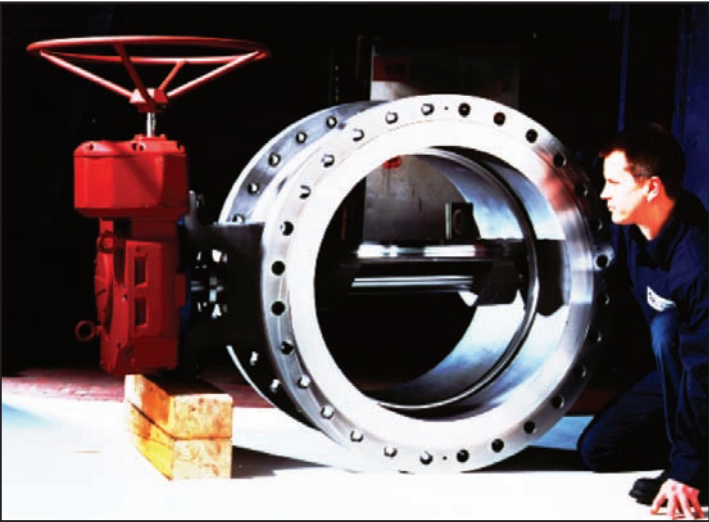


**AFTERMARKET PRODUCTS AND SERVICES**

Excellent  
Power & Industrial  
Solutions



**Weir Valves & Controls USA Inc.**  
**Specialists in Valve and Flow Control Equipment for Over 100 Years**

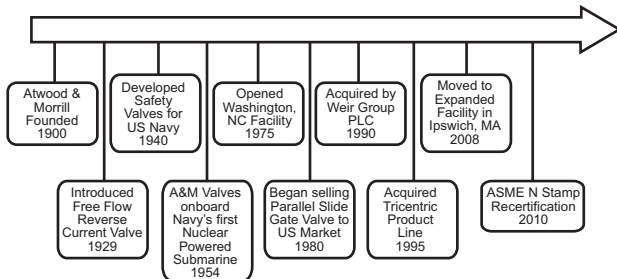
## WVC USA Aftermarket Products and Services

### Corporate Overview

Founded in 1871 by two brothers, George and James Weir, the Weir Group PLC has evolved into a global leader in the design, manufacture and aftermarket service of a wide range of flow control products and rotating equipment - valves, pumps, and hydro/steam turbines. Headquartered in Glasgow, Scotland, Weir employs 9,000 globally, and is organized into three principal operating groups; Weir Minerals, Weir Oil & Gas and Weir Power & Industrial.

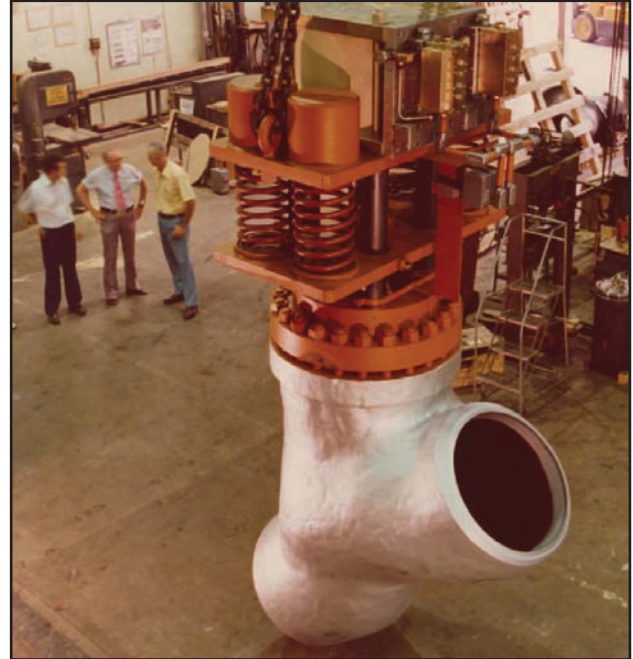


### Milestones in our Growth



### Focus on Aftermarket Products and Services

While maintaining a global leadership position in supplying new products for a wide range of power, refining, chemical and process projects worldwide, Weir also maintains a focus on supporting those products and industries in the aftermarket. Whether it be spare/replacement parts, engineering/technical support, replacement components or repair/modification of equipment, Weir brings a unique array of products, services and talent to our aftermarket customers, focused on problem solving and process optimization.



