



S.S.ENGINEERS

Intelligent Engineering





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S. S. Engineers is at your service with fully equipped manufacturing facilities, a dedicated team with wide experience in each department from Design, Engineering, Production, Erection and Commissioning to Trouble Shooting, etc. and a management keenly eager to provide all rapid and timely assistance for successful and satisfactory completion of every project.

We, at S. S. Engineers, have been serving the sugar industry for more than 40 years and have executed major orders on turn-key basis for many factories. These include more than 31 turnkey sugar factories, 260 mills, 6 diffusers, 90 boilers, conversion of more than 100 existing three roller Mills into Four / Five / Six roller Mills, for capacity expansion and better recovery, and more than 200 centrifugals and numerous turbines along with necessary electricals and instrumentation.

Total Engineering Solutions

S. S. Engineers offers entire spectrum of engineering solutions for all types of requirements.

We offer custom built machinery to suit your existing equipment layout and critical requirements. The entire Design and Engineering is carried out 'In House'. Each and every equipment is guaranteed for efficient and economic functioning. Our Design and Engineering is subjected to a continuous process of critical evaluation and improvement based on real-time operational feedback from client sites, global advancements in manufacturing processes and availability of new and better-suited raw materials.

From complete sugar plants with co-generation to boilers (co-generation), mills and boiling house machinery, our equipments are ultra modern and highly efficient.

Complete Sugar Plants. – Till date 31 Nos

Design, Manufacture, Supply, Installation, Commissioning.

Specialized in Expansion and Modernization of Sugar Plants,

Co-generation, Industrial Boilers, Electricals, Instrumentation.

S. S. Engineers, incorporated in 1980 with single handed effort, modest investment and full dedication, has grown today into a large organization. S. S. Engineers offers most innovative, convenient and profitable "Single Window" solutions from design and manufacturing to erection and commissioning of **Complete Sugar Plants, Co-generation Plants, Industrial Boilers, By-products, Electrical Systems and Instrumentation etc.**

From small equipments like Fibrizer to mills and then to complete plants, we have carved a niche (for ourselves) during the last 40 years. Many of our installed equipments have created records in capacity utilization and efficiencies.

We have successfully assimilated the **concept of co-generation in Sugar Industry**; designed and manufactured most **modern multi fuel boilers** for Sugar as well as other Industries. .

Our patented design of **5 / 6 roller mills** has revolutionized the milling concept in India.

S. S. Engineers has successfully supplied / under execution 6 nos. complete sugar plants with **diffusers** in place of conventional milling tandem.

Designing of **energy efficient boiling house equipments** with specially worked-out configuration, has brought down steam demand substantially, thereby helping our clients and in turn the nation, **save on Power and Steam**. State-of-the-art instrumentation, right from the boilers to boiling house is an integral part of our turn-key projects. Our Boiling House equipments are specially designed for optimum efficiency and energy saving. We are able to offer tailor made equipments for optimum utilization of capacities of existing equipments. (Our innovative design also takes into account the bulk electrical power consuming equipments like condensing systems, etc. to achieve minimum power consumption). These designs have cut down the power consumption to the tune of 40%. Similarly special vapour bleeding systems along with pressure stabilizations have resulted in higher throughputs and reduction of steam consumption by 30 – 32% on cane.

Our **consultancy** service backed by years of hands-on expertise in the industry, along with rich knowledge bank of technocrats of repute has benefitted our clients for over three decades.

Today, with a **team of about 100 engineers** headed by technocrats of high repute, **four modern workshops** and the engineering expertise achieved at micro level, S S. Engineers is at the forefront of Indian Sugar Industry. We have designed **complex sugar factories with highest return on investment**.

We strive for more throughput, efficiency, economy and energy savings.

S. S. Engineers are modestly proud that we have set for ourselves the motto of continuous endeavour for improvement, modernization and Research and Development.

It is a matter of great satisfaction for us that we are favoured with repeat orders by most of our satisfied customers due to the performance of our equipments exceeding their expectations.

For us, no order is too small or too big. Every order is prestigious for us. We shall always try to do our best.



Complete Co-Generation Plants

We provide turn-key sugar plants with co-generation, which includes efficient high pressure and high temperature boiler, turbo generator and electricals. The plants are designed to consume minimum power. The excess power is exported to national grid, thus enhancing the profitability.

