



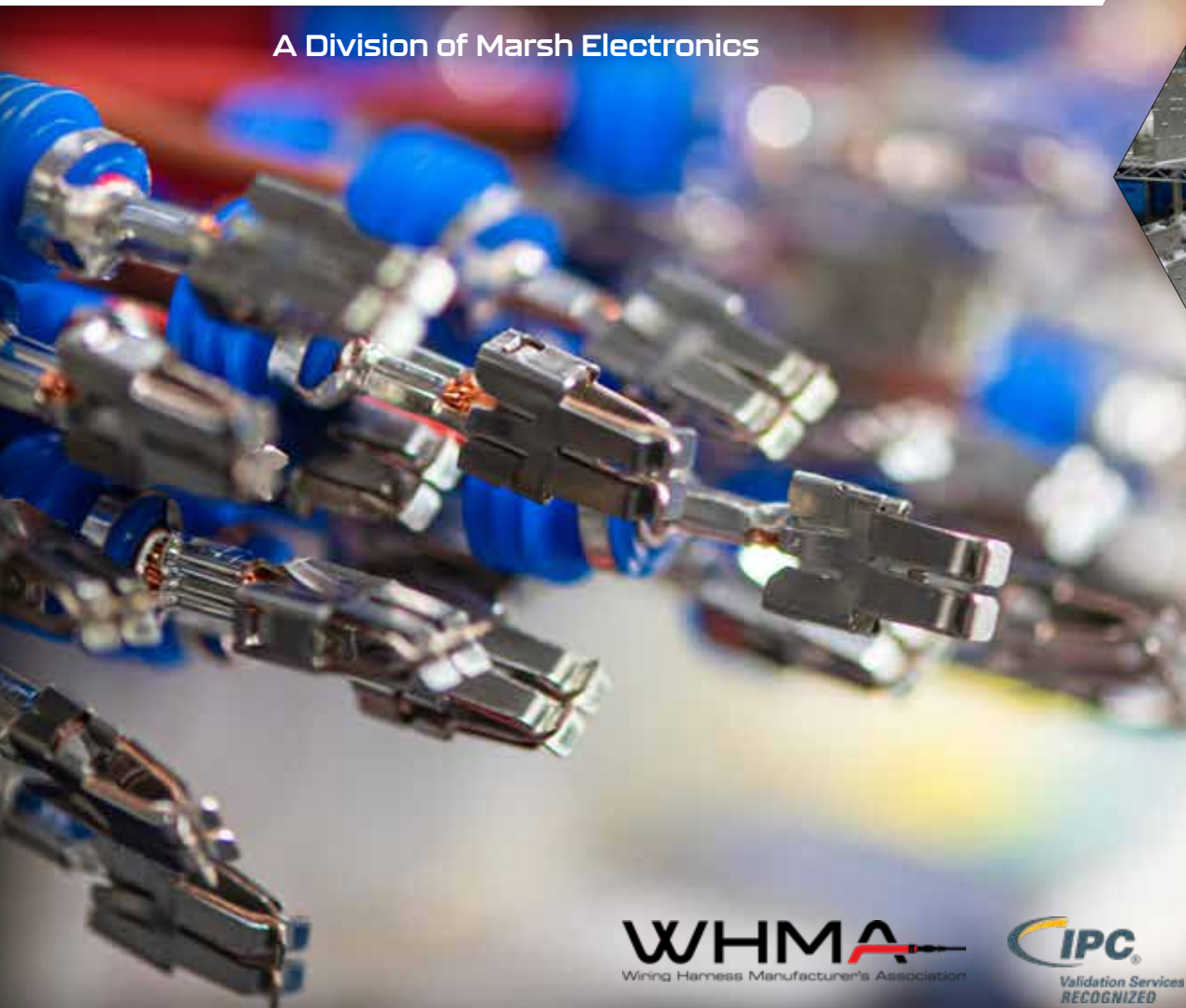
MarVac

ASSEMBLIES

Electronic Component Value Added

Since 1995

A Division of Marsh Electronics



ABOUT US



1935



1973



1995



Welcome to MarVac Assemblies, your premier partner in electronic and electromechanical solutions. At MarVac Assemblies, we specialize in providing innovative turnkey products and assembly services tailored to the specific requirements of our OEM customers. Our expertise extends across various sectors including **Food & Beverage, Energy, Military, Industrial, Commercial & Off-Road Vehicles, and Medical** applications.

