Intelligent Assembly Solutions

Laser Welding

Laser welding requires the absorption of laser light. The component to be welded is placed in the laser light and the material is heated. Parting lines that result in the assembly are not exposed to heat or stress. Laser welding is used to weld parts with complex geometries.

Ultrasonics

Ultrasonic welding is a high frequency vibration process. The ultrasonic vibrations weld thermoplastic materials at high frequencies. Ultrasonic welding is a clean process with no emissions or fumes. Heat is transferred to the joint area as the parts are pressed together. The joint is formed by melting and re-crystallizing the plastic material.

Vibration

Vibration welding is a high reliable process that can handle large, complex and challenging materials. Vibration welding is an environmentally friendly process that produces no smoke or fumes. The joint is formed by heating one or both parts using vibration and then applying pressure to the joint area.

Thermal

Our Thermal Presses can handle complex parts and configurations to meet your specific needs. These machines can be used for welding, assembling, or degating. Our modular design allows you to quickly configure and modify a machine as your requirements change. These machines include advanced ServoWeld™ control for high-heat processes and high-speed processing.

Spin

Spin welders are used in a variety of industries. They can handle multiple parts per minute and are ideal for high volume production. Spin welders are available in a wide range of sizes and can handle parts ranging from small to large. They are easy to operate and maintain.

Packaging

Packaging is an important part of any product. Dukane offers a wide range of packaging solutions to meet your needs. We offer standard and custom packaging options to meet your requirements. Our packaging solutions are designed to protect your product and ensure it arrives in perfect condition.

Electronics

Electronics and medical industries require high-quality, cost-effective solutions. Dukane offers a wide range of electronics solutions to meet your needs. We offer standard and custom packaging options, as well as advanced ServoWeld™ control for high-heat processes and high-speed processing.

Textile

Textiles are used in a wide range of applications, from automotive interior to clothing. Dukane offers a wide range of textile solutions to meet your needs. We offer standard and custom packaging options, as well as advanced ServoWeld™ control for high-heat processes and high-speed processing.

Apparel

Apparel packaging is important for maintaining the integrity of the product. Dukane offers a wide range of apparel solutions to meet your needs. We offer standard and custom packaging options, as well as advanced ServoWeld™ control for high-heat processes and high-speed processing.

Automation

Automation is a key component of any production line. Dukane offers a wide range of automation solutions to meet your needs. We offer standard and custom packaging options, as well as advanced ServoWeld™ control for high-heat processes and high-speed processing.

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Laser Welding

Laser welding requires the absorption of laser energy. The material to be welded must be a laser transparent or laser absorbing material. Part alignment and positioning is critical. Laser welding is highly controllable and the parts can be welded in a single station. Our exclusive Laser Welding is adaptive to the surface of the material and will not be affected by any looseness in the fixture. Laser welding has a high laser energy density and provides a high welding speed. Laser welding is the most precise, reliable, and cost-effective welding process that can handle large parts in small production runs.

Laser Benefits include:
- Damage-free welding
- Light weight and small size
- High output and low energy cost
- Excellent dimensional control
- No need for tooling
- Non-contact welding
- High speed production

Laser Welding Applications:
- Autos and heavy industry
- Full wall welding in aerospace
- Nondestructive testing
- Medical
- Electronics
- Automotive
- Appliances
- Consumer goods
- Industrial
- Medical
- Toys

Ultrasounds

Ultrasonic welding utilizes a rotating or oscillating tool to create frictional heat, causing the thermoplastic material to melt at the contact area. This process has the advantage that materials with similar coefficients of thermal expansion can be bonded together. The machine’s control electronics are designed to provide high reliability and repeatability of the weld results. Our advanced ultrasonic technology allows for unmatched weld strength, consistent cycle time, and a wide variety of weld conditions. Ultrasonic welding is highly adaptable to meet the needs of any application.