S. S. Engineers has also started the supply of "SLOP" fired boilers used in a range of industries.

Consultancy

We perform a study of your particular requirements for an expansion and modernization scheme, and offer suggestions for capacity enhancement, increase in thermal efficiency with minimum spillover of old machinery, up to date and cost effective equipment, efficient co-generation systems, low power consumption systems, etc.

Installation and commissioning

We undertake installation of machinery, tank and structure fabrication, piping, electrical cabling, instrumentation, insulation, painting, lighting for sugar plant and also complete commissioning of the plant

Technical audit and trouble shooting

Our in-depth and hands-on knowledge of processes, ability to diagnose and resolve, enable us to help you in trouble shooting and conducting technical audit of existing sugar plant.

Research and Development

(We have a team of 45 CAD engineers. The team is lead by senior personnel, hand picked for their excellence respective industries, who are constantly engaged in assimilating latest technologies and developments the world over).

These innovations are passed on to the Sugar Industry from time to time for better plant operations.

With such a strong engineering background, we have successfully introduced and established many trend setting equipments for the first time in the Indian Sugar Industry.

Services

S. S. Engineers also offers a variety of specialized services to our esteemed customers.

Project management - Involves planning, scheduling, co-ordination, monitoring, procurement, assistance, inspection, site supervision and testing.

ON-TIME EVERY TIME

What lies at the heart of our functioning as an organization, is the respect we have for TIME. We are proud to be a company that "thinks on its feet". We identify with the importance of completing projects in a time-bound manner. All of our processes are streamlined with this singular objective in mind. Our associate vendors and sub-contractors are also periodically sensitized to this fact. We are committed to maximizing our efforts for an on-time delivery for every single project. This spirit of ours has led to results that are for all to see. A record-setting execution from concept to commissioning of 3 Nos. 9000 TCD completely new sugar plants in 12 months, for Bajaj Hindustan Ltd., is one such example. Please refer to the last page for more achievements of S. S. Engineers.



Complete Turnkey Sugar Plant

To Date

31

nos.

S.S. Engineers offers "one-stop" solution for modern sugar plants, right from concept to commissioning, integrating with most modern technologies like co-generation, high efficiency cane milling, energy efficient boiling house, multi-fuel and membrane wall boilers etc.

Design of each plant is customized with a view to provide economy, capacity optimization, efficiency, low power and low steam consumption, advanced engineering and layouts.



Babanraoji Shinde Sugar & Allied Industries Ltd.

5000 TCD With 150 TPH, 87 Bar, 520°C Boiler. 30 MW Co - Generation.





Bajaj Hindustan Ltd., BILAI Unit
9000 TCD With 90 TPH, 20 MW Co - Generation.



Sharayu Agro Industries Ltd.
6000 TCD With 160 TPH, 87 Bar, 520°C Boiler. 33 MW Co - Generation.

Complete Turnkey Sugar Plant



Siddhanath Sugar Mills Limited
6000 TCD 26 MW Co - Generation.



Rohtak Co-operative Sugar Mills Limited
3500 TCD With 16 MW Co Generation



Indian Sugar Manufacturing Company Ltd.
4500 TCD With Diffuser - 20 MW Co - Generation.



Kancheshwar Sugar Ltd.
2500 TCD With 80 TPH, 87 Bar, 520^oc Boiler. 14 MW Co - Generation.

Co-generation Plants

To Date
30
nos.

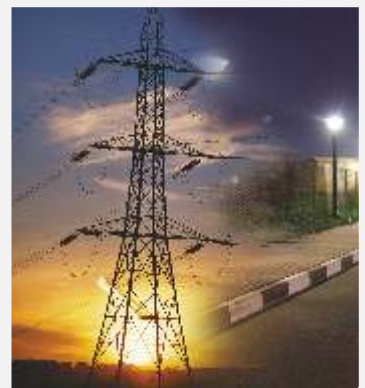
S.S. Engineers has the expertise to design sugar plants with co-generation by installing high pressure and high temperature boilers with TG set & electricals. We design sugar plants with most economic power consumption, leaving a substantial surplus from the sugar plant. Thus in-turn, surplus power supply to the National Grid is enhanced by this power saving of the plant.



