

Empowering The Sugar & Power Industry



aryan boilers

www.aryanboilers.com



PHILOSOPHY



CORE COMPETENCIES

Our core competencies lie in our team of highly qualified, experienced, and dedicated staff members. Supported by our well-structured infrastructure within our factory premises, we boast strong engineering, production, and quality control departments.



VALUES

Our values are rooted in commitment, reliability, and credibility. We are dedicated to creating value for our customers and fostering innovation across the entirety of our company.



ABOUT US

Welcome to Aryan Boilers Pvt Ltd, where excellence meets innovation. Established in 2014, our commitment to quality has earned us ASME "U" & "S" certification along with ISO 9001:2015. Rooted in the ancient language of Sanskrit, "Arya" signifies nobility and majesty, embodying our dedication to providing noble equipment for the industry.

As pioneers in the field, we stand as one of India's premier manufacturers of commercial and industrial boilers, specializing in solutions for sugar plants and distilleries. Our mission is simple yet profound: to deliver high-quality, efficient machinery at competitive prices, all while ensuring unparalleled customer service.

At Aryan Boilers, we don't just meet standards; we set them. Join us on a journey of innovation and excellence, where every product bears the hallmark of our unwavering commitment to quality and customer satisfaction.





CUTTING EDGE TECHNOLOGIES

Amidst India's burgeoning industrial landscape, the surge in demand for streamlined production processes is undeniable. Addressing this surge with utmost precision, we offer cutting-edge technologies that redefine energy efficiency and reliability, particularly in pivotal sectors such as sugar plants, distilleries, cement factories, and chemical plants, where the utilization of steam is indispensable. Our focus on sustainability ensures that our boilers not only meet market standards but surpass them, delivering unparalleled efficiency.

KEY DESIGN FEATURES:

Our expertise lies in the design of single drum, high-pressure, multi-fuel boilers—an area where we excel. These exceptionally efficient boilers have garnered remarkable success, especially within the sugar industry, revolutionizing power generation. Engineered to accommodate a wide array of bio-wastes as fuel, as well as various coal types, including reclaimed coal, our boilers stand as the cornerstone of green energy generation, solidifying their status as indispensable assets in today's pursuit of sustainable industrial practices.

FIRE CAD

We take immense pride in introducing Fire CAD - Boiler Design Software, a groundbreaking innovation crafted by our esteemed Director (Technical), whose expertise has shaped over 200 exceptional boilers. This pioneering software stands as a beacon of excellence, embraced by renowned steam boiler manufacturers and esteemed engineering consultants worldwide. Its widespread adoption underscores its unparalleled quality and effectiveness, affirming our unwavering commitment to engineering excellence and global leadership in the industry.

ADVANTAGES OF FIRE CAD

Fire CAD stands as a renowned software widely employed in the design of various boiler types. Crafted by Mr. Narasimha Patrudu, Director and stakeholder at Aryan Boilers, this software has undergone rigorous testing and has been utilized for over two decades by esteemed boiler manufacturers and consultants across 30 countries. With FireCAD, we can efficiently design and optimize energy-efficient boilers, ensuring their high-performance across various loads with confidence.





PRODUCT & SERVICES

Aryan Boilers stands as a renowned figure in the realm of sugar plants, sugar refineries, and ethanol units, boasting a wealth of expertise garnered from both domestic and international ventures. Our commitment to excellence is exemplified through turn-key services tailored to meet the needs of our esteemed clientele, all delivered with a focus on competitive pricing and expeditious project completion.

With a comprehensive product portfolio, Aryan Boilers is well-equipped to undertake turn-key projects on both local and global scales. From conceptualization to design, engineering, and manufacturing, we possess the proficiency to seamlessly execute every phase of the engineering process. Our track record speaks volumes, ensuring the uninterrupted delivery of steam power in a flawless manner for large-scale projects.

