WARE WASHING & ENERGY SAVING

Jerry Perkins
President
jerryp@hatchjennings.com
1-800-225-5090
P.O. Box 744 187 Ayer Road, Harvard, MA 01451
www.hatchjennings.com
hatchjennings
professional representation to the food service industry

CADDY
Food Service Equipment
Conveyors, Tray Delivery Trucks, Exhaust Hoods, Air Purification, Utility Systems, Ongoing Rebuilding

Cleveland
Steamers, Kettles, Skillets, Combi Ovens and Cook-Chill Processing Equipment

CROWN
Gas Grills, Patio Heaters, Portable Sinks, Charcoal Grills, Trowable Grills, and Portable Steamers

Dean
Gas and Electric Fryers, Built-in Filters, Pasta Cookers, and Rethermalizers

Delfield
Refrigeration, Sandwich Units, Prep Tables, Custom S/S Fabrication, Reach-in Refrigerators and Freezers

Frymaster
Gas and Electric Fryers, Built-In Filters, Pasta Cookers, and Rethermalizers

Garland
Convection Ovens, Deck Ovens, Ranges, Griddles, Salamanders, Cheese Melters and Charbroilers

Jackson
Warewashers – Undercounter, Conveyor, Door-Style, Round-Style and Glasswashers

Kolpak
Refrigeration Systems, Self-Contained Walk-Ins, Refrigerated Warehouses, Pre-Engineered Walk-Ins

Lincoln
Countertop to Full Size, Gas and Electric Impinger Conveyor Ovens

Merco
Thermal Shelves, Drawer Warmers, Modular Holding Cabinets, Fried Food Holding Stations and Countertop Merchandisers

Merrychef
Accelerated Cooking Ovens

METRO
Wire and Polymer Shelving, Hot Food Cabinets, Poker Chip Dollys, and Carts

Structural Concepts
Display cases—Bakery, Air Screen, Grab and Go and Deli Merchandisers

U.S. Range
Convection Ovens, Deck Ovens, Ranges, Griddles, Salamanders, Cheese Melters and Charbroilers

Varimixer
Heavy Duty Manual and Programmable Mixers

PO Box 744 187 Ayer Road Harvard, Massachusetts 01451
phone 800.225.5090 fax 978.456.8067
• Exhaust Systems
  ➢ Standard
  ➢ Ultra Violet
• Tray Accumulator
• Conveyor Systems
• Tray Delivery Trucks
• Custom Dish Tables
• Air Purification System
• Steamers
  ➢ Steamchef 
  ➢ Steamcub 
  ➢ Gemini Series 

• Combi Oven Steamers
  ➢ OGB 6.20 
  ➢ OGS 10.20 
  ➢ OGS 20.20 
  ➢ OGS 6.20 

• Braising Pans/ Skillets
• Kettles
• Cook Chill Systems
Outdoor Equipment

- Gas Grills
- Patio Heaters
- Portable Sinks
- Charcoal Grills
- Towable Grills
- Portable Steamers

* No Energy Star Category
Refrigerators/Freezers
• Reach-Ins
  ➢ 6000 series
  ➢ Specification Line

• Versa drawers (multi-temp refrigeration system)
• Convochill Blast Chillers
• Undercounter
  ➢ 402, 406, 4432N, 4448N, 4460N, 4464N, 447ZN, ST4048
  ST4432N, ST448N, ST4460N, ST4464N, ST4472N, UC4048
  UC4432N, UC4448N, UC4460ON, UC4464N, UC447ZN

• Work Tables
  ➢ 18600 series

• Prep Tables
• Equipment Stands
• Serving Systems
• Drop-Ins
• Chef Tables
• Cafeteria Lineups
• Custom Fabrication
• Gas Fryers
  ➢ H55
  ➢ HD50
  ➢ OCF30G

• Electric Fryers
  ➢ 1814E
  ➢ OCF30E
  ➢ E4

• Built in Fryers
• Pasta Cookers
• Rethermalizer
- Conventional Ovens
  - MCO-GS-10ESS
  - MCO-GS-20ESS

