

TO

FREELY PROGRAMMABLE ROTARY TABLES | TO TORQUE ROTARY TABLE



Precise and fast mechanical integration through pin holes, secure electrical commissioning through perfectly matched control packages.

TO TORQUE ROTARY TABLE: DYNAMIC, FLEXIBLE, PRECISE

MATCHED BASE FRAMES AND PLATES

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

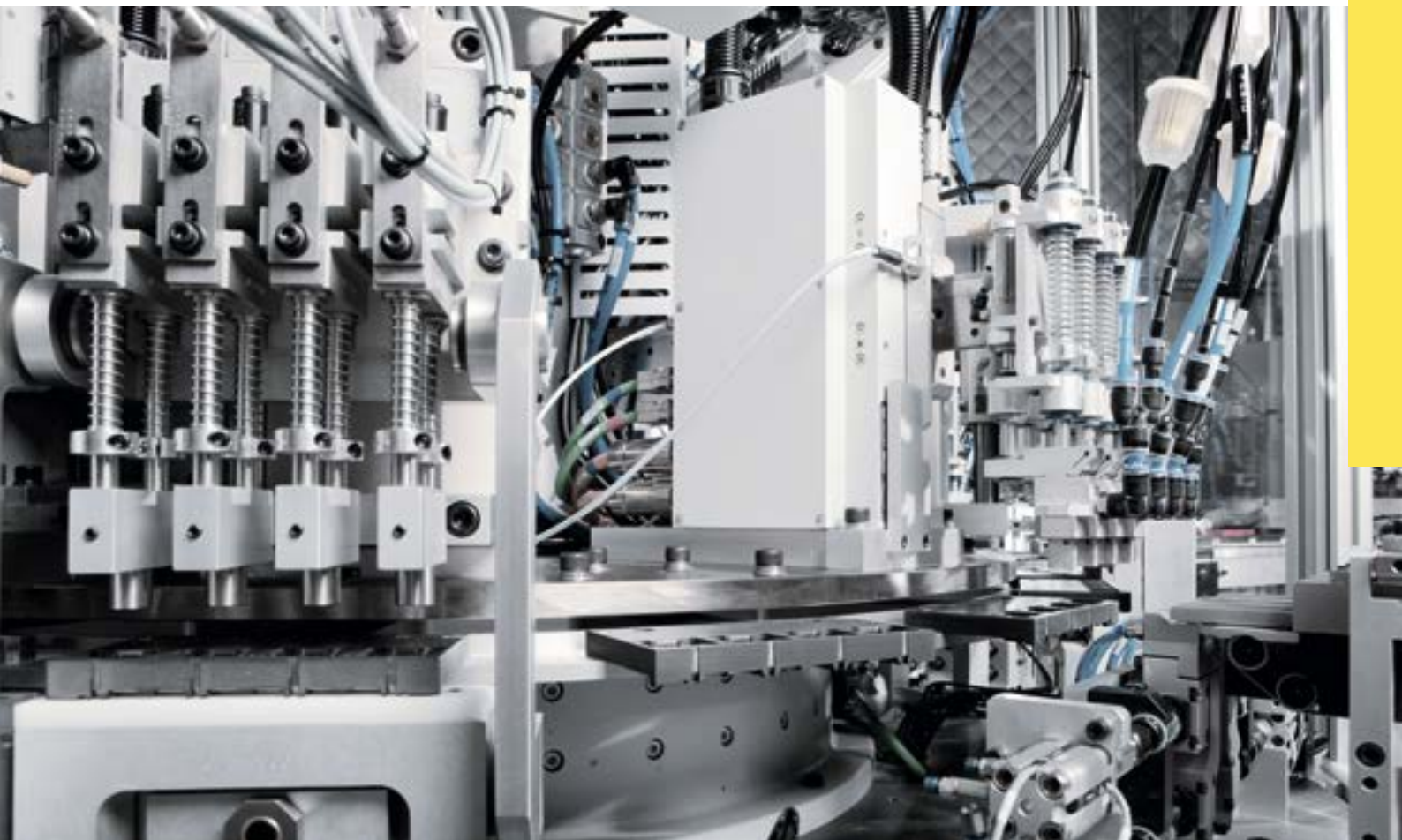


THE CLEANLINE. FOR CLEANROOM APPLICATIONS.

Cleanroom-certified version also available:
The TO220 CAB CL is certified to air purity class 1 as per US Federal Standard 209E.



The custom machine from INNOVATIVE Products & Equipment assembles and tests plastic parts for irrigation systems. The heart of the installation, a TO 750, beats at 75 cycles per minute. The four-track design allows production of 300 components per minute. The HP140 Pick&Place units perform component handling.



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 indexing times at the highest precision.

ADVANTAGES

- Extremely dynamic
- Extremely high repeat accuracy
- Absolute measuring system
- High degree of reliability, long service life
- Zero backlash
- No wearing parts
- Direct, rigid connection of the load to the drive
- Compact design, small footprint, high level of torque

GENERAL INFORMATION

- Direction of rotation: user-programmable
- All motors are equipped with overtemperature protection (PTC)
- Possible installation location: any (Please consult WEISS for overhead mounting positions)
- The TO rotary tables are “lubricated for life”
- For a surcharge, a positioning accuracy measurement report can also be drawn up and a compensation table incorporated for error compensation in a further step. However, this requires a mechanical zero point alignment.

TO 150C

GENERAL INFORMATION

· Maximum recommended equipment diameter D_{tp} : approximately 750 mm

TECHNICAL DATA

U	Voltage range:	200-600 V
n_{2 Max}	Max. output speed (230 V):	60 1/min
n_{2 Max}	Max. output speed (400 V):	200 1/min
T_{2N}	Nominal torque:	15 Nm
T_{2P}	Peak torque:	45 Nm
I_p	Peak current:	6.23 A
	Indexing precision:	50 arcsec (± 25") 30 arcsec (± 15") (optional)
A_r	Axial run-out of the drive flange:	(at Ø 150 mm) 0.02 mm
C_r	Concentricity of the output flange:	0.02 mm
m	Weight:	16 kg

LOAD DATA (for the output flange)

