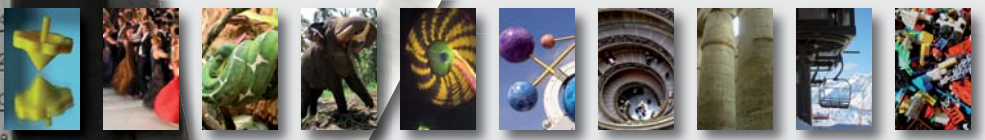
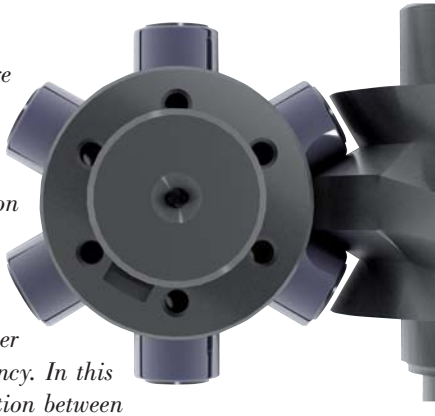
Rapid Indexing & Positioning



EXPERT®
EXPERT-TÜNKERS GMBH
HEBEN
DREHEN
VERFAHREN

The pace of modern living



Nobody can ignore the fact that our times are becoming more and more hectic and continue to be of short-lived nature. This is particularly apparent in the development of production processes. The actual operations are invisible to the naked eye in many plants. In highly automated production the individual steps are only interrupted by very short transport cycles. But transport time equals last time and is not productive in the sense of the value chain.

We at EXPERT-TÜNKERS feel it is our obligation to further reduce theses times and thereby increase production efficiency. In this respect absolute speed is not of first priority but fast alteration between stoppage and movement. Highly dynamic EXPERT-TÜNKERS drives are characterised by rapid acceleration and deceleration in short succession.

Here we rely on one essential element, the cam roller mechanism, into which the required dynamics of the drive are virtually sunk as a fixed transmission.

Only if flexibility is in the fore, rigid mechanics lose their justification. Expert rotary tables equipped with servo drives allow for flexible positioning in any required situation and with regard to any motion profile.

EXPERT-TÜNKERS is your partner as to highly dynamic turning, lifting, moving and with our transport modules we help reducing dead handling times in your production cycles with rotary tables, trunnion index drives, lift tables, component shuttles or lift/drop conveyors.

The current catalogue contains just a small selection of our standard product range. Moreover, we continuously develop special solutions frequently tailored to the specific requirements of our customers. Feel free to contact us if you cannot find a product in this catalogue suitable for you. We are surely able to provide you with a customised solution.

Your Expert-Tünkers Team

Olaf Tünkers
Managing Director

Frank Giebenhain
Sales Manager

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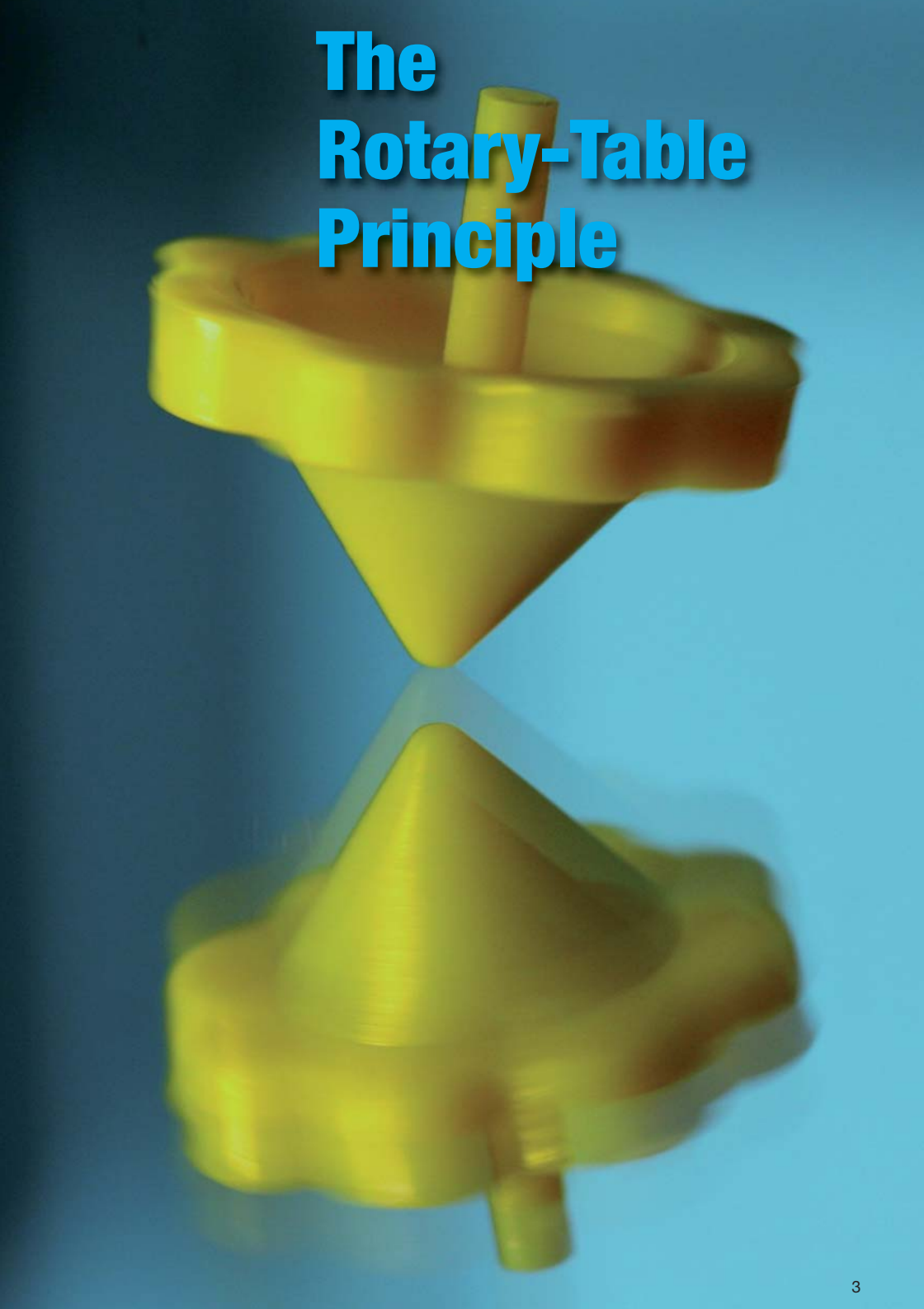
The Rotary-Table Principle



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 Construction Principle

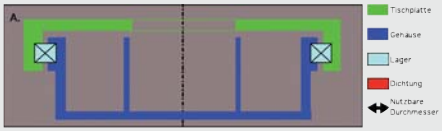
1. Rotary plate and housing accommodate the bearing

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.

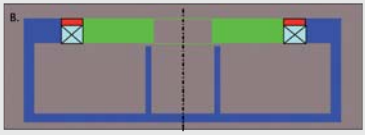
With EXPERT-TÜNKERS rotary tables, however, the table and the housing directly serve the accommodation of the bearing. Next to an extremely space-saving design, the following advantages are created:

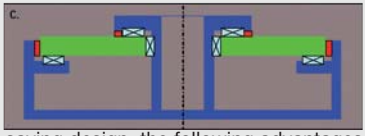
- solid, level table encompassing the ball bearing; ideal structural base for fixtures, no interfering edges;
- safe protection of the mechanics underneath against spatter, splashes of water etc.without additional seals;
- very simple construction as only one external bearing is required, whereas other 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.

The EXPERT Principle

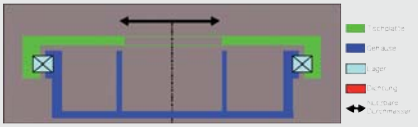


Conventional solutions





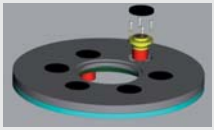
2. Wider openings in the centre column



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 centre diameter inside for media supply lines.

3. Easy disassembly of cam actuators

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



4. High-precision fit in working position due to the stud roller 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 switch spear

The new generation of rotary tables is optionally supplied with an inductive rotary pulse generator and the autarchic SmartTurn control which replaces complex mechanical gears and controls the tables fully automatic.

Advantages:

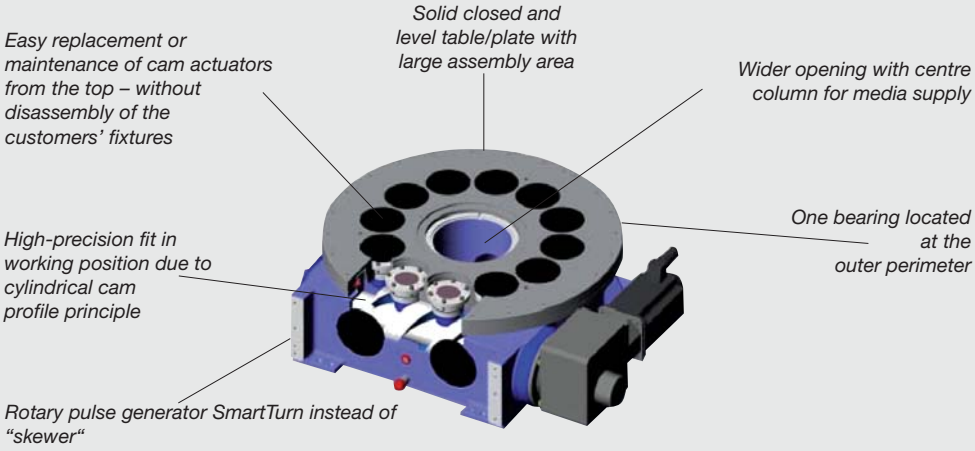
– Self-teaching system

– Easy initial operation due to the first movement cycle

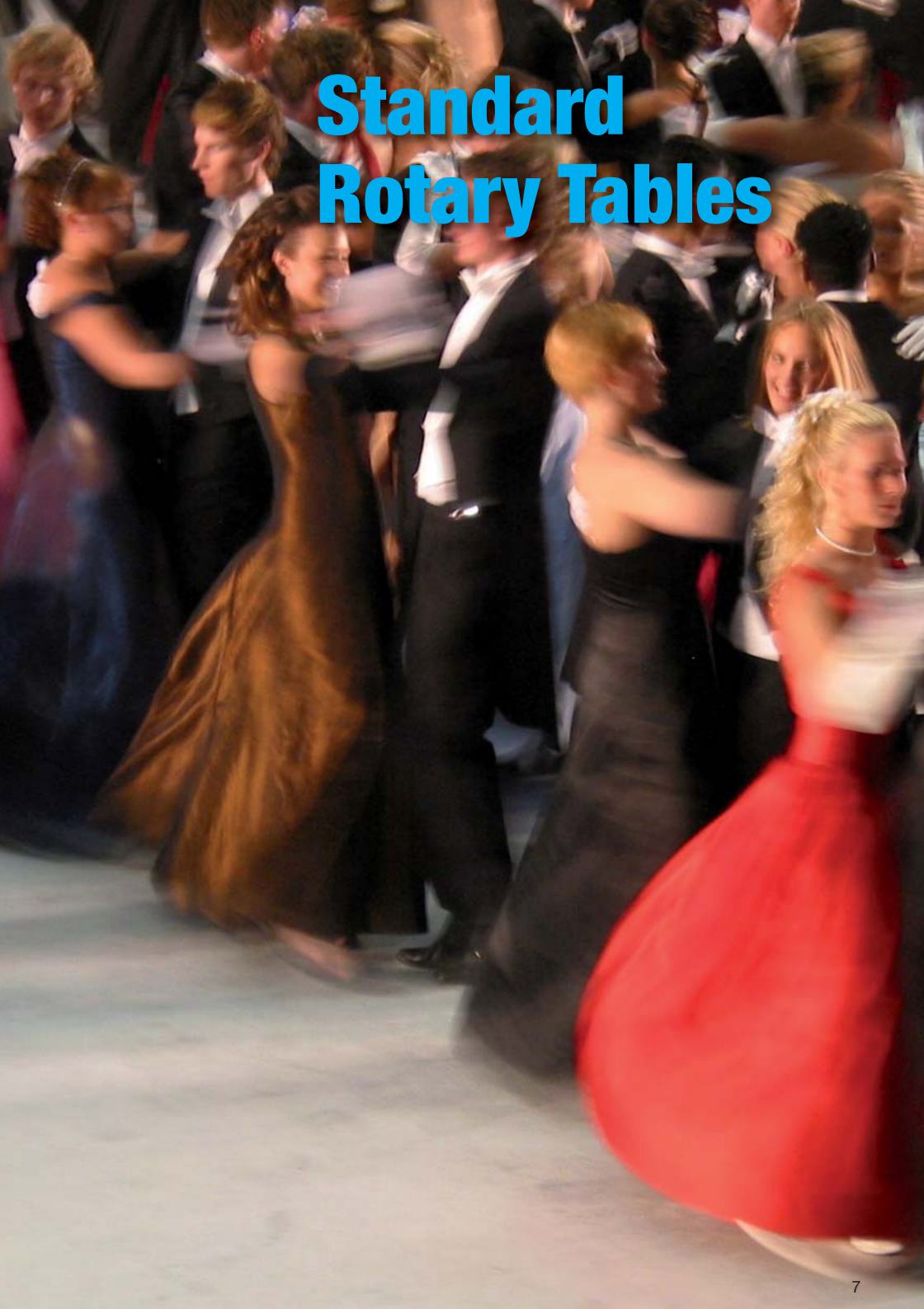
– No readjustment required

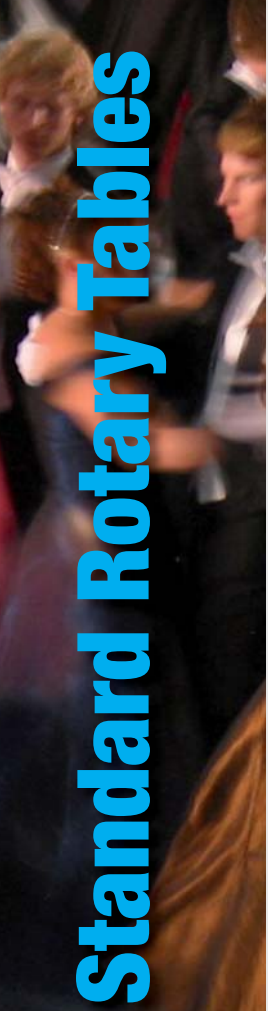
– Integrated monitoring of the brake path and thus the wear and tear of the brakes with alarm signal “Reline“ and emergency shut-down

Survey of arguments in favour of EXPERT-TÜNKERS rotary tables



Standard Rotary Tables





Standard Rotary Tables

Standard Rotary Tables

Precision index drives for rotating movements and dynamic indexing of loads of up to 20 tons with standards cycle times of 2 to 6 seconds. Conventional drive via three-phase a.c. motors the drive movement of which is converted into an indexed movement via a positive cylindrical cam profile.

Typical cases of application of EXPERT rotary tables are loading and unloading operations in body-in-white welding lines, the channelling in and out of pallets or round indexing tables for successive work / manufacturing processes. EXPERT rotary drives are suitable for horizontal and vertical operation, for instance, in the form of trunnion drives.

Specific Advantages

– Optimally adjusted wheel sets;

– Easy adjustment of transport times via pulleys (also aftermarket);

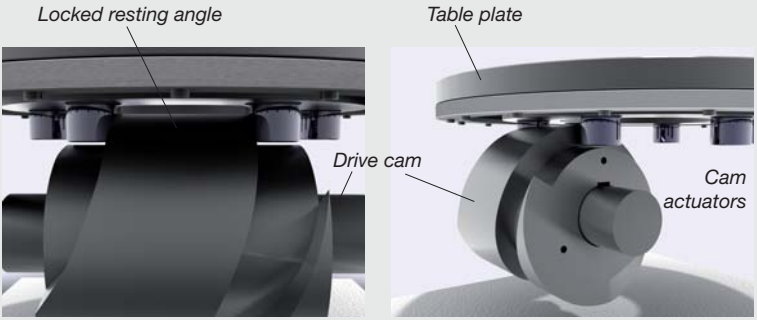
– The use of brake motors of different brands (customer request) is easily possible;

– Spare-parts stocking of wheel sets and brake motors is reduced to a minimum;

– The drive motor and the pulley are easily accessible and exchangeable due to the geometric design of the rotary tables - also with mounted tooling plate;

– Minimal vibration transfer from the drive to the rotary table as there are no direct rigid connections.

Functional Principle



Design and Function

EXPERT precision rotary tables convert constant drive movements into successive output movements. Due to the construction of the cylindrical cam profiles in accordance with mathematical laws on curves a smooth and shockless motion sequence is generated.

When in operation, the cam effects a stepwise rotation of the table by the defined angular displacement per step. A form-closed positioning of the table plate with high-precision fit is achieved in the dwell position without additional constraints.

Laws of Motion

Index drives which must accelerate and decelerate inertial masses from resting positions are required to produce smooth and shockless motions. Here the law of motion, for instance modified sines suitable for the customer application is applied.

Characteristics of the Series

Housing
– Newly dimensioned compact housing, processed according to standards, for improved and easy centering and orientating of rotary tables.
– Openings are provided in the centre and on the sides for the installation of supply lines.

Cylindrical Cam Profile
– Hardened and ground for low-vibration motion and long service life.
– Maintenance, assembly and disassembly via opening of the housing on the side.

Cam Actuators
– Hardened and ground.
– Maintenance, assembly and disassembly are directly possible from the top of the table plate (openings in the tooling plate are to be accordingly provided for).
– Cover plates for protection of the cam actuators.

Table Plate
– Newly dimensioned table plate with enhanced performance data.
– Due to the arrangement of table the plate and ball bearing, no supplementary covers are needed to protect the bearing (contact with spatter, water, dust can be avoided under normal environmental conditions).
– The table plate is prepared for the adaptation of according centering bushings.

Ball Bearing
– Quality bearings especially tailored to meet EXPERT requirements.
– Check and adjustment possibilities from outside, with loaded tooling plate (not requiring disassembly).

Drive
– The rotary table is driven by a brake motor.
– Optional types of operation: One or two speeds, one direction of rotation (right or left), two directions of rotation (reversing), toggle, intermittent or continuous operation.

