



**Case No.:** \_\_\_\_-\_\_\_\_-EL-EEC

**Mercantile Customer:** Ethicon Endo-Surgery

**Electric Utility:** Duke Energy

**Program Title or  
Description:** Cooling Tower VFD

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. [10-834-EL-POR](#)

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at [ee-pdr@puc.state.oh.us](mailto:ee-pdr@puc.state.oh.us).

## Section 1: Mercantile Customer Information

Name: **Ethicon Endo Surgery**

Principal address: **4545 Creek Rd, Cincinnati Ohio 45242-2849**

Address of facility for which this energy efficiency program applies:

**4545 Creek Rd, Cincinnati Ohio 45242-2849**

Name and telephone number for responses to questions:

**Grady Reid, Jr 513-287-1038**

Electricity use by the customer (check the box(es) that apply):

- The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)  
**Please refer to Appendix A.**
- The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

## Section 2: Application Information

A) The customer is filing this application (choose which applies):

- Individually, without electric utility participation.
- Jointly with the electric utility.

B) The electric utility is: **Duke Energy**

C) The customer is offering to commit (check any that apply):

- Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

### Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)).

Installation of new equipment to replace equipment that needed to be replaced The customer installed new equipment on the following date(s):

**August 2011.**

Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):  
\_\_\_\_\_.

Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: \_\_\_\_\_kWh

2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: **26,516 kWh**

**Refer to Appendix B for documentation.**

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment.

- 3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: \_\_\_\_\_kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment.

- 4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.
-

## Section 4: Demand Reduction/Demand Response Programs

- A) The customer's program involves (check the one that applies):
- Coincident peak-demand savings from the customer's energy efficiency program.
  - Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
  - Potential peak-demand reduction (check the one that applies):
    - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
    - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.
- B) On what date did the customer initiate its demand reduction program?  
\_\_\_\_\_
- C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

## **Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)**

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

- Option 1: A cash rebate reasonable arrangement.

**Ethicon Endo-Surgery experienced a cooling tower fan motor failure. The choice before the facility at that time was to repair the existing, failed motor and return to service or to purchase a new motor, suitable for VFD operation, and operate that motor via VFD. Because this customer had a clear choice to return the cooling tower to its original operation mode, as evidenced by the quote included in supporting documentation for this application, Duke Energy has offered a cash rebate and not a commitment payment to Ethicon Endo-Surgery.**

OR

- Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

- Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

- A cash rebate of **\$525.00. Refer to Appendix C for documentation.**

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

- An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for \_\_\_\_\_ months (not to exceed 24 months). (Attach

calculations showing how this time period was determined.)

OR

- A commitment payment valued at no more than \$\_\_\_\_\_. (Attach documentation and calculations showing how this payment amount was determined.)

OR

- Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

## Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- Total Resource Cost (TRC) Test. The calculated TRC value is: \_\_\_\_\_ (Continue to Subsection 1, then skip Subsection 2)
- Utility Cost Test (UCT) . The calculated UCT value: **18.73** (Skip to Subsection 2.)

### Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were \_\_\_\_\_.

Our program costs were \_\_\_\_\_.

The incremental measure costs were \_\_\_\_\_.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were **\$13,272**.

The utility's program costs were **\$184**.

The utility's incentive costs/rebate costs were **\$525**.

### **Section 7: Additional Information**

Please attach the following supporting documentation to this application:

Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.

A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:

- 1) any confidentiality requirements associated with the agreement;
- 2) a description of any consequences of noncompliance with the terms of the commitment;
- 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
- 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
- 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.





**Public Utilities  
Commission**

**Application to Commit  
Energy Efficiency/Peak  
Demand Reduction  
Programs  
(Mercantile Customers  
Only)**

Case No.: \_\_\_\_ - \_\_\_\_ -EL-EEC

State of Ohio :

Robert E. Sakell Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Ethicon Endo-Surgery  
[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

Robert E. Sakell  
Signature of Affiant & Title

Vice President, Franchise Ops

Sworn and subscribed before me this 13<sup>th</sup> day of December,  
2011 Month/Year

Tina Gleberman  
Signature of official administering oath

Tina Gleberman, Notary Public  
Print Name and Title

My commission expires on \_\_\_\_\_  
TINA M. GLEBERMAN  
NOTARY PUBLIC - STATE OF OHIO  
Recorded in Warren County  
My commission expires Oct. 5, 2013



DUKE ENERGY CORPORATION  
Mercantile Self Direct Program  
139 East Fourth Street  
Cincinnati, OH 45202  
513 419 5572 fax

November 29, 2011

Mr. Gary Tout  
Ethicon Endo-Surgery  
4545 Creek Road  
Cincinnati Ohio 45242-2839

Subject: Your Application for a Duke Energy Mercantile Self-Direct Rebate

Dear Mr. Tout:

Thank you for your Duke Energy Mercantile Self Direct rebate application. As noted in the Energy Conservation Measure (ECM) chart on page two, a total rebate of \$525.00 has been proposed for your motor project completed in the 2011 calendar year. All Self Direct Rebates are contingent upon approval by the Public Utilities Commission of Ohio (PUCO).

At your earliest convenience, please indicate if you accept this rebate by

- providing your signature on page two
- completing the PUCO-required affidavit on page three.

Please return the documents to my attention via fax at 513-419-5572 or e-mail to [SelfDirect@Duke-Energy.com](mailto:SelfDirect@Duke-Energy.com). Upon receipt, Duke Energy will submit the necessary documentation to PUCO. Following PUCO's approval, Duke Energy will remit payment.

At Duke Energy, we value your business and look forward to working with you on this and future energy efficiency projects. We hope you will consider our Smart \$aver® incentives, when applicable. Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Grady Reid, Jr.".

Grady Reid, Jr  
Product Manager  
Mercantile Self Direct Rebates

cc: Deanna Bowden, Duke Energy  
Mr. Matt Lenz, Debra-Kuempel  
Rob Jung, Wisconsin Energy (WECC)

Please indicate your response to this rebate offer within 30 days of receipt.

Rebate is accepted.

Rebate is declined.

By accepting this rebate, Ethicon Endo-Surgery affirms its intention to commit and integrate the energy efficiency projects listed on the following pages into Duke Energy's peak demand reduction, demand response and/or energy efficiency programs.