- Air Deck Ovens

- Ranges
  - Restaurant
  - Hotel

- Griddles
  - XG24
  - XG36S

- Salamanders

- Cheesemelter

- Charbroilers

No Energy Star Category for Ranges*
Ware Washing

• Glassware
  ➢ Delta 5

• Conveyors
  ➢ Crew 44
  ➢ AJX 54
  ➢ AJX 76
  ➢ AJX 80/90
  ➢ Conserver XL2

• Under Counter
  ➢ Avenger LT

• Door Type
  ➢ Tempstar

• Flight Type Systems
• Potwasher
• Refrigeration Systems

• Self-Contained Walk-ins

*No Energy Star Category
**Lincoln:**
- Conveyor Ovens
  - Countertop
  - Full Size
    - 1600 Series
    - 1100 Series
    - 1400 Series
    - 3255
    - 3270

**Merco:**
- Thermal Shelves
- Drawer Warmers
- Modular Holding Cabinets
- Fried Food Holding Stations
- Countertop Merchandisers

**Merrychef:**
- Accelerated Cooking Ovens

*No Energy Star Category High Speed Oven*
• Shelving
  ➢ Wire
  ➢ Polymer

• High Density Shelving

• Poker Chip Dollies

• Carts

• Hot Food Cabinets
  ➢ C5 “T” Series
  ➢ C5 “9” Series
  ➢ C5 “8” Series
  ➢ C5 “6” Series
Display Cases

• Bakery

• Air Screen

• Grab and Go

• Deli Merchandise

* No Energy Star Category for Open Air Cases
Manitowoc has been recognized for the third year in a row as an Energy Star Partner of the Year and has achieved the EPA’s highest honor of Sustained Excellence.

Manitowoc F.S. Has increased its Energy Star qualified portfolio by 954 models in 2011 (an increase of over 636%).

Current Categories:
- Commercial Dishwashers
- Commercial Fryers
- Commercial Hot Food Holding Cabinets
- Commercial Griddles
- Commercial Ice Machines
- Commercial Refrigerators
- Commercial Steam Cookers
- Commercial Ovens
MARKET TRENDS
Going Green

- Green: Focus on water, power savings
- ENERGY STAR® Current Requirements/ Standards Version 1.2

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>High Temp Efficiency Requirements</th>
<th>Low Temp Efficiency Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Idle Energy Rate*</td>
<td>Water Consumption</td>
</tr>
<tr>
<td>Under Counter</td>
<td>≤ 0.90 kW</td>
<td>≤ 1.00 gal/rack</td>
</tr>
<tr>
<td>Single Tank Door**</td>
<td>≤ 1.0 kW</td>
<td>≤ 0.950 gal/rack</td>
</tr>
<tr>
<td>Single Tank Conveyor</td>
<td>≤ 2.0 kW</td>
<td>≤ 0.700 gal/rack</td>
</tr>
<tr>
<td>Multiple Tank Conveyor</td>
<td>≤ 2.6 kW</td>
<td>≤ 0.540 gal/rack</td>
</tr>
</tbody>
</table>

* Idle energy rate as measured with door closed and rounded to 2 significant digits. ** Includes pot, pan, and utensil machines.
Clean
Reliable
Eco-Friendly
Warewashing

CREW®

CREW 44

CREW 66

hatchjennings
Jackson has set a new standard of excellence in warewashing from appearance to performance to cost of ownership.

CREW 44 and 66 are loaded with best-in-class energy-saving features built around the largest wash tank in the industry.

The WISR™ Cleaning System provides one-pass cleaning performance while reducing water consumption to an industry leading 0.32 gallons per rack.

CREW lowers water, chemical and energy costs while always getting the wares **Clean the First Time®**.
CREW®
New Design

- Clean lines and aesthetically pleasing appearance
- Contoured door design and molded end-caps give the product a softer, modern appearance
- Heavy-gauge stainless steel frame, body, and legs provide added durability
Competitive conveyor dishmachines have hinged doors that open outwards. This blocks the aisle ways in front of the dishmachine and allows condensation to drip onto the floor creating a possible slip and fall hazard.

CREW doors raise upwards and are supported by dual springs making them easy to open and close. This eliminates the blocking of the aisle ways and keeps condensation inside the machine.
CREW®
Easy to Maintain

Larger door opening allows for easy access inside the machine
Larger service access at the front of the machine for ease of maintenance
CREW®
Easy to Service

- On-board, integrated booster heater is mounted in a recessed compartment at the top of the machine
- The top panel is removable for ease of maintenance
CREW® CONVEYOR DISHMAchine

Lowering the cost of ownership
CREW® Energy Saving

- Double-wall insulation of the door and cabinet provide heat retention that keeps the interior water hot and conserves energy.
- Insulation also improves the work environment by:
  - Generating less ambient heat into the dishroom
  - Lowering the decibel level
  - Keeping exterior surfaces cool to the touch for operator safety
CREW®  
Energy Saving

