Technology that inspires

PRODUCT RANGE

Mechanics | Software | Electronics

Excerpt of the WEISS Product Range

TO ROTARY INDEXING TABLE

freely programmable

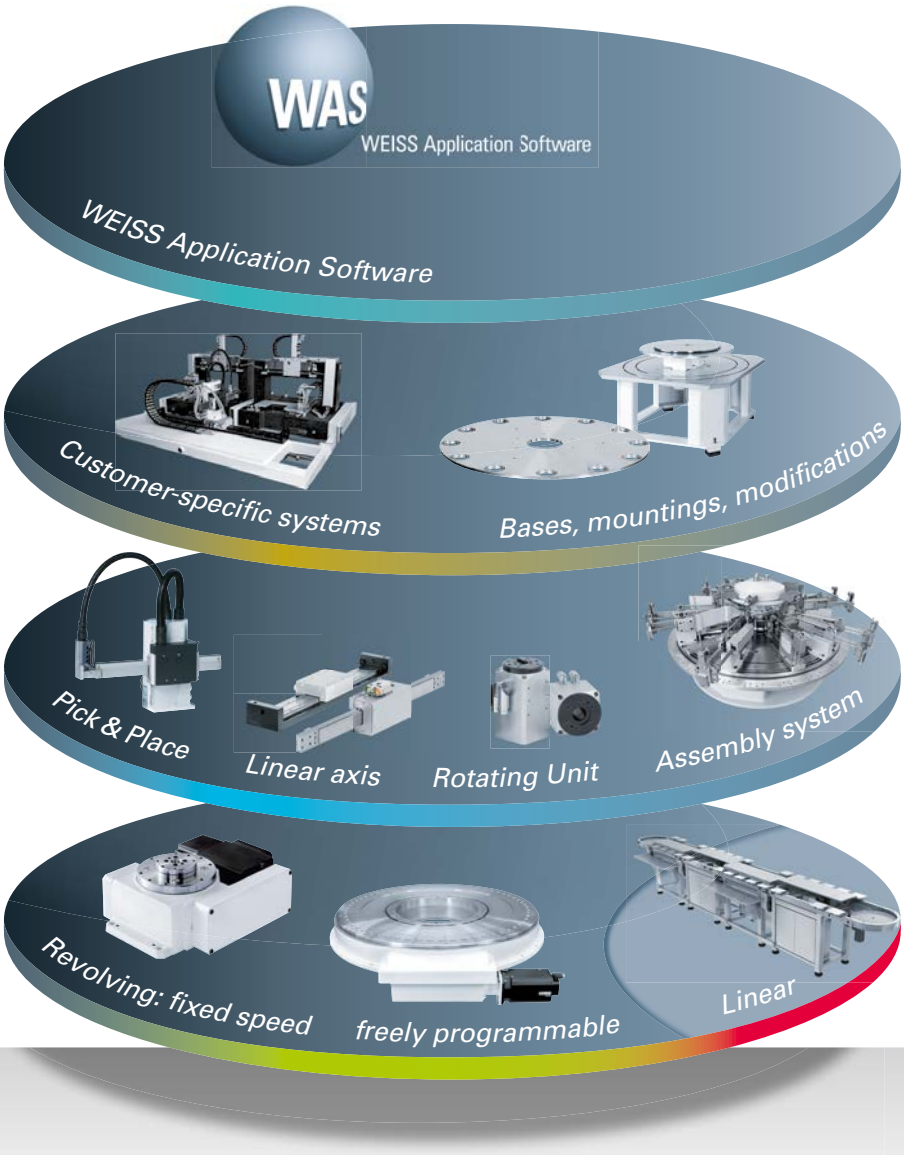
Four steps to perfect automation

4 I would like to commission my installation quickly and efficiently

3 I require machine frames, mounting bases or custom equipment

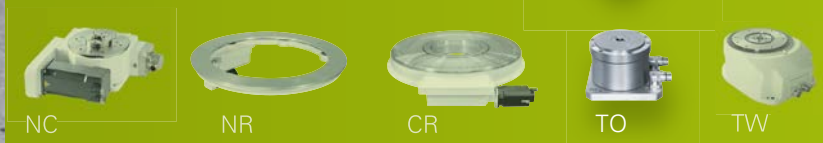
2 I require handling components

1 My transport is...



Fixed position rotary indexing tables

TC rotary indexing table
TR rotary indexing ring



User-programmable rotary indexing tables

NC rotary indexing table NR rotary indexing ring
CR/TH heavy duty ring TO torque rotary indexing table
TW rotary indexing table

