Product data sheet

WITTENSTEIN | alpha

TP+

Low backlash planetary gearbox

Gearbox data	
Designation: TP050X-MF2-31-0G1-2S	
Gearbox type	TP+
Gearbox size	050
Design keyword	Food-grade lubrication
Gearbox variation	Motor attachment gearbox
Gearbox stages	2
Gearbox ratio i	31
Output design	Flange
Clamping hub diameter	24 mm
Gearbox backlash	Standard
Gearbox material number	20059137

Technical specifications		
Max. output torque (Depending on the specific boundary conditions of the application)	$T_{2\alpha}$	546 Nm
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	546 Nm
Nominal output torque (with n_{1N})	T_{2N}	431 Nm
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	1250 Nm
Nominal input speed (with T_{2N} and 20°C ambient temperature) a)	n_{1N}	2900 min^{-1}
Max. input speed	n_{1Max}	6250 min^{-1}
Mean no load running torque (with n_1=3000 min^{-1} and 20°C gearbox temp.) b)	T_{012}	2.3 Nm
Max. torsional backlash	j_t	≤ 3 arcmin
Torsional rigidity b)	C_{t21}	130 Nm/arcmin
Tilting rigidity	C_{2K}	560 Nm/arcmin
Max. axial force c)	F_{2AMax}	6130 N
Max. tilting moment	M_{2KMax}	1335 Nm
Efficiency at full load	η	94 %
Service life (for calculation, see the Chapter "Information" in our product catalogue)	L_h	> 20000 h
Weight incl. standard adapter plate	m	14.1 kg
Operating noise (with n_1=3000 min^{-1} no load)	L_{PA}	≤ 61 dB(A)
Max. permitted housing temperature		90 °C
Ambient temperature		-15 °C to 40 °C
Lubrication		food grade lubrication
Paint		Mankiewicz-Lack Seevenax 112
Protection class		IP 65
Inertia (relates to the drive)	J_1	2.81 $kgcm^2$

a) For higher ambient temperatures, please reduce input speed
b) Depends on clamping hub diameter
c) Refers to center of the output shaft or flange