Technology that inspires

PRODUCT RANGE

Mechanics | Software | Electronics

Excerpt of the WEISS Product Range

NR ROTARY INDEXING RING

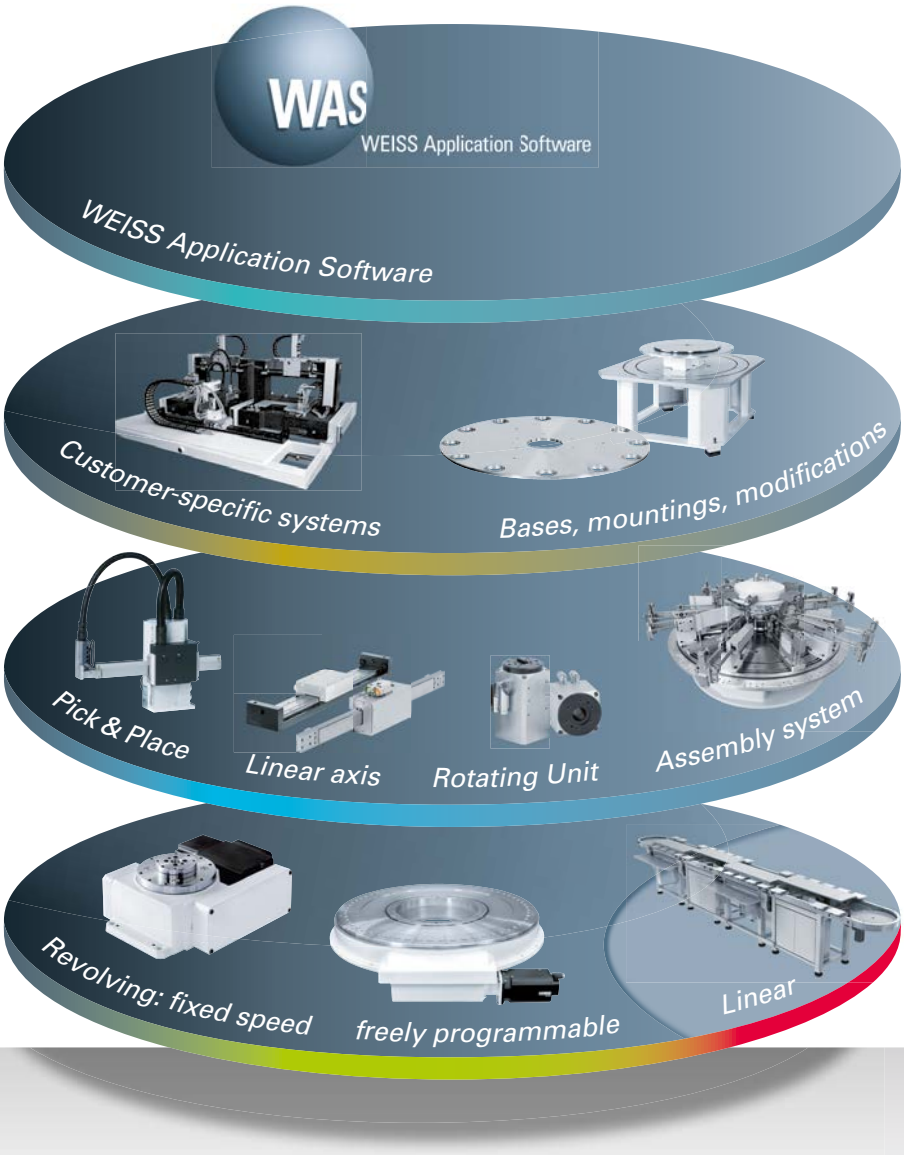
freely programmable

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...



Four steps to perfect automation

Fixed position rotary indexing tables


TC


TR

TC rotary indexing table
TR rotary indexing ring

User-programmable rotary indexing tables


NC


NR


CR


TO


TW

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

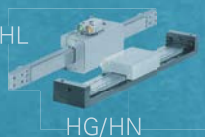
Linear assembly system


LS

LS 280

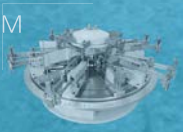
Handling module


HP


HL HG/HN


ST/SW


SH


PM

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


Plates


SK

SR/SK indexing machine bases
Additional indexing plate

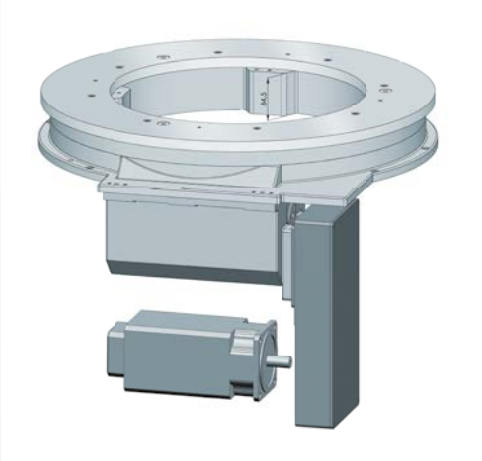
WAS-Software

WEISS Application Software (WAS)

Optimum space utilisation leaves plenty of room for your application!

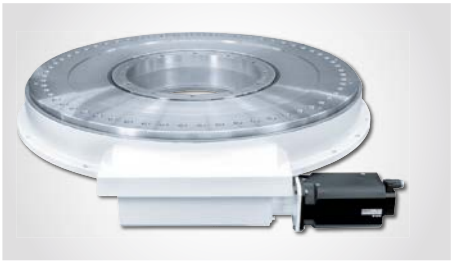
NR rotary indexing ring: Flexible in every respect

Rotary indexing ring with very large central opening, extremely flat design and high level of parts accuracy. The ring-shaped design allows extra free design space. The rotating aluminium ring can be adjusted to your specifications in terms of diameter and thickness.



Use your own drive motor
All NR rings allow customer-specific drive motors to be connected.

We manufacture high-precision plates from AlMg4.5Mn (also available anodised on request), as well as steel plates (also available chemically nickel-plated on request), as per your drawings. With test protocol – everything from a single source.

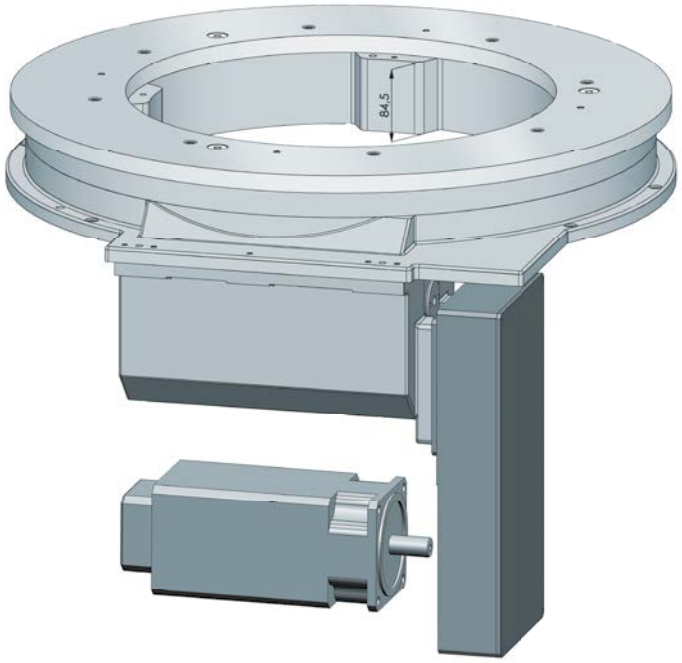


Our CR heavy duty ring range is available for heavy loads.

