Power Wave® AC/DC 1000® SD

Increased productivity, quality and flexibility

Software-driven output delivers maximum control over the deposition rate and penetration in single or multi-arc environments.

Features
- 380-575 VAC, 50/60 Hz Voltage Input – offers the ability to be connected anywhere in the world.
- No hardware reconfiguration required with easy polarity switching – eliminates downtime.
- Easy to parallel machines or run multiple arcs.
- 3-Phase voltage input – eliminates the imbalance associated with transformer-based AC welding machines.
- 95% power factor correction – enables connection of multiple machines on the same plant infrastructure for lower installation costs.
- Severe duty – can be stored outdoors. IP23 rated.
- ArcLink®, ethernet and DeviceNet™ communication – offers remote process monitoring, control and troubleshooting.
- True Energy™ – measures, calculates and displays instantaneous energy in the weld for critical heat input calculations.
- Production Monitoring™ 2.2 – track equipment usage, store weld data and configure limits to assist in welding efficiency analysis.
- Software based controls – can be upgraded as new features become available.
- iARControl™ digital control – 90 times faster than the previous generation, delivering a responsive arc.

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Item Number</th>
<th>Input Power</th>
<th>Output Range (A)</th>
<th>Rated Output</th>
<th>Input Current @ Rated Output</th>
<th>Weight (kg)</th>
<th>Dimensions (HxWxD, mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Wave® AC/DC 1000® SD</td>
<td>K2803-1*</td>
<td>380/400/460/500/575/600V/3/50/60</td>
<td>100-1000</td>
<td>1000A/44V/100%</td>
<td>82/79/69/62/55</td>
<td>363</td>
<td>1250 x 488 x 1174</td>
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</tbody>
</table>

*Filter is required to meet CE conducted emission requirements. The K2444-3 must be used with the K2803-1.

Cruiser® & Tandem Cruiser®
Submerged Arc Welding Tractor

The self-propelled, modular Cruiser™ and Tandem Cruiser™ travel carriages can deliver deposition rates up to 13 kg per arc, per hour for butt and fillet joints on lengthy plate welding applications common in bridge or barge, large tank fabrication or shipbuilding.

Features
- Reliable operation – strong, rigid and stiff, especially when you need it most:
  - Sturdy welded base frame.
  - Substantial steel mast stands up to daily construction site use.
  - Simple cast wheels – equipped with high temperature and slip resistant rubber tires.
  - Robust tube and clamp design – trouble-free feeding component mounting.
  - Adjustable extended length outriggers – make it easy to guide tractor movement.
- Advanced control pendant – removable, lightweight, impact resistant aluminium user interface can be used to save procedures, apply limits and lockouts for any or all controls.
- Multiple configurations – flexible system allows set up with or without a track and three- or four-wheel operation. Tandem model not recommended for three wheel operation.

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Item Number</th>
<th>Input Power</th>
<th>Rated Output</th>
<th>Travel Speed (m/min)</th>
<th>Gear Box</th>
<th>Wire Feed Speed range (m/min)</th>
<th>Wire Size Range (mm)</th>
<th>Weight (kg)</th>
<th>Dimensions (HxWxD, mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cruiser Tractor</td>
<td>K3048-2</td>
<td>40V DC</td>
<td>1000A / 100%</td>
<td>0.25-2.5</td>
<td>142/1</td>
<td>0.4-5.0</td>
<td>1.6-2.4</td>
<td>94</td>
<td>736 x 584 x 914</td>
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<tr>
<td>Tandem Cruiser™ Tractor</td>
<td>K3088-1</td>
<td>40V DC</td>
<td>1000A / 100%</td>
<td>0.25-2.5</td>
<td>142/1</td>
<td>0.4-5.0</td>
<td>1.6-2.4</td>
<td>136</td>
<td>927 x 716 x 1054</td>
</tr>
</tbody>
</table>

*Optional
MAXsa™ 10 controller
ArcLink® - enabled Controller for Power Wave® AC/DC 1000® SD Systems

The MAXsa® 10 controller offers a single monitoring and control point for the entire hard automation welding system. Operators have full control over AC and DC welding parameters and easy PLC interfacing to control fixture travel, timers and other system commands.

Features
- Severe duty ready – the controller is IP23 rated and ready for operation in harsh environments.
- Pendant box – mount the controller in the standard protective box or remove the pendant for hand-held operation. Extend hand-held operation from 1.2 m up to 30.5 m with an ArcLink® extension cable.
- Eight procedure memories – pre-set and save your optimal welding parameters for repeating applications and recall later for fast changeovers.
- User-friendly controls – clear digital display and controls make it easy to set weld modes, AC operation, strike/start/end options, travel stop/start, timers and other parameters.
- Limit control – apply operator procedure limits or lockdown on any or all parameters.
- Waveform Control Technology® – allows the user to choose from a library of pre-programmed weld modes. Parameters for each mode can be adjusted within a limited range to achieve optimal balance between deposition rate and penetration.

