

Seizing every opportunity: The upward and

Venus Pipes and Tubes is an Indian manufacturer of stainless steel pipes and tubes. In recent years Venus has experienced impressive growth. It was therefore a matter of necessity for the company to expand its production facility from an existing 58,000 m² land plot to 110,000 m² in mid-2022, including 46,000m² for eight production buildings. Further capacity of land plot expansion is ensured with a recent purchase of a reserve of 30,000m².



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By Ellie Pritchard, Heat Exchanger World

Venus Pipes and Tubes was founded in December 2015 by four partners who had the vision of providing top-quality stainless steel products to their clients. Each partner has a different background and brings unique expertise to the company. Mr Arun Kothari (Managing Director and CFO) is a qualified Chartered Accountant. The cousins Mr Mahesh Chaudhary and Mr Jitendra Chaudhary each have more than twenty-five years of experience in trading tubular products, while Mr Dhruv Patel (Director of Marketing) has a background in engineering. “We already had a substantial client base in the domestic market, and we knew this was a sector with great potential in which we could make a name for ourselves.” explains Mr Patel. “We sell our products in both domestic and international markets. In the domestic market, we sell to the end customers as well as traders/stockists, while in the international market we supply our products through traders/stockists, authorised distributors, and a senior experienced marketing representative in the European

Union market. We started exporting our products in 2017; since then, we have exported to more than 21 countries including Brazil, the UK, Israel, and many in the EU.” And now? A recent company valuation in the second half of 2022 placed the value of Venus Pipes and Tubes at over USD 180 million to end of 2022.

Facility expansion

The company’s initial monthly output in 2017 was 200 metric tonnes (MT), which grew to 1000 MT per month by 2020. Increasing output by a factor of five within five years meant the Venus facility was working at almost maximum capacity, and expansion was essential.

“In early 2022, we decided the time was ripe to expand the business significantly. To raise funds and attract investors, we decided to go public and list the company on the Indian stock exchange. Our Initial Public Offering (IPO) was fully subscribed within eighty minutes of opening, setting a new record,” says Mr Kothari with a smile.

outward trajectories of Venus Pipes and Tubes



Inspection and testing facilities

Non-Destructive Testing

Eddy current
X-Ray testing
Laser Control testing
Ultra-Sonic testing
Spectral Analysis
Liquid penetration
Visual and dimensional inspection
Hydro testing
Pneumatic test
Positive material identification

Destructive Testing

Tensile testing (Proof load, UTS and % elongation)
Chemical testing – product analysis
Rockwell Hardness testing
Flattening/reverse flattening test
Guided bend/Reverse bend test
Flaring/flange test
Micro/macro examination
Inter granular corrosion test: IGC Practice, E and C (ASTMA-262), Practice W<X<Y<X (ASTM A-763), Method A, C (ASTM A-923)

the label and certification of “100% Made in India”, a key point for a reliable partnership with our export clients.”

“For our seamless tubes and pipes, investments in cold finishing lines include 9 new, larger pilger machines, an expander, and draw benches to make pipes up to 8” (219 mm) diameter. Regarding our welding capacity a new tube mill will produce welded stainless-steel pipes up to 20” (508 mm) diameter and 80S thickness,” continues Mr Patel. “This is the first tube mill of this type to be brought to India; in fact, very few manufacturers in the world have this capacity.”

Having identified a gap in the market for very large diameter stainless steel pipes, the Venus team has also invested in a stainless steel LSAW pipe-making plant with a maximum production capacity of 56” (1422 mm) OD X 35 mm thickness and 12-meter length. “These huge stainless pipes are utilised for cross-country pipelines and OCTG oil and gas applications. Another unique selling proposition of Venus for the international market,” explains Mr Patel.



