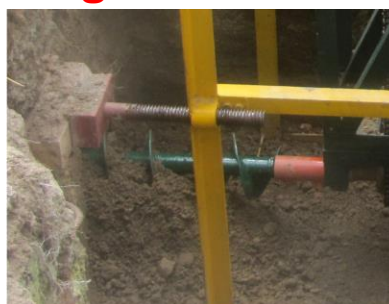


# Underground Horizontal Boring Machine



**Underground Horizontal Boring Machine**

For Full Video visit  
<https://youtu.be/hJV41AyRMtk>



**Boring Machine in operation**

Application	<ul style="list-style-type: none"> <li>For laying underground services (sewer pipelines, conduits, water pipelines, Cables etc.) under the buildings/roads without disturbing the surface structures</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>Can bore maximum 180mm dia holes upto a length of 17m under the ground</li> <li>Suitable for both dry and wet boring</li> <li>Portable, Low Maintenance and Eco-friendly</li> <li>Manual forward movement with motorized cutter rotation</li> <li>Low production cost and can be used by small/middle class contractors</li> <li>Requires a very small pit just on the side of road/building</li> <li>Very easy to operate</li> </ul>
Technology Package	Detailed manufacturing drawings of the machine, Fabrication procedure, Specifications of standard components and operating instructions
Production Cost	Rs. 0.9 lakh
Scale of Development	Prototype developed and field trials conducted
Status of Commercialization	Commercialized
Raw Materials	Standard Steels Sections, Electric Geared motor
Plant, Equipment and Machinery required	General Fabrication Workshop Facility
Environmental Aspects	Environment friendly, No dust and No traffic Jam
IPR Status	Under Preparation
Photographs / Videos	For Full Video visit <a href="https://youtu.be/hJV41AyRMtk">https://youtu.be/hJV41AyRMtk</a>

# Hydraulic Underground Horizontal Boring Machine



Application	<ul style="list-style-type: none"> <li>For laying underground services (sewer pipelines, conduits, cables, water pipelines etc.) under the ground without disturbing the surface structures.</li> <li>Suitable for small to medium contractors engaged in building and allied construction activities</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>Can bore max. 310 mm dia. holes up to a length of 12m under the ground</li> <li>Suitable for both dry and wet boring</li> <li>Portable, Low Maintenance and Eco-friendly</li> <li>Forward movement by hydraulic jack with motorized cutter rotation</li> <li>Low production cost and can be used by small/middle class contractors</li> <li>Requires a very small pit just on the side of road/building</li> <li>Very easy to operate</li> </ul>
Technology Package	Detailed manufacturing drawings of the machine, Fabrication procedure, Specifications of standard components and operating instructions
Production cost	Rs. 2.5 lakh
Scale of Development	Prototype developed and trials conducted
Status of Commercialization	Under process
Raw Materials	Standard Steel Sections, Electric motor and Hydraulic Jack with power pack
Plant, Equipment and Machinery required	General Fabrication Workshop Facility
Environmental Aspects	Environment friendly, No dust and No traffic Jam
IPR Status	Indian Patent No-305105
Photographs / Videos	Please visit <a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>

## C-Brick Machine (Upgraded Version)



For Full Video on visit YouTube

<https://youtu.be/Rato151FsB4>



Application	<ul style="list-style-type: none"> <li>• Suitable for producing flyash-sand-cement bricks and bricks with other industrial wastes in place of flyash</li> <li>• Capacity : 5000 bricks per shift (8 Hours)</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>• Portable and Eco-friendly</li> <li>• Easy operation and maintenance</li> <li>• Excellent quality and finishing of Bricks with uniform dimension</li> <li>• Cost effective, easy to handle and very much suitable to small entrepreneurs</li> <li>• Works on the Vibro compaction techniques</li> <li>• Can produce 8 Nos of bricks in one rotation/batch</li> <li>• Weight of the machine : 400kg</li> </ul>
Technology Package	Detailed manufacturing drawings of the machine, Fabrication procedure, Specifications of standard components and operating instructions
Production Cost	Rs. 2.0 lakh
Scale of Development	Commercial scale
Status of Commercialization	Licensed
Raw Materials	Standard Steels Sections, Electric Motors
Plant, Equipment and Machinery required	General Fabrication Workshop Facility
Environmental Aspects	Environment friendly, No dust, Use of Flyash
IPR Status	Indian Patent No-231647 (Original Version)
Photographs / Videos	Visit <a href="https://youtu.be/Rato151FsB4">https://youtu.be/Rato151FsB4</a>

