WALCHANDNAGAR INDUSTRIES LTD.

Centrifugal Machines
Our Founder

Walchandnagar Industries was founded by Seth Walchand Hirachand - A pioneering industrialist who ushered in India, the “Industrial Revolution” in the early 20th century by establishing industries in many core sectors of National Importance. These included companies engaged in complex projects of construction of Dams, Bridges, Barrages, Tunnels. In addition he also founded companies for Aircraft manufacturing, Shipbuilding, Automobile, Organized farming and Integrated sugar complexes.

Walchandnagar Industries which has grown in to a High-Tech heavy Engineering Project Execution company during last seven decades, is amongst very few companies in India, who have an unbroken continuous existence of more than 100 years.

We are the proud torch bearer of this unmatched legacy of Engineering excellence.

About WIL

Walchandnagar Industries Ltd. (WIL) is an ISO-9001-2008 certified company engaged in high-Tech Heavy Engineering Project Execution catering to diverse segments.

WIL is the pioneer in the field of engineering, manufacturing and implementation of complete sugar projects since 1963 and also first to export from India a complete Turnkey plant in 1967.

We have so far successfully executed more than 80 green field sugar projects and more than 100 major expansion projects.

We have been manufacturing centrifugal machines since 1963 and have supplied more than 4000 Centrifugal machines worldwide so far.

WIL is also a leading manufacturer of Turnkey Co-gen and IPP projects.

Other businesses include complete Cement Projects, Nuclear Power Project, Aerospace Projects, Heavy-duty Marine and Industrial Gear Boxes.
Portfolio of Offering

We provide a wide range of batch and continuous type centrifugal machines:

A. Batch Type Centrifugal Machine:

We offer a wide range of fully automated models ranging from 750 Kg per charge to 2250 kg per Charge

a. WB-750 e. WB-1750  
b. WB-1000 f. WB-2000  
c. WB-1250 g. WB-2250  
d. WB-1500  

The above machines can also be supplied in SS construction of food grade quality for Sugar refinery

B. Continuous Type Centrifugal Machine:

We offer a wide range of fully automated models ranging from 1150 to 1500 mm basket diameter

a. WK-1150  
b. WK-1350  
c. WK-1500  

Our Credentials

- A well established brand in Indian and International market
- Design, manufacturing and testing of machine under one roof
- Design, manufacturing and quality of machines are in line with International Standard
- Superior Design capabilities – up to 2250 kg per charge for batch and up to 1500 mm basket diameter for continuous machine
- Engineered for high performance – up to 24-25 cycles per hour for batch and capacities up to 25 tonnes per hour for continuous machine
- Genuine spare parts with guaranteed low breakdown rates
- Specialized team of engineers for supervision of erection of machines and overhauling subsequently
Batch Type Centrifugal machine

Technical Features

Highly stable machine due to optimized design of shaft suspension

**Basket**
- High strength duplex stainless steel heavily hooped fully machined basket provides high reliability & safety
- Stress analysis carried out by Finite element method, confirms maximum safety at high speeds
- Drilling pattern adjusted for lower stress concentration and better purging
- Triplex screen provided in the basket for easy purging of high grade massecuite

**Shaft Mounting**
- Shorter radius bowl
- Ample dimensioned bearing with oil mist lubrication
- Large diameter & shorter length of the shaft with rubber buffer of high quality
- All this leads to highest stability of machine

**Mechanical Brake**
- Brake drum with ample braking area for shortest possible braking time (intended for emergency purpose only)

**Lubrication**
- Bearings are lubricated with oil mist lubrication system, ensuring low bearing temperature rise & longer life of bearing

**Drive**
- D.C. motor with thyristor
- Energy efficient A.C. motor with VFD/ VVFD with regenerative braking to recover maximum power
- PLC based controls

**Power Consumption**
- Low power consumption per ton of massecuite

**Technical Specifications of various models**

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>WB-750</th>
<th>WB-1000</th>
<th>WB-1250</th>
<th>WB-1500</th>
<th>WB-1750</th>
<th>WB-2000</th>
<th>WB-2250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dia. of Basket (mm)</td>
<td>1220</td>
<td>1250</td>
<td>1350</td>
<td>1500</td>
<td>1500</td>
<td>1630</td>
<td>1730</td>
</tr>
<tr>
<td>Basket Height (mm)</td>
<td>762</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1150</td>
<td>1200</td>
<td>1270</td>
</tr>
<tr>
<td>Max.Speed (rpm)</td>
<td>1440</td>
<td>1300</td>
<td>1250</td>
<td>1200</td>
<td>1150</td>
<td>1100</td>
<td>1100</td>
</tr>
<tr>
<td>Purging area of basket %</td>
<td>1.01</td>
<td>0.84</td>
<td>0.77</td>
<td>0.93</td>
<td>0.88</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>Gravity Factor (G)</td>
<td>1405</td>
<td>1180</td>
<td>1180</td>
<td>1200</td>
<td>1200</td>
<td>1100</td>
<td>1100</td>
</tr>
<tr>
<td>Centre distance (mm)</td>
<td>2000</td>
<td>2000</td>
<td>1900</td>
<td>2115</td>
<td>2115</td>
<td>2250</td>
<td>2350</td>
</tr>
<tr>
<td>Capacity of machine*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity per Charge (Kg)</td>
<td>750</td>
<td>1000</td>
<td>1250</td>
<td>1500</td>
<td>1750</td>
<td>2000</td>
<td>2250</td>
</tr>
</tbody>
</table>