As an integral division of Marsh Electronics, MarVac Assemblies offers a comprehensive range of assembly services, product customization solutions, and quality support processes. Our commitment to excellence is reflected in our streamlined procurement and production processes, aimed at enhancing efficiency, reducing costs, and mitigating inventory liabilities for our valued clients.

With a focus on customer satisfaction, we pride ourselves on our inventory management programs and dedication to delivering superior service. Our reputation for value resonates within the industries we serve, earning the trust of top-quality manufacturers and customers alike.

At MarVac Assemblies, we are driven by an insistent pursuit of excellence, continuously striving to provide unparalleled value to our customers—partner with us for innovative solutions and exceptional service that propel your business forward.

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CAPABILITIES

Component Preparation

At MarVac Assemblies, we take pride in offering comprehensive component preparation services to meet your electronic project requirements. Leveraging our strategic partnership with Marsh Electronics, a leading distributor of passive and electro-mechanical components, we deliver tailored solutions with a focus on quality, affordability, and efficiency.



Advantages of Partnering with MarVac Assemblies

When you choose MarVac Assemblies for your component preparation needs, you benefit from:

Expertise and Dedication: Our team of skilled technicians and engineers possesses extensive experience in component modification and preparation. We are committed to delivering solutions that exceed your expectations and contribute to the success of your projects.

Tailored Solutions: Unlike off-the-shelf components, our preparation services allow for customization to suit your unique requirements. Whether it's modifying terminal blocks, switches, circuit protection products, or other components, we ensure precise adjustments that align with your specifications.

Streamlined Process: With MarVac Assemblies, you enjoy a seamless and efficient preparation process from start to finish. We work closely with you to understand your needs, provide timely updates throughout the project, and deliver completed components ready for integration into your assemblies.

Wire Harnessing, Cable Assembly & Wire Processing

We specialize in performing a variety of mechanical and sonicweld soldering services, including wire to connector, wire to board, wire to component, and wire to resistors or display soldering operations. At MarVac, we possess dedicated soldering cells each equipped with individual exhaust ducting that solely work with copper material. Assisting a wide variety of professional industries and O.E.M. suppliers, we help our clients discover manufacturing solutions that enable lean production standards for improved products at lower costs. We even offer design recommendations that help better product manufacturability.

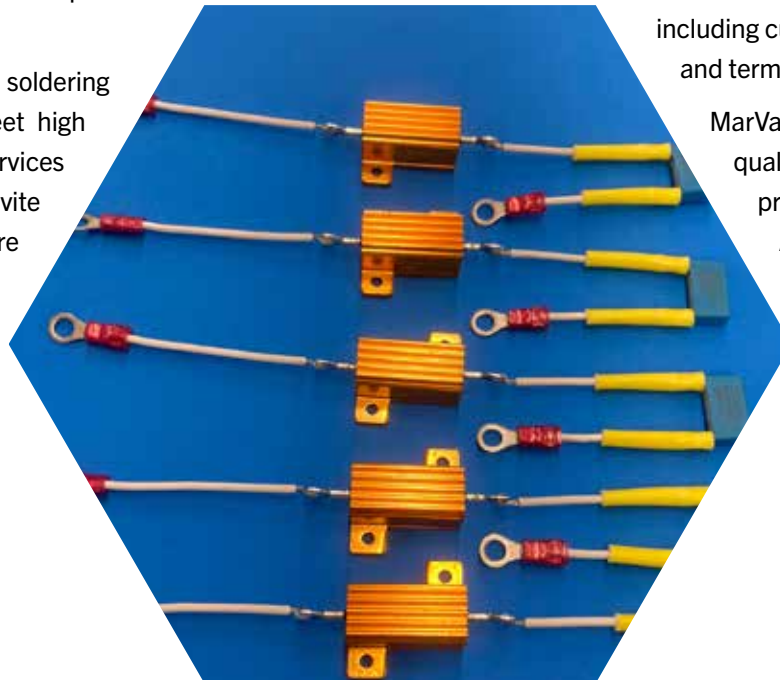
Our free-hand mechanical joint soldering operations are UL recognized and meet high industry standards. Offering additional services in assembly, finishing, and kitting, we invite you to contact MarVac today to learn more about our advanced mechanical joint soldering operations.



