



DELKEN



A U T O M A Z I O N I

CNC ROTARY TABLES





W W W . D E L K E N . I T



DELKEN Automation is a business active in the mechanical engineering industry since the early 1970s. The company got its start in the design and construction of specialized systems of various kinds and then caused a transformation by entering into the equipment sector of conventional CNC machine tools. Thus began the company's production of CNC rotary tables and soon it had considerable success that allowed it to rapidly expand its range. The development process has continued unabated over the years to constantly adjust the product to machine tool standards and to respond to the needs of the process in different fields of application. The company keeps their creativity intact by offering dedicated and unique products. Over the years, the company has added overhauling traditional and CNC machining tools.

Today, DELKEN is established both nationally and internationally with a productive and organizational capacity that allows it to offer the market a global service that integrates mechanical design, construction of specialized equipment and accessories, as well as the overhaul and installation of machine tools.

MILLING MECHANICAL TABLES

Horizontal rotary tables
DCNI Series

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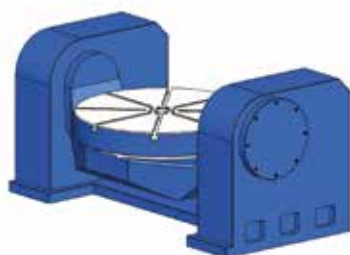
Vertical rotary tables
DCNO Series

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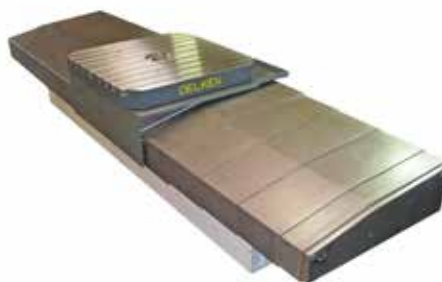
Roto-tilting tables
DCRB_M Series

> pag. 20



Roto-translating tables
DCNI_ST Series

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CNC positioning and interpolation rotary tables designed for interfacing with CNC shavings removal machine tools. This series is designed to be used in most scopes where rigidity and accuracy are required.

- The rotation system is provided with mechanical drive with worm screw or two screws for electronic backlash recovery. Scrolling on ball bearing or hydrostatic bearing. Hydraulic blockage of axis.

- The translation system is provided with a mechanical drive with screw with recirculation of balls or pinion-rack for significant strokes. Scrolling on slideways or roller guides. Hydraulic blockage of axis.

All models can be customized.

MILLING AND TURNING MECHANICAL TABLES

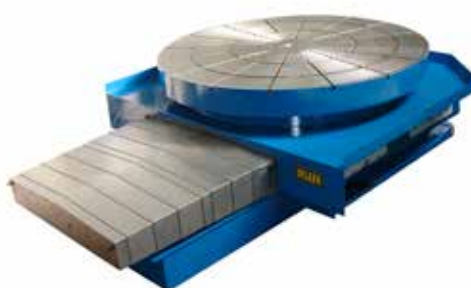
Rotary tables
DCNT Series

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Roto-translating tables
DCNT_ST Series

> pag. 18



CNC turning, positioning and interpolation rotary tables, designed for interfacing with CNC shavings removal machine tools. This series combines accuracy and versatility thanks to its multi-purpose nature; therefore it can be used on multitasking systems.

- The rotation system is provided with mechanical drive with pinion or two pinions for electronic backlash recovery. Scrolling on ball bearing or hybrid hydrostatic bearing. Hydraulic blockage of axis.

- The translation system is provided with a mechanical drive with screw with recirculation of balls or pinion-rack for significant strokes. Scrolling on slideways or roller guides. Hydraulic blockage of axis.

All models can be customized.

TURNING AND/OR MILLING TORQUE TABLES

Rotary tables
DCMT Series

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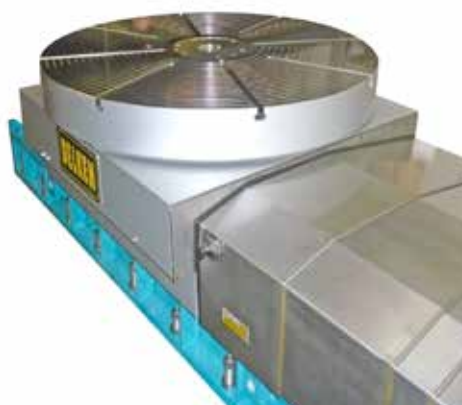
Roto-tilting tables
DCRB_T Series

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Roto-translating tables
DCMT_ST Series

> pag. 19



CNC interpolation turning and/or milling tables, designed for interfacing with CNC shavings removal machine tools. This series combines accuracy and versatility thanks to its multi-purpose nature; therefore it can be used on multitasking systems.

- The rotation system is provided with a direct torque motor which offers high performance and no backlash. Scrolling on combined roller or ball bearing. Hydraulic blockage of axis.

- The translation system is provided with a mechanical drive with screw with recirculation of balls or pinion-rack for significant strokes. Scrolling on slideways or roller guides. Hydraulic blockage of axis.

All models can be customized.

GRINDING MECHANICAL TABLES

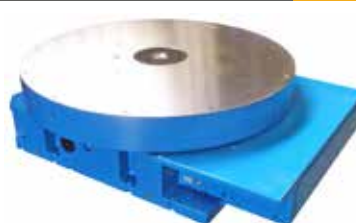
Rotary tables
DCRT Series

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Rotary tables
DCRT Series

> pag. 21



CNC grinding rotary tables, designed for interfacing with CNC grinding machine tools or shavings removal machines.

