

# TO DEVELOP MODIFIED BELT CONVEYOR



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### 1.1 Our Company location:

- 297,G.I.D.C.,MODHERA ROAD,MEHASANA-384002,GUJARAT,INDIA.

### 1.2 COMPANY Overview:

- Late Shari Vasantry Paschal who is coming from 100-year-old experienced Blacksmith family envisioned Neptune. This inheritance and artisan of the engineering skills has made Neptune ready to grow in to global Business model.
- Neptune Industries was founded in **1992** and since last Five years, **Neptune-India** has Witness a growth of 80%. Which has Now Neptune has become 15 **Million \$** Turnover Company and has been recognized as one of the fastest growing egg. Enterprise in India.
- Neptune Industries is a leading engineering and manufacturing company be live Engineering Project Solutions to various industry segments.
- Neptune offers the world-class designs, concepts & technology with indigenous & monomial proven solutions to provide client satisfaction through best quality service and timely delivery.
- Neptune's engineering and manufacturing solutions are known for performer, innovative and economical production technologies and high reliability.
- For Clients, Neptune plays very important & vital role in bringing the latest technology at cost effective proposition as a forward looking and innovative engineering partner. All the time for its clients - Neptune is the preferred engineering partner & co-supplier for technology leaders of the world.
- We concentrates on providing complete solution from manufacturing idea to (commissioning) to real commercial production on turnkey based managements with guaranteed performance.

### **1.3 Brief Overview:**

- Provider of turnkey based Engineering Projects
- Leader in domestic markets at core business
- Wide experience of executing the various kind of Projects in Industries like Ceramics, Minerals, Agro-waste
- Capable of using technological advancement and innovations in engineering to satisfy the clients
- Adequate Infrastructure facilities and skills
- Most Client-base is in growing infrastructure related industries like Building Materials, Power Transmission & Construction

### **1.4 COMPANY PRODUCTS:**

- Pan Mixer,
- Pug Mill ,
- Belt Conveyor ,
- Spring Conveyor,
- Vacuum mixer,
- Material handling device,
- Tipping Barrows.

### **1.5 MACHINE SHOP:**

- Lathe machine,
- Shaper machine,
- Radial Drilling machine,
- Hydraulic surface grinding machine,
- Bench grinding machine,
- Bending roller,
- Material handling ,
- Over hanging crane,
- Welding & cutting device,
- Hexo cutter,
- Milling machine,
- Coloring machine,
- Slotting machine.



## **1.4 COMPANY PRODUCTS**

### **1.4.1 Pan Mixer:**



**Fig.1.1: PAN MIXER**

- PAN MIXER (With Double Reduction Gear Box) is used to prepare Fall-G, fly ash based binder by thoroughly grinding 80% Fly ash with 16% Hydrated Lime and 4% claimed Gypsum. The resultant compound possesses 50% the strength of commonly used OPC cement.



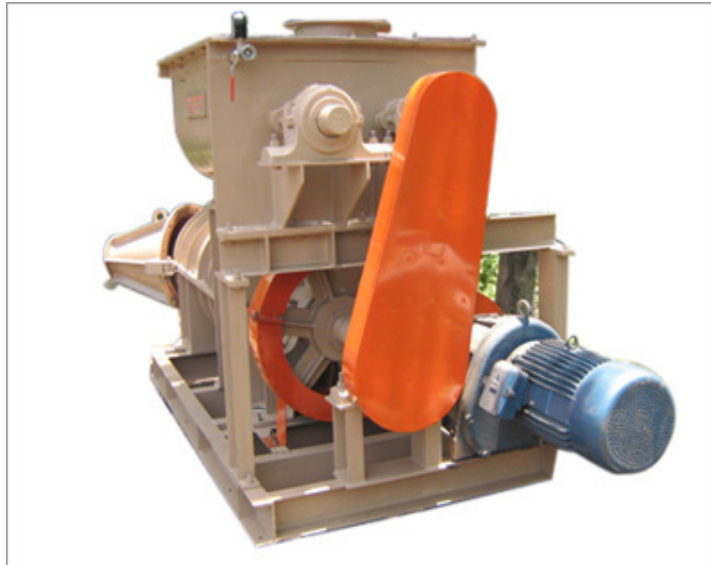
**Fig.1.2: PAN MIXER**

- The produced compound costs 25% of the normal cement and hence imparts 25% saving in the cost of blocks. Blocks produced with Fall-G binder gains, more strength by aging while the cement blocks the strength is lost in course of time. Kieran Engineers offers Pan Mixers with heavy rollers of 200 Kegs' each for thorough and efficient grinding of the Fall-G compound.

