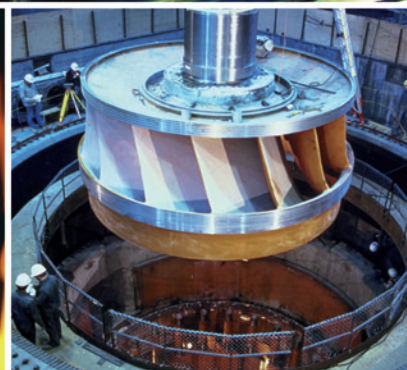


# Whittaker Controls

## Industrial Turbine Control



Capabilities

excellence

precision

**MEGGITT**  
smart engineering for  
extreme environments



# Employing the latest advances

Since its founding in 1942, Whittaker Controls has provided leadership in every significant aspect of aerospace and industrial fluid control technology.

The valves and subsystems produced by the company since its inception, number in the thousands, each a unique, engineered product. This experience guarantees our customers the most appropriate solution to their fluid control challenges.

Today, as a subsidiary of Meggitt PLC, Whittaker continues to produce and support fuel, hydraulic, and pneumatic products for nearly every aircraft and industrial gas turbine in the free world.

Provided leadership  
in every significant aspect





# Driving toward high technology

Our industrial gas turbine control products are a derivative of our renowned aerospace technology. We have pioneered the application of many state of the art technologies in this industry including the use of electric and digital controls for gas turbine fuel metering. By driving toward high technology, low cost solutions with a sharp focus on continuous improvement, Whittaker Controls has set itself apart from other suppliers.

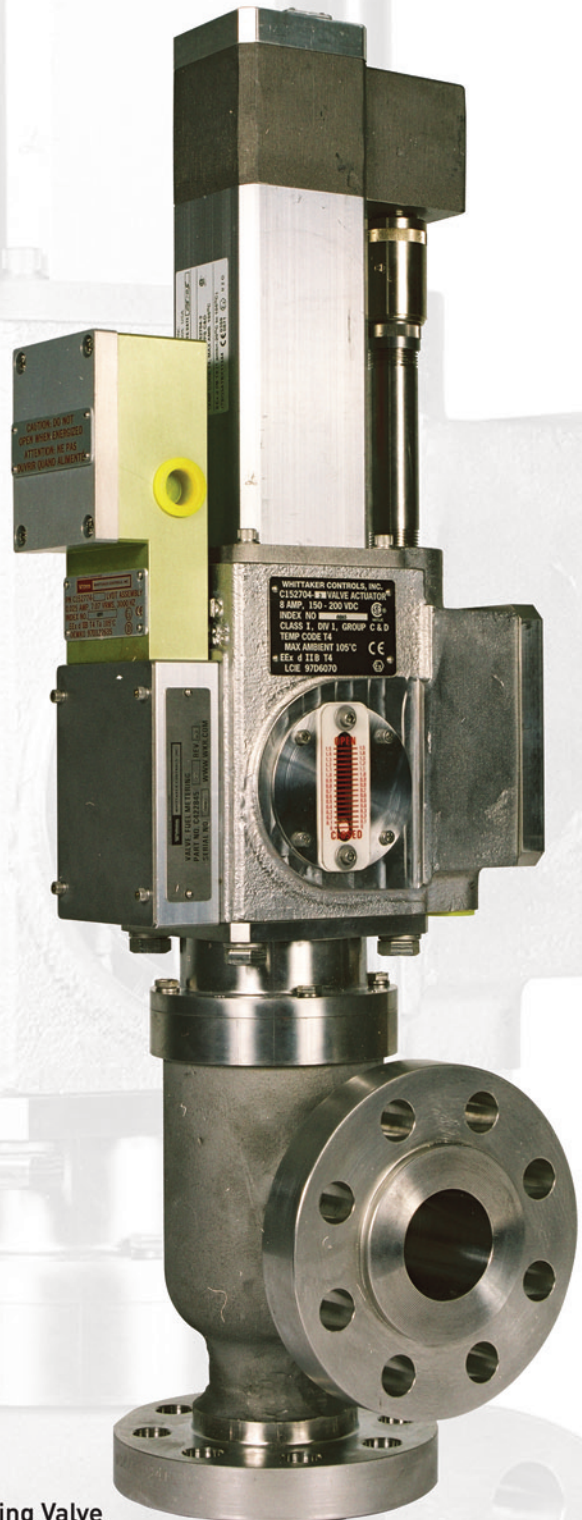
Headquartered in North Hollywood, California, Whittaker offers a unique advantage to its industrial customers; the responsiveness and versatility of a dedicated engineering and manufacturing organization, backed by the solid financial resources necessary to bring a customer's solution to market quickly.