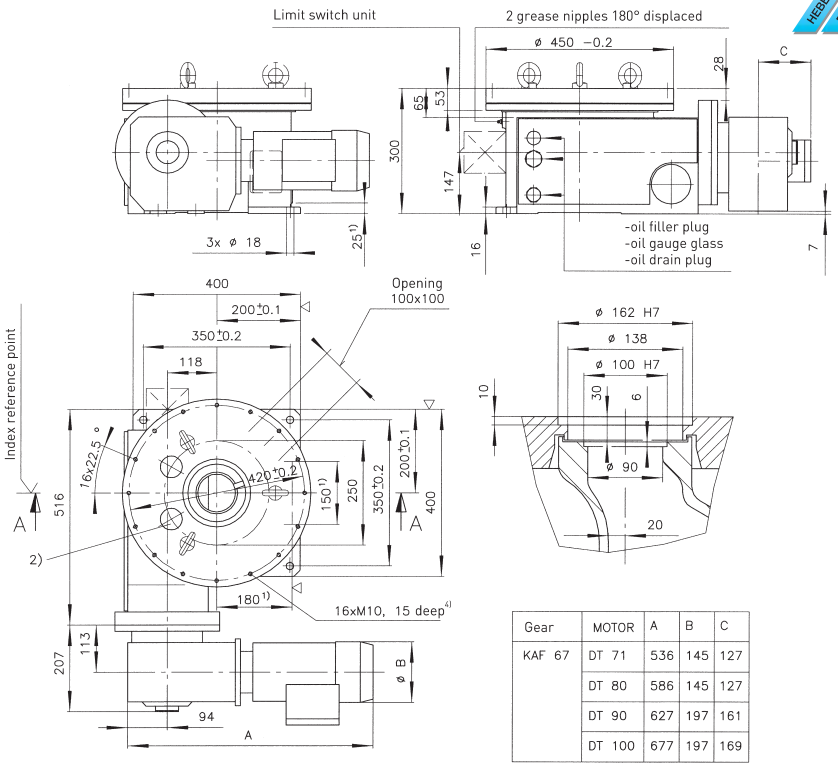
Control Device
– 1 limit switch for sensing of resting angle
– The control device is designed in accordance with the type of operation and customer requests
– Minimum: 2 limit switches for continuous operation
3 limit switches for reversing operation

Technical Data

– Please refer to the data sheets for information on the technical specifications and geometric dimensions of the rotary tables.

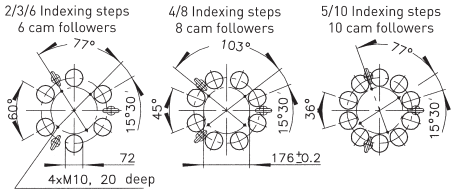
EDA450/A4385

Precision index drives for rotary motions



Gear	MOTOR	A	B	C
KAF 67	DT 71	536	145	127
	DT 80	586	145	127
	DT 90	627	197	161
	DT 100	677	197	169

2) Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)



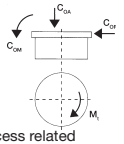
For transportation of the turntable with eyebolts, 3 tapped holes M16x30 deep have been arranged on ø 280.

1) For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

3) Screwing surface 150x125.

4) Standard fixing hole pattern. Special hole pattern at extra price on request.

Technical data



Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 418000 N
C_{OR} = 176000 N
C_{OM} = 39000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 1000 Nm**

Order example:

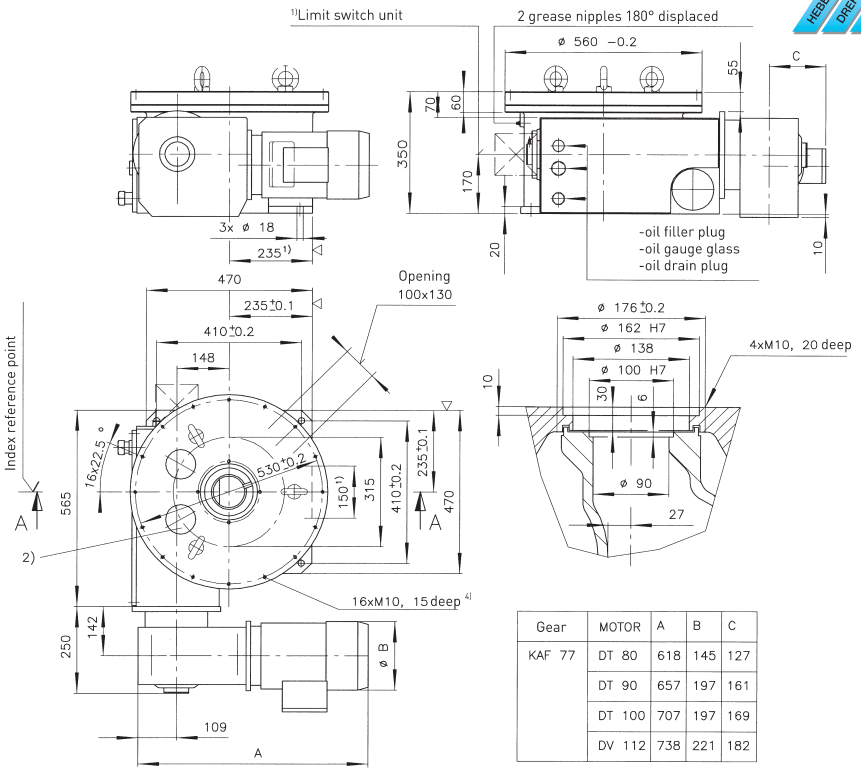
EDA450 4 2,5 400 V - 50 Hz
- EDA450 → Type
- 4 → Indexing steps
- 2,5 → Cycle time
- 400 V - 50 Hz → Motor data

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 58 angular seconds High-precision performance upon request
Total weight	approx. 225-240 kg (depending on size of motor)
Motor	C-flange motor acc. to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDA560/A4386

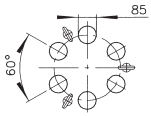
Precision index drives for rotary motions



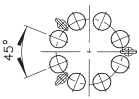
Gear	MOTOR	A	B	C
KAF 77	DT 80	618	145	127
	DT 90	657	197	161
	DT 100	707	197	169
	DV 112	738	221	182

2) Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

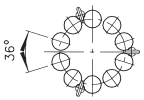
2/3/6 Indexing steps
6 cam followers



4/8 Indexing steps
8 cam followers



5/10 Indexing steps
10 cam followers



For transportation of the turntable with eyebolts, 3 tapped holes M20x35 deep have been arranged on ø 370.

1) For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

3) Screwing surface 150x170.

4) Standard fixing hole pattern. Special hole pattern at extra price on request.

Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 469000 N
C_{OR} = 220000 N
C_{OM} = 50000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 2300 Nm**

Order example:

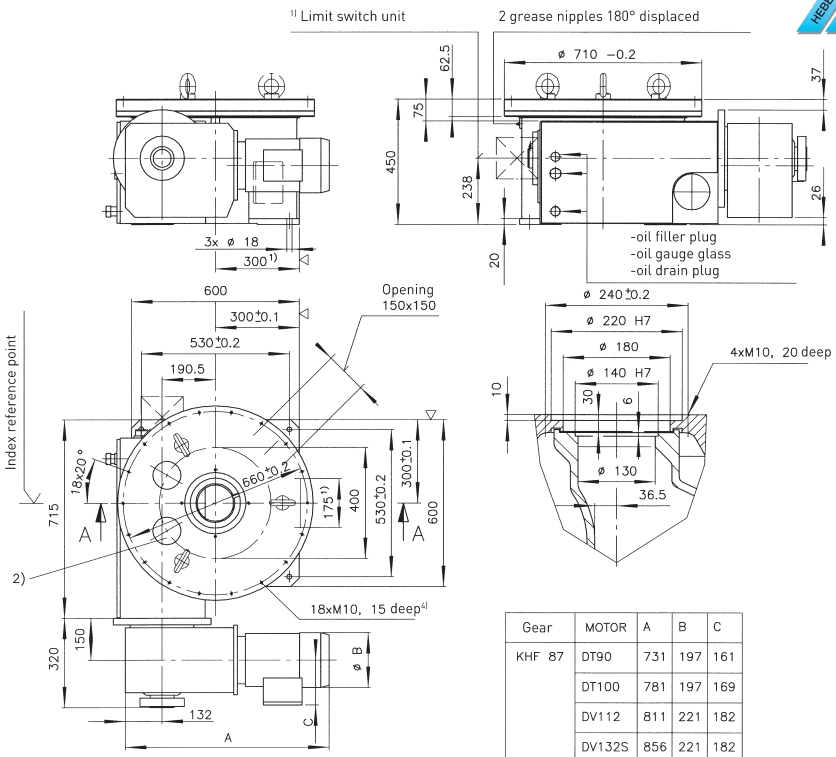
EDA560 4 2,5 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 46 angular seconds High-precision performance upon request
Total weight	approx. 415-440 kg (depending on size of motor)
Motor	C-flange motor acc. to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDA710/A4387

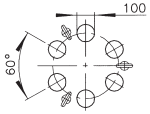
Precision index drives for rotary motions



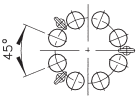
Gear	MOTOR	A	B	C
KHF 87	DT90	731	197	161
	DT100	781	197	169
	DV112	811	221	182
	DV132S	856	221	182
	DV132M	908	275	230

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

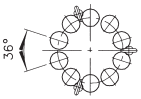
2/3/6 Indexing steps
6 cam followers



4/8 Indexing steps
8 cam followers



5/10 Indexing steps
10 cam followers



For transportation of the turntable with eyebolts, 3 tapped holes M24x40 deep have been arranged on ø 460.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[3] Screwing surface 175x195.

[4] Standard fixing hole pattern. Special hole pattern at extra price on request.

Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 630000 N
C_{OR} = 296000 N
C_{OM} = 89000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 4400 Nm**

Order example:

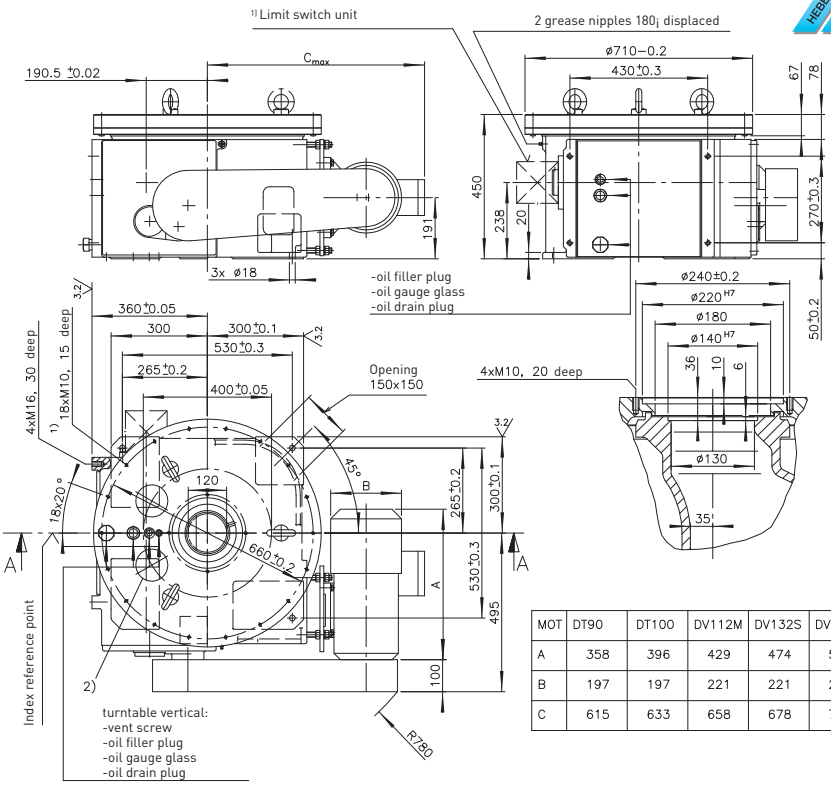
EDA710 4 2,5 400 V - 50 Hz
- EDA710 → Type
- 4 → Indexing steps
- 2,5 → Cycle time
- 400 V - 50 Hz → Motor data

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 36 angular seconds High-precision performance upon request
Total weight	approx. 710-730 kg (depending on size of motor)
Motor	C-flange motor acc. to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDS710/A4388

Precision index drives for rotary motions



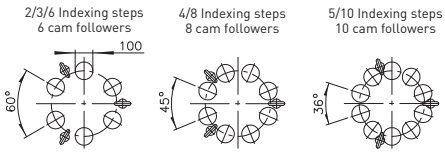
MOT	DT90	DT100	DV112M	DV132S	DV132M
A	358	396	429	474	514
B	197	197	221	221	275
C	615	633	658	678	732

For transportation of the turntable witheyebolts, 3 tapped holes M24x40 deep have been arranged on ¿ 460.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[4] Standard fixing hole pattern. Special hole pattern at extra price on request.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 630000 N
C_{OR} = 29 000 N
C_{OM} = 89000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 4400 Nm**

Order example:

ED710 4 2,5 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 36 angular seconds High-precision performance upon request
Total weight	approx. 590-680 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

ED920/A3719

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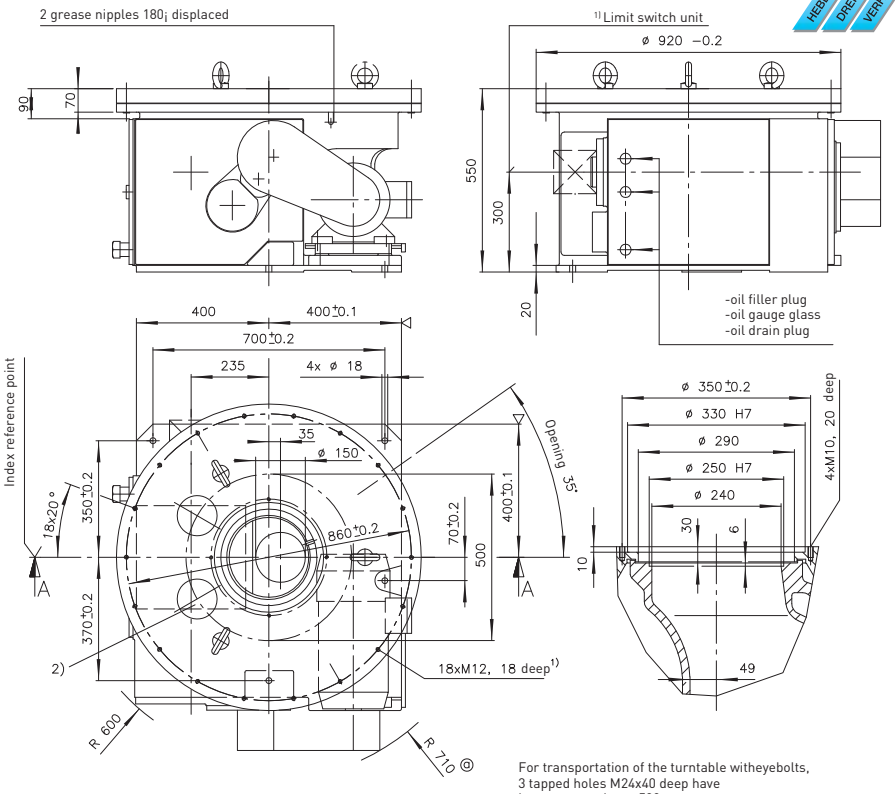
Precision index drives for rotary motions

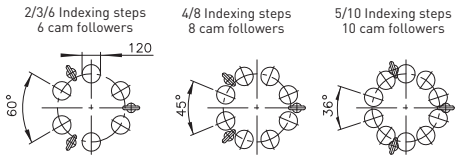


For transportation of the turntable witheyebolts, 3 tapped holes M24x40 deep have been arranged on ¿ 580.

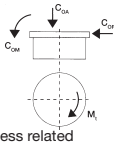
[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[3] Standard fixing hole pattern. Special hole pattern at extra price on request.

[2] Location of the cam followers at the index reference point
[Free areas must be provided accordingly in the tool plate]



Technical data



Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 1074000 N
C_{OR} = 505000 N
C_{OM} = 202000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 7500 Nm**

Order example:

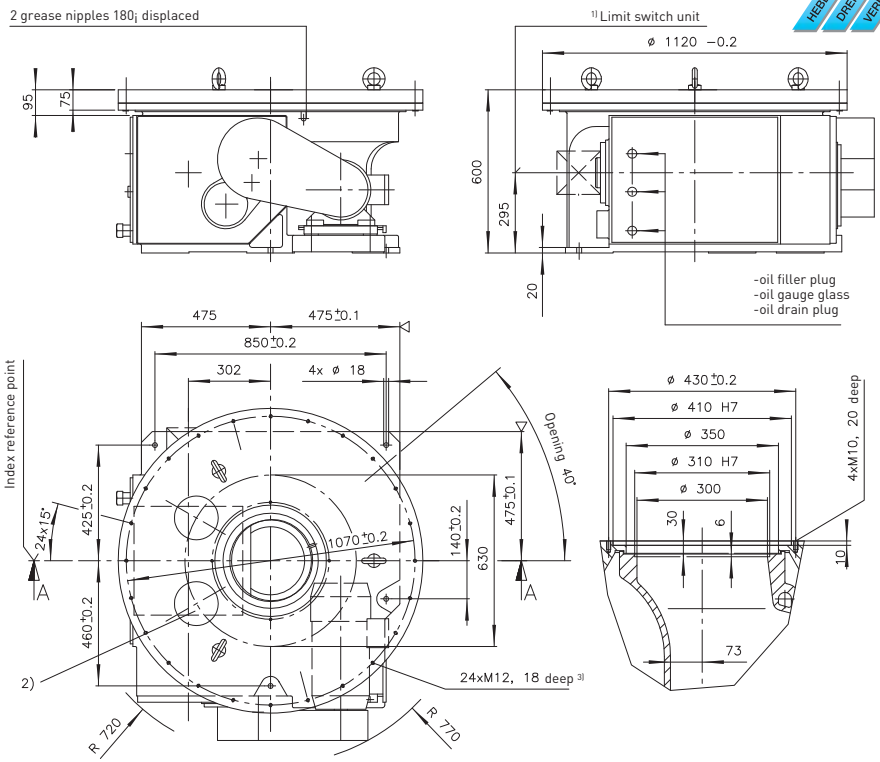
ED920 4 3,7 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 29 angular seconds High-precision performance upon request
Total weight	approx. 1200 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

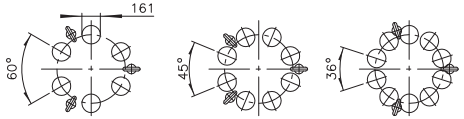
ED1120/A3720

Precision index drives for rotary motions



[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

2/3/6 Indexing steps 6 cam followers	4/8 Indexing steps 8 cam followers	5/10 Indexing steps 10 cam followers



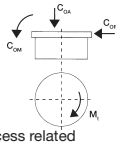
For transportation of the turntable witheyebolts, 3 tapped holes M24x40 deep have been arranged on ¿ 760.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[3] Standard fixing hole pattern. Special hole pattern at extra price on request.

Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 1660000 N
C_{OR} = 781000 N
C_{OM} = 389000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 13230 Nm**



Order example:

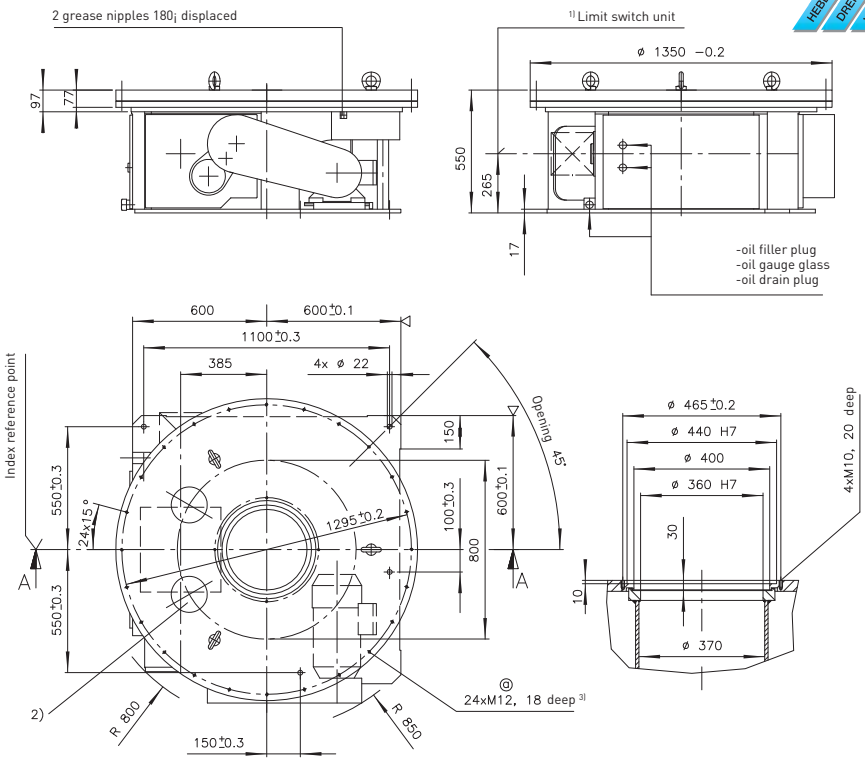
ED1120 4 3,0 400 V - 50 Hz
- ED1120 → Type
- 4 → Indexing steps
- 3,0 → Cycle time
- 400 V - 50 Hz → Motor data

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 33 angular seconds High-precision performance upon request
Total weight	approx. 1600 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDL1350/A3852

Precision index drives for rotary motions



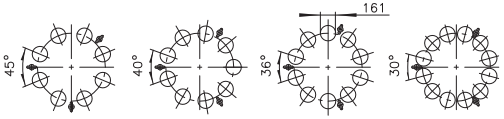
For transportation of the turntable witheyebolts, 3 tapped holes M24x40 deep have been arranged on ¿ 935.

1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

3] Standard fixing hole pattern. Special hole pattern at extra price on request.

2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

4/8 Indexing steps	3/9 Indexing steps	5/10 Indexing steps	6/12 Indexing steps
8 cam followers	9 cam followers	10 cam followers	12 cam followers



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 2106000 N
C_{OR} = 991000 N
C_{OM} = 602000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 16800 Nm**

Order example:

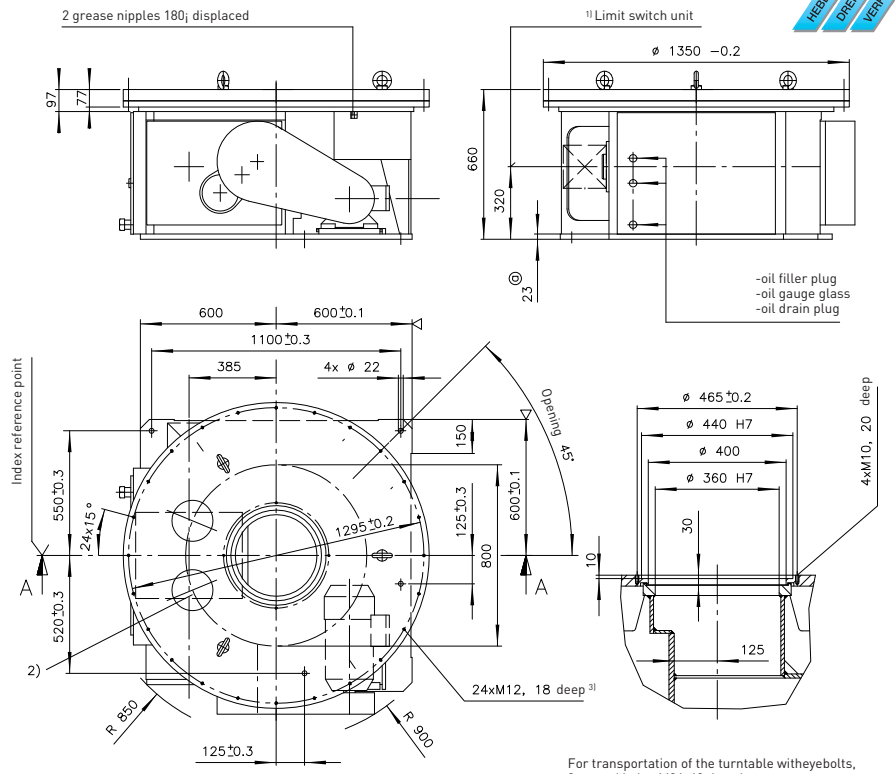
ED1350 4 5,0 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 18 angular seconds High-precision performance upon request
Total weight	approx. 1800 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

ED1350/A3680

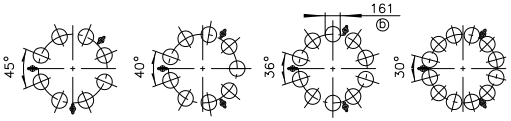
Precision index drives for rotary motions



For transportation of the turntable witheyebolts, 3 tapped holes M24x40 deep have been arranged on ¿ 935.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

4/8 Indexing steps	3/9 Indexing steps	5/10 Indexing steps	6/12 Indexing steps
8 cam followers	9 cam followers	10 cam followers	12 cam followers

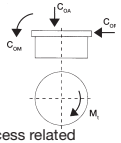


[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[3] Standard fixing hole pattern. Special hole pattern at extra price on request.

Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 2106000 N
C_{OR} = 991000 N
C_{OM} = 602000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 16800 Nm**



Indexing steps	Standard indexing steps: 2,3,4,5,6,8,9,10,12 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 26 angular seconds High-precision performance upon request
Total weight	approx. 2000 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

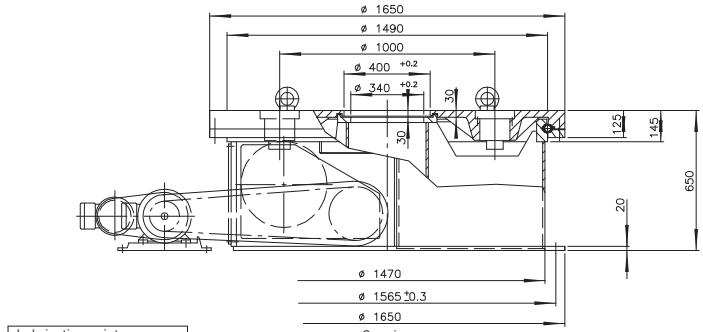
Order example:

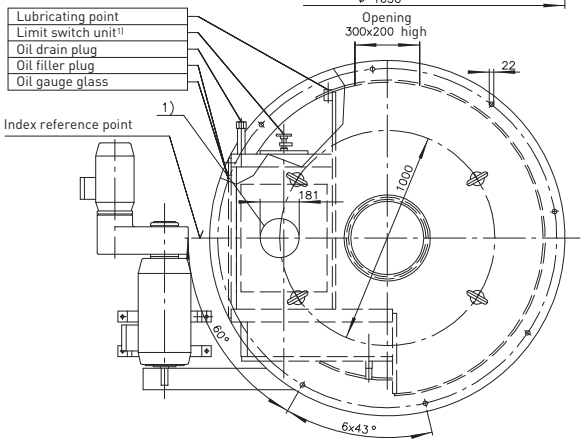
ED1350 2 5,7 400 V - 50 Hz
- ED1350 → Type
- 2 → Indexing steps
- 5,7 → Cycle time
- 400 V - 50 Hz → Motor data

Subject to technical changes.

EDL1650/A3751

Precision index drives for rotary motions

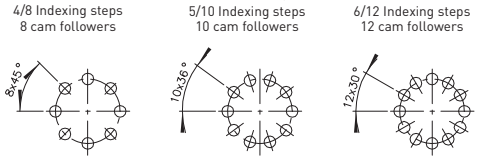




For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 3166000 N
C_{OR} = 1489000 N
C_{OM} = 1109000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 27500 Nm**

Order example:

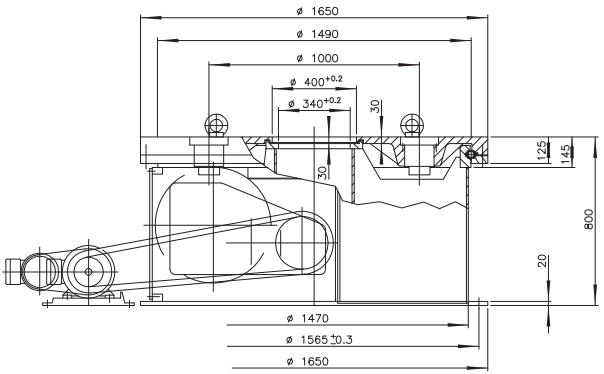
EDL1650 4 5,9 400 V - 50 Hz
- EDL1650 → Type
- 4 → Indexing steps
- 5,9 → Cycle time
- 400 V - 50 Hz → Motor data

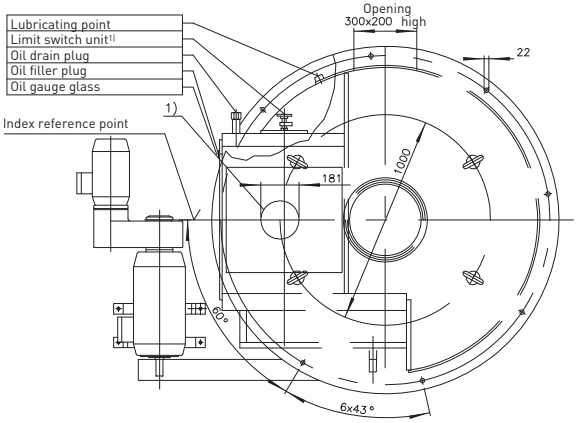
Indexing steps	Standard indexing steps: 4,5,6,8,10,12 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 21 angular seconds High-precision performance upon request
Total weight	approx. 2500 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

ED1650/A3750

Precision index drives for rotary motions

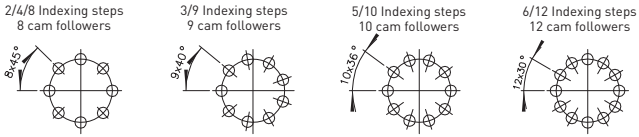




For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 3166000 N
C_{OR} = 1489000 N
C_{OM} = 1109000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 27500 Nm**

Order example:

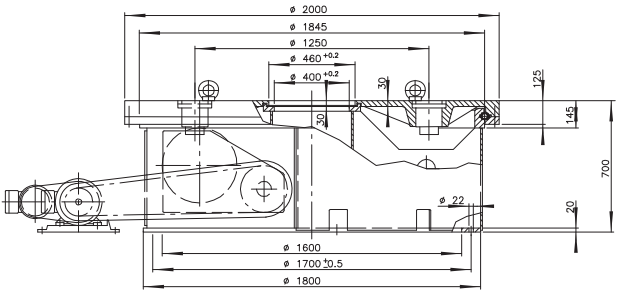
ED1650 2 6,7 400 V - 50 Hz
- ED1650 → Type
- 2 → Indexing steps
- 6,7 → Cycle time
- 400 V - 50 Hz → Motor data

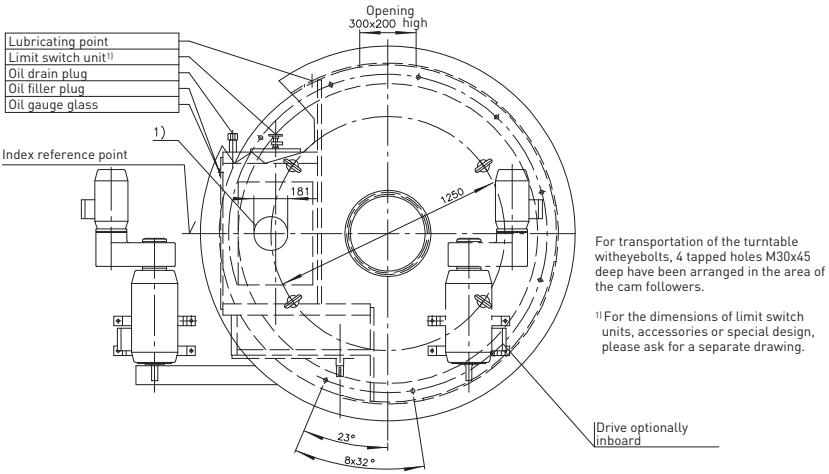
Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10,12 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 21 angular seconds High-precision performance upon request
Total weight	approx. 2800 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDL2000/A3743

Precision index drives for rotary motions

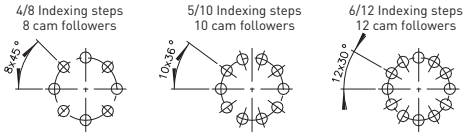




For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

1) For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

2) Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 3956000 N
C_{OR} = 1861000 N
C_{OM} = 1675000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 34650 Nm**

Order example:

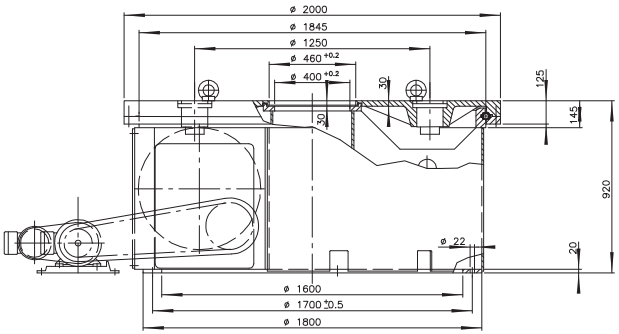
EDL2000 4 7,4 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

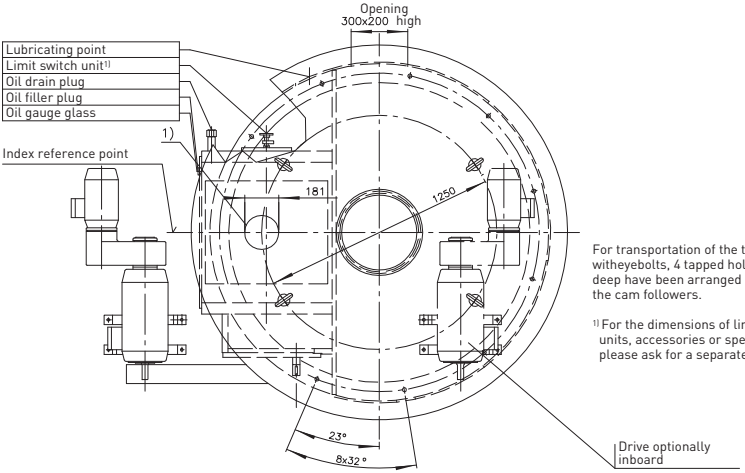
Indexing steps	Standard indexing steps: 4,5,6,8,10,12 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 33 angular seconds High-precision performance upon request
Total weight	approx. 3000 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

ED2000/A3734

Precision index drives for rotary motions



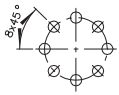


For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

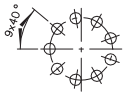
[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

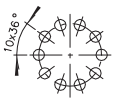
2/4/8 Indexing steps
8 cam followers



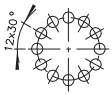
3/9 Indexing steps
9 cam followers



5/10 Indexing steps
10 cam followers



6/12 Indexing steps
12 cam followers



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 3956000 N
C_{OR} = 1861000 N
C_{OM} = 1675000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 34650 Nm**

Order example:

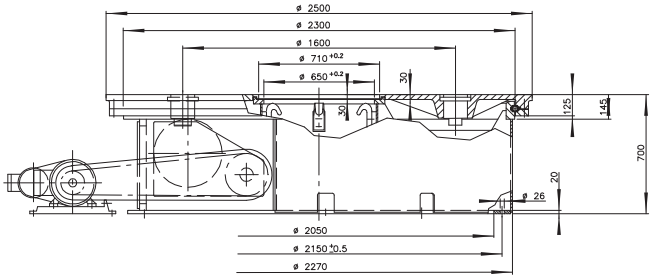
ED2000 2 7,0 400 V - 50 Hz
- ED2000 → Type
- 2 → Indexing steps
- 7,0 → Cycle time
- 400 V - 50 Hz → Motor data

