
SERVODAY
WWW.WOODPELLET.JN
BAMBOO
PELLET PLANT
SERVODAY GROUP
50
ANNIVERSARY

Servoday Group

Responsibilities

1 Concept

2 Idea

3 Process Engineering

4 Automation

5 Training

Not a waste until wasted

BAMBOO

IDEA

BAMBOO

Specifications

RICE STRAW

CHARACTER

High Water Content
Low Emission
Environmentally Friendly
Less Ash Content
Low Sulfur Content
High Heat Value

PROPERTIES

Calorific Value: 16.0 MJ/Kg.
Fixed Carbon: 15.0%
Volatile Matter: 80.0%
Ash & Silica: 1.8%
Cellulose: 43.0%
Hemicellulose: 15.0%
Lignin: 26.0%

DENSITIES

Loose: 310-400 Kg/M3
Pelleted: 1100 Kg/M3

BAMBOO PELLET PLANT

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BAMBOO PELLETING PLANT
PROCESS ENGINEERING

1 HANDLING

2 CHIPPING

3 DRYING

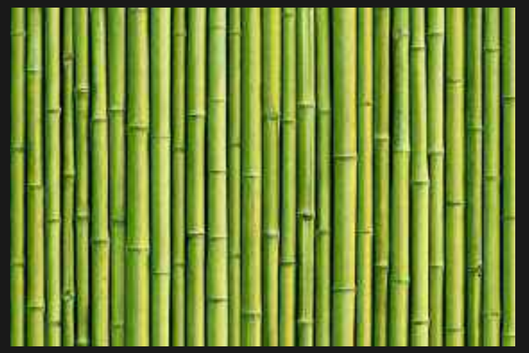
4 GRINDING

5 MIXING

6 PELLETING

7 COOLING

8 STORAGE



BAMBOO HANDLING

- Density: 310to 400Kg/M3
- Size: <150MM Diameter x 6.0 Meter Length

Mechanical Handling

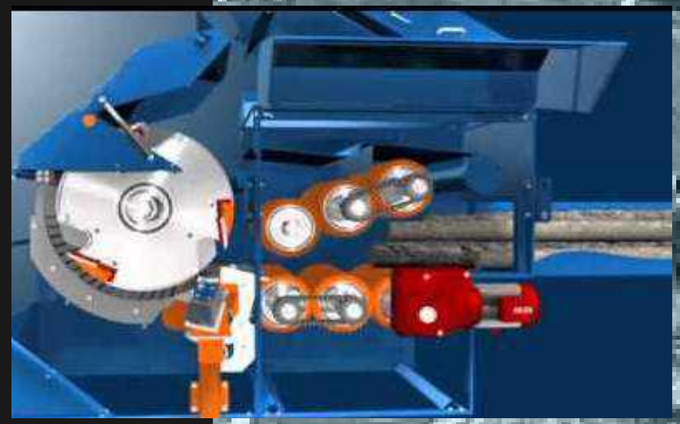
- Bamboo Unloader
- Radial Loader

Process Line:

Bamboo Unloading from Truck - Stacking - Covering - Loading to Chipper

BAMBOO CHIPPING

- The Wood Chipper breaks down the logs, off cuts and wood waste coming from Saw mills and biomass waste to the required input size for Hammer Mill, the Drum fitted with sets of blades that carry out this process, the internal screens of the Chipper work to cut each chips to the shape and size as set with screens, anything larger than the set size cannot pass through the Drum Chipper of Wood Pellet Production Plant.



Process Line:

Drum Chipper - Runout Conveyor - Dust Collection Unit

STRAW SHREDDING

BAMBOO DRYING

- Rotary Dryer and Flash Dryer, highly recommended for Biomass Pellet Production Plants, the Bamboo Chips with high moisture content enters from one side of the Dryer and comes out from the other end with 8 to 12% of moisture, the hot air passing through the Dryer raise the inner temperature and Rice Straw dried to the required level of Biomass Pellet Production Plants.

