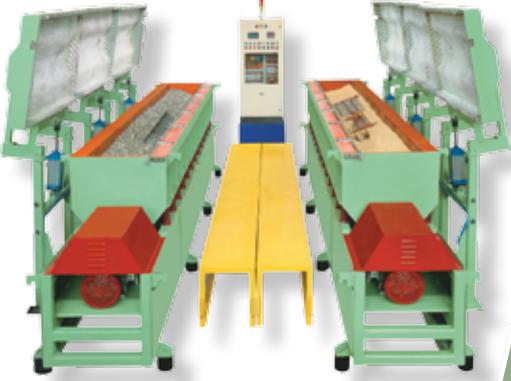




No Rough Edges

*In-Depth Solutions,
Flawless Finishing*



Why Choose Dalal



VISION

To excel and provide Surface Finishing technology that is the most advanced in India and at par with the international league.

Our credo is:-

Customer orientation to develop products (machines, media, chemicals, and auxiliaries) that seek to meet customer aspirations.

An organization reputation that instills confidence in the customer to seek prepurchase counseling, validation through trials and service needs that may arise.

MISSION

To consolidate at the forefront of Surface Finishing in India by :

- Responding creatively and economically to our customers' requirements.
- Providing superior process know-how, speedy execution, and exemplary after-sales service
- Effecting a quantum increase in reach on a pan India horizon to bring us closer to our customers

Yesterday's Pioneers, Today's Leaders

Three decades ago Dalal Engineering introduced mechanized surface finishing to India, transforming a laborious manual process with less than satisfactory results into one which guaranteed 'No Rough Edges'.

Over the years we have been recognized as industry leaders, known for introducing new technologies, upgraded machines and superior media and chemicals. Global partnerships, a highly qualified team of trained engineers and a state-of-the-art laboratory with dedicated researchers, have meant that we are always at the cutting edge. Today, no one understands finishing better than we do.

Our factory near Mumbai, where we also manufacture other engineering equipment, is spread over 5000 sq mt. And our work force has a cumulative experience of over 2000 man years. Combine experience with expertise, and you will know why the "No Rough Edges" refers not just to our products, but to our quality standards, our R & D, the customized solutions we offer, our customer service and everything else we do.





Customised Solutions, Smoothest Service

At Dalal, we don't sell machines, we provide solutions. Over the years we've handled the tiniest automobile components to the most complex aviation equipment; the thinnest of delicate wires and the largest and roughest of engineering components, bringing a shine to hundreds of varied surfaces (and a smile to every manager's face!).

Each time a new customer comes to us, we study and understand, we consult our database of over 12,000 diverse case studies, we conduct trials and research in our advanced R & D lab, and we devise a tailor made solution for you.

And, once you are a Dalal customer, we are completely at your service. Our team of application engineers located across top 10 industrialized cities ensures speedy assistance. So whether it's a spare part you need or an entirely new machine, whether you require a mere replenishment of your media and chemicals or a solution to a process application problem, we are always there for you.

Advanced Technology, Global Tie-ups

Continuous innovation and advancement has been a hallmark of Dalal Engineering with increasingly higher levels of automation and newer and more versatile consumables. Thus, we can confidently assert that our machines are technologically superior to others in the market.

Some unique features include:

- Polyurethane dam flap
- High tensile nut bolt for motor fixing
- Vibratory motor manufactured by a reputed company
- Energy efficient motor for power saving
- Better cascade for reduced process times.

With technology and know-how acquired from UK based William Boulton for Vibratory Finishing Machinery, and a partnership with Sharmic Engineering of UK for processes, we ensure that our products are on par with every global advance.

Trial facilities at our factory allow us to experiment with different media, chemicals, cycle time, and quantity of components. We also provide modular accessories ranging from sound covers, magnetic unloaders, dosing systems, conveyor belts, and washing and drying systems to meet each individual need.