Turbo Generating Set



Switchyard



Power Transmission



S.S. Engineers design manufacture and supply custom - built most efficient boilers with membrane type furnace, traveling or dumping grate, spreader stoker, ESP or wet scrubber type pollution control equipment with following salient features :

- Indoor and Outdoor installation
- Mono drum or bi drum type pressure parts
- Membrane panel furnace
- Single stage or two stage attemperation superheater
- Multi fuel burning traveling grate / spreader stoker
- Most efficient drum internals for highest steam purity
- Tall combustion chamber with most optimum combustion volume to ensure complete combustion of fuels
- Full automation from DCS control room
- Most efficient heat recovery units namely economiser & air preheater etc.
- **Boilers upto 200 TPH, pressure 110 bar, Temp. 540°C**

Bagasse Driers

- Recently we have introduced bagasse dryer to reduce moisture in mill bagasse by utilizing the heat of flue gas of boiler. The reduction in moisture shall be below 42% which will increase the power export and help for pollution control.



Babanraoji Shinde Sugar & Allied Industries

150 TPH, 87 Bar, 520°C

Industrial Boilers



Sharayu Agro Industries Ltd.
160 TPH, 87 Bar, 520°C



Vitthalrao Shinde SSK.
150 TPH, 87 Bar, 520°C



Sonhira SSK Ltd.
115 TPH, 87 Bar, 515°C



Vaidyanath SSK Ltd.
70 TPH, 87 Bar, 515°C 40 TPH, 87 Bar, 515°C

Stop Fired Boilers

Features

- With Travelling Grate Technology
- Operations on supporting fuels such as bagasse, coal etc.
- Efficient combustion of fuel.
- Minimum power consumption.

Cane Milling Plants

Cane Milling of 12000 TCD

S.S. Engineers has always stood apart on the strong foundation of engineering, experience and enterprise. We have indigenously designed a complete sugar mill plant, meeting world class standards with high crush rates and efficiency - the integral five / six roller mill up to 45" x 90" size.

S.S. Engineers can design an economic and extraordinary milling plant of any capacity. The milling tandems are available with various drives as an option for the client and offer complete flexibility.



Cane Milling Plants

To Date
50
nos.



SS Patented Mills

To Date
260
nos.

- We are proud to state that the Super Structured Mill is first of its kind technology, the outcome of our rigorous R & D efforts.

(SUPER STRUCTURED MILLS - FIVE / SIX ROLLER, INTEGRATED)

Unique Features :

- The Feed Roller can be easily removed without dismantling the pressure chute or pressure feeder unit (Top, Discharge rollers can also be removed, as usual).
- Extremely short pressure chute.
- Least possible contact (nip) angle which leads to efficient mill feeding.
- Lowest power consumption for given crush rate.
- Least apex angle of mill.
- Very high crushing rates with better extraction.

Patented Mill



Diffuser

To Date

6

nos.

- Consumption of power is lesser than a mill tandem
- Very low maintenance costs involved
- Extraction of sucrose from prepared cane is very high
- Thermal balance for co-generation projects improving export of power
- More flexibility
- Common for Cane, Beet & Sweet Sorghum
- No major foundation
- No mill house building
- No mill house crane



Indian Sugar Manufacturing Company Ltd.

Capacity : 4500 TCD



Sharayu Agro Industries Ltd.

Capacity : 6000 TCD





Boiling House



Boiling House Equipments

Efficient designing of boiling house equipments plays a major role in minimizing the steam and power consumption with optimum throughput. Our designs have cut down power requirements by 40%. Similarly, special vapour bleeding systems along with pressure stabilization have resulted in higher throughputs of equipments and have reduced the steam consumption to 40% on cane.

Centrifugals

We have recently started the manufacturing of Centrifugal machines which comprise of the Batch type as well as Continuous type and till date we have commissioned / under manufacturing 90 Nos. (Continuous type & Batch type) machines for various Sugar factories in India.



