

# TW

FREELY PROGRAMMABLE ROTARY TABLES | TW ROTARY TABLE WITH HYBRID DRIVE



## THE TW WITH HYBRID DRIVE

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WEISS APPLICATION SOFTWARE W.A.S.

Fast, easy and secure setting through unique user software.

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SMALL, MEDIUM, LARGE

Available in three sizes!





A direct drive motor integrated with a high-precision gear, absolute encoder and built-in brake combined with a robust mechanical platform. The TW sets new standards in the compact rotary table-area in the following characteristics: dynamic, precision, user programmable and ease of use, power density and the precise and robust WEISS mechanics.

These products are designed to greatly outperform any pneumatic indexing solutions available. Additional user benefits: Comparable in cost to pneumatic solutions, a clear cost advantage is developed through enhancement in productivity, lower operating cost and reduced maintenance cost.

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## ADVANTAGES

- Much faster than pneumatic solution
- Much more precise than pneumatic solution
- Higher power density than pneumatic solution
- Very little dwelltime
- Absolute encoder
- Precise zero-point through locating holes in the body
- No wear
- Precise teaching of each position
- Rigid stationary center section in various levels
- Electronic overload protection
- Any mounting position possible
- High energy efficiency
- Indexing in any angles possible
- Integrated holding brake

# TW 150

## TECHNICAL DATA

Nom. torque (Nm):	33	Nom. current (Arms):	2
Peak torque (Nm):	75	Peak current (Arms):	5
Max. speed (rpm):	80	Radial run-out (mm):	0.02
Friction (Nm):	5	Axial run-out at Ø 140 (mm):	0.02
Max. load (kgm <sup>2</sup> ):	5	Thermal sensor:	PTC
Indexing precision (arcsec):	±65"	Internal inertia (kgm <sup>2</sup> ):	0.0054
Max. DC voltage (VDC):	800	Weight (kg):	27
Mounting position:	Any*	Gear ratio:	1:9

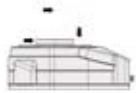
All values in relation to the dial plate

\* Please consult WEISS for overhead mounting positions.

## ENCODER

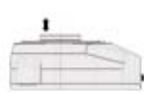
Interface	Accuracy
Sick-Stegmann Hiperface	SEL52 ±65"
Heidenhain EnDat (on request)	EQI ±65"

## LOAD DATA (for the stationary center section)



Perm. tilting moment acting on the center section

**200 Nm**



Perm. radial force acting on the center section

**2500 N**



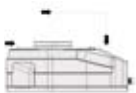
Perm. force acting vertically on the center section

**3500 N**

Perm. torque acting on the center section

**150 Nm**

## LOAD DATA (for the rotary indexing dial plate)



Perm. tilting moment acting on the locked dial plate

**500 Nm**



Perm. radial force acting on the locked dial plate

**6000 N**



Perm. operating force (acting vertically on the locked dial plate with the nominal Ø)

