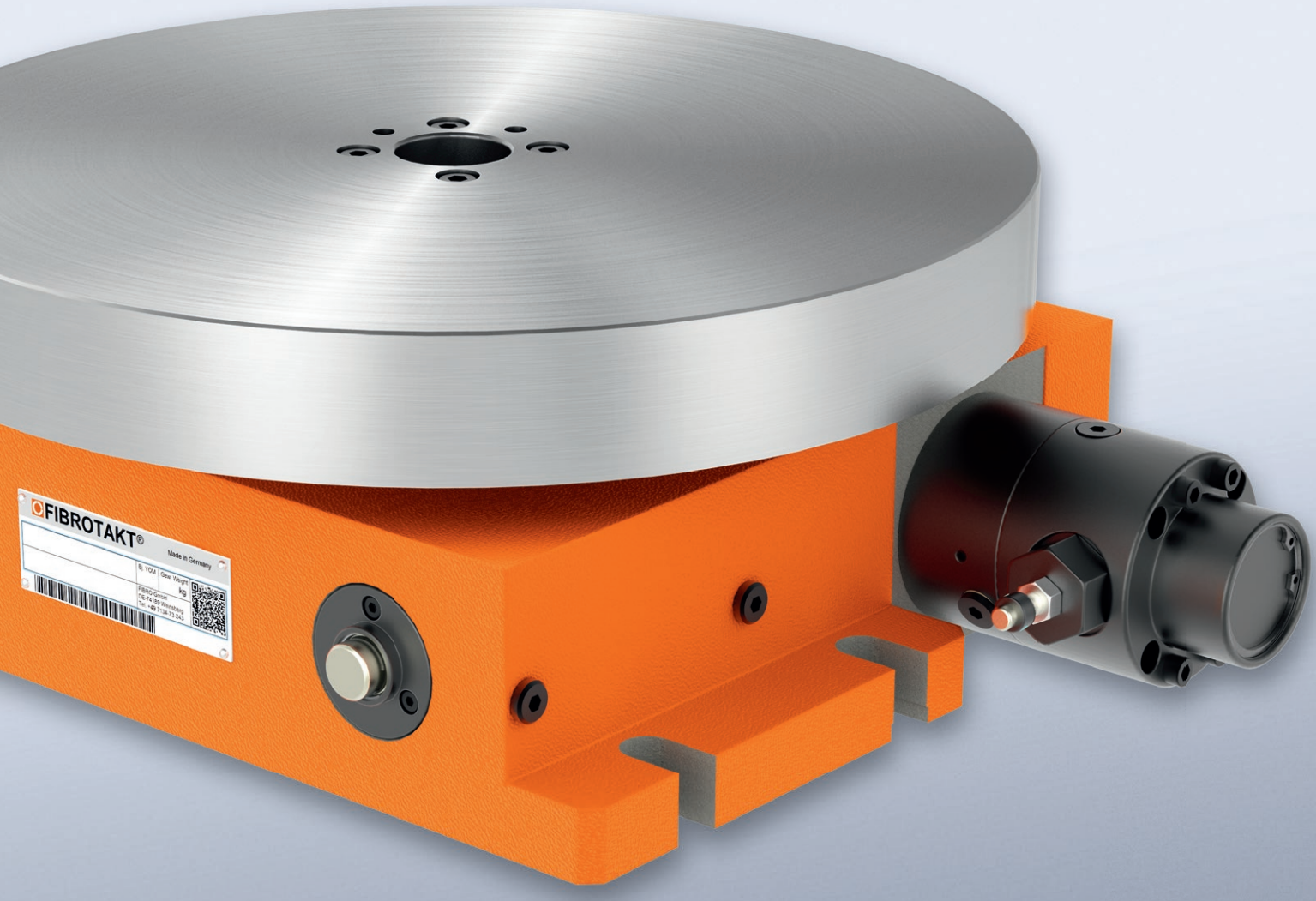
WE LOVE TECHNOLOGY FIBRO

ROTARY INDEXING TABLES WITH FACE GEAR **FIBROTAKT®**

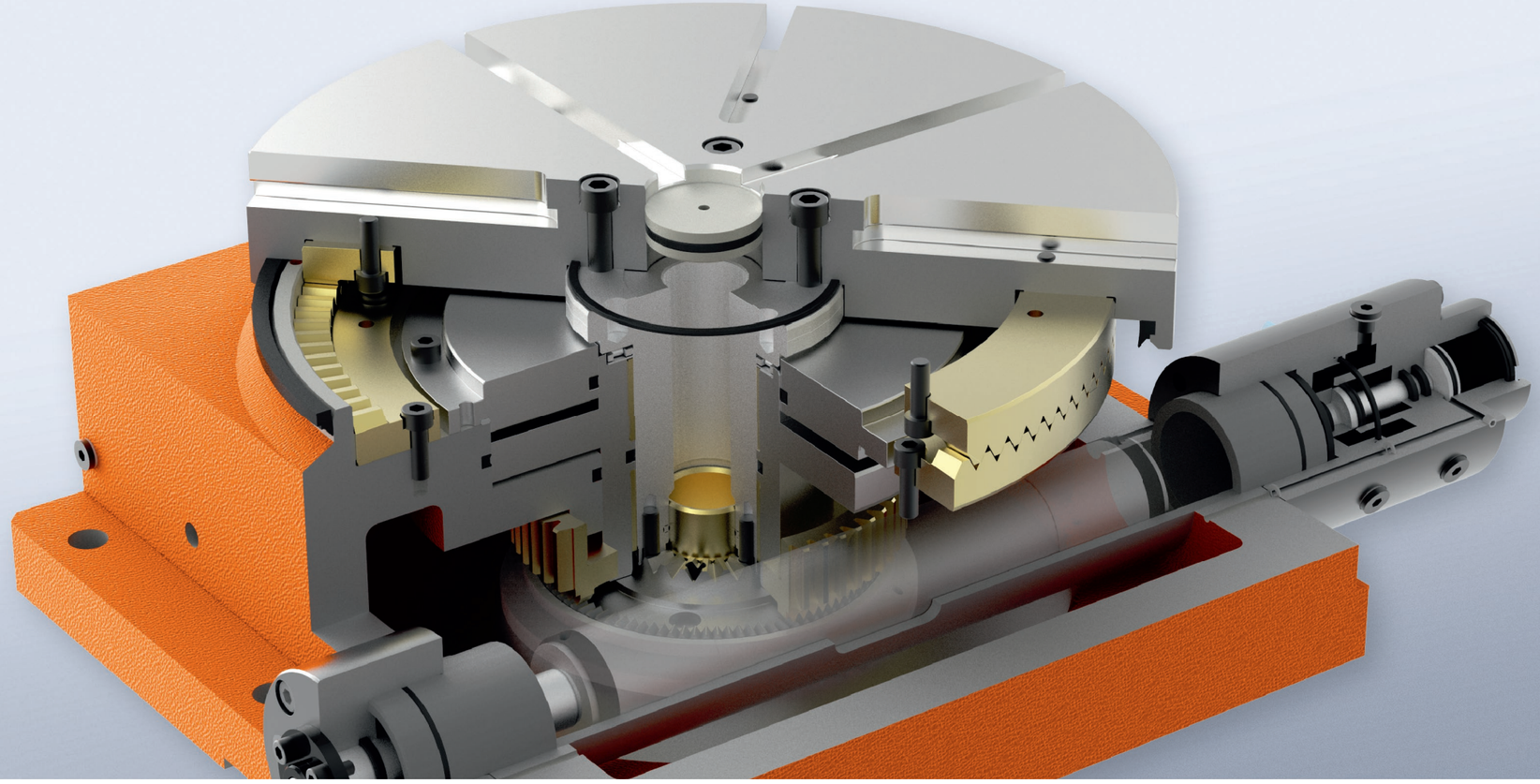


ROTO**CUTTING**

Rotary Tables for Machine Tools

MEMBER OF THE LÄPPLE GROUP

LÄPPLE



POSITIVE LOCKING

thanks to FIBROTAKT® face gear

MAXIMUM PRECISION
MAXIMUM PROCESS RELIABILITY

AS THE WORLD'S FIRST MANUFACTURER OF ROTARY TABLES WITH FACE GEAR, FIBRO GMBH ESTABLISHED ITSELF ON THE GLOBAL MARKET IN 1962 WITH FIBROTAKT®. TODAY, MORE THAN 50 YEARS LATER, THE ROTARY TABLE IS A TESTED AND PROVEN PRODUCT FOR RELIABLE USE IN PRODUCTION PROCESSES.

