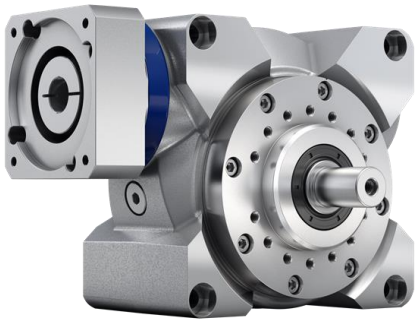
Product data sheet

WITTENSTEIN | alpha

VS+

Low backlash servo worm gearbox



Gearbox data	
Designation: VS+100S-MF1-4-1M1-1K-AF	
Gearbox type	VS+
Gearbox size	100
Design keyword	Standard
Gearbox variation	Motor attachment gearbox
Gearbox stages	1
Gearbox ratio i	4
Output design	Key
Clamping hub diameter	48 mm
Gearbox backlash	Standard
Gearbox mounting position	AF

Technical specifications		
Max. output torque (At nominal input speed (n1N) up to a maximum of 500 min-1)	$T_{2\alpha}$	1184 Nm
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	1184 Nm
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	1819 Nm
Nominal input speed (with 20°C ambient temperature) a)	n_{1N}	3000 min^{-1}
Max. input speed	n_{1Max}	3500 min^{-1}
Mean no load running torque (with n_1=3000 min^{-1} and 20°C gearbox temp.) b)	T_{012}	12.2 Nm
Max. torsional backlash	j_t	≤ 3 arcmin
Torsional rigidity b)	C_{t21}	153 Nm/arcmin
Max. axial force c)	F_{2AMax}	19500 N
Max. radial force c)	F_{2RMax}	14000 N
Max. tilting moment	M_{2KMax}	3059 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	62 kg
Operating noise (with n_1=3000 min^{-1} no load)	L_{PA}	≤ 70 dB(A)
Max. permitted housing temperature		90 °C
Ambient temperature		-15 °C to 40 °C
Lubrication		synthetic gearbox oil
Protection class		IP 65
Inertia (relates to the drive)	J_1	50.02 $kgcm^2$

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

Note: The maximum transmissible torque depends on the nominal input speed of the gearbox.