



Legal Department

July 11, 2017

Chairman Asim Z. Haque  
Public Utilities Commission of Ohio  
180 East Broad Street  
Columbus, OH 43215-3793

**Re: In the Matter of the Application of )  
Hi-Stat Manufacturing Company, Inc. )  
and Ohio Power Company ) Case No. 17-0908-EL-EEC  
for Approval of a Special Arrangement )  
Agreement with a Mercantile Customer )**

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Dear Chairman Haque,

Attached please find the Joint Application of Ohio Power Company (AEP Ohio) and the above-referenced mercantile customer for approval of a Special Arrangement of the commitment of energy efficiency/peak demand reduction (EE/PDR) resources toward compliance with the statutory benchmarks for 2017 (hereinafter "Joint Application").

Amended Substitute Senate Bill 221, codified at R.C. 4928.66, sets forth EE/PDR benchmarks that electric distribution utilities are required to meet or exceed. The statute allows utilities to include EE/PDR resources committed by mercantile customers for integration into the utilities' programs to be counted toward compliance with a utility's EE/PDR benchmarks. The statute also enables the Commission to approve special arrangements for mercantile customers that commit EE/PDR resources to be counted toward compliance with EE/PDR benchmarks.

The Commission's Order in Case No. 10-834-EL-EEC established a streamlined process to expedite review of these special arrangements by developing a sample application process for parties to follow for consideration of such programs implemented during the prior three calendar years. The attached Joint Application and affidavit conforms with AEP Ohio's version of the streamlined sample application. As requested by Commission Staff, any confidential information referenced in the Joint Application has been provided confidentially to Commission Staff for filing in Commission Docket 10-1599-EL-EEC and subject to the confidentially protections of R.C. 4901.16 and OAC 4901-1-24(E). AEP Ohio respectfully requests that the Commission treat the two cases as associated dockets and that any confidential information provided to Staff for filing in connection with the Joint Application be subject to the protective order requested in Docket 10-1599-EL-EEC.

Cordially,

/s/ Ryan Aguiar  
Ryan Aguiar

Attachments



## Public Utilities Commission

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

Case No.: 17-0908-EL-EEC

Mercantile Customer: HI-STAT MANUFACTURING COMPANY, INC.

Electric Utility: Ohio Power

Program Title or Description: AEP Ohio Business Incentives for Energy Efficiency: Self Direct Program

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

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

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

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

## Section 1: Company Information

Name: HI-STAT MANUFACTURING COMPANY, INC.

Principal address: 345 S Mill St, Lexington, Oh 44904

Address of facility for which this energy efficiency program applies: 345 S Mill St, Lexington, Oh 44904

Name and telephone number for responses to questions:

Jim Cole, Hi-Stat Manufacturing Company, Inc., (330) 984-0998

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

- ☒ The customer uses more than seven hundred thousand kilowatt hours per year at our facility. (Please attach documentation.)

See Confidential and Proprietary Attachment 4 – Calculation of Rider Exemption and UCT which provides the facility consumption for the last three years, benchmark kWh, and the last 12 months usage.

- ☐ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.) When checked, see Attachment 6 – Supporting Documentation for a listing of the customer's name and service addresses of other accounts in the AEP Ohio service territory.

## Section 2: Application Information

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

- ☐ Individually, on our own.
- ☒ Jointly with our electric utility.

B) Our electric utility is: Ohio Power Company

The application to participate in the electric utility energy efficiency program is  
"Confidential and Proprietary Attachment 3 – Self Direct Program Project  
Completed Application."

C) The customer is offering to commit (choose which applies):

- ☐ Energy savings from our 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 demand reduction 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 (choose whichever applies):

- ☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, 1/15/2016 and the date on which the customer would have replaced your equipment if you had not replaced it 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)).

The remaining life of the equipment varies and is not known with certainty. The future replacement date is unknown and has historically been at the end of equipment life. Replacement was completed early to achieve energy savings and to reduce future maintenance costs.

- ☐ 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 your energy efficiency program:

- 1) If you checked the box indicating that your 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:

Unit Quantity (watts) = Existing (watts x units) – Installed (watts x units)

kWh Reduction (Annual Savings) = Unit Quantity x (Deemed kWh/Unit)

Annual savings: 182,795 kWh

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for annual energy savings calculations Attachment 6 – Supporting Documentation for custom measures work papers that

provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

- 2) If you checked the box indicating that you 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 the less efficient new equipment that you rejected in favor of the more efficient new equipment.

- 3) If you checked the box indicating that your 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 you 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):

➤ Choose one or more of the following 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?

The coincident peak-demand savings are permanent installations that reduce demand through energy efficiency and were installed on the date specified in Section 3 A above.

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

Unit Quantity (watts) = Existing (watts x units) – Installed (watts x units)

KW Demand Reduction = Unit Quantity (watts) x (Deemed KW/Unit (watts))

10.0 kW

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for peak demand reduction calculation, and Attachment 6 – Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

## **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 cost recovery mechanism implemented by the electric utility.

OR

☐ Commitment payment

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

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

☒ A cash rebate of \$ 10,967.70. (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.)

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for incentive calculations for this mercantile program.

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

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



calculations showing how this time period was determined.)

OR

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

OR

- ☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of an ongoing efficiency program that is practiced by our organization. (Attach documentation that establishes your organization's ongoing efficiency program. In order to continue the exemption beyond the initial 24 month period your organization 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: 4.06 (Skip to Subsection 2.)

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

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

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

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

The utility's 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 \$ 48,982.15

The utility's program costs were \$ 1,096.77

The utility's incentive costs/rebate costs were \$ 10,967.70.

## Section 7: Additional Information

Please attach the following supporting documentation to this application:

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

See Attachment 1 - Self Direct Project Overview and Commitment for a description of the project. See Attachment 6 – Supporting Documentation, for the specifications of the replacement equipment work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed. Due to the length of time since the equipment replacement, the make, model and year of the replaced equipment is not available.

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

- 1) any confidentiality requirements associated with the agreement;

See Attachment 2 – Self Direct Program Project Blank Application including Rules and Requirements. All confidentiality requirements are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application.)

- 2) a description of any consequences of noncompliance with the terms of the commitment;

See Attachment 2 – Self Direct Program Project Blank Application including Rules and Requirements. All consequences of noncompliance are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application.