# C-Brick Machine



Application	<ul style="list-style-type: none"> <li>• Production of bricks utilizing industrial waste flyash and other siliceous and calcareous wastes</li> <li>• Capacity : 3000 bricks per shift (8 Hours)</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>• Portable and Eco-friendly</li> <li>• Easy operation and maintenance</li> <li>• Excellent quality and finishing of bricks with uniform dimensional stability</li> <li>• Cost effective, easy to handle and very much suitable to small entrepreneurs</li> <li>• Works on the principle of Vibro-compaction techniques</li> <li>• Weight of the machine : 250kg</li> </ul>
Technology Package	<ul style="list-style-type: none"> <li>• Manufacturing drawings, fabrication procedure, specification of standard components and operating instructions</li> </ul>
Production Cost	<ul style="list-style-type: none"> <li>• Rs. 0.9 lakh</li> </ul>
Scale of Development	<ul style="list-style-type: none"> <li>• Commercial scale</li> </ul>
Status of Commercialization	<ul style="list-style-type: none"> <li>• Licensed</li> </ul>
Raw Materials	<ul style="list-style-type: none"> <li>• Standard Steel Sections and Electric Motor</li> </ul>
Plant, Equipment and Machinery required	<ul style="list-style-type: none"> <li>• General Fabrication Workshop Facility</li> </ul>
Environmental Aspects	<ul style="list-style-type: none"> <li>• Pollution free, helps in pollution abatement, Use of Flyash</li> </ul>
IPR Status	<ul style="list-style-type: none"> <li>• Indian Patent No. 231647</li> </ul>
Photographs/ Video	<p>Please visit  <a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a></p>



## Autonomous Climbing Robot



### Field Trials of Autonomous Robot

Application	<ul style="list-style-type: none"> <li>For autonomous visual inspection of large vertical/ inclined ferrous wall surface</li> <li>Other applications will be non destructive testing of structures by mounting sensors, painting and cleaning at unreachable locations of steel structures</li> </ul>
Salient Features	Weight : 3.5 Kg. Payload : 2.5to 5 Kg. Speed : 1 (Min.) to 15 m/min (Max.) Drive motors: Brushless DC motors Power supply: On-board Li-ion Batteries Processor : ATmega microcontroller Communication: Wireless XBee/RF Module
Technology Package	Detailed manufacturing drawings, Fabrication procedure and assembly guideline of mechanisms, Specifications of standard components, Control algorithms and Operating instructions
Production Cost	Rs. 0.6 lakh (Main Unit)
Scale of Development	Prototype developed and field trials conducted for autonomous visual inspection
Status of Commercialization	Under Process
Raw Materials	Standard Steel and Aluminum Sections, DC motors, Electronic items and on-board power systems
Plant, Equipment and Machinery required	General Fabrication Workshop and Electronic Facility
Environmental Aspects	Environment friendly
IPR Status	Nil
Photographs / Videos	Please visit <a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>

