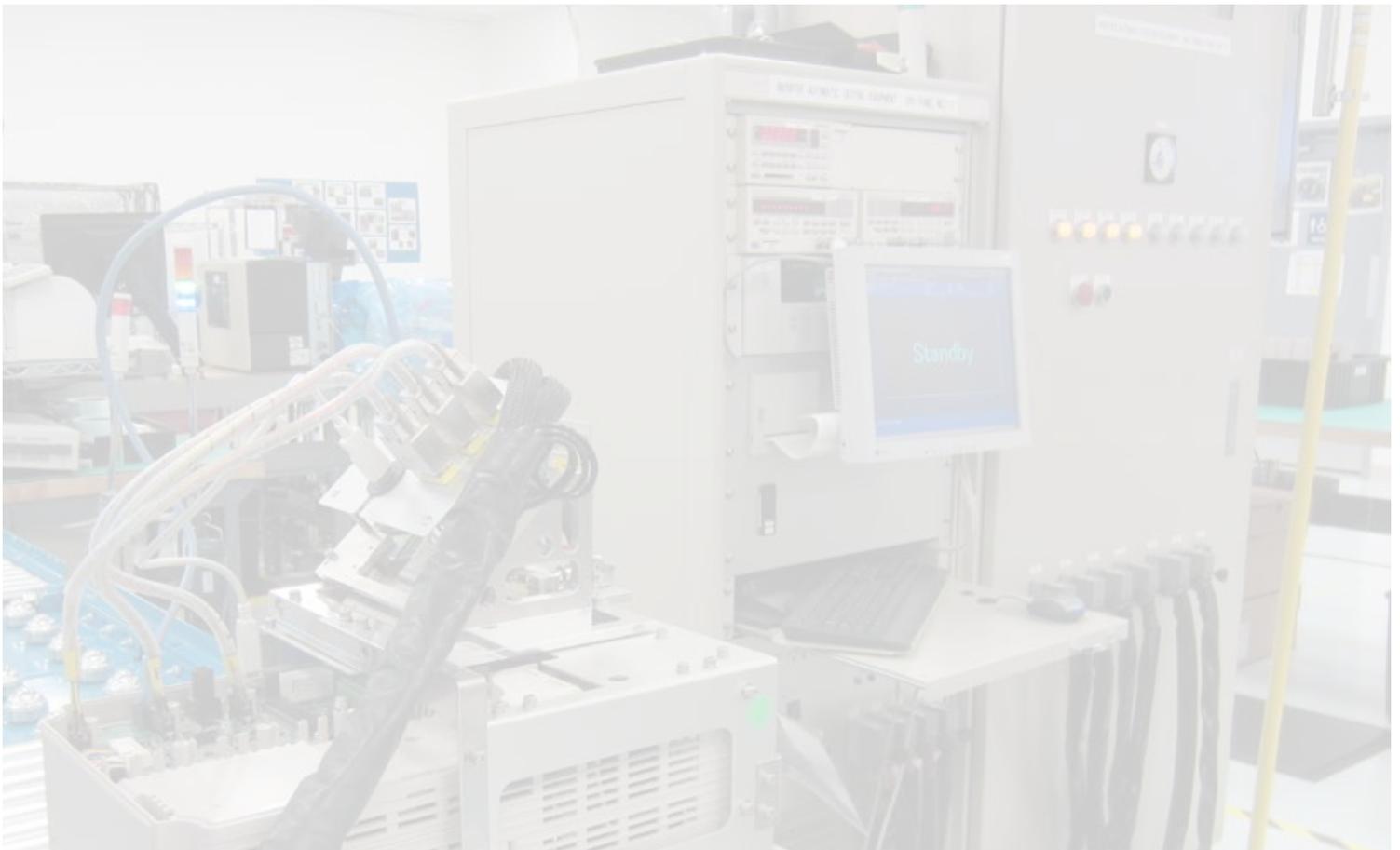


YASKAWA

THE YASKAWA QUALITY EXPERIENCE

MORE THAN A MEASUREMENT



YASKAWA QUALITY IS MORE THAN NUMBERS

IT'S AN EXPERIENCE



By any Measurement, the Quality of Yaskawa Products is Second to None

We're the only industrial drives and motion control manufacturer to win the Deming Medal, the most prestigious quality award in manufacturing. Yaskawa constantly tracks and measures product failures in time (FIT). The actual FIT data demonstrates a high quality and reliability rate that is the envy of our Industry. This field data confirms that we do, in fact, exceed our design targets for reliability.