What we can Do

MAJOR USER INDUSTRIES

- Aluminium Extrusion and Die Casting
- Brass Casting and Hardware
- Sintered Components
- Compressor Components
- Automobile Components
- Bicycle Parts
- Pressed Components



APPLICATIONS

- Burnishing
- Cleaning
- Deburring
- Decarborising
- Deflashing
- Degreasing
- Derusting
- Descaling
- File mark removal
- High gloss finishing
- Matt finishing
- Mirror finishing
- Polishing
- Preanodize finishing
- Preplate finishing
- Prepowder coat finishing
- Ra/Rz value improvement
- Radiusing
- Smoothing
- Surface finishing
- Watch Parts
- Spectacle Frames and Components
- Cutlery
- Hand Tools and Forgings
- Lock Parts and Components
- Buckles, Bags and Shoe Fittings
- Turbine Blades
- Bearing Cages and Rollers
- Plastic Components
- Gold, Silver and Imitation Jewellery
- Platinum Parts
- Aircraft Components
- Ceramic Components
- Light and Lamp Fittings
- Door and Bathroom Fittings
- Switchgear Fittings
- Gas Regulator Components
- Surgical and Orthopaedic Implants
- Clutch Plates
- Piston Rings and Brake Parts
- Diesel Generator Components





Our Products

Vibratory Finishing Machines

Vibratory Finishing Machines are mass finishing machines, used for deburring, polishing, descaling, and surface improvement on metal and plastic components.

The machine has a steel bowl lined with rubber or polyurethane which is filled up with required media (either ceramic, plastic, maize etc. depending upon the finish required) and components. Eccentric weights are mounted on an extended shaft attached to a heavy duty motor to cause vibrations and create a spiral of the media and the components. Variations in vibration, achieved by varying weights and angles, and suitable combination of media enable machine to be used for different components.

Standard Features

- Effective motor position for Superior Vibration.
- High tensile nut bolts for longer machine life.
- Efficient removal of process fluid for best surface finish.
- Energy efficient motor.
- Bowls shot blasted before and after Polyurethane lining for painting
- All internal welds ground smooth
- Anti rotation motor locking plate provided
- Bowls are stress relieved

Additional Features

- Complete Polyurethane lined bowl including separation area.
- Complete Polyurethane dam flap to avoid metal contact instead of metal flap.
- Polyurethane corrosion resistant paint for longer life in acidic /alkaline environments
- Accident proof media outlet design for total safety

Advantages

- Can handle very small to large parts. Batch or continuous operation.
- In-Process Inspection
- Integral separation.
- Better media/parts mixing since it has cascade and circular action.
- Economical for general purpose work, heavy deburring, continuous processing, and continuous inspection.
- Full automation capability.
- Batch or continuous operation.



Standard Machine without Separation

Models	Total Volume (ltrs)	Ceramic Chip Capacity (kg)	O.D. (mm)	Bowl 'U' Width (mm)	Motor (HP)
VFM 30 L	30	30 - 35	613	204	0.125
VFM 90 L	90	90 - 110	855	256	1
VFM 120 L	120	120 - 150	1020	262	1.5
VFM 210 L	210	210 - 250	1220	280	2
VFM 300 L	300	300 - 350	1347	342	2
VFM 600 L	600	600 - 700	1606	430	5
VFM 1200 L	1200	1200 - 1400	2010	530	8

*Subject to change without notice
Requires manual separation of components



Standard Machine with Separation

Models	Total Volume (ltrs)	Ceramic Chip Capacity (kg)	O.D. (mm)	Bowl 'U' Width (mm)	Motor (HP)
VFM 150 LDR	150	90 - 110	855	256	1
VFM 200 LDR	200	120 - 150	1020	262	1.5
VFM 350 LDR	350	210 - 250	1220	280	2
VFM 500 LDR	500	300 - 350	1347	342	2
VFM 875 LDR	875	600 - 700	1606	430	5
VFM 1600 LDR	1600	1200 - 1400	2010	530	8

*Subject to change without notice

Spirotech Machine (Curved walls)

Spirotech machines have curved bowls that allow larger batch loads and reduced process time. Recommended for light and small components. Which in standard machine, tend to float on the outer periphery of the bowl.

These machines are available with or without separation for Model 120L and above.