Process Line:

Tubular Conveyor - Rotary Dryer/Flash Dryer - Tubular Conveyor - Air Circulation System - Dust Catcher - Redler Conveyor - Hydraulic Moving Floor

BAMBOO GRINDING

- Hammer Mill to grind bamboo chips in to small pieces, the heavy-duty Tear Drop design comes with:-
- Air Swept design
- Dual hammer position
- Mill Regrind chamber
- Diamond hammers
- Bearing Temperature monitor probes
- Vibration switches
- Trap key interlock
- Replaceable Abrasion-resistant wear liners

Process Line:

Redler Conveyor - Magnetic Separator - Feeding Hopper - Multi Screw Feeder - Hammer Mill - Dust Separator Unit - Redler Conveyor - Hydraulic Moving Floor

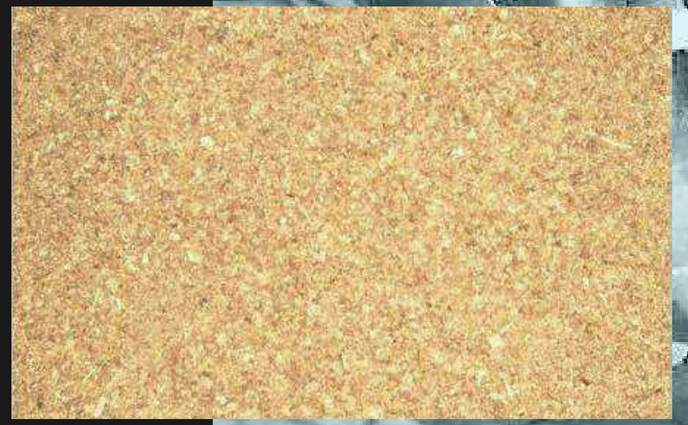
STRAW GRINDING

RIBBON MIXING

- Mechanism of mixing is shear.
- Shear is transferred by moving blades.
- High shear rates are effective in breaking lumps.
- Convective mixing also occurs as the straw powder bed is lifted and allowed to cascade to the bottom of the mixer.
- An equilibrium state of mixing can be achieved.
- Consists of horizontal cylindrical trough. Fitted with two helical blades, which are mounted on the same shaft through the long axis of the trough.
- Blades have both right and left hand twists.
- Blades are connected to fixed speed drive.
- Water spray system to control moisture of straw materials.

Process Line:

Reder Conveyor - Ribbon Mixer - Feeder



RIBBON MIXING

BAMBOO PELLETING

- Ring Die type design.
- Compact, quiet, smooth and positive.
- Pellet Mill direct-gear drive systems are known for their trouble-free operation and extremely long operating life.
- Energy transfer is most efficient in this system.
- Direct drive offers reliability and low maintenance.
- Pellet mill “gear box concept” makes the machine exceptionally efficient and compact.
- The installed motor can conduct its energy directly to the installed rollers and die.
- The Pellet Mill with gearbox concept also allows the installation of commonly available high efficiency motors with high power ratings.

Process Line:

Feeder - Conditioner - Pellet Mill - Redler Conveyor

RING DIE & ROLLERS

- Ring Dies are manufactured from the highest quality refined steel forgings. Normally in the following specifications: 4Cr13, X46Cr13, & 60Si2Mn (tempered to 53-55 HRC).
- Roller shells are manufactured from high carbon steels. Normally in the following specifications: C50, 100Cr6 or 20MnCr5.
- All roller shells are surface hardened, ensuring our roller shells have maximum durability and a long working life.

RING DIE & ROLLERS

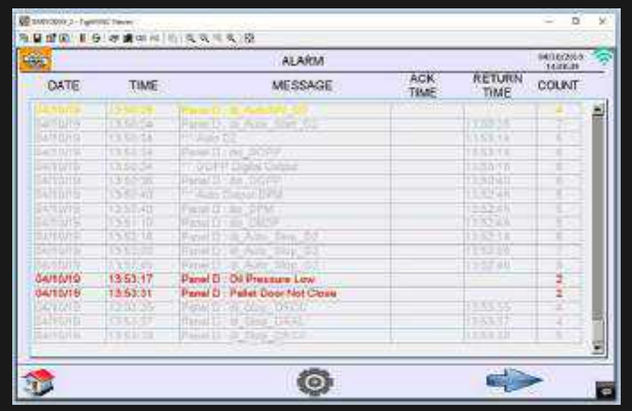
Process Line:

Feeder - Conditioner - Pellet Mill - Redler Conveyor

MILL PROTECTION

- Air Cooling type forced circulating Lubricator.
- Automatic cycled lubrication.
- Equipped with Air cooling device to cool the lubricant.
- Will send a signal when pressure is too high or no lubricant discharged.
- Online greasing system to lubricate Rollers with accurate input of grease every hour.
- High temperature protection to main bearings.
- Live Pellet Chamber temperature monitoring.
- Digital Roll RPM monitor.
- Shear Pin sensor.

System Logs:



PELLET COOLING

- Pellet Cooler uses the principle of counter current cooling to cool high temperature and high humidity pellets, that is, the ambient cold air passes vertically through the layer, first with the cold phase.

- The hot air heated in contact with the hot material and the direction of the wind flow is opposite to the direction of the flow.

Process Line:

Redler Conveyor - Rotary Valve - Pellet Cooler - Vibro Shifter - Redler Conveyor - Air Circulation and dust collecting system

PELLET STORAGE

- Storage Silo for Biomass Pellet Production Plant provide a safe, efficient material handling solution for wood pellet, we design and supply silos with flexibility to comply with varying specification for the safe storage of pellets, capacity starts from 1.0 Tone to 1000 Tones.

Process Line:

Bagging - Pallating - Loose

AUTOMATION

- Enhance operations and improve pelleting efficiency with SERVODAY Pellet Plant automation system. It’s the most cost-effective solution for pelleting control without a database. The flexible mounting design ensures it will conform to your unique environment and pelleting process, which means no unscheduled downtime, making your facility 10–15% more efficient.

Automation Features:

PLC - HMI - SCADA - VFD - IOS & ANDROID APP - IR-PRESSURE-OIL-TEMPERATURE-FLOW SENSORS - STATATICS - ANALYSIS

TURNKEY SOLUTIONS

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TURNKEY SOLUTION

Our scope of work includes Design, Fabrication, Supply, Erection, Commissioning and Training.

PLANT CAPACITIES:

From 1 TPH to 25 TPH

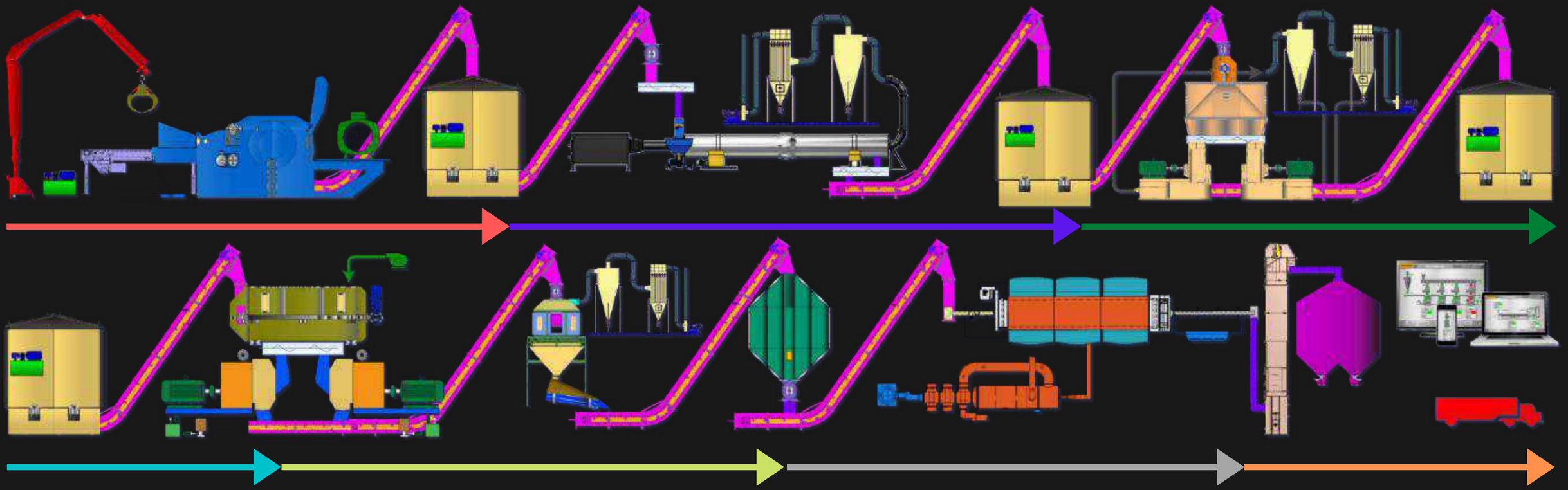
PELLET QUALITY
BAMBOO

EN PLUS QUALITY PELLETS DIN 51731 FROM PELLET PRODUCTION PLANT

All of our Wood Pellet Production Plants produce highest quality A1 specification pellets, which are accredited through the European EN Plus specification.

The EN Plus quality seal stands for low emissions and trouble-free heating with high energy value. All wood pellets within EN Plus specification must meet the following requirements.