- 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;

None required because the resources committed are permanent installations that reduce demand through increased efficiency during the Company's peak summer demand period generally defined as May through September and do not require specific coordination and

communication to provide demand reduction capabilities to the Company.

- 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,

See Attachment 2 – Self Direct Program Blank Application including Rules and Requirements granting such permission pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application.

- 5) a commitment by you to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

See Attachment 1 - Self Direct Project Overview and Commitment for the commitment to comply with any information and compliance reporting requirements imposed by rule or as part of the approval of this arrangement by the Public Utilities Commission of Ohio.

- 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.

The Company applies the same methodologies, protocols, and practices to Self Direct Program retrospective projects that are screened and submitted for approval as it does to prospective projects submitted through its Prescriptive and Custom Programs. The Commission has not published a technical reference manual for use by the Company so deviations can not be identified. The project submitted is a custom project and energy savings are determined as described in Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation, Attachment 6 – Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.



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

Case No.: 17-0908-EL-EEC


State of Ohio :

R. SEKAR IYER, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

DNV GL Energy Services USA Inc. agent of Ohio Power

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.

  
ENGINEER  
\_\_\_\_\_  
Signature of Affiant & Title

Sworn and subscribed before me this 13<sup>th</sup> day of June, 2017 Month/Year

  
\_\_\_\_\_  
Signature of official administering oath

Dawn G. Irving / Notary  
\_\_\_\_\_  
Print Name and Title

My commission expires on 9.3.2019



DAWN G IRVING  
NOTARY PUBLIC  
STATE OF OHIO  
Comm. Expires  
September 03, 2019



### Self Direct Project Overview & Commitment

The Public Utility Commission of Ohio (PUCO) will soon review your application for participation in AEP Ohio's Energy Efficiency/Peak Demand Response program. Based on your submitted project, please select by initialing one of the two options below, sign and fax to 877-607-0740

Customer Name	III-STAT MANUFACTURING COMPANY, INC.		
Project Number	AEP-17-20221		
Customer Premise Address	345 S MILL ST, LEXINGTON, OH 44904		
Customer Mailing Address	345 S Mill St, Lexington, OH 44904		
Date Received	7/21/2016		
Project Installation Date	1/15/2016		
Annual kWh Reduction	182,795		
Total Project Cost	\$188,805.00		
Unadjusted Energy Efficiency Credit (EEC) Calculation	\$14,623.59		
Simple Payback (yrs)	15.1		
Utility Cost Test (UCT) for EEC	4.06		
Utility Cost Test (UCT) for Exemption	0.04		
<i>Please Choose One Option Below and Initial</i>			
Self Direct EEC: 75%	\$10,967.70	<input checked="" type="checkbox"/>	Initial: <i>[Signature]</i>
EE/PDR Rider Exemption	12 Months (with possible extension up to 52 months after PUCO Approval)	<input type="checkbox"/>	Initial: _____

*Note: This is a one time selection. By selecting EEC, the customer will receive payment in the amount stated above. Selection of EE PDR rider exemption, will result in the customer not being eligible to participate in any other energy efficiency programs offered by AEP Ohio during the period of exemption. In addition, the term of EE PDR rider exemption is subject to ongoing review for compliance and could be changed by the PUCO.*

If EEC has been selected, will the Energy Efficiency Funds selected help you move forward with other energy efficiency projects? \_\_\_\_\_ YES \_\_\_\_\_ NO

*Note: Exemptions for periods beyond 24 months are subject to look-back or true-up adjustments every year to ensure that the exemption accurately reflects the EEDR savings. Applicants must file for renewal for any exemption beyond 12 months.*

#### Project Overview:

The Self Direct (Prescriptive and Custom) project that the above has completed and applied is as follows.

The project replaced four (4) hydraulic injection molding machines with four (4) new energy efficient electric injection molding machines in the past three (3) years.

The documentation that was included with the application proved that the energy measures applied for were purchased and installed.

*By signing this document, the Mercantile customer affirms its intention to commit and integrate the above listed energy efficiency resources into the utility's peak demand reduction, demand response, and energy efficiency programs. By signing, the Mercantile customer also agrees to serve as a joint applicant in any filings necessary to secure approval of this arrangement by the Public Utilities Commission of Ohio, and comply with any information and compliance reporting requirements imposed by rule or as part of that approval.*

Ohio Power Company

By: *[Signature]*  
Title: Manager  
Date: 5/16/2017

III-STAT MANUFACTURING COMPANY, INC.

By: *[Signature]*  
Title: Facilities Manager  
Date: 5-16-2017



## APPLICATION GUIDELINES

All 2017 AEP Ohio Business Incentives Program projects must be completed and Final Applications received no later than November 10, 2017, in order to qualify for incentives identified in this application.

### Step 1: Verify Eligibility

- ✓ Customer must have a valid AEP Ohio account.
- ✓ Equipment/measure must be installed at facilities served by the AEP Ohio account.
- ✓ Project must produce permanent reduction in electrical energy use (kWh).
- ✓ All installed equipment must meet or exceed the specifications in the application.
- ✓ Please see the **Terms and Conditions** for Self-Direct or **Terms and Conditions** for all other programs for program eligibility and requirements.

### Step 2: Complete Applicant Information

- ✓ All fields in customer and project information sections must be completed.
- ✓ Solution Provider/contractor information must be completed if project is not self-performed.

### Step 3: Complete the Incentive Worksheet(s)

- ✓ Find and read specifications related to the project.
- ✓ Ensure new equipment/measure meets or exceeds the specifications.
- ✓ Choose the incentive category on the worksheet based on the installed equipment and specifications.
- ✓ Complete all fields (fixture description, operating hours, etc.) on the related worksheet.

### Step 4: Sign Customer Agreement

- ✓ Read the Terms and Conditions before signing and submitting the application.
- ✓ Sign Pre-Approval Agreement and submit the application to reserve funds.
- ✓ Sign Final Application Agreement and submit the application after the project is completed.
- ✓ Complete Third Party Payment Release Authorization ONLY if incentive payment is to be paid to an entity other than AEP Ohio customer listed on the Applicant Information page.

### Step 5: Submit Pre-Approval Application<sup>1</sup> (For Self-Direct applications, skip to Step 7)

- ✓ Submitting a Pre-Approval Application to determine

qualification and reserve program funds for a project is strongly recommended.