EDWARDS R. DEMING MEDAL FOR QUALITY

Yaskawa's overall FIT is based on the failure reports received from the field for a period of time, monthly (including Warranty and Non-Warranty items), and is as follows:

- FIT = Qty of Failures / [(30 days x 24 hours per day) x (total qty of units shipped)] x 109. Our calculations follow the Bellcore TR-332 Standard.
- MTBF is defined for a repairable system and is calculated as the inverse number of FIT mentioned above (MTBF = 1/FIT).

We earned our quality numbers long ago and have been diligent in maintaining our record of unparalleled reliability and value. We are ISO 9001:2008 certified.

At Yaskawa, Quality is more than numbers, more than awards – it's the total experience of purchasing and owning Yaskawa products and working with Yaskawa people.

The Yaskawa Quality Experience

We also know that numbers tell only part of the quality story. What about innovative design? Knowledgeable and responsive application engineers who understand your business? Superior support and training? Those crucial aspects of any business are a vital part of how a company is ultimately judged and what we mean by the Yaskawa Quality Experience.



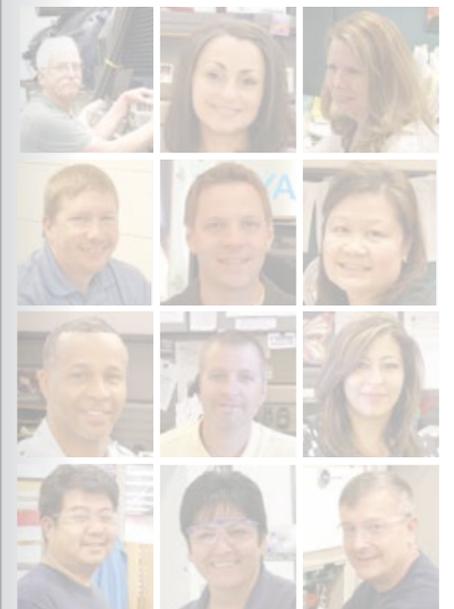
YASKAWA'S COMMITMENT TO YOU.



We take quality personally at Yaskawa. Our drives and servo packages offer the highest MTBF in the world. The relationships we have with our customers ensure mutual benefits. The partnerships we cultivate with our distributors add value to the way we work with you. We hire great people and continuously train them to be able to serve your needs better. We deliver product on time. It works out of the box. We answer questions promptly and never say, "we can't."

To us, quality means doing everything we can to make our customer, partner, and employee experiences great.

We commit to that philosophy every day. We make it happen. We can because, to us, IT'S PERSONAL.



DESIGN AND DEVELOPMENT

The First Step in New Product Design: Listening to the Customer

We gain a thorough understanding of the applications, the operating environment, the performance requirements, ease of use, and other customer expectations.

Our obsession with quality and reliability drives our design. It's planned just as carefully as the rest of the product. High reliability design targets are set based on decades of experience, benchmarking, customer input, and industry research. We thoroughly test the reliability of new technologies, the consistency of new materials and the failure rate of every component within a new product to be certain that we will achieve our reliability objectives.

Yaskawa products are tested not only under normal spec conditions but also for extreme environmental conditions.



Real World Testing

As a final step before release, Yaskawa drives and motion control products are installed in customer beta sites to perform application testing under actual conditions. Information learned during this process is incorporated into final product design before manufacturing begins. The result of this obsessive dedication to quality design – before we start to manufacture – is the certainty that we have it right. This process will improve performance, increase uptime, and lower cost of ownership.