Precision rotary tables with Hirth face gear

The rotary indexing table FIBROTAKT® has been developed for use as a positioning axis in machine tools such as machining centres, rotary transfer machines as well as production and manufacturing systems. In the process, it is used as a workpiece or equipment support, or as a support for tools.

Particularly characteristic of our oldest rotary table, whose structure and design have been tried and tested for years, is the principle of positive locking with face gears. Thanks to the face gear and the associated stiffness, FIBROTAKT® is able to take on huge machining forces without accuracies and indexing times being compromised.

Long lifespan

The high reliability and long lifespan of the rotary table are due to its robust and wear-resistant design.

Tried and tested over decades: the pioneer amongst rotary tables for reliable process deployment in your production process.

OUR TECHNICAL HIGHLIGHTS
YOUR COMPETITIVE EDGE

TECHNICAL HIGHLIGHTS

- Precision FIBROTAKT® face gear for best geometric accuracies
- Hydraulic locking of the face gear for highest resistance to tilt
- Flat design for maximum operating area
- Sturdy, wear-resistant design for long service life with low maintenance overhead
- Extremely broad spectrum of sizes, fittable with table top diameters up to 3,000 mm
- Transport loads up to 15 tons
- No NC controller required
- Driven and controlled hydraulically, electrically or pneumatically
- Also available as a built-in variant for integrated machine designs, e.g. custom rotary indexing table machines

THE PRECISE POSITIONER FOR

- High-accuracy positioning applications up to ± 1 arc seconds, repeat accuracy up to ± 0.1 arc seconds
- Machining applications of all types, such as milling, drilling, boring and grinding
- High-precision transportation applications
- Processing applications involving extreme forces
- Your special application

WIDE RANGE OF HOUSING SIZES
HIGHLY VERSATILE

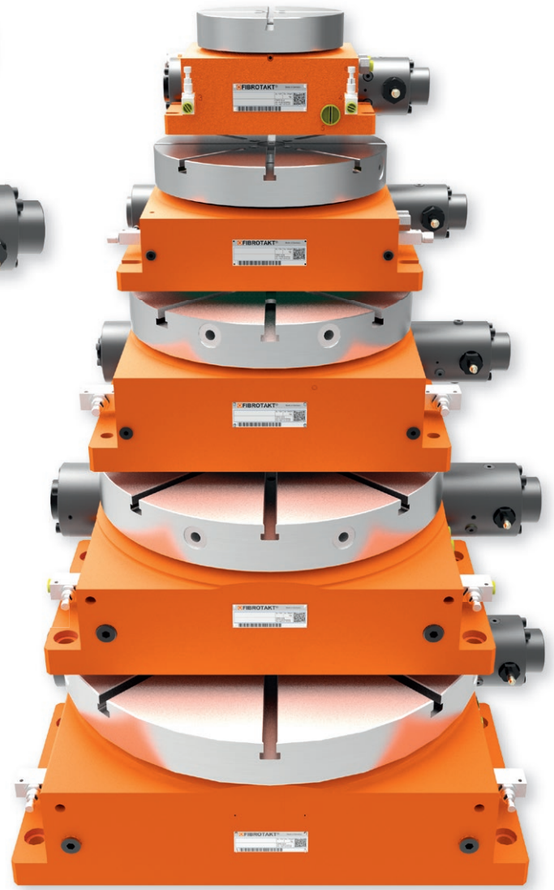
CHOOSE BETWEEN THREE DIFFERENT DRIVE ALTERNATIVES, VARIOUS ACCURACY CLASSES AND A LIFTING AS WELL AS A NON-LIFTING TABLE TOP. TAILOR YOUR FIBROTAKT® ROTARY TABLE TO YOUR REQUIREMENTS AND THE MOST DIVERSE APPLICATIONS.

