



DC MOTORS

SUB-FHP • SCR RATED

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.

Electrical Features:

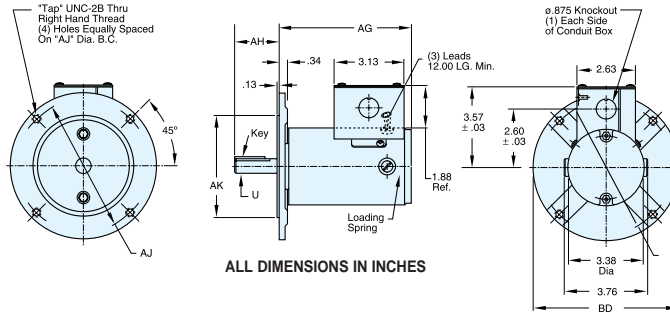
Continuous duty with full wave un-filtered rectified SCR (thyristor) controls. Linear speed torque characteristics throughout the speed range. High starting torques. Reversible rotation from a simple two lead connection.

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

HP	Full Load RPM	Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	Control Volts AC Input	F.L. Amps DC
1/6	1750	34E56C	M1130054	11	90	115	1.7
	1750	34E56C	M1130119	11	180	230	0.9
1/4	1750	34G56C	M1130055**	13	90	115	2.7
	1750	34G56C	M1130120**	13	180	230	1.3

** These motors are totally enclosed fan cooled.

34-FRAME, NEMA C FACE, LESS BASE



ALL DIMENSIONS IN INCHES

56C FACE MOUNT

Frame	AG	P*	U	AH	AH-BB	KEY	AJ	TAP	AK	BD
34E56C	6.87	3.38	.625	2.06	1.93	.19 SQ	5.875	3/8-16	4.50	6.50
34G56C	8.59	3.38	.625	2.06	1.93	.19 SQ	5.875	3/8-16	4.50	6.50

*For 1/4 HP 34 frame TEFC designs. Fan cover diameter is 3.88".



DC MOTORS

NEMA FRAME • C FACE WITH REMOVABLE BASE

NEMA FRAME MOTORS • SCR RATED

General Specifications:

High voltage permanent magnet DC motors are typically used with an SCR (thyristor) controller in applications requiring adjustable speed and constant torque throughout the speed range. They are also widely used in applications requiring dynamic braking or adjustable speed/reversing capabilities.



Mechanical Features:

Low profile space-saving design. Unique brush holder design provides easy access to brushes and integral constant pressure brush/spring assembly for servicing. Large over-sized brushes assure longer brush life. Heavy-duty, stamped steel, bolt-on base (removable). NEMA C face mounting at no additional cost. Rugged die cast aluminum endshields with cast iron bearing inserts. Permanently lubricated sealed ball bearings. May be converted NEMA 48 base and/or C face using modification kits noted below.

Electrical Features:

Input power of 115 or 230 volts rectified AC when used with an appropriate SCR control. Linear speed/torque characteristics over entire speed range. High starting torque for heavy load applications. Capable of dynamic braking for faster stops. Reversible rotation with simple two-lead connection. For further information on Direct Current Motors, request Bulletin 1600.

TEFC • SCR RATED 90 & 180 VOLTS NEMA 56C • C FACE WITH REMOVABLE BASE

HP	Full Load RPM	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	Control Volts AC Input	F.L. Amps DC	"C" Dim. (Inches)
1/4	1750	SS56C	098002	19	90	115	2.5	10.81
	1750	SS56C	098003	22	180	230	1.4	11.31
1/3	1750	SS56C	098004	23	90	115	3.5	11.31
	1750	SS56C	098005	23	180	230	1.7	11.31
1/2	1750	SS56C	098000	26	90	115	5.0	11.81
	1750	S56C	108014	29	90	115	5.0	12.81
	1750	SS56C	098008	25	180	230	2.5	11.81
	1750	S56C	108015	30	180	230	2.5	12.81
3/4	1750	SS56C	098032	36	90	115	7.6	13.81
	1750	S56C	108018	38	90	115	7.6	13.81
	1750	SS56C	098069	36	180	230	3.8	13.81
	1750	S56C	108019	35	180	230	3.8	13.81
1	1750	S56C	108022	47	90	115	10.0	16.31
	1750	S56C	108023	39	180	230	5.0	14.81
1 1/2	1750	S56C	108092	53	180	230	7.6	16.88
	1750	S56/145TC	108262	54	180	230	7.6	17.38
	1750	145TC	128000	70	180	230	7.5	18.34
2	1750	145TC	128010	83	180	230	9.5	19.34
	1750	182/145TC	128001	84	180	230	9.5	19.34
3	1750	182/145TC	108502	88	180	230	14.0	21.75

◀ NEMA 145TC face mounting with removable NEMA 182T rigid base.