MarVac Assemblies has the wire processing equipment to work with all types of insulated wire. MarVac Assemblies can handle solid or stranded wire with gauges, from 2 to 24 AWG. Our high quality custom wire processing equipment and wiring harness services meet WHMA/IPC-A-620 industry standards. Our equipment and assembly processes are applied to a wide variety of assembled products, such as: welders, power supplies, heaters, lighting fixtures, refrigeration equipment, off road vehicles, printed circuit boards and electrical system assemblies.

We also offer a broad range of wire processing capabilities, including cutting, marking, strip/retain, twisting, crimping, and terminating ends.

MarVac Assemblies supplies clients with high quality, bench top — box-build sub assembly, wire processing and harnessing production. MarVac Assemblies has the capability to manufacture an extensive array of harness configurations including, but not limited to, single lead, multi-conductor, ribbon cable and twisted pairs.



CAPABILITIES CONTINUED

CUSTOM WIRE HARNESS ASSEMBLY CAPABILITIES

General Capabilities

- Custom
- Just-in-Time

Industry Focus

- Food & Beverage Service
- Non-Automotive Transportation
- General Industrial

Wire Harness Capabilities

- Chokes, Inductors, Ferrites
- Fans, Blowers
- Fuse Holders, Circuit Protection
- Indicator Light Assembly
- Lighted Switches/Lamps
- Modular - Phone, Cat5, Serial Cables
- Multi-Conductor
- Relays, Timers
- Resistors and Potentiometers
- Ribbon Cable
- Sensors
- Single Lead
- Solenoids
- Switches
- Terminal Blocks
- Twisted Pairs

ROHS Soldering

- Component
- ESD Safe
- Lead Tinning
- Lead to Component
- Ultrasonic Welding
- Wire to Wire

Wire Gauges

- 1/0 Gauge up to 26-gauge wire

We work solid or stranded wire forms

Industry Standards

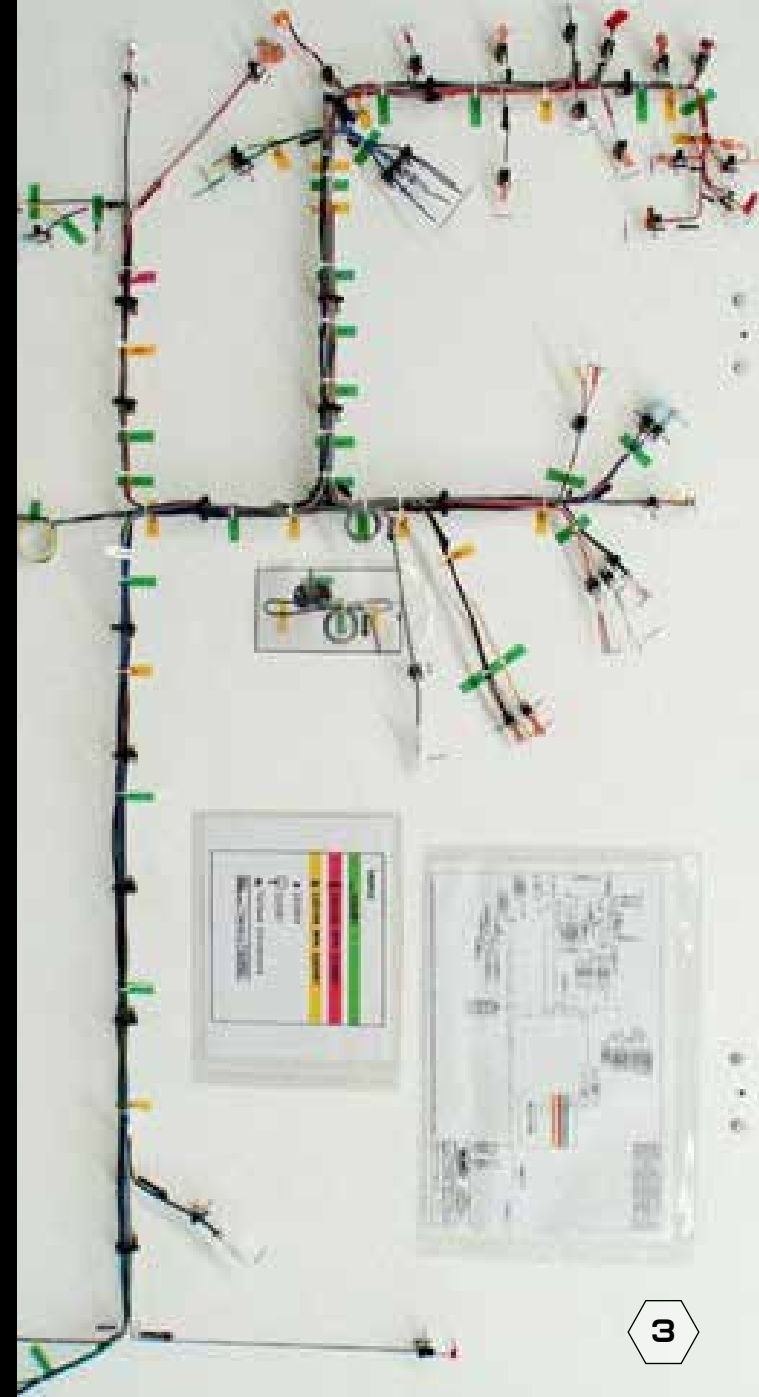
- **IPC** – IPC/WHMA-A-620
- **RoHS** – Restriction Of Hazardous Substances (Compliant)
- **UL Recognized** – Underwriter Laboratories

