PRODUCT LIST

WIRE DRAWING MACHINE: The precision engineered Wire Drawing Plants fabricated by us are used for drawing straight and deflection free wire. These machines are manufactured as per the technological advancements and are appreciated for robust construction, maximum output.

Technical Specifications:

Model	SMWD-650	SMWD-600	SMWD-550	SMWD-500	SMWD-450	SMWD-400	SMWD-300	SMWD-250
Block dia mm	650	600	550	500	450	400	300	200
K.W.	37	30	22	18.5	15	11	7.5	5.5
Inlet Size								
M.S. (mm)	16	10	8	6	4.5	4	3	2
H.C. (mm)	10	8	6	5.5	4	3	2.5	1.5
Copper (mm)	16	12	8	6	5	5	3	2
Aluminium (mm)	12	12	10	10	6	6	3	2.5
Finish Size								
M.S. (mm)	3	2	2	1.5	1.2	1.2	0.9	0.5
H.C. (mm)	3	2	2	1.5	1.4	0.9	0.7	0.5
Copper (mm)	3	2	2	2	2	2	0.9	0.5
Aluminium (mm)	3	2	2	2	2	2	0.9	0.5

STRAIGHT LINE WIRE DRAWING MACHINE

S M INDUSTRIES has pioneered to indigenously develop the Straight-Line Wire Drawing Machine Technology in India. Presently the range available is capstan diameter 900mm, 750mm, 600mm, 550mm, 500mm, 460mm, 400mm and 300mm for inlet wire diameter 16mm down to 0.5mm. Line speeds up to 25 Mtrs / Sec. These heavy Straight Line Wire Drawing Machines provide remarkable drawing performance for Low, Medium and High Carbon Steel Wire, Stainless Steel Wire and special Alloy Steel Wire and Non-Ferrous Alloy Steel Wire.

Straight Line Wire Drawing Machines were developed for straight or deflection free drawing of wire to provide better draw ability, lower frictional contact and lower operator

interference. Theoretically there is no limit as far as the wire material or wire diameter is concerned to be drawn on these machines.

This machine has a sensor roller between the drum and the next die such that the wire passes in contact with this roller. These rollers have sensors to detect the position of the arm and maintain tension on the wire by regulating speed of the drums. The drums of this machine are inclined to the vertical axis to effect fill on the drums. Principally this machine is best suited for thick wires.

Features of Straight Line Wire Drawing Machine:

- Machines are built on modular structure, in combination of Blocks and do not require any special foundation.
- Better productivity due to higher drawing speeds, twist-free operation & better cooling.
- Easy operation and faster threading.
- High pressure Narrow gap, internal water cooling for high efficiency cooling of wire.
- High degree of reliability, low downtime due to lower no. of wear parts.
- Much better finish wire quality due to a gentler handling of the wire during the drawing process (less wire deviations, low torsion etc.) as well as an optimized wire cooling.
- Highly effective pneumatic braking system in case of emergency.
- Better environmental conditions due to increased dust protection.
- Greater flexibility and lower current consumption due to modern AC drive technology and efficient power transmission system.
- PLC based control with Profibus digital communication and fault diagnostic system.

Optional Fitment:

- Stripper Block
- Rotating Die Boxes
- Motorized Soap Applicator Die Boxes
- Die less drawing trough Rolling Cassette
- Laser wire diameter measurement system
- Dust Suction System
- Online Modem based PLC support

Special Features

- No slip and No twist Drawing → to obtain high quality Wire
- Limited Dancer / Tuner roller → High responsive support for high speed wire drawing.
- Full Dancer Arm → Controlled response for high speed Fine wire drawing.
- AC Inverter driven, Motor → Low inertia constant HP motors and sturdy drive for smooth working and Low Power consumption.

- Heavy Duty European Helical Gear Box → Employed to transmit heavy Torque with high efficiency. Bearings continuously lubricated.
- Induction Hardened Special alloy Forged Blocks → Build for High wear resistance and max heat transfer.
- High efficient Wide Gap turbulent water cooling → Special Jacket arrangement facilitating water turbulence to obtain maximum Heat transfer.
- External Air Blast cooling system → Additional Air blast surrounding the Drum through the State of the art intricate Sump.
- Cassette Die Box mechanism → Sturdy, High pressure design for better Die cooling.
- Brakes for the OTO Block and the Last Block → to facilitate stopping of the machine.
- DIN 800 Spooler - 1 tons Capacity → Heavy Duty, designed for high speed wire collection at 20 M/sec.
- In house built efficient electronic Programming → Proven Machine logics, efficiently programmed considering all the constraints of the Drawing operation.

