

TR

FIXED-STATION ROTARY INDEXING TABLES | TR ROTARY INDEXING RING TABLE



Additional indexing plates are not included in the standard delivery scope. They are calculated separately as per your details.

TR ROTARY INDEXING RING TABLE: NEW APPLICATION POSSIBILITIES

THE TR FULL SOLUTION

Tailor-made electrical accessories. Control card, electronic contactor or frequency converter.



OR RATHER A HEAVY DUTY ROTARY TABLE?

Our user programmable CR heavy duty rotary table range is available for heavy loads.





Kugler-Womako produces machines for print finishing and the stationery industry. Something genuinely new in the paper industry: rather than standard linear transfer systems, the TR 750 rotary indexing ring table is used.

Rotary indexing ring table with very large central opening, extremely flat design and high 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.

ADVANTAGES

- 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
- Available as a user-programmable NR version (please also see the „User-programmable rotary tables“ section)
- NR version with absolute measuring system
- Simplest control system, identical to our rotary indexing tables
- Excellent price-performance
- Appealing design

TR 750A

TECHNICAL DATA

Dial ring inside diameter:	Max. 490 mm	Indexing precision (arcsec):	± 18"
Dial ring outside diameter:	Min. 750 mm	Indexing precision in radian measurement:	± 0.033 mm (at Ø 750 mm)
Surface of the dial ring:	Anodised	Max. axial run-out of the ring:	* 0.05 mm (at Ø 750 mm)
Direction of rotation:	Clockwise - counter clockwise or reciprocating	Max. concentricity:	* 0.03 mm
Cycle rate:	Up to approx. 120 cycles/min, depending on mass moment of inertia and angle of rotation	Max. parallelism of rotating plate surface to bottom housing surface:	* 0.05 mm (at Ø 750 mm)
Voltage:	230 / 400 V 50 Hz special voltages upon request	Max. outer diameter:	1500 mm (or following consultation)
Weight:	Approx. 230 kg		
Mounting position:	Dial ring horizontal		

* Attention! In order to reach the above axial and radial run-out tolerances, please ensure that the axial run-out of the mounting plate is accurate.

LOAD DATA (for rotary ring)

Perm. axial force

F_N: 3500 N (static)

Perm. tilting moment

M_K: 750 Nm (static)

Perm. torque

T_R: 2500 Nm (static)

Perm. radial force

F_R: 7000 N (static)

Max. central load on the ring at M_K = 0 Nm and F_R = 0 N on demand. Combined loads only after inspection by WEISS.

LOAD TABLE (Only valid for 50 Hz)