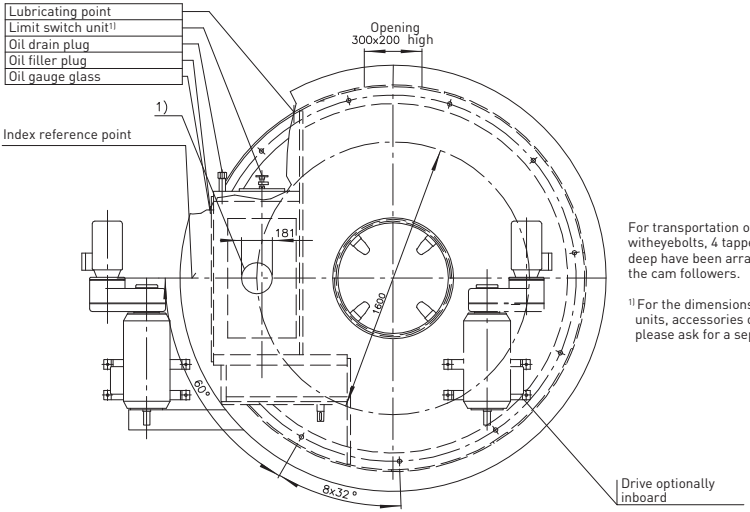
Indexing steps	Standard indexing steps: 2,3,4,5,6,8,9,10,12 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 33 angular seconds High-precision performance upon request
Total weight	approx. 3500 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDL2500/A3749

Precision index drives for rotary motions

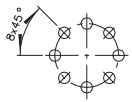
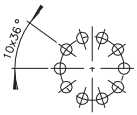
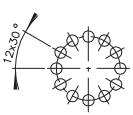




For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

4/8 Indexing steps 8 cam followers	5/10 Indexing steps 10 cam followers	6/12 Indexing steps 12 cam followers
		

Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 4883000 N
C_{OR} = 2298000 N
C_{OM} = 2642000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 44000 Nm**

Order example:

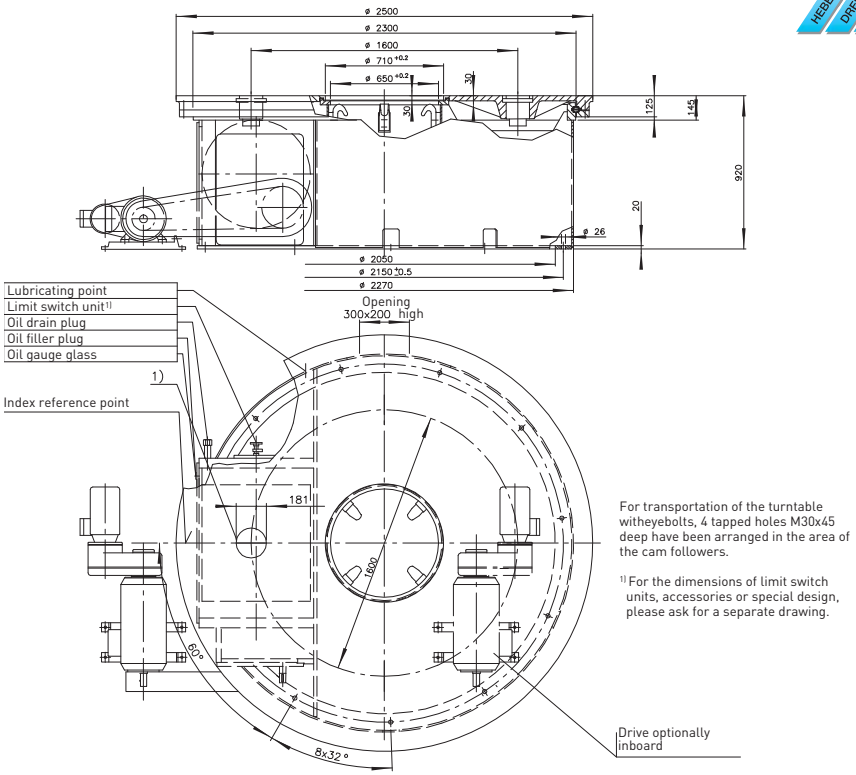
EDL2500 6 5,7 400 V - 50 Hz
- EDL2500 → Type
- 6 → Indexing steps
- 5,7 → Cycle time
- 400 V - 50 Hz → Motor data

Indexing steps	Standard indexing steps: 4,5,6,8,10,12 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 26 angular seconds High-precision performance upon request
Total weight	approx. 4000 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

ED2500/A3748

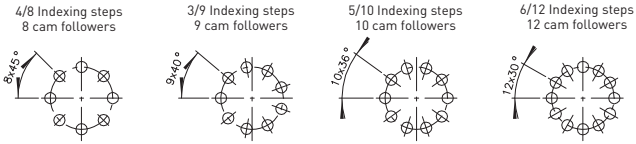
Precision index drives for rotary motions



For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[2] Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 4883000 N
C_{OR} = 4498000 N
C_{OM} = 2642000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 44000 Nm**

Order example:

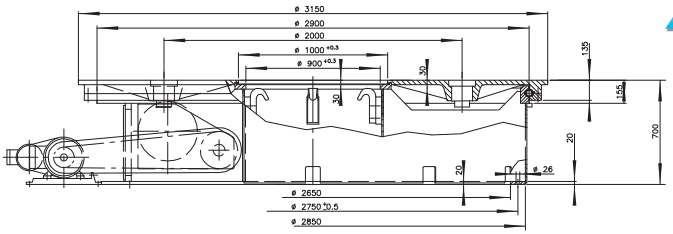
ED2500 3 6,3 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

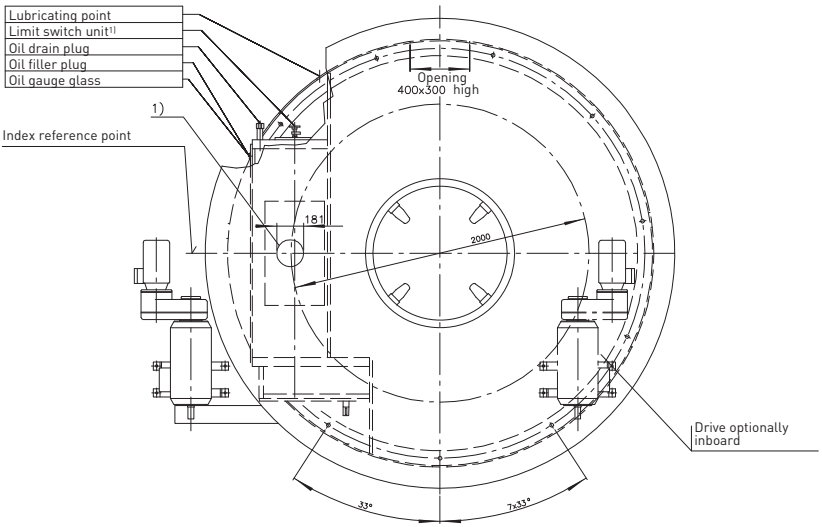
Indexing steps	Standard indexing steps: 2,3,4,5,6,8,9,1012 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 26 angular seconds High-precision performance upon request
Total weight	approx. 4500 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

EDL3150/A3754

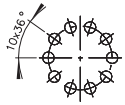
Precision index drives for rotary motions



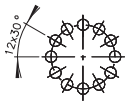


2) Location of the cam followers at the index reference point
(Free areas must be provided accordingly in the tool plate)

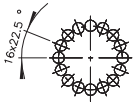
5/10 Indexing steps
10 cam followers



6/12 Indexing steps
12 cam followers



8/16 Indexing steps
16 cam followers



For transportation of the turntable witheyebolts, 4 tapped holes M30x45 deep have been arranged in the area of the cam followers.

1) For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 5065000 N
C_{OR} = 2383000 N
C_{OM} = 3456000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 55000 Nm**

Order example:

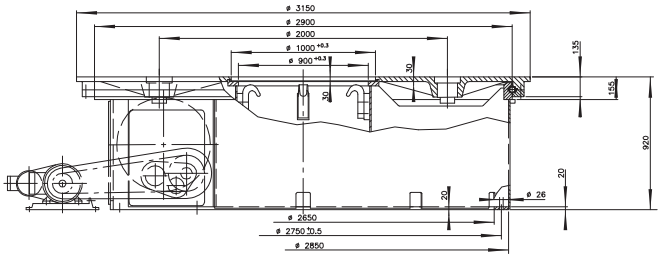
ED3150 6 5,6 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

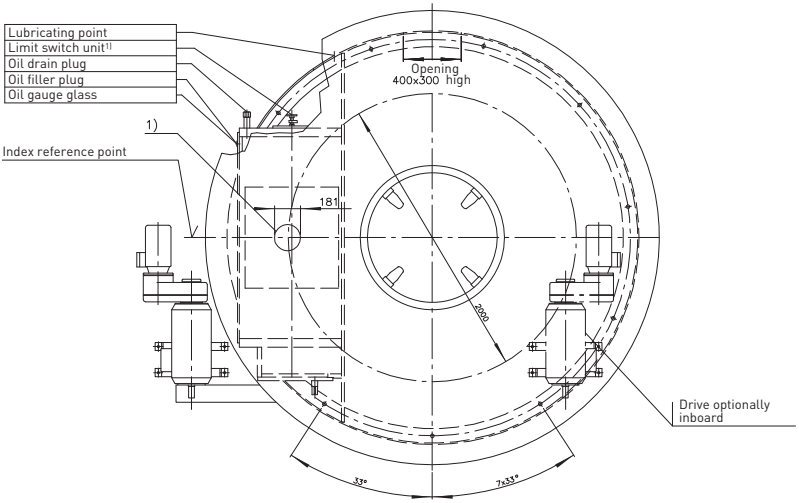
Indexing steps	Standard indexing steps: 5,6,8,10,12,16 further indexing steps on request
Tool plate Accuracy	Mounting of tool plate see drwg. order: ± 29 angular seconds High-precision performance upon request
Total weight	approx. 5000 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

Subject to technical changes.

ED3150/A3753

Precision index drives for rotary motions



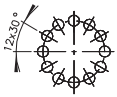


On diameter 2980 pin holes ¿ 24H7x40 deep and tapped holes M24x40 deep have been drilled into the top plate for securing the customer s tool plate.

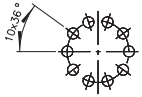
[1] For the dimensions of limit switch units, accessories or special design, please ask for a separate drawing.

[2] Location of the cam followers at the index reference point
[Free areas must be provided accordingly in the tool plate]

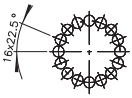
/4/6/12 Indexing steps
12 cam followers



5/10 Indexing steps
10 cam followers



8/16 Indexing steps
16 cam followers



Technical data

Static bearing capacity of table plate bearing
(theoretic factors of the bearing manufacturer)
C_{OA} = 5065000 N
C_{OR} = 2383000 N
C_{OM} = 3456000 Nm
Permissible resulting tangential moment, due to process related forces incurred while the table plate is at standstill: **M_t = 55000 Nm**

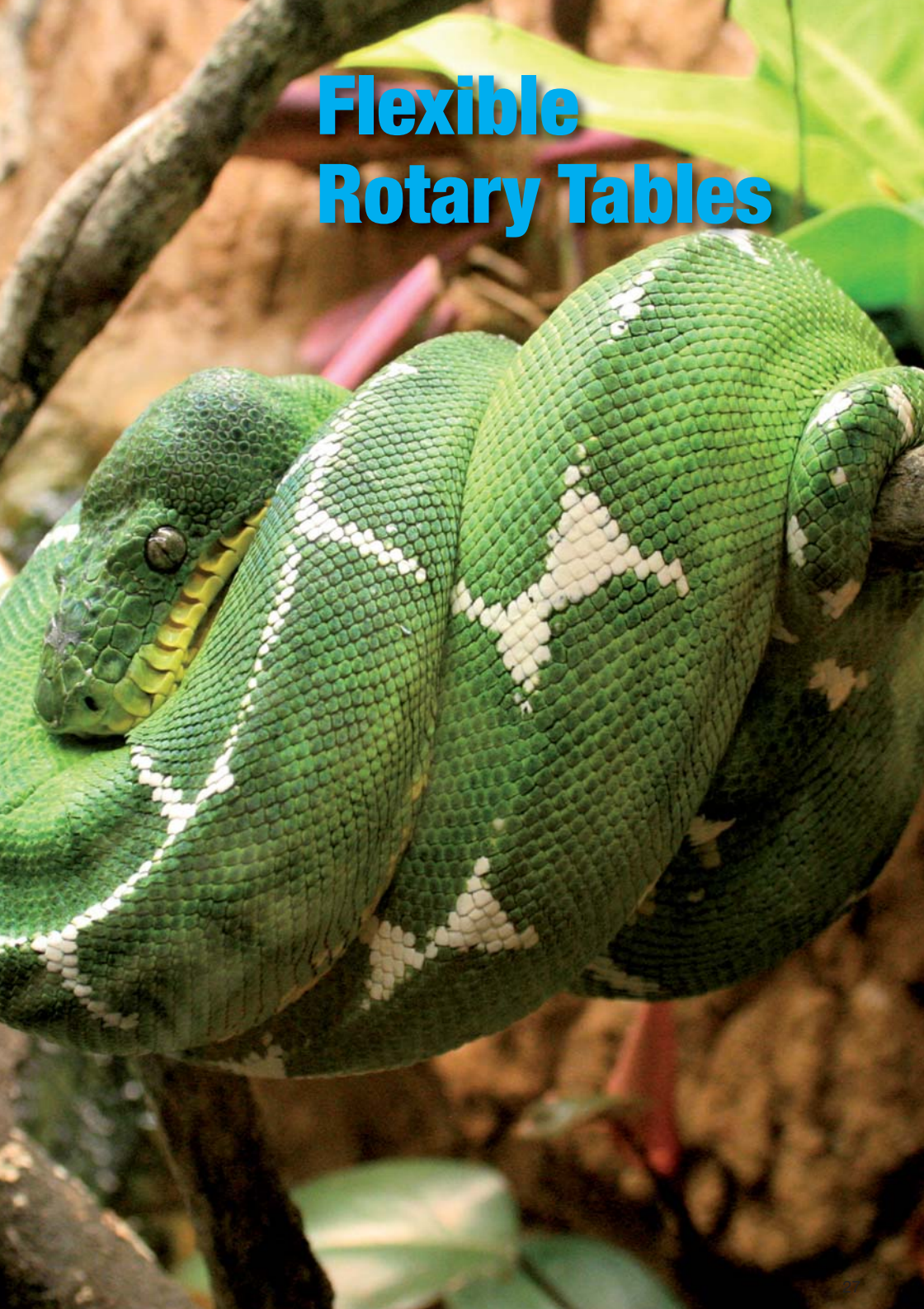
Order example:

ED3150 3 8,2 400 V - 50 Hz
- Motor data
- Cycle time
- Indexing steps
- Type

Indexing steps	Standard indexing steps: 2,3,4,5,6,8,10,12,16 further indexing steps on request
Tool plate	Mounting of tool plate see drwg.
Accuracy	order: ± 21 angular seconds High-precision performance upon request
Total weight	approx. 5500 kg (depending on size of motor)
Motor	C-flange motor to requirements
Remark	This type range permits the construction of special models with different technical data. In order to prepare a detailed offer, we would need exact technical information.

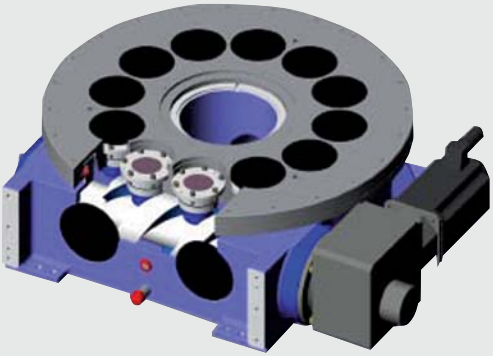
Subject to technical changes.

Flexible Rotary Tables



Flexible Rotary Tables

Drive module for the realisation of flexible motion operations based on the use of freely programmable servo motors. Contrary to the standard rotary table, the cycle of motions is not defined by the form of the index cam but the movement profile of the servo motor. For this reason, output angle and acceleration can be freely selected and specifically adjusted to the relevant load. Due to the approved EXPERT mechanics with cam technology, bearing and robust housing, the same precision is reached as is with conventional drives.



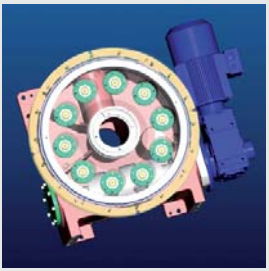
Designed for flexible use, rotary tables of this series are particularly suitable for driving operations in which the sequence of motion must be permanently changed during the production process, for instance by new loads, new positions/dead-centre positions or directions of movement. A typical example is the manufacture of different vehicles in one production line which necessitates flexible retooling in the production cycle.

One particular advantage of the flexible series is the extremely flat design facilitating space-saving installation and therefore ergonomic construction of the fixture system.

