

**BALDOR® • RELIANCE®**

# **The Energy Independence and Security Act of 2007**

*The law's requirements for 1 to 500  
horsepower AC motors  
Effective December 19, 2010*

**BALDOR®**



January 23, 2009

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To Our Customers,

The Energy Independence and Security Act ("EISA"), which was signed into law in 2007, becomes effective on December 19, 2010. This law expands the mandated energy efficiency standards from the Energy Policy Act of 1992 (EPAct) for a wider range industrial motors which are manufactured for sale in the United States.

Baldor has been and continues to work on our plan to meet the requirements of EISA and to be ready for this Act well in advance of the effective date.

Our plan is to make compliance with EISA as simple and easy to understand for our customers in every way possible. First, we are not introducing a new line of motors. Our existing Super-E<sup>®</sup> premium efficient motors already meet or exceed the NEMA Premium<sup>®</sup> efficiency level requirements mandated by the new Act. We will expand our Super-E line to include even more ratings than today. We are also increasing the efficiencies of our existing Standard-E<sup>®</sup> motor line to the levels required by EISA. Our customers recognize these motors as providing the best performance of any industrial motors available. Some custom-built motors not previously covered by EPAct will also need to have their efficiencies raised.

We will continue to provide high torques with our improved standard motor line, which we will continue to identify as Baldor's Standard-E product line. Plus, these improved motors will cost less to operate, run cooler and last longer.

Baldor's Standard-E motors will be true general-purpose motors designed to comply with Subtype II requirements for 1-200 hp and 201-500 hp requirements. You can have the confidence that their performance will meet the demanding needs of a wide range of industrial applications. And finally, you can order them using the same catalog numbers you know today. A line of Super-E motors with higher efficiencies will continue to be available for use by customers who have the highest efficiencies available for the lowest cost of operation and will comply with EISA requirements for 1-200 hp Subtype I motors and exceed requirements for Subtype II.

On the following pages we provide you additional information on the requirements of EISA.

A handwritten signature in black ink, appearing to read "J. A. McFarland". The signature is fluid and cursive, written over a white background.

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**BALDOR • RELIANCE**

"To be the best as determined by our customers"

## **January 23, 2009 Baldor Upgrades Efficiencies Of Motor Line**

### **Fourth Major Round of Improvements in Last 30 Years**

Baldor Electric Company (NYSE:BEZ) markets, designs and manufactures industrial electric motors, mechanical power transmission products, drives and generators announces plans now under way to upgrade their Baldor•Reliance motor line to meet the energy efficiency requirements of the Energy Independence and Security Act of 2007 (“EISA”). Under EISA, all general-purpose motors, from 1 to 200 horsepower, manufactured for use in the United States after December 19, 2010, must meet certain efficiency levels.

In making this announcement, Ron Tucker, President of Baldor, said, “We have thousands of customers who buy our industrial motors every day. They rely on the performance and availability of these motors. We believe improving these trusted motors, rather than creating a separate new line of motors, is the best for our customers as we, together, address the EISA requirements.”

John McFarland, Baldor’s Chairman and CEO, commented, “Baldor’s commitment to providing customers with energy efficient motors goes back to our founding in the 1920s. Today’s announcement is our third major energy efficiency improvement in recent years.”

Baldor is a leading manufacturer of industrial motors and drives and since the “energy crunch” of the 1970s, Baldor has been a leader in improving motor efficiencies. In 1976, Baldor was the first motor manufacturer to include a motor’s efficiency rating on the nameplate of every motor built. In that same year, the Federal Energy Administration (predecessor of the Department of Energy) recognized Baldor with their Merit Award.

In the 1980s, Baldor introduced their Super-E® line of premium efficiency motors. The Super-E® line offers customers some of the highest energy efficiency levels available in motors. This broad line includes general-purpose TEFC and ODP ratings, as well as, explosion-proof, chemical processing, C-face, close-coupled pump, and other special designs.

With the purchase of Reliance Electric in 2007, Baldor now offers the widest range of energy efficiency industrial motors through 15,000 HP. The combined Baldor•Reliance product range adds to Baldor’s leadership position for energy efficient motors.

## **Baldor's Commitment**

### **Baldor's Commitment to Energy Efficiency**

Baldor has long championed the importance of energy-efficient electric motors. The founders of the Company shared this commitment in their 1924 catalog:

“A motor becomes useful only when energy is applied and for that reason we encourage the use of and do build motors that require a minimum of energy. With this fact before us, we have designed our motors to have high efficiencies and power factor.”