*Capacity & Number of Charges subject to massecuite quality, type of drive and requirement of process results etc.
Continuous Type Centrifugal Machine

Technical Features
Uniquely adjusted centre of gravity of the machine provides excellent machine stability

**Basket**
- One piece duplex stainless steel basket integral with basket support which allows higher separation forces and throughput
- Precision machining of basket, shaft and its related parts ensures smoother run resulting in longer machine life
- 100% radiography of welding joints and castings to give additional safety to the machine
- All the above leads to safety and longer life
- Perforated basket with high open area screens ensures optimum separation of molasses and sugar
- Precise wash application on to basket screen

**Lubrication**
- Bearings are provided with Oil lubrication/ grease lubrication system as required

**Feed Control**
- Central feed & acceleration system for even distribution of massecuite
- Automatic feed control system governed by motor load for optimum loading of machine all the time (optional)

**Bearing Housing**
- High tensile forged steel shaft
- Compact design of bearing housing with ample capacity bearings

**Buffer**
- Excellent four point external vibration isolators below wider foot prints attached to monitor casing

Technical Specifications of various models

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>WK-1150</th>
<th>WK-1350</th>
<th>WK-1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside Dia. Of Basket (mm)</td>
<td>1150</td>
<td>1350</td>
<td>1500</td>
</tr>
<tr>
<td>Basket cone angle (Degree)</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Speed (rpm)</td>
<td>1830-1950</td>
<td>1650-1750</td>
<td>1480-1677</td>
</tr>
<tr>
<td>Installed drive motor (KW)</td>
<td>55</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Effective screening surface area (Cm²)</td>
<td>15000</td>
<td>18500</td>
<td>21500</td>
</tr>
<tr>
<td>Centre distance mm</td>
<td>2200</td>
<td>2500</td>
<td>2700</td>
</tr>
<tr>
<td>Capacity of machine*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Massecuite (TPH with 0.06 mm screen aperture)</td>
<td>6 to 8</td>
<td>8 to 10</td>
<td>10 to 14</td>
</tr>
<tr>
<td>B &amp; C After Worker (TPH with 0.09 mm screen aperture)</td>
<td>10 to 13</td>
<td>14 to 18</td>
<td>18 to 22</td>
</tr>
<tr>
<td>Affination Magma (TPH with 0.09 mm screen aperture)</td>
<td>12 to 15</td>
<td>15 to 20</td>
<td>20 to 25</td>
</tr>
</tbody>
</table>

* Capacity subject to screen aperture, massecuite quality, temperature & requirement of process results etc.
Spares and Overhauling

- **Superior Quality**
  Spare parts are manufactured as per same standard as those of original equipment. They have passed the same quality tests and proven to be the best protection for your investment.

- **Reliability and Productivity**
  Using genuine spare parts substantially lowers the risk of production break down thereby ensuring a consistent good product quality, safety and better plant utilization.

- **Longer Life Expectancy**
  Regularly servicing your equipment using genuine spare parts ensures longer machine life.

- **Overhauling**
  Periodic overhauling of machine by qualified and trained engineer lead to smooth running, lower breakdown and cost effective preventive maintenance.

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### Some of Our Esteemed Domestic Customers

