



WITTENSTEIN

alpha

reliable partner
maximum power
competent consulting

TP+ 4000 HIGH TORQUE

40,000 Nm in servo applications



compact
flexible
efficient

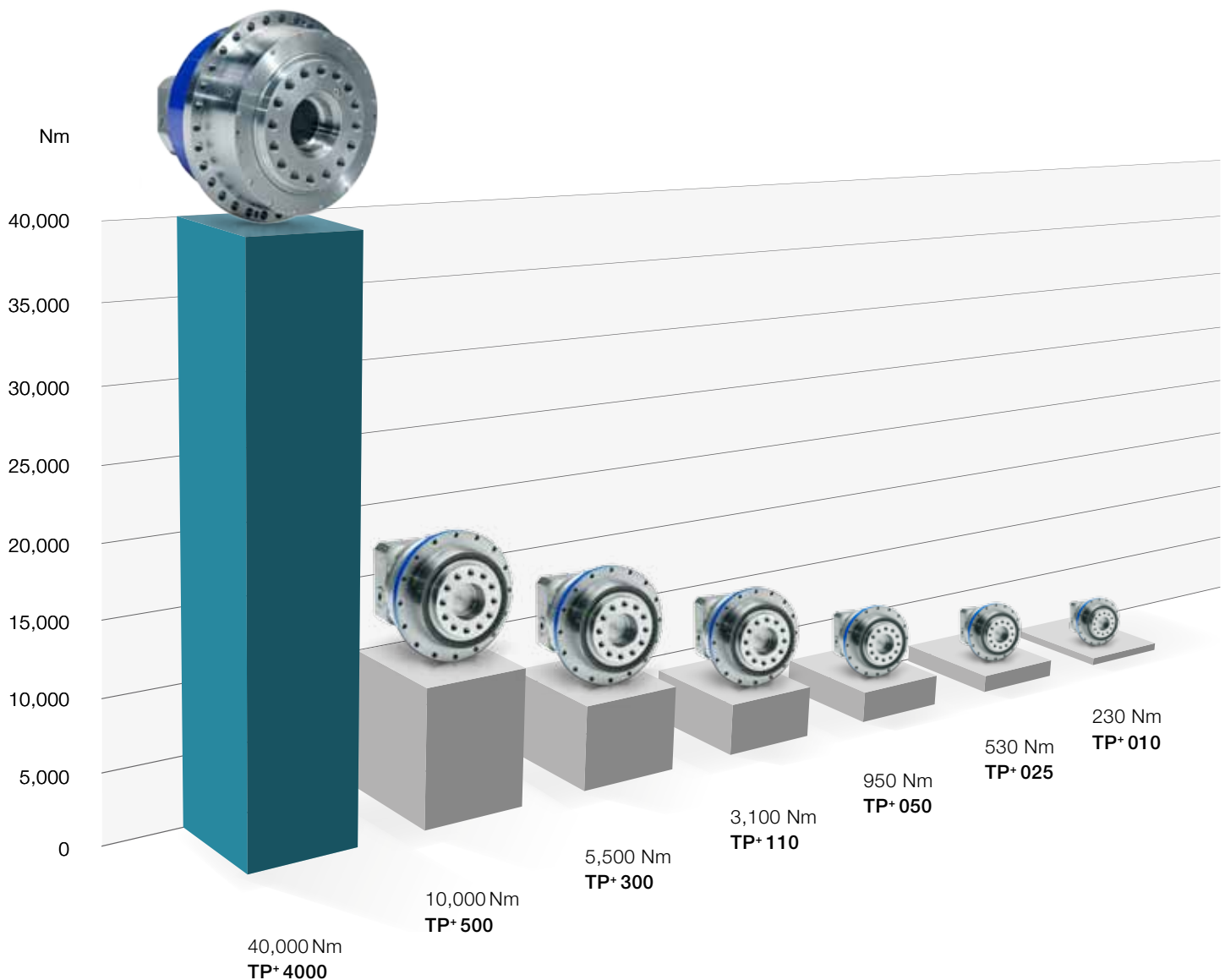
TP+ 4000 HIGH TORQUE

Exceeding through traditional limits

Thanks to its newest member, the TP+ 4000 HIGH TORQUE, the TP+ family now exceeds traditional limits: **40,000 Nm in servo applications.**

This compact top performer with an output flange impresses with high power density, precision and positioning accuracy.