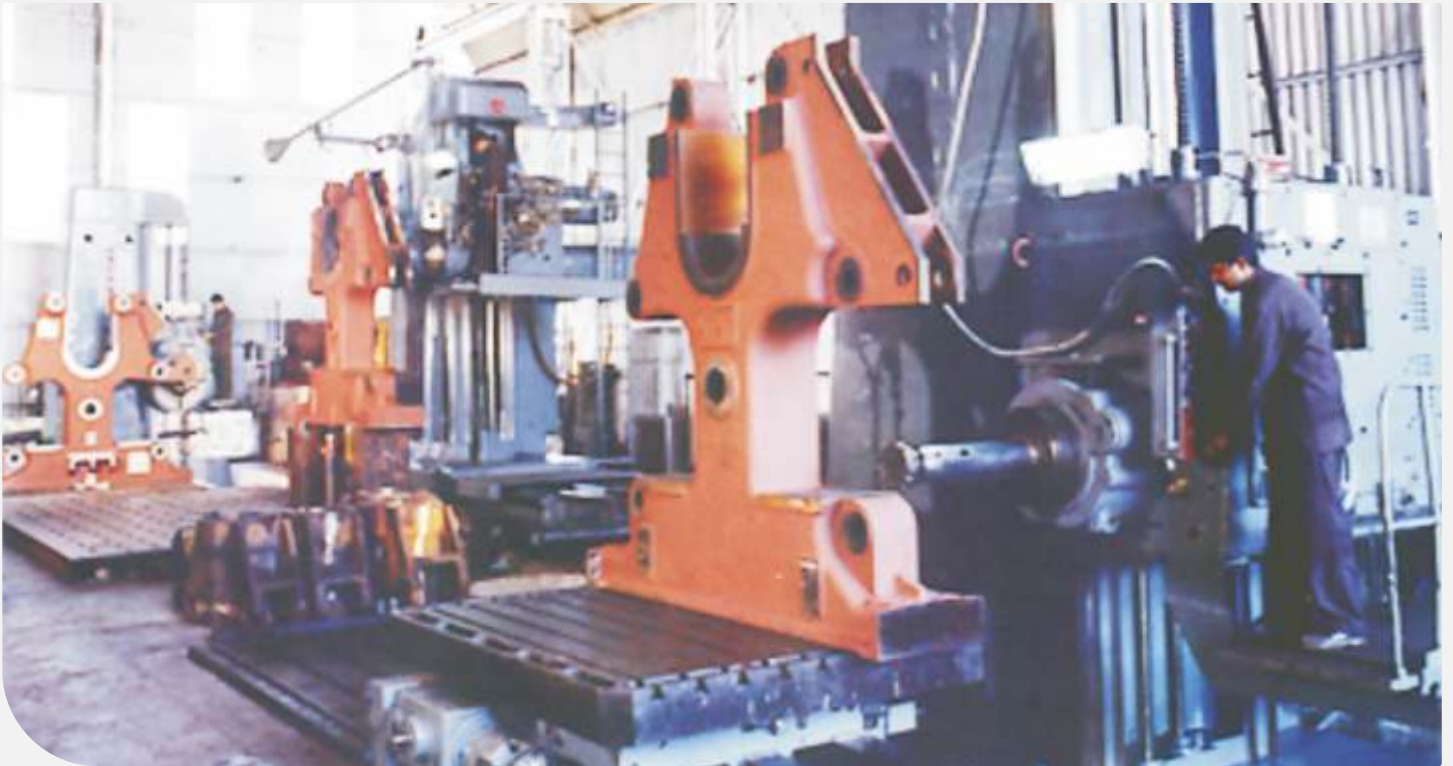
To Date
200
nos.

We intend to shortly introduce the SSK 1800 and the SSB 2000 to our product range.

Continuous Type Centrifugal Machine	Batch Type Centrifugal Machine
1. SSK 1100	1. SSB 1250
2. SSK 1500	2. SSB 1750



Workshop Facility



Mill headstocks machining on Boring Machines



Boiler drum drilling



Boiler manufacturing shop



Drum shell Welding on SAW Machine



Furnace Panel Assembly



Mill Parts ready for Dispatch





Quality Control

There is a separate cell of engineers exclusively dedicated to maintain the highest standards of quality control for our products. A strict vigil is also kept on sub-contracted jobs to ensure high level of product quality. Wherever required various tests are carried out at different stages of productions, like -

- Ultrasonic testing
- Radiographic testing
- Hydraulic testing
- Dye-penetration test
- Tolerance measurements to assure accuracy using imported tools, etc.