HOUSING DESIGNS AVAILABLE

- Standard, mainly for horizontal use
- Vertical, mainly for vertical use
- Planetary rotary indexing tables
- Palletising rotary indexing tables
- Slide housing
- Rotary indexing tables with machine slide
- Multi-axis versions
- Built-in versions

PNEUMATIC DRIVE

Internal control

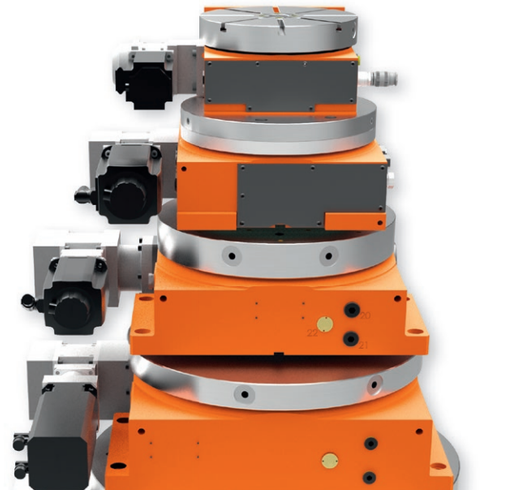


PNEUMATIC DRIVE

External control

ELECTRIC DRIVE

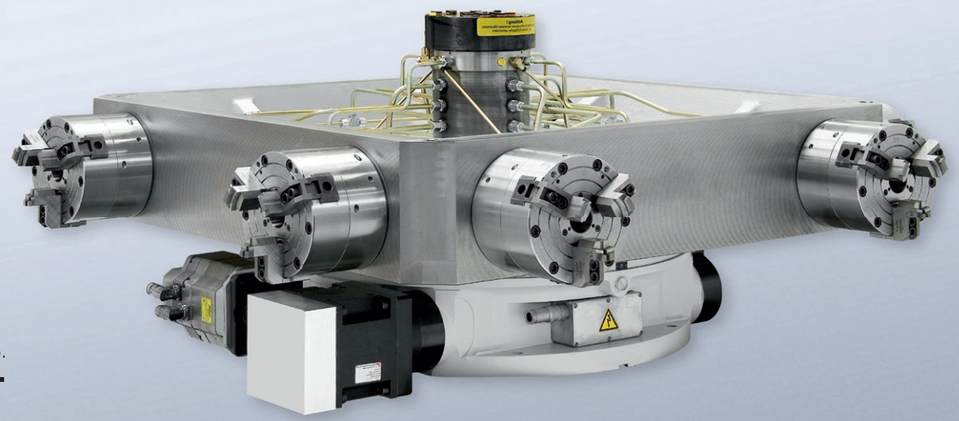
External control



HYDRAULIC DRIVE

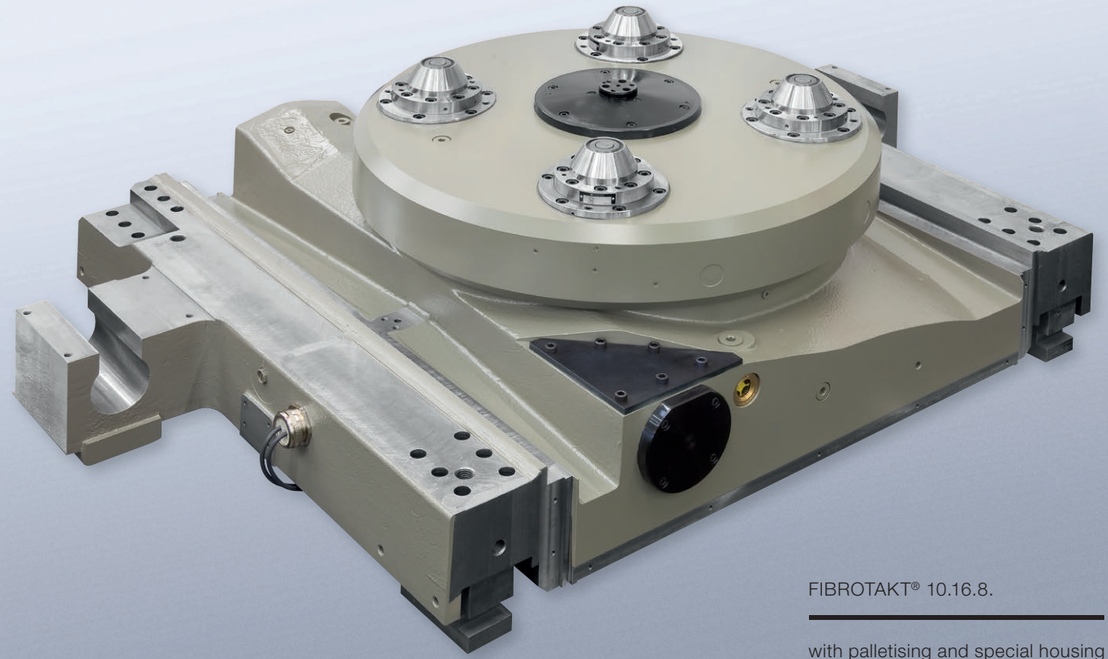
External control

ADDITIONAL OPTIONS FOR **ALL CONSTRUCTION TYPES**



FIBROTAKT® 11.16.6.

with rotary union



FIBROTAKT® 10.16.8.

with palletising and special housing

DRIVE TYPES

Pneumatic drive

- Used with small and medium transportation loads, short indexing times and a high indexing frequency

Hydraulic drive

- Used with high transportation loads, short indexing times and a high indexing frequency

Electric drive

- Used in applications that require shortest indexing times and small or random indexing steps. Here, each index position can be adjusted in any order within the number of teeth.

LIFTING/NON-LIFTING TABLE TOP

Lifting table top

- During positioning, the table top lifts approx. 3 to 4 mm from the housing.
- Simple, rigid design and maximum precision

Non-lifting table top

- During positioning, the table top lifts only minimally, less than 0.1 mm, from the housing.
- Used when large masses must be moved or there is not sufficient space available for the lifting stroke
- Built-in rotary table version

CONTROL

Internal control for pneumatic FIBROTAKT®

- Control valves are built into the housing. Start impulse takes place via remote control or start button activation on the housing, whereupon movement is initiated.

External control for pneumatic and hydraulic FIBROTAKT®

- Sequencing steps through external electrical control and external control valves. Position of the gear rack and table lift/lock is controlled by built-in limit switches.

External control for electric FIBROTAKT®

- Using the CNC control, the possible indexing steps can be executed in any order. Positioning takes place via a rotary encoder on the motor.

ADDITIONAL OPTIONS

- Rotary distributor, implementation of media for pneumatics, hydraulics or electrics
- Shift control
- Position securing
- Position detection
- Damping pressure monitoring
- Additional table top up to Ø 3,000 mm

STANDARD CONSTRUCTION TYPES
PNEUMATIC DRIVE

USED WITH SMALL AND MEDIUM TRANSPORTATION LOADS, SHORT INDEXING TIMES AND A HIGH INDEXING FREQUENCY.