Linear assembly system

LS 280

Handling module

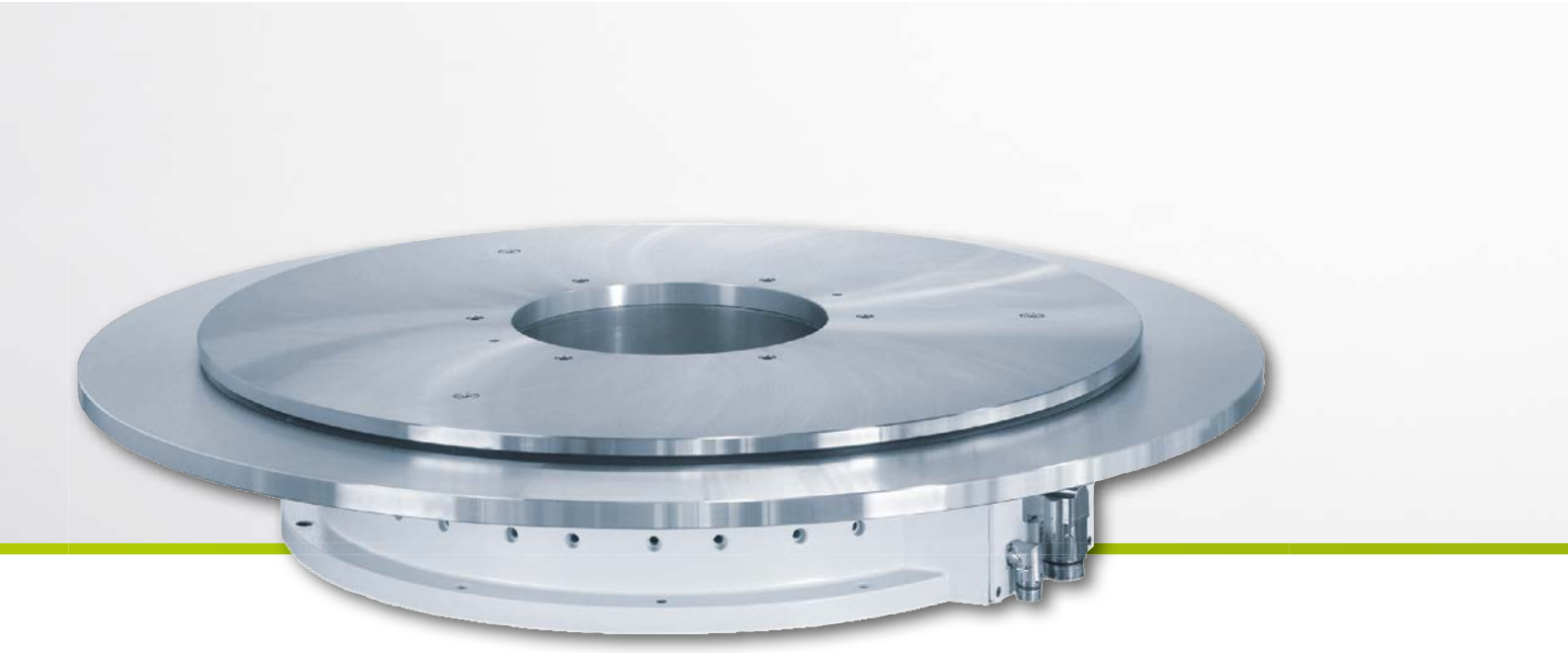
HP Pick&Place HL Linear axis
HG/HN Linear axes ST/SW rotary unit
SH Lifting-rotating unit PM Pick-o-Mat

Customer specific solutions

SR/SK indexing machine bases
Additional indexing plate

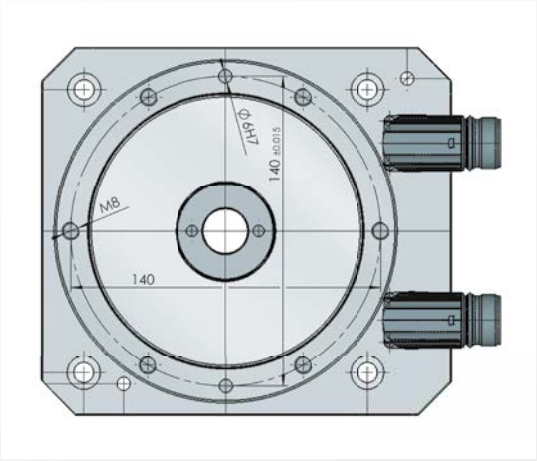
WAS-Software

WEISS Application Software (WAS)



TO torque rotary indexing table: Dynamic, flexible, precise

Direct drive rotary table with impressive dynamics and extremely high degree of repeat accuracy. User-programmable and also suitable for use in clean rooms. The direct drive rotary table allows the shortest switching times at the highest precision. Its ability to cover a significantly more versatile range of tasks – including reuse – helps you tap new added value potential.



Precise and fast mechanical integration through pin holes, secure electrical commissioning through perfect hardware.

Simple integration into existing equipment. Highly dynamic, high-precision and ready-for-installation rotary indexing table solution with unbeatable price-performance.

Cleanroom-certified version also available: The TO 220 CAB CL is certified to air purity class 1 as per US Federal Standard 209E.

The key advantages at a glance:

- *Extremely dynamic*
- *Extremely high repeat accuracy*
- *Absolute measuring system (TO150C/TO220C)*
- *High degree of reliability, long service life*
- *Zero backlash*
- *No wearing parts*
- *Direct, rigid connection of the load to the drive*
- *Overload protection*
- *Absolutely rust-proof design, all surfaces are treated*
- *No cooling devices necessary*
- *Compact design, small footprint, high level of torque*

TO 150C

Technical data

Operating cycles:	upto 600 cpm
Direction of rotation:	any
Max. table speed:	A-Typ: 60 rpm B-Typ: 150 rpm
Weight:	16 kg
Mounting position:	any*
Positioning precision:	± 25“ (on request 15“ improved indexing precision)
Repeatability:	± 8“
Max. flatness of dial plate:	0.01 mm (at Ø 155 mm)
Max. run out:	0.01 mm

* Please consult WEISS for overhead mounting positions.

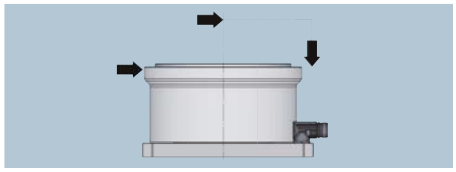
Shaft encoder data

Measurement system:	Heidenhain EnDat ECN 113 (absolute ± 25“)
	or EnDat ECN 225 (absolute ± 15“)

Motor data

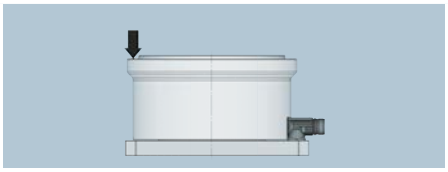
Nom:	15 Nm
Peak:	45 Nm

Load data (for the turnplate)

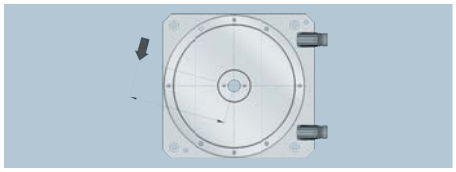


Permissible tilting moment acting on the locked dial plate **600 Nm**

Permissible radial force acting on the locked dial plate **10000 N**



Permissible operating force (acting vertically on the locked dial plate within the nominal Ø) **6000 N**

