

WESMAN

PRODUCTION PROGRAM

INDUSTRIAL FURNACES

Wesman's range of industrial furnaces and ovens is the largest in the world. This is achieved through joint ventures with LOI Thermprocess GmbH, Essen and Ipsen International GmbH, Kleve, whose range of furnaces are manufactured in India by Wesman. The brief listing below is indicative of the products and applicable capacities.

Wesman Furnace Division

Batch Furnaces

Chamber, Car Bottom, Pit, Elevated hearth, Salt bath, Soaking pit, Galvanising bath
Fuel-fired crematorium furnaces and waste incinerators (under license from Furnace Construction Co. Ltd., UK)

Continuous Furnaces

Pusher Hearth and Walking Hearth type reheating furnaces up to 60 MTPH, Open Fired Rotary Hearth Furnaces up to 35 MTPH, Walking Beam type leaf and coil spring heating furnaces, Conveyorized leaf and coil spring tempering furnaces, Tray Pusher furnaces for hardening, tempering and normalizing small forgings.

Furnaces for Aluminium

Batch type Coil and Foil annealing furnaces, Slab Soaking Pits, Static and Tilting Type melting and holding furnaces up to 20 MT batch capacity, Reverberatory, Crucible and Rotary type melting units, Homogenising, Solution Annealing, Ageing and Billet Heating.

Other Equipment and Accessories

Fuel-fired Ladle Heaters and Coolers, Hot air generators, Batch and Continuous ovens, Tunnel Kilns, Charge and Discharge machines, Material transfer mechanisms including roller conveyors, Charge and Discharge pusher and extractor machines, Pinch roll mechanism, Billet separators, Quench installations.

Wesman Ipsen Furnaces

For Carburizing, Carbon restoration, Nitempering, Bright hardening, Normalizing and Annealing

- Straight through Sealed Quench Furnace for gross batch capacity 90 to 1300 kg (electrically heated or gas fired)
- In-Out Sealed Quench Furnace for gross batch capacity 90 kg to 1300 kg (electrically heated or gas fired)
- Pusher Furnaces

For Tempering, Stress relieving, Preheating, Bright annealing, Nitempering

- Box type tempering furnace with front loading and unloading for gross batch capacity 350 kg to 1300 kg (electrically heated or gas fired)
- Box type tempering furnace with straight through design in single and multiple stations each with gross batch capacity 350 to 1300 kg (electrically heated or gas fired)

For Carbonitriding and Bright hardening

- Shaker Hearth furnace for capacity 150kg/hr to 500 kg/hr (electrically heated or gas fired)

For Bright hardening, Annealing, Sintering, Brazing, Stress Relieving

- Vacuum Horizontal Chamber type furnace with low pressure gas quenching up to 1.5 bar. Gross batch capacity 30 kg to 540 kg (electrically heated)
- Vacuum Pit type Furnace with low pressure gas quenching up to 1.5 bar. Gross batch capacity 25 kg to 1800 kg (electrically heated)

For Hardening, Bright annealing, Solution treatment, Sintering, Degassing, Brazing

- Vacuum horizontal chamber type furnace with high pressure gas quenching up to 5 bar. Gross batch capacity 60 kg to 1000 kg (electrically heated)

For tempering and annealing of ferrous and non-ferrous metals in inert gas

- Vacuum horizontal chamber type tempering furnace gross batch capacity 150 to 600 kg (electrically heated)

Other Equipment and Accessories

- Endogas Generators capacity 10 M³ per hour to 120 M³ per hour (electrically heated or gas fired)
- Chamber type washers, immersion type, with or without drying arrangement (electrically heated or gas fired)
- Loader and Unloader/Loader for Atmosphere Furnaces
- Forklift type Loader/Unloader for Vacuum Furnaces
- Charge baskets and fixtures

LOI Wesman Thermprocess

Reheating Installations for Steel Slab, Blooms, Billets and Blocks

- Pusher Furnaces above 60 MT per hour
- Rotary Hearth of special designs above 35 MT per hour
- Walking Hearth above 60 MT per hour
- Top and Bottom fired Walking Beam Furnaces
- Walking Beam pipe reheating furnaces
- Roller Hearth Furnaces for in-line casting and rolling strip production