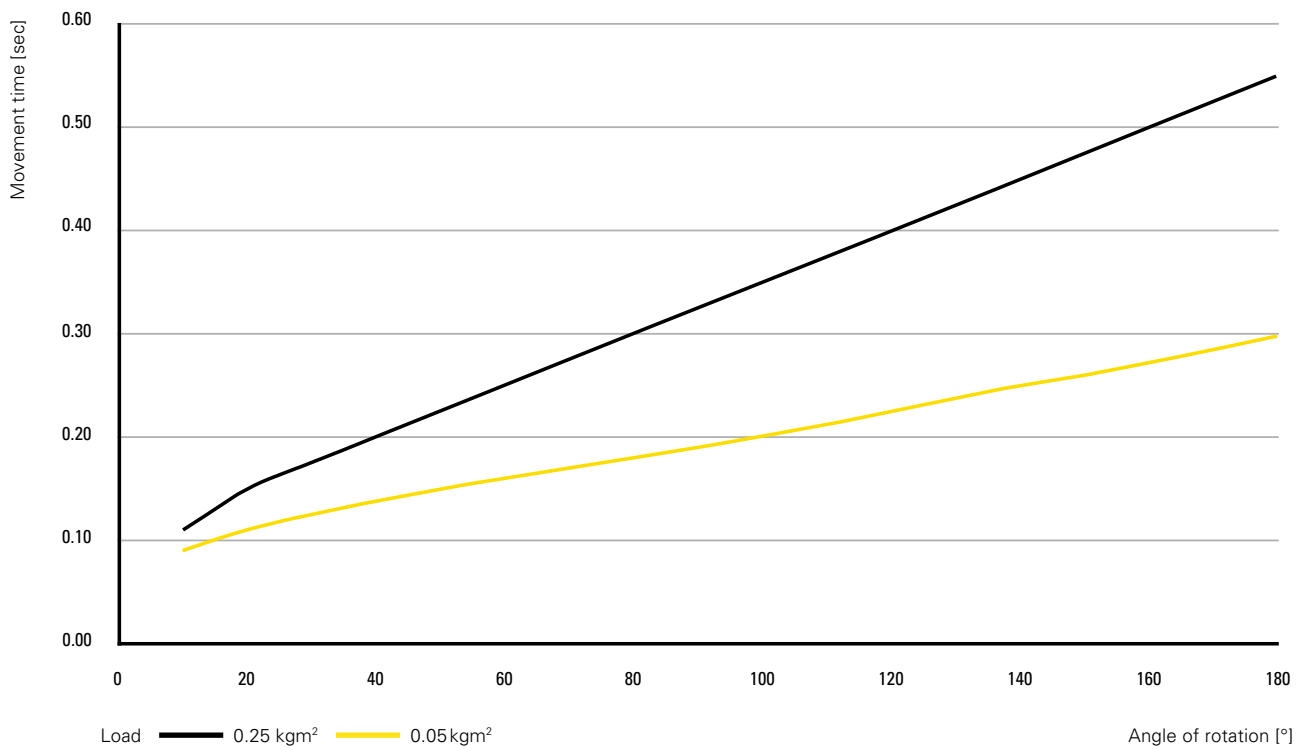
M_{2T stat}	Permitted static tilting moment:	600 Nm
F_{2A stat}	Permitted static axial force:	6000 N
F_{2R stat}	Permitted static radial force:	10000 N

Combined loads and permitted process forces only after inspection by WEISS.

ENCODER

Heidenhain ECN113 (absolute)	EnDat 2.1 (± 25")
Heidenhain ECN225 (absolute)	EnDat 2.1 (± 15")

TIMING DIAGRAM



TO 220C-1

GENERAL INFORMATION

· Maximum recommended equipment diameter D_{tp} : approximately 1100 mm

TECHNICAL DATA

U	Voltage range:	200-600 V
n_{2 Max}	Max. output speed (230 V):	80 1/min
n_{2 Max}	Max. output speed (400 V):	250 1/min
T_{2N}	Nominal torque:	54 Nm
T_{2P}	Peak torque:	130 Nm
I_p	Peak current:	9 A
	Indexing precision:	50 arcsec ($\pm 25''$) 30 arcsec ($\pm 15''$) (optional)
A_r	Axial run-out of the drive flange:	(at $\varnothing 220$ mm) 0.02 mm
C_r	Concentricity of the output flange:	0.02 mm
m	Weight:	32 kg

LOAD DATA (for the output flange)

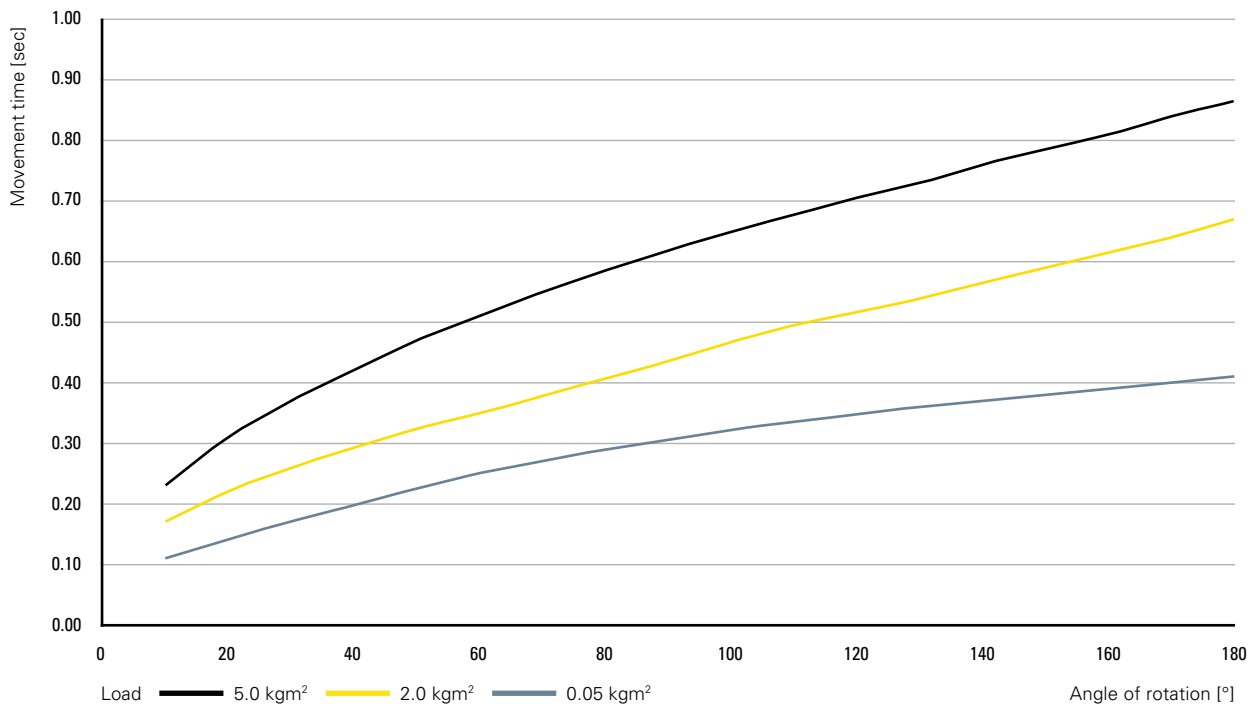
M_{2T stat}	Permitted static tilting moment:	1000 Nm
F_{2A stat}	Permitted static axial force:	10000 N
F_{2R stat}	Permitted static radial force:	15000 N

Combined loads and permitted process forces only after inspection by WEISS.

