

CR/TH

FREELY PROGRAMMABLE ROTARY TABLES | CR/TH HEAVY DUTY ROTARY TABLE



CR/TH HEAVY DUTY ROTARY TABLE: MAKES LIGHT WORK OF HEAVY LOADS

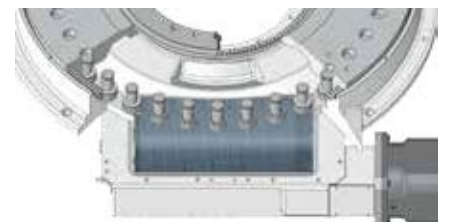
FOR HORIZONTAL AXES

User-programmable rotary barrel drive of the TH range for horizontal loads and high breakdown torque levels. With screw-on surfaces for Buhl pinning and optional rotary encoder.

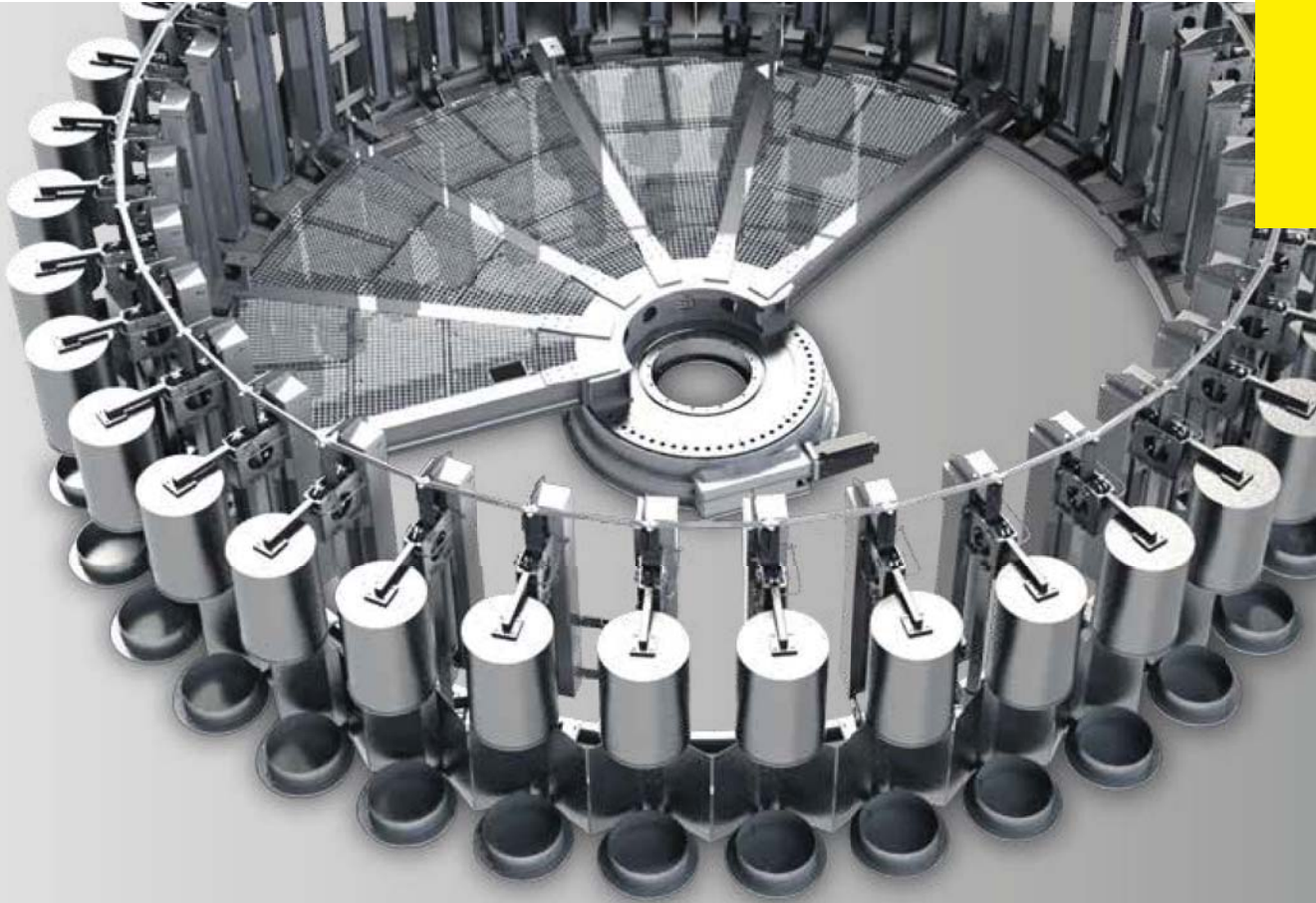


THE TECHNOLOGY MAKES THE DIFFERENCE

The cam drive, positioned far toward the outside, enables the highest precision and dynamic performance.



This cooling carousel at one of Cirex's casting stations in the Netherlands has a diameter of 10 metres and weighs 30 tonnes. It is driven by a CR. A special bearing has been fitted to handle the high breakdown moment as a result of the uneven load.



Flat heavy duty rotary table with large central opening. A real powerhouse. User-programmable. The flat design frees up space for ergonomically optimal workplaces. The table is fully user-programmable using our WEISS Application Software.

ADVANTAGES

- Extremely flat design
- Large central opening for optimum feed-through of supply cables
- User-programmable
- Extremely smooth and quiet running (<70 dBA)
- Splashproof
- Covered gaskets for protection from welding sparks
- The flexible motor flange principle makes it easy to connect third-party motors
- Maximum power transmission with zero backlash thanks to multiple cam rollers that are tensioned against one another and meshed
- Highest parts and repeat accuracy
- CR range with available manual hand crank
- Impressive price-performance
- Mounted on high-precision needle bearings to handle the heaviest loads in both the axial and radial direction
- Permanent status monitoring through W.A.S. – WEISS Application Software

TH 400F

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:*	Rotation axis hor./vert. (preferred cam shaft down, horizontal)
Indexing precision (arcsec):	± 15" (standard with additional shaft encoder), ± 50" (without additional shaft encoder)
Repeatability (arcsec):	± 5" standard (with additional shaft encoder), ± 40" (without additional shaft encoder)
Max. axial run-out of output flange:	0.03 mm
Max. concentricity of output flange:	0.03 mm
Weight:	Approx. 430 kg (without motor)

DRIVING DATA**

$i_{\text{Rotary indexer}}$	14
$i_{\text{Bevel gear}}$	15.86 (standard, other transmissions possible)
i_{Total}	222.04 (standard, other transmissions possible)
$M_{\text{Motor max}}$	22 Nm (for standard bevel gear transmission)
$M_{\text{Brake max.}}$	10 Nm (for standard bevel gear transmission)

* Please consult WEISS for overhead mounting positions.

** It is possible to fit popular alternative motors from various manufacturers. We are happy to advise you if you require any further information.

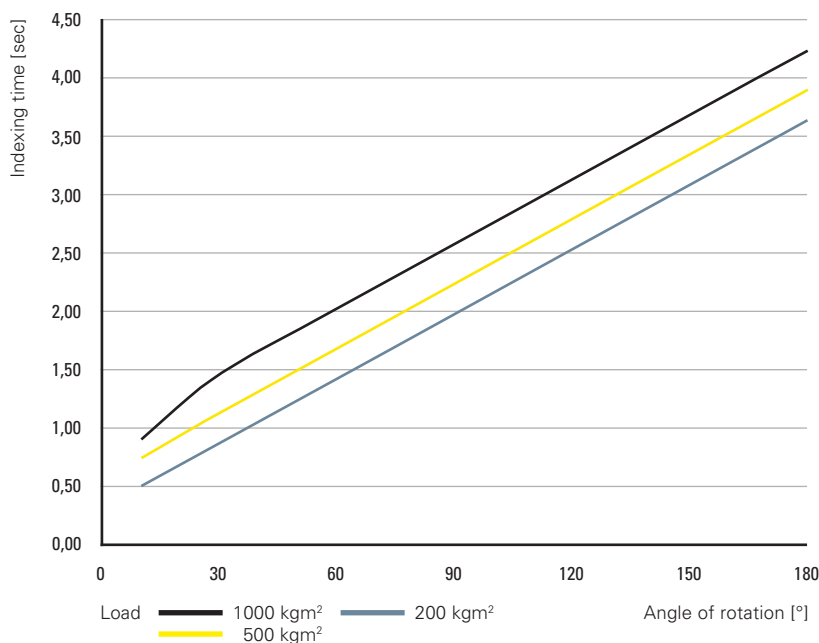
LOAD DATA (for the output flange)

F_A : Perm. axial force		F_R : Perm. radial force		M_K : Perm. tilting moment		T_A : Perm. torque	
dynamic	static	dynamic	static	dynamic	static	dynamic***	static
20 kN	90 kN	127 kN	290 kN	27 kNm	62 kNm	4.8 kNm	7 kNm

Combined loads only after inspection by WEISS.

