Ohio | Public Utilities Commission

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

Case No.: ____-____-EL-EEC

Mercantile Customer: **J T M Provisions**

Electric Utility: **Duke Energy**

Program Title or Description: **VSD Air Compressor and Well Water Condensing System**

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.

Section 1: Mercantile Customer Information

Name: **Regency Centers**

Principal address: **200 Sales Drive Harrison, Ohio 45030**

Address of facility for which this energy efficiency program applies:

200 Sales Drive Harrison, Ohio 45030

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. (**Refer to Appendix A for documentation**).
- □ 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)).

Installed a VSD Air Compressor and a Well Water Condensing System between October 2008 and June 2009 as part of a facility expansion.

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

□ 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: **1,137,131 kWh** (**Refer to Appendix B for calculations and supporting documents).**

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: _____kWh

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?

Installed a VSD Air Compressor and a Well Water Condensing System between October 2008 and June 2009 as part of a facility expansion.

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

181 kW
Refer to Appendix B for calculations and supporting documents.

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.**

OR

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

OR

✓ Commitment payment

Note: This application involves both projects with payback < 1 year and with payback > 1 year. As a result, both types of payments are included.

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 **20,500.00 Refer to Appendix C for documentation.** (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

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 $360.00 Refer to Appendix C for documentation.**

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 is **19.58** (Skip to Subsection 2.) **Refer to Appendix D for calculations and supporting documents.**

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 **$747,927**.

The utility's program costs were **$17,345**.

The utility's incentive costs/rebate costs were **$20,860.00.**

Refer to Appendix D for calculations and supporting documents.

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.

Refer to Offer Letter following this application

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.

DUKE ENERGY CORPORATION
Mercantile Self Direct Program
139 East Fourth Street
Cincinnati, OH 45202

513 629 5572 fax

February 29, 2012

Mr. Joseph Maas
J.T.M. Provisions
200 Sales Drives
Harrison, Ohio 45030

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

Dear Mr. Maas:

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 $20,860.00 has been proposed for your VSD air compressor and well water condensing system projects completed in the 2009 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 513-629-5572 or e-mail to 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,

Grady Reid, Jr
Product Manager
Mercantile Self Direct Rebates

cc: Mike Harp, Duke Energy
Rob Jung, WECC
Maria Ramos, Fosdick and Hilmer Inc

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

☑ Rebate is accepted. ☐ Rebate is declined.

By accepting this rebate, J.T.M. Provisions 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, J.T.M. Provisions 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, J.T.M. Provisions 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):

Joseph Mass JOSEPH MASS 3-14-12

Customer Signature Printed Name Date

Proposed Rebate Amounts

Measure ID	Energy Conservation Measure (ECM)	Proposed Rebate Amount
ECM-1	VSD Air Compressor (Qty 1)	$360.00
ECM-2	Well Water Condensing System (Qty 1)	$20,500.00
Total		$20,860.00

Ohio | Public Utilities Commission

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

Case No.: ____-____-EL-EEC

State of Ohio :

Joseph Maas, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

   T.T.M. Properties

   [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.

Joseph Maas
Signature of Affiant & Title

Sworn and subscribed before me this 14 day of March, 2012 Month/Year

Nancy E. Maly
Signature of official administering oath

Nancy E. Maly
Print Name and Title
Notary Public, State of Ohio

My commission expires on 2-16-2014

NOTARY PUBLIC STATE OF OHIO

NANCY E. MALY
Notary Public, State of Ohio
My Commission Expires
February 16, 2014

53900838 20		
J T M PROVISIONS		Meter 106967776
200 SALES		
HARRISON, OH 45030		
Date	Days	Actual KWH
7/13/2011	30	1,056,492
6/13/2011	32	962,636
5/12/2011	30	1,037,386
4/12/2011	29	1,035,818
3/14/2011	31	1,103,249
2/11/2011	29	1,080,355
1/13/2011	34	1,192,826
12/10/2010	31	1,177,642
11/9/2010	29	1,109,200
10/11/2010	31	1,205,105
9/10/2010	30	1,196,597
8/11/2010	29	1,196,102
Total		**13,353,408**

Appendix B - Energy Savings Achieved

	Baseline Used			Post Project Actual				Savings	
ECM #	Description	Annual kWh	Summer Coincident kW	Description	Annual kWh	Summer Coincident kW	Hours of Operation[1]	Annual kWh	Summer Coincident kW
1	100HP Rotary Screw Constant Speed Air Compressor	249,716	81	100HP VFD Driven Air Compressor	166,773	86	6,692	82,943	-4.2
2	850 Ton Refrigeration system served by 900 GPM geothermal refrigerant condensing loop.	5,774,220	1,020	850 Ton Refrigeration system served by 1,100 GPM geothermal refrigerant condensing loop. One geothermal well added to provide additional condenser flow, reducing pressure against which compressors operate.	4,797,471	847	8,760	976,749	172.5
	Totals	6,023,936	1,101		4,964,244	933		1,059,692	168

After consideration of line losses, total energy savings are **1,137,131 kWh** and **181 summer coincident kW**. These values may also reflect minor DSMore modeling software rounding error.

Notes:

1 These systems do not operate at steady power draw throughout their annual hours of operation.

DETAILED CALCULATIONS - ECM1

JAN 2012 V2

Salesforce Opportunity Name	*JTM Provisions*	Application #	11-469	Rev.	0
Project Name	*JTM Provisions - Air Compressor & Well Water Condensing System*			State	OH

ECM-1 JTM Provisions - VSD Air Compressor

1. Description of how hours of use were determined:

Air compressor placed in service approximately 2/16/2009 (per the "Payment Invoices.pdf" file, page 12-13)
Trend Data is dated 9/9/2009, which would be 1 week short of 6 months
Trend data shows 25 starts for the air compressor, which would equal 1 per week of operation.
Appears air compressor turned off for weekend, left on for weekdays.
Appears 0% load in trend data represents hours turned off for weekends (48 hours weekends * 25 wks = 1,200 hours)
Therefore, scale trend data to 8760 hours to get annual usage.

2. Compressed Air Load Profile

% Load	Hours	Minutes	Hours & minutes	% of trend data hours	Scale to Annual	CFM @ % Load	Cubic Feet per Year
0%	1148	53	1,148.9	23.6%	2,068.4	0.0	0
5%	0	0	0.0	0.0%	0.0	24.5	0
10%	0	0	0.0	0.0%	0.0	48.9	0
15%	830	44	830.7	17.1%	1,495.6	73.4	3,656,057
20%	78	57	79.0	1.6%	142.1	97.8	463,279
25%	64	7	64.1	1.3%	115.4	122.3	470,296
30%	143	16	143.3	2.9%	257.9	146.7	1,261,033
35%	191	55	191.9	3.9%	345.5	171.2	1,970,792
40%	208	25	208.4	4.3%	375.2	195.6	2,445,978
45%	159	18	159.3	3.3%	286.8	220.1	2,103,238
50%	190	39	190.7	3.9%	343.2	244.5	2,796,836
55%	218	21	218.4	4.5%	393.1	269.0	3,523,514
60%	250	42	250.7	5.2%	451.3	293.4	4,413,323
65%	250	51	250.9	5.2%	451.6	317.9	4,783,960
70%	266	37	266.6	5.5%	480.0	342.3	5,475,773
75%	264	54	264.9	5.4%	476.9	366.8	5,829,125
80%	240	15	240.3	4.9%	432.5	391.2	5,639,148
85%	172	25	172.4	3.5%	310.4	415.7	4,299,899
90%	94	30	94.5	1.9%	170.1	440.1	2,495,367
95%	38	58	39.0	0.8%	70.2	464.6	1,086,118
100%	51	56	51.9	1.1%	93.5	489.0	1,523,724
Totals:			**4,865.7**		**8,760.0**		**54,237,459**

3. Common Properties, Baseline and Proposed

Actual Operating pressure:	104	psi
CAGI Data Sheet Operating Pressure:	125	psi
Operating Pressure % Reduction from CAGI:	16.8%	
kW Reduction from CAGI to Actual:	8.4%	
Annual Hours Air Compressor Enabled:	8,760	Hours
Annual Hours Load > 0%:	6,692	Hours

DETAILED CALCULATIONS - ECM1

JAN 2012 V2

Salesforce Opportunity Name	*JTM Provisions*		Application #	11-469	Rev. 0
Project Name	*JTM Provisions - Air Compressor & Well Water Condensing System*				State OH

ECM-1 JTM Provisions - VSD Air Compressor

4. Baseline (Constant Speed) Air Compressor Energy and Demand

42 year old air compressor. Set baseline as new air compressor without VFD of same mfg (Sullair) and model (7509), air cooled. See "CAGI_Data_Sheet_7509-AC_BASELINE.pdf" for CAGI data sheet. Note this data sheet is the only one available on mfg. website, and it's for 125 psi instead of 100 psi like used on this project. Also, this data sheet is from Aug 22, 2011, and project was placed in service late 2008 or early 2009.

VSD Air Compressor Capacity:	489	cfm
Baseline Air Compressor Capacity:	486	cfm
Baseline Air Comp Power Full Load @ 125 PSI:	88.9	kW
Baseline Air Comp Power Zero Flow @ 125 PSI:	22.2	kW
Baseline Air Comp Power Full Load @ 104 PSI:	81.4	kW
Baseline Air Comp Power Zero Flow @ 104 PSI:	20.3	kW
Baseline Equivalent Full Load Hours:	1,860	Hours
Baseline Difference in Operating to Full Load Equiv. Hours:	4,832	Hours
Annual Baseline Air Compressor Energy Use:	**249,716**	**kWh**
Baseline Max kW:	**81.4**	**kW**

5. Proposed (VSD) Air Compressor Energy and Demand

Sullair 7509V, air cooled.
See "CAGI_VSD_Data_Sheet_7509V-AC_PROPOSED.pdf" for CAGI data sheet. Note this data sheet is the only one available on mfg. website, and it's for 125 psi instead of 100 psi like used on this project.

VSD Air Compressor performance (per CAGI for 125 PSI and Adjust to Actual PSI)

Input Power (kW) @ 125 PSI	Capacity (cfm)	Specific Power (kW/100 CFM) @ 125 PSI	% Capacity	Input Power (kW) @ 104 PSI
93.5	454.0	20.595	100.0%	85.65
80.4	385.9	20.834	85.0%	73.65
67.2	317.8	21.145	70.0%	61.56
54.1	249.7	21.666	55.0%	49.56
40.9	181.6	22.522	40.0%	37.46
27.8	113.5	24.493	25.0%	25.46
6.16	22.7	27.122	5.0%	5.64

NOTE: The row of information at 5% capacity was estimated based on increase in specific power from 40% load to 25% load

DETAILED CALCULATIONS - ECM1

JAN 2012 V2

Salesforce Opportunity Name	*JTM Provisions*		Application #	11-469	Rev. 0
Project Name	*JTM Provisions - Air Compressor & Well Water Condensing System*				State OH

ECM-1 JTM Provisions - VSD Air Compressor

Use data from 'VSD Air Compressor Performance' table to interpolate kW for each 5% load step

% Load	Input Power (kW) @ 104 PSI	Hours	Proposed kWh
0%	0.0	1,148.9	0
5%	5.6	0.0	0
10%	10.6	0.0	0
15%	15.6	830.7	12,920
20%	20.5	79.0	1,619
25%	25.5	64.1	1,633
30%	29.5	143.3	4,221
35%	33.5	191.9	6,422
40%	37.5	208.4	7,808
45%	41.5	159.3	6,610
50%	45.5	190.7	8,679
55%	49.6	218.4	10,820
60%	53.6	250.7	13,426
65%	57.6	250.9	14,438
70%	61.6	266.6	16,412
75%	65.6	264.9	17,374
80%	69.6	240.3	16,725
85%	73.6	172.4	12,698
90%	77.6	94.5	7,338
95%	81.6	39.0	3,181
100%	85.6	51.9	4,448
Annual:	**85.6 (maximum)**		**166,773 (total)**

6. Savings:

Energy Use Savings (kWh): 82,943

Demand Savings (kW): -4.2

Note: demand savings is negative due to electricity losses of the VSD at full load.

DETAILED CALCULATIONS

JAN 2012 V2

Salesforce Opportunity Name	*JTM Provisions*	Application #	11-469	Rev.	0
Project Name	*JTM Provisions - Air Compressor & Well Water Condensing System*			State	OH
ECM-2	JTM Provisions - Well Water Condensing System				

All information below is from the "General Application.pdf" file, page 8 unless otherwise specified.

Plant tonnage:	850
Weeks per year:	51

Revised Hours of Operation, per "2012-02-10 J Maas Email 11-469 MSD JTM Provisions.pdf":

Plant usage hours based on interview with refrigeration engineer.
51 weeks/year x 5 days a week x 12 hours at 100% usage.
51 weeks / year x 5 days a week x 12 hours at 75% usage.
Saturdays, year round, 75% usage for 8 hours.

Load level #1: Weekday full load, 12 hours per day

Days per week:	5
% Load:	100.0%
Hours per day:	12
Ton hours Load level #1:	2,601,000

Load level #2: Weekday 75% load, 12 hours per day

Days per week:	5
% Load:	75.0%
Hours per day:	12
Ton hours Load level #2:	1,950,750

Load level #3: Saturday 75% load, all year

Days per week:	1
% Load:	75.0%
Hours per day:	8
Ton hours Load level #3:	260,100
Total Ton Hours:	**4,811,850**

Refrig Compressor Efficiency, Baseline:	1.2	kW/ton	Corresponds to 175 psi head pressure
Refrig Compressor Efficiency, Proposed:	0.93	kW/ton	Corresponds to 135 psi head pressure

Refrigeration System Electric Demand and Electric Use

Refrig Compressor Energy Use, Baseline:	5,774,220	kWh
Refrig Compressor Energy Use, Proposed:	4,475,021	kWh
Refrig Compressor Energy Use Savings:	1,299,200	kWh
Refrig Compressor Demand, Baseline:	1,020	kW
Refrig Compressor Demand, Proposed:	791	kW
Refrig Compressor Demand Savings:	230	kW

Well Pump Energy Use

Well pump quantity:	2	one per well
Well pump size:	40	hp
Hp to kW conversion:	0.7457	
Load factor:	80%	Estimated…typical for many motor loads
Motor Efficiency:	83.79%	Estimated based on "Motor efficiency info for typical well pump motor.pdf", which is product data for 6 inch, 40 hp, Franklin Electric submersible motor.
Well pump run hours:	5,661	hours
Additional electric demand:	56.96	kW
Additional electric use:	322,451	kWh

Total Electric Demand and Electric Use

Total Baseline kWh:	5,774,220	kWh
Total Proposed kWh:	4,797,471	kWh
Total kWh Savings:	976,749	kWh
Total Baseline kW:	1,020	kW
Total Proposed kW:	847	kW
Total kW Savings:	173	kW

Appendix C – J T M Provisions Commitment and Cash Rebate Calculation

Air Compressor and Well Water Condensing System

Cash Rebate

Measure	Quantity	Commitment Payment/Rebate Rate	Cash Rebate
Well Water Condensing System	1	50% of incentive that would be offered by the Smart $aver Custom program	$20,500.00

Commitment Payment

Measure	Quantity	Commitment Payment/Rebate Rate	Payment
VSD Air Compressor	1	$0.005 per kWh & $10 per summer coincident kW	$360.00

s

Appendix D -J T M Provisions UCT Value

VFD

Measure	Total Avoided Cost	Program Cost	Incentive	Quantity	Measure UCT
VSD Air Compressor	$52,038	$823	$360	1	**43.99**
Well Water Condensing System	$695,889	$16,522	$20,500	1	**18.80**
Totals	**$747,927**	**$17,345**	**$20,860**	**2**	

Total Avoided Supply Costs	$747,927	***Aggregate Application UCT***	***19.58***
Total Program Costs	$17,345.00		
Total Incentive	$20,860		

Ohio Mercantile Self Direct Program

Application Guide & Cover Sheet

Questions? Call 1-866-380-9580 or visit www.duke-energy.com.

Email this form along with completed Mercantile Self Direct Prescriptive or Custom applications, proof of payment, energy savings calculations and spec sheets to SelfDirect@Duke-Energy.com. You may also fax to 1-513-629-5572.

Mercantile customers, defined as using at least 700,000 kWh annually are eligible for the Mercantile Self Direct program. Please indicate mercantile qualification:

- [X] a single Duke Energy Ohio account
- [ ] multiple accounts in Ohio (energy usage with other utilities may be counted toward the total)

Please list Duke Energy account numbers below (attach listing of multiple accounts and/or billing history for other utilities as required):

Account Number	Annual Usage	Account Number	Annual Usage
5390-0838-20-0	14,000,000 Kwh		

Self Direct rebates are available for completed Custom projects that have not previously received a Duke Energy Smart $aver® Custom Incentive. Self Direct incentives are applicable to Prescriptive measures that were installed more than 90 days prior to submission to Duke Energy and have not previously received a Duke Energy Prescriptive rebate.