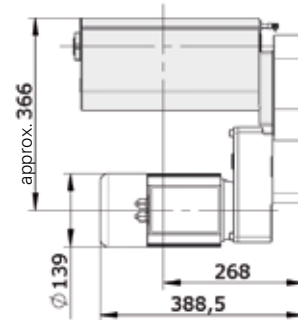
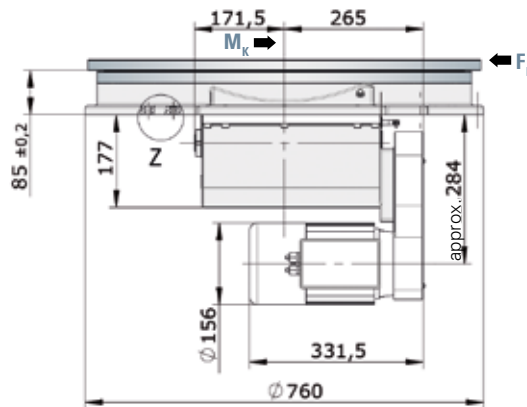
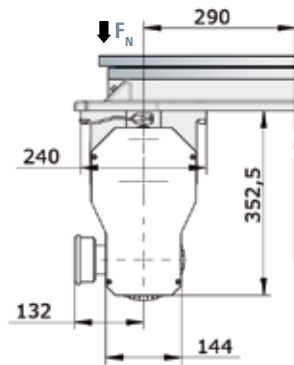
Indexing		Speed Step								
		s	a	b	c	d	e	f	g	h
4	J _{max}	-	7	14	22	37	59	87	220	325
	t _s	-	0.42	0.53	0.66	0.81	1.01	1.26	1.94	2.48
6	J _{max}	-	12	22	36	57	90	144	345	560
	t _s	-	0.42	0.53	0.66	0.81	1.01	1.26	1.94	2.48
8	J _{max}	-	19 *	31	49	78	120	195	460	750
	t _s	-	0.42 *	0.53	0.66	0.81	1.01	1.26	1.94	2.48
10	J _{max}	-	31 *	50	79	125	190	305	720	1170
	t _s	-	0.40 *	0.50	0.62	0.77	0.96	1.20	1.85	2.35
12	J _{max}	18 *	45 *	72	112	175	270	425	1015	1650
	t _s	0.27 *	0.40 *	0.50	0.62	0.77	0.96	1.20	1.85	2.35
16	J _{max}	20 *	57 *	90	140	190	335	530	1260	2045
	t _s	0.26 *	0.39 *	0.48	0.60	0.74	0.92	1.16	1.78	2.27
20	J _{max}	29 *	72 *	115	175	275	420	665	1575	2560
	t _s	0.26 *	0.39 *	0.48	0.60	0.74	0.92	1.16	1.78	2.27
24	J _v	35 *	85 *	135	210	330	505	800	1890	3070
	t _s	0.26 *	0.39 *	0.48	0.60	0.74	0.92	1.16	1.78	2.27
30	J _{max}	35 *	110 *	170	265	410	635	1000	2365	3840
	t _s	0.26 *	0.39 *	0.48	0.60	0.74	0.92	1.16	1.78	2.27

J = max. admissible mass inertia loading (kgm²) t_s = cycle time (seconds). Depending on motor size, electronics and time optimisation settings, the cycle time measured from the start signal to the electric position indication is approx. 80 - 130 ms longer than the value specified in the table.

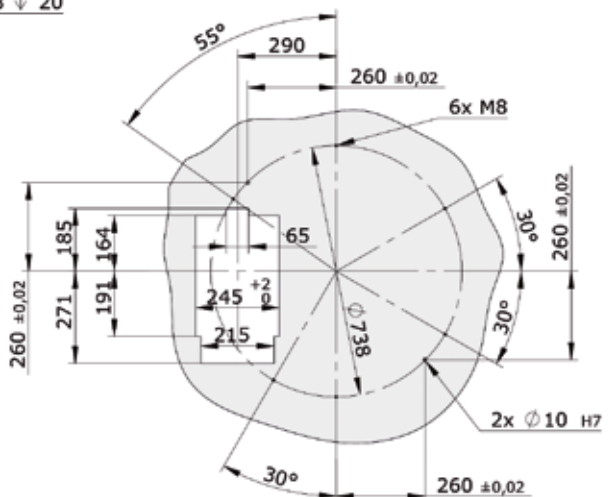
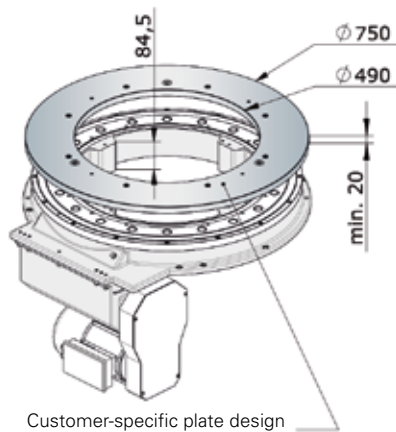
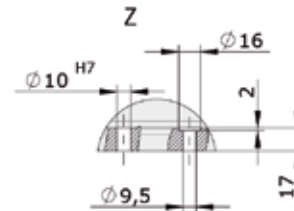
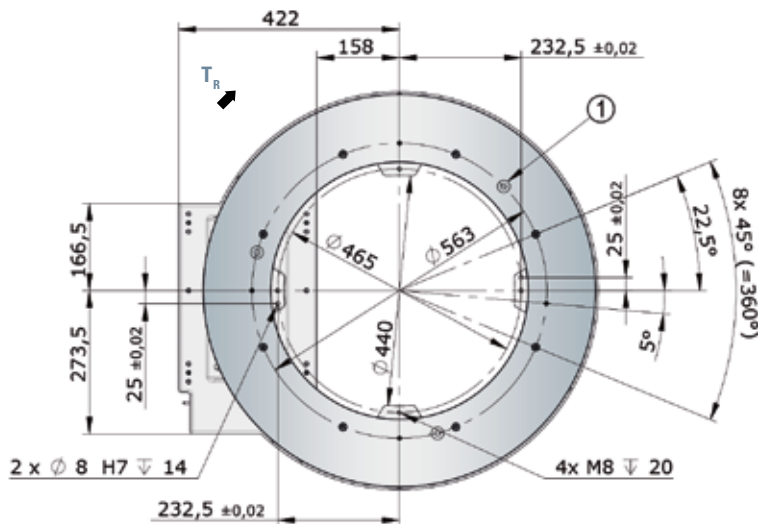
*EF2 - control system for brake wear reduction recommended (see page 58).