- ✓ All Process Efficiency measures require pre-approval.
- ✓ Complete all fields for Pre-Approval Agreement section.
- ✓ **Pre-Approval Application must be submitted with:**
  - Proposed scope of work (type and quantity of old and new equipment must be listed)
  - Specification sheets for all proposed equipment
  - W-9 form
- ✓ Submit application via email, fax or mail.
- ✓ During the application review, an inspection may be required; the team will contact applicants requiring an inspection for scheduling.

### Step 6: Complete Project

- ✓ New equipment must be installed and operational to submit a Final Application.

### Step 7: Submit Final Application

- ✓ Submit a Final Application.
- ✓ Use the same application used during pre-approval (if applicable).
  - Change Application Type to Final Application
- ✓ Complete all fields for Final Application Agreement section.
- ✓ Update the application if there are any changes (customer contact, incentive measure, equipment, etc.).
- ✓ **Final Application must be submitted with:**
  - Dated and itemized material invoice
  - External labor invoice (if applicable)
  - If Pre-Approval Application was not submitted, include the documents listed on Step 5
- ✓ Submit application via email, fax or mail.
- ✓ During the application review, an inspection may be required; the team will contact applicants requiring an inspection for scheduling.

*Additional steps are required for Self-Direct applications after application submission. Please see the Self-Direct Terms and Conditions for details.*

### AEP Ohio Business Incentives Program

445 Hutchinson Avenue, Suite 300

Columbus, Ohio 43235

877-541-3048 | aepohiosolutions@clearesult.com

Visit our website at AEPohio.com/solutions

<sup>1</sup>A Pre-Approval Application is not a guarantee of an incentive; the actual incentive will be based on the energy savings and equipment installed as determined in the Final Application. Funds are reserved for 90 days, unless an applicant is granted an extension. The program team reserves the right to contact the customer before the reservation expiration date to ensure that the project is moving forward. If the project is not underway, the reservation may be cancelled. Reserved funds are not transferable to other projects, facilities and/or customers. A waiting list will be established when funds become fully subscribed.





## CHECKLIST OF REQUIRED ATTACHMENTS

### PRE-APPROVAL

- ☐ Completed Applicant Information Form
- ☐ Estimated Total Project Cost
- ☐ Estimated Completion Date
- ☐ Completed Incentives Requested Section of Application
- ☐ Applicable Incentive Worksheets
- ☐ Completed Third-Party Payment Release Authorization Section with W9 (optional)
- ☐ Signed Customer Agreement Form
- ☐ Equipment Specifications
- ☐ Proposed Scope of Work
- ☐ W-9 (Customer's W-9 or 3rd party W-9, if applicable)

### FINAL APPLICATION ONLY (NO PRE APP SUBMITTED)

- ☐ Completed Applicant Information Form
- ☐ Completed Incentives Requested Section of Application
- ☐ Applicable Incentive Worksheets
- ☐ Total Project Cost
- ☐ Completion date
- ☐ Completed and Signed Final Payment Agreement and Customer Agreement Forms
- ☐ Completed Third-Party Payment Release Authorization Section with W9 (optional)
- ☐ Itemized Invoices
- ☐ Equipment Specifications
- ☐ Scope of Work
- ☐ W-9 (Customer's W-9 or 3rd party W-9, if applicable)

### FINAL APPLICATION (IF PRE APP HAS BEEN SUBMITTED)

- ☐ Completed Applicant Information Form (optional)
- ☐ Assigned Project Number on Signature Page
- ☐ Total Project Cost
- ☐ Project Completion Date
- ☐ Completed and Signed Final Payment Agreement and Customer Agreement Forms
- ☐ Completed Third-Party Payment Release Authorization Section (optional)
- ☐ Itemized Invoices
- ☐ Updated Scope of Work (if there were changes from pre)
- ☐ Applicable Incentive Worksheets (if there were changes from pre)

#### AEP Ohio Business Incentives Program

445 Hutchinson Avenue, Suite 300  
Columbus, Ohio 43235  
877-541-3048 | [aepohiosolutions@clearresult.com](mailto:aepohiosolutions@clearresult.com)  
Visit our website at [AEPohio.com/solutions](http://AEPohio.com/solutions)

#### Revised Submittal

Please complete below if this is a revised submittal.

Submittal date \_\_\_\_\_

AEP Project Number (if known) AEP - \_ \_ - \_ \_ \_ \_ \_





## APPLICANT INFORMATION

AEP Application Number AEP - \_ \_ - \_ \_ \_ \_ \_

Application Type (Select One)

### Customer Information

Business Name \_\_\_\_\_

Name as It Appears on Utility Bill \_\_\_\_\_

AEP Ohio Account Number\* at Project Site \_\_\_\_\_ Multiple AEP Ohio Account Numbers for this Project? (Select One)

Taxpayer ID \_\_\_\_\_ - \_\_\_\_\_ W-9 Tax Status (Select One)

Contact Name \_\_\_\_\_ Contact Title \_\_\_\_\_

**Mailing Address** - where check will be sent

Mailing Address \_\_\_\_\_ City \_\_\_\_\_ State <sup>OH</sup> Zip \_\_\_\_\_

Phone \_\_\_\_\_ Ext. \_\_\_\_\_ Contact Email \_\_\_\_\_

How Did You Hear About the Program? (Select One) \_\_\_\_\_ AEP OH Energy Advisor \_\_\_\_\_

### Project Information

Project Name (if applicable) \_\_\_\_\_

☐ Check if mailing address and project site address are the same.

Project Site Address \_\_\_\_\_ City \_\_\_\_\_ State <sup>OH</sup> Zip \_\_\_\_\_

Building Type (Select One) \_\_\_\_\_ Shift (Select One) \_\_\_\_\_

Annual Operating Hours \_\_\_\_\_ Building Area (sq. ft.) \_\_\_\_\_

Construction Type (Select One)

Does the facility have a data center? (Select One)

\*Please only enter the first eleven digits of the account number.



