

Fast indexing and positioning



Angular momentum for automation

50 years of competence in indexing and positioning

It is not the fast flow, but the fast change between movement and standstill that characterises our production. The heart of production lines encompassing linear and rotary operations, are index drives generating the desired indexing time from constant motor rotation.

This technique is not entirely new, because the basic principle is already depicted on sketches of drive system worked out by Leonardo da Vinci in the 16th century. However, the principle of index drives is still highly topical 500 years later. 50 years ago, with the construction of principle of rotary index tables, Hans Jäger created the basis for the former EXPERT Maschinenbau GmbH, founded on 23 May 1961 together with his partners Karl Raab and Max Sievers in Lorsch (Bergstraße).

Through contacts with the automotive industry the young company soon grew into a globally operating group, focussing on the area of weld technology, conveying technology and the production of complex industrial facilities. Even though the company no longer exists in this form, EXPERT-TÜNKERS GmbH, carries on the original key programme of turntables and index drives and continuously develops it by means of innovative solutions in a permanent dialogue with our customers. The new high-performance EDX and EDH series demonstrate this.

Solutions for highly dynamic movement and transporting systems are our world, in which we have gained a special degree of competence over a period of 50 years and which allows us to create momentum for your automation solutions.

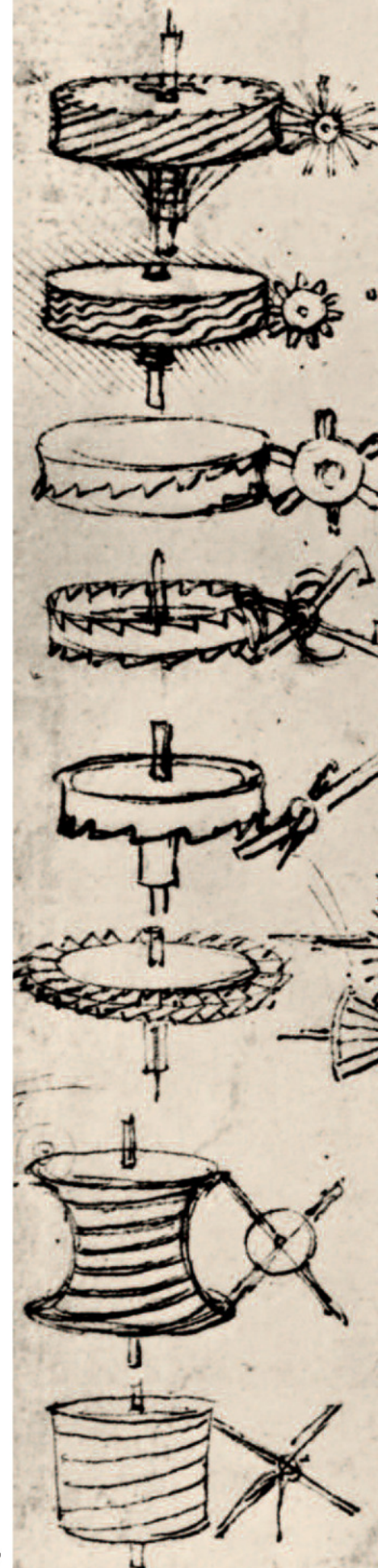
Your EXPERT-TÜNKERS team



Olaf Tünkers
Managing director



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"Studies by Leonardo da Vinci on index drives"
Quelle Bild: Science & Society Picture Library Science Museum
National Media Museum | National Railway Museum
NMSI Enterprises, Science Museum, Exhibition Road, London SW7 2DD

The rotary table principle

The EXPERT-TÜNKERS rotary table principle

Rotary drives are elementary transport modules in manufacturing and shoulder a high degree of responsibility for production processes. Therefore, highest process reliability is the top maxim in the development and construction of EXPERT-TÜNKERS rotary tables.

Put into simple terms, a rotary table consists of a drive, a housing and a rotary plate. The layout of the rotary plate bearing defines the performance data of the rotary table proper. The patented EXPERT-TÜNKERS construction principle allows for an equally simple, low-maintenance and extremely productive system structure.