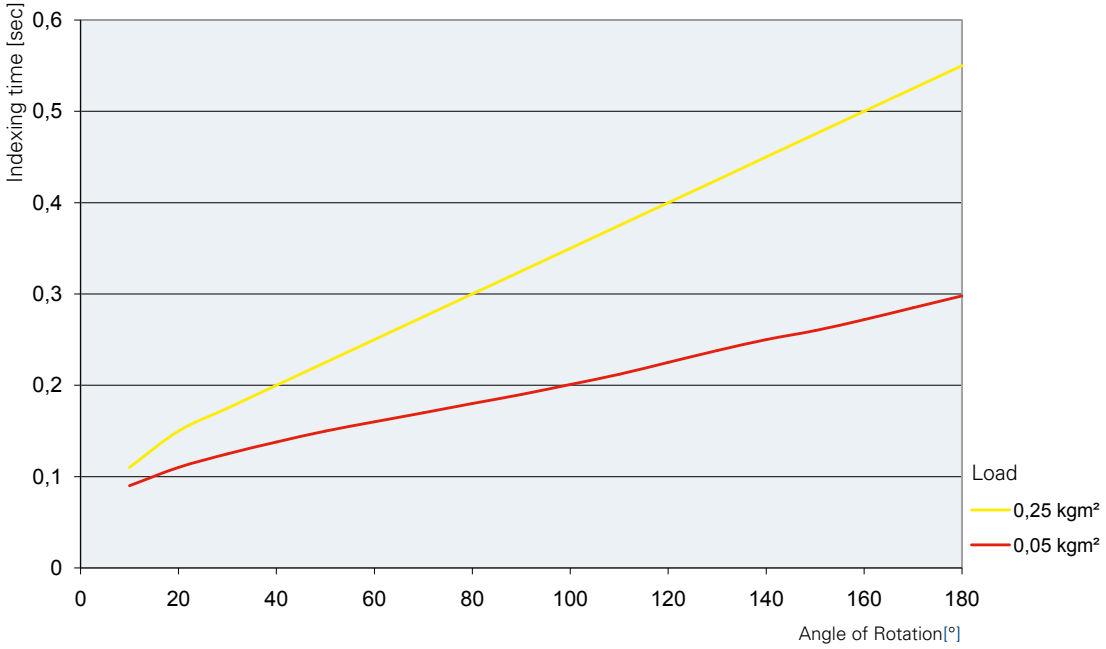


Permissible tangential moment acting on the locked dial plate:
Nominal: **15 Nm**

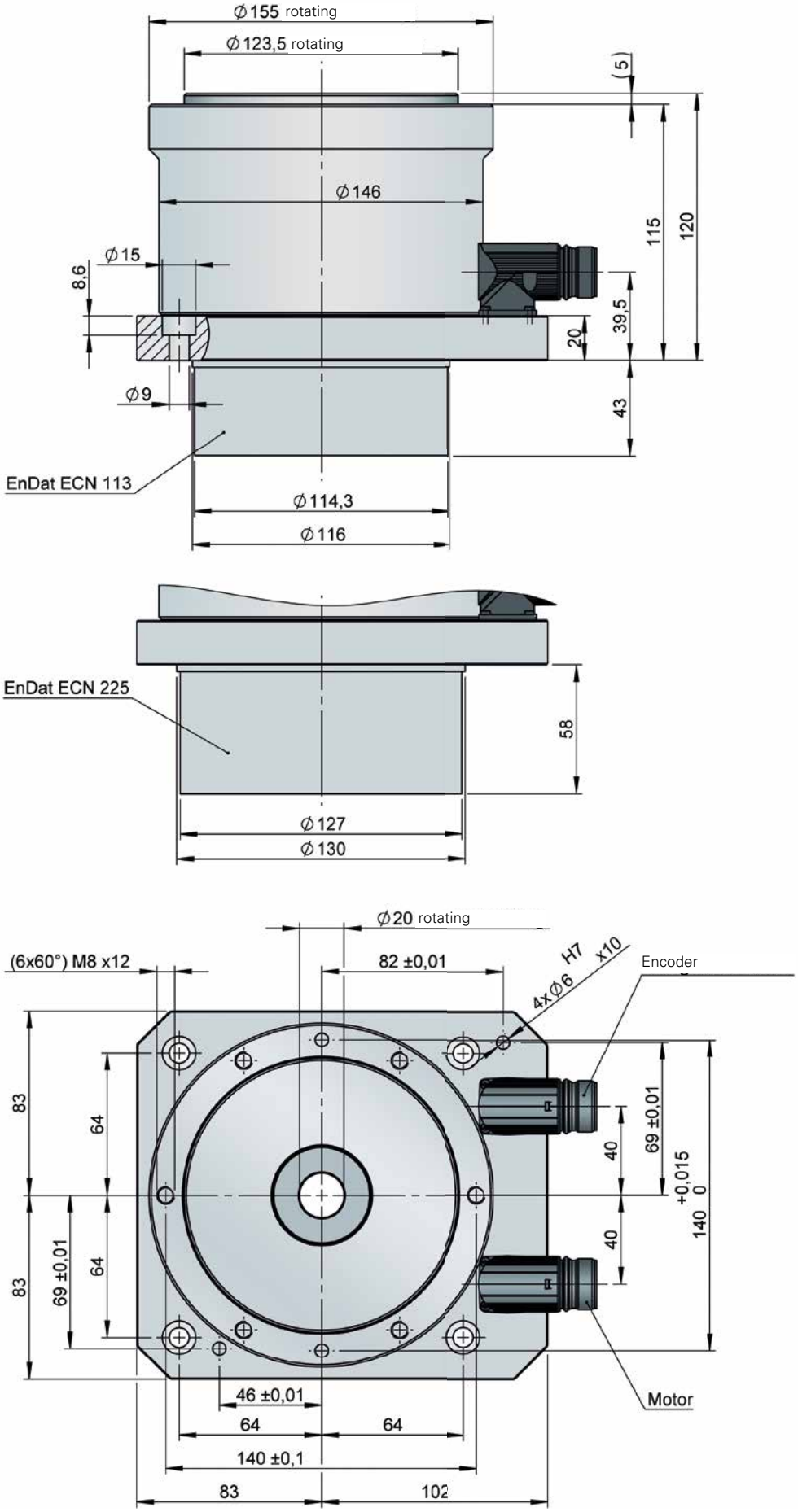
Peak: **45 Nm**

Combined loads only after inspection by WEISS.

