

EA-20 DAEDALON AIR SOURCE

The Daedalon Air Source is designed to supply a large volume of low pressure air for the operation of Air Tracks. It will supply two 1.5 meter EA-01 Air Tracks or a single track up to 2.5 m long. A 2 m Air Hose is included.

The unit consists of a single stage centrifugal fan driven by a 1HP motor in a compact cylindrical enclosure. The air path is straight through the unit to minimize pressure drop and noise. Inlet noise from the fan is reduced by passing the air through 10 cm of porous plastic foam. Air flow noise at the outlet is reduced by the elimination of right angle bends in the air path. The Air Source outlet height matches the Daedalon EA-01 Air Track inlet height, so they can be connected together without the pressure drop and noise produced by air flow in a flexible hose.

Since the air flow is used to cool the motor, the Air Source should not be operated for extended periods with both outlets plugged. Nor should it be used in dusty environments, since the blown dust will cause abrasion damage to the motor and plug the air holes in the Air Track.

Operate the Air Source at or below rated voltage only. Over voltage conditions can cause excessive speed and the resultant electric shock and mechanical hazard. If only one Air Track is being used, substantial noise reduction is possible by dropping the voltage slightly. The output pressure as a function of voltage for one and two EA-01 Air Tracks is shown in Figure One.

WARNING

Never operate an Air Source near open containers of flammable solvents, dry chemicals, cleaners or varnishes. Fumes from such substances and air form a mixture that can burst into flame from a motor spark.

When new, the soft plastic fittings on the end of the air hose are sometimes hard to slide over the nozzles on the Air Source and Air Track. This difficulty can be reduced by heating the plastic fitting in hot water (60°C) for a few minutes before attaching it for the first time. After use, the fitting stretches enough to be easy to attach. Avoid excessive force when attaching the hose to the Air Source to prevent damaging the air nozzles on the Source.

Repairs

Brush wear in the Air Source is very low under normal conditions. In our testing, an Air Source running six hours a day supplying a single air track has brush life exceeding three thousand hours. Brush life can be reduced by excessively dusty atmospheres, but in all likelihood the brushes will never need to be changed. Should you need replacement brushes they can be obtained from Daedalon.

Specification

The Line Voltage V versus the Output Pressure in kiloPascals PPS for one Air Track and PPD for two Air Tracks are shown in Figure One. Characteristics depend upon air load placed on the Air Source. Data listed are for one or two 1.5 m Air Tracks as load.

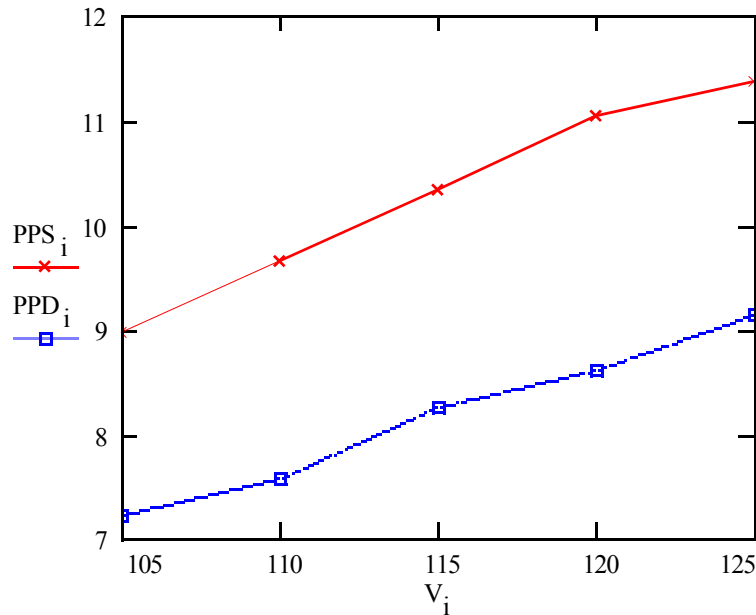


Figure One

	One Air Track	Two Air Tracks
Air Pressure (Note 1)	11	8.6 kiloPascals
Temperature Rise (Note 2)	20°C	13°C
Noise Level (Note 3)	69.5 db	68.5 db

Notes

1. Pressure measured by an aneroid pressure gauge at the opposite end of the Track from the air inlet. Careful measurements show that there is no significant pressure drop down the length of the Air Track. Measurement of the air volume delivered is more difficult than the pressure measurement. In a typical application, with a single Air Track an EA-20 Air Source delivers $2.6 \times 10^4 \text{ cm}^3/\text{s}$. and for two Tracks, it delivers $4.8 \times 10^4 \text{ cm}^3/\text{s}$ but at lower pressure.
2. Temperature rise measured on the outside surface of the Air Track at the air inlet end.
3. Sound level measured 2 m from the Air Source in a large room. Background noise level with the Air Source off, was 66 db.