

M4-200X DC Servomotors

Direct Replacement of SEM MT22 * motors



- Identical motor shaft and mount dimensions (IEC & NEMA options)
- Matched motor windings
- Compatible torque/speed performance
- Matched connection options
- 24V DC brake option
- Matched tachogenerator output
- Encoder options available
- Rare Earth magnets
- Rugged mechanical design

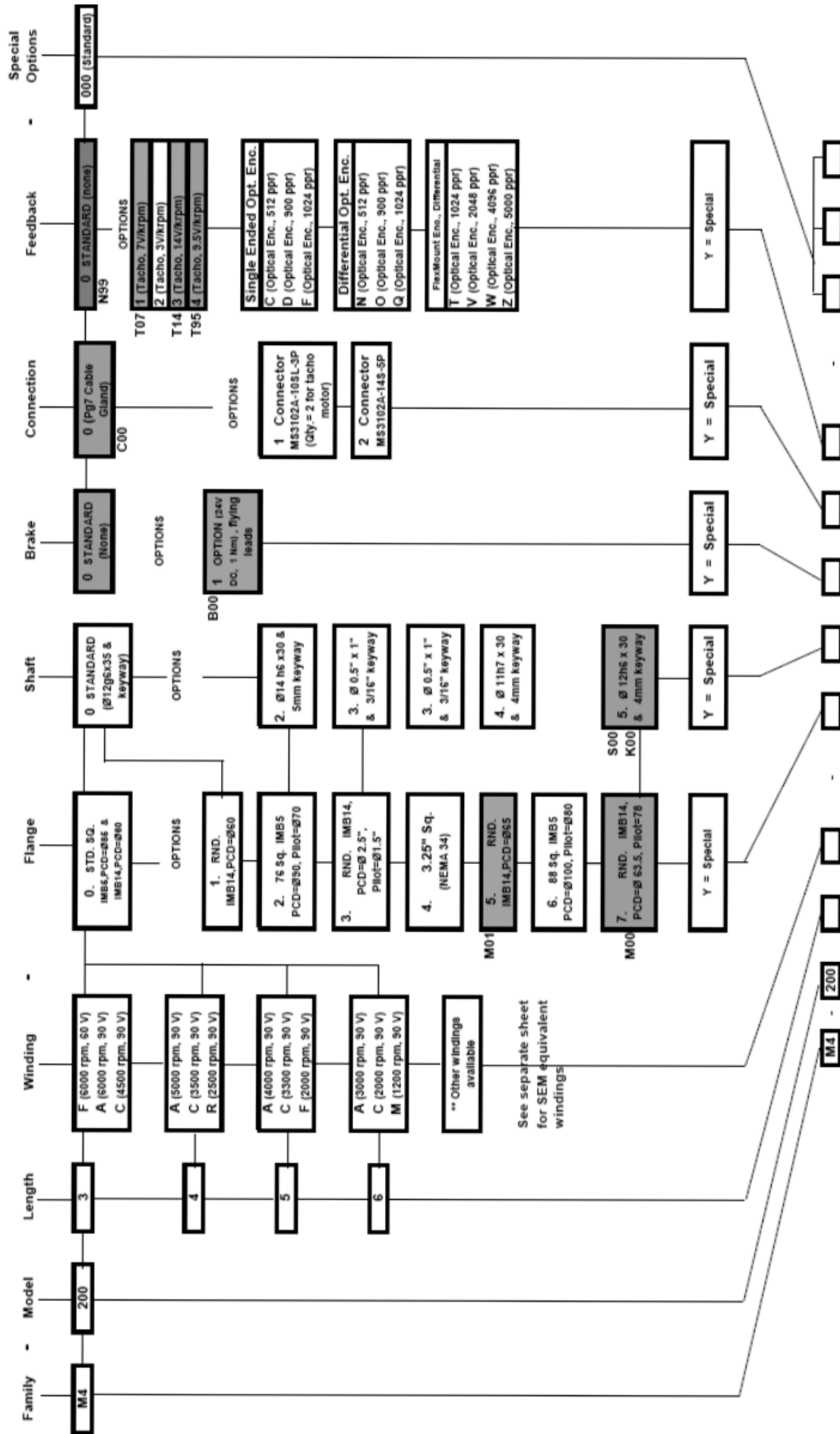
* MT is a tradename of SEM Ltd, UK, brush DC servomotors