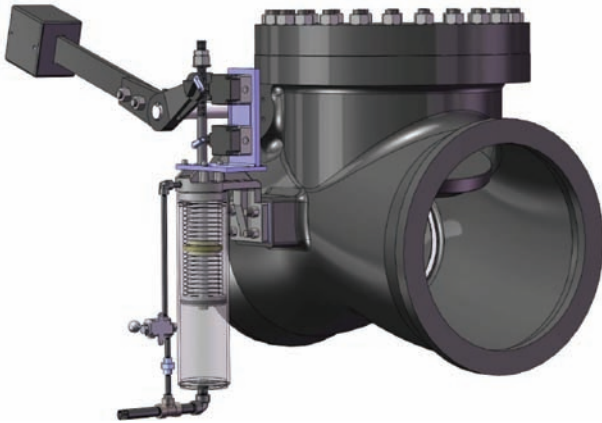
PWR Main Steam Isolation Valve

### WVC USA in the Aftermarket

As a business unit of Weir Power & Industrial and a primary designer and manufacturer of valves and controls for a wide range of industrial applications, WVC is equally involved in the support of the products that we manufacture in the aftermarket. With manufacturing/service facilities in the U.S., U.K., Canada, China and France, we are uniquely positioned to provide prompt, comprehensive aftermarket support to global users of our products, whether they are installed in commercial, nuclear or government (Naval) applications.

These support products and services include:

1. Spare and Replacement parts for manufactured products
2. Replacement valves
3. Technical support for the maintenance, repair and modification of our products, including engineering (design and application) and other product support services
4. Maintenance, repairs and modifications of/to the valves we manufacture.



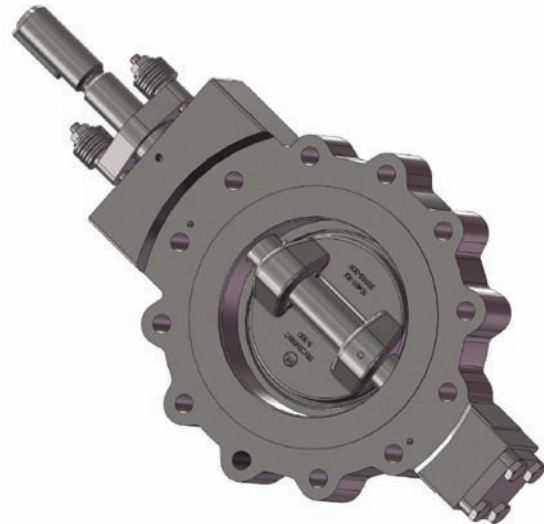
*FREE FLOW REVERSE CURRENT VALVE®*

One of the keys to a world class service organization is trained, qualified personnel. At WVC, we pride ourselves on the ability of our employees to recognize application issues and provide prompt, cost effective solutions. With years of industry experience in fossil, combined cycle, nuclear, refining, petrochemical and Naval applications, we stand ready to address your unique flow control needs.

At WVC, it all begins with a separate service group focused on the aftermarket, individually chosen for their experience, expertise and drive to solve problems and service the customer. It continues with a best in class tradition, derived from the pursuit of excellence in the design and manufacture of industry leading valves and carried over to people dedicated to prompt and comprehensive service of Weir's installed base of products. It ends with the realization of our goal, Customer Satisfaction.



**Safety:** As part of Weir Group, WVC has adopted a behavioral system known as SAFESTART, which has been rolled out to all of our operations. All new employees are given this training as part of their induction.



*TRICENTRIC® Butterfly Valve*

WVC carefully evaluates risks to personnel wherever they are working and we take appropriate steps to minimize such risks. These include ensuring that project design engineers consider design factors that minimize or eliminate the risk of accidents to personnel during site installation and commissioning. We comply closely with local legislation governing health and safety at work and conduct regular structured health and safety audits at all manufacturing sites. Formal reporting procedures have been implemented so that our safety performance is monitored. Weir Group conducts peer-to-peer audits to provide a critical assessment of each company's performance. We also meet the following certifications:

Quality Management System Standard: **ISO 9001:2008**

Environmental Management System Standard: **ISO 14001:2004**

Occupational Health & Safety Management System: **OHSAS 18001:2007**

As in our manufacturing plants, safety is a key consideration in our approach to the service business. We work hard to achieve compliance with federal, state and local

mandates, strictly adhering to the specific location requirements of our Customers. WVC consistently has an EMR rating below 1.0.



Parallel Slide Gate Valve

## Spare and Replacement Parts

It stands to reason that WVC provides comprehensive support for the industry leading valves that we design, manufacture and supply to various end user markets. What is unique is the focus, intensity and professionalism with which we do so.

The Service Group at WVC is dedicated to the quotation, determination of suitability for service, and administration of spare/replacement parts orders. With well over 100 years of combined valve service experience and a shared passion for customer service, this team has achieved an industry reputation for service excellence.

The pedigree of replacement parts is vital to the safe operation of the valve. Selecting the proper materials, adhering to dimensional tolerances, and proper installation are all

obvious considerations. However, valve manufacturers may also employ special processes (e.g. heat treatment, NDE, specialized welding/machining techniques and installation methods) to enhance product performance. We fully endorse the Valve Manufacturers Association recommendation to use parts supplied by the original equipment manufacturer.



