

Triveni Turbine Ltd (TRITURBINE)

September 30, 2022
Time Horizon – 12 Months

CMP: ₹235
Target: ₹285

ANAND RATHI
INVESTMENT SERVICES

VALUE

PICK

Key Data	
Bloomberg Code	TRIV IN
NSE Code	TRITURBINE
BSE Code	533655
Industry	Engineering – Industrial Equipments
Face Value (₹)	1
BV per share (₹)	26.5
Dividend Yield (%)	1.1
52 Week L/H(₹)	137.9 / 248.8
Market Cap. (₹ Mn.)	75,912

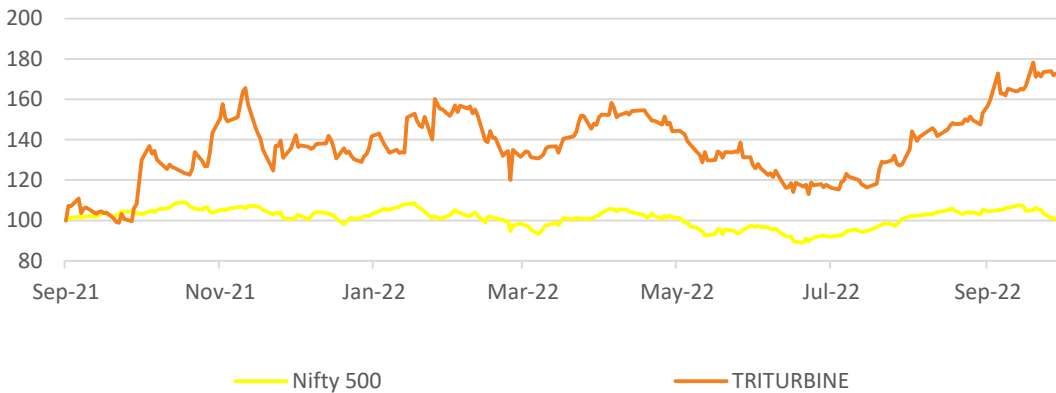
Shareholding Pattern (as on June'22)

Particulars	June-22	Mar-22	Dec-21	Sept-21
Promoter	67.78%	67.78%	67.78%	67.78%
Institutions	28.52%	28.63%	28.76%	27.82%
Others	3.69%	3.59%	3.46%	4.39%
Total	100%	100%	100%	100%

Source: Company, Anand Rath Research, Bloomberg

(In ₹ mn)	FY-21	FY-22	FY-23E	FY-24E
Net Sales	7,026	8,522	11,158	13,931
EBITDA	1,493	1,645	2,172	2,781
EBITDA Margin	21.2%	19.3%	19.5%	20.0%
PAT	1,025	2,702	1,632	2,134
PAT Margin	14.6%	31.7%	14.6%	15.3%
EPS (₹)	3.2	8.4	5.0	6.6
P/E (x)	74.1	28.1	46.5	35.6

Relative stock performance (Sept'21=100)