The translation system is provided with a direct belt mechanical drive for dampening of induced vibrations. Scrolling on combined roller or ball bearing.

All models can be customized.

SPECIAL TABLES AND ACCESSORIES

Special tables

> pag. 22



Accessories

> pag. 22



Control units

> pag. 22



CNC rotary tables or indexed tables for specific applications. Special spindles. Manual and hydraulic tailstocks. Supporting trunnions. Self-centering. CNC control unit for independent management of the axis.

ROTATION

GRINDING

COMBINED

The rotary plate takes the motion from a belt gearbox connected to a bevel gearbox. This configuration reduces to the minimum any microvibrations induced by the mechanical drive.



MILLING

WORM SCREW/CROWN

Made in alloy steel, hardened and ground and coupled with a crown in a bronze-aluminium alloy. Profiles optimized for better performance. Backlash recovery through eccentric support. Reduced backlash. Good interpolation performance. Other drive ratios and high operating torques.

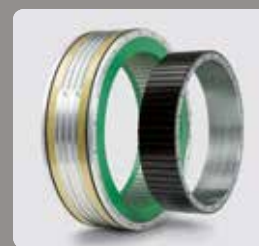
TWO WORM SCREWS

Two worm screws activated by independent motor for electronic backlash recovery in master-slave mode. Very reduced backlash. Excellent interpolation performance.



DIRECT DRIVE

Torque motor integrated in the table and coaxial with the rotation axis. Direct motion drive. Zero mechanical backlash. Medium rotation speeds. Excellent interpolation performance.



BEARING

Combined roller bearing in P2 class with low pre-load and medium speeds. Continuous oil lubrication.



BEARING

Combined roller bearing in P4 class with high pre-load and low speeds. Discontinuous lubrication with air-oil mixture.



HYDROSTATICS

Axial washer with counterbalanced hydrostatic support (double hydrostatics). Available also in multi-level version with differential load management. Sliding surfaces in mechanical cast iron and bronze-aluminium.



BEARING

Combined roller bearing in P4 class with medium pre-load and medium speeds. Discontinuous lubrication with air-oil mixture.



DCRT

DCNI / DCNO
DCNI_ST / DCRB_M

DCNI / DCNO
DCNI_ST

DCMT_F
DCRB_T

◀ AXIS

TURNING AND MILLING

◀ APPLICATION

PINION/CROWN

Made in alloy steel, hardened-tempered and ground, coupled with a crown in alloy steel with tilted teeth. Good positioning performance. Low drive rations for high rotation speeds.

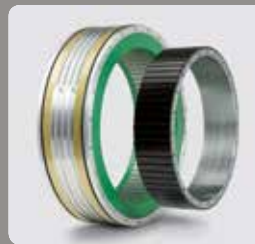
TWO PINIONS

Two pinions activated by independent motors for electronic backlash recovery in master-slave mode. ZeroBacklash. Excellent interpolation performance.



DIRECT DRIVE

Torque motor integrated in the table and coaxial with the rotation axis. Direct motion drive. Zero mechanical backlash. High rotation speeds. Excellent interpolation performance.



◀ DRIVE

HYBRID

Axial washer with hydrostatic support (external) matched to a combined roller bearing (interno). Continuous oil lubrication. Sliding surfaces in hardened steel and bronze-aluminium.



BEARING

Axial or combined roller bearing in P4 class with medium/low pre-load and high speeds. Continuous oil lubrication.



BEARING

Combined ball bearing in P4 class with low pre-load and high speeds. Continuous oil lubrication.



◀ SLIDING

DCNT

DCNT

DCMT_T

◀ SERIES

AXIS

TRANSLATION

DRIVE

BALL-RECIRCULATION SCREW

Ground, two pre-loaded ballnuts. Tensioning system. Very reduced backlash. Good interpolation performance.



PINION/RACK

Made in alloy steel, hardened-tempered and ground, coupled to a rack with tilted teeth. Reduced backlash. Good interpolation performance.



SLIDING

SLIDEWAY

Made in C45 steel, hardened and ground. Coupled to anti-friction material (turcite). Oil or grease lubrication or lubrication through air-oil mixture. Available also in hydrostatic version. Speeds up to 15 mt/1'. High axis rigidity and very low vibrations.



ROLLER GUIDE

Roller skids in specific class and pre-load variable according to the application. Oil or grease lubrication. Speed up to 40 mt/1'. Excellent dynamic performance.



SLIDEWAY

Made in C45 steel, hardened and ground. Coupled to anti-friction material (turcite). Oil or grease lubrication or lubrication through air-oil mixture. Available also in hydrostatic version. Speeds up to 15 mt/1'. High axis rigidity and very low vibrations.



ROLLER GUIDE

Roller skids in specific class and pre-load variable according to the application. Oil or grease lubrication. Speed up to 40 mt/1'. Excellent dynamic performance.



SERIES

DCNI_ST / DCNT_ST / DCMT_ST

TIGHTENING SYSTEM

ROTATION

CLAMPING CYLINDER

Axial-action hydraulic system. Operating pressure 30 bar. Zero mechanical deformations. High tightening torques.

