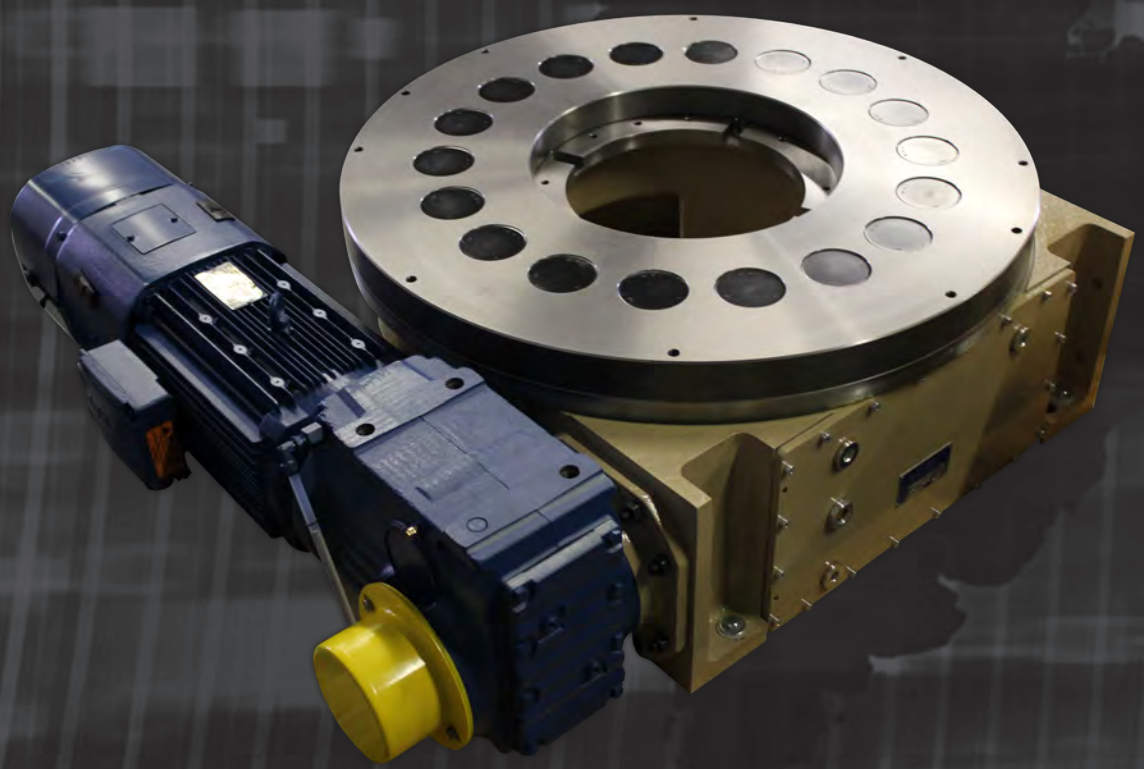
MOTION
INDEX DRIVES

SERVO/PROGRAMMABLE TABLES
TMF Series



MOTION
INDEX DRIVES

The New Standard for 100% Programmable/ Servo Indexing

The TMF Series of index drives was engineered to satisfy the needs of the 21st century industrial manufacturing environment: fast, strong, reliable, high quality and cost effective.

The TMF Series features a cast housing that is compact and has all the characteristics a manufacterer looks for: large center thru-hole for running utilities and mounting equipment; very low profile to eliminate the need for large A-frame type tooling or operator riser platforms; and a large rotating diameter for increased mounting surface.

In order to increase the strength of the index table, the TMF Series was designed to be a completely flexible solution. This allows for a minimum of 4 oversized cam followers to be engaged with the barrel cam at all times. The indexer is driven directly via a gear motor that can utilize either an AC motor with encoder or servo. Both options provide very high accuracy (less than 10 arc seconds) and allow for the indexer to be driven via a dedicated or robot drive.

Loading capabilities are multiplied significantly in this line of indexers through the design of the barrel cam and cam followers. This unique design allows for unprecedented inertial load capability. The TMF Series also utilizes the same high quality bearing configuration as our standard index drives to ensure high mass loading capabilities.

Programmable Index Drives

The rotary index table transforms a constant input drive motion into a constant output drive motion. The drive motion occurs by means of a hardened and high-accuracy constant lead barrel cam. The use of mathematical laws of motion along with a properly programmed motor profile guarantee a soft, shock proof, and jerk free movement that has been optimally designed for its intended purpose. The design allows for accurate and secure mounting to the output dial. The preload of the cam to the cam followers in dwell ensures the top dial is backlash free. No additional adjust¬ment of the output dial is necessary.
The power to rotate the index drive is provided either by means of a three phase AC motor with encoder, coupled to a gear reducer, or a servo motor coupled to a gear reducer. The gear reducer is connected to the input shaft which is firmly connected to the internal barrel cam with no further internal gearing. The barrel cam in turn rotates the top dial through the cam followers with a zero backlash internal design. The output dial is mounted to a wire bearing assembly (4 point contact bearing), which is preloaded to eliminate any runout. The index drive is completely sealed to eliminate intrusion from foreign particulate.