Additionally, Ethicon Endo-Surgery also agrees to serve as joint applicant in any future filings necessary to secure approval of this arrangement as required by PUCO and to comply with any information and reporting requirements imposed by rule or as part of that approval.

Finally, Ethicon Endo-Surgery affirms that all application information submitted to Duke Energy pursuant to this rebate offer is true and accurate. Information in question would include, but not be limited to, project scope, equipment specifications, equipment operational details, project costs, project completion dates, and the quantity of energy conservation measures installed.

If rebate is accepted, will you use the monies to fund future energy efficiency and/or demand reduction projects?

YES

NO

If rebate is declined, please indicate reason (optional):



Customer Signature

Robert E. Sadoff 12-13-11

Printed Name

Date

### Proposed Rebate Amounts

Measure ID	Energy Conservation Measure (ECM)	Proposed Rebate Amount
ECM-1	Install 60 HP High Efficiency Motor with 60 HP VFD	\$525.00
ECM-2		
ECM-3		
ECM-4		
ECM-5		
Total		\$525.00

Appendix A -Billing History

34100782 01

ETHICON INC  
4545 CREEK RD  
CINCINNATI, OH 45242

Meter #106967809

Date	Days	Actual KWH
1/25/2012	34	390,427
12/22/2011	30	372,233
11/22/2011	29	428,402
10/24/2011	31	490,176
9/23/2011	30	570,226
8/24/2011	29	642,725
7/26/2011	32	709,894
6/24/2011	30	596,801
5/25/2011	29	478,488
4/26/2011	32	484,513
3/25/2011	29	419,391
2/24/2011	29	392,001
	<b>Annual Total</b>	<b>5,975,277</b>

Appendix B – Energy Savings Achieved

ECM	Before Installation		Post Installation		Savings	
	As-Found Equipment	Total Annual kWh <sup>1</sup>	New Equipment	Total Annual kWh <sup>1</sup>	Energy Savings (kWh)	Demand Savings (kW)
ECM1	60 HP Two-Speed Cooling Tower Fan Motor	42,870	VFD Added	17,913	24,957	0

Notes:

1. Energy consumption baseline and post project energy consumption were provided by the project vendor and allocated according to cooling degree days for avoided costs analysis as documented on the following pages.

Application of 7.43% line losses yields **26,516 kWh** savings at the plant. This value also reflects negligible rounding error resulting for the operating mode used to model this project in DSMore software.

**UPDATE™ Version 4.14.6**  
 Product Data: 5/24/2011 (Current)

**Job Information**

Cooling Tower VFD Saving  
 Ethicon  
 Cincinnati, Ohio

**Selected By**

debra-kuempel  
 3976 southern ave  
 Cincinnati  
 dbehne@debra-kuempel.com

David Behne  
 Tel 5132716500

© 2011 SPX Cooling Technologies, Inc.  
 6/17/2011 9:21:45 AM

**SPX Cooling Technologies Contact**

Stoermer-Anderson, Inc.  
 3818 Red Bank Road  
 Cincinnati, Ohio 45227  
 info@stoermer-anderson.com  
 Tel 513-527-2300  
 Fax 513-527-2306

**Cooling Tower Definition**

Manufacturer Marley  
 Product NC Steel  
 Model NC8413VAN1  
 Cells 1  
 Fan 11.00 ft, 6 Blades  
 Fans per cell 1  
 Wet-Bulb Profile Seasonal

Design Range 10.00 °F  
 Design Wet-Bulb 78.00 °F  
 Cold Water Set Point 85.00 °F  
 Average Wet-Bulb 50.70 °F  
 Range at Avg. Wet-Bulb 6.00 °F  
 Maximum Wet-Bulb 78.00 °F

**Interval Information**

Wet-Bulb Interval °F	Cold Water °F	Range °F	Hours
4.29	7.13	3.00	0.1
7.13	9.96	3.00	1.0
9.96	12.80	3.00	5.1
12.80	15.63	3.00	15.7
15.63	18.47	3.00	36.2
18.47	21.30	3.00	69.2
21.30	24.14	3.00	115.6
24.14	26.97	3.00	173.5
26.97	29.81	3.00	237.8
29.81	32.64	3.15	300.7
32.64	35.47	3.56	352.7
35.47	38.31	3.98	385.6
38.31	41.15	4.39	394.8
41.15	43.98	4.81	383.0
43.98	46.81	5.22	359.7
46.81	49.65	5.64	340.5
49.65	52.49	6.05	340.9
52.49	55.32	6.47	369.9
55.32	58.16	6.88	423.2
58.16	60.99	7.30	481.4
60.99	63.83	7.72	514.3
63.83	66.66	8.13	493.0
66.66	69.50	8.55	404.6
69.50	72.33	8.96	264.4
72.33	75.17	9.38	116.2
75.17	78.00	9.79	18.7

**Single-Speed Fan**

Hours Full	Hours Off	Energy kWh
0.0	0.1	1.7
0.4	0.6	18.6
1.9	3.3	93.6
5.8	10.0	286.6
13.3	22.9	659.4
25.3	43.9	1260.0
42.3	73.2	2104.2
63.5	109.9	3158.2
87.1	150.7	4330.0
116.4	184.3	5785.3
155.1	197.6	7711.9
186.9	198.6	9293.7
212.2	182.7	10548.4
224.0	159.0	11136.4
225.9	133.8	11231.8
227.3	113.2	11298.7
240.0	101.0	11929.4
325.8	97.4	16198.0
385.3	96.1	19156.0
426.8	87.5	21218.1
423.2	69.8	21038.2
358.7	46.0	17831.3
241.7	22.7	12017.9
109.5	6.7	5445.4
18.2	0.5	906.1

**Two-Speed Fan**

Hours Full	Hours Half	Hours Off	Energy kWh
0.0	0.0	0.1	0.3
0.0	0.4	0.6	3.0
0.0	2.1	3.0	15.2
0.0	6.6	9.2	46.6
0.0	15.1	21.1	107.2
0.0	28.8	40.4	204.8
0.0	48.2	67.4	342.0
0.0	72.3	101.2	513.3
0.0	99.1	138.7	703.8
0.0	132.4	168.3	940.3
0.0	176.5	176.3	1253.4
0.0	212.7	172.9	1510.5
0.0	241.4	153.4	1714.5
0.0	254.9	128.1	1810.0
0.0	257.0	102.7	1825.5
0.0	258.6	81.9	1836.4
0.0	273.0	67.9	1938.9
0.0	310.5	59.4	2205.2
0.0	370.7	52.5	2632.7
0.0	438.4	43.0	3113.5
0.0	485.6	28.7	3448.7
0.0	481.5	11.6	3419.4
24.9	379.7	0.0	3936.0
77.3	187.1	0.0	5171.4
61.1	55.1	0.0	3428.6
14.5	4.3	0.0	749.0