Self Direct Program requirements dictate that certain projects that may be Prescriptive in nature under the Smart $aver program must be evaluated using the Custom process. Use the table on page two as a guide to determine which Self Direct program fits your project(s). Apply for Self Direct projects using the appropriate application forms in conjunction with this cover sheet. Where Mercantile Self Direct Prescriptive applications are listed, please refer to the measure list on that application. If your measure is not listed, you may be eligible for a Self Direct Custom rebate. Self Direct Custom applications, like Smart $aver Custom applications, should include detailed analysis of pre-project and post-project energy usage and project costs. Please indicate which type of rebate applications are included in the table provided on page two.

Please check each box to indicate completion of the following program requirements:

[X] All sections of appropriate application(s) are completed	[X] Proof of payment.*	[X] Manufacturer's Spec sheets - for Air comp.	[ ] Energy model/calculations and detailed inputs for Custom applications

* If a single payment record is intended to demonstrate the costs of both Prescriptive & Custom projects, please include an additional document with an estimated breakout of costs for each Prescriptive and Custom energy conservation measure.

Application Type	Replaced equipment at end of lifetime or because equipment failed**	Replaced fully operational equipment to improve efficiency***	New Construction
Lighting	MSD Custom Part 1 ☐ Custom Lighting Worksheet ☐	MSD Prescriptive Lighting ☐	MSD Prescriptive Lighting ☐
		MSD Custom Part 1 ☐ Custom Lighting Worksheet ☐	MSD Custom Part 1 ☐ Custom Lighting Worksheet ☐
Heating & Cooling	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Prescriptive Heating & Cooling ☐
			MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐
Window Films, Programmable Thermostats, & Guest Room Energy Management Systems	MSD Custom Part 1 ☐ MSD Custom General and/or EMS Worksheet(s) ☐	MSD Prescriptive Heating & Cooling ☐	MSD Custom Part 1 ☐ MSD Custom General and/or EMS Worksheet(s) ☐
Chillers & Thermal Storage	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Prescriptive Chillers & Thermal Storage ☐
			MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐
Motors & Pumps	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Prescriptive Motors, Pumps & Drives ☐
			MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐
VFDs	Not Applicable	MSD Prescriptive Motors, Pumps & Drives ☐	MSD Custom Part 1 ☐ MSD Custom VFD Worksheet ☐
		MSD Custom Part 1 ☐ MSD Custom VFD Worksheet ☐	
Food Service	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Prescriptive Food Service ☐
			MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐
Air Compressors	MSD Custom Part 1 ☐ MSD Custom Compressed Air Worksheet ☐	MSD Custom Part 1 ☒ MSD Custom Compressed Air Worksheet ☒	MSD Prescriptive Process ☐
			MSD Custom Part 1 ☐ MSD Custom Compressed Air Worksheet ☐
Process	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	MSD Prescriptive Process ☐	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐
		MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐	
Energy Management Systems	MSD Custom Part 1 ☐ MSD Custom EMS Worksheet ☐	MSD Custom Part 1 ☐ MSD Custom EMS Worksheet ☐	MSD Custom Part 1 ☐ MSD Custom EMS Worksheet ☐
Chiller Tune-ups	MSD Prescriptive Chiller Tune-ups ☐		
Behavioral* & No/Low Cost**	MSD Custom Part 1 ☐ MSD Custom General Worksheet ☐		

** Under the Self Direct program, failed equipment and equipment at the end of its useful life are evaluated differently than early replacement of fully functioning equipment. **All equipment replacements due to failure or old age will be evaluated via the Custom program.**

*** Please ensure that you include the age of the replaced equipment for measures classified as "Early Replacement" in your application as well as the estimated date that you would have otherwise replaced the existing equipment if you had not chosen a more energy efficient option.

**** Behavioral energy efficiency and demand reduction projects must be both measurable and verifiable. Provide justification with your application.

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

Proposed energy efficiency measures may be eligible for Self-Direct Custom rebates if they clearly reduce electrical consumption and/or demand as compared to the appropriate baseline.

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

- Submitting this application does not guarantee a rebate will be approved.
- Rebates are based on electricity conservation only.
- Electric demand and/or energy reductions must be well documented with auditable calculations.
- Incomplete applications cannot be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, beginning on page 6.

Notes on the Application Process

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact your Duke Energy Ohio, Inc account manager or the Duke Energy Smart $aver® team at 1-866-380-9580.

Every application must include calculations of the baseline electrical usage and the electrical usage of the proposed high-efficiency equipment/system. Monthly calculations are best. You, the Duke Energy Ohio customer, or your equipment vendor / engineer should perform these calculations and submit them to Duke Energy for review. *We strongly encourage the use of modeling software (such as eQuest or comparable) for complex projects.*

Upon receipt of your application, an acknowledgement email will be sent to you with an estimated response time based on an initial assessment of your application. The application review may include some communication to resolve any questions about the project or to request additional information. Applications that are received complete without missing information have a faster review time.

There are two ways to submit your completed application.

Email your scanned form to: SelfDirect@duke-energy.com

Or, fax your form to 513-629-5572

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

Duke Energy

1. Contact Information (Required)

Duke Energy Customer Contact Information							
Company Name	J.T.M. Provisions						
Address	200 Sales Dr.						
Project Contact	Joseph Maas						
City	Harrison	State	Ohio	Zip Code	45030		
Title	Vice President						
Office Phone	513-367-3576	Mobile Phone	513-503-4070	Fax			
E-mail Address	joemaas@J.T.M.foodgroup.com						

Equipment Vendor / Contractor / Architect / Engineer Contact Information							
Company Name	Fosdick & Hilmer, Inc.						
Address	309 Vine St, Suite 50						
City	Cincinnati	State	OH	Zip Code	45202		
Project Contact	Maria Ramos						
Title	Engineer						
Office Phone	513-419-9235	Mobile Phone	513-237-5604	Fax			
E-mail Address	mramos@fheng.com						
Describe Role							

Payment Information					
Payee Legal Company Name (as shown on Federal income tax return):	JTM Provisions Co. Inc.				
Mailing Address	200 Sales Drive				
City Harrison	Ohio	State	Ohio	Zip Code	45030
Type of organization (check one) ☐ Individual/Sole Proprietor ☒ Corporation ☐ Partnership ☐ Unit of Government ☐ Non-Profit (non-corporation)					
Payee Federal Tax ID # of Legal Company Name Above:	31-0855794				
Who should receive incentive payment? (select one) ☒ Customer ☐ Vendor (Customer must sign below)					
If the vendor is to receive payment, please sign below: I hereby authorize payment of incentive directly to vendor: Customer Signature Joseph Maas Date 12/27/2011 (mm/dd/yyyy)					

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

2. Project Information (Required)

A. Please indicate project type:
- ☐ New Construction
- ☒ Expansion at an existing facility
- ☐ Replacing equipment due to equipment failure
- ☐ Replacing equipment that is estimated to have remaining useful life of 2 years or less
- ☐ Replacing equipment that is estimated to have remaining useful life of more than 2 years
- ☐ Behavioral, operational and/or procedural programs/projects

B. Please describe your project, or attach a detailed project description that describes the project. See attached

C. When did you start and complete implementation?
Start date / (mm/yyyy) End date / (mm/yyyy)

10/1/08 – 9/1/09

D. Are you also applying for Self-Direct Prescriptive incentives and, if so, which one(s)[1]?

NO

E. Please indicate which worksheet(s) you are submitting for this application (check all that apply):
- ☐ Lighting
- ☐ Variable Frequency Drive (VFD)
- ☒ Compressed Air
- ☐ Energy Management System (EMS)
- ☒ General (for projects not easily submitted using one of the above worksheets)

F. Please tell us if there is anything about your electrical energy projections (either for the baseline or the proposed project) that you are either unsure about or for which you have made significant assumptions. Attach additional sheets as needed.

Required: Attach a supplier or contractor invoice or other equivalent information documenting the Implementation Cost for each project listed in your application. (Note: self-install costs cannot be included in the Implementation Cost)

Attached

[1] If your project involves some equipment that is eligible for prescriptive incentives and some equipment that is likely eligible for custom incentives, and if it is feasible to separate the equipment for the energy analysis, then the equipment will be evaluated separately. If it is not feasible to separate the equipment for analysis, then the equipment will be evaluated together in the custom application.

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

3. Signature (Required – must be signed by Duke Energy customer)

Customer Consent to Release of Personal Information

I, (insert name) Joe Maas, do hereby consent to Duke Energy disclosing my Duke Energy Ohio, Inc Account Number and Federal Tax ID Number to its subcontractors solely for the purpose of administering Duke Energy Ohio's Mercantile Self-Direct Program. I understand that such subcontractors are contractually bound to otherwise maintain my Duke Energy Ohio, Inc 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 Ohio, Inc to release the information set forth above. By my signature, I freely give Duke Energy Ohio, Inc permission to release the information designated above.

Application Signature

I certify that I meet the eligibility requirements of the Duke Energy Ohio, Inc Mercantile Self Direct 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).

Joseph Maas
Duke Energy Ohio, Inc Customer Signature

Print Name Joseph Maas

Date 12-27-11

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

Duke Energy®

Checklist for completing the Application

INCOMPLETE APPLICATIONS WILL RESULT IN DELAYS IN DUKE ENERGY PROCESSING YOUR APPLICATION AND NOTIFYING YOU CONCERNING AY REBATES. Before submitting the application and the required supplementary information, use the following checklist to ensure that your application is complete and the information in the application is accurate. (Note: this checklist is for your use only – do not submit this checklist with your application)

Section No. & Title	Have You:
1. Contact Information	☒ Completed the contact information for the Duke Energy customer? ☒ Completed the contact information for the equipment vendor / project engineer that can answer questions about the technical aspects of the project, if that is a different person than above?
2. Project Information	☒ Answered the questions A-E, including providing a description of your project. ☒ Completed and attached the lighting, compressed air, VFD, EMS and/or General worksheet(s)?
3. Signature	☒ Signed your name? ☒ Printed your name? ☒ Entered the date?
Supplementary information (Required)	☒ Attached a supplier or contractor's invoice or other equivalent information documenting the Implementation Cost for projects listed in your application? (Note: self-install costs cannot be included in the Implementation Cost) ☒ (If submitting the General Worksheet) attached calculations documenting the energy usage and energy savings for **each** project listed in your application?

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact:

- your Duke Energy account manager
  or,
- the Duke Energy Smart $aver® team at 1-866-380-9580.

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

Instructions/Terms/Conditions

Note: Please keep for your records- do not submit with the application

1. Energy service companies or contractors may assist in preparing the application, but an authorized representative of the customer must sign this application to be eligible to participate in the Mercantile Self Direct Program. Completion of this application does not guarantee the approval of a Self Direct Custom Rebate.

2. Once all documentation requested in this application is received by *Duke Energy Ohio, Inc,* and any follow-up information requested by *Duke Energy* is received, the rebate amount for each Energy Conservation Measure (ECM) will be communicated to the customer. The rebate amount will be based on ECM energy savings and ECM incremental installation cost.

3. All rebates require approval by the Public Utilities Commission of Ohio. *Duke Energy Ohio, Inc* will submit an application for rebate on the customer's behalf upon customer attestation to program terms, conditions and requirements as outlined in the rebate offer letter and upon customer completion of attestation documents required by the Public Utilities Commission of Ohio.

4. *Duke Energy Ohio, Inc* will issue a Self Direct Custom Rebate check, based on the approved rebate amount for each ECM, upon receiving approval from the Public Utilities Commission of Ohio. *Duke Energy* Ohio, Inc does not guarantee PUCO approval.

5. With the application, the customer must provide a list of all sites where the ECMs were installed. *Duke Energy Ohio, Inc* requests that sites of similar size, hours of operation and energy consuming characteristics be grouped together in one application for the determination of the rebate amount. The application should identify the site where each unique ECM was installed.

6. Based on the information submitted with the application and the information gathered both before and after the initial installation of the ECM, *Duke Energy Ohio, Inc* will calculate the rebate amount for each ECM.

7. *Duke Energy Ohio, Inc* may conduct random site inspections of a sample of the locations where the ECMs are installed to verify installation and operability of the ECMs and to obtain information needed to calculate the Approved Incentive Amount.

8. Customers are encouraged to retain copies of all forms, invoices and supporting documentation for their records.

9. Approved rebates are valid for 6 months from the date communicated to the customer by *Duke Energy Ohio, Inc,* subject to the expiration of measure eligibility based on project completion dates and application submission deadlines as defined by PUCO. Customers are encouraged to execute their rebate offer contracts and PUCO-required affidavits promptly to ensure eligibility is not forfeited.

10. *Duke Energy Ohio, Inc* reserves the right to recover all unrecoverable costs associated with the project approval if the customer decides not to execute the rebate contract, after the project is approved by *Duke Energy Ohio, Inc.*

11. Projects financially supported by other funding sources will be evaluated on a case-by-case basis for potential partial funding from *Duke Energy Ohio, Inc.*

12. Participants must be *Duke Energy Ohio, Inc* nonresidential, mercantile customers with the project sites in the *Duke Energy Ohio, Inc* service territory.

13. Customers or trade allies may not use any *Duke Energy* logo without prior written permission.

14. Only trade allies registered with *Duke Energy* are eligible to participate.

15. All equipment must be new. Used or rebuilt equipment is not eligible for incentives. All old existing equipment must be removed on retrofit projects.

16. Disclaimers: *Duke Energy Ohio, Inc*
    a. does not endorse any particular manufacturer, product or system design within the program;
    b. will not be responsible for any tax liability imposed on the customer as a result of the payment of incentives;
    c. does not expressly or implicitly warrant the performance of installed equipment. (Contact your contractor for details regarding equipment warranties.);
    d. is not responsible for the proper disposal/recycling of any waste generated or obsolete or old equipment as a result of this project;
    e. is not liable for any damage caused by the installation of the equipment nor for any damage caused by the malfunction of the installed equipment; and
    f. reserves the right to change or discontinue this program at any time. The acceptance of program applications is determined solely by *Duke Energy Ohio, Inc.*

The Compressed Air Worksheet is part 2 of the application. Do not submit this file without submitting a completed Part1 Custom Application document file, which can be found at www.duke-energy.com.

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

- 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.
- Incomplete applications will not be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, found in the Mercantile Self Direct Custom Application Part 1 document.

Please enter your information and data into the cells that are shaded.
Cells in white are locked and cannot be written over.

Duke Energy Customer Contact Information (Match the information in Application Part 1):

Name	Joseph Maas
Company	J.T.M. Provisions

Equipment Vendor / Project Engineer Contact Information

Name	Maria Ramos
Company	Fosdick & Hilmer, Inc.

Location of Proposed Air Compressor Project

Site Name	J.T.M. Provisions
Electric Account Number(s)	5390-0838-20-0
Site Address	200 Sales Dr., Harrison, OH 45030

Before proceeding with the custom application, please verify that your project is not on the Self-Direct Prescriptive application.
The prescriptive incentive applications can be found at:
http://www.duke-energy.com/ohio-large-business/smart-saver/mercantile-self-direct.asp
Prescriptive rebate amounts are pre-approved.

Compressed Air System Air Pressure at the Compressor Discharge	100	psig
Compressor Input Power Provided in kW (preferred) or hp	100	hp (see note 1)

App No.	
Rev.	

Range of Air Flow Rate Demand by the Facility (see note 2)		% of Time in this Air Flow Rate Range (see note 3)	Hours per Year in this Range	Compressor Input Power (see note 4)											
				Baseline Conditions (see note 5)						Proposed High Efficiency Conditions					
From (scfm)	To (scfm)			Baseline Air Compressor # 1		Baseline Air Compressor # 2		Baseline Air Compressor # 3		Baseline Air Compressor # 1		Baseline Air Compressor # 2		Baseline Air Compressor # 3		New Air Compressor w/VFD	
0	50	40.0%	3,504	100.0	hp		hp		hp		hp		hp		hp	100.0	hp
300	500	60.0%	5,256	100.0	hp		hp		hp		hp		hp		hp	100.0	hp
			0		hp		hp		hp		hp		hp		hp		hp
			0		hp		hp		hp		hp		hp		hp		hp
			0		hp		hp		hp		hp		hp		hp		hp
			0		hp		hp		hp		hp		hp		hp		hp
			0		hp		hp		hp		hp		hp		hp		hp
			0		hp		hp		hp		hp		hp		hp		hp
			0		hp		hp		hp		hp		hp		hp		hp
not operating		0.0%	0		hp		hp		hp		hp		hp		hp		hp
Total Hours per year			8,760														

1 Compressor Input Power Provided in kW (preferred) or hp
Select if you will be providing details on each compressor in kW (electric demand) or hp. kW is preferred.