DIMENSIONS

The shown position of the rotating ring corresponds to the home position (state of delivery). Additional indexing plates are not included in the standard delivery scope and are subject to an extra charge. They are calculated separately as per your details.



- ① Auxiliary holes for production:
based on the plate diameter; 3x120°



TR 1100A

TECHNICAL DATA

Dial ring inside diameter:	Max. 800 mm	Indexing precision (arcsec):	± 18"
Dial ring outside diameter:	Min. 1100 mm	Indexing precision in radian measurement:	± 0.048 mm (at Ø 1100 mm)
Surface of the dial ring:	Anodised	Max. axial run-out of the ring:	* 0.06 mm (at Ø 1100 mm)
Direction of rotation:	Clockwise - counter clockwise or reciprocating	Max. concentricity:	* 0.04 mm
Cycle rate:	Up to approx. 120 cycles/min, depending on mass moment of inertia and angle of rotation	Max. parallelism of rotating plate surface to bottom housing surface:	* 0.06 mm (at Ø 1100 mm)
Voltage:	230 / 400 V 50 Hz, special voltages upon request	Max. outer diameter:	2200 mm (or following consultation)
Weight:	Approx. 310 kg		
Mounting position:	Dial ring horizontal		

* Attention! In order to reach the above axial and radial run-out tolerances, please ensure that the axial run-out of the mounting plate is accurate.

LOAD DATA (for indexing ring)

Perm. axial force

F_N: 6000 N (static)

Perm. tilting moment

M_K: 2500 Nm (static)

Perm. torque

T_R: 3500 Nm (static)

Perm. radial force

F_R: 12000 N (static)

Max. central load on the ring at M_K = 0 Nm and F_R = 0 N on demand. Combined loads only after inspection by WEISS.

LOAD TABLE (Only valid for 50 Hz)