Applications

- Agricultural Equipment Electrical Systems
- All-Terrain Vehicles Electrical Systems
- Appliance Electrical Systems
- Electrical System Assemblies
- Electrical Systems for Batteries
- Electrical systems for Engines
- Gauges
- Heaters
- Lighting Fixtures
- Mechanisms for Electrical Systems
- Motors
- Off-Road Vehicle Battery Systems
- Power Tool Electrical Systems
- Refrigeration Equipment
- Welders

Additional Services

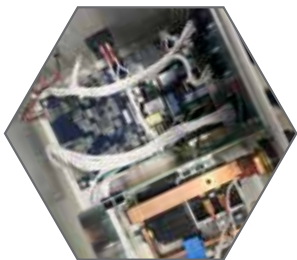
- Inspection
- Product Packaging
- Product Re-Packaging
- Testing



Mechanical Assembly and Box Builds

MarVac Assemblies specializes in mechanical sub assemblies including, but not limited to circuit protection components, terminal block, wire wound resistors, capacitors, solenoids and cooling fans. MarVac Assemblies provides superior custom electromechanical assembly services with just-in-time delivery. As true with many of our production services, we are able to work with a wide variety of wire ranges both solid and stranded from 22 to 000 AWG.

Specializing in soldering, terminate transformer wires, and OEM electronic sub assemblies, MarVac Assemblies offers first-rate box build – bench top sub assembly construction using authorized electronic components as specified by you, our customer. We have a successful history servicing multiple industries including Food & Beverage Service, General Industrial, Instrumentation, Medical, Self-Service Banking and Transportation.



With all of our superior services, MarVac provides custom capabilities and on-time delivery of all of our quality products. We invite you to contact us today to inquire about our electronic component assembly services or any of our other premium secondary service offerings including, but not limited to, product packaging and inspection.

Our box build and panel assembly services work with a wide range of products that serve diverse industries. Mostly performing manual assembly operations, such as riveting and drilling, we can handle full box builds and sub-assemblies, such as fuse boxes, wiring to fuse boxes, or terminal blocks – attaching connector ends to wiring and installing them within a panel. In addition, we employ pneumatic hand tools for some assembly operations.

From control panels and DIN rail racks to fuse blocks and relays, our box build and panel assembly operations can be applied to diverse products used in a wide variety of applications. Please contact MarVac today in order to inquire after your particular project requirements and find out more about how we can assist you.



CAPABILITIES CONTINUED

BOX BUILD AND PANEL ASSEMBLY CAPABILITIES

General Capabilities

- O.E.M
- Production

Industry Focus

- Food & Beverage Service
- Non-Automotive Transportation
- General Industrial

Assembly Capabilities

- Crimping
- Drilling
- Light Machining
- Manual Assembly
- Pneumatic Hand Tools
- Riveting
- RTV Application