Enhancing Sustainability Focus

- ❑ Triveni Turbine Limited (TTL) provides innovative, robust, reliable, cost effective and efficient end-to-end industrial steam turbine solutions for power generation and for Combined Heat and Power (CHP) generation applications, catering to the needs of the global customers across diverse industrial segments and for power plants run by Independent Power Producers (IPP).
- ❑ The Company has been among the leading manufacturers of industrial steam turbines in >5 to 30 MW range globally for many years and following the termination of the Joint Venture (JV) agreement with respect to its JV Company Triveni Energy Solutions Limited (TESL) (Formerly known as GE Triveni Limited) is now independently approaching the 30.1-100 MW segment globally, thus catering to the entire range from 0.1-100 MW on a worldwide basis. TTL has industry leading domestic market share of greater than ~50%.
- ❑ Triveni Turbines manufactures steam turbines at its world-class manufacturing facilities in Bengaluru, India and assists its customers with their aftermarket requirement through its global servicing offices. With installations of 5000+ steam turbines across over 20 industries, Triveni Turbines is present in over 75 countries around the world.
- ❑ Triveni Turbine Limited offers steam turbine solutions for Industrial Captive and Renewable Power. The Company provides renewable power solutions specifically for Biomass, Independent Power Producers, Process Co-generation, Waste-to-Energy, Waste Heat Recovery and District Heating. Nearly 75% of Triveni Turbine Limited's (TTL's) business (FY22 Order booking) currently comes from non-fossil or renewable energy.
- ❑ Its steam turbines are used in diverse industries, ranging from Sugar, Distilleries, Steel, Cement, Textiles, Chemicals, Oil & Gas, Pulp & Paper, Petrochemicals, Fertilisers, Solvent Extraction, Metals, Palm Oil to Food Processing and more. Apart from manufacturing, the Company also provides a wide range of aftermarket services to its own fleet of turbines as well as turbines and other rotating equipments such as compressors, rotors, etc. of other makes supported by its team of highly experienced and qualified service engineers.
- ❑ The Company believes that the outlook for product order booking in the near-term is strong, on the back of its healthy enquiry pipeline. The management guided sustained ~35% Revenue Growth for next few years and aim to maintain the PBT above 20% on back of execution of high margin Export business and cooling off commodity prices.
- ❑ Given the strong carry forward order book proposition and robust Enquiry, increase in addressable market, Industry leading market share and capacity increase TTL is all set to enter next leg of growth. We initiate our coverage on Triveni Turbine Ltd with a **BUY** rating and a target price of ₹285 per share.

Extensive Product Portfolio

Up to 100 MW

CONDENSING STEAM TURBINES

- Straight Condensing
- Uncontrolled Extraction Condensing
- Controlled Extraction Condensing
- Double Extraction Condensing
- Injection Condensing
- Reheat Condensing

BACK PRESSURE STEAM TURBINES

- Straight Back Pressure
- Uncontrolled Extraction Back Pressure
- Controlled Extraction Back Pressure

POWER GENERATION APPLICATIONS

Independent Power Producers (IPP) such as Biomass, Waste to Energy, Waste Heat Recovery and Combined Cycle Power Plant

COMBINED HEAT & POWER APPLICATIONS

Industrial segments such as Sugar & Distillery, Food Processing, Paper, Textile, Palm Oil, Cement, Steel, Chemicals, Petrochemicals, Petroleum Refineries, etc.

DRIVE APPLICATIONS

Petroleum Refineries, Chemicals, Petrochemicals and Fertilisers



- ❑ Well-balanced and diversified product range of up to 100 MW designed for wide range of pressure and flow applications across industries.
- ❑ Large variety of back-pressure and condensing steam turbines Equipped with both Impulse and Reaction technologies to cater to diverse customer requirements
- ❑ Energy-efficient American Petroleum Institute (API) compliant steam turbines are aligned with international standards viz. (API 611 - General Purpose) and (API 612 - Special Purpose), making them suitable for driving pumps, blowers, compressors etc. in Petroleum Refineries, Chemical, Petrochemical, and Fertiliser Industries. These turbines are crafted for installation in high hazard zones as well as open weather conditions, and perform under any load condition.