2 Range of Air Flow Rate Demand by the Facility
Adjust the ranges as needed to best capture the operation of your air compressor system.

3 Hours per Year in this Air Flow Rate Range
Total hours must equal 8760. Enter any hours when the system is not operating at the bottom of this column.

4 Compressor Input Power
If facility has more than 3 air compressors involved in this project, or involves more than 1 new air compressor, please contact selfdirect@duke-energy.com for a custom worksheet.

5 Baseline
Retrofit projects: the existing equipment is the baseline unless that equipment must be replaced for some reason anyway.
New construction projects: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

App No.	0
Rev.	0

Describe the baseline system and how it was operated. (see note 6)

	Baseline Air Compressor # 1		Baseline Air Compressor # 2		Baseline Air Compressor # 3	
nominal hp of each compressor	100.0	hp		hp		hp
Equipment Age (years)	42.0	years		years		years

Total amount of air being produced 435.0 SCFM

Compressor staging description Rotary Screw Compressor

Additional description Air compressor ran at 100% constantly.

Describe the installed high-efficiency system and how it is operated.

	Existing Air Compressor # 1		Existing Air Compressor # 2		Existing Air Compressor # 3		New Air Compressor w/VFD	
nominal hp of each compressor	100.0	hp		hp		hp	100.0	hp

Total amount of air being produced 489.0 SCFM

Compressor staging description Rotary Screw Compressor

Additional description The VFD compressor can reduce or increase power (CFM) depending on the manufacturing air needs.

Detailed Project Description Attached? No

6 Baseline

Retrofit projects: the existing equipment is the baseline.
New construction projects or where the existing equipment must be replaced anyway: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

App No.	0
Rev.	0

Operating Hours (see note 7)

Weekday		Saturday		Sunday		Weeks of Use in Year (see note 8)	Total Annual Hours of Use
Start Hour	End Hour	Start Hour	End Hour	Start Hour	End Hour		
7:00 AM	*11:00 PM*	*N/A*	*N/A*	*N/A*	*N/A*	*58*	*4,640*

Energy Savings

	Baseline (see Note 9)	Proposed	Savings	Describe how energy numbers were calculated
Annual Electric Energy	470,362 kWh	225,650 kWh	244,712 kWh	
Electric Demand (kilowatts)	N/A	N/A	#VALUE!	
Calculations attached	No	No		from the baseline compressor and the new VFD compressor is known to operate

Simple Payback

Average electric rate ($/kWh) on the applicable accounts (see note 10)			$0.10
Estimated annual electric savings			$24,471
Other annual savings in addition to electric savings, such as operations, maintenance, other fuels			$0.00
Incremental cost to implement the project (equipment & installation) (see note 11)			$45,740.20
Copy of vendor proposal is attached (see note 12)			Yes
Simple Electric Payback in years (see note 13)	1.869144137	Total Payback in years	1.869144137

7 Operating Hours
Describe 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 on a separate sheet.

8 Weeks of Use in Year
If the equipment is not in use 52 weeks during the year (for example, during holiday or summer break), attach an explanation of when usage is not expected and why.

9 Baseline
Retrofit projects: the existing equipment is the baseline.
New construction projects: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

10 Average electric rate ($/kWh)
If you do not know your average electric rate, use $0.10/kWh.

11 Incremental cost to implement the project
Costs exclude self installation costs. Retrofit projects, incremental cost is the total cost of the proposed project. New construction or where existing equipment must be replaced, then incremental cost is the premium of the proposed high efficiency project over baseline.

12 Copy of vendor invoice is attached
Vendor invoices detailing costs of the project are always required.
New construction projects or where the existing equipment must be replaced, vendor estimate of baseline must also be attached.

13 Simple Electric Payback
If the simple electric payback is less than 1 year, the rebate structure is affected. Double check average electric rate for correct payback.

The General Worksheet is part 2 of the application. Do not submit this file without submitting a completed Part1 Custom Application document file, which can be found at www.duke-energy.com. This worksheet is for all projects that are not easily submitted through one of the other worksheets

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

- Submitting this application does not guarantee an incentive will be approved.
- Incentive already decided to proceed.
- Electric demand and/or energy reductions must be well documented with auditable calculations.
- Incomplete applications will not be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, found in the Mercantile Self Direct Custom Application Part 1 document.

Please enter your information and data into the cells that are shaded.
Cells in white are locked and cannot be written over.

Duke Energy Customer Contact Information (Match the information in Application Part 1):

Name	Joseph Maas
Company	J.T.M. Provisions

Equipment Vendor / Project Engineer Contact Information

Name	Maria Ramos
Company	Fosdick & Hilmer, Inc.

Before proceeding with the custom application, please verify that your project is not on the Self-Direct Prescriptive application.
The prescriptive incentive applications can be found at:
http://www.duke-energy.com/ohio-large-business/smart-saver/mercantile-self-direct.asp
Prescriptive rebate amounts are pre-approved.

The General Worksheet is part 2 of the application. Do not submit this file without submitting a completed Part1 Custom Application document file, which can be found at www.duke-energy.com. This worksheet is for all projects that are not easily submitted through one of the other worksheets

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

- Submitting this application does not guarantee an incentive will be approved.
- Incentive already decided to proceed.
- Electric demand and/or energy reductions must be well documented with auditable calculations.

List of Sites (Required)

App No.	
Rev.	

Provide a list of sites addressed by this custom incentive application

Site ID (see note 1)	Duke Energy Electric Account Number(s) (see note 2)	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	Project Name(s)	5,840	42,000	38,000	12
J.T.M.	53900838200	200 Sales Dr, Harrison, Ohio 45030	Well efficiency increase	4,160	95,000	35,000	27

List of Sites (Required)

App No.	
Rev.	

Provide a list of sites addressed by this custom incentive application

Site ID (see note 1)	Duke Energy Electric Account Number(s) (see note 2)	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	Project Name(s)	5,840	42,000	38,000	12

1 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.

2 Account Numbers

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).

Duke Energy

For each project, answer the following questions (use one worksheet per project)

App No.	0
Rev.	0

Project Name: Well Water Condensing System

How would you classify this project? (Place an x in all boxes that apply.)

Lighting		Heating/Cooling		Air Compressor		Energy Management System	
VFD		Motors/Pumps		Process Equipment		Other, describe below:	X
						See Attached	

Brief Project Description

Describe the Baseline (see note 3) Equipment/System	Describe the Proposed High Efficiency Project
See Attached Sheet	See attached sheet

If Existing Equipment is the Baseline, how many years of useful life remain or how many years until scheduled replacement?

Detailed Project Description Attached? Yes (Required)

Operating Hours (see note 4)

	Weekday		Saturday		Sunday		Weeks of Use in Year	Total Annual
24 x 7	Start Hour	End Hour	Start Hour	End Hour	Start Hour	End Hour	(see note 5)	Hours of Use
Yes							*52*	*87,600*

Energy Savings

	Baseline (see Note 3)	Proposed 4,402,893Kwh	Savings	Describe how energy numbers were calculated
Annual Electric Energy	5,774,220 kWh	###########	1,371,377 kWh	
Electric Demand	1,020 kW	778 kW	242 kW	
Calculations attached	Yes	Yes	(Required)	See attached

Simple Payback

Average electric rate ($/kWh) on the applicable accounts (see note 6)			$0.10
Estimated annual electric savings			$137,138
Other annual savings in addition to electric savings, such as operations, maintenance, other fuels			0
Incremental cost to implement the project (equipment & installation) (see note 7)			$105,987.81
Copy of vendor proposal is attached (see note 8)			Yes
Simple Electric Payback in years (see note 9)	#REF!	Total Payback in years	#REF!

.773 .773

3 Baseline

Retrofit projects: the existing equipment is the baseline.
New construction projects: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

4 Operating Hours

Describe 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 on a separate sheet.

5 Weeks of Use in Year

If the equipment is not in use 52 weeks during the year (for example, during holiday or summer break), provide an explanation of when usage is not expected and why:

For each project, answer the following questions (use one worksheet per project)

App No.	0
Rev.	0

Project Name: **Well Water Condensing System**

How would you classify this project? (Place an x in all boxes that apply.)

Lighting		Heating/Cooling		Air Compressor		Energy Management System	
VFD		Motors/Pumps		Process Equipment		Other, describe below:	X
						See Attached	

Brief Project Description

6 Average electric rate ($/kWh)

If you do not know your average electric rate, use $0.10/kWh.

7 Incremental cost to implement the project

Costs exclude self installation costs. Retrofit projects, incremental cost is the total cost of the proposed project. New construction or where the existing equipment must be replaced anyway, then incremental cost is the premium of the proposed high efficiency project over baseline.

8 Copy of vendor invoice is attached

Vendor invoices detailing costs of the project are always required.

New construction projects or where the existing equipment must be replaced anyway, vendor proposal of baseline must also be attached.

9 Simple Electric Payback

If the simple electric payback is less than 1 year, the rebate structure is affected. Double check average electric rate for correct payback.

J.T.M. utilizes geothermal energy in our industrial refrigeration system. The quicker we can take heat away from the gas being discharged from the refrigeration compressors (which will cause the gas to condense) the lower the head pressure will be, thoroughly lowering the pressure the screw or piston has to push against, reducing the energy needed (kW) by the electric motor to operate the refrigeration compressor. The existing wells deliver 900 gpm which makes our refrigeration system run at 175 psi head pressure.

The addition of another well we now deliver 1100 gpm which lowered the head pressure to 135 psi.

	Before Well Water Remediation	After Well Water Remediation
High stage condensing pressure, psi	175	135
Power/capacity ratio, kw/ton	1.2	0.915
Total tonnage of plant	850	850
Plant usage, ton-hours	4,811,850	4,811,850
Plant usage, kw-hr	5,774,220	4,402,843
Plant electrical costs for usage, $	$202,097.70	$154,099.50
Plant elecrtical demand, kw	1020	777.75
Plant electrical costs for demand, $	$237,945.60	$181,433.52
Total electrical costs for refrigeration compressors, $	$440,042.72	$335,533.02
Savings in elec usage (kwh) and total cost savings (kwh+kw)		1,371,377 / $104,509

Plant usage hours based on interview with refrigeration engineer.
51 weeks/year. 5 days a week, 12 hours at 100% usage, 50% of the year. 5 days a week, 12 hours at 75% usage, 50% of the year.
Saturdays, year round, 75% usage for 8 hours.

Transaction No.	Type	Date	Vendor Reference	Discount	Net Amount
200119	IN	18-DEC-2008	F61523	0.00	105,987.81
				Total	105,987.81

Company: 7830 REYNOLDS, INC. Check Date: 18-Dec-2008 Check No:

Transaction No.	Type	Date	Vendor Reference	Discount	Net Amount
200119	IN	18-DEC-2008	F61523	0.00	105,987.81
				Total	105,987.81

J.T.M. PROVISIONS CO., INC.
200 SALES AVENUE
HARRISON, OHIO 45030

Check No. 31-309/1243 157722

PAY ONE HUNDRED FIVE THOUSAND NINE HUNDRED EIGHTY SEVEN DOLLARS AND EIGHTY ONE CENTS

Check Date: 18-Dec-2008

Check Amount: $ 105,987.81

TO THE ORDER OF
REYNOLDS, INC.
2869 PAYSPHERE CIRCLE
CHICAGO, IL
60674-

J.T.M. PROVISIONS CO., INC.

KeyBank National Association

⑈157722⑈ ⑆124303007⑆ 5190100017⑈

7830

INVOICE

Reynolds, Inc.

Municipal & Industrial Water & Sewer Systems • Gravel Pack Wells • Treatment Plants

SOLD TO
J.T.M.
ATTN: MR. JOE MAAS
200 SALES DRIVE R
HARRISON, OHIO 45030

SHIP TO
REYNOLDS JOB #68538

Invoice No. F 61523

Date 07/24/08

Customer Order No.

Invoice Date 07/24/08 2301

REMIT TO: **REYNOLDS, INC.**
2869 Payshere Circle
Chicago, IL 60674

QUANTITY	DESCRIPTION	AMOUNT
	MOBILIZE, SET UP AND DRILL (3) TEST HOLES (6-7-8) @ $2,000.00/ EA.	6,000.00
	MOBILIZE, SET UP AND DRILL (2) WELLS 6 & 7. DEVELOP, PROVIDE AND INSTALL PITLESS UNITS INCLUDING STAINLESS STEEL PUMPS AND MOTOR, AND TEST @ $46,250.00/ EA.	92,500.00
	PREVAILING WAGE DIFFERENTIAL	$7,487.81
		========
	TOTAL AMOUNT DUE THIS INVOICE	$ 105,987.81

Joe wants
this paid this
Thursday.
Thanks

ok
Joe

N. State Road 37, Orleans, IN 47452, Phone: 812/865-3232, Fax: 812/865-3075
6451 Germantown Road, Middletown, OH 45042, Phone: 513/424-7287, Fax: 513/424-7280
1301-15 E. Main Street, Louisville, KY 40206, Phone: 502/585-1241, Fax: 502/585-4169
3840 Prospect Street, Indianapolis, IN 46203, Phone: 317/353-0199, Fax: 317/353-0136
121 Roberts Street, Fairburn, GA 30213, Phone: 770/969-4040, Fax: 770/969-4363
1516 3rd Street West, Birmingham, AL 35204, Phone: 205/322-5956, Fax: 205/322-6145

INVOICE

Reynolds, Inc.

Municipal & Industrial Water & Sewer Systems • Gravel Pack Wells • Treatment Plants

SOLD TO:
J.T.M.
ATTN: MR. JOE MAAS
200 SALES DRIVE R
HARRISON, OHIO 45030

Invoice No. F 61523

Date 07/24/08

Customer Order No.

Invoice Date 07/24/08

SHIP TO:
REYNOLDS JOB #68538

REMIT TO: REYNOLDS, INC.
2869 Payshere Circle
Chicago, IL 60674

QUANTITY	DESCRIPTION	AMOUNT
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	MOBILIZE, SET UP AND DRILL (2) WELLS 6 & 7. DEVELOP, PROVIDE AND INSTALL PITLESS UNITS INCLUDING STAINLESS STEEL PUMPS AND MOTOR, AND TEST @ $46,250./EA.	92,500.00
		========
	TOTAL AMOUNT DUE THIS INVOICE	$ 98,500.00
	TERMS: NET 15 DAYS	

Ok to pay!!
Nancy: this invoice to be paid but it will probably be adjusted by Thursday.
Joe

RECEIVED
JUL 25 2008

4520 N. State Road 37, Orleans, IN 47452, Phone: 812/865-3232, Fax: 812/865-3075
6451 Germantown Road, Middletown, OH 45042, Phone: 513/424-7287, Fax: 513/424-7280
1301-15 E. Main Street, Louisville, KY 40206, Phone: 502/585-1241, Fax: 502/585-4169
3840 Prospect Street, Indianapolis, IN 46203, Phone: 317/353-0199, Fax: 317/353-0136
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1516 3rd Street West, Birmingham, AL 35204, Phone: 205/322-5956, Fax: 205/322-6145

INVOICE

Reynolds, Inc.

Municipal & Industrial Water & Sewer Systems • Gravel Pack Wells • Treatment Plants

SOLD TO
J.T.M.
ATTN: MR. JOE MAAS
200 SALES DRIVE R
HARRISON, OHIO 45030

SHIP TO
REYNOLDS JOB #68538

Invoice No. F 61523

Date 07/24/08

Customer Order No. _____

Invoice Date 07/24/08

REMIT TO: REYNOLDS, INC.
2869 Payshere Circle
Chicago, IL 60674

QUANTITY	DESCRIPTION	AMOUNT
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		========
	TOTAL AMOUNT DUE THIS INVOICE	$ 98,500.00

TERMS: NET 15 DAYS

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Orleans, IN 47452
Phone: 812/865-3232
Fax: 812/865-3075

6451 Germantown Road
Middletown, OH 45042
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INVOICE

Reynolds, Inc.

Municipal & Industrial Water & Sewer Systems • Gravel Pack Wells • Treatment Plants

SOLD TO

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ATTN: MR. JOE MAAS
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SHIP TO

REYNOLDS JOB #68538

Invoice No. F 61523

Date 07/24/08

Customer Order No.