Acceleration torques compared All TP+ HIGH TORQUE sizes



Our drives experts will be pleased
to provide **competent consulting**:
Tel. +49 7931 493-0

40,000 Nm in servo applications

Exciting new opportunities

With a maximum acceleration torque of 40,000 Nm, the WITTENSTEIN alpha TP+ 4000 HIGH TORQUE reaches a new level. Its top level performance data opens up new opportunities, e.g. it is possible to achieve significantly better energy efficiency by **substituting hydraulic components**.

Machine tools

- Turntables
- Linear axes
- Bending heads

Steel and paper processing

- Roller drives
- Presses

Shipbuilding and waterway engineering

- Rudder actuators
- Sluice gate actuators

Automotive manufacturing

- Wheel hub motors
- Special purpose vehicles

Engineered plastics

- Mould closing drives
- Extruders

Benefits at a glance:

- Max. acceleration torque up to 40,000 Nm
- Torsional backlash ≤ 5 arcmin
- High power density, precision and positioning accuracy



TP+ 4000 MA HIGH TORQUE

				2-stage		3-stage							
Ratio			<i>i</i>		22	30,25	66	88	110	121	154	220	302,5
Max. acceleration torque (max. 1000 cycles per hour)			<i>T</i> _{2B}	Nm	40000	40000	40000	40000	40000	40000	40000	32000	40000
				in.lb	354000	354000	354000	354000	354000	354000	354000	283200	354000
Nominal output torque (with <i>n</i> _m)			<i>T</i> _{2N}	Nm	18000	18000	18000	18000	18000	18000	18000	16500	18000
				in.lb	159300	159300	159300	159300	159300	159300	159300	159300	146025
Emergency stop torque (permitted 1000 times during the service life of the gearhead)			<i>T</i> _{2Not}	Nm	70000	70000	70000	70000	70000	70000	70000	61000	70000
				in.lb	619500	619500	619500	619500	619500	619500	619500	619500	539850
Nominal input speed (with <i>T</i> _{2N} and 20°C ambient temperature) ^{a)}			<i>n</i> _{1N}	rpm	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max. input speed			<i>n</i> _{1Max}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000
Mean no load running torque (with <i>n</i> ₁ =2000 rpm and 20°C gearhead temperature)			<i>T</i> ₀₁₂	Nm	-	21	-	-	-	10	-	-	-
				in.lb		186				89			
Max. torsional backlash			<i>j</i> _t	arcmin	≤ 5								
Torsional rigidity			<i>C</i> _{t21}	Nm/arcmin	5300	5300	-	5800	5800	5800	-	-	-
				in.lb/arcmin	46905	46905		51330	51330	51330			
Tilting rigidity			<i>C</i> _{2K}	Nm/arcmin	-								
				in.lb/arcmin									
Max. axial force ^{b)}			<i>F</i> _{2AMax}	N	140000								
				lb _f	31500								
Max. tilting moment			<i>M</i> _{2KMax}	Nm	58000	71400							
				in.lb	128180	157794							
Efficiency at full load			η	%	93								
Service life			<i>L</i> _n	h	> 20000								
Weight incl. standard adapter plate			<i>m</i>	kg	350	380							
				lb _m	774	840							
Operating noise (with <i>n</i> ₁ = 2000 rpm no load)			<i>L</i> _{PA}	dB(A)	≤ 70								
Max permitted housing temperature				°C	+90								
				F	194								
Ambient temperature				°C	0 bis +40								
				F	32 to 104								
Lubrication					Lubricated for life								
Paint					RAL 5002								
Direction of rotation					Motor and gearhead same direction								
Protection Class					IP 65								
Moment of inertia (relates to the drive)	M	48	<i>J</i> ₁	kgcm ²	-	-	85	55	43	48	34	29	28
				10 ⁻³ in.lbs ²			75	49	38	42	30	26	25
Clamping hub diameter [mm]	O	60	<i>J</i> ₁	kgcm ²	230	174	-	-	-	-	-	-	-
				10 ⁻³ in.lbs ²	204	154							