## APPLICANT INFORMATION

### Solution Provider/Contractor Information (If project is not self-performed by customer)

Contracting Company Name \_\_\_\_\_

Contact Name \_\_\_\_\_ Title of Contact \_\_\_\_\_

Mailing Address \_\_\_\_\_ City \_\_\_\_\_ State OH Zip \_\_\_\_\_

Phone \_\_\_\_\_ Ext. \_\_\_\_\_ Contact Email \_\_\_\_\_

Who should we contact with questions about the application? ☐ Customer ☐ Contractor

### Primary Contact Information

Contact Name \_\_\_\_\_ Title of Contact \_\_\_\_\_

Phone \_\_\_\_\_ Ext. \_\_\_\_\_ Contact Email \_\_\_\_\_

## INCENTIVE SUMMARY TABLE (THIS TABLE SELF-POPULATES FROM WORKSHEETS)

Incentive Category	Applied for Incentives	Applicable Self- Direct Incentives
Lighting		
HVAC		
Motors		
Motor Rewind		
Drives		
Compressed Air		
Refrigeration/Food Service		
Agriculture		
Miscellaneous		
Process Efficiency		
NC Lighting (SD Only)		
Total		

AEP Application Number AEP - \_ \_ - \_ \_ \_ \_ \_



## CUSTOMER AGREEMENT

### Application Agreement

By signing this document, I agree to program requirements outlined in the measure specifications, Terms and Conditions for the applicable program and Final Application Agreement. As an eligible customer, I verify the information is correct and request consideration for participation under this program. Furthermore, I concur that I meet all eligibility criteria in order to receive payment under this program.

[Link to Efficient Products for Business/Process Efficiency Terms and Conditions, and Final Application Agreement](#)

[Link to Self-Direct Terms and Conditions, and Final Application Agreement](#)

Pre-Application	Final-Application
Project Completion Year (Select One) _____	Self-Direct _____
Project Completion Date _____	Total Project Cost _____
Date _____	Total Applied for Incentive _____
Total Requested Incentive <sup>1</sup> _____	Total Self-Direct Requested Incentive <sup>2</sup> _____
Print Name _____	AEP Ohio Customer Signature _____

### Third Party Payment Release Authorization (Optional, NOT APPLICABLE TO Self-Direct)

Complete this section ONLY if incentive payment is to be paid to an entity other than the AEP Ohio customer.

Make checks payable to: Company/Individual \_\_\_\_\_

Mailing Address \_\_\_\_\_ City \_\_\_\_\_ State OH Zip \_\_\_\_\_

Phone \_\_\_\_\_ Ext. \_\_\_\_\_

Taxpayer ID of 3rd Party \_\_\_\_\_ - \_\_\_\_\_ W-9 Tax Status \_\_\_\_\_

By signing this document, I authorize the payment of the incentive to the third party named above and understand that I will not receive the incentive payment from AEP Ohio. I also understand that my release of the payment to a third party does not exempt me from the program requirements outlined in the measure specifications, Terms and Conditions, and Final Application Agreement.

Print Name _____	Date _____	Customer Signature (AEP Ohio Customer) _____
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**SUBMIT VIA EMAIL**

**PRINT APPLICATION**

<sup>1</sup>Incentives have a threshold of 50% of the project cost and total incentives paid to a threshold of \$25,000 and Bid4Efficiency above that.

<sup>2</sup>Self-Direct incentives are 75% of Total Requested Incentive, after 50% of the project cost threshold and tiering is applied.

# VAN DORN®

## 230 HT SERIES

### Injection Unit

	Measure	14-oz.	20-oz.	30-oz.
Injection Capacity (GPPS)	oz.	14	20	30
	g	397	567	850
Injection Capacity	cu. in.	27.0	40.0	59.2
	ccm	442	655	970
Recovery Rate (GPPS) (With increased screw speed)	oz./sec.	1.35	1.65	2.02
	g/sec	38.3	46.8	57.3
	oz./sec.	1.95	2.50	2.50
	g/sec	55.3	70.9	70.9
Injection Pressure	psi	20,100	20,000	20,100
	bar	1,386	1,379	1,386
Injection Rate (@10,000 psi) (@ 700 bar)	cu. in./sec.	21.0	21.1	21.0
	ccm/sec	344	346	344
Injection Stroke	in.	8.88	10.13	11.50
	mm	225	257	292
Screw Diameter	in.	1.97	2.24	2.56
	mm	50	57	65
Barrel L/D Ratio		20/1	20/1	20/1
		20/1	20/1	20/1
Screw Speed Range	rpm	30-290	30-250	30-220
	rpm	30-290	30-250	30-220
Back Pressure Adjust	psi	50-300	50-300	50-300
	bar	3-20	3-20	3-20

### General Machine Specifications

	Measure	14-oz.	20-oz.	30-oz.
Pump Motor	hp	40	40	40
	kW	30	30	30
Pump Capacity	gpm	55	55	55
	lpm	207	207	207
Oil Capacity	gal.	120	120	120
	l	450	450	450
Machine Weight (approx.)	lb.	21,300	21,300	21,300
	kg	9,670	9,670	9,670
<b>Machine Dimensions</b>				
Length	ft.	21.2	22.3	23.1
	m	6.5	6.8	7.0
Width	ft.	4.7	4.7	4.7
	m	1.4	1.4	1.4
Height	ft.	7.8	7.8	7.8
	m	2.4	2.4	2.4
Barrel Heating Capacity	kW	15.5	18.2	20.0
	kW	15.5	18.2	20.0

### Clamp Unit

Clamp Force	U.S. tons	230
	kN	2,046
Clamp Stroke - Max.	in.	20
	mm	508
Open Daylight - Max.	in.	42
	mm	1,067
Mold Thickness - Min.	in.	7
	mm	178
<b>Distance Between Tie Bars</b>		
Horizontal	in.	22
	mm	560
Vertical	in.	22
	mm	560
<b>Platen Size</b>		
Horizontal	in.	32
	mm	813
Vertical	in.	32
	mm	813
Tie Bar Diameter	in.	3.75
	mm	95
<b>Clamp Speeds</b>		
Closing	in./sec.	29
	mm/sec	737
Opening	in./sec.	39
	mm/sec	991
Ejector Force	U.S. tons	5.0
	kN	44
Ejector Stroke	in.	4.5
	mm	114

Performance specifications are based on theoretical data and mold, material and conditions. Since continuous improvement is Van Dorn Demag's policy, we reserve the right to change specifications, designs and performance data without prior notice or obligation.

