

# SP+ 060 MF 2-stage

			2-stage										
Ratio <sup>a)</sup>	<i>i</i>		16	20	25	28	35	40	50	70	100		
cymex®-optimized acceleration torque (please contact us regarding the design)	$T_{2Bcym}$	Nm	58	58	60	58	60	58	60	54	–		
		in.lb	513	513	531	513	531	513	531	478	–		
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	42	42	42	42	42	42	42	42	32		
		in.lb	372	372	372	372	372	372	372	372	283		
Nominal output torque (with $n_n$ )	$T_{2N}$	Nm	26	26	26	26	26	26	26	26	17		
		in.lb	230	230	230	230	230	230	230	230	150		
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	$T_{2Not}$	Nm	100	100	100	100	100	100	100	100	80		
		in.lb	885	885	885	885	885	885	885	885	708		
Nominal input speed (with $T_{2N}$ and 20°C ambient temperature) <sup>b)</sup>	$n_{1N}$	rpm	4400	4400	4400	4400	4400	4400	4800	5500	5500		
Max. input speed	$n_{1max}$	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000		
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature) <sup>c)</sup>	$T_{012}$	Nm	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2		
		in.lb	4.4	3.5	3.5	2.7	2.7	2.7	2.7	2.7	1.8		
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 6$ / Reduced $\leq 4$										
Torsional rigidity	$C_{t21}$	Nm/ arcmin	3.5										
		in.lb/ arcmin	31.0										
Max. axial force <sup>d)</sup>	$F_{2AMax}$	N	2400										
		lb <sub>l</sub>	540										
Max. radial force <sup>d)</sup>	$F_{2RMax}$	N	2800										
		lb <sub>l</sub>	630										
Max. tilting moment	$M_{2KMax}$	Nm	152										
		in.lb	1345										
Efficiency at full load	$\eta$	%	94										
Service life (For calculation, see the Chapter "Information")	$L_h$	h	> 20000										
Weight incl. standard adapter plate	$m$	kg	2.0										
		lb <sub>m</sub>	4.4										
Operating noise (with $i=100$ and $n_1=3000$ rpm no load)	$L_{PA}$	dB(A)	$\leq 58$										
Max. permitted housing temperature		°C	+90										
		F	194										
Ambient temperature		°C	0 to +40										
		F	32 to 104										
Lubrication	Lubricated for life												
Paint	Blue RAL 5002												
Direction of rotation	Motor and gearhead same direction												
Protection class	IP 65												
Moment of inertia (relates to the drive)	B	11	$J_1$	kgcm <sup>2</sup>	0.077	0.069	0.068	0.061	0.061	0.057	0.057	0.056	0.056
				10 <sup>3</sup> in.lb.s <sup>2</sup>	0.068	0.061	0.060	0.054	0.054	0.050	0.050	0.050	0.050
Clamping hub diameter [mm]	C	14	$J_1$	kgcm <sup>2</sup>	0.17	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15
				10 <sup>3</sup> in.lb.s <sup>2</sup>	0.15	0.15	0.14	0.14	0.14	0.14	0.13	0.13	0.13

Reduced mass moments of inertia available on request.

<sup>a)</sup> Other ratios available on request

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> Valid for clamping hub diameter of 11 mm

<sup>d)</sup> Refers to center of the output shaft or flange