**5500 N**

Perm. torque with brake

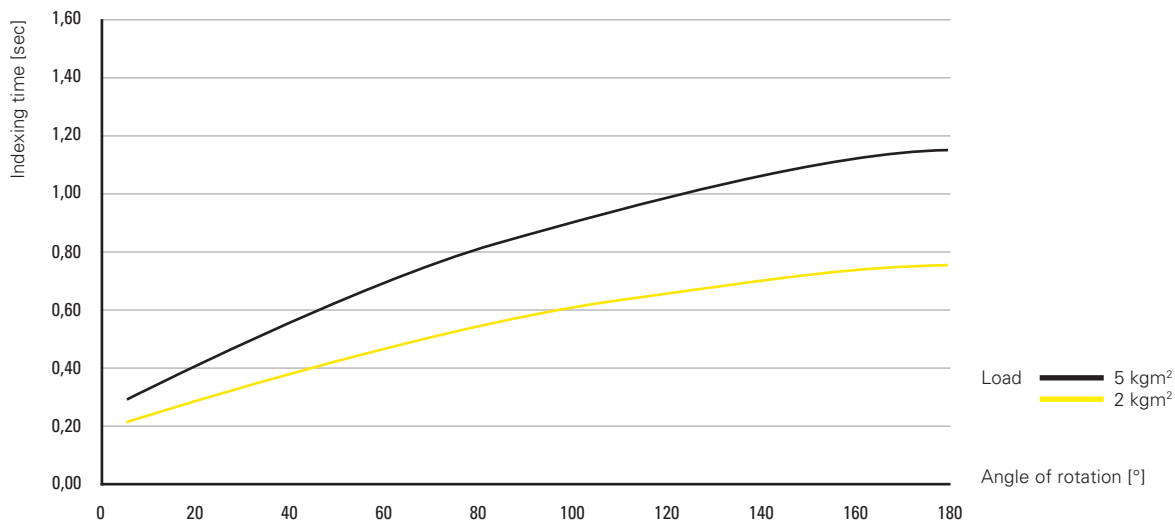
**12 Nm**

Perm. torque acting on running motor (steady)

