

Technology that inspires



# PRODUCT RANGE

Mechanics | Software | Electronics



Excerpt of the WEISS Product Range

## TC ROTARY INDEXING TABLE



fixed speed

4

I would like to commission my installation quickly and efficiently



3

I require machine frames, mounting bases or custom equipment



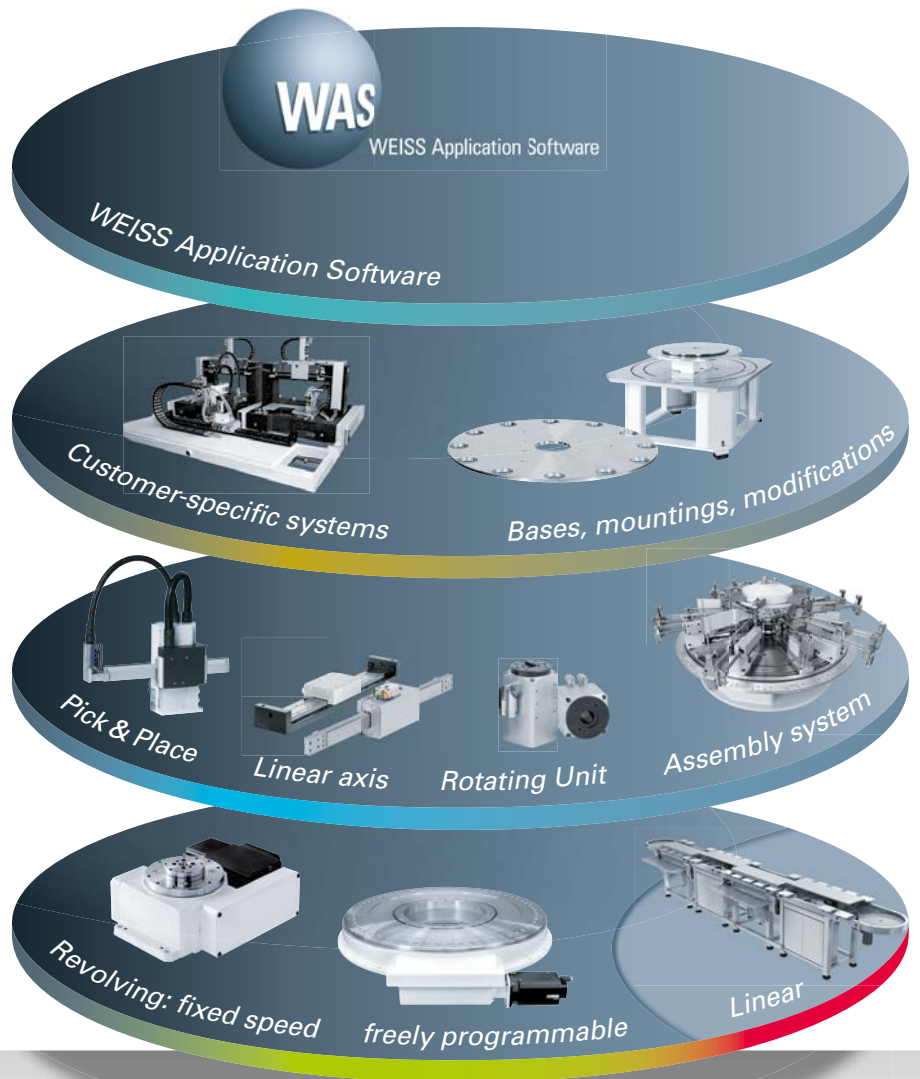
2

I require handling components



1

My transport is...



Four steps to perfect automation



### Fixed position rotary indexing tables



TC



TR

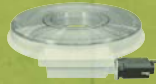
TC rotary indexing table  
TR rotary indexing ring



NC



NR



CR



TO



TW

### User-programmable rotary indexing tables

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



LS

### Linear assembly system

LS 280



HP



HL

HG/HN



ST/SW



SH



PM

### Handling module

HP Pick&Place HL Linear axis  
HG/HN Linear axes ST/SW rotary unit  
SH Lifting-rotating unit PM Pick-o-Mat



Plates



SK

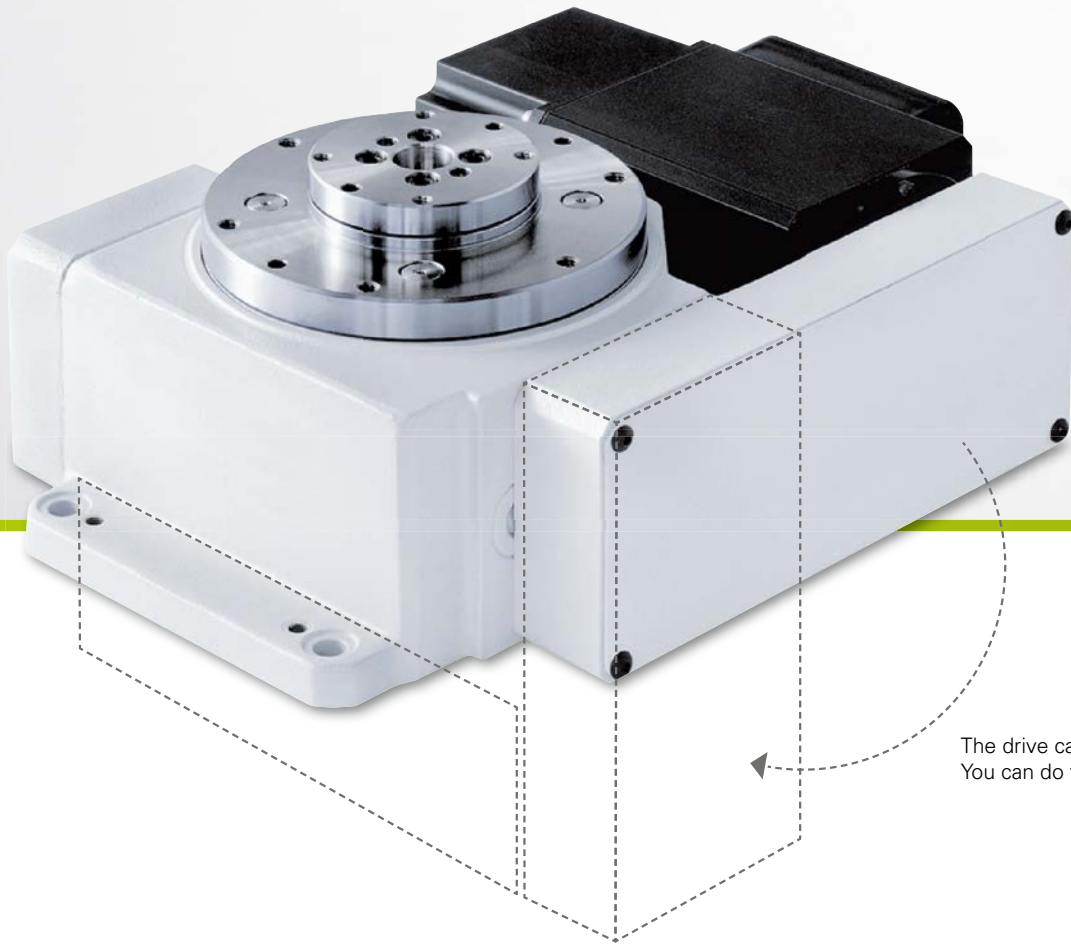
### Customer specific solutions

SR/SK indexing machine bases  
Additional indexing plate



### WAS-Software

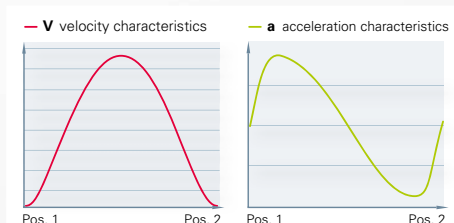
WEISS Application Software (WAS)



The drive can be swung downward.  
You can do the conversion work yourself.

## TC rotary indexing table: Reliability for a lifetime

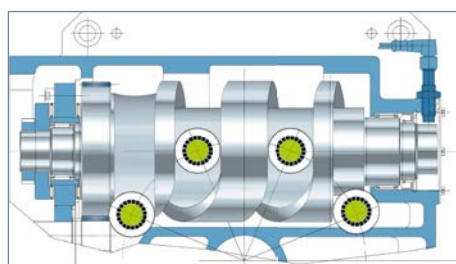
One of the most reliable and robust rotary indexing tables available worldwide. Your most popular partner in the field of automation technology. Extremely long service life combined with impressively fast switching. Now in its third generation. Robust rotary indexing table with smooth, jerk and impact-free running and extremely long service life. When using a WEISS rotary table control system, we extend the warranty from two to four years.



Thanks to the cam profile with modified sine, we are able to achieve very gentle and smooth movements. This is the prerequisite for the fastest indexing times and a long service life.



All bearings are roller bearings that run in an oil bath. Plate cam rollers are mounted on needle bearings.



Our roller cam drives are dimensioned as large as possible. And the full length of the cams is used here.



Cleanroom-certified version also available:  
The TC150T CL is certified to air cleanliness class 5 as per ISO 14644-1.



Using our rotary table control system minimises brake wear. This makes the rotary indexing table virtually maintenance-free throughout its entire service life. And using this control system also extends the warranty to four years.

#### The key advantages at a glance:

- *Powerful upright centre part*
- *Large central bore*
- *Sealing to avoid contamination*
- *Precise, high-load plate bearing*
- *Cam rollers mounted on needle bearings*
- *Grey iron housing*
- *Hardened plates, soft mounting surface*
- *EWR electronic wear compensation*
- *Extremely high precision which always comes with an approval certificate. Please feel free to contact us directly with details of your desired precision.*

## TC 120G

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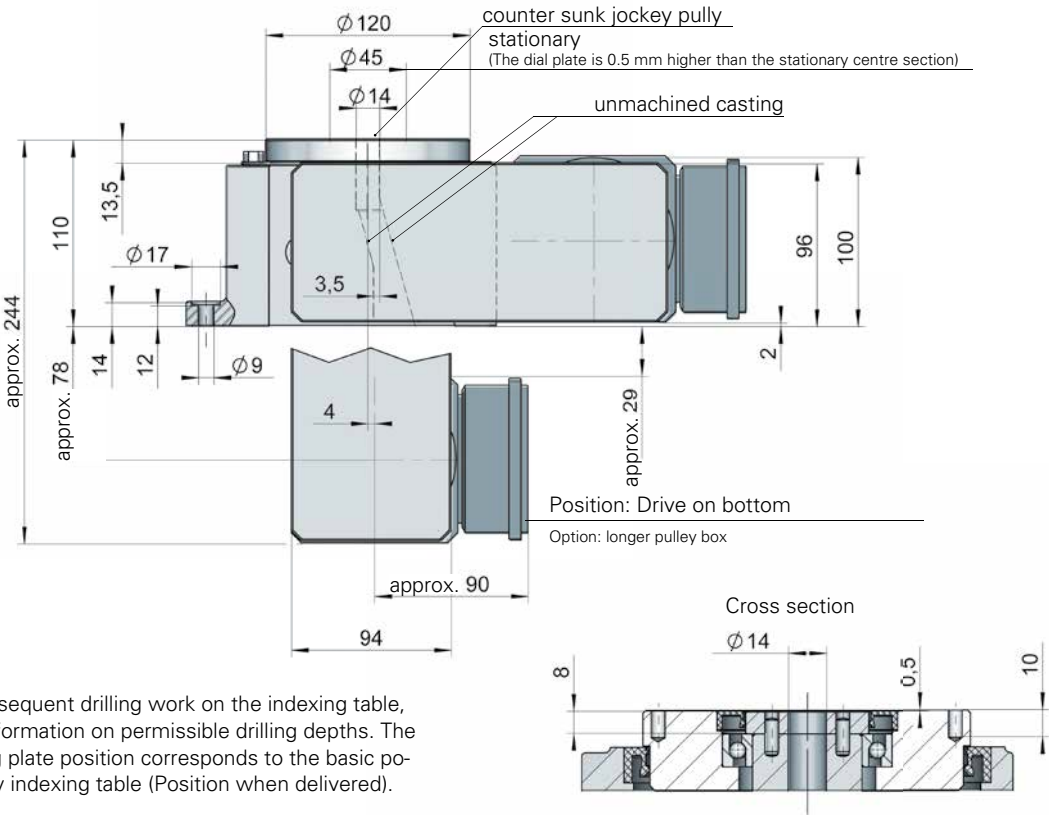


### Technical data TC 120G

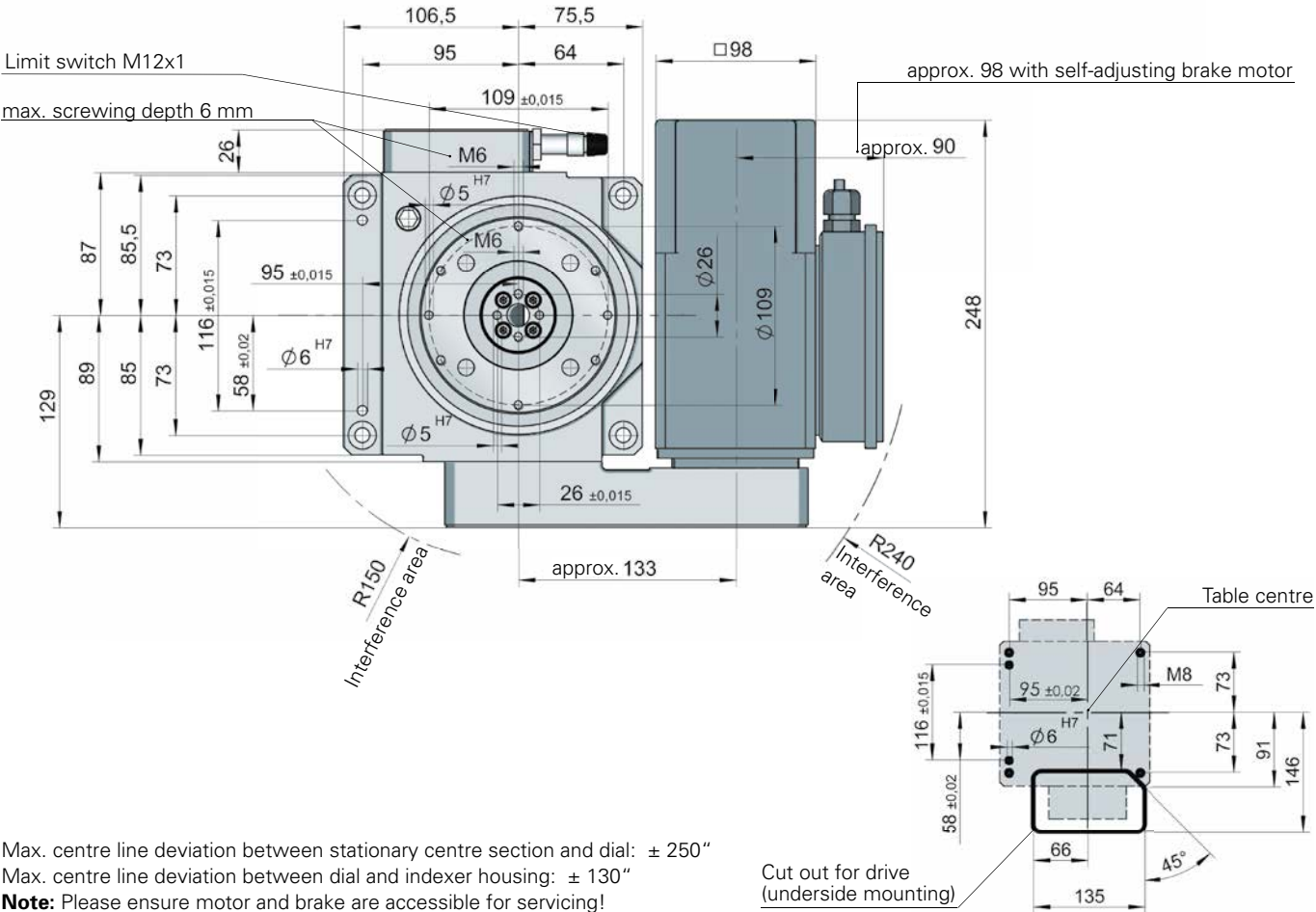
<b>Tool plate diameter:</b>	Recommended up to 600 mm
<b>Dial diameter:</b>	120 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 4, 5, 6, 8, 10, 12, 16, 20, special increments upon request
<b>Cycle frequency:</b>	Up to 200 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.045 - 0.12 kW, frame size 56
<b>Weight:</b>	22 kg
<b>Mounting position:</b>	See page 47*
<b>Indexing precision:</b>	Indexing 2-10: $\pm 45''$ indexing 16-20: $\pm 55''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 120 mm) indexing 2-10: $\pm 0.013$ mm indexing 12-20: $\pm 0.016$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 120 mm) 0.02 mm
<b>Max. run out:</b>	0.02 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 120 mm) 0.04 mm

\*Please consult WEISS for overhead mounting positions.

# TC 120G Dimensions



If you require subsequent drilling work on the indexing table, please request information on permissible drilling depths. The illustrated rotating plate position corresponds to the basic position of the rotary indexing table (Position when delivered).



Max. centre line deviation between stationary centre section and dial:  $\pm 250''$   
 Max. centre line deviation between dial and indexer housing:  $\pm 130''$   
**Note:** Please ensure motor and brake are accessible for servicing!

# TC 120G

Load table (In the case of higher loads or longer cycle times, please ask us for advice.)