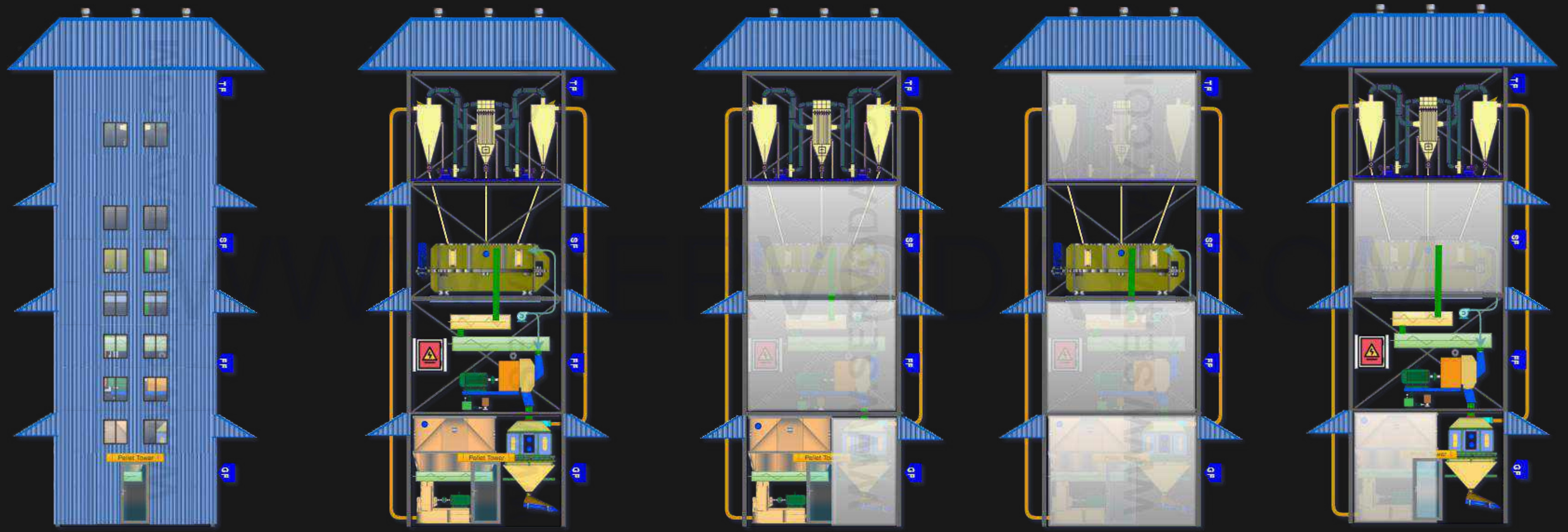
GENERAL FLOW CHART
CAPACITY 5 TO 25 TPH



1 CHIPPING SHREDDING
2 DRYING
3 MILLING
4 MIXING
5 PELLETING
6 TORREFACTION
7 STORAGE

TOWER PELLET PLANT

CAPACITY 1 TO 5 TPH



1 BUILDING

2 PLANT

3 GRINDING

4 MIXING

5 PELLETING

USE OF RAW MATERIALS

3

PELLET RAW MATERIALS

WASTE TO BEST

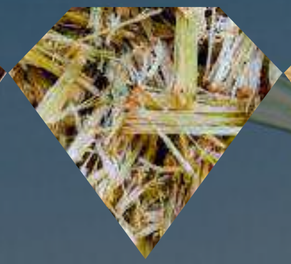

WOOD


CHIPS


SAW DUST

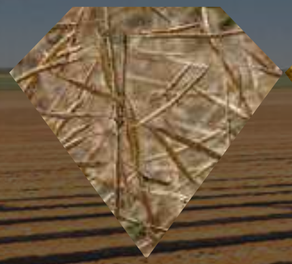

OFF CUTS


WOOD WASTE


BAGGASE


STRAW

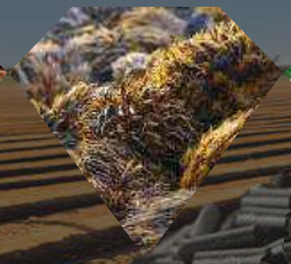

PADDY HUSK


MUSTARD


COTTON STALK

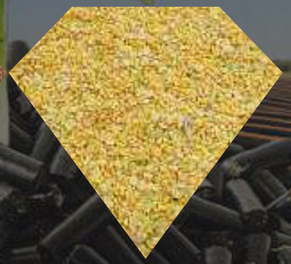

COTTON HULL


PALM KERNAL


PALM EFB

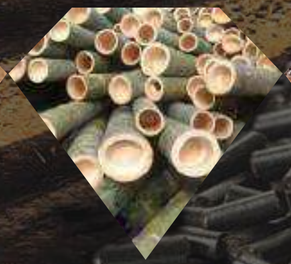

JULIFLORA


PEAT


SOYA HUSK


COBS


COCONUT


BAMBOO


COFFEE SHELL


MSW COMPOST


FERTILIZERS


FORESTRY


CHIPS

PELLET FUEL

ENERGISING YOUR WASTE


BOILER


BURNER


STOVE

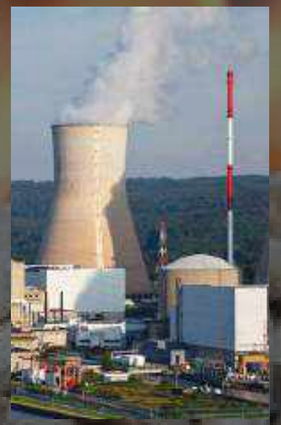

STEEL


HOUSE HEATING


BAKERY


CEMENT KILN


PADDY HUSK



DIVERTING WASTE FROM LANDFILLS

WASTE TO ENERGY

COMPOST PELLETS

FOOD FOR SOIL & PLANTS

Raw Materials	The most common raw materials used to make compost are yard wastes such as grass clippings, leaves, weeds, biomass, crop resudues, animal manure, residues after oil extraction and compost from Municipal compost facilities.
Compost Pellets	This innovative form of compost allows the soil to be nourished slowly over time, in a way that plants love.

N NITROGEN LEAF GROWTH	**P** PHOSPHORUS ROOT FORMATION	**K** POTASSIUM PLANT IMMUNITY

Value Added Biosolids Pellets	Biosolids pellets provide slow-release nutrients meaning that it takes microbial activity in the soil to release the soluble forms of nitrogen (N), phosphorus (P), and potassium (K)that plants can absorb.
NPK Organic Fertilizers	Variety of NPK Organic Fertilizer Pellets can be made with soil organisms to break them down and release their nutrients, so they release more quickly when the soil is warm and the soil food web is at its most active.

COMPOST FEEDS THE SOIL & FERTILIZER FEEDS THE PLANTS!