*** max. driving torque at drive flange (depends on drive)

TIMING DIAGRAM for standard transmission (please contact us for other requests)



TH 700F

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:	Rotation axis horizontal (cam shaft down, horizontal)
Indexing precision (arcsec):	± 15"
Repeatability (arcsec):	± 10"
Max. axial run-out of output flange:	0.02 mm
Max. concentricity of output flange:	0.02 mm
Weight:	Approx. 630 kg. (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA*

i_{Total}	144
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	80 Nm
$M_{Brake\ max}$	50 Nm

* It is possible to fit popular alternative motors from various manufacturers. (an additional reduction gear may be required with several motors). We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

Perm. axial force

F_A : 3.5 kN

Perm. radial force

F_R : 19 kN

Perm. tilting moment

M_K : 3.5 kNm

Perm. torque

T_A : 1.7 kNm

LOAD DATA (for the output flange)

F_A : Perm. axial force
dynamic **70 kN** static **150 kN**

F_R : Perm. radial force
dynamic **30 kNm** static **50 kNm**

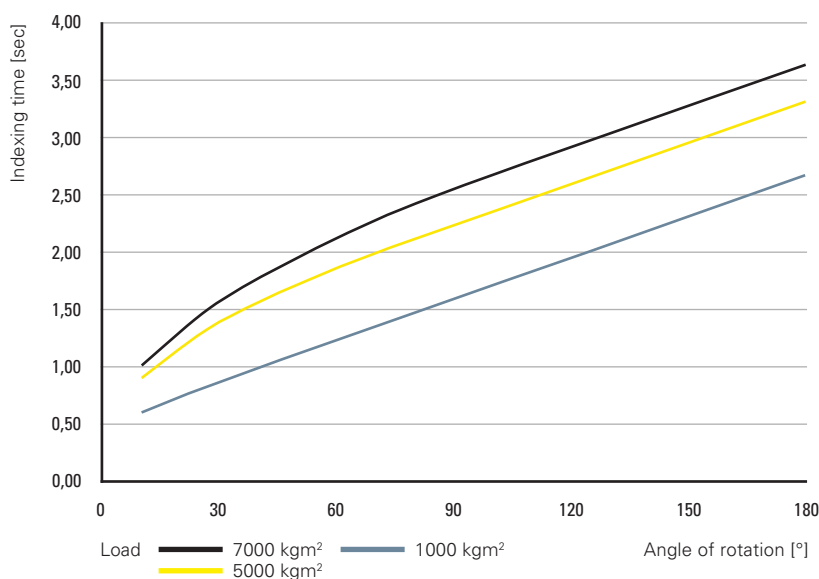
M_K : Perm. tilting moment
dynamic **10 kNm** static **20 kNm**

T_A : Perm. torque
dynamic** **11.5 kNm** static **17 kNm**

Combined loads only after inspection by WEISS.

** max. driving torque at output flange

TIMING DIAGRAM for standard transmission (please contact us for other requests)



TH 1000F

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:	Rotation axis horizontal (cam shaft down, horizontal)
Indexing precision (arcsec):	± 15"
Repeatability (arcsec):	± 10"
Max. axial run-out of output flange:	0.02 mm
Max. concentricity of output flange:	0.02 mm
Weight:	Approx. 1500 kg (without motor)

DRIVING DATA*

i_{Total}	200
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	120 Nm
$M_{Brake\ max}$	100 Nm

* It is possible to fit popular alternative motors from various manufacturers. (an additional reduction gear may be required with several motors). We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

F_A: Perm. axial force 45 kN	F_R: Perm. radial force 19 kN	M_K: Perm. tilting moment 6 kNm	T_A: Perm. torque 2 kNm
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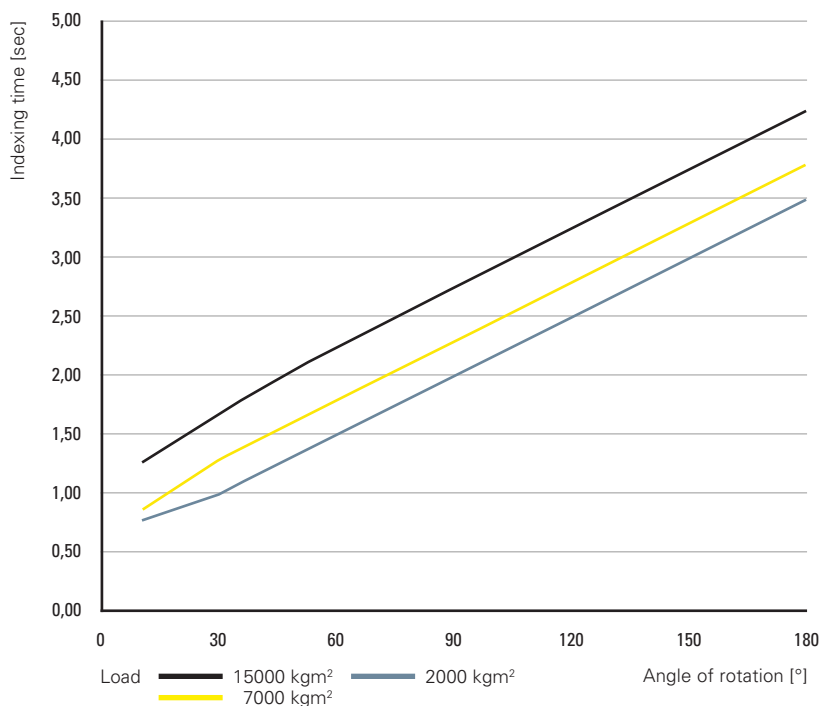
LOAD DATA (for the output flange)

F_A: Perm. axial force dynamic 120 kN static 250 kN	F_R: Perm. radial force dynamic 100 kNm static 220 kNm	M_K: Perm. tilting moment dynamic 25 kNm static 50 kNm	T_A: Perm. torque dynamic** 24 kNm static 32 kNm
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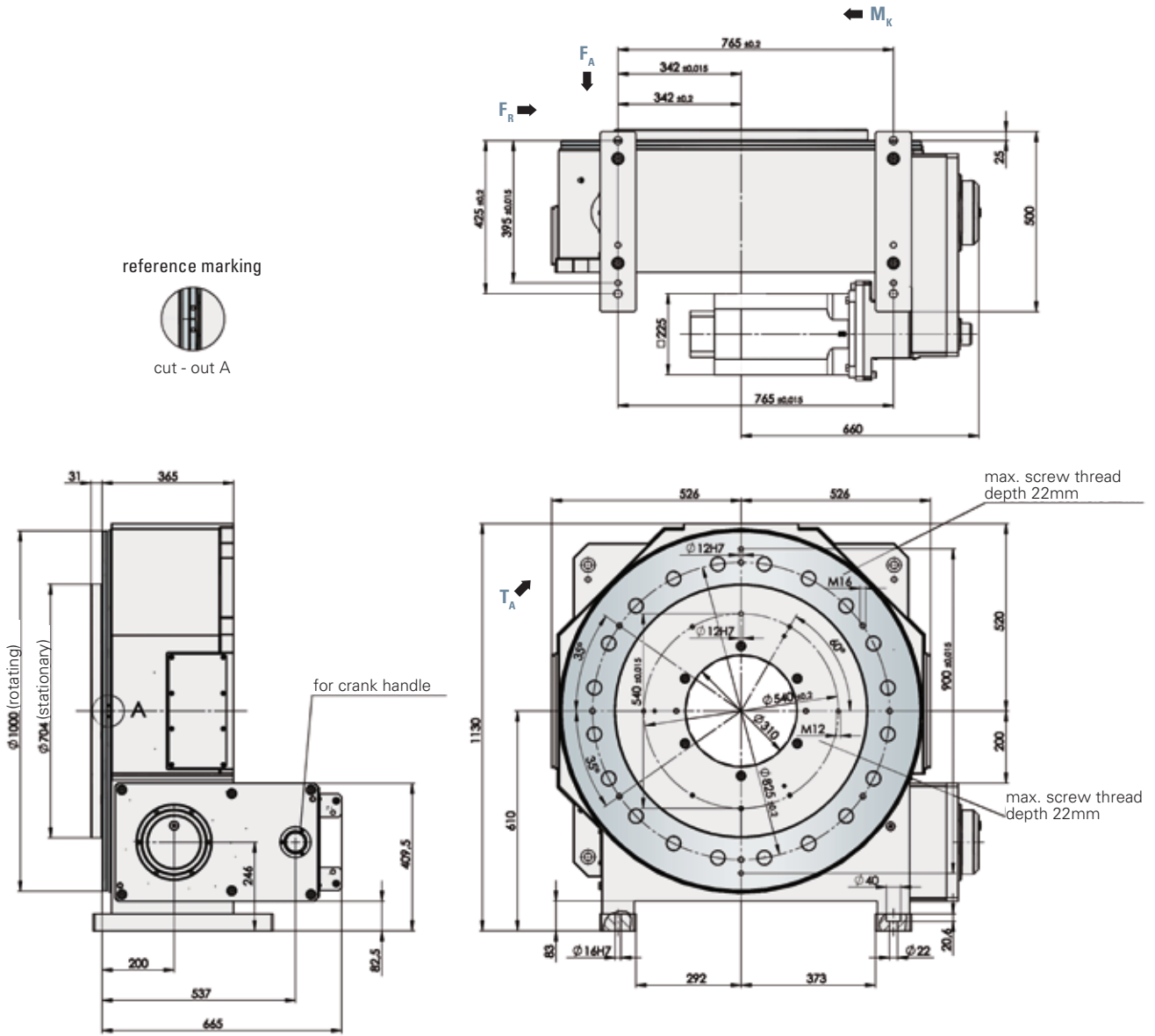
Combined loads only after inspection by WEISS.