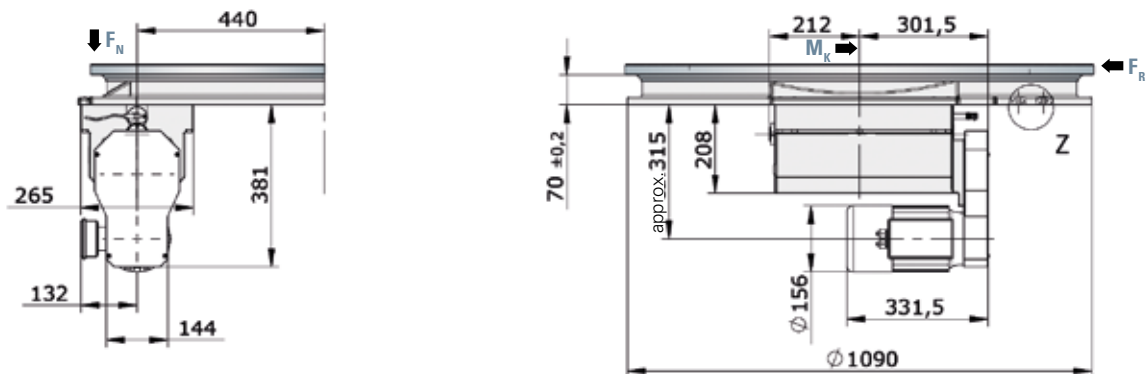
Indexing		Speed Step									
		s	a	b	c	d	e	f	g	h	i
4	J _{max}	-	-	11	19	41	57	60	180	295	445
	t _s	-	-	0.53	0.59	0.82	0.90	1.15	1.41	2.16	2.75
6	J _{max}	-	13	34	43	92	114	190	290	675	1010
	t _s	-	0.42	0.53	0.59	0.82	0.90	1.15	1.41	2.16	2.75
8	J _{max}	-	26 *	48	61	126	155	255	385	925	1510
	t _s	-	0.42 *	0.53	0.59	0.82	0.90	1.15	1.41	2.16	2.75
10	J _{max}	-	35 *	62	78	160	195	325	485	1160	1890
	t _s	-	0.39 *	0.51	0.56	0.78	0.86	1.09	1.33	2.05	2.61
12	J _{max}	21 *	62 *	116	143	260	350	495	860	2045	3325
	t _s	0.29	0.39 *	0.51	0.56	0.78	0.86	1.09	1.33	2.05	2.61
16	J _{max}	38 *	86 *	146	180	355	435	715	1070	2540	4125
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
20	J _{max}	57 *	109 *	185	225	450	550	895	1340	3175	5160
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
24	J _v	65 *	135 *	225	275	540	660	1075	1605	3810	6190
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
30	J _{max}	90 *	170 *	280	345	675	825	1345	2010	4765	7740
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
36	J _{max}	110 *	205 *	340	415	815	995	1620	2415	5720	9290
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52

J = max. admissible mass inertia loading (kgm²) t_s = cycle time (seconds). Depending on motor size, electronics and time optimisation settings, the cycle time measured from the start signal to the electric position indication is approx. 80 - 130 ms longer than the value specified in the table.