M4-200X Servomotor Replacements
for SEM MT22 servomotors

Original Part Number	Our Equivalent
MT22D2-19	M4-2004V
MT22D2-10	M4-2004S
MT22D2-5	M4-2004B
MT22G2-19	M4-2005A
MT22G2-10	M4-2005M
MT22R2-24	M4-2006A
MT22R2-19	M4-2006T
MT22R2-12	M4-2006P
MT22R2-10	M4-2006N

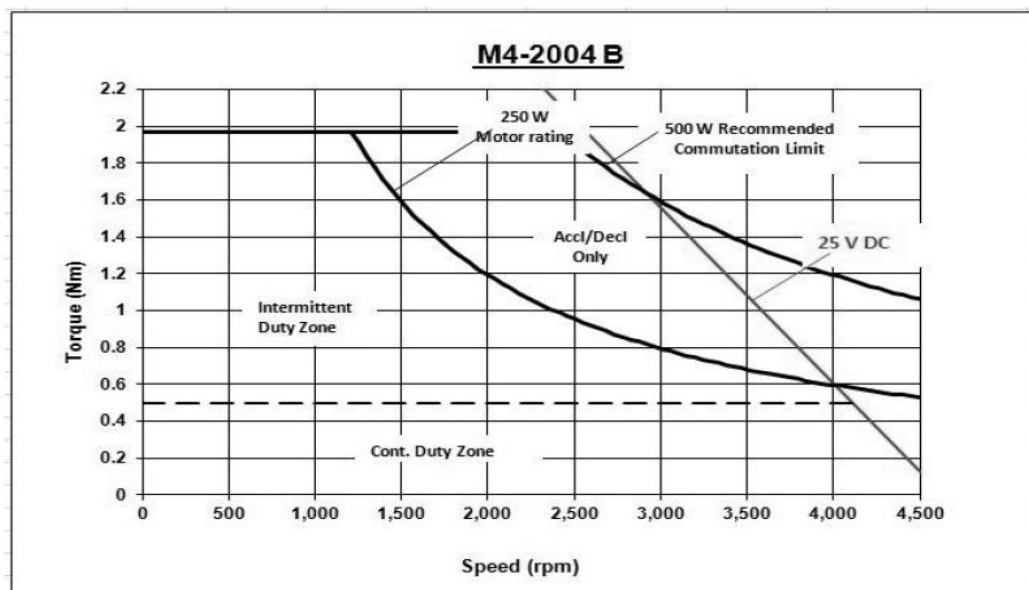
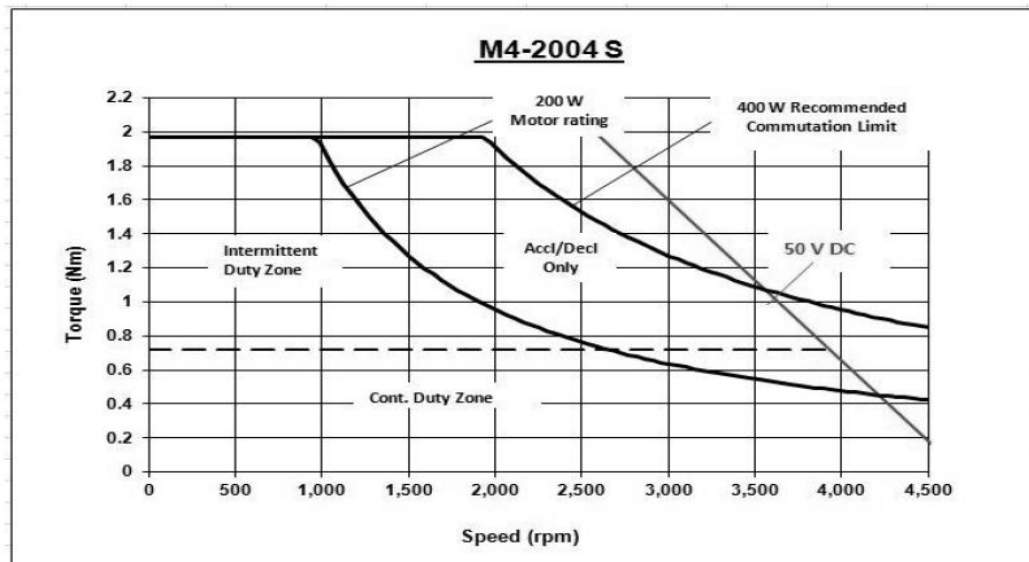
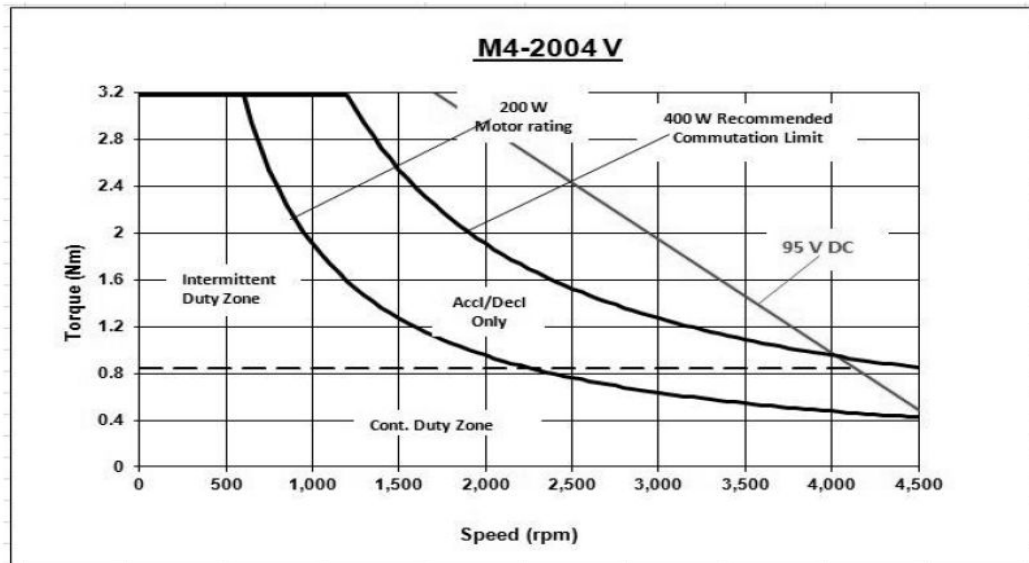
M4-200X Code Table (Replacements for SEM MT22)



