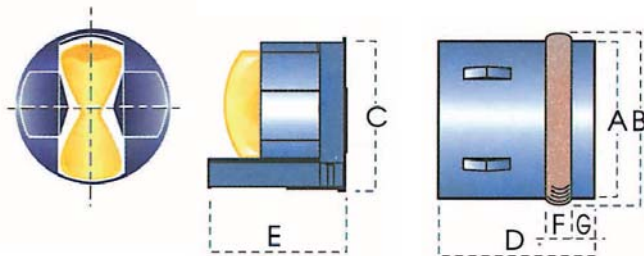
Exhaust Application

Supply Application

Remark:

The **DMR** must be placed on 4x Dn in distance to a corner or a ductbranch. This in regards to the laminaire airflow.

DIMENSIONS



Duct Diam.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (Kg)
080 mm	76	82	76	72	79	15	12	0.15
100 mm	98	104	96	80	60	13	10	0.19
125 mm	121	128	119	137	95	13	20	0.40
150 mm	146	156	142	137	105	20	20	0.55
160 mm	156	166	152	137	105	20	20	0.55
200 mm	196	206	192	155	125	20	20	0.92
250 mm	247	256	234	172	158	20	19	1.70

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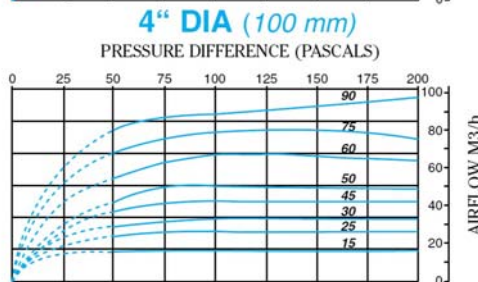
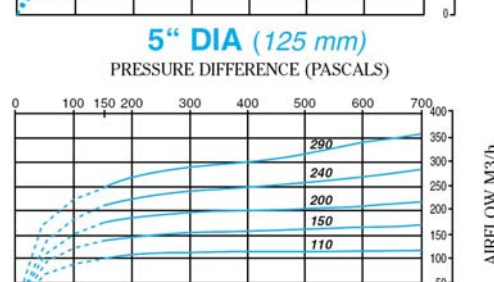
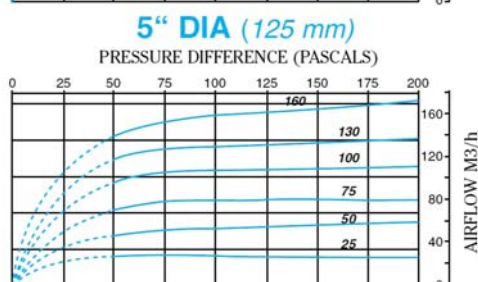
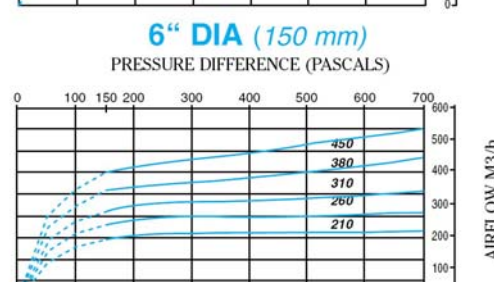
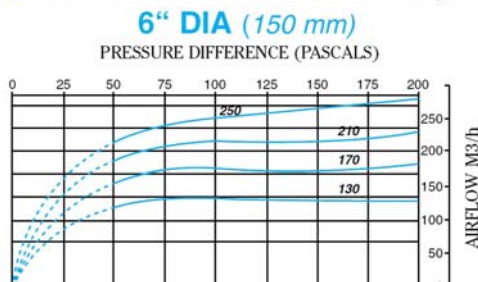
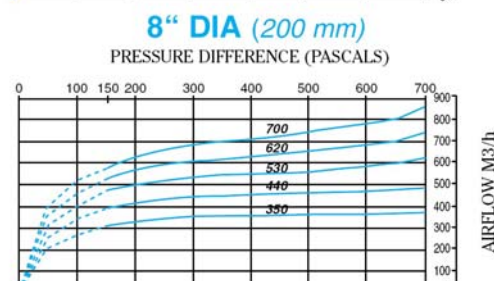
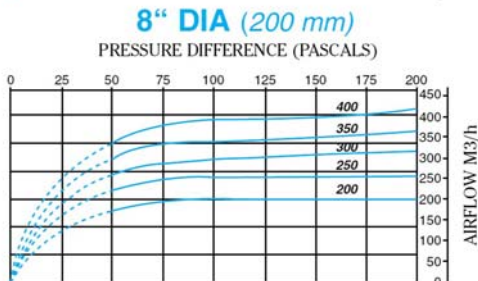
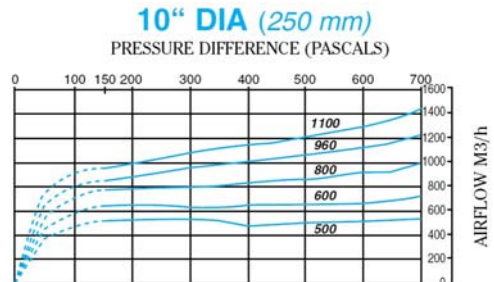
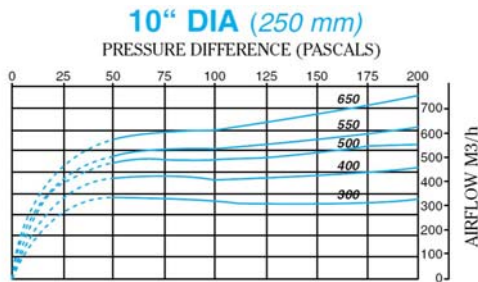
AIRFLOW PERFORMANCE DATA

LOW PRESSURE RANGE

(Balancing Airflows in the Range of 50 to 200 Pascals)

HIGH PRESSURE RANGE

(Balancing Airflows in the Range of 150 to 600 Pascals)



3.28

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