

Technical Note

EISA Law – SEW Compliance

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. Its effective date is December 19, 2010. Therefore, all units shipped from SEW after December 19, 2010 must comply. This law increases the minimum efficiency requirements of electric motors, as follows.

Premium (IE3)

General purpose motors (subtype I) with a power rating of 1-200 HP shall have a minimum nominal full-load efficiency as defined in NEMA MG 1-2006 Table 12-12. These efficiencies are termed as NEMA 'Premium' or 'IE3' levels. SEW's DRP motors meet or exceed IE3 specifications.

Motors that contain all of the following features are classified as General Purpose Subtype I and must meet IE3 efficiencies.

- Foot mounted
- 230v/460v/60hz
- 2, 4 or 6 pole
- TEFC
- Continuous Duty (S1)
- NEMA Design A or B
- NEMA T-Frame (or IEC equivalent)

High Efficient (IE2)

General purpose motors (subtype II) shall have a minimum nominal full-load efficiency as defined in NEMA MG 1-2006 Table 12-11. These efficiencies are termed as NEMA 'High Efficiency' or 'IE2' levels. IE2 levels are lower than IE3. SEW's DRE and DVE motors meet or exceed IE2 specifications.

Motors that contain at least one of the following features are classified as General Purpose Subtype II and must meet IE2 efficiencies.

- C-face without feet
- IEC flange without feet
- NEMA Design C
- 8-pole
- 201 – 500 hp

Technical Note

Exemptions

Not every motor falls under EISA. Those that contain certain features or characteristics that are essential for a specific application are called “definite purpose” motors and are exempt from EISA. Because of their special design, they do not have to meet the efficiency standards of either IE2 or IE3.

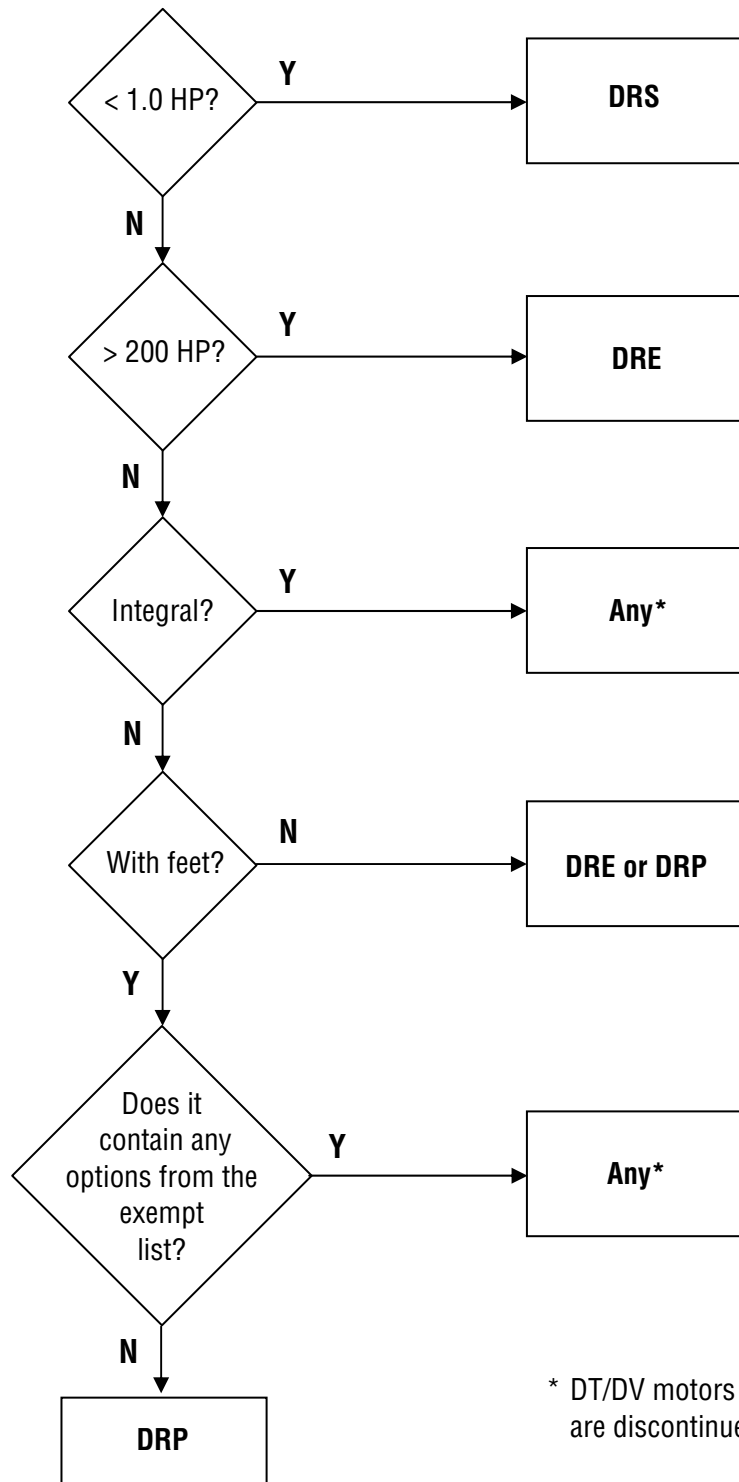
If an SEW motor contains any one of the following features, it is exempt even if it contains all of the features of IE3 or one of the features of IE2.

- < 1.0 hp
- Integral gearmotor (pinion gear on motor shaft)
- Movimot inverter
- Intermittent Duty (Operating Type <> S1)
- 50 Hz
- DAS motor (aseptic)
- DRL motor (asynchronous servo for high dynamics)
- DRM motor (torque motor)
- CM Servo Motors
- Pinion motor (usually for gearmotor replacement)
- MoviGear
- Encapsulated stator / IOP motor
- Backstop (RS option)
- TENV
- TEBC (ex: V or VS option that contains continuous ventilator fan)
- Brake
- Multispeed (ex: 8/4, 4/2 pole)
- Design D (high slip)

Inverter duty motors that perform as IE3 or IE2 when operating across-the-line are not exempt. Although these motors may contain “inverter duty” on their nameplate and are able to operate with an inverter, they must still comply.

Technical Note

The following flow chart determines which motor to use for your application.



* DT/DV motors may be used, but are discontinued.

Technical Note

Frequently Asked Questions (FAQ)

- 1. A motor containing an encoder operates with an SEW inverter. Is the motor exempt from EISA?**

No. The motor will operate the same across the line with or without the encoder so it must comply.

- 2. If an SEW motor operates in CFC mode with an SEW inverter, is it exempt?**

No. The motor still operates as stated on the nameplate so it must comply.

- 3. Is a DFT90L4 motor with C-face and encapsulated stator still available?**

Yes. Even though the motor has a C-face, it does not need to meet IE2 since it contains an encapsulated stator that is listed under exemptions.

- 4. Is a DRE100L4/FI still available?**

No. "/FI" indicates feet. Since the motor has feet, it must comply with IE3. DRE does not meet IE3. Therefore, you must use DRP112M4/FI.

- 5. Is a DRE100L4/FC still available?**

Yes. "/FC" indicates C-face. Since the motor does not have feet, it does not have to comply with IE3. However, it does have C-face so it must comply with IE2. DRE meets IE2.