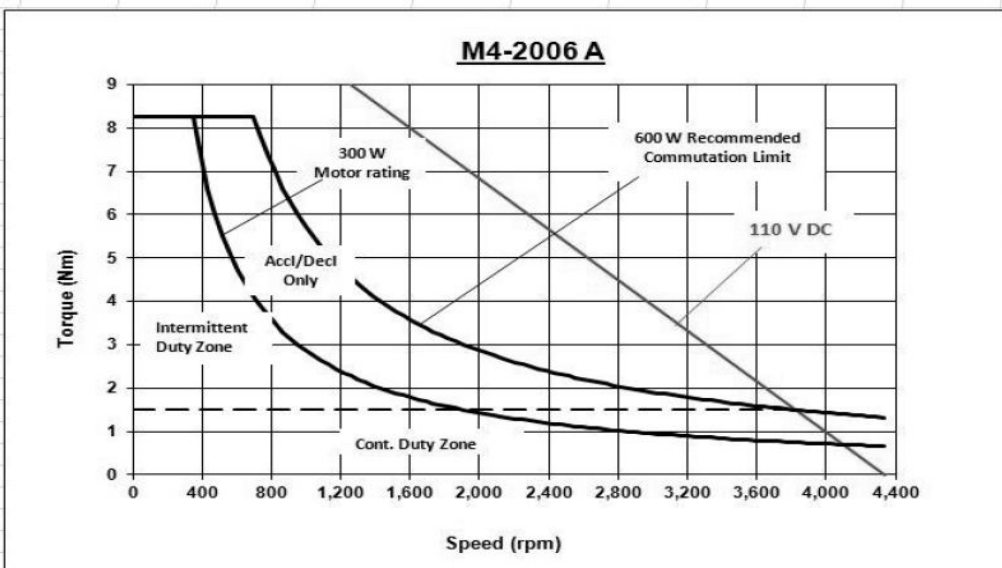
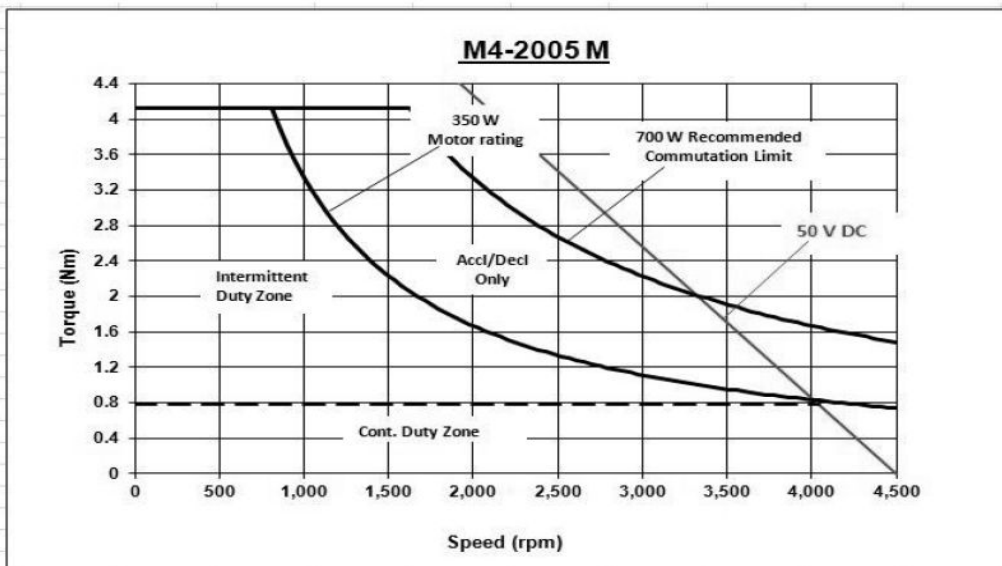
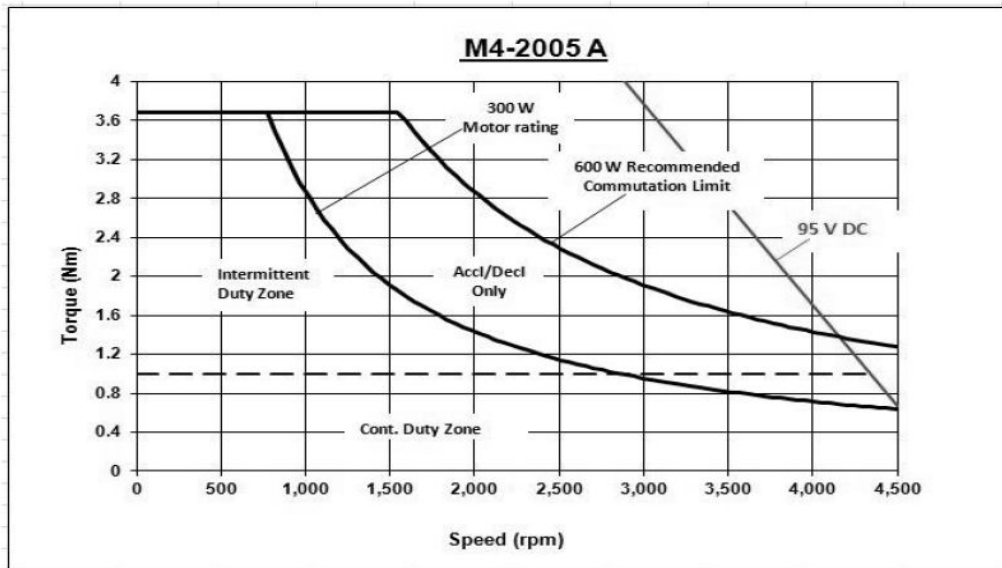
For encoders, encoder adapters, rear shaft, shaft seals etc please contact factory