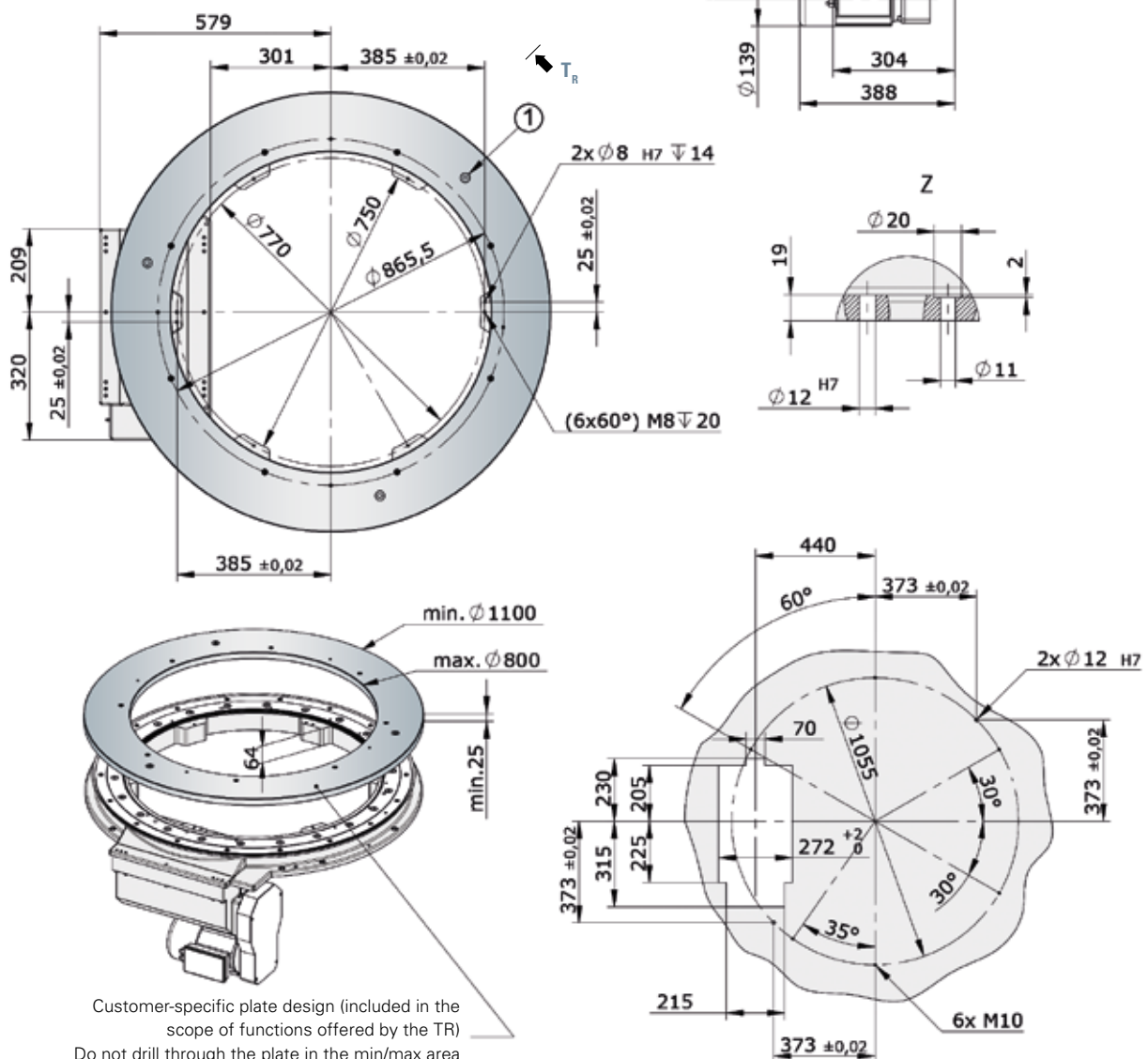
*EF2 - control system for brake wear reduction recommended (see page 58).

DIMENSIONS

The shown position of the rotating ring corresponds to the home position (state of delivery). Additional indexing plates are not included in the standard delivery scope and are subject to an extra charge. They are calculated separately as per your details.



- ① Auxiliary holes for production:
based on the plate diameter;
3x120°



TR 1500A

TECHNICAL DATA

Dial ring inside diameter:	Max. 1135 mm	Indexing precision (arcsec):	± 15"
Dial ring outside diameter:	Min. 1500 mm	Indexing precision in radian measurement:	± 0.055 mm (at Ø 1500 mm)
Surface of the dial ring:	Anodised	Max. axial run-out of the ring:	* 0.08 mm (at Ø 1500 mm)
Direction of rotation:	Clockwise - counter clockwise or reciprocating	Max. concentricity:	* 0.04 mm
Cycle rate:	Up to approx. 120 cycles/min, depending on mass moment of inertia and angle of rotation	Max. parallelism of rotating plate surface to bottom housing surface:	* 0.08 mm (at Ø 1500 mm)
Voltage:	230 / 400 V 50 Hz special voltages upon request	Max. outer diameter:	3000 mm (or following consultation)
Weight:	Approx. 400 kg		
Mounting position:	Dial ring horizontal		

* Attention! In order to reach the above axial and radial run-out tolerances, please ensure that the axial run-out of the mounting plate is accurate.