Drive time



TO 150C Dimensions



TO 220C

Technical data

max operating cycles:	600 cpm
Direction of rotation:	any
Max. table speed:	A-Typ: 60 rpm B-Typ: 150 rpm
Weight:	32 kg
Mounting position:	any*
Positioning precision:	± 25“ (on request 15“ improved indexing precision)
Repeatability:	± 7“
Max. flatness of dial plate:	0.01 mm (at Ø 245 mm)
Max. run out:	0.01 mm

* Please consult WEISS for overhead mounting positions.

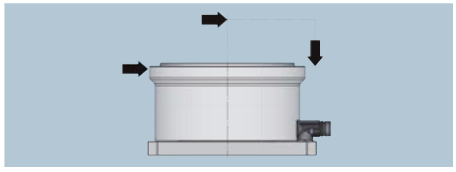
Shaft encoder data

Measurement system:	Heidenhain EnDat ECN 113 (absolute ± 25“)
	or EnDat ECN 225 (absolute ± 15“)

Motor data

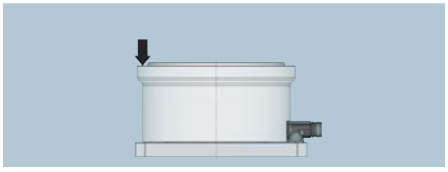
Nom:	52 Nm
Peak:	130 Nm

Load data

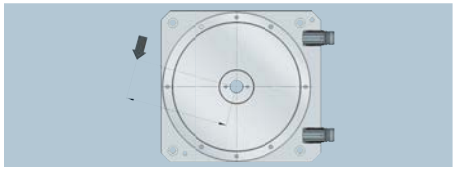


Permissible tilting moment acting on the locked dial plate **1000 Nm**

Permissible radial force acting on the locked dial plate **15000 N**



Permissible operating force (acting vertically on the locked dial plate within the nominal Ø) **10000 N**

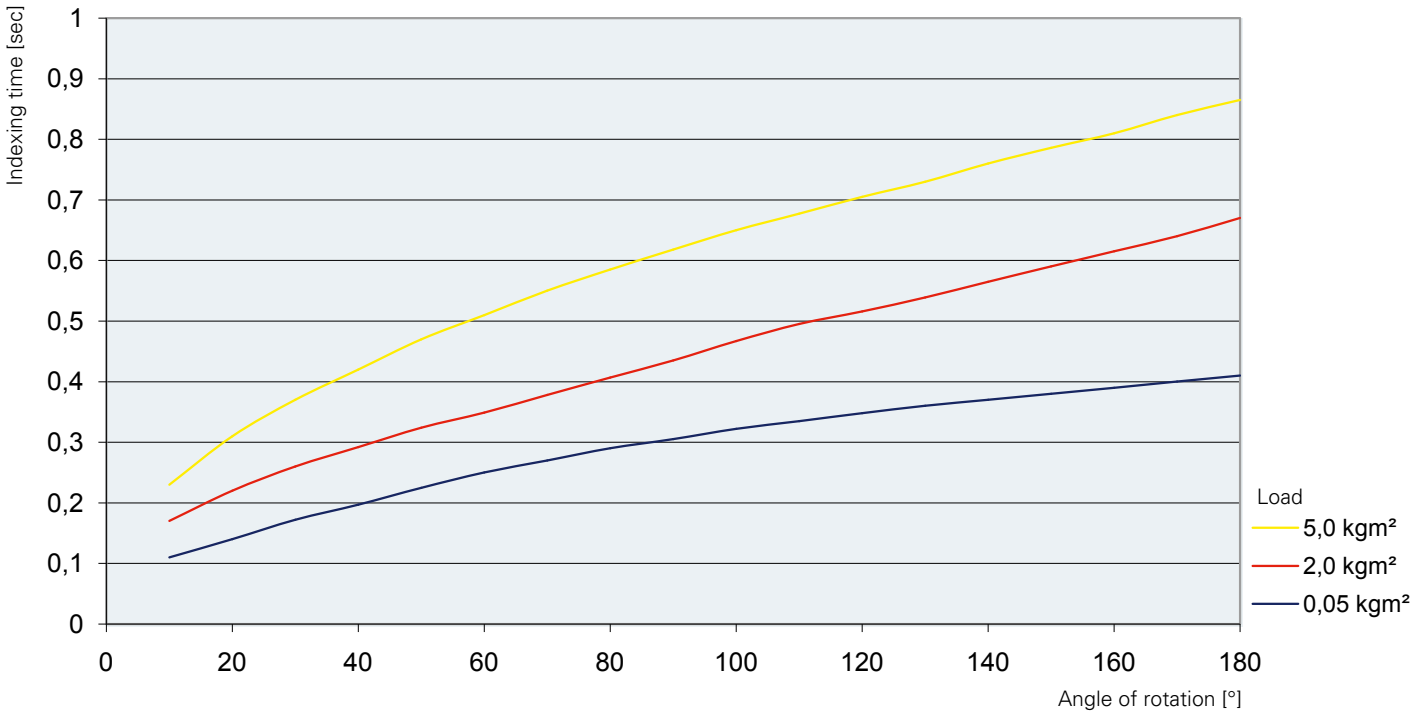


Permissible tangential moment acting on the locked dial plate:
Nominal: **52 Nm**