DCNI / DCNO / DCRB
DCMT / DCNT

TRANSLATION

SLIDEWAY

TIGHTENING PISTON

Hydraulic system. Tightening pressure 50 bar. Zero mechanical deformations. High tightening force

ROLLER GUIDE

TIGHTENING SKID

Hydraulic system. Tightening pressure 100 bar. Zero mechanical deformations. High tightening force

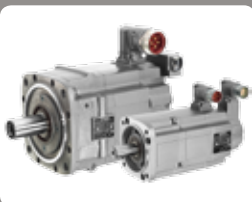
DCNT_ST / DCMT_ST / DCNI_ST

EQUIPMENT

ROTATION

MOTORS

The axes are driven by brushless permanent magnet motors, with different features and performance according to the application. Axis motors for milling, spindle motors or torque motors for turning and milling.



MEASUREMENT SYSTEM

Rotary transducer (encoder) applied to the rotation axis. Available in single or multi-turn versions with different precision scales.



DCNI / DCNO / DCNT
DCMT / DCRB / DCRT

DCNI / DCNO / DCNT
DCMT / DCRB

TRANSLATION

MOTORS

The axes are driven by brushless permanent magnet motors in the version with mechanical drive and by linear motors in the direct drive version.



MEASUREMENT SYSTEM

Linear transducer (optical scale) available in single or multi-turn versions with different precision scales.



DCNT_ST / DCMT_ST / DCNI_ST

CNC MILLING ROTARY TABLES

DCNI series

Special features

- Interpolation and positioning milling on CNC machine tools
- Mechanical rotation drive with one or two worm screws
- Rotation on hydrostatic bearing or combined roller bearing
- Direct position measuring system
- Available in bench and recessed versions
- Available in palletized version

MODELS		DCNI 25	DCNI 40	DCNI 50	DCNI 75	DCNI 90	DCNI 100	DCNI 125	
Plate size	mm	Ø 250 Ø 300	Ø 400	Ø 500 Ø 600	Ø 800 Ø 900	Ø 900 Ø 1000	Ø 1000 Ø 1200 1000x1200	Ø 1200 1200x1500	
Loading capacity	Kg	300	500	1000	3000	5000	7000	8000 10000	
Rotation speed	rpm	12	8	8	6	5	5	4	
Nominal working torque *	Nm	300	600	1000	2500	4000	6000	7000	
Blocking torque	Nm	400	800	2000	4000	5000	7000	9000	
Tilting torque	Nm	1000	1500	2500	5000	7000	9000	9000	
Angle resolution		0,001°							
Positioning accuracy	arcsec	± 5						± 5 / ± 2	
Geometric accuracy	mm	≤ 0,015	≤ 0,020		≤ 0,025		≤ 0,030		
Approx. weight	Kg	200	350	500	1200	1400	1800	2200	
				600	1400	1700	2100	2500	

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotary plate in lamellar cast iron with T slots. Table base in lamellar cast iron designed for anchoring on foundation or work surface. Rotation on combined roller bearing (up to the DCNI200ST model). Rotation on hydrostatic bearing (DCNI250ST and DCNI300ST models). Mechanical drive with worm screw acti-

vated by a brushless motor. Mechanical backlash recovery system on the worm screw. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Oil bath lubrication of worm screw. Air-oil mixture lubrication of bearing (for version with roller bearing). Hydrostatic support of the tilting and counterbalanced plate (for version with hydrostatic bearing). Designed for pressurization of table compartment, cas-



Image:
Model DCNI 125
Size 1200x1500

	DCNI 150	DCNI 165	DCNI 175	DCNI 200	DCNI 250	DCNI 300
	Ø 1500	Ø 1800	Ø 1800	Ø 2000	Ø 3000	Ø 3000
	Ø 1600	Ø 2000	Ø 2000	Ø 2500	Ø 3500	Ø 4000
	1500x1700	1700x2000	2000x2200	2000x2500	3000x3500	3500x4000
	10000	10000	20000	30000	50000	80000
	12000	15000		40000	80000	100000
	4	3	2,5	2	1,5	1
	13500	17000	20000	30000	50000	70000
	15000	20000	25000	40000	60000	80000
	15000	25000	40000	70000	100000	150000
	0,001° / 0,0005°				0,0005°	
	± 2 / ± 1				± 1	
	≤ 0,040				≤ 0,050	≤ 0,060
	3000	5000	7000	10000	17000	25000
	4000	6000	8500	13000	22000	30000



Image:
Model DCNI 50
Size Ø 500

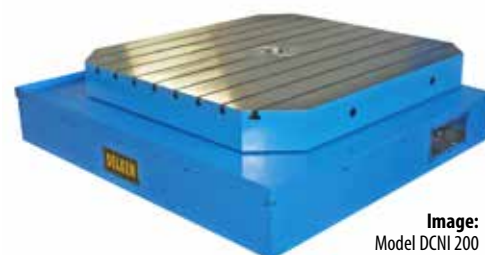


Image:
Model DCNI 200
Size 2000x2500



Image:
Detail of pallet system
and central distributor

ing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Variations

Rotation on hydrostatic bearing for all models. Mechanical drive with two worm screws activated by independent motors (variation for the electronic backlash recovery in master-slave mode). Increased load capacity. Palletizing system. Central distributor.