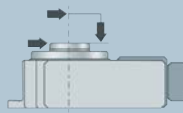
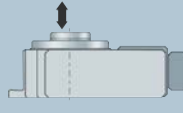
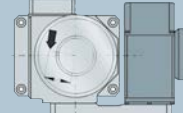
Stage		a	b	c	d	e	f	g
<b>Indexing</b>								
2	$J_{max}$	–	–	<b>0.06</b>	<b>0.10</b>	<b>0.15</b>	<b>0.23</b>	<b>0.38</b>
	$t_s$	–	–	0.41	0.51	0.63	0.78	0.99
4	$J_{max}$	<b>0.10</b>	<b>0.19</b>	<b>0.28</b>	<b>0.42</b>	<b>0.66</b>	<b>1.00</b>	<b>1.63</b>
	$t_s$	0.24	0.31	0.37	0.46	0.57	0.70	0.89
5	$J_{max}$	<b>0.16</b>	<b>0.33</b>	<b>0.47</b>	<b>0.71</b>	<b>1.05</b>	<b>1.69</b>	<b>2.75</b>
	$t_s$	0.24	0.31	0.37	0.46	0.57	0.70	0.89
6	$J_{max}$	<b>0.23</b>	<b>0.39</b>	<b>0.57</b>	<b>0.86</b>	<b>1.34</b>	<b>2.03</b>	<b>3.30</b>
	$t_s$	0.24	0.31	0.37	0.46	0.57	0.70	0.89
8	$J_{max}$	<b>0.41</b>	<b>0.85</b>	<b>1.21</b>	<b>1.83</b>	<b>2.69</b>	<b>4.34</b>	<b>7.05</b>
	$t_s$	0.24	0.31	0.37	0.46	0.57	0.70	0.89
10	$J_{max}$	<b>0.57</b>	<b>0.93</b>	<b>1.33</b>	<b>2.01</b>	<b>3.15</b>	<b>4.76</b>	<b>7.73</b>
	$t_s$	0.24	0.31	0.37	0.46	0.57	0.70	0.89
12	$J_{max}$	–	–	–	<b>0.47</b>	<b>0.67</b>	<b>1.12</b>	<b>1.82</b>
	$t_s$	–	–	–	0.22	0.27	0.34	0.43
16	$J_{max}$	–	–	–	<b>0.55</b>	<b>0.86</b>	<b>1.31</b>	<b>2.13</b>
	$t_s$	–	–	–	0.22	0.27	0.34	0.43
20	$J_{max}$	–	–	–	<b>0.86</b>	<b>1.35</b>	<b>2.05</b>	<b>3.32</b>
	$t_s$	–	–	–	0.22	0.27	0.34	0.43

$J$  = max admissible mass inertia loading (kgm<sup>2</sup>)  $t_s$  = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EF2** - control system for brake wear reduction recommended (see page 44).

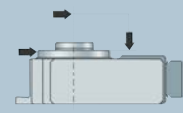
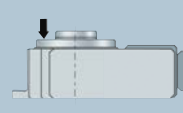
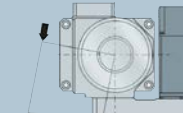
\* Note on indexing times

The actual measured rotation time (from the start signal to the electrical in-position signal) comprises the calculated rotation motion time given in the tables and type-related delays. An important factor are electrical signal processing times, input filters, mechanical motor idle times and also the setting and optimization of the ideal starting position (please refer to the TC-T operating instructions).

## Load data (for the stationary centre section)

		
perm. tilting moment acting on the centre section <b>150 Nm</b>	perm. force acting vertically on the centre section <b>3000 N</b>	perm. tangential moment acting on the centre section <b>120 Nm</b>
perm. radial force acting on the centre section <b>2000 N</b>		

## Load data (for the rotary indexing dial plate)

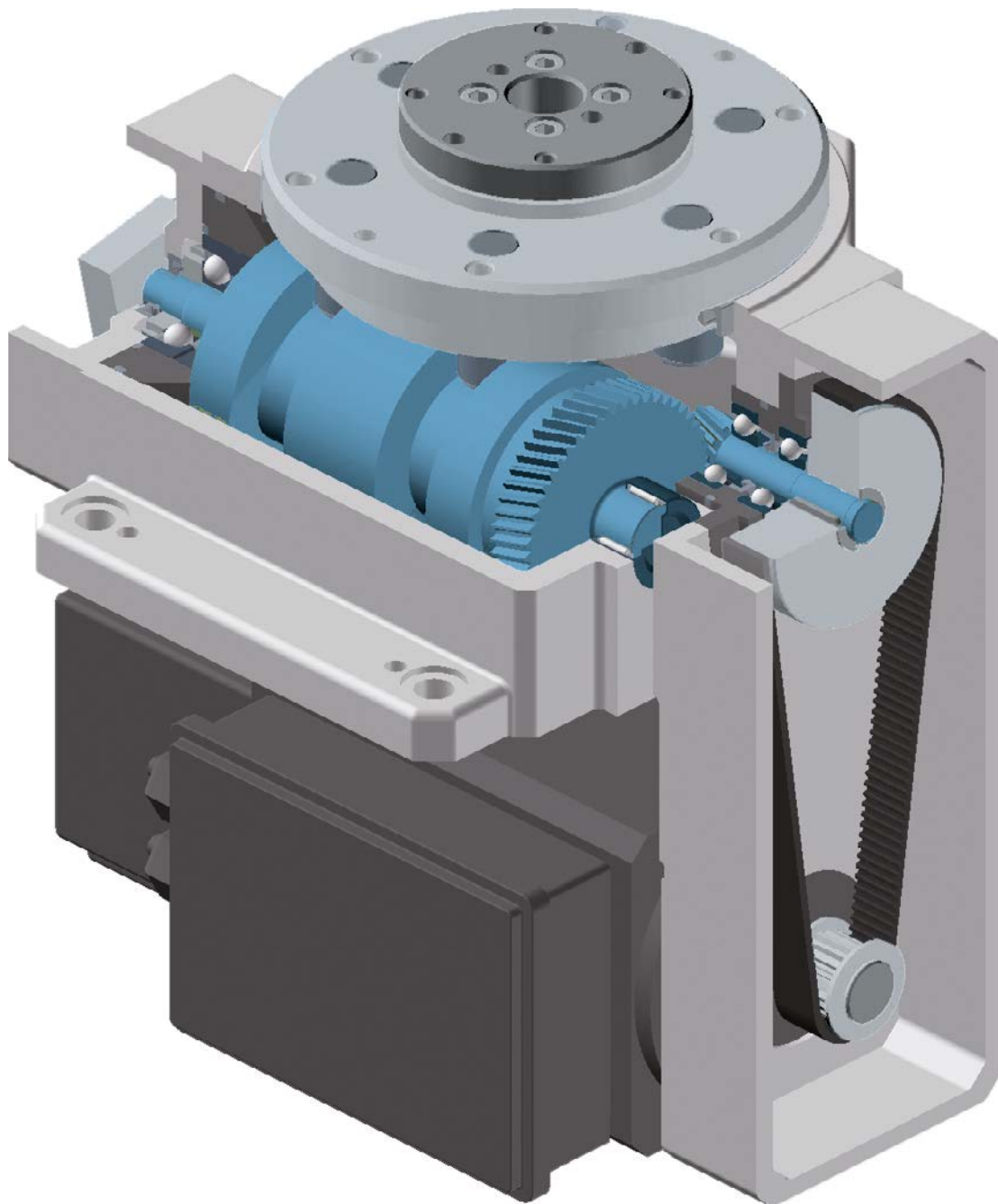
		
perm. tilting moment acting on the locked dial plate <b>200 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>3300 N</b>	perm. tangential moment acting on the locked dial plate <b>120 Nm</b>
perm. radial force acting on the locked dial plate <b>2000 N</b>		

Combined loads only after inspection by WEISS.



# TC 120G

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The picture shows TC150T

## TC 150T

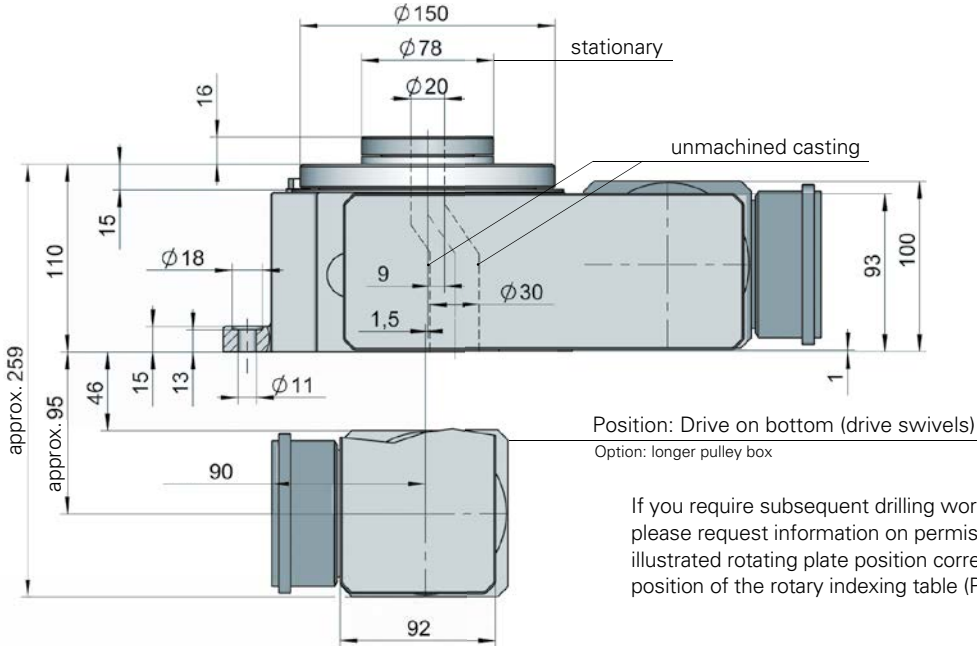


### Technical data TC 150T

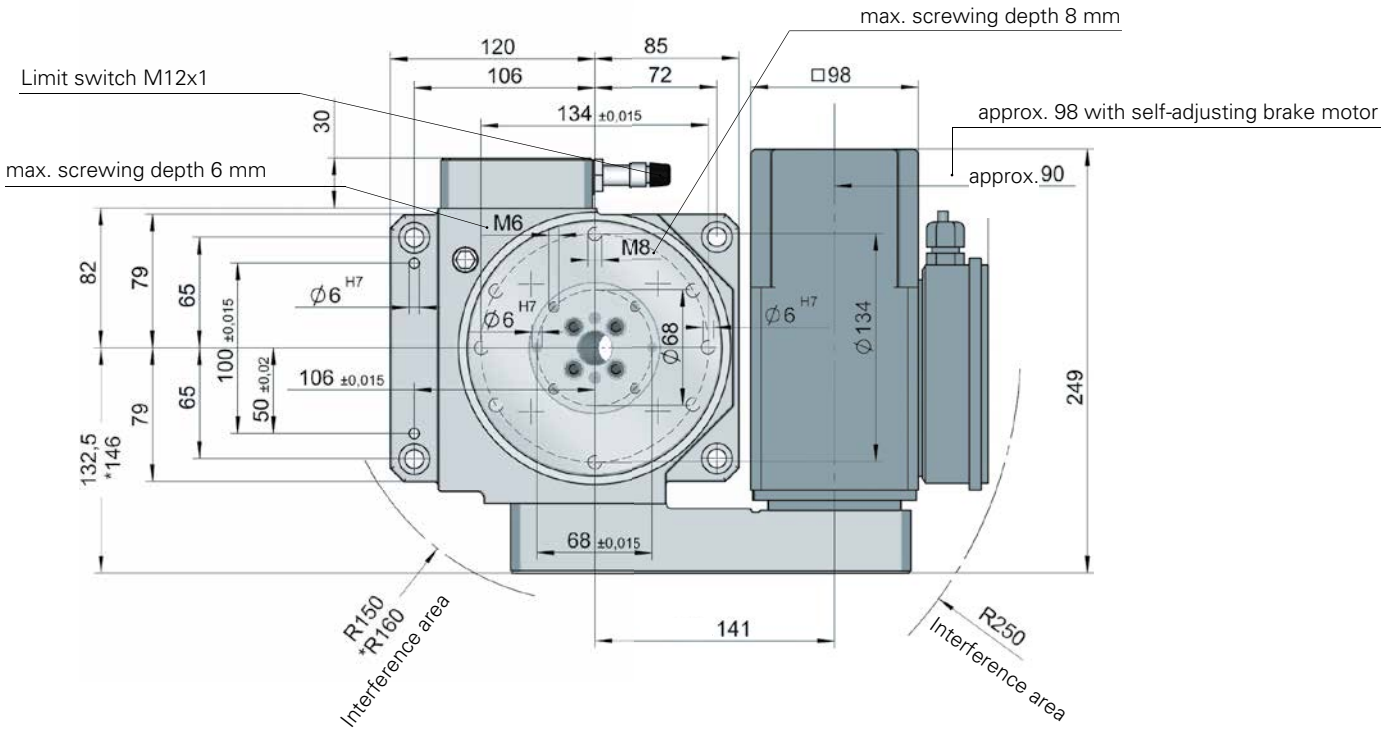
<b>Tool plate diameter:</b>	Recommended up to 800 mm
<b>Dial diameter:</b>	150 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, special increments upon request
<b>Cycle frequency:</b>	Up to 210 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.045 - 0.12 kW, frame size 56
<b>Weight:</b>	23 kg
<b>Mounting position:</b>	See page 47*
<b>Indexing precision:</b>	Indexing 2-12: $\pm 30''$ indexing 16-24: $\pm 45''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 150 mm) indexing 2-12: $\pm 0.011$ mm indexing 16-24: $\pm 0.016$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 150 mm) 0.01 mm
<b>Max. run out:</b>	0.01 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 150 mm) 0.03 mm
<b>tooling plate clearance hole:</b>	at $\varnothing$ 80 mm

\*Please consult WEISS for overhead mounting positions.

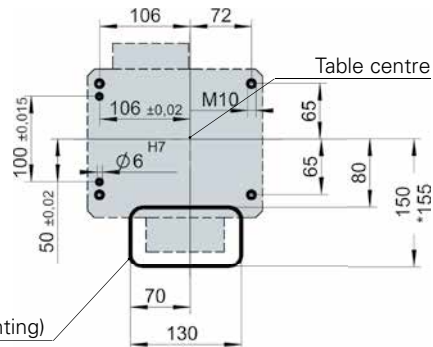
# TC 150T Dimensions



If you require subsequent drilling work on the indexing table, please request information on permissible drilling depths. The illustrated rotating plate position corresponds to the basic position of the rotary indexing table (Position when delivered).



\* only for indexing step h - j



Max. centre line deviation between stationary centre section and dial: ± 180"  
 Max. centre line deviation between dial and indexer housing: ± 120"  
**Note:** Please ensure motor and brake are accessible for servicing!

# TC 150T

## Load table (In the case of higher loads, please ask us for advice.)

Stage		a	b	c	d	e	f	g	h	i	j
<b>Indexing</b>											
2	<b>J<sub>max</sub></b>	–	–	<b>0.09</b>	<b>0.14</b>	<b>0.23</b>	<b>0.35</b>	<b>0.58</b>	<b>1.18</b>	<b>1.93</b>	<b>4.18</b>
	<b>t<sub>s</sub></b>	–	–	0.43	0.53	0.66	0.81	1.03	1.47	1.88	2.76
3	<b>J<sub>max</sub></b>	–	–	<b>0.14</b>	<b>0.22</b>	<b>0.35</b>	<b>0.53</b>	<b>0.87</b>	<b>1.78</b>	<b>2.90</b>	<b>6.28</b>
	<b>t<sub>s</sub></b>	–	–	0.43	0.53	0.66	0.81	1.03	1.47	1.88	2.76
4	<b>J<sub>max</sub></b>	<b>0.11</b>	<b>0.23</b>	<b>0.37</b>	<b>0.56</b>	<b>0.75</b>	<b>1.35</b>	<b>2.17</b>	<b>4.47</b>	<b>7.28</b>	<b>15.75</b>
	<b>t<sub>s</sub></b>	0.25	0.32	0.39	0.47	0.59	0.73	0.93	1.33	1.69	2.49
6	<b>J<sub>max</sub></b>	<b>0.26</b>	<b>0.53</b>	<b>0.76</b>	<b>1.15</b>	<b>1.69</b>	<b>2.73</b>	<b>4.43</b>	<b>9.05</b>	<b>14.72</b>	<b>31.80</b>
	<b>t<sub>s</sub></b>	0.25	0.32	0.39	0.47	0.59	0.73	0.93	1.33	1.69	2.49
8	<b>J<sub>max</sub></b>	<b>0.46</b>	<b>0.96</b>	<b>1.62</b>	<b>2.46</b>	<b>3.02</b>	<b>5.61</b>	<b>8.71</b>	<b>19.31</b>	<b>31.40</b>	<b>67.90</b>
	<b>t<sub>s</sub></b>	0.25	0.32	0.39	0.47	0.59	0.73	0.93	1.33	1.69	2.49
10	<b>J<sub>max</sub></b>	<b>0.72</b>	<b>1.42</b>	<b>2.03</b>	<b>3.08</b>	<b>4.72</b>	<b>7.28</b>	<b>11.83</b>	<b>24.10</b>	<b>39.30</b>	<b>84.90</b>
	<b>t<sub>s</sub></b>	0.25	0.32	0.39	0.47	0.59	0.73	0.93	1.33	1.69	2.49
12	<b>J<sub>max</sub></b>	<b>1.04</b>	<b>1.70</b>	<b>2.44</b>	<b>3.69</b>	<b>5.78</b>	<b>8.74</b>	<b>14.19</b>	<b>29.00</b>	<b>47.10</b>	<b>102</b>
	<b>t<sub>s</sub></b>	0.25	0.32	0.39	0.47	0.59	0.73	0.93	1.33	1.69	2.49
16	<b>J<sub>max</sub></b>	–	–	<b>0.55</b>	<b>0.84</b>	<b>1.32</b>	<b>2.00</b>	<b>3.25</b>	<b>6.64</b>	<b>10.80</b>	<b>23.40</b>
	<b>t<sub>s</sub></b>	–	–	0.19	0.23	0.29	0.35	0.45	0.64	0.81	1.20
20	<b>J<sub>max</sub></b>	–	–	<b>0.69</b>	<b>1.05</b>	<b>1.65</b>	<b>2.50</b>	<b>4.06</b>	<b>8.30</b>	<b>13.50</b>	<b>29.20</b>
	<b>t<sub>s</sub></b>	–	–	0.19	0.23	0.29	0.35	0.45	0.64	0.81	1.20
24	<b>J<sub>max</sub></b>	–	–	<b>0.83</b>	<b>1.27</b>	<b>1.98</b>	<b>3.00</b>	<b>4.88</b>	<b>9.97</b>	<b>16.21</b>	<b>35.10</b>
	<b>t<sub>s</sub></b>	–	–	0.19	0.23	0.29	0.35	0.45	0.64	0.81	1.20

J = max admissible mass inertia loading (kgm<sup>2</sup>) t<sub>s</sub> = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EFZ** - control system for brake wear reduction recommended (see page 44).

