# Selection Guide for CNC Rotary Tables ... (((\*)))







TORNOS

1/2019 | EN

... for CU serie



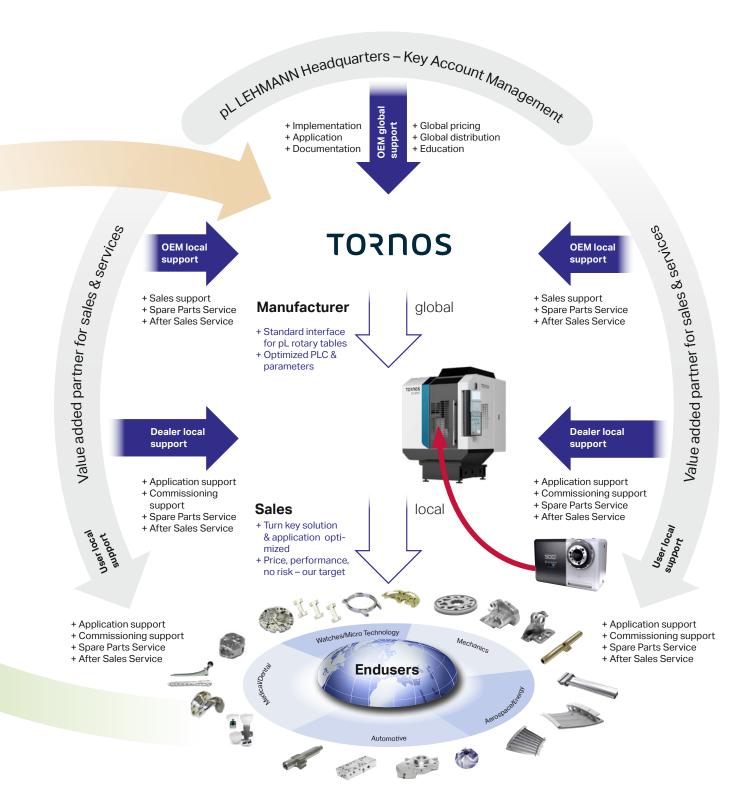
CNC rotary tables for economical manufacturing: pL LEHMANN has suitable and rational solutions for nearly every industry



pL rotary tables in use: on over **40** different machine brands and over **160** different machine models.

pL competence: Integration in **all known** CNC control systems (Fanuc, Siemens, Heidenhain, Haas, Winmax, Mitsubishi, Brother, Mazatrol, Okuma ...), for new machines as well as for retrofits

Professional products from professional partners: TORNOS and pL LEHMANN provide first-class service to common customers





Up to 210 rpm up to 0.21 sec / 90°

**High speed** 

Extended travel in Z- and X-direction

More space

High spindle load, heavy-duty bearing

**Heavy duty** 

# **E-Series**

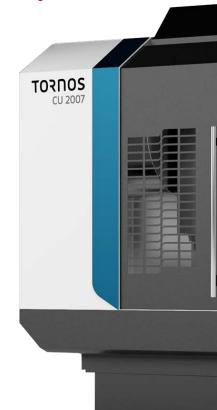




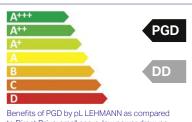


Rotary tables suitable for simultaneous operation!





#### Save energy



Benefits of Poblogic Leminania as compared to Direct Drive: small servo, low power draw, no cooling system, and a significantly reduced energy consumption when machining with unclamped rotary table.

#### Energy label at the left

An intuitive rating as consumption greatly depends on usage, and without any liability assumed, following the directives on energy labelling

See main catalog for more features



Feed torque up to 850 Nm (provisional)

# **Adaptability**

Multifunctional spindle HSK

## **Precision**

On the workpiece, as precise as 2 µm / 100 mm





Pneum. clamping up to 7,000 Nm

**High clamp** 

Large parts up to ø 500

**Big size** 

PGD backlash-free long-life gear unit

No backlash

# **T-Series**











# All base plates made of steel



with integrated hole pattern for slot spacing of 100 and 125 mm, integrated alignment system lineFIX for lengthwise or crosswise clamping.

