

# PRODUCT FOCUS



## C-Face Motors/Brakemotors

The low-inertia rotor design of the C-Face squirrel-cage AC motor and brakemotor by SEW-EURODRIVE provides outstanding system stability, tight control, and high-cycling capacity not typically found with most NEMA frame motors. In many cases, its high performance allows it to replace a servo motor.

With a patented dual-coil design and specialized rectifiers, its high performance brake delivers extremely fast stopping and starting with minimal drift. Being electrically-released, it automatically engages during a power failure. Being integrally attached to the rotor shaft, it eliminates the headaches typically found on C-Face brakes. Quiet brake-engagement along with low-noise motor operation makes the SEW brakemotor perfectly designed for theater applications.

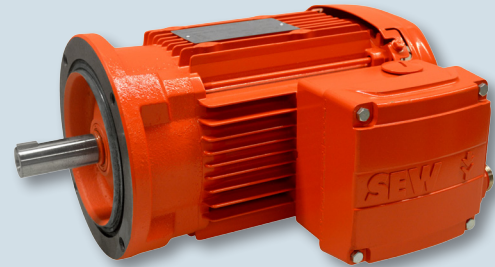
Every motor frame is available with multiple brake sizes to optimize cost - higher torque for a stopping brake or lower torque for a VFD holding brake. Plus, a large variety of connector options are available, especially for the automotive industry.

For washdown applications, an encapsulated stator and OS4 surface protection are available, along with a complete IO1 package specially designed for the food industry.

The SEW motor has it all - C-face interchangeability (NEMA), high motor performance (IEC), and industry-specific options.

### Standard Features

- 0.25 to 20 HP
- NEMA standard C-Face flange (size 56C - 256TC) - 4 pole
- Efficiency per NEMA MG1 Table 12-12, IEC 60034-30-1 and CSA 390-10
- Inverter duty
- Speed range: 10-60Hz (1:6), constant torque w/standard fan, 1.0 SF, 4-pole, 40°C max (230V@60Hz or 460V@60Hz)
- Speed range: 10-120Hz (1:12), constant torque w/standard fan, 1.0 SF, 4-pole, 40°C max (230V@60Hz, 460V@120Hz)\*
- Continuous duty, TEFC, 1.15 SF @ constant speed
- Connection terminals and stainless steel nameplate
- Double sealed or shielded bearings lubed for life
- UR, CSA Energy Efficient verified, CE, NEMA Premium



### Insulation System

- Phase insulators - prevents phase-to-phase shorts
- Slot liners and top stick - prevents winding-to-ground shorts
- Wire sleeves - protect wires entering conduit box
- Voltage spike resistant per NEMA MG1-31.4.4.2, which states 1600 V peak at .1µs or larger rise time

### Optional Features

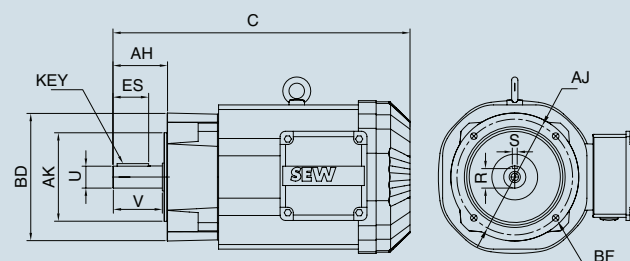
- 50Hz, 60Hz, or 50/60Hz global motor
- High cycling, electrically-released brake
- Two or more brake sizes per motor
- Backstop
- Encoder - built-in or externally mounted
- IP55, IP65, IP56, and IP66 ingress protection
- OS2, OS4 external protection (see back)
- Encapsulated stator (<10 HP) without brake
- IO1 Food Industry Option Pkg (<10 HP) + 2 year warranty
- Forced cooling fan for low frequency operation
- Thermostats, thermistors, KTY temperature sensors
- Low noise fan cover
- MOVIMOT® integrated frequency inverter (0.5 - 5.0 HP)
- Plug connectors for quick disconnect
- Cast iron high-inertia fan or aluminum fan
- Class H insulation (not available with UR rating)
- Hazardous Location (HazLOC-NA®) certified per CSA 45341 for Class I Div 2 Grps A-D, Class II Div 2 Grps F&G with or without inverter duty.

\*When used with appropriately-sized VFD. Consider thermal limitations of an attached gear unit for motor speeds above 60Hz.