1-877-411-WEIR (9347)

## Rapid Response Program

Over the years, we have received consistent feedback as to the availability of parts for the products that we manufacture. Our best efforts to maintain parts and raw materials inventories, while improving service levels, have still not completely met the expectations for some of our valued customers. In order to more comprehensively address this issue, WVC has implemented a "Rapid Response Program." This program has been structured to provide:

1. 24/7 response window for inquiries and emergency outage requirements
2. Expansion of in-house capabilities to mitigate reliance on subcontractors
3. Expanded inventory of purchased spare parts and raw materials
4. Dedicated staff, including engineering, procurement, sales & manufacturing personnel.
5. Streamlining of order entry to shorten time of manufacturing
6. Focused management/supervision



### Technical Support for Installed Products

Over the course of time, valve mating/seating surfaces, various mechanical connections, non-metallic parts, and other aspects of valves subjected to the effects of use will begin to wear. Although WVC designs for optimal service life (we have valves operating over 65 years that are still providing excellent service), there will eventually be the need for replacement parts, service, or in the worse case, replacement valves. This, coupled with (mis-) application issues that result in premature wear and/or changes in operating conditions, give rise to the need for **technical support**.

These support activities include evaluating the condition of the installed product, determining root cause of issues that might arise, providing solutions consistent with customer's goals, and feeding back this information to WVC engineering for the purpose of evaluation and addressing these issues in new product designs.

Such support is provided by the Service Group in Ipswich, and may include various elements of the WVC organization, including engineering, manufacturing, procurement, QA/QC and/or the utilization of WVC's Technical Representatives.

WVC's Technical Representatives have carved a reputation in the industry as application experts, with a keen insight into identifying causative agents and implementing prompt, cost effective solutions. With an average experience level of 20+ years, their focus is to get the plant safely back on line.

The various functional roles that the Technical Representatives play include:

1. Evaluating and proposing corrective action for a malfunctioning valve
2. Supervising the proper installation, repair and/or modification of valves
3. Managing/supervising a field crew made up of valve repair technicians

4. Evaluating and recommending a solution for a problem application.
5. Acting as a liaison with WVC engineering, procurement, sales, manufacturing and/or QA/QC.



*Crating a Motor Operated TRICENTRIC® valve*

Over the years, we have developed a library of Sales & Technical Bulletins to address common repair and maintenance issues encountered in the field. Individual Bulletins can be downloaded from our website [www.weirpowerindustrial.com](http://www.weirpowerindustrial.com) or you may request a bulletin booklet hard copy by phone or email.

Instruction Operation Manuals for our valves are also posted on the website or may be requested from our Service Department.

### Replacement Valves and Associated Controls

When it is not possible to solve issues that arise by replacement of parts or repairs/modifications to the valve, WVC is more than capable of providing new valves for a variety of applications. Materials of construction, manufacturing methods, design capabilities and technology evolve and change. What was difficult 20 years ago is now done on a routine basis.

We are constantly working to incorporate the advances in these disciplines into the products that we design and manufacture. At the same

time, we are able to better reconcile these advances and technologies with your operating conditions, so that replacements will provide enhanced service over a potentially longer period of time.

WVC designs and manufactures the ATWOOD & MORRILL® brand products, including:

1. FREE FLOW REVERSE CURRENT VALVES® for turbine steam extraction applications
2. Parallel Slide Gate Valves for steam and other high pressure (HP) isolation
3. Wye Stop, Stop Check and Elbow Down Globe Valves for steam and other HP isolation
4. TRICENTRIC® Triple Offset Butterfly Valves for liquid, low pressure steam, air/gas isolation
5. Compressor Check and Swing Check valves for power, refining, and other oil and gas applications

WVC may also supply from the other Weir family valve manufacturers, including Hopkinsons gate and globe valves, Batley butterfly valves, Blakeborough control valves, and pressure relief valves manufactured by Sebim and Sarasin.

All valves are manufactured in accordance with our ISO 9001:2008 quality system. WVC possesses the ASME N/NPT Certificates of Authorization for valves in nuclear applications.



BWR MSIV

WVC Commercial Service Crews offer:

- Valve supervision & management with extensive product knowledge
- Experienced work force
- Three complete mobile tooling pods
- Turn key machining & welding services
- Install Modifications
- Supplement site staffing
- Assure work meets OEM specifications



Mobile Tooling Pod

### Repairs and Modifications to Valves

It is obvious that the organization most qualified to repair or propose modifications to installed valves is the organization that originally designed and manufactured them. As to our qualifications to perform these activities, WVC adds years of experience in the repair of our valves (and our competitor's valves) in both shop and at field locations. Whether at a fossil power station, a refinery, a nuclear power plant or a pulp & paper mill, Weir stands ready to restore valves to operating conditions equivalent to new valves.