TECHNICAL DATA- WIRE DRAWING MACHINES								
Block Dia	250	350	450	550	600/650	750		
High Carbon inlet wire size-mm	2.2	3	3.5	5.5	6.5	8		
Low Carbon inlet wire size-mm	2.5	3.5	4.5	6.5	8	10		
Machine Speed – M/sec	20	20	20	16	16	10		

WET WIRE DRAWING MACHINE

Available in different Capstan Diameters and Spool Sizes, these machines have multi-spindle and multi-die combination, which suit best with oil based lubricants. We also provide complete accessories and spares parts as well as custom designing to meet clients' needs.

We offer state-of-the-art Wet Wire Drawing Machine to draw intermediate wires & fine wires from Ferrous Metals, Non Ferrous Metals and Metal Alloys. Machines suitable for high-speed drawing are available with optional swivelling Die Holders, Tungsten Carbide Cone Rings for very long service life, special Lubricant Cooling System & fully adjustable exit Die Holders.

Features:

- For drawing Mild Steel, Carbon Steel, Stainless Steel, Copper, Aluminium and their Alloys
- High speed Timing Belts transmission for power saving or highly efficient Alloy Steel hardened & ground helical gear drive.
- Solid Tungsten Carbide drawing cones for very long service life or Alloy Steel T.C. Coated drawing cones for economy.
- Submerged lubrication or splash lubrication options.
- Support cone or all drawing cone design.
- Lubricant cooling system with highly efficient insulated plate type heat exchanger or through centralized lubrication system.
- Cones Shaft Assemblies are easily removable for maintenance and having centralized grease lubrication option.
- Dancer System at wire exit for providing synchronization of wire collection at spooler.
- Horizontal Spooler as per required weight with pneumatic clamping or mechanical screw clamping.
- Option to operate the machine in tandem with multi pass dry drawing machines.
- Re-Circulation of lubricant is performed by means of fluid pump, overflow and manual release valve.

ROD BREAK DOWN

We offer a wide range of Rod Breakdown Machines, which are highly effective in drawing and coiling aluminium and copper wires. Our machines are available in single or multi-cone options that are designed to fulfil varied requirements of the user. In addition, there are ring type drawing capstans for convenience and low maintenance of the machine. Besides this, all the transmission gears and bearings are enforced with lubricants. We also offer customized designing and developing Rod Breakdown Machines as per the client's requirements.

Option available to have hardened & ground gear drive or to have timing belt drive arrangement for better efficiency, lower maintenance, reduce sound level and zero vibration.

Specifications:

- Can work with spooling machine & coiler
- Energy efficient and power saving over gear driven machines.
- Max. Speeds up to 20 mtrs./min.
- 7 Die to 15 Die machines available.
- Available with or without online annealing.
- Online filtration and cooling system.

MIG WIRE PLANT

S M INDUSTRIES offers MIG welding wire plant - A high speed integrated Copper Coating line for high-speed continuous drawing and inline copper coating of solid welding wires.

S M INDUSTRIES entrusted by its honoured customers with the responsibility of providing a modern high speed, simple to operate, low cost and low down time machine had to go to the drawing board and come up with several offerings to suit customer needs. The line basically consists of pay off with entanglement sensing arrangement, Pre Dry Wire Drawing Block, 11 Die five spindle Wet Drawing Machine, Stainless Steel or FRP / PP Copper coating tank with rotating skin pass finishing die, triple deck BB-Block with killing arrangement and Spooler for plastic spools or bulk spool. Also pointing-cum-threading machine, butt-welding machine, control panel and control desk are part of the complete plant

Plant Features and Options:

- Wet Wire Drawing Concept
- High Speed, high efficiency Belt Drive for sound less and maintenance free Transmission of power in Wet Drawing Machine.
- Solid Tungsten Carbide Drawing Cones for high service life and best quality wire finish.
- Copper coating tank made out of Stainless Steel or Fibre Reinforced Plastic and Poly Propylene material with five or six chambers and required heating arrangements.
- Cast Nylon specially engineered plastic pulleys for corrosion resistance in coppering tank.
- Adjustable Killing Rollers 11 or 13 each in Vertical and Horizontal planes for proper Cast and Helix both at BB Block and Spooler.
- Wire accumulation at BB- Block for continued working when spooler stops.
- Pneumatic clamping of spools for faster working at the spooler.
- Traverse with Variable Pitch adjustment using A.C. Variable Drive or variable U-Hinge traverse.
- Complete plant controlled by one man using the centralized control station.
- Coating tank with ceramic pulleys and fume enclosing top cover available optionally

FLUX CORED WIRE DRAWING MACHINE

The fabrication of a Flux Cored Electrode begins by slitting steel coiled sheet into strips. The strips are passed through rollers that form it into a U-shaped cross-section. In the same operation, the formed strip is filled with a measured amount of core ingredients. The U-shaped strip is passed through closing rolls, forming it into a tube and tightly compressing the granular core material.

The tube is then passed through drawing dies that reduce the diameter and compress the core ingredients to prevent any movement within the tube.

Equipment's required

Rewinding line composed of:

- Strip Coil Pay Off.
- Strip Butt Welding
- Strip Washing Unit
- Strip Spooling Machine

Forming and Pre Drawing Line Composed of:

- Spool Pay Off.
- Tube Forming, filling and closing unit.
- Wire Drawing machine
- Spooler

Redrawing Line Composed of:

- Spool Payoff
- Wire Baking oven.
- Wire drawing machine.
- Lubrication unit.
- Spooler

Layer Rewinding Line composed of:

- Motorized spool payoff.
- Pneumatic dancer synchronizer
- Layer winder for steel baskets or plastic spools.

Flux Core Wire Advantages:

The Flux Cored Wire (FCW) offers many advantages, including excellent weld metal quality, high deposition rates, and ease of operation. Labour and overhead are the most expensive factors in any welding operation, usually comprising 80 to 85 percent of the total cost. Welding with high deposition FCW electrodes provides an immediate means of cost reduction without a major investment in specialized equipment.

- Excellent weld quality due to deep penetration and lower root opening of the joint.
- All position versatility with the right filler metals (the consumable electrode) with or without gas shielding reduces setup time and requirement of special fixtures.

- Shielding gas not necessarily needed making it suitable for outdoor welding and/or windy conditions.
- A high-deposition rate process because of the relatively high current density (speed at which the filler metal is applied).
- Less post cleaning of metal required as weld joints are smooth with almost no ripples and very little spatter.
- Metallurgical benefits from the Flux such as the weld metal being protected initially from external factors until the Flux is chipped away.

IN- LINE WIRE ANNEALER:

Product description:

This machine offered comes supported by advanced system that provides for desired wire elongation. With the system suitable to be attached with wire drawing machine that allows for achieving uniform, properly synchronized wires, the wires drawn are of superior quality without any tarnishing possibilities.

Further, the Inline annealer provides for cost effective and time saving operations in industry processes requiring wire drawing and it's annealing in a single process.

We can also provide the system with different die combinations depending on inlet diameters of copper as well as diameters needed of finishing wire.

Features:

- Quality performance based Inline Annealer
- Annealing machine coming with advanced system that provides for desired wire elongation
- System suitable to be attached with wire drawing machine that allows for achieving uniform, properly synchronized wires
- Wires drawn are of superior quality without any tarnishing possibilities

- Inline annealer provides for cost effective and time saving operations in industry processes requiring wire drawing and it's annealing in a single process
- System can be provided with different die combinations depending on inlet diameters of copper as well as diameters needed of finishing wire
- Latest technology based annealer system provides for superior annealing of copper wires in proportion to annealer output
- Allows achieving optimum synchronized wires and annealing support in a single process approach

WELDED WIRE MESH MACHINE

We present Welded Wire Mesh Plants that are used for manufacturing wire mesh for fencing purposes. The plants are manufactured in accordance with set industrial standards using graded materials and components. The wire mesh plants offered by us are high on withstanding capacity and require less maintenance.