Exclusive EnergyGuard™ control system cuts idle energy use by allowing the machine to operate only when a rack is being washed or rinsed.
CREW®
Energy Saving

- Rainbow Rinse™ features an arched arm design that provides superior rinse action (patent pending)

- The four spray nozzles distribute a fan pattern mist that creates a wall of rinse water

- Increased performance with less water
CREW®
Energy Saving

- On-board booster heaters available
- CREW’s low water usage allow the use of lower kilowatt boosters to achieve the proper rinse water temperature
- This results in a significant reduction in energy costs

<table>
<thead>
<tr>
<th>CREW Booster Heaters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>40°F Rise</td>
<td>12kW</td>
</tr>
<tr>
<td>70°F Rise</td>
<td>18kW</td>
</tr>
</tbody>
</table>
**CREW®
Energy Saving**

<table>
<thead>
<tr>
<th>Machine</th>
<th>Racks per Hour</th>
<th>Gallons Per Rack</th>
<th>Gallons Per Hour</th>
<th>Booster Heater 40°F/70°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitor A</td>
<td>202</td>
<td>0.62</td>
<td>126</td>
<td>15kW/30kW</td>
</tr>
<tr>
<td>Competitor B</td>
<td>208</td>
<td>0.54</td>
<td>112</td>
<td>12kW/22kW</td>
</tr>
<tr>
<td>Competitor C</td>
<td>232</td>
<td>0.50</td>
<td>118</td>
<td>12kW/24kW</td>
</tr>
<tr>
<td>Competitor D</td>
<td>223</td>
<td>0.47</td>
<td>105</td>
<td>10kW/21kW</td>
</tr>
<tr>
<td>Jackson AJX-44</td>
<td>225</td>
<td>0.68</td>
<td>153</td>
<td>18kW/30kW</td>
</tr>
<tr>
<td>CREW 44</td>
<td>218</td>
<td>0.32</td>
<td>69</td>
<td>12kW/18kW</td>
</tr>
</tbody>
</table>

The CREW Series Saves Our Customers Money Through Water, Sewage, Energy and Chemical Reductions
### DISHMACHINE OPERATING COST ENVIRONMENTAL IMPACT

**BASED ON 350 PER DAY**

<table>
<thead>
<tr>
<th></th>
<th>JACKSON CREW 44</th>
<th>Leading Competitor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENERGY CONSUMPTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ELECTRICAL ENERGY - Motors</strong></td>
<td>3.9</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Primary Water Heat</strong></td>
<td>40880</td>
<td>79205</td>
</tr>
<tr>
<td>60 to 120 degrees F.</td>
<td>$161.00</td>
<td>$311.00</td>
</tr>
<tr>
<td><strong>Secondary Water Heat</strong></td>
<td>40880</td>
<td>79205</td>
</tr>
<tr>
<td>140 to 185 degrees F.</td>
<td>$635.00</td>
<td>$1,229.00</td>
</tr>
<tr>
<td><strong>Tank Maintenance Heat</strong></td>
<td>$593.00</td>
<td>$640.00</td>
</tr>
<tr>
<td><strong>TOTAL ELECTRICAL COST</strong></td>
<td>$1,516.80</td>
<td>$2,271.70</td>
</tr>
<tr>
<td><strong>Rinse Water</strong></td>
<td>40,880</td>
<td>79205</td>
</tr>
<tr>
<td><strong>Sewer Charge</strong></td>
<td>40,880</td>
<td>79205</td>
</tr>
<tr>
<td><strong>TOTAL WATER COST</strong></td>
<td>$122.64</td>
<td>$237.62</td>
</tr>
<tr>
<td><strong>Detergent Cost</strong></td>
<td>$1,267.28</td>
<td>$2,455.36</td>
</tr>
<tr>
<td><strong>Rinse Aid Cost</strong></td>
<td>$1,278.00</td>
<td>$2,475.00</td>
</tr>
<tr>
<td><strong>ESTIMATED OPERATING COST PER YEAR</strong></td>
<td>$4,184.72</td>
<td>$7,439.67</td>
</tr>
</tbody>
</table>

**MACHINE PARAMETERS**

- **Racks per hour**: 218, 202
- **Water Usage (Per Hour)**: 69.76, 125.24
- **Water Usage (Per Minute)**: 1.162, 2.1
- **Water Usage (Per Rack)**: 0.32, 0.62
- **Total Tank Heat**: 15, 15
- **Total Machine Horsepower**: 3.25, 2.16
- **Running Time**: 1.61, 1.73