Applications

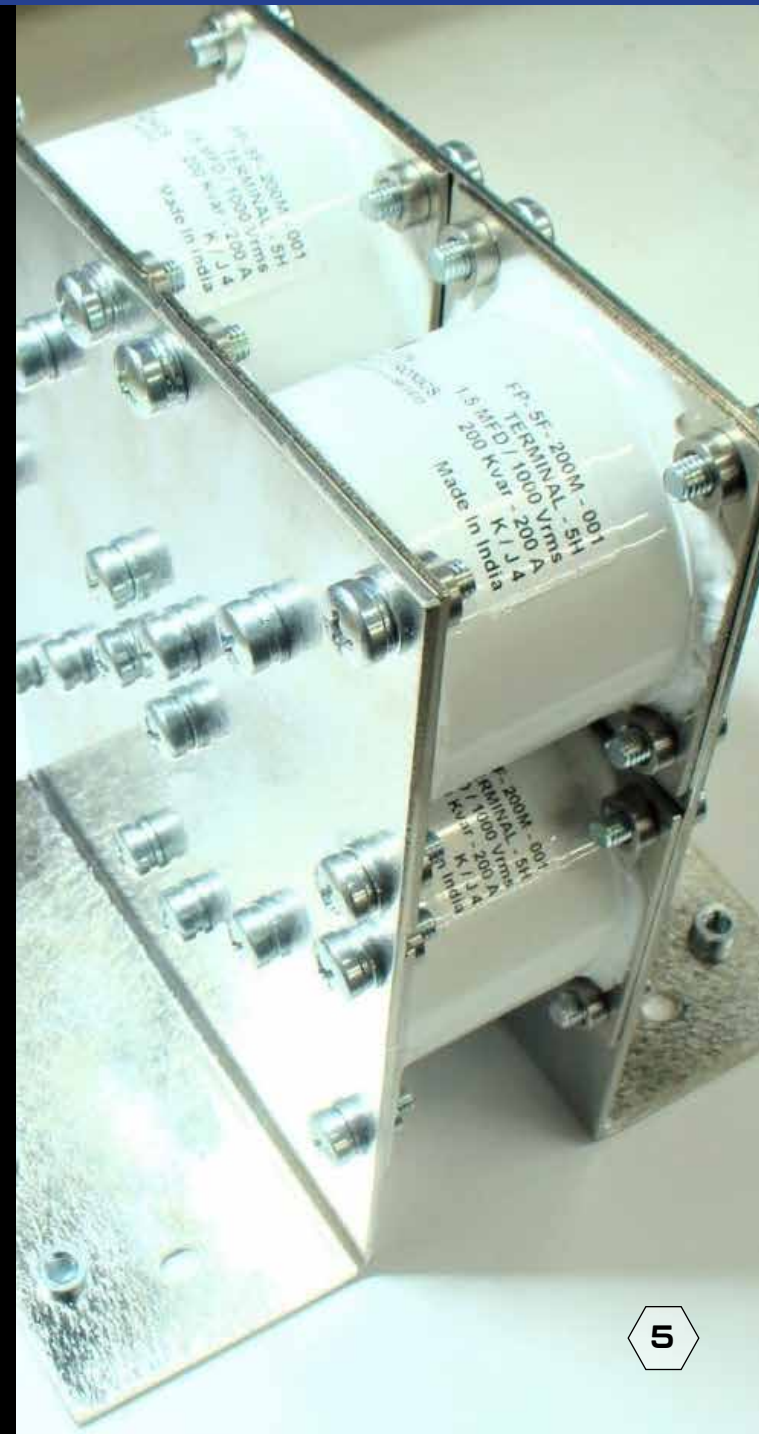
- Circuit Breakers
- Connector Ends
- Control Panels
- DIN Rail Racks
- Fuse Blocks
- PLC Assemblies
- Relays
- Terminal Blocks

Industry Standards

- **IPC** – IPC/WHMA-A-620
- **RoHS** – Restriction Of Hazardous Substances (Compliant)
- **UL Recognized** – Underwriter Laboratories

Supported File Formats

- **.BMP** – *Bitmapmed Graphic*
- **.DWG** – *AutoCAD Drawing*
- **.DXF** – *Drawing Interchange Format, or Drawing Exchange Format*
- **.GIF** – *Graphics Interchange Format*
- **.IGES** – *Initial Graphics Exchange Specification, ANSI file format*
- **.JPG or .JPEG** – *Joint Photographic Experts Group*
- **.PDF** – *Portable Document Format*
- **.PNG** – *Portable Networks Graphic*
- **.TIFF** – *Tagged Image File Format*



Packaging & Kitting

With a successful history serving a range of professional industries such as electrical, mechanical, and semiconductor engineering, MarVac Assemblies offers comprehensive OEM component fulfillment services, including inventory management, OEM supplied packaging, OEM electronic hardware component kit making, shipping, and distribution.

With our superior service, we manufacture a broad assortment of high-quality products including, but not limited to, audio alarms, batteries, EMI/RFI filters, enclosures and power supplies. MarVac offers a wide range of packaging material and container size options from pouches to thermoformed plastic and lidded trays.