Certifications

Yaskawa products are designed for use around the world, and carry agency certifications for all major geographic regions, including UL, CSA, TUV, CE, and C-Tick

Listening to the customer is the first, and most important step in our design process.



GLOBAL CERTIFICATIONS

Development QC Process

- Market and Customer Requirements (Product Plan)
- Product Plan/Review
- Conceptual/Detail Design
- Design Review
- Prototype Build
- Product Qualification (Test Plan/Review)
- Product Qualification (Test Result/Review)
- Production Preparation and (Manufacturing Quality Plan)
- First Article Inspection
- Product Release Approval
- Mass Production and Release

Testing/Qualification

During the product qualification test, Yaskawa conducts its own product qualification testing in its ISO certified test lab. Yaskawa products are tested not only under normal conditions, but also for:

- Extreme Temperature/Humidity
- Vibration
- Package Drop
- Input Voltage Tolerance
- Noise Immunity
- Electrical Insulation Stress
- Under/Over-Voltage Protection
- Momentary Power Loss
- Output Short Circuit Protection
- Power ON/OFF & Start up Iterations
- Overload Protection
- Ground Fault Protection
- Washdown Test
- Input/Output Phase Loss Test

OPERATIONS

Cost Control and Quality Go Hand in Hand

Providing a high-quality product actually lowers manufacturing costs. Lean processes, rigorous inventory control, less defects and waste, fewer returns, and minimal repair and replacement translate to reduced costs that enable Yaskawa to offer a superior product at a very competitive price.

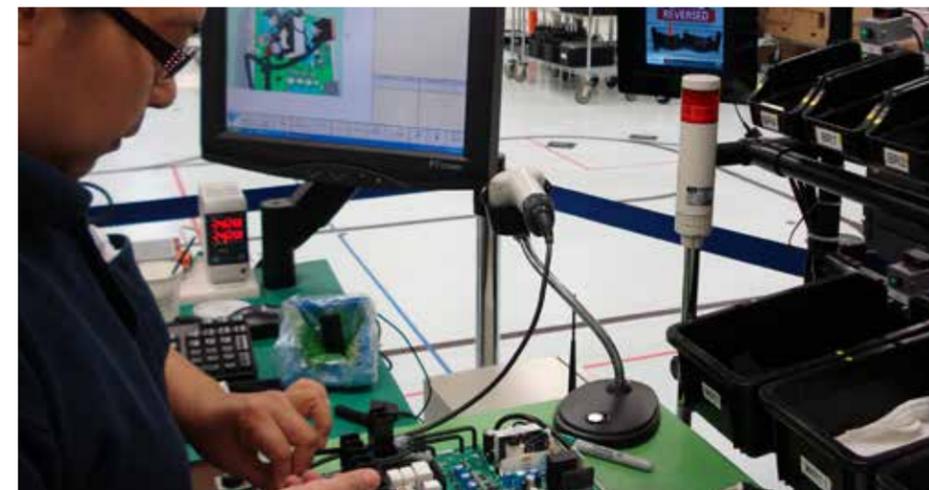
Kaizen: Continuous Improvement

Yaskawa has incorporated the Kaizen philosophy of continuous improvement into every facet of its operations. Kaizen literally means “change for the better”. Key elements of the process are teamwork, personal discipline, improved morale, quality circles, and suggestions for improvement from all levels of employees. The ultimate effects of the Kaizen process, elimination of waste and inefficiency, achieving discipline and standardization, mean that every day Yaskawa is improving the quality of its products while lowering costs.



Defect Prevention is the Key to Quality

Yaskawa manufacturing processes are designed to prevent defects. Production associates have paperless on-line resources at their workstations, providing highly detailed and up-to-date work instructions for every process step. Practice mechanisms are available in the Kaizen center for them to improve their assembly skills. Complex assemblies are made simple with the use of animations and video. All components are verified and approved before they are installed, and frequent in-process quality checks prevent a unit from moving down the line until quality is assured.