\* Note on indexing times

The actual measured rotation time (from the start signal to the electrical in-position signal) comprises the calculated rotation motion time given in the tables and type-related delays. An important factor are electrical signal processing times, input filters, mechanical motor idle times and also the setting and optimization of the ideal starting position (please refer to the TC-T operating instructions).

### Load data (for the stationary centre section)

perm. tilting moment acting on the centre section <b>200 Nm</b>	perm. force acting vertically on the centre section <b>3500 N</b>	perm. tangential moment acting on the centre section <b>150 Nm</b>
perm. radial force acting on the centre section <b>2500 N</b>		

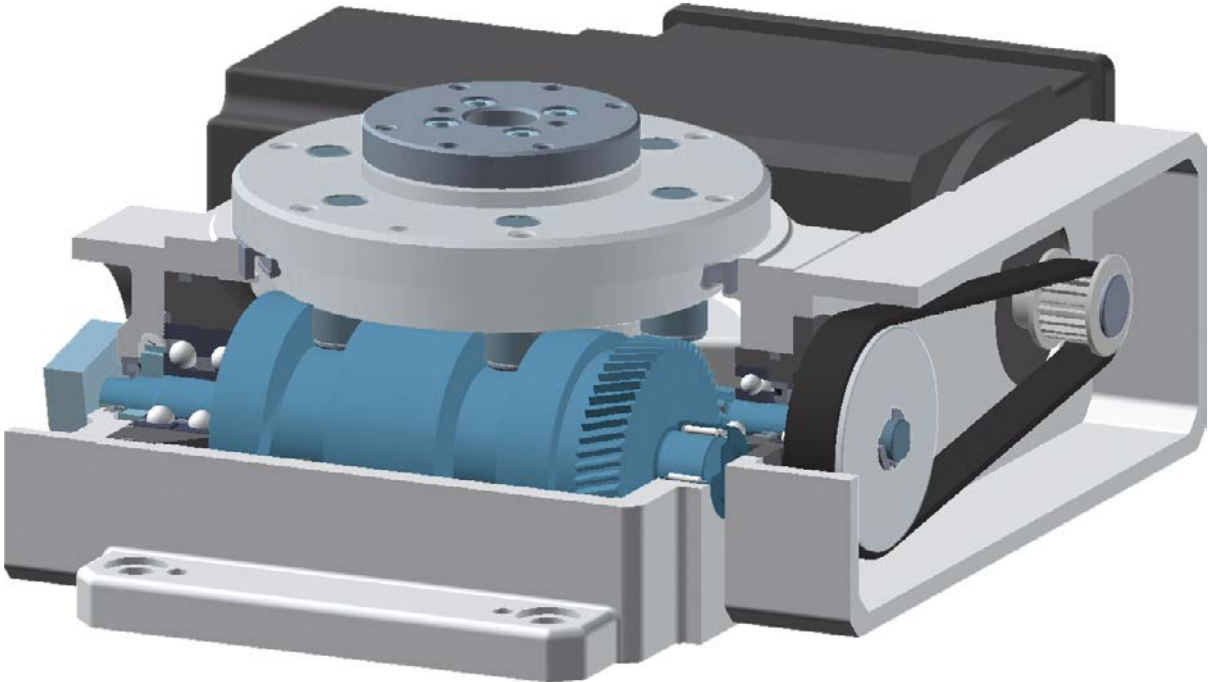
### Load data (for the rotary indexing dial plate)

perm. tilting moment acting on the locked dial plate <b>500 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>5500 N</b>	perm. tangential moment acting on the locked dial plate <b>150 Nm</b>
perm. radial force acting on the locked dial plate <b>6000 N</b>		

Combined loads only after inspection by WEISS.

# TC 150T

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## TC 220T

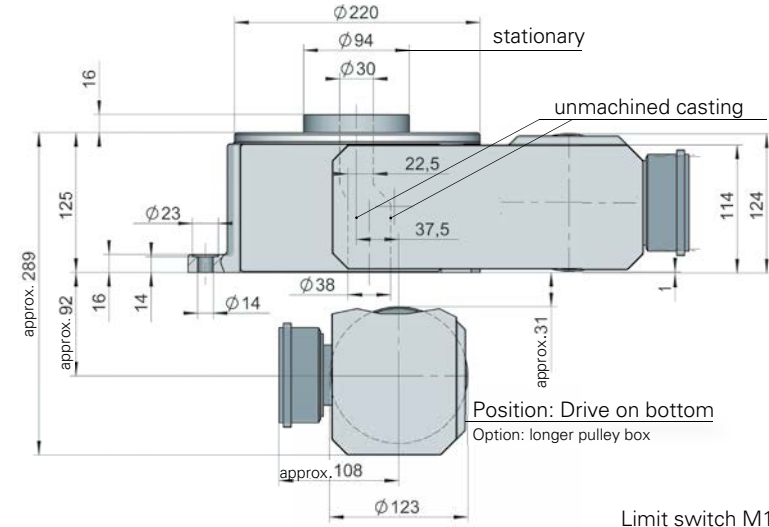


### Technical data TC 220T

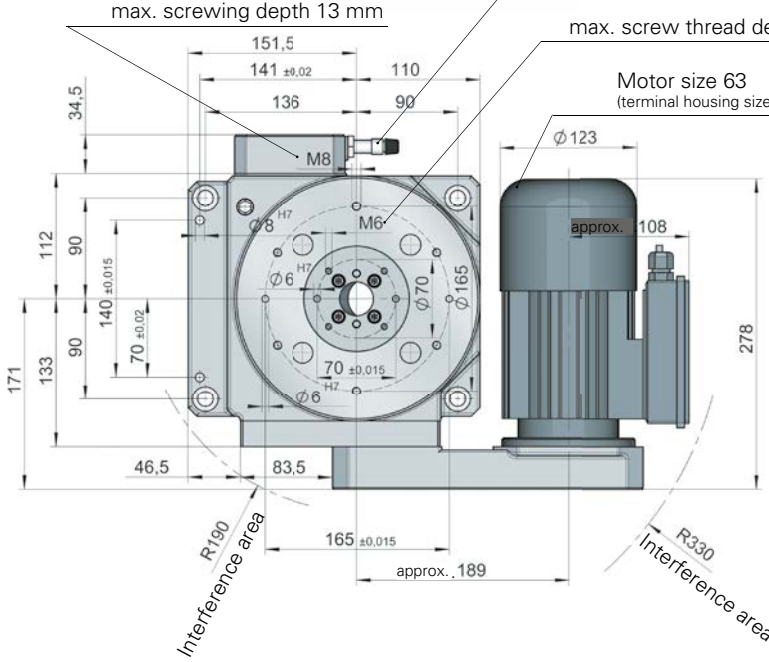
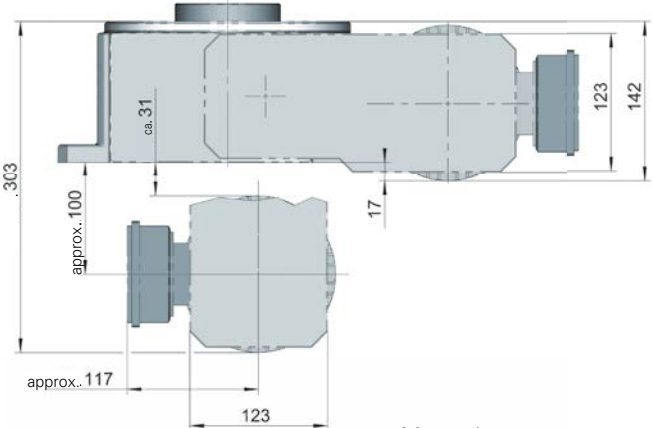
<b>Tool plate diameter:</b>	Recommended up to 1100 mm
<b>Dial diameter:</b>	220 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, 30, 36, special increments upon request
<b>Cycle frequency:</b>	Up to 220 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.06 - 1.1 kW, frame size 63/71
<b>Weight:</b>	44 kg
<b>Mounting position:</b>	See page 47*
<b>Indexing precision:</b>	Indexing 2-12: $\pm 20''$ . Indexing 16-24: $\pm 30''$ . Indexing 30-36: $\pm 40''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 220 mm) Indexing 2-12: $\pm 0.011$ mm. Indexing 16-24: $\pm 0.016$ mm. Indexing 30-36: $\pm 0.021$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 220 mm) 0.01 mm
<b>Max. run out:</b>	0.01 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 220 mm) 0.03 mm
<b>tooling plate clearance hole:</b>	$\varnothing$ 96 mm

\*Please consult WEISS for overhead mounting positions.

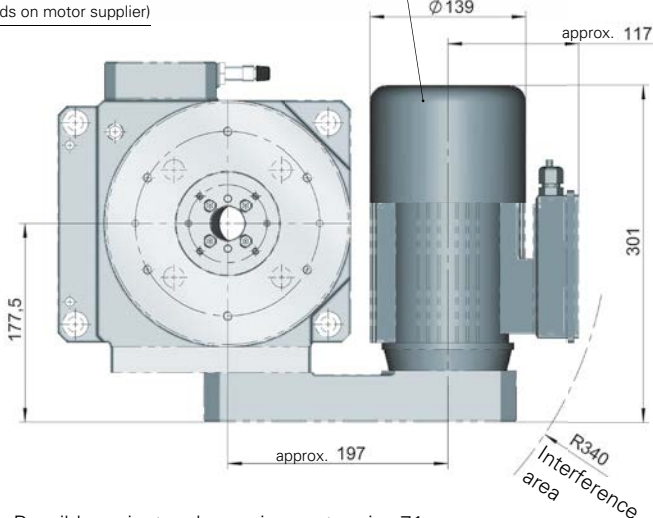
# TC 220T Dimensions



Dimensions for Motor size 71



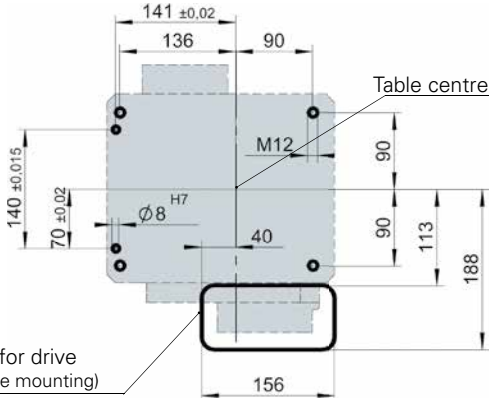
Motor size 71: (terminal housing size depends on motor supplier)



Possible variants when using motor size 71:  
 - Belt drive lateral with raised support for indexer housing  
 - Belt drive on bottom

If you require subsequent drilling work on the indexing table, please request information on permissible drilling depths. The illustrated rotating plate position corresponds to the basic position of the rotary indexing table (Position when delivered).

Max. centre line deviation between stationary centre section and dial:  $\pm 150''$   
 Max. centre line deviation between dial and indexer housing:  $\pm 100''$   
**Note:** Please ensure motor and brake are accessible for servicing!



# TC 220T

Load table (In the case of higher loads, please ask us for advice.)

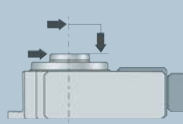
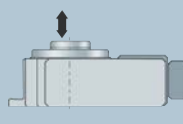
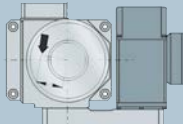
Stage		b	c	d	e	f	g	h	i	j	k	l
<b>Indexing</b>												
2	$J_{max}$	–	–	<b>0.15</b>	<b>0.34</b>	<b>0.57</b>	<b>0.73</b>	<b>1.15</b>	<b>1.70</b>	<b>2.77</b>	<b>6.59</b>	<b>8.80</b>
	$t_s$	–	–	0.35	0.50	0.60	0.67	0.84	1.02	1.30	1.99	2.30
3	$J_{max}$	–	<b>0.18</b>	<b>0.30</b>	<b>0.62</b>	<b>0.92</b>	<b>1.16</b>	<b>1.83</b>	<b>2.68</b>	<b>4.37</b>	<b>10.36</b>	<b>13.82</b>
	$t_s$	–	0.29	0.35	0.50	0.60	0.67	0.84	1.02	1.30	1.99	2.30
4	$J_{max}$	<b>0.12 (0.19)</b>	<b>0.24 (0.37)</b>	<b>0.46 (0.69)</b>	<b>1.34 (1.97)</b>	<b>2.38 (3.50)</b>	<b>3.36 (4.61)</b>	<b>6.60</b>	<b>10.54</b>	<b>17.13</b>	<b>31.50</b>	<b>48.50</b>
	$t_s$	0.22	0.26	0.32	0.45	0.54	0.61	0.76	0.92	1.17	1.80	2.07
6	$J_{max}$	<b>0.31 (0.48)</b>	<b>0.58 (0.87)</b>	<b>1.06 (1.59)</b>	<b>3.05 (4.46)</b>	<b>5.40 (7.45)</b>	<b>7.60</b>	<b>14.64</b>	<b>18.84</b>	<b>26.00</b>	<b>70.90</b>	<b>109</b>
	$t_s$	0.22	0.26	0.32	0.45	0.54	0.61	0.76	0.92	1.17	1.80	2.07
8	$J_{max}$	<b>0.58 (0.87)</b>	<b>1.06 (1.58)</b>	<b>1.92 (2.85)</b>	<b>5.44 (6.92)</b>	<b>9.63 (10.22)</b>	<b>12.82</b>	<b>19.05</b>	<b>29.20</b>	<b>46.20</b>	<b>112</b>	<b>150</b>
	$t_s$	0.22	0.26	0.32	0.45	0.54	0.61	0.76	0.92	1.17	1.80	2.07
10	$J_{max}$	<b>0.92 (1.37)</b>	<b>1.67 (2.48)</b>	<b>3.01 (4.24)</b>	<b>8.48 (8.4)</b>	<b>12.40</b>	<b>15.23</b>	<b>24.30</b>	<b>35.50</b>	<b>57.60</b>	<b>136</b>	<b>182</b>
	$t_s$	0.22	0.26	0.32	0.45	0.54	0.61	0.76	0.92	1.17	1.80	2.07
12	$J_{max}$	<b>1.34 (1.96)</b>	<b>2.41 (2.90)</b>	<b>4.29</b>	<b>10.19</b>	<b>14.89</b>	<b>15.73</b>	<b>24.60</b>	<b>35.80</b>	<b>58.20</b>	<b>138</b>	<b>183</b>
	$t_s$	0.22	0.26	0.32	0.45	0.54	0.61	0.76	0.92	1.17	1.80	2.07
16	$J_{max}$	–	–	–	<b>2.00</b>	<b>2.94</b>	<b>3.69</b>	<b>5.79</b>	<b>8.45</b>	<b>13.73</b>	<b>32.50</b>	<b>43.30</b>
	$t_s$	–	–	–	0.22	0.26	0.29	0.37	0.44	0.56	0.86	1.00
20	$J_{max}$	–	–	–	<b>3.05</b>	<b>4.47</b>	<b>5.62</b>	<b>8.80</b>	<b>12.83</b>	<b>20.80</b>	<b>49.30</b>	<b>65.80</b>
	$t_s$	–	–	–	0.22	0.26	0.29	0.37	0.44	0.56	0.86	1.00
24	$J_{max}$	–	–	–	<b>3.67</b>	<b>5.37</b>	<b>6.75</b>	<b>10.56</b>	<b>15.40</b>	<b>25.00</b>	<b>59.20</b>	<b>78.90</b>
	$t_s$	–	–	–	0.22	0.26	0.29	0.37	0.44	0.56	0.86	1.00
30	$J_{max}$	–	–	–	–	–	<b>3.59</b>	<b>5.63</b>	<b>8.21</b>	<b>13.35</b>	<b>31.60</b>	<b>42.20</b>
	$t_s$	–	–	–	–	–	0.19	0.24	0.29	0.37	0.57	0.65
36	$J_{max}$	–	–	–	–	–	<b>4.32</b>	<b>6.76</b>	<b>9.89</b>	<b>16.03</b>	<b>37.90</b>	<b>50.60</b>
	$t_s$	–	–	–	–	–	0.19	0.24	0.29	0.37	0.57	0.65

$J$  = max admissible mass inertia loading (kgm<sup>2</sup>)  $t_s$  = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EF2** - control system for brake wear reduction recommended (see page 44).  
 The red numbers of the max. mass inertia are valid for motor size 71.