The specifications listed are standard. However, Van Dorn Demag will provide engineered options and solutions to meet virtually any performance requirements including high-pressure and high-speed configurations.

VANDORN 75-RS-5F



VANDORN 75-RS-5F  
(/index.php/maquinaria/vandorn-75-rs-5f)

MARCA: VANDORN

MODELO: 75-RS-5F

AÑO DE FABRICACION: 1980

TONELADAS DE CIERRE: 75 TON.

VOLUMEN DE INYECCION: 110 GRAMOS

MOTOR: 15 H.P.

DISTANCIA ENTRE BARRAS: 13"  $\frac{1}{4}$  X 15"  $\frac{3}{4}$

CONDICIONES: TRABAJANDO AL 100 % (ESTA MAQUINA TIENE UN PLC NUEVO MARCA SIEMENS EL CUAL SE INSTALO EN LA CIUDAD DE TOLUCA, CABE MENCIONAR QUE EL CABLEADO DE LAS VALVULAS Y MICROS DE SEGURIDAD AL TABLERO PRINCIPAL ES COMPLETAMENTE NUEVO)

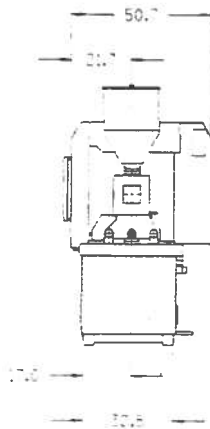
NOTA: LA MAQUINA SE LES PUEDE MOSTRAR TRABAJANDO EN PRODUCCIÓN SIN COMPROMISO ALGUNO, YA QUE LA MAQUINA ACTUALMENTE ESTA FABRICANDO ARTÍCULOS PARA EL HOGAR.



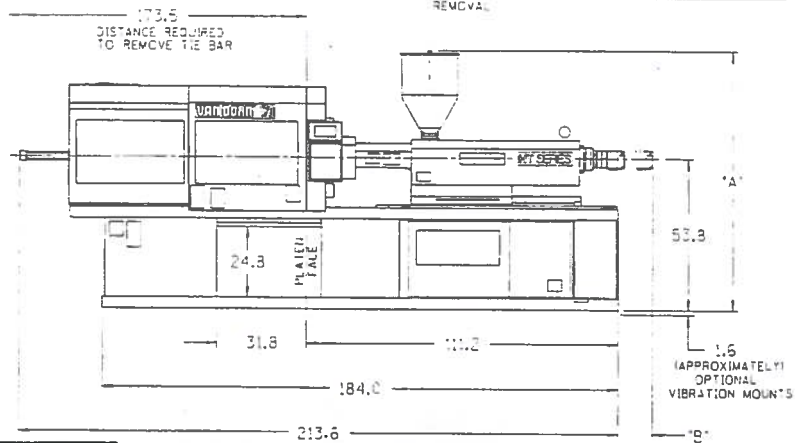
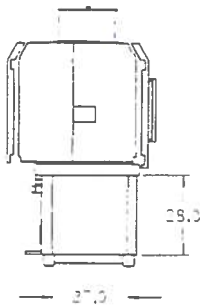
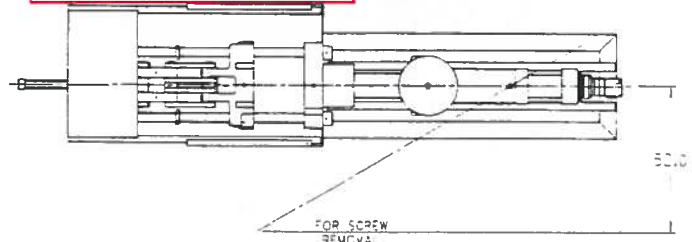
# VAN DORN®

## HT SERIES TOGGLE CLAMP

**170-RS-8/14F**



	'A'	'B'
STANDARD BARREL		
8F	88.000	
14F	91.35	22.707



INJECTION UNIT		170-RS 8F	170-RS 14F
Inject Capacity—Calculated	(cu. in.)	14.8	27.0
Inject Capacity—G.P. Polystyrene	(oz.)*	8	14
Recovery Rate—G.P. Polystyrene	(oz./sec.)+	1.00	1.50
Injection Pressure—Max.	(p.s.i.)	20,000	20,000
Inject Rate—at 10,000 p.s.i.	(cu.in./sec.)	16.0	16.0
Inject Stroke	(in.)	7.62	8.88
Screw Diameter	(in.)	1.58	1.97
Screw Diameter	(mm)	40	50
Barrel L/D Ratio		20:1	20:1
Screw Speed Range	(R.P.M.)	30-430++	30-325
Back Press Adjust (screw rotating)	(p.s.i.)	75-300	75-300
CLAMPING UNIT			
Clamp Force	(tons)	170	170
Clamp Stroke—Adjustable	(in.)	17	17
Open Daylight—Max.	(in.)	35	35
Mold Thickness—Min./Max.	(in.)	6-18	6-18
Platen Size—HxV	(in.)	29 x 29	29 X 29
Dist. Between Rods—HxV	(in.)	20 X 20	20 x 20
Tie Rod Diameter	(in.)	3.25	3.25
Clamp Speeds: Closing	(in./sec.)	26	26
Opening	(in./sec.)	38	38
Ejector Force	(tons)	5.0	5.0
Ejector Stroke	(in.)	4.0	4.0
POWER			
Pump Motor, Hydraulic System	(HP)	25	25
Power (Supply)	(V)	460	460
Total Heating Wattage	(KW)	8.0	16.7
Number of Heat Control Zones		4	4

CONTROL		170-RS 8F	170-RS 14F
Multi-Microprocessor W/Display Screen		Yes	Yes
Closed Loop Process Control		Yes	Yes
Control Voltage	(V)	110	110
Control Voltage (Solenoids)	(Vdc)	24	24
HYDRAULIC			
Variable Volume Pump Type		Piston	Piston
Screw Motor Type (14 oz.- Dual Torque)		Gear	Gear
GENERAL SPECIFICATIONS			
System Pressure	(p.s.i.)	2,000	2,000
Comb. Pump Capacity ( @ 100 p.s.i.)	(G.P.M.)	44	44
Oil Capacity	(Gal.)	85	85
Hopper Capacity	(lb.)	85	145
Machine Weight	(lb. approx.)	14,600	15,000
Machine Dimensions	Length (ft.)	17.8	19.7
	Width (ft.)	4.5	4.5
	Height (ft.)	7.3	7.6

\* Dependent upon mold, material and conditions.