Following its IPO, the Venus team acquired a further 56,000m² of land to accommodate the planned expansion of facilities, bringing the total size of their manufacturing site to 110,000m². Once the expansion is complete at the end of Q1 2023, Venus will have an annual capacity of 36,000 MT, making it India’s largest stainless steel tube and pipe manufacturer with an integrated plant. With its single manufacturing plant and headquarters strategically located at Bhuj-Bhachau (Kutch, Gujarat) in close proximity to the ports of Kandla and Mundra (around 55 km and 75 km respectively), Venus ensures a good logistic performance of raw materials and import/export of its products.

Investing in India for Made in India

“Our strategy has been to expand both our seamless and welded pipe capacities simultaneously. A key purchase for the seamless product line was a vertical type Hot Piercing Mill – the most advanced in India - to manufacture mother hollows; the raw material for seamless pipes,” explains Mr Patel. “This permits us to be non-dependent on external supply and we are not subjected to upcoming restrictions in material flow. We can ensure quality with



≈ Extensive testing facilities ensure every piece of pipe or tube conforms with the applicable standards.



♣ The four founding partners of Venus Pipes & Tubes December (L to R): Dhruv Patel (Director of Marketing), Mahesh Chaudhary, Arun Kothari (Managing Director and CFO) and Jitendra Chaudhary.

While these developments are all remarkable, equally impressive is Venus's compound annual growth rate (CAGR) which has averaged 45% annually since the company was founded in 2015. "Further projects will come in the future. It goes without saying that, with all the recent expansions, we are setting milestones in the stainless steel tubes market and Venus is well-equipped to service this growing market with inhouse high-tech solutions adhering to the steadily improving standards and demands," says Mr Patel.

Increase in production capacity

The substantial investments in cutting-edge technology will see Venus Pipes and Tubes increase production capacity dramatically.

"We reached a yearly production capacity of around 24,000 MT by December 2022 with an output of 15,000 MT in the calendar year, and the capacity will increase to 36,000 MT by March 2023," explains Mr Patel. "The Hot Piercing Mill was ordered in October 2021 and is under installation with an imminent production start in Q1 of 2023. The large diameter 20" tube mill was ordered in May 2022, and the other equipment is on the way."



♣ "Ultimately, we want to become a one-stop solution for our customer's piping needs," - Mr Patel.

To keep the rapidly growing plant supplied with raw materials, the Venus team has developed a strategy to establish a smooth, uninterrupted supply.

"To guarantee delivery of high-quality products, we purchase raw material from top-notch vendors of international repute. At the moment, we are sourcing our mother hollows externally. However, once our vertical Hot Piercing Mill comes online, we will be producing mother hollows in-house."

"For welded tubes and pipes, we source raw materials such as stainless steel coils locally or from a range of international reputable manufacturers. For our range of seamless pipes, we require a stable supply of stainless steel round bars, which are widely available locally."

Strong focus on quality and service

Producing quality products requires much more than just modern equipment, and Mr Patel is keen to highlight the company's investments in people and expertise.

"At Venus, quality is a high priority and the foundation of all our processes and operations. We are committed to consistently achieving the highest quality standards in our products and services, aiming to satisfy and even exceed our customers' requirements and expectations. This goes for every area of our business."

Manufacturing is carried out under strict process control and monitored all the way through the production process to ensure total conformity to requisite specifications. Every piece of pipe or tube is subjected to a detailed inspection and testing by trained and experienced staff to detect dimensional inaccuracies and surface imperfections and ensure its conformity with applicable standards.

"Our extensive in-house testing facilities allow us to perform all mandatory tests on-site and any supplementary testing required by various standards. These range from hydro-static tests and eddy current tests to mechanical and chemical testing."

As the company expands, this clear focus has been maintained on quality, with fifteen percent of the company's total workforce being employed in the quality department.

“This proportion will remain the same as we continue to expand. We currently employ around 400 people, and this number will increase to over 650 by mid-2023. We are already recruiting more qualified staff and don’t expect to have any problems finding the expertise we will need to drive our future success.”