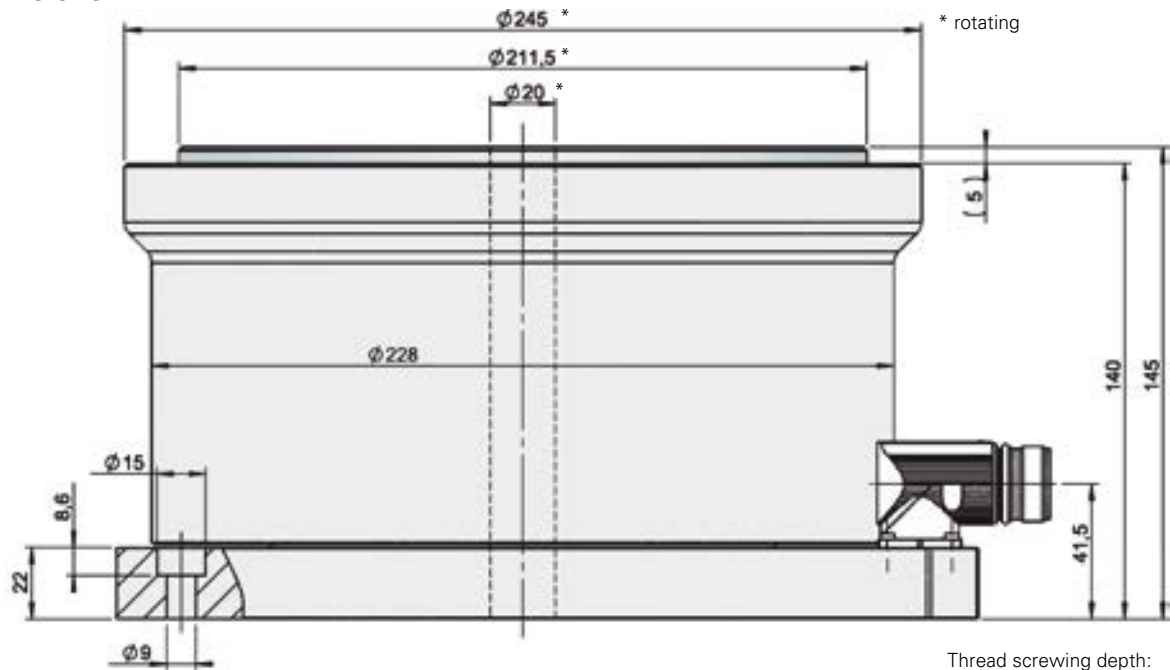
ENCODER

Heidenhain ECN113 (absolute)	EnDat 2.1 ($\pm 25''$)
Heidenhain ECN225 (absolute)	EnDat 2.1 ($\pm 15''$)

TIMING DIAGRAM

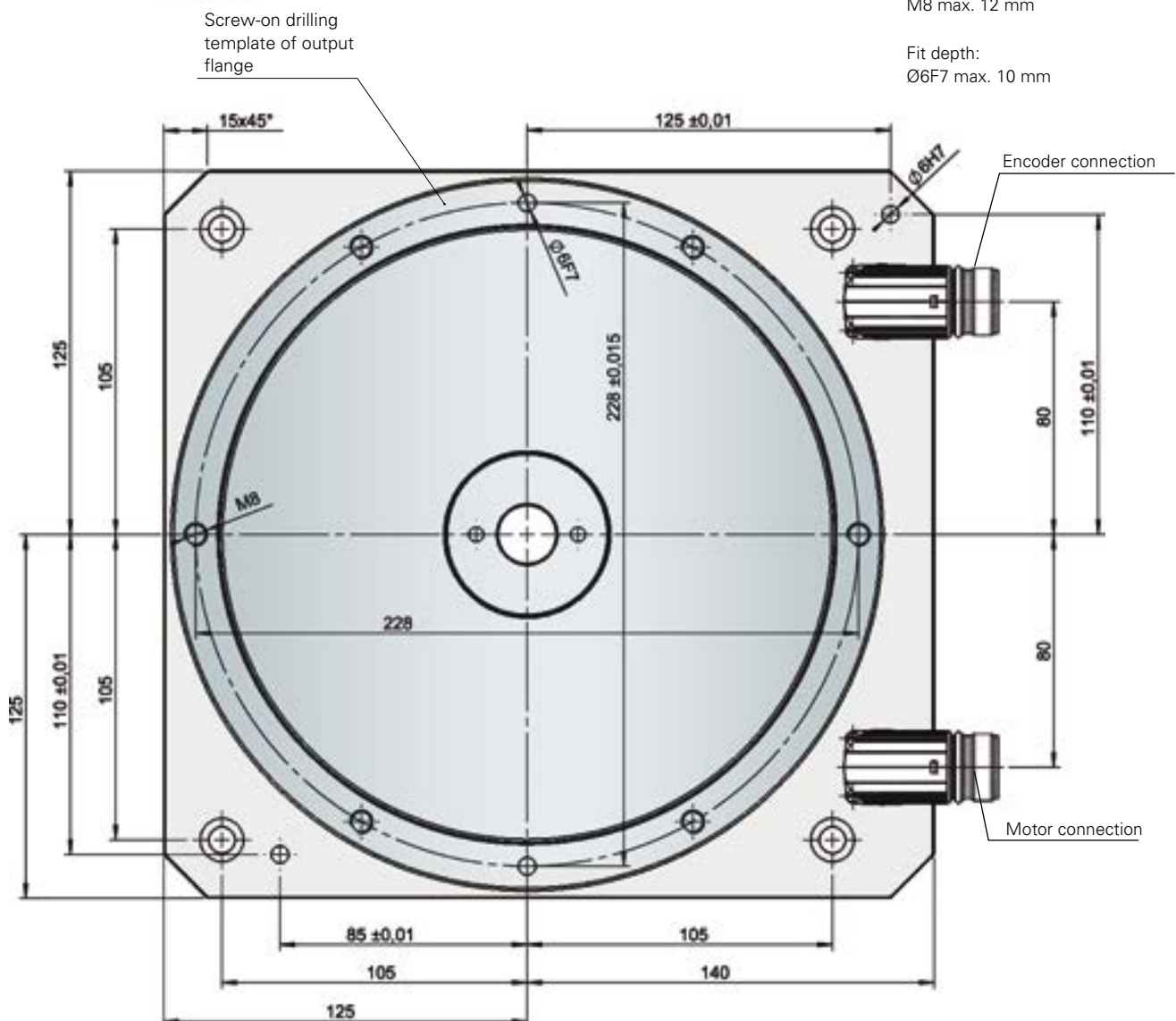


DIMENSIONS



Thread screwing depth:
M8 max. 12 mm

Fit depth:
 $\varnothing 6F7$ max. 10 mm



TO 220C-2

GENERAL INFORMATION

- Maximum recommended equipment diameter D_{tp} : approximately 1100 mm
- The rotary table can also be water-cooled for even shorter cycle times and greater precision

TECHNICAL DATA

U	Voltage range:	200-600 V
n_{2Max}	Max. output speed (400 V):	110 1/min
T_{2N}	Nominal torque without water cooling:	123 Nm
T_{2N}	Nominal torque with water cooling:	194 Nm
T_{2P}	Peak torque:	260 Nm
I_p	Peak current:	18 A
	Indexing precision:	30 arcsec ($\pm 15''$)
A_r	Axial run-out of the drive flange:	(at $\varnothing 220$ mm) 0.02 mm
C_r	Concentricity of the output flange:	0.02 mm
m	Weight:	42 kg