CNC MILLING ROTARY TABLES

DCNO Series

Special features

- Interpolation and positioning milling on CNC machine tools
- Mechanical rotation drive with one or two worm screws
- Rotation on combined roller bearing or hydrostatic bearing
- Direct position measuring system
- Available in the version with through-hole
- Available in the horizontal/vertical version

MODELS		DCNO 25	DCNO 40	DCNO 50	DCNO 75	DCNO 90	DCNO 100	
Plate size	mm	Ø 250 Ø 300	Ø 400	Ø 500 Ø 600	Ø 800 Ø 900	Ø 900 Ø 1000	Ø 1000 Ø 1200	
Center height	mm	150 225	225 300	300 400	450 600	500 700	550 800	
Cantilever loading capacity *	Kg	200	300	500	1000	1500	2500	
Loading capacity with tailstock *	Kg	300	500	800	3000	4000	6000	
Maximum rotation speed	rpm	10	8	8	6	5	5	
Nominal working torque *	Nm	300	600	1000	2500	4000	6000	
Blocking torque	Nm	400	800	2000	4000	5000	7000	
Tilting torque	Nm	500	1000	1500	3000	4000	6000	
Angle resolution		0,001°						
Positioning accuracy	arcsec	± 5						± 5 / ± 2
Geometric accuracy	mm	≤ 0,015	≤ 0,020		≤ 0,025		≤ 0,030	
Approx. weight	Kg	250	400	600 700	1500 1600	1700 1900	2200 2500	

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotary plate in lamellar cast iron with T slots. Table base in lamellar cast iron designed for anchoring on foundation or work surface. Rotation on combined roller bearing. Mechanical drive with worm screw activated by a brushless motor. Mechanical backlash recovery system on the worm screw. Position control through measurement system applied to the rotation axis. Hydraulic axial-ac-

tion blockage of axis. Oil bath lubrication of worm screw. Air-oil mixture lubrication of bearing. Designed for pressurization of table compartment, casing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.



Image:
Model DCNO 150
Size Ø 1500



Image:
Detail of
through-hole option

	DCNO 125	DCNO 150	DCNO 165	DCNO 175	DCNO 200
	Ø 1200	Ø 1500 Ø 1600	Ø 1800 Ø 2000	Ø 1800 Ø 2000	Ø 2000 Ø 2500
	650 800	800 1000	1000 1200	1000 1200	1100 1400
	4000	6000	10000	15000	20000
	10000	15000	25000	30000	40000
	4	4	3	3	2
	7000	13500	17000	20000	30000
	9000	15000	20000	25000	40000
	8000	12000	20000	30000	50000
0,001° / 0,0005°					
			± 2 / ± 1		
			≤ 0,040		
	2800	3800 4200	6500 7500	9000 10500	13000 15000



Image:
Model DCNO 50
Size Ø 500



Image:
Model DCNO 90
Size Ø 1000x1000

Variations

Rotation on tilting and counterbalanced hydrostatic bearing for all models. Mechanical drive with two worm screws activated by independent motors (variation for the electronic backlash recovery in master-slave mode). Increased load capacity. Through-hole at the center of the table. Central distributor.

CNC MILLING ROTO-TRANSLATING TABLES

DCNI_ST Series

Special features

- Interpolation and positioning milling on CNC machine tools
- Configuration for W axis (positioning) or X axis (interpolation)
- Mechanical rotation drive with one or two worm screws
- Translation mechanical drive with recirculating-ball screw or rack
- Rotation on hydrostatic bearing or combined roller bearing
- Translation on slideways or roller guides
- Direct position measuring system
- Available in the palletized version

MODELS			DCNI 50 ST	DCNI 75 ST	DCNI 90 ST	DCNI 100 ST	DCNI 125 ST	DCNI 150 ST	
Plate size	mm		Ø 500	Ø 800	Ø 900	Ø 1000	Ø 1200	Ø 1500	
			Ø 600	Ø 900	Ø 1000	1000x1200 Ø 1200	1200x1500	Ø 1600 1500x1700	
Loading capacity	Kg		1000	3000	5000	7000	8000 10000	10000 12000	
Translation stroke	mm		500÷1500		1000÷3000				
Rotation speed	rpm		8	6	5	5	4	4	
Translation speed	Slideway	Rpm	20	20	15	15	15	12	
	Roller guide		50	40	30	30	25	20	
Nominal working torque *	Nm		1000	2500	4000	6000	7000	13500	
Blocking torque	Nm		2000	4000	5000	7000	9000	15000	
Tilting torque	Nm		2500	5000	7000	9000	9000	15000	
Angle resolution			0,001°			0,001° / 0,0005°			
Angle positioning accuracy		arcsec	± 5			± 5 / ± 2			
Linear positioning accuracy		mm	± 0,01/± 0,005						
Geometric accuracy		mm	≤ 0,020	≤ 0,025		≤ 0,030			

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotation axis: Rotary plate in lamellar cast iron with T slots. Table base in lamellar cast iron with integrated guides. Rotation on combined roller bearing (up to the DCNI200ST model). Rotation on hydrostatic bearing (DCNI250ST and DCNI300ST models). Mechanical drive with worm screw activated by a brushless motor. Mechanical backlash recovery system on the worm screw. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Oil bath lubrication of worm screw. Air-oil mixture lubrication of bearing (for version with roller bearing). Hydrostatic support of the tilting and

counterbalanced plate (for version with hydrostatic bearing). Designed for pressurization of table compartment, casing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Translation axis: Bench in electro-welded steel, designed for fixing on foundation. Translation on roller guides. Screw mechanical drive with circulation of rollers activated by a brushless motor, for strokes up to 5000 mm. Mechanical drive on rack and pinion activated by brushless motor, for strokes higher than 5000