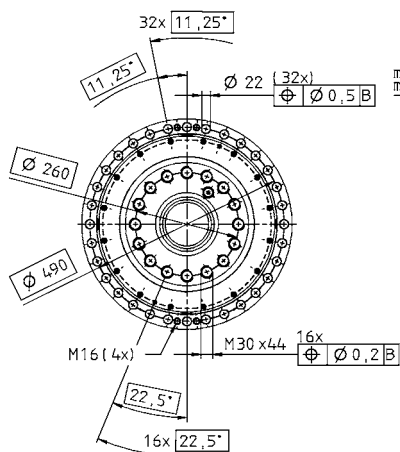
^{a)} For higher ambient temperatures, please reduce input speed

^{b)} Refers to center of the output shaft or flange

View A

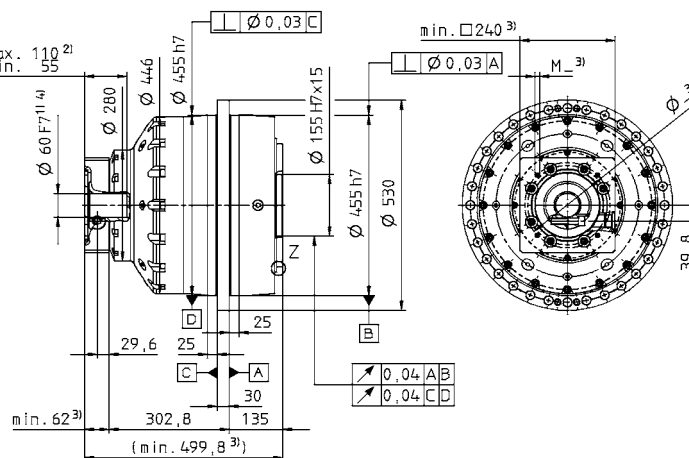
View B

2-stage:

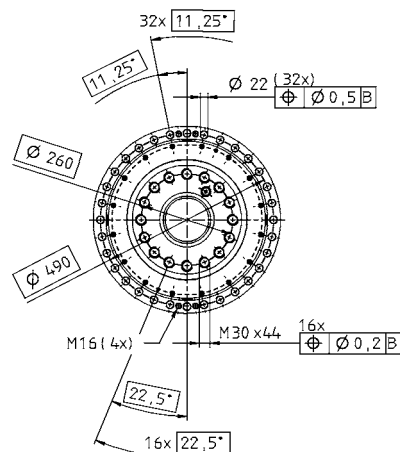


B→

←A

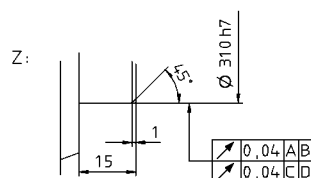
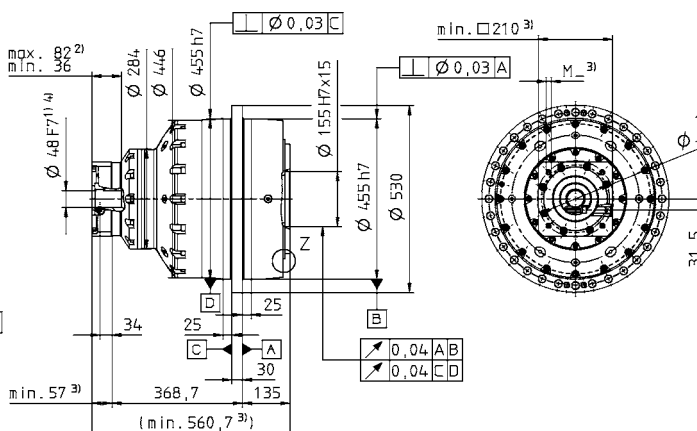


3-stage:



B→

←A


to 60 ⁴⁾ (O)
Clamping hub
diameter

to 48 ⁴⁾ (M)
Clamping hub
diameter

Non-toleranced dimensions ± 1 mm

- 1) Check the motor shaft fit
- 2) Min./max. permissible motor shaft length.
Longer motor shafts possible on request; please ask for advice
- 3) Dimensions depend on motor
- 4) Smaller motor shaft diameters can be achieved
by inserting a bushing; minimum wall thickness 1 mm!

! For operating manuals, see www.wittenstein-alpha.com



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WITTENSTEIN alpha – intelligent drive systems

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