Advantages for design engineers and special machine builders

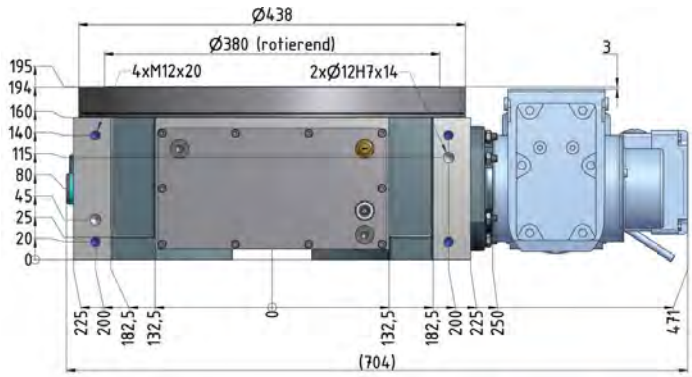
- Large center thru-hole which is large enough to feed entire shafts through, and not just small wiring looms
- Dowel holes in housing and in output flange
- Recessed center column. No obstruction. Lengthened and machined to customer requirements
- Simultaneously rotating input shaft extension. Optional synchronization of other mechanical modules

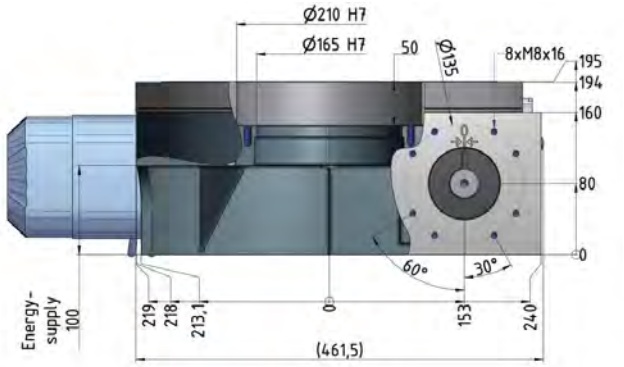
Allowance for individual customer requirements

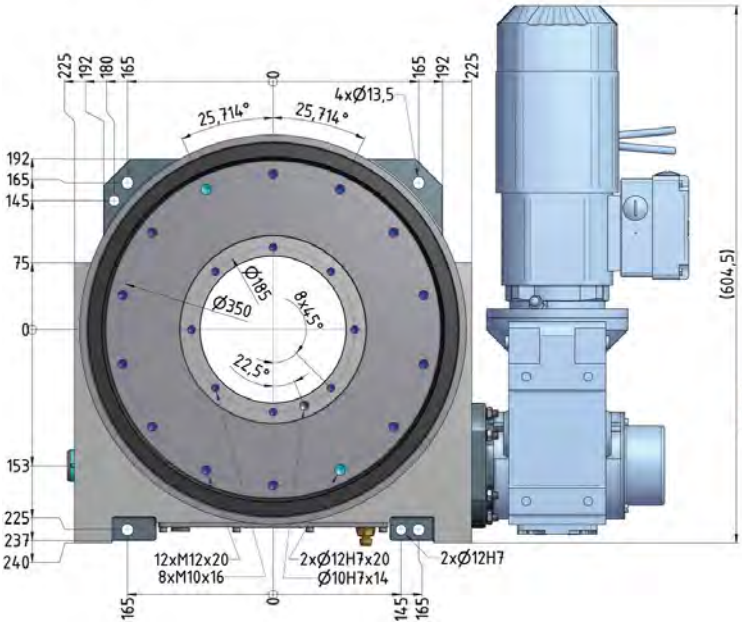
- Choice of drive
- Reinforced output flange bearing for higher tilting moment
- Optional friction clutch on drive
- Custom specified color at no extra charge technical