The key advantages at a glance:

- *Ring-shaped rotary indexing table with very large central opening*
- *High level of parts accuracy through locking on the outer edges*
- *Highly dynamic with smooth acceleration*
- *Flat, compact design – compatible with our tried and tested machines*
- *Four sizes*
- *The diameter and thickness of the rotating aluminium ring can be adjusted to your own specifications*
- *Absolute measuring system*
- *Simplest control system, identical to our rotary indexing tables*
- *Excellent price-performance*
- *Appealing design*

NR 750Z

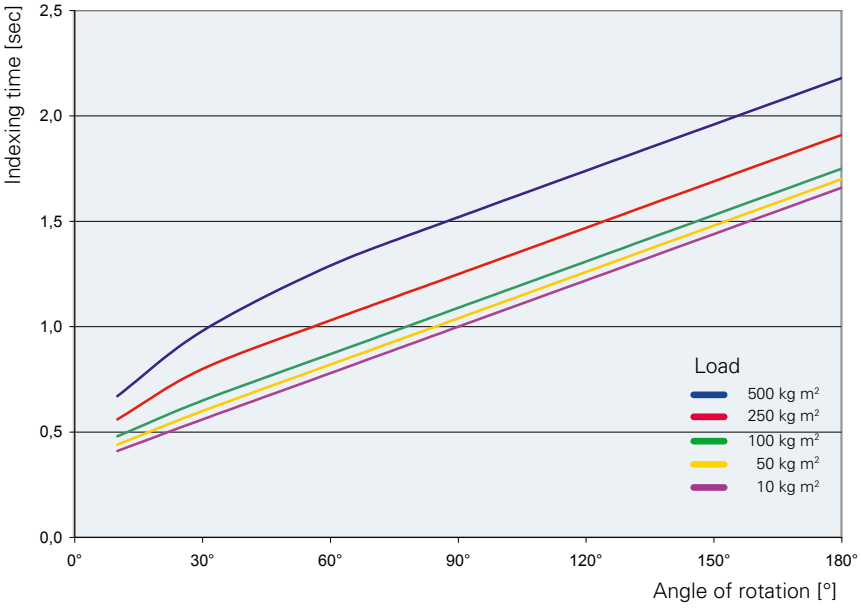


The scope of delivery of the rotary indexing table does not include the additional dial plate. It will be calculated in accordance to your data.

Fitting alternative Servo-motor possible.

i_{ges} = 90 / or 180
$M_{Motor\ max}$ = 30 Nm
$M_{Brake\ max}$ = 15 Nm
$n_{Motor\ max}$ = 2000 rpm

Timing diagram



producer	motor description
B&R (WEISS standard)	8LSA56.E1022D200
recommended third party motors	
SEW	CFM90L-2000
Siemens (1FK7)	1FK7100-5AF71
Bosch-Rexroth	MSK100B-0200-NN-M1-BG1-NNNN
Rockwell	MPM-B1652C-MJ74AA
Beckhoff	AM3065-0N21
Mitsubishi	AC-SFS-2024-B
ParkerHauser	MHA145 20 28 5 24 S 3I 65 A7 4
BergerLahr/Schneider/ Telemechanique	BSH1404P22A2A
FANUC	α iF22/3000
ABB	SDM 261-050N0-190/20-2000

Please add the mass inertia of your fixtures and parts to the mass inertia of the indexing ring. Standard dimensions of the indexing ring dial plate (I/D = Ø 490 mm, O/D = Ø 750 mm, thickness = 20 mm, material Al) **J** = 1.4 kgm²

Load data **(for indexing ring)**

F_N: *vertical force on the locked ring*
3500 N

M_K: *permanent tilting moment acting on the locked ring*
750 Nm

T_R: *permanent tangential moment acting on the locked ring*
2180 Nm

F_R: *permanent radial force acting on the locked ring*
7000 N

max. centrical load on the indexer at **M_K** = 0 Nm and **F_R** = 0 N on demand. Combined loads only after inspection by WEISS.

NR 750

Technical data

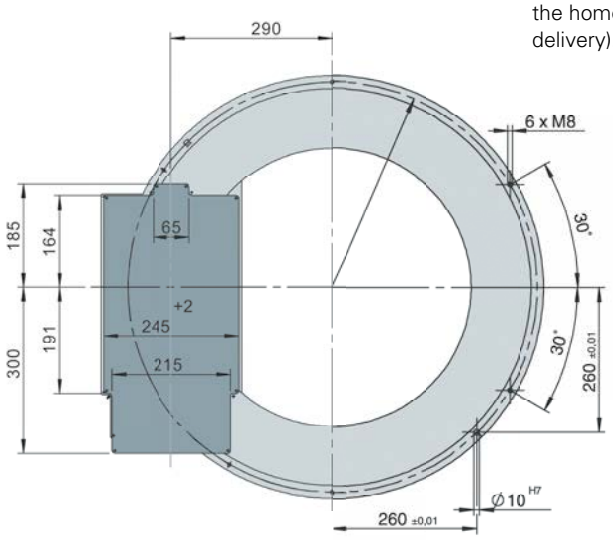
Dial ring inside diameter:	Max. 490 mm
Dial ring outside diameter:	Min. 750 mm
Surface of the dial ring:	Anodized
Direction:	Clockwise - counter clockwise or reciprocating
Cycle rate:	Up to approx. 120 cycles/min, depending on inertia loading and number of stops
Voltage:	400…480 V ± 10%, 42…62 Hz special voltages upon request
Weight:	Approx. 230 kg
Mounting position:	Dial ring horizontal

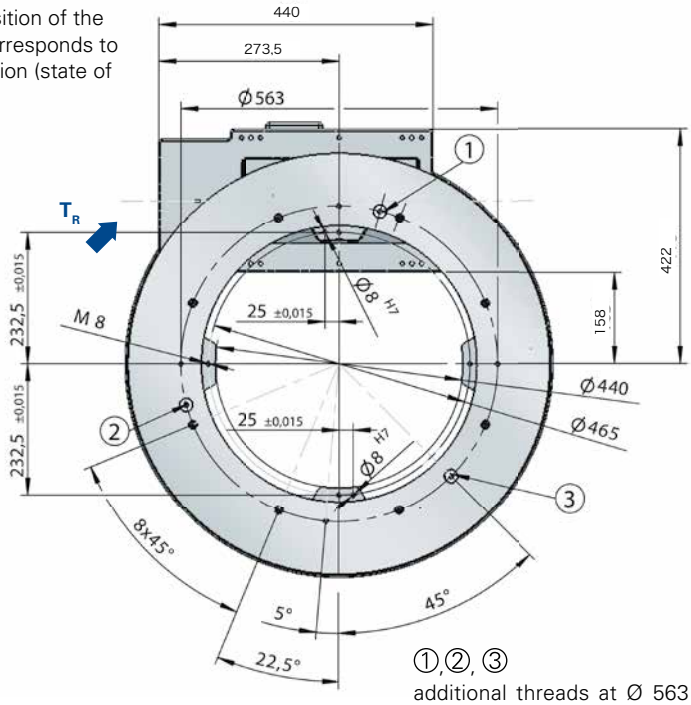
Indexing precision:	± 18“
Indexing precision in radian measurement:	± 0.033 mm(at Ø 750 mm)
Max. flatness of ring:	* 0.05 mm (at Ø 750 mm)
Max. run out:	* 0.03 mm
Max. parallelism of rotating plate surface to bottom housing surface:	* 0.05 mm (at Ø 750 mm)
Max. outer diameter:	1500 mm (or following consultation)

*Attention! In order to reach the above tolerances, please ensure that the flatness of the mounting plate is accurate.