Product Details:

- Range of Cross Wires (mm): 1.3 - 2.0 to 2.5 - 6.0
- Cross wire spacings (mm): 10-100 to 25-200
- Line wire spacings (mm): 15-100 to 50-200

Technical Specifications:

Technical Data		MODEL SM-120	MODEL SM-160	MODEL SM-200	MODEL SM-250
Maximum Welding Width	mm	1200	1600	2000	2500
Line wire spacings	mm	15-100	25-150	25-150	50-200 (25-optional)
Cross wire spacings	mm	10-100 Steplessly adjustable	25-200 Steplessly adjustable	25-200 Steplessly adjustable	25-200 Steplessly adjustable
Range of line wires	mm	1.3 – 2.0	2.0 – 6.0	2.0 – 6.0	2.5 – 6.0
Range of Cross wires	mm	1.3 – 2.0	2.0 – 6.0	2.0 – 6.0	2.5 – 6.0
Maximum Working speed		100	100	100	100
Power load at 50% I.D.	KVA	210	420	420	600

RIBBED WIRE PLANT

Cold Ribbed Wire Plant

S M INDUSTRIES offers high speed integrated Cold Ribbed Wire Plant for high-speed continuous drawing and ribbing of Mild Steel Low Carbon wire rods used for construction bars & mesh welding.

S M INDUSTRIES entrusted by its honoured customers with the responsibility of providing a modern high speed, simple to operate, low cost and low down time machine had to go to the drawing board and come up with several offerings to suit customer needs. The line basically consists of double Skin type Tilting Pay Off hydraulically operated with entanglement sensing arrangement for high sped non-stop high speed wire rod pay off, inline de-scaler in horizontal and vertical plane with motorized brushing arrangement, double deck drawing cum ribbing machine with or without two speed gear box with lower deck for sizing and upper deck for ribbing. Line consist of imported ribbing cassette having option for different ribbing patterns, cheese type spooler with hydraulically operated traverse, spool clamping, spool lifting and spool shifting for fast and easy loading / unloading of spools. Also Pointing Machine, Butt-Welding Machine, variable speed A.C. Vector Frequency Drive Control Panel and Operator Control Station are part of the complete plant.

Plant Features and Options:

- Standard Ribbing Cassette used.
- Hydraulically tilt able Dual Head Pay Off for continuous easy feeding of Wire Rod Coils by Overhead Crane or fork Lift.
- Hydraulically tilt able neck type Overhead Pulley for faster stinging operation and easy operator reach.
- Dual plane adjustable roller type De-scaler with hardened wear resistant rollers with high service life with Inline Motorized Brushing Unit for absolute scale free rod surface.
- Motorized Lube Box for Better Lubricant Coating Before Pre-Drawing.
- Double Deck Chromium Carbide Matrix Coated Capstans internally water cooled for long service life.
- Suitable Operator Safety Features Built-in the System like Guards, Wire Brake Sensors, Emergency Locks, Etc.
- Pneumatic / Hydraulic clamping, shifting, lifting and setting of Spools for faster working at the Spooler.
- Traverse with heavy duty Hydraulic Cylinders with Hardened Guide Rods or individually motorized belt driven pneumatic clamping traverse.
- Complete Plant Controlled by One Operator from the Control Desk Having Well Programmed Production Process.

ELECTRIC OVERHEAD TRAVELLING CRANES

The EOT cranes are cranes that traveling along a bridge between two parallel runways that supported by the structures of the factories themselves. The hoist and the trolley are placed on the bridge beam. They move the loads up and down as well traveling along the beam as right and left. Through the end trucks travels along the runway system, the EOT crane moves the load forward and backward. So, the EOT crane offers three axes of hook motion and can move the load with no limitation in a rectangular area. Same as other famous EOT cranes manufacturers, we try our best to provide the high quality cranes. Our EOT cranes are available in top running and under running, single and double girder configurations. Every variety of EOT cranes owns irreplaceable advantages. Top running EOT crane is the most common style. But when the height of the factory is limited, to get the maximized lifting height, the under running EOT is the better solution to solve this problem. Because of the more rigid structure, the load ability of double girder EOT crane is better than single girder. Generally, EOT crane can be used at any capacities for load movement.

What is the advantage of EOT crane?

- Eot crane can provide three axes of hook motion and cover a large rectangle area. The area can increase by prolong the length of end trucks.
- Installed in the upper part of the plant, it take little floor space. The possibility that need of forklifts and meet obstacle is reduced. This in turn improve the safety and efficient.
- It is typically adapted to harsh and heavy load environments, such as steel industry, the paper industry, power generation and refineries.
- With the favourable structure, eot crane need less maintenance compared to other kind of lifting equipment. It is more cost effective.