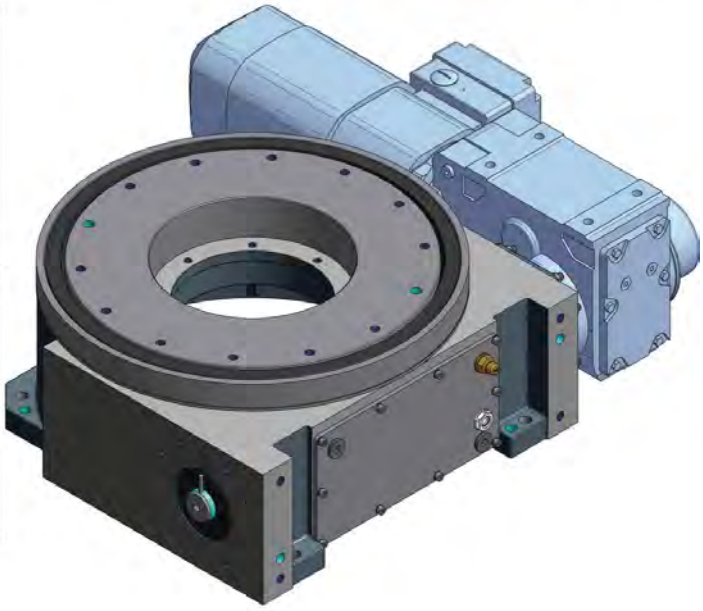
Technical benefits for users

- High reliability and long service life
- Robust method of construction
- Hardened cams: smaller sizes for higher load factors
- Cam followers and roller bearings fully immersed in oil bath
- Cam followers are extractable from top



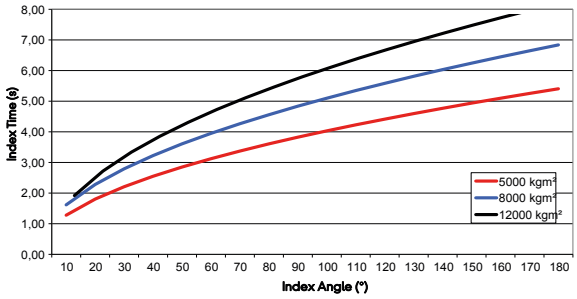






TMF1000

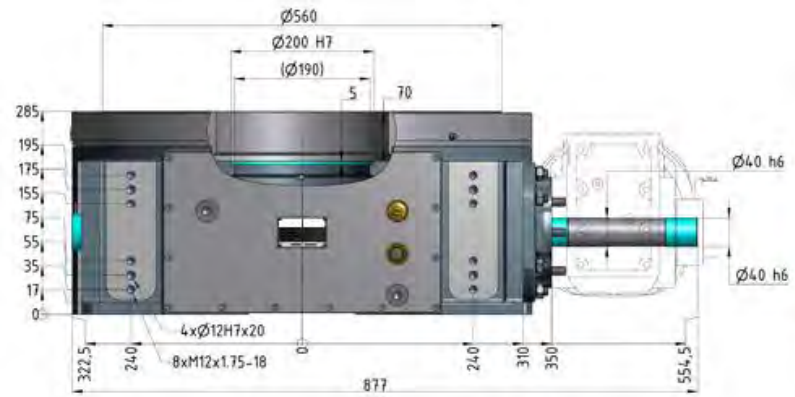
Dimensions	
Diameter output flange	380 mm
Overall height (mounting surface dial)	195 mm
Center thru-hole	165 mm
Maximum recommended swing diameter	3000 mm
Weight	130 kg
Load Ratings	
Axial	213,000 N
Radial	100,000 N
Tilting	19,000 Nm

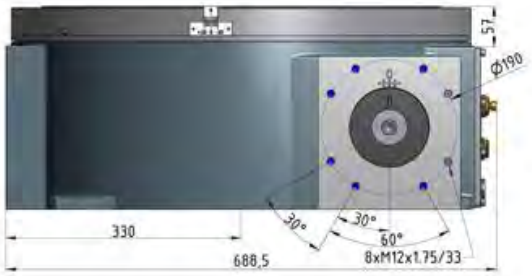


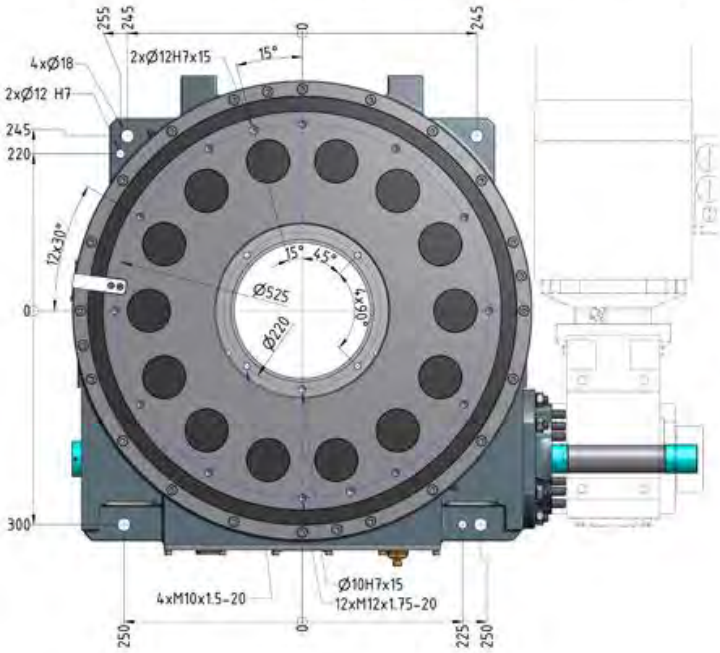
*Please note, the load chart shown can be affected by user programming required, including acceleration rates, deceleration rates, velocity profiles, e-stop times required, etc. For validation of sizing, please verify all loading with Motion Index Drives, Inc.