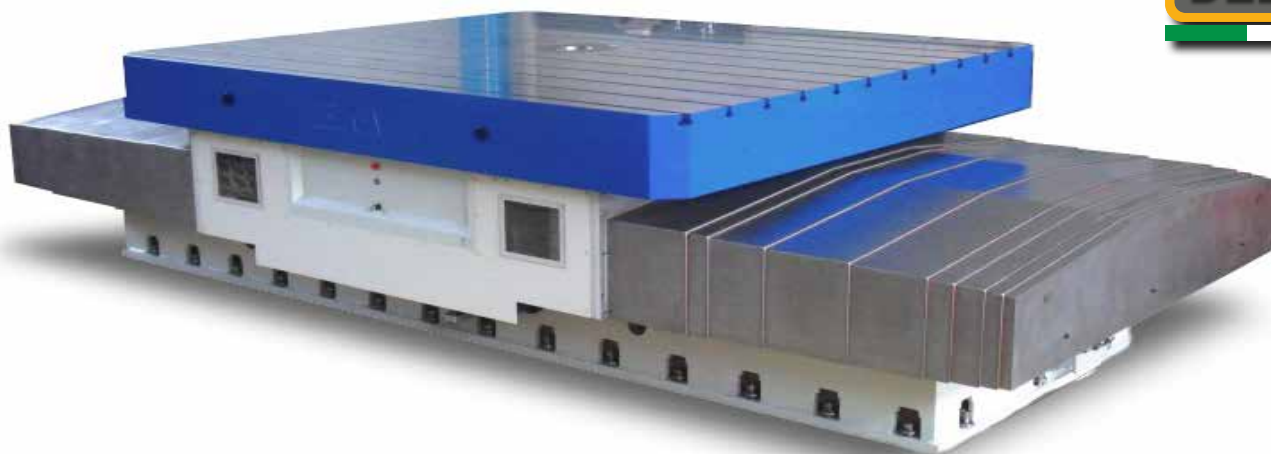


Image:
Model DCNI 250 ST
Size Ø 3000x3500
Stroke 2500

	DCNI 165 ST	DCNI 175 ST	DCNI 200 ST	DCNI 250 ST	DCNI 300 ST
	Ø 1800	Ø 1800	Ø 2000	Ø 3000	Ø 3000
	Ø 2000	Ø 2000	Ø 2500	Ø 3500	Ø 4000
	1700x2000	2000x2200	2000x2500	3000x3500	3500x4000
	10000		30000	50000	80000
	15000	20000	40000	80000	100000
	1000÷5000		1500÷8000		
	3	2,5	2	1,5	1
	12	10	10	8	8
	20	15	15	12	12
	17000	20000	30000	50000	70000
	20000	25000	40000	60000	80000
	25000	40000	70000	100000	150000
				0,0005°	
	± 2 / ± 1			± 1	
	≤ 0,040			≤ 0,050	≤ 0,060



Image:
Model DCNI 200 ST
Pallet Ø 3000
Stroke 2500



Image:
Model DCNI 50 ST
Size 500x500
Stroke 3000



Image:
Model DCNI 100 ST
Size 1200x1200
Stroke 2500

mm. Hydraulic blockage of axis. Grease lubrication (W axis) or oil lubrication (X axis) of skids and recirculating-ball screw. Position control through linear optical measurement system. Electric cabling of components with catenary passage and branch on multi-pole connectors. Telescopic protection covers in sheet metal. Painting with bi-component polyurethane enamel.

Variations

Rotation axis: Rotation on hydrostatic bearing for all models. Mechanical drive with two worm screws activated by independent motors (variation for the electronic backlash recovery in master-slave mode). Increased load capacity. Palletizing system. Central distributor.

Translation axis: Translation on slideways. Drive with two pinions activated by independent motors (variation for the electronic backlash recovery in master-slave mode).

CNC TURNING AND MILLING ROTARY TABLES/MECHANICAL TABLES

DCNT Series

Special features

- Interpolation or positioning milling on CNC machine tools
- Turning on CNC machine tools
- Mechanical drive with one or two electronically pre-charged pinions
- Rotation on roller/ball bearing or hydrostatic bearing.
- Direct position measuring system
- Available in the bench or recessed versions
- Available in the palletized version



Image:
Model DCNT 150
Size Ø 1600

MODELS		DCNT 75	DCNT 100	DCNT 150	DCNT 175	DCNT 200	DCNT 250	DCNT 300
Plate size	Nm	Ø 800 Ø 900	Ø 1000 Ø 1200	Ø 1300 Ø 1600	Ø 1800 Ø 2000	Ø 2200 Ø 2500	Ø 2700 Ø 3000	Ø 3500 Ø 4000
Loading capacity	Kg	2000	5000	8000	12000	15000	20000	30000
Max. rotation speed	rpm	500	400	300	200	150	120	80
Nominal installed power *	Kw	15	25	35	50	65	100	150
Nominal working torque *	Nm	2000	5000	8000	15000	20000	25000	35000
Blocking torque	Nm	4000	7000	15000	25000	40000	60000	80000
Tilting torque	Nm	3000	5000	10000	20000	35000	50000	70000
Angle resolution		0,001°	0,001° / 0,0005°				0,0005°	
Positioning accuracy	arcsec	± 5	± 5 / ± 2				± 1	
Geometric accuracy	mm	≤ 0,025	≤ 0,030		≤ 0,040		≤ 0,050	≤ 0,070
Approx. weight	Kg	2000	3000	5000 6000	9000 11000	13000 15000	20000 23000	30000 35000

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotary plate in lamellar or spheroidal cast iron with T slots. Table base in lamellar cast iron or electro-welded steel, designed for anchoring on foundation or work surface. Rotation on combined roller or ball bearing. Mechanical drive made up of spindle motor, gearbox and one or two pinions. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Oil lubrication of drive and bearing. Oil cooling system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Variations

Mechanical drive with two pinions activated by independent motors (variation for the electronic backlash recovery in master-slave mode). Increased load capacity. Manual or automatic clamps. Palletizing system. Central distributor.