Invoice Date 07/24/08

REMIT TO: REYNOLDS, INC.
2869 Payshere Circle
Chicago, IL 60674

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	MOBILIZE, SET UP AND DRILL (3) TEST HOLES (6-7-8) @ $2,000./ EA.	6,000.00
	MOBILIZE, SET UP AND DRILL (2) WELLS 6 & 7. DEVELOP, PROVIDE AND INSTALL PITLESS UNITS INCLUDING STAINLESS STEEL PUMPS AND MOTOR, AND TEST @ $46,250./EA.	92,500.00
		========
	TOTAL AMOUNT DUE THIS INVOICE	$ 98,500.00

TERMS: NET 15 DAYS

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Fax: 770/969-4363

1516 3rd Street West
Birmingham, AL 35204
Phone: 205/322-5956
Fax: 205/322-6145

Transaction No.	Type	Date	Vendor Reference	Discount	Net Amount
198272	IN	11-NOV-2008	179060	0.00	44,174.39
				Total	44,174.39

Company: 2592 INDUSTRIAL AIR CENTERS, INC. Check Date: 15-Nov-2008 Check No:

Transaction No.	Type	Date	Vendor Reference	Discount	Net Amount
198272	IN	11-NOV-2008	179060	0.00	44,174.39
				Total	44,174.39

VOID

J.T.M. PROVISIONS CO., INC.
200 SALES AVENUE
HARRISON, OHIO 45030

Check No. 31-800/1243 156675

PAY FORTY FOUR THOUSAND ONE HUNDRED SEVENTY FOUR DOLLARS AND THIRTY NINE CENTS

Check Date: 15-Nov-2008

Check Amount: $ 44,174.39

TO THE ORDER OF
INDUSTRIAL AIR CENTERS, INC.
P.O. BOX 1239
JEFFERSONVILLE, IN
47131-1239

J.T.M. PROVISIONS CO., INC.

KeyBank
National Association

⑈156675⑈ ⑆243030071⑆ 5190100017086⑈

2592

Invoice 179060

Invoice Date 11/06/08

Industrial Air Centers, Inc.
PO BOX 1239
Jeffersonville, IN 47131-1239

Telephone: 812/280-7070

50-2301

Bill To:

JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

Ship To:

JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

Customer	Ship Via	F.O.B.	Terms
JT0001	Best Way		Due Upon Receipt

Purchase Order Number	Salesperson	Order Date	Our Order Number
09230801-JW	JGRA	02/11/08	572391

Quantity Ordered	Quantity Shipped	Item Description	Discount %	Tax	Extended Price
1	1	Sullair 100 HP VSD Compressor		Y	40364.50
1	1	Shipping & Handling		Y	1113.80

Per Joe Maas
Date ck. 11/15/08

Give to Joe
Maas

OK JC

Nontaxable Subtotal	0.00
Taxable Subtotal	41478.30
Tax (6.500%)	2696.09
Total Invoice	44174.39

Customer Original

Transaction No.	Type	Date	Vendor Reference	Discount	Net Amount
203183	IN	18-FEB-2009	181351	12.90	1,360.96
203232	IN	20-FEB-2009	181408	1.94	204.93
				Total	1,565.89

Company: 2592 INDUSTRIAL AIR CENTERS, INC. Check Date: 26-Feb-2009 Check No:

Transaction No.	Type	Date	Vendor Reference	Discount	Net Amount
203183	IN	18-FEB-2009	181351	12.90	1,360.96 * only
203232	IN	20-FEB-2009	181408	1.94	204.93
				Total	1,565.89

$1360.96 for Grant only

J.T.M. PROVISIONS CO., INC.
200 SALES AVENUE
HARRISON, OHIO 45030

JTM FoodGroup

Check No 31-300/1243 159289

PAY ONE THOUSAND FIVE HUNDRED SIXTY FIVE DOLLARS AND EIGHTY NINE CENTS

Check Date	Check Amount
26-Feb-2009	$ 1,565.89

TO THE ORDER OF

INDUSTRIAL AIR CENTERS, INC.
P.O. BOX 1239
JEFFERSONVILLE, IN
47131-1239

J.T.M. PROVISIONS CO., INC.

Joseph Maas

KeyBank
National Association

⑈159289⑈ ⑆124303007⑆ 5190100017 08⑈

2592

Invoice 181408

Invoice Date 02/20/09

Industrial Air Centers, Inc.
PO BOX 1239
Jeffersonville, IN 47131-1239

Telephone: 812/280-7070

Bill To:

JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

Ship To:

JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

1.94

Customer	Ship Via	F.O.B.	Terms
JT0001	UPS GROUND	PP & ADD	1% 10 Days, Net 30

Purchase Order Number	Salesperson	Order Date	Our Order Number
02190907SS	JGRA	02/19/09	574568

Quantity Ordered	Quantity Shipped / Back Ordered	Item Number / Item Description	Unit of Measure	Unit Price / Discount %	Tax	Extended Price
2.0	2.0	02250168-084	EACH	94.00000		188.00
	0.0	ELEMENT, FILTER CORELESS 2" DIA			Y	
1	1	_SHIP-PARTS		6.24000		6.24
	0	Shipping & Handling			Y	

RECEIVED
FEB 24 2009

OK

Nontaxable Subtotal	0.00
Taxable Subtotal	194.24
Tax (6.500%)	12.63
Total Invoice	206.87

Customer Original

Non-Stock PO Requisition

Bill To:

JTM FOOD GROUP

200 Sales Drive

Harrison, Ohio 45030

(513) 367-4900

(513) 367-1132 FAX

PO NUMBER	Order Date
02190907-55	2-19-09
Require Date:	
Supp. Contact:	

Page: 1 of 1

VENDOR	
	IAC
	770 4161

SHIP	
	JTM FOOD GROUP
	✓ 200 Sales Drive
	205 Industrial Dr (Admin)
	275 Industrial Dr (Sales)
	Harrison, OH 45030

Line No	Part Code	Description	QTY	UOM	Unit Price	Total Price
1	02250168-084	ELEMENT	2		94.00	188.00
		FOR AIR COMPRESSORS				
					TOTAL	$188.00

PLEASE CONFIRM ORDER BACK VIA FAX W/ PRICE CONFIRM (513) 367-1132

Line No	GL Code	Analysis Code 1Cus#	2	3 Mkt#	Total
	09-6420	MOT		production	

Completed

Requested by: JohnW - 2-1909

Approved by: BG

PACKING SLIP

Industrial Air Centers, Inc.
PO BOX 1239
Jeffersonville, IN 47131-1239

Telephone: 812/280-7070

Sales Order 574568
Order Date 02/19/09

Ship To:
JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

Customer	Ship Via	F.O.B.	Terms	Purchase Order Number	Salesperson	Reference No.
JT0001	UPS GROUND	PP & ADD	1% 10 Days, Net 30	02190907SS	JGRA	HOLLY

Qty. Ordered	Qty. Shipped / Back Ordered	Item Number / Item Description	Unit of Measure	Required Date
2.0	2 / ~~0~~.0	02250168-084 ELEMENT, FILTER CORELESS 2" DIA	EACH	02/19/09
1	0	_SHIP-PARTS Shipping & Handling		02/19/09

SS Here

Invoice 181351

25972

Invoice Date 02/18/09

Industrial Air Centers, Inc.
PO BOX 1239
Jeffersonville, IN 47131-1239

Telephone: 812/280-7070

Bill To:

JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

Ship To:

JTM Provisions Co., Inc.
200 Sales Drive
Harrison, OH 45030

Customer	Ship Via	F.O.B.	Terms
JT0001		Origin	1% 10 Days, Net 30

Purchase Order Number	Salesperson	Order Date	Our Order Number
02170901JW	JGRA	02/12/09	574535

Quantity Ordered	Quantity Shipped	Item Description	Discount %	Tax	Extended Price
1	1	Labor for Job #57132 Repair Description: 02/11/09: Sullair 7509V 200808200020 Traveled to jobsite. Inspected install, installed conduit from disconnect to compressor. 02/16/09: Traveled to jobsite. Installed galvanized piping and valve from header to compressor. Performed training and operation programming.		Y	760.00
1	1	Material for Job #57132 Item / Item Description / Quantity / Price 02250159-550 Cable S4 Programming-s 1.00 45.00 02250168-084 ELEMENT, FILTER CORELE 1.00 94.00 Miscellaneous Material 136.00		Y	275.00
1	1	Mill Supply for Job #57132		Y	15.00
1	1	Miscellaneous for Job #57132 Description / Quantity Mileage-Zone 2 1.00 Mileage Zone 2 1.00		Y	240.00

Equipment Data: Descriptio: Sullair 7509V 200808200020

RECEIVED
FEB 20 2009

12.90

2-20-09 JK

Nontaxable Subtotal	0.00
Taxable Subtotal	1290.00
Tax (6.500%)	83.86
Total Invoice	1373.86

Customer Original

P.O. Requisition

Bill To:

JTM FOOD GROUP
200 Sales Drive
Harrison, Ohio 45030
(513) 367-4900
(513) 367-1132 FAX

PO NUMBER	Order Date
02170901JW	17-Feb-09
Require Date:	
Supp. Contact:	

Page:1 of

VENDOR	
	Industrial Air Centers

SHIP	
	JTM FOOD GROUP 200 Sales Drive Harrison, OH 45030

Line No	Part Code	Description	QTY	UOM	Unit Price	Total Price
1		Labor and materials to install new air compressor	1	ea	$1,290.00	$1,290.00
2						$0.00
3						$0.00
4						$0.00
5						$0.00
6						$0.00
7						$0.00
8						$0.00
9						$0.00
10						$0.00
					TOTAL	$1,290.00

PLEASE CONFIRM ORDER BACK VIA FAX W/ PRICE CONFIRM (513) 367-3519

Line		Analysis Code			
No	GL Code	1Cus#	2	3 Mkt#	Total
	09-6430				

Requested by: Joe Maas

Approved By: Jeff Wissel

P.O. Requisition

Bill To:

JTM FOOD GROUP
200 Sales Drive
Harrison, Ohio 45030
(513) 367-4900
(513) 367-1132 FAX

PO NUMBER	Order Date
02170901JW	17-Feb-09
Require Date:	
Supp. Contact:	

Page:1 of

VENDOR	
	Industrial Air Centers

SHIP	
	JTM FOOD GROUP 200 Sales Drive Harrison, OH 45030

Line No	Part Code	Description	QTY	UOM	Unit Price	Total Price
1		Labor and materials to install new air compressor	1	ea	$1,290.00	$1,290.00
2						$0.00
3						$0.00
4						$0.00
5						$0.00
6						$0.00
7						$0.00
8						$0.00
9						$0.00
10						$0.00
					TOTAL	$1,290.00

PLEASE CONFIRM ORDER BACK VIA FAX W/ PRICE CONFIRM (513) 367-3519

Line		Analysis Code			
No	GL Code	1Cus#	2	3 Mkt#	Total
	09-6430				

Requested by: Joe Maas

Approved By: Jeff Wissel

Jeff Wissel

From: Ed Inderhees [einderhees@iacserv.com]

Sent: Monday, February 16, 2009 3:46 PM

To: Jeff Wissel

Subject: PO Please

Jeff,

Please provide a PO# for the installation of the new Sullair compressor.

Job# 57132

Labor	$ 760.00
Cable	$ 45.00
Filter	$ 94.00
Materials	$ 136.00
Mileage	$ 240.00
Mill Fee	$ 15.00
Total	$1290.00

I will mail you a CD for the controller.

Thank you,

Ed Inderhees
Service Manager
Industrial Air Centers
513-770-4161
513-770-4165 fax
einderhees@iacserv.com

QTY	PART NO.	STK	REC	DESCRIPTION	PO NO	DATE	SELL
1	02250159-550	✓		Cable			
1	02250108-084	✓		Filter			

TOTAL PARTS

ACTION TAKEN/REPAIRS REQUIRED

DATE 2-11-09	Went looked over with
BY RB	installed conduit from Disconnect to
START 745	compressor
FINISH 1000	
MILES CH	
4:51:75 30	
DATE 2-16-09	Installed galvanized piping and valve
BY RB+mc	from header to compressor
START	Performed training and operating program
FINISH 10:50	
MILES	
DATE	
BY	
START	
FINISH	
MILES	

PREVENTIVE MAINTENANCE

- ☐ Change Oil Filter
- ☐ Change Air Filter
- ☐ Take Oil Sample
- ☐ Top Off Oil Level
- ☐ Change Oil
- ☐ Inspect for Oil Leaks
- ☐ Change Separator
- ☐ Inspect & Adjust Controls
- ☐ Blow out Coolers
- ☐ Pressure Wash Coolers
- ☐ Check Motor Amperage
- ☐ Check Running Temps
- ☐ Clean Scavenger Screens
- ☐ Clean Control Line Filters
- ☐ Check Coupling Elements & Alignment
- ☐ Inspect Starter Contacts
- ☐ Inspect Moisture Trap
- ☐ Grease Drive Motor
- ☐ Inspect Drains
- ☐ Inspect In-Line Filters
- ☐ Change Inline Filters
- ☐ Inspect Dryer
- ☐ Change Desiccant in Dryer
- ☐ Inspect Flow Controller

iac industrial air centers inc.

P.O. Box 1239
Jeffersonville, IN 47131-1239

LOUISVILLE 812-280-7070 812-280-7072 FAX
LEXINGTON 859-254-6101 859-254-6144 FAX
COLUMBUS 614-274-9171 614-274-9173 FAX
CINCINNATI 513-770-4161 513-770-4165 FAX

VISIT OUR WEB SITE: www.iacserv.com

JOB NO. 57132

CUSTOMER INFO

NAME JTM Food Group DATE ____
ADDRESS 200 Sales Dr
CITY/STATE 4960 Harrison OH 45030
PH. NO. 367-5085 CONTACT Jeff Wissel
FAX. NO. 503-6075 cell CONTACT ____
CUSTOMER PURCHASE ORDER NO ____ CODE ____
Pricing Quoted ____ T & M ____ Date Required ____
SERVICE REQUIRED Finalize hook up

☐ Team Care ☐ Preferred Care ☐ Superior Care ☐ Total Care

UNIT DATA

COMPRESSOR

MFGR Sullair TYPE ☐ROTARY ☐RECIP ☐CENT. ☐OTHER: ____
MODEL 7509 V S/N 200808200030
AIR END P/N ____ AIR END S/N ____
HOURS ____ HP ____ VOLTS L1 ____ L2 ____ L3 ____
SCFM ____ FLA T1 ____ T2 ____ T3 ____
RATED PRESSURE ____ UNLOADED SUMP PRESSURE ____
TYPE LUBRICANT ____
AMBIENT TEMP ____ DISCHARGE TEMP ____ INJECT TEMP ____
SEPARATOR DP ____ FLUID FLTR DP ____ AIR FILTER HG ____
HOURS ON: AIR FLTR ____ OIL FLTR ____ SEP ____ FLUID ____

OTHER EQUIPMENT

DRYER TYPE ____ FREON TYPE ____ SCFM ____
AIR-IN TEMP ____ AIR-OUT TEMP ____ SUCTION PSI ____ DISCHARGE PSI ____
FLOW CONTROLLER: PSI IN ____ PSI OUT ____

SERVICE INFO

LAST SERVICED ____ HOURS ____
NEXT SERVICE DATE ____ HOURS ____

CUSTOMER APPROVAL

APPROVED BY [signature] DATE [illegible]

TOTAL ALL PARTS/MATERIALS	275.00
TOTAL ALL LABOR	760.00
TOTAL ALL TRAVEL EXPENSES	15.00
TOTAL	1050.00

THANK YOU, WE APPRECIATE YOUR BUSINESS!
SERVICE TECH [signature] DATE ____

industrial air centers, inc.

WHITE - OFFICE COPY YELLOW - CUSTOMER GREEN - BRANCH PINK - FILE

QTY	PART NO.	STK	REC	DESCRIPTION	PO NO	DATE	SELL
1	02250170-783			Drain Solenoid	w/o		

TOTAL PARTS

ACTION TAKEN/REPAIRS REQUIRED

DATE 2-16-09	Changed DRAIN
BY mc	
START 12:30	
FINISH 12:45	
MILES	
DATE	
BY	
START	
FINISH	
MILES	
DATE	
BY	
START	
FINISH	
MILES	

PREVENTIVE MAINTENANCE

- ☐ Change Oil Filter
- ☐ Change Air Filter
- ☐ Take Oil Sample
- ☐ Top Off Oil Level
- ☐ Change Oil
- ☐ Inspect for Oil Leaks
- ☐ Change Separator
- ☐ Inspect & Adjust Controls
- ☐ Blow out Coolers
- ☐ Pressure Wash Coolers
- ☐ Check Motor Amperage
- ☐ Check Running Temps
- ☐ Clean Scavenger Screens
- ☐ Clean Control Line Filters
- ☐ Check Coupling Elements & Alignment
- ☐ Inspect Starter Contacts
- ☐ Inspect Moisture Trap
- ☐ Grease Drive Motor
- ☐ Inspect Drains
- ☐ Inspect In-Line Filters
- ☐ Change Inline Filters
- ☐ Inspect Dryer
- ☐ Change Desiccant in Dryer
- ☐ Inspect Flow Controller

iac industrial air centers inc.