# **M-Series**



# **Connectivity**

Wireless monitoring, for operation & service



# No adjust

Load change without parameter adjustment



#### **Less cost**

No cooling system, no hydraulics





CU 2007

#### A word from TORNOS:

# «High Precision Swiss Machine Tool Manufacturer

TORNOS is well known for its high quality tailor made solution. We create exclusive solutions meeting your technological specifications. When it leaves production, each machining centre has its own unique characteristics.»



# A solution for all types of workpiece

#### Your challenges are our challenges!

TORNOS offers support throughout your projects. Our specialists are on hand to offer you the best machine and tool configurations for your production. When you purchase a machine, you enter into a partnership with TORNOS, which means delivery of your production tool is only the start. We help you get your new machine up and running to ensure optimal production conditions and maximum efficiency.

The right machine/rotary table combination for economical production: this Selection Guide helps you make the right selection

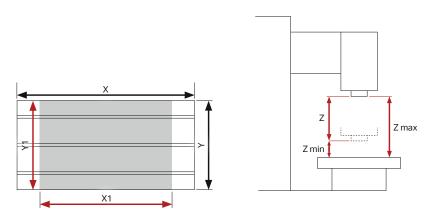


	Table diam	eter [mm]	Permissible		Tra	verse stroke [n	nm]		Table load **
	X	Υ	overhang *	X1	Y1	z	Zmin	Zmax	max [kg]
CU 2007	650	400	30%	500	400	470	150	620	250
CU 3007	850	400	10%	700	400	470	150	620	250

<sup>\*</sup> The recommended rotary tables can overhang the machine table by so many % (e.g. 10 % means: the rotary table length can be greater than dimension Y or X by max. 10 % of the machine width Y with Y-clamping or 10 % of the table length X with X-clamping.)

#### Table explanation for pp. 8-11

	EA-507	EA-510	EA-520	EA-530
	X2	X2	X2	X2
CU 2007	408	392	366	

Wherever values are listed, the combination is recommended. Empty cells mean that a combination is not possible, because the rotary table is too large, or is not recommended, because the rotary table is disproportionately small or heavier than 50% of the table load.

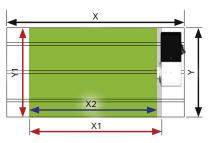


<sup>10 %</sup> of the machine width Y with Y-clamping or 10 % of the table length X with X-clamping.)
\*\* The recommended rotary tables do not exceed 50 % of the allowed table load.

For further details about the rotary tables, see p. 12 and higher or refer to the main catalog



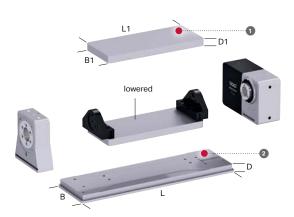
	EA-507	EA-510	EA-520	EA-530
	X2	X2	X2	X2
CU 2007	408	392	366	
CU 3007	608	592	566	



Rotary table installation with pL clamping claws in accordance with the operating manual

#### Clamping yokes for EA-type rotary tables





			EA-	507	EA-	510		EA-520		EA-530	
	Sph	[mm]	190		180		210			218	
Clamping	Length L1	[mm]	350	450	500	600	600	700	800	800	1000
yokes	Width B1	[mm]	165		215		270			270	
	Thickness D1	[mm]	20		35		40			40	
2 Base	Length L	[mm]	622	722	785	885	916	1016	1116	1172	1372
plates	Width B	[mm]	168		248		301			368	
	Thickness D	[mm]	3	0	30		30			38	
Weights /	Weight (AI)	[kg]	10	12	23	28	40	45	52		
moments of	Weight (steel)	[kg]	29	34	66	80	117	130	152		
inertia (without rotary table, without	Mom. inert. (AI)	[kgm <sup>2</sup> ]	0.02	0.02	0.06	0.07	0.16	0.17	0.21	on request	
counter bearing)	Mom. inert. (steel)	[kgm <sup>2</sup> ]	0.04	0.05	0.17	0.21	0.46	0.50	0.60		

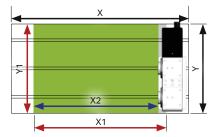
#### Explanations for pp. 8 to 11

The recommendations are for information purposes only. We recommend that you verify the effective dimensions prior to ordering. Modifications on the machine can lead to collisions and affect the dimensions X2 and Y2.