In 1976, Baldor was the first motor manufacturer to include a motor's efficiency rating on the nameplate of every integral A.C. motor we built. In that same year, the Federal Energy Administration (the predecessor to the Department of Energy) recognized Baldor with their Merit Award. This was the first ever awarded to an electric motor manufacturer, and was in recognition of Baldor's leadership in designing and promoting high-efficiency motors. At that time, many efficiency improvements were made to Baldor's standard motor line.

In the 1980's, Baldor was one of the first electric motor manufacturers to design and sell a complete line of premium-efficient motors. Baldor's line of Super-E® efficient motors is among the broadest in the industry today available from 1 to 500 horsepower. This broad line includes general-purpose TEFC and ODP ratings, as well as, definite-purpose, explosion-proof, chemical processing, close-coupled pump, C-face and other special designs.

The 2007 acquisition of Reliance Electric and Dodge from Rockwell Automation adds to the variety of NEMA Premium® motors and extends available horsepower to 15,000. High efficiency Dodge Quantis Gold reducers require less power to produce the same output torque and save energy.

Baldor has aggressively promoted the value of energy-efficient motors to customers and end-users through advertising, literature, software programs and training classes. Thousands of copies of our BEST® Baldor Energy Savings Tool program have been distributed over the years. It is one of the programs available on Baldor's website [www.Baldor.com](http://www.Baldor.com).

## **An Overview of the Energy Independence & Security Act of 2007 (EISA)**

### **What is EISA?**

The Energy Independence and Security Act of 2007 (EISA) was passed by Congress and signed into law on December 19, 2007. EISA builds upon the previous EPCA (Energy Policy Act of 1992) updating mandated efficiency standards for general purpose, three-phase AC industrial motors from 1 to 500 horsepower which are manufactured for sale in the United States. The U.S. Department of Energy (DOE) is responsible for establishing the rules to implement and enforce EPCA.

### **When is the effective date for EISA?**

EISA applies to motors manufactured after Dec. 19, 2010. The Canadian version begins Jan. 1, 2011.

### **What are the efficiency standards under EISA?**

For each general-purpose rating (Subtype I) from 1 to 200 horsepower that was previously covered by EPCA, the law specifies a nominal full-load efficiency level based on NEMA Premium® efficiency as shown in NEMA MG 1, Table 12-12. All 230 or 460 volt (and 575 volts for Canada) motors currently under EPCA, manufactured after December 19, 2010, must meet or exceed this efficiency level.

General Purpose Electric Motors (Subtype II) not previously covered by EPCA will be required to comply with Energy Efficient efficiencies as defined by NEMA MG 1, Table 12-11. The term `general purpose electric motor (subtype II) means motors incorporating the design elements of a general purpose electric motor (subtype I) that are configured as 1 of the following:

- U-Frame motor.
- Design C motor.
- Close-coupled pump motor.
- Footless motor.
- Vertical solid shaft normal thrust motor (as tested in a horizontal configuration).
- An 8-pole motor (900 rpm).
- A poly-phase motor with voltage of not more than 600 volts (other than 230 or 460 volts).
- Fire pump motors 1-200 Hp.
- 201 – 500 horsepower motors not previously covered by EPCA will be required to comply with Energy Efficient efficiencies as defined by NEMA MG 1, Table 12-11.

### **Are fractional HP and 48 or 56 frame motors included in EISA?**

Only 1 – 500 HP motors with 3-digit frame NEMA numbers (143T-up) included in EISA. This also includes equivalent IEC frame designations (IEC 90 frame-up excluding 100 frame).

### **How do the efficiency levels of EISA compare to the efficiencies of Baldor's standard motors and Super-E® motors?**

Generally, the mandated efficiency levels of EISA for Subtype I motors fall at the present efficiencies of Baldor's Super-E® NEMA Premium® efficient motors for general-purpose 1 – 200 HP motors.

The Subtype II 1 – 200 HP and general purpose 201 – 500 HP motors may require Baldor to raise efficiency of some designs to comply with MG 1, Table 12-11, however many Standard-E® designs presently comply. Super-E® motors will meet or exceed the EISA requirements for either of these motor types.

**What Motors are not covered by EISA?**

- Design D with high slip
- Adjustable speed with optimized windings
- Customized OEM mounting
- Intermittent duty
- Integral with gearing or brake where motor cannot be used separately
- Submersible motors
- Single Phase motors
- DC motors
- Two-digit frames (48-56)
- Multi-speed motors
- Medium voltage motors
- TENV and TEAO enclosures

**Does EISA apply to every three-phase electric motor from 1 to 500 horsepower?**

Not every configuration, but almost all motors except some special OEM designs with proprietary mounting configurations. The following motor configurations are exempt from EISA compliance:

- Integral garmotors
- Integral brake motors
- Inverter duty motors with windings optimized for ASD use that cannot be line-started
- Design D high-slip motors

**How about motors included in OEM equipment that require listing or certification?**

EISA will require that any custom motors that fall within the guidelines of the act will comply with the efficiency levels for that type of motor. Baldor urges each OEM to prepare for the changes well before December of 2010 and develop designs immediately, particularly when UL or CSA approvals are required.