NPK ORGANIC FERTILIZER PELLETS

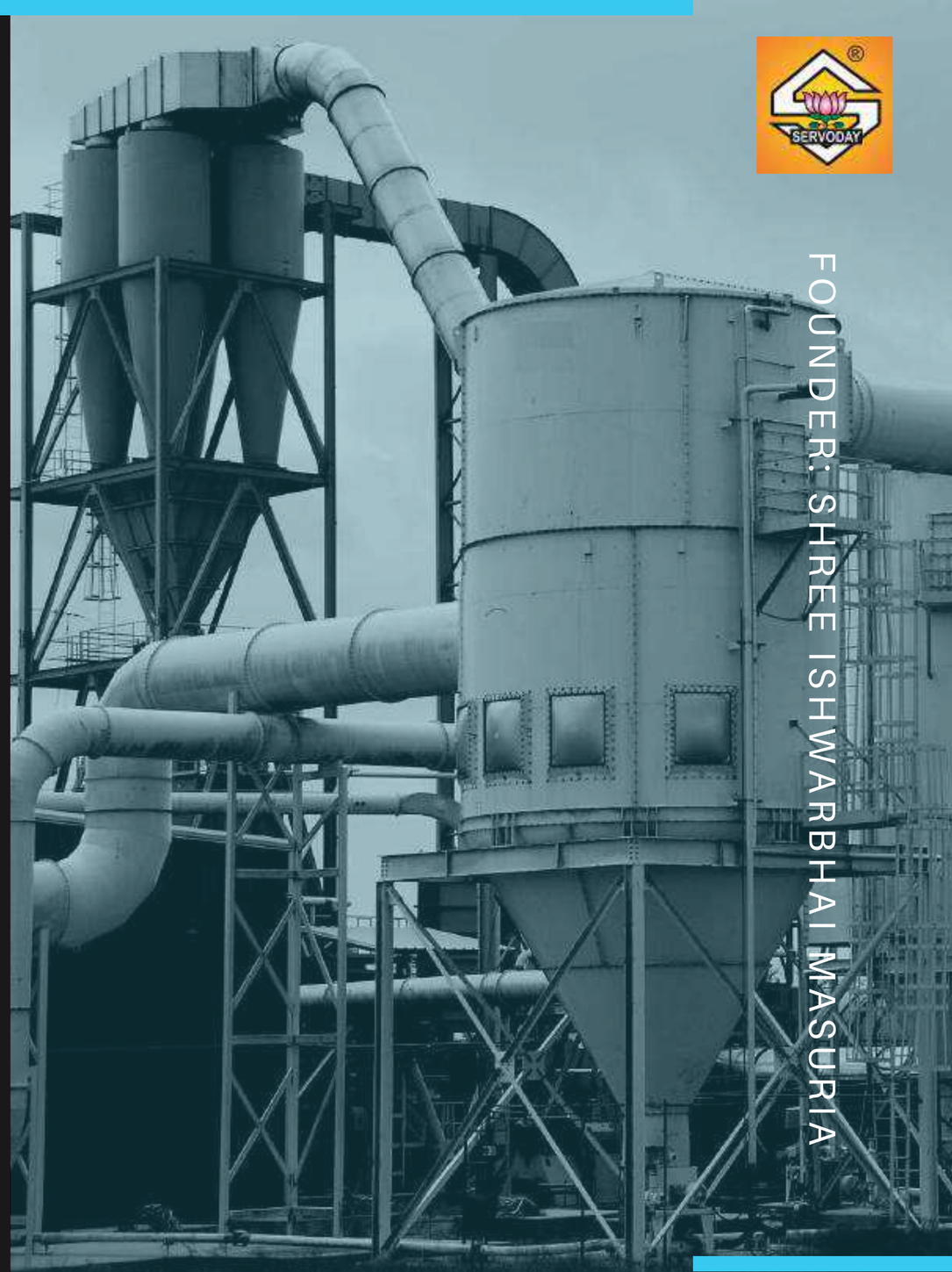
ABOUT SERVODAY GROUP

4

Empower with Servoday Group

Servoday Group a engineering firm providing services to the industrial client. The firm specializes in design, manufacture, erection, commissioning and managing complete industrial plant project on TURNKEY basis, as well as technical support and training programs for a variety of processes. The firm’s commitment to high quality service to its clients has led to the growth of the company over the last 50 years.