	M2-507	M2-510	M3-507	M3-510
		Х	2	
CU 2007	349	339		
CU 3007				

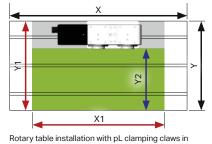
#### Y-mounting



Rotary table installation with pL clamping claws in accordance with the operating manual

	M2-507	M2-510	M3-507	M3-510
		Y	2	
CU 2007			174	164
CU 3007	174	164	174	164

#### X-mounting



accordance with the operating manual

# **Machine combinations with T-type rotary tables**

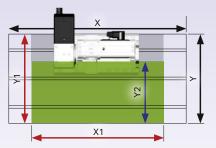
#### Y-mounting



	TIP1c TF-507510 X2	TIP2c TF-510520 X2	TIP3c TF-520530 X2	<b>TAP1c</b> T1-507510 <b>X2</b>	<b>TAP2c</b> T1-510520 <b>X2</b>	<b>TAP3c</b> T1-520530 <b>X2</b>	<b>TAP1</b> T1-507510 <b>X2</b>	<b>TAP2</b> T1-510520 <b>X2</b>	<b>TAP3</b> T1-520530 <b>X2</b>	<b>TOP1</b> T1-507510 <b>X2</b>
CU 2007	445	A2	A2	405	A2	A2	ΛZ	A2	NZ.	A2
CU 3007	110			400						
00 0007										

	<b>TOP2</b> T1-510520	<b>TOP3</b> T1-520530	<b>TAP1c.2</b> T1-507510	<b>TAP2c.2</b> T1-510520	<b>TAP3c.2</b> T1-520530	<b>TAP1.2</b> T1-507510	<b>TAP2.2</b> T1-510520	<b>TAP3.2</b> T1-520530	<b>TOP1.2</b> T2-507510	<b>TOP2.2</b> T2-510520	<b>TOP3.2</b> T2-520530
	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2
CU 2007											
CU 3007											