Ultrasonic Benefits include:
- No tooling required
- No post weld inspection
- No need for fixturing
- High production speeds
- No heat generation
- No gas consumption
- No chemical residuals

Ultrasonic Welding Applications:
- Non-metals, plastics, rubber, and fabric
- Medical
- Electronics
- Automotive
- Consumer goods
- Medical
- Toys

Hot Plates

Hot Plate Welding uses a series of heating elements and pressure plates to melt and bond thermoplastic materials. Our Hot Plate Welders are designed to provide high-quality welds in a wide variety of applications. Our Hot Plate Welders are built for the long haul. They are designed to handle large parts in small production runs.

Hot Plate Welding Benefits include:
- Damage-free welding
- Light weight and small size
- High output and low energy cost
- Excellent dimensional control
- Non-contact welding
- High speed production

Hot Plate Welding Applications:
- Autos and heavy industry
- Full wall welding in aerospace
- Nondestructive testing
- Medical
- Electronics
- Automotive
- Appliances
- Consumer goods
- Industrial
- Medical
- Toys

Spin Welding

Spin Welding uses a high-speed spinning tool to create frictional heat, causing the thermoplastic material to melt at the contact area. This process has the advantage that materials with similar coefficients of thermal expansion can be bonded together. The machine’s control electronics are designed to provide high reliability and repeatability of the weld results. Our advanced ultrasonic technology allows for unmatched weld strength, consistent cycle time, and a wide variety of weld conditions. Spin Welding is highly adaptable to meet the needs of any application.

Spin Welding Benefits include:
- No tooling required
- No post weld inspection
- No need for fixturing
- High production speeds
- No heat generation
- No gas consumption
- No chemical residuals

Spin Welding Applications:
- Non-metals, plastics, rubber, and fabric
- Medical
- Electronics
- Automotive
- Consumer goods
- Medical
- Toys
Laser Welding
Laser welding is a highly effective process that can completely eliminate many assembly requirements. By creating a fusion bond, there is no need for fasteners or adhesives. Laser welding is a valuable asset in many industries and can be used for both welding and cutting. Laser welding is a preferred method in the automotive and aerospace industries due to its high speed, precision, and cost-effectiveness. Laser welding can be performed with a variety of laser types, including carbon dioxide, yttrium aluminum garnet (YAG), fiber, and fiber-coupled laser systems.

We have the best solution for your industry. For nearly 40 years, our customers have benefited from our intelligent assembly solutions.

Intelligent Assembly Solutions

Ultrasonic Solutions

Ultrasonic welding is a highly effective process used to join two materials together. It is a non-contact process that uses high-frequency vibrations to create a molecular bond. Ultrasonic welding is commonly used in the electronics, automotive, and medical industries. It is a versatile process that can be used for a wide range of applications, including plastic, metal, and fabric joining.

Thermal Solutions

Thermal welding is a highly effective process that can be used to join a variety of materials. It is a non-contact process that uses heat to create a molecular bond. Thermal welding is commonly used in the automotive, electronics, and medical industries. It is a versatile process that can be used for a wide range of applications, including plastic, metal, and fabric joining.

Spin Welding

Spin welding is a highly effective process used to join two materials together. It is a non-contact process that uses high-speed rotation to create a molecular bond. Spin welding is commonly used in the automotive, electronics, and medical industries. It is a versatile process that can be used for a wide range of applications, including plastic, metal, and fabric joining.

Process Comparison Chart

Applications

We apply our technologies to a diverse range of industries and applications. Our solutions for each industry are designed to meet the specific needs of that industry. We have solutions for a wide range of industries, including automotive, electronics, medical, and packaging.

Custom Engineering

We are unique in that the products we design and build are not only innovative but also reliable. We are committed to providing our customers with the best possible solutions.

Consult the current data sheets for standard and optional accessories.
Application Labs

Our application lab has a failure analysis evaluation to service your process development needs. Our team of assembly experts can help you develop a test program to get the desired result. You get the production data and see early errors and cost changes.