While reliability is designed into Whittaker's turbine control products, we also understand that quality must be built in. Whittaker employs the latest advances in lean manufacturing and continuous improvement to ensure that all products are delivered exactly to the customer's specification with uncompromised quality.



## Responsiveness and versatility of a dedicated engineering

Aeroderivative Electric Metering Valve





# Continuous improvement

Six Sigma is a philosophy of continuous improvement focused on reducing process variation and increasing the robustness of product designs. This philosophy not only guides our manufacturing and quality operations, it also permeates the entire organization from top to bottom and in each functional department.

Whittaker's advanced in house engineering and test capabilities equate to fast turnaround times from initial customer contact through shipment of qualified hardware. Whittaker understands that in today's industry, the ability to respond quickly and to create value while continuously improving is the key to competitive excellence. Our broad technology base allows us to significantly reduce the time to market for standard and custom products, which are designed to provide the lowest cost of ownership.



Advanced in house engineering  
and testing capabilities





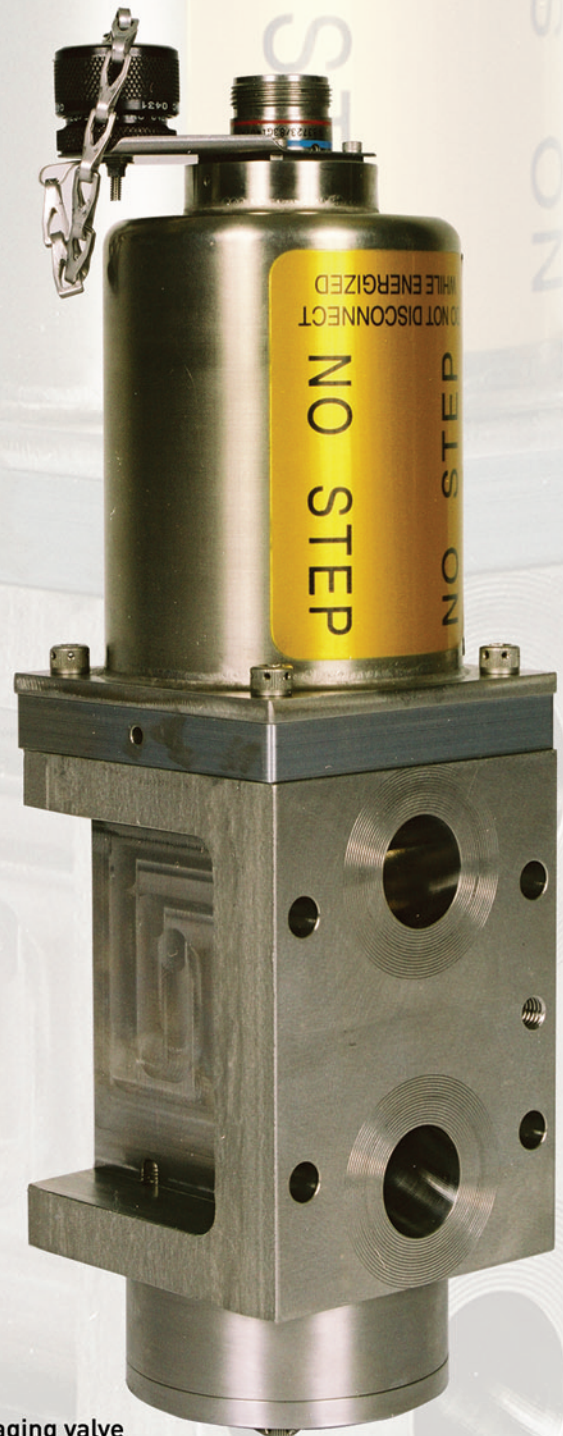
## Remaining a leader in this industry

The driving force behind our ability to remain a leader in this industry is our commitment to ongoing research and development in the field of hydraulic, pneumatic, electronic, and servo control systems. Whittaker focuses its resources on developing and improving key core competencies such as valve and actuation technologies that are compatible with the industry's leading control systems. Our R&D programs focus squarely on finding new ways to add value to our customer's businesses.