** max. driving torque at output flange

TIMING DIAGRAM for standard transmission (please contact us for other requests)



DIMENSIONS



It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent.

CR 300E

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:*	Rotation axis vertical/horizontal (cam shaft down, horizontal)
Indexing precision (arcsec):	± 30"
Repeatability (arcsec):	± 20"
Max. axial run-out of output flange:	0.01 mm
Max. concentricity of output flange:	0.01 mm
Weight:	Approx. 210 kg (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA**

i_{Total}	130.2
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	28 Nm
$M_{Brake\ max}$	15 Nm

* Please consult WEISS for overhead mounting positions.

** It is possible to fit popular alternative motors from various manufacturers. (an additional reduction gear may be required with several motors). We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

F_A: Perm. axial force 6.5 kN	F_R: Perm. radial force 3.5 kN	M_K: Perm. tilting moment 0.3 kNm	T_A: Perm. torque 0.15 kNm
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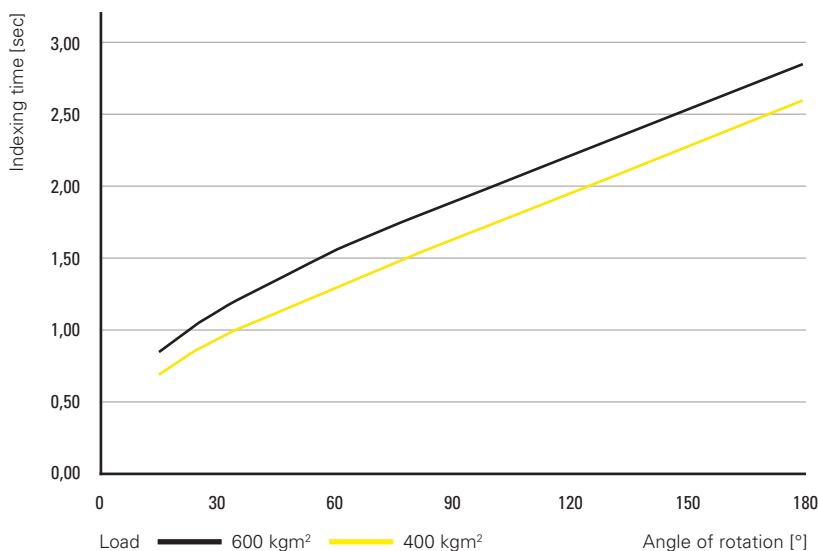
LOAD DATA (for the output flange)

F_A: Perm. axial force dynamic static 20 kN 28 kN	F_R: Perm. radial force dynamic static ± 5.5 kNm ± 9 kNm	M_K: Perm. tilting moment dynamic static 3 kNm 4 kNm	T_A: Perm. torque dynamic*** static 1.2 kNm 1.6 kNm
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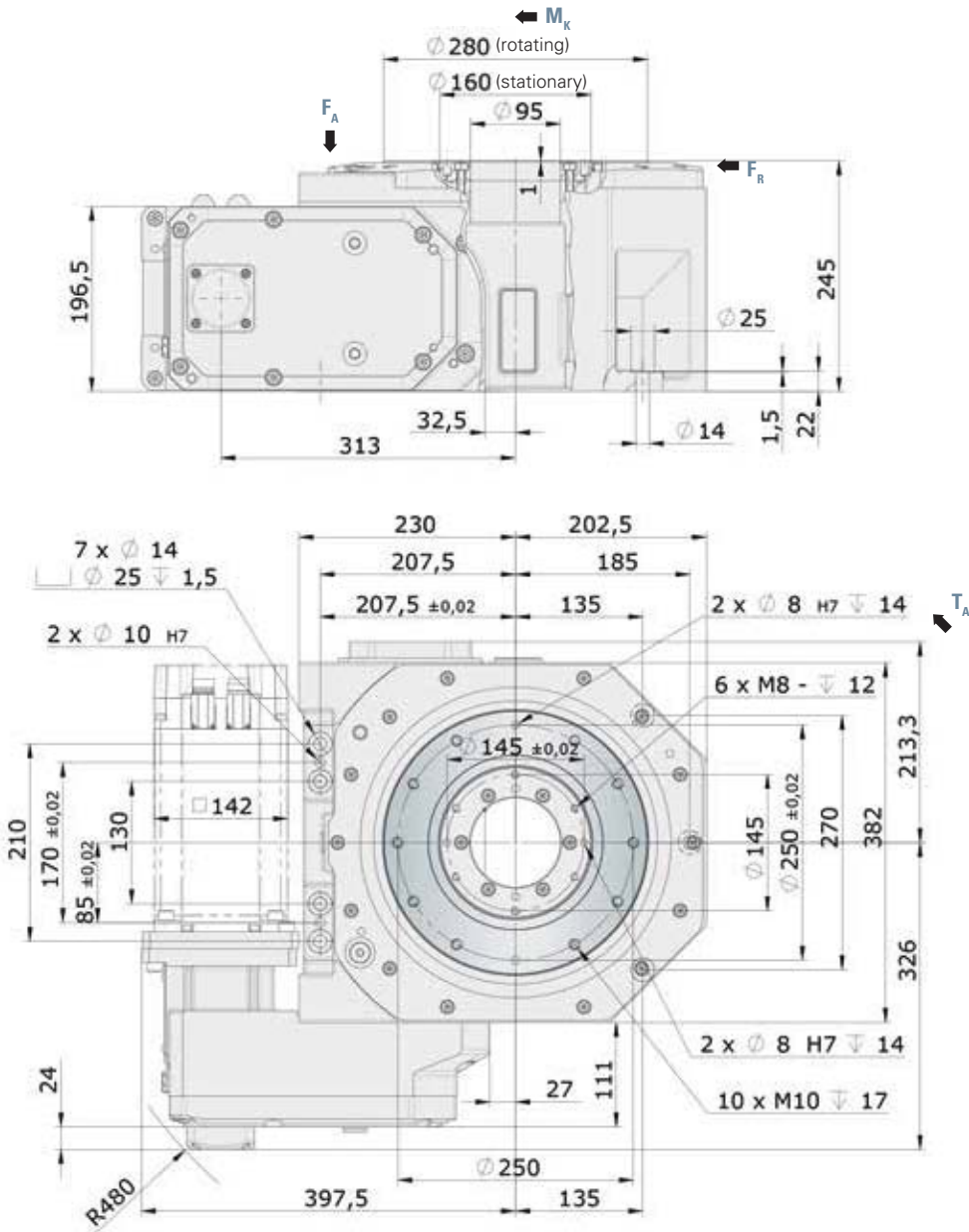
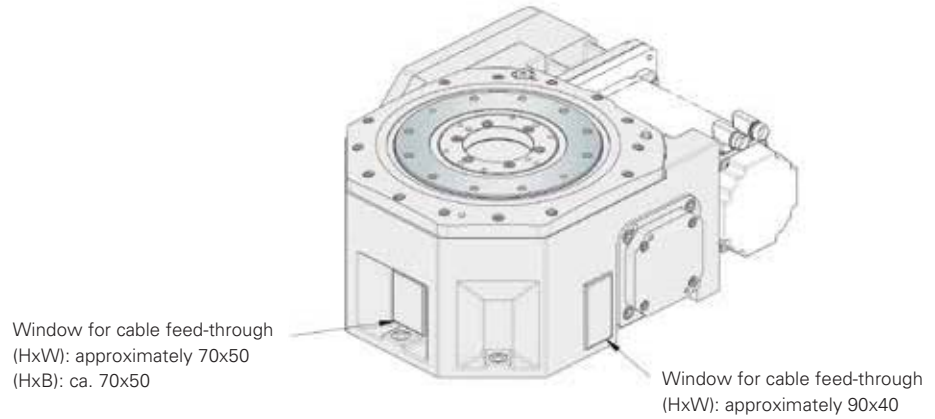
Combined loads only after inspection by WEISS.

*** max. driving torque at output flange

TIMING DIAGRAM (please contact us for other requests)



DIMENSIONS



It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent.

CR 400E

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:*	Rotation axis vertical/horizontal (cam shaft down, horizontal)
Indexing precision (arcsec):	± 15" standard (with additional rotary encoder) ± 50" standard (without additional rotary encoder)
Repeatability (arcsec):	± 5" standard (with additional rotary encoder) ± 40" standard (without additional rotary encoder)
Max. axial run-out of output flange:	0.015 mm
Max. concentricity of output flange:	0.015 mm
Weight:	Approx. 300 kg (with standard gearbox, without motor)

DRIVING DATA**

$i_{\text{Rotary indexer}}$	14
$i_{\text{Bevel gear}}$	15.86
i_{Total}	222.04 rpm
$M_{\text{Motor max}}$	22 Nm
$M_{\text{Brake max}}$	10 Nm

* Please consult WEISS for overhead mounting positions.