**Variable-Speed Fan**

Total Fan Output Btph	Energy kWh	Pump Energy kWh
0.22	0.0	1.6
0.22	0.2	17.3
0.22	0.9	87.3
0.22	2.9	267.3
0.22	6.6	615.0
0.22	12.6	1175.2
0.22	21.1	1962.5
0.22	31.7	2945.5
0.22	43.4	4038.4
0.31	91.2	5990.2
0.39	124.3	6547.5
0.51	166.8	6705.2
0.66	210.9	6503.3
0.86	257.5	6109.1
1.12	317.2	5782.5
1.47	414.8	5789.3
1.93	591.8	6280.9
2.56	899.0	7186.3
3.45	1375.1	8174.6
4.71	2008.8	8734.3
6.59	2690.9	8372.4
9.37	3142.2	6871.6
13.45	2947.4	4489.8
20.42	1966.2	1973.4
34.02	528.5	318.4

42870.2

currently

17912.7

177.8 4792.0 1628.3

4389.6 2208.4 218226.4

Totals

42870.2  
 - 17912.7  
 24957.5

savings x 0.05/kwh = 1247.86

17912.7

**DUKE ENERGY - NON-RESIDENTIAL CUSTOM PROGRAM**  
**ENERGY SAVINGS CALCULATIONS - Monthly kw-hr Savings**

Applicant: **Ethicon Endo-Surgery Inc - VFD**  
 ECM: **ECM-1 - Cooling Tower Fan VFD**

App No.: **11-206**  
 Rev.: **0**

CINCINNATI LUNKEN AP (331576)  
 DEGREE DAY NORMALS(Total)  
 Cooling Degree Days  
 Years: 1971-2000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Total		0	0	0	4	95	224	352	305	131	20	0	0	1131
Monthly Savings		0	0	0	0.003537	0.083996	0.198055	0.311229	0.269673	0.115827	0.017683	0	0	1
Weighting		0	0	0	17.57737	417.4624	984.3324	1546.808	1340.274	575.6587	87.88683	0	0	4970

Baseline kWh per SPX Analysis = 42870 kWh

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	0	0	0	151.618	3600.928	8490.61	13342.39	11560.88	4965.491	758.0902	0	0	42870

Savings kWh per SPX Analysis = 24957 kWh

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	0	0	0	88.26525	2096.3	4942.854	7767.342	6730.225	2890.687	441.3263	0	0	24957

**Smart Saver™**  
**Nonresidential Custom Incentive Application**



Before you complete this application, please note the following important criteria:

- Incentive approval is required PRIOR to equipment purchase, or any other activity which would indicate that the customer has already decided to proceed
- Submitting this application does not guarantee an incentive will be approved
- Incentives are based on electricity conservation only
- Electric demand and/or energy reductions must be well documented with auditable calculations
- Simple payback without incentive must be greater than 1 year
- Incentives are capped at 50% of the incremental project cost, which is the difference between purchasing standard and high-efficiency equipment
- Incentive payments are issued after installation is complete and documentation is submitted
- Incomplete applications will not be reviewed; all fields are required

Refer to the complete list of Instructions and Disclaimers, beginning on page 11.

**Checklist**

(To be submitted with the application) – **All Sections Required**

Item Number	Description	Included
1	Applicant and Customer Information Form (page 2)	<input checked="" type="checkbox"/>
2	List of Sites (pages 3) <i>(1) site</i>	<input checked="" type="checkbox"/>
3	Description of Project(s) (pages 4, 5 & 6)	<input checked="" type="checkbox"/>
5	Customer Consent form, signed by Customer (page 7)	<input checked="" type="checkbox"/>
6	Project Questionnaire, signed by Customer (pages 8, 9 & 10)	<input checked="" type="checkbox"/>
	Supporting Documentation, including equipment spec sheets, copies of vendor proposal(s) and energy savings calculations	<input type="checkbox"/>

There are three ways to submit your completed custom incentive application.

Email your scanned form to: [CustomIncentives@duke-energy.com](mailto:CustomIncentives@duke-energy.com)

Or, fax your form to 980-373-9755

Or, mail to: Custom Incentives  
 Duke Energy  
 P.O. Box 1006 / EC2ZA  
 Charlotte, NC 28078





Applicant and Customer Information Form (Required)

Customer information is required. Vendor/supplier information is optional.		
	Customer	Vendor/supplier
Contact Name	Gary Tout	Matt Lenz
Company	Ethicon	DeBRA-Kuempel
Address	4545 Creek Rd	3976 Southern Ave
City, State, Zip	Cin OH 45242-2839	Cin, OH 45227
Title	Facilities Facilitator	Account Mgr.
E-mail Address	gtout@eesus.jnj.com	mLenz@DeBRA-Kuempel.com
Phone	337 8416	513 527 8007
Fax	337 2416	513 527 8163

**Smart Saver™**  
**Nonresidential Custom Incentive Application**



Who is primary point of contact?	Matt Lenz	DeBRA - Kuempel 513 527-8007
----------------------------------	-----------	---------------------------------

*m.lenz@debra-kuempel.com*

Most communication about this application will go to the customer via email, with the vendor/supplier copied on the message.

<b>Payment Information</b>					
Who should receive incentive payment? <input checked="" type="checkbox"/> Customer <input type="checkbox"/> Vendor (Customer must sign below)					
I hereby authorize payment of incentive directly to vendor:					
Customer Signature _____			Date _____		
Payee Legal Company Name (as shown on your income tax return):	Ethicon Endo-Surgery ATTN: Gary Tout				
Mailing Address	4545 Creek RD Akron				
City	CIN	State	OH	Zip Code	45242
<input type="checkbox"/> Individual/Sole Proprietor		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Partnership (check one)	
Payee Federal Tax ID # of Legal Company Name Above:	22-3842168				

Smart Saver™  
Nonresidential Custom Incentive Application



If an incentive is awarded, when do you plan to start implementation and

complete implementation 7-1-11  
? 8-1-11

Have any of the facilities in this application received a Duke Energy assessment?