Whittaker's experienced design and application engineers work closely with original equipment manufacturers and end users to develop hardware solutions that meet the customer's need and that provide superior performance. This close partnership with the customer is the primary strength of the Whittaker business approach. By putting the customer side by side with the Whittaker design team, we ensure that all requirements are met.



Developing and improving  
key core competencies



Burner staging valve



## All sizes of industrial gas turbines

Whittaker manufactures a complete line of modulating bleed air control valves including, inlet bleed heat, thrust balance, anti surge, compressor bleed scheduling and dual fuel gas blowoff valves.

Hydraulic, pneumatic and electric actuation is available with temperature capabilities ranging up to 1200° F.

Whittaker's extensive experience with aircraft engine bleed air applications has made us a recognized authority on the development of robust air control valves for the harsh environments in which industrial gas turbines operate.

In the drive toward low NOX emissions and decreased fuel consumption for all gas turbines, Whittaker Control's range of high precision fuel metering valves continue to lead the way in providing turbine manufacturers with the most accurate and precise fuel delivery systems currently available.



Robust controls  
for extreme environments

Water injection valve



## High performance solutions

On DLE applications (2 to 5 combustor paths) that require detailed flow mapping, Whittaker electric metering valves achieve accuracies of better than 2% of point. Whittaker's electric metering valves have an accumulated life of over 5 million hours on aeroderivative and large frame turbines.

Valve actuation for both base and DLE is accomplished with either electric servo motors or hydraulics.

Other applications include high speed shut off, burner staging and water injection valves.



Precision fuel delivery





# Intergrated valves and actuators

For over fifty years, one of Whittaker's key core competencies has been valve design and manufacturing. We have accumulated one of the largest collections of active valve designs in the industrial and aerospace industries.