The EXPERT-TÜNKERS construction principle

1. Rotary plate and housing accommodate the bearing

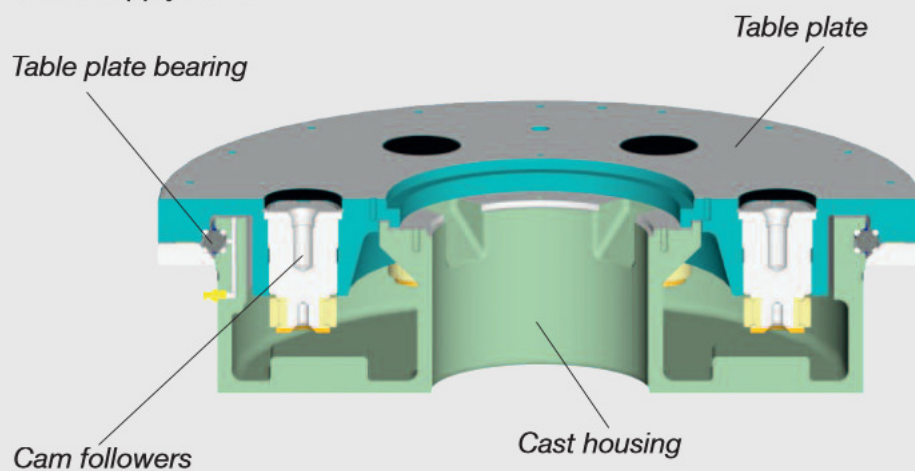
All conventional needle bearings or crossed roller bearings severely narrow the constructive possibilities as to the realisation of simple and therefore robust solutions. In the process, tables must be equipped with additional seals or column-like centre structures to support the axial loads.

With EXPERT-TÜNKERS rotary tables, however, the table and the housing directly serve the accommodation of the bearing. Next to an extremely space-saving design, the following advantages are created:

- solid, level table encompassing the ball bearing; ideal structural base for fixtures, no interfering edges;
- safe protection of the mechanisms underneath against weld splatter, splashes of water etc. without additional seals etc.;
- very simple construction as only one external bearing is required, whereas other types of construction rely on up to three bearings (axial and radial), which have to be adjusted to each other;
- high bearing loads can be realised, as the bearing is optimally installed at the outer perimeter of the table;
- easy maintenance, bearing can be readjusted without removal of the table.

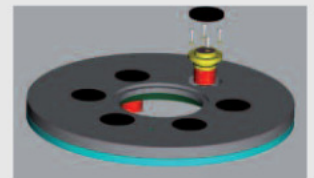
2. Wider opening in the centre column

Due to the bearing being externally located, the centre area of the table housing and the rotary plate can be freely designed and it allows for a large central opening for media supply lines.



3. Easy disassembly of cam followers

Overstressing of rotary tables, e.g. through crash or operating errors can cause defects to driving cams. The EXPERT-TÜNKERS construction allows for easy replac- ing of cam actuators from the top, even on jammed tables.



4. High-precision fit in working position due to the cam drive principle

With indexing tables the plate is driven via two cam actuators. In neutral position, they move to a broadened cam profile resting in this position and, therefore, provide for a locked working position with high-precision fit.

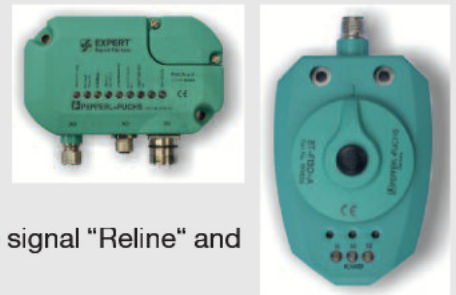


5. SMARTTURN: Rotary pulse generator instead of complex switch assembly

The new generation of rotary tables is optionally supplied with an inductive rotary pulse generator and the stand-alone SmartTurn control, which replaces complex mechanical barring gears and controls the tables fully automatically.

Advantages:

- Self-teaching system
- Easy initial operation due to the first movement cycle
- No readjustment required
- Integrated monitoring of the brake path, including brake wear, with alarm signal "Reline" and emergency shutdown



Overview of aspects in favour of EXPERT-TÜNKERS rotary tables

Easy replacement and maintenance of cam actuators from the top – without disassembly of the customers' fixtures

Solid closed and level table/plate with large assembly area

Wider opening with centre column for media supply

High-precision fit in working position due to cylindrical cam profile principle

One bearing located at the outer perimeter

Rotary pulse generator SmartTurn instead of complex switch assembly