No

Yes, the assessment was  on the web,  over the phone or  on-site



List of Sites (Required)

Provide a list of sites addressed by this custom incentive application, or submit in a separate spreadsheet file.

Site ID <sup>1</sup>	Duke Energy Electric Account Number(s) <sup>2</sup>	Facility Address	List of Proposed Projects at each site	Annual Hours of Operation	Gross Square Footage	Conditioned Square Footage	Facility Age (years)
225	12345678 01	Example: 123 Main Street, Anywhere USA 12345	Projects 1, 2 and 3	5,840	42,000	38,000	12
		4545 Creek RD CN 04 45242	High efficiency 60 HP Motor 60 HP VFD for cooling tower		154,000	146,000	19

<sup>1</sup> Site ID can be a store number, building name or other way to identify the location. If there is only one site involved in this application, then a Site ID is not necessary.  
<sup>2</sup> The account number(s) must match the facility of the proposed project(s). If there are multiple meters at a site, only include the meters that pertain to the project(s).

**Smart Saver™**  
**Nonresidential Custom Incentive Application**



**Description of Projects (Required)**

**Project #1**

For each project, answer the following questions (attach additional pages as necessary)

**Project Name:** *Ethicon / Cooling Tower Project cell # 1*

How would you classify this project? (Check all that apply.)

<input type="checkbox"/> Lighting	<input type="checkbox"/> Heating/Cooling	<input type="checkbox"/> Air Compressor	<input type="checkbox"/> Energy Management System
<input checked="" type="checkbox"/> VFD	<input checked="" type="checkbox"/> Motors/Pumps	<input type="checkbox"/> Process Equipment	<input type="checkbox"/> Other, describe:

	Baseline	Proposed
	Describe the existing equipment/ system (baseline), how it operates today and any problems or issues <sup>1</sup>	Describe the proposed project, including how the energy reductions will be achieved
<b>Project Description</b>	<i>Cooling tower has (1) 60HP 2 Speed MOTOR</i>	<i>Install (1) 60HP high efficiency Cooling tower motor with 60 HP VFD,</i>

**Operating Hours**

Equipment Weekday Operating Hours <sup>2</sup>	Equipment Weekend Operating Hours	Seasonal Load <sup>3</sup>	Describe proposed changes to equipment operating hours
		<i>6598</i>	<i>Seasonal</i>

**Electric Energy Savings Calculations (fill in all information, even if providing documentation)**

	Baseline	Proposed	Savings
	Existing equipment/system	Proposed equipment/system	Savings = Baseline minus Proposed
Annual Electric Energy (kilowatt-hours)	<i>42870.2 kWh</i>	<i>17912.7 kWh</i>	<i>24957.5 kWh</i>

*See attached sheet*

<sup>1</sup> If the project does not involve replacing/modifying existing equipment, describe today's standard new equipment/system.  
<sup>2</sup> Operating hours are when the equipment is typically used. If the project is proposed for more than one site, provide any variations in operating hours between the sites.  
<sup>3</sup> For heating or cooling or a seasonal schedule, provide the months in which the equipment is utilized under "Seasonal Load".

**Smart Saver™**  
**Nonresidential Custom Incentive Application**



Electric Demand (kilowatts)	kW	kW	kW
Calculations attached to this form	<input type="checkbox"/> $\phi$	<input type="checkbox"/> $\phi$	<input type="checkbox"/> $\phi$

**Simple Payback**

Average electric rate (\$/kWh) on the applicable accounts	\$0.05 /kWh <sup>1</sup>
Annual electric savings = rate (\$/kWh) * annual savings (kWh)	\$ 1247.86 annual electric savings
Other annual savings in addition to electric savings <input type="checkbox"/> Operations/maintenance, <input type="checkbox"/> Natural gas, <input type="checkbox"/> Other	\$ $\phi$ other annual savings
Cost to implement the project (equipment & installation)	\$ 17,468.00
Copy of vendor proposal is attached (required)	<input type="checkbox"/>
Simple Payback <sup>2</sup>	14 years

<sup>1</sup> For proposed projects that have demand savings but no electric savings, use \$/kW average demand rate and adjust accordingly.

<sup>2</sup> Simple payback = implementation cost divided by (annual electric savings)



**DeBra-Kuempel**  
 Mechanical-Electrical  
 An EMCOR Company

DeBra-Kuempel  
 3976 Southern Avenue  
 Cincinnati, OH 45227  
 Phone: 513.271.6500  
 Fax: 513.271.4676

www.debra-kuempel.com

September 21, 2010  
 (Revised March 7, 2011)

Mr. Tim Davidson  
 Mr. Gary Tout  
 Ethicon Endo-Surgery  
 4545 Creek Road  
 Cincinnati, Ohio 45242

RE: **ESI Cooling Tower Repairs**  
*DK PT 1018066*

Dear Gentlemen:

DeBra-Kuempel is pleased to offer pricing to replace the defective 2-speed 60 HP tower motor in cell #1 south. We consulted with the local vendor for Marley. The 2-speed 60 HP replacement motor is no longer available. We have provided two (2) options for your review, one (1) to rebuild the existing motor and one (1) to install a new 1-speed motor with a variable frequency drive. This motor may be eligible for a rebate through Duke Energy. Their policy states that "VFD's over 50 HP are considered 'custom' measures and are not eligible for prescriptive incentives". However, we will request a rebate for this application as Duke Energy has been willing to compromise in the past.

Please see below for a detailed scope of work.

**Option #1 – Scope of Work – Rebuild Motor:**

- Disconnect and remove defective motor.
- Provide necessary crane and rigging.
- Send out 60 HP motor to be rebuilt.
  - Dismantle and inspect.
  - Clean all parts.
  - Strip motor.
  - Wind new coils.
  - Rewind starter to original specifications.
  - Dip and bake.
  - Install new ball bearings.
  - Assemble, test and paint.
- Reinstall rebuilt motor.
- Perform start up and operational checkout.