Apart from our rigorous in-house testing and elaborate quality assurance plans, we also have regular client-selected third party inspections by agencies such as NFCSFL, VSI, Lloyds, Boiler authorities, SGS etc. etc.

Manufacturing Facilities

S.S. Engineers has four heavy machining and manufacturing workshops admeasuring 1800, 3400, 5700 and 6000 sq.m. each. All these workshops are well equipped with latest machineries, equipments and handling facilities to meet the challenges of executing several projects at a time. These manufacturing facilities are manned by experienced team and well qualified engineers, who adhere to the keyword - QUALITY.

In order to cater to the increasing demand from the industry, we are coming up with an additional world class manufacturing facility on 100 acres of land.

Expansion and Modernization Projects

To Date
Pressure Feeders
350
nos.

We undertake expansion & modernization projects to economically and easily increase the crushing capacities of existing mills. S.S. Engineers has developed SSTRPF / SSGRPF Systems (Short Space Toothed Roller Pressure Feeder / Short Space Grooved Roller Pressure Feeder) which have removed all the drawbacks in the conventional Pressure Feeder technologies by providing smaller contact angle, reduced length of pressure chute and better mill feeding. S.S. Engineers has designed and installed rake carriers with 800 inclination successfully to install pressure feeder in short center distance between adjacent mills. Cane preparation and high imbibition water is the key to reducing milling losses. S.S. Fibrizers having swing hammers, pocketed anvil and high speed drive, deliver cane preparation index of over 87. S.S. bath maceration system also gives high efficiencies.



Trend Setting Innovations

FIRST TIME IN INDIA

- Super Structured Integral Five roller mill with in-built expansion capacity up to 160% at Shrigonda S.S.K. (1993-94) - Patented
- S.S.T.R.P.F. (Short Spaced toothed roller pressure feeder) assuring increased crush rate up to 160% at Terna S.S.K. (1986-87)
- Simple Slat type traveling grate (S.S. Grate) at GSR Sugars Ltd., Hyderabad (2007)
- Swing Hammer, Semi-Circular Anvil fibrizer (S.S. Fibrizer) assuring +85 preparation index at Kopergaon S.S.K. (1986-87)
- Entire juice extraction done using only one fibrizer, one diffuser and one mill at Andhra Sugar Ltd. (1995-81)
- Full size C.I. under feed roller assuring 15% gain in capacity and 1% gain in extraction at Terns S.S.K. (1980-81)
- Maceration System re-circulating feed roller juice, providing bath maceration for bagasse at Dynaneshwar S.S.K. (1989-90)
- Falling film Evaporator with unique feature of independent wetting with separate nozzle for each tube at Dnyaneshwar S.S.K. (1994-95)
- Installation of fibrizer on apron cane carrier (not at head end) at Ajinkyatara S.S.K. Ltd. (1990-91)
- Installation of indigenously designed diffuser at Indian Sugar, Chadchan (2009)





Record Achievements In Sugar Industry Only By S. S. Engineers

- Year 2001 Onwards.
 - Complete Sugar Plant- 31 Nos.
 - Cane Crushing Mills - 260 Nos.
 - Industrial Boilers - 90 Nos.
- Turn-key sugar plants repeat orders from 7 nos. Clients.
- Maximum innovations in Sugar industry.
- Record execution from concept to commissioning of 3 nos. 9000 TCD complete sugar plants in 12 months For M/s Bajaj Hindusthan Ltd., at Thanabhavan, Budhana and Bijnaur.
- Achieved over 5 lakh tonnes crushing on 4 mills of 30" x 60" size in its first test crushing season at M/s Siddhanath Sugar Mills Ltd., Solapur (2010 – 11)

- 5 turnkey projects in one season (2 times)

Season 2002-2003

- Mohanrao Shinde SSK Ltd.,
- Rajarambapu Patil SSK Ltd.,
- Shambhu Mahadev Sugar & Allied Industries Ltd.,
- Kukadi SSK Ltd.,
- Boramdev SSK Ltd.

Season 2014-2015

- Bhairavnath Sugar Works Ltd.,
- Baliraja Sakhar Karkhana Ltd.,
- Kancheshwar Sugar Mills Ltd.,
- Babanraoji Shinde Sugars and Allied Industries Ltd.,
- Balaji Sugars and Chemicals Pvt. Ltd.

- Lowest captive power consumption of the plant.



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