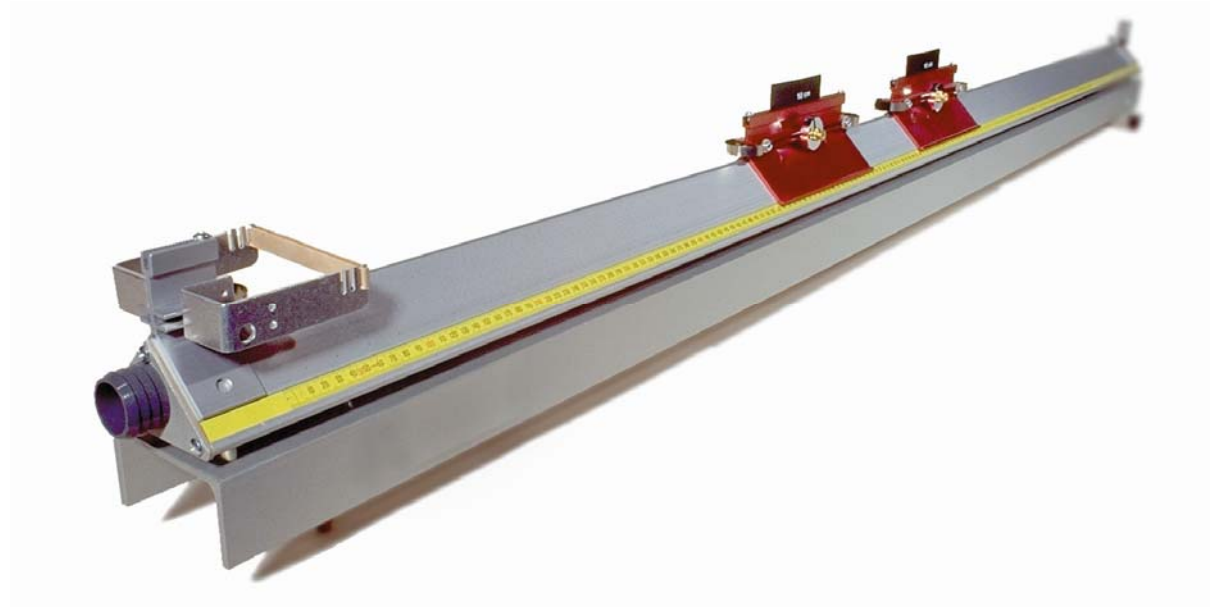


Air Track, 1.9 m U40400

Instruction sheet

11/05 ALF



1. Description

The Air Track consists of a hollow, triangular aluminum profile with 7 adjustment screws on a U-profile aluminum girder. A nozzle for fitting the air pressure hose is located on one side of the triangular profile, while the air track is closed on the other side. Air escapes via outlets arranged in 4 rows along the track. This, together with the equilateral cross-section of the track, prevents a misalignment of the gliders. The track limits are a rubber cord launcher and a stopper with bumper spring and ball-bearing pulley. For distance measurement it includes a millimeter scale recessed in a groove. A three-point base with an adjustment screw serves for horizontal alignment.

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|-------------------|---|
| Straightness: | 0.04 mm over the entire length |
| Cross-section: | isosceles triangle |
| Base width: | 94 mm |
| Side length: | 66.5 mm |
| Wall thickness: | 3 mm |
| Air outlet holes: | 2 rows on each side |
| Diameter: | 0.9 mm |
| Spacing: | 24 mm |
| Girder profile: | aluminum U-profile |
| Base width: | 100 mm |
| Height: | 50 mm |
| Thickness: | 5 mm |
| Gliders: | 300 g bumper springs on one side, Velcro tape on the other side |
| Auxiliary weight: | 50 g , chrome-plated brass |
| Spring: | 50 mm, 1.7 N/m |
| Velocity flag: | 100 mm |
| Air supply: | 1.3 to 2 l/s |

2. Technical Data

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|------------------|--------|
| Operating range: | 1.9 m |
| Total length: | 2.07 m |

3. Scope of delivery

- 1 air track on a U-profile girder
 - 1 rubber cord launcher
 - 1 stopper with bumper spring and ball-bearing pulley
 - 2 gliders
 - 2 auxiliary weights
 - 3 helical springs
 - 2 velocity flags
 - 2 magnets
- Screws

4. Operation

4.1 Attaching the end stops

- Using the $\frac{1}{4}$ -20 x $\frac{1}{4}$ " screws provided, attach the end stop with the rubber band glider launcher to the end of the track at the nozzle end plate. Do not overtighten these screws as you could strip the threads in the holes.
- Attach the end stop with the track end pulley at the other end of the track. Ensure that the bumper spring is facing the track.

4.2 Attaching the adjustable foot and crossfoot

- The adjustable foot is shipped assembled with one $\frac{1}{4}$ -20 x $\frac{1}{2}$ " Nylon thumbscrew and one $\frac{1}{4}$ -20 butterfly (wing) nut. Using the #10-24 x $\frac{1}{2}$ " screws and washers provided, attach it to the track. The adjustable foot should be installed on the nozzle end of the track. Align it so that the open side of the channel faces towards the air nozzle. This will let you reach to top of the levelling screw from the end of the track to adjust the level.

- Install the non-adjustable feet to the sides of the girder at the other end of the track. The vertical flange on the bracket goes on the inside of the beam sides. Fasten with #10-24 x $\frac{1}{2}$ " pan head machine screws.
- Turn the Air Track over onto its feet.

4.3 Levelling the Air Track

- Set the assembled Air Track on a sturdy table.
- Connect the air supply to the air nozzle on the end of the track.
- Place a glider on the track and turn on the air source. The glider will float and drift down to one end of the track.
- Twist the thumbscrew on the adjustable foot until the glider comes to rest more or less in the middle portion of the track. The floating glider makes a very sensitive level and it will react to the smallest departures from the horizontal. Also adjust the pair of feet at the opposite end of the track. The lower portion of the foot should be rotated outward a couple of turns.

4.4 Air Supply Requirements

Under normal conditions the Air Track requires an inlet pressure of between 5 and 9 kPa. Pressure greater than this cause the glider to float too high and wobble as it moves. Lower pressures will cause slightly bent gliders to drag. The volume of air used by the track is 1.3 to 2 litre/second at these pressures.