### Capacity:

- 50 mm to 910 mm Auger Ø
- 50 kg/hrs to 45 tons/hrs
- Single & Double shaft feeders(mixer)
- SCADA Controlled Computerized System
- Rotary feeder/Box feeder is also offered.

### 1.4.2 Pug mill:



**Fig.1.3 PUG MILLS**

- A pug mill or pug mill is a machine in which materials are simultaneously ground and mixed with a liquid. Industrial applications are found in pottery, bricks, cement and some parts of the concrete and asphalt mixing processes.
- A pug mill is a fast continuous mixer. A continuous pug mill can achieve a thoroughly mixed, homogeneous mixture in a few seconds. Mixing materials at optimum moisture content requires the forced mixing action of the pug mill paddles, while soupy materials might be mixed in a drum mixer.



**Fig.1.4: PUG MILLS**

- A typical pug mill consists of a horizontal boxlike chamber with a top inlet and a bottom discharge at the other end, 2 shafts with opposing paddles, and a drive assembly. Some of the factors affecting mixing and residence time are the number and the size of the paddles, paddle swing arc, overlap of left and right swing arc, size of mixing chamber, length of pug mill floor, and material being mixed.



**Fig.1.5**

**Capacity:**

- ORDER BEFORE 7 TH TO 8 TH MONTH.

**1.4.3 Belt Conveyor:**



**Fig.1.6: BELT CONVEYOR**

- Belt conveyor is constantly operating transporting equipment which is mainly used to convey mass bulk material like mineral, Coal, sand, etc in powder or block as well freight in metallurgy, Mining building heavy industries

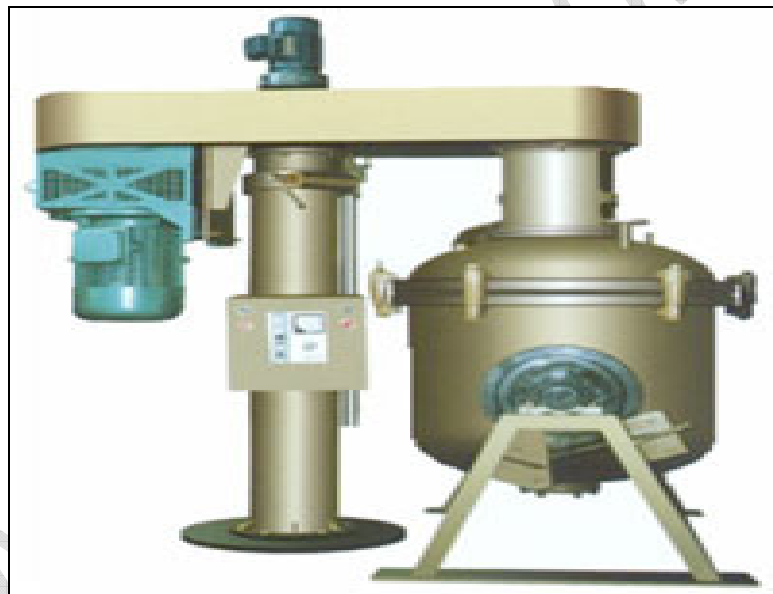
and transport action industry. Belt conveyor is the perfect conveying equipment for coal- Mining because it can work efficiency and continuous.

- Compared with other transporting Equipments, belt conveyor not only has the merits of long conveying distance, Big capacity, constant working operation, but also with the features of operational reliability ,easy to have automated and concentrated control. Belt conveyor has become the key equipment especially for high-output and high-efficiency coalmine.

**Capacity:**

**ODER BEFOR 7 TH TO 8 TH MONTH.**

**1.4.4 Vacuum mixer:**



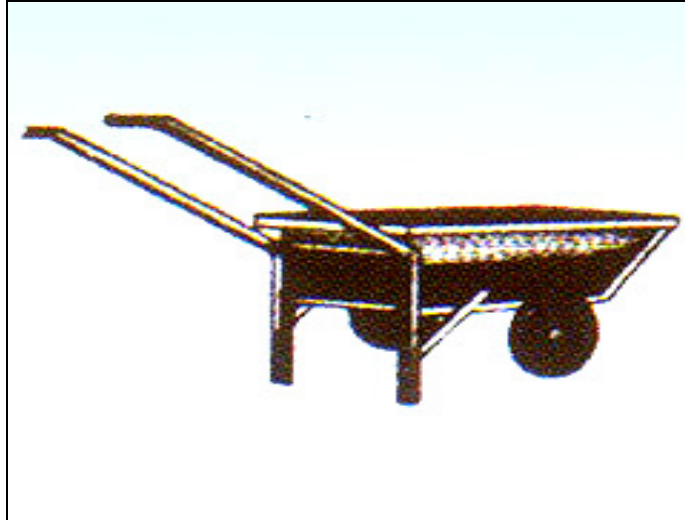
**Fig.1.7: VACUUM MIXER**

- Poly mixer Vacuum Mixer is designed to mix solid surface and culture marble materials by evacuating air from the matrix during the blending process.
- Vacuum mixed materials can be fabricated to create seamless and durable products popular in today's kitchen and sanitary ware industry.