LOAD DATA (for indexing ring)

Perm. axial force

F_N: 8000 N (static)

Perm. tilting moment

M_K: 3200 Nm (static)

Perm. torque

T_R: 5000 Nm (static)

Perm. radial force

F_R: 16000 N (static)

Max. central load on the ring at MK = 0 Nm and FR = 0 N on demand. Combined loads only after inspection by WEISS.

LOAD TABLE (Only valid for 50 Hz)

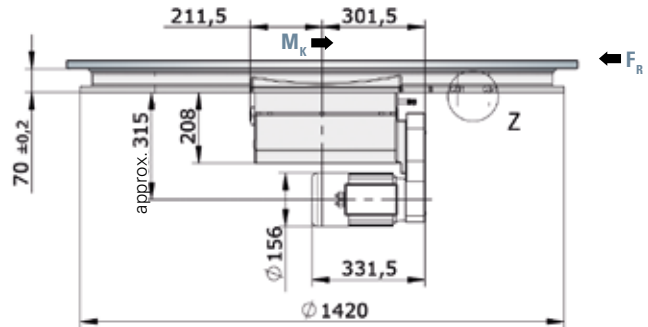
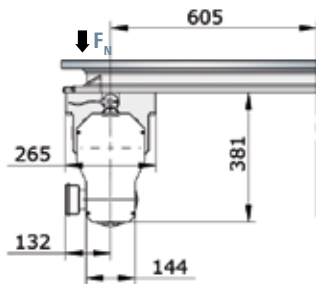
Indexing		Speed Step									
		s	a	b	c	d	e	f	g	h	i
8	J _{max}	-	-	57	74	163	203	342	520	1258	1792
	t _s	-	-	0.53	0.59	0.82	0.90	1.15	1.41	2.16	2.75
10	J _{max}	-	48	100	127	265	330	545	825	1975	2395
	t _s	-	0.39	0.51	0.56	0.78	0.86	1.09	1.33	2.05	2.61
12	J _{max}	-	75 *	149	185	380	470	775	1165	2785	3330
	t _s	-	0.39 *	0.51	0.56	0.78	0.86	1.09	1.33	2.05	2.61
16	J _{max}	43	108 *	190	235	480	590	965	1440	3460	5325
	t _s	0.28	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
20	J _{max}	69 *	140 *	243	301	605	740	1215	1820	4330	7040
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
24	J _{max}	87 *	172 *	295	365	730	890	1460	2185	5200	8455
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
30	J _{max}	114 *	221 *	375	460	915	1120	1830	2740	6505	10570
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
36	J _v	141 *	270 *	455	560	1105	1350	2200	3290	7810	12690
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52
48	J _{max}	324 *	600 *	995	1215	2375	2900	4720	7045	16685	27095
	t _s	0.28 *	0.38 *	0.49	0.54	0.75	0.83	1.05	1.29	1.98	2.52

J = max. admissible mass inertia loading (kgm²) t_s = cycle time (seconds). Depending on motor size, electronics and time optimisation settings, the cycle time measured from the start signal to the electric position indication is approx. 80 - 130 ms longer than the value specified in the table.