# Heavy Duty Brick Extrusion Machine



Applications	<ul style="list-style-type: none"> <li>• Suitable for shaping clay bricks &amp; other structural clay units using inferior soils, fly ash, red mud etc.</li> <li>• Based on extrusion process with de-airing facility followed by natural drying and burning in the kiln.</li> <li>• Capacity 4000 bricks per hour</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>• Uniform size and superior strength building bricks</li> <li>• Adoptable for other structural clay products</li> <li>• Easy operation and maintenance</li> <li>• De-airing extrusion process for high strength bricks</li> <li>• Coming with a with semi- automatic cutting table</li> </ul>
Technology Package	Detailed manufacturing drawings, specification of standard Components and fabrication procedure, and operating instructions
Production Cost	Rs. 18 Lakh
Scale of Development	Commercial scale and Prototype fabricated & extensively tested
Status of Commercialization	Commercialized
Raw Materials	Standard Steel sections, Electric Motors, Helical gear box, clutches, Belt conveyor
Plant, Equipment and Machinery required	Standard mechanical workshop facilities including casting, machining and welding equipment
Environmental Aspects	No adverse effect on the environment
IPR Status	Indian Patent No. 118570
Photographs/ Video	Please visit <a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>

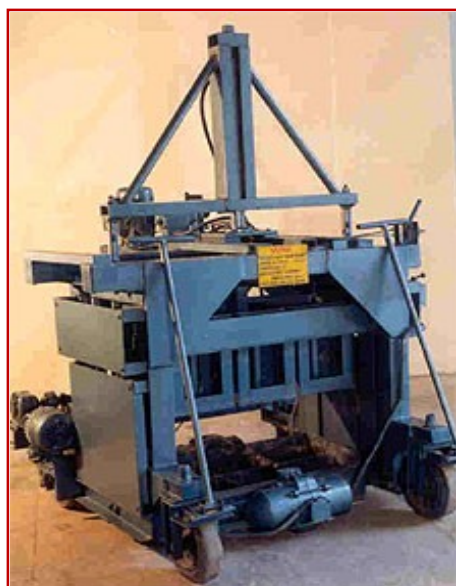


# Mini Climbing Crane



Application	<ul style="list-style-type: none"> <li>• Light duty material handling device for construction with excellent in-built flexibility to suit diversified site conditions.</li> <li>• Lifting capacity; 1000 kg at 1.0 m radius; 500 Kg at 2.0 m radius; 250 kg at 4.0 m radius.</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>• No need no anchorage with surroundings structure</li> <li>• Can be dismantled in to number of sub-assemblies for easy transportation</li> <li>• Can be shifted from one floor to another floor and assembled easily</li> <li>• Hoisting speed; 10 m/min. and 20 m/min.</li> <li>• Power requirement; 5HP</li> <li>•</li> </ul>
Technology Package	Detailed Manufacturing drawings, fabrication procedure, specification of standard components
Production Cost	Rs. 2.0 lakhs.
Scale of Development	Commercial scale
Status of Commercialization	Commercialized
Raw Materials	Standard steel sections, Electric Motors, Gear Box
Plant, Equipment and Machinery required	General mechanical workshop facilities
Environmental Aspects	No special measures are required
IPR Status	Indian Patent No- 172047, NRDC Awarded
Photographs/ Video	<a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>

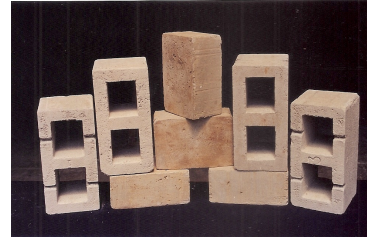
# Concrete Block Making Machine



Application	<ul style="list-style-type: none"> <li>• Suitable for casting of solid and hollow concrete blocks</li> <li>• From stone aggregates up to 50 mm size</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>• Portable egg laying type machine, compact and easily transportable</li> <li>• Works on the principle of pressure vibration</li> <li>• Suitable for producing economical concrete blocks using large aggregates up to 50 mm</li> <li>• Ensures uniformity in dimensions and density</li> <li>• Can cast six blocks of size 300x200x150 mm in one operation</li> <li>• The total power requirement is 3 kW</li> <li>• Require plane area for casting of blocks</li> </ul>
Technology Package	Detailed Manufacturing drawings, specifications of standard components, assembling procedure and operating instructions
Production Cost	Rs.3,00,000/-
Scale of Development	Commercial Scale, Prototype fabricated and field trials conducted
Status of Commercialization	Commercialized
Raw Materials	Standard steel sections, Vibrator, Hydraulic Jack with power pack
Plant, Equipment and Machinery required	Standard mechanical workshop facility
Environmental Aspects	No adverse effect on the environment
IPR Status	Indian Patent No. 232132
Photographs/ Video	Please visit <a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>