P.O. Box 1239
Jeffersonville, IN 47131-1239

LOUISVILLE	LEXINGTON	COLUMBUS	CINCINNATI
812-280-7070	859-254-6101	614-274-9171	513-770-4161
812-280-7072 FAX	859-254-6144 FAX	614-274-9173 FAX	513-770-4165 FAX

VISIT OUR WEB SITE: www.iacserv.com

JOB NO. 58706

CUSTOMER INFO

NAME JTM Provisions / Sullair DATE
ADDRESS / Ware
CITY/STATE
PH. NO. CONTACT
FAX. NO. CONTACT
CUSTOMER PURCHASE ORDER NO. CODE
Pricing Quoted T & M Date Required
SERVICE REQUIRED Replace moisture separator drain

☐ Team Care ☐ Preferred Care ☐ Superior Care ☐ Total Care

UNIT DATA

COMPRESSOR

MFGR Sullair TYPE ☐ROTARY ☐RECIP ☐CENT. ☐OTHER:
MODEL 7509-V S/N 200808200020
AIR END P/N AIR END S/N
HOURS 3.55 HP VOLTS L1 L2 L3
SCFM FLA T1 T2 T3
RATED PRESSURE UNLOADED SUMP PRESSURE
TYPE LUBRICANT
AMBIENT TEMP DISCHARGE TEMP INJECT TEMP
SEPARATOR DP FLUID FLTR DP AIR FILTER HG
HOURS ON: AIR FLTR OIL FLTR SEP FLUID

OTHER EQUIPMENT

DRYER TYPE FREON TYPE SCFM
AIR-IN TEMP AIR-OUT TEMP SUCTION PSI DISCHARGE PSI
FLOW CONTROLLER: PSI IN PSI OUT

SERVICE INFO

LAST SERVICED HOURS
NEXT SERVICE DATE HOURS

CUSTOMER APPROVAL

APPROVED BY [signature] DATE 2-16-09

TOTAL ALL PARTS/MATERIALS	
TOTAL ALL LABOR	
TOTAL ALL TRAVEL EXPENSES	
TOTAL	

THANK YOU, WE APPRECIATE YOUR BUSINESS!
SERVICE TECH [signature] DATE 2-16-09
industrial air centers, inc.

WHITE - OFFICE COPY YELLOW - CUSTOMER GREEN - BRANCH PINK - FILE

Y	PART NO.	STK	REC	DESCRIPTION	PO NO	DATE	SELL

TOTAL PARTS

ACTION TAKEN/REPAIRS REQUIRED

TE 2-16-09	went thru line, wire, & control
RB	started ran ... no
RT 10 20	leaks @ this time unit
ISH	ramping up & down
ES	good unit ok @ this
10 45	time
TE	
RT	
SH	
ES	
TE	
RT	
SH	
ES	

PREVENTIVE MAINTENANCE

ange Oil Filter
ange Air Filter
e Oil Sample
Off Oil Level
ange Oil
ect for Oil Leaks
ange Separator
ect & Adjust Controls

☐ Blow out Coolers
☐ Pressure Wash Coolers
☐ Check Motor Amperage
☐ Check Running Temps
☐ Clean Scavenger Screens
☐ Clean Control Line Filters
☐ Check Coupling Elements & Alignment
☐ Inspect Starter Contacts

☐ Inspect Moisture Trap
☐ Grease Drive Motor
☐ Inspect Drains
☐ Inspect In-Line Filters
☐ Change Inline Filters
☐ Inspect Dryer
☐ Change Desiccant in Dryer
☐ Inspect Flow Controller

iac industrial air centers inc.

P.O. Box 1239
Jeffersonville, IN 47131-1239

LOUISVILLE 812-280-7070 812-280-7072 FAX
LEXINGTON 859-254-6101 859-254-6144 FAX
COLUMBUS 614-274-9171 614-274-9173 FAX
CINCINNATI 513-770-4161 513-770-4165 FAX

VISIT OUR WEB SITE: www.iacserv.com

JOB NO. 58565

CUSTOMER INFO

NAME JTM Food Group DATE
ADDRESS 200 Sales Dr.
CITY/STATE Harrison 45030
PH. NO. 513-367-3685 CONTACT Jeff Wissel
FAX. NO. CONTACT
CUSTOMER PURCHASE ORDER NO. CODE
Pricing Quoted T & M Date Required
SERVICE REQUIRED Startup

☐ Team Care ☐ Preferred Care ☐ Superior Care ☐ Total Care

UNIT DATA

COMPRESSOR

MFGR Sullair TYPE ☐ROTARY ☐RECIP ☐CENT. ☐OTHER:
MODEL 7509V S/N 200808200020
AIR END P/N [illegible] AIR END S/N [illegible]
HOURS [illegible] HP [illegible] VOLTS L1 [illegible] L2 [illegible] L3 [illegible]
SCFM FLA T1 [illegible] T2 [illegible] T3 [illegible]
RATED PRESSURE [illegible] UNLOADED SUMP PRESSURE
TYPE LUBRICANT Sullube
AMBIENT TEMP [illegible] DISCHARGE TEMP 179 INJECT TEMP [illegible]
SEPARATOR DP FLUID FLTR DP AIR FILTER HG
HOURS ON: AIR FLTR OIL FLTR SEP FLUID

OTHER EQUIPMENT

DRYER TYPE FREON TYPE SCFM
AIR-IN TEMP AIR-OUT TEMP SUCTION PSI DISCHARGE PSI
FLOW CONTROLLER: PSI IN PSI OUT

SERVICE INFO

LAST SERVICED HOURS
NEXT SERVICE DATE HOURS

CUSTOMER APPROVAL

APPROVED BY [signature] DATE 2-16-09

TOTAL ALL PARTS/MATERIALS	
TOTAL ALL LABOR	
TOTAL ALL TRAVEL EXPENSES	
TOTAL	

THANK YOU, WE APPRECIATE YOUR BUSINESS!
SERVICE TECH [signature] DATE 2-16-09
industrial air centers, inc.

COMPRESSOR DATA SHEET
Rotary Screw Compressor

MODEL DATA - FOR COMPRESSED AIR			
1	Manufacturer: **Sullair Corp**		
2	Model Number: **7509** **X** Air-cooled Water-cooled **X** Oil-injected Oil-free	# of Stages: **1** VALUE	UNIT
3	Rated Capacity at Full Load Operating Pressure [a, f]	**444**	acfm[a,f]
4	Full Load Operating Pressure [b]	**125**	psig[b]
5	Maximum Full Flow Operating Pressure [c]	**125**	psig[c]
6	Drive Motor Nameplate Rating	**100**	hp
7	Drive Motor Nameplate Nominal Efficiency	**94.1**	percent
8	Fan Motor Nameplate Rating (if applicable)	**3.0**	hp
9	Fan Motor Nameplate Nominal Efficiency	**87.5**	percent
10	Total Package Input Power at Zero Flow[e]	**22.2**	kW[e]
11	Total Package Input Power at Rated Capacity and Full Load Operating Pressure[d]	**88.9**	kW[d]
12	Specific Package Input Power at Rated Capacity and Full Load Operating Pressure[g]	**20.02**	kW/100 cfm[g]

NOTES:

a. Measured at the discharge terminal point of the compressor package in accordance with the CAGI/PNEUROP PN2CPTC2 Test Code (Annex C to ISO 1217). ACFM is actual cubic feet per minute at inlet conditions.
b. The operating pressure at which the Capacity (Item 3) and Electrical Consumption (Item 10) were measured for this data sheet.
c. Maximum pressure attainable at full flow, usually the unload pressure setting for load/no load control or the maximum pressure attainable before capacity control begins. May require additional power.
d. Total package input power at other than reported operating points will vary with control strategy.
e. Tolerance is specified in the CAGI/PNEUROP PN2CPTC2 Test Code (Annex C to ISO 1217)
f, g. Tolerance is specified in the CAGI/PNEUROP PN2CPTC2 Test Code (Annex C to ISO 1217) as follows:

Volume Flow Rate at specified conditions		Volume Flow Rate[f]	Specific Energy Consumption[g]
m^3 / min	ft^3 / min	%	%
Below 0.5	Below 15	+/- 7	+/- 8
0.5 to 1.5	15 to 50	+/- 6	+/- 7
1.5 to 15	50 to 500	+/- 5	+/- 6
Above 15	Above 500	+/- 4	+/- 5

Member

This form was developed by the Compressed Air and Gas Institute for the use of its members. CAGI has not independently verified the reported data.

COMPRESSOR DATA SHEET

Rotary Screw Variable Frequency Drive Compressor

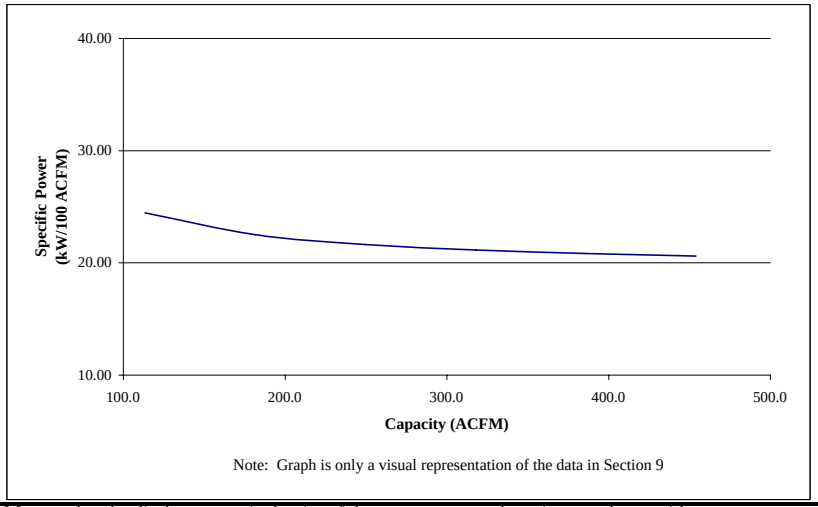
MODEL DATA - FOR COMPRESSED AIR

1	Manufacturer: **Sullair Corp**		
2	Model Number: **7509V**		Date: January 1, 2009
	X Air-cooled Water-cooled		
	X Oil-injected Oil-free	# of Stages:	**1**
3	Full Load Operating Pressure	**125**	psig[b]
4	Maximum Full Flow Operating Pressure	**125**	psig[c]
5	Drive Motor Nameplate Rating	**100**	hp
6	Drive Motor Nameplate Efficiency	**95.4**	percent
7	Fan Motor Nameplate Rating (if applicable)	**3**	hp
8	Fan Motor Nameplate Efficiency	**87.5**	percent

9	Input Power (kW)	Capacity (acfm)[a,e]	Specific Power (kW/100 acfm)[e]
	93.5	**454.0**	**20.59**
	80.4	**385.9**	**20.82**
	67.2	**317.8**	**21.15**
	54.1	**249.7**	**21.65**
	40.9	**181.6**	**22.53**
	27.8	**113.5**	**24.46**

10	Total Package Input Power at Zero Flow[d]	**0.0**	kW

11



Note: Graph is only a visual representation of the data in Section 9

NOTES:

a. Measured at the discharge terminal point of the compressor package in accordance with Annex E to ISO 1217; acfm is actual cubic feet per minute at inlet conditions.
b. The operating pressure at which the Capacity and Electrical Consumption were measured for this data sheet.
c. Maximum pressure attainable at full flow, usually the unload pressure setting for load/no load control or the maximum pressure attainable before capacity control begins. May require additional power.
d. No Load Power. In accordance with ISO 1217, Annex E, if measurement of no load power equals less than 1%, manufacturer may state “not significant” or “0” on the test report.
e. Tolerance is specified in Annex E to ISO 1217 as follows:
NOTE: The terms "power" and "energy" are synonymous for purposes of this document

Member:

Volume Flow Rate at specified conditions		Volume Flow Rate	Specific Energy
m^3 / min	ft^3 / min	%	%
Below 0.5	Below 15	+/- 7	+/- 8
0.5 to 1.5	15 to 50	+/- 6	+/- 7
1.5 to 15	50 to 500	+/- 5	+/- 6
Above 15	Above 500	+/- 4	+/- 5

Vilter Reciprocating Compressors

Tuesday, May 27, 2008
8:02 PM

Project Name:	JTM Food Group			
Description:	150 HP High Stage			
Units:	USA	Refrigerant:	R717	
Compressor Series:	450 XL		R22:	X
Cylinders:	8		R290:	
Oil Cooling:	Water		R134a:	
			R404a	
			R507	
Speed:	1,200	Percent Capacity:	100% Capacity:	X
Drive Type:	Belt		Max. Internal Steps:	
Hertz:	60 Hz		Standard Steps:	

Evaporator Temperature:	23.0	Condensing Temperature:	92.0
Evaporator Pressure:	46.4	Condensing Pressure:	173.7
Suction Pressure Loss:	0.0	Discharge Pressure Loss:	3.0
Suction Pressure:	46.4	Discharge Pressure:	176.7
Sub Cooling:	0.0	Superheat:	0.0

Vilter Model Number
M 12 KX 458 XL

Percent Capacity:	**100%**		
Capacity:	127		TR
Power:	152		BHP
Heat Rejection:	1,915		MBH
Speed:	1,200		RPM
Torque:	667		Ft-Lbs
Operating Duty:		**HIGH STAGE**	
Mass Flow:	21,434		Lbs/hr
Suction Volume:	317		ACFM
Discharge Temp.:	129		°F
Displacement:	398		CFM
Oil Cooling:	8		GPM
Power/Capacity Ratio:	1.20	KW/T Before well water remediation	RATIO

Oil Separator Size	16 in.	***Separator sizes are based on operating conditions.***
Super Separator Size	16 in.	
Discharge Check Valve Size	4 in.	

LEGEND

TR: Tons Refrigeration
BHP: Brake Horse Power
F: Degrees Fahrenheit
MBH: 1000 BTU/Hour
RPM: Revolutions Per Minute
Ft-Lbs: Foot Pounds
Lbs/Hour: Pounds Per Hour
ACFM: Actual Cubic Feet Per Minute
GPM: Gallons Per Minute
RATIO: Power to Capacity Ratio
CFM: Cubic Feet Per Minute

Vilter Reciprocating Compressors

Tuesday, May 27, 2008
8:04 PM

Project Name:	JTM Food Group			
Description:	150 HP High Stage			
Units:	USA	Refrigerant:	R717	
Compressor Series:	450 XL		R22:	X
Cylinders:	8		R290:	
Oil Cooling:	Water		R134a:	
			R404a	
			R507	
Speed:	1,200	Percent Capacity:	100% Capacity:	X
Drive Type:	Belt		Max. Internal Steps:	
Hertz:	60 Hz		Standard Steps:	

Evaporator Temperature:	23.0	Condensing Temperature:	75.0
Evaporator Pressure:	46.4	Condensing Pressure:	132.2
Suction Pressure Loss:	0.0	Discharge Pressure Loss:	2.0
Suction Pressure:	46.4	Discharge Pressure:	134.2
Sub Cooling:	0.0	Superheat:	0.0

Vilter Model Number
M 12 KX 458 XL

Percent Capacity:	**100%**		
Capacity:	143		TR
Power:	132		BHP
Heat Rejection:	2,052		MBH
Speed:	1,200		RPM
Torque:	579		Ft-Lbs
Operating Duty:	**HIGH STAGE**		
Mass Flow:	22,406		Lbs/hr
Suction Volume:	331		ACFM
Discharge Temp.:	104	Actual discharge is lower	°F
Displacement:	398		CFM
Oil Cooling:	8		GPM
Power/Capacity Ratio:	0.93	KW/T After well water reconditioned	RATIO

Oil Separator Size	20 in.	***Separator sizes are based on operating conditions.***
Super Separator Size	20 in.	
Discharge Check Valve Size	4 in.	

