

**CURTISS -
WRIGHT**



Farris Engineering

Aftermarket Services



Farris Authorized Service Team

Farris Provides Real Value...

With Farris, a trustworthy valve is only part of our promise. Farris provides customers with total pressure relief management solutions that support a facility's entire lifecycle, transforming the way you ensure plant safety:

Design using the power of iPRSM technology and our Farris Engineering Services team, correctly design your pressure relief system to respond to every overpressure scenario.

Equip your plant with Farris' full line of spring loaded and pilot operated PRV hardware, knowing your plant is protected by 70 years of manufacturing experience.

Monitor your overpressure events with the SmartPRV™ and leverage the technology of proven leaders, Farris and Emerson.

Maintain localized aftermarket service and repair assistance through the Farris Authorized Service Team – or “FAST” centers.

Audit our Farris Engineering Services Team and iPRSM technology will keep your pressure relief systems audited and in compliance.



...Behind Every Valve.

Farris Product Line



2700 Series

3800 Series

SmartPRV

2600 Series

6400/6600 Series

4200 Series

ASME Section VIII Pressure Relief Valves

**ASME Section I
Safety Relief Valves**



Equip

Farris' Aftermarket Mission is to provide industrial facilities with pressure relief valves, parts and services to keep their plants operating safely. Farris has built and developed a global network of competent and knowledgeable valve experts who will inspire confidence, educate and problem-solve to limit costly plant downtime.

Our Aftermarket network is comprised of an Aftermarket Team at our headquarters in Brecksville, Ohio, a global network of Farris Authorized Service Team (FAST) Centers, and Farris-owned and operated FAST Centers in the United Kingdom and Brazil. The Aftermarket Team carries out our mission by offering extended support and services through the following programs:

FAST Track

Farris provides quick ship valves and parts for all of our customer's planned and unplanned outages through our FAST Track program. We fulfill same-day and next-day orders from our Brecksville, OH facility where we have an extensive inventory of complete valves and parts to supplement the standard inventory available from our local FAST Centers. We also support our FAST Centers through optimized supply chain initiatives.

24/7/365 Emergency: Service, Supply & Support (eS3)

Farris helps FAST Centers and end users manage costly plant downtime by offering solutions for relief valve requirements that occur after-hours, on weekends or during holidays. Our Aftermarket team is available 24/7/365 to assist plants in identifying their local FAST center emergency technician and locating the required parts and inventory to bring a customer's plant back online.

Warranty Claims, Re-work and Credits

Quick, accurate resolution on all warranty claims, repairs and credits is a necessity to ensure that any plant continues to operate safely. We stand behind the quality of our

products and our Aftermarket team is available to ensure that all of your warranty claims are handled in an efficient and accurate manner.

Relief Valve Expertise

Farris Engineering understands the need for pressure relief valve expertise in all levels and areas of our organization and in the FAST network. Managed by our Aftermarket team, Farris offers multiple training programs throughout the year. To support our FAST program and the need for factory trained technicians, Farris offers Certification Training as well as Advanced Training educating valve technicians in both the theory and hands-on operation of relief valves. When needed, Farris is available to also provide maintenance training for end users.

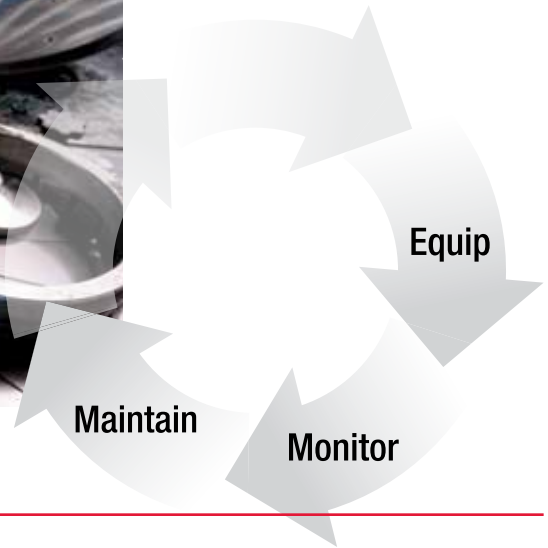
In addition to FAST certification, our annual training programs provide our sales personnel and representative staff with the knowledge and resources required to provide world-class customer service and technical support for Farris products.

ASME Certified Flow Test Lab

Farris Engineering is one of only a handful of companies in the world that maintains a National Board & ASME Accepted flow test

laboratory. This facility allows us to perform ASME required flow testing on air and water as part of the pressure relief valve certification process. In addition our laboratory is a crucial element in our product development process as it allows us to confirm critical valve performance requirements on new products. The laboratory is also used to support our customers by helping to diagnose installation and special application problems.





FAST Network

Farris Engineering has developed an impressive global network of Farris Authorized Service Team (FAST) Centers. These independently owned and operated valve repair facilities are ASME and VR certified (where required) with Farris trained technicians. Our FAST Centers are customer focused, provide asset management solutions that keep plants safe, and deliver overall peace of mind. Our FAST Network will give you confidence that your valve will function properly during an overpressure situation.

