

FIBRODYN

带力矩电机的NC旋转工作台

NC-Rotary Tables with torque motors



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FIBRO GmbH
旋转分度台

11/2006

FIBRO GmbH
Rotary Indexing Tables



鉴于在旋转工作台领域长期
生产和制造的经验和技术，
FIBRO将会是您
理想的选择！

FIBRODYN 带力矩电机的NC-旋转工作台是专为工具机床和生产设备的高动力、高精度的旋转和定位而设计的。除了许多特殊的优点之外，还可为客户提
供以下优势：

- 可灵活地进行特殊角度的定位
- 因为没有传动装置，所以无背隙，性能高
- 极短的定位时间，例如 $t_s = 0.36 \text{ s}$ 180°
- 可提供极高或者极低的连续转速
- 定位精度最高 ± 2 弧秒，借助测量补偿可使定位精度提高到1弧秒以下。
- 高重复定位精度 < 0.2 弧秒
- 径向以及轴向的跳动公差精准到微米范围内
- 液压台面夹紧装置提供锁紧力
- 设计紧凑，没有在壳体轮廓范围内有凸起的驱动元件
- 操作安全性强，工作寿命长
- 侧向碰撞时不会导致齿轮磨损
- 标准型产品选择范围多—不同型号、配置等级和变型，如多轴运动执行以及特殊的组合了直线运动的工作台；托盘夹紧设备或者工件托盘，以及客制化的特殊设计。

组件:

内置式电机: 带多极的多相交流伺服电机。电机转子直连
接到台面。

角度测量系统: 绝对编码器，直接安装在台面轴上，
发出测量信号以确定台面位置以及与伺服电机交换
信号。

液压和气动供给: 需要63bar的液压力来保证液压夹
紧系统进行锁紧和零背隙。加速夹紧和非夹紧时间
(每个过程小于100ms) 可以通过选配液压阀组来
实现。转台可以连接空气吹扫装置。

旋转式分配器(可选): 为客户提供最大150bar的夹紧。
(气动，液压冷却以及润滑)

带支撑轴承的双轴组合

驱动A轴, 支撑轴承中整合了电缆管道以及安全刹车。
驱动B轴, 整合了传动箱

垂直台面: FIBRODYN DA 2.04, Ø 480 mm
夹紧台: FIBRODYN DA 0.04, Ø 630 mm

2-axis combination with counter bearing
driven A-axis, counter bearing with integrated flexible cable conduit
and safety brake
driven B-axis with integrated media transmission
Vertical table: FIBRODYN DA 2.04, diam. 480 mm
Clamping table: FIBRODYN DA 0.04, diam. 630 mm

**Due to our long experience and expertise
in the design and manufacture of
Rotary Tables FIBRO
is your ideal partner !**

FIBRODYN NC-Rotary Tables with torque motors are designed for highly dynamic and high-precision rotation and positioning in machine tools and production equipment. Besides many other special advantages, the following benefits are offered to the user:

- flexible positioning in optional angular steps
- zero backlash and high performance as a result of no gearing
- extremely short positioning times, e.g. $t_s = 0.36 \text{ s}$ for 180°
- very high and very low constant rotational speed possible
- positioning accuracy up to ± 2 seconds of arc by measuring fault compensation below 1 second of arc
- high repeatability less than 0.2 seconds of arc
- high precision in terms of radial and axial runout in the micrometer range
- hydraulic table top clamping as a force-locking connection between the table top and the housing
- compact design, no protruding drive elements above the housing contour
- operational safety and long service life
- no gear damage in case of tangential collisions
- wide variety of standard models – different types, configuration levels, and variants, multiple-axis executions and special combinations with linear tables; executions with pallet clamping facilities and workpiece pallets, custom designs for special purposes.

Components:

Built-in motor: polyphase AC servo motor with a high number of poles. The rotor is directly attached to the table top.

Angular measuring system: The absolute encoder, directly mounted on the table top axis, sends measuring signals for the determination of the table top position and for the commutation of the servo motor.

Hydraulic and pneumatic supply: A hydraulic pressure of 63 bar is needed to supply the force-locking and backlash-free hydraulic clamping system. Accelerated clamp and unclamp times (each below 100ms) can be achieved by the optional hydraulic valve block. Connection for air purge is available in the rotary table.

Rotary distributor (optional): max. pressure 150 bar for the supply of customer's fixture (pneumatic, hydraulic, coolant and lubrication).