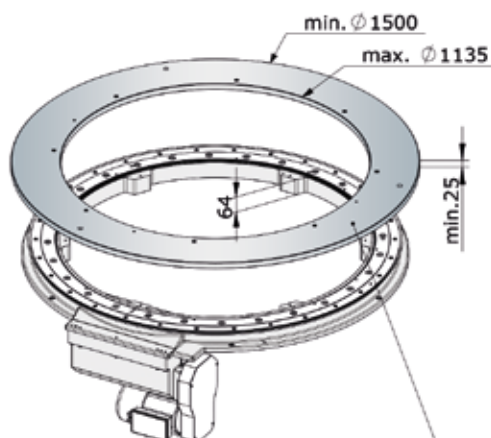
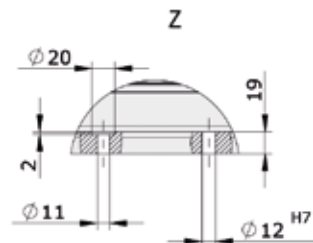
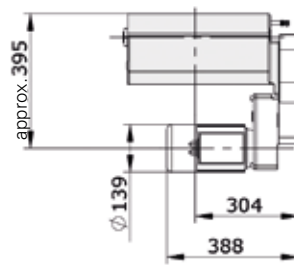
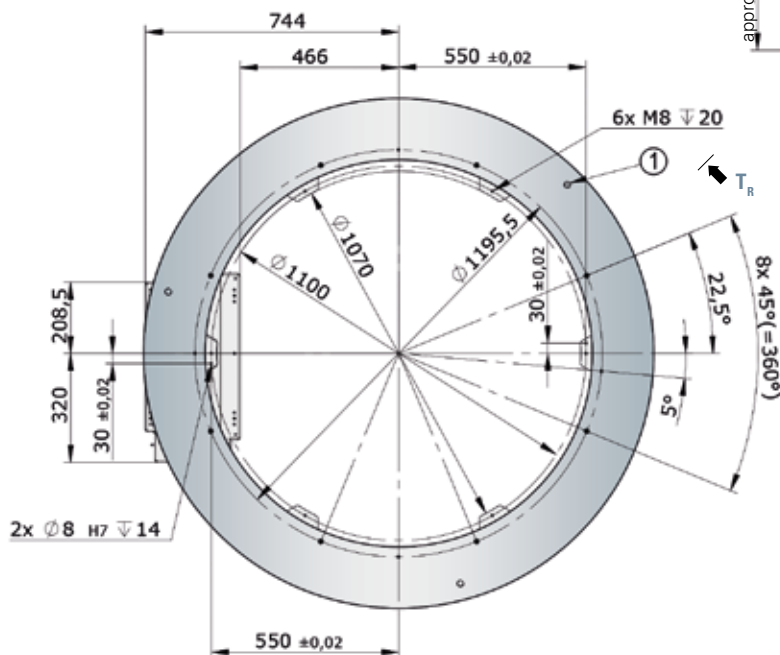
*EF2 - control system for brake wear reduction recommended (see page 58).

DIMENSIONS

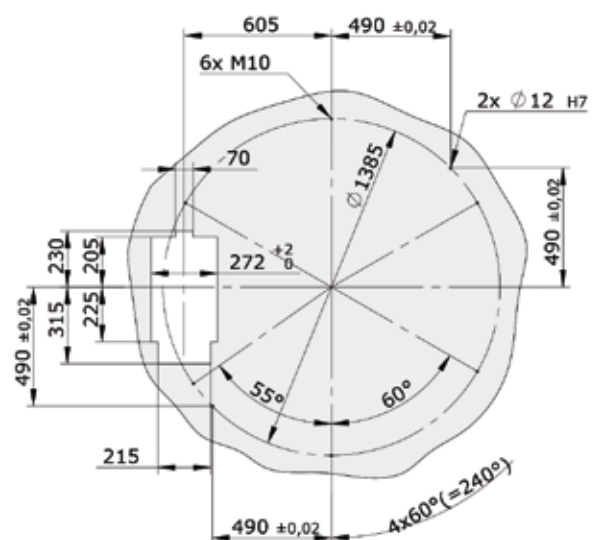
The shown position of the rotating ring corresponds to the home position (state of delivery). Additional indexing plates are not included in the standard delivery scope and are subject to an extra charge. They are calculated separately as per your details.