One of the keys to best in class repair activities is trained, qualified supervisors and technicians. We take pride in carefully screening, selecting, training (both initial and updates), and assigning technical representatives and technicians qualified to manage, supervise and perform repairs and modifications included in the particular scope of work.

Standard scopes of repair include:

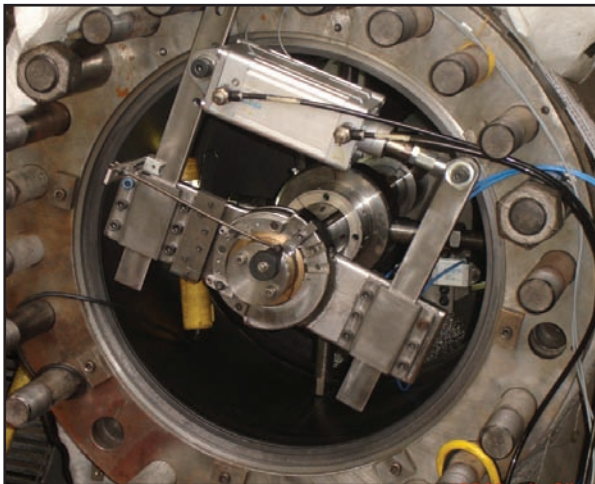
1. Disassembly, inspection, repair as required, reassemble, test
2. Replacement of stems, discs, poppets, packing, gaskets (inc. pressure seals) and other standard wear items
3. Installation of modifications
4. Field grinding/machining of wear surfaces

### **Skilled Welding and Machining Capability**

WVC has partnered with several industry leading organizations to expand our standard service offering to include remote, robotic welding and specialized machining.

Services include ASME Section IX and XI welding, steam cut erosion repair, seat replacement, guide rib excavation, weld repair & finish machining and complete new valve installation.

Large bore valves are our specialty. Main Steam Isolation, Free Flow Reverse Current, Parallel Slide Gate, 3-Way By-Pass, Compressor Discharge Check, Trip Throttle & Feedwater Check are some of the valves we manufacture and service.



*Field Machining/Welding of MSIV Body*

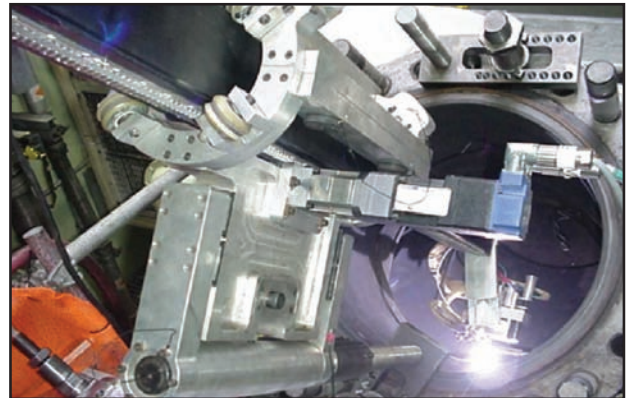
### **Modifications to Existing Valves**

Product application experience breeds performance enhancing modifications. Drawing from our vast experience in product

support, WVC is continually developing new performance enhancing modifications for our installed base. Examples of these include:

- Main Steam Isolation Valves
- Free Flow Reverse Check Valves
- Feedwater Check Valves
- 3-Way By-Pass Valves
- Trip Throttle Valves

Contact the WVC Product Service Department to further explore field modifications to enhance valve performance and life.



*Application of Alloy 21 to an MSIV Guide Rib*

### **Training**

In 2008 WVC purchased a state of the art manufacturing facility in Ipswich, Massachusetts. This new facility has enabled WVC to provide training to customers on all of its product lines. The training consists of classroom activities along with hands-on training. WVC also performs training at customer sites. Contact the WVC Product Service Department for details on in house or on site training.

In conclusion, WVC prides itself on customer satisfaction and providing its customers with world class services and manufactured parts. If you are interested in utilizing WVC's service crews or service representatives please contact the Product Service Department at 978-744-5690.

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WVC USA, Ipswich MA



WVC USA, Washington NC

**ATWOOD & MORRILL®**

Engineered Isolation & Check Valves

**BATLEY VALVE**

High Performance Butterfly Valves

**BLAKEBOROUGH**

Control & Severe Service Valves

**HOPKINSONS**

Parallel Slide Gate & Globe Valves

**SARASIN-RSBD**

Pressure Safety Devices

**SEBIM**

Nuclear Valves

**TRICENTRIC®**

Triple Offset Butterfly Valves



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(8 am to 4:30 pm EST)

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(after hours & weekends)

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