**Option #1 – Quotation – Rebuild Motor:**

DeBra-Kuempel will perform the above scope of work for the sum of **Seven Thousand Eight Hundred and Six Dollars (\$7,806.00)**, plus applicable sales tax.

**Note: Please allow 7-10 days for motor repairs.**

Accept  Decline

Dayton  
 1948 West Dorothy Lane • Dayton, OH 45439  
 P: 937.531.5455 • F: 937.531.5456

An Equal Opportunity Employer

Maysville  
 702 Parker Drive • Maysville, KY 41056  
 P: 606.563.8505 • F: 606.563.8750



**DeBra-Kuempel**  
 Mechanical-Electrical  
 An EMCOR Company

DeBra-Kuempel  
 3976 Southern Avenue  
 Cincinnati, OH 45227  
 Phone: 513.271.6500  
 Fax: 513.271.4676

www.debra-kuempel.com

**Option #2 – Scope of Work – Install New 60 HP Motor with Variable Frequency Drive:**

- Disconnect and remove defective motor.
- Provide necessary crane and rigging.
- Provide and install new motor mount and hardware.
- Provide and install one (1) Marley coupling.
- Provide and install one (1) 60 HP 1-speed motor.
- Provide and install one (1) 60 HP 460 volt Yaskawa VFD with bypass.
- Provide necessary control signal for new VFD.
- Perform operational checkout.

**Option #2 – Quotation – Install New 60 HP Motor with Variable Frequency Drive:**

DeBra-Kuempel will perform the above scope of work for the sum of Seventeen Thousand Four Hundred and Sixty-Eight Dollars (\$17,468.00), plus applicable sales tax.

**Note: Please allow 3 weeks lead time for motor.**

Accept

Decline

**Conditions:**

- This proposal is based upon all work being performed during the normal working hours of 7:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays.
- Invoices will be rendered as work progresses and all invoices are payable upon receipt.
- Service charges at the rate of 1½% per month (as stated on our invoices) will be charged on all past due accounts.
- This quotation is subject to revision if not accepted within thirty (30) days.
- To signify your acceptance, please sign below and return a copy of this proposal with your purchase order.

Thank you for this opportunity to be of service. If you have any questions or if I can be of further assistance please feel free to contact me directly at (513) 527-8007.

Respectfully,

**DEBRA-KUEMPEL**

Matt Lenz  
 Account Manager

Acceptance:

\_\_\_\_\_  
 Authorized Signature Title

\_\_\_\_\_  
 Date P.O. #

Dayton  
 1948 West Dorothy Lane • Dayton, OH 45439  
 P: 937.531.5455 • F: 937.531.5456

An Equal Opportunity Employer

Maysville  
 702 Parker Drive • Maysville, KY 41056  
 P: 606.563.8505 • F: 606.563.8750




**Smart Saver™  
Nonresidential Custom Incentive Application**



**CUSTOMER CONSENT  
TO RELEASE OF  
PERSONAL INFORMATION (Required)**

I, INSERT NAME, do hereby consent to Duke Energy disclosing my Duke Energy Account Number and Federal Tax ID Number to its subcontractors solely for the purpose of administering Duke Energy's Smart Saver Program. I understand that such subcontractors are contractually bound to otherwise maintain my Duke Energy Account Number and Federal Tax ID Number in the strictest of confidence.

I realize that under the rules and regulations of the public utilities commission, I may refuse to allow Duke Energy to release the information set forth above. By my signature, I freely give Duke Energy permission to release the information designated above.

  
(Signature)

Name: GARY TOWR

Date: 6/20/11

**Smart \$aver™**  
**Nonresidential Custom Incentive Application**



**Project Questionnaire (Required)**

The intent of *Duke Energy's* Smart \$aver Nonresidential Custom Incentive Program is to cause the implementation of high efficiency energy saving project that would otherwise not be completed without the program's assistance (whether that be financial, technical, or other). Please take a moment to complete the following statement.

1. Please indicate if the *Duke Energy* incentive is/was a factor in your choice to install the more energy efficient equipment instead of other equipment that may not have saved as much energy.
  - A.  Program assistance/incentive has an influence on our decision, or
  - B.  Program assistance/incentive has no influence at all on our decision
  
2. If the *Duke Energy* incentive was a factor in your decision, please indicate how much of an influence the program incentive/service had on your energy efficient equipment choice. Please check the number that best represents the level of influence the program has on your equipment choice.

The Duke Energy program had no effect on our equipment choice	The Duke Energy program may have had a minor influence on our energy efficient equipment choice	The Duke Energy program had a positive influence in our selection of the energy efficient equipment	The Duke Energy program was one of the key reasons for the energy efficient equipment choice, but not the most important reason	The Duke Energy program was one of the most important reasons for the energy efficiency equipment choice	The Duke Energy program was the primary reason for the energy efficient equipment choice
0 <input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/> 6 <input type="checkbox"/>	7 <input type="checkbox"/> 8 <input type="checkbox"/>	9 <input type="checkbox"/> 10 <input type="checkbox"/>

3. Do you think that you would have or will select the same level of energy efficiency if the program information and technical assistance would not have been available to you?
  - A.  No, we would make a different equipment selection or not do the same project
  - B.  Not sure what we would do
  - C.  Yes, we would make exactly the same equipment choice.
  
4. Do you think that you would have or will select the same level of energy efficiency if the program's financial incentives would not have been available to you?
  - A.  No, we would make a different equipment selection or not do the same project
  - B.  Not sure what we would do
  - C.  Yes, we would make exactly the same equipment choice.

**Smart Saver™  
Nonresidential Custom Incentive Application**



5. Please check each of the boxes below indicating the different ways *Duke Energy* has in some way assisted in your decisions about this specific energy efficiency project. In addition, please indicate how important each of the different types of assistance has been in your decision to choose the energy efficient alternative. Please use a 1-10 scale with 1 meaning *Duke Energy's* program assistance was not very important in your decision, and a 10 meaning this assistance was very important.