**Capacity:**

**ODER BEFOR 6 TH TO 7 TH MONTH**

### 1.4.5 Tipping Barrows:



**Fig.1.8: TIPPING BARROWS**

**Capacity:**

**ORDER BE FOR 6 TH TO 7 TH MONTH**

### 1.5 MACHINE SHOP:

#### **1.5.1 Lathe Machine:**



**Fig.1.9: LATHE MACHINE**

| <b>SPECIFICATION</b>              | <b>L-4</b>     | <b>L-5</b>     | <b>L-6</b>     |
|-----------------------------------|----------------|----------------|----------------|
| Bed Type                          | 2 V & 2 Flat   | 2 V & 2 Flat   | 2V & 2 Flat    |
| Bed Length                        | 1372 (4'6")    | 1600 (5'3")    | 1825(6')       |
| Bed Width                         | 275(11")       | 275(11")       | 275 (11")      |
| Gap Length                        | 125 mm         | 125 mm         | 125 mm         |
| Gap Length in front of face plate | 110 mm         | 110 mm         | 110 mm         |
| <b>CAPACITY</b>                   |                |                |                |
| Height of Center                  | 200 (8.0")     | 200 (8.0")     | 200 (8.0")     |
| Swing Over Bed                    | 350 mm         | 350 mm         | 350 mm         |
| Swing Over Cross slide            | 200 mm         | 200 mm         | 200 mm         |
| Swinging Gap m                    | 500 m          | 500 m          | 500 m          |
| Admit Between Center              | 487 mm         | 780 mm         | 940 mm         |
| Movement of Compound Slide        | 110 mm         | 110 mm         | 110 mm         |
| <b>MAIN SPINDLE</b>               |                |                |                |
| Spindle Nose                      | 0 75 MM        | 0 75 MM        | 0 75 MM        |
|                                   | Thereaded Type | Thereaded Type | Thereaded Type |
| Taper Bore in Spindle Sleeve      | MT-4           | MT-4           | MT-4           |
| Spindle Bore                      | 0 50 (2")      | 0 50 (2")      | 0 50 (2")      |

| <b>TAIL STOCK</b>    |         |         |         |
|----------------------|---------|---------|---------|
| Quill Diameter       | 0 50 MM | 0 50 MM | 0 50 MM |
| Taper in Quill       | MT-4    | MT-4    | MT-4    |
| Quill Travel         | 170 MM  | 170 MM  | 170 MM  |
| <b>SPEED</b>         |         |         |         |
| No. of Spindle Speed | 8       | 8       | 8       |

|                    |                   |                   |                   |
|--------------------|-------------------|-------------------|-------------------|
| RPM (Low / High)   | 45 – 750          | 45 - 750          | 45 – 750          |
| <b>THREADS</b>     |                   |                   |                   |
| Metric Thread      | 13(1 to 6 mm)     | 13(1 to 6 mm)     | 13(1 to 6 mm)     |
| English Thread     | 19(2to24TPI)      | 19(2to24TPI)      | 19(2to24TPI)      |
| Lead Screw         | 0 32MM x 4<br>TPI | 0 32MM x 4<br>TPI | 0 32MM x 4<br>TPI |
| <b>ELECTRICALS</b> |                   |                   |                   |
| Motor Power        | 1.5KW/2HP         | 1.5KW/2HP         | 1.5KW/2HP         |
| <b>DRIVE</b>       |                   |                   |                   |
| Teethed V Belt     | B-48              | B-48              | B-48              |
| <b>GENERAL</b>     |                   |                   |                   |
| weight (Approx.)   | 600 kg            | 675 kg            | 710 kg            |