LOAD DATA (for the stationary central part)

T_{SP}	Permitted torque:	200 Nm
M_{TSP}	Permitted tilting moment:	500 Nm
F_{ASP}	Permitted axial force:	5000 N
F_{RSP}	Permitted radial force:	5000 N

LOAD DATA (for the output flange)

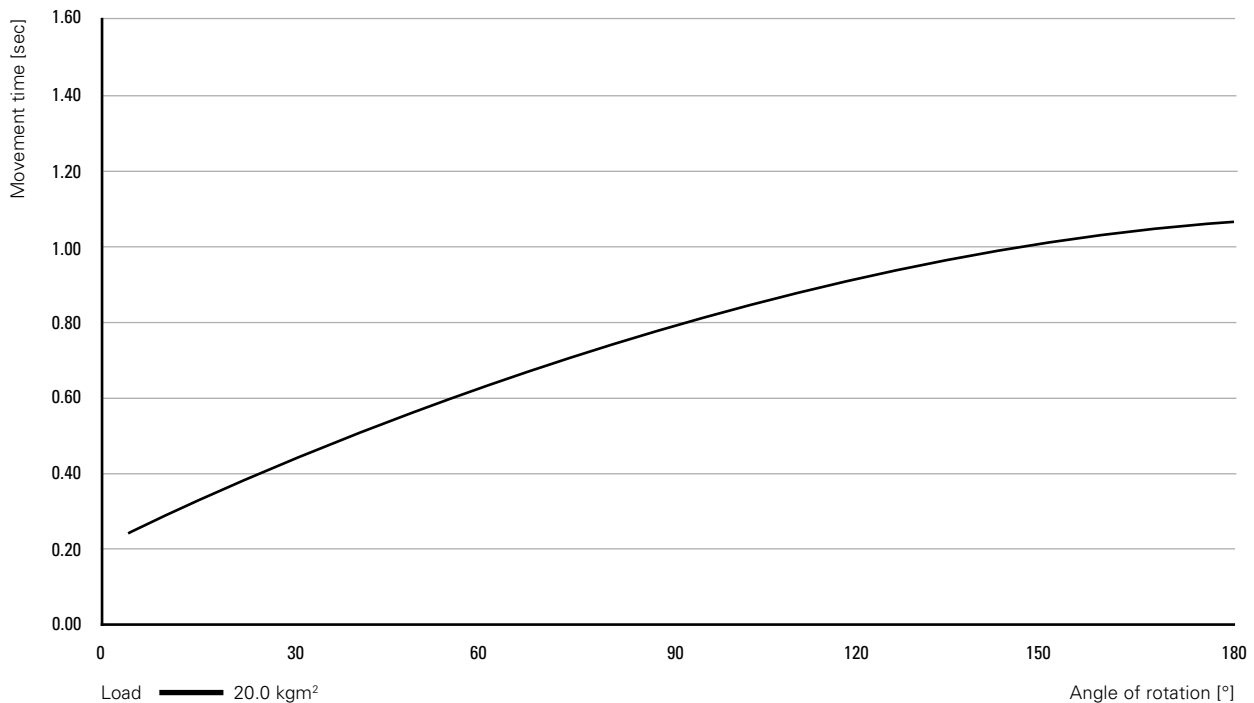
M_{2Tstat}	Permitted static tilting moment:	1000 Nm
F_{2Astat}	Permitted static axial force:	10000 N
F_{2Rstat}	Permitted static radial force:	15000 N

Combined loads and permitted process forces only after inspection by WEISS.

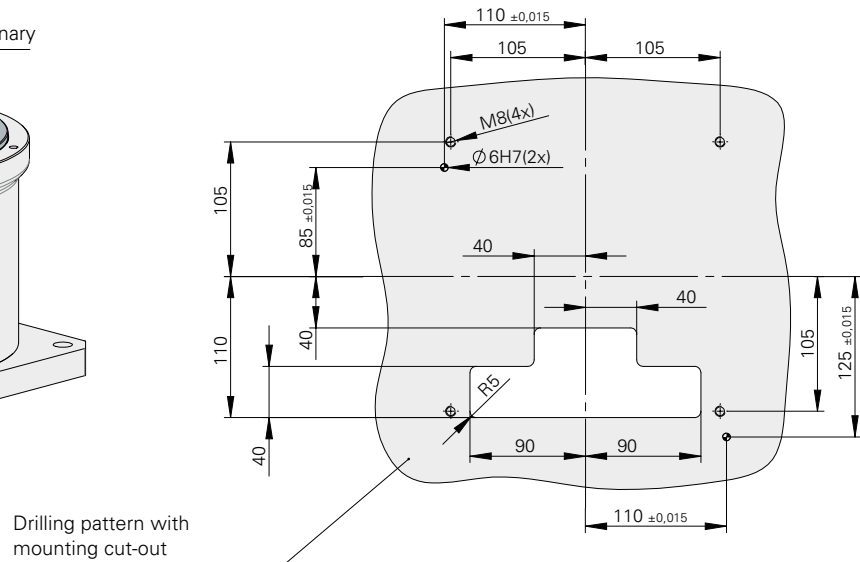
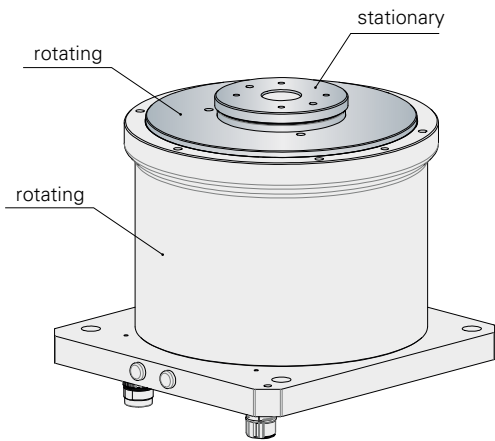
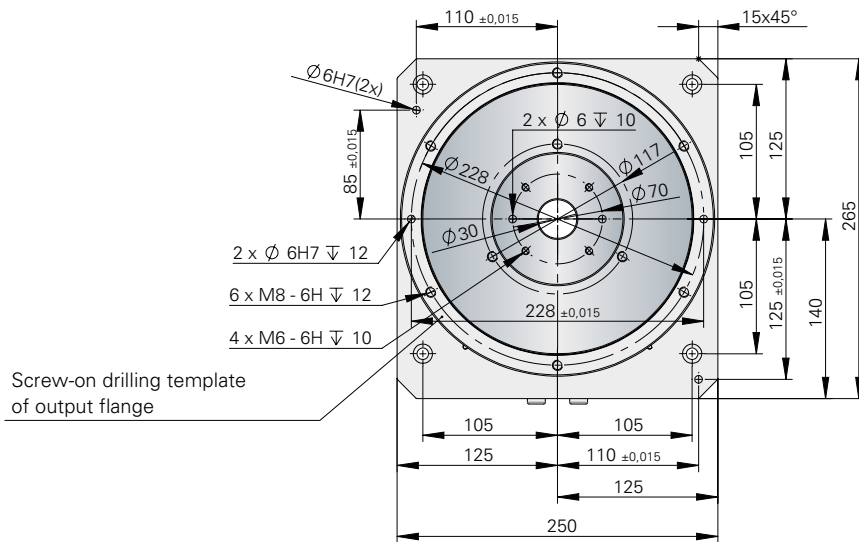
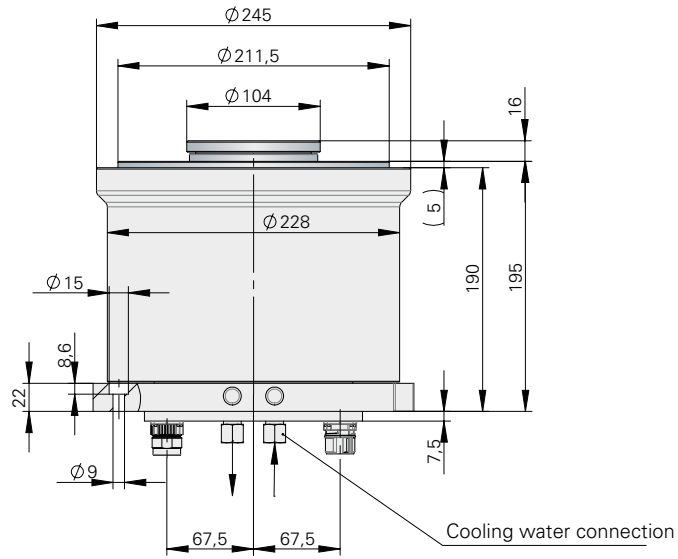
ENCODER