Duke Energy has assisted in this way			Score (1 to 10 Scale)
Reviewed technology proposals/bids	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Found suppliers or contractors	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Worked with facility energy planning or teams	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Worked with facility engineer	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Helped find/obtain financing	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Conducted Technology or Energy Assessments	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Provided Training	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Engineering Analysis	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

**Smart Saver™  
Nonresidential Custom Incentive Application**



Developed Savings Calculations	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Product/Measure Info	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Assistance in finding a vendor or engineering firm	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Assistance in selling project to management	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Verification of calculations	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Reference or case study of the technology or application	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Permitting or code information	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Rate of Billing Information	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Financial Incentive for Project Equipment	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	6
Other	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

**Smart \$aver™**  
**Nonresidential Custom Incentive Application**



6. Duke Energy understands that energy savings is just one of many potential benefits of a project. Please rate the following benefits as they pertain to the project described above. (0 = not an expected benefit of this project, 5 = major expected benefit of this project)

	0	1	2	3	4	5
Energy cost savings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Maintenance-related savings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production capacity or product quality improvement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfies a regulatory or code requirement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Please describe how and when you (your company) first became aware of how the proposed energy efficiency measures/project could help your company save energy.

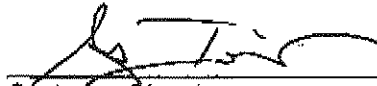
WORK WITH OUR DUKE REPRESENTATIVE AND ENERGY CONSULTANTS EARLY, APPROX 5-6 YRS AGO.

**Smart Saver™  
Nonresidential Custom Incentive Application**



**Signature (Required)**

I certify that I meet the eligibility requirements of the *Duke Energy* Smart Saver Custom Incentives Program and that all information provided within this application is correct to the best of my knowledge. I agree to the terms and conditions set forth for this program. I certify that the numbers, energy savings, and responses shown on this form are correct. Further, I certify that the taxpayer identification number is current and correct. I am not subject to backup withholding because: (a) I am exempt from backup withholding; or (b) I have not been notified by the IRS that I am subject to backup withholding as a result of a failure to report all interest or dividends; or (c) the IRS has notified me that I am no longer subject to backup withholding. I am a U.S. citizen (includes a U.S. resident alien).

  
\_\_\_\_\_  
Customer Signature

Print Name GARY TOLT

Date 6/20/11

# Specifications



## Performance Features

- VT Ratings: 1/2-150 HP, 208 VAC  
1/2-150 HP, 230/240 VAC  
1/2-500 HP, 480 VAC
- Overload capacity: 110% for 60 sec (150% peak)
- Starting torque: 100% at 3 Hz
- DC injection braking: at start or stop, adjustable, current limited (anti-windmilling)
- Motor preheat function
- Adjustable accel/decel: 0.1 to 6000 sec.
- Controlled speed range: 40:1
- Critical frequency rejection: 3 selectable, adjustable bands
- Energy Saving control
- Power loss ride-thru: 2 sec
- Auto restart after power loss or resettable fault, programmable
- Feedback signal loss detection
- Serial communications loss detection
- "Up/Down" floating point control
- Stationary motor auto-tuning
- Customizable monitor display
- Sleep function
- Run permissive input
- Runtime changes in control and display
- Project-specific parameter reinitialization

## Protective Features

- Current limited stall prevention
- Heat sink over-temperature, speed fold-back
- Cooling fan operating hours recorded
- Bi-directional start into rotating motor at synchronized speed
- DC bus charge indicator
- Current limiting DC bus fuse
- Optically-isolated controls
- Short circuit protection: phase-phase and phase-neutral
- Ground fault protection
- Short circuit withstand rating: 65K RMS, 100K RMS with bus reactor
- Electronic motor overload: UL
- Current and torque limit
- Fault display: last 10 faults
- Fault trace
- Fault circuit: OC, OV, OT
- Program security code
- Reverse prohibit selectability

## Design Features

- 32-bit microprocessor logic
- Flash upgradeable firmware
- Non-volatile memory, program retention
- Surface-mount components
- Displacement power factor: 0.98
- Output frequency: 0.1 to 120 Hz
- Frequency resolution: 0.06 Hz
- Frequency regulation: 0.1%
- Control Terminal Board: quick disconnect, removable
- Carrier frequency: selectable to 15 kHz
- 3% DC bus reactor: 30-150 HP, 208 VAC; 30-150 HP, 240 VAC; 40-500 HP, 480 VAC; optional on lower ratings
- Keypad Operator: Hand/Off/Auto, built-in copy feature, 7 languages
- LCD display: 5 lines, 16 characters each
- 24 VDC control logic
- Transmitter/Option power supply 15 VDC, 20 mA
- Output contacts: one form C and two programmable form A
- Input/output terminal status
- Input terminals: 5 programmable multi-function input terminals
- Fault input: programmable
- Diagnostic fault indication in selected language
- Timer function: Elapsed time, Delay on start, Delay on stop
- RS-422/485 ports: embedded Metasys-N2, APOGEE FLN, and Modbus
- Volts/hertz ratio: 15 preset and 2 programmable V/Hz patterns
- Multi-speed settings: 5 available
- Remote speed command: 0-10 VDC or 4-20 mA, direct or reverse-acting
- Setpoint (PI) control with inverse or square root input, differential control via two feedback capability
- Feedback signal: low pass filter
- Speed command: bias and gain
- Analog outputs: programmable, two, 0-10 VDC
- Meter Functions: volt, amp, kilowatt, elapsed run time, speed command
- Output Current Transformers, three
- NEMA 1 or protected chassis
- UL, cUL listed and CE marked; IEC 146;
- MTBF: exceeds 26 years

## Service Conditions

- Ambient Temperature: -10°C to 40°C  
NEMA 1, 45°C protected chassis (14°F to 104°F, 113°F)
- Humidity: 95% RH, non-condensing
- Altitude: 3300 ft; higher by derate
- Input voltage: +10% or -15%
- Input frequency: 50/60 Hz ± 5%
- 3-phase, 3-wire, phase sequence insensitive
- Plenum rated (UL 1995)

## Bypass Features

- Standard package to 250 HP
- Input, output, and bypass contactors
- Circuit breaker disconnect (MCP), with interlocked, through-the-door operating mechanism
- Thermal motor overload relay, class 20
- 115 VAC control transformer, fused
- Drive/Bypass selector switch
- Hand/Off/Auto selector switch
- Normal/Test selector switch
- Pilot lights, 22mm LED, for Control Power, Drive Run, Drive Fault, Bypass Run, Motor OL/Safety Fault and Smoke Purge
- Switch selectable auto transfer to bypass on drive fault
- Switch selectable remote transfer to bypass via contact closure
- Switch selectable smoke purge function
- Run mode and Fault contacts
- Control and safety circuit terminal strip
- Damper circuit safety interlock
- Customer use, 115V, 100VA