Assembly hole and bore pattern

The shown position of the rotating ring corresponds to the home position (state of delivery).



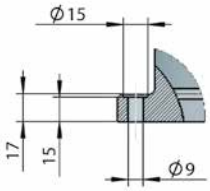


①,②, ③
additional threads at Ø 563 mm for the production of the dial plate, depending of outer diameter Ø 750 mm.

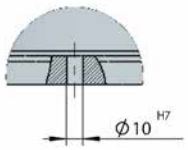
Note
If the drive is swivelled or if you are using the raised support, please request the assembly hole arrangement drawing!

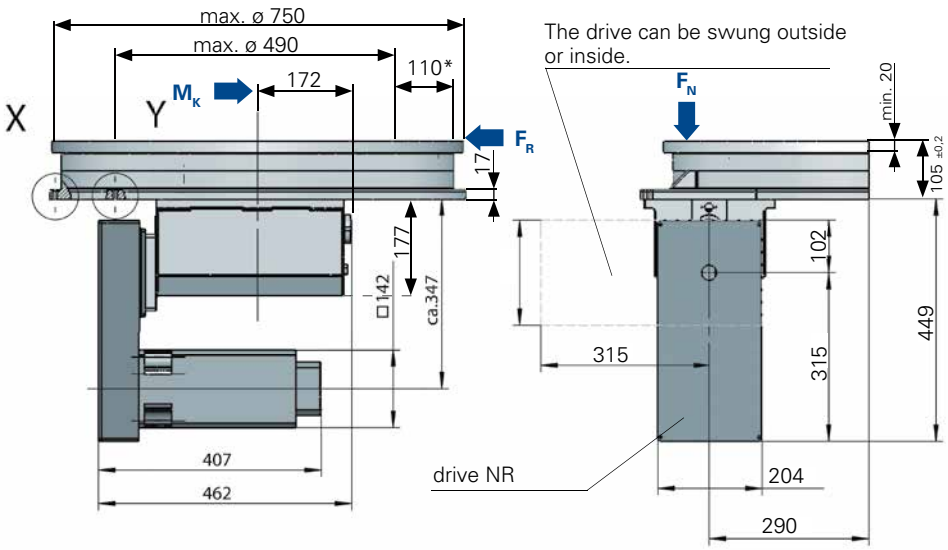
* drilling not permitted in this area

Section on X

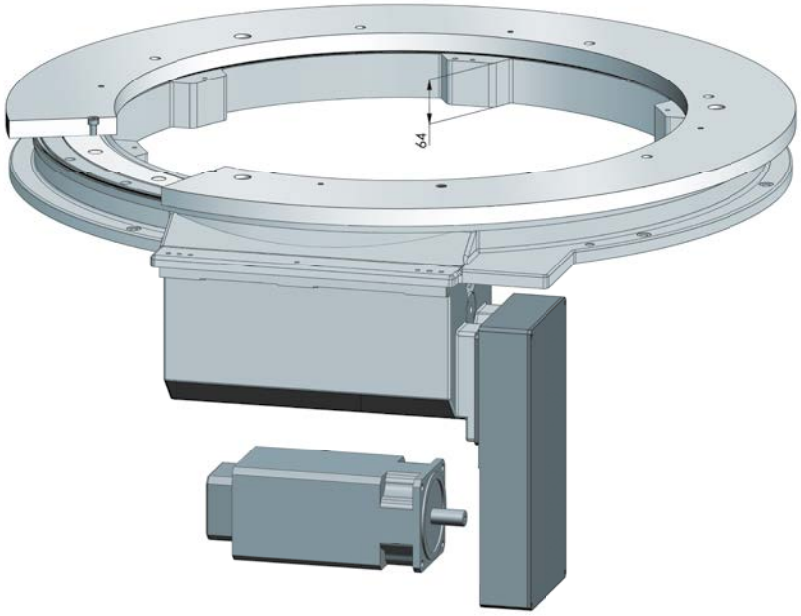


Section on Y





NR 1100Z



The scope of delivery of the rotary indexing table does not include the additional dial plate. It will be calculated in accordance to your data.

Fitting alternative Servo-motor possible.

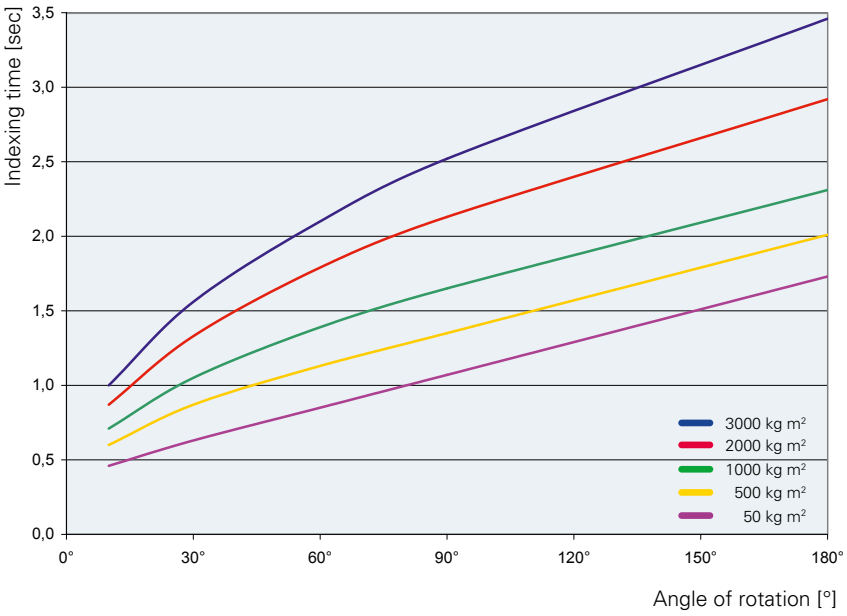
i_{ges} = 88

$M_{Motor\ max}$ = 50 Nm

$M_{Brake\ max}$ = 32 Nm

$n_{Motor\ max}$ = 2000 rpm

Timing diagram



producer	motor description
B&R (WEISS standard)	8LSA73.E1022D200-0
recommended third party motors	
SEW	CFM112M-2000
Siemens (1FK7)	1FK7103-5AF71
Bosch-Rexroth	MSK100B-0200-NN-M1-BG1-NNNN
Rockwell	MPM-B1653C-MJ74AA
Beckhoff	AM3073-0P21
Mitsubishi	HC-SFS3524-B
ParkerHauser	MH205 20 70 5 38 S 3I 65 A7 4
BergerLahr/Schneider/ Telemechanique	BSH2051P22A2A
FANUC	α iF30/3000
ABB	SDM 261-050N0-190/20-2000

Please add the mass inertia of your fixtures and parts to the mass inertia of the indexing ring. Standard dimensions of the indexing ring dial plate (I/D = Ø 800 mm, O/D = Ø 1100 mm, thickness = 25 mm, material Al) **J** = 7 kgm²

Load data (for indexing ring)

F_N: *vertical force on the locked ring* **6000 N**	**M_K**: *permanent tilting moment acting on the locked ring* **2500 Nm**
T_R: *permanent tangential moment acting on the locked ring* **3500 Nm**	**F_R**: *permanent radial force acting on the locked ring* **12000 N**

max. centrical load on the indexer at **M_K** = 0 Nm and **F_R** = 0 N on demand. Combined loads only after inspection by WEISS.