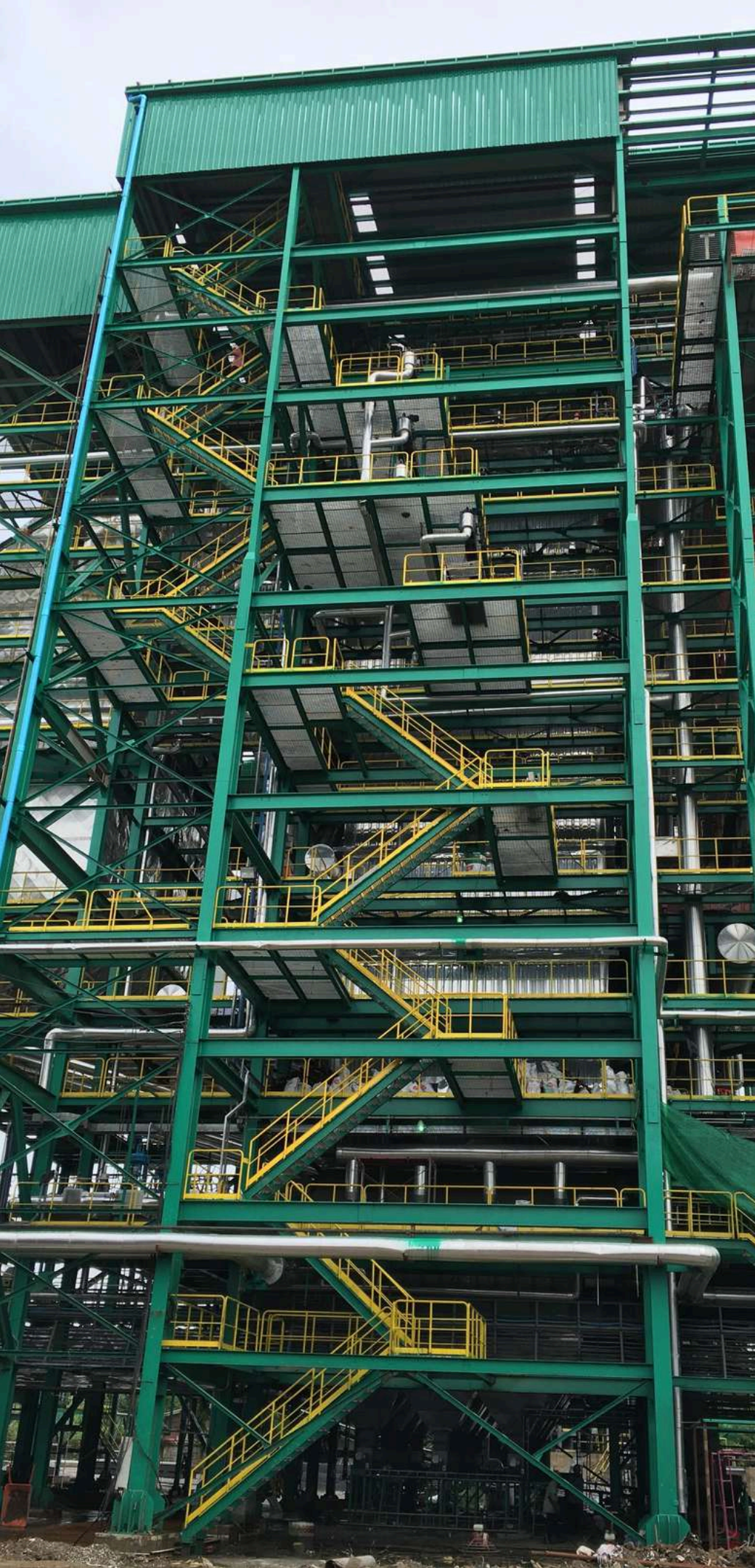




COMPLETE SUGAR AND COGEN PLANTS

At Aryan Boilers, we specialize in the construction of comprehensive sugar and cogen plants. With our robust manufacturing and execution capabilities, we can handle projects of up to 7,500 TCD capacity. Notably, we've already achieved success in designing and deploying a roller mill measuring 45" x 90", showcasing our expertise in this field.

Moreover, our engineering division has achieved a remarkable feat by developing one of the world's largest biomass traveling grate boilers, boasting an impressive capacity of 250,000 kg/hr with 50 MW power generation capability. This underscores our commitment to pushing the boundaries of innovation and engineering excellence in every project we undertake.