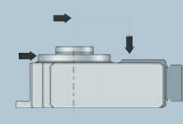
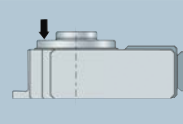
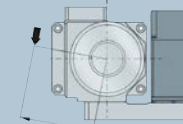
\* Note on indexing times

The actual measured rotation time (from the start signal to the electrical in-position signal) comprises the calculated rotation motion time given in the tables and type-related delays. An important factor are electrical signal processing times, input filters, mechanical motor idle times and also the setting and optimization of the ideal starting position (please refer to the TC-T operating instructions).

### Load data (for the stationary centre section)

		
perm. tilting moment acting on the centre section <b>300 Nm</b>	perm. force acting vertically on the centre section <b>5000 N</b>	perm. tangential moment acting on the centre section <b>200 Nm</b>
perm. radial force acting on the centre section <b>4000 N</b>		

### Load data (for the rotary indexing dial plate)

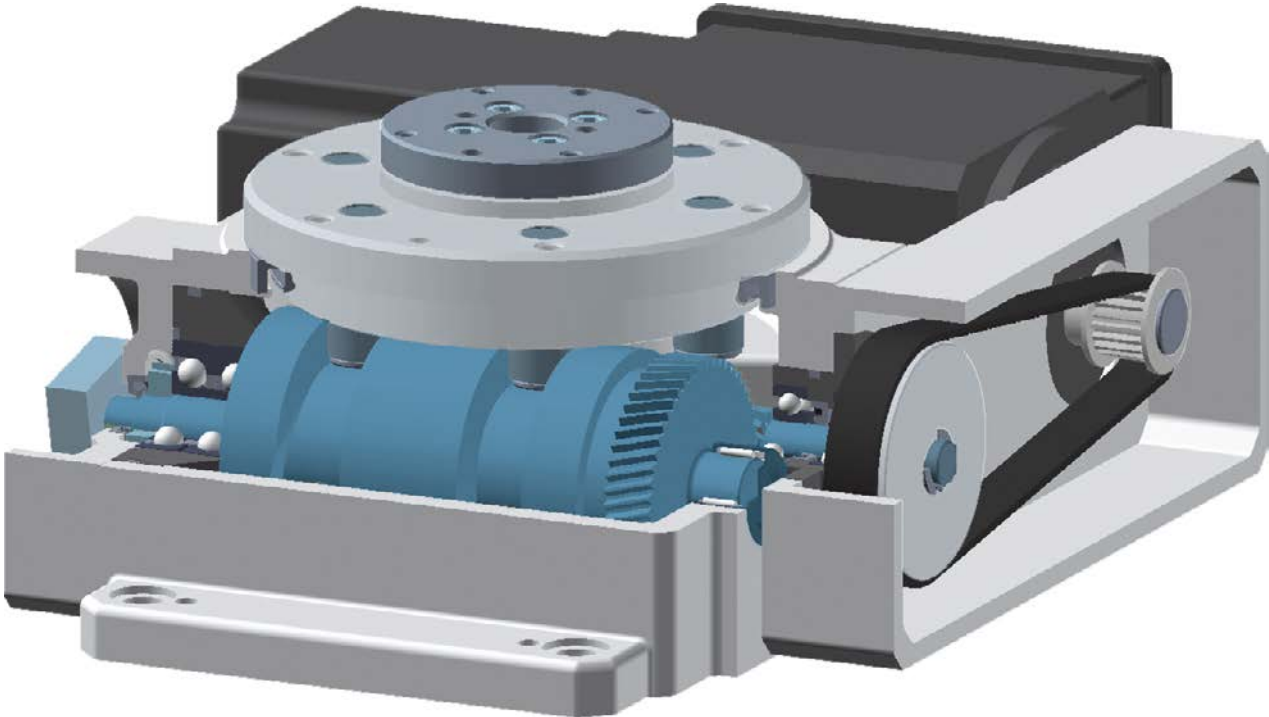
		
perm. tilting moment acting on the locked dial plate <b>700 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>7500 N</b>	perm. tangential moment acting on the locked dial plate <b>200 Nm</b>
perm. radial force acting on the locked dial plate <b>8000 N</b>		

Combined loads only after inspection by WEISS.

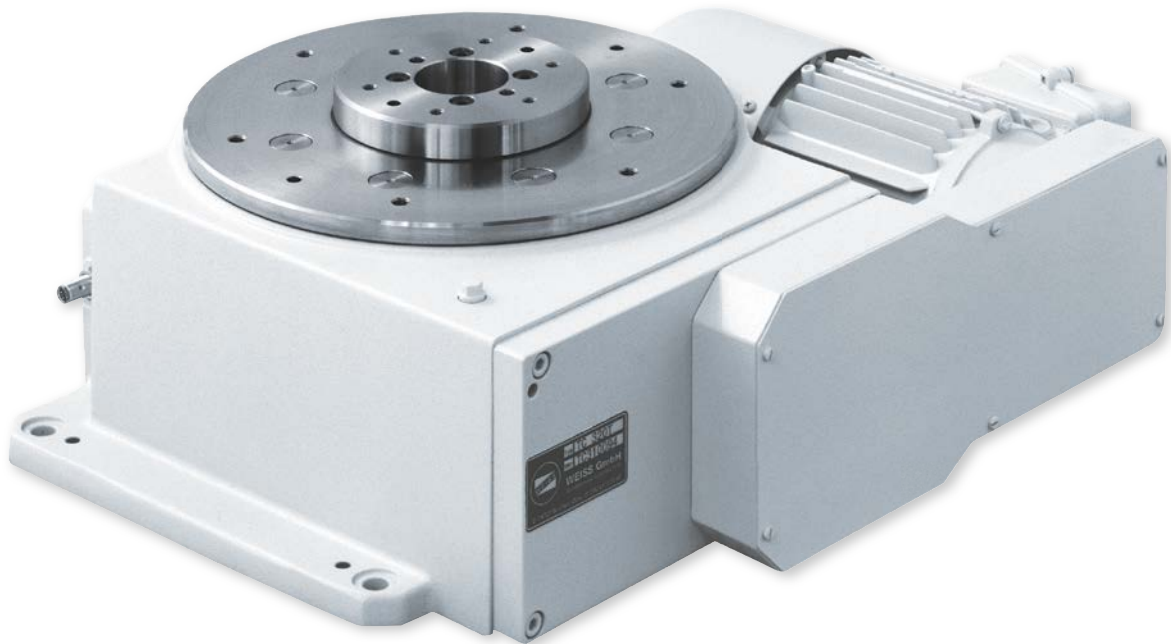


# TC 220T

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## TC 320T



### Technical data TC 320T

<b>Tool plate diameter:</b>	Recommended up to 1400 mm
<b>Dial diameter:</b>	320 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, 30, 36, special increments upon request
<b>Cycle frequency:</b>	Up to 200 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.12 - 1.1 kW, frame size 71/80
<b>Weight:</b>	112 kg
<b>Mounting position:</b>	See page 47*
<b>Indexing precision:</b>	Indexing 2-12: $\pm 20''$ . Indexing 16-24: $\pm 30''$ . Indexing 30-36: $\pm 35''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 320 mm) Indexing 2-12: $\pm 0.016$ mm. Indexing 16-24: $\pm 0.023$ mm. Indexing 30-36: $\pm 0.027$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 320 mm) 0.01 mm
<b>Max. run out:</b>	0.01 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 320 mm) 0.03 mm
<b>tooling plate clearance hole:</b>	$\varnothing$ 150 mm

\*Please consult WEISS for overhead mounting positions.



# TC 320T

**Load table** (In the case of higher loads, please ask us for advice.)

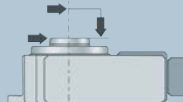
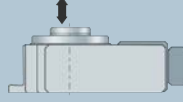

Stage		a	b	c	d	e	f	g	h	i	j	k	l	m	n
<b>Indexing</b>															
2	<b>J<sub>max</sub></b>	–	–	–	–	<b>2.67</b>	<b>3.39</b>	<b>4.05</b>	<b>5.85</b>	<b>8.29</b>	<b>14.11</b>	<b>20.30</b>	<b>32.40</b>	<b>52.70</b>	<b>69.80</b>
	<b>t<sub>s</sub></b>	–	–	–	–	0.61	0.69	0.75	0.89	1.06	1.37	1.64	2.07	2.64	3.04
3	<b>J<sub>max</sub></b>	–	–	–	<b>3.30</b>	<b>4.10</b>	<b>5.19</b>	<b>6.17</b>	<b>8.88</b>	<b>12.53</b>	<b>21.30</b>	<b>30.60</b>	<b>48.70</b>	<b>79.20</b>	<b>105</b>
	<b>t<sub>s</sub></b>	–	–	–	0.54	0.61	0.69	0.75	0.89	1.06	1.37	1.64	2.07	2.64	3.04
4	<b>J<sub>max</sub></b>	<b>2.95</b>	<b>4.59</b>	<b>5.46</b>	<b>6.91</b>	<b>8.92</b>	<b>11.22</b>	<b>13.32</b>	<b>19.05</b>	<b>26.8</b>	<b>45.30</b>	<b>65.00</b>	<b>103</b>	<b>163</b>	<b>222</b>
	<b>t<sub>s</sub></b>	0.36	0.42	0.45	0.51	0.57	0.64	0.70	0.83	0.99	1.28	1.53	1.93	2.46	2.83
6	<b>J<sub>max</sub></b>	<b>6.89</b>	<b>9.49</b>	<b>11.25</b>	<b>14.16</b>	<b>18.23</b>	<b>22.90</b>	<b>27.10</b>	<b>38.70</b>	<b>54.40</b>	<b>91.80</b>	<b>132</b>	<b>209</b>	<b>340</b>	<b>450</b>
	<b>t<sub>s</sub></b>	0.36	0.42	0.45	0.51	0.57	0.64	0.70	0.83	0.99	1.28	1.53	1.93	2.46	2.83
8	<b>J<sub>max</sub></b>	<b>12.40</b>	<b>18.97</b>	<b>24.20</b>	<b>30.40</b>	<b>39.10</b>	<b>47.90</b>	<b>58.10</b>	<b>82.80</b>	<b>116</b>	<b>196</b>	<b>281</b>	<b>438</b>	<b>652</b>	<b>959</b>
	<b>t<sub>s</sub></b>	0.36	0.42	0.45	0.51	0.57	0.64	0.70	0.83	0.99	1.28	1.53	1.93	2.46	2.83
10	<b>J<sub>max</sub></b>	<b>17.19</b>	<b>22.80</b>	<b>27.00</b>	<b>33.90</b>	<b>43.60</b>	<b>54.60</b>	<b>64.70</b>	<b>92.10</b>	<b>129</b>	<b>218</b>	<b>313</b>	<b>497</b>	<b>807</b>	<b>1068</b>
	<b>t<sub>s</sub></b>	0.35	0.40	0.44	0.49	0.55	0.62	0.67	0.80	0.95	1.24	1.48	1.87	2.38	2.73
12	<b>J<sub>max</sub></b>	<b>20.70</b>	<b>27.40</b>	<b>32.40</b>	<b>40.70</b>	<b>52.30</b>	<b>65.60</b>	<b>77.60</b>	<b>111</b>	<b>155</b>	<b>262</b>	<b>375</b>	<b>597</b>	<b>969</b>	<b>1281</b>
	<b>t<sub>s</sub></b>	0.35	0.40	0.44	0.49	0.55	0.62	0.67	0.80	0.95	1.24	1.48	1.87	2.38	2.73
16	<b>J<sub>max</sub></b>	–	–	–	<b>8.15</b>	<b>10.52</b>	<b>13.23</b>	<b>15.69</b>	<b>22.40</b>	<b>31.50</b>	<b>53.30</b>	<b>76.50</b>	<b>122</b>	<b>198</b>	<b>261</b>
	<b>t<sub>s</sub></b>	–	–	–	0.22	0.25	0.28	0.30	0.36	0.42	0.55	0.66	0.83	1.06	1.21
20	<b>J<sub>max</sub></b>	–	–	–	<b>12.29</b>	<b>15.84</b>	<b>19.88</b>	<b>23.60</b>	<b>33.60</b>	<b>47.30</b>	<b>79.80</b>	<b>114</b>	<b>182</b>	<b>296</b>	<b>391</b>
	<b>t<sub>s</sub></b>	–	–	–	0.22	0.25	0.28	0.30	0.36	0.42	0.55	0.66	0.83	1.06	1.21
24	<b>J<sub>max</sub></b>	–	–	–	–	<b>17.24</b>	<b>21.60</b>	<b>25.60</b>	<b>36.60</b>	<b>51.40</b>	<b>86.80</b>	<b>124</b>	<b>198</b>	<b>322</b>	<b>425</b>
	<b>t<sub>s</sub></b>	–	–	–	–	0.25	0.28	0.30	0.36	0.42	0.55	0.66	0.83	1.06	1.21
30	<b>J<sub>max</sub></b>	–	–	–	–	–	–	<b>14.16</b>	<b>20.20</b>	<b>28.50</b>	<b>48.10</b>	<b>69.10</b>	<b>110</b>	<b>179</b>	<b>236</b>
	<b>t<sub>s</sub></b>	–	–	–	–	–	–	0.20	0.24	0.28	0.37	0.44	0.55	0.70	0.81
36	<b>J<sub>max</sub></b>	–	–	–	–	–	–	<b>17.03</b>	<b>24.30</b>	<b>34.20</b>	<b>57.80</b>	<b>82.90</b>	<b>132</b>	<b>214</b>	<b>283</b>
	<b>t<sub>s</sub></b>	–	–	–	–	–	–	0.20	0.24	0.28	0.37	0.44	0.55	0.70	0.81

J = max admissible mass inertia loading (kgm<sup>2</sup>) t<sub>s</sub> = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EF2** - control system for brake wear reduction recommended (see page 44).

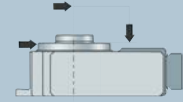
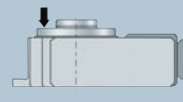
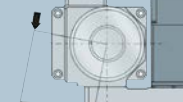
**\*Note on indexing times**

The actual measured rotation time (from the start signal to the electrical in-position signal) comprises the calculated rotation motion time given in the tables and type-related delays. An important factor are electrical signal processing times, input filters, mechanical motor idle times and also the setting and optimization of the ideal starting position (please refer to the TC-T operating instructions).

**Load data (for the stationary centre section)**

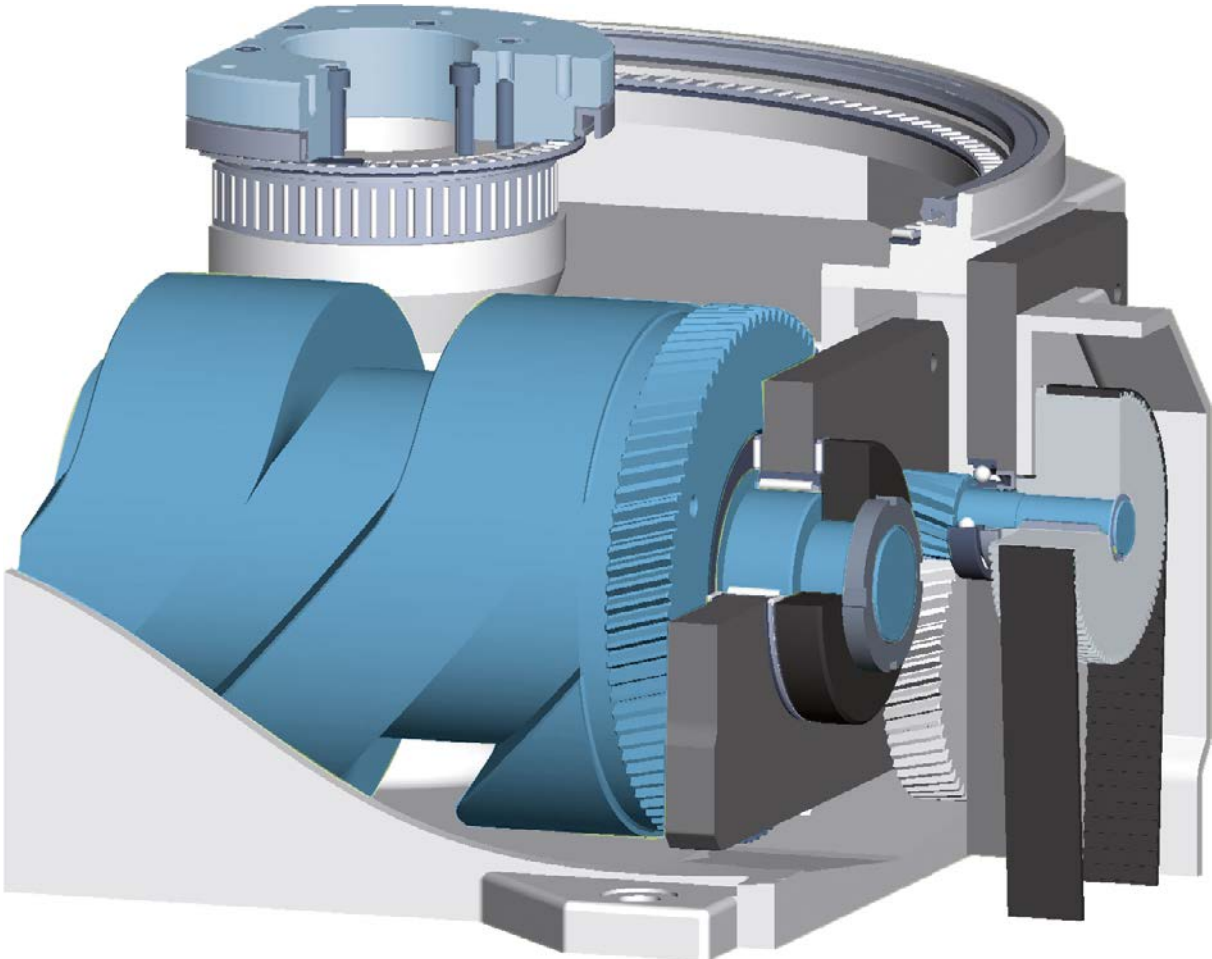
		
perm. tilting moment acting on the centre section <b>1800 Nm</b>	perm. force acting vertically on the centre section <b>18000 N</b>	perm. tangential moment acting on the centre section <b>800 Nm</b>
perm. radial force acting on the centre section <b>10000 N</b>		