Spirotech Machine

Models	Gross Volume	Bowl 'U' Width (mm)	Motor HP
VFMS 120L	120	285	1.5
VFMS 300L	300	370	2
VFMS 600L	600	460	5
VFMS 1200L	1200	550	8

*Subject to change without notice



Vibratory Finishing Machine with Superior Separation

Certain applications require that each and every component is separated from media. It is possible to achieve this with machines that are specially designed to suit the geometry of the components and media.

These machines are provided with a hump for superior separation of parts from media with specially designed screens. We custom make these screens based on your part sizes and media chosen for your process. It is possible to automate the entire finishing process.

Vibratory Finishing Machine with Superior Separation

Models	Total Volume (Itrs)	Ceramic Chip Capacity (Kg)	OD (MM)	Bowl 'U' Width (mm)	Motor (HP)
VFM 190 SS	190	110	1020	262	1.5
VFM 410 SS	410	225	1347	342	2
VFM 790 SS	790	500	1614	430	5

*Subject to change without notice



Vibratory Burnishing Machine

Burnishing machines are specially designed for the burnishing process using steel media. The motors are designed for excellent cascade of the increased work load. Separation is manual.

Special Features:

Specially designed for finishing with steel media Heavy duty Vibratory Drive System Specially strengthened bowl

Advantages:

- Fast Processing
- Shorter cycle times
- Higher Productivity
- Cost effective High Polishing process
- Improves corrosion resistance of product

Burnishing Machine for Mirror Polishing Using Steel Media

Models	Total Volume (Itrs)	Steel Media Capacity (Kg.)	O.D. (mm)	Bowl 'U' Width (mm)	Motor (HP)
VFMB 80	80	180 - 220	780	200	1.5
VFMB 180	180	300 - 350	1150	256	2
VFMB 350	350	600 - 700	1350	342	5
VFMB 700	700	1200 - 1350	1700	430	8

Burnishing Machines With Separation Available

*Subject to change without notice



Finishing of Small / Delicate Components

Centrifugal Finishing Machines

Centrifugal Finishing Machines are high 'G' force machines specifically developed for smaller components, and for those that require long process times in Vibratory Finishing machines. Smaller machines have removable barrels, while larger ones have fixed barrels with provision for barrel and turret inching. There are several options available – straight barrels, inclined barrels, removable barrels (for small machines), variable speeds, media parts separators, inching arrangements, rubber/polyurethane linings, conveyors, etc.



Centrifugal Finishing Machines

Models	Number of barrels	Motor (hp)	Floor Spacing (mm) (Lxwxh)
CFM 30 (R)	7.5 litres x 4	3	1150 x 1100 x 1550
CFM 50	12.5 litres x 4	5	2910 x 1300 x 1900
CFM 80	20 litres x 4	7.5	3270 x 1250 x 1830
CFM 100	25 litres x 4	10	3330 x 1550 x 2150
CFM 160	40 litres x 4	15	3950 x 2040 x 2400
CFM 240	60 litres x 4	25	3950 x 2200 x 2800

* Subject to change without notice

* (R) model have removable barrels. All other models are with fixed barrels.



Disc Finishing Machines

Disc finishing machines are also high 'G' force machines which work faster due to the centrifugal force generated by a rotating disc.

Process times are significantly lower than Vibratory Finishing Machines but somewhat more than Centrifugal Finishing Machines.

The advantages of Disc Finishing over Centrifugal Finishing are the greater ease of loading and unloading and the possibility of In-process inspection of parts.

Disc Finishing Machines

Model	Volume (Liters)	Motor (Kw)	Voltage (V)	Floor Spacing (mm) L x W x H
DFM 10	10	0.37	220	600 x 700 x 1170
DFM 20	20	0.75	220	680 x 850 x 1425
DFM 40	40	2.2	415	880 x 780 x 1440

Larger sizes available

*Subject to change without notice

High Gloss finish of small to medium size components

Dalal In Association with Vibrochimica

Dalal Engineering has entered into an agreement with Italian specialists **Vibrochimica**, for manufacture of Centrifugal Disc Finishing and Rapid Ball Burnishing machines.