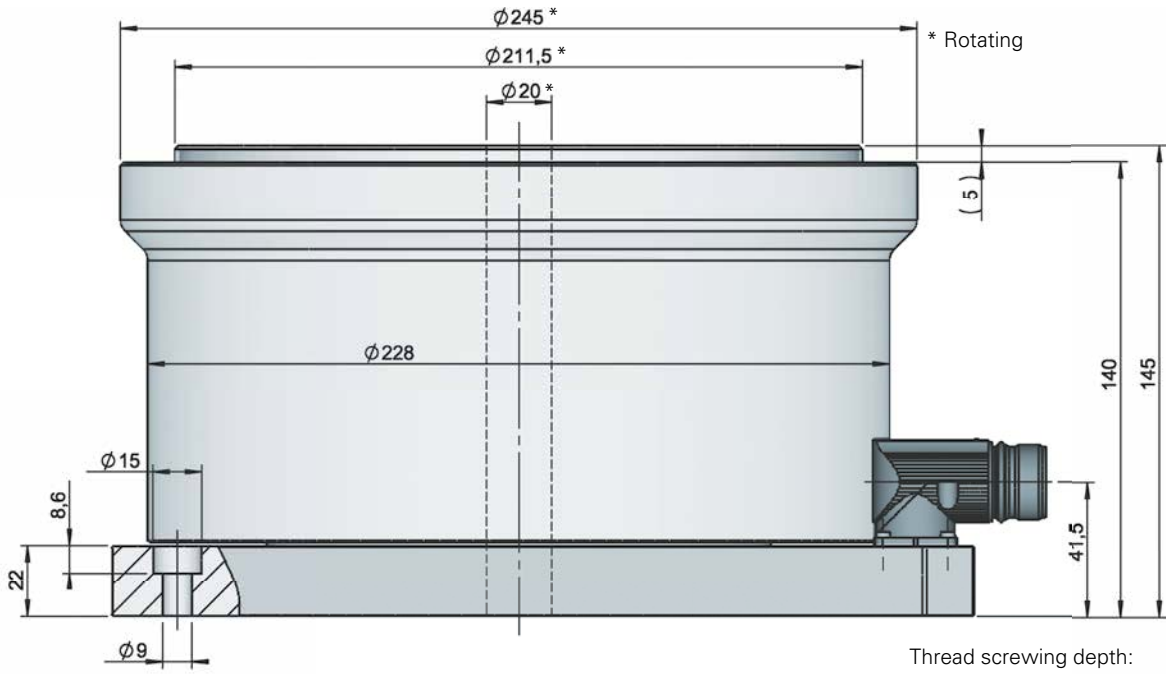
Peak: **130 Nm**

Drive time

Combined loads only after inspection by WEISS.

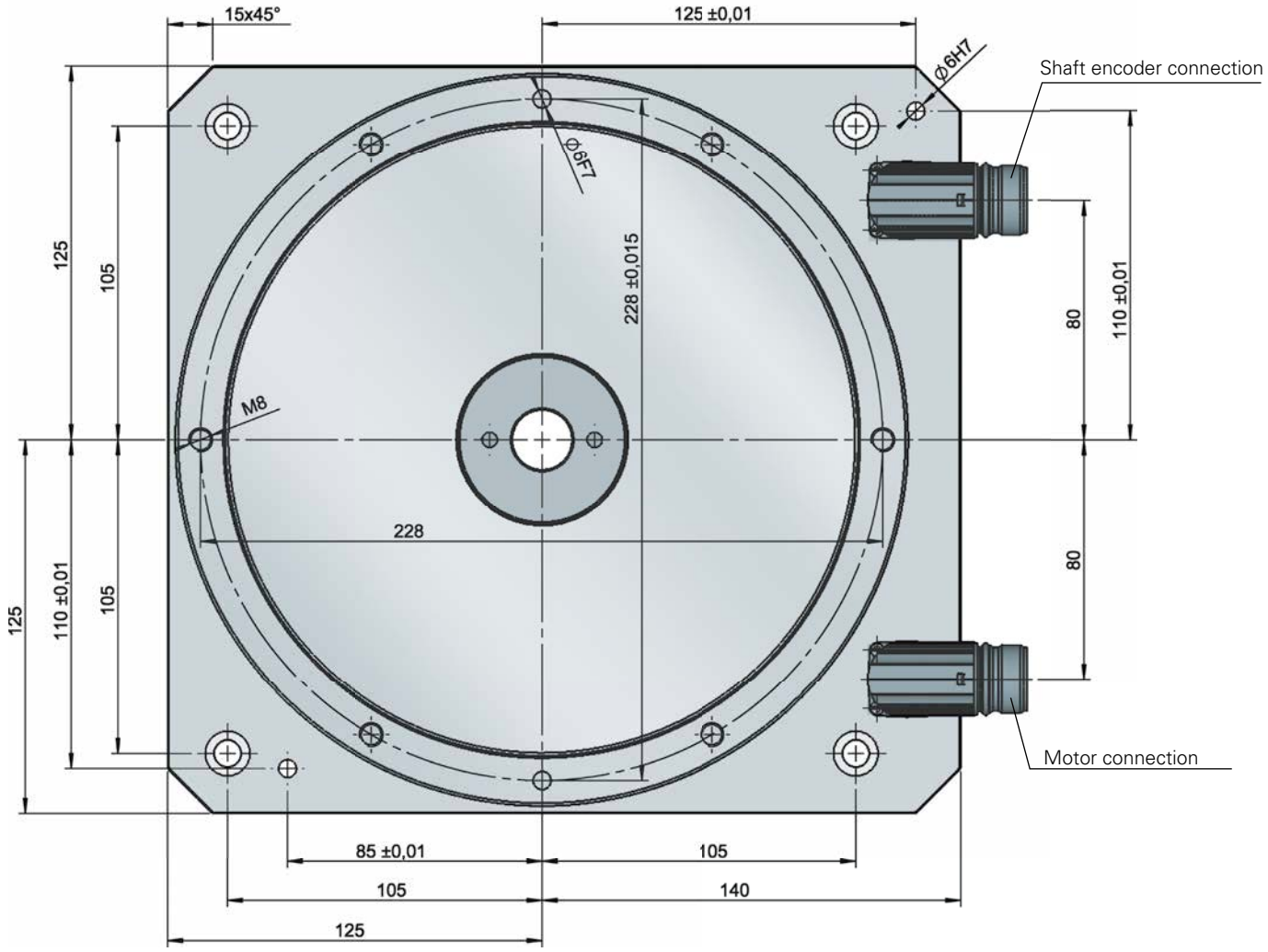


TO 220C Dimensions



Thread screwing depth:
M8 max. 12 mm

Fit depth:
Ø6F7 max. 10 mm

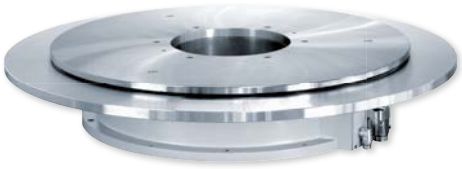


TO 750C

Technical data

max operating cycles:	400 cpm
Direction of rotation:	any
Max. table speed:	50 rpm
Weight:	270 kg
Mounting position:	any*
Positioning accuracy:	± 7"
Repeatability:	± 2"
Max. true run of motor:	0.01 mm (at Ø 500 mm)
Max. run out of rotor:	0.01 mm (at Ø 500 mm)

The manufacturing tolerance of the dial plate has to be added. See chapter customer-specific solutions.