Heidenhain ECN225 (absolute)	EnDat 2.1 ($\pm 15''$)
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TIMING DIAGRAM



DIMENSIONS



TO 400C

GENERAL INFORMATION

- Maximum recommended equipment diameter D_{tp} : approximately 1400 mm
- The TO rotary table can optionally be supplied with a brake
- The rotary table can also be water-cooled for even shorter cycle times and greater precision

TECHNICAL DATA

U	Voltage range:	200-600 V
n_{2Max}	Max. output speed (400 V):	100 1/min
T_{2N}	Nominal torque without water cooling:	525 Nm
T_{2N}	Nominal torque with water cooling:	1240 Nm
T_{2P}	Peak torque:	2120 Nm
I_p	Peak current:	175 A
	Indexing precision:	20 arcsec ($\pm 10''$)
A_r	Axial run-out of the drive flange:	(at \varnothing 400 mm) 0.03 mm
C_r	Concentricity of the output flange:	0.03 mm
p_a	Clamping element opening pressure (pressure monitoring recommended)	4 bar (optional)
m	Weight:	290 kg

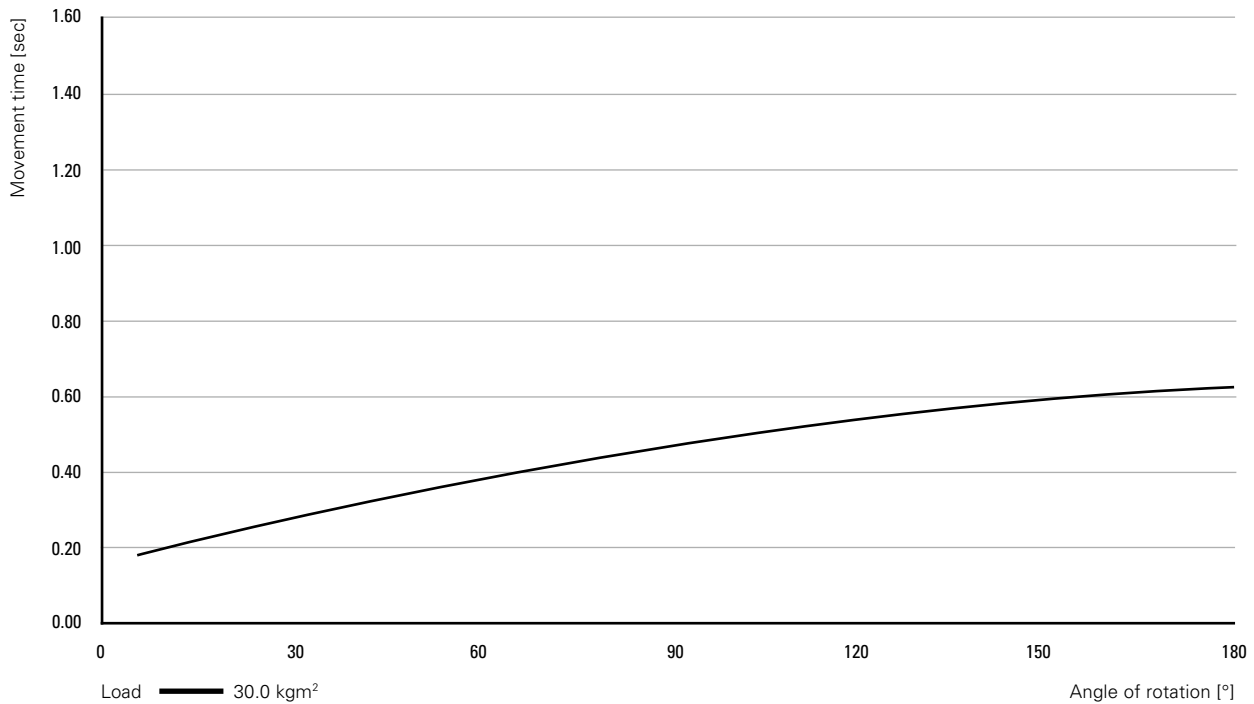
LOAD DATA (for the output flange)

M_{2T stat}	Permitted static tilting moment:	8000 Nm
F_{2A stat}	Permitted static axial force:	40000 N
F_{2R stat}	Permitted static radial force:	50000 N