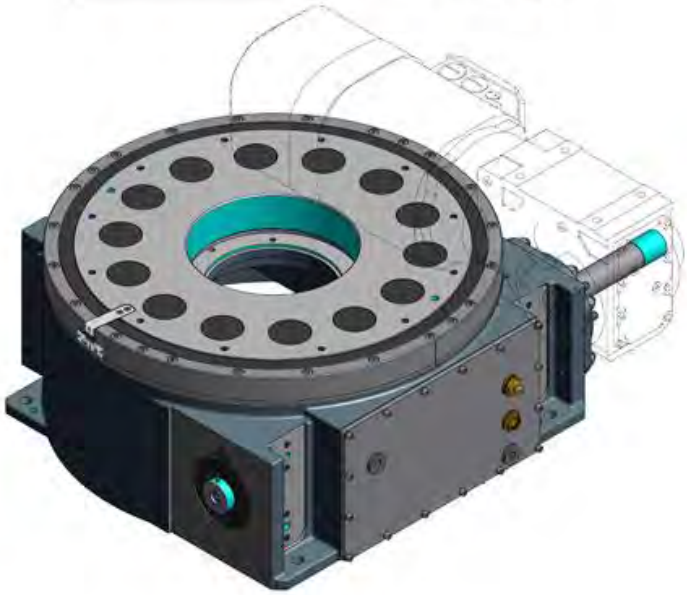
The dimensions shown here are the standard dimensions. The output flange, central column, housing and input shafts can be machined to your specifications. The central column can also be designed as a flange. Should you wish to drill a ddditional holes, please consult us with regard to acceptable drilling depth.

The dimensions for the gearmotor may change based on the gearmotor size and options required for the application.



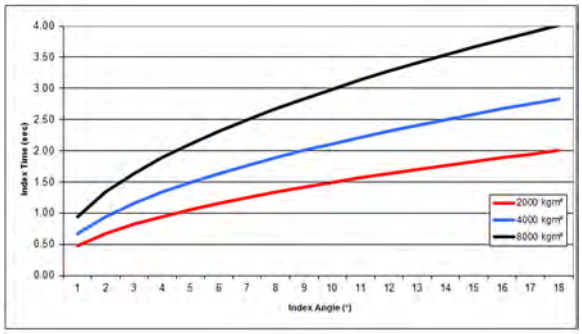






TMF2000

Dimensions	
Diameter output flange	560 mm
Overall height (mounting surface dial)	285 mm
Center thru-hole	190 mm
Maximum recommended swing diameter	3,500 mm
Weight	440 kg
Load Ratings	
Axial	753,000 N
Radial	353,000 N
Tilting	207,500 Nm