LEGEND

TR: Tons Refrigeration
BHP: Brake Horse Power
F: Degrees Fahrenheit
MBH: 1000 BTU/Hour
RPM: Revolutions Per Minute
Ft-Lbs: Foot Pounds
Lbs/Hour: Pounds Per Hour
ACFM: Actual Cubic Feet Per Minute
GPM: Gallons Per Minute
RATIO: Power to Capacity Ratio
CFM: Cubic Feet Per Minute

Vilter Reciprocating Compressors

Tuesday, May 27, 2008
8:07 PM

Project Name:	JTM Food Group			
Description:	125 HP High Stage			
Units:	USA	Refrigerant:	R717	
Compressor Series:	450 XL		R22:	X
Cylinders:	6		R290:	
Oil Cooling:	Water		R134a:	
			R404a	
			R507	
Speed:	1,200	Percent Capacity:	100% Capacity:	X
Drive Type:	Belt		Max. Internal Steps:	
Hertz:	60 Hz		Standard Steps:	

Evaporator Temperature:	23.0	Condensing Temperature:	75.0
Evaporator Pressure:	46.4	Condensing Pressure:	132.2
Suction Pressure Loss:	0.0	Discharge Pressure Loss:	2.0
Suction Pressure:	46.4	Discharge Pressure:	134.2
Sub Cooling:	0.0	Superheat:	0.0

Vilter Model Number
M 12 KX 456 XL

Percent Capacity:	**100%**		
Capacity:	107		TR
Power:	99		BHP
Heat Rejection:	1,539		MBH
Speed:	1,200		RPM
Torque:	435		Ft-Lbs
Operating Duty:		**HIGH STAGE**	
Mass Flow:	16,804		Lbs/hr
Suction Volume:	248		ACFM
Discharge Temp.:	104		°F
Displacement:	298		CFM
Oil Cooling:	6		GPM
Power/Capacity Ratio:	0.93	KW/TON	RATIO

Oil Separator Size	16 in.	***Separator sizes are based on operating conditions.***
Super Separator Size	16 in.	
Discharge Check Valve Size	4 in.	

LEGEND

TR: Tons Refrigeration
BHP: Brake Horse Power
F: Degrees Fahrenheit
MBH: 1000 BTU/Hour
RPM: Revolutions Per Minute
Ft-Lbs: Foot Pounds
Lbs/Hour: Pounds Per Hour
ACFM: Actual Cubic Feet Per Minute
GPM: Gallons Per Minute
RATIO: Power to Capacity Ratio
CFM: Cubic Feet Per Minute

Vilter Reciprocating Compressors

Tuesday, May 27, 2008
8:07 PM

Project Name:	JTM Food Group			
Description:	125 HP High Stage			
Units:	USA	Refrigerant:	R717	
Compressor Series:	450 XL		R22:	X
Cylinders:	6		R290:	
Oil Cooling:	Water		R134a:	
			R404a	
			R507	
Speed:	1,200	Percent Capacity:	100% Capacity:	X
Drive Type:	Belt		Max. Internal Steps:	
Hertz:	60 Hz		Standard Steps:	

Evaporator Temperature:	23.0	Condensing Temperature:	92.0
Evaporator Pressure:	46.4	Condensing Pressure:	173.7
Suction Pressure Loss:	0.0	Discharge Pressure Loss:	3.0
Suction Pressure:	46.4	Discharge Pressure:	176.7
Sub Cooling:	0.0	Superheat:	0.0

Vilter Model Number
M 12 KX 456 XL

Percent Capacity:	**100%**		
Capacity:	96		TR
Power:	114		BHP
Heat Rejection:	1,436		MBH
Speed:	1,200		RPM
Torque:	500		Ft-Lbs
Operating Duty:		**HIGH STAGE**	
Mass Flow:	16,076		Lbs/hr
Suction Volume:	237		ACFM
Discharge Temp.:	129		°F
Displacement:	298		CFM
Oil Cooling:	6		GPM
Power/Capacity Ratio:	1.20	Kw / Ton	RATIO

Oil Separator Size	16 in.	***Separator sizes are based on operating conditions.***
Super Separator Size	16 in.	
Discharge Check Valve Size	3 in.	

LEGEND

TR: Tons Refrigeration
BHP: Brake Horse Power
F: Degrees Fahrenheit
MBH: 1000 BTU/Hour
RPM: Revolutions Per Minute
Ft-Lbs: Foot Pounds
Lbs/Hour: Pounds Per Hour
ACFM: Actual Cubic Feet Per Minute
GPM: Gallons Per Minute
RATIO: Power to Capacity Ratio
CFM: Cubic Feet Per Minute

S-energy®

Lubricated Rotary Screw Air Compressors

Constant Speed and Variable Speed Drives

18-75 kW ■ 25-100 Horsepower

- Reliable
- Quiet
- Energy efficient
- Small footprint
- Easy to maintain

SULLAIR®

Always air. Always there.

Sullair Capabilities

Sullair Leadership

Since 1965, Sullair has been recognized around the world as an innovator and a leader in rotary screw compression and vacuum technology. For more than 40 years, Sullair has designed and manufactured its own rotors and air end assemblies at the corporate headquarters in Michigan City, Indiana.

The award-winning rotary screw design sets the industry standards and delivers the quality and reliability one expects from a leader.

Sullair Technology

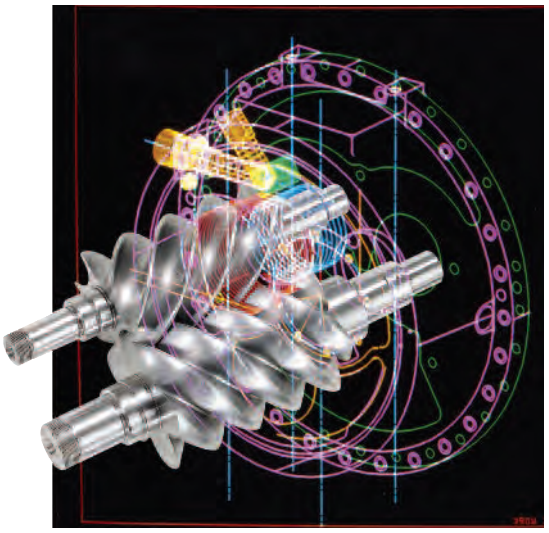
Utilizing the most modern technologies, equipment and advanced manufacturing techniques, Sullair designs, manufactures, assembles, and tests the most innovative compressed air and vacuum products in the industry. Sullair products are known around the world for their universally applicable design, outstanding craftsmanship and superior quality.

Sullair's Statistical Process Control

Sullair's Statistical Process Control (SPC) system monitors rotor quality standards to assure consistent compressor and vacuum performance.

Sullair's Commitment to Innovation

Underlying Sullair's leadership is a dedication to excellence and a commitment to innovation. Sullair is constantly exploring new ideas and seeking new ways to meet industry's need for increasingly energy efficient compressed air and vacuum solutions.



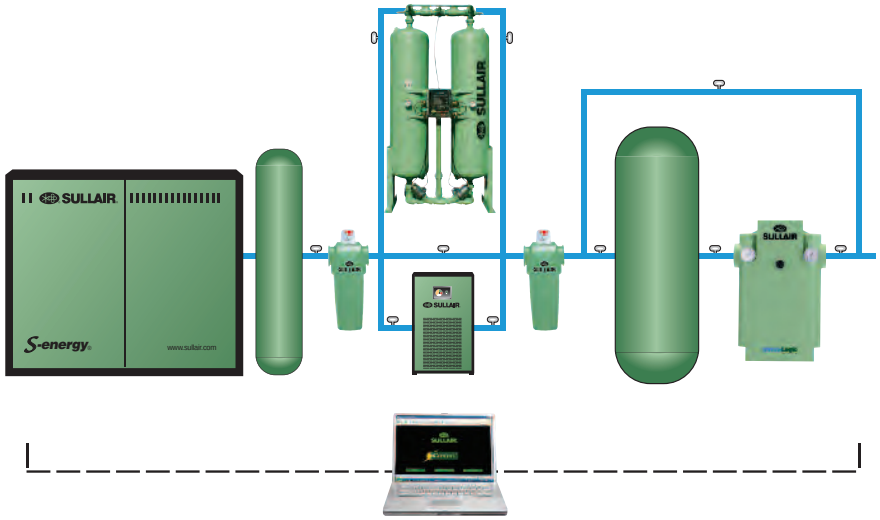
Sullair Stationary Air Power Systems

Sullair offers total compressed air systems to help compressed air users reduce energy costs and improve productivity by analyzing, managing and controlling their compressed air systems.

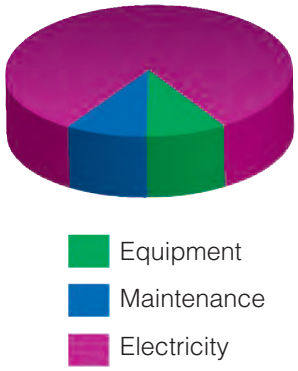
Sullair's air systems include: plant air audits, energy efficient products, compressed air system controls, equipment to monitor and manage systems, air distribution products, and after-purchase support.

Each component of the system is carefully matched for capacity and pressure to provide maximum performance and energy efficiency. A total Sullair system provides the user with an air quality guarantee.

This System includes:
- **rotary screw compressor**
- **desiccant or refrigerated dryer**
- **filters to meet your requirement**
- **flow controller**
- **ethernet-based eConnect™ to monitor and control the entire system**



Sullair Reduces Your Life-Cycle Costs



Air Compressor Life Cycle Costs

According to *Best Practices for Compressed Air Systems*, Compressed Air Challenge, Second Edition, 2007, energy costs now represent 82% of the total operating expenses. Energy savings from Sullair ***S-energy*** compressors can significantly reduce life cycle costs.

The Sullair ***S-energy*** compressors significantly reduce operating and energy costs over the entire compressor life cycle. Contributing to the energy savings are:

- Sullair's proven air end with the low restriction inlet valve
- High efficiency fan
- Low pressure drop air-fluid separation system to prevent energy loss

Sullair designs deliver cost savings for the life of the product. Improved air filtration translates into:

- Extended separator life
- Improved fluid filter life
- Less lubricant contamination

To reduce fluid disposal costs, we offer our biodegradable Sullube™ 8000-hour fluid, or 24KT™, a long-life fluid that never needs changing.

Features and Benefits That Set Sullair Apart

These Sullair compressors provide more performance and efficiency than any other compressors in this horsepower range and set new standards in virtually every category.

Standard Features

- Low restriction inlet valve for better cfm performance
- Low life cycle costs including long-life bearings, rotors, and consumable parts
- Less than 1 ppm fluid carryover
- Excellent motor cooling design characteristics for longer motor life
- Sequencing standard
- NEMA 4 standard
- WS microprocessor standard
- Smallest footprint in its class
- Quietest in its class, as low as 67 dBA
- 12 unique serviceability features
- Environmental, health, and safety design features
- Sullube™—8000-hour, non-varnishing, biodegradable compressor fluid
- Optimalair™ air filter provides 10 times better filtration than other filters

Quiet Design

This Sullair *S-energy*® Series incorporates many design features to reduce the noise of the machine:

- Air end, motor, and receiver tank are mounted on rubber isolators
- Insulated intake and exhaust louvers
- Low-noise fan

In fact, these compressors are so quiet they can be installed anywhere in your facility.

The Smallest Footprint in Its Class

These Sullair *S-energy*® Series compressors meet the need for a smaller footprint.

- More compact than any similar compressor on the market
- All the maintenance is performed from one side, reducing the amount of clearance and floor space typically required

Options

- Choice of air- or water-cooled*
- 24KT™ 10-year air end warranty
- Cold weather package
- Weather hood
- Total package filtration
- Other motors and starters
- Heat recovery

*Water-cooled available on 40-100 hp

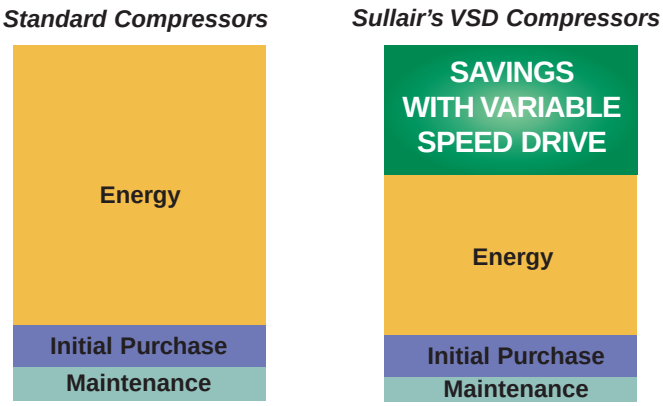
For the Maximum Energy Efficiency and Operating Consistency, Sullair Air Compressors with VSD

The Sullair Compressors with VSD Provide:

- Excellent energy savings
- Relief from potential peak demand charges
- Possible utility company rebate
- Alleviation from electrical harmonics
- Stable system pressure
- Consistent product quality
- Reduced system air leaks
- Reduced storage requirements
- Flexibility for future growth
- Lowest 5-year life cycle cost
- Available on models 25 hp to 100 hp

Your Compressed Air System Can Improve Your Bottom Line: 35% Energy Savings in the First Five Years

In just five years, the electrical power cost to operate a standard compressor can be more than six times greater than its purchase price.

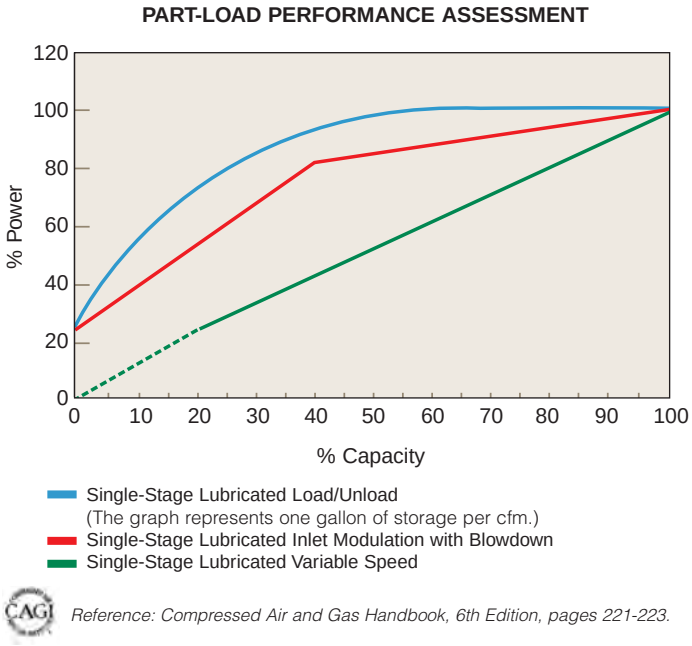


Total Compressor Flexibility

Sullair's VSD compressors provides the flexibility to vary both capacity and pressure. This flexibility makes it possible to "grow" your air system without adding more compressors.

Variable Speed Drive is the Superior Alternative to Other Compressor Control Systems

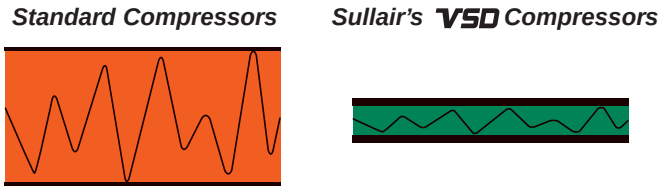
The chart below is a representation of nominal control systems for generic comparative purposes. A detailed and accurate comparison of specific compressor models is available from your Sullair representative or authorized distributor.



Reference: Compressed Air and Gas Handbook, 6th Edition, pages 221-223.

Stable System Pressure Improves the Consistency of Your Process to Reduce Product Rejects

- Lowers air system leaks
- Reduces system storage requirements
- Provides increased energy savings to increase profits



Soft Start is Standard with Unlimited Starts and Stops

- No need for Wye Delta and other soft starters
- No need to control the number of hot or cold starts
- Unlimited starts and stops save electrical costs
- Avoids high electrical current at start-up

VSD Avoids Potential Peak Demand Charges

VSD compressors provide the highest power factor over the entire frequency range, often avoiding utility company penalties.

Before we designed these compressors, we reviewed every aspect of product development with the customer and the maintenance staff in mind. The result is Sullair reliability in the most compact, most robust, most maintenance-friendly and quietest compressor package available on the market.

Multiple features of the S-energy® Series revolutionize the compressor's serviceability and provide for a cleaner, safer work environment and cost effective compressor. Standard maintenance can all be performed from this side.

WS Microprocessor Control System

With the simplified WS microprocessor, there are no complicated menus to manage.

