

Performance - MF Gearbox

Model No.	Stage	Ratio ⁽¹⁾	MF 060	MF 075	MF 100	MF 140	MF 180	MF 210	MF 240	
Nominal Output Torque T_{2N} By n_{1N}	1	3	30	105	200	395	825	1,385	3,110	
		4	100	205	380	765	1,415	2,190	4,035	
		5	85	185	325	660	1,225	1,905	3,505	
		7	60	135	260	515	980	1,530	2,530	
		10	24	55	160	315	700	1,070	1,810	
	2	16	85	195	385	805	1,485	2,295	4,215	
		20	80	190	370	795	1,495	2,310	4,245	
		25	90	195	345	700	1,295	2,005	3,685	
		28	60	180	345	755	1,510	2,335	4,290	
		35	75	195	350	705	1,310	2,030	3,725	
		40	40	96	220	615	1,260	2,360	4,280	
		50	50	120	275	715	1,325	2,050	3,765	
		70	60	135	285	585	1,095	1,670	2,675	
		100	24	55	160	345	660	1,005	1,700	
Emergency Stop Torque T_{2NOT}	Nm	1,2	3~100	3 times T_{2N}						
Max. Acceleration Torque T_{2B}	Nm	1,2	3~100	1.5 times T_{2N}						
No Load Running Torque ⁽²⁾	Nm	1	3~10	0.3	0.6	1.4	2.5	5	7	11
		2	16~100	0.2	0.3	0.5	1.2	1.7	3	4
Backlash ⁽³⁾	arcmin	1	3~10	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	16~100	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4
Torsional Rigidity	Nm/arcmin	1,2	3~100	4.6	10	30	55	175	400	550
Nominal Input Speed n_{1N}	rpm	1	3~10	5,000	3,600	3,600	3,000	2,700	2,400	2,100
		2	16~100	5,000	4,600	4,600	4,000	3,700	3,400	3,100
Max. Input Speed n_1	rpm	1	3~10	7,000	6,000	6,000	5,000	4,500	4,000	3,500
		2	16~100	7,000	7,000	7,000	6,000	5,500	5,000	4,500
Max. Radial Load F_{2r} ⁽⁴⁾	N	1,2	3~100	3,000	4,500	6,700	10,000	15,000	22,000	30,000
Max. Axial Load F_{2a} ⁽⁴⁾	N	1,2	3~100	1,500	2,250	3,350	5,000	7,500	11,000	15,000
Max. Tilting Moment M_{2K} ⁽⁴⁾	Nm	1,2	3~100	160	270	550	1,050	1,740	3,350	5,420
Operating Temp.	°C	1,2	3~100	-10° C ~ 90° C						
Degree of Gearbox Protection		1,2	3~100	IP65						
Lubrication		1,2	3~100	Synthetic lubrication grease						
Mounting Position		1,2	3~100	All directions						
Running Noise ⁽⁵⁾	dB(A)	1	3~10	≤ 58	≤ 59	≤ 64	≤ 65	≤ 66	≤ 68	≤ 70
		2	16~100	≤ 58	≤ 59	≤ 60	≤ 63	≤ 66	≤ 68	≤ 70
Efficiency η	%	1	3~10	≥ 97%						
		2	16~100	≥ 94%						

(1) Ratio ($i = N_{in} / N_{out}$).

(2) These values are measured by gearbox with ratio 10 (1-stage) or ratio 100 (2-stage) at 3,000 rpm no loading.

(3) Backlash is measured at 2% of Nominal Output Torque T_{2N} .

(4) Applied to the output shaft center at 100 rpm.

(5) The dB values are measured by gearbox with ratio 10 (1-stage) or ratio 100 (2-stage), no loading at 3,000 RPM or at the respective Nominal Input Speed by bigger model size.

By lower ratio and/or higher RPM, the noise level could be 3 to 5 dB higher.