Offering additional support services such as assembly, products, and internet fulfillment, MarVac guarantees on-time delivery of all our quality products. We invite you to contact us today to inquire after our expert OEM contract kitting, packaging and fulfillment services, as well as any of our alternative service options.



OEM Contract Kitting, Packaging, and Fulfillment Capabilities

Fulfillment Services

- Custom Internet Fulfillment Websites
- Direct Ship
- Kanban
- Product Fulfillment (Providing logistical support for distributing products, including order taking, picking, packing and shipping)
- Scheduled Orders
- Vendor Managed Inventory Programs

Services Provided

- Bar Coding
- Consulting
- Custom Reports
- Customer Support
- Distribution
- Import/Export
- Inspection
- Inventory Management
- Kit Making
- Order Entry
- Order Packing
- Order Picking
- Order Tracking
- Product Re-Packaging
- Shipping
- Sorting
- Statistical Analysis
- Tagging
- Warehousing

Components Supported

- Audio Alarms
- Batteries
- Capacitors
- Chemicals
- Chokes, Coils, & Inductors
- Connectors & IC Sockets
- Crystals / Oscillators
- EMI/RFI Filters
- Enclosures
- Fans & Blowers
- Fuses & Circuit Breakers
- Hardware
- Heat Sinks & Extrusions
- Keyboard & Keypads
- Lamps, Displays & LEDs
- Meters & Instrumentation
- Microphones
- Panel Meters
- Power Conditioning
- Power Supplies
- Relays & Sockets, Timers, and I/O Modules
- Solenoids
- Sound and Security
- Switches
- Terminal Blocks
- Test Equipment
- Tools
- Transducers, Sensors
- Transformers
- Varistors
- Wire, Cable, Cords & Tubing

Packaging Materials and Container Styles

- Cardboard
- Clamshell Packages
- Flexible Packaging
- Foam Packaging
- Lidded Trays
- Packets
- Pouches
- Vacuum Sealing

General Capabilities

- Custom
- Just-In-Time
- Offshore

Industry Focus

- Food & Beverage Service
- Non-Automotive Transportation
- General Industrial

Industry Standards

- IPC
- IPC/WHMA-A-620
- DVD-SP56C Wire Harness and Assembly Methods
- SP58C Introduction to Wire Crimping
- SP59C Wire Preparation
- RoHS - Restriction Of Hazardous Substances (Compliant)
- UL Recognized (Underwriter Laboratories)

Additional Services

- Inspection and Testing
- Packaging and Re-Packaging

INDUSTRIES

A background image of an industrial welding process. A robotic arm is welding a metal beam, with bright sparks flying from the point of contact. The scene is dimly lit, with blue and orange tones.

Industrial Products

Innovative, comprehensive solutions tailored to meet the diverse demands of Industrial Products are seamlessly provided by MarVac Assemblies, a distinguished division of Marsh Electronics. Renowned for unparalleled quality and a vast selection of products and turnkey solutions, MarVac Assemblies is perfectly positioned to address the rigorous requirements of industrial environments, heavy-duty cycles, and multifaceted application needs. We cater to a wide range of industrial applications, including welders, generators, harmonic filters, power quality systems, power capacitors, inverters, power supplies, corrugating equipment, crane/hoist drives, airport ground power equipment, battery start assist systems, hoists, and crane controls.

With deep industry knowledge, expert engineering support, and a dedicated technical sales team, MarVac Assemblies offers leading manufacturers' products meticulously chosen to meet your industrial solution requirements. From switches, relays, capacitors, and supercapacitors to resistors, potentiometers, cooling fans, displays, sensors, circuit protection devices, power supplies, power semiconductors, inductors, heatsinks, HMI products, joysticks, encoders, keypads, and audio devices, we provide essential components to optimize your industrial processes.

MarVac Assemblies takes our offerings a step further by delivering customized wire harness and mechanical sub-assembly solutions meticulously crafted in Milwaukee, WI USA. As an active participant in the IPC/WHMA-A-620 Certification Program, our commitment to quality is unwavering, ensuring that every solution meets the highest industry standards.

Should your application necessitate a tailored embedded hardware and software HMI System, our in-house field application engineer and esteemed supplier partners collaborate closely with you to develop solutions that seamlessly integrate into your equipment, step by step. Choose MarVac Assemblies as your trusted partner, offering innovative, turnkey solutions for Industrial Products. With our ISO9001:2015 certification, you can trust in our commitment to excellence and reliability.