请注意:
由于不同类型的应用，有大量高扭矩或高转速的伺服电机可供选择。
根据所要求的规格，FIBRO会提供一个客制化的报价。

NC-旋转工作台 FIBRODYN, DA 0.06
壳体经特殊设计
台面直径 Ø 630 mm 带托盘装置
气动和液压旋转分配器
托盘 630 x 630 mm

NC-Rotary Table FIBRODYN DA 0.06
Housing in special design
Table top diam. 630 mm with palletising device
Pneumatic and hydraulic rotary distributor
Pallet 630 x 630 mm

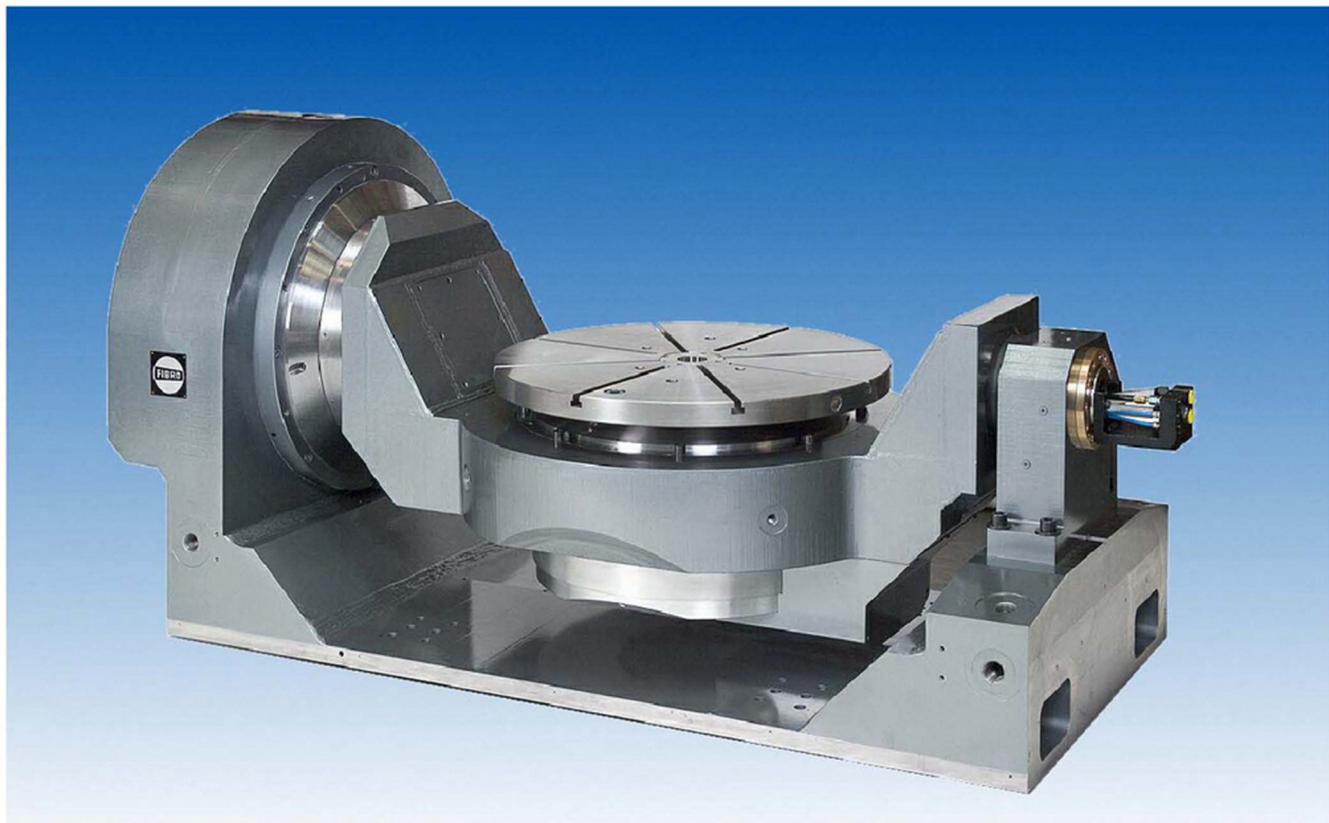
规格 / Size		DA1.02	DA1.03	DA1.04	DA1.05	DA1.06	DA1.07	DA1.08
最大负载 ** / Max. load**	kg	500	800	1000	1800	3000	5000	8000
驱动参数 / Drive data								
台面旋转速度* Table top rotational speed*	min ⁻¹ r.p.m.	270	250	170	110	100	90	80
额定扭矩* Nominal torque*	Nm	216	450	594	878	1280	1890	2380
1r.p.m 下的输出扭矩 1/min* Output torque at 1 r.p.m.*	Nm	223	505	642	922	1389	2009	2509
主要尺寸 / Main dimensions								
台面尺寸，圆形，正方形，长方形 Table top dimension, round, square, rectangular	mm min	Ø 240 □ 240	Ø 320 □ 320	Ø 400 □ 400	Ø 500 □ 500	Ø 600 □ 600	Ø 800 □ 800	Ø 1000 □ 1000
负载参数 / Capacities								
台面承受力 <i>Thrust against table top</i>								
台面表面水平 Table top face horizontal	kN max	25	35	40	55	75	100	180
倾覆力矩 / Tilting moment	kNm max	3,2	5	8	16	20	26	60
台面液压夹紧后克服的切向力矩 Tangential torque, exerted against table top locked hydraulically	Nm max	1200	4500	7000	10000	16000	32000	55000
精度 / Accuracy								
定位精度 Positioning accuracy	arc sec	取决于控制元件和测量系统 在± 2" depending on control unit and measuring system up to ± 2"						
同心度 / Concentricity	mm	0,01	0,01	0,01	0,01	0,01	0,01	0,01
台面表面径向跳动 / Runout table top face	mm	0,01	0,01	0,012	0,015	0,015	0,02	