- ① Auxiliary holes for production:
based on the plate diameter;
3x120°



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



TR 2200A

TECHNICAL DATA

Dial ring inside diameter:	Max. 1750 mm	Indexing precision (arcsec):	± 12"
Dial ring outside diameter:	Min. 2200 mm	Indexing precision in radian measurement:	± 0.064 mm (at Ø 2200 mm)
Surface of the dial ring:	Anodised	Max. axial run-out of the ring:	* 0.08 mm (at Ø 2200 mm)
Direction of rotation:	Clockwise - counter clockwise or reciprocating	Max. concentricity:	* 0.05 mm
Cycle rate:	Up to approx. 120 cycles/min, depending on mass moment of inertia and angle of rotation	Max. parallelism of rotating plate surface to bottom housing surface:	* 0.08 mm (at Ø 2200 mm)
Voltage:	230 / 400 V 50 Hz, special voltages upon request	Max. outer diameter:	4400 mm (or following consultation)
Weight:	Approx. 950 kg	* Attention! In order to reach the above axial and radial run-out tolerances, please ensure that the axial run-out of the mounting plate is accurate.	
Mounting position:	Dial ring horizontal		

LOAD DATA (for indexing ring)

Perm. axial force F_N: 15000 N (static)	Perm. tilting moment M_K: 4500 Nm (static)	Perm. torque T_R: 15000 Nm (static)	Perm. radial force F_R: 30000 N (static)
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Max. central load on the ring at MK = 0 Nm and FR = 0 N on demand. Combined loads only after inspection by WEISS.

LOAD TABLE (Only valid for 50 Hz)

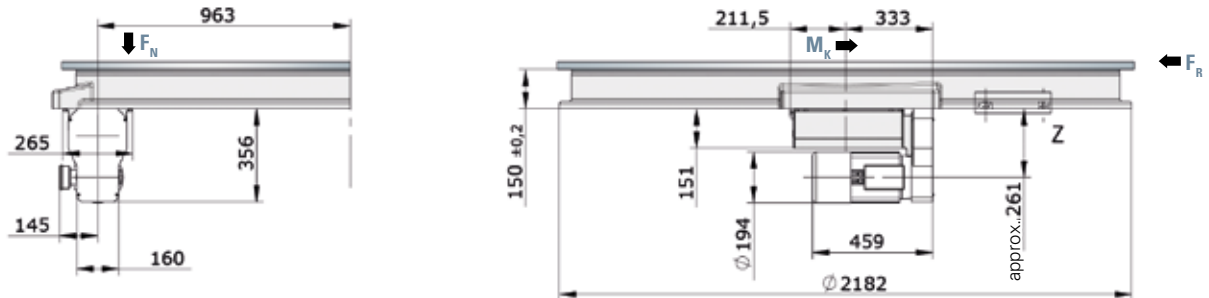
Indexing		Speed Step						
		a	b	c	d	e	f	g
14	J _{max}	-	-	-	525	720	1010	2400
	t _s	-	-	-	0.77	0.86	0.97	1.48
16	J _{max}	-	-	420	995	1030	1640	3075
	t _s	-	-	0.62	0.77	0.86	0.97	1.48
18	J _{max}	-	-	600	1325	1370	2140	3955
	t _s	-	-	0.62	0.77	0.86	0.97	1.48
20	J _{max}	-	511	797	1550	1750	2670	4945
	t _s	-	0.50	0.62	0.77	0.86	0.97	1.48
24	J _{max}	-	665	1180	1805	2455	3255	7230
	t _s	-	0.50	0.62	0.77	0.86	0.97	1.48
30	J _{max}	-	707	1245	2010	2580	3420	8240
	t _s	-	0.46	0.57	0.70	0.78	0.89	1.36
36	J _{max}	465	* 900	1545	2465	3135	4155	9940
	t _s	0.37	* 0.46	0.57	0.70	0.78	0.89	1.36
48	J _v	762	* 1281	2140	3370	4165	5625	13335
	t _s	0.37	* 0.46	0.57	0.70	0.78	0.89	1.36

J = max. admissible mass inertia loading (kgm²) t_s = cycle time (seconds). Depending on motor size, electronics and time optimisation settings, the cycle time measured from the start signal to the electric position indication is approx. 80 - 130 ms longer than the value specified in the table.

*EF2 - control system for brake wear reduction recommended (see page 58).

DIMENSIONS

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- ① Auxiliary holes for production:
based on the plate diameter;
3x120°