■ NEMA 145TC frame shaft 7/8 x 2-1/4" and NEMA 56 removable base.

Σ If base is removed, do not reinstall bolts without using washers to compensate for thickness of base.

PWM RATED PM DC MOTORS

The DC motors listed above have been designed for use on unfiltered SCR (Thyristor) type rectified AC input. These motors may also be used with PWM (pulse width modulated) type DC adjustable speed drives at a higher HP rating. Contact LEESON for re-rating data.

NEMA FRAME LOW VOLTAGE MOTORS

General Specifications:

Low voltage permanent magnet DC motors are suitable for installations having battery or solar powered operations, or generator supplied low voltage DC.

Mechanical Features:

Unique brush holder design provides easy access to brushes and integral, constant pressure brush/spring assembly for servicing. Larger over-sized brushes assure longer brush life. Heavy-duty, stamped steel, bolt-on base (removable). NEMA C face mounting flange at no additional cost. High strength rolled steel frame. Rugged die cast aluminum endshields with steel bearing inserts. Permanently lubricated sealed ball bearings.



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 and simple two-lead connection. Convenient wiring access.

LOW VOLTAGE (12 & 24V) • TENV/TEFC NEMA C FACE WITH REMOVABLE BASE

HP	Full Load RPM	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	FL. Amps DC	"C" Dim. (Inches)
1/4	1800	S56C	108045♣	21	12	21.0	10.44
	1800	S56C	108046♣	24	12	27.0	11.44
1/3	1800	S56C	108050♣	22	24	13.5	10.94
	1800	S56C	108047♣	29	12	39.0	12.44
1/2	1800	S56C	108051♣	29	24	20.0	11.94
	1800	S56C	108048♦**	30	12	58.0	13.81
3/4	1800	S56C	108052**	30	24	29.0	12.81
	1800	S56C	108322♦**	39	12	80.0	13.81
1	1800	S56C	108053♦**	37	24	39.0	13.81

- ♣ Built-in conduit box located at 12:00.
- ♦ Studs at 12:00.
- Σ If base is removed, do not reinstall bolts without using washers to compensate for thickness of base.
- ** These motors are totally enclosed fan cooled.

METRIC (IEC) FRAME • LOW VOLTAGE (24V) • TEFC/TENV • MODULAR DESIGN

kW/HP	Full Load RPM	IEC Frame	Catalog Number	FL. Amps DC	C Dim. (inches)
0.06/1/12	1800	56	M1110026^●	3.4	6.34
0.18/1/4	1800	63	M1130207*	10.0	8.75
	1800	63	M1130297^	10.0	8.75
	1800	71	098065	11.0	10.77
0.37/1/2	1800	71	098067	20.0	12.27
0.75/1	1800	80	108455♦	39.0	14.64

IMPORTANT: IEC 71 and 80 frame motors in this chart are round body and require either B14 face or B5 flange kits shown below.

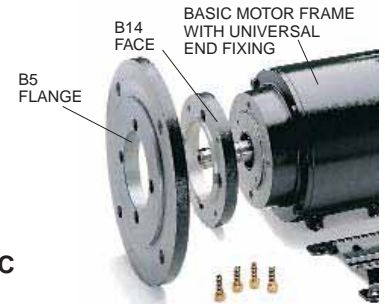
- * Dedicated B5 Flange
- ^ Dedicated B14 Face
- These motors are totally enclosed, non-ventilated. Others are TEFC/IC41 cooling – external cooling fan on motor shaft.

FLANGE AND FACE KITS FOR DC METRIC (IEC) FRAME MOTORS

An advantage of LEESON'S modular design concept is the possible use of a different diameter B5 flange or B14 face than is normally assigned to a motor by IEC dimensional standards. This flexibility makes it possible to accommodate a wide variety of gear reducers, pumps and similar close coupled motor mounted loads.



DC MOTORS METRIC (IEC) FRAME • SCR RATED



Round body DC Metric IEC motors will accept any of the flange or face kits listed.

Motors & Drives

B5 FLANGE KITS (For DC Metric Motors Only)

IEC Frame	Catalog Number	App. Wgt. (lbs.)	BD Flange Dia. (mm)	AK Register (mm)	BF Hole (mm)	AJ Bolt Circle (mm)
71	175106	2	160	110	9	130
80	175108	3	200	130	12	165
90S/90L	175108	3	200	130	12	165
100L/112M	175137	5	250	180	15	215

B14 FACE KITS (For DC Metric Motors Only)

IEC Frame	Catalog Number	App. Wgt. (lbs.)	BD Flange Dia. (mm)	AK Register (mm)	BF Tap (mm)	AJ Bolt Circle (mm)
71	175107	1	105	70	6	85
80	175109	1	120	80	6	100
90S/90L	175129	1	140	95	6	115
100L/112M	175130	2	160	110	6	130