## Options

- Remote digital operator kit
- Input fuses, fT; circuit breakers
- Oversized control transformer
- NEMA 3R and 4X enclosures
- Input and/or output reactor
- Twelve-pulse rectification with input transformer: 30-150 HP, 208 VAC; 30-150 HP, 240 VAC; 40-500 HP, 480 VAC
- Communication Interface: LonWorks
- RFI/EMI filter
- Pressure transducer, 3-15 PSI
- Multiple motor operation logic
- Speed potentiometer
- Run/Stop push buttons
- Motor protection load reactor
- Engraved nameplates
- Analog outputs: programmable, two, 4-20 mA
- DriveWizard™ upload/download and monitoring/graphing software



Yaskawa Electric America, Inc.  
16555 W. Ryerson Road  
New Berlin, WI 53151  
(800)YASKAWA (927-5292) Fax (262) 782-3418  
www.drives.com

# Dimensions



## E7 Drive

Rated Input Voltage	Rated Output Current (Amps)	Nominal HP	Dimensions (inches)			Weight (lbs.) <sup>(1)</sup>	Standard Enclosure				
			Height	Width	Depth						
208 V	3.6	1/2 & 3/4	11.02	5.51	6.30	6.6	NEMA 1				
	4.6	1									
	7.8	2									
	10.8	3									
	16.8	5	7.09	8.8	8.8						
	31.0	7.5 & 10				11.81		7.87	7.87	13.2	
	46.2	15				12.20					15.4
	59.4	20				13.78					
	74.8	25	14.96								
	88	30	21.06	10.00	10.24	53		Protected Chassis			
	115	40	24.21	10.98							
	162	50	23.62	14.76					11.81	125	
	192	60									12.99
	215	75	28.54	17.72	13.78	189					
317	100	191									
360	125	33.46	19.69	14.17	238						
415	150	34.84	22.64	14.96	330						
240 V	3.6	1/2 & 3/4	11.02	5.51	6.30	6.6	NEMA 1				
	4.6	1									
	7.8	2									
	10.8	3									
	16.8	5	7.09	8.8	8.8						
	23	7.5									
	31	10				11.81		7.87	7.87	13.2	
	46.2	15				12.20					15.4
	59.4	20	13.78								
	74.8	25	14.96								
	88	30	21.06	10.00	10.24	53		Protected Chassis			
	115	40	24.21	10.98							
	162	50 & 60	23.62	14.76					11.81	125	
	192	75									12.99
312	100 & 125	28.54	17.72	13.78	191						
360	150	33.46	19.69	14.17	238						
480 V	1.8	1/2 & 3/4	11.02	5.51	6.30	6.6	NEMA 1				
	2.1	1									
	3.7	2									
	5.3	3									
	7.6	5	7.09	8.8	8.8						
	12.5	7.5									
	17	10				11.81			7.87	7.87	13.2
	27	15 & 20									
	34	25									
	40	30									
	57.7	40 & 50	21.06	10.98	10.24	53		Protected Chassis			
	77	50	25.00	12.95	11.22	88					
	96	75	28.15								
	125	100									
	156	125	28.54						17.72	13.78	194
	190	150		196							
	240	200	33.46	19.69	14.17	224					
	304	250	36.06	22.64	14.96	352					
414	300 & 350	27.95	51.38	16.34	572						
515	400 & 450					616					
675	500	36.06	58.07	16.34	891						

## E7 / Bypass Package<sup>(2)</sup>

Rated Input Voltage	Rated Output Current (Amps)	Nominal HP	Dimensions (inches)			Weight (lbs.) <sup>(1)</sup>			
			Height	Width	Depth				
208 V	2.4	1/2	29.00	19.00	13.66	115			
	3.5	3/4							
	4.8	1							
	7.5	2							
	10.6	3	40.00	25.63	14.66		208		
	16.7	5							
	24.2	7.5							
	30.8	10							
	46.2	15	84.00	37.75	20.00			221	
	59.4	20							
	74.8	25							
	88	30							
	114	40	84.00	37.75	20.00				847
	143	50							
169	60								
211	75								
273	100	84.00	37.75	20.00	943				
343	125								
396	150								
273	100								
343	125	84.00	37.75	20.00		1214			
396	150								
273	100								
343	125								
396	150	84.00	37.75	20.00			1330		
273	100								
343	125								
396	150								
273	100	84.00	37.75	20.00				1423	
343	125								
396	150								
273	100								
240 V	2.2	1/2	29.00	19.00	13.66				115
	3.2	3/4							
	4	1							
	6.8	2							
	9.6	3	40.00	25.63	14.66	208			
	15.2	5							
	22	7.5							
	28	10							
	42	15	84.00	37.75	20.00		221		
	54	20							
	66	25							
	80	30							
	104	40	84.00	37.75	20.00			847	
	130	50							
154	60								
192	75								
248	100	84.00	37.75	20.00	943				
312	125								
396	150								
1.1	1/2					29.00			19.00
1.6	3/4								
2.1	1								
3.4	2								
4.6	3	40.00	25.63	14.66		1350			
7.6	5								
11	7.5								
14	10								
27	15	84.00	37.75	20.00			1376		
27	20								
34	25								
40	30								
52	40	84.00	37.75	20.00	142				
65	50								
77	60								
96	75								
124	100	84.00	37.75	20.00				203	
156	125								
180	150								
240	200								
302	250	84.00	37.75	20.00		232			
302	250								
302	250								
302	250								

<sup>(1)</sup> Note that weight represents drive weight only, not shipping weight