Concept to Commissioning



FOUNDER: SHREE ISHWARBHAI MASURIA

Founding Father

Servoday Group

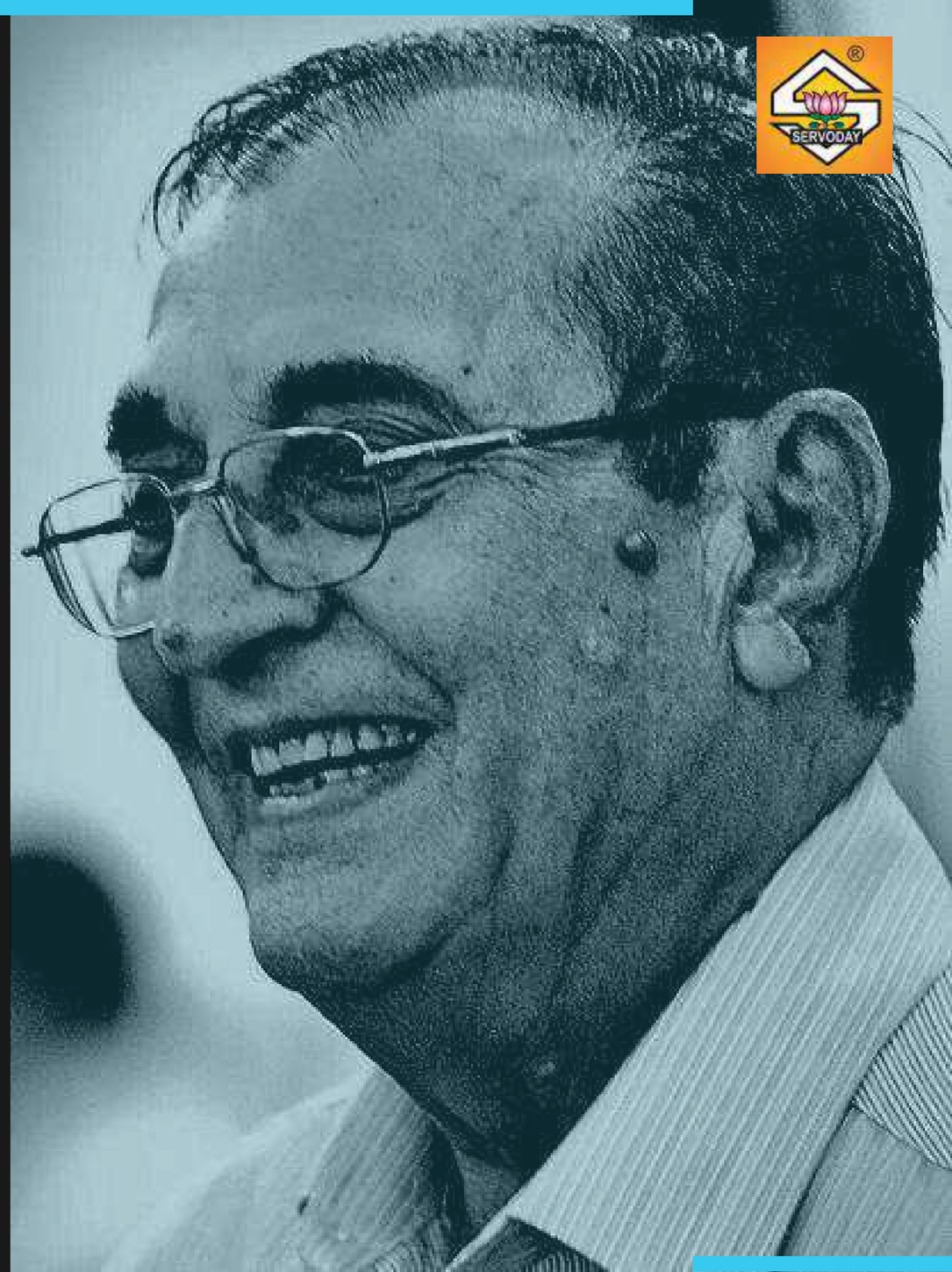
I am proud to announce that we have reached another milestone in the history of our company. Earlier this year marked our 50th year in business. What began as a small operation in a rented place is now a well-established manufacturing facility.