Let us help you with:
• Design analysis for optimized part designs
• Watertight assembly testing
• Custom part and process designs
• Part rework and problem solving

Training

Dukane total commitment to your success include in our equipment the most comprehensive plastics assembly technology available. In addition to the basic training for equipment operators and regional service centers, we offer a competitive alternative power targeted at specific needs and focused to individual job functions.

We help keep the process simple, make them interactive and practical. Training material can be targeted to return on your training investment. We can customize courses to fit your needs, conduct them at your facility, even teach them in our language.

Service & Support

For over thirty years, Dukane has been known for our exceptional level of service and support. Here is just a sample:
• Customer service hotline
• Fast service time
• On-site service in-mold parts
• Quick ship stocking program
• Application labs nationwide for engineering assistance
• Service in your local time zone available on our Dukane ProServ

Why Choose Dukane?

Ultrasonic

Dukane’s Ultrasonic is the most applied laser welding. Our Chief® system provides the most cost-effective, high-quality welds for every plastic assembly need.

Laser

Dukane’s Laser offer a wide range of systems, including those that weld custom assembly cost and improved production with minimal positional equipment value.

Hot Plate

Dukane’s Hot Plate is effective in welding a variety of materials that are not weldable using other systems. And its universal application is controlled by digital controls wthout any change.

Spinning

Dukane’s Spinning solves the most complex plastics assembly problems. It is an alternative method to expensive field service calls.

Service Support

Dukane’s Service Support is a training resource that gives you the tools from our one source to maximize your balance of productivity and profitability. Our service support program includes on-the-job training.

Training

Dukane commitment to training ensures that you get the very best from your equipment. They are designed to keep pace with your people and operations as you produce plastic assembly.

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Proof of Image Scanned

Spinning

Hot Plate

Laser

Ultrasonics

Vibration

Thermal

Intelligent Assembly Solutions
Dukane offers a wide range of systems, tools, and services that enable you to assemble commodity or high-performance products with maximum process efficiency.

Why Choose Dukane?

**Value**

Dukane offers a wide range of systems, tools, and services that enable you to assemble commodity or high-performance products with maximum process efficiency.

**Performance**

Dukane’s commitment to training and engineering assistance has resulted in repeatable process and pricing with high customer satisfaction.

**Reliability**

- Customer-driven design philosophy
- Custom system design and construction
- Custom software development

The modular design of our equipment line can easily be modified to meet your needs. We are unique in that the products we offer, even those in our standard product line, can be modified to meet your needs. The modular design of our equipment permits you to add configurations and applications easily.

**Cost**

- Extensive training programs
- Regional service centers
- Application labs across the country for hands-on training

We keep the classes small, make them interactive, and fit your needs. We can even come to your facility and even teach them in your language.

**Product Quality**

- Extensive training programs
- Regional service centers
- Application labs across the country for hands-on training

We can customize training to maximize the return on your training investment. We can customize the classes to fit your needs, conduct them in your facility and even teach them in your language.

**Customer Support**

CUSTOMER SERVICE

- Extensive training programs
- Regional service centers
- Application labs across the country for hands-on training

We keep the classes small, make them interactive, and fit your needs. We can even come to your facility and even teach them in your language.

**Service Support**

From initial consultation and design to installation and follow-up, our maintenance and engineering experts can do it all, quickly and efficiently.

**Product Quality**

- Extensive training programs
- Regional service centers
- Application labs across the country for hands-on training

We can customize training to maximize the return on your training investment. We can customize the classes to fit your needs, conduct them in your facility and even teach them in your language.

**Cost Savings**

- Extensive training programs
- Regional service centers
- Application labs across the country for hands-on training

We keep the classes small, make them interactive, and fit your needs. We can even come to your facility and even teach them in your language.

**Training**

Dukane’s commitment to training ensures that you get the most from your equipment investment and that you get the most from the equipment you purchase from Dukane.

**Service Support**

- Extensive training programs
- Regional service centers
- Application labs across the country for hands-on training

We keep the classes small, make them interactive, and fit your needs. We can even come to your facility and even teach them in your language.

**Why Choose Dukane?**

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