Venus Pipes and Tubes Ltd. has received the Bureau of Indian Standards (BIS) certification for the range of stainless steel seamless and welded tubes and pipes. It has been recognised as an All India First (AIF) manufacturer to receive the approval for the range and has received the AIF circular for its Rajkot Branch. Speaking about the approval, Mr. Kothari said: “At Venus, we give utmost priority to quality and consistency through our in-house quality control team for our products; this approval is a testimony to our high-quality products and the processes followed for manufacturing of pipes and tubes.”

“We have an in-house quality team comprising 30 dedicated personnel working under the supervision of our board of directors. Our quality control team ensures that our raw materials as well as end products are tested on all quality parameters to ensure that we are compliant with the international product standards.”

One-stop solution for stainless tubes and pipes

Venus Pipes and Tubes is reinforcing its entrance into the European market with a product range of tubes and pipes from 6 mm to 1,422 mm diameter.

“We offer a uniquely wide range of sizes,” explains Mr Patel. “Ultimately, we want to become a one-stop solution for our customer’s piping needs. These may range from seamless to welded pipes, from huge to small diameters. Especially in applications ranging from instrumentation tubing to heat exchangers. For these high-tech products, the brand-new bright annealing oven ensures constant and reliable internal and external surfaces to meet roughness requirements for pharmaceutical or semiconductor industries. Of course, our in-house U-bending capacity for tubes ensures that all high-tech demands for heat exchanger applications are met. We tell customers: you name it, we have it.”



Extensive in-house testing facilities allow the Venus team to perform all mandatory tests and any supplementary testing required by various standards on-site.

“Venus performs all necessary destructive and non-destructive testing in-house, including x-ray, eddy current, laser detection, and ultrasonic-testing. All approvals from Lloyd, DNV, Norsok, PED, or TÜV are of course available at Venus Pipes and Tubes,” Mr. Patel states.

Looking further into heat exchanger applications, Venus knows that this particular market segment conveys strong demand increase in the coming years, not only in Europe but internationally as well. Markets such as hydrogen, pharmaceutical, semiconductor industry, and all energy-saving applications influence the demand and therefore guarantee a growing market. Venus Pipes and Tubes knows the customer requests and offers not only the technical solutions but also a large range of relevant grades of stainless steel beside the “commodities” like AISI 304L or 316L - namely heat-resistant grades such as AISI 309 or 310S or 316Lmo+ (1.4435) for pharma in particular and up to ferro-austenitic duplex grades. It is a company that has always seized opportunity and, as markets grow and demands increase, Venus has secured its place at the forefront of India’s own expansion. ■

Venus Pipes and Tubes: Heat exchanger tubes

Outside Diameter Range:	6 mm to 101.6 mm
Wall Thickness Range:	0.70 mm to 8.0 mm
Length:	As per requirement. maximum up to 24 m long.
U-Tubes:	As per customer’s drawing, developed length up to 36 m.
Grades:	304/L/H/LN, 316/L/H/LN/Ti, 309, 310/L/H/S, 317/L/H, 321/H, 347/H, 405, 409/L, 410, 430/Ti, 436, 439, 1.4301, 1.4306, 1.4571, 1.4541, 1.4401, 1.4404, 1.4435 UNS S31500, UNS S31803, UNS S2205, UNS S32750, UNS S32760
Specification:	Seamless – ASTM A-213, A-268, A-269, A-270, A-789, EN 10216-5, EN 10305-1 Welded – ASTM A-249, A-268, A-269, A-270, A-554, A-688, A-789, A-803, EN-10217-7
Supply Condition	Solution-annealed, pickled and passivated, bright annealed
Application:	Heat exchangers Pressure vessels Chemical and fertiliser Marine equipments Refinery and petrochemical Process industry Dairy/pharmaceutical industry Nuclear power generation Automotive Aerospace

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PIPES AND TUBES

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