* 转速，传递扭矩，加速和减速性能取决于转动惯量和所使用的伺服电机（型号和品牌）

数据的有效性参照标准电机（中型电机尺寸）和中心荷载。

*speed, transported load, acceleration and deceleration depending on the mass moment of inertia and the applied servomotor /type and brand)

Data valid in conjunction with standard motor (medium motor size) and centric load.



FIBRO 根据各种需求生产
旋转工作台。

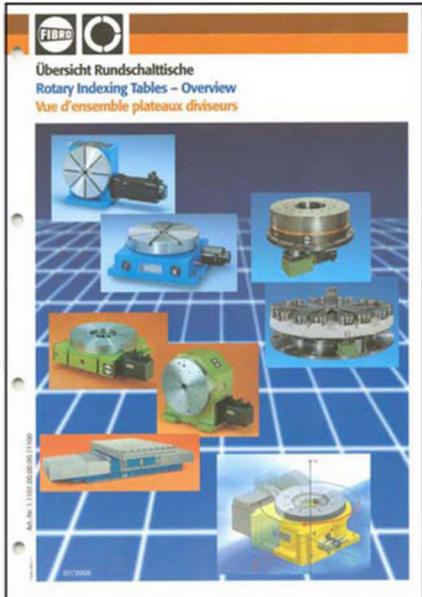
FIBROPLAN
带蜗杆或齿轮传动的NC旋转
工作台。

FIBRODYN
带力矩电机的NC旋转工作台

FIBROTAKT
带平面齿轮的旋转分度台

FIBROTOR
带凸轮传动的机械电子式分度台

请参照相关的产品目录



FIBRO manufactures rotary
indexing tables for all purposes.

FIBROPLAN
NC-Rotary Tables with worm- or
pinion-drive

FIBRODYN
NC-Rotary Tables with torque motors

FIBROTAKT
Rotary-Indexing Tables with face gear

FIBROTOR
Electro-mechanical Indexing Tables with
cam drive

*Please request the corresponding
Product Catalogues.*

FIBRO GmbH
Business Area Rotary Tables

Postfach 1120
DE-74183 Weinsberg
Weidachstraße 41-43
DE-74189 Weinsberg
Phone +49(0)7134-73-0
Fax +49(0)7134-73-120
info@fibro.de
www.fibro.de

FIBRO GmbH
Subsidiary Switzerland

Brüggbühlstraße 70
CH-3172 Niederwangen
b. Bern

Phone +41(0)31-981 07 52
Fax +41(0)31-981 07 53
fibro@bluewin.ch
www.fibro.com

FIBRO
Plateaux diviseurs

BP no 129
FR-93172 Bagnolet
19/21, rue Jean Lolive
FR-93170 Bagnolet
Téléphone 01 43 62 18 80
Télécopieur 01 48 18 73 47
info@fibro.fr
www.fibro.fr

苏州市欧博锐自动化
科技有限公司

苏州市吴中区木渎镇
谢村路1号

Phone+86-0512-66595968
Fax+86-0512-66595768
sales@oubori.com
www.oubori.com