#### X-mounting

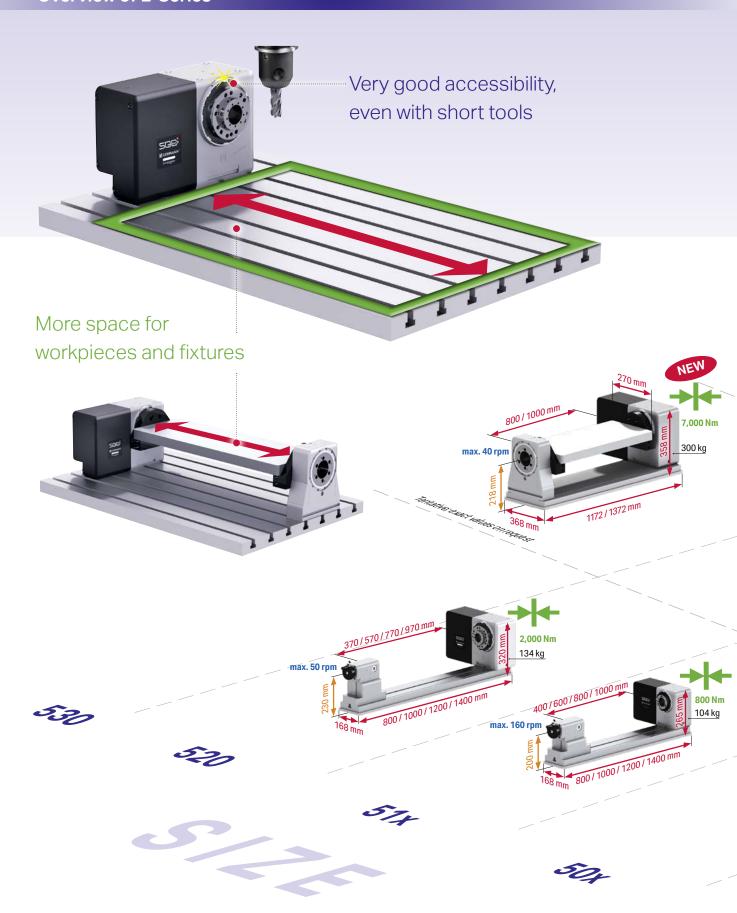






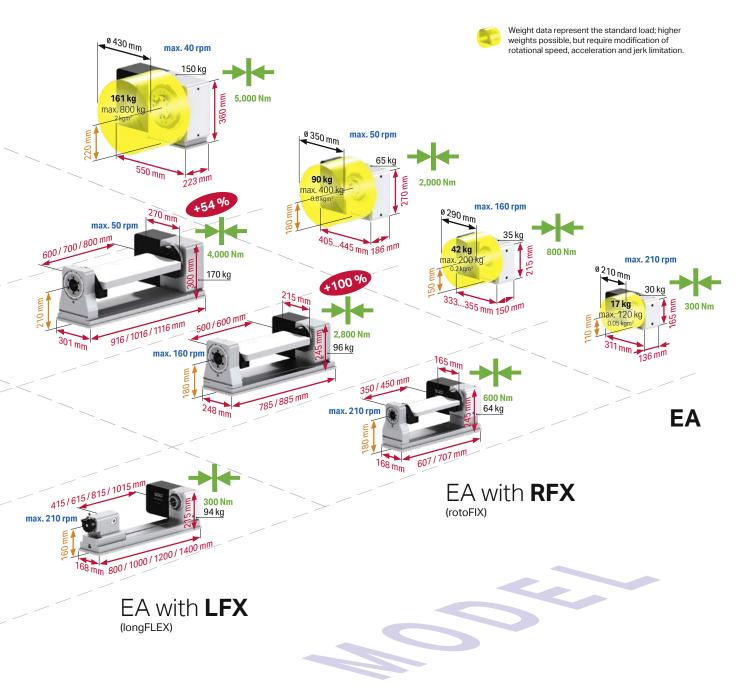
	<b>TIP1c</b> TF-507510	<b>TIP2c</b> TF-510520	<b>TIP3c</b> TF-520530	<b>TAP1c</b> T1-507510	<b>TAP2c</b> T1-510520	<b>TAP3c</b> T1-520530	<b>TAP1</b> T1-507510	<b>TAP2</b> T1-510520	<b>TAP3</b> T1-520530	<b>TOP1</b> T1-507510
	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2
CU 2007		226					230			230
CU 3007	270	226		230			230			230

	<b>TOP2</b> T1-510520	<b>TOP3</b> T1-520530	<b>TAP1c.2</b> T1-507510	<b>TAP2c.2</b> T1-510520	<b>TAP3c.2</b> T1-520530	<b>TAP1.2</b> T1-507510	<b>TAP2.2</b> T1-510520	<b>TAP3.2</b> T1-520530	<b>TOP1.2</b> T2-507510	<b>TOP2.2</b> T2-510520	<b>TOP3.2</b> T2-520530
	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2	Y2
CU 2007			230			230					
CU 3007			230			230			230		



#### **News in brief**

- 1. High speed up to 210 rpm
- 2. Feed torque up to 850 Nm (tentative)
- 3. Steel base plates with hole pattern (suitable for slot spacing of 100 and 125 mm)
- 4. Cycle time 90° as fast as 0.21 sec.