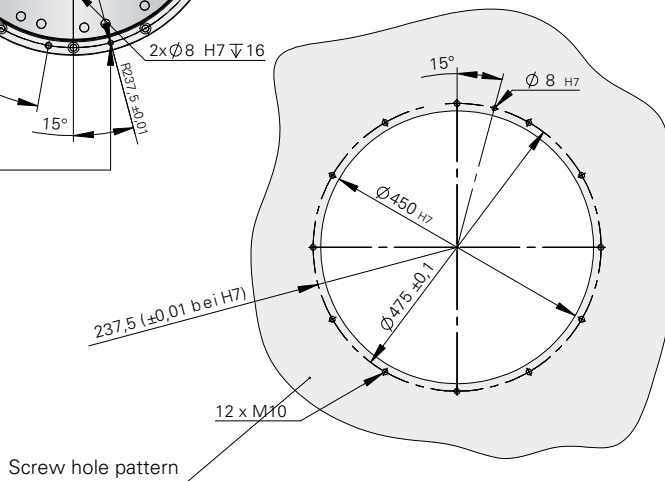
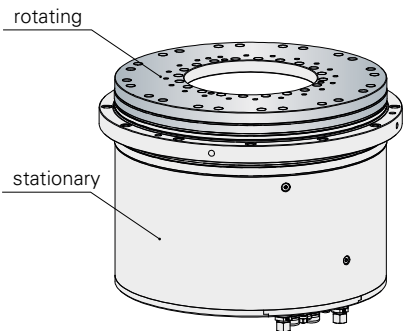
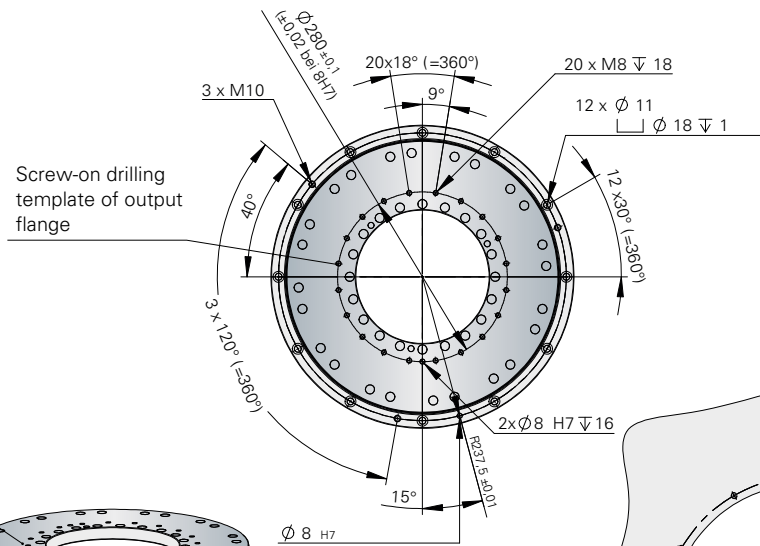
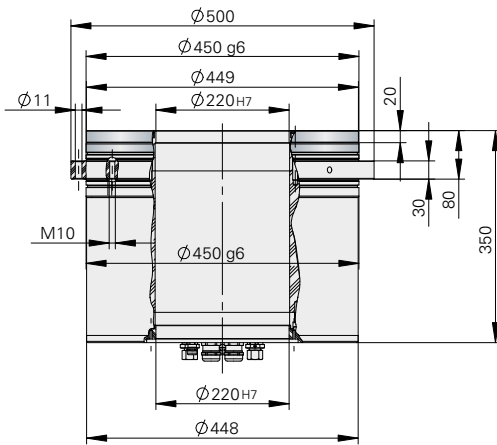
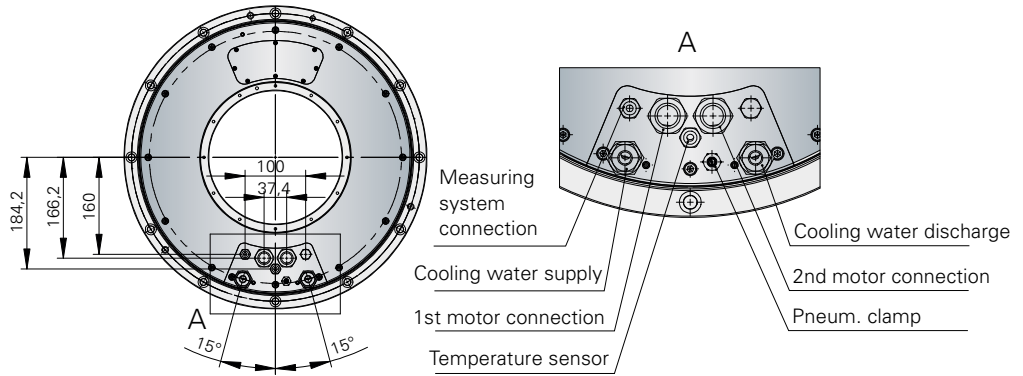
ENCODER

Renishaw Resolute (absolute)	BISS
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TIMING DIAGRAM



DIMENSIONS



TO 750C

GENERAL INFORMATION

- Maximum recommended equipment diameter D_{tp} : approximately 2500 mm
- The TO rotary table can optionally be supplied with a brake
- The rotary table can also be water-cooled for even shorter cycle times and greater precision
- In some cases, the rotary table can be equipped with functional safety (on request)

TECHNICAL DATA

U	Voltage range:	200-600 V
n_{2Max}	Max. output speed (400 V):	50 1/min
T_{2N}	Nominal torque without water cooling:	623 Nm
T_{2N}	Nominal torque with water cooling:	1700 Nm
T_{2P}	Peak torque:	3500 Nm
I_P	Peak current:	75 A
	Indexing precision:	20 arcsec ($\pm 10''$)
A_f	Axial run-out of the drive flange:	(at $\varnothing 750$ mm) 0.02 mm
C_f	Concentricity of the output flange:	0.02 mm
p_a	Clamping element opening pressure (pressure monitoring recommended)	4 bar (optional)
m	Weight:	270 kg

LOAD DATA (for the stationary central part)

T_{SP}	Permitted torque:	800 Nm
M_{TSP}	Permitted tilting moment:	2500 Nm
F_{ASP}	Permitted axial force:	25000 N
F_{RSP}	Permitted radial force:	15000 N

LOAD DATA (for the output flange)

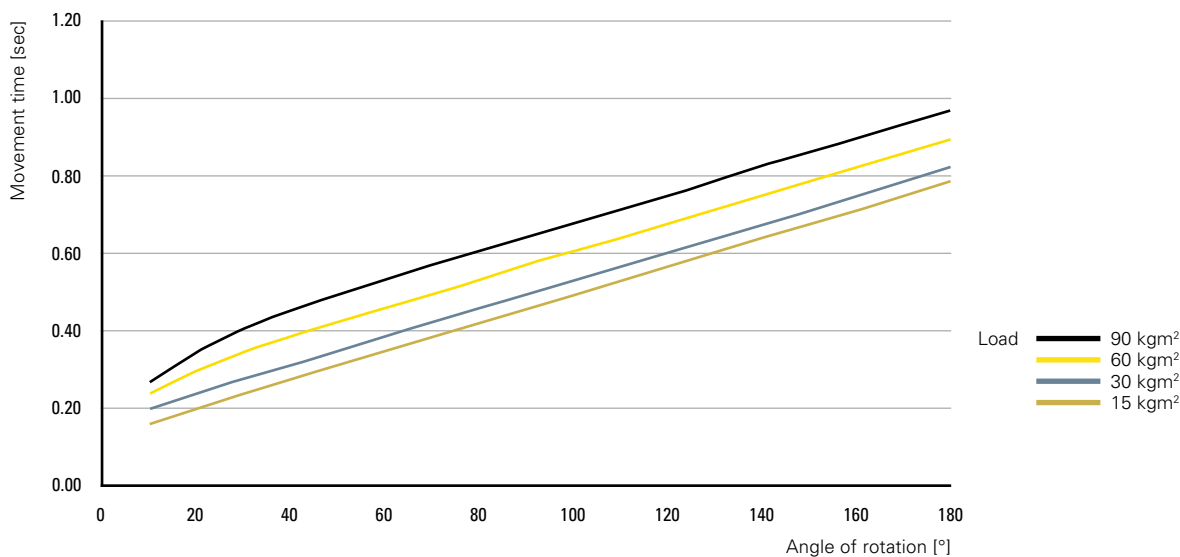
F_{ZAstat}	Permitted static tilting moment:	25000 Nm
F_{ZRstat}	Permitted static axial force:	25000 N
M_{ZTstat}	Permitted static radial force:	6000 Nm

Combined loads and permitted process forces only after inspection by WEISS.