CNC TURNING AND MILLING ROTARY TABLES/DIRECT DRIVE



DCMT Series

Special features

- Interpolation milling version on CNC machine tools (**DCMT_F**)
- Turning and milling version on CNC machine tools (**DCMT_T**)
- Direct motion drive through torque motor
- Rotation on combined roller or ball bearing
- Direct position measuring system on the axis
- Available in the bench or recessed versions
- Available in the palletized version



Image:
Model DCMT 150
Size Ø 1500

MODELS		DCMT 25	DCMT 50	DCMT 75	DCMT 90	DCMT 100	DCMT 150	DCMT 175	DCMT 200
Plate size	mm	Ø 250 Ø 350	Ø 500 Ø 600	Ø 800	Ø 1000	Ø 1200	Ø 1500 Ø 1600	Ø 1800 Ø 2000	Ø 2200 Ø 2500
Loading capacity	Kg	200	1000	3000	5000	7000	10000	15000	20000
MILLING VERSION Max. rotation speed	rpm	150	120	80	60	40	30	20	10
TURNING AND MILLING VERSION Max. rotation speed	rpm	600	500	500	400	400	300	200	150
Nominal power *	Kw	3	8	15	20	30	50	75	100
Nominal working torque *	Nm	200	500	1500	2500	4000	8000	12000	20000
Blocking torque	Nm	400	2000	4000	5000	7000	15000	25000	40000
Tilting torque	Nm	500	1500	3000	4000	5000	10000	20000	35000
Angle resolution		0,001°			0,001° / 0,0005°				
Positioning accuracy	arcsec	± 5			± 5 / ± 2			± 2 / ± 1	
Geometric accuracy	mm	≤ 0,020		≤ 0,025		≤ 0,030		≤ 0,040	
Approx. weight	Kg	300	600	1500	2000	3000	5000	10000	14000

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotary plate in lamellar or spheroidal cast iron with T slots. Table base in lamellar cast iron, designed for anchoring on foundation or work surface or recessed in the bench. Rotation on combined roller or ball bearing. Direct motion drive through water-cooled torque motor. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Bearing lubrication through oil or air-oil mixture. Designed for pressurization of table compartment, casing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Variations

Increased load capacity. Motor general performance designed for specific applications. Manual or automatic clamps. Palletizing system. Central distributor.

CNC TURNING AND MILLING ROTO-TRANSLATING TABLES/MECHANICAL TABLES

DCNT_ST Series

Special features

- Interpolation or positioning milling on CNC machine tools
- Turning on CNC machine tools
- Configuration for W axis (positioning) or X axis (interpolation)
- Mechanical drive with one or two electronically pre-charged pinions
- Rotation on roller/ball bearing or hydrostatic bearing
- Translation on slideways or roller guides
- Direct position measuring system
- Available in the palletized version



Image:
Model DCNT 250 ST
Size Ø 3000
Stroke 2000

MODELS		DCNT 75 ST	DCNT 100 ST	DCNT 150 ST	DCNT 175 ST	DCNT 200 ST	DCNT 250 ST	DCNT 300 ST
Plate size	mm	Ø 800	Ø 1000	Ø 1300	Ø 1800	Ø 2200	Ø 2700	Ø 3500
		Ø 900	Ø 1200	Ø 1600	Ø 2000	Ø 2500	Ø 3000	Ø 4000
Loading capacity	Kg	2000	5000	8000	12000	15000	20000	30000
Translation stroke	mm	800÷3000				1500÷8000		
Rotation speed	rpm	500	400	300	200	150	120	80
Translation speed	Slideway	20	15	12	10	10	8	8
	Roller guide	40	30	20	15	15	12	12
Nominal power*	Nm	15	25	35	50	65	100	150
Nominal working torque *	Nm	2000	5000	8000	15000	20000	25000	35000
Blocking torque	Nm	4000	7000	15000	25000	40000	60000	80000
Tilting torque	Nm	3000	5000	10000	20000	35000	50000	70000
Angle resolution		0,001°	0,001° /0,0005°				0,0005°	
Angle positioning accuracy	arsec	± 2	± 5 / ± 2				± 1	
Linear positioning accuracy	mm	± 0,01/± 0,005						
Geometric accuracy	mm	≤ 0,025	≤ 0,030		≤ 0,040		≤ 0,050	≤ 0,060

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotation axis: Rotary plate in lamellar or spheroidal cast iron with T slots. Table base in lamellar cast iron or electro-welded steel, with integrated guides. Rotation on combined roller or ball bearing. Mechanical drive made up of spindle motor, gearbox and one or two pinions. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Oil lubrication of drive and bearing. Oil cooling system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Translation axis: Bench in electro-welded steel, designed for fixing on foundation. Translation on roller guides. Screw mechanical drive with circulation of rollers activated by a brushless motor, for strokes up to 5000 mm. Mechanical drive on rack and pinion activated by brushless motor, for strokes higher than 5000 mm. Hydraulic blockage of axis. Grease lubrication (W axis) or oil lubrication (X axis) of skids and recirculating-ball

screw. Position control through linear optical measurement system. Electric cabling of components with catenary passage and branch on multi-pole connectors. Telescopic protection covers in sheet metal. Painting with bi-component polyurethane enamel.