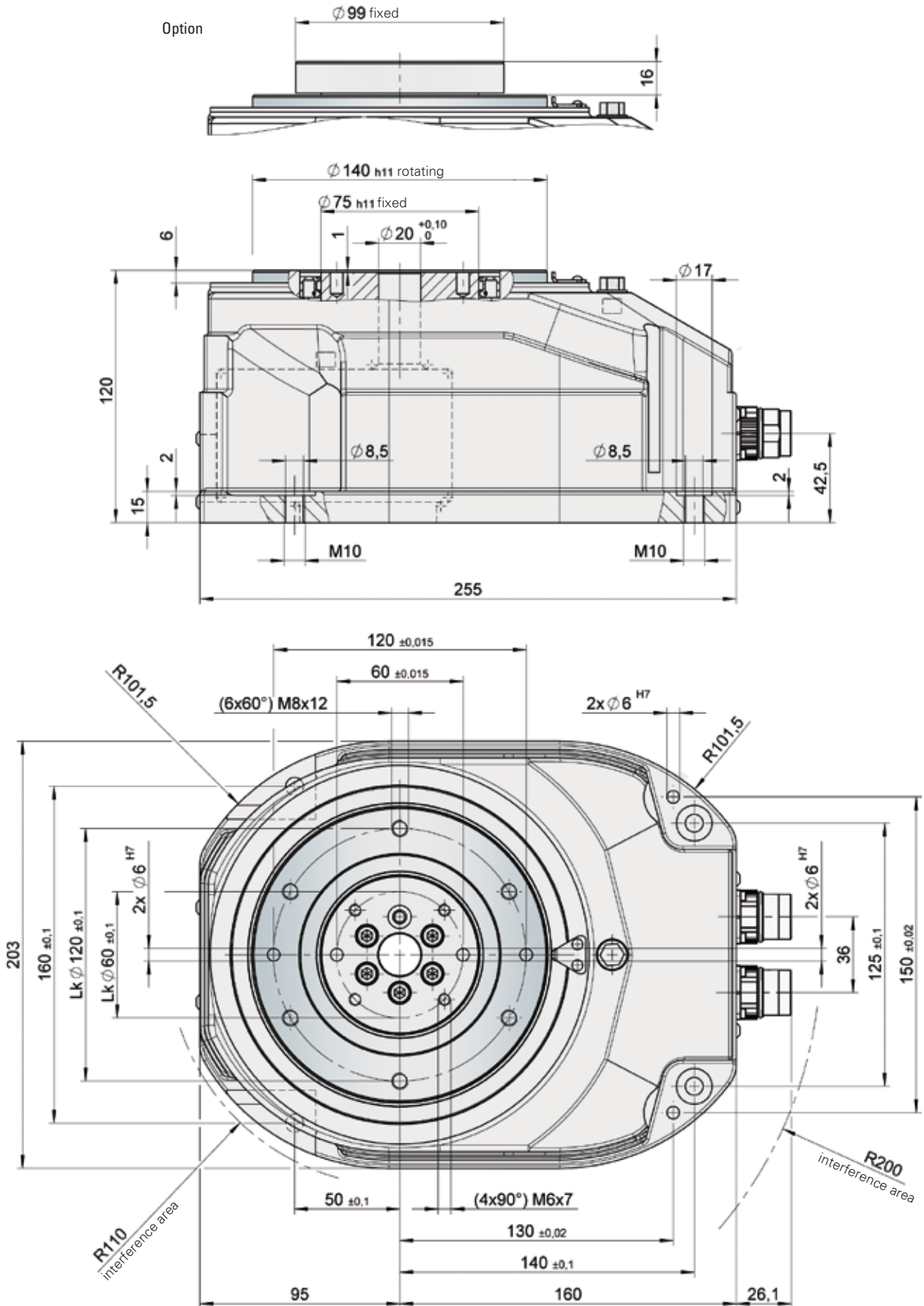
**33 Nm**

Combined loads only after inspection by WEISS.

## TIMING DIAGRAM



DIMENSIONS



Max. center line deviation between stationary center section and housing  $\pm 300''$

# TW 200

## TECHNICAL DATA

Nom. torque (Nm):	100	Nom. current (Arms):	3.12
Peak torque (Nm):	220	Peak current (Arms):	7
Max. speed (rpm):	120	Radial run-out (mm):	0.02
Friction (Nm):	15	Axial run-out at Ø 190 (mm):	0.02
Max. load (kgm <sup>2</sup> ):	25	Thermal sensor:	PTC
Indexing precision (arcsec):	±55"	Internal inertia (kgm <sup>2</sup> ):	0.031
Max. DC voltage (VDC):	800	Weight (kg):	40
Mounting position:	Any*	Gear ratio:	1:10

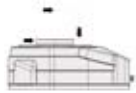
All values in relation to the dial plate

\* Please consult WEISS for overhead mounting positions.

## ENCODER

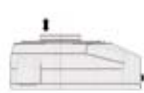
Interface	Accuracy
Sick-Stegmann Hiperface	SEL52 ±55"
Heidenhain EnDat (on request)	EQI ±55"

## LOAD DATA (for the stationary center section)



Perm. tilting moment acting on the center section

**300 Nm**



Perm. radial force acting on the center section

**4000 N**



Perm. force acting vertically on the center section

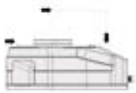
**5000 N**



Perm. torque acting on the center section

**200 Nm**

## LOAD DATA (for the rotary indexing dial plate)



Perm. tilting moment acting on the locked dial plate

**700 Nm**



Perm. radial force acting on the locked dial plate

**8000 N**



Perm. operating force (acting vertically on the locked dial plate with the nominal Ø)

**7500 N**



Perm. torque with brake

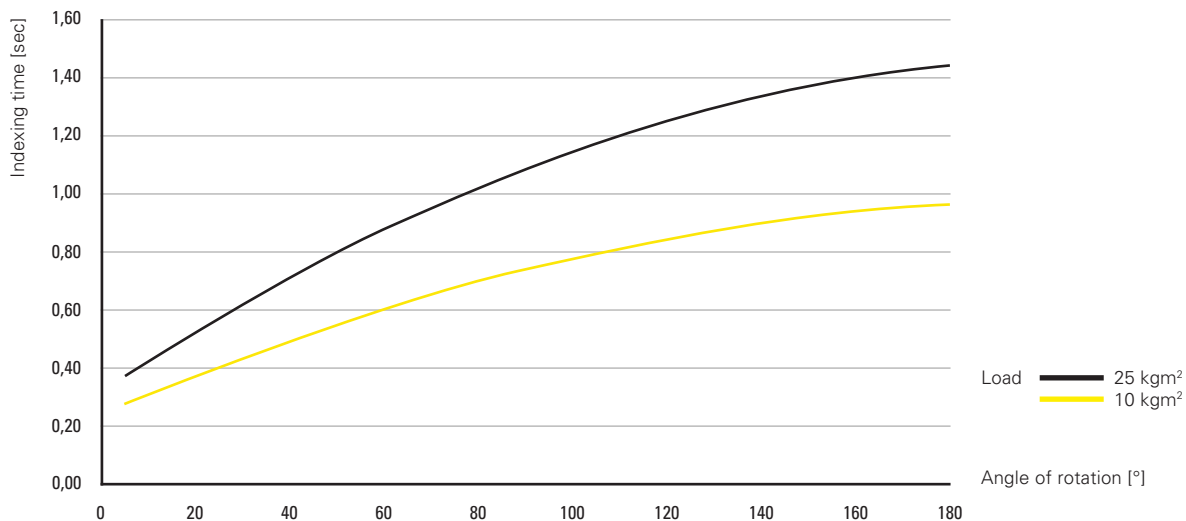
**70 Nm**

Perm. torque acting on running motor (steady)