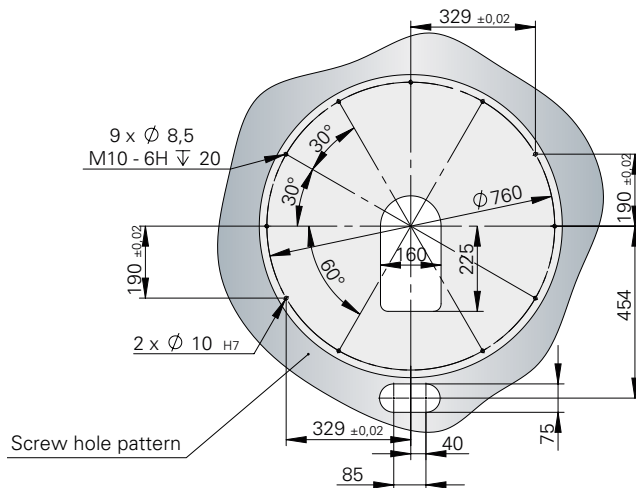
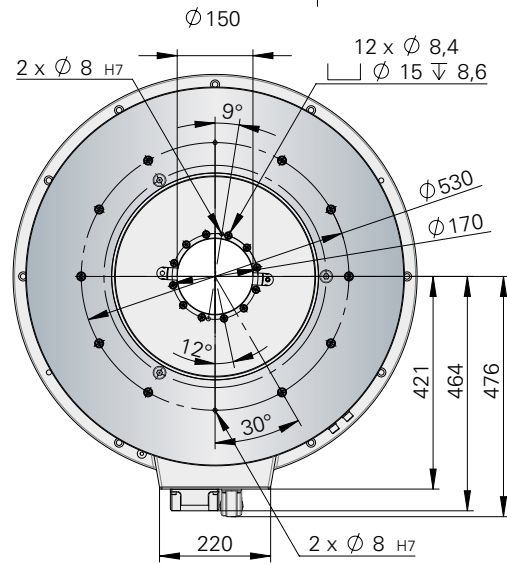
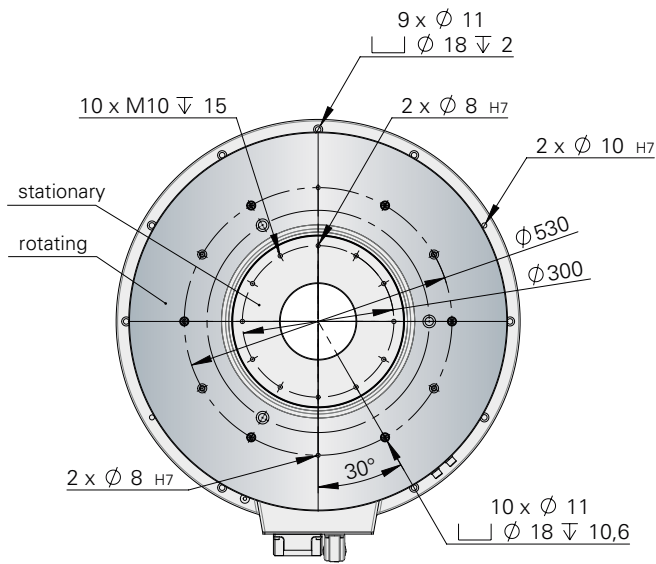
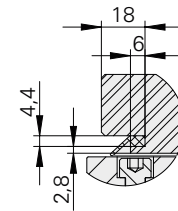
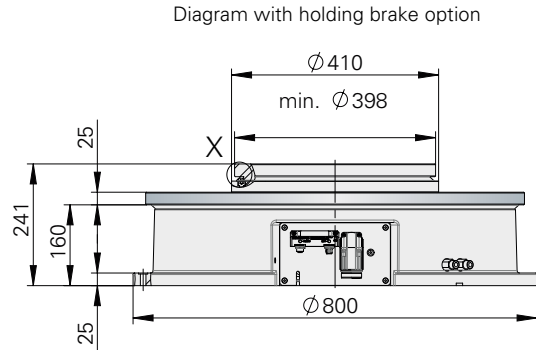
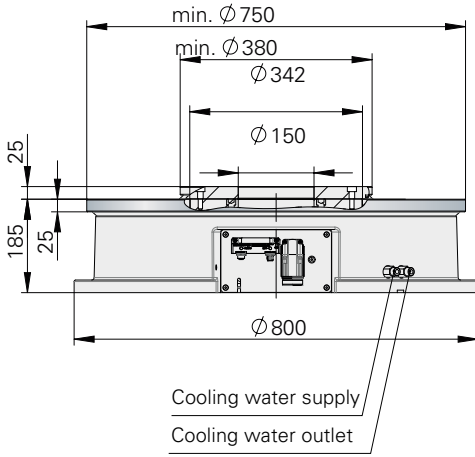
ENCODER

Renishaw Signum (incremental)	sin/cos
Renishaw Resolute (absolute)	BISS
Renishaw Resolute (absolute)	DRIVE-CLiQ
Heidenhain ECN 4410 FS (absolute)	EnDat 2.2

TIMING DIAGRAM



DIMENSIONS



TO 1300C

GENERAL INFORMATION

- Maximum recommended equipment diameter D_{tp} : approximately 3500 mm
- The TO rotary table can optionally be supplied with a brake
- The rotary table can also be water-cooled for even shorter cycle times and greater precision

TECHNICAL DATA

U	Voltage range:	200-600 V
n_{2Max}	Max. output speed (400 V):	80 1/min
T_{2N}	Nominal torque without water cooling:	6460 Nm
T_{2N}	Nominal torque with water cooling:	15200 Nm
T_{2P}	Peak torque:	26600 Nm
I_p	Peak current:	888 A
	Indexing precision:	20 arcsec ($\pm 10''$)
A_r	Axial run-out of the drive flange:	(at \varnothing 1300 mm) 0.04 mm
C_r	Concentricity of the output flange:	0.03 mm
p_{cc}	Clamping element opening pressure (pressure monitoring recommended)	6 bar
m	Weight:	1350 kg