** It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent. We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

F_A : Perm. axial force 10 kN	F_R : Perm. radial force 6 kN	M_K : Perm. tilting moment 0.65 kNm	T_A : Perm. torque 0.3 kNm
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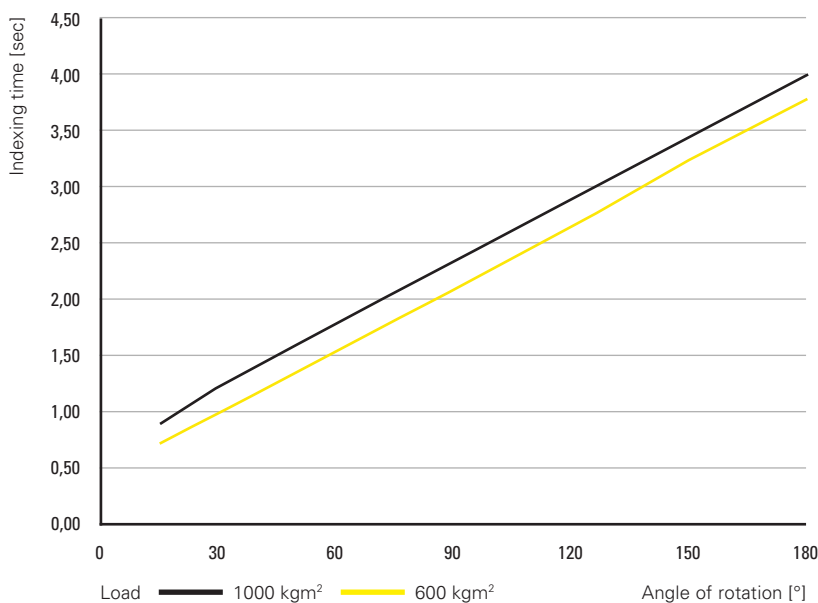
LOAD DATA (for the output flange)

F_A : Perm. axial force	F_R : Perm. radial force	M_K : Perm. tilting moment	T_A : Perm. torque
dynamic static	dynamic static	dynamic static	dynamic*** static
30 kN 50 kN	8 kN 14 kN	3 kNm 4 kNm	1.65 kNm 2 kNm

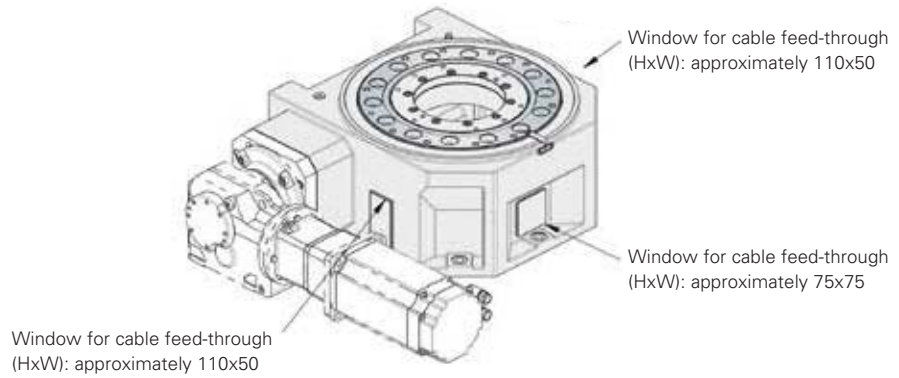
Combined loads only after inspection by WEISS.

*** max. torque at output flange

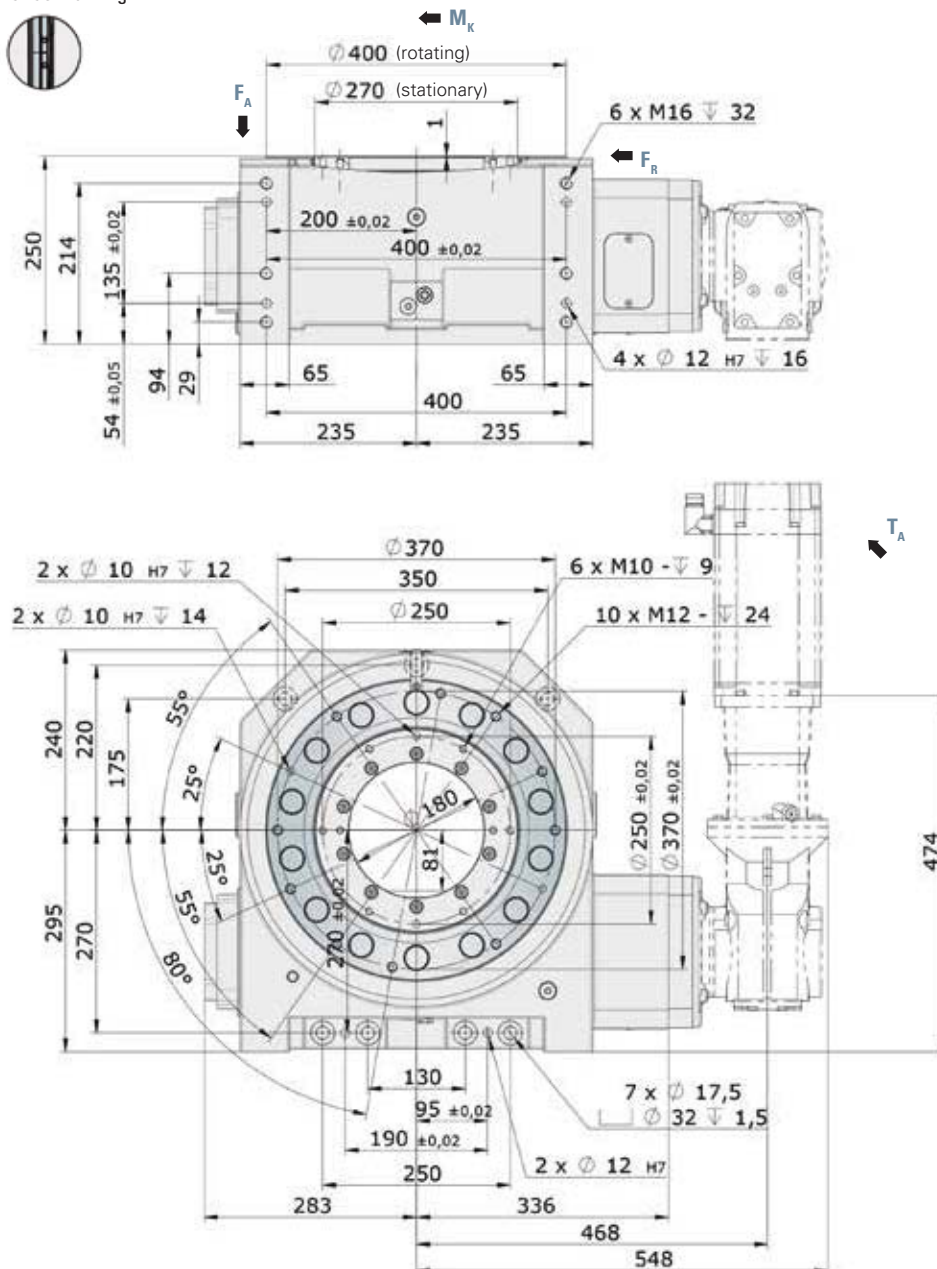
TIMING DIAGRAM (please contact us for other requests)



DIMENSIONS



Reference marking



It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent.

CR 500E

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:*	Rotation axis vertical/horizontal (cam shaft down, horizontal)
Indexing precision (arcsec):	± 25"
Repeatability (arcsec):	± 15"
Max. axial run-out of output flange:	0.015 mm
Max. concentricity of output flange:	0.015 mm
Weight:	Approx. 420 kg (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA**

i_{Total}	163.69
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	39 Nm
$M_{Brake\ max}$	32 Nm

* Please consult WEISS for overhead mounting positions.