PAPERLESS WORKSTATIONS HELP TO PREVENT MANUFACTURING DEFECTS

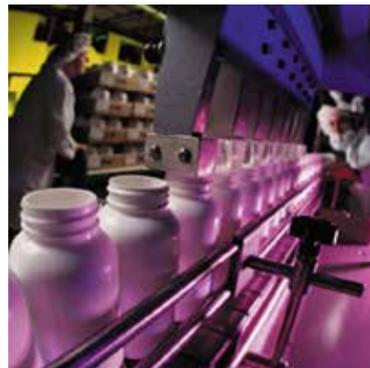
Our internal assembly failure rate is **0.01%** (assembly errors found in the actual assembly process)

The field assembly failure rate is **0.0062%** (assembly errors that are found after the product is installed in the field).

SALES AND APPLICATIONS

A Quality Sales Experience Requires a Knowledgeable and Responsive Sales Team.

A critical component of the Yaskawa Quality Experience is the relationship you have with the person who helps you through your Yaskawa purchase. More than just a salesperson, every Yaskawa sales associate is a highly trained applications specialist, certified on the products they support, experienced in the industries we serve, ready to assist you in achieving the best solution for your application.



Yaskawa Sales and Application Engineers are product and industry specialists.

They are certified and re-certified every 2 years to assure they can provide the best customer solutions.

“Yaskawa sales associates are experienced, certified problem solvers in the area of drives and motion control systems in the applications and the markets we serve. It’s our job to know what’s going on in your industry and your business so that we can deliver the lowest cost solution and the lowest cost of product ownership...”

Mike Knapek, President & COO, Yaskawa America, Inc.

Qualified Sales Channel

Since Yaskawa is represented in some markets by Authorized Distributors and other channels, it is equally critical that these third-party partners are properly qualified so that we can entrust our customers into their hands. They must earn their authorization by training and certification testing to be Drives and Motion Specialists.



DRIVES AND MOTION CHANNEL CERTIFICATION LEVELS

SERVICE AND SUPPORT

Our extensive network of local Authorized Service Providers are retested and recertified as new products are released to ensure that, should there be any problem with a Yaskawa product, there's someone close by, ready to respond, 24 hours a day, 7 days a week. And just to assure that our customers are up and running no later than the next day, Yaskawa offers a product repair and exchange program.

Customer Training

Full-time training professionals conduct regularly scheduled classes on product operation, startup, and troubleshooting.

Electronic Learning Modules can be downloaded from our website for those that need training but cannot commit to classroom time. Our "Roadshow" trainers bring our popular classes to various parts of the country.



Customer Satisfaction Surveys

To ensure that our support continues to receive the highest quality ratings for customer satisfaction, we conduct annual customer surveys. These surveys cover all facets of a customer's experience, but the predominant areas were after-sale support services and customer care. We present the results to every associate, and then assign improvement teams to issues, create action plans for improvement, get approval at the top management level, and monitor the results. The Yaskawa Quality Experience means that every point of contact that our customers have with Yaskawa has to be the best possible.

"Yaskawa is one of the few companies with a bona fide Customer Relationship Management program. It's an expensive investment but our customers' satisfaction and sense of family are part of the Quality experience we want to provide."

Dennis Fitzgerald, VP, Customer Satisfaction, Yaskawa America, Inc.



YASKAWA TECHNICAL SUPPORT LAB

Yaskawa is a proud three-time recipient of the NorthFace ScoreBoard AwardSM from Omega Management Group Corp. for excellence in customer service and support





Yaskawa is the leading global manufacturer of low and medium voltage AC inverter drives, AC servo systems, machine controllers, and industrial robots. Our standard products, as well as tailor-made solutions, are well known and have a high reputation for outstanding quality and reliability.

YASKAWA