Source: Company, Anand Rath Research

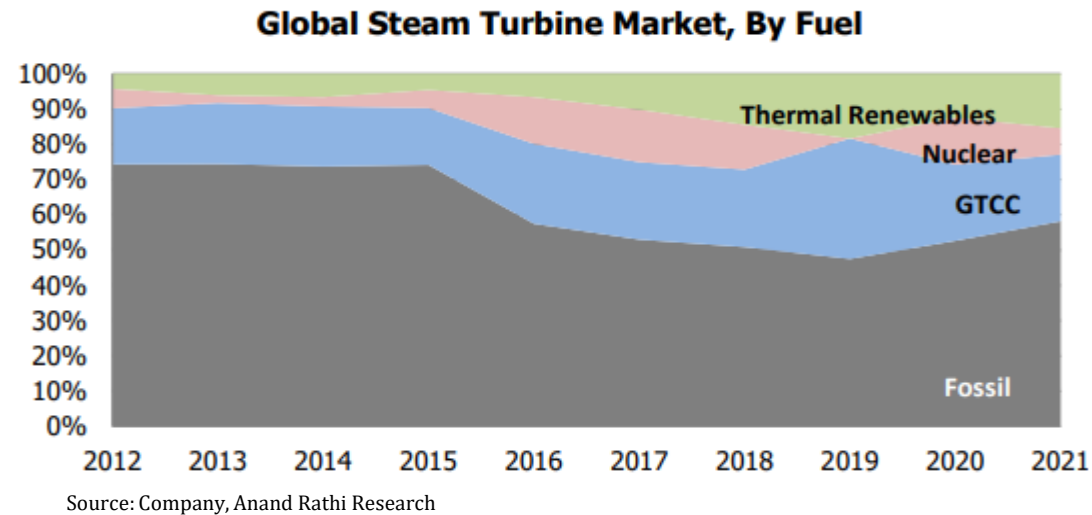
Manufacturing Prowess and Extensive Delivery Network

- ❑ Triveni Turbine's manufacturing facilities at Bengaluru and Sompura are successfully maintaining their certifications for Quality Management System (AS 9100D / ISO 9001:2015), Environmental Management System (ISO 14001:2015) and Occupational Health & Safety Management System (ISO 45001:2018) implementation.
- ❑ Triveni Turbines is one of the few industrial steam turbine manufacturing companies that has in-house capability for complete manufacturing of critical components such as blades, rotors and casings.
- ❑ Record Order booking during FY22 posed a positive challenge for its manufacturing to ramp up production in terms of volumes and new products. This is being managed with a two-pronged approach to enhance capacities – both internally and externally.
- ❑ Internally, Additional assembly space of 3,750 sq.m. is already under construction at Sompura facility. With this expansion, the Company's capacity is expected to increase from 150-180 machines to 200-250 machines per annum. This will augment the space for assembly and testing of steam turbines at the Sompura factory. Externally, Some of the sub-assemblies are also additionally outsourced to competent subcontractors to free up in-house capacity on value added, core activities.
- ❑ To meet the Aftermarket requirements, new processes such as LASER hardening on blade edges, introduction of high alloy steels etc. are implemented. To increase the speed of execution in Refurbishing, fitment of blade roots on to the existing old rotors is verified through 3D printing instead of physical machining of prototype from steel material. Necessary resources are aligned to meet the production targets with increased number of turbines.