Variations

Rotation axis: Mechanical drive with two pinions activated by independent motors (variation for the electronic backlash recovery in master-slave mode). Increased load capacity. Manual or automatic clamps. Palletizing system. Central distributor.

Translation axis: Translation on slideways. Drive with two pinions activated by independent motors (variation for the electronic backlash recovery in master-slave mode).

CNC TURNING AND MILLING ROTO-TRANSLATING TABLES/DIRECT DRIVE

DELKEN

DCMT_ST Series

Special features

- Interpolation milling version on CNC machine tools (**DCMTF_ST**)
- Turning and milling version on CNC machine tools (**DCMTT_ST**)
- Direct motion drive through torque motor a/o linear motor
- Rotation on combined roller or ball bearing
- Configuration for W axis (positioning) or X axis (interpolation)
- Translation on slideways or roller guides
- Direct position measuring system
- Available in the palletized version



Image:
Model DCMT 100 ST
Size Ø 1200
Stroke 1500

MODELS		DCMT 50 ST	DCMT 75 ST	DCMT 90 ST	DCMT 100 ST	DCMT 150 ST	DCMT 175 ST	DCMT 200 ST
Plate size	Nm	Ø 500 Ø 600	Ø 800	Ø 1000	Ø 1200	Ø 1500 Ø 1600	Ø 1800 Ø 2000	Ø 2200 Ø 2500
Loading capacity	Kg	1000	3000	5000	7000	10000	15000	20000
Translation stroke	mm	800÷3000				1500÷8000		
MILLING VERSION Max. rotation speed	rpm	120	80	60	40	30	20	10
TURNING AND MILLING VERSION Max. rotation speed	rpm	600	500	400	400	300	200	150
Translation speed	Slideway Roller guide	Rpm	20	20	15	15	12	10
			50	40	30	30	20	15
Nominal power *	Kw	8	15	20	30	50	75	100
Nominal working torque *	Nm	500	1500	2500	4000	8000	12000	20000
Blocking torque	Nm	2000	4000	5000	7000	15000	25000	40000
Tilting torque	Nm	1500	3000	4000	5000	10000	20000	35000
Angle resolution		0,001°		0,001° / 0,0005°				
Angle positioning accuracy	arcsec	± 5		± 5 / ± 2			± 2 / ± 1	
Linear positioning accuracy	mm	± 0,01/± 0,005						
Geometric accuracy	mm	≤ 0,020	≤ 0,025		≤ 0,030		≤ 0,040	

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotation axis: Table plate in lamellar or spheroidal cast iron with T slots. Table base in lamellar cast iron, designed for anchoring on foundation. Rotation on combined roller or ball bearing. Direct motion drive through water-cooled torque motor. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Bearing lubrication through oil or air-oil mixture. Designed for pressurization of table compartment, casing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Translation axis: Bench in electro-welded steel, designed for fixing on foundation. Translation on roller guides. Screw mechanical drive with circulation of rollers activated by a brushless motor, for strokes up to 5000 mm. Mechanical drive on rack and pinion activated by brushless motor, for strokes higher than 5000

mm. Hydraulic blockage of axis. Grease lubrication (W axis) or oil lubrication (X axis) of skids and recirculating-ball screw. Position control through linear optical measurement system. Electric cabling of components with catenary passage and branch on multi-pole connectors. Telescopic protection covers in sheet metal. Painting with bi-component polyurethane enamel.

Variations

Rotation axis: Increased load capacity. Motor general performance designed for specific applications. Manual or automatic clamps. Palletizing system. Central distributor.

Translation axis: Translation on slideways. Direct drive through linear motor. Drive with two pinions activated by independent motors (variation for the electronic backlash recovery in master-slave mode).

CNC MILLING ROTO-TILTING TABLES

DCRB Series

Special features

- Interpolation or positioning milling on CNC machine tools
- Version with mechanical motion drive with worm screw (**DCRB_M**)
- Version with direct motion drive through torque motor (**DCRB_T**)
- Rotation on combined roller bearing
- Direct position measuring system

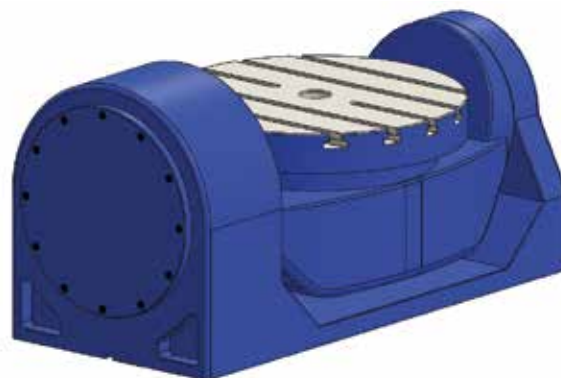


Image:
Model DCRB 50 T
Size Ø 600

MODELS		DCRB 25	DCRB 50	DCRB 75	DCRB 100	DCRB 150	DCRB 200
Plate size	mm	Ø 250	Ø 500	Ø 800	Ø 1000	Ø 1500	Ø 2000
Loading capacity	Kg	300	1000	2500	4000	7000	10000
Center height	mm	200	350	500	600	750	900
Tilting angle	Torque	-100°÷100° -10°÷90°					
	Mechanical						
Rotation speed	Torque	150	120	80	40	30	10
	Mechanical rpm	12	8	6	5	4	2
Tilting speed	rpm	3	2,5	1,5	1,5	1	0,5
Nominal rotation torque *	Nm	200	500	1500	3000	5000	10000
Nominal tilting torque *	Nm	500	1500	4000	8000	15000	25000
Rotation blocking torque	Nm	400	2000	4000	7000	15000	25000
Tilting blocking torque	Nm	1000	3000	5000	10000	20000	30000
Angle resolution		0,001°					
Positioning accuracy	arsec	± 5			± 5 / ± 2		± 2 / ± 1
Geometric accuracy	mm	≤ 0,020		≤ 0,025		≤ 0,030	≤ 0,040
Approx. weight	Kg	400	1500	3000	5000	9000	18000