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Item Number</th>
<th>Input Power</th>
<th>Weight (kg)</th>
<th>Dimensions HxWxD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXsa™ 10</td>
<td>K2834-4</td>
<td>40V DC</td>
<td>11.3</td>
<td>381 x 259 x 102</td>
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</tbody>
</table>

MAXsa™ 22 Feed Head
Submerged Arc Hard Automation Wire Drive for Power Wave® AC/DC 1000® SD Systems

Designed specifically for hard automation applications, the MAXsa® 22 Wire Drive delivers accurate wire feeding of submerged arc wires. Based on Lincoln’s proven gearbox and extruded aluminium feedplate, the MAXsa® 22 model features a 32VDC permanent magnet, high torque motor that delivers plenty of torque to push up to 5.6 mm diameter solid wire. A top speed of up to 12.7 m/min can be achieved by changing the gear ratio.

Features
- Flexible configuration – can be used in single, tandem, Twinarc® or multiple arc applications.
- Closed loop speed control – facilitates full control over starting, running and stopping wire feed speed.
- IP23 rated – tested to withstand harsh environments.
- Standard conversion kits – used to change the speed ratio to match the requirements of your application.
- Multi-axis rotation – rotational feed head adjustment in two planes allows flexible, accurate setup for fixturing or arc locating. Additional positioning flexibility can be achieved with the optional horizontal and vertical lift adjuster.

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Item Number</th>
<th>Input Power</th>
<th>Rated Output</th>
<th>Gear Box</th>
<th>Wire Feed Speed range (m/min)</th>
<th>Wire Size Range (Solid) (mm)</th>
<th>Weight (kg)</th>
<th>Dimensions HxWxD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXsa™ 22</td>
<td>K2370-2</td>
<td>40V DC</td>
<td>1000A / 1010%</td>
<td>54/21</td>
<td>5/7/11</td>
<td>0.4 - 5.0</td>
<td>2.4 - 5.6</td>
<td>36.3</td>
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</tbody>
</table>

142:1 gear box is standard. Conversion Kit supplied for conversion to 95:1 with Wire Drive (K2370-2, K2312-2, or K2311-1)
MAXsa™ 19 Controller

Submerged Arc Systems for Integrators and Robotic Applications for Power Wave® AC/DC 1000® SD Systems

The MAXsa® 19 controller is specifically designed to relay wire feed commands to the MAXsa® 29 when a customer-supplied user interface is used in place of the MAXsa® 10 controller. Typically, this occurs in a variety of third party integrator solutions that include integration hardware like turning rolls, panel lines, seamers and pipe mills fixturing.

Features

- Compact size – makes it easy to position in custom integrator solutions.
- Fast digital communication – with the Power Wave® AC/DC 1000® SD via ArcLink® cable and to the wire drive via a 14-pin control cable.
- Standard I/O connector block – for start/stop, forward/reverse feed and shutdown input interfacing with external accessories.
- Standard status indicator – aids diagnostic system troubleshooting.
- IP23 rated – tested to withstand harsh environments.
- Standard conversion kits – used to change the speed ratio to match the requirements of your application.
- Standard adjustable wire straightener.

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Item Number</th>
<th>Input Power</th>
<th>Weight (kg)</th>
<th>Dimensions HxWxD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXsa™ 19</td>
<td>K2626-4</td>
<td>40V DC</td>
<td>3.2</td>
<td>229 x 267 x 76</td>
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</table>

MAXsa™ 29 Feed Head

Submerged Arc Systems for Integrators and Robotic Applications for Power Wave® AC/DC 1000® SD Systems

The compact MAXsa® 29 Feed Head is intended for integrator solutions, as well as the latest submerged arc robotic applications.

Features

- Closed loop speed control – facilitates full control over starting, running and stopping wire feed speed.
- 32V DC permanent magnet, high torque motor – delivers plenty of torque to push up to 5.6 mm diameter solid wire. Top speed of up to 12.7 m/min can be achieved by changing the gear ratio.
- IP23 rated – tested to withstand harsh environments.
- Standard conversion kits – used to change the speed ratio to match the requirements of your application.
- Standard adjustable wire straightener.
- Multi-axis rotation – rotational feed head adjustment in one plane allows flexible, accurate setup for fixturing.

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Item Number</th>
<th>Input Power</th>
<th>Rated Output</th>
<th>Gear Box 11</th>
<th>Wire Feed Speed Range 11 (m/min)</th>
<th>Wire size Range 11 (mm)</th>
<th>Weight (kg)</th>
<th>Dimensions HxWxD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXsa™ 29</td>
<td>K2910-2</td>
<td>40V DC</td>
<td>1000A / 100%</td>
<td>M21 95:11</td>
<td>0.4-5.0</td>
<td>2.4-6.6</td>
<td>35</td>
<td>330 x 406 x 254</td>
</tr>
</tbody>
</table>

11 M21 gear box is standard. Conversion Kit supplied for conversion to 95:1 with Wire Drive (K2370-2, K2372-2, or K281-T)