Source: Company, Anand Rathi Research

Inclined Trend towards Sustainable Power Generation



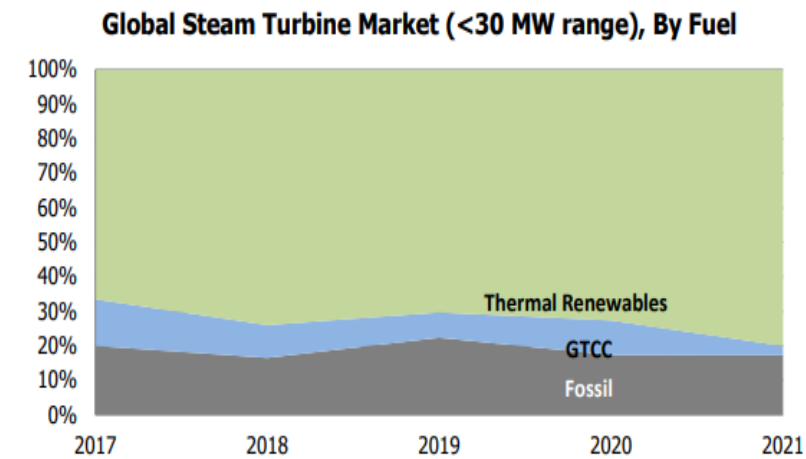
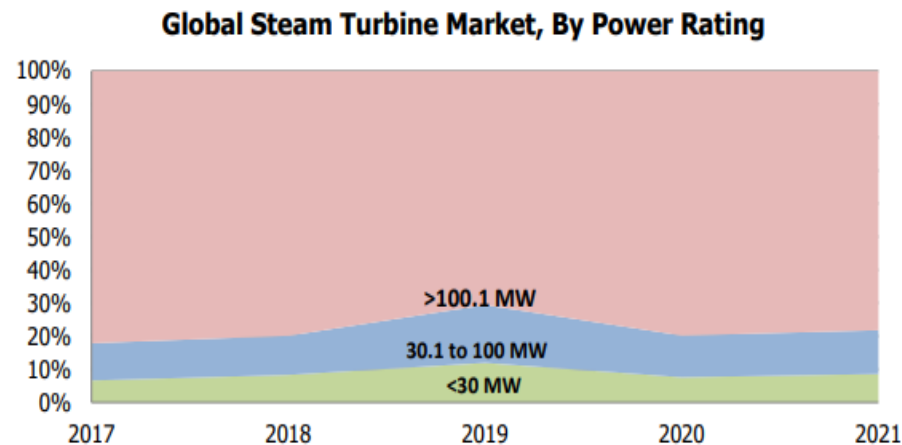
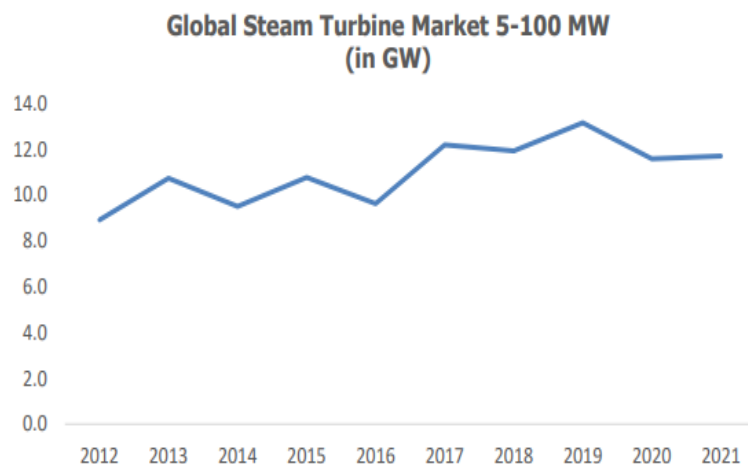
- ❑ In the last 10 years, fossil fuel-based power generation, previously the main source of fuel, declined from 74% in 2012 to 58% in 2021, whereas thermal renewable fuel based power generation increased from 4% in 2012 to 15% in 2021. Nearly 75% of Triveni Turbine Limited's (TTL's) business (Order booking of FY22) currently comes from non-fossil or renewable energy.
- ❑ Globally, there is an increase in focus on replacement of existing coal-fired power plants with clean-fuel power plants with the aim of reducing the carbon footprint. This will further augment the demand for renewable power generation in the future. The Renewable Energy industry comprises non-thermal (such as Hydro, Solar Photovoltaic (PV) and Wind) and thermal energy (such as Bio-Power, Waste to Energy (WtE), Waste Heat Recovery (WHR) Concentrated Solar Thermal Power and Geothermal Power) sources.
- ❑ Triveni Turbines provides steam turbine solutions that use low pressure steam, generated through extraction turbine for heating application by producing both heat and electric power. The cost of power generated through this process is 14-15% lower as against that of power generated through IPPs. While solar renewable energy is used as a utility power plant only during the day, power produced through CHP/ Cogeneration benefits the plant throughout the day by addressing its combined heat and power requirements. This gives the latter a strong edge. As a result, the ongoing rapid increase in electricity consumption, coupled with growing focus on electricity generation through biomass energy sources, thermal treatment of waste and recovery of waste heat, is expected to unleash sustainable power generation through the cost-effective approach of combining both heat and power.