STEAM GENERATORS

Aryan Steam Generators stands at the forefront of Single Drum Boiler technology, pioneering advancements that redefine industry standards. With a proven track record, we have successfully engineered and implemented boilers ranging from 20 TPH to 250 TPH, catering to diverse sectors including sugar mills and power plants.

Our extensive product range encompasses:

- Biomass Boilers on Travelling Grate, reaching capacities of up to 300,000 kg/hr at 125 bar and 540°C.
- FBC Boilers with capacities up to 200,000 kg/hr.
- CFBC Boilers capable of handling up to 400,000 kg/hr.
- Oil/Gas Fired Boilers with capacities up to 200,000 kg/hr.
- Waste Heat Recovery Boilers tailored for Sponge Iron Plants and Cement Plants.
- MSW Small Package Oil/Gas/Coal Fired Boilers starting from 5,000 kg/hr.
- Cogen Power Plants and Captive Power Plants, supporting biomass fuels, with capacities of up to 75 MW.
- Versatility in firing options, including Coal, Oil, and Gaseous fuels.

With Aryan Steam Generators, innovation meets reliability, ensuring optimal performance and efficiency across a diverse range of applications.



SUGAR CANE MILLS & CANE PREPARATION EQUIPMENT

- Engineered for peak performance efficiencies, our mills set industry standards.
- Utilizing antifriction bearings on all carrier shafts, we minimize wear and tear, ensuring longevity.
- Featuring a unique chain tightening arrangement, our rake elevator and inter-rake carriers are built for reliability.
- Our vertical set, king boltless type design incorporates a push-pull screw mechanism, facilitating quick and effortless adjustment and operation.
- With robust head stocks designed to accommodate larger roller diameters, our mills prioritize durability.
- Easily adaptable for future expansion, our mills can seamlessly integrate pressure feeders, ensuring scalability and versatility.



SINGLE DRUM BOILERS

At Aryan, our Single Drum Boilers are engineered for responsiveness to load changes, operating with unrivaled efficiency and optimized design. With multi-fuel capabilities, they offer versatility to meet diverse needs. Leveraging the vast experience of our engineering and project teams, we deliver bespoke boiler solutions tailored to your project's requirements, ensuring optimal performance and reliability.

FEATURES

1. Simplified construction when compared to bi-drum boilers.
2. Enhanced residence time facilitated by a towering furnace.
3. Expanded economizer for maximized heat extraction from flue gases.
4. Improved circulation enabled by unheated downcomers.
5. Minimized soot buildup on tubes thanks to the parallel flow of flue gases.
6. Soot-free drum.
7. Individual repair capability for tube panels.
8. Expedited installation process due to single drum configuration.
9. Streamlined erection process leading to reduced manpower requirements.
10. Single drum design with welded boiler bank eliminates tube expansion and potential leakages.



ADVANTAGES OF COMPETITIVE OR SINGLE DRUM DESIGN

1. The inclusion of an additional header in the superheater circuit significantly reduces the carryover of water particles in coils.
2. With the drum, downcomers, and risers positioned outside the flue gases, circulation is clear and ratios can be optimized, unlike in bi-drum constructions.
3. A large portion of the heat duty can be directed to the economizer, eliminating heat wastage in heating a mixture of water and steam inside the main drum.
4. Maximum possible enthalpy can be achieved in the economizer itself.
5. The external placement of the drum allows for more space in the superheater zone, enabling the attainment of higher temperatures, up to 440°C.
6. Challenges such as reduced efficiency and ineffective cross flow, typically associated with bi-drum designs, are eliminated in single drum configurations.
7. Value engineering is enhanced with the use of swaged tubes, as inserting them between two drums can be challenging, a complication avoided in single drum designs.
8. The external position of the drum provides flexibility in locating longitudinal joints, akin to external furnace configurations.
9. External drum placement facilitates the possibility of a two-floor boiler structure at the top, reducing the overall supporting structure.
10. The unique construction allows for increased flexibility in stress analysis of downcomers.