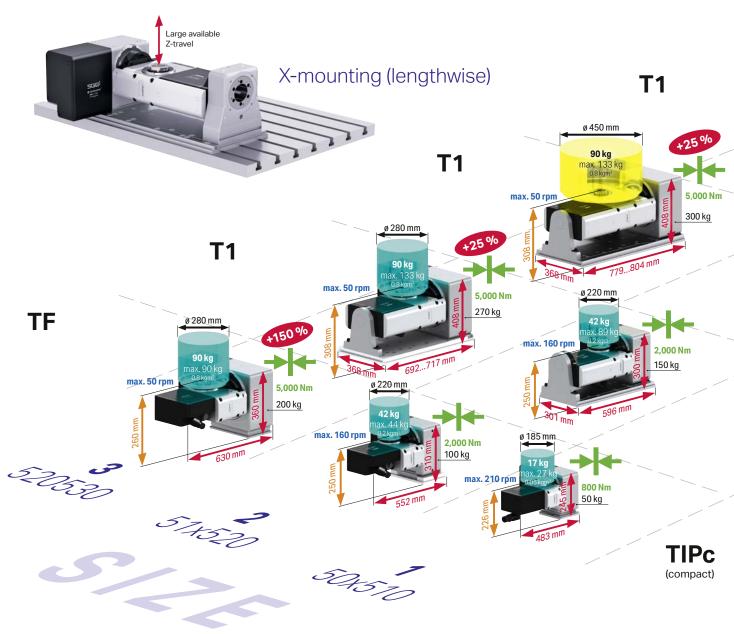


50x
 507 (standard) or 508 (high speed)
 51x
 510 (standard) or 511 (high speed)
 EA single-axis, single-spindle CNC rotary table

rotoFIX modular clamping yoke system longFLEX modular shaft clamping system

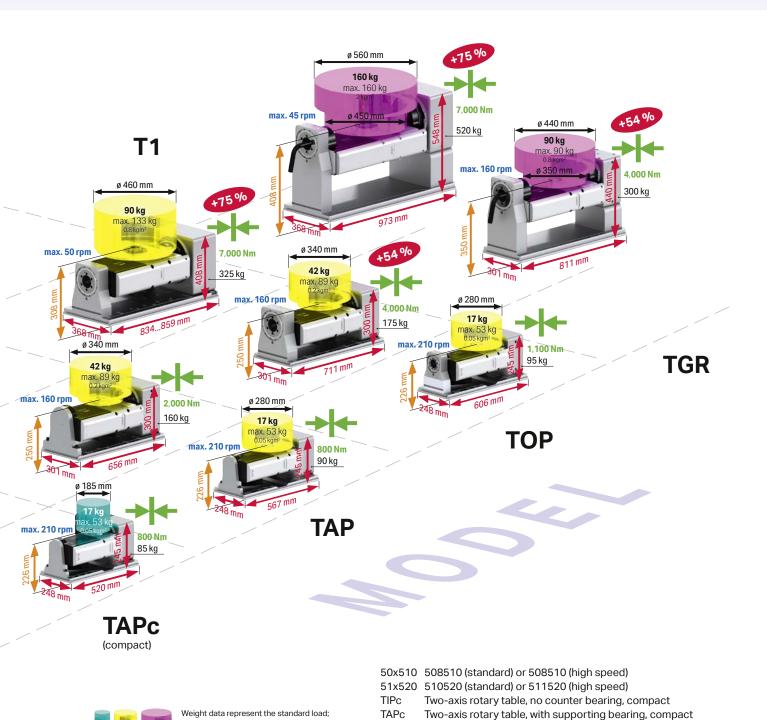






#### **News in brief**

- 1. Up to 150 % higher clamping torque in tilting axis
- 2. Fewer variant more solution
- 3. Larger workpiece ø possible
- 4. Spatially optimized arrangement of the dividing axis



PI LEHMANN®

TAP

TOP

**TGR** 

Two-axis rotary table, with supporting bearing

specifically for grinding applications

Two-axis rotary table, with clamped counter bearing

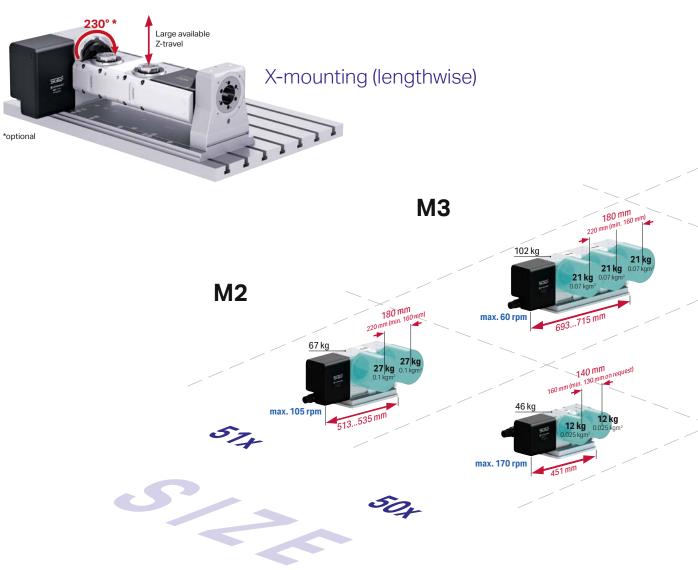
Two-axis rotary table, with clamped counter bearing,