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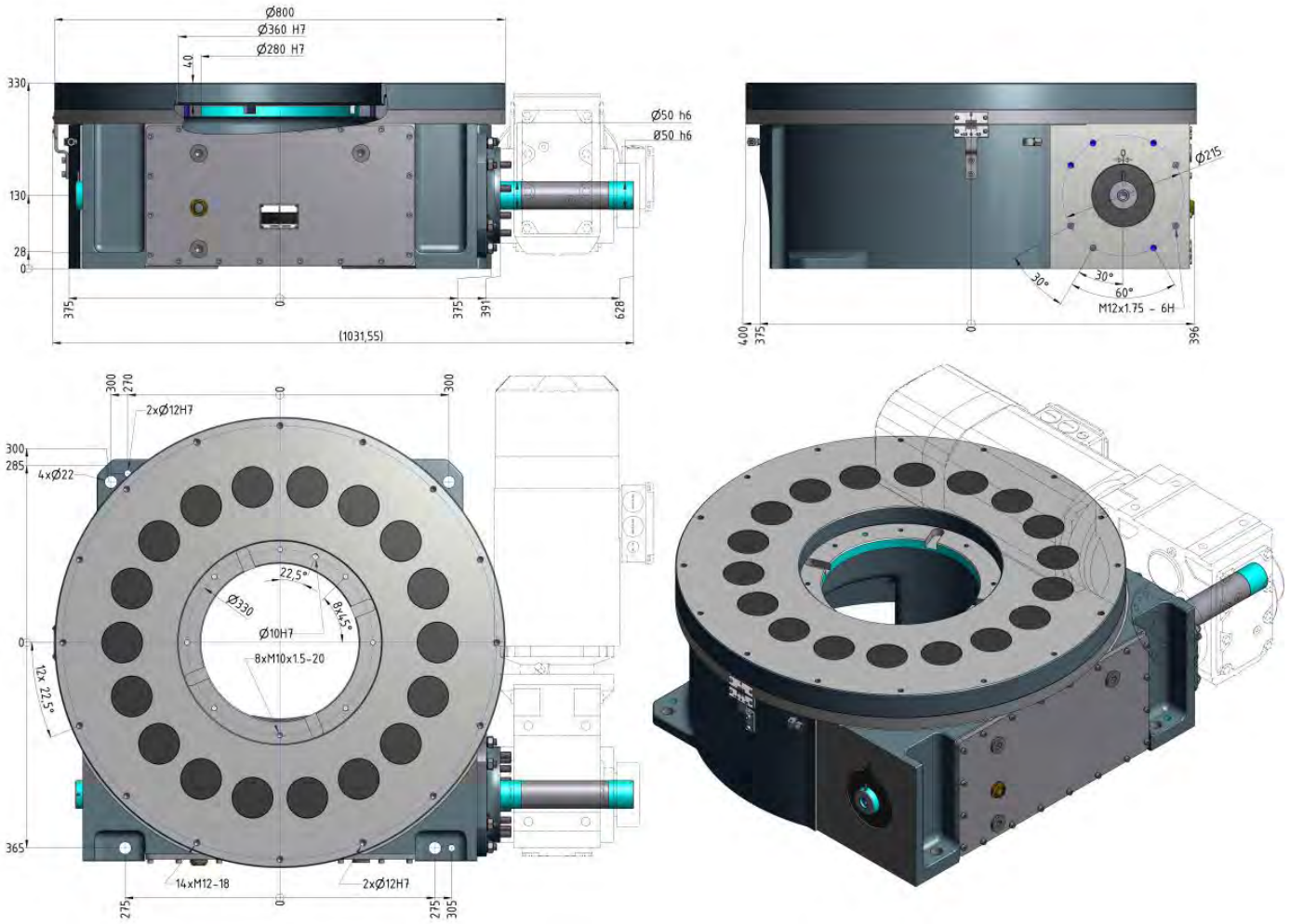
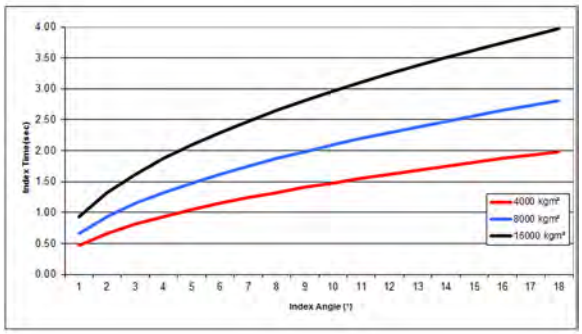
The dimensions shown here are the standard dimensions. The output flange, central column, housing and input shafts can be machined to your specifications. The central column can also be designed as a flange. Should you wish to drill a ddditional holes, please consult us with regard to acceptable drilling depth.

The dimensions for the gearmotor may change based on the gearmotor size and options required for the application.



TMF3000

Dimensions	
Diameter output flange	800 mm
Overall height (mounting surface dial)	330 mm
Center thru-hole	280 mm
Maximum recommended swing diameter	4,500 mm
Weight	520 kg
Load Ratings	
Axial	965,000 N
Radial	454,000 N
Tilting	357,000 Nm



