

Air Film Technology

Since its acquisition of Hovair Systems, Movetech UK has continued in-house design and manufacture of standard and bespoke air film movement solutions.

Air film technology is the application of compressed air to virtually eliminate friction achieved using air bearings. Loads of almost any size or weight can be moved in any direction with ease and precision. Minimal moving parts ensure that reliability and ease of maintenance is built in.

Air film technology is most commonly incorporated into three types of equipment: air skates, transporters and turntables.

Air Film Transporters

Hovair transporter platforms are ideally used to move loads from A to B, or in production flow lines where build stages are required.

They usually incorporate four or more air bearings in a single fabricated structural steel chassis, the size of which is determined by the application. The pneumatic control system for the air bearings and other accessories such as drive units, secondary lifting beams and guide wheels are all incorporated in the transporter chassis. Operator control options include umbilical, hard mounted, and remote-controlled units. More information on bespoke designed transporter platforms and available options is available in the leaflet 'Air Film Transporters'



12 tonne capacity transporter picks up and manoeuvres loads for Granada Material Handling

Air Skates

An air skate is a structural steel or aluminium unit containing one air bearing. Generally used in sets of four or more to move large, heavy or awkward objects, air skates are available with interconnecting hoses, fittings and valves, ready to connect to a suitable air supply. They are capable of moving 1000's of tonnes in any direction, depending on the floor pressure and the number of skates employed. More information on the types, sizes and capacities of Hovair air skates is available in the leaflet 'Air Skates'.



Air Film Turntables

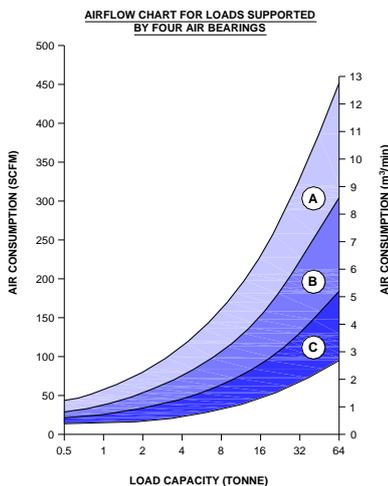
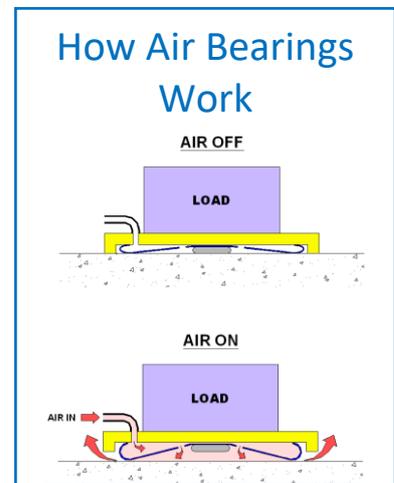
Air film turntables are available as part of the range of movement solutions offered by Movetech UK.

Hovair air film turntables are low profile steel structures with air bearings evenly distributed around the turntable to support the load. Air bearing turntables are available as manual rotation, air or electric drive systems and have low maintenance requirements. More information about air film and mechanical turntables can be found in the data sheets 'Vehicle Turntables' and 'Movement for Commerce and Industry'.

Air Bearings

At the heart of all air film technology is the air bearing. The Hovair air bearing consists of a diaphragm moulded to a precise profile and attached to an aluminium alloy backing plate.

When compressed air is supplied through feed holes, the air bearing inflates and lifts the load by a centimetre or two. The air then bleeds to atmosphere around the perimeter of the diaphragm creating a very thin film of air between the diaphragm and the floor. This film of air produces a coefficient of friction as low as 0.005, allowing very large loads to be moved with little effort. This is illustrated in the "How Air Bearings Work" diagram.



- A - Generally smooth concrete with minor imperfections. Joints generally level and smooth.
- B - Continuous paper-smooth, power-trowelled and sealed concrete with correctly prepared joints.
- C - Continuous self-levelling epoxy or joint free steel sheet.

Floor Quality & Air Consumption

The quality of the operating surface is important for the efficient and reliable use of air film equipment. The better the quality of operating surface, the less compressed air will be required to operate. The graph to the left illustrates how a good quality floor can reduce the air consumption by as much as 75%.

For further details on air film transporters, air skates, air film turntables and floor specifications please contact the sales team on 01204 537 681.