Opportunities for Steam turbine in various Industries

- The residues from Sugar mills in the form of Biomass (Bagasse) are used as fuel to generate power that is sustainable. Aided by the National Policy on Biofuels and the incentives offered by the Government of India, India is witnessing huge investment by Sugar companies in both Greenfield and Brownfield expansions of sugarcanebased and grain-based distilleries. This is opening a large opportunity for steam turbines in the future.
- The Pulp and Paper industry constantly focusses on improving energy efficiency, which is attained through increased use of non-Bagasse (e.g. wood waste) based fuel for power generation, and through appropriate usage of steam. With many paper companies in India looking at energy conservation through eco-friendly ways, this will lead to more opportunity for steam turbines.
- Energy efficiency has become a top priority for the Cement industry but adoption of Waste Heat Recovery (WHR) systems in cement facilities still has a long way to go. Large cement companies are primarily considering WHR-based power plants for their Greenfield projects, which will create more opportunities for steam turbines. Triveni Turbines has developed efficient Injection condensing turbines that use medium pressure steam as turbine inlet and low pressure as injection steam.
- The Steel industry is characterised by high load variations on account of many on and off conditions of furnace and kiln, causing load fluctuations, and thus affecting the stability of the grid and quality of power supply. Therefore, it is extremely critical to have a constant and reliable source of power. Power has been one of the major cost components of the steel industry. Hence, the availability of captive power becomes crucial for continuous operation of a steel plant. The opportunity for steam turbines from integrated steel plants in India for Direct-Reduced Iron (DRI) processes is quite significant. The waste heat recovered from the DRI plant will meet the captive power requirement of the steel plant
- The Oil & Gas Industry is facing multiple challenges due to the modern energy refining processes, causing customers to scout for ways to maximise energy efficiency and to also reduce the carbon footprint as well as the operating costs. The cost-competitiveness and constantly evolving nature of the end-users have prompted them to achieve plant efficiency enhancement through energy recovery technologies, thus reducing the wastage of energy. In this context, the opportunity for steam turbines can be realised by offering power generation turbine, to turbines driving almost all rotating equipment.

 Sugar	 Cement	 Chemicals	 Steel
 Textiles	 Paper	 Biomass	 Independent Power Producers (IPP) – Barge mount
 Distillery	 Waste to Energy	 Carbon Black	 Oil & Gas
 Food Processing	 District Heating	 Defence	 American Petroleum Institute (API)
 Pharmaceuticals	 General Engineering	 Fertilisers	 Glass

Source: Company, Anand Rathi Research



■ **Global Steam Turbine Market :** The global steam turbine market has witnessed a decline of 8% per annum, from 115 GW in 2012 to 54 GW in 2021. This is largely attributable to the decline in the >100 MW market category (utility turbines), which currently accounts for higher share of the overall market. However, the 5-100 MW segment has increased from 8.9 GW in 2012 to 11.7 GW in 2021, which is an annual increase of 3% over a period of 9 years. This growth is due to the increasing demand for steam turbines in power generation as well as combined heat and power applications from industrial customers. However, this does not cover Triveni's entire addressable market as the Company operates up to 100 MW i.e. including the below 5 MW segment. Overall, Triveni Turbines market share has improved significantly over the last 5 years (i.e. from CY 2017 to CY 2021) in both MW and in Unit terms.