INDUSTRIES CONTINUED

Military

Pioneering, comprehensive solutions crafted to meet the exacting demands of our dynamic Military landscape find their ideal home at MarVac Assemblies. Renowned for our excellence in both product quality and holistic solutions, MarVac stands as the premier provider, offering bespoke answers that address the rigors of military environments, intensive operational cycles, stringent quality standards, and diverse application requirements for OEM equipment providers in the Military sector. From vehicular applications to power generation and supplies, MarVac is the trusted partner for Military solutions. With decades of industry expertise, robust engineering support, and a dedicated technical sales team, MarVac empowers you to navigate the complexities of Military applications with confidence. We collaborate with leading manufacturers to offer an extensive array of components, including switches, relays, capacitors, resistors, and more, ensuring that your Military product solutions are unparalleled in quality and performance.

Furthermore, with our MarVac Assemblies services, we go above and beyond by delivering tailor-made wire harnesses and mechanical sub-assemblies for your products. Crafted and assembled in Milwaukee, WI USA, our commitment to quality and adaptability sets us apart. MarVac Assemblies adheres to the rigorous standards of the IPC/WHMA-A-620 Certification Program, ensuring that every assembly meets the highest industry benchmarks. For projects requiring customized embedded hardware and software HMI Systems or CAN

Controllers, our in-house field application engineer and supplier partners collaborate with you to design systems that precisely meet your specifications. From conceptualization to implementation, we guide you through every stage, ensuring seamless integration into your equipment. MarVac Assemblies stands as your singular destination for cutting-edge, turnkey solutions in Military Products. Committed to excellence, we maintain ISO9001:2015 certification, underscoring our unwavering dedication to quality assurance.

Off-Road and Commercial Vehicles, Agriculture

Specialized solutions for Commercial and Off-Road Vehicles seamlessly integrate with MarVac Assemblies, a distinguished division of Marsh Electronics. Recognized for its dedication to excellence and expertise in tailored solutions, MarVac Assemblies stands as the premier choice for addressing the unique challenges of the Commercial and Off-Road Vehicle industry. Renowned for delivering unmatched quality and expertise in product selection and turnkey solutions, MarVac Assemblies stands ready to meet the exacting demands of the Commercial and Off-Road Vehicle industry. Our tailored support encompasses a wide spectrum of applications, including Heavy Duty Construction Equipment, Fire Trucks, Ambulances, Garbage Trucks, Snowplow Equipment, Forest and Timber Equipment, Cranes, Access Lift Equipment, and Material Handling Equipment.

Drawing upon extensive industry knowledge, engineering proficiency, and a dedicated technical sales team, MarVac Assemblies offers a comprehensive range of products meticulously curated to address your solution needs. From switches, relays, and LED lighting to camera systems, cooling fans, displays, sensors, circuit protection, CAN controllers, and beyond, we provide the essential components necessary for your vehicle applications.

With MarVac Assemblies at the forefront, Marsh Electronics elevates its offerings to deliver customized wire harness and mechanical sub-assembly solutions, meticulously manufactured and assembled in

Milwaukee, WI USA. Our commitment to quality is underscored by our participation in the IPC/WHMA-A-620 Certification Program, ensuring that every solution meets the highest industry standards.

Moreover, for applications requiring tailored embedded hardware and software HMI Systems or CAN Controllers, our in-house field application engineer and esteemed supplier partners collaborate closely with you to develop bespoke solutions that seamlessly integrate into your equipment.

Choose MarVac Assemblies as your premier partner for innovative, turnkey solutions tailored specifically for Commercial, heavy-duty, and Off-Road Vehicles. With our ISO9001:2015 certification, you can trust in our commitment to excellence and reliability.

Food & Beverage

Tailored specifically for the Food and Beverage Industry find their perfect match with MarVac Assemblies, a division of Marsh Electronics. MarVac Assemblies excels in delivering unparalleled quality and expertise in board selection of products and turnkey solutions, perfectly suited to the fast-paced and high standards of the food and beverage sector. Our specialized support spans a wide range of applications, including Blenders, Beverage Dispensing, Refrigeration, Baking Equipment, Food Warming Equipment, Display Cabinets and Cases, Cooking Equipment, and Beverage Coolers.