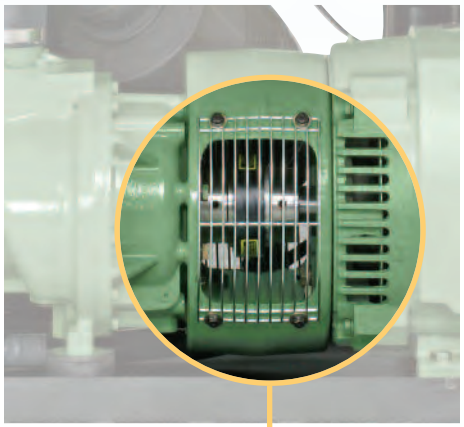
- The graphic display is clear and concise
- Get the critical operations information more easily, including status, temperature, pressure, and load/unload set points
- Use a Windows PC to remotely monitor, upgrade the software, and set up changes
- Built-In sequencing of up to 16 machines

Sullair Motor Features:

- Slow speed—1800 rpm
- Cast iron construction
- NEMA design
- Direct coupled/flange mounted
- Most comprehensive warranty in the industry

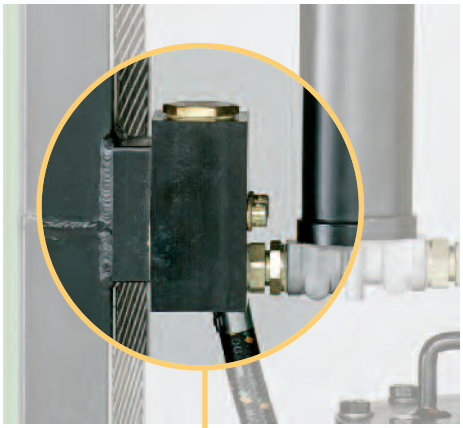
Drive Coupling Element

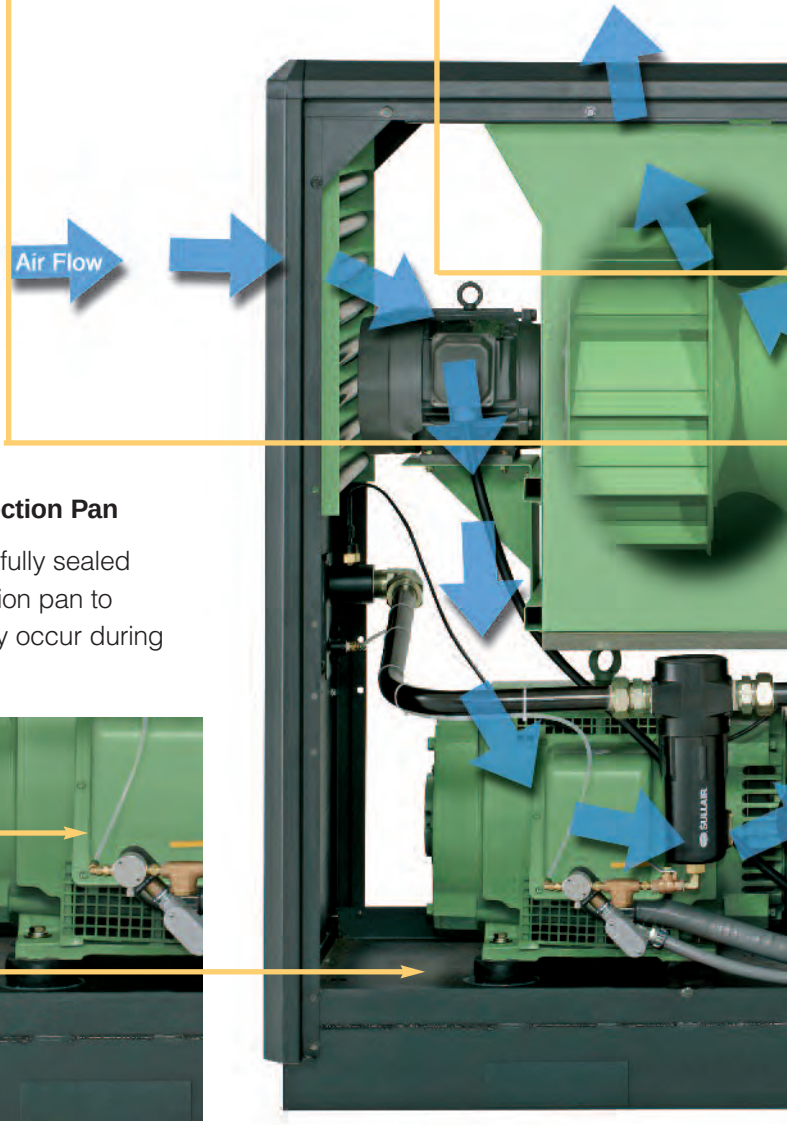
Easy access through a large opening and a wrap-flex element allows change without disturbing the hubs.



Quick Thermostat Change

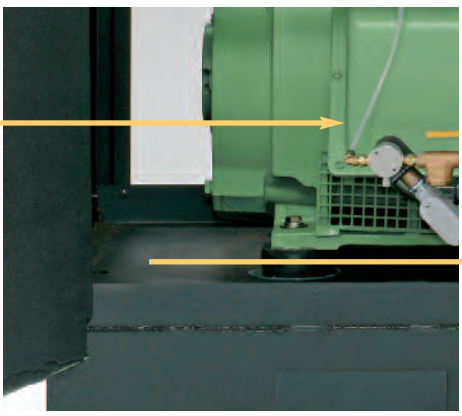
To change the thermostat, simply thread the old thermostat out, and the new one in.





Environmental Protection Pan

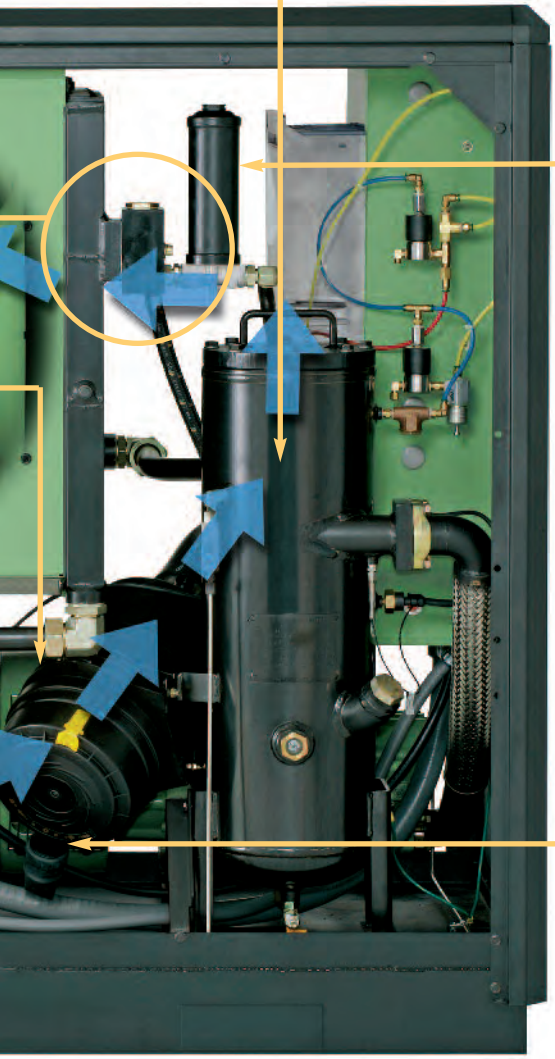
This series features a fully sealed environmental protection pan to capture spills that may occur during servicing.



ors Are Easiest to Maintain

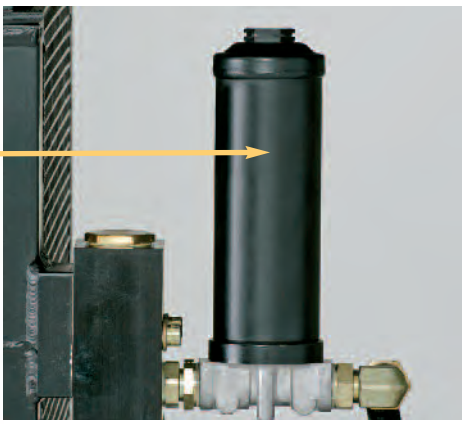
Improved Separator Maintenance

Simply unbolt the lid and lift it off using the handle. No tubing to disconnect, prevents leaking and saves service time.



Quick Access to Cooler

With the removal of just a few bolts, the cooler slides out on rails for easy routine cleaning.



Simplified Filter Change

The fluid filter is in an inverted position to minimize lubricant loss during filter changes.

Sullair Optimizer™ Air-Fluid Separator

- High efficiency molded media
- Lower pressure drop reduces power consumption
- Less that 1 ppm carryover reduces cost of make-up fluid

Fiberglass Fluid Filter

- Coreless, non-metallic design means easy disposal
- 20% more efficient than common cellulose media
- Better filtration lengthens the life of the compressor unit

Sullair Optimalair™ Air Filter

- Provides the finest inlet filtration in the industry (.4 micron)
- Keeps fluid clean and extends life of internal components
- Reduces pressure drop during operating life, resulting in energy savings

Sullair's Variable Capacity Control Technology

How the Spiral Valve Operation Works

The compression volume varies to suit the air demand by progressively opening or closing internal bypass ports on the air end.

Capacity is matched to system demand, reducing cycling time and extending component life.

Part-load capacity and efficiency can produce energy savings up to 17%.

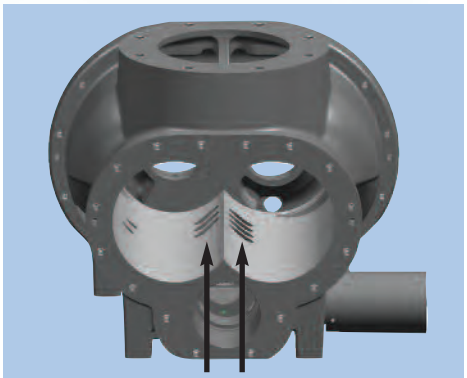
Variable Displacement Air End

Sullair's variable displacement air end maintains system pressure to the plant to match air demand. Since the VCC compressors use large, efficient, slow running rotors, a lower power consumption is achieved at the top end of capacity. Oil foaming does not occur, air is not wasted to atmosphere, and bearings last longer.

The motor and air end run at optimum speed and therefore maintain optimum efficiency throughout the full variable output range.

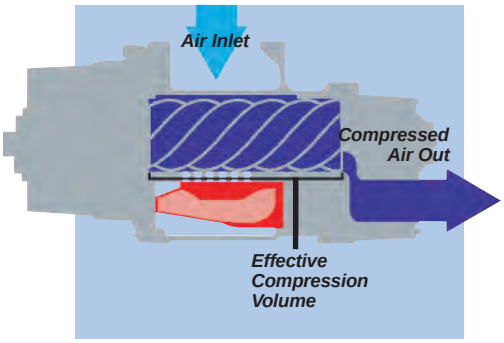
Sullair VCC compressors react quickly to rapid changes in demand. The effective rotor length is progressively reduced as the demand is reduced which provides the most efficient part-load control system to 50% output. This system is extremely simple and provides a cost effective, energy efficient control alternative.

Bypass Ports in Stator

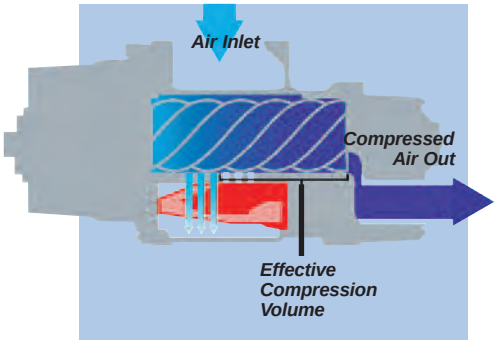


Rotors Removed to Show Bypass Ports

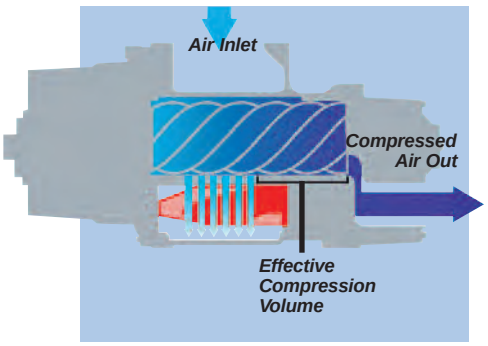
Closed Bypass Ports



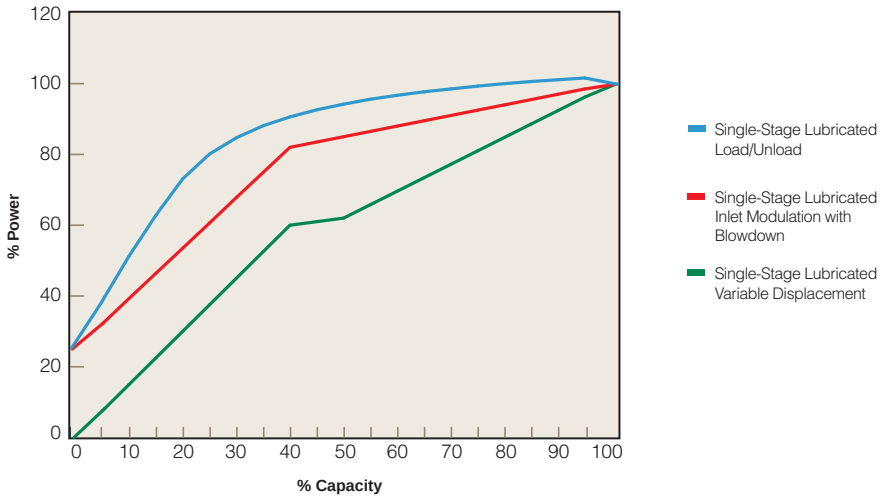
Partially Open Bypass Ports



Open Bypass Ports



PART-LOAD PERFORMANCE ASSESSMENT



The S-energy® Performance Air System

Clean, Dry Air is Essential

Quality air treatment — the removal of condensate and particulate — is essential. When cooled, vapor in compressed air will condense. The removal of condensate and particulate is essential for quality air. First, the air must be dry. Vapor in compressed air will condense when cooled. Without removing the condensate, moisture in the air stream can damage your total compressed air system, product, or process. To protect your plant air system and air-using equipment, particulate must be removed by filtration. Sullair filters will provide this protection and improve the quality of your product or process. Proper filtration will also reduce your compressed air energy costs.

The Sullair Performance Air System

The Performance Air System includes a S-energy® compressor and a Sullair dryer. We've taken the guesswork out of putting your System together. All components of the System have been perfectly matched and sized to provide maximum performance, without paying for more than you need. Plus, the Performance Air System is simple to install and, because of its small footprint, requires a minimum amount of floor space.

Sullair Air Quality Guarantee

Two Levels of Air Quality

Sullair recognizes that the requirements for air quality vary according to each compressed air application. For this reason, Sullair provides compressed air systems that achieve two distinct levels of air quality and a guarantee for each.

Sullair Stationary Air Power System

The Sullair Stationary Air Power System matches a Sullair compressor, a Sullair dryer and Sullair filters. Sullair assures that its System will meet specific performance levels throughout its operational life. We offer a one-year test/review period, backed by a purchase refund guarantee, to verify the performance of the Sullair System.

Select the System

Select the air quality level to meet your plant air or process requirements. You can be assured that the quality of air from the Sullair System you specify will remain consistent for the life of the equipment. Sullair guarantees it... and that's as good as gold.

The Sullair Oil-Free Air Quality Guarantee

The System consists of a Sullair compressor, Sullair dryer, and Sullair filters. The compressed air from this system contains particulates no larger than .01 micron, including coalesced liquid water and lubricants.

Maximum remaining oil aerosol content is 0.01 parts per million by weight (ppm/w) @ 70°F, including oil vapor. The air from this Sullair System meets the most stringent ISO standard (ISO 8573.1, Class 1 for oil vapor and Class 2 for particulate) for air quality.

The Sullair Critical Air Quality Guarantee

The compressed air from this Sullair System exceeds the ISO standard (ISO 8573.1, Class 1 for oil vapor and Class 2 for particulate). The System includes a Sullair compressor, Sullair dryer, and Sullair filters. The odor-free compressed air from this system contains particulates no larger than 0.01 micron, including water and oil aerosol content of 0.01 parts per million by weight (ppm/w) @ 70°F. The remaining oil vapor content is less than 0.003 ppm/w.

To get more information on Sullair's Air Quality Guarantee, please contact your Sullair distributor.

These Systems are not intended to remove carbon monoxide, methyl isocyanate or other noxious, corrosive or toxic gases, vapors or fumes. The System does not provide breathing air.

A Concern for the Environment

Mindful of our natural resources that are used to create and supply electrical energy, Sullair is focused on conservation and committed to providing air compressors that will use this energy most efficiently.