Heat Treating Installations for Steel Forgings

- Roller Hearth furnaces with/without special atmosphere
- Standard or Split arch Conveyor type furnaces
- Rotary table, Walking Hearth type
- Pusher tray furnaces
- Isothermal Annealing Furnaces

Heat Treating Installations for Hot Rolled Products

- Roller Hearth furnaces with/without special atmosphere for steel plates, wire rods, bars, pipes and tubes
- Special quenching device for steel plates
- Walking Beam furnaces for pipes and tubes
- Double Walking Beam Furnaces for heavy plates

Heating Treating Installations for Cold Rolled and Drawn Products

- Roller Hearth furnaces with special atmosphere for cold rolled steel strip coils
- Continuous strip lines for grain or non-grain oriented silicon steel
- Multi-stack high temperature Batch Annealers for silicon steel coils
- Single or Multi-track Roller hearth furnaces
- Single or Multi-track Elevator type furnaces for motor lamination
- Single stack Batch Annealers under special atmosphere for cold rolled steel coils
- Multi-stack wire Coil Batch Annealers under special atmosphere

Reheating Installations for Non-Ferrous Metals

- Walking Hearth furnaces

Heat Treatment Installations for Automotive Industry

- Continuous single or multi-track tray pusher furnaces with or without in-line Rotary Hearth Furnaces for hardening, gas carburizing, nitro-carburizing, annealing, tempering and carbonitriding
- Rotary Hearth furnaces for gas carburizing and hardening

Heat Treat Installations for Malleable Iron Castings

- Single or Multi-track Tray Pusher furnaces
- Elevator type furnaces with controlled atmosphere for black heart, white heart and spheroidized castings

Heat Treating Installations for Non-Ferrous Metals

- Roller Hearth furnaces with special atmosphere for pipes, strips, coils and wires

Heat Treating Installations for Aluminium and Steel

- Bottom Loader Batch furnaces with quenching facilities
- Continuous furnaces for solution annealing with quenching facilities and ageing for aluminium cast or forged wheels, cylinder heads, motor parts, tubes for automotive industry

Melting and Casting Installations for Light Metals (Aluminium)

- Standard or Tilting type above 20 MT batch
- Twin Chamber furnaces
- Sidewell furnaces
- Rotary furnaces of special design

Enamelling Installations

- Batch and continuous designs

COMBUSTION SYSTEMS

Wesman North American

- High Velocity Tempest Burners
- TwinBed™ Regenerative Burners
- Magna Flame Ceramic Fibre Lined Hot Air Burners
- Radiant Tube Burners
- Fabricated Cold/Hot Air Burners

- Low/High Pressure Air Atomized Oil Burners
- Compressed Air Torches
- Flat Flame Burners roof firing, radiant heat principle
- Luminous Flame Burners
- Fire-All Burners
- Hiram Burners
- Sensitrol™ Valves for oil micro-metering
- Limiting Orifice Valves for gas
- Ratiotrol™ air/oil ratio control valve
- Air-Gas Ratio Regulators
- Gas Pilots
- Aspirator Mixers
- Oil Atomizers
- Adjustable Port Valves for oil, gas, air or steam
- Manual Reset Safety Shutoff Valves solenoid operated
- Constant Differential Pressure Valves
- Pressure Reducing Gas Regulators
- Metering Orifice Systems
- Automatic Burner Ignition Systems
- Flame Failure Safety Sytems
- Burner Blocks and Tiles
- Recuperators convection and radiation type

▲ Available for oil, gas or dual-fuel. Burners, control valves and recuperators are manufactured under license from North American Manufacturing Co., USA

Other Burners

- Self Proportioning Oil Burners for heavy and light oil
- Compressed Air Light Oil Portable Burners
- Pressure Jet/Steam or Compressed Air Assisted Burners for sugar boilers
- Steam or Compressed Air Atomized Oil or Gas Burners Series LU and DF for process boiler
- Oil or Gas Lances for Kilns
- Startup/Load Carrying Burners for fluidized bed boilers
- High Pressure Oil Inserts for pulverized coal burners