**How about duty-cycle rated motors?**

EISA makes no distinction for duty cycle rating. Again, one has to look at the EPA definition of “electric motors” and “general purpose” to determine if a particular design falls under the requirements.

**Does EISA include IEC frame motors?**

Yes, the DOE considers motors built to IEC metric frame dimensions equivalent to NEMA T-frame dimension to fall under EISA. These include IEC 90 and larger, excluding IEC 100 frame.

**Does EISA apply to both stock and custom motors?**

Yes. EISA makes no distinction between stock or custom motors. The determining factor under EISA is whether a particular motor meets the law’s definition of “electric motor”. Stock and custom motors should be treated the same and follow EISA guidelines.

**Can I change the design of the general purpose NEMA or IEC motor presently purchased to an exempt configuration to avoid an efficiency upgrade and higher priced motor?**

The U.S. Department of Energy advises that they will be posting guidelines discouraging this activity which does not comply with the intent of the EISA law and penalties may result.

**Does EISA apply to motors manufactured outside of the United States and imported for use?**

Yes. The requirements of EISA include imported electric motors. This also includes the electric motors “as a component of another piece of equipment”.

**How about electric motors for export outside of the United States?**

EISA does not apply to motors exported outside the United States, including motors mounted on equipment. The DOE will require these motors or their boxes to be specifically marked “Intended for Export”. Countries outside of the United States are enacting their own Minimum Efficiency Performance Requirements (MEPS) that may require compliance.

Distributors or OEM’s who sell these “intended for export” motors in the US will be subject to enforcement and penalties/fines from the U.S. Department of Energy.

**Does EISA require any motors in use to be replaced?**

No, EISA does not contain any requirement to replace electric motors in use.

**How about electric motors in inventory?**

EISA does not affect any inventories of electric motors. The law only applies to motors manufactured after December 19, 2010. Motors in inventory on that date can be sold or used as before the law.

**Does EISA apply to rebuilt, repaired or rewound motors?**

No, EISA only applies to new motors manufactured after the effective date.

**How is full-load nominal efficiency determined?**

Like EPCAct, EISA specifies that the test procedures for determining a motor’s efficiency shall be as specified in NEMA MG 1-2006 and IEEE Standard 112, Test Method B or CSA 390. The full-load nominal efficiencies of all Baldor motors are and have been determined in accordance with these standards.

**What are the labeling requirements under EISA?**

Like EPCAct, EISA requires that an electric motor’s nameplate include the nominal full-load efficiency for that motor rating. All Baldor motors produced today already include this information. EPCAct and EISA also require that product catalogs and literature include motor efficiency information.

**What is the difference in the Canadian law which goes into effect January 1, 2011?**

Standard motors 1-200 HP include all voltages less than 600V and also footless frames requiring NEMA Premium® efficiency per MG 1 table 12-12.

## HOW BALDOR WILL IMPLEMENT EISA?

### **Will Baldor have a new line of general purpose motors?**

Baldor's plan is to use our line of Super-E® motors to meet the needs of 1-200 hp subtype I motors. Our general purpose Standard-E® motors will no longer be manufactured for 1-200 hp Subtype I ratings for sale in the U.S. for Canada.

### **Will Baldor change the catalog numbers of these motors?**

Baldor's Super-E motors will have the same catalog numbers as today's motors.

### **What will happen to motor prices for those motors affected by EISA?**

In order to raise a motor's efficiency to the appropriate EISA level, we must add more materials to the motor. The new motor's design will require more and better laminations and more magnet wire.

We are completing these motor redesigns and doing our very best to limit these additional costs. To help control costs over the last few years, we have already implemented new manufacturing methods and material-saving designs to help reduce our cost increases. Baldor continues to invest millions of dollars to keep the price increase as low as possible. Most ratings will require price increases due to the addition of active material.

Baldor has a long standing policy of providing customers a minimum 60 days notice on price changes. Your Baldor salesperson can provide you specific pricing information.