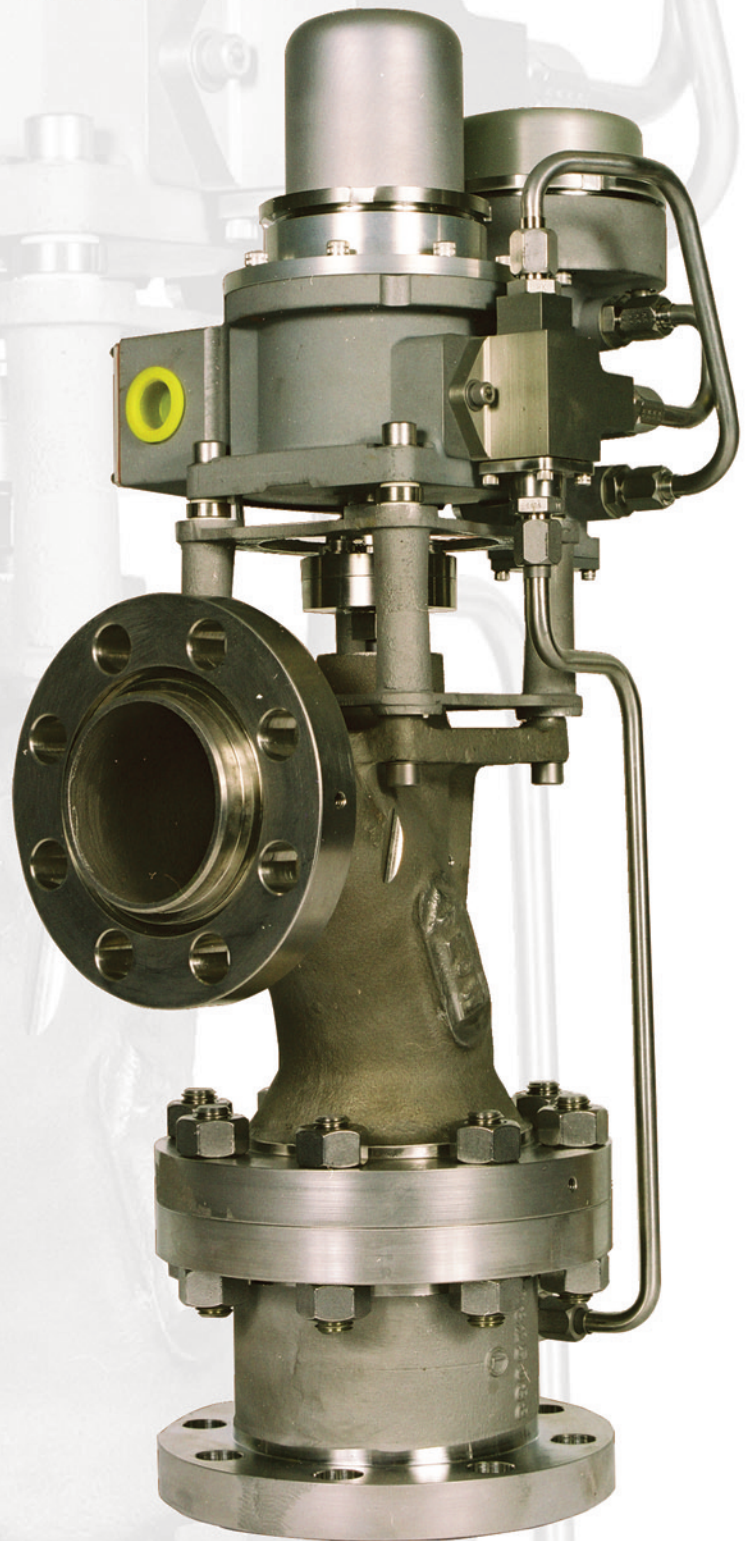
Our robust designs address a wide range of fluids (fuel, gas, bleed air, etc.) and environmental characteristics ranging up to 15,000 psi and up to 1200° F.

Performance, long life, low cost of ownership, and ease of maintenance are all trademarks of Whittaker valves while our attention to parts commonality and interchangeability always ensures the customer the most value for their money.

Whittaker's actuation capabilities are well proven in the industry. Our qualified designs include hydraulic, pneumatic and electric actuators operating on a variety of gas turbine platforms.

Further, Whittaker was a pioneer and is now the industry leader in the application of electric servo actuators to gas turbine valves. Our electric, hydraulic and pneumatic valves have accumulated many millions of field operating hours on small frame, aeroderivative, and large frame gas turbine packages.

Our philosophy of balancing valve loads for the lowest actuation forces possible always ensures the customer the most compact and reliable package available.





# Customer support

Adding value  
through product support



Whittaker Controls products are supported from facilities and offices in the US, Asia, and Europe, thus ensuring technical and logistic issues are addressed in the shortest possible time.

Regionally stocked rotatable pools enable us to respond rapidly to any scheduled or unscheduled turbine shut down on a worldwide basis.

Comprehensive product support programs can be customized for OEMs and operators and the Whittaker engineering team is readily available to support fuel and bleed air system CM&U retrofits.







# Whittaker Controls

Whittaker Controls is a Meggitt group company.

Headquartered in the United Kingdom, Meggitt PLC is an international group operating in North America, Europe and Asia. Known for its specialized extreme environment engineering, Meggitt is a world leader in the aerospace, defense and electronics industries.

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