Industrial Fans and Blowers

- Low Pressure Fans
- Exhaust Fans
- Hot Air Recirculation Fans up to 950 degrees C
- Single and Multi-Stage Combustion Air Blowers
- Furnace Hearth Blowers for coal firing
- Cupola Air Blowers
- Inlet Air Filters and Silencers

Oil Preparation Units

- Pre-engineered Heavy Oil Pumping and Heating Units
- Pre-engineered Pumping Units for Light Oil
- High Pressure Pumping and Heating Units with steam or electric heating
- Non-Flameproof Electric Outflow Heaters
- Flameproof Electric Outflow Heaters
- Line Oil Preheaters electrically heated
- Oil and Air Pressure Gauges
- Oil Temperature Indicators
- Oil Safety Shut Off Valves diaphragm type
- Oil Pressure Regulating Valves model WESCON
- Oil Pressure Reducing Valves model PRV
- Oil Filters simplex and duplex

Controls and Accessories

- **Pre-engineered Oil and Gas Trains** with safety systems and automated operation
- **Automatic Burner Management Systems** with relay or PLC-based control
- **UV Flame Failure Safety Devices**
- **Multi-Vane Damper** model WESVANE
- **Screw or Wafer Type Butterfly Valves**
- **Oil, Steam and Air Hoses**

FOUNDRY EQUIPMENT

Wesman designs and manufactures a wide range of standard foundry equipment, as well as custom equipment designed to user specifications. We also offer consulting services for complete foundry plants.

Melting

- ▼ Batch capacities relate to metal shown in brackets. For other metals, capacities will vary.
- **Oil/gas fired rotary furnaces** 300, 500, 1000 and 2000 kg (cast iron)
- **Oil fired reverberatory furnaces** 100, 250, 500 and 1000 kg (brass), max 3000 kg (aluminium)
- **Oil fired semi rotary furnaces** 50, 100, 200, 500 and 1000 kg (aluminium)
- **Oil fired tilting furnaces** 100, 200, 300, 500 and 1000 kg (gun metal)
- **Oil/gas fired liftout furnaces** 25 and 60 kg (brass), 350 kg (aluminium)
- **Electric resistance baleout furnaces** 100, 200 and 300 kg (aluminium)
- **Twin blast cupola and cupola chargers** Up to 5 metric tons per hour

Ladles

- **Lip pouring ladles** 150 kg to 16 MT for cast iron
- **Teapot spout ladles** 150 kg to 16 MT for cast iron
- **Drum type ladles** 1 to 4 MT for cast iron
- **Bottom pouring ladles** 500 kg to 25 MT for steel
- **SG iron conversion ladles** 500, 800 and 1000 kg
- **Tundish ladles** 500, 1000, 1500 and 2000 kg
- **Ladle preheaters** to suit different sizes

Mixers and Mullers

- **E-series mullers** 20, 65, 130, 220, 340, 450, 680 900 and 1350 kg batch
- **RM-series Rotomix intensive mixers** 175 and 300 kg batch
- **P-series intensive mixers** 10, 25 and 40 metric tons per hour (under license from Belloi & Romagnoli srl Italy)
- **Core sand mixers VAM series** 45, 100, 175, 300, 500 and 800 kg
- **Refractory mixers VAM-R series** 30, 65, 115, 200, 300 and 500 kg
- **Blacking mixers** 100 and 150 litres
- **Continuous mixers** 2.5 and 6 metric tons per hour for sodium silicate sand

Sand Plants

- **Custom sand plants** 5 to 80 metric tons per hour
- **EJX compact sand plants with E-series mullers** 3 metric tons per hour to 8 metric tons per hour
- **IJX compact sand plants with intensive mixer** 10 metric tons per hour to 40 metric tons per hour
- **Bag filters**
- **Thermal sand reclamation units** 3 and 6 tons per hour