**Load data (for the rotary indexing dial plate)**

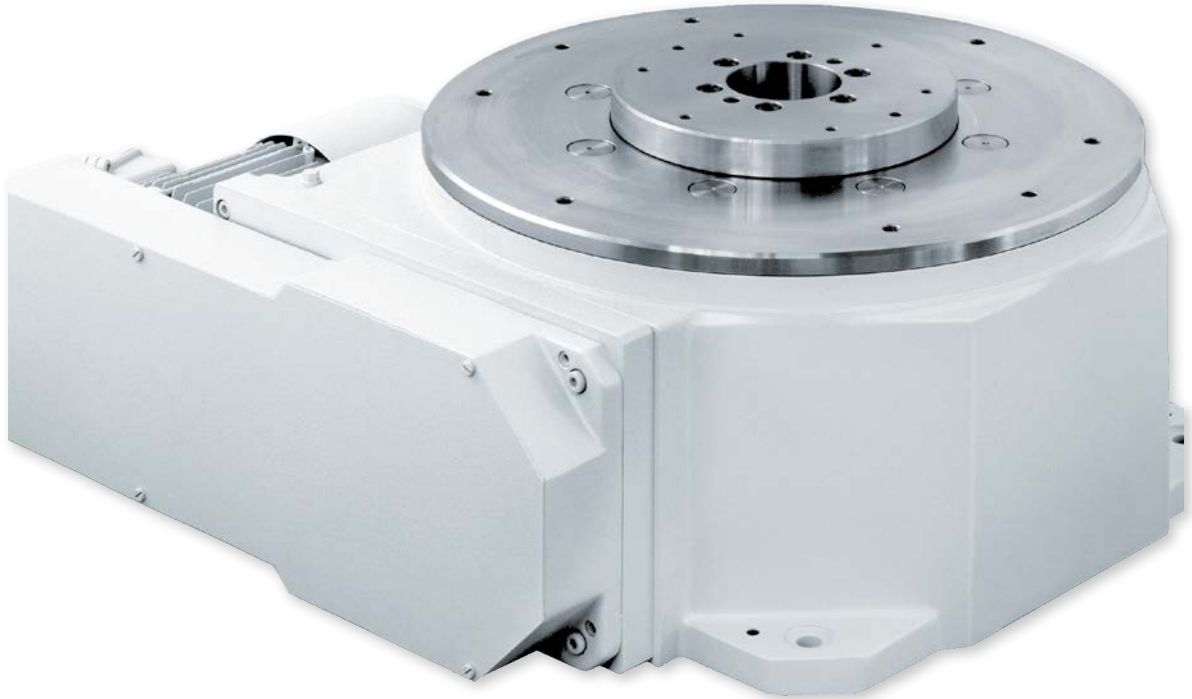
		
perm. tilting moment acting on the locked dial plate <b>2250 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>15000 N</b>	perm. tangential moment acting on the locked dial plate <b>600 Nm</b>
perm. radial force acting on the locked dial plate <b>15000 N</b>		

Combined loads only after inspection by WEISS.

# TC 320T



## TC 500T

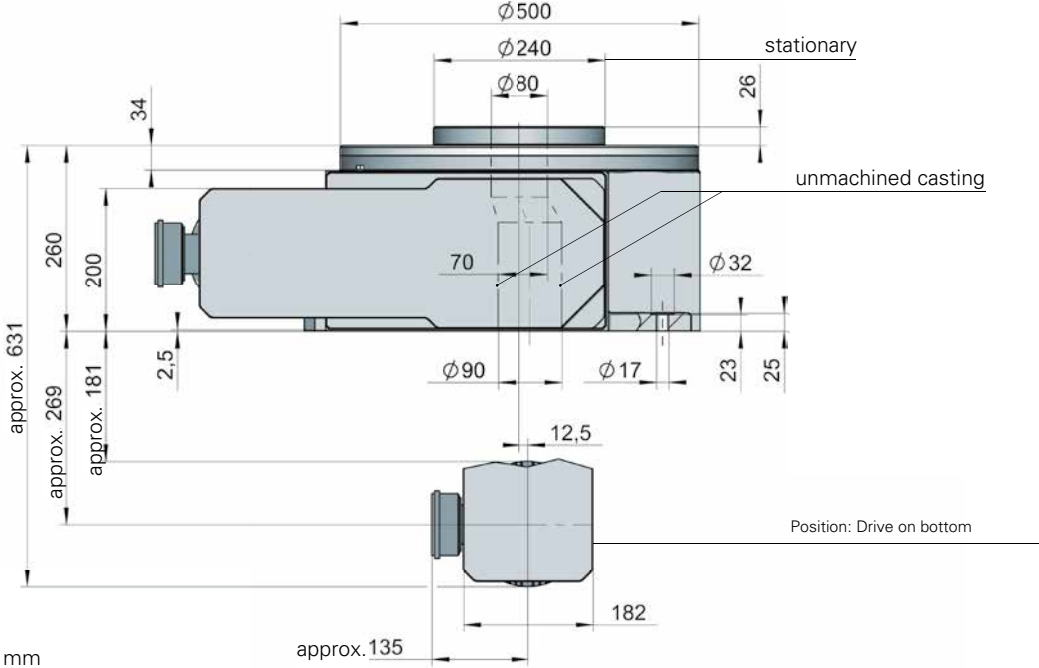


### Technical data TC 500T

<b>Tool plate diameter:</b>	Recommended up to 2000 mm
<b>Dial diameter:</b>	500 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, 30, 36, 48, special increments upon request
<b>Cycle frequency:</b>	Up to 180 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.15 - 2.2 kW, frame size 80/90
<b>Weight:</b>	305 kg
<b>Mounting position:</b>	See page 47*
<b>Indexing precision:</b>	Indexing 2-12: $\pm 15''$ . Indexing 16-48: $\pm 20''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 500 mm) Indexing 2-12: $\pm 0.018$ mm. Indexing 16-48: $\pm 0.024$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 500 mm) 0.015 mm
<b>Max. run out:</b>	0.015 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 500 mm) 0.03 mm
<b>tooling plate clearance hole:</b>	$\varnothing$ 242 mm

\*Please consult WEISS for overhead mounting positions.

# TC 500T Dimensions

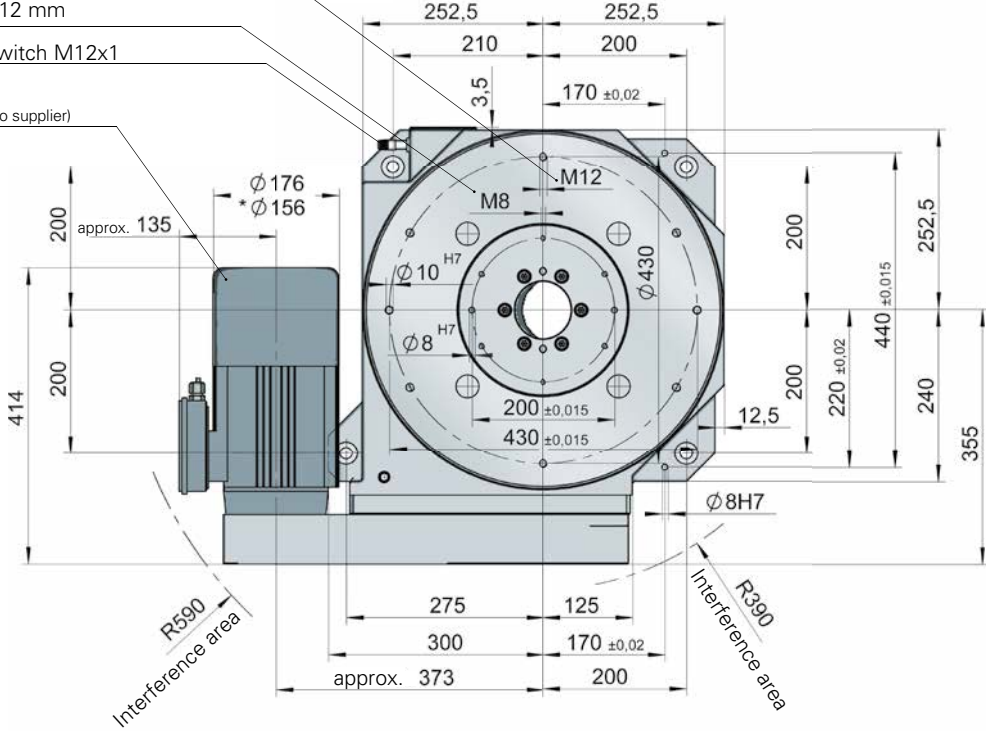


max. screwing depth 18 mm  
 max. screwing depth 12 mm

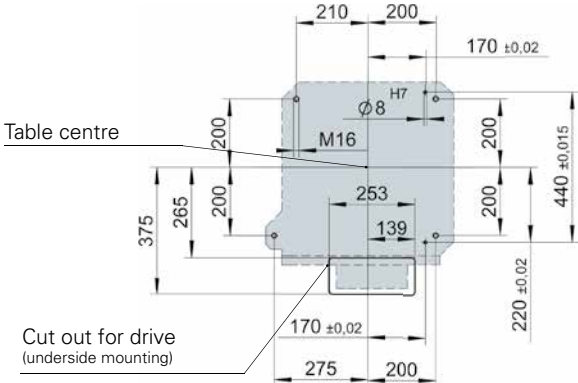
Limit switch M12x1

Brake motor  
 (terminal housing size depends on the moto supplier)

\* frame size 71



If you require subsequent drilling work on the indexing table, please request information on permissible drilling depths. The illustrated rotating plate position corresponds to the basic position of the rotary indexing table (Position when delivered).



Max. centre line deviation between stationary centre section and dial:  $\pm 75''$   
 Max. centre line deviation between dial and indexer housing:  $\pm 55''$   
**Note:** Please ensure motor and brake are accessible for servicing!

# TC 500T

Load table (In the case of higher loads, please ask us for advice.)

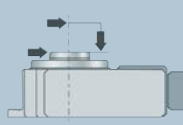
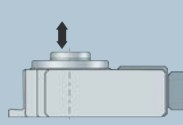

Stage		a	b	c	d	e	f	g	h	i	j	k	l	m	n
<b>Indexing</b>															
2	<b>J<sub>max</sub></b>	-	-	<b>4.80</b>	<b>8.90</b>	<b>11.20</b>	<b>15.90</b>	<b>20.70</b>	<b>29.50</b>	<b>44.50</b>	<b>71.70</b>	<b>117</b>	<b>150</b>	<b>175</b>	<b>303</b>
	<b>t<sub>s</sub></b>	-	-	0.68	0.79	0.87	1.02	1.16	1.36	1.66	2.10	2.67	3.02	3.26	4.28
3	<b>J<sub>max</sub></b>	-	-	<b>7.80</b>	<b>10.90</b>	<b>13.70</b>	<b>19.30</b>	<b>25.00</b>	<b>35.50</b>	<b>53.50</b>	<b>86.00</b>	<b>141</b>	<b>180</b>	<b>210</b>	<b>363</b>
	<b>t<sub>s</sub></b>	-	-	0.68	0.79	0.87	1.02	1.16	1.36	1.66	2.10	2.67	3.02	3.26	4.28
4	<b>J<sub>max</sub></b>	<b>7.10</b>	<b>10.10</b>	<b>16.00</b>	<b>22.00</b>	<b>27.10</b>	<b>37.80</b>	<b>48.60</b>	<b>68.40</b>	<b>102</b>	<b>164</b>	<b>267</b>	<b>340</b>	<b>397</b>	<b>686</b>
	<b>t<sub>s</sub></b>	0.43	0.50	0.61	0.71	0.79	0.92	1.04	1.23	1.50	1.89	2.41	2.72	2.93	3.85
6	<b>J<sub>max</sub></b>	<b>14.70</b>	<b>22.20</b>	<b>33.80</b>	<b>46.00</b>	<b>56.30</b>	<b>77.0</b>	<b>99.70</b>	<b>140</b>	<b>208</b>	<b>332</b>	<b>540</b>	<b>689</b>	<b>804</b>	<b>1389</b>
	<b>t<sub>s</sub></b>	0.43	0.50	0.61	0.71	0.79	0.92	1.04	1.23	1.50	1.89	2.41	2.72	2.93	3.85
8	<b>J<sub>max</sub></b>	<b>34.20</b>	<b>47.40</b>	<b>71.30</b>	<b>96.40</b>	<b>118</b>	<b>162</b>	<b>207</b>	<b>290</b>	<b>431</b>	<b>687</b>	<b>1116</b>	<b>1423</b>	<b>1660</b>	<b>2866</b>
	<b>t<sub>s</sub></b>	0.43	0.50	0.61	0.71	0.79	0.92	1.04	1.23	1.50	1.89	2.41	2.72	2.93	3.85
10	<b>J<sub>max</sub></b>	<b>43.10</b>	<b>59.70</b>	<b>89.50</b>	<b>121</b>	<b>148</b>	<b>203</b>	<b>259</b>	<b>362</b>	<b>540</b>	<b>859</b>	<b>1395</b>	<b>1779</b>	<b>2075</b>	<b>3582</b>
	<b>t<sub>s</sub></b>	0.43	0.50	0.61	0.71	0.79	0.92	1.04	1.23	1.50	1.89	2.41	2.72	2.93	3.85
12	<b>J<sub>max</sub></b>	<b>52</b>	<b>71.90</b>	<b>108</b>	<b>145</b>	<b>177</b>	<b>244</b>	<b>312</b>	<b>435</b>	<b>648</b>	<b>1031</b>	<b>1674</b>	<b>2135</b>	<b>2490</b>	<b>4299</b>
	<b>t<sub>s</sub></b>	0.43	0.50	0.61	0.71	0.79	0.92	1.04	1.23	1.50	1.89	2.41	2.72	2.93	3.85
16	<b>J<sub>max</sub></b>	-	-	<b>19.80</b>	<b>27.20</b>	<b>33.50</b>	<b>46.50</b>	<b>59.70</b>	<b>83.90</b>	<b>125</b>	<b>200</b>	<b>326</b>	<b>416</b>	<b>486</b>	<b>839</b>
	<b>t<sub>s</sub></b>	-	-	0.27	0.32	0.35	0.41	0.46	0.55	0.67	0.84	1.07	1.21	1.30	1.71
20	<b>J<sub>max</sub></b>	-	-	<b>31.80</b>	<b>43.40</b>	<b>53.10</b>	<b>73.50</b>	<b>94.20</b>	<b>132</b>	<b>197</b>	<b>314</b>	<b>510</b>	<b>651</b>	<b>760</b>	<b>1312</b>
	<b>t<sub>s</sub></b>	-	-	0.27	0.32	0.35	0.41	0.46	0.55	0.67	0.84	1.07	1.21	1.30	1.71
24	<b>J<sub>max</sub></b>	-	-	<b>38.50</b>	<b>52.40</b>	<b>64.10</b>	<b>88.50</b>	<b>113</b>	<b>159</b>	<b>237</b>	<b>377</b>	<b>613</b>	<b>782</b>	<b>912</b>	<b>1575</b>
	<b>t<sub>s</sub></b>	-	-	0.27	0.32	0.35	0.41	0.46	0.55	0.67	0.84	1.07	1.21	1.30	1.71
30	<b>J<sub>max</sub></b>	-	-	-	-	<b>34.90</b>	<b>48.50</b>	<b>62.30</b>	<b>87.40</b>	<b>131</b>	<b>209</b>	<b>340</b>	<b>434</b>	<b>506</b>	<b>874</b>
	<b>t<sub>s</sub></b>	-	-	-	-	0.23	0.27	0.31	0.36	0.44	0.56	0.71	0.80	0.87	1.14
36	<b>J<sub>max</sub></b>	-	-	-	-	<b>34.20</b>	<b>47.60</b>	<b>61.10</b>	<b>85.80</b>	<b>128</b>	<b>205</b>	<b>333</b>	<b>425</b>	<b>496</b>	<b>858</b>
	<b>t<sub>s</sub></b>	-	-	-	-	0.23	0.27	0.31	0.36	0.44	0.56	0.71	0.80	0.87	1.14
48	<b>J<sub>max</sub></b>	-	-	-	-	<b>46.20</b>	<b>64.00</b>	<b>81.90</b>	<b>115</b>	<b>172</b>	<b>274</b>	<b>445</b>	<b>568</b>	<b>662</b>	<b>1144</b>
	<b>t<sub>s</sub></b>	-	-	-	-	0.23	0.27	0.31	0.36	0.44	0.56	0.71	0.80	0.87	1.14

J = max admissible mass inertia loading (kgm<sup>2</sup>) t<sub>s</sub> = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EF2** - control system for brake wear reduction recommended (see page 44).