### **What will happen to the "pre-EISA" motors in Baldor's inventory?**

EISA only applies to motors manufactured after December 19, 2010. It does not affect any motor built prior to that date and in inventory. Baldor will be able to sell any inventory of "pre-EISA" motors. Since we don't plan to change catalog numbers, how will Baldor differentiate the inventory of "pre" and "post" EISA motors?

Baldor's Standard-E motor line manufactured for Subtype II beginning December 19, 2010 will ship in new shipping cartons with the "Standard-E" logo and have efficiency raised to comply with EISA.

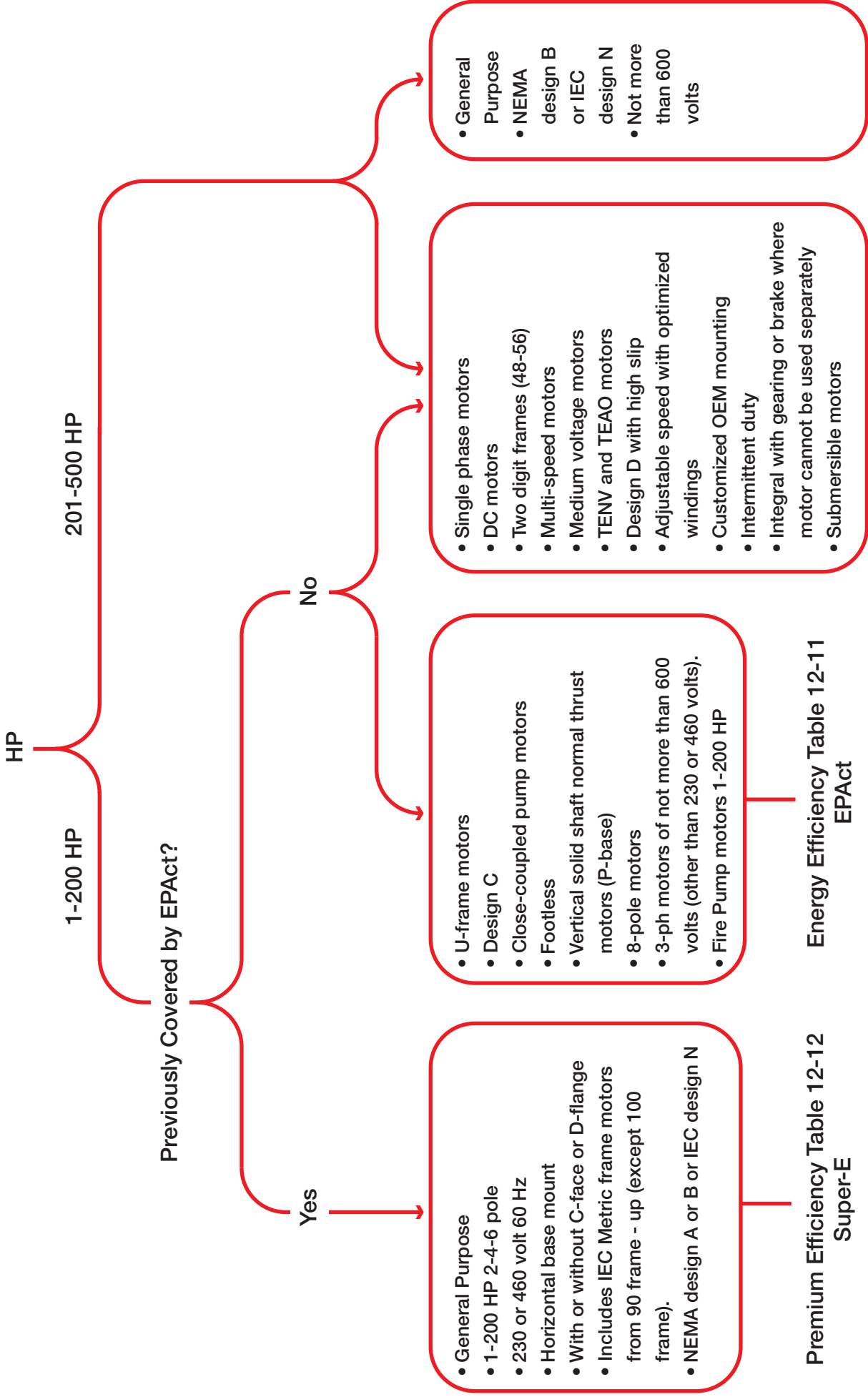
### **When will a new 501 Catalog be available with the EISA motors?**

We expect to issue a new 501 catalog approximately late 2010.



# Energy Independence & Security Act of 2007

The below chart reflects US regulations, Canada is slightly different.