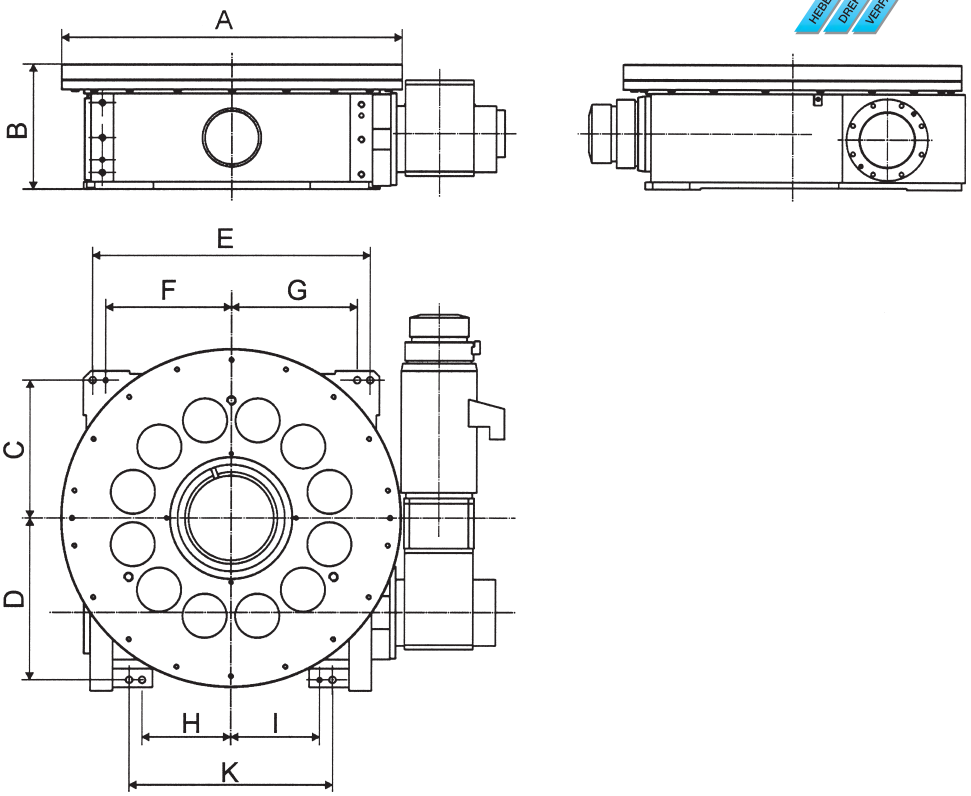
Specific Advantages

– Drive module for the realisation of flexible motion operations
– Free design of the motion operation
– Driven by servo motor
– Different motor brands can be used
– Integration of the servo motor into robot control possible
– Flat design / Horizontal and vertical rotational axis possible
– Compact housing and robust table plate bearing
– Approved EXPERT quality

Functional Principle



EDF 710/920/1120/1350



Dimensions mm	A	B	C	D	E	F	G	H	I	K	K	M
EDF710	710	340	275	350	550	240	-	-	175	420	*	*
EDF920	920	340	375	440	750	340	340	240	240	550	*	*
EDF1120	1120	410	475	530	950	440	440	300	300	700	*	*
EDF1350	1350	450	570	650	1140	530	490	350	390	860	490	350

*Not fitted with a boring in this size.

Admissible loads	Static basic load rating of the table plate bearing			Maximum torque (Nm)	Admissible continuous torque ratings (Nm)
	C_{OA} (N)	C_{OR} (N)	C_{OM} (Nm)		
EDF710	816000	384000	116000	8060	5040
EDF920	1091000	513000	205000	15450	10300
EDF1120	1812000	853000	425000	23500	15180
EDF1350	2016000	991000	602000	34500	22500

Heavy-Duty Rotary Tables

Heavy-Duty Rotary Tables

Based on the approved construction principle of EXPERT standard rotary tables, the heavy-duty tables reach dimensions of diameters up to 20 metres with payloads of up to 150 tons. As a rule, those are specific special constructions adjusted to customer requirements.

Typical ranges of application of heavy-duty rotary tables are foundries, the manufacture of engineering products, the glass industry and the construction of large-size gears and engines.

Due to the size, the housing and table plate are constructed in segments.

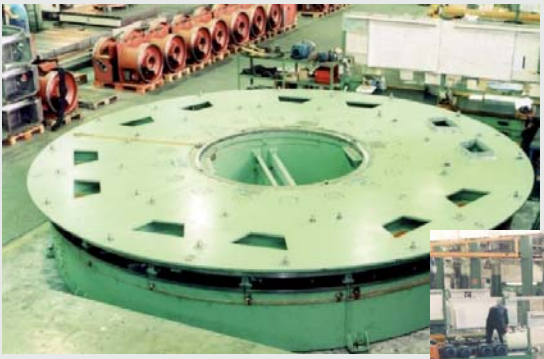
Specific Advantages

Robust cam technology for high load cycles
Tool carrier and table plate as integrated solution for extremely flat installation height
Basic construction individually adjustable to customer requirements Central bearings and outer support through heavy-duty rollers

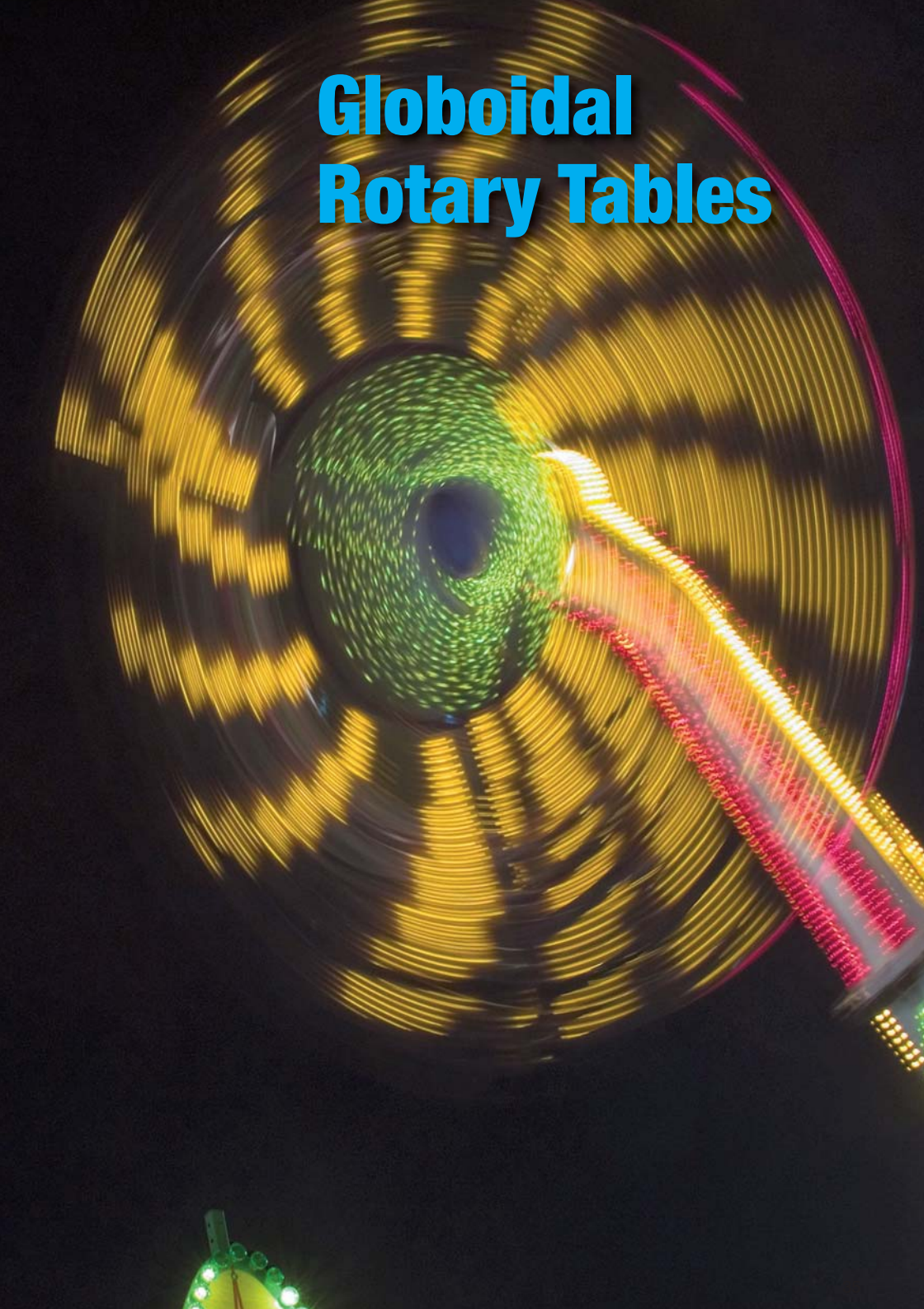
Construction with fixed and flexible indexing (servo drive) available

Application Examples

EXPERT heavy-duty rotary tables are calculated and constructed as defined by our customers. Please feel free to forward your technical data for designing.



Globoidal Rotary Tables

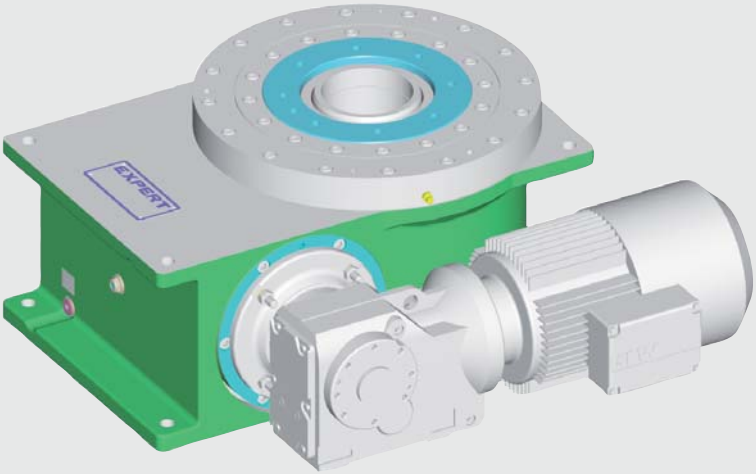


Globoidal Rotary Tables

Globoidal Rotary Tables

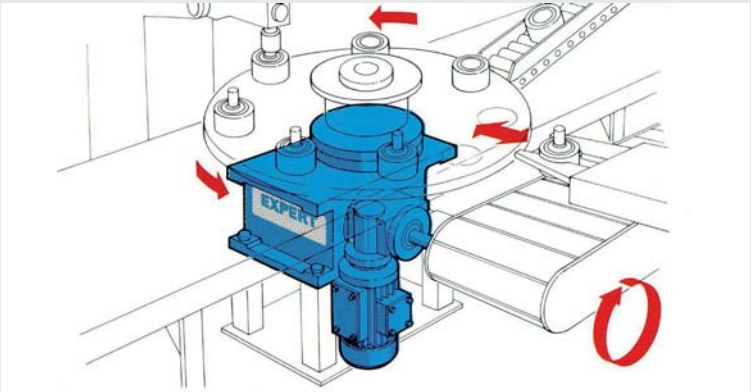
Our Little Ones.

Compact rotary tables designed for maximum loads of 50 to 2000 kg with extremely short cycle times and high precision with backlash-free positioning. Transmission of the constant rotating movement of the drive via a globoidal cam. The main fields of use of EXPERT globoidal rotary tables are packaging machines, assembling machines, textile machinery, handling systems, conveying systems, welding machines, machinery for glass-making and fabrication processes in which extremely short cycle times are required due to high output.



Specific Characteristics and Advantages

As a rule, the rotary tables are driven by a factory installed shaft-mounted gear motor. The cycle time is defined by the gear ratio. The rotary table can be delivered without drive and directly integrated into machinery drive chains.



EXPERT globoidal rotary tables are equipped with hardened and ground globoidal cams and cam actuators.

The output bearing is a quality bearing with high basic load ratings especially adjusted to globoidal rotary tables.

The globoidal rotary table is equipped with a centred output flange and standard hole pattern onto which a table plate can be mounted. EXPERT supplies optional tooling plates in accordance with customers' drawings.

Product Overview

Type	Indexing accuracy	Repeatability	Angular tolerance	Lateral running at output lange	True running at output lange	Weight (without supplementary equipment such as motor, drive, control etc.)
EGD80	± 75 sec	20 sec	40 sec	0,02 mm	0,02 mm	approx. 30 kg
EGD100	± 60 sec	15 sec	40 sec	0,02 mm	0,02 mm	approx. 40 kg
EGD125	± 48 sec	12 sec	24 sec	0,02 mm	0,02 mm	approx. 80 kg
EGD160	± 40 sec	10 sec	20 sec	0,02 mm	0,02 mm	approx. 110 kg
EGD200	± 30 sec	8 sec	16 sec	0,03 mm	0,03 mm	approx. 150 kg
EGD250	± 24 sec	6 sec	12 sec	0,03 mm	0,03 mm	approx. 400 kg

Type	max. admissible axial load F_{ax} (N)	max. admissible radial force F_{rad} (N)	max. admissible pull-out torque M_{kipp} (Nm)
EGD80	3000	1500	400
EGD100	5000	2500	700
EGD125	6250	3125	1000
EGD160	8000	4000	1700
EGD200	14000	7000	2500
EGD250	20000	10000	4000

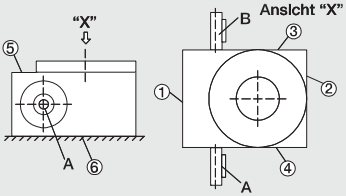
Installation Position
As a standard, EXPERT globoidal rotary tables are conceived for horizontal installation. In this case, the oil fittings are located at the housing side 1.

Drive Shaft
The standard position of the drive shaft is on housing side 4, upon customer request on side 3 or on both sides. Please state alternative diameters and lengths of the shaft ends and featherkey ways on your faxed enquiry.

Installation Position
Please refer to the following data sheets for information on the installation position of the gear motor.

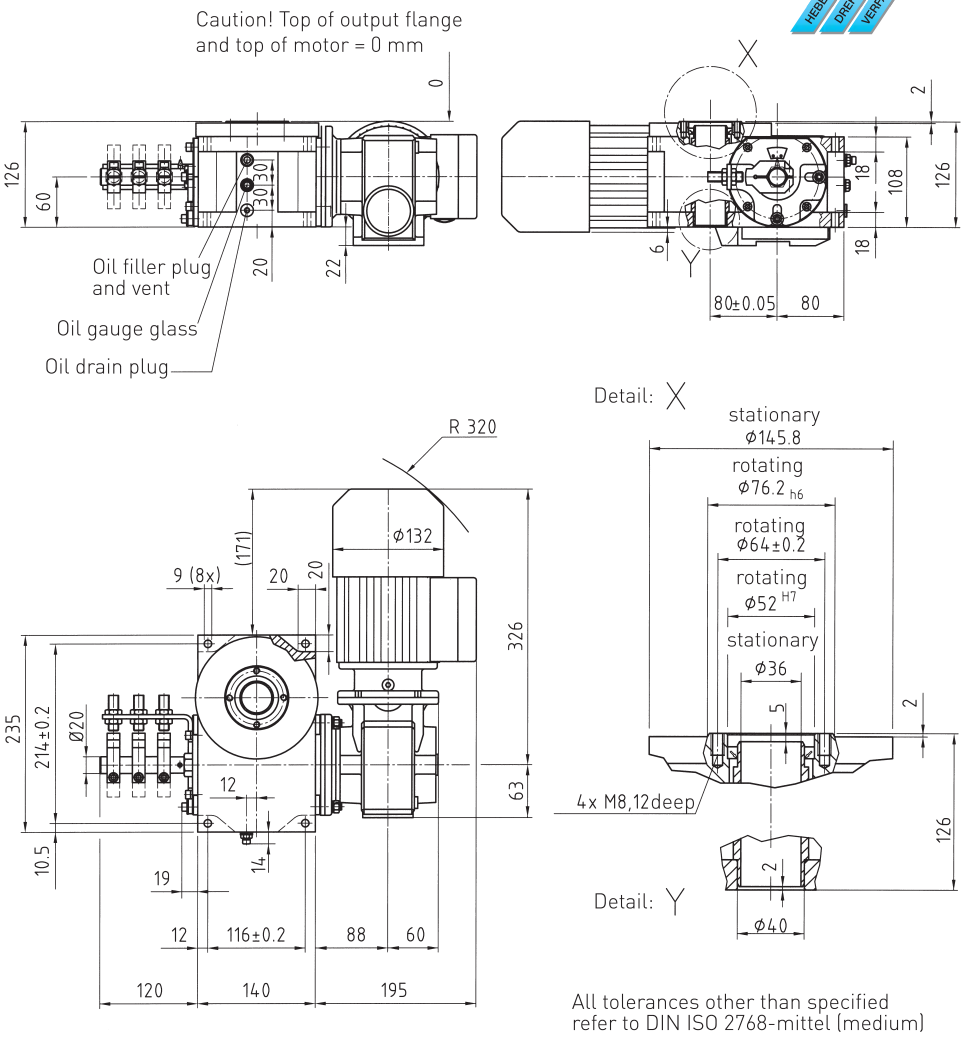
Lubrication
The transmission is lubricated with mineral oil of the viscosity class CLP460. Upon request, it can be filled with synthetic or food-grade oil.

Finish
As a standard, the housings are coated with machine paint in accordance with RAL 7035.



EGD80

with SEW SAF37-DR63M4B – 0,18 kW

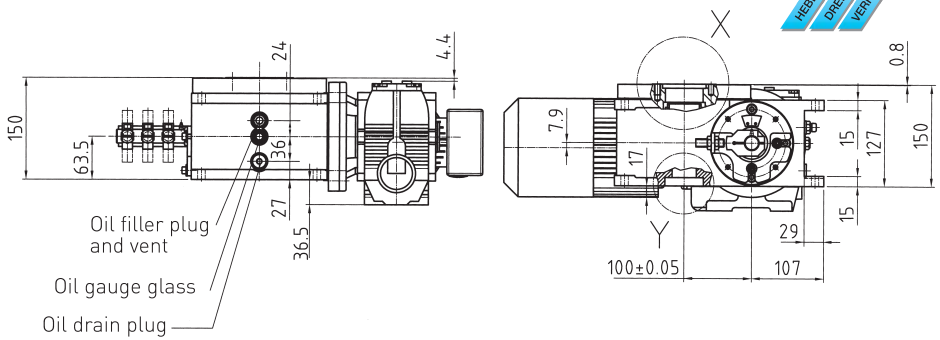


All tolerances other than specified refer to DIN ISO 2768-mittel (medium)

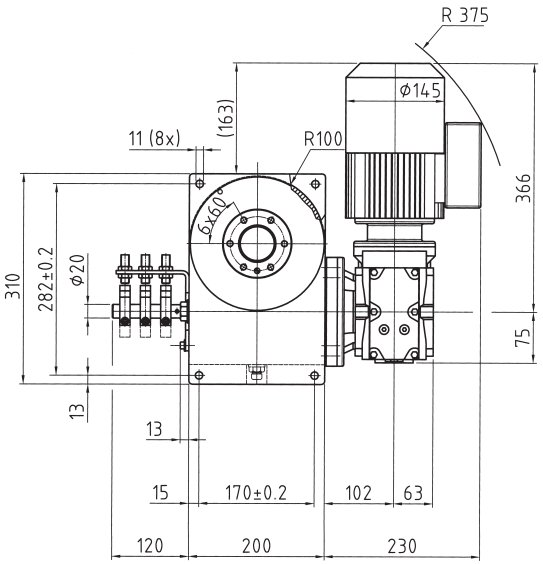
Note: Installation with horizontal rotation axis and other motors with transmission brake upon request.