NR 1100

Technical data

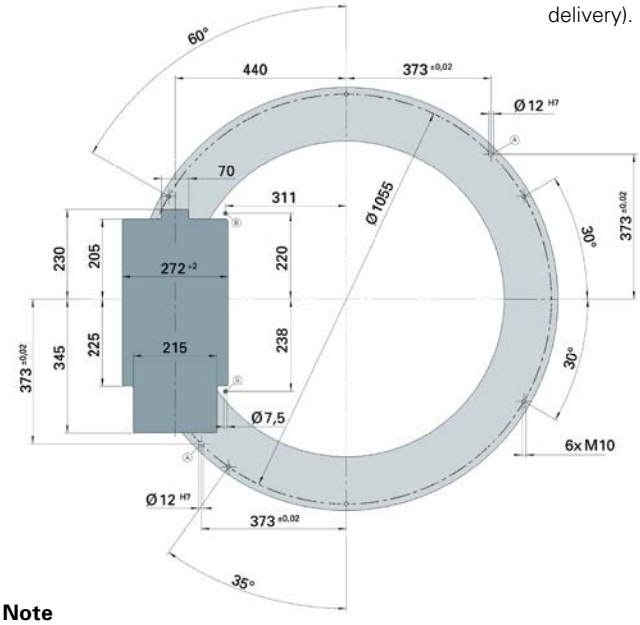
Dial ring inside diameter:	Max. 800 mm
Dial ringt outside diameter:	Min. 1100 mm
Surface of the dial ring:	Anodized
Direction:	Clockwise - counter clockwise or reciprocating
Cycle rate:	Up to approx. 120 cycles/min, depending on inertia loading and number of stops
Voltage:	400…480 V ± 10%, 42…62 Hz special voltages upon request
Weight:	Approx. 310 kg
Mounting position:	Dial ring horizontal

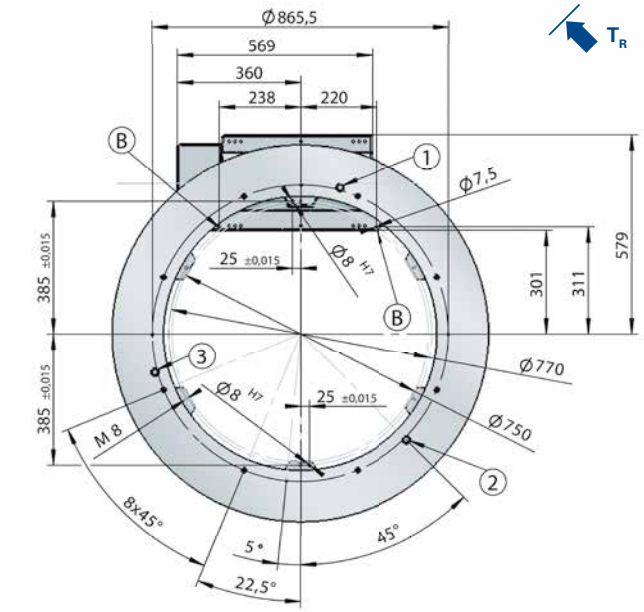
Indexing precision:	± 18“
Indexing precision in radian measurement:	± 0.048 mm (at Ø 1100 mm)
Max. flatness of ring:	* 0.06 mm (at Ø 1100 mm)
Max. run out:	* 0.04 mm
Max. parallelism of rotating plate surface to bottom housing surface:	* 0.06 mm (at Ø 1100 mm)
Max. outer diameter:	2200 mm (or following consultation)

*Attention! In order to reach the above tolerances, please ensure that the flatness of the mounting plate is accurate.

Assembly hole and bore pattern

The shown position of the rotating ring corresponds to the home position (state of delivery).



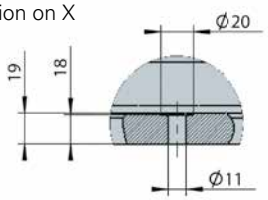


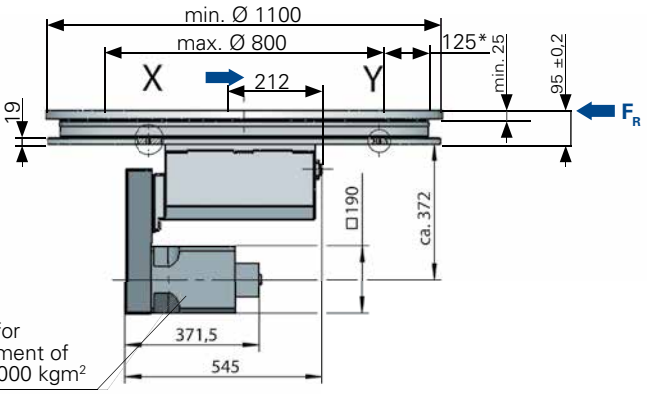
Note
If the drive is swivelled or if you are using the raised support, please request the assembly hole arrangement drawing!

* drilling not permitted in this area

①,②, ③
additional threads at Ø 950 mm for the production of the dial plate, depending of outer diameter Ø 1100 mm.