Internal control		**11.11.1.**	**11.11.2.**	**11.11.3.**	**11.11.4.**		
External control			**11.12.2.**	**11.12.3.**	**11.12.4.**	**11.12.5.**	**11.12.6.**
Main dimensions							
Table top Ø	mm	160	200/250	320/400	400/500	500/630	630/800
Structural height	mm	120	145	160	205	230	255
Standard number of teeth		72	72	96	96	120	120
Max. number of teeth		96	120	144	180	360	360
Load data							
from machining forces with reference to table top	Ø	160	200	320	400	500	630
from machining forces perm. machining thrust acting on locked table top	N	12,500	15,000	20,000	30,000	35,000	40,000
perm. tangential moment acting on locked table top	Nm	380	605	2,300	5,000	3,700	7,000
perm. tilting moment acting on locked table top	Nm	205	325	1,280	2,700	2,000	4,000
Accuracies							
Accuracy class		1 / 2 / 3 / 4					
Indexing accuracy (in arc seconds)		± 1.5 / ± 3 / ± 6 / ± 12					
Repeatability (in % of indexing accuracy)		20 / 20 / 25 / 30					
Indexing times							
with mass moment of inertia from transportation load	kgm²	0.13	0.5	4.5	10	25	40
with mass moment of inertia from transportation load for T 6 = 60°	s	0.7	0.9	1.4	2.0	2.7	3.4
with mass moment of inertia from transportation load for T 4 = 90°	s	1.0	1.2	1.7	2.3	3.1	3.9

Subject to technical changes

STANDARD CONSTRUCTION TYPES
HYDRAULIC DRIVE

FOR EXTREMELY SHORT INDEXING TIMES WITH HIGH MASS MOMENTS OF INERTIA.

External control		**11.13.2.**	**11.13.3.**	**11.13.4.**	**11.13.5.**	**11.13.6.**	**11.13.7.**	**11.13.8.**
Main dimensions								
Table top Ø	mm	200/250	320/400	400/500	500/630	630/800	800/1,000	1.000/1,250
Structural height	mm	145	160	205	230	255	320	400
Standard number of teeth		72	96	96	120	120	144	144
Max. number of teeth		120	144	360	360	360	360	360
Load data								
from machining forces with reference to table top	Ø	200	320	400	500	630	800	1,000
from machining forces perm. machining thrust acting on locked table top	N	15,000	20,000	30,000	35,000	40,000	60,000	120,000
perm. tangential moment acting on locked table top	Nm	1,600	5,000	12,000	17,500	33,000	56,000	130,000
perm. tilting moment acting on locked table top	Nm	940	3,000	7,000	10,400	20,500	33,000	70,000
Accuracies								
Accuracy class		1 / 2 / 3 / 4						
Indexing accuracy (in arc seconds)		± 1.5 / ± 3 / ± 6 / ± 12						
Repeatability (in % of indexing accuracy)		20 / 20 / 25 / 30						
Indexing times								
with mass moment of inertia from transportation load	kgm²	0.75	6.6	15	45	100	350	750
with mass moment of inertia from transportation load for T 6 = 60°	s	0.9	1.4	2.0	2.4	3.0	3.2	2.9
with mass moment of inertia from transportation load for T 4 = 90°	s	1.0	1.5	2.1	2.7	3.4	3.6	3.2

STANDARD CONSTRUCTION TYPES
ELECTRIC DRIVE

USED IN APPLICATIONS THAT REQUIRE SHORTEST INDEXING TIMES AND SMALL OR RANDOM INDEXING STEPS. HERE, EACH INDEX POSITION CAN BE ADJUSTED IN ANY ORDER WITHIN THE NUMBER OF TEETH.

								non-lifting	
External control		**11.16.3.**	**11.16.4.**	**11.16.5.**	**11.16.6.**	**11.16.7.**	**11.16.8.**	**10.16.7.**	**10.16.8.**
Main dimensions									
Table top Ø	mm	320	400	500	630	800	1,000	800/1,000	1,000/1,250
Structural height	mm	190	205	230	255	320	400	320	385
Standard number of teeth		96	360	360	360	360	360	360	360
Max. number of teeth		720	720	720	1,440	1,440	1,440	720	1,440
Load data									
from machining forces with reference to table top	Ø	320	400	500	630	800	1,000	800	1,000
from machining forces perm. machining thrust acting on locked table top	N	20,000	30,000	35,000	40,000	60,000	120,000	60,000	120,000
perm. tangential moment acting on locked table top	Nm	5,500	12,000	17,500	33,000	56,000	130,000	40,000	54,000
perm. tilting moment acting on locked table top	Nm	3,900	7,000	10,400	20,500	33,000	70,000	30,000	62,000
Accuracies									
Accuracy class		1 / 2 / 3 / 4							
Indexing accuracy (in arc seconds)		± 1.5 / ± 3 / ± 6 / ± 12							
Repeatability (in % of indexing accuracy)		20 / 20 / 25 / 30							
Indexing times									
with mass moment of inertia from transportation load	kgm²	20	45	100	250	700	1,500	400	1,500
with mass moment of inertia from transportation load for T 6 = 60°	s	1.1	1.2	1.5	1.5	1.9	2.0	1.8	2.4
with mass moment of inertia from transportation load for T 4 = 90°	s	1.2	1.4	1.7	1.7	2.1	2.4	2.1	2.8