**DATA:**
1. Wash tank heater is on 75% of operating time. Conservative estimate.
2. Wash Tank pump operates continuously.
3. Primary water heater will heat 60 °F. incoming water to building to 120 °F. at dishmachine.
4. Booster heater will increase 120 °F. water to 180 °F. for final rinse at machine.
5. Detergent concentration is 0.02 per pound.
6. Detergent cost: $1.55 per lb.
7. Rinse additive concentration is 125 PPM.
8. Rinse agent cost: $25.00 per gallon.
11. Electric cost $.09 per KWHR. National average.
12. Electrical efficiency heating water 100%.
13. Sewer charges $.0015 per gallon.
14. Electricity 1 KWHR = 3415 BTU.
15. All cost have been calculated based on continuous operation.
CREW®
Energy Saving

The Leading Competitor
Jackson CREW

Annual Savings in Electrical $755
National Average @ .09/kwh
The Leading Competitor

Jackson CREW

Annual Savings in Water $115

National Average .0015 Water
National Average .0015 Sewer
Boston Water Rates

hatch jennings
CREW®
Energy Saving

The Leading Competitor

Jackson CREW

Annual Savings in Chemical $2,385
CREW®
Energy Saving

The Leading Competitor

Jackson CREW

Annual Savings in Total $3,255
Return on Investment 7 years
FLEX Flight-58
Utilizing the energy saving features from the CREW our New FLEX Flight-Type dishmachine has a reduced water consumption from our previous level of 138 Gallons Per Hour down to an industry low of only **58 GPH**.

*No Energy Star Category*
• Upper Arms are offset from Lower Arms extending the time wares are in the Power Rinse pattern achieving higher heat units and cleaner wares.
• Lower water usage allows for a smaller kW Booster Heater resulting in an overall energy reduction.

<table>
<thead>
<tr>
<th>Final Rinse Booster Heater</th>
<th>Rise</th>
<th>Previous</th>
<th>New FLEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>40°F</td>
<td>27 kW</td>
<td>12 kW</td>
<td></td>
</tr>
<tr>
<td>70°F</td>
<td>35 kW</td>
<td>18 kW</td>
<td></td>
</tr>
</tbody>
</table>
- 11,000 Dishes / 1 hour
- Improved access for cleaning/service
- Enhanced Blower Dryer performance

**FLEX 58**
Low Water
Flight-Type Dishmachine
Jackson Flight Series
Flight-type dishmachine

- The Basics:
  - Two tank machine with 3.0 HP prewash
  - Voltages:
    - 208/60/3
    - 240/60/3
    - 460/60/3
    - 600/60/3
  - Auto-fill
  - Direction:
    - R-L or L-R
  - Tank heat:
    - Electric or steam coils
Jackson Flight Series
Flight-type dishmachine

- **Unique Features:**
  - **Modular construction:**
    - Utilizes 36” sections for each section of dishmachine
    - **Minimum size:** 18’ 6”
      - 36” load end
      - 36” prewash
      - 36” wash
      - 36” power rinse
      - Unload Section
        - 36” control cabinet/final rinse
        - 36” Blower/Dryer if ordered
        - 42” unload end
    - **SHORT configuration:** 15’ 6”
      - Prewash not included
      - Maintains 11,100 dishes/hour rating


Jackson Flight Series
Flight-type dishmachine

- Unique Features:
  - Low water use: 58 gallons/hour
  - High capacity: 11,100 dishes/hour
  - Wide belt and vertical clearance:
    - 29” conveyor belt
    - 25” minimum clearance throughout
  - Double wall and door insulation
    - Reduces heat dissipation, outside surface temperature, noise
## DISHMACHINE OPERATING COST/ENVIRONMENTAL IMPACT