Motor data

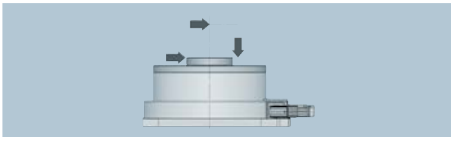
Nom:	700 Nm
Peak:	2400 Nm

Shaft encoder data

Measurement system: Renishaw Signum (incremental)

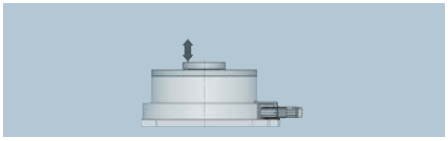
* Please consult WEISS for overhead mounting positions.

Load data **(for the stationary centre part)**

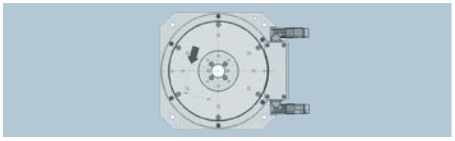


Permissible tilting moment acting on the centre section **2500 Nm**

Permissible radial force acting on the centre section **20000 N**

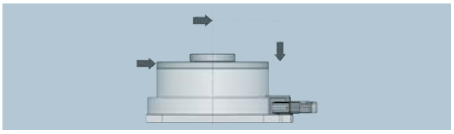


Permissible force acting vertically on the centre section **25000 N**



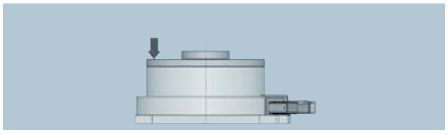
Permissible tangential moment acting on the centre section **1100 Nm**

Load data **(for the turnplate)**

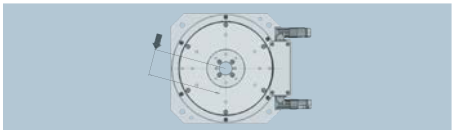


Permissible tilting moment acting on the locked dial plate **6000 Nm**

Permissible radial force acting on the locked dial plate **25000 N**



Permissible operating force (acting vertically on the locked dial plate within the nominal Ø) **25000 N**

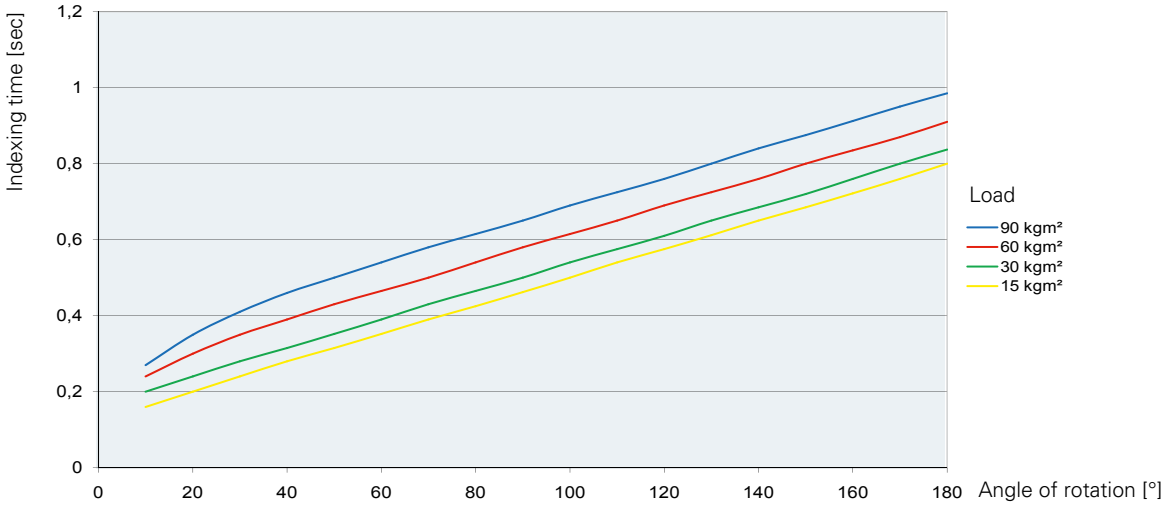


Permissible tangential moment acting on the locked dial plate: Nominal: **700 Nm**

