

Selecting a Glentek Servo Motor to Replace a Stepper Motor

This section provides the specifications of various stepper motors so they can be compared to equivalent servo motors. This should help in clearing up some of the confusion involved in choosing a servo motor to replace a stepper.

Both Servo and Stepper motors have peak and continuous torque ratings. You will notice that the peak and continuous torque ratings are generally the same with the stepper motor. Whereas, in a servo motor, the peak torque rating is generally two or three times higher than the continuous torque rating.

To select a servo motor, the peak torque must be equal to or greater than the peak torque rating of the step motor. Since the horse power to weight ratio of a stepper motor is similar to that of a servo motor, you should start out by selecting a servo motor approximately the same weight as the stepper motor.

As a final system test, after selecting the Glentek servo motor replacement for your stepper motor, Glentek strongly recommends you to install the servo motor and exercise your machine at maximum axis duty cycle to make sure that the servo motor runs without over heating and the following error remains within desired specification.

Frame Size	Stepper Motor		Glentek Servo Motor				
	Torque (in-oz)	Weight (lbs)	Model Number	Peak Torque (in-oz)	Cont. Torque (in-oz)	Weight (lbs)	Overall Length (inches)
NEMA 23	185	1.5	GMBN2310	216	72 @2.7 Amps	2.3	4.59
NEMA 23	495	3.1	GMBN2320	588	168 @4.7 Amps	3.8	6.12
NEMA 34	247	3.2	GMBN3405	297	99 @1.8 Amps	4.2	4.20
NEMA 34	465	3.7	GMBN3410	595	198 @3.4 Amps	5.7	5.26
NEMA 34	640	5.3	GMBN3420	850	298 @7.5 Amps	9.0	6.89
NEMA 34	1160	8.8	GMBN3430	1188	396 @6.0 Amps	12.0	7.88
NEMA 42	1869	16.53	GMBN4230	1274	424 @7.9 Amps	15.0	6.42
NEMA 42	2830	19.8	GMBN4260	2547	848 @15.8 Amps	21.0	8.78

in-lb = in-oz x 0.0625

N-m = in-oz x 0.007