Product data sheet

WITTENSTEIN | alpha

SP+

Low backlash planetary gearbox



Gearbox data	
Designation: SP140S-MF1-10-1G1-2S	
Gearbox type	SP+
Gearbox size	140
Design keyword	Standard
Gearbox variation	Motor attachment gearbox
Gearbox stages	1
Gearbox ratio i	10
Output design	Key
Clamping hub diameter	24 mm
Gearbox backlash	Standard
Gearbox material number	20029199

Technical specifications		
Max. output torque (Depending on the specific boundary conditions of the application)	$T_{2\alpha}$	720 Nm
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	636 Nm
Nominal output torque (with n_{1N})	T_{2N}	327 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}	2600 min^{-1}
Max. input speed	n_{1Max}	5000 min^{-1}
Mean no load running torque (with n_1=3000 min^{-1} and 20°C gearbox temp.) b)	T_{012}	2.2 Nm
Max. torsional backlash	j_t	≤ 3 arcmin
Torsional rigidity b)	C_{t21}	53 Nm/arcmin
Tilting rigidity	C_{2K}	350 Nm/arcmin
Max. axial force c)	F_{2AMax}	9870 N
Max. radial force c)	F_{2RMax}	9900 N
Max. tilting moment	M_{2KMax}	952 Nm
Efficiency at full load	η	97 %
Service life (for calculation, see the Chapter "Information" in our product catalogue)	L_h	> 20000 h
Weight incl. standard adapter plate	m	17.2 kg
Operating noise (with n_1=3000 min^{-1} no load)	L_{PA}	≤ 59 dB(A)
Max. permitted housing temperature		90 °C
Ambient temperature		-15 °C to 40 °C
Lubrication		lubricated for life
Paint		Innovation blue
Protection class		IP 65
Inertia (relates to the drive)	J_1	5.28 $kgcm^2$

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