

Motor & Variable Frequency Drive Technologies

Pacific Power provides incentives for many types of energy efficient technologies. Please read the following sections carefully to ensure that you follow the appropriate steps for securing your incentive.

Incentives for additional measures may be available. For more information about the FinAnswer Express program, eligibility requirements, incentive levels or other general inquiries, contact your local equipment dealer or Pacific Power. You can visit the program website at pacificpower.net/wattsmart and submit your inquiry online, or you can call our **energy services hotline** at **1-800-222-4335**.

PREMIUM EFFICIENCY MOTORS

Measure Description: Premium-efficiency motors are more efficient than standard-efficiency motors.

Applicability: Motors purchased and either installed or placed in inventory, may qualify for an incentive via a post-purchase application process.

Equipment Eligibility: Motors that are eligible for incentives under the FinAnswer Express program include new, 1 – 500 HP, three-phase induction motors, NEMA Design A & B, Open Drip Proof (ODP) or Totally Enclosed Fan Cooled (TEFC) at speeds of 1200, 1800, or 3600 RPM. Minimum efficiency requirements shown in Table 1 below are the NEMA Nominal Full-Load Efficiency rating from the motor nameplate as determined in accordance with IEEE Standard 112, Test Method B. Contact your vendor or Pacific Power to determine whether other motor classifications or sizes qualify for incentives.

Incentives are available for qualifying motors purchased prior to December 19, 2010. Incentives are not available for NEMA Premium Efficiency motors purchased on or after December 19, 2010.

Items to submit with application:

1. Dated sales receipt/invoice with retailer/contractor name, address and phone number.
2. For multiple motor purchases, provide an itemized listing of quantity, manufacturer, model number, NEMA nominal efficiency, motor type and other nameplate information as appropriate.
3. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

Prequalification Required? No.

Table 1. Motor Efficiency Requirements, Incentive Levels & Equipment Codes

Equipment Code →		Nominal Full Load Efficiencies (%)					
		MTRO12	MTRT12	MTRO18	MTRT18	MTRO36	MTRT36
Horsepower	Customer Incentive (\$/motor)	1200 RPMs		1800 RPMs		3600 RPMs	
		ODP	TEFC	ODP	TEFC	ODP	TEFC
1	\$45	82.5	82.5	85.5	85.5	77.0	77.0
1.5	\$45	86.5	87.5	86.5	86.5	84.0	84.0
2	\$54	87.5	88.5	86.5	86.5	85.5	85.5
3	\$54	88.5	89.5	89.5	89.5	85.5	86.5
5	\$54	89.5	89.5	89.5	89.5	86.5	88.5
7.5	\$81	90.2	91.0	91.0	91.7	88.5	89.5
10	\$90	91.7	91.0	91.7	91.7	89.5	90.2
15	\$104	91.7	91.7	93.0	92.4	90.2	91.0
20	\$113	92.4	91.7	93.0	93.0	91.0	91.0
25	\$117	93.0	93.0	93.6	93.6	91.7	91.7
30	\$135	93.6	93.0	94.1	93.6	91.7	91.7
40	\$162	94.1	94.1	94.1	94.1	92.4	92.4
50	\$198	94.1	94.1	94.5	94.5	93.0	93.0
60	\$234	94.5	94.5	95.0	95.0	93.6	93.6
75	\$270	94.5	94.5	95.0	95.4	93.6	93.6
100	\$360	95.0	95.0	95.4	95.4	93.6	94.1
125	\$540	95.0	95.0	95.4	95.4	94.1	95.0
150	\$630	95.4	95.8	95.8	95.8	94.1	95.0
200	\$630	95.4	95.8	95.8	96.2	95.0	95.4
250	\$687	95.4	95.8	95.8	96.2	95.0	95.8
300	\$770	95.4	95.8	95.8	96.2	95.4	95.8
350	\$960	95.4	95.8	95.8	96.2	95.4	95.8
400	\$1,049	95.8	95.8	95.8	96.2	95.8	95.8
450	\$1,139	96.2	95.8	96.2	96.2	95.8	95.8
500	\$1,229	96.2	95.8	96.2	96.2	95.8	95.8

Notes for Premium Efficiency Motor incentive table:

1. Motors larger than 500 horsepower may be eligible for a custom Energy Efficiency Incentive.
2. The National Electrical Manufacturers Association (NEMA) Premium efficiency ratings listed are nominal full-load efficiency ratings. Motors that meet or exceed these efficiency requirements may qualify for an incentive.
3. Incentives are available via a post-purchase incentive application process.
4. Motors that are installed or placed in inventory may qualify for an incentive.
5. **Incentives are available for qualifying motors purchased prior to December 19, 2010. Incentives are not available for Premium Efficiency Motors purchased on or after December 19, 2010.**

ODP = Open Drip Proof

TEFC = Totally Enclosed Fan Cooled

GREEN MOTOR REWINDS

Measure Description: The quality of the rewind will determine the efficiency of the motor when placed back into service. Motors rewound to their original nominal efficiency values by a certified service center in accordance with procedures established by Green Motors Practices Group™ (GMPG) qualify as GREEN REWINDS. Visit Green Motors at www.greenmotors.org for more information.