WATER TUBE PACKAGE BOILERS

Our “D” type packaged steam generator is meticulously engineered to produce up to 150,000 kg/hr of steam. Crafted with a welded wall and membrane-type construction, this boiler ensures a gas-tight seal, complete water cooling of the furnace, and inherently lower emissions. Its spacious integral furnace accommodates high-pressure firing of oil, gas, or a combination of both, making it a versatile solution for diverse facility requirements.

With conservative steam drum sizing, employing chevron driers and centrifugal separators, we offer the most efficient energy-saving solutions tailored to your company's needs.

HEAT RECOVERY BOILERS

Our Heat Recovery Boilers are meticulously crafted for a range of industrial applications including Sponge Iron Plants, Steel Plants, Cement Plants, and various other process applications. Specifically engineered to accommodate Diesel Engines, Gas Turbine Exhaust, and Water Tube Boilers, these boilers feature membrane-walled single or dual radiation chambers for optimal performance.

Backed by extensive experience, we specialize in designing, manufacturing, and supplying High-Efficiency Steam Heating Systems (HRSG) tailored for Combined Cycle Power Plants. Our expertise spans capacities ranging from 1000 to 200,000 kg/hr, ensuring reliable and efficient operation across diverse industrial settings.





SLOP FIRE INCINERATION BOILER

Experience the pinnacle of efficiency with our Slop Fire Incineration Boiler. Designed to offer complete combustion of spent wash, our boilers range from 8 TPH to 45 TPH, reaching pressures of up to 45 Kg/Cm² and temperatures of 440°C. Achieving optimal combustion is made possible through superior atomization and efficient spraying, facilitated by specially designed nozzles strategically placed for maximum effectiveness.

With a guaranteed bagasse-to-slop ratio of 30:70 and coal-to-slop ratio of 25:75 based on heat value, our boilers ensure efficient utilization of resources. Operation is streamlined and manpower requirements are minimized, thanks to its user-friendly design. Additionally, its multi-fuel flexibility, enabled by the use of a Travelling Grate stocker, further enhances its versatility and efficiency.





AFBC BOILERS

Our AFBC Boilers are engineered to produce steam up to 150,000 kg/hr, delivering reliable performance for a wide range of applications. Constructed with a welded wall and membrane-type design, these boilers ensure a gas-tight seal and feature a fully water-cooled furnace for enhanced efficiency. With a conservative sizing approach, our boilers offer ample space for pipework, ductwork, and venting systems, ensuring seamless integration and optimal functionality.



FIRE TUBE BOILERS

Discover our selection of Two, Three, and Four Pass Smoke Tube Boilers, meticulously crafted for small-scale units. Constructed from stainless steel, these boilers feature an integral steam space, guaranteeing superior quality in the final product. With factory assembly ensuring reliability and economical fuel usage, our boilers boast a modern aesthetic that not only performs exceptionally but also catches the eye.