**Based on 8 Hour Operation Per Day**

<table>
<thead>
<tr>
<th>ENERGY CONSUMPTION</th>
<th>JACKSON JFT-18</th>
<th>Competitor A FT-900</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USAGE</strong></td>
<td><strong>COST</strong></td>
<td><strong>USAGE</strong></td>
</tr>
<tr>
<td>Electrical Energy - Motors</td>
<td>50.7</td>
<td>$1,665.70</td>
</tr>
<tr>
<td>Primary Water Heat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 to 120 degrees F.</td>
<td>169360</td>
<td>$866.00</td>
</tr>
<tr>
<td>Secondary Water Heat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140 to 185 degrees F.</td>
<td>169360</td>
<td>$2,848.00</td>
</tr>
<tr>
<td>Tank Maintenance Heat</td>
<td></td>
<td>$15,177.00</td>
</tr>
<tr>
<td><strong>TOTAL ELECTRICAL COST</strong></td>
<td><strong>$20,356.70</strong></td>
<td></td>
</tr>
<tr>
<td>Rinse Water</td>
<td>169,360</td>
<td>$1,185.52</td>
</tr>
<tr>
<td>Sewer Charge</td>
<td>169,360</td>
<td>$1,185.52</td>
</tr>
<tr>
<td><strong>TOTAL WATER COST</strong></td>
<td><strong>$2,371.04</strong></td>
<td></td>
</tr>
<tr>
<td>Detergent Cost</td>
<td></td>
<td>$393.76</td>
</tr>
<tr>
<td>Rinse Aid Cost</td>
<td></td>
<td>$529.00</td>
</tr>
<tr>
<td><strong>ESTIMATED OPERATING COST PER YEAR</strong></td>
<td></td>
<td><strong>$23,650.50</strong></td>
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### MACHINE PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Jackson</th>
<th>Competitor A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Usage (Per Hour)</td>
<td>58</td>
<td>132</td>
</tr>
<tr>
<td>Water Usage (Per Minute)</td>
<td>0.97</td>
<td>2.2</td>
</tr>
<tr>
<td>Total Tank Heat</td>
<td>77</td>
<td>91</td>
</tr>
<tr>
<td>Total Machine Horsepower</td>
<td>8.50</td>
<td>9.50</td>
</tr>
<tr>
<td>Running Time</td>
<td>8.00</td>
<td>8.00</td>
</tr>
<tr>
<td>ENERGY CONSUMPTION</td>
<td>JACKSON JFT-18</td>
<td>Competitor A FT-800</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>ELECTRICAL ENERGY - Motors</strong></td>
<td>Usage</td>
<td>Cost</td>
</tr>
<tr>
<td></td>
<td>50.7</td>
<td>$1,665.70</td>
</tr>
<tr>
<td><strong>Primary Water Heat</strong></td>
<td>Usage</td>
<td>Cost</td>
</tr>
<tr>
<td>60 to 120 degrees F.</td>
<td>169,360</td>
<td>$666.00</td>
</tr>
<tr>
<td><strong>Secondary Water Heat</strong></td>
<td>Usage</td>
<td>Cost</td>
</tr>
<tr>
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<td></td>
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<tr>
<td><strong>TOTAL ELECTRICAL COST</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$20,356.70</td>
<td>$42,981.70</td>
</tr>
<tr>
<td><strong>Rinse Water</strong></td>
<td>Usage</td>
<td>Cost</td>
</tr>
<tr>
<td></td>
<td>169,360</td>
<td>$1,185.52</td>
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<tr>
<td><strong>Sewer Charge</strong></td>
<td>Usage</td>
<td>Cost</td>
</tr>
<tr>
<td></td>
<td>169,360</td>
<td>$1,185.52</td>
</tr>
<tr>
<td><strong>TOTAL WATER COST</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$2,371.04</td>
<td>$8,488.44</td>
</tr>
<tr>
<td><strong>Detergent Cost</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$393.76</td>
<td>$2,321.84</td>
</tr>
<tr>
<td><strong>Rinse Aid Cost</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$529.00</td>
<td>$3,121.00</td>
</tr>
<tr>
<td><strong>ESTIMATED OPERATING COST PER YEAR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$23,650.50</td>
<td>$56,912.98</td>
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</tbody>
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### MACHINE PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Jackson</th>
<th>Competitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Usage (Per Hour)</td>
<td>58</td>
<td>342</td>
</tr>
<tr>
<td>Water Usage (Per Minute)</td>
<td>0.96</td>
<td>5.7</td>
</tr>
<tr>
<td>Total Tank Heat</td>
<td>77</td>
<td>104.5</td>
</tr>
<tr>
<td>Total Machine Horsepower</td>
<td>8.50</td>
<td>8.50</td>
</tr>
<tr>
<td>Running Time</td>
<td>8.00</td>
<td>8.00</td>
</tr>
</tbody>
</table>
• Questions
Thank you

Jerry Perkins
President
jerryp@hatchjennings.com
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www.hatchjennings.com