Leveraging extensive industry knowledge, engineering proficiency, and a dedicated technical sales team, MarVac Assemblies is uniquely positioned to help you meet and exceed the requirements of your

applications. Our offerings encompass leading manufactures of switches, relays, LED Lighting, Cooling Fans, Displays, Sensors, Circuit Protection, Enclosures, and Audio Devices, meticulously curated to meet your solution needs.

With MarVac Assemblies, you gain access to customized wire harness and mechanical sub-assembly solutions meticulously crafted to fit your product specifications. Manufactured and assembled in Milwaukee, WI USA, our solutions boast unmatched quality and flexibility, ensuring seamless integration into your equipment.

Moreover, for those requiring customized embedded hardware and software HMI Systems, our in-house field application engineer and esteemed supplier partners collaborate closely with you to create bespoke systems that seamlessly control and operate your equipment, with the added capability of cloud connectivity.

INDUSTRIES CONTINUED

Medical

Unlock the unparalleled quality and reliability of MarVac Assemblies, purpose-built for critical applications in healthcare worldwide. From powering MRI machines to enhancing the functionality of CT scanners and defibrillators, MarVac sets the standard for precision and performance.

Backed by decades of industry expertise, MarVac Assemblies emerges as your ultimate solution provider, offering tailored wire harness and mechanical sub-assembly solutions meticulously crafted in our Milwaukee, WI facility. Our commitment to excellence is unwavering, evident in every aspect of our assembly process, certified under the stringent IPC/WHMA-A-620 program.

Partnering with MarVac means access to a comprehensive suite of essential components, carefully selected to meet the exacting demands of medical innovation. Whether it's switches, relays, capacitors, or resistors, our offerings are meticulously curated to elevate your Medical Products applications to new heights.

But our commitment doesn't stop there. Need a customized embedded hardware and software HMI System? Our dedicated field

application engineer and supplier partners stand ready to collaborate, guiding you through every step of the process to ensure seamless integration into your equipment.

At MarVac Assemblies, we're not just suppliers; we're your trusted partners in innovation. With a relentless focus on quality and excellence, we're here to help you navigate the complexities of industrial solutions. Experience the MarVac difference today.

QUALITY & CERTS

IPC QML-Qualified Manufacturers List

At MarVac Assemblies, quality is at the heart of everything we do. We are proud to hold various certifications that underscore our commitment to excellence, including the prestigious IPC QML – Qualified Manufacturers List certification. This certification signifies that our manufacturing processes meet stringent standards set forth by the IPC, ensuring the highest levels of quality and reliability in every product we deliver. Being on the IPC QML demonstrates our dedication to continuous improvement and adherence to industry best practices. Our IPC QML certification is just one testament to our unwavering dedication to delivering superior quality and reliability in every assembly we produce.

We understand the importance of reliable components in achieving superior product performance, which also means we strive for excellence in all our operations and at all levels in the company. With our commitment to quality, innovation, and customer satisfaction, we strive to be your trusted partner in electronics manufacturing. When you choose MarVac Assemblies, you can expect unparalleled expertise, personalized service, and exceptional results.

WHMA / IPC A620-Class 2 Validated

We take pride in holding the prestigious WHMA/IPC A620-Class 2 validation, which is a highly regarded certification in the wire harness manufacturing industry. This validation signifies our commitment to excellence in producing wire harnesses that meet the stringent requirements outlined by the Wiring Harness Manufacturers Association (WHMA) and the Institute for Printed Circuits (IPC). With WHMA/IPC A620-Class 2 validation, you can trust that our wire harnesses are built to the highest standards of quality and reliability, ensuring optimal performance in your applications.

MarVac Assemblies holds IPC QML certification and WHMA/IPC A620-Class 2 validation, demonstrating our commitment to delivering high-quality and reliable assemblies. Partner with us, an industry leader you can trust.

Compliance and Certification Highlights

- UL Recognized
- ISO 9001:2015
- ESD Safe
- Continuity Testing
- RoHS Compliant Components and Soldering
- Hi-Pot Testing
- In-Process & Final Inspection Team

PROUD PARTNERS



AMERICAN ZETTLER INC.
A ZETTLER GROUP COMPANY



GRAYHILL



MITSUBISHI ELECTRIC
Changes for the Better





360° Solutions for Logistics, Engineering & Product Production

INTEGRATED SUPPLY CHAIN SOLUTIONS

- Custom Assemblies
- Inventory Replenishment Program
- Component Application Development
- Vendor Reduction Solutions



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