QUALITY ASSURANCE AND CERTIFICATION

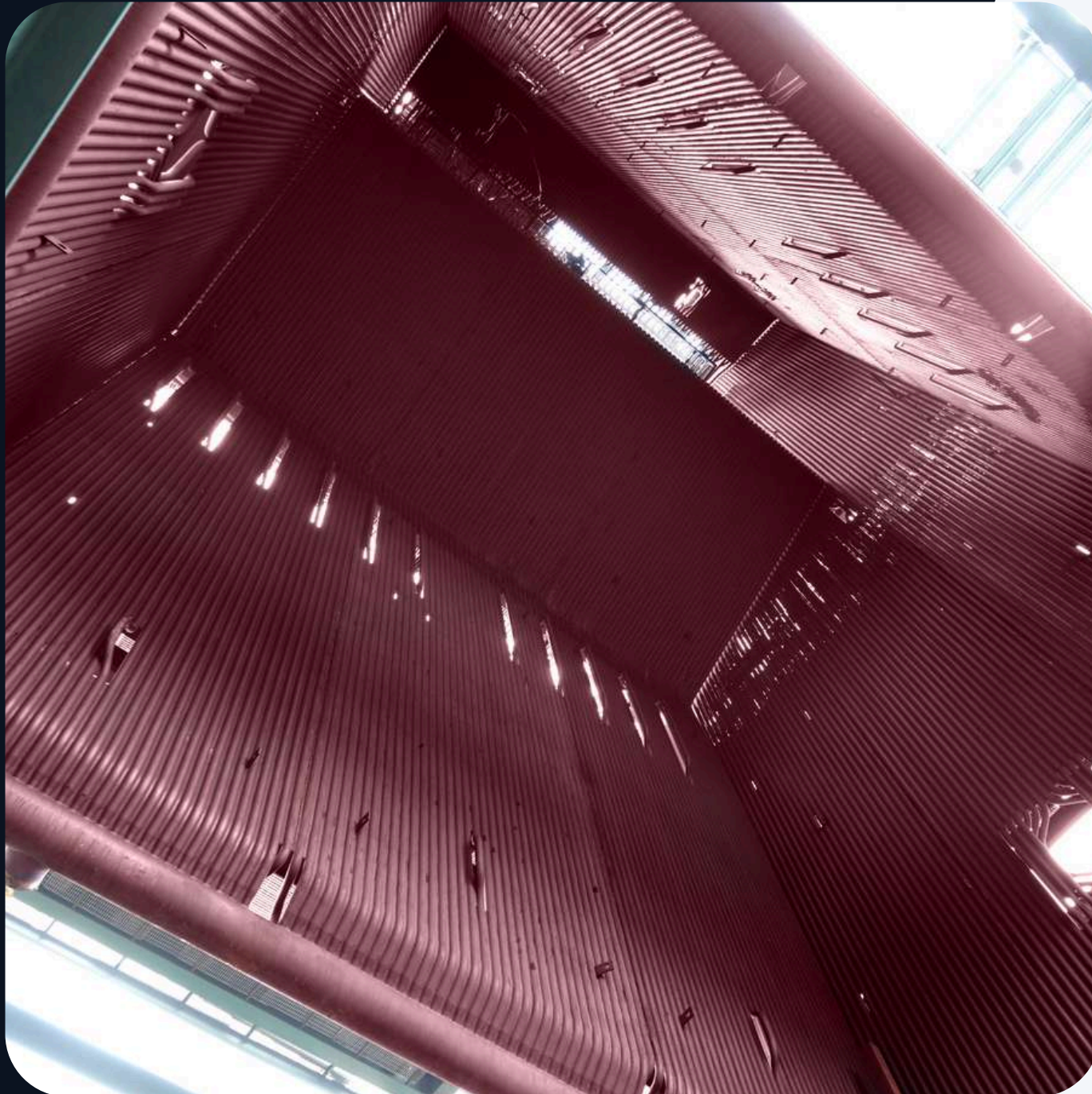
Ensuring the safety and reliability of boilers and pressure vessels entails a meticulous and systematic approach, spanning from material identification to final testing, transportation, and storage before commissioning. This paper highlights the various Quality Assurance measures to be implemented by boiler and pressure vessel manufacturers.

CERTIFICATIONS ATTAINED INCLUDE:

1. ISO 9001:2015
2. IBR certificate for high-pressure boiler manufacture
3. ASME certification of "U" & "S" stamps
4. Level-2 & Level-3 certifications
5. Registered trademark certification

QUALITY ASSURANCE COMPLIANCE:

1. Client approval of detailed designs.
2. Client approval of raw materials and consumables.
3. Calibration of testing equipment and inspection tools.
4. Qualification of welding procedures and welder performance.
5. Qualification of welding inspectors and Non-Destructive Testing (NDT) personnel.
6. Quality control during the forming and shaping of components.
7. Quality control during the assembly of parts.
8. Quality control during production welding.
9. Non-destructive testing (NDT) of welds.
10. Quality control during post-weld heat treatment (PWHT).
11. Non-destructive testing after PWHT.
12. Hydraulic testing or load testing of pressure vessels.
13. Leak testing of pressure vessels.
14. Documentation management.
15. Pre-planning for quality assurance in pressure vessels.



DELIGHTED CUSTOMERS





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Gerente General