■ **Indian Steam Turbine Market :** In 2021, the Indian Steam Turbine market for <30 MW range grew 137% (in MW) over 2020. The demand for heat and power from the industrial segment was the key factor contributing to the rebound in the Steam Turbine market to the 2019 levels. The market was primarily driven by thermal renewable based power plants (including biomass, waste heat recovery and WtE), followed by fossil fuel fired power plants. Majority of the steam turbines' requirement in 2021 came from power generation applications (using MSW, Biomass, Waste Heat and Fossil as the fuel) and from energy-intensive segments like Steel, Cement, besides segments like Sugar, Distillery, Food Processing, Pulp and Paper, Chemicals and Oil & Gas for Combined Heat and Power applications. With the manufacturing sector on a growth trajectory, and industries like Sugar, Distillery, Steel, Cement, Pulp and Paper and Chemicals expected to increase production, the demand for steam turbines is expected to remain robust in the future.

Source: Company, Anand Rathi Research

Record Order Booking and Enquiry Generation

Overall Order Book

Particulars (in Mn)	FY19	FY20	FY21	FY22
Opening Order Book	7,089	7,228	6,984	6,389
Order Booking	8,540	7,935	6,431	11,836
Sales	8,400	8,179	7,026	8,522
Closing Order Book	7,229	6,984	6,389	9,703

Source: Company, Anand Rathi Research

Product Order Book

Particulars (in Mn)	FY19	FY20	FY21	FY22
Opening Order Book	6,370	6,308	5,753	5,057
Order Booking	6,278	5,766	4,410	9,383
Sales	6,340	6,321	5,106	6,260
Closing Order Book	6,308	5,753	5,057	8,181

After Market Order Book

Particulars (in Mn)	FY19	FY20	FY21	FY22
Opening Order Book	718	921	1,231	1,332
Order Booking	2,262	2,169	2,021	2,453
Sales	2,059	1,858	1,920	2,263
Closing Order Book	921	1,231	1,332	1,522

- Despite adverse impact of COVID-19 and the uncertainty in the global economy, the Company performed well in terms of overall order booking in FY 22. The Company's enquiry pipeline also looks healthy due to its strong presence in the sub-30 MW business segment and dominant share in the Indian market.
- The overall product order booking for FY 22 went up by 113%, compared to the previous fiscal. At 9.4 billion, this is the highest order booking ever in the history of the Company, with the previous high of 6.6 billion achieved in FY18. In the domestic market, the Company registered product order booking growth of 86% compared to FY 21. Key segments of this order intake in FY 22 were Sugar, Distillery, Food Processing, Pulp & Paper, Chemicals and Waste Heat Recovery (comprising Steel and Cement). In the international market, the Company was able to close some key milestone orders in 30.1-100 MW power range and Sub-30 MW power range from countries like South Korea, Turkey, France, Mexico, Colombia, Argentina, Hong Kong, to name a few. As a result, international product order booking grew 166% YoY. During FY 22, the Aftermarket business consolidated its foray into new industrial segments such as Geothermal, by bagging repeat orders from prestigious customers in Southeast Asia and East Africa. The order booking from Aftermarket business rose 21% in FY 22 on a YoY basis.
- The Company saw overall enquiry growth of 36% YoY in FY 22. Domestic enquiry generation increased by 57% YoY, with the West region garnering the highest enquiry base followed by the South and North regions. In terms of segments, Process industries comprising Food Processing, Distillery, Pulp & Paper, Chemicals contributed the most to the enquiry base, followed by Cement, Sugar and Oil & Gas segments. International enquiry generation increased by 25% YoY compared to FY 21. Southeast Asia generated more enquiries, followed by Europe and Turkey regions. Among industry segments, IPP segment was the biggest contributor, followed by Process industries and Oil & Gas segment.