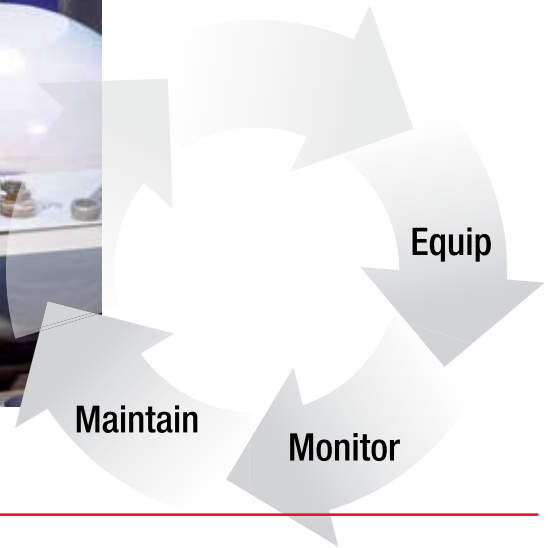
Our FAST Centers have the ability to:

- Provide local inventory
- Diagnose and solve your pressure relief valve problems
- Track and manage maintenance and repair history
- Reduce plant downtime with local service, inline testing and field service capabilities

Inventory X-change

FAST Centers upload and share their inventory data through the Farris Inventory Xchange Program. This program gives all Farris representatives and FAST centers access to all inventory held by the FAST network. This includes over \$50 million in pressure relief valves and parts available for quick shipment through our FAST Centers and the Farris Factory.

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FAST Center Capabilities

Responsive. Farris Engineering and its FAST Centers understand the need to quickly and efficiently respond to customer needs.

- **Global Access** - FAST Centers work with and in our extensive representative network, providing support to all global regions.
- **24/7 Valve Service and Replacement** - FAST Centers offer quick, localized testing and repair of valves, or the prompt installation of new Farris ASME certified valves.
- **Mobile Repair Units** - Available at select FAST Centers.



Experienced. Farris Engineering recognizes the value of having pressure relief valve experts as close to the customer as possible. This is accomplished through comprehensive training offered at the factory or on-site. FAST Center sales personnel and technicians are able to provide valuable experience to their customers.

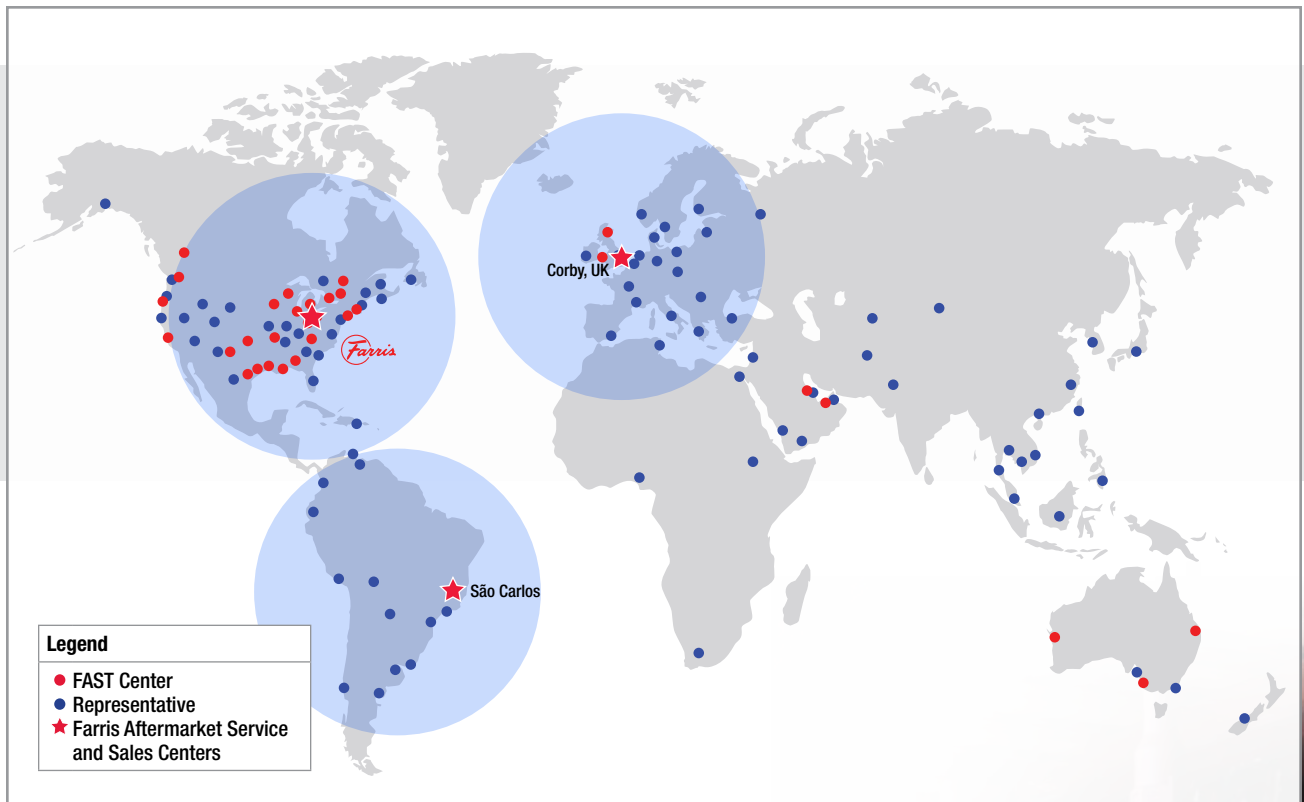
- **Valve Expertise** - Every FAST Center is technically supported by Farris Engineering, a leader in valve design.
- **Factory Trained Technicians** - FAST technicians go through mandatory training consisting of classroom lecture and hands-on practical instruction on Farris Engineering pressure relief valves, repair procedures and applicable codes and standards. The result is a team of highly skilled technicians capable of handling both routine and complex pressure relief valve requirements around the world.
- **OEM parts** - FAST Centers use only OEM parts, restoring valves to OEM specifications. All valves are assembled and tested to ASME standards.