No-Bake Systems

- **Continuous mixers** Models Pacemaster and Maxi/Mul up to 11 MT per hour
- **High speed batch mixers** Mini Mark, Mark I, and Mark II
- **Travelling high speed batch mixers** Up to 220 kg batch
- **Shell moulding machines** Semi and fully automatic moulding units
- **Cold box core machines** Vertical and horizontal tooling
- **Heated process core machines** Vertical tooling units
- **Shell core machines**
- **Dual force compaction tables**
- **Cycloid rollovers** CC-500, CC-1000, CC-2500
- **San-Rec-Pak™ compact attrition sand reclamation systems** 1 to 3 MT per hour and 4 to 6 MT per hour
- **Vibraclaim shakeout**
- **HLD Lumpreducer, Rotaclaim, shaker screens** Up to 6 metric tons per hour
- **Cooler/classifiers** up to 6 metric tons per hour
- **Dependaveyor™ Pneumatic transporters** Models DFT-II-1, 2, 3, 4
- **Gas generator** Model 210

▲ Manufactured under joint venture with Dependable Foundry Equipment Co and Redford Carver Foundry Products Co, USA

Other Equipment

- **Rotary sand dryers and coolers** 0.5, 1.5, 5, 10 and 17 metric tons per hour
- **Fluidised bed sand dryers and coolers** Up to 10 metric tons per hour
- **Vibratory screens** 1100 x 500 mm and 1300 x 600 mm
- **Vibrating knock-out units** 1, 3, 5, 6, 8 and 10 metric tons
- **Conveyors** oscillating, pallet, roller and belt to suit
- **Table feeders** 1200 and 1800 mm diameter and to suit
- **Screw feeders** In various sizes
- **Polygon screens** 10, 30, 60 and 100 MT per hour
- **Cooler screens** 10, 30, 60 and 100 MT per hour
- **Aerators:** Line, Cool and Brush models
- **Portable sand aerator** 10 metric tons per hour
- **Overband magnetic separators** To suit
- **Elevators** In various sizes
- **Hoppers and bunkers** In various sizes
- **Core and mould ovens** In various sizes

Automated Sand Control

- **Hartley Compactability and Moisture Controllers** for automated control of green sand properties

▲ Manufactured under joint venture with Simpson Technologies, USA

ABOUT THE WESMAN GROUP

Since its founding in 1951 by Arjan Vaswani, the Wesman Group has grown to seven companies employing almost 500 people. Wesman has been one of India's foremost names for industrial heating process equipment and solutions for more than half a century. In pursuit of its commitment to excellence, Wesman Engineering has been an ISO 9001-certified company as of January 1998.

Wesman's Machine Building Plant is located on a 10,000 square meter site near Kolkata's international airport. The group's Research and Development, also located here, regularly adds new products in addition to continuously improving existing designs. As of July 2002, group company Wesman Ipsen has commenced operations from its new plant at Bhasa, at the southern limits of Kolkata.

Wesman's global outlook, market reputation, infrastructural facilities and organizational strengths in manufacturing, management and after-sales service have led to highly successful joint ventures and collaborations with leading international equipment manufacturers in related fields to bring cutting-edge technologies to global markets.

With extensive investments in its own corporate email system, ERP systems, CAD design office, networked file sharing, computerized engineering applications, countrywide data links to its regional offices, and presence on the internet, Wesman is wired to the future of doing business the electronic global environment. Wesman also offers industrial automation and control solutions to supplement its existing product lines, and has also branched into offshore engineering support services.

GROUP COMPANIES

- 1951 **The Wesman Engineering Company Pvt Ltd**
- 1973 **Wesman Thermal Engineering Processes Pvt Ltd**
- 1993 **Wesman Ipsen Furnaces Pvt Ltd** (joint venture with Ipsen International GmbH, Germany)
- 1994 **Wesman Dependable Redford Carver Foundry Products Pvt Ltd** (joint venture with Tromley Industrial Holdings, USA)
- 1994 **Wesman Exports**
- 1998 **LOI Wesman Thermprocess Pvt Ltd** (joint venture with LOI Thermprocess GmbH, Germany)
- 1998 **Wesman Simpson Technologies Pvt Ltd** (joint venture with Simpson Technologies Inc, USA)

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