** It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent. We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

F_A : Perm. axial force 18 kN	F_R : Perm. radial force 10 kN	M_K : Perm. tilting moment 1.5 kNm	T_A : Perm. torque 0.5 kNm
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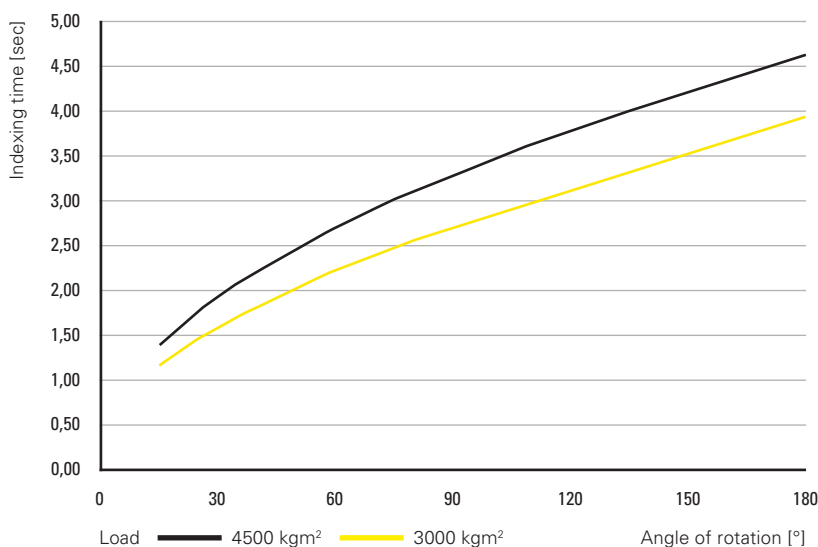
LOAD DATA (for the output flange)

F_A : Perm. axial force	F_R : Perm. radial force	M_K : Perm. tilting moment	T_A : Perm. torque
dynamic static	dynamic static	dynamic static	dynamic*** static
40 kN 75 kN	15 kNm 25 kNm	3.5 kNm 7 kNm	2.8 kNm 3.8 kNm

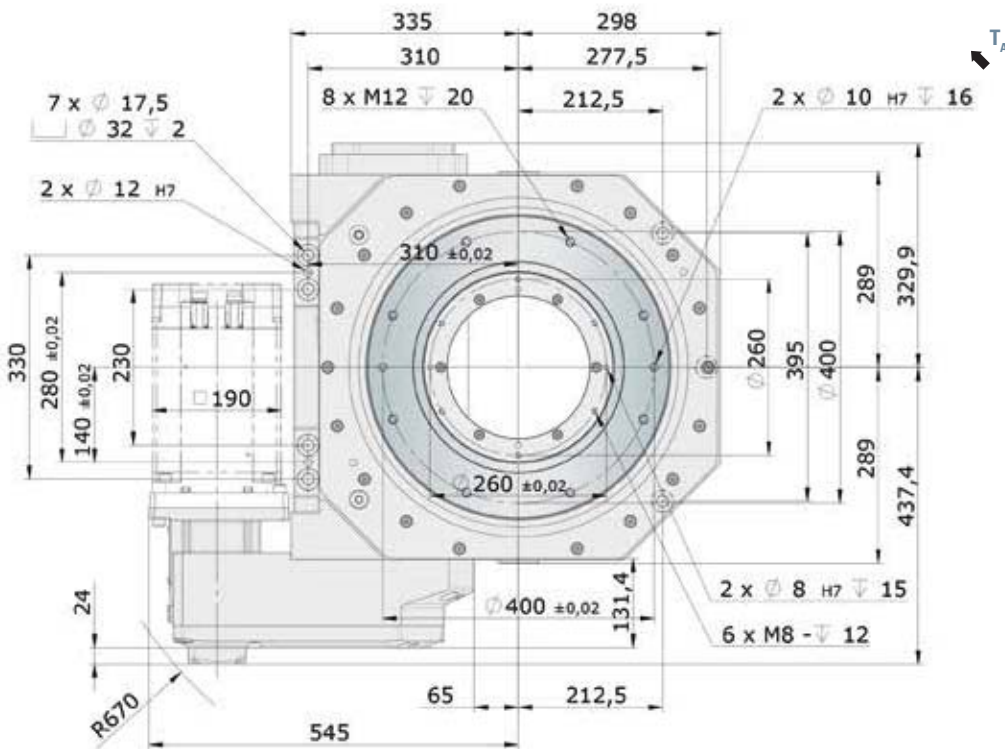
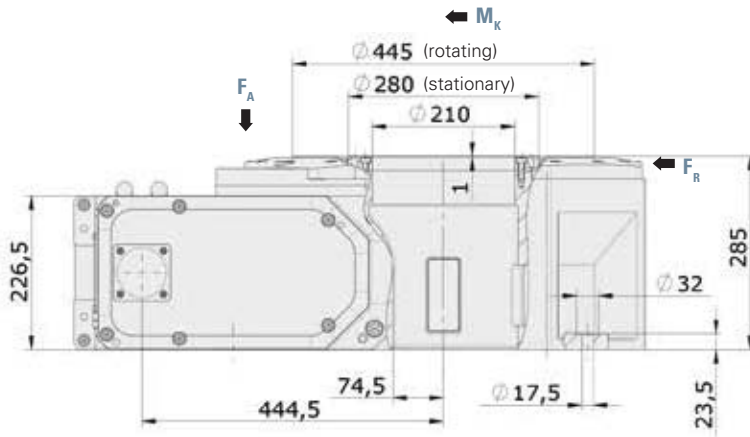
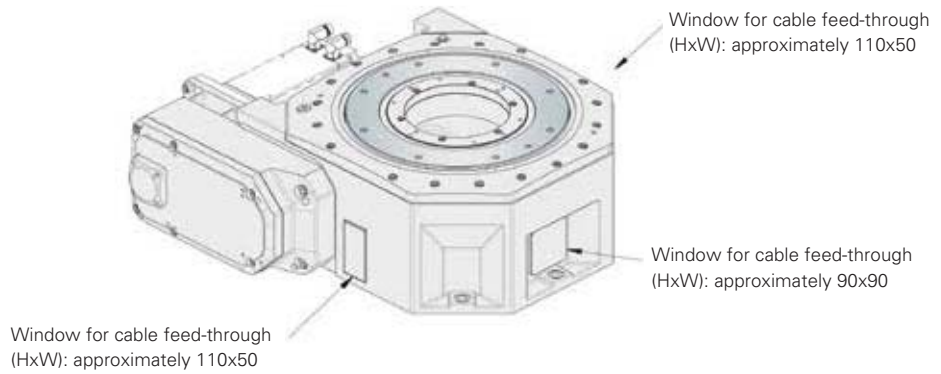
Combined loads only after inspection by WEISS.

*** max. torque at output flange (depends on drive)

TIMING DIAGRAM (please contact us for other requests)



DIMENSIONS



It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent.

CR 700C

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:*	Rotation axis vertical/horizontal (cam shaft down, horizontal)
Indexing precision (arcsec):	± 15"
Repeatability (arcsec):	± 10"
Max. axial run-out of output flange:	0.02 mm
Max. concentricity of output flange:	0.02 mm
Weight:	Approx. 630 kg (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA**

i_{Total}	144
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	80 Nm
$M_{Brake\ max}$	50 Nm

* Please consult WEISS for overhead mounting positions.

** It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent. We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

F_A : Perm. axial force 35 kN	F_R : Perm. radial force 19 kN	M_K : Perm. tilting moment 3.5 kNm	T_A : Perm. torque 1.7 kNm
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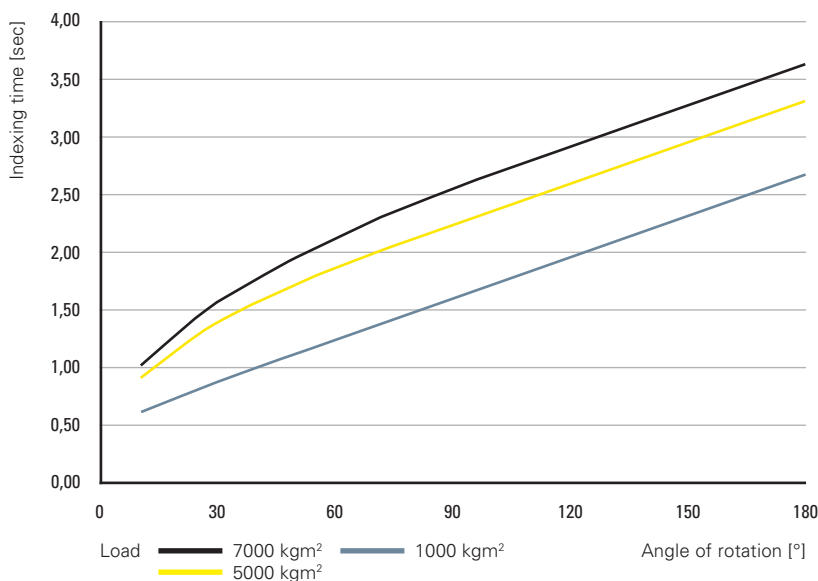
LOAD DATA (for the output flange)

F_A : Perm. axial force dynamic 70 kN static 150 kN	F_R : Perm. radial force dynamic 30 kN static 50 kN	M_K : Perm. tilting moment dynamic 10 kNm static 20 kNm	T_A : Perm. torque dynamic*** 11.5 kNm static 17 kNm
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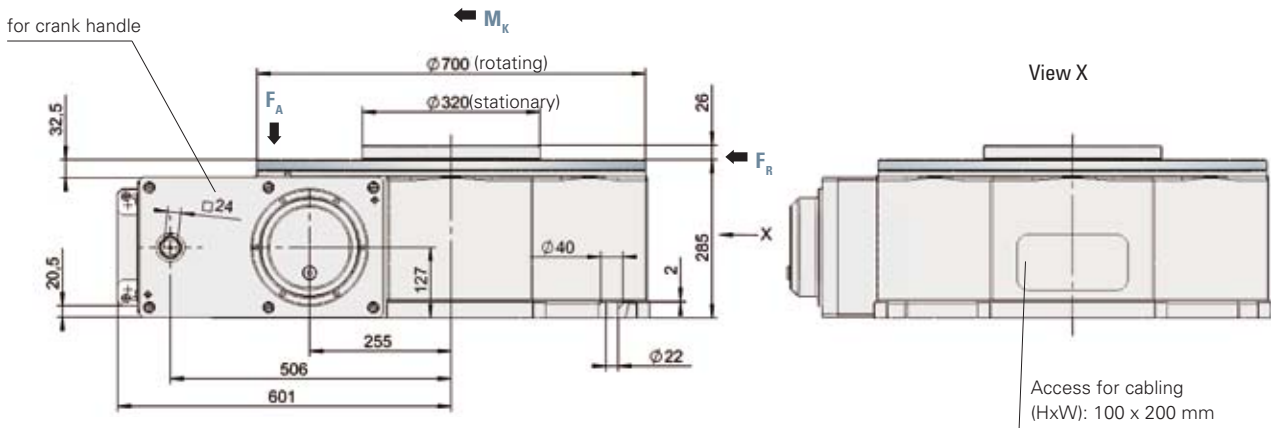
Combined loads only after inspection by WEISS.