Subject to technical changes

STANDARD CONSTRUCTION TYPES
BUILT-IN ROTARY TABLES

FOR EXTREMELY SHORT INDEXING TIMES WITH HIGH MASS MOMENTS OF INERTIA.

External control		**10.36.6.**	**10.36.7.**	**10.36.8.**	**10.36.9.**	**10.36.10.**	**10.36.11.**	**10.36.12.**
Main dimensions								
Table top Ø	mm	630	800	1,000	1,250	1,600	2,000	2,500
Structural height	mm	300	320	350	380	420	540	600
Standard number of teeth		–	–	–	–	–	–	–
Max. number of teeth		–	–	–	–	–	–	–
Load data								
from machining forces with reference to table top	Ø	630	800	1,000	1,250	1,600	2,000	2,500
from machining forces perm. machining thrust acting on locked table top	N	–	–	–	–	–	–	–
perm. tangential moment acting on locked table top	Nm	23,500	40,000	60,000	100,000	170,000	300,000	500,000
perm. tilting moment acting on locked table top	Nm	20,000	30,000	45,000	75,000	125,000	250,000	380,000
Accuracies								
Accuracy class		1 / 2						
Indexing accuracy (in arc seconds)		± 1.5 / ± 3						
Repeatability (in % of indexing accuracy)		20 / 20						
Indexing times								
with mass moment of inertia from transportation load	kgm²	360	850	1,800	4,000	10,000	22,000	45,000
with mass moment of inertia from transportation load for T 6 = 60°	s	1.6	1.9	2.2	2.4	2.9	3.6	4.6
with mass moment of inertia from transportation load for T 4 = 90°	s	1.9	2.2	2.6	2.8	3.4	4.3	5.4

FIBRO GMBH

Business Unit Rotary Tables
Weidachstraße 41-43
74189 Weinsberg
GERMANY
T +49 7134 73-0
info@fibro.de
www.fibro.com

THE LÄPPLE GROUP

LÄPPLE AUTOMOTIVE
FIBRO
FIBRO LÄPPLE TECHNOLOGY
LÄPPLE AUS- UND WEITERBILDUNG

1.2002.01000.01 As of: 08/2022

BRANCH OFFICES

FIBRO FRANCE SARL
26 Avenue de l'Europe
67300 Schiltigheim
FRANCE
T +33 390 204040
info@fibro.fr
www.fibro.com

FIBRO INC.
139 Harrison Avenue
Rockford, IL 61104
USA
T +1 815 2291300
info@fibroinc.com
www.fibro.com

FIBRO INDIA
PRECISION PRODUCTS PVT. LTD.
Plot No: A-55, Phase II, Chakan Midc,
Taluka Khed, Pune - 410 501
INDIA
T +91 2135 33 88 00
info@fibro-india.com
www.fibro.com

LAEPPLE (TAICANG) INDUSTRIAL
TECHNOLOGY CO., LTD.
Bldg. No. 15, Industrial Park,
No. 103 Chenmenjing road,
Chengxiang Town, 215400,
Taicang, Jiangsu Province
P.R.C.
T +86 512 8060 7979
info@fibro.cn
www.fibro.cn

FIBRO ASIA PTE. LTD.
9 Changi South Street 3, #07-04
Singapore 486361
SINGAPORE
T +65 65 439963
info@fibro-asia.com
www.fibro.com