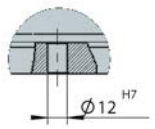
Section on X





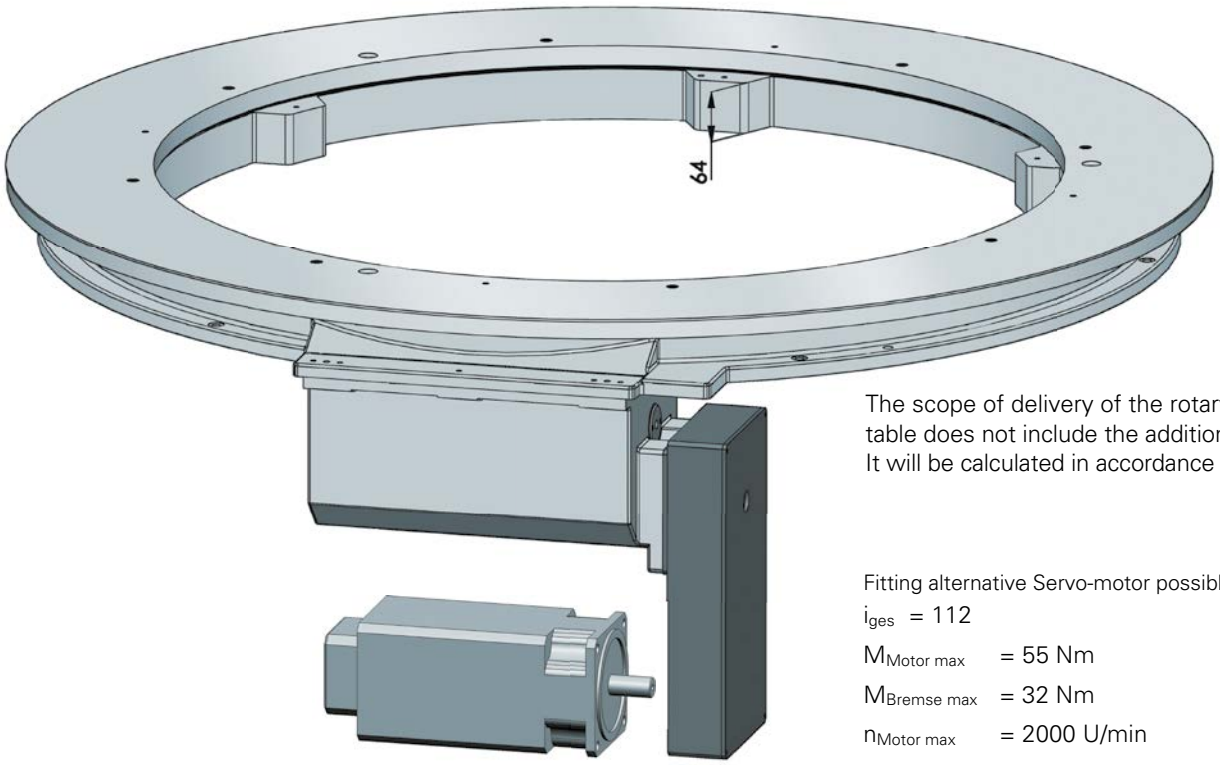
drive NR for mass moment of inertia >1000 kgm²

Section on Y



Ⓑ
In case that the fittings Ⓐ cannot be used for construction reasons, so please use the bores Ⓑ as alignment. Then, go ahead with boring the casting together with the base plate and open the pin holes by rubbing.

NR 1500Z



The scope of delivery of the rotary indexing table does not include the additional dial plate. It will be calculated in accordance to your data.

Fitting alternative Servo-motor possible.

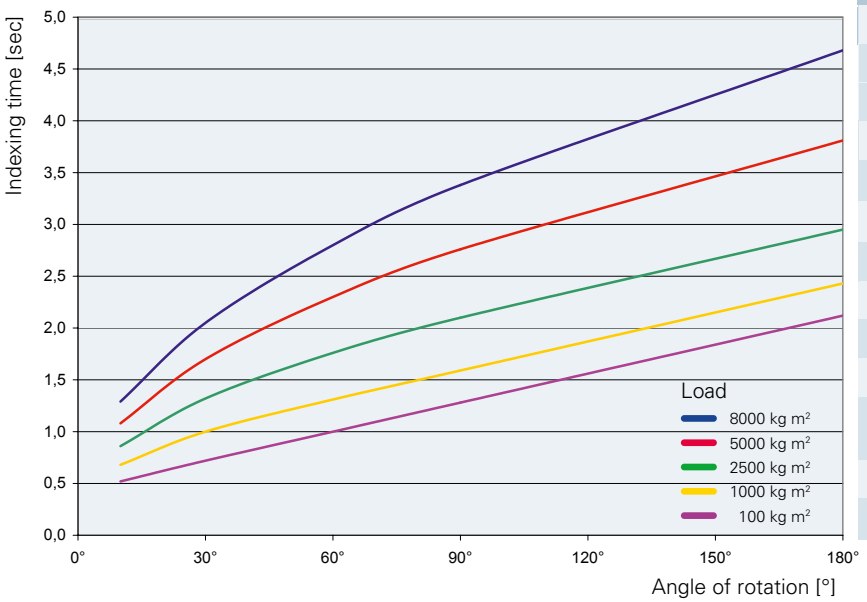
i_{ges} = 112

$M_{Motor\ max}$ = 55 Nm

$M_{Bremse\ max}$ = 32 Nm

$n_{Motor\ max}$ = 2000 U/min

Timing diagram



producer	motor description
B&R (WEISS standard)	8LSA75.E1022D200-0
recommended third party motors	
empfohlene Alternativfabrikate	
SEW	CFM112M-2000
Siemens (1FK7)	1FK7103-5AF71
Bosch-Rexroth	MSK100C-0200-NN-M1-BG1-NNNN
Rockwell	MPM-B1653C-MJ74AA
Beckhoff	AM3074-0P21
Mitsubishi	HC-SFS3524-B
ParkerHauser	MH205 20 70 5 38 S 3I 65 A7 4
BergerLahr/Schneider/ Telemechanique	BSH2051P22A2A
FANUC	α iF30/3000
ABB	SDM 261-070N0-190/20-2000

Please add the mass inertia of your fixtures and parts to the mass inertia of the indexing ring. Standard dimensions of the indexing ring dial plate (I/D = Ø 1135 mm, O/D = Ø 1500 mm, thickness = 25 mm, material Al) **J** = 22.5 kgm²

Load data (for indexing ring)

F_N: *vertical force on the locked ring*
8000 N

M_K: *permanent tilting moment acting on the locked ring*
3200 Nm

T_R: *permanent tangential moment acting on the locked ring*
4500 Nm

F_R: *permanent radial force acting on the locked ring*
16000 N

max. centrical load on the indexer at **M_K** = 0 Nm and **F_R** = 0 N on demand. Combined loads only after inspection by WEISS.

NR 1500

Technical data

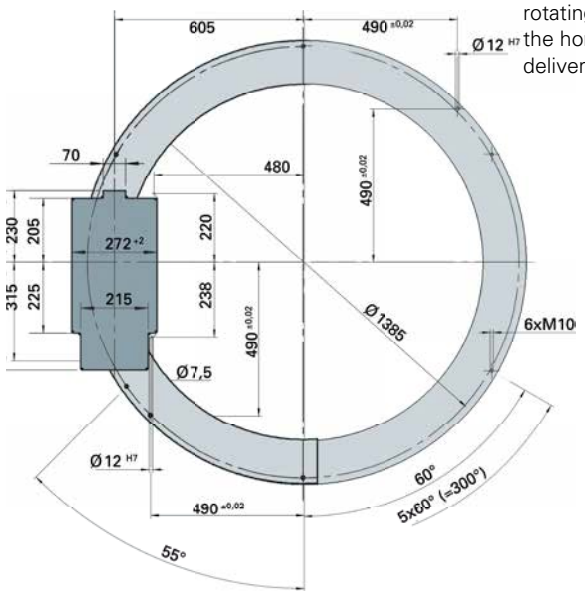
Dial ring inside diameter:	Max. 1135 mm
Dial ringt outside diameter:	Min. 1500 mm
Surface of the dial ring:	Anodized
Direction:	Clockwise - counter clockwise or reciprocating
Cycle rate:	Up to approx. 120 cycles/min, depending on inertia loading and number of stops
Voltage:	400…480 V ± 10%, 42…62 Hz special voltages upon request
Weight:	Approx. 400 kg
Mounting position:	Dial ring horizontal