Our company has many achievements and accomplishments, with many notable projects completed in India and around the world. We wish to thank our clients, vendors and stakeholders for their support.

Also, without the support of our excellent Servoday Group team, our success would never have been possible. Each employee plays a very important role in the success of our company. It is their enthusiasm, support annd dedication that have brought us this far. Servoday shall forever remain indebted to the contributions of its employees - past and present!

Our founding father the late Shri Ishwarbhai R. Masuria

Since 1971



Turnkey Projects by Servoday Group

INDIA AND ABROAD

22

SOLVENT PLANTS

For Soya, Ground Nut, Rice Bran etc. From 100 to 350 TPD

OIL REFINING PLANTS

38

Edible & Non Edible Oil Refining Plant from 10 to 100 TPD

87

OIL MILLING PLANT

For Ground Nut, Mustard, Cotton, Castor etc. From 10 to 300 TPD

PELLET PLANTS

4

For Peat, Wood and Biomass, from 2 TPH to 5 TPH

Turnkey Projects by Servoday Group

58 SCRAP HANDLING GRABS

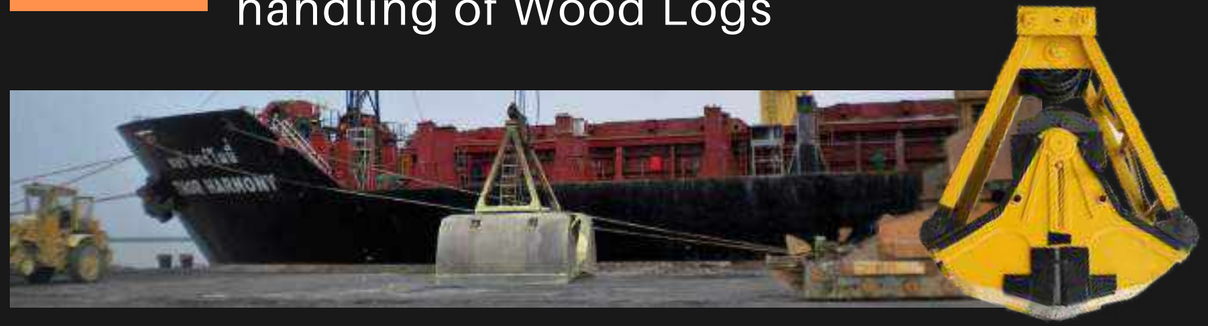
Orange Peel Grabs for handling Metal and all kind of Scraps

REMOTE CONTROL GRABS 128

For handling bulk cargo like Salt, Bauxite, Clinker, Lime, Grains etc.

26 TIMBER LOG GRABS

Haydraulic Timber Grabs for handling of Wood Logs



MECHANICAL GRABS 14

For Peat, Wood and Biomass, from 2 TPH to 5 TPH

INDIA AND ABROAD

Turnkey Projects by Servoday Group

INDIA AND ABROAD

248 PEB STRUCTURES

Steel Structures for Factory and Warehouses with EOT Cranes

8 TANK FARM

For Petrol, Diesel, Oil etc. From 5000 to 25000 Tones

14 TUBE MILL LINES

HF Welded Tube Mill Lines from 10mm to 200mm Diameter Tubes

400+ PRESSURE VESSEL

High Pressure Vessels from Carbon Steel and Stainless Steel

16 SHIP LOADING SYSTEM

For Bauxite, Sulfur, De-cake, Salt etc. From 50 to 800 TPH

500+ MATERIAL HANDLING

Redler Conveyors, Belt Conveyors, Elevators, Screw Conveyors etc.

68 LATTICE TOWERS

For Wind Mills from 100 to 800 kW to Bonus Energy Denmark

32 COIL PROCESSING LINES

Slitting Line, Cut-to-Length Line and Forming Lines

Thank you!

LET US KNOW IF YOU HAVE
QUESTIONS OR CLARIFICATIONS.

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