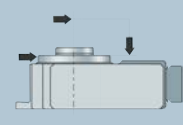
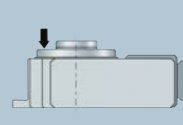
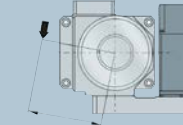
\*Note on indexing times

The actual measured rotation time (from the start signal to the electrical in-position signal) comprises the calculated rotation motion time given in the tables and type-related delays. An important factor are electrical signal processing times, input filters, mechanical motor idle times and also the setting and optimization of the ideal starting position (please refer to the TC-T operating instructions).

### Load data (for the stationary centre section)

		
perm. tilting moment acting on the centre section <b>2500 Nm</b>	perm. force acting vertically on the centre section <b>25000 N</b>	perm. tangential moment acting on the centre section <b>1100 Nm</b>
perm. radial force acting on the centre section <b>15000 N</b>		

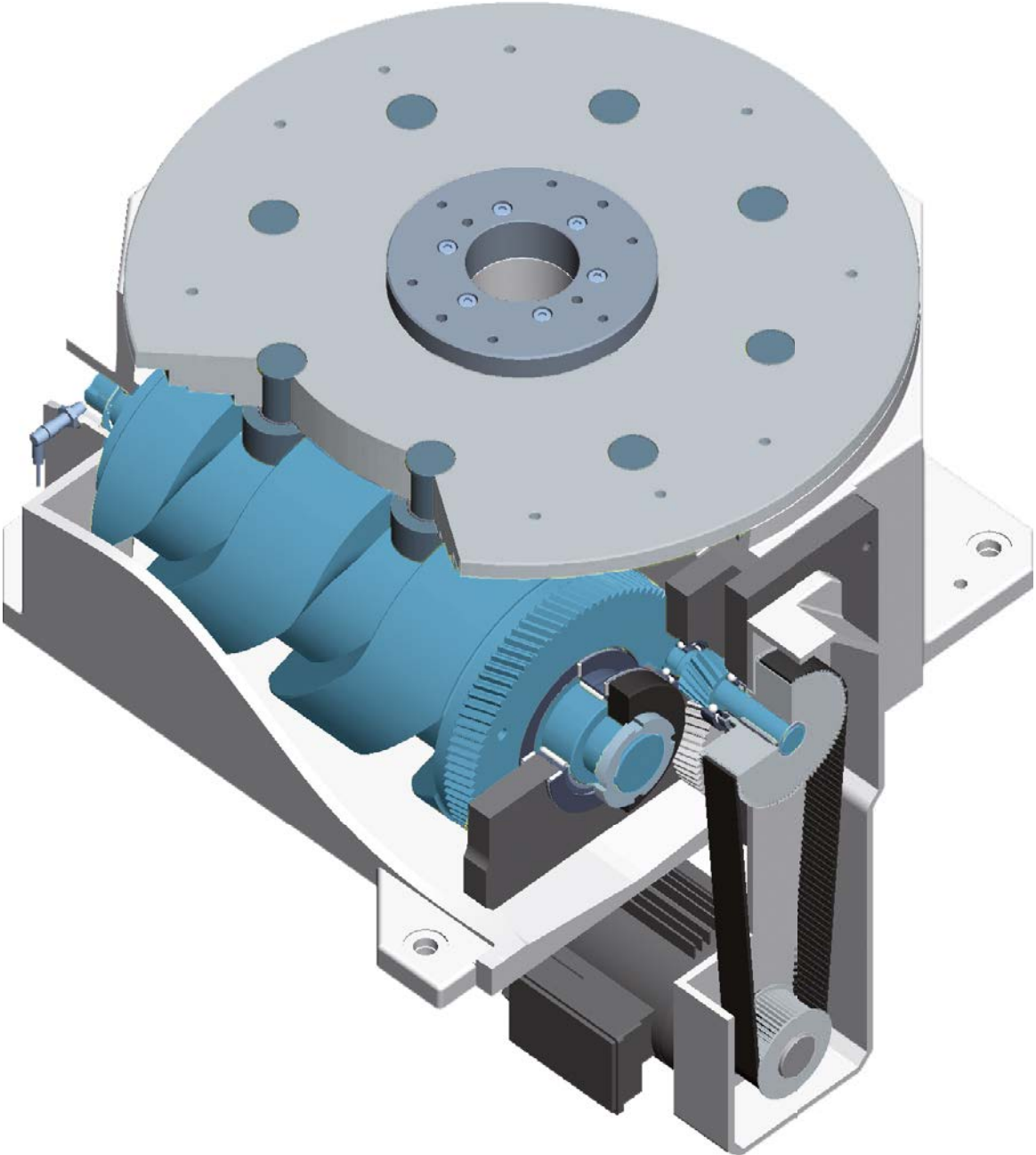
### Load data (for the rotary indexing dial plate)

		
perm. tilting moment acting on the locked dial plate <b>6000 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>25000 N</b>	perm. tangential moment acting on the locked dial plate <b>1000 Nm</b>
perm. radial force acting on the locked dial plate <b>25000 N</b>		

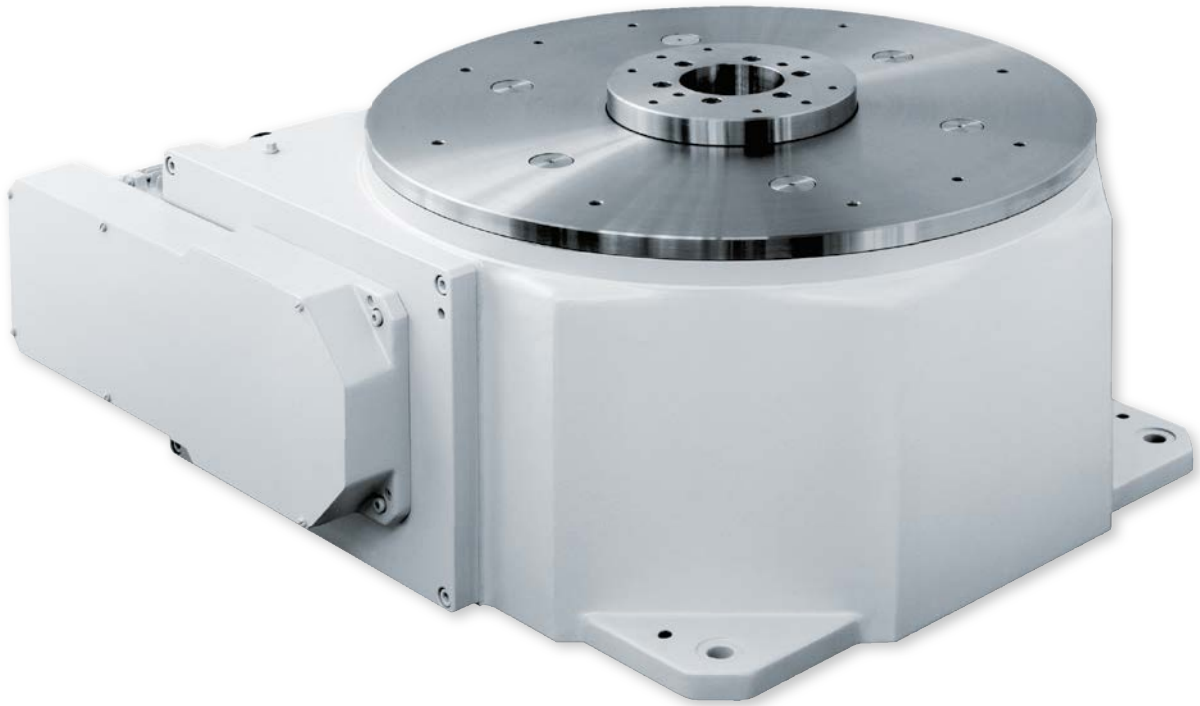
Combined loads only after inspection by WEISS.



# TC 500T



# TC 700T



## Technical data TC 700T

<b>Tool plate diameter:</b>	Recommended up to 3000 mm
<b>Dial diameter:</b>	700 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, 30, 36, 48, 60, special increments upon request
<b>Cycle frequency:</b>	Up to 120 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.37 - 3 kW, frame size 80/90/100
<b>Weight:</b>	660 kg
<b>Mounting position:</b>	See page 47*
<b>Indexing precision:</b>	Indexing 2-12: $\pm 12''$ . Indexing 16-60: $\pm 16''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 700 mm) Indexing 2-12: $\pm 0.021$ mm. Indexing 16-60: $\pm 0.027$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 700 mm) 0.015 mm
<b>Max. run out:</b>	0.015 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 700 mm) 0.03 mm
<b>tooling plate clearance hole:</b>	$\varnothing$ 242 mm

\*Please consult WEISS for overhead mounting positions.



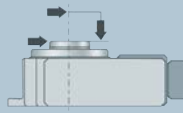
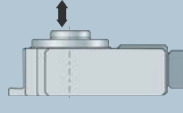
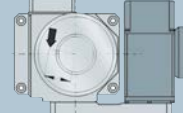
# TC 700T

Load table (In the case of higher loads, please ask us for advice.)

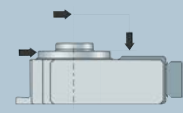
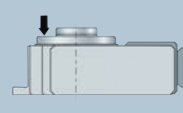
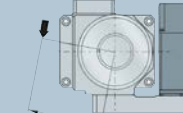
Stage		s	a	b	c	d	e	f	g	h	i	j	k	l
<b>Indexing</b>														
2	<b>J<sub>max</sub></b>	–	<b>9</b>	<b>19</b>	<b>35</b>	<b>50</b>	<b>87</b>	<b>118</b>	<b>162</b>	<b>248</b>	<b>394</b>	<b>644</b>	<b>972</b>	<b>1683</b>
	<b>t<sub>s</sub></b>	–	0.69	0.81	0.98	1.14	1.46	1.69	1.96	2.40	3.01	3.84	4.70	6.18
3	<b>J<sub>max</sub></b>	–	<b>24</b>	<b>36</b>	<b>56</b>	<b>79</b>	<b>134</b>	<b>181</b>	<b>247</b>	<b>375</b>	<b>595</b>	<b>970</b>	<b>1461</b>	<b>2528</b>
	<b>t<sub>s</sub></b>	–	0.69	0.81	0.98	1.14	1.46	1.69	1.96	2.40	3.01	3.84	4.70	6.18
4	<b>J<sub>max</sub></b>	<b>20</b>	<b>36</b>	<b>62</b>	<b>115</b>	<b>163</b>	<b>268</b>	<b>361</b>	<b>489</b>	<b>739</b>	<b>1167</b>	<b>1862</b>	<b>2858</b>	<b>4938</b>
	<b>t<sub>s</sub></b>	0.53	0.62	0.73	0.88	1.03	1.31	1.52	1.76	2.16	2.71	3.45	4.23	5.56
6	<b>J<sub>max</sub></b>	<b>53</b>	<b>90</b>	<b>149</b>	<b>233</b>	<b>324</b>	<b>532</b>	<b>713</b>	<b>964</b>	<b>1453</b>	<b>2290</b>	<b>3722</b>	<b>5596</b>	<b>9664</b>
	<b>t<sub>s</sub></b>	0.53	0.62	0.73	0.88	1.03	1.31	1.52	1.76	2.16	2.71	3.45	4.23	5.56
8	<b>J<sub>max</sub></b>	<b>101</b>	<b>166</b>	<b>270</b>	<b>484</b>	<b>684</b>	<b>1118</b>	<b>1496</b>	<b>2020</b>	<b>3039</b>	<b>4786</b>	<b>7469</b>	<b>11682</b>	<b>20167</b>
	<b>t<sub>s</sub></b>	0.53	0.62	0.73	0.88	1.03	1.31	1.52	1.76	2.16	2.71	3.45	4.23	5.56
10	<b>J<sub>max</sub></b>	<b>161</b>	<b>263</b>	<b>412</b>	<b>606</b>	<b>838</b>	<b>1367</b>	<b>1829</b>	<b>2469</b>	<b>3714</b>	<b>5848</b>	<b>9496</b>	<b>14272</b>	<b>24638</b>
	<b>t<sub>s</sub></b>	0.53	0.62	0.73	0.88	1.03	1.31	1.52	1.76	2.16	2.71	3.45	4.23	5.56
12	<b>J<sub>max</sub></b>	<b>236</b>	<b>360</b>	<b>496</b>	<b>729</b>	<b>1007</b>	<b>1642</b>	<b>2196</b>	<b>2964</b>	<b>4458</b>	<b>7019</b>	<b>11396</b>	<b>17128</b>	<b>29567</b>
	<b>t<sub>s</sub></b>	0.53	0.62	0.73	0.88	1.03	1.31	1.52	1.76	2.16	2.71	3.45	4.23	5.56
16	<b>J<sub>max</sub></b>	–	–	–	–	<b>195</b>	<b>323</b>	<b>433</b>	<b>587</b>	<b>886</b>	<b>1398</b>	<b>2274</b>	<b>3420</b>	<b>5908</b>
	<b>t<sub>s</sub></b>	–	–	–	–	0.46	0.58	0.67	0.78	0.96	1.20	1.53	1.88	2.47
20	<b>J<sub>max</sub></b>	–	–	–	–	<b>302</b>	<b>496</b>	<b>666</b>	<b>900</b>	<b>1356</b>	<b>2139</b>	<b>3476</b>	<b>5226</b>	<b>9026</b>
	<b>t<sub>s</sub></b>	–	–	–	–	0.46	0.58	0.67	0.78	0.96	1.20	1.53	1.88	2.47
24	<b>J<sub>max</sub></b>	–	–	–	–	<b>364</b>	<b>597</b>	<b>800</b>	<b>1082</b>	<b>1629</b>	<b>2568</b>	<b>4172</b>	<b>6273</b>	<b>10832</b>
	<b>t<sub>s</sub></b>	–	–	–	–	0.46	0.58	0.67	0.78	0.96	1.20	1.53	1.88	2.47
30	<b>J<sub>max</sub></b>	–	–	–	–	–	<b>179</b>	<b>241</b>	<b>328</b>	<b>497</b>	<b>786</b>	<b>1280</b>	<b>1927</b>	<b>3332</b>
	<b>t<sub>s</sub></b>	–	–	–	–	–	0.39	0.45	0.52	0.64	0.80	1.02	1.25	1.65
36	<b>J<sub>max</sub></b>	–	–	–	–	–	<b>216</b>	<b>291</b>	<b>395</b>	<b>598</b>	<b>945</b>	<b>1538</b>	<b>2314</b>	<b>4000</b>
	<b>t<sub>s</sub></b>	–	–	–	–	–	0.39	0.45	0.52	0.64	0.80	1.02	1.25	1.65
48	<b>J<sub>max</sub></b>	–	–	–	–	–	<b>291</b>	<b>391</b>	<b>529</b>	<b>799</b>	<b>1262</b>	<b>2053</b>	<b>3088</b>	<b>5336</b>
	<b>t<sub>s</sub></b>	–	–	–	–	–	0.39	0.45	0.52	0.64	0.80	1.02	1.25	1.65
60	<b>J<sub>max</sub></b>	–	–	–	–	–	<b>250</b>	<b>337</b>	<b>457</b>	<b>690</b>	<b>1090</b>	<b>1774</b>	<b>2670</b>	<b>4613</b>
	<b>t<sub>s</sub></b>	–	–	–	–	–	0.39	0.45	0.52	0.64	0.80	1.02	1.25	1.65

J = max admissible mass inertia loading (kgm<sup>2</sup>) t<sub>s</sub> = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EF2** - control system for brake wear reduction recommended (see page 44).