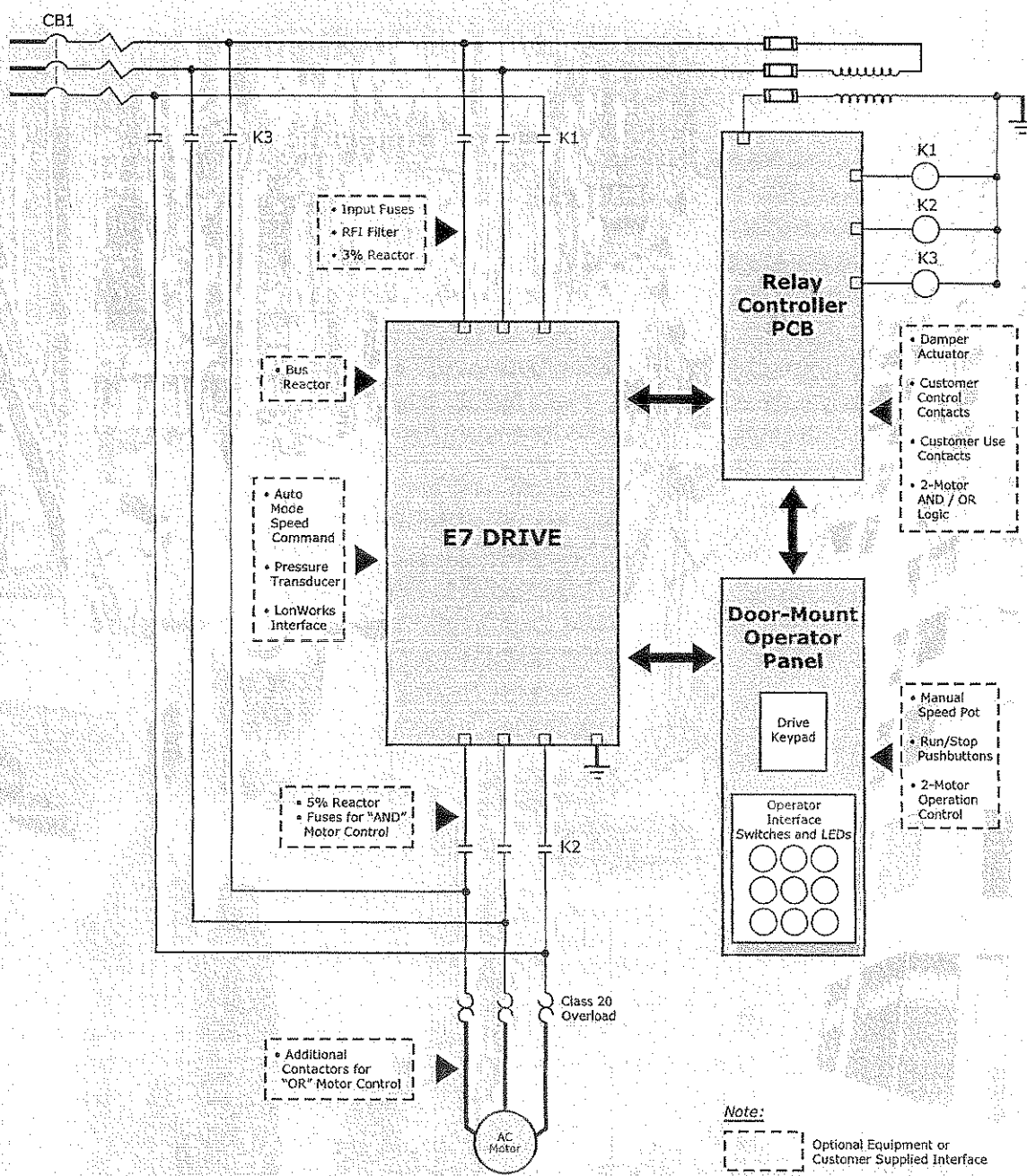
<sup>(2)</sup> All NEMA 1 Enclosures

<sup>(3)</sup> Weight may vary with options; maximum weight of bypass with all options is listed





# E7/Bypass Schematic





November 7, 2011

Duke Energy  
Self Direct Program  
105 East Fourth Street  
Cincinnati, Ohio 45202

To Whom it May Concern,

This letter is to inform you that the 60 HP high efficiency motor with the 60 HP VFD installation has been completed by Ethicon. Due to the fact that we found it necessary to install this equipment prior to approvals, we would like change our submission from the Duke Energy custom program to the Self Direct program for the application 11-206 submitted on June 20, 2011 and the offer letter received by Ethicon on July 11, 2011. Please send us the new offer letter at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Tout", with a long horizontal flourish extending to the right.

Gary Tout  
Staff Facilities Engineer  
Ethicon Endo-Surgery, Inc.



Remit to: P.O. Box 701620  
Cincinnati, OH 45270-1620

BILLED BY: CAMILLE J. 513-527-8188

INVOICE DATE  
661000 6/28/2011

J&J SERVICES  
PO BOX 16506  
ATTN: ACCOUNTS PAYABLE  
NEW BRUNSWICK, NJ 08906-6506  
877-557-4487

ETHICON/ CREEK ROAD  
4545 CREEK ROAD  
CINCINNATI, OH

Customer P.O. No.: 992663157

Ticket Number: 311253  
Bill Contract: 311253

REFERENCE DESCRIPTION AMOUNT

ETHICON/ COOLING TOWER MOTOR REPAIRS  
LABOR AND MATERIAL TO INSTALL NEW FAN MOTOR AND INSTALL (1) VFD

INVOICE AMOUNT \$17,468.00

Now Accepting Visa/MC/AMX for  
Payment of Invoices.  
A Service Charge of 1.5% per Month  
will be charged on All Past Due Accts.

SUB-TOTAL \$17,468.00  
TAX \$1,135.42  
AMOUNT PAID \$18,603.42  
AMOUNT DUE \$0.00

DUE ON RECEIPT

DeBra-Kuempel 3976 Southern Avenue Cincinnati, OH 45227 Phone 513-271-6500 Fax 513-271-4676

Appendix C -Commitment Payment Calculation

Measure	Quantity	Commitment Payment/Rebate Rate	Rebate	Total Cash Rebate
VFD Added to 60 HP Two-Speed Cooling Tower Fan Motor	1	50% of incentive that would be offered by the Smart \$aver Custom program	\$ 525.00	\$ 525.00

Appendix D -UCT Value

<b>Measure</b>	<b>Total Avoided Cost</b>	<b>Program Cost</b>	<b>Incentive</b>	<b>Quantity</b>	<b>Measure UCT</b>
VFD Added to 60 HP Two-Speed Cooling Tower Fan Motor	\$13,272	\$184	\$525	1	18.73