*** max. torque at output flange

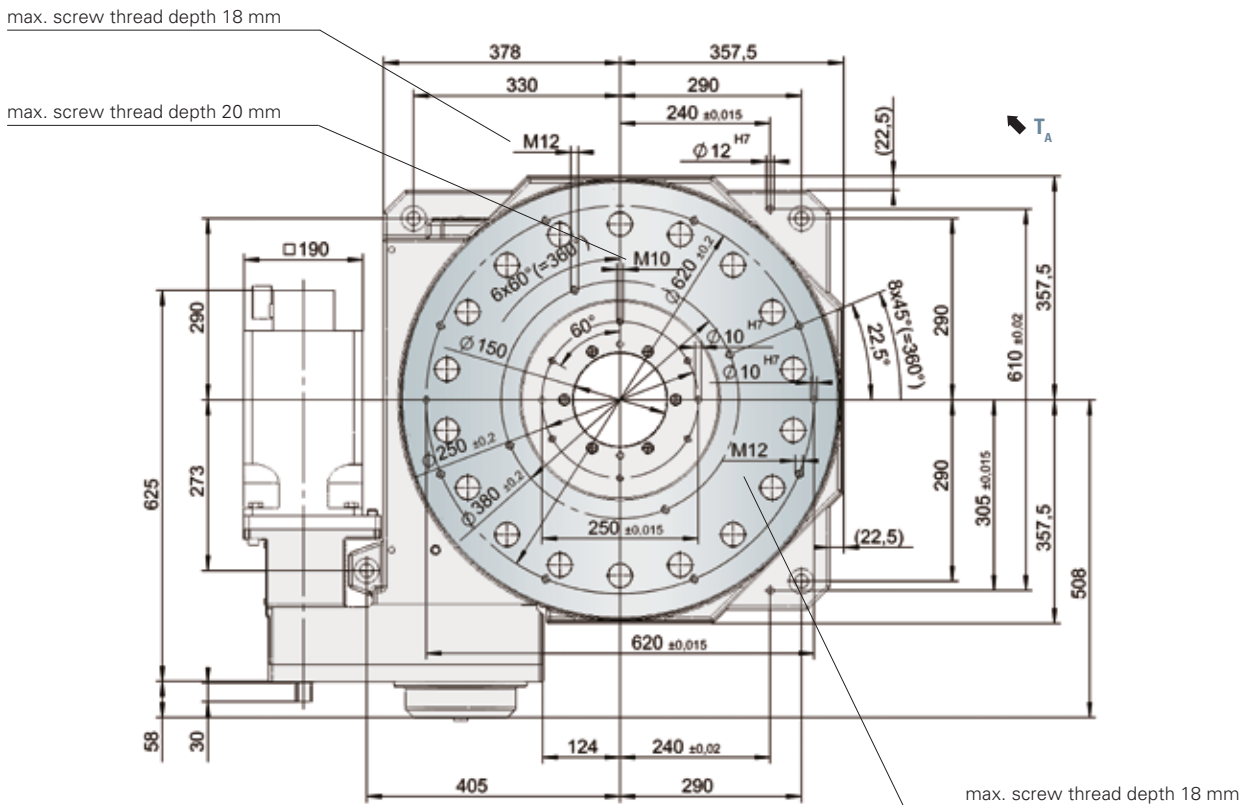
TIMING DIAGRAM (please contact us for other requests)



DIMENSIONS



reference marking



The shown position of the dial plate corresponds to the home position (state of delivery).
It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent.

CR 1000C

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:	Rotation axis vertical (cam shaft down horizontal)
Indexing precision (arcsec):	± 15"
Repeatability (arcsec):	± 10"
Max. axial run-out of rotating plate:	0.02 mm
Max. concentricity of output flange:	0.02 mm
Weight:	Approx.1450 kg (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA*

i_{Total}	200
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	120 Nm
$M_{Brake\ max}$	100 Nm

* It is possible to fit popular alternative motors from various manufacturers. The drive flange geometries are motor-dependent. We are happy to advise you if you require any further information.

LOAD DATA (for the stationary centre section)

F_A: Perm. axial force 45 kN	F_R: Perm. radial force 19 kN	M_K: Perm. tilting moment 6 kNm	T_A: Perm. torque 2 kNm
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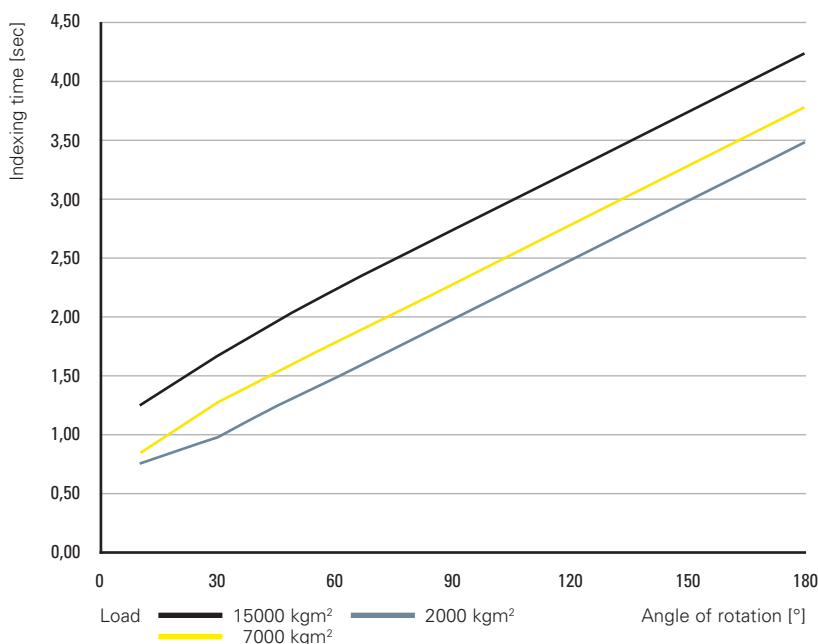
LOAD DATA (for the stationary centre section)

