

WALCHANDNAGAR INDUSTRIES LTD.

Centrifugal Machines





Seth Walchand Hirachand
1882-1953

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

Pneumatic Plough

- Pneumatic plough with stainless steel parts with a large scrapper for clean and proper scrapping of sugar in shortest possible time

Bottom Opening Valve

- Positive sealing, conical shaped bottom valve lifting upwards during discharging ensures complete leak proof operation of the machine
- Centering device is provided to hold the shaft during discharge

Feed Control

- Feed control by twin butterfly valves to prevent dripping of massecuite

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

PARTICULARS	WB-750	WB-1000	WB-1250	WB-1500	WB-1750	WB-2000	WB-2250
Dia. of Basket (mm)	1220	1250	1350	1500	1500	1630	1730
Basket Height (mm)	762	1000	1000	1000	1150	1200	1270
Max.Speed (rpm)	1440	1300	1250	1200	1150	1100	1100
Purging area of basket %	1.01	0.84	0.77	0.93	0.88	0.85	0.85
Gravity Factor (G)	1405	1180	1180	1200	1100	1100	1170
Centre distance (mm)	2000	2000	1900	2115	2115	2250	2350
Capacity of machine*							
Quantity per Charge (Kg)	750	1000	1250	1500	1750	2000	2250
No. of Charges/hr	20-24	20-24	20-24	20-24	20-24	20-24	20-24

*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

Bearing Housing

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



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)

Buffer

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

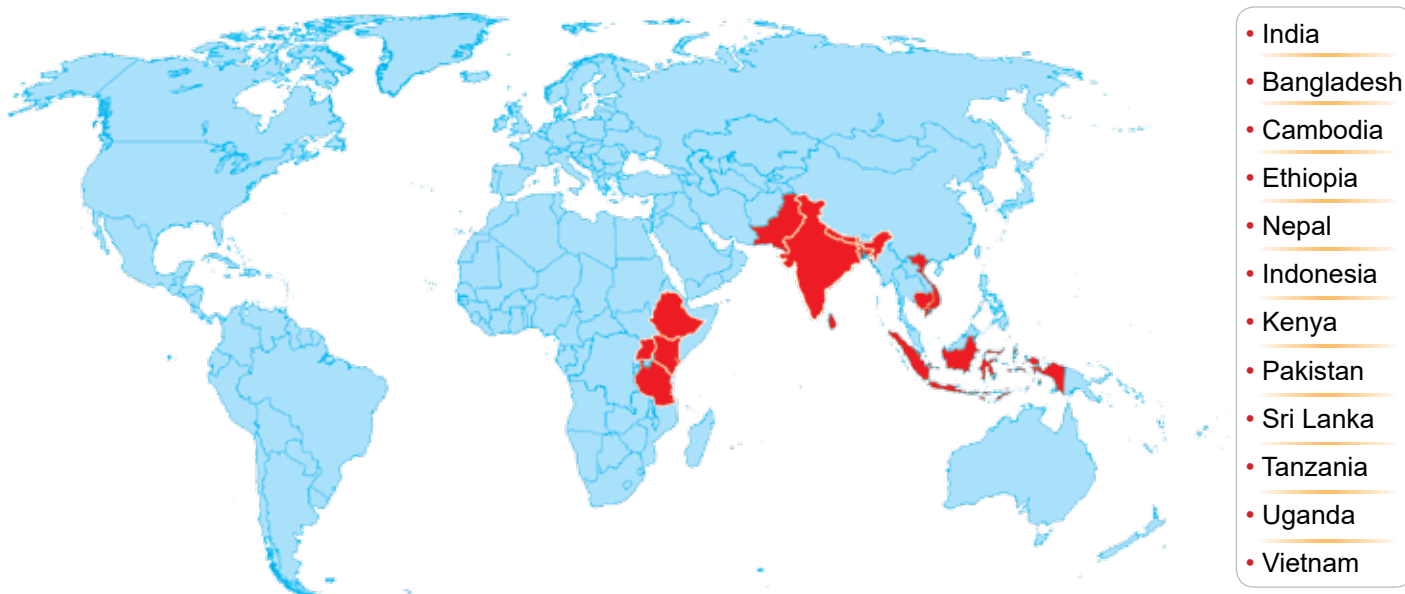
Technical Specifications of various models

PARTICULARS	WK-1150	WK-1350	WK-1500
Inside Dia. Of Basket (mm)	1150	1350	1500
Basket cone angle (Degree)	30	30	30
Speed (rpm)	1830-1950	1650-1750	1480-1677
Installed drive motor (KW)	55	90	110
Effective screening surface area (Cm ²)	15000	18500	21500
Centre distance mm	2200	2500	2700
Capacity of machine*			
C Massecuite (TPH with 0.06 mm screen aperture)	6 to 8	8 to 10	10 to 14
B & C After Worker (TPH with 0.09 mm screen aperture)	10 to 13	14 to 18	18 to 22
Affination Magma (TPH with 0.09 mm screen aperture)	12 to 15	15 to 20	20 to 25

* 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 consistant 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.



Some of Our Esteemed Domestic Customers

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

Some of Our Esteemed International Customers

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

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

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