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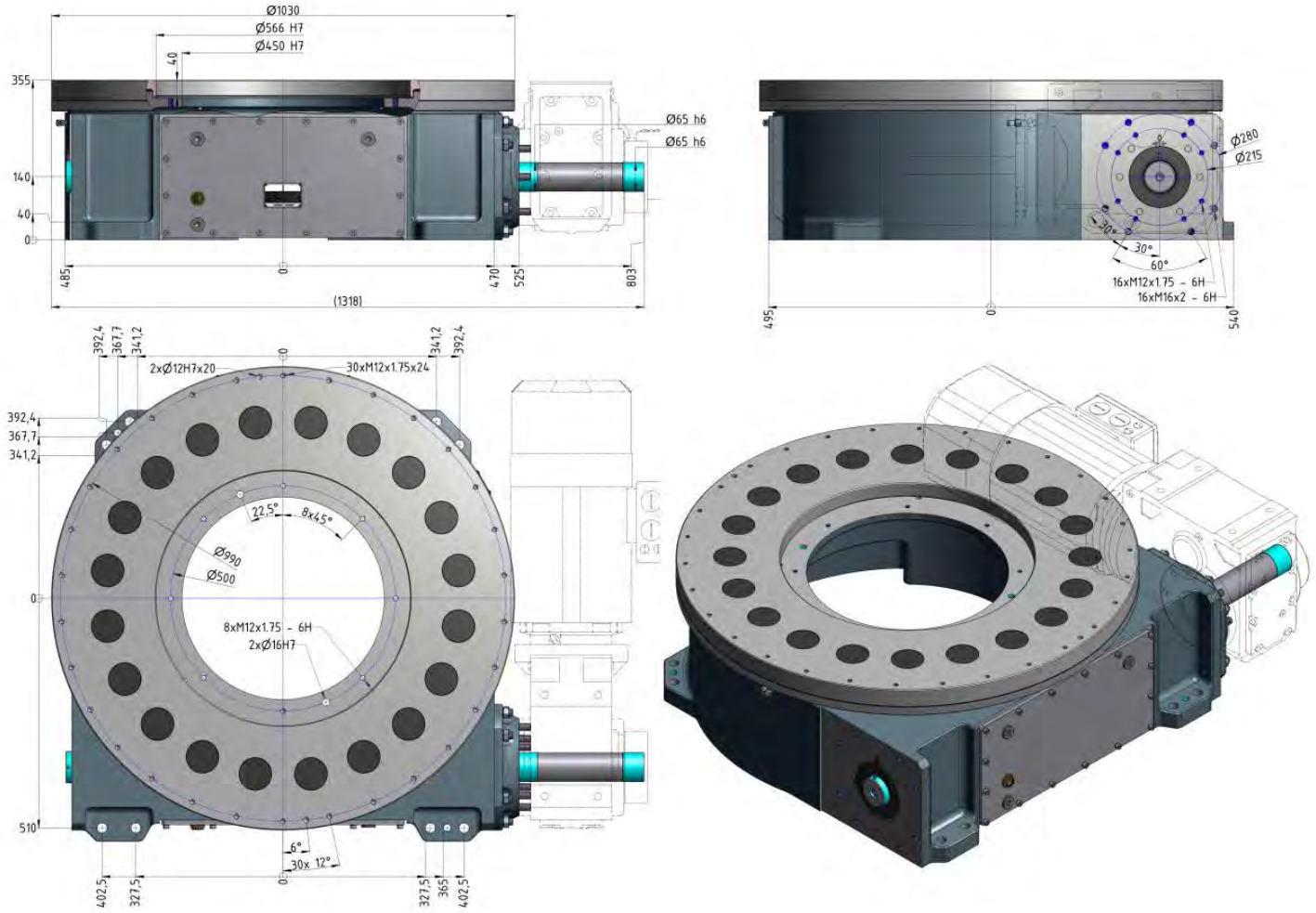
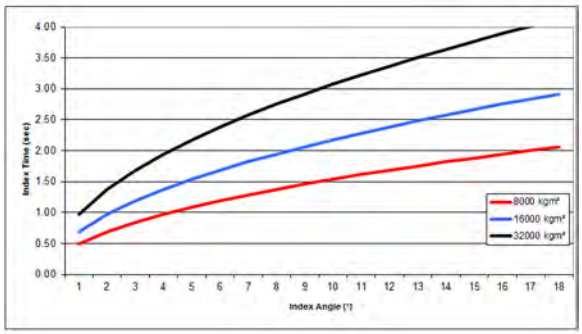


TMF4000

Dimensions	
Diameter output flange	1,050 mm
Overall height (mounting surface dial)	365mm
Center thru-hole	450 mm
Maximum recommended swing diameter	6,500 mm
Weight	910 kg
Load Ratings	
Axial	1,185,000 N
Radial	590,000 N
Tilting	525,000 Nm