Applicability: Retrofit installations are eligible. Green Motor Rewinds that are installed or placed in inventory may qualify for an incentive.

Equipment Eligibility: The motor must be an alternating current motor located at a facility served by Pacific Power in the State of California. Additionally, the motor size must be greater than or equal to 15 horsepower (HP) and less than or equal to 500 HP, without core damage, rewound at a GMPG motor service center and meet all other program terms and conditions. Green Motor Rewinds greater than 500 horsepower may be eligible for a custom Energy Efficiency Incentive.

Items to submit with application: Incentives for GREEN REWINDS are provided as a credit on the motor service center invoice by GMPG motor service centers at the time of the motor rewind. Contact Pacific Power or a GMPG motor service center for application details. A list of GMPG motor service centers is provided at www.greenmotors.org/practicing.htm.

Prequalification Required? No.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Size Category</u>	<u>Incentive*</u>
GRMORW	Green Motor Rewinds	≥ 15 & ≤ 500 HP	\$1 / horsepower

*For GREEN REWINDS, the participating electric motor service center is paid \$2 / horsepower for eligible GREEN REWINDS. A minimum of \$1 / horsepower is paid by the service center to the customer as a credit on the motor rewind invoice. The balance is retained by the service center.

ELECTRONICALLY COMMUTATED MOTORS

Measure Description: An electronically commutated motor (ECM) is a fractional horsepower direct current (DC) motor used most often in commercial refrigeration applications such as display cases, walk-in coolers/freezers, refrigerated vending machines, and bottle coolers. ECMs can also be used in HVAC applications, primarily as small fan motors for packaged terminal units or in terminal air boxes. ECMs generally replace shaded pole (SP) motors and offer significant energy savings.

Applicability: New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process.

Equipment Eligibility: All ECMs less than or equal to 1 HP in size may qualify for an incentive. Equipment must be purchased and installed, and meet all other program terms and conditions. Incentives are paid based on the rated HP/wattage of the ECM motor, as provided on the manufacturer specification sheet.

Items to submit with application:

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number.
2. Manufacturer's equipment specification sheet.
3. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

Prequalification Required? No.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Size Category</u>	<u>Incentive</u>
ECMREF	ECM Refrigeration	≤ 1 HP	\$0.50 / nameplate watt
ECMHVC	ECM HVAC	≤ 1 HP	\$50 / nameplate HP

VARIABLE FREQUENCY DRIVES (VFD) FOR HVAC FANS AND PUMPS

Measure Description: Variable Frequency Drives (VFDs) are electronic controls that regulate motor speed and torque, resulting in reduced energy consumption under part load conditions.

Applicability: New construction and retrofit installations on HVAC fans or pumps where not required by code that meet eligibility requirements may qualify for incentives via a post-purchase application process.

- Retrofit Applications: VFDs must be installed on HVAC fans and pumps where a variable load is present. Throttling or bypass devices such as inlet vanes, bypass dampers, three-way valves or throttling valves must be removed or permanently disabled prior to applying to qualify for VFD incentives. Incentives are not available for retrofits/replacements of existing VFDs.
- New Construction/Major Renovation: Incentives are **not** available for VFDs installed to comply with the applicable version of the California energy code, which requires a VFD on HVAC fans greater than 10 horsepower (HP) in a variable flow system.

Equipment Eligibility: Incentives are available for VFDs less than or equal to 100 HP installed on pumps and fans utilized in HVAC air/water distribution systems. Equipment must be purchased and installed, and meet all other program terms and conditions.

Technical assistance and financial incentives for VFDs larger than 100 HP or installed on non-HVAC equipment may be available through Pacific Power’s Energy FinAnswer program. For more information about Energy FinAnswer, contact Pacific Power or your vendor before purchasing your equipment.

Items to submit with application:

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number.
2. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

Prequalification Required? No. Prequalification is not required for eligible installations. Pre-approval is required for VFDs larger than 100 HP or VFD applications other than HVAC fans and pumps.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Size Category</u>	<u>Incentive</u>
VDFAN	VFD Fan	≤ 100 HP	\$65 / horsepower
VDPMP	VFD Pump	≤ 100 HP	\$65 / horsepower