ACCESSORIES

Airmovers Explained

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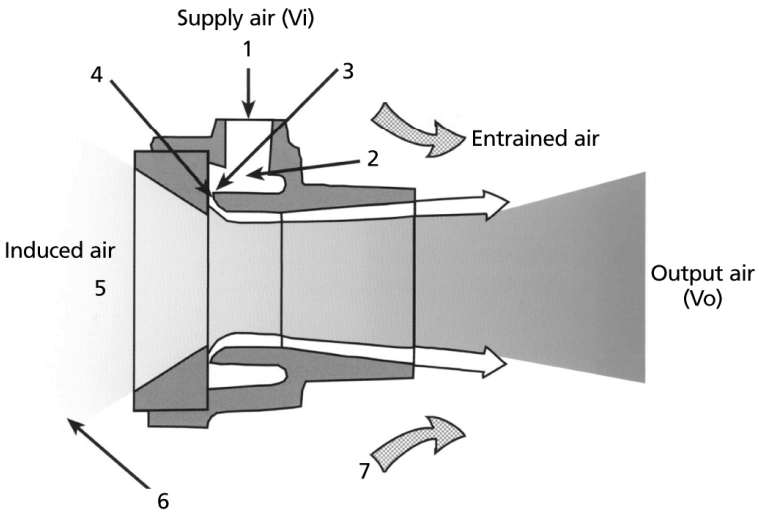
If you are looking to convey light materials, extract fumes, smoke or air, or simply cool down a hot area of a product quickly then airmovers provide a simple, cost effective means of achieving your aim. Using the energy from a small volume of compressed air (supplied from a standard compressor) an airmover amplifies surrounding air to high volume, low pressure output airflow using the coanda effect. Airmovers are extremely quiet and efficient and can amplify compressed air input up to 100 times allowing increased airflow while substantially reducing compressed air comsumption.

How Airmovers Work

An airmover is an air flow amplifier - it uses the energy from a small volume of compressed air (from the normal shop supply) to produce a high velocity, high volume, low pressure output airflow.



Vi = Volume of supply air
(free air at atmospheric pressure)
Vo = Volume Output, ducted
= Vi + Induced air
Vo = Volume Output, unducted
= Vi + Induced air + Entrained air.

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Compressed air flows from the supply inlet (1) into an annular chamber (2). The supply air is throttled by an annular gap (3) and the resultant thin layer of high velocity air adheres to the profile (4) which turns the flow through 90° to pass down the bore. The action of the high velocity supply air flowing over the profile causes a pressure drop which induces large volumes of ambient air (5). This induced flow as augmented, and gains velocity, by contact with the supply air flow through the bore of the unit. When an Airmover is used without output ducting, the high volume flow of supply and induced air from the bore entrains further ambient air. The final ratio of supply (free) air volume to output volume (induced + supply + entrained air) can exceed 100:1.

Airmover Advantages

Airmovers have the following features and characteristics:-

- They have no moving parts and are very safe.
- When used with an effective filter they require no maintenance.
- They are quiet in operation.
- They have unobstructed bores.
- Their output is variable by regulation of the supply air.
- They can be instantly stopped or started.
- No combustion hazard.
- No electrical interference.
- Both the inlet and outlet stages can be ducted, allowing fresh air to be drawn in, for the removal of fumes or conveying of small particles.

Advantages Over Fans

- More compact, simple, lightweight and portable.
- Driven by air, not electricity.
- No moving parts - hence safer and maintenance free.
- Each end can be ducted.

Some Simple Airmover Applications

- Drying wet surfaces.
- Drying water based combustible paints.
- Blowing off and cleaning mechanical parts.
- Cooling heat in moulds and ovens.
- Extracting smoke and fumes e.g. in welding.
- Venting fumes in tanks, e.g. in ship cargo holds.

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