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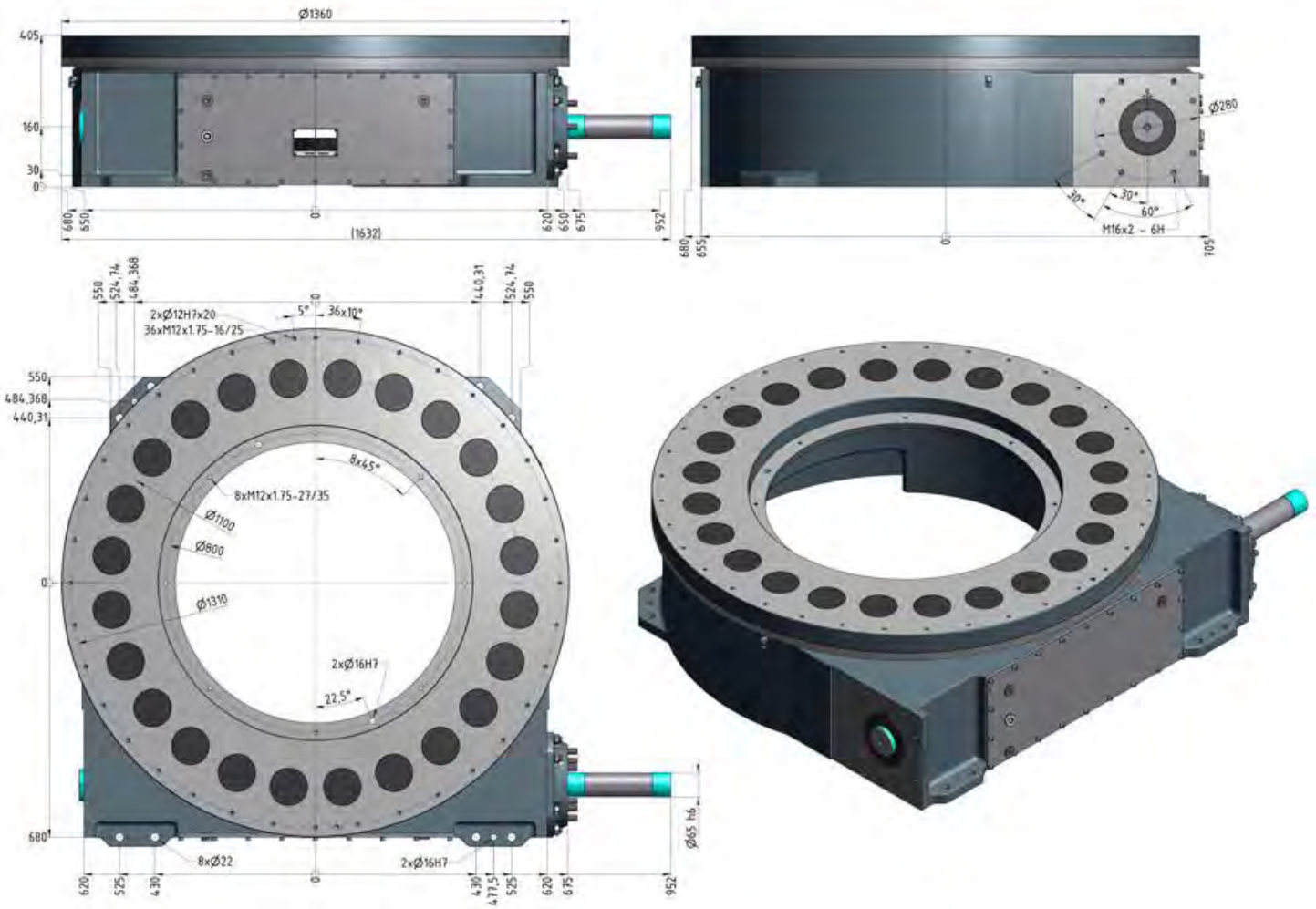
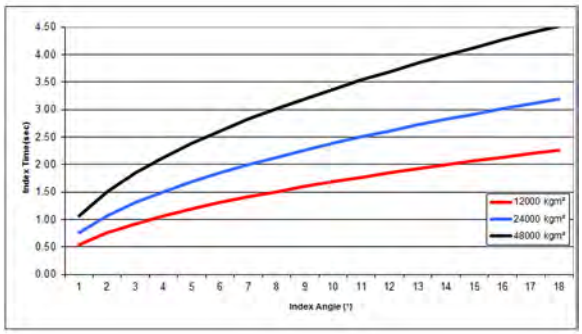


TMF5000

Dimensions	
Diameter output flange	1,360 mm
Overall height (mounting surface dial)	405 mm
Center thru-hole	750 mm
Maximum recommended swing diameter	10,000 mm
Weight	1,470 kg
Load Ratings	
Axial	1,649,000 N
Radial	776,000 N
Tilting	1,063,500 Nm