Recent Acquisitions and Capex Plans

- ❑ The Company have entered into business combination of Triveni Energy Solutions Limited (TESL) as a wholly-owned subsidiary (Formerly GE Triveni Limited, which was previously a joint venture). It further acquired TSE Engineering (Pty.) Ltd (TSE) as a subsidiary during FY22. Both these transactions are in line with its conscious focus on maximizing value creation for the stakeholders across their business segments.
- ❑ The TSE acquisition is primarily meant for their Aftermarket business. The primary objective is to build the refurbishment business, which will definitely support all the customers of Triveni Turbines in the SADC region. Their aim is to better service their customers and give them the confidence that TTL is closer to them and better placed to take on more jobs, more complex jobs and a variety of jobs in the refurbishment business. So they are looking at a multi-brand service offering with this acquisition. In fact, while helping the company grow their enquiry pipeline for the Aftermarket business in the SADC region in Africa, this acquisition will also give them access to the other markets in the African continent with their manpower base in South Africa.
- ❑ As for TESL acquisition after an amicable resolution with GE parties, with whom they earlier had a joint venture arrangement, has opened the doors for TTL to approach the above 30.1-100 MW segment independently, increasing their addressable market considerably. The Management is confident that TTL will enhance its market share in this segment significantly in the coming years, to further push the bar of sustainable growth for itself and for its clients.
- ❑ **Capex :** In order to meet the Robust Order book, the management approved Capital Expenditure (CAPEX) plan of Rs. 350 million towards an additional bay at the Sompura facility to steer capacity enhancement. The facility will be largely catering to testing & assembling, and to meet the need for higher throughput anticipated in the coming years. With this expansion, the Company's capacity is expected to increase from 150-180 machines to 200-250 machines per annum. The capacity expansions would be complete by September FY23 and this augmented capacity would be sufficient to cater to the demand that the order book is creating. The utilization of this capacity will be at peak by end of the CY23 as per the management. The management believe that their expanded capacity of about 200 to 250 turbines per annum would be sufficient for TTL in the short to medium term.

Key Risks

- ❑ Adverse movement in commodity prices may impact margins.

(In ₹ mn)	FY-21	FY-22	FY-23E	FY-24E
Net Sales	7,026	8,522	11,158	13,931
Operating Expense	5,533	6,877	8,987	11,150
EBITDA	1,493	1,645	2,172	2,781
Other Income	191	295	279	348
Depreciation	202	203	243	253
EBIT	1,482	1,737	2,207	2,876
Interest	28	29	31	31
Misc. items	(185)	1,982	-	-
PBT	1,268	3,690	2,176	2,845
Tax	296	946	544	711
Minority Interest	53	(43)	-	-
PAT	1,025	2,702	1,632	2,134

Margins	FY-21	FY-22	FY-23E	FY-24E
Sales Growth %	-	21.3%	30.9%	24.9%
Operating Margin %	21.2%	19.3%	19.5%	20.0%
Net Margin %	14.6%	31.7%	14.6%	15.3%

Source: Company, Anand Rathi Research

(In ₹ mn)	FY-21	FY-22	FY-23E	FY-24E
<u>Liabilities</u>				
Equity Share Capital	323	323	323	323
Reserves & Surplus	6,052	8,242	9,875	12,009
Total Shareholder's Funds	6,376	8,566	10,198	12,332
Minority Interest	-	8	8	8
Long-Term Liabilities	-	-	-	-
Other Long-term Liabilities	64	88	88	88
Deferred Tax Liability	51	35	35	35
Short-term Liabilities	2,928	4,652	6,091	7,604
Total	9,418	13,348	16,420	20,068
<u>Assets</u>				
Net Fixed Assets	2,489	2,501	2,624	2,534
Long-Term L&A	47	110	110	110
Non Current Investments	282	-	-	-
Other Non-Current Assets	4	82	82	82
Current Asset	6,597	10,655	13,605	17,342
Total	9,418	13,348	16,420	20,068

TRITURBINE rating history & price chart



NOTE: Prices are as on 30 September 2022 close.

Source: Bloomberg, Anand Rathi Research

TRITURBINE rating details

Date	Rating	Target Price (₹)	Share Price (₹)
29-September-22	BUY	285	235

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