<table>
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<tr>
<th>Domestic Customer</th>
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<tbody>
<tr>
<td>Godavari Sugar Mills Ltd</td>
<td>Bannari Amman Sugars Ltd</td>
<td>Satish Sugars Ltd</td>
</tr>
<tr>
<td>Bajaj Hindusthan Ltd</td>
<td>Sakti Sugar Mills Ltd</td>
<td>Shree Datta S.S.K. Ltd</td>
</tr>
<tr>
<td>Balrampur Chini Mill</td>
<td>Mawana Sugar Works</td>
<td>D.S.C.L. Sugar</td>
</tr>
<tr>
<td>Simbhoali Sugar Mills Ltd</td>
<td>Sonhira SSK Ltd</td>
<td>Karmayogi S.P.S.S.K. Ltd</td>
</tr>
<tr>
<td>Rana Sugars Ltd</td>
<td>Dalmia Bharat Sugars Ltd</td>
<td>Shree Ambalika Sugar Pvt.Ltd</td>
</tr>
<tr>
<td>The Ugar Sugar Works Ltd</td>
<td>Nirani Sugars Ltd</td>
<td>Manjara S.S.K. Ltd</td>
</tr>
<tr>
<td>Renuka Sugars Ltd</td>
<td>Ponni Sugars Ltd</td>
<td>SBEC Sugar Ltd</td>
</tr>
<tr>
<td>EID Parry (India) Ltd</td>
<td>Ambika Sugars Ltd</td>
<td>Daurala Sugar Works</td>
</tr>
<tr>
<td>Triveni Engineering Works</td>
<td>Jamkhandi Sugars Ltd</td>
<td>Venkateshwara Power Project Ltd</td>
</tr>
</tbody>
</table>

### Some of Our Esteemed International Customers

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Kagera Sugar Works Ltd, Tanzania</td>
<td>Tan Dat Industrial Limited Company, Vietnam</td>
<td>Eastern Sugar Mills Ltd, Nepal</td>
</tr>
<tr>
<td>PT Dharmapala Usaha Sukses, Indonesia</td>
<td>Busia Sugar Industries, Kenya</td>
<td>Indushankar Sugar Mills Ltd, Nepal</td>
</tr>
<tr>
<td>West Kenya Sugar Company Ltd, Kenya</td>
<td>Tendaho Sugar Mill, Ethiopia</td>
<td>Kamdhenu Ventures Cambodia Ltd, Cambodia</td>
</tr>
<tr>
<td>Kinyara Sugar Factory, Uganda</td>
<td>Nagarjuna International (Vietnam) Ltd, Vietnam</td>
<td>Noon Sugar Mills Ltd, Pakistan</td>
</tr>
<tr>
<td>Galoya Plantations (Pvt) Ltd, Sri Lanka</td>
<td>Sri Ram Sugar Mills Ltd, Nepal</td>
<td>Al-Habasha Sugar Mill PLC, Ethiopia</td>
</tr>
<tr>
<td>Bangladesh Sugar and Food Industries Corporation, Bangladesh</td>
<td></td>
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</tr>
</tbody>
</table>
Manufacturing Capabilities

**Highlights**

- Area under the crane: 56000 sqm
- Single piece lifting capacity of 250 MT
- High precision dynamic balancing machine
- State of Art facility for assembly and testing
- Plate bending (cold/hot) capability up to 200 mm
- Sophisticated automatic welding system capable of precision welding of exotic materials
- Sophisticated, multi-axle CNC machining centres, vertical boring and horizontal boring machines
- Complete in-house set up to carry out NDE such as RT, PT, MT, UT and Destructive testing on test bars
- Lathes for machining diameters up to 6.5 m and VTL for diameter up to 14 m
- Modern measuring instruments for precision measurement of dimensions
- Well trained & experienced workforce
Our Success Stories

- 1st Indian company to export sugar plant and machinery to Africa in 1976
- More than seven decades of proven experience
- 80+ green field sugar projects commissioned
- 100+ major expansion projects
- 650+ different sizes of mills supplied worldwide
- 540+ boilers installed globally
- 4000+ centrifugal machines supplied in India and abroad
- 6500+ gearboxes supplied globally
- Critical equipments for India’s first Moon mission “CHANDRAYAAN-I”
- Critical equipments for India’ Mars mission “MANGALYAAN”
- Components for satellite launch vehicle for ISRO
- Critical component for nuclear reactor
- Main propulsion gearbox for Indian-built navy frigates

Other Business Areas

Complete Sugar Plant | Cogeneration plant with boiler | Planetary Gear Boxes | Temperature & Pressure Gauges | Foundry | Cement Machinery | Defence & Missiles | Aerospace

Contact Us

Walchandnagar Industries Limited
Marketing & Projects Office
Walchand House, 15/1/B-2 G. A. Kulkarni Path, Kothrud, Pune - 411038, India
Phone : +91 (020) 3025 2400 E-Mail : wil@walchand.com Website : www.walchand.com

Branch Offices

New Delhi
201 Milap Niketan, 2nd Floor, 8-A, Bahadur Shah Zafar Marg, New Delhi – 110 002
Phone : + 91 011 23705191

Chennai
153, Anna Salai, Agurchand Mansion, Chennai – 600 002
Phone : + 91 044 28460186

Hyderabad
3-6-278/279, First Floor Flat No. 104B Thomas Prabhu Reliance Complex, Himayatnagar, Hyderabad – 500029
Phone : +91 040 23225523