August 4, 2010

**BALDOR**

**NEMA MG 1 Table 12-12 Full-Load Efficiencies for 60 Hz NEMA Premium® Efficient Electric Motors Rated 600 Volts or less (Random Wound)**

Motor Horsepower	Nominal Full-Load Efficiency					
	Open Motors			Enclosed Motors		
	2 Pole	4 Pole	6 Pole	2 Pole	4 Pole	6 Pole
1	77.0	85.5	82.5	77.0	85.5	82.5
1.5	84.0	86.5	86.5	84.0	86.5	87.5
2	85.5	86.5	87.5	85.5	86.5	88.5
3	85.5	89.5	88.5	86.5	89.5	89.5
5	86.5	89.5	89.5	88.5	89.5	89.5
7.5	88.5	91.0	90.2	89.5	91.7	91.0
10	89.5	91.7	91.7	90.2	91.7	91.0
15	90.2	93.0	91.7	91.0	92.4	91.7
20	91.0	93.0	92.4	91.0	93.0	91.7
25	91.7	93.6	93.0	91.7	93.6	93.0
30	91.7	94.1	93.6	91.7	93.6	93.0
40	92.4	94.1	94.1	92.4	94.1	94.1
50	93.0	94.5	94.1	93.0	94.5	94.1
60	93.6	95.0	94.5	93.6	95.0	94.5
75	93.6	95.0	94.5	93.6	95.4	94.5
100	93.6	95.4	95.0	94.1	95.4	95.0
125	94.1	95.4	95.0	95.0	95.4	95.0
150	94.1	95.8	95.4	95.0	95.8	95.8
200	95.0	95.8	95.4	95.4	96.2	95.8
250	95.0	95.8	95.4	95.8	96.2	95.8
300	95.4	95.8	95.4	95.8	96.2	95.8
350	95.4	95.8	95.4	95.8	96.2	95.8
400	95.8	95.8	95.8	95.8	96.2	95.8
450	95.8	96.2	96.2	95.8	96.2	95.8
500	95.8	96.2	96.2	95.8	96.2	95.8

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**NEMA MG 1 Table 12-11 Full-Load Efficiencies of Energy Efficient Motors**

Motor Horsepower	Nominal Full-Load Efficiency							
	Open Motors				Enclosed Motors			
	2 Pole	4 Pole	6 Pole	8 Pole	2 Pole	4 Pole	6 Pole	8 Pole
1	-	82.5	80.0	74.0	75.5	82.5	80.0	74.0
1.5	82.5	84.0	84.0	75.5	82.5	84.0	85.5	77.0
2	84.0	84.0	85.5	85.5	84.0	84.0	86.5	82.5
3	84.0	86.5	86.5	86.5	85.5	87.5	87.5	84.0
5	85.5	87.5	87.5	87.5	87.5	87.5	87.5	85.5
7.5	87.5	88.5	88.5	88.5	88.5	89.5	89.5	85.5
10	88.5	89.5	90.2	89.5	89.5	89.5	89.5	88.5
15	89.5	91.0	90.2	89.5	90.2	91.0	90.2	88.5
20	90.2	91.0	91.0	90.2	90.2	91.0	90.2	89.5
25	91.0	91.7	91.7	90.2	91.0	92.4	91.7	89.5
30	91.0	92.4	92.4	91.0	91.0	92.4	91.7	91.0
40	91.7	93.0	93.0	91.0	91.7	93.0	93.0	91.0
50	92.4	93.0	93.0	91.7	92.4	93.0	93.0	91.7
60	93.0	93.6	93.6	92.4	93.0	93.6	93.6	91.7
75	93.0	94.1	93.6	93.6	93.0	94.1	93.6	93.0
100	93.0	94.1	94.1	93.6	93.6	94.5	94.1	93.0
125	93.6	94.5	94.1	93.6	94.5	94.5	94.1	93.6
150	93.6	95.0	94.5	93.6	94.5	95.0	95.0	93.6
200	94.5	95.0	94.5	93.6	95.0	95.0	95.0	94.1
250	94.5	95.4	95.4	94.5	95.4	95.0	95.0	94.5
300	95.0	95.4	95.4	-	95.4	95.4	95.0	-
350	95.0	95.4	95.4	-	95.4	95.4	95.0	-
400	95.4	95.4	-	-	95.4	95.4	-	-
450	95.8	95.8	-	-	95.4	95.4	-	-
500	95.8	95.8	-	-	95.4	95.8	-	-

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# MISSION

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**“Baldor is to be the best (as determined by our customers) marketers, designers, and manufacturers of industrial electric motors, mechanical power transmission products, drives and generators.”**

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