Motor		M4-2004			M4-2005			M4-2006			
Winding		V	S	B	A	M	A	T	P	N	
replaces :-		(MT22D2-19)	(MT22D2-10)	(MT22D2-5)	(MT22G2-19)	(MT22G2-10)	(MT22R2-24)	(MT22R2-19)	(MT22R2-12)	(MT22R2-10)	
Power, P (W)	(Brush cont. Limit)	200	200	250	300	350	300	400	400	500	
Max Speed, Nmax (rpm)		5,000	4,800	4,800	4,800	4,500	4,400	4,800	4,800	5,000	
Cont. Torque Mo (Nm)		0.85	0.72	0.5	1	0.78	1.5	1.2	1.2	1.0	
Current @ Cont. Torque, Io (A)		5.1	8	11	5.7	8	6.5	7	10.5	11	
Peak Torque, Mmax (Nm)		3.1	1.9	1.9	3.6	4.0	8.2	7.2	4.6	3.7	
Current @ Peak Torque, Ip (A)		18	20	40	20	40	35	40	40	40	
Max Terminal Voltage, VT (V)		95	50	25	95	50	110	95	60	75	
Back EMF Const, Ke (V/krpm)		18.7	10.4	5.2	19.5	10.9	25.2	18.9	12.4	10	
Torque Const., KT (Nm/A)		0.177	0.098	0.049	0.184	0.103	0.238	0.179	0.117	0.095	
DC Resistance, R (Ω)		2.2	0.7	0.17	1.1	0.42	1.3	0.81	0.35	0.24	
Inductance, L (mH)		2.4	0.72	0.18	1.35	0.47	1.6	0.95	0.45	0.31	
Weight, M (kg)		2.3			2.9		3.4				
Inertia, Jm (kgm ²)		1.6x10 ⁻⁴			2.2x10 ⁻⁴		2.8x10 ⁻⁴				
Static Friction, TF (Nm)		0.04			0.045		0.05				
Viscous Damping, F1 (Nm/krpm)		0.01			0.015		0.02				
Tachogenerator Option											
Tachogenerator Model		TGF 1568			TGF 1568		TGF 1568				
Voltage, KG (V/krpm)		7.0 / 9.5 / 14.0			7.0 / 9.5 / 14.0		7.0 / 9.5 / 14.0				
Ripple (pk-pk/avg)		3%			3%		3%				
Inertia, JT (kgm ²)		0.14x10 ⁻⁴			0.14x10 ⁻⁴		0.14x10 ⁻⁴				
Weight, MT (kg)		0.6			0.6		0.6				
Encoder Option- Flexmount Encoder with internal bearing											
Encoder Type		Incremental (A quad B with index Z & complements)									
Power Supply		5V DC ±5%, 200mA max									
Output		Line Driver, 20mA max source/sink				1024 / 2048 / 4096					
Resolution (ppr)		1024 / 2048 / 4096				1024 / 2048 / 4096		1024 / 2048 / 4096			
Frequency Response		200 kHz max									
Encoder Option- Single Ended Modular Encoder											
Encoder Type		Incremental (A quad B with index Z)									
Power Supply		5V, 85mA max									
Output		TTL Squarewave Outputs									
Resolution (ppr)		512 / 900/ 1024				512 / 900/ 1024		512 / 900/ 1024			
Frequency Response		100 kHz max									
Encoder Option- Differential Modular Encoder											
Encoder Type		Incremental (A quad B with index Z & complements)									
Power Supply		5V, 85mA max									
Output		Internal Line Driver									
Resolution (ppr)		512 / 900/ 1024				512 / 900/ 1024		512 / 900/ 1024			
Frequency Response		100 kHz max									
Brake Option											
Brake Open Voltage (Volts D.C.)		24									
Power (Watts)		10									
Brake Static Torque (Nm)		2.0									
Weight (brake + housing) Kg		0.8									

Performance Curves



Performance Curves



Performance Curves