Other environmental features of the ***S-energy*** Series compressors include:

- Fully-sealed protection pan that will contain compressor fluid should any spill while servicing
- Coreless fluid filter of non-metallic design that can be either incinerated or crushed, virtually eliminating disposal concerns and expense
- Sullair's environmentally compatible fluid, Sullube™, is biodegradable
- We've reduced the cost and environmental impact of fluid disposal by offering 24KT™, a life long fluid that never needs changing
- Low fluid capacity reduces overall fluid costs and disposal issues
- Health and safety issues are addressed by utilizing a low noise fan design, reducing the sound level to as low as 67 dBA, for worker comfort. Additionally, Sullair mounts air end, motor, and receiver on rubber isolators and insulates intake and exhaust louvers

The Industry's Most Comprehensive Warranties

Confidence in our high quality workmanship, materials, and components allows Sullair to offer these unprecedented warranties:

Emerald Five-Year Compressor Health Assurance

The Emerald Five-Year Warranty is available on nearly every Sullair Industrial compressor when one of Sullair's recommended compressor fluids is used. This unmatched warranty covers all major components: the air end, motor, air-fluid receiver, fluid cooler, and aftercooler. *Uniquely, this warranty includes all parts and labor.*

Ultra Emerald Five-Year Compressor Warranty

With the Ultra Emerald Warranty, you get all the benefits of Sullair's Emerald Five-Year Compressor Health Assurance, with the added benefit of our Variable Speed Drive (VSD). Sullair compressors with VSD keep working at maximum efficiency for longer life and lower energy costs.

24KT™ and the Ten-Year Warranty

When you use the 24KT™ compressor fluid, the Sullair 24KT™ System carries an unprecedented ten-year warranty on the Sullair air end. You receive the benefits of our five-year coverage on all other major components.

Sullair Oil-Free and Critical Air Guarantee

Sullair matches the ideal combination of compressor, dryer, and filters to remove atmospheric particulate, aerosols, and other pollutants to provide two levels of air quality—from general purpose to the most critical air applications.

Technical Specifications: 60 Hz

Constant Speed Drive Performance

Model	Motor hp	Full-Load Capacity acfm @ 100 psig	acfm @ 125 psig	acfm @ 150 psig	acfm @ 175 psig
1800	25	119	106	96	85
2200	30	140	127	111	104
3000	40	——	163	148	138
3000P	40	199	182	165	——
3700	50	250	222	196	179
4500	60	——	267	247	220
4500P	60	303	260	233	——
4500PS	60	310	276	——	——
5500	75	376	344	296	276
5500PS	75	387	349	——	——
7500	100	490	444	397	369
7500P	100	500	457	418	371
7500PS	100	500	457	418	371

Variable Speed Drive Performance

Model	Motor hp	Full-Load Capacity acfm @ 100 psig	acfm @ 125 psig	acfm @ 150 psig	acfm @ 175 psig
1800V	25	116	105	96	87
2200V	30	138	125	115	105
3000V	40	——	163	150	140
3000PV	40	200	180	163	148
3700V	50	249	225	202	183
4500V	60	——	260	238	222
4500PV	60	305	269	——	——
5500V	75	377	341	306	278
7500V	100	493	454	415	381
7500PV	100	500	457	420	394

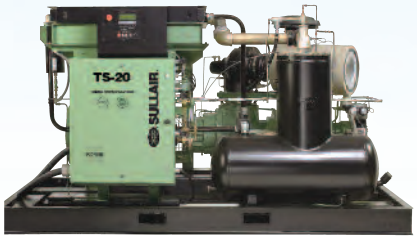
Dimensions and Weights

Models	Length in	Length with Integral Dryer in	Width in	Height in	Weight lbs	Weight with Integral Dryer lbs	Discharge Connection	Moisture Drain Connection	dBA Rating*
1800	53.2	63	31.5	53.2	1420	1621	1-1/2" NPT	1/4" NPT	67
1800V	53.2	63	31.5	53.2	1461	1662	1-1/2" NPT	1/4" NPT	67
2200	53.2	63	31.5	53.2	1450	1651	1-1/2" NPT	1/4" NPT	67
2200V	53.2	63	31.5	53.2	1491	1692	1-1/2" NPT	1/4" NPT	67
3000	53.2	63	31.5	53.2	1615	1814	1-1/2" NPT	1/4" NPT	69
3000V	53.2	63	31.5	53.2	1654	1854	1-1/2" NPT	1/4" NPT	69
3000P	62.0	71.5	34.5	61.5	1990	2274	1-1/2" NPT	1/4" NPT	68
3000PV	62.0	71.5	34.5	61.5	2050	2334	1-1/2" NPT	1/4" NPT	68
3700	62.0	71.5	34.5	61.5	2040	2324	1-1/2" NPT	1/4" NPT	68
3700V	62.0	71.5	34.5	61.5	2100	2384	1-1/2" NPT	1/4" NPT	68
4500	62.0	71.5	34.5	61.5	2190	2474	1-1/2" NPT	1/4" NPT	69
4500V	62.0	71.5	34.5	61.5	2300	2584	1-1/2" NPT	1/4" NPT	69
4500P	78.7	91.9	43.3	68.9	2815	3188	2" NPT	1/4" NPT	72
4500PV	78.7	91.9	43.3	68.9	2952	3325	2" NPT	1/4" NPT	72
4500PS	78.7	91.9	43.3	68.9	2957	3330	2" NPT	1/4" NPT	70
5500	78.7	91.9	43.3	68.9	2886	3259	2" NPT	1/4" NPT	72
5500V	78.7	91.9	43.3	68.9	2963	3336	2" NPT	1/4" NPT	72
5500PS	78.7	91.9	43.3	68.9	3028	3401	2" NPT	1/4" NPT	70
7500	78.7	91.9	43.3	68.9	3213	3586	2" NPT	1/4" NPT	73
7500V	78.7	91.9	43.3	68.9	3405	3778	2" NPT	1/4" NPT	73
7500P	78.7	91.9	43.3	68.9	3280	3653	2" NPT	1/4" NPT	71
7500PV	78.7	91.9	43.3	68.9	3472	3845	2" NPT	1/4" NPT	71
7500PS	78.7	91.9	43.3	68.9	3355	3728	2" NPT	1/4" NPT	71

* at 1 meter.
** Capacity per CAGI / PNEUROP PN2CPTC2 (Annex C to ISO 1217)
Data subject to change without notice.

Sullair Supplies Compressed Air Systems

For the lowest total cost of ownership, Sullair provides an air system designed to lower operating cost, improve reliability and maximize return on investment.



Sullair offers air systems to help compressed air users reduce their energy costs and improve their productivity by analyzing, managing and controlling total compressed air systems. Information on the compressed air system tailored to your specific needs can be obtained by contacting your local Sullair Distributor. To acquire local distributor contact information visit us online at www.sullair.com or call 219-879-5451.

SULLAIR®

Always air. Always there.™

Sullair Corporation
3700 East Michigan Boulevard, Michigan City, IN 46360
Telephone: 1-219-879-5451
www.sullair.com

LS14E 1101R10

The paper used in printing this literature was manufactured using recycled fiber, either pre-consumer or post-consumer waste, therefore less harmful to the environment because less virgin fiber is used, thereby reducing tree harvesting, water usage, energy consumption, emission of greenhouse gases and pollution.

Wednesday, September 09, 2009 3:44:52 PM

Controller Software

Version Date	02/05/08
IO Version Pn	02250176- 38
UI Version Pn	02250176- 39
Model	7509V
HP	100
Pressure	100-140
Hz	Any
Cooling	AC
Motor	VFD
Volts	460
Dryer	None

Machine Statistics

Machine Hours	4899:32
Compressor Enabled Hours	4864:08
Motor Running Hours	4864:06
Compressor Loaded Hours	3861:21
Compressor Full Load Hours	0:06
Number of Starts	25
Number of Load Cycles	165893

VSD Performance

	Current	Recent	Lifetime	
Capacity	489	187	187	CFM
Capacity %	100	38	38	%

Power	93	40	40	KW
Power %	100	43	43	%
Hours		4864:08	4865:39	Hrs
Total Delivery		54516	54560	KCF
Total Energy		194447	194447	KWH
Total Cost		13611	13611	Dollars
Savings vs Load/Unload			8590	8590 Dollars
Savings vs Inlet Modulation			6455	6455 Dollars
Savings vs Variable Displacement			3413	3413 Dollars

VFD History

	Recent	Lifetime
0 %	1148:53	1148:53
5 %	0	0
10 %	0	0
15 %	830:44	830:44
20 %	78:57	78:57
25 %	64:07	64:07
30 %	143:16	143:16
35 %	191:55	191:55
40 %	208:25	208:25
45 %	159:18	159:18
50 %	190:39	190:39
55 %	218:21	218:21
60 %	250:42	250:42
65 %	250:51	250:51
70 %	266:37	266:37
75 %	264:54	264:54
80 %	240:15	240:15
85 %	172:25	172:25
90 %	94:30	94:30

95 %	38:58	38:58
100 %	51:56	51:56

Control Parameters

Unload Pressure	110 PSI
Load Pressure	104 PSI
Load Delta	6 PSI
VSD Setpoint	105 PSI
Unload Time	600 Sec
Drain Interval	120 Sec
Drain Time	4 Sec
Restart Time	0 Sec
Wye-Delta Time	5 Sec
Cost per KWH	.07 Dollars
Modulation	Modulate
Mode	Automatic
Pressure Units	PSI
Temperature Units	Deg F
Language	English

Wednesday September 9 , 2009 14:53:02

Sequencing Parameters

Sequence Mode	Disabled
Sequence Hours	0:00 Hrs
COM Number	1
Machines	1
Low Pressure	90 PSI
Recovery Time	5 Sec
Rotate	0 Hrs
eConnect ID	1

Aux Motor Overload	0:01	August 19	19:36:18
VSD1 Comm Fault	0:00	August 11	08:50:43
Low Volt Sensor	0:00	April 01	00:50:24

Main Motor VFD Status

Motor Speed	2533 RPM
Motor Current	120.1 Amps
Frequency	85.1 Hertz
Motor Temp Protection	70.7 %
Drive Temperature	105 Deg F
DC Link Voltage	603 Volts
Drive Com Faults	11509
UI Com Faults	10
Sequence Com Faults	0

Sensor Log

Temper Control 1	AI1	AI2	Sump Pressu	Line Pressu	AI5	AI6	AI7	AI8	AI9 Volts
171	.0	0	111	105	.0	.0	.0	.0	.0	23.3
171	.0	0	111	105	.0	.0	.0	.0	.0	23.4
171	.0	0	111	105	.0	.0	.0	.0	.0	23.3
171	.0	0	111	105	.0	.0	.0	.0	.0	23.3
171	.0	0	111	105	.0	.0	.0	.0	.0	23.4
171	.0	0	111	105	.0	.0	.0	.0	.0	23.3
171	.0	0	111	105	.0	.0	.0	.0	.0	23.4
171	.0	0	111	105	.0	.0	.0	.0	.0	23.3
171	.0	0	111	105	.0	.0	.0	.0	.0	23.4

FRANKLIN ELECTRIC

2011 AIM MANUAL

SUBMERSIBLE MOTORS

Application • Installation • Maintenance

60 Hz, Single-Phase and Three-Phase Motors

System Solutions

Franklin Electric

Table 24 Three-Phase Motor Specifications (60 Hz) 3450 rpm

TYPE	MOTOR MODEL PREFIX	RATING					FULL LOAD		MAXIMUM LOAD		LINE TO LINE RESISTANCE OHMS	EFFICIENCY %		LOCKED ROTOR AMPS	KVA CODE
		HP	KW	VOLTS	HZ	S.F.	AMPS	WATTS	AMPS	WATTS		S.F.	F.L.		
6" STD.	236650	5	3.7	200	60	1.15	17.5	4700	20.0	5400	.77-.93	79	79	99	H
	236600			230	60	1.15	15	4700	17.6	5400	1.0-1.2	79	79	86	H
	236660			380	60	1.15	9.1	4700	10.7	5400	2.6-3.2	79	79	52	H
	236610			460	60	1.15	7.5	4700	8.8	5400	3.9-4.8	79	79	43	H
	236620			575	60	1.15	6	4700	7.1	5400	6.3-7.7	79	79	34	H
	236651	7.5	5.5	200	60	1.15	25.1	7000	28.3	8000	.43-.53	80	80	150	H
	236601			230	60	1.15	21.8	7000	24.6	8000	.64-.78	80	80	130	H
	236661			380	60	1.15	13.4	7000	15	8000	1.6-2.1	80	80	79	H
	236611			460	60	1.15	10.9	7000	12.3	8000	2.4-2.9	80	80	65	H
	236621			575	60	1.15	8.7	7000	9.8	8000	3.7-4.6	80	80	52	H
	236652	10	7.5	200	60	1.15	32.7	9400	37	10800	.37-.45	79	79	198	H
	236602			230	60	1.15	28.4	9400	32.2	10800	.47-.57	79	79	172	H
	236662			380	60	1.15	17.6	9400	19.6	10800	1.2-1.5	79	79	104	H
	236612			460	60	1.15	14.2	9400	16.1	10800	1.9-2.4	79	79	86	H
	236622			575	60	1.15	11.4	9400	12.9	10800	3.0-3.7	79	79	69	H
	236653	15	11	200	60	1.15	47.8	13700	54.4	15800	.24-.29	81	81	306	H
	236603			230	60	1.15	41.6	13700	47.4	15800	.28-.35	81	81	266	H
	236663			380	60	1.15	25.8	13700	28.9	15800	.77-.95	81	81	161	H
	236613			460	60	1.15	20.8	13700	23.7	15800	1.1-1.4	81	81	133	H
	236623			575	60	1.15	16.6	13700	19	15800	1.8-2.3	81	81	106	H
	236654	20	15	200	60	1.15	61.9	18100	69.7	20900	.16-.20	82	82	416	J
	236604			230	60	1.15	53.8	18100	60.6	20900	.22-.26	82	82	362	J
	236664			380	60	1.15	33	18100	37.3	20900	.55-.68	82	82	219	J
	236614			460	60	1.15	26.9	18100	30.3	20900	.8-1.0	82	82	181	J
	236624			575	60	1.15	21.5	18100	24.2	20900	1.3-1.6	82	82	145	J
	236655	25	18.5	200	60	1.15	77.1	22500	86.3	25700	.12-.15	83	83	552	J
	236605			230	60	1.15	67	22500	75	25700	.15-.19	83	83	480	J
	236665			380	60	1.15	41	22500	46	25700	.46-.56	83	83	291	J
	236615			460	60	1.15	33.5	22500	37.5	25700	.63-.77	83	83	240	J
	236625			575	60	1.15	26.8	22500	30	25700	1.0-1.3	83	83	192	J
	236656	30	22	200	60	1.15	90.9	26900	104	31100	.09-.11	83	83	653	J
	236606			230	60	1.15	79	26900	90.4	31100	.14-.17	83	83	568	J
	236666			380	60	1.15	48.8	26900	55.4	31100	.35-.43	83	83	317	J
	236616			460	60	1.15	39.5	26900	45.2	31100	.52-.64	83	83	284	J
	236626			575	60	1.15	31.6	26900	36.2	31100	.78-.95	83	83	227	J
	236667	40	30	380	60	1.15	66.5	35600	74.6	42400	.26-.33	83	83	481	J
	236617			460	60	1.15	54.9	35600	61.6	42400	.34-.42	83	83	397	J
	236627			575	60	1.15	42.8	35600	49.6	42400	.52-.64	83	83	318	H
	236668	50	37	380	60	1.15	83.5	45100	95	52200	.21-.25	82	83	501	H
	236618			460	60	1.15	67.7	45100	77	52200	.25-.32	82	83	414	H
	236628			575	60	1.15	54.2	45100	61.6	52200	.40-.49	82	83	331	H
	276668			380	60	1.15	82.4	45100	94.5	52200	.21 - .25	82	83	501	H
	276618			460	60	1.15	68.1	45100	78.1	52200	.25 - .32	82	83	414	H
	276628			575	60	1.15	54.5	45100	62.5	52200	.40 - .49	82	83	331	H
	236669	60	45	380	60	1.15	98.7	53500	111	61700	.15-.18	84	84	627	H
	236619			460	60	1.15	80.5	53500	91	61700	.22-.27	84	84	518	H
	236629			575	60	1.15	64.4	53500	72.8	61700	.35-.39	84	84	414	H
	276669			380	60	1.15	98.1	53500	111.8	61700	.15 - .18	84	84	627	H
	276619			460	60	1.15	81.0	53500	92.3	61700	.22 - .27	84	84	518	H
	276629			575	60	1.15	64.8	53500	73.9	61700	.35 - .39	84	84	414	H

Model numbers above are for three-lead motors. Six-lead motors with different model numbers have the same running performance, but when Wye connected for starting have locked rotor amps 33% of the values shown. Six-lead individual phase resistance = table X 1.5.