**100 Nm**

Combined loads only after inspection by WEISS.

## TIMING DIAGRAM





# TW 300

## TECHNICAL DATA

Nom. torque (Nm):	200	Nom. current (Arms):	4.8
Peak torque (Nm):	450	Peak current (Arms):	12
Max. speed (rpm):	109	Radial run-out (mm):	0.02
Friction (Nm):	20	Axial run-out at Ø 280 (mm):	0.02
Max. load (kgm <sup>2</sup> ):	50	Thermal sensor:	PTC
Indexing precision (arcsec):	±45"	Internal inertia (kgm <sup>2</sup> ):	0.28
Max. DC voltage (VDC):	800	Weight (kg):	106
Mounting position:	Any*	Gear ratio:	1:11

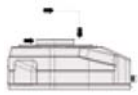
All values in relation to the dial plate

\* Please consult WEISS for overhead mounting positions.

## ENCODER

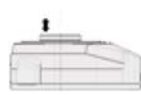
Interface	Accuracy
Sick-Stegmann Hiperface	SEL52 ±45"
Heidenhain EnDat (on request)	EQI ±45"

## LOAD DATA (for the stationary center section)



Perm. tilting moment acting on the center section

**1800 Nm**



Perm. radial force acting on the center section

**2000 N**

Perm. force acting vertically on the center section

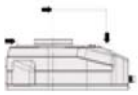
**18000 N**



Perm. torque acting on the center section

**800 Nm**

## LOAD DATA (for the rotary indexing dial plate)

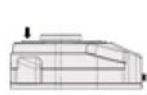


Perm. tilting moment acting on the locked dial plate

**2250 Nm**

Perm. radial force acting on the locked dial plate

**15000 N**



Perm. operating force (acting vertically on the locked dial plate with the nominal Ø)

**15000 N**



Perm. torque with brake

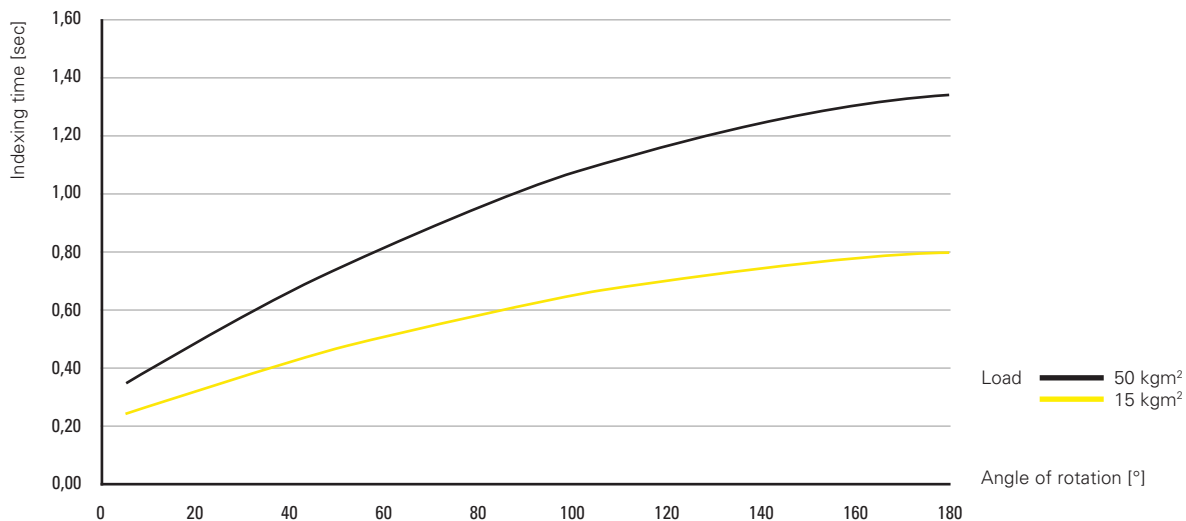
**150 Nm**

Perm. torque acting on running motor (steady)