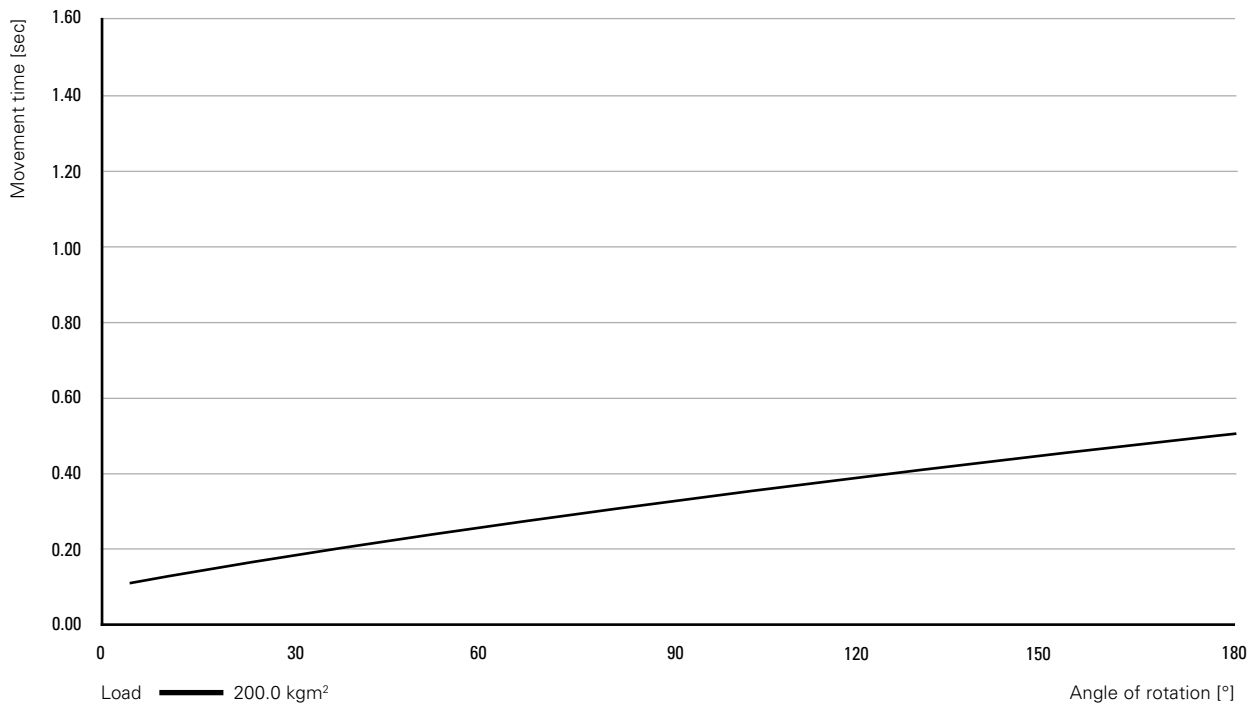
LOAD DATA (for the output flange)

M_{2T stat}	Permitted static tilting moment:	26000 Nm
F_{2A stat}	Permitted static axial force:	100000 N
F_{2R stat}	Permitted static radial force:	115000 N

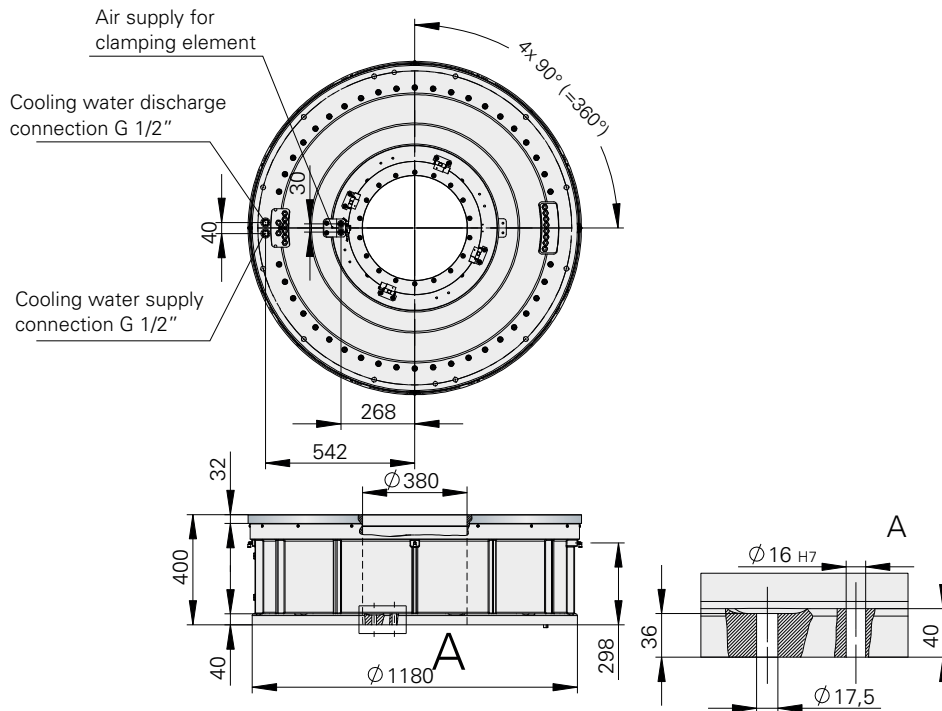
ENCODER

AMO (absolute)	SSI
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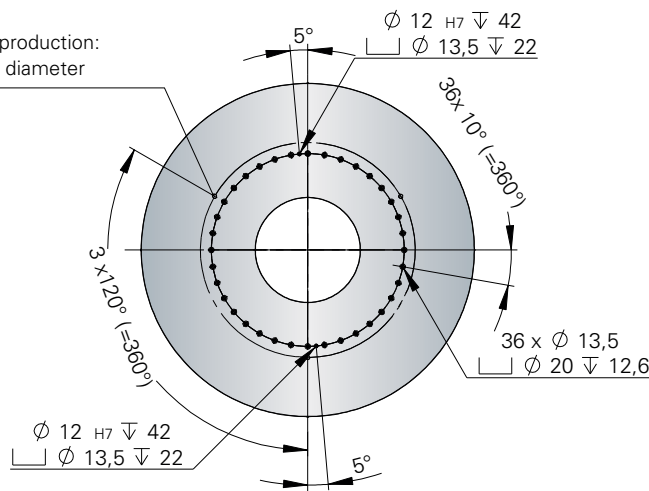
TIMING DIAGRAM



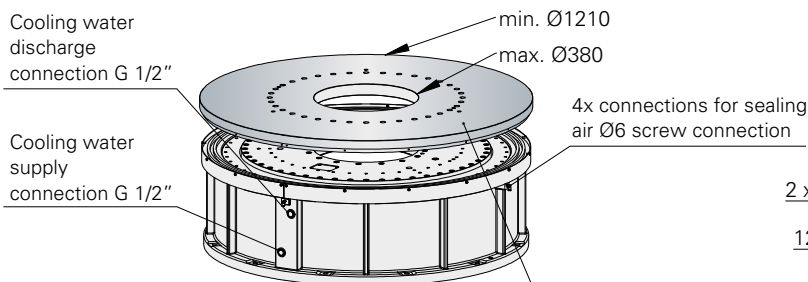
DIMENSIONS



3x M16
Auxiliary holes for production:
based on the plate diameter



Base plate breakthrough for using the central bore or for access to the measuring system and clamping element



Customer-specific plate design (included in the scope of functions offered by the TO)
Do not drill through the plate in the min./max. area