+ Average value based on S.P.I. test procedures.

++ Higher torque motor available with lower R.P.M. and recovery rate.

Since continuous improvement is Van Dorn's policy, we reserve the right to change specifications, designs and performance data without prior notice or obligation.



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33550

All Specifications Equipped With Dimensions Weight Locations Terms Year

Specifications

US Standard | Metric

Clamping Force: 85 Ton

Shot Capacity: 5 oz.


Screw Diameter: 1.38"

Platen Size: 22.8" x 20.4"

Tie Bar Spacing: 16" x 13.6"

Motor: 15HP

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**VAN 85-RS-  
5F-HT**

http://www.perfectionmachinery.com/used-inventory/used-machine-detail/?ProductId=335... 3/21/2017

**MARUKA/TOYO**

**Si-V**

PLASTAR Si-55V SPECIFICATIONS										
Injection	Screw diameter	in (mm)	0.62 (16)	0.70 (18)	0.78 (20)	0.78 (20)	0.94 (24)	1.10 (28)	1.25 (32)	
	Injection stroke	in	2.51	2.83	2.83	2.83	3.77	4.4	4.4	
	Theoretical injection capacity	in <sup>3</sup>	0.79	1.09	1.40	1.40	2.62	4.21	5.49	
	Injection capacity(PS)	oz	0.43	0.60	0.77	0.77	1.44	2.31	3.01	
	Standard	Injection unit	—	B55CU			D75CU			—
		Injection rate	in <sup>3</sup> /s	3.66	4.63	5.73	5.73	8.29	11.28	—
		Max. injection speed	in/s	11.81						—
		Max. injection pressure	psi	34111	34111	29137	39811	34140	26439	—
		Max. injection holding pressure	psi	34111	31269	28426	39811	28426	21319	—
	High Pressure	Injection unit	—	—			D150CU			—
		Injection rate	in <sup>3</sup> /s	—			8.29	11.28	14.70	—
		Max. injection speed	in/s	—			11.81			—
		Max. injection pressure	psi	—			39811	34111	26294	—
		Max. injection holding pressure	psi	—			39811	25583	21319	—
	High speed	Injection unit	—	—			DH300CU			—
		Injection rate	in <sup>3</sup> /s	—			13.79	18.79	24.53	—
		Max. injection speed	in/s	—			19.68			—
		Max. injection pressure	psi	—			39811	34111	26294	—
		Max. injection holding pressure	psi	—			39811	25583	21319	—
	Ultrahigh speed	Injection unit	—	BH150CU			CH300CU(D150HCU)			—
		Injection rate	in <sup>3</sup> /s	6.16	7.75	9.58	13.42 (9.58)	19.34 (13.79)	26.30 (18.79)	—
		Max. injection speed	in/s	19.68			27.55(19.68)			—
		Max. injection pressure	psi	36968	36968	34126	36968 (34126)	34126 (31283)	26453 (22775)	—
		Max. injection holding pressure	psi	36968	31283	28440	34126 (31283)	28440	21334 (20623)	—
Recovery rate(PS)	oz/s	0.10	0.14	0.17	0.13	0.24	0.40	0.60		
Screw revolution speed	min <sup>-1</sup>	500			350			—		
Heater capacity	kW	2.05	2.28	2.58	2.58	3.45	5.50	5.85		
Nozzle pressing force	U.Ston	1.1			22					
Clamping	Clamping system	—	Double toggle							
	Clamping force	U.Ston	55							
	Clamping stroke	in	10.62							
	Min. mold height	in	5.90							
	Max. mold height	in	14.96							
	Tie bar clearance (H×V)	in	14.17×12.79							
	Die plate size (H×V)	in	19.68×18.11							
	Ejector force	U.Ston	2.15							
	Ejector stroke	in	2.75							
	Mold height motor output	kW	0.1							
Nozzle touch motor output	kW	0.2								
Others	Machine dimension <L> *2	in	133.85	133.85	133.85	133.85	136.06	139.84	143.85	
	Machine dimensions <W×H>	in	39.44×68.14			39.44×72.98				
	Power source	—	Three-phase AC200V/200, 230V±10% 50Hz/60Hz							
	Main breaker capacity	A	75 (CH300CU/DH300CU: 150)							
	Total electric capacity	kVA	D75CU: 13 B55CU: 9, BH150CU: 18 D150CU/D150HCU: 20, CH300CU/DH300CU: 35							
	Cable size: 200V Class [460V Class ※1]	in <sup>2</sup>	0.03[0.01] (CH300CU/DH300CU: 0.05[0.02])							
	Machine weight	U.Ston	2.7							

#### NOTES

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- When a screw with wide diameter is used, some resins may not be accepted.
- When the machine is attached with an option, the capacity of the breaker may be changed.
- Figures in [ ] are optional.
- ※1.A transformer(option) is necessary on the machine side.