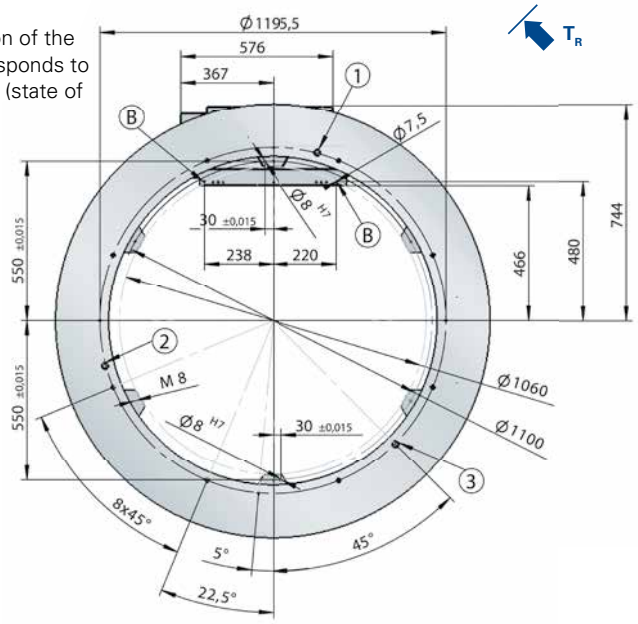
Indexing precision:	± 15“
Indexing precision in radian measurement:	± 0.055 mm (at Ø 1500 mm)
Max. flatness of ring:	* 0.08 mm (at Ø 1500 mm)
Max. run out:	* 0.04 mm
Max. parallelism of rotating plate surface to bottom housing surface:	* 0.08 mm (at Ø 1500 mm)
Max. outer diameter:	3000 mm (or following consultation)

*Attention! In order to reach the above tolerances, please ensure that the flatness of the mounting plate is accurate.

Assembly hole and bore pattern

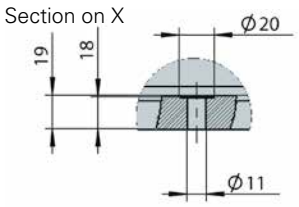
The shown position of the rotating ring corresponds to the home position (state of delivery).

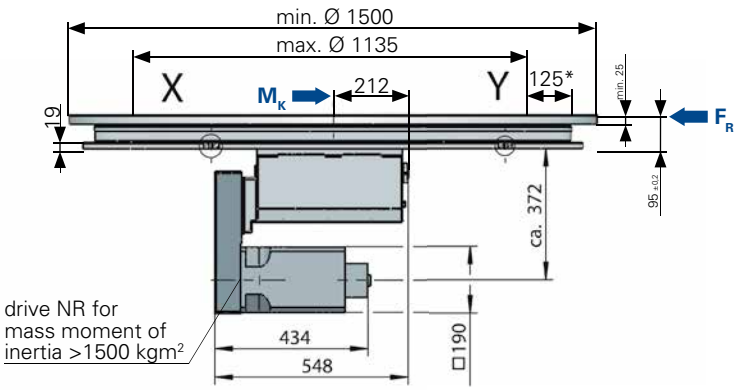




Note
If the drive is swivelled or if you are using the raised support, please request the assembly hole arrangement drawing!

* drilling not permitted in this area

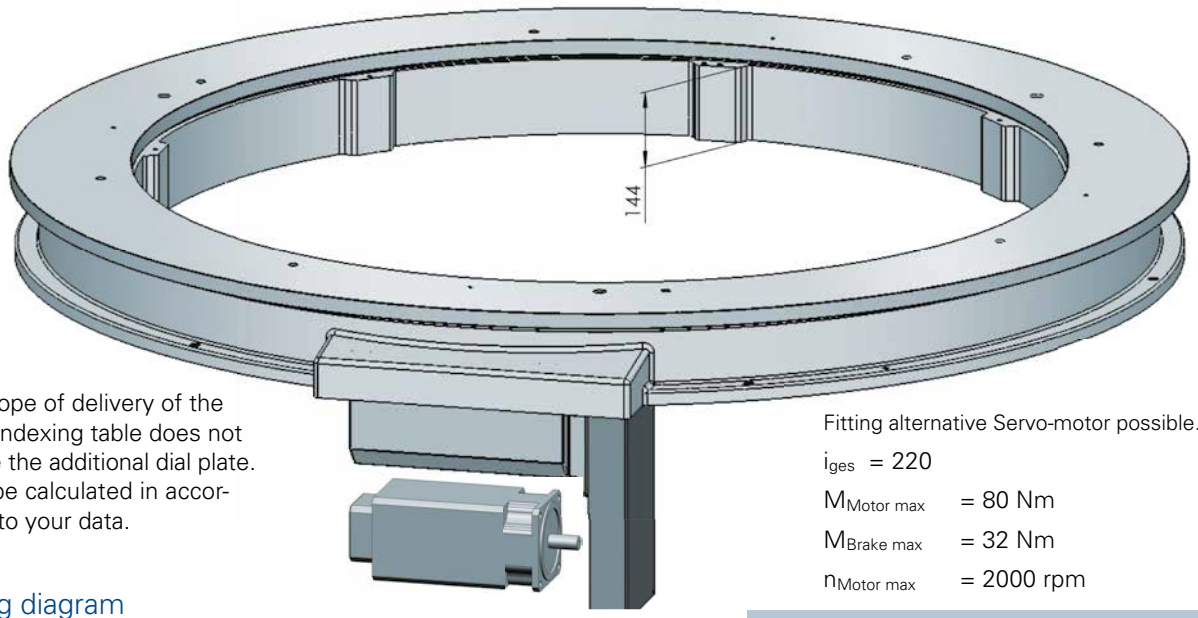




①,②, ③
additional threads at Ø 1400 mm for the production of the dial plate, depending of outer diameter Ø 1500 mm.

Ⓑ
In case that the fittings Ⓐ cannot be used for construction reasons, so please use the bores Ⓑ as alignment. Then, go ahead with boring the casting together with the base plate and open the pin holes by rubbing.

NR 2200Z



The scope of delivery of the rotary indexing table does not include the additional dial plate. It will be calculated in accordance to your data.

Fitting alternative Servo-motor possible.