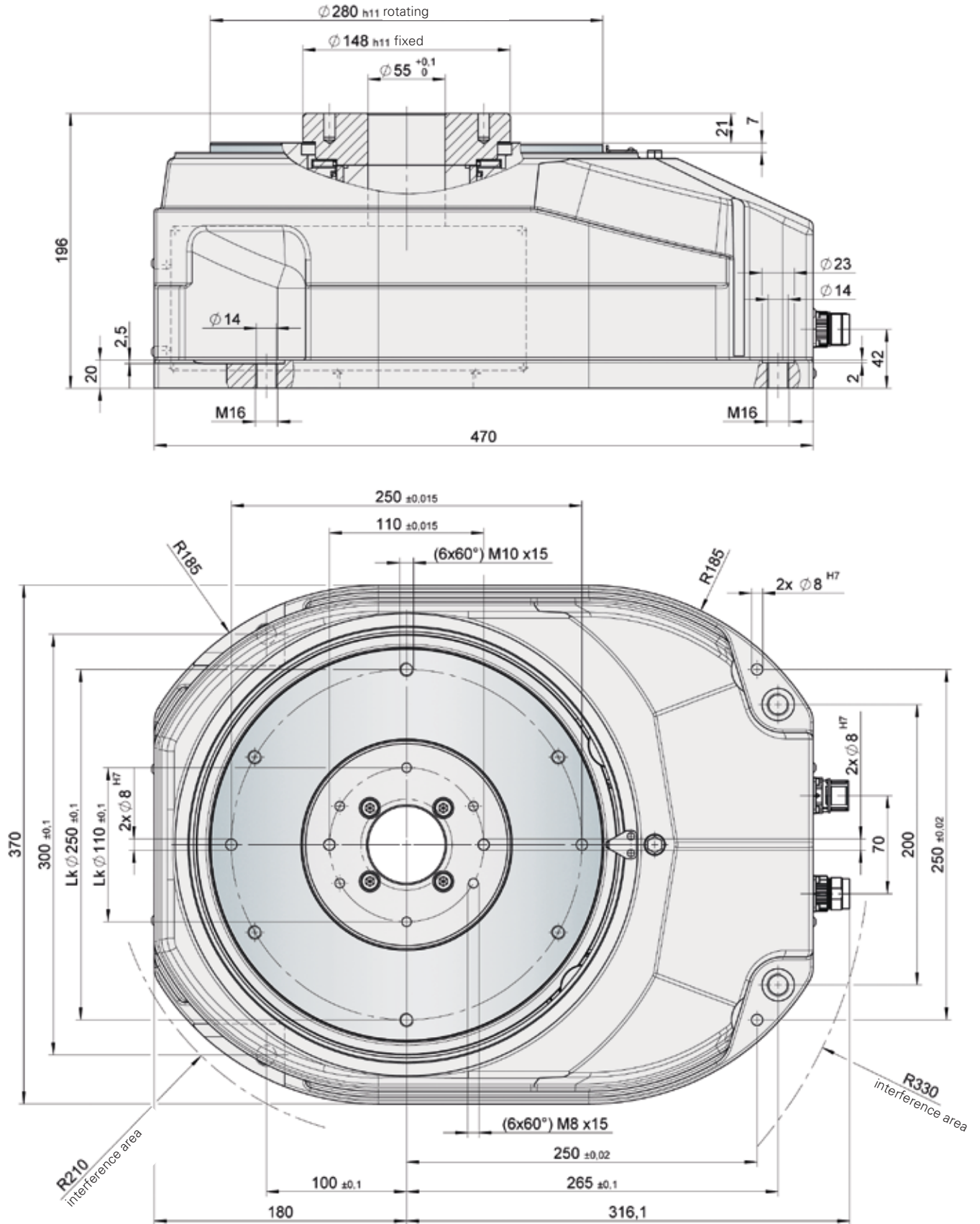
**200 Nm**

Combined loads only after inspection by WEISS.