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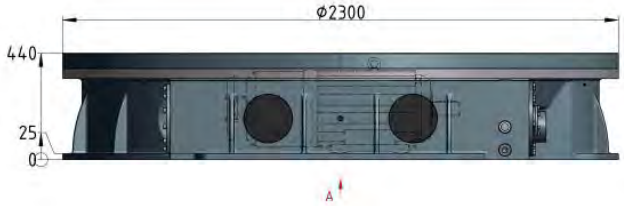
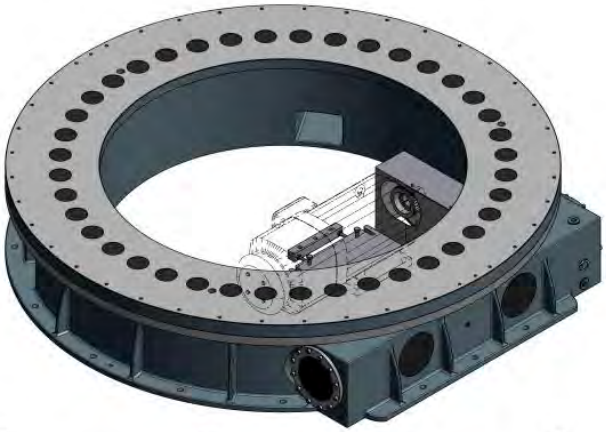
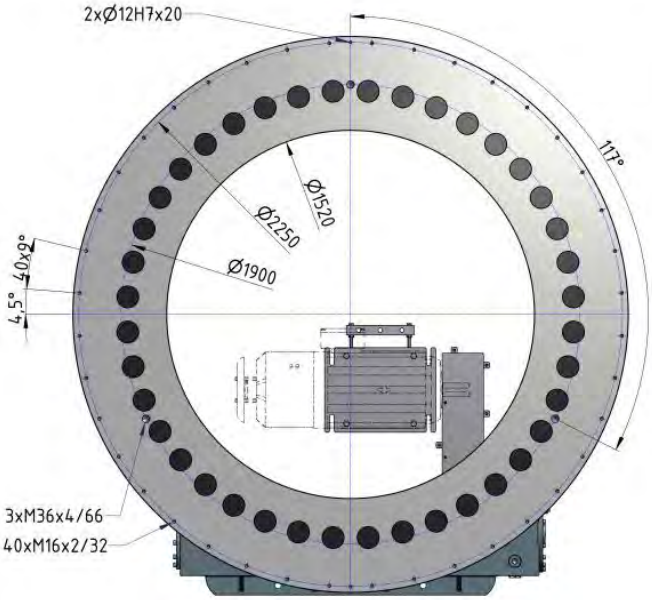
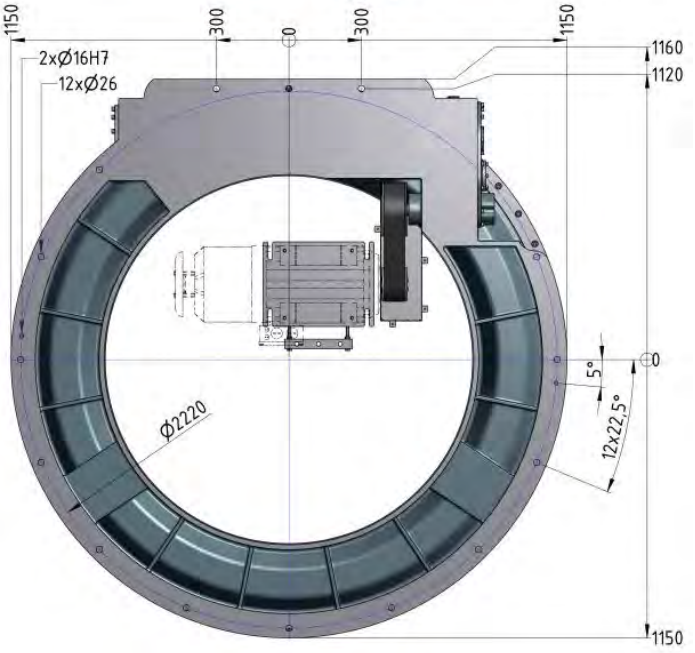


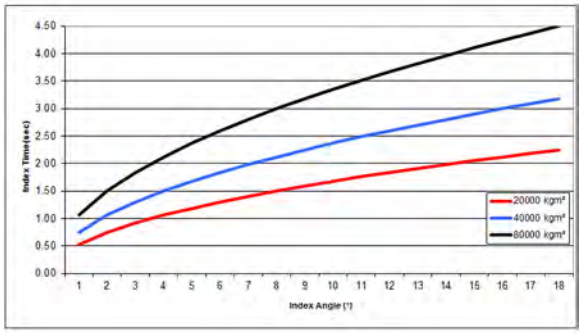






TMF8000

Dimensions	
Diameter output flange	2,300 mm
Overall height (mounting surface dial)	440 mm
Center thru-hole	1,520 mm
Maximum recommended swing diameter	16,000 mm
Weight	3,800 kg
Load Ratings	
Axial	4,280,000 N
Radial	1,000,000 N
Tilting	1,850,000 Nm



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