### 1.5.2 Shaper machine:



Fig.1.10: SHAPER MACHINE

## SPECIFICATION:

- Length of stroke :Max.500 mm
- No. of speeds to Ram :To be indicated by the party
- No. of Ram cycles / min. : Maximum140 strokes/min.  
Steps to be indicated by the party
- Motor Power : A.C. 7.5H.P.  
Specs & make to be given by the party
- Vertical Travel of tool post slide : 150 mm (**Manual feed only**)
- The Shaper should have a **customized Tool post** as per enclosed BHEL Drg.No. R6729-0002
- Machine table is **NOT** Required. Shaper length will be reduced accordingly  
The Machine should be mounted on a slide (bed on which machine will travel) which will be clamped to the shop floor bedplates during operation.
- Overall dimensions of the machine should be as per the enclosed sketch.  
Machine structure should be rigid so that vibrations do not occur during.
- Machine slide (bed on which machine will travel) should be of single piece cast iron Block with hardened and ground guide ways.
- There should not be any leakage / spillage of oil during operation or otherwise. All moving guide ways, as well as their matching moving parts, shall be of Hardened and ground steel.
- Proper lifting arrangement shall be provided for shifting of machine from one Place to another place.
- Operator's platform shall be provided on both sides of machine. Provide machine light shall.
- For proper evaluation of the offer, Machine catalogue / Sketches shall be provided along with the quotation. Standard tool kit for operation and maintenance of the machine shall be provided.

## SPECIFICATION TABLE:



|                             |                |                |        |
|-----------------------------|----------------|----------------|--------|
| Model ESS KAY               | 40mm           | 50mm           | 65mm   |
| Drilling Capacity(in steel) | 40             | 50             | 65     |
| Drilling Depth              | 180            | 225            | 305    |
| Taper Spindle Nose Socket   | M.T.4          | M.T.5          | M.T.5  |
| No. of Spindle Speeds       | 6              | 9              | 12     |
|                             | 45-660         | 40-790         | 18-810 |
| No. of Spindle Feeds        | 3              | 3              | 6      |
| Range of Spindle Fees       | .05-.15 mm/rev | .05-1.25mm/rev | .12-1  |

**POWER SUPPLY:**

- AC 3-Phase, 415V +10 % / -15%, 50 HZ +/- 3%.

**COLOUR:**

- Color of the machine shall be apple green.

**1.5.3 Radial Driling machine:**



**Fig.1.11: RADIAL DRILING MACHINE**

| <b>SPECIFICATIONS</b>             | <b>UNIT</b> | <b>RDM<br/>50/1200</b> | <b>RDM<br/>50/1500</b> |
|-----------------------------------|-------------|------------------------|------------------------|
| <b>CAPACITY</b>                   |             |                        |                        |
| Drilling capacity in steel / C.I. | Mm          | 50 / 60                | 50 / 60                |
| Tapping Capacity                  |             |                        |                        |
| Metric threads fine pitch         | Mm          | 48 / 3                 | 48 / 3                 |
| Any other threads fine pitch      | inch        | 1.750                  | 1.750                  |
| Light boring capacity in Steel    | Mm          | 120                    | 120                    |
| <b>DRILL HEAD</b>                 |             |                        |                        |
| Taper in Spindle                  |             | MT -5                  | MT -5                  |
| Number of spindle speeds/range    | rpm         | 12 / 40-<br>1700       | 12 / 40-1700           |
| No. of feed / range               | mm/rev      | 6/ 0.12 -<br>1.25      | 6/ 0.12 - 1.25         |

**WORKING RANGE**

|  |    |          |          |
|--|----|----------|----------|
| Drilling radius: Min / Max                           | Mm | 505/1200 | 530/1500 |
| Drill head traverse                                  | Mm | 695      | 970      |
| Dist. between spindle axis & column face: Min / Max. | Mm | 355/1050 | 355/1325 |
| Dist. between base plate & spindle: Max.             | Mm | 1420     | 1425     |
| -----do-----Min. (spindle retracted )                | Mm | 695      | 675      |
| Spindle Travel                                       | Mm | 325      | 325      |
| Diameter of Column                                   | Mm | 300      | 350      |
| Arm traverse   | Mm | 725      | 750      |

**BASE PLAT**

|                               |        |            |            |
|-------------------------------|--------|------------|------------|
| Working surface of base plate | Mm     | 1300 x 800 | 1490 x 910 |
| Height of base plate          | Mm     | 210        | 210        |
| Overall size of base plate    | Mm     | 2000 x 830 | 2220 x 935 |
| Nominal size of the T slots   | Mm     | 22         | 22         |
| No. of t slots / Spacing      | no./mm | 3 / 250    | 3 / 250    |

**ELECTRICAL**

|                           |           |           |           |
|---------------------------|-----------|-----------|-----------|
| Power supply A.C.         | V,ph, Hz  | 415,3,50  | 415,3,50  |
| Power of drill head motor | Kilo watt | 3.6 / 4.5 | 3.6 / 4.5 |
| Arm elevating Motor       | Kilo watt | 1.5       | 1.5       |