**MARUKA / TOYO**

**Si-V**

PLASTAR Si-110V SPECIFICATIONS												
Injection	Screw diameter	in (mm)	0.94(24)	0.78(20)	0.94(24)	1.10(28)	1.25(32)	1.10(28)	1.25(32)	1.41(36)	1.57(40)	
	Injection stroke	in	3.77	2.83	3.77	4.40	4.40	4.40	5.03	5.66	6.29	
	Theoretical injection capacity	in <sup>3</sup>	2.62	1.40	2.62	4.21	5.49	4.21	6.28	8.97	12.26	
	Injection capacity(PS)	oz	1.44	0.77	1.44	2.31	3.01	2.31	3.45	4.92	6.73	
	Standard	Injection unit	—	—	D75CU			—	F75CU			
		Injection rate	in <sup>3</sup> /s	—	5.73	8.29	11.28	—	5.61	7.38	9.33	11.47
		Max. injection speed	in/s	—	11.81			—	5.90			
		Max. injection pressure	psi	—	39811	34140	26439	—	39812	34141	27716	22741
		Max. injection holding pressure	psi	—	39811	28426	21319	—	39812	31270	24873	19899
	High Pressure	Injection unit	—	—	—	D150CU			—	F200CU		
		Injection rate	in <sup>3</sup> /s	—	—	8.29	11.28	14.70	—	10.31	13.05	16.11
		Max. injection speed	in/s	—	—	11.81			—	8.26		
		Max. injection pressure	psi	—	—	39811	34111	26294	—	38290	36259	31270
		Max. injection holding pressure	psi	—	—	39811	25583	21319	—	38290	36259	27006
	High speed	Injection unit	—	—	—	DH300CU			F200HCU			
		Injection rate	in <sup>3</sup> /s	—	—	13.79	18.79	24.53	11.28	14.70	18.61	23.00
		Max. injection speed	in/s	—	—	19.68			11.81			
		Max. injection pressure	psi	—	—	39811	34111	26294	39812	36259	28427	23452
		Max. injection holding pressure	psi	—	—	39811	25583	21319	39812	32706	25584	20609
	Ultrahigh speed	Injection unit	—	CH450CU	CH150BU(CH300BU)			—	—			
		Injection rate	in <sup>3</sup> /s	27.58	13.42 (9.58)	19.34 (13.79)	26.30 (18.79)	—	—			
		Max. injection speed	in/s	39.37	27.55(19.68)			—	—			
		Max. injection pressure	psi	42655	36968 (34126)	34126 (31283)	2645 (22755)	—	—			
		Max. injection holding pressure	psi	32706	34126 (31283)	28440	21334 (20623)	—	—			
Recovery rate (PS)	oz/s	0.24	0.13	0.24	0.40	0.60	0.40	0.60	0.87	1.10		
Screw revolution speed	min <sup>-1</sup>	350										
Heater capacity	kW	3.45	2.58	3.45	5.50	5.85	5.50	5.85	6.50	7.95		
Nozzle pressing force	U.Ston	2.2					2.75					
Clamping	Clamping system	—	Double toggle									
	Clamping force	U.Ston	110									
	Clamping stroke	in	14.17									
	Min. mold height	in	5.9									
	Max. mold height	in	20.07									
	Tie bar clearance (H×V)	in	18.11 x 16.14									
	Die plate size (H×V)	in	24.80 x 22.83									
	Ejector force	U.Ston	2.75									
	Ejector stroke	in	3.93									
Others	Mold height motor output	kW	0.2									
	Nozzle touch motor output	kW	0.2									
	Machine dimension <L> *2	in	167.83	164.96	164.96	164.96	166.27	175.17	179.17	182.44	187.06	
	Machine dimensions <W×H>	in	43.89 X 73.10					46.81 X 74.32				
	Power source	—	Three phase AC200V/200, 230V±10% 50Hz/60Hz									
	Main breaker capacity	A	75 (CH300CU/DH300CU/F200CU/F200HCU: 150, CH450CU: 200)									
	Total electric capacity	kVA	49	D75CU: 13 D150CU/D150HCU: 20 CH300CU/DH300CU: 35				F75CU: 14 F200CU: 27 F200HCU: 27				
	Cable size: 200V Class [460V Class ※1]	in <sup>2</sup>	0.09 [0.03]	D75CU/D150CU/D150HCU: 0.03[0.01] CH300CU/DH300CU: 0.05[0.02]				F75CU: 0.03[0.01] F200CU/F200HCU: 0.05[0.02]				
Machine weight	U.Ston	4.18	4.18				4.4					

## NOTES

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- The injection rate and the maximum injecting speed are calculated Values. These values may be limited by set injecting pressures.

- When a screw with wide diameter is used, some resins may not be accepted.
- When the machine is attached with an option, the capacity of the breaker may be changed.
- Figures in [ ] are optional.
- ※1.A transformer(option) is necessary on the machine side.

**MARUKA/TOYO**

**Si-V**

PLASTAR Si-200V SPECIFICATIONS													
Screw diameter		in (mm)	1.10(28)	1.25(32)	1.41(36)	1.57(40)	1.81(46)	1.57(40)	1.81(46)	1.96(50)	2.16(55)		
Injection stroke		in	4.40	5.03	5.66	6.29	6.29	6.29	7.24	7.87	8.66		
Theoretical injection capacity		in <sup>3</sup>	4.21	6.28	8.97	12.26	16.23	12.26	18.67	23.98	31.85		
Injection capacity(PS)		oz	2.31	3.45	4.92	6.73	8.91	6.73	10.25	13.16	17.49		
Injection	Standard	Injection unit	F75CU					H300CU					
		Injection rate	in <sup>3</sup> /s	5.61	7.38	9.33	11.47	16.11	21.29	25.14	30.45		
		Max. injection speed	in/s	5.90					8.26				
		Max. injection pressure	psi	39812	34141	27716	22741	35389	31270	27006	22741		
		Max. injection holding pressure	psi	39812	31270	24873	19899	35389	28427	24163	19899		
	High Pressure	Injection unit	F200CU					H370CU					
		Injection rate	in <sup>3</sup> /s	—	10.31	13.05	16.11	21.29	15.31	20.25	23.98	28.98	
		Max. injection speed	in/s	—	8.26					7.87			
		Max. injection pressure	psi	—	38290	36259	31270	24163	35389	33793	34083	28427	
		Max. injection holding pressure	psi	—	38290	36259	27006	21320	35389	28427	24163	25584	
	High speed	Injection unit	F200HCU					H450CU					
		Injection rate	in <sup>3</sup> /s	11.28	14.70	18.61	23.00	—	23.00	30.45	35.94	43.50	
		Max. injection speed	in/s	11.81					11.81				
		Max. injection pressure	psi	39812	36259	28427	23452	—	35389	31270	27006	22741	
		Max. injection holding pressure	psi	39812	32706	25584	20609	—	35389	28427	24163	19899	
	Ultrahigh speed	Injection unit	FH400CU					—					
		Injection rate	in <sup>3</sup> /s	—	19.64	24.83	30.69	40.58	—				
		Max. injection speed	in/s	—	15.74					—			
		Max. injection pressure	psi	—	38290	36259	31270	24163	—				
		Max. injection holding pressure	psi	—	38290	36259	27006	21320	—				
	Recovery rate (PS)		oz/s	0.40	0.60	0.87	1.10	1.68	0.95	1.53	1.95	2.22	
	Screw revolution speed		min <sup>-1</sup>	350					300				
	Heater capacity		kW	5.50	5.85	6.50	7.95	11.20	7.95	11.20	13.50	16.70	
	Nozzle pressing force		U.Ston	2.75					3.3				
Clamping	Clamping system		Double toggle										
	Clamping force		200										
	Clamping stroke		18.50										
	Min. mold height		7.87										
	Max. mold height		23.62										
	Tie bar clearance (H×V)		22.04 X 22.04										
	Die plate size (H×V)		30.70 X 30.70										
	Ejector force		3.85										
	Ejector stroke		4.72										
	Mold height motor output		0.2										
Nozzle touch motor output		0.2											
Others	Machine dimension <L> *2		in	217.24	217.24	217.24	217.24 (219.6)	221.29 (226.41)	231.06	237.87	240.64	250.00	
	Machine dimensions <W×H>		in	51.29 X 78.73					54.48 X 83.73				
	Power source		Three phase AC200V/200, 230V±10% 50Hz/60Hz										
	Main breaker capacity		A	150 (FH400CU/H300CU/H370CU/H450CU: 200)									
	Total electric capacity		kVA	F75CU: 22 F200CU: 29 F200HCU: 27 FH400CU: 49					H300CU: 43 H370CU: 50 H450CU: 58				
	Cable size. 200V Class [460V Class ※1]		in <sup>2</sup>	F75CU: 0.03[0.01] F200CU/F200HCU: 0.05[0.02] FH400CU: 0.09[0.03]					H300CU/H370CU: 0.09[0.03] H450CU: 0.09[0.05]				
	Machine weight		U.Ston	7.80					8.3				