### Load data (for the stationary centre section)

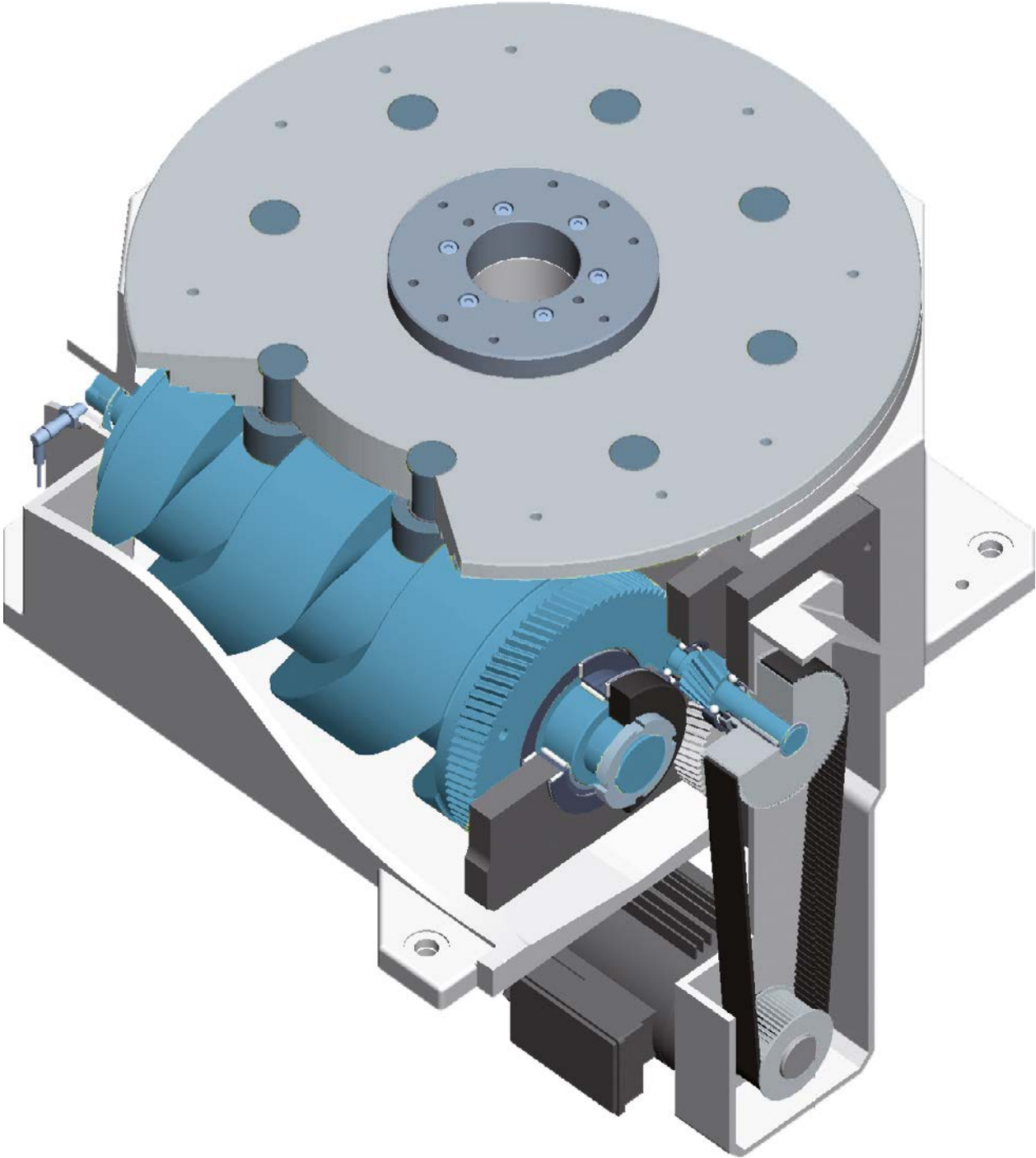
		
perm. tilting moment acting on the centre section <b>3000 Nm</b>	perm. force acting vertically on the centre section <b>30000 N</b>	perm. tangential moment acting on the centre section <b>1400 Nm</b>
perm. radial force acting on the centre section <b>17000 N</b>		

### Load data (for the rotary indexing dial plate)

		
perm. tilting moment acting on the locked dial plate <b>10000 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>40000 N</b>	perm. tangential moment acting on the locked dial plate <b>1700 Nm</b>
perm. radial force acting on the locked dial plate <b>30000 N</b>		

Combined loads only after inspection by WEISS.

# TC 700T



## TC 1000T

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### Technical data TC 1000T

<b>Tool plate diameter:</b>	Recommended up to 5000 mm
<b>Dial diameter:</b>	1000 mm
<b>Direction of rotation:</b>	Clockwise - counter clockwise or reciprocating
<b>Indexings:</b>	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, 32, special increments upon request
<b>Cycle frequency:</b>	Up to 60 cpm, depending on inertia loading and number of stops
<b>Voltage:</b>	230 / 400 V 50 Hz, special voltages upon request
<b>Drive motor:</b>	0.55 - 3.0 kW, frame size 90
<b>Weight:</b>	1530 kg
<b>Mounting position:</b>	See page 47
<b>Indexing precision:</b>	Indexing 2-20: $\pm 12''$ . Indexing 24-32: $\pm 16''$ (in degree seconds) Higher indexing precision upon request
<b>Indexing precision in radian measurement:</b>	(at $\varnothing$ 1000 mm) Indexing 2-20: $\pm 0.029$ mm. Indexing 24-32: $\pm 0.039$ mm
<b>Max. flatness of dial plate:</b>	(at $\varnothing$ 1000 mm) 0.03 mm
<b>Max. run out:</b>	0.03 mm
<b>Max. parallelism of rotating plate surface to bottom housing surface:</b>	(at $\varnothing$ 1000 mm) 0.05 mm
<b>tooling plate clearance hole:</b>	$\varnothing$ 522 mm



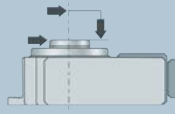
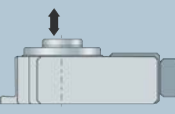

# TC 1000T

Load table (In the case of higher loads, please ask us for advice.)

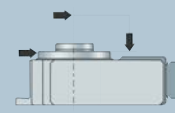
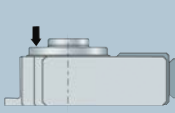
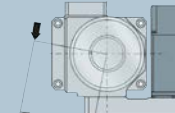
Stage		a	b	c	d	e	f	g	h	i
<b>Indexing</b>										
2	<b>J<sub>max</sub></b>	<b>108</b>	<b>164</b>	<b>291</b>	<b>557</b>	<b>857</b>	<b>1327</b>	<b>2251</b>	<b>3403</b>	<b>10360</b>
	<b>t<sub>s</sub></b>	1.28	1.50	1.92	2.57	3.15	3.96	5.04	6.18	10.74
3	<b>J<sub>max</sub></b>	<b>182</b>	<b>266</b>	<b>457</b>	<b>856</b>	<b>1306</b>	<b>2077</b>	<b>3397</b>	<b>5124</b>	<b>15560</b>
	<b>t<sub>s</sub></b>	1.28	1.50	1.92	2.57	3.15	3.96	5.04	6.18	10.74
4	<b>J<sub>max</sub></b>	<b>406</b>	<b>574</b>	<b>958</b>	<b>1758</b>	<b>2662</b>	<b>4211</b>	<b>6860</b>	<b>10328</b>	<b>31280</b>
	<b>t<sub>s</sub></b>	1.15	1.35	1.73	2.32	2.84	3.56	4.54	5.56	9.67
6	<b>J<sub>max</sub></b>	<b>807</b>	<b>1126</b>	<b>1857</b>	<b>3377</b>	<b>5094</b>	<b>8039</b>	<b>13072</b>	<b>19661</b>	<b>55323</b>
	<b>t<sub>s</sub></b>	1.15	1.35	1.73	2.32	2.84	3.56	4.54	5.56	9.67
8	<b>J<sub>max</sub></b>	<b>1710</b>	<b>2369</b>	<b>3878</b>	<b>7018</b>	<b>10565</b>	<b>16647</b>	<b>27043</b>	<b>40656</b>	<b>122900</b>
	<b>t<sub>s</sub></b>	1.15	1.35	1.73	2.32	2.84	3.56	4.54	5.56	9.67
10	<b>J<sub>v</sub></b>	<b>2147</b>	<b>2971</b>	<b>4858</b>	<b>8782</b>	<b>13217</b>	<b>20819</b>	<b>33814</b>	<b>50829</b>	<b>153635</b>
	<b>t<sub>s</sub></b>	1.15	1.35	1.73	2.32	2.84	3.56	4.54	5.56	9.67
12	<b>J<sub>max</sub></b>	<b>2585</b>	<b>3573</b>	<b>5838</b>	<b>10547</b>	<b>15868</b>	<b>24991</b>	<b>40585</b>	<b>61003</b>	<b>184370</b>
	<b>t<sub>s</sub></b>	1.15	1.35	1.73	2.32	2.84	3.56	4.54	5.56	9.67
16	<b>J<sub>max</sub></b>	<b>3459</b>	<b>4778</b>	<b>7797</b>	<b>14076</b>	<b>21170</b>	<b>33334</b>	<b>54127</b>	<b>81351</b>	<b>245840</b>
	<b>t<sub>s</sub></b>	1.15	1.35	1.73	2.32	2.84	3.56	4.54	5.56	9.67
24	<b>J<sub>max</sub></b>	<b>730</b>	<b>1020</b>	<b>1683</b>	<b>3064</b>	<b>4625</b>	<b>7300</b>	<b>11861</b>	<b>17859</b>	<b>54034</b>
	<b>t<sub>s</sub></b>	0.51	0.60	0.77	1.03	1.26	1.58	2.02	2.47	4.30
36	<b>J<sub>max</sub></b>	–	–	<b>1109</b>	<b>2030</b>	<b>3070</b>	<b>4853</b>	<b>7894</b>	<b>11893</b>	<b>36009</b>
	<b>t<sub>s</sub></b>	–	–	0.51	0.69	0.84	1.06	1.34	1.65	2.86

J = max admissible mass inertia loading (kgm<sup>2</sup>) t<sub>s</sub> = cycle time (sec.) The time from signal "start" to message "indexer locked" is approx. 80 - 130 ms longer than the above cycle time, the exact time will depend on the motor, the speed of PLC and the optimization settings. **EF2** - control system for brake wear reduction recommended (see page 44).

## Load data (for the stationary centre section)

		
perm. tilting moment acting on the centre section <b>5000 Nm</b>	perm. force acting vertically on the centre section <b>40000 N</b>	perm. tangential moment acting on the centre section <b>1800 Nm</b>
perm. radial force acting on the centre section <b>17000 N</b>		

## Load data (for the rotary indexing dial plate)

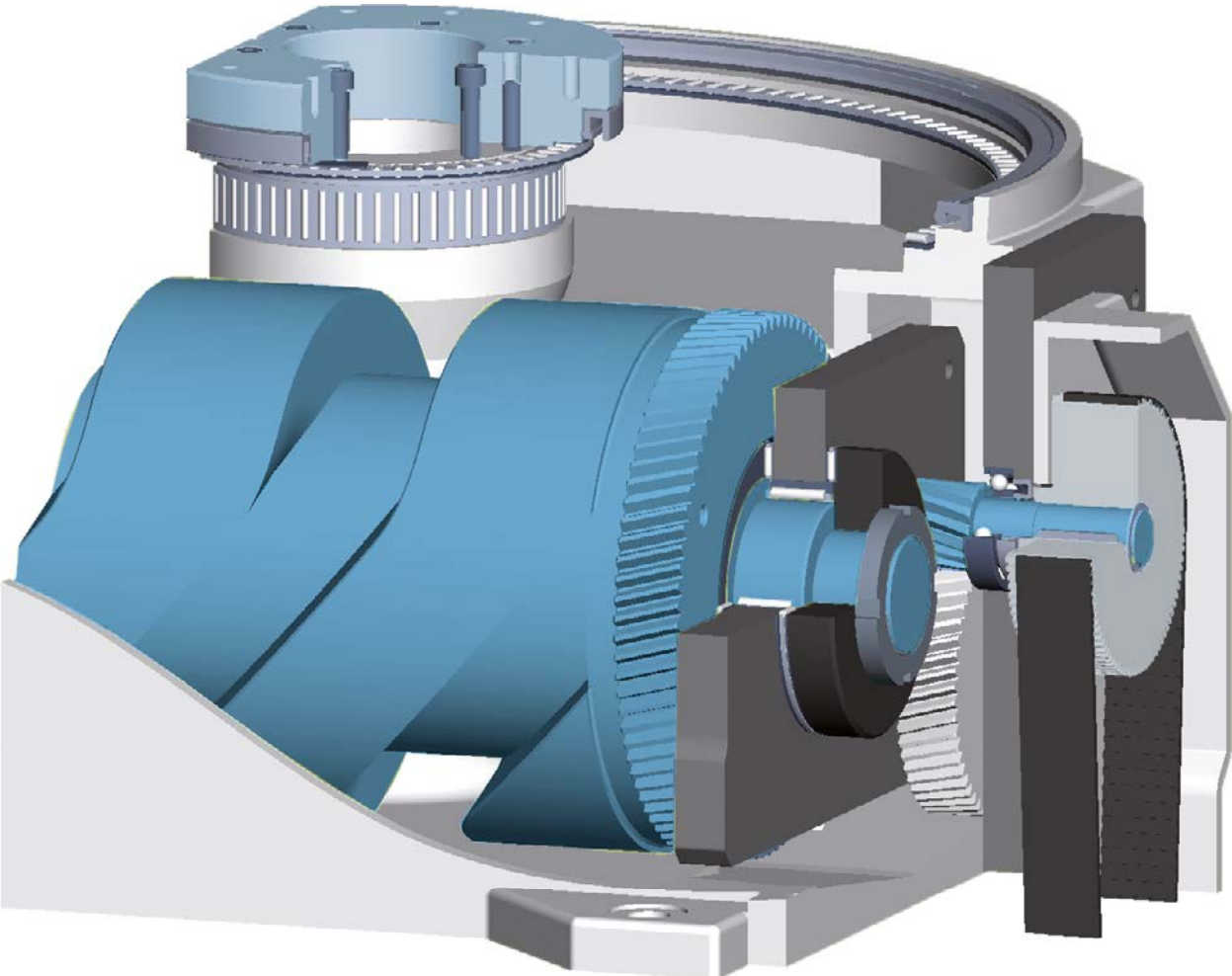
		
perm. tilting moment acting on the locked dial plate <b>13000 Nm</b>	perm. operating force (acting vertically on the locked dial plate within the normal Ø) <b>80000 N</b>	perm. tangential moment acting on the locked dial plate <b>2200 Nm</b>
perm. radial force acting on the locked dial plate <b>45000 N</b>		

Combined loads only after inspection by WEISS.



# TC 1000T

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# Control card TS 004E

## Advantages

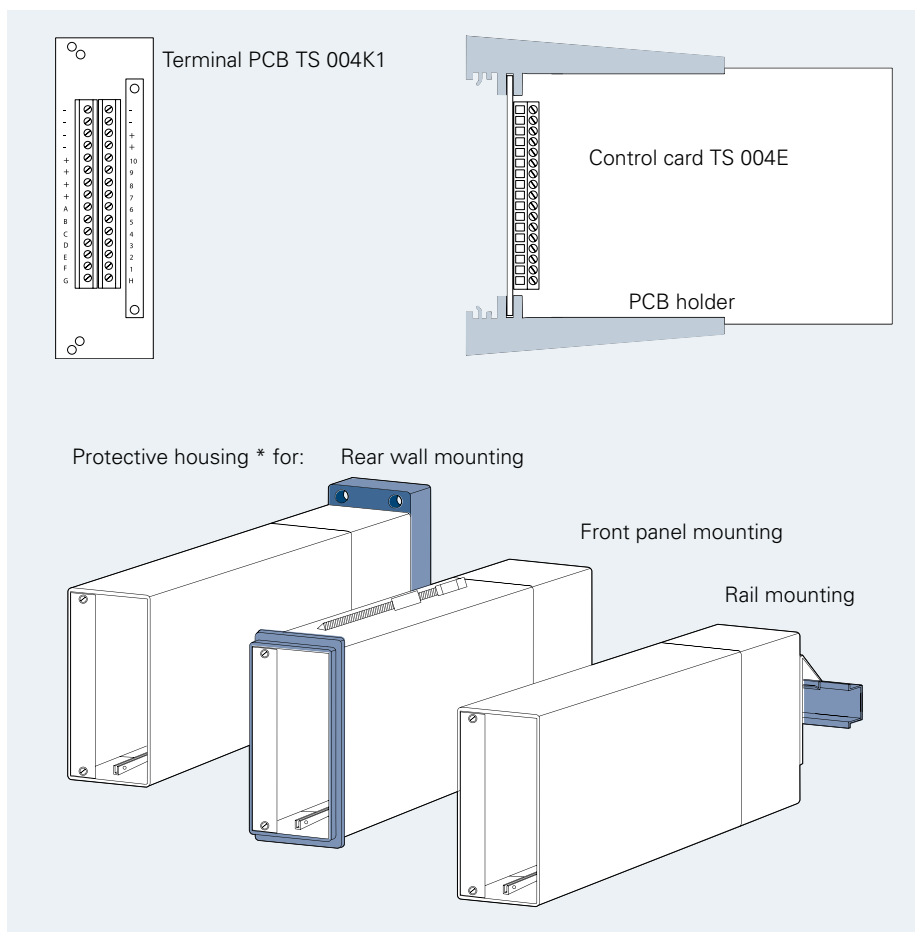
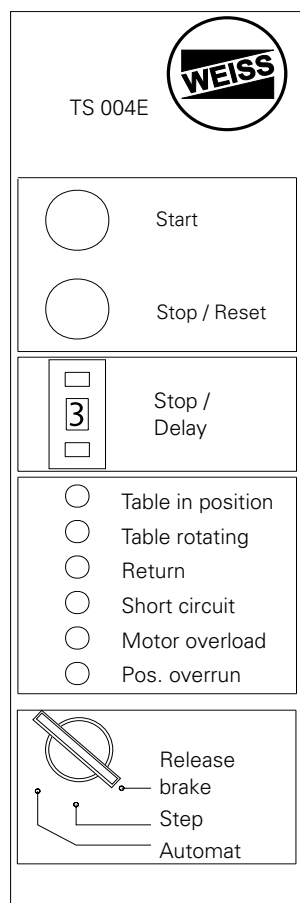
- User friendly push buttons on front panel.
- Easy to optimize the cycle time of the indexer.
- Motor protection through cycle time monitoring.
- Allows failure analysis by telephone.
- EWR: Considerable extension of the service life of the brake by reduction of the motor speed before braking

## Dimensions (L x W x H)

- Control card:  
Eurocard 100 x 160 mm  
Front plate 3HE/8TE  
Multipoint plug, 64-pin in accordance with DIN 41612 Type B
- PCB holder: 220 x 130 x 50 mm
- Housing for rear wall mounting: 235 x 135 x 67 mm
- Housing for rail mounting: 245 x 135 x 67 mm
- Housing for front panel installation: 235 x 135 x 67 mm
- Installation opening: 136 x 68 mm