## TIMING DIAGRAM



DIMENSIONS



Max. center line deviation between stationary center section and housing  $\pm 210''$

# 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

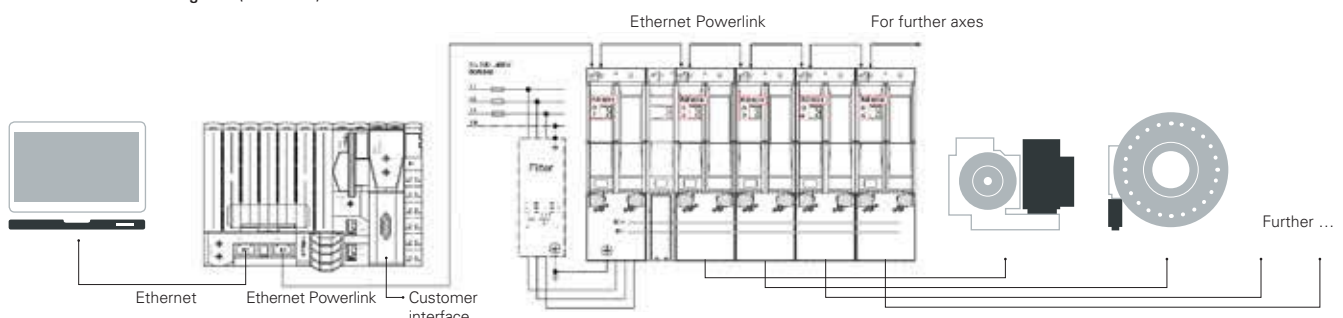
- Digital I/O (24-V inputs and outputs)
- Profibus DP
- EtherNet/IP (Rockwell)
- PROFINET (W.A.S. 2 only)
- EtherCAT (W.A.S. 2 only)
- More available on request

## SAFETY AND SERVICE

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

Electrical data	TW 150 / TW 200	TW 150 / TW 200	TW 300
<b>Main power voltage</b>	<b>230 V</b>	<b>400 V</b>	<b>400 V</b>
<b>Power voltage 24 V</b>	2.5 A	2.5 A	3 A
<b>Connection power max</b>	<b>1.35 kVA</b>	<b>5 kVA</b>	<b>5 kVA</b>
<b>Installation dimensions W x H x D</b>	60 x 300 x 295 mm	70 x 450 x 310 mm	70 x 450 x 310 mm

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



**MACHINE DESIGN TW**

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

Enquiry    Attachment to order

Dear customer,

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

**Model**

TW 150       TW200       TW300

**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
- Mass moment of inertia: \_\_\_\_\_ kgm<sup>2</sup>

**Colour**

- RAL 7035 (light grey)
- Special colour RAL \_\_\_\_\_ (extra charge)

**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

**Electrical source**

- 1 or 3 x 208 ... 230V ~ 50/60 Hz
- 3 x 400 ... 480V ~ 50/60 Hz (duty with TW300)

**Stationary center section**

- Above mounting level
- Under mounting level (not with TW300)

**For technical enquiries**

Company: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Country: \_\_\_\_\_

**Adjustment connection plug**



90°



straight

**Dial plate**

- Included in the scope of offer and delivery
- Processing according to drawing No. \_\_\_\_\_

**Fixture and parts**

Number: \_\_\_\_\_  
 Weight per station: \_\_\_\_\_ kg  
 Centre of gravity diameter: \_\_\_\_\_ mm

**Extra indexing table**

- Included in the scope of offer and delivery
- Don't deliver
- Diameter: \_\_\_\_\_ mm    Size: \_\_\_\_\_ mm
- Material    Al    St    Other

**Encoder**

- Hiperface (Standard with WEISS control package)
- EnDat (for third-party control systems)

**Mounting position**

- Standard (vertical rotation axis)
- Overhead (vertical rotation axis)
- Horizontal rotation axis

Desired delivery date: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