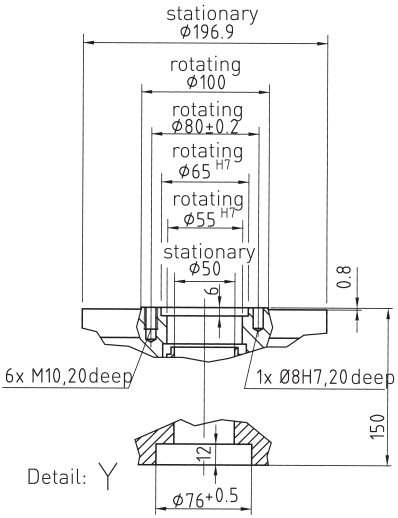
EGD100

with SEW SAF47-DR71DAB – 0,37 kW



Detail: X





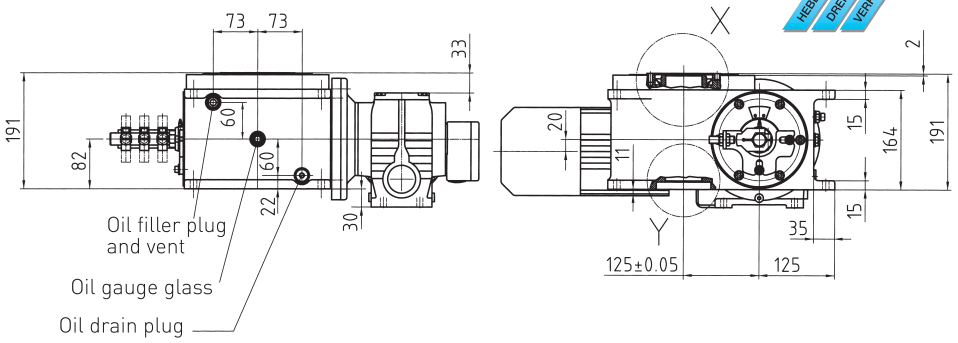
Detail: Y

All tolerances other than specified refer to DIN ISO 2768-mittel (medium)

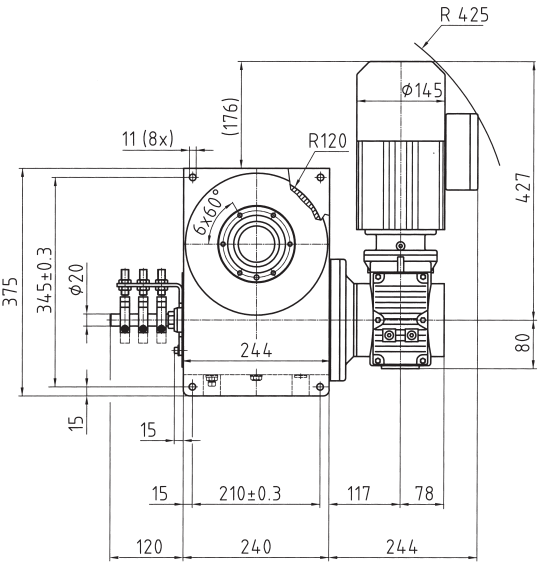
Note: Installation with horizontal rotation axis and other motors with transmission brake upon request.

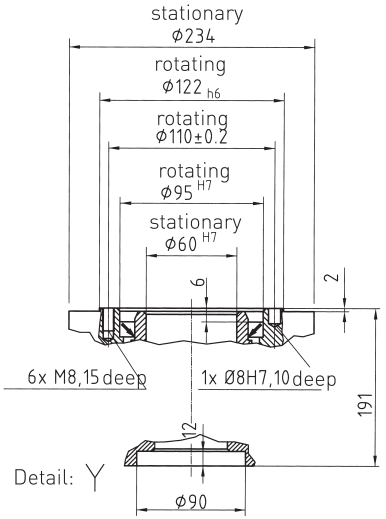
EGD125

with SEW SAF57-DT80K4B – 0,55 kW



Detail: X



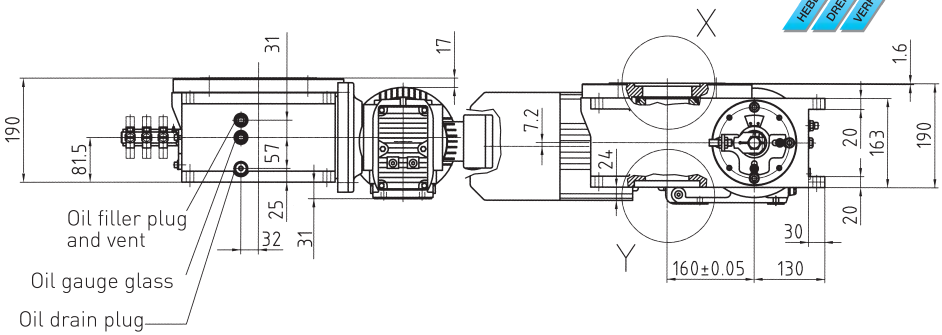


All tolerances other than specified refer to DIN ISO 2768-mittel (medium)

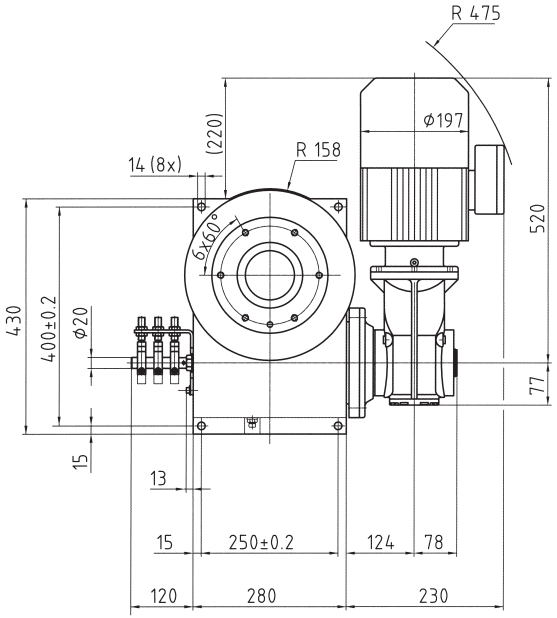
Note: Installation with horizontal rotation axis and other motors with transmission brake upon request.

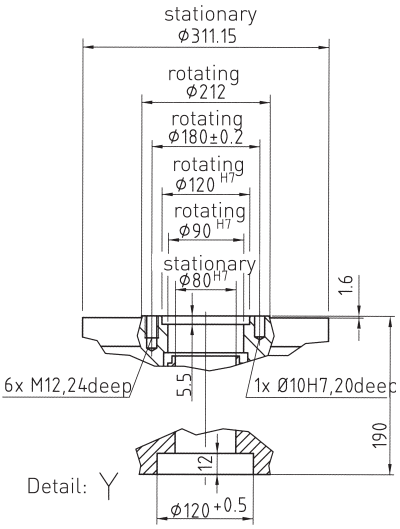
EGD160

with SEW KAF47-DT90S4B – 1,10 kW



Detail: X





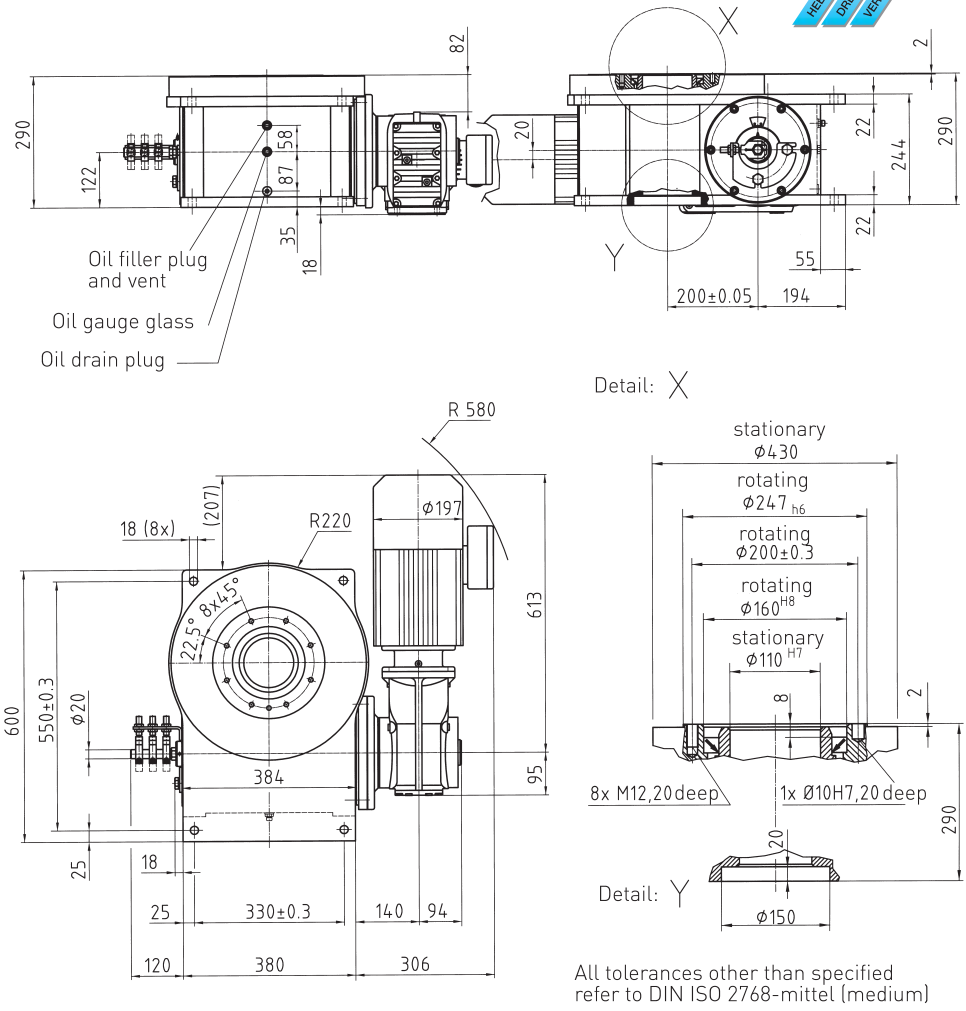
Detail: Y

All tolerances other than specified
refer to DIN ISO 2768-mittel (medium)

Note: Installation with horizontal rotation axis and other motors with transmission brake upon request.

EGD200

with SEW KAF67-DV100L4B – 3,00 kW

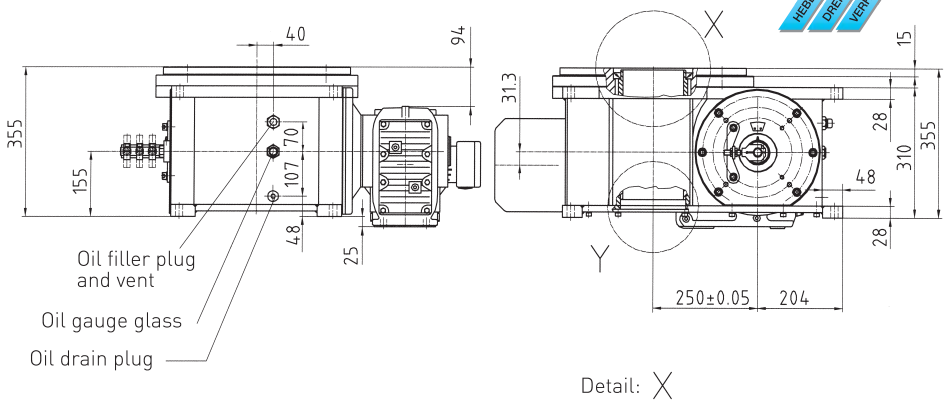


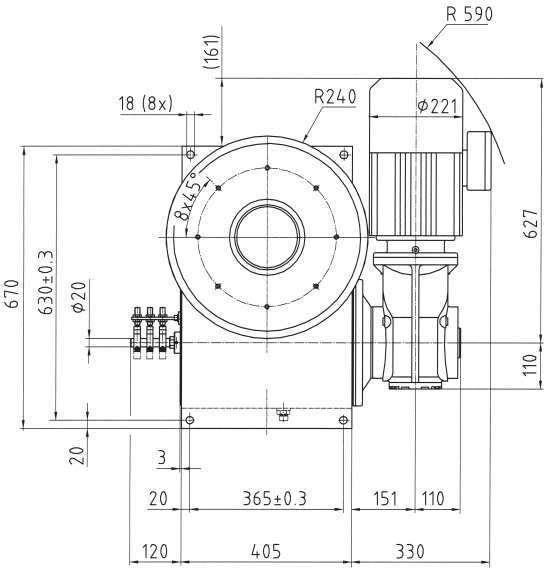
All tolerances other than specified refer to DIN ISO 2768-mittel (medium)

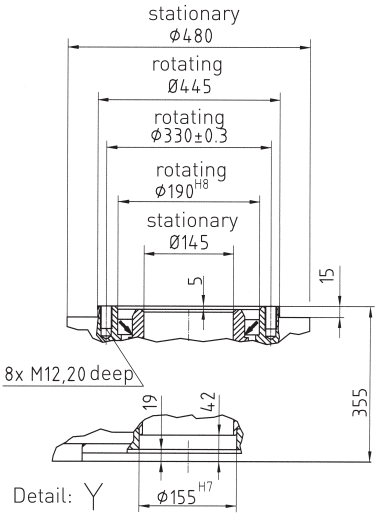
Note: Installation with horizontal rotation axis and other motors with transmission brake upon request.

EGD250

with SEW KAF77-DV112M4B – 4,00 kW



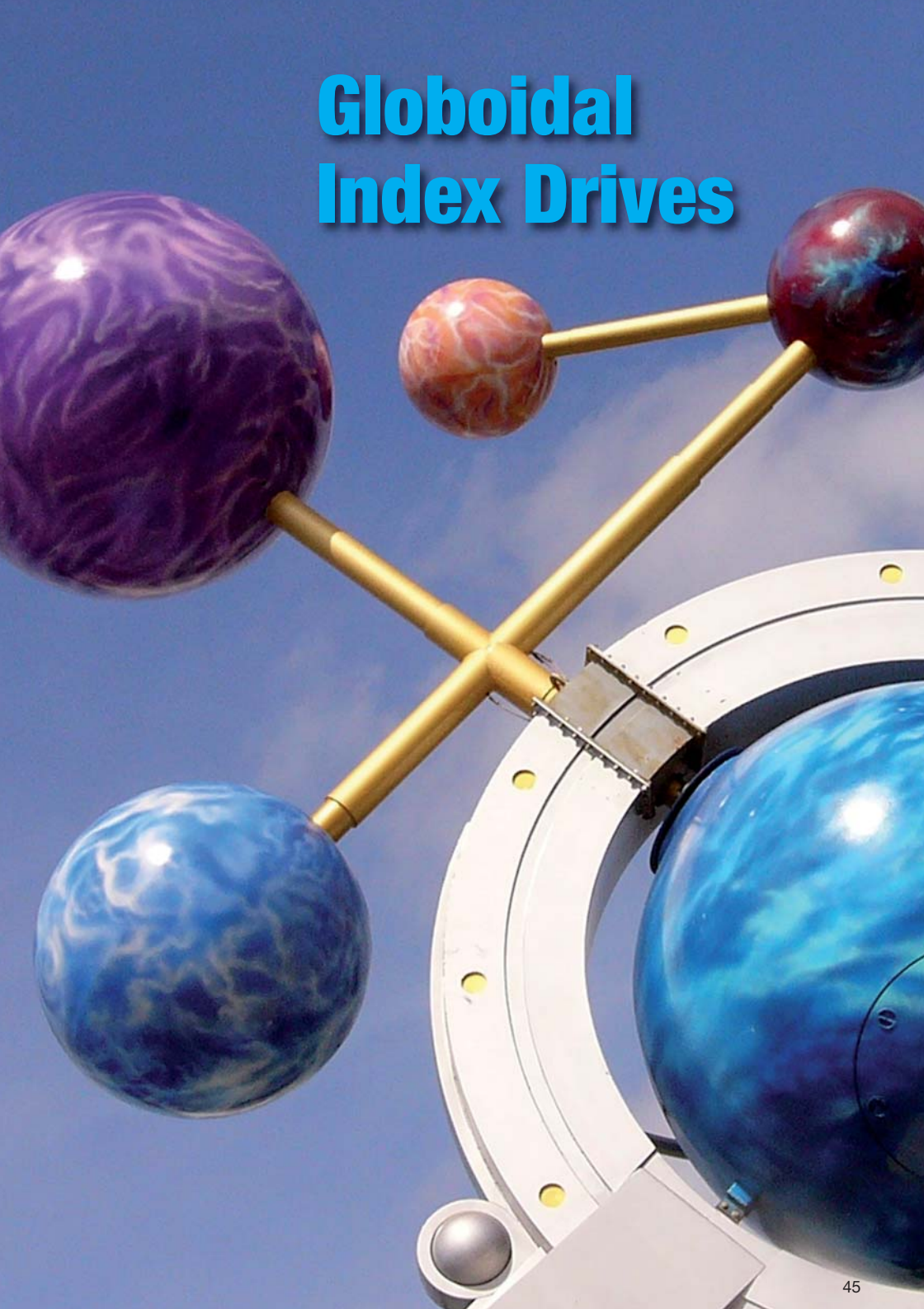




All tolerances other than specified refer to DIN ISO 2768-mittel (medium)

Note: Installation with horizontal rotation axis and other motors with transmission brake upon request.

Globoidal Index Drives



Globoidal Index Drives

Precision index drives which allow for an indexed motion with extremely high precision and backlash-free dead-centre position via defined output shaft.

Globoidal index drives are preferably employed to drive swivel units, conveyor chains, conveyor systems, packaging machines, printing and silk screen printing machines, i.e. machinery with high processing speeds.

Specific Characteristics

– EXPERT globoidal index drives are equipped with hardened and ground cams with globoid profiles and cam actuators for a long service life and low-vibration movement.

– The output bearing is a quality bearing with high basic load ratings especially adjusted to globoidal transmissions.