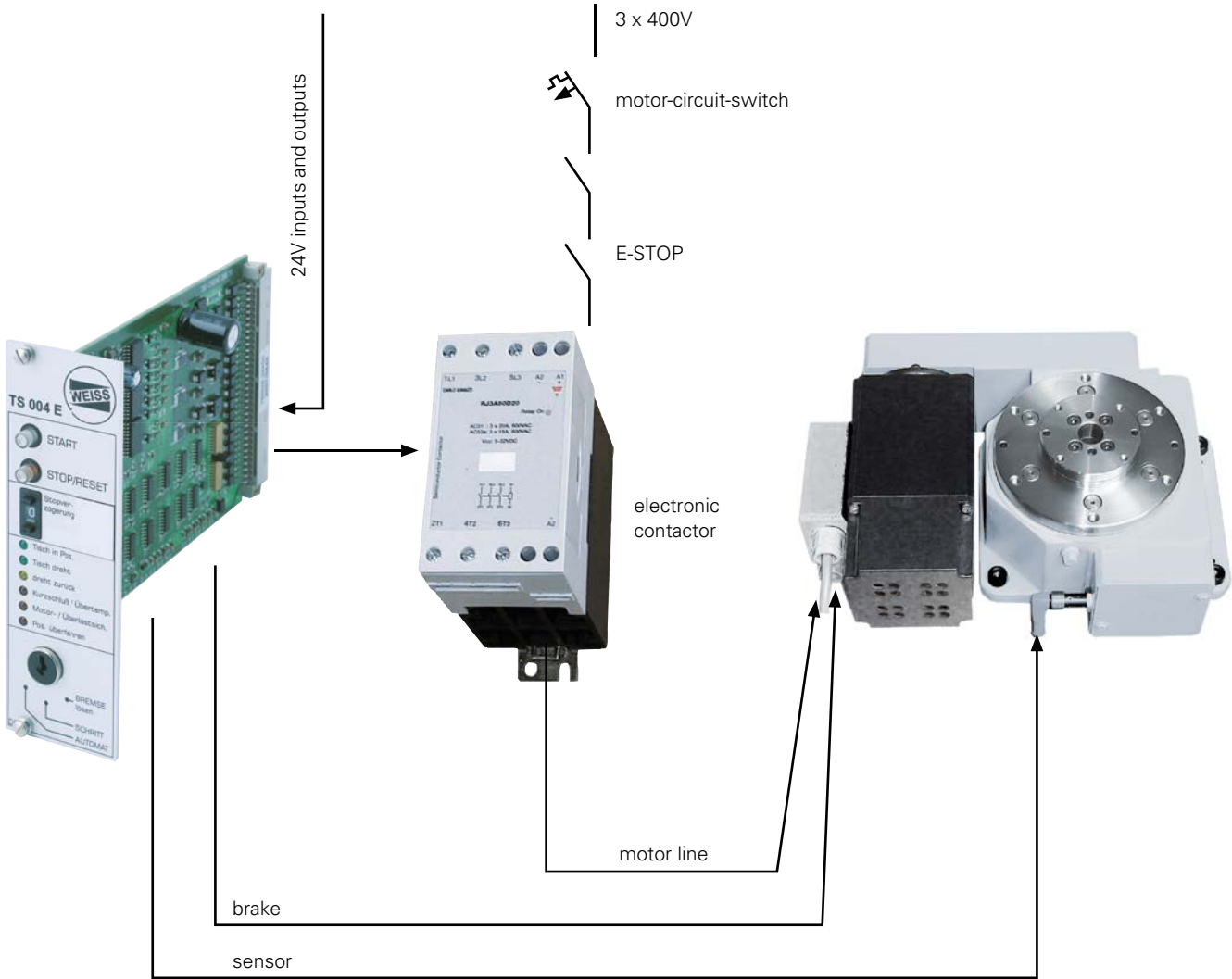
## Installation options

- In a 19" rack (in conjunction with terminal PCB TS 004 K1)
- In the PCB holder
- In the protective housing



\* All protective housings are also available with a lockable, transparent front door. The installation depth is then increased by 21 mm.

# Block diagram TS 004E



# EF2 rotary table control system

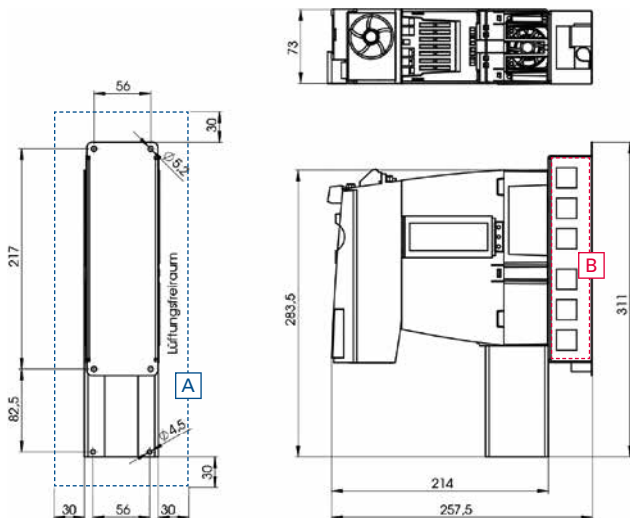
## Advantages

The EF2 rotary table control system enables fast and convenient control of rotary indexing tables of all sizes belonging to the TC and TR series. The control system is designed for operation of the TC and TR rotary indexing tables and offers the following advantages:

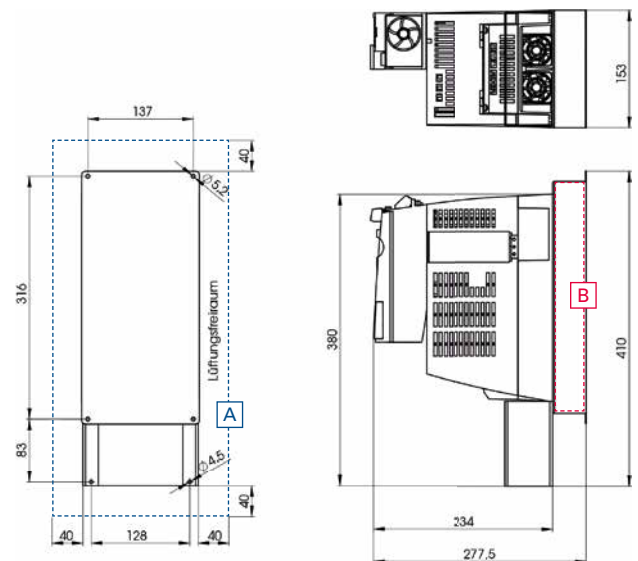
- Frequency converter control system designed specifically for WEISS electromechanical rotary indexing tables
- Intuitive, web-based user interface for faster commissioning
- No brake wear, soft start-up from intermediate positions is gentle on gearing
- Increased performance through fully automatic optimisation cycle
- Remote support and remote diagnostics options
- Worldwide use thanks to various mains standards
- Compact hardware (all-in-one)
- Fieldbus connection: Profibus and Profinet
- Interface: Digital I/O
- Integrated SIL2 safety function
- Additional SIL3 measures possible



## Fitting dimensions



FSA size (EF2037, EF2150)

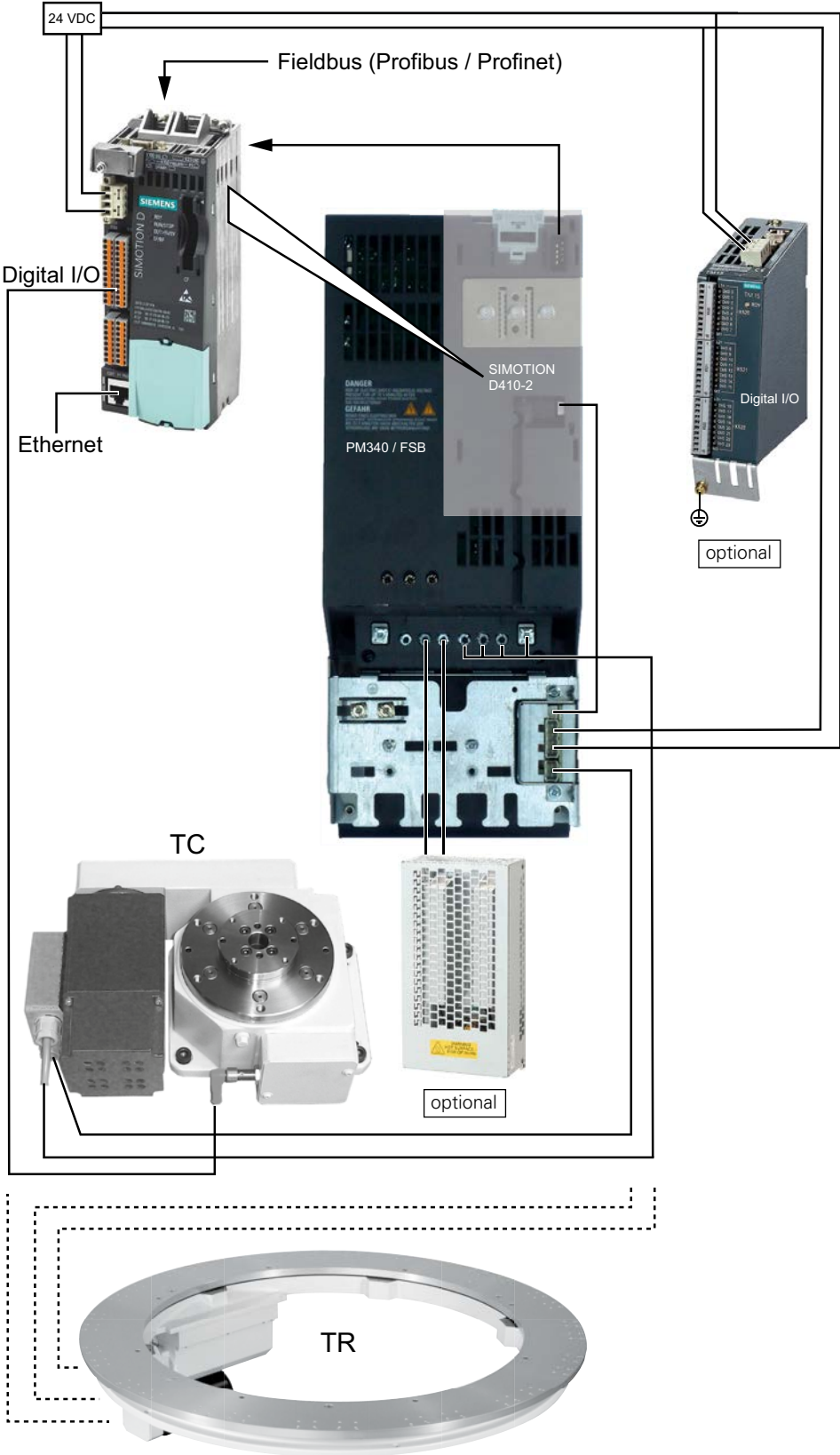


FSB size (EF2220, EF2300)

[A] Ventilation clearance

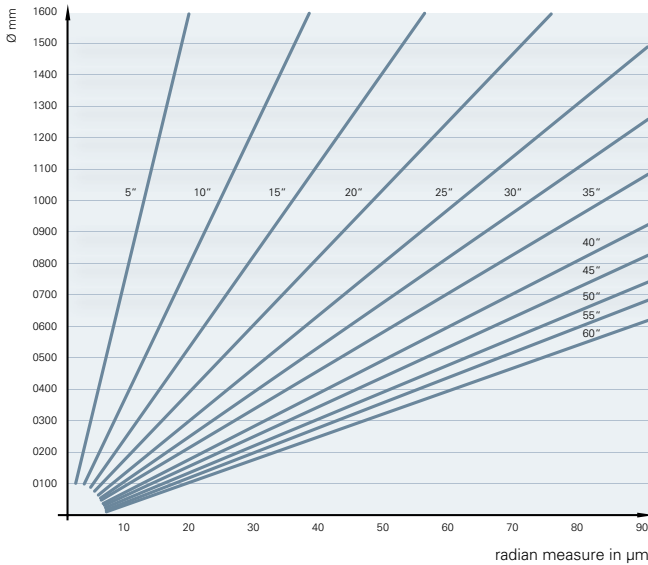
[B] Brake resistance

# Block diagram EF2



# Calculation

Indexing precision as a factor of Ø



Nominal indexing precision =  $\pm \frac{\pi \times D \times T_g}{360 \times 3600}$   
 D = Pitch circle diameter  
 T<sub>g</sub> = Brochure precision

If we machine your additional tooling plate, ± 3" needs to be added to the chapter customer-specific solutions.

## Additional indexing plates

We manufacture additional steel or aluminium indexing plates according to your specification.

The material AlMg4.5Mn F28 is aged for at least 3 months before it is used in production.

Upon request, aluminium plates can be anodized (natural) and steel plates can be nickel plated or finished in colour brown.

**For detailed information on additional plates, please refer to the chapter "customer-specific solutions"**

Accuracy of circular run out for additional plates

Diameter (mm)	Thickness (mm)	Flatness Quality A (mm)	Flatness Quality B (mm)
≤ 600	≥ 20	0.04	0.10
	< 20	0.06	0.15
≤ 800	≥ 20	0.06	0.15
	< 20	0.07	0.18
≤ 1100	≥ 20	0.07	0.18
	< 20	0.08	0.20
≤ 1400	≥ 25	0.08	0.20
	< 25	0.10	0.25
≤ 1800	≥ 25	0.10	0.25
	< 25	0.20	0.50
≤ 2500	≥ 30	0.15	0.40
	< 30	0.25	0.55



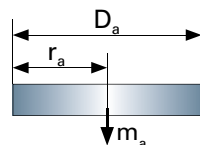
## Calculation of the mass inertia momentum

Solid body:

$J = 0.5 \times r_a^2 \times m_a$

or

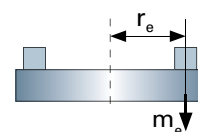
$J = 0.125 \times m_a \times D_a^2$



- r<sub>a</sub> = radius in m
- m<sub>a</sub> = mass (weight) in kg
- D<sub>a</sub> = diameter in m

Individual weights (approximation formula):

$J = 1.1 \times r_e^2 \times m_e \times n$



- r<sub>e</sub> = radius in m
- m<sub>e</sub> = mass (weight) in kg
- n = number of fixtures

# Machine Dimensioning TC

Request  Enclosure of order

Dear Customer,

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

## Model

- |  |                                   |
|--|-----------------------------------|
| <input type="checkbox"/> TC 120G                       | <input type="checkbox"/> TC 320T  |
| <input type="checkbox"/> TC 150T                       | <input type="checkbox"/> TC 500T  |
| <input type="checkbox"/> TC 220T                       | <input type="checkbox"/> TC 700T  |
| <input type="checkbox"/> TC 220T<br>with motor size 71 | <input type="checkbox"/> TC 1000T |
- No. of stations \_\_\_\_\_

- Higher indexing precision  
 Strengthened plate bearing

## Standard colour

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

## Calculation of the mass total mass inertia momentum

The following specifications of the tooling plate are extremely important to establish the shortest possible indexing time of your TC table (calculation according to the formula on page 46):

## Additional indexing plate

- Included in offer and delivery  Do not supply  
Diameter: \_\_\_\_\_ mm Thickness: \_\_\_\_\_ mm  
Material  Al  St  other

Based on the calculated mass inertia, do you want:

- the shortest possible indexing time  
 a longer indexing time of approx. \_\_\_\_\_ sec

## Electrical data

### Drive

- Index frequency: \_\_\_\_\_ Cycles / min\*

(at an indexing frequency of more than 25 cycles/min we recommend the use of the EF control card)

### Drive Motor

- Connection voltage x 400 V / 50 Hz (Standard)  
 other: \_\_\_\_\_ V / \_\_\_\_\_ Hz

### Brake

- Brake voltage 24 V = (recommended)  
 other: \_\_\_\_\_ V

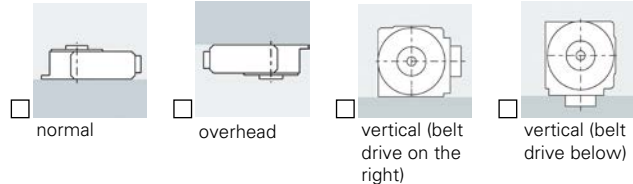
It is recommended to drive the motor with an electronic contactor!

- Electronic contractor  
(not necessary with frequency converter control system EF1/EF2)  
 Electronic reversing contractor  
(not necessary with frequency converter control system EF1/EF2)

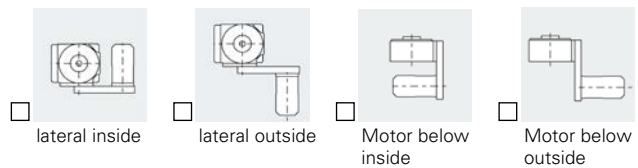
## For technical enquiries

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

## Permissible mounting positions



## Position of the drive motor



## Workpiece and fixture:

No. of stations: \_\_\_\_\_  
Weight per station \_\_\_\_\_ kg  
Centre of gravity diameter: \_\_\_\_\_ mm

## Control EF1 / EF2 / TS 004 E

(included in delivery of TC 700T and TC 1000T)

- Frequency converter Control System EF1** (Lenze)  
 **Frequency converter Control System EF2** (Siemens)  
interface Profibus + ProfiNet onboard  
 TM 15 Module for interface Digitale I/O  
 SIL3 (STO) - motor contactor + safety relay

## WEISS Control card TS 004 E

- Terminal PCB for 19" rack  
 PCB card holder  
 Protective housing for:  
 Rear wall mounting  
 Front panel mounting  
 Rail mounting  
 Front door, lockable and transparent

Front panel language for WEISS Control card TS 004 E

- German  Italian  English  
 French  Dutch  Czech

Desired delivery date: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

eMail: \_\_\_\_\_

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