Dedicated. FAST Centers have committed to large investments in inventory, equipment and certifications to better support the customers in their territory.

- **Local Inventory** - Every FAST Center carries a large inventory of new pressure relief valves and spare parts, backed by a web-based global inventory to draw from.
- **ASME Certification** - FAST Centers carry all the required certifications to assemble, set and test Farris valves.
- **VR Certification** - FAST Centers have VR certification issued by The National Board of Boiler and Pressure Vessel Inspectors to effectively and efficiently repair all pressure relief valves where applicable.



FAST mobile repair unit



Farris' Aftermarket Service and Sales Centers

Located in Corby, U.K. and São Carlos, Brazil, our aftermarket service and sales centers provide the same local service as a FAST center with the ability to assemble, set and test valves. Each facility also holds large inventory of new pressure relief valves and spare parts. Both facilities hold ASME, ISO and VR certifications and have Farris trained technicians and sales staff.

Additionally, these locations are satellite sales offices offering technical and commercial support to their local region. Our sales staff, fluent in local languages, can support representatives and end users in quoting day to day and project orders.



Farris Engineering Products and Services

Process Pressure Relief Valves – ASME Code Section VIII

Series 2600	ASME NB Certified for Air and Steam
Series 2600S	ASME NB Certified for Air and Steam
Series 2600L	ASME NB Certified for Air, Steam and Water
Series 3800	ASME NB Certified for Air, Steam and Water
Series 2700	ASME NB Certified for Air, Steam and Water
Series 1890 / 1896M	ASME NB Certified for Air, Steam and Water

Steam Safety Valves – ASME Code Section I & VIII

Series 4200	ASME NB Certified for Steam
Series 6400/6600	ASME NB Certified for Steam

Nuclear Pressure Relief Valves

Series 4700/4700L	ASME NB Section III, Division 1 Class I, II & III
Series 2700/3700	ASME NB Section III, Division 1 Class I, II & III
Series 2600/2600L	ASME NB Section III, Division 1 Class I, II & III
Series 3800	ASME NB Section III, Division 1 Class I, II & III

Changeover Valves

Series 320B & 370B

Certifications and Approvals:

- ASME V, UV, NV and NPT
- National Board Approval, NB
- ISO 9001-2008
- PED 97/23/EC (European Pressure Equipment Directive)
- ATEX 94/9/EC (European Potentially Explosive Atmospheres)
- CSA B51 (Canadian Registration)
- CSQL (China Safety Quality License)
- Russian GOST-R Certification and RTN Permit
- US Coast Guard
- Nuclear - 10 CFR 50 Appendix B, NCA-4000, NQA-1, N285.0
- First Point Assessment Limited

FAST Centers (Farris Authorized Service Team)

- Worldwide Network of Service Centers with Factory Trained Technicians
- Local Inventory and Support, 24 Hours a Day, 7 Days a Week
- Access to Worldwide Farris Inventory through the Web
- ASME/National Board Approved Assembly, Repair & Test Facilities
- Application, Sizing & Selection Support

SizeMaster™ Mark IV

Pressure Relief Valve Engineering Software for Sizing and Selection

PSM Engineering Services

- Pressure Relief System Design Services
- Pressure Relief System Audit Services
- iPRSM Pressure Relief System Management Software

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Facilities: Brecksville, OH, USA; Brantford, Ontario and Edmonton, Alberta, CA; Corby, Northants, UK; São Carlos-SP, Brazil; Tianjin, Beijing, China; Delhi, India

Offices Worldwide: For a listing of our global sales network, visit our website at www.cw-valvegroup.com/farrisdistributors.

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