Nomenclature	
DRS..	IE1 (<1 HP)
DRN..	IE3 (≥1 HP)
EDRN..	IE3 HazLoc-NA® for hazardous duty
/AC../AS../AM../AD../AB../IS	Connectors
/A_7Y or /A_7W	SSI or RS-485 absolute encoder
/AL	Aluminum fan (cold environment)
/BE	Electrically-released brake
/C	Canopy on fan guard
/DH	Condensation drain hole
/E_7C	HTL encoder
/E_7R	TTL (RS-422) encoder
/E_7S	Sin/cos encoder
/FC	C-Face flange
HF	Brake Screw Release
HR	Brake Hand Release
/LF	Air filter
/LN	Low-noise fan guard
/MM..D	MOVIMOT® inverter (@ conduit box)
/RS	Backstop
/TF	Thermistor (PTC) thermal protection
/TH	Thermostat thermal protection
/U	Non-ventilated (no fan)
/V	Separately wired cooling fan
/Z	High inertia flywheel fan (cast iron)

OS Surface Protection		
OSG	Dip Primer Acrylic Primer	Not a finish coat. User should apply additional coating
STD	Dip Primer Acrylic Top Coat	Indoors - clean atmosphere, heated buildings Ex: automobile industry, shops, airports
OS2	Dip Primer Acrylic Primer Acrylic Top Coat +UV	Outdoors - low pollution, rain Indoors - unheated with humidity, condensation, splashing water Ex: water treatment facility, amusement parks
OS4	Dip Primer Epoxy Primer Polyurethane Top Coat Polyurethane Clear Coat +UV	Outdoors - high pollution or salinity Indoors - pressure spray, chemical wash, brine Ex: breweries, food processing, chemical plants, dairies, outdoor coastal areas



All dimension are shown in inches

NEMA Frame	Motor	HP (4-pole)	AJ	BD	AK -0.003	U -0.0005	V	C	AH	BF thread	S	R	Key	ES*
56C	DRS71S	0.25, 0.33 0.50	5-7/8	6-1/2	4.50	5/8	1.875	9.65	2-1/8	3/8-16	3/16	0.517	3/16x3/16x9/16	1.53
	DRS71M	0.75	5-7/8	6-1/2	4.50	5/8	1.875	10.64	2-1/8	3/8-16	3/16	0.517	3/16x3/16x9/16	1.53
	DRN80M	1.0	5-7/8	6-1/2	4.50	5/8	1.875	13.48	2-1/8	3/8-16	3/16	0.517	3/16x3/16x9/16	1.50
143TC	DRN80M	1.0	5-7/8	6-1/2	4.50	7/8	2.25	13.55	2-1/8	3/8-16	3/16	0.771	3/16x3/16x1-1/2	1.41
145TC	DRN90S	1.5	5-7/8	6-1/2	4.50	7/8	2.25	13.31	2-1/8	3/8-16	3/16	0.771	3/16x3/16x2	1.41
	DRN90L	2.0	5-7/8	6-1/2	4.50	7/8	2.25	14.57	2-1/8	3/8-16	3/16	0.771	3/16x3/16x2	1.41
182TC	DRN100L	3.0	7-1/4	9	8.50	1-1/8	2.75	16.91	2-5/8	1/2-13	1/4	0.986	1/4x1/4x2-1/2	1.78
184TC	DRN100L	5.0	7-1/4	9	8.50	1-1/8	2.75	16.91	2-5/8	1/2-13	1/4	0.986	1/4x1/4x2-1/2	1.78
213TC	DRN132S	7.5	7-1/4	9	8.50	1-3/8	3.375	19.99	3-1/8	1/2-13	5/16	1.201	5/16x5/16x3-1/8	2.41
215TC	DRN132M	10	7-1/4	9	8.50	1-3/8	3.375	20.71	3-1/8	1/2-13	5/16	1.201	5/16x5/16x3-1/8	2.41
254TC	DRN160M	15	7-1/4	10	8.50	1-5/8	4.0	24.94	3-3/4	1/2-13	3/8	1.416	3/8x3/8x3-3/4	2.91
256TC	DRN160L	20	7-1/4	10	8.50	1-5/8	4.0	24.94	3-3/4	1/2-13	3/8	1.416	3/8x3/8x3-3/4	2.91

\*Keyway extends to the end of shaft.