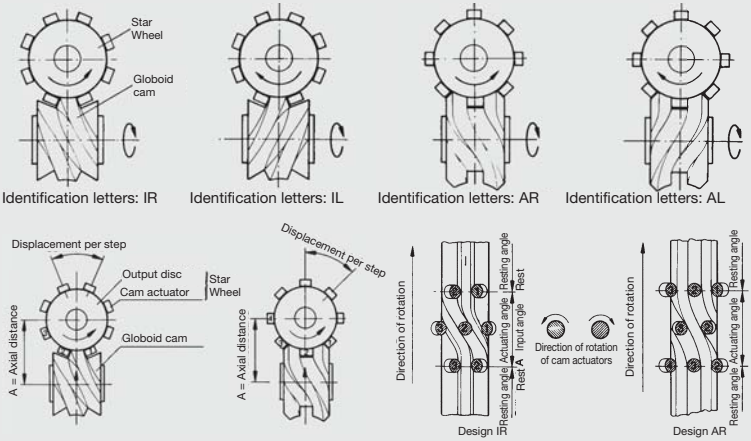
Design Variant Types

Installation Kit Design

Installation kits are units ready to be installed and comprise of star wheel and globoidal cam. Globoidal cams can be manufactured with internal and external rests (resting angles). The cam tracks can be left or right handed. The choice of hand of thread depends on the desired direction of rotation of the output shaft.

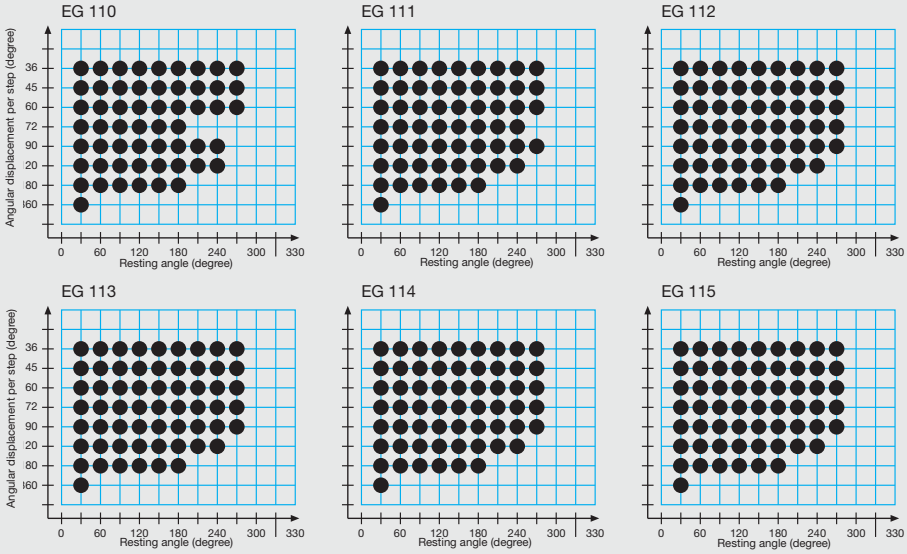
Globoidal Cam Resting Angle

The resting angle influences the direction of rotation of the cam actuators. With an internal rest, the cam actuators experience a sudden reversal of the direction of rotation in the area of the actuating angle. With external rests, the cam actuator does not experience a reversal of direction of rotation in the actuating area. This has a positive effect on the wear and tear of cam actuators and globoidal cam roller and is of particular advantage as to transmissions with high input speeds.



Standard displacement per step c_s and relevant resting angle f_R

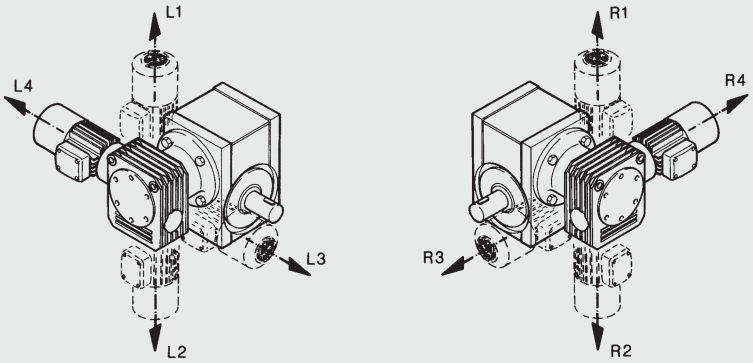
Due to the construction, specific displacements per step can only be realised dependent on the predefined resting angles / actuating angles with respect to globoidal drives. The combination possibilities of the individual sizes are shown in the attached illustration.



Motor Installation Position

The standard delivery scope of globoidal index drives does not comprise the drive unit. We would be pleased to optionally supply you with globoidal index drives as complete solutions with flanged motor. The varieties of installation are shown in the attached drawing.

Order Code



EG310 90 150 F E C IR 1x GU

- GU → Direction of drive shaft CW or CCW
- 1x → Drive shaft position 1 and / or 2
- IR → Installation kit design
- C → Area for lubrication holes
- E → Transmission – mounting area
- F → Transmission – installation position
- 150 → Resting angle f_R (degree with continuous indexing operation)
- 90 → Angular displacement per step c_s (Grad)
- EG310 → Globoidal index drive

Design Variant Types / Options

Transmission installation positions and allocated shaft positions

Standard Design:
All six mounting surfaces are machined. However, the four transmission stabilisation threads are only supplied on the relevant mounting surface. The lubrication holes, oil level tube and oil drain are located in accordance with the installation position.

Standard Design:
– right-hand globoidal cam roller
– drive shaft position 1 or 2
– shaft diameter and shaft length

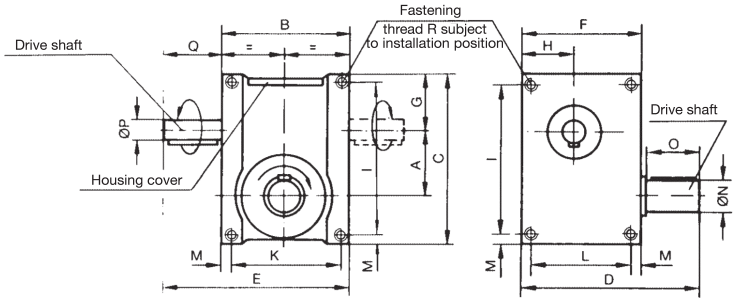
Direction of Rotation of Drive Shaft:
– clockwise = CW
– counterclockwise direction = CCW

Special Design:
– left-hand globoidal cam roller
– drive shaft position 1 and 2
– other shaft diameters and shaft ends available

Note:
With left-hand globoidal cams, the output direction of rotation changes, at the same input direction of rotation.

Standard types of globoidal drives

EXPERT
EXPERT-TÜNKERS GMBH
HEBEN DREHEN VERFAHREN



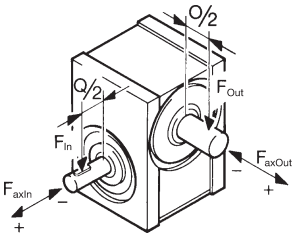
Shaft end according to DIN 748, fluted according to DIN 6885 page 1, P 9
Centred according to DIN 332 page 2

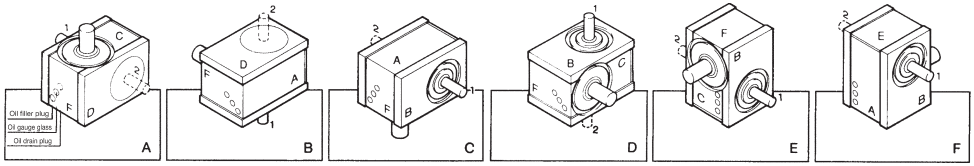
ISO tolerance for P an N
up to Ø 50 mm: k_6
over Ø 50 mm: m_6

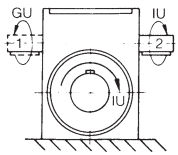
Type	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q	R	Installation kit type IR or IL	Installation kit type AR or AL
EG110	080	160	230	220	220	160	75	70	205	135	135	12,5	35	58	25	60	M8x16	EG1010	EG1110
EG111	100	200	280	284	280	200	90	90	245	165	165	17,5	45	82	32	80	M10x20	EG1011	EG1111
EG112	125	240	355	342	350	235	110	105	320	205	200	17,5	60	105	40	110	M12x20	EG1012	EG1112
EG113	160	290	440	422	400	290	135	135	400	250	250	20	80	130	50	110	M16x22	EG1013	EG1113
EG114	200	360	545	575	500	360	165	170	495	310	310	25	100	210	65	140	M20x30	EG1014	EG1114
EG115	250	450	680	655	620	440	205	210	630	400	390	25	120	210	75	170	M20x30	EG1015	EG01115

Shaft load and mass moment of inertia

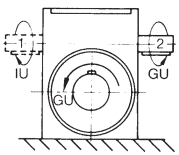
Type	$F_{Outadm.}$ (N)	$F_{axOutadm.}$ (N) Tensile force (+)	$F_{axOutadm.}$ (N) Compression (-)	$F_{Inadm.}$ (N)	$F_{axInadm.}$ (N) Tensile force/ Compression	Massenträgheitsm. (kg m²) $J_{Out/shaft}$	Massenträgheitsm. (kg m²) $Yes_{In/shaft}$
EG110	8000	1000	5000	3000	10000	0.00061	0.00014
EG111	9500	16000	8000	4000	15000	0.00192	0.00034
EG112	17000	24000	12000	5000	25000	0.00544	0.00094
EG113	27000	30000	15000	10000	35000	0.01689	0.00333
EG114	48000	60000	30000	17000	40000	0.07295	0.01049
EG115	100000	80000	40000	23000	60000	0.16242	0.02084



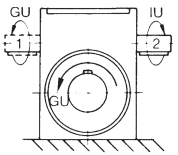




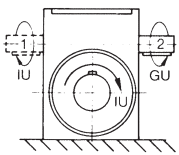
Installation kit: IR or AR



Installation kit: IR or AR



Installation kit: IL or AL



Installation kit: IL or AL

Subject to technical changes.

Disc Cam Mechanisms

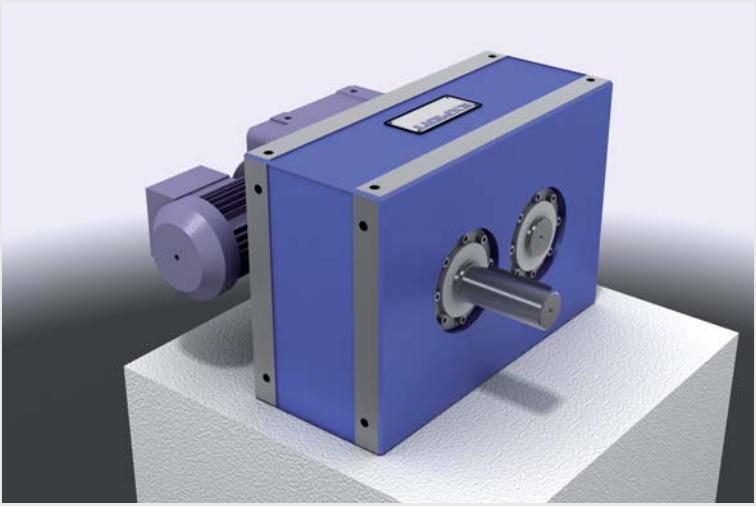
Disc Cam Mechanisms

Precision index drives with parallel arrangement of input and output shaft. In the resting position, the output is positioned backlash-free and form-closed.

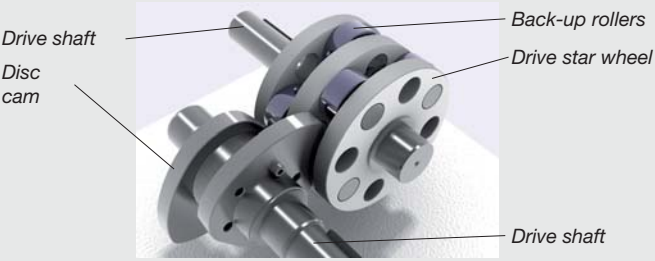
Main Area of Application

Expert disc cam index drives are used for operations where there is a need for fast and vibration-free movement and exact positioning, e.g.:

– Packaging machines
– Assembly machines
– Handling systems
– Conveying systems
– Tool changers



Functional Principle



Characteristics

– Robust, low-vibration cast housing
– Eccentric, torsion-rigid input and output shaft
– Hardened and ground disc cam and back-up rollers
– Due to the optimised drive geometry, large-size back-up rollers with high basic load ratings are integrated which allow for extreme loads and ensure a long service life.

Drive Models

Expert disc cam index drives are available in a variety of standard designs:

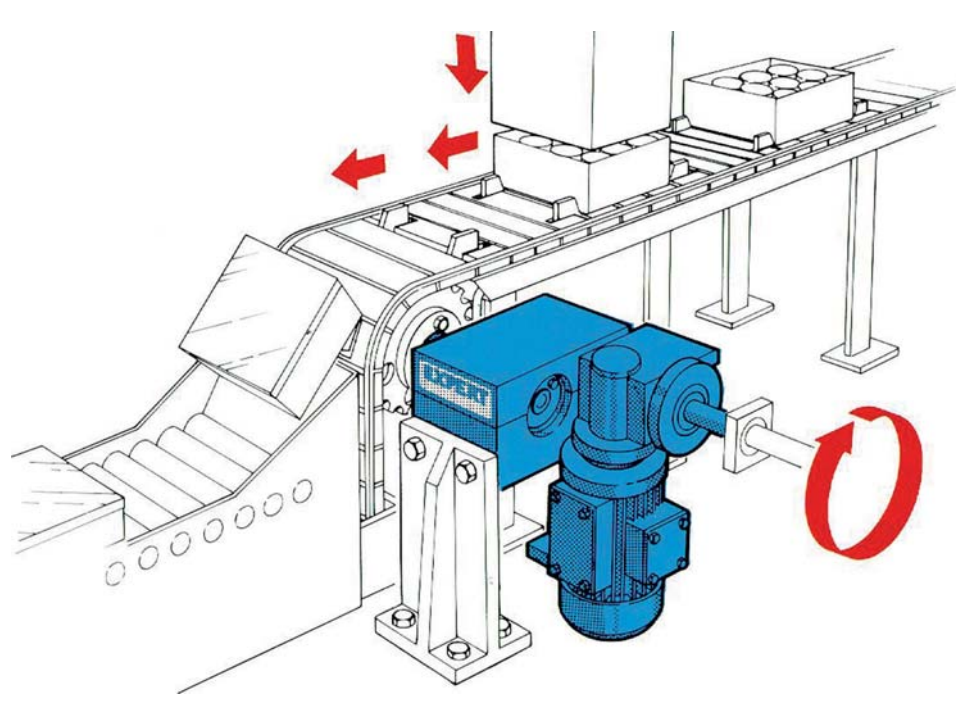
– Indexing 1-8
– Actuating angles 90°-330°
– Axial distance 40-315 mm
– Speed 1-1000 rpm
– Output torque 1-4000 Nm
– With shaft-mounted gear
– With brake motor
– With limit switch unit

Accessories

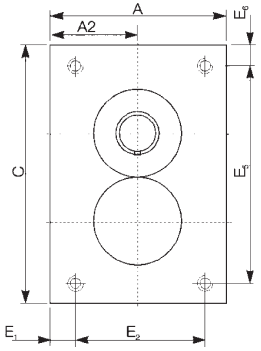
Safety coupling

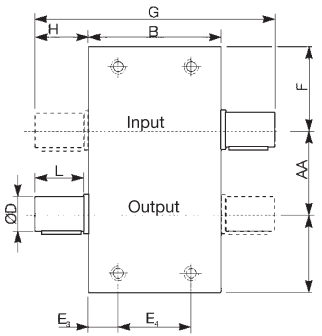
If required, the disc cam index drives can be delivered with a safety coupling mounted to the output.