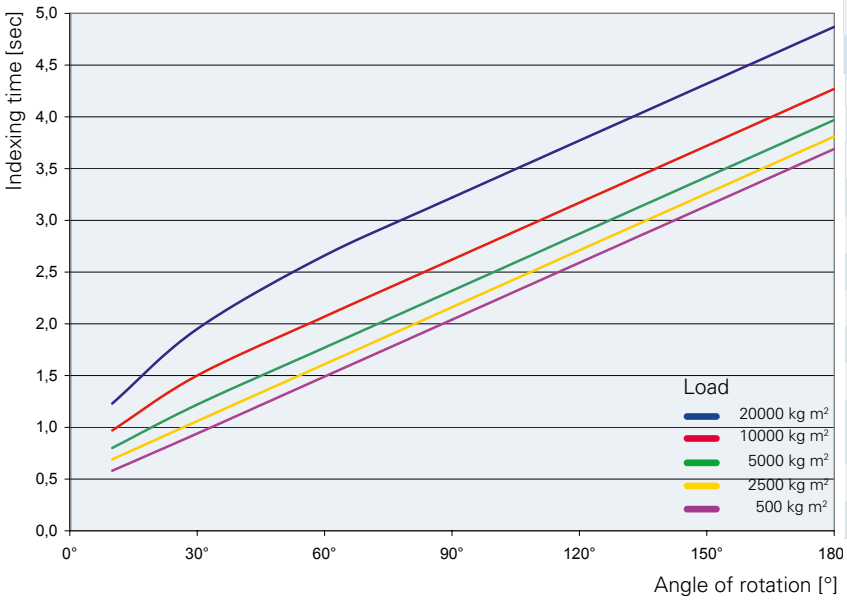
i_{ges} = 220

$M_{Motor\ max}$ = 80 Nm

$M_{Brake\ max}$ = 32 Nm

$n_{Motor\ max}$ = 2000 rpm

Timing diagram



producer	motor description
B&R (WEISS standard)	8LSA75.E1022D200-0
recommended third party motors	
B&R (WEISS Standard)	8LSA75.E1022D200-0
empfohlene Alternativfabrikate	
SEW	CFM112L-2000
Siemens (1FK7)	1FK7105-5AC71
Bosch-Rexroth	MSK100C-0200-NN-M1-BG1-NNNN
Rockwell	MPM-B2154E-MJ74AA
Beckhoff	AM3074-0P21
Mitsubishi	HC-SFS7024-B
ParkerHauser	MH205 20 70 5 38 S 3I 65 A7 4
BergerLahr/Schneider/ Telemechanique	BSH2051P22A2A
FANUC	α iF40/3000
ABB	SDM 261-070N0-190/20-2000

Please add the mass inertia of your fixtures and parts to the mass inertia of the indexing ring. Standard dimensions of the indexing ring dial plate (I/D = Ø 1750 mm, O/D = Ø 2200 mm, thickness = 30 mm, material Al) **J** = 111.7 kgm²

Load data **(for indexing ring)**

F_N: *vertical force on the locked ring* **15000 N**	**M_K**: *permanent tilting moment acting on the locked ring* **4500 Nm**
T_R: *permanent tangential moment acting on the locked ring* **10000 Nm**	**F_R**: *permanent radial force acting on the locked ring* **30000 N**

max. centrical load on the indexer at **M_K** = 0 Nm and **F_R** = 0 N on demand. Combined loads only after inspection by WEISS.

NR 2200

Technical data

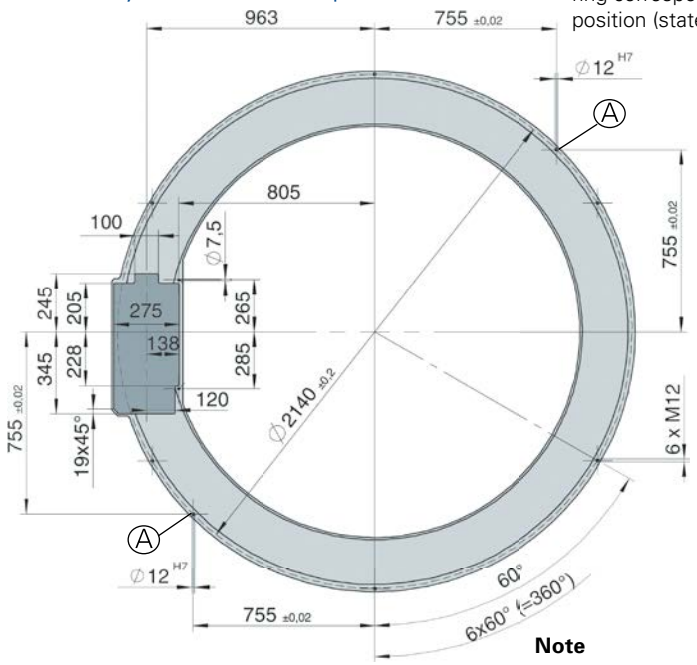
Dial ring inside diameter:	Max. 1750 mm
Dial ringt outside diameter:	Min. 2200 mm
Surface of the dial ring:	Anodized
Direction:	Clockwise - counter clockwise or reciprocating
Cycle rate:	Up to approx. 120 cycles/min, depending on inertia loading and number of stops
Voltage:	400…480 V ± 10%, 42…62 Hz special voltages upon request
Weight:	Approx. 950 kg
Mounting position:	Dial ring horizontal

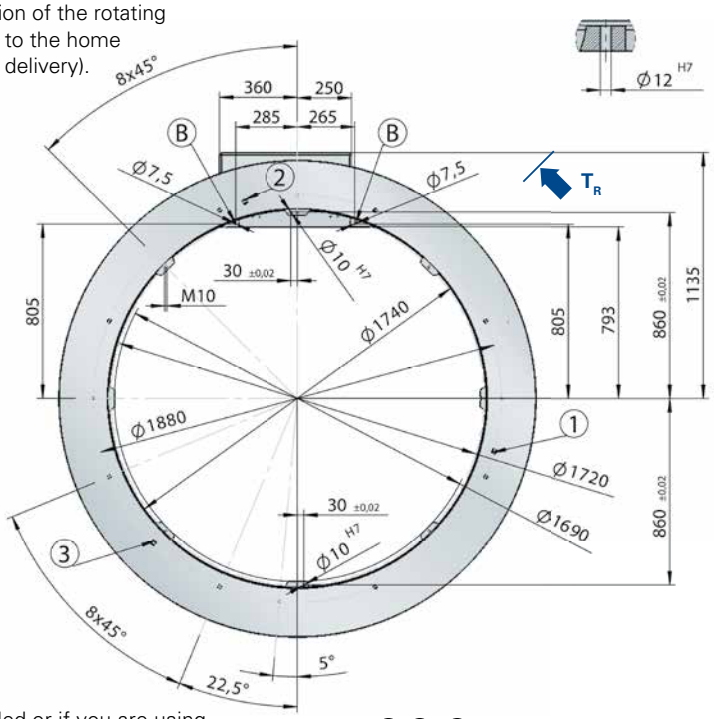
Indexing precision:	± 12“
Indexing precision in radian measurement:	± 0.064 mm (at Ø 2200 mm)
Max. flatness of ring:	* 0.08 mm (at Ø 2200 mm)
Max. run out:	* 0.05 mm
Max. parallelism of rotating plate surface to bottom housing surface:	* 0.08 mm (at Ø 2200 mm)
Max. outer diameter:	4400 mm (or following consultation)

*Attention! In order to reach the above tolerances, please ensure that the flatness of the mounting plate is accurate.

Assembly hole and bore pattern

The shown position of the rotating ring corresponds to the home position (state of delivery).