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**MARUKA / TOYO**

**Si-V**

PLASTAR Si-250V SPECIFICATIONS															
Screw diameter		in (mm)	1.25(32)	1.41(36)	1.57(40)	1.81(46)	1.57(40)	1.81(46)	1.96(50)	2.16(55)	2.36(60)				
Injection stroke		in	5.03	5.66	6.29	6.29	6.29	7.24	7.87	8.66	8.66				
Theoretical injection capacity		in <sup>3</sup>	6.28	8.97	12.26	16.23	12.26	18.67	23.98	31.85	37.95				
Injection capacity(PS)		oz	3.45	4.92	6.73	8.91	6.73	10.25	13.16	17.49	20.84				
Injection	Standard	Injection unit	-				H300CU				-				
		Injection rate	in <sup>3</sup> /s				16.11	21.29	25.14	30.45	-				
		Max. injection speed	in/s				8.26				-				
		Max. injection pressure	psi				35389	31270	27006	22741	-				
		Max. injection holding pressure	psi				35389	28427	24163	19899	-				
	High Pressure	Injection unit	F200CU				H370CU				-				
		Injection rate	in <sup>3</sup> /s				10.31	13.05	16.11	21.29	15.31	20.25	23.98	28.98	34.47
		Max. injection speed	in/s				8.26				7.87				
		Max. injection pressure	psi				38290	36259	31270	24163	35389	33793	34083	28427	24163
		Max. injection holding pressure	psi				38290	36259	27006	21320	35389	33793	31270	25584	21320
	High speed	Injection unit	-				H450CU				-				
		Injection rate	in <sup>3</sup> /s				14.70	18.61	23.00	-	23.00	30.45	35.94	43.50	-
		Max. injection speed	in/s				-				11.81				-
		Max. injection pressure	psi				36259	28427	23452	-	35389	31270	27006	22741	-
		Max. injection holding pressure	psi				32706	25584	20609	-	35389	28427	24163	19899	-
	Ultrahigh speed	Injection unit	FH400CU				-				-				
		Injection rate	in <sup>3</sup> /s				19.64	24.83	30.69	40.58	-				
		Max. injection speed	in/s				15.74				-				
		Max. injection pressure	psi				38290	36259	31270	24163	-				
		Max. injection holding pressure	psi				38290	36259	27006	21320	-				
	Recovery rate (PS)		oz/s	0.60	0.87	1.10	1.68	0.95	1.53	1.95	2.22	2.37			
	Screw revolution speed		min <sup>-1</sup>					300							
	Heater capacity		kW	5.85	6.50	7.95	11.20	7.95	11.20	13.50	16.70	19.50			
	Nozzle pressing force		U.Ston					3.3							
Clamping	Clamping system		-		Double toggle										
	Clamping force		U.Ston		250										
	Clamping stroke		in		21.65										
	Min. mold height		in		9.84										
	Max. mold height		in		26.77										
	Tie bar clearance (H×V)		in		24.01 x 24.01										
	Die plate size (H×V)		in		32.38 x 32.28										
	Ejector force		U.Ston		5.82										
	Ejector stroke		in		5.90										
Others	Mold height motor output		kW		0.4										
	Nozzle touch motor output		kW		0.2										
	Machine dimension <L> *2		in		229.4	229.4	229.4 (233.77)	235.47 (240.59)	245.23	252.06	254.82	261.65	268.42		
	Machine dimensions <W×H>		in		54.82 x 80.19				55.5 X 85.31						
	Power source		-		Three phase AC200V/200, 230V±10% 50Hz/60Hz										
	Main breaker capacity		A		200 (F200CU: 150)										
	Total electric capacity		kVA		F200CU: 29 FH400CU: 49				H300CU: 43 H370CU: 50 H450CU: 58						
	Cable size: 200V Class [480V Class ※1]		in <sup>2</sup>		F200CU: 0.05【0.02】 FH400CU: 0.09【0.03】				H300CU/H370CU: 0.09【0.03】 H450CU: 0.09【0.05】						
	Machine weight		U.Ston		10.0				10.5						

#### NOTES

- The figures are subject to change without any legal obligation on the part of the manufacture.
- The maximum injecting pressure and the maximum holding pressure are attainable maximum set values. Their values may be limited by molding conditions and cycle time.
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**Case No(s). 17-0908-EL-EEC**

Summary: Application Hi-Stat Manufacturing Company, Inc. and Ohio Power Company for approval of a special arrangement agreement with a mercantile customer electronically filed by Mr. Ryan F.M. Aguiar on behalf of Ohio Power Company