F_A: Perm. axial force dynamic static 120 kN 250 kN	F_R: Perm. radial force dynamic static 100 kN 220 kN	M_K: Perm. tilting moment dynamic static 25 kNm 50 kNm	T_A: Perm. torque moment dynamic** static 24 kNm 32 kNm
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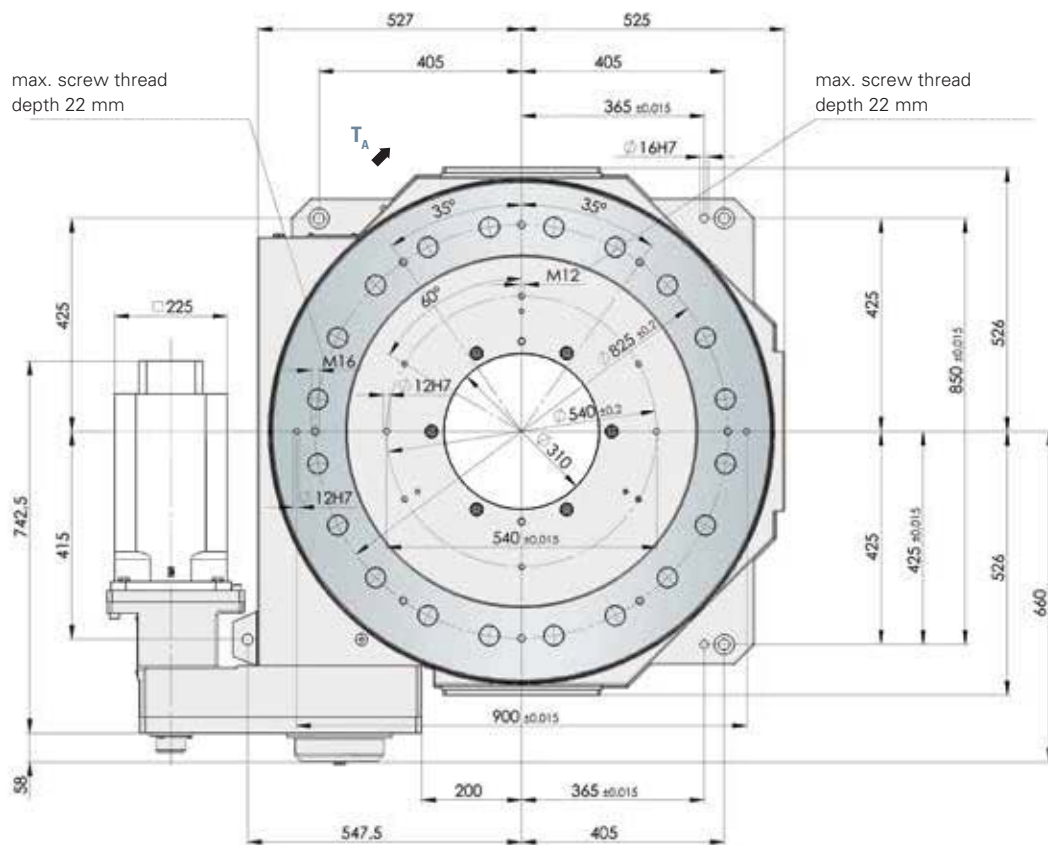
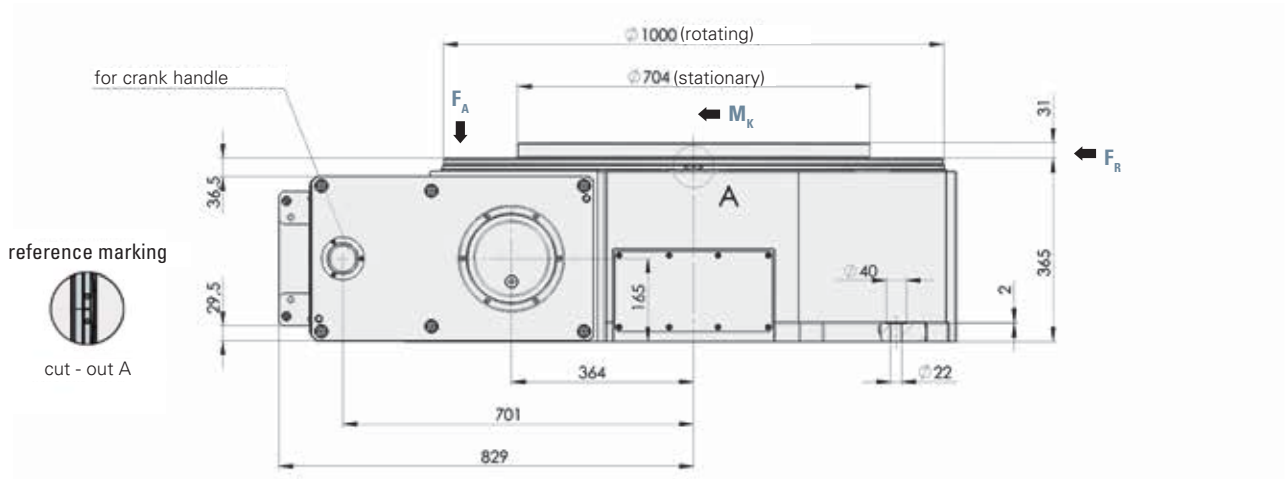
Combined loads only after inspection by WEISS.

**max. torque at output flange

TIMING DIAGRAM (please contact us for other requests)



DIMENSIONS



The motor dimensions refer to the model 8LSA84.E1022D200-0 von B&R. It is possible to fit alternative motors from various manufacturers.

CR 1300C

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:	Vertical rotation axis
Indexing precision (arcsec):	± 12"
Repeatability (arcsec):	± 5"
Max. axial run-out of rotating plate:	0.03 mm
Max. concentricity of output flange:	0.03 mm
Weight:	Approx. 2000 kg (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA*

i_{Total}	180
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	150 Nm
$M_{Brake\ max}$	80 Nm

* It is possible to fit popular alternative motors from various manufacturers. The specified concentricity and axial and radial run-out tolerances can only be achieved with accurate supporting surfaces. With unsymmetrical loads (e.g. single-sided load) please contact us concerning the connecting surface (flatness of base plate must be 0.1 mm or less). We are happy to advise you if you require any further information.

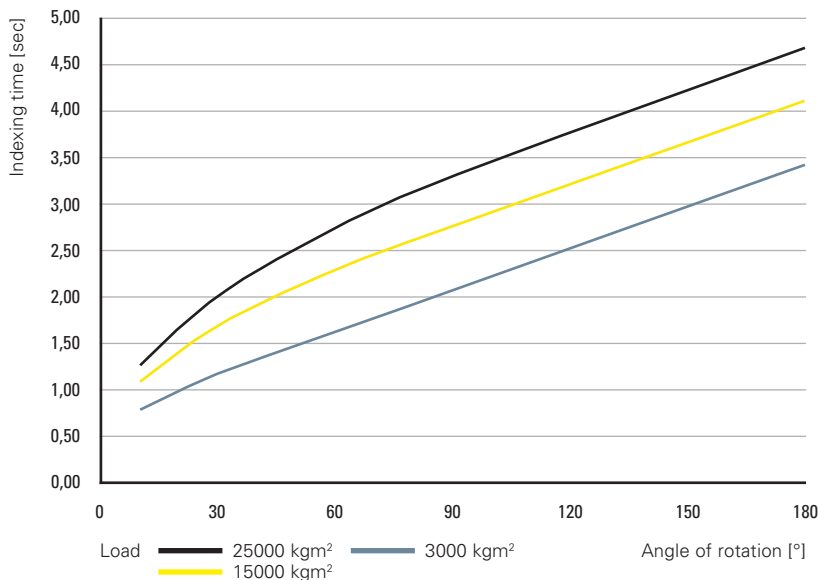
LOAD DATA (for the output flange)

F_A : Perm. axial force		F_R : Perm. radial force		M_K : Perm. tilting moment		T_A : Perm. torque	
dynamic	static	dynamic	static	dynamic	static	dynamic**	static
150 kN	280 kN	100 kN	230 kN	35 kNm	70 kNm	27 kNm	40 kNm

Combined loads only after inspection by WEISS.

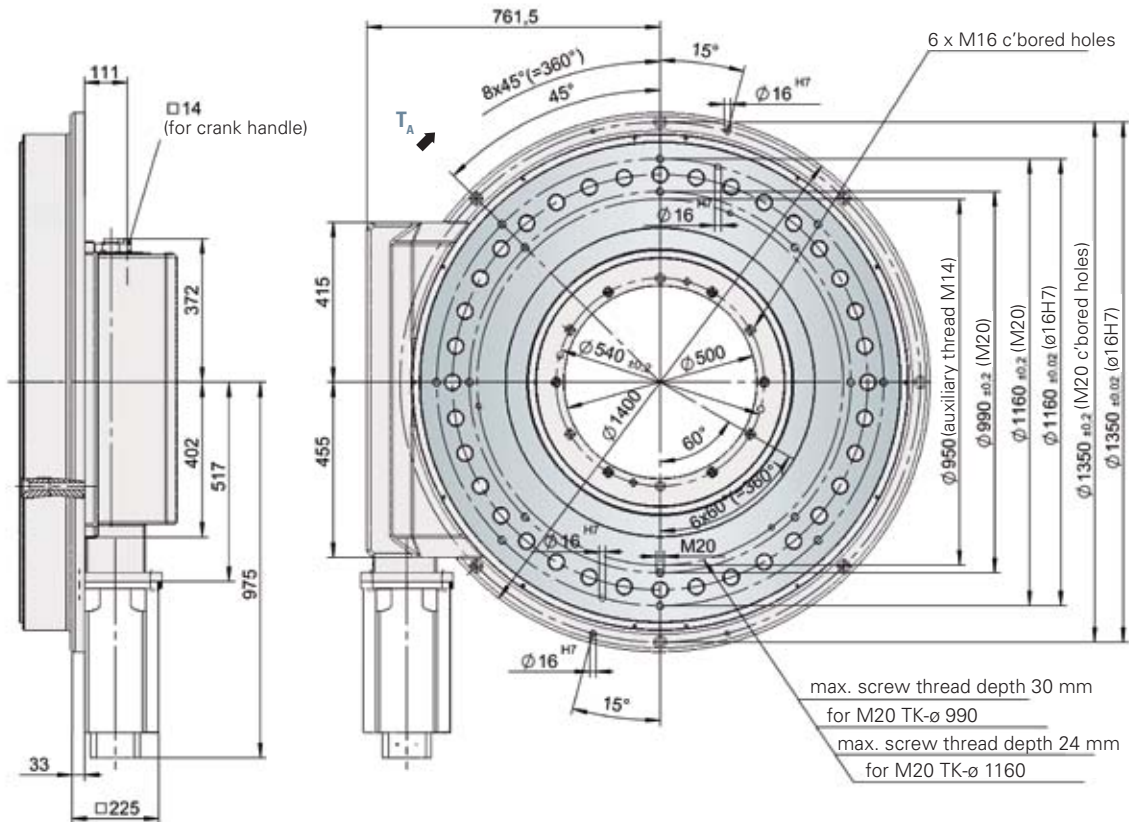
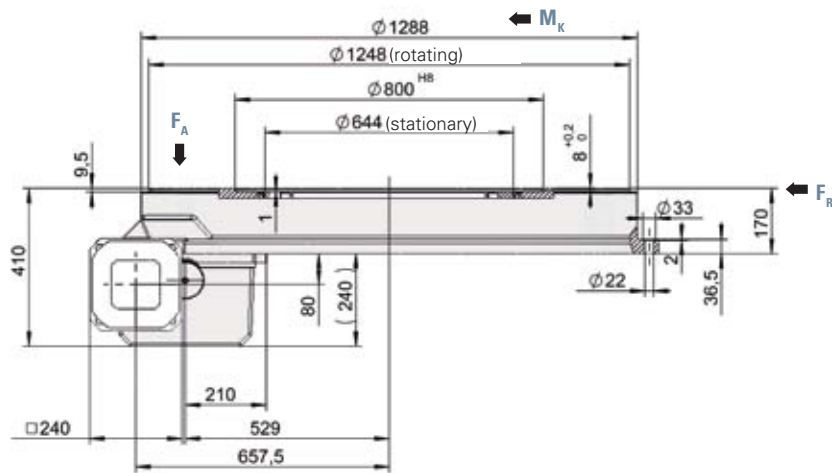
** max. torque at output flange (depends on drive)

TIMING DIAGRAM (please contact us for other requests)



DIMENSIONS

reference marking



The shown position of the dial plate corresponds to the home position (state of delivery).
 The motor dimensions refer to the model 8LSA84.E1022D200-0 von B&R. It is possible to fit alternative motors from various manufacturers.
 An additional reduction gear may be required with several motors. We are happy to advise you if you require any further information.