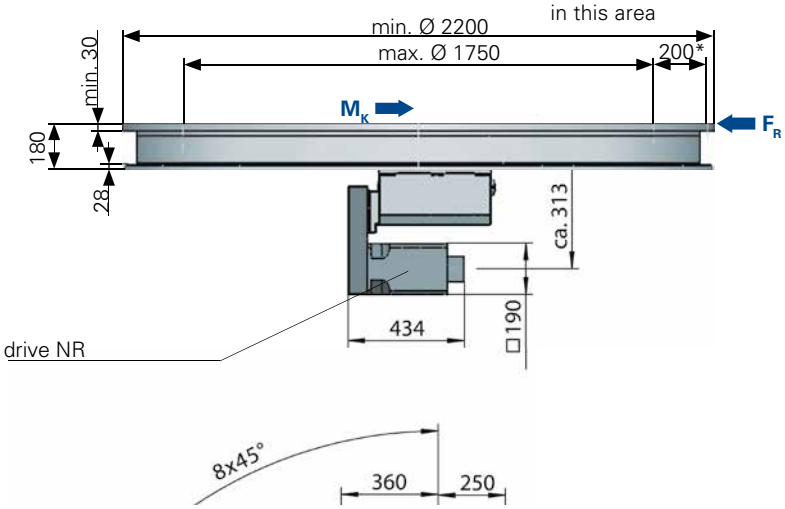


Ⓐ Two fit bores for pinning the cast iron ring onto the base plate.

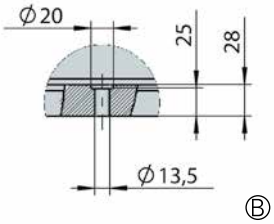
Note
If the drive is swivelled or if you are using the raised support, please request the assembly hole arrangement drawing!

* drilling not permitted in this area

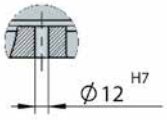
①,②, ③
additional threads at Ø 1800 mm for the production of the dial plate, depending of outer diameter Ø 2200 mm.



Section on X



Section on Y



Ⓑ
In case that the fittings Ⓐ cannot be used for construction reasons, so please use the bores Ⓑ as alignment. Then, go ahead with boring the casting together with the base plate and open the pin holes by rubbing.

WAS – WEISS Application Software

Start - Simple - Safe - Fast

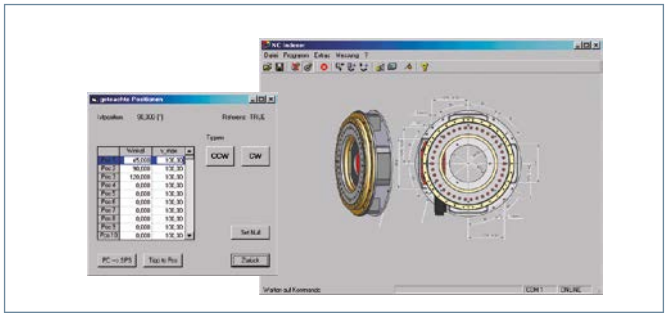
Communication in the language of your choice:

The simple to use hand-held divice displays clear text messaging allowing for a quick start-up and trouble free operation.

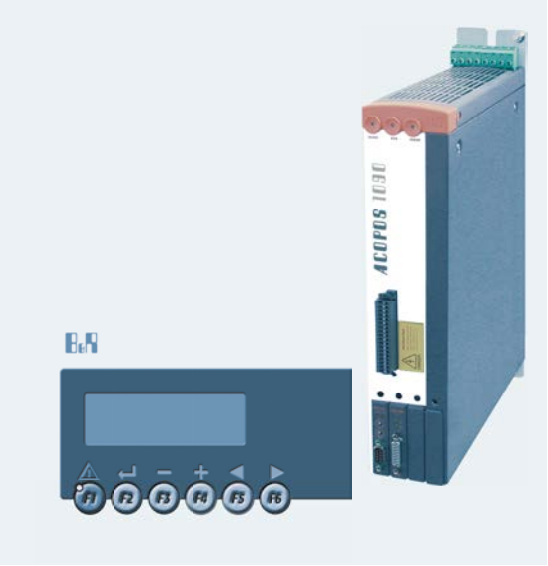
Ready for production in just 3 minutes:

1. Connect control system with handheld device
2. Select language
3. Enter load mass moment of inertia
4. Enter step angle
5. Adjust speeds or ramps

In addition to the basic functions of the handheld device, the WAS – WEISS Application Software also gives you easy access to the various options offered by the table drive. The Windows PC for visualisation is connected via RS232 or Ethernet via the control system.



Uniform operator concept for all servomechanical WEISS products.



Safety and service

- *Absolute-value measuring system*
- *Safe Torque off (SIL 2, PL "d")*
- *Worldwide service / C-UL-US listed*
- *Comprehensive 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*

Design and connection

- *All components integrated with plug-in connections*
- *Cables oil-resistant and cable-chain compatible*
  Cables available in various lengths (5, 10, 15, 20, 25 m)

Software

- *Up to 128 teachable positions*
- *Up to 10 drive programmes can be stored*
- *Simple access to all axis parameters*
- *Software cam can be defined*
- *Diagnosis options and remote maintenance*
- *Inputs and outputs can be forced (e.g. for start-up)*
- *Fault history*
- *Free choice of language (German, English, French)*

Technical data	NR 750Z	NR 1100Z	NR 1500Z	NR 2200Z
Main power voltage:	400...480 VAC ± 10%; 48...62 Hz	3 x 400 VAC to 80 VAC +/- 10%; 48 to 62 Hz	3 x 400 VAC to 80 VAC +/- 10%; 48 to 62 Hz	3 x 400 VAC to 80 VAC +/- 10%; 48 to 62 Hz
Power voltage 24V:	24 VDC ± 5%; 2.5 A	24 VDC +/- 5%; 5 A	24 VDC +/- 5%; 5 A	24 VDC +/- 5%; 5 A
Connection power:	10 kVA	17 kVA	17 kVA	17 kVA
Installation dimensions W x D x H:	70.5 x 375 x 236 mm	200 x 375 x 234 mm	200 x 375 x 234 mm	200 x 375 x 234 mm

Machine Dimensioning NR

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

Dear customer,

Thank you for your interest in our Indexing Rings. To enable us to supply you with the correct unit for your application, we kindly ask you to answer the following questions:

Model

☐ NR 750Z ☐ NR 1100Z ☐ NR 1500Z ☐ NR 2200Z

☐ Drive on the bottom
☐ Pulley box and motor mounted 90° inside
☐ Pulley box and motor mounted 90° outside

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

Additional Components (optional)

☐ Add. raised support for fixed stationary plate: H _____ mm
☐ Add raised support for indexing ring: H_____ mm
☐ Base frame model (according to chapter customer-specific solutions)

Colour

☐ RAL 7035 (light grey-standard)
☐ Special colour RAL _____ (extra charge)
☐ Lugs used: ☐ Yes ☐ No (Lugs painted)

Required to specify your NR table

The following specification regarding your configuration is fundamental for the calculation of the mass moment of inertia.

Indexing ring

Outer Diameter: _____ mm
Inner Diameter: _____ mm
Thickness: _____ mm
Material: ☐ AlMg4.5Mn ☐ other_____
Please draw a sketch of how your load is build on the table.
Total mass inertia: _____ kg m² (additional indexing plate and add-ons)

Fixture and parts

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

Additional indexing plate

☐ Included in the scope of offer and delivery

Processing according to drawing No. _____

Electrical data

☐ **WEISS control 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

☐ **Supply of customers motor and controller*****
☐ Customer to fit motor***
*** Please forward a drawing of motor flange

Manufacturer: _____
Type: _____
(Motor specification following consulting WEISS)

For technical enquiries

Company: _____
Name: _____
Country: _____

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

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