DRUMPACK MACHINES

Drum Pack Machines

With the advent of robotic welding and high speed automated MIG Welding machines the need for wire in larger packaging evolved. Problem faced with larger packs on spools was to utilize a complicated system of motorized pay offs synchronized with the welding system to supply the wire in the required form and speed.

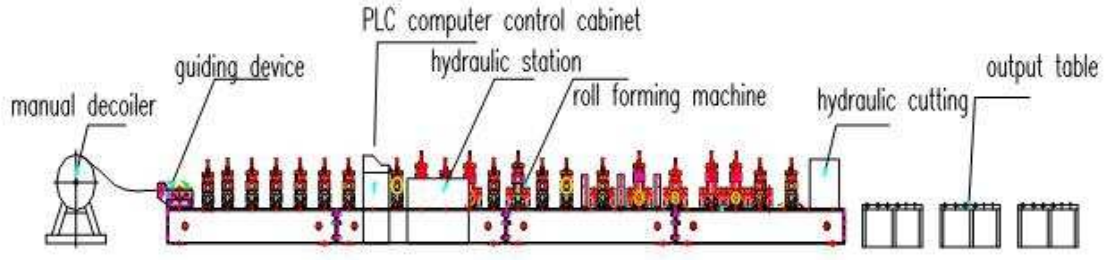
Hence Drum Pack or Pail Pack was developed internationally to provide wire in cardboard drums with an inner core. The machine used is called a Pale Packer / Drum Pack Coiler / No Twist Coiler.

The difference in between coiler used for packaging of MIG wire and any other wire is that the wire does not have any pre-set diametric cast and is called pre-straightened wire.

Features of the Machine are:

- Wire size dia. 1.60 / 1.20 / 1.00 / 0.80 mm.
- Max line Speed up to 25 Mtrs/Sec.
- Feeding through driven Pay off DIN-800 / 630.
- Allows wire to be fed at relatively high speed without entanglement and continuously.
- Pre - Straightened Wire hence very low back tension for the Pay Off.
- No Driven Pay Off is required by the customer.
- Different Drum sizes for 100kgs to 600kgs wire weight.
- Lower packaging cost than winding on Plastic Spools.
- Lower maintenance cost for end user.

ROLL FORMING MACHINE



1. Manual decoiler: manual decoil, passitive expansion
2. Inner diameter of decoiler: 508mm, 610mm
3. Decoiler capacity: 5T
4. Machine stand: welded by steel structure, shot blast after welding, get rid of inside stress
5. Motor power of forming machine ： 7.5KW
6. Motor power of hydraulic station ： 3KW

7. Hydraulic oil pump：gear pump CB-E314
8. Roll stand：30 stations
9. Forming speed：10m/min
10. Material of roller：No. 45 forging steel
11. The surface of roller coating chrome：single surface 0.05mm
12. Type of forming machine: wallboard type chain transmission
13. Diameter of shaft: ₵75mm
14. Height of centre: 130mm
15. Chain: 16A
16. Cutting ways: hydraulic forming cutting
17. Material of cutting blade: Cr12, Quenching hardness HRC60°-62°
18. Thickness of steel coil: 0.3-0.6mm
19. Panel width of feeding: 1220mm
20. Tolerance of length：10m±2mm
21. Specific size of profile: conform to roll forming panel GB/T12755-2008 standard used for china construction
22. Form of guiding with feeding station：side trolley type
23. Transducer: Hongquan (Taiwan Brand)
24. Computer adopts PLC, Mitsutishi FX-IS Series
25. Hydraulic systemic working pressure: 12Mpa
26. Computer control system: whole machine adopts industrial computer PLC control, operating board adopts Xinjie OP320A
27. Output table: roller type
28. Voltage: 380V50HZ3PH

CONCRETE RE-INFORCEMENT MESH PLANT

We are involved in the fabrication of Concrete Reinforcement Mesh Plant. The plant is used for making concrete reinforcement wire that is mainly used in construction industry. The plants are available in different models and specifications and are appreciated for functionality, reliability, fast operation, increased performance output and require less maintenance.

Product Details:

- Model No.: SECO-250
- Wire Dia Range: 4.0 mm - 10.0 mm
- Max. Width of Mesh: 2.5 meters

- Application: Construction industry

We offer a complete range of Concrete Reinforcement Mesh Plant to our customers which include concrete reinforcement wire, welded wire mesh concrete reinforcement, welded wire fabric line and concrete reinforcing mesh machine. These are known for their increased performance output, fast operation and low maintenance cost.