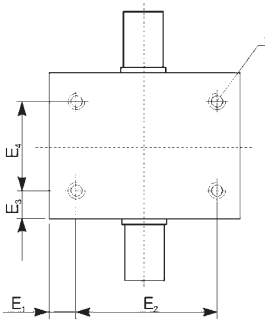
Application Example



Disk cam mechanism



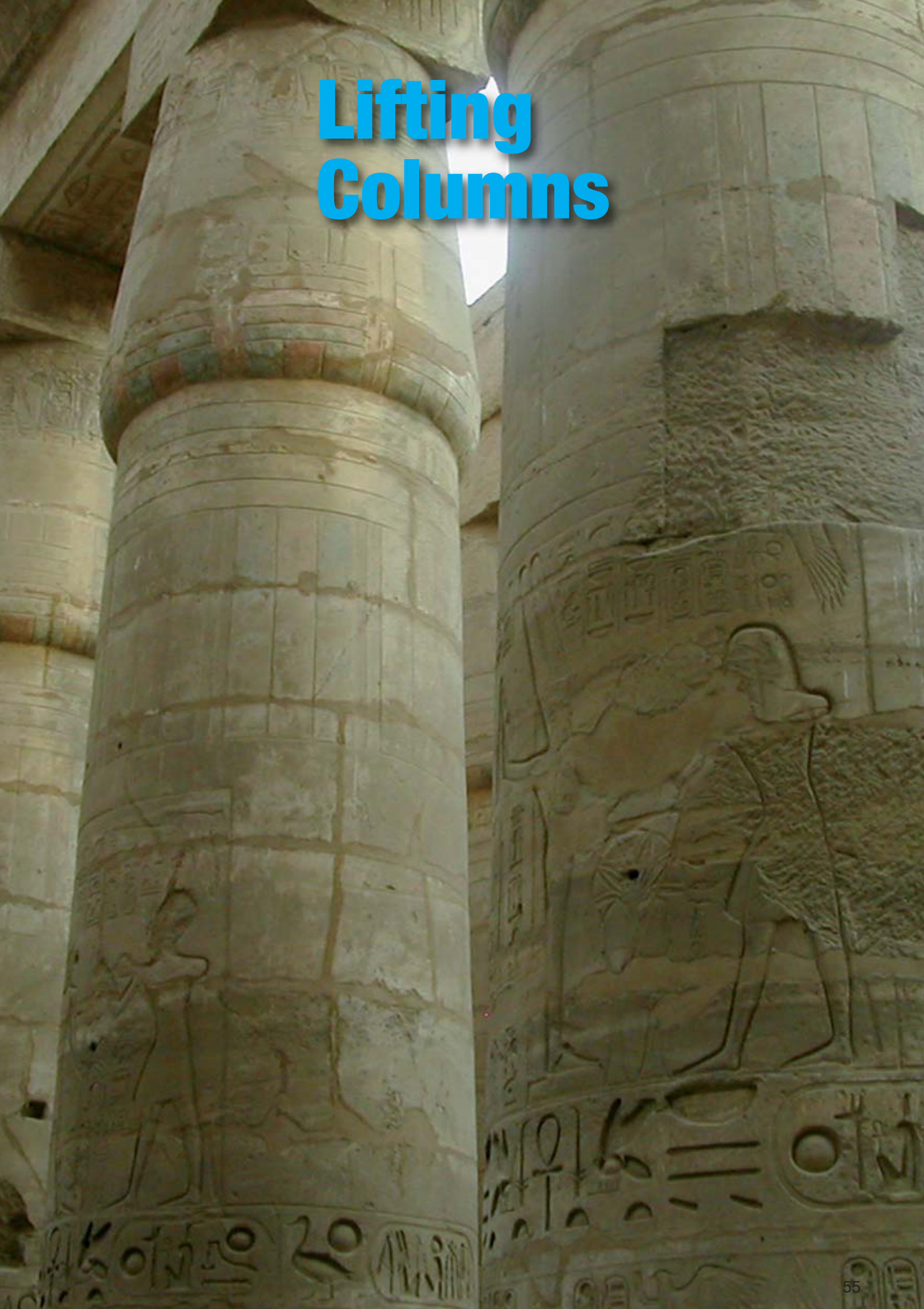




Parallel key positioned in the centre of the dwelling period
Parallel key dimensions according to DIN 6885
Journal with centred threat DIN 332/2
All tolerances other than specified refer to DIN 7168m

Subject to change of dimensions, representation w

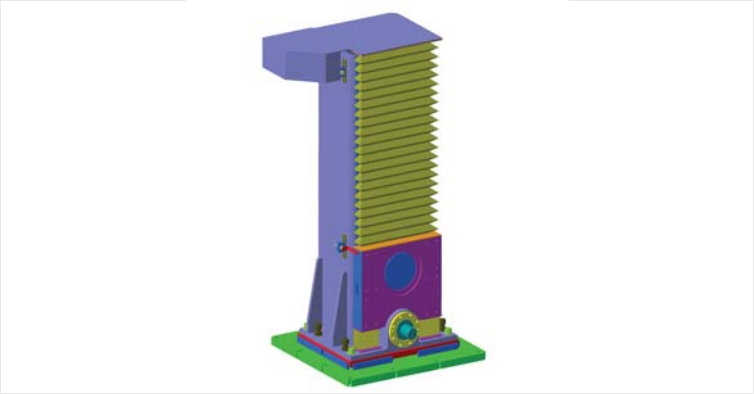
Type	AA	A	B	C	D/L	F	G	H	M	E1	E2	E3	E4	E5	E6
EP63	63	130	90	200	19/40	68.5	175	42.5	M8x16	25	80	10	70	175	12.5
EP65	65	140	95	190	19/40	70	11	43	M5x16	22.5	95	7.5	80	145	7.5
EP80	80	170	110	250	25/60	85	240	65	M8x16	35	100	12.5	85	225	12.5
EP100	100	200	140	300	30/80	100	310	85	M10x20	40	120	17.5	105	270	15
EP125	125	240	180	370	38/95	122.5	380	100	M12x24	45	150	17.5	145	330	20
EP160	160	340	210	500	48/115	170	450	120	M12x24	40	260	25	160	460	20
EP200	200	400	250	600	60/125	200	510	130	M16x25	50	300	30	190	540	30
EP250	250	500	300	700	80/160	225	630	165	M18x36	90	320	25	250	540	80
EP315	315	630	400	880	95/185	282.5	780	190	M20x40	120	390	30	340	640	120



Lifting Columns

Lifting Columns

Drive modules for dynamic lifting, placing and moving of high loads with simultaneous high positioning accuracy.

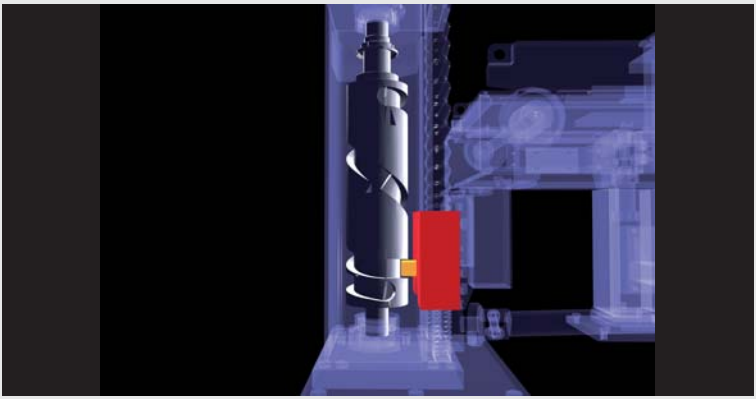


Realisation of the motion profile via a cam disc which allows for dynamic and repetitive movements with (defined) automatically locked dead-centre position.

Fields of application comprise, among others, fixture changing systems, lift/drop conveying systems, vertical shuttles, line linking, level lifters, goods lifts and general transporting and guiding operations.

Function

The cam disc is driven by a geared motor. The acceleration and deceleration of the customer load is generated by a cam groove sunk into the drive cam. The high-performance cam actuator transfers acceleration and deceleration form closed to the linear slide.

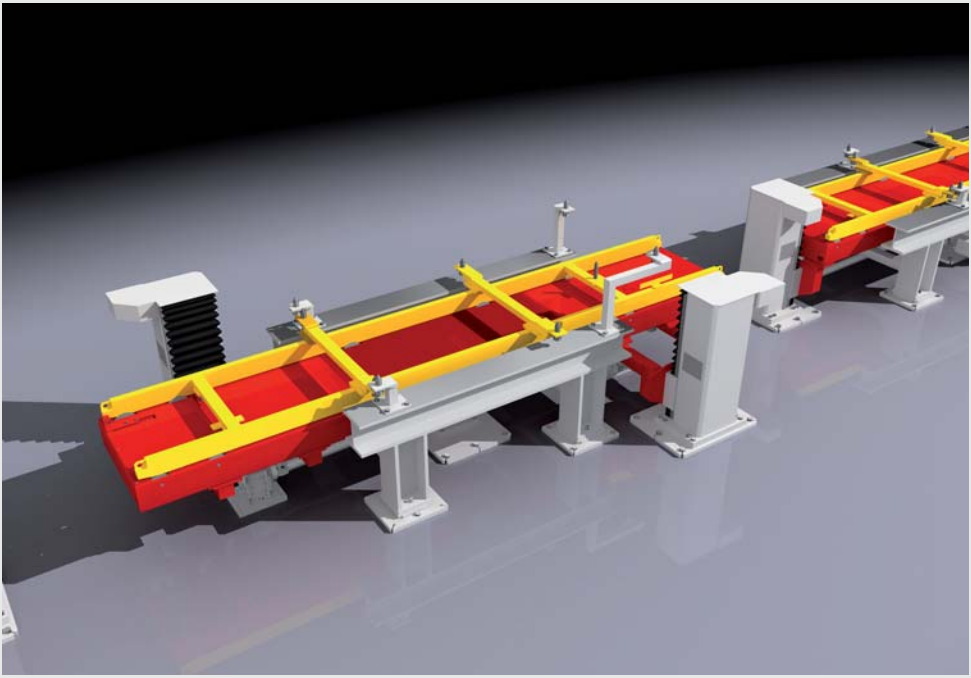


Advantages

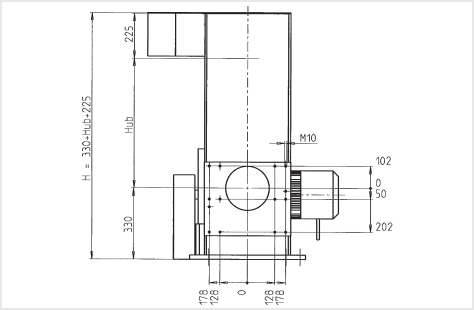
– Approved drive concept via cylindrical cam profile and cam actuators.
– Smooth and shockless drive motions.
– Freely selectable operating position.
– Acceleration and deceleration in accordance with the optimised laws of motion stipulated in the German Engineer Association (VDI) guideline No. 2143.
– High-precision, form-closed, mechanically locked dead-centre positions.

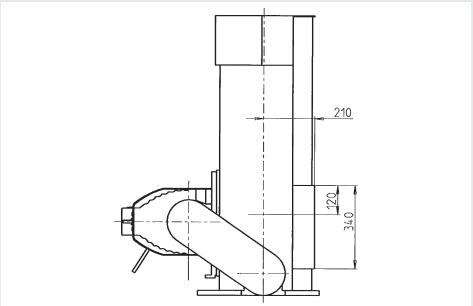
Application Examples

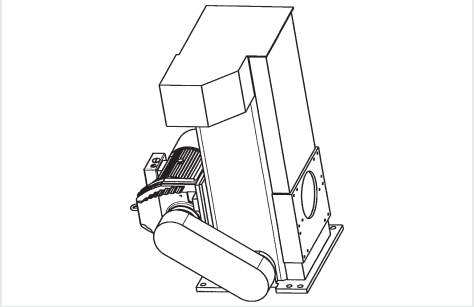
EXPERT Lifting Columns are calculated and constructed as defined by our customers. Please feel free to forward your technical data for designing.

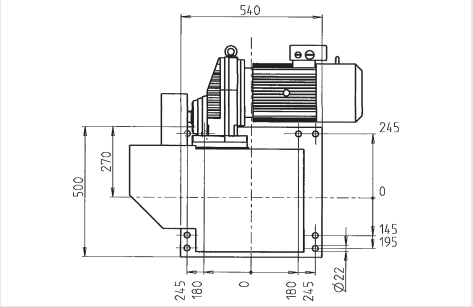


Technical data sheet









Further variant types upon request.

Hoisting and Conveying

Hoisting and Conveying

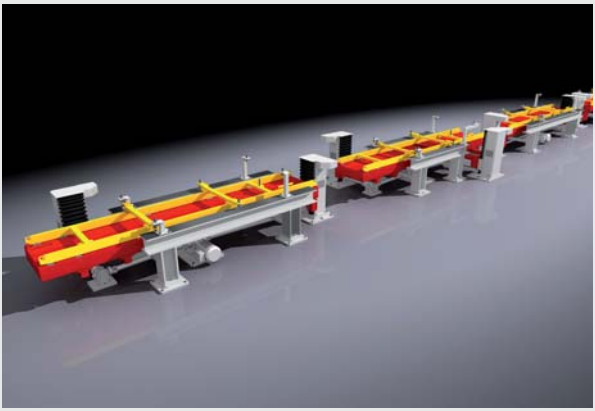
Application Examples

EXPERT hoisting and conveying systems are calculated and constructed as defined by our customers. Please feel free to forward your technical data for designing.

Lift and Carry Units

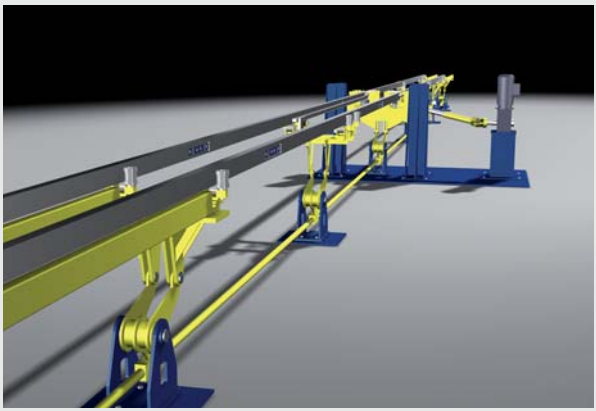
Conveying systems for body-in-white manufacture for safe and accurate positioning of skids transferring automotive bodies or automotive components in flexible stations design in non-linked lines.

– Short cycle times
– Soft component transfers
– Flexible determination of transfer positions
– Compact design
– Extremely low-maintenance
– Long service life
– Good operator protection
– No frequency converter required for lifting



Lift Shuttle

Conveyor system for body-in-white manufacture for safe and accurate positioning of skids transferring automotive bodies or automotive components in flexible stations design in linked lines.



Monorail Shuttle

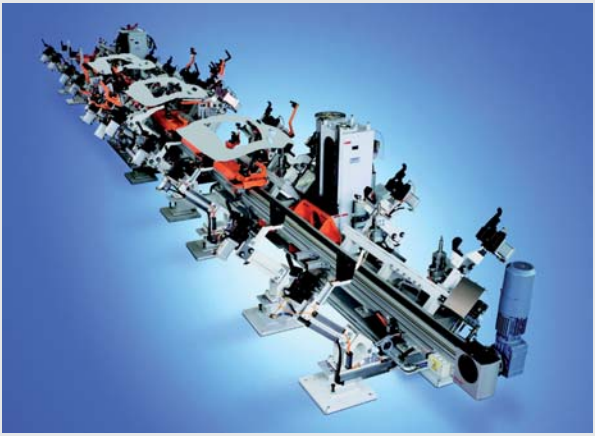
EXPERT-TÜNKERS monorail lift shuttle systems transport several components synchronically, harmonically and shock-free from station to station. The components are synchronically lifted off, transferred horizontally and precisely positioned again at the next station. The gentle component transfer is carried out at V = 0 m/min.

The vertical drive of the Monorail Lifting Shuttle Systems is based on two EXPERT-TÜNKERS standard lifters.

– Approved drive concept via cylindrical cams and cam actuators

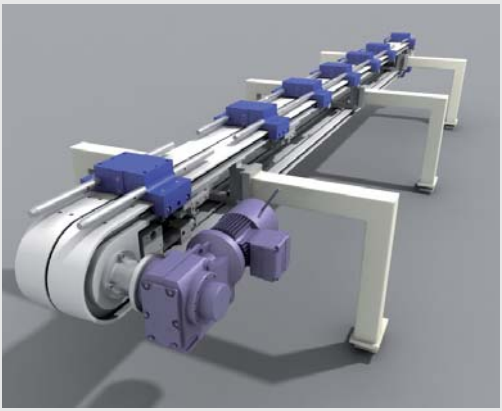
– Harmonic and shock-free drive motion

– High-precision, form-closed, mechanically locked dead-centre positions



Flexible Buffer / Accumulating Conveyor

For workpiece transport in manufacturing plants between two work stations and non-clocked accumulation of pallets on the buffer. Loading and unloading independent of the respective production cycle.



Additional Modules

Additional Modules

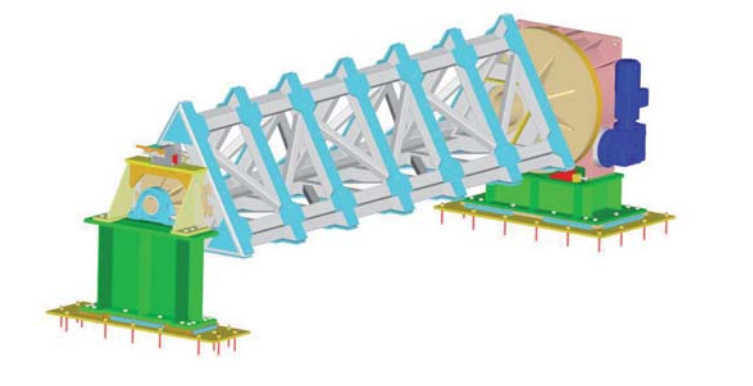
Additional Modules

Custom Drives

EXPERT provides solutions for your component transport.
Our modular concept of drive units offers optimal, compact and favourable solutions for reliable, constant handling operations. All drive axles required for the handling movements of high payloads are designed as separate modules with drive and control systems.

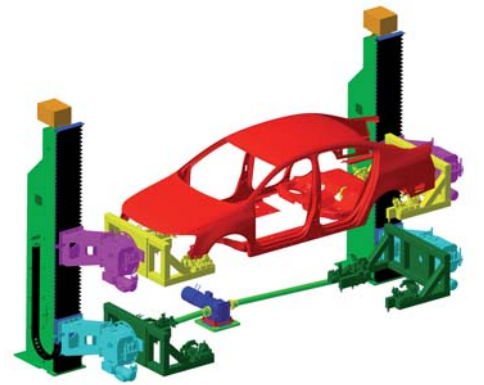
Trunnion Drive

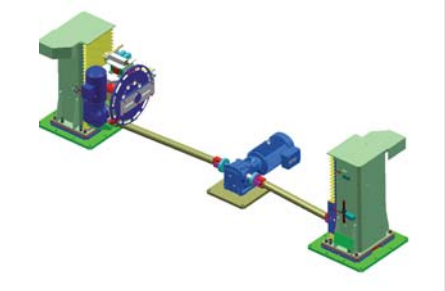
For side panel tool changer.



Lift and Rotate Unit

For flexible transporting of automotive bodies into optimal welding positions.





Lift and Rotate Unit

Water-cooled high-current transformers and AC/DC converters for resistance welding and heating technology

Application

– Robotic welding guns
– Manual welding guns
– Stationary welding systems
– Furnace and melting plants
– Agglomerating plants
– Conductive heating of forgings

Characteristics

– Compact, fully cast design, IP54, low-maintenance
– Design in accordance with ISO and user standards
– Power flow from approx. 10 to 1000 kVA
– Secondary currents up to approx. 100,000 A
– Rated frequencies 50 Hz … 10,000 Hz
– Multi-stage switchable designs possible
– Operation via thyristor controls and inverter systems
– Single-phase and 3-phase applications realisable
– Adjusted to the welding systems of all well-known manufacturers
– Internal temperature monitoring
– Integrated measuring of secondary currents
– Water cooling can be direct or indirect, i.e. potential-free
– Connection optionally via terminals or plug-and-socket connectors
– Custom designs possible

Advantages

– High performance at low weight
– Encapsulated design, dirt tolerant
– Possible high environmental temperatures and direct assembly at the appliance
– Short, low-loss high-current lead-in

Notes:

Notes:

EXPERT-TÜNKERS – is a company forming part of the TÜNKERS group. As plant equipment providers we are specialised in automation solutions for car body manufacture.

Next to rotary tables, trunnion drives and conveying systems we offer suitable modules from pneumatic clamps to robotic gripper systems and punching fixtures for nearly any application in serial production – in Germany and across the globe.

EXPERT-TÜNKERS – Your Automation Partner.

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