

SUB-FHP MOTORS

General Specifications:

Precision subfractional horsepower DC permanent magnet motors designed for use with full wave non-filtered SCR controls for adjustable speed applications requiring dynamic braking and constant torque throughout the speed range.



31/34 Frame

Mechanical Features:

Compact space saving designs. Ball bearings. Long-life brushes for demanding applications. Brushes easily replaced without disassembly of the motor. Standard mounted conduit box on 31 and 34 frame models simplifies connections.



25 Frame

Electrical Features:

Continuous duty with full wave un-filtered rectified SCR (thyristor) controls. Linear speed torque characteristics throughout the speed range. High starting torques. Reversible rotation from a simple two lead connection.

SUB-FHP IP55 WASHGUARD MOTORS

General Specifications:

Precision subfractional horsepower DC permanent magnet motors. Designed for use with full wave non-filtered SCR controls or battery supplied low voltage for adjustable speed applications requiring constant torque throughout the speed range.



Mechanical Features:

Corrosion resistant 303 stainless steel. Shaft with spring-loaded contact shaft seal protect the double sealed ball bearings and motor interior.

Frame, endshields, armature and interior components protected by enamel and polyester compounds for resistance to moisture, acids, alkalies and oil.

Cast conduit box with threaded conduit holes and Nitrile gaskets keep water out. The conduit box cover is made from 304 stainless steel.

For any condensation that may accumulate inside the motor a one-way stainless steel vapor vent is provided. All hardware is stainless steel. Motor painted with white epoxy for superior corrosion resistance and protection. Gaskets seal conduit box to motor frame and conduit box cover. Thru-bolt heads and nuts sealed with fiber washers. O-rings under each threaded brush cover.

Application Notes:

LEESON WASHGUARD motors are designed for extended life in applications requiring regular washdown or otherwise wet environments. Washguard motors retard the entrance of water. Extra protection for the motor's interior prevents rust and corrosion build-up and releases trapped moisture to insure a longer life than possible with a standard motor.

Dimensions:

Found on page 317.

SCR RATED (90 & 180 V) • TENV • SQUARE FLANGE OR C FACE

HP	Full Load RPM	Frame	Catalog Number	Disc. Sym.	App. Wgt. (lbs.)	Arm. Volts DC	Control Volts AC Input	F.L. Amps DC
1/25	3500	25AS	M1110014 [ⓑ]	S	3	90	115	0.5
	1750	25CS	M1110003 [ⓑ]	S	3	90	115	0.5
1/15	3500	25CS	M1110015	S	5	90	115	0.7
	1750	31BS	M1120013 [ⓑ]	S	5	90	115	0.8
	1750	31BS	M1120039	S	7	180	230	0.4
1/10	3500	31BS	M1120060	S	5	90	115	1.3
	1750	31CS	M1120014	S	7	90	115	1.1
	1750	31CS	M1120041	S	7	180	230	0.6
1/8	3500	31CS	M1120059	S	6	90	115	1.5
	1750	31ES	M1120027	S	7	90	115	1.3
	1750	31ES	M1120045	S	7	180	230	0.7
	1750	34D42CZ	M1130053	S	8	90	115	1.4
	1750	34D42CZ	M1130118	S	7	180	230	0.7
	1750	34E56C	M1130119	S	11	180	230	0.9
1/6	3500	31ES	M1120058	S	9	90	115	1.9
	1750	31GS	M1120042	S	9	90	115	1.8
	1750	31GS	M1120043	S	11	180	230	0.9
	1750	34E56C	M1130054	S	11	90	115	1.7
	1750	34E56C	M1130119	S	11	180	230	0.9
1/4	3500	31GS	M1120062	S	9	90	115	2.6
	1750	34G56C	M1130055**	S	13	90	115	2.7
	1750	34G56C	M1130120**	S	13	180	230	1.3

[ⓑ] 25 frame motors have provisions for an optional conduit box catalog number M1760000, see page 107.

** These motors are totally enclosed fan cooled.

SCR RATED (90 V) • TENV • SQUARE FLANGE OR C FACE

HP	Full Load RPM	Frame	Catalog Number	Disc. Sym.	Arm. Volts DC	Control Volts AC Input	F.L. Amps DC
1/8	1750	31S	M1120181	S	90	115	1.5
1/6	1750	31S	M1120183	S	90	115	1.9
1/4	2500	32F42CZ	M1120185	S	90	115	1.9

LOW VOLTAGE (12 V) • TENV SQUARE FLANGE OR C FACE

HP	Full Load RPM	Frame	Catalog Number	Disc. Sym.	Arm. Volts DC	F.L. Amps DC
1/8	1750	31S	M1120182	S	12	10.5
1/6	1750	31S	M1120184	S	12	14.5
1/4	2500	32F42CZ	M1120186	S	12	20

SUB-FHP LOW VOLTAGE MOTORS

General Specifications:

Precision sub-fractional horsepower low voltage direct current permanent magnet motors designed for battery or solar powered operations, or generator supplied low voltage DC.



Mechanical Features:

Compact space saving designs. Standard conduit box simplifies connections. Ball bearings. Long-life brushes for demanding applications. Brushes easily replaced without disassembly of motor.

Electrical Features:

High starting torques for heavy load applications. Linear speed/torque characteristics over entire speed range. Capable of dynamic braking for faster stops. Reversible rotation from a simple two lead connection. Class F insulated with high temperature welded commutators.

LOW VOLTAGE (12 & 24V) • TENV • SQUARE FLANGE

HP▲	Full Load RPM	Frame	Catalog Number	Disc. Sym.	App. Wgt. (lbs.)	Input Volts DC	F.L. Amps DC
1/20	1750	25CS	M1110006*	S	3	12	4.4
1/10	4200					24	4.4
1/14	1750	31AS	M1120040	S	4	12	7.7
1/7	4200					24	7.7
1/7	1750	31ES	M1120044	S	9	12	13.0
1/4	3500					24	13.0
1/6	1800	31GS	M1120046	S	8	12	14.0
1/3	3900					24	14.0

* 25 frame motors have provision for an optional conduit box catalog number M1760000, see page 107.

▲ These motors may be operated at 12, 24V, or at intermediate voltages between 12 and 24V, within horsepower ranges noted.

COMMERCIAL DUTY METRIC (IEC) FRAME MOTORS

Specially designed low voltage DC motors for use in OEM applications. Combination of features and low cost makes these motors excellent for many uses. All feature IP44 (TENV) enclosure and dedicated B14 face mount. Rated S1 for continuous duty, and zinc plated steel frame construction.



12, 24V & 90 VOLT • TENV B14 FACE MOUNT

HP	Full Load RPM	IEC Frame▲	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	F.L. Amps DC
1/15	3000	56	980.159	2.3	12	6.4
	3000	56	980.143	2.3	24	3.2
	3000	56	980.549	2.3	90	.75
1/8	3000	56	970.600	3.0	12	12.0
	3000	56	970.601	3.0	24	5.3
	3000	56	970.576	3.0	90	1.2
1/6	3000	56	970.620	3.5	12	13.1
	3000	56	970.621	3.5	24	6.8
	3000	56	970.577	3.5	90	1.6

▲ Use "S" Discount Symbol.

For dimensions, see drawings on page 317.