This plant encompasses the following:

- Wire spool stand
- Wire spool
- Line wire straightener
- Roller Feed-in and Line Wire Accumulator
- Wire mesh welding Machine
- Wire mesh turning & stacking unit suitable for turning and stacking
- Wire mesh sheet pusher unit
- Wire mesh sheet shear unit
- Wire straightening and cutting off machine (WSM-10)
- Transport conveyor

Technical Specification

Technical Data		MODEL SM-250	MODEL SM-300	MODEL SM-330
Maximum Welding Width	mm	2500	3000	3300
Line wire spacings	mm	100-300	100-300	100-300
Cross wire spacings	mm	100-400 Steplessly Adjustable	100-400 Steplessly Adjustable	100-400 Steplessly Adjustable
Range of line wires	mm	4.0 – 10.0	4.0 – 12.0	4.0 – 12.0
Range of Cross wires	mm	4.0 – 10.0	4.0 – 12.0	4.0 – 12.0
Maximum working speed	Strokes/min.	100	80	80
Power load at 50% I.D	KVA	600	900	900

TURNKEY PROJECTS

WIRE GALVANISING PLANT

Hot Dip Galvanized Wire Plant

S M INDUSTRIES group provides its customers the most modern, cost effective, efficient and fast operating lines for hot dip galvanized wire plant. We provide equipment right from drawing lines flattening mills, complete galvanizing lines with vertical drop coilers, horizontal side winder take ups or strip take ups.

By excellence in design, engineering, manufacturing and service we are able to offer most relevant technology for Galvanizing of High Carbon and Low Carbon Steel Wires.

S M INDUSTRIES has become the pioneers in supply of turnkey projects for the wire industry; we will maintain this position trough reliable equipment and service to our customers worldwide.

The plant consists of the following:

- Pay off Stands: Revolving Turn Tables with brake tensioners for wire formers and spools, overhead coil opener type Pay Off, Pintail Type Pay Off for Spools and Basket Type Pay Off for Coils.
- Open Hearth Furnace or Lead Bath Furnace with electric heating or Natural gas/LDO/FO combustion systems with top cover and recuperator for energy conservation.
- Online Fumeless Pickling System with water curtains to prevent any acid fumes form exiting the pickling system. The wires travel straight with lower tension and react with invigorated acid traveling against the wire, followed by triple stage water wash system.

- Intermediate wiping system in between chambers to prevent excessive carryover of fluids from one chamber to another.
- Vertical Gland / Seal Less Pumps for zero down time as no seal change over and routine maintenance required.
- Stainless Steel SS-316 fabricated Flux Tank with flue gas heating and temperature control system for energy efficiency and coating consistency. Option of Dipping type or straight path type with flux pumping system.
- Flux Dryer before the entry to the galvanizing bath hot plate assembly is provided for quick drying of flux which has heating through flue gases of the zinc bath furnace as rising energy costs has made conservation a prime criteria in today's plants.
- Zinc Bath furnace consisting of Structural Steel Frame which is completely lined using several layers of ceramic refractory. Best quality refractories ensure reliability and durability.
- Zinc Tank made out of low carbon low silicon steel plate with side bended at 90 degree welded with specialized electrodes and duly ultrasonic tested for any internal cracks. Options for light / medium and heavy coating available.
- Zinc coated control through pad wiping, spring wiping for low & medium coating & vertical charcoal or nitrogen wiping for heavy coating can be provided.
- Finally wire is coiled on finishing Take ups where S M INDUSTRIES offers several options depending on the industry use and coil weight requirements right from 25Kg. to 1000Kgs. Horizontal side winder take ups, Vertical drop coiler with or without pattern lay and strip take ups in our manufacturing programme.

LRPC WIRE PLANTS

LRPC Wire Plant

We provide turnkey solution for PC wire plants and LRPC wire plants. Offering tailor-made solution, the designing and fabrication of the plants are provided as per the exact requirements of our clients.

SPECIAL PURPOSE MACHINE

We provide turnkey solution for Special Purpose Machines. Offering tailor-made solution, the designing and fabrication of the plants are provided as per the exact requirements of our clients.