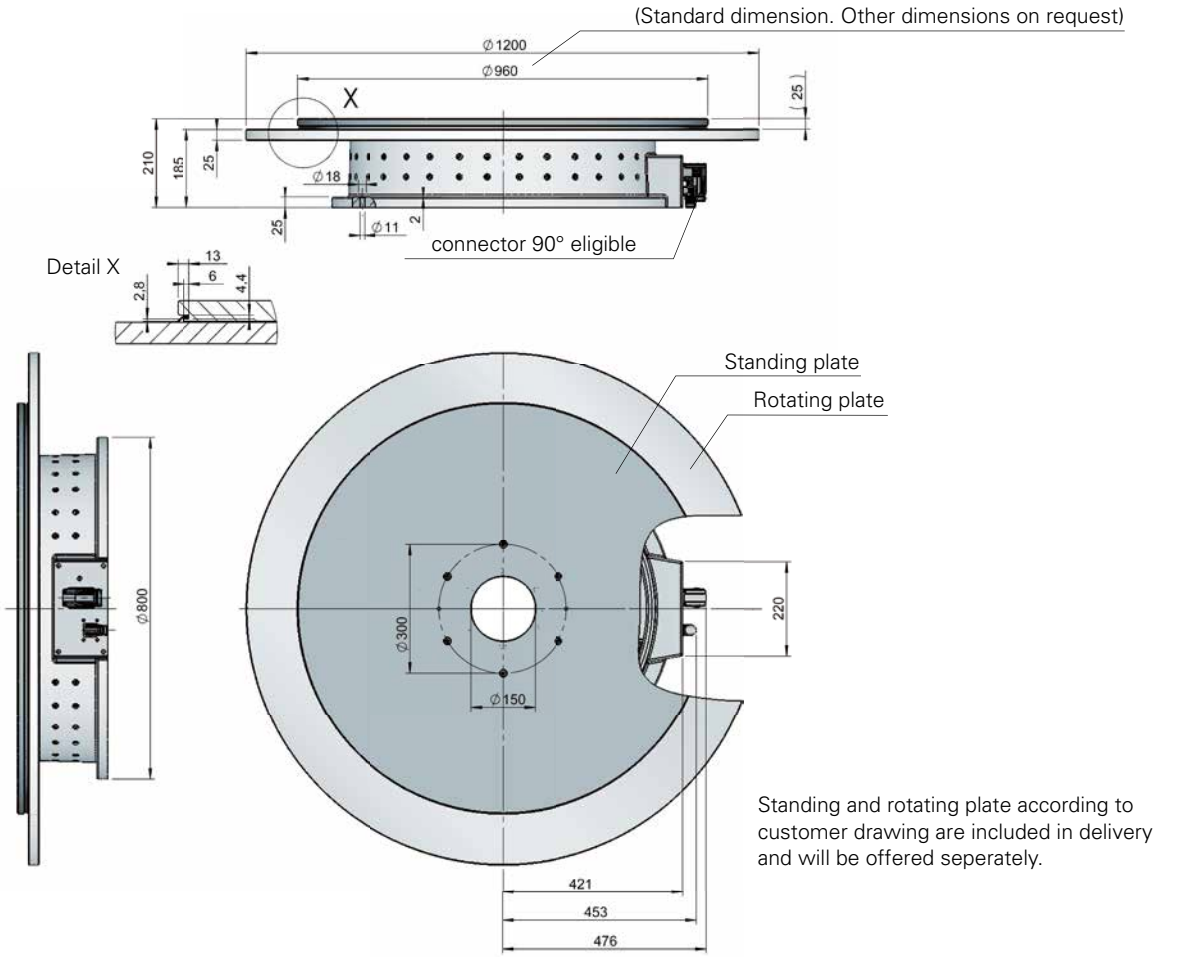
Peak: **2400 Nm**

Combined loads only after inspection by WEISS.

Drive time

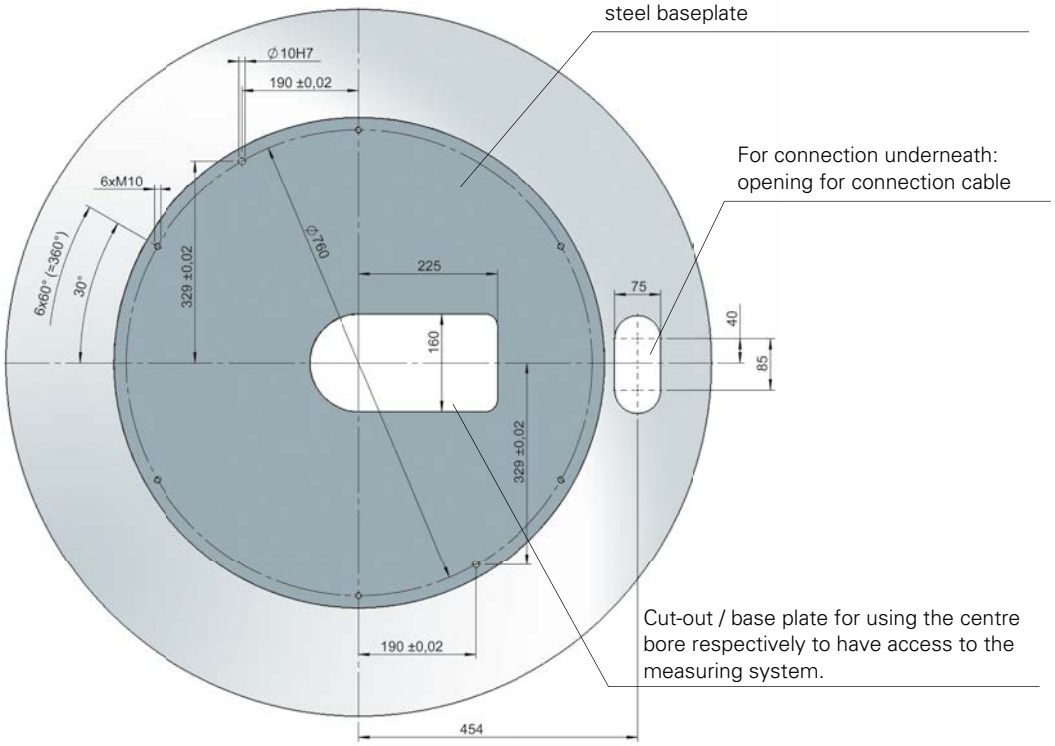


TO 750C Dimensions



Standing and rotating plate according to customer drawing are included in delivery and will be offered seperately.

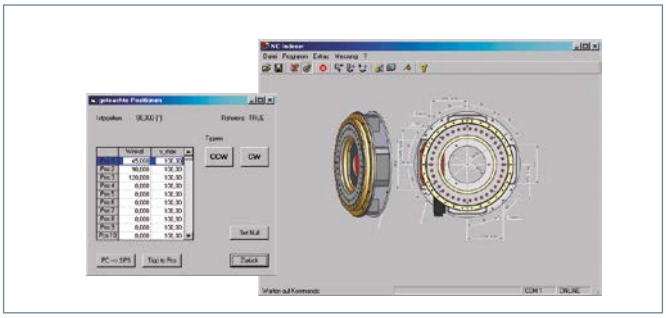
Screw hole pattern



WAS – WEISS Application Software

In addition to the basic functions of the handheld device, WAS - WEISS Application Software also gives you easy access to the various options offered by the table drive.

