

# Air Movers and Air Amplifiers- E 2100 SERIES

## Pneumatically driven- fumes, dust and fine solids exhauster

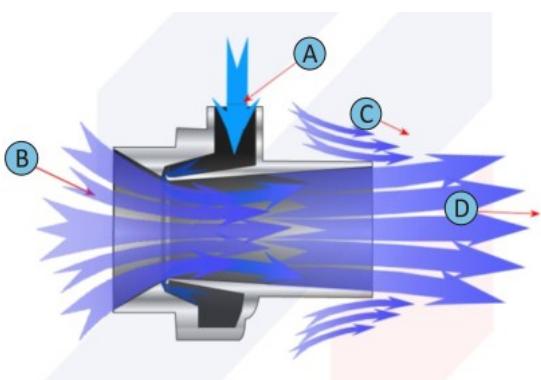


Figure 1. Working principle



Figure 2 : 1 1/2" Air mover

Air amplifiers are pneumatically driven devices used for the extraction of dust and fine solids and for cooling applications.



Figure 3: 6"Air Mover

Air movers or air horns are pneumatically driven ventilators used to exhaust noxious fumes from critical areas to improve worker safety.

The Primetech venturi air mover is an effective device for

- evacuating fumes, smoke and air .
- conveying light particles such as resins and powders.
- Rapid cooling down of products, castings or work place.

### Working philosophy: The Coanda Effect

Named after the aerodynamic pioneer Henri Coanda, this effect illustrates the tendency of a jet fluid to stay attached to an adjacent curved surface that is very well shaped.

Air movers are “pressure energy converters” converting higher pressure of compressed air to a high exhaust flow rate at low pressure.Compressed air enters the annular ring nozzle (A) and exits in the coanda profile which creates a vacuum in the upstream of the device.This causes an entrainment (B) which exits the device in (D).At the exit further entrainment of downstream air occurs (C).

### Features

- Can be used as blower/exhauster.
- No electricity required. Can be used in hazardous areas.
- Light Weight & Portable
- Increasing the inlet pressure increases the exhaust flow.
- Low noise levels in air flow
- Easy to control– Can be started/stopped instantly.
- No maintenance required when used with an effective filter on the motive air side.
- No moving parts
- Low compressed air consumption.

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### Applications

#### Exhaustion and conveying:

- Removal of poisonous, explosive or noxious fumes from tanks, towers, pipes etc. so as to make the work environment viable for men who work.
- Removal of dust, fine powders, small textile fibers using air amplifiers.
- Paper & pulp industries produce toxic gases in the digester which can be removed using air movers.
- To remove welding fumes & volatile gases in marine cargo holds, shipyards, power plants, manufacturing units etc.
- Removing grinding dust in metal working.

#### Cooling :

- Cooling heavy machineries such as turbines, furnaces which face the problem of overheating frequently.
- Cool down iron ladles faster thereby reducing time required for cleaning & maintenance.
- Cooling in molds and ovens.

#### Fresh Air Supply:

- Air Movers circulate fresh air or pull out poisonous gas /fumes from manholes.
- Air movers used for supplying fresh air to personnel working in confined area such as underground mines.

#### Drying:

- Drying water and enamel based paints.
- Quick drying of wet surfaces.

#### Industries served:

Marine and shipping	Automobile	Textile	Metal working
Oil and gas	Metal foundries	Pulp and paper	Process Industry

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## Technical data : Primetech Air mover



Smaller sizes 2", 3" and 4" are custom made and delivered within 4 weeks of order placement.

Model Number	Air consumption at 80 Psig (SCFM)	Exhaust volume (SCFM)
PT-E-2101-C	0.164	0.886
PT-E-2101.5-C	0.286	3.681
PT-E-2102-C	0.631	5.2
PT-E-2102.5-C	0.555	8.297
PT-E-2104.5-C	1.133	14.186
PT-E-2106	60	1000
PT-E-2107	70	1400
PT-E-2112.5	125	3200
PT-E-2114	200	5000
PT-E-2115	280	7100

Model Number	Horn diameter (Inches)	Overall length (Inches)	Base diameter (Inches)	Compressed air inlet size (inches)
PT-E-2106	6"	17	7.3	1/2"
PT-E-2107	7"	32	7.3	1/2"
PT-E-2112.5	12.5"	45	11.25	1"
PT-E-2114	14"	50	14.4	1"
PT-E-2115	15"	50	17	1"

## Materials of construction

**Base:** Carbon steel / SS316    **Horn:** Carbon steel / SS316 / FRP

**Compressed air port thread:** NPT