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotation axis: Rotary plate in lamellar cast iron with T slots. Table base in lamellar cast iron. (1) Mechanical motion drive with worm screw activated by a brushless motor. Mechanical backlash recovery system on the worm screw. Oil bath lubrication of worm screw. (2) Direct motion drive through water-cooled torque motor. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Air-oil mixture lubrication of bearing. Designed for pressurization of table compartment, casing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Tilting axis: Structure in lamellar cast iron or electro-welded steel, designed for fixing on foundation or work surface. Tilting on combined roller bearings. (1) Mechanical motion drive with worm screw activated by a brushless motor.

Mechanical backlash recovery system on the worm screw. Oil bath lubrication of worm screw. (2) Direct motion drive through water-cooled torque motor. Position control through measurement system applied to the rotation axis. Hydraulic axial-action blockage of axis. Grease lubrication of bearings. Designed for pressurization of table compartment, casing and measurement system. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Variations

Increased load capacity. Specific tilting angle. Mechanical drive with two worm screws activated by independent motors (variation for the electronic backlash recovery in master-slave mode).

CNC GRINDING ROTARY TABLES

DCRT Series

Special features

- Grinding on CNC machine tools
- Combined mechanical drive
- Rotation on combined roller bearing
- Available in bench and recessed versions



Image:
Model DCRT 75
Size Ø 800

MODELS		DCRT 50	DCRT 75	DCRT 100	DCRT 150	DCRT 200
Plate size	mm	Ø 500	Ø 800	Ø 1000	Ø 1500	Ø 1800
		Ø 600	Ø 900	Ø 1200	Ø 1600	Ø 2000
Loading capacity	Kg	500	1000	2000	4000	6000
Max. rotation speed	rpm	120	100	80	60	50
Nominal power *	Kw	3	5	5	12	20
Nominal working torque *	Nm	300	600	1000	2500	4000
Geometric accuracy	mm	≤ 0,010	≤ 0,012	≤ 0,015	≤ 0,020	≤ 0,025
Approx. weight	Kg	600	1200	2000	4000	8000

* indicative values

Note: the data contained in the table are indicative, all models can be customized

Configuration

Rotary plate in lamellar cast iron. Table base in lamellar cast iron designed for anchoring on foundation or work surface or recessed in the bench. Rotation on combined roller or ball bearing. Mechanical drive made up of servomotor, bevel gearbox and belt gearbox on the rotation axis. Bearing lubrication through oil or air-oil mixture. Designed for pressurization of table compartment and casing. Sheet metal casing. Electric cabling of components with branch on multi-pole connectors. Painting with bi-component polyurethane enamel.

Variations

Integrated magnetic surface.

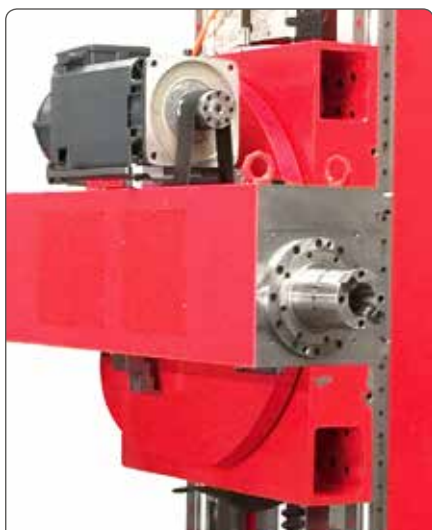
SPECIAL SERIES AND ACCESSORIES



Ø500 torque table + torque spindle with HSK100 taper
Special unit designed for multi-tasking centers



NC Milling roto-translating complete with palletized system
Pallet 1000x1200 – Translation stroke X 2500 mm – Capacity 7 Ton



NC rotary table with double drive with worm screw for electronic backlash recovery and load balancing (RAM)
Special table designed for moving a deep-hole drilling RAM



Tailstock with manual spindle sleeve feed and lever blocking system.
Available as accessory for the rotary tables of DCNO series. Available also in hydraulic version.



Control panel complete with single or dual axis CNC and hydraulic control unit.
Designed for the use of the axes in positioning and programming of simple cycles. Possibility to set "M" functions from the NC machine.



NC tilting table
Plate 600x900 – Capacity 1000 Kg



Ø torque table, palletized and provided with a central distributor with several utilities



Turning and milling torque table, Ø 1000 – 3 Ton. – 300 rpm
Matched to portal milling
Working of aeronautical details



Milling rotary table, 2000x2000 – 20 Ton.,
matched to a mobile column milling machine
Working of general machineries



Milling rotary table, Ø 1500 – 8 Ton.,
matched to a T drilling machine
Working of impellers in energy sector



Milling rotary table, 2000x2000 – 12 Ton.,
matched to a vertical milling center
Working of moulds



Turning and milling rotary table, Ø 4000 – 20 Ton. – 80 Rpm,
matched to a portal milling machine.
Working of details of military sectors



Milling roto-translating table, 1200x1200 – X2500 – 7 Ton.,
matched to a milling machine.
Working of general machineries



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