- *All ramps, angles and speeds are freely programmable*
- *Up to 128 teaching positions*
- *Up to 10 programmes can be stored*
- *Free selection of language*
- *Simple access to axis parameters*
- *Diagnosis options, remote maintenance*
- *Ability to force inputs and outputs (e.g. for initial start-up)*
- *Software cam-functions can be defined*
- *Fault history*

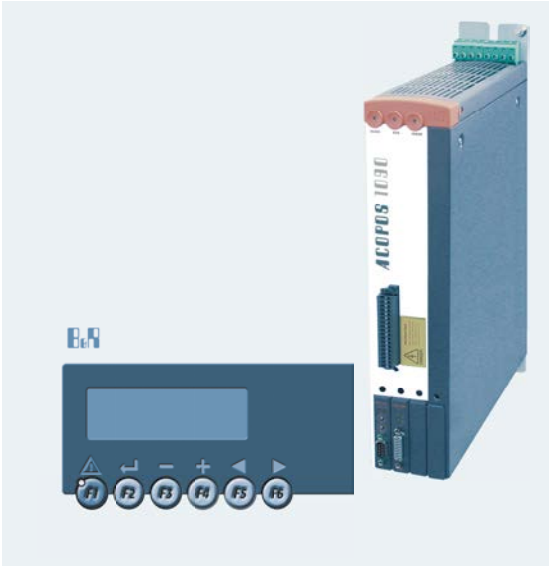


Uniform operator concept for all servomechanical WEISS products.

Perfect Hardware

Design and connection

- *All components are integrated into one unit complete with front mounted plug connection socket*
- *Cables are oil-proof and suitable for cable chains*
- *Cables are available in different lengths*



Safety und service

- *Absolute measuring system*
- *Safe Torque off (SIL 2, PL "d")*
- *World-wide service / complete UL approval*
- *Extensive safety and monitoring functions*

Communication

The following interfaces are available:

- *Digitale I/O (24V inputs and outputs)*
- *Profibus-DP*
- *DeviceNet-CAN (tested at Rockwell control)*
- *EtherNet/IP (tested at Rockwell control)*
- *Modbus TCP (tested at Telemecanique control)*
- *Ethernet*
- *CAN Bus*
- *Free ASCII protocol*

Electrical data	TO 150C	TO 220C	TO 750C
Main power voltage:	1 x 208 ... 230 VAC 3 x 208 ... 230 VAC 3 x 400 ... 480 VAC	3 x 208 ... 230 VAC 3 x 400 ... 480 VAC	3 x 400 ... 480 VAC
24V power voltage:	24 VDC; max. 3 A	24 VDC; max. 3 A	24 VDC; 2.5 A
Connection power:	1.5 KVA	3 KVA	30 KVA
Installation dimensions WxDxH:	70 x 375 x 236 mm	70 x 375 x 236 mm	200 x 375 x 234 mm

Machine layout TO

☐ **Enquiry** ☐ **Enclosure with order**

Dear customer,
Thank you for your interest in our TO indexing tables. To ensure we supply the correct unit to suit your application, we kindly ask you to answer the following questions:

Model

☐ TO 150C (A/B) ☐ TO 220C (A/B) ☐ TO 750C

Switching time

Based on the calculated mass inertia, do you require:

☐ The shortest switching time
☐ A longer switching time of approx. _____ sec.
☐ Angle of rotation _____ °
☐ Standing time _____ sec
Total mass inertia: _____ kg m²
(additional indexing plate and add-ons)

Colour of the indexing table (only TO 750C)

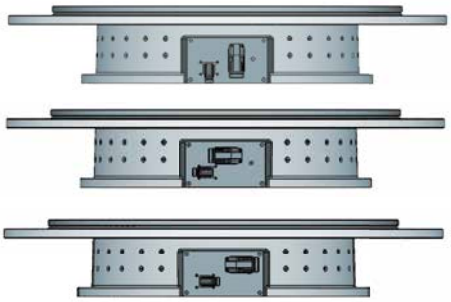
☐ RAL 7035 (light grey)
☐ Special colour RAL _____ (extra charge)

Connection plug arrangement (TO 150C / TO 220C)

☐ parallel  ☐ lateral 

Direction of connection (TO 750C)

☐ below
☐ left
☐ right



Indexing ring

Diameter: _____ I/D mm
Thickness: _____ mm
Material: ☐ Al ☐ St ☐ other

Fixtures and parts

Number: _____
Weight per station: _____ kg
Diameter of the center of gravity: _____ mm

Dial plate

☐ Included in the scope of offer and delivery

Processing according to drawing No. _____

Electrical data

☐ **WEISS control system package**

Servo motor, amplifier, WAS Software
Cables length: ☐ 5 m ☐ 10 m ☐ 15 m ☐ 20 m ☐ 25 m
☐ Hand-held terminal (optional)

Interface to the customer SPS

☐ Ethernet ☐ Profibus-DP
☐ digitale I/O ☐ CAN Bus
☐ Free ASCII protocol ☐ DeviceNet-CAN (Rockwell)
☐ EtherNet/IP (Rockwell) ☐ Modbus TCP (Telemecanique)

Interface to WAS – WEISS Application Software

RS232 and Ethernet are included in the scope of delivery
☐ Converter USB to RS232

Electrical source

TO 150C
☐ 1 or 3 x 208 ... 230V ~ 50/60Hz
☐ 3x400 ... 480V ~ 50/60Hz

TO 220C
☐ 1 or 3 x 208 ... 230V ~ 50/60Hz
☐ 3x400 ... 480V ~ 50/60Hz

TO 750C
☐ 3x400 ... 480V ~ 50/60Hz

Encoder

TO 150C / TO 220C
☐ ECN 113 ± 25“
☐ ECN 225 ± 15“

TO 0750C
☐ Incremental
☐ absolute SSI
☐ absolute DriveCliq

For technical enquiries

Company: _____
Name: _____
Country: _____

Desired delivery date: _____
Phone: _____ Fax: _____
eMail: _____

Disclaimer

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