CR 2000C

TECHNICAL DATA

Direction of rotation:	Freely programmable
Mounting position:	Vertical rotation axis
Indexing precision (arcsec):	± 10"
Repeatability (arcsec):	± 5"
Max. axial run-out of rotating plate:	0.03 mm
Max. concentricity of output flange:	0.03 mm
Weight:	Approx. 3600 kg (without motor)
Handwheel:	Freely accessible square shaft

DRIVING DATA*

i_{Total}	310
$n_{Motor\ max}$	2000 rpm
$M_{Motor\ max}$	150 Nm
$M_{Brake\ max}$	80 Nm

* It is possible to fit popular alternative motors from various manufacturers. The specified concentricity and axial and radial run-out tolerances can only be achieved with accurate supporting surfaces. With unsymmetrical loads (e.g. single-sided load) please contact us concerning the connecting surface (flatness of base plate must be 0.1 mm or less). We are happy to advise you if you require any further information.

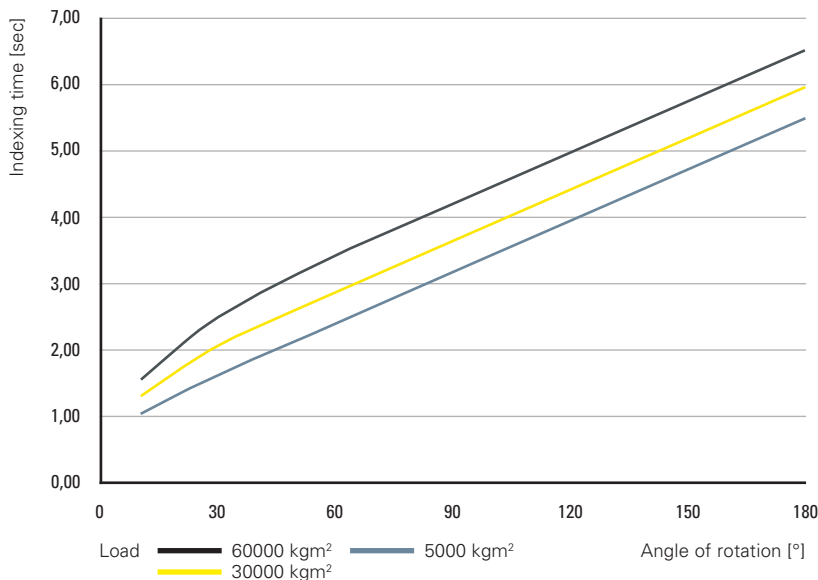
LOAD DATA (for the output flange)

F_A : Perm. axial force		F_R : Perm. radial force		M_K : Perm. tilting moment		T_A : Perm. torque	
dynamic	static	dynamic	static	dynamic	static	dynamic**	static
250 kN	450 kN	125 kN	290 kN	55 kNm	110 kNm	46.5 kNm	61 kNm

Combined loads only after inspection by WEISS.

** max. torque at output flange (depends on drive)

TIMING DIAGRAM (please contact us for other requests)



W.A.S./W.A.S. 2

WEISS APPLICATION SOFTWARE

The W.A.S. (WEISS Application Software) offers you easy access to the table drive options. The W.A.S. 2 software also offers quick and easy commissioning of entire multi-axis systems.

- Free language selection
- Easy access to axis parameters
- Diagnostic options, remote maintenance
- Inputs and outputs can be forced (e.g. for start-up)
- Software cams can be specified
- Error history



DESIGN AND CONNECTION

- Plug & play
- Pre-parameterised control package
- Perfectly matched components
- Outstanding flexibility with regard to cable length and interfaces

COMMUNICATION

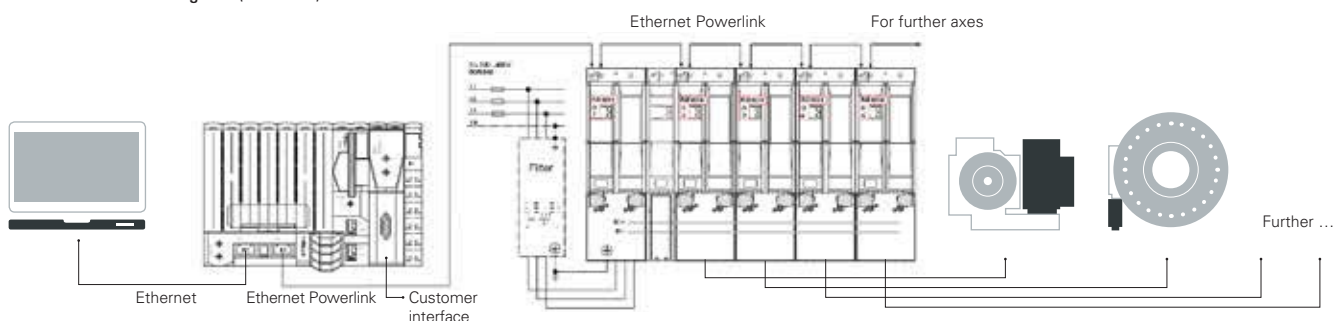
- Digital I/O (24-V inputs and outputs)
- Profibus DP
- EtherNet/IP (Rockwell)
- PROFINET (W.A.S. 2 only)
- EtherCAT (W.A.S. 2 only)
- More available on request

SAFETY AND SERVICE

- Absolute measuring system
- Safe torque off function integrated
- Safe Motion on request
- Worldwide service
- Comprehensive safety and monitoring functions

Electrical data	CR 300E, CR 400E, TH 400F	CR 500E, CR 700C, TH 700F	CR 1000C, CR 1300C, TH 1000F	CR 2000C
Main power voltage	3 x 400 VAC, up to 480 VAC, ± 10%; 48 up to 62 Hz			
Power voltage 24 V	24 VDC ± 5%; 5A			
Connection power max.	3 kVA	17 kVA	30 kVA	54 kVA
Installation dimensions W x H x D	70 x 375 x 236 mm	200 x 375 x 234 mm	200 x 375 x 234 mm	276 x 480 x 295 mm

ACP Multi circuit diagram (W.A.S. 2)



MACHINE DESIGN CR/TH

Fax to: +49 (0) 6281 5208-99 or just fill in the form online: www.weiss-international.com

Enquiry Attachment to order

Dear customer,

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

Model

- | | | |
|-----------------------------------|----------------------------------|-----------------------------------|
| <input type="checkbox"/> TH 400F | <input type="checkbox"/> CR 300E | <input type="checkbox"/> CR 1000C |
| <input type="checkbox"/> TH 700F | <input type="checkbox"/> CR 400E | <input type="checkbox"/> CR 1300C |
| <input type="checkbox"/> TH 1000F | <input type="checkbox"/> CR 500E | <input type="checkbox"/> CR 2000C |
| | <input type="checkbox"/> CR 700C | |

Indexing time

Based on the calculated mass moment of inertia, do you require:

- The shortest indexing time
- A longer indexing time of approx. _____ sec
- Angle of rotation _____ °
- Standing time _____ sec

Additional baseframe (optional)

for all CR / TH models

Additional indexing plate

Included in the scope of offer and delivery
 Processing according to drawing No. _____

Colour of the gearbox

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

Required to specify your CR / TH table

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

Additional indexing plate

Diameter: _____ mm
 Thickness: _____ mm
 Material: Al St Other _____

Fixtures and parts

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

Please forward a sketch detailing the load distribution on the table.

Total mass moment of inertia: _____ kgm² (additional indexing plate and add-ons)

Electrical data

- WEISS control package
 - Servo motor, amplifier, W.A.S. Software
 - Cables length: 5m 10m 15m 20m 25m
 - Hand-held terminal (optional)
 - Interface to the customer PLC
 - Digital I/O PROFINET (W.A.S. 2 only)
 - Profibus-DP EtherCAT (W.A.S. 2 only)
 - EtherNet/IP (Rockwell)
 - Interface to W.A.S. – 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: _____
 E-Mail: _____