higher weights possible, but require

modification of rotational speed,

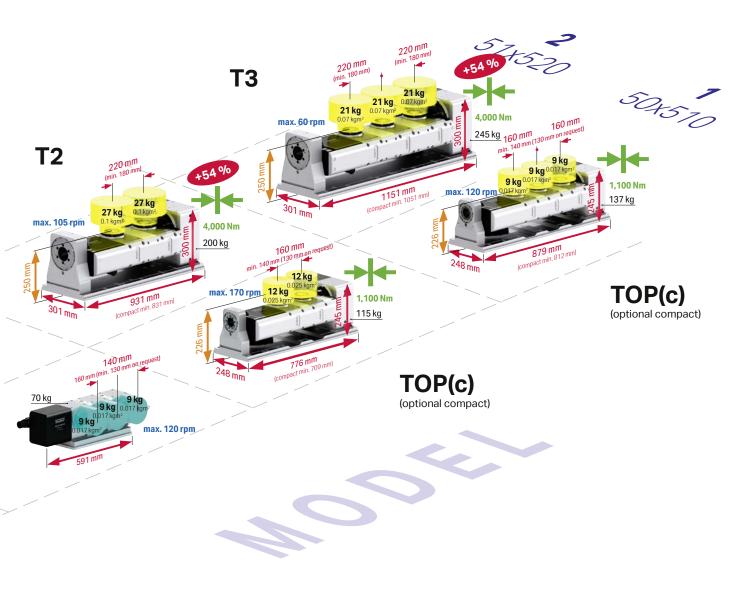
acceleration and jerk limitation.





#### **News in brief**

- 1. Up to 54 % higher clamping torque in tilting axis
- 2. Fewer variant more solution
- 3. Spindle distance min. 130 mm
- 4. Spatially optimized arrangement of the dividing axis





Weight data represent the standard load; higher weights possible, but require modification of rotational speed, acceleration and jerk limitation.

50x 507 (standard) or 508 (high speed)

51x 510 (standard) or 511 (high speed)

M2 Single-axis, multi-spindle rotary table, 2-position

M3 Single-axis, multi-spindle rotary table, 3-position

T2 Two-axis multi-spindle rotary table, 2-position

T3 Two-axis multi-spindle rotary table, 3-position

Extremely wide assortment for workpiece clamping. Standardized interface in front and rear: maximum universality

#### Spindle accessories in rear

- + Rotary unions up to 250 bar
- Clamping cylinder 23 kN at 120 bar



#### Spindle accessories in front



#### Tailstock and counter bearing



#### ripas zero point clamping system



**CAPTO clamping** 

(on request)



EA-507 with CAPTO retrofit kit

Present in over 20 countries: from sales consultation to the final service



**After Sales** 

eShop

Service points in 25 countries PTSE Spare parts worldwide by

In-field support by

flying doctors

#### Services from A to Z

#### Sales & Post **Sales**

- Specified offers for each machine
- Wide range of workpiece clamping systems
- Standardized interfaces

### Commissioning

- Parameter lists
- Machine-specific commissioning instructions
- User manual
- Partner kit
- On-site support



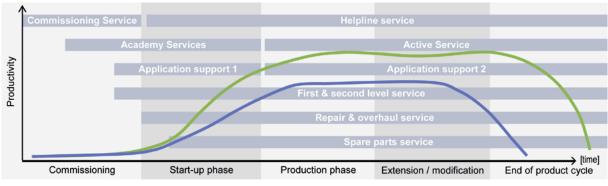
#### **Pre Sales**

- First class literature
- Application drawings 2D
- 3D models
- Example of applications



#### Increase productivity - Extend lifecycle

Comprehensive and professional services throughout the product life cycle - maximum availability with consistent quality and high productivity.



Productivity with LifeCycle service products from pL LEHMANN Productivity without service support

For more information please see www.lehmann-rotary-tables.com.





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Europe

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#### Africa – South Africa



- Headquarters
- O direct sales partner
- OpL Solutions® partner
- o value added reseller & partner
- More information (address, telephone number...) at www.lehmann-rotary-tables.com