# Stationary Concrete Block Maker



Applications	<ul style="list-style-type: none"> <li>• Suitable for on-site construction of solid and hollow concrete blocks using aggregates up to 50mm size</li> <li>• Casts 1000 blocks of size 30x20x15cm per 8 hours shift</li> </ul>
Salient Features	<ul style="list-style-type: none"> <li>• Works on the principle of pressure vibration technique</li> <li>• Can cast two blocks cast in one operation</li> <li>• Feeding of concrete in the moulds through powered hopper</li> <li>• Power requirement; 3kW</li> </ul>
Technology Package	Production drawings, specification of standard components.
Production cost	1,50,000/-
Scale of Development	Prototype Designed and tested. Commercial scale
Status of Commercialization	01 Licencees, Technology in production
Raw Materials	Structural steel members, Motors and vibrators
Plant, Equipment and Machinery required	Standard mechanical workshop facilities
Environmental Aspects	No special measures are required
IPR Status	--
Photographs/ Videos	<a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>

# Energy Efficient Gypsum Calcinator



Applications	Calcination of quarry gypsum, marine gypsum, phosphogypsum into plaster of Paris of various grades for use in building, pottery, ceramic and surgical applications. Capacity : 30 tpd (3 shifts)
Salient Features	The Calcinator comprises of a muffle furnace where in the charge is heated indirectly and agitated with a power stirrer. Temperature Control ensures uniform quality of end product. High Thermal efficiency 70-80%. Can be run on Coal/liquid fuels/gaseous fuels. Battery of basic modules, each of capacity 8 tpd (3 shifts) gives maximum calcinations capacity of 30 tpd (3 shifts) of plaster of Paris. Awarded by NRDC (1989) for meritorious features.
Technology Package	Production drawings of calcinator, fabrication procedure, specification of standard components, laboratory level training
Techno-Economics	Estimated investment is around Rs.10 lakh for a 8TPD in 3 shifts plant
Scale of Development	Commercial scale
Status of Commercialization	18 Licencees, Technology in production
Raw Materials	Natural quarry gypsum or marine gypsum or phosphogypsum, coal or liquid fuel or gaseous fuel chemicals (retarder/accelerator)
Plant, Equipment and Machinery required	Jaw crusher, Hammer mill, Calcinator, Air blower and Gas burner.
Environmental Aspects	No adverse effect on the environment
IPR Status	---
Photographs/ Video	<a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>

# Gypsum Panel making Machine



Application	For making interlocking type Hollow Gypsum Panels to be used as load / non-load bearing walls in the building construction
Salient Features	<ul style="list-style-type: none"> <li>• 5 Panels per batch (extendable up to 10 panels)</li> <li>• 100 panels per 8-hour shift</li> <li>• Best for interior walls and may be used in outer walls with suitable water resistant paint</li> <li>• Size : 600 mm(L), 150 mm (W) and 300mm (H)</li> <li>• Interlocking type</li> <li>• Superior strength and surface finish of the panel</li> </ul>
Technology Package	Detailed manufacturing drawings of the machine; Fabrication procedure; Specifications of standard components and operating instructions
Production cost of the machine	Rs. 5.0 Lakh
Scale of Development	Prototype developed and in-house trials conducted.
Status of Commercialization	Under process
Raw Materials	Standard steel sections, Steel pipes, Electric Motor, Hydraulic Jack with power pack, Needle & Shutter Vibrators etc.
Plant, Equipment and Machinery required	General Fabrication Workshop Facility
Environmental Aspects	Utilization of Industrial Waste (Fluoro-gypsum)
IPR Status	--
Photographs / Videos	<a href="https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos">https://www.youtube.com/channel/UCSercKLk_02TiDO-VNOKBAw/videos</a>