Vibrochimica, founded in 1972, is one of the foremost European manufacturers of Vibratory Finishing Machines and Systems for the surface treatment and mass metal finishing markets. The company is located in Liscate, Italy near the Milan-Linate Airport. Their product range includes Round Bowl Machines, Tub Machines, Ball Burnishing Machines, Centrifugal Disc Finishing Machines, Vibratory Dryer, Through Feed Continuous Machines, Waste Water Treatment System and fully automated High Tech Installations.



Rapid Ball Burnishing Machines

Rapid Ball Burnishing machines are the best solution for polishing of components where there is need of a high production / short process time. These machines can work in batches for polishing of small and medium sized parts.

These machines have a high frequency technology where the total process times are between 10-20 minutes.

These machines work in batch for burnishing of ferrous & non ferrous components. They have a unique tilt separator inbuilt for 100% separation of parts within 2-4 minutes and further for the auto return of media back to the burnishing tub.

Disc Finishing Machines

These machines are suited for rapid metal removal from parts such as forgings, extrusions, machined components and castings. Disc machines are manufactured in 70 litre and higher capacities. Disc Finishing Machines are high 'G' force machines which work faster due to centrifugal force generated by a rotating disc. The equipment consists of a disc rotating at high speed.

The centrifugal disc machines are designed for optimum disc and chamber life with greater thickness of polyurethane in the high wear areas. A special sealing arrangement of SS to SS ensures a longer life of rotating disc and does not require frequent gap adjustment.

Discharge of the work mass can be done manually or by a motorised tilting arrangement. Process time in these machines is significantly less than in Vibratory machines but somewhat more than in centrifugal barrel machines. The Disc machines are easy to automate.

Automated Finishing System

Mass finishing is becoming increasingly sophisticated in order to provide a high level of productivity, reliability and consistency of quality as demanded by industry.

Dalal Engineering with several decades of experience in mass finishing offers custom-designed Automated systems with integration of operations like loading, washing, chemical dosing, sound dampening, finishing, separation, drying and waste water treatment. The system can be controlled by PLC with detail process monitoring and controlling all aspects of the process.

Advantages of Automation in Finishing Systems

- Increased Productivity
- Consistent Output
- Reduced Operational Cost
- Reduced Manpower
- Better Safety

Dalal Engineering offers automation with the use of latest technology to reduce the need of human work.

Higher Productivity and higher output have been the major factors for the increasing demand of automation in the finishing process. Though many may claim that a human can achieve consistent finish using machines, there is definitely an increase in the consistency of finish after every batch with efficient automation.

A typical Automated Finishing System would consist of:

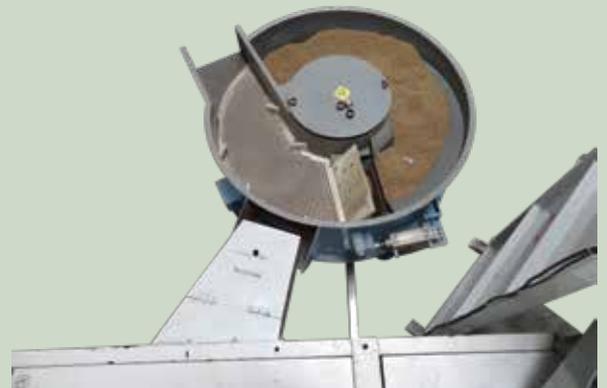
- Auto loading of parts into machine
- Sound dampening
- Dosing Equipment to feed correct quantity of chemical during process
- Control Panels to instruct the machine as per the processes set for finishing for a stipulated time
- Vibrators/ Magnetic Separators for separation and/ or washing of parts
- Conveyors for transfer
- Waste water treatment system



Automated Finishing System

Automated Vibratory Finishing System

An Automated System with Vibratory Finishing Machine kept in a sound proof cabin integrated with Vibratory Dryer. The system is provided with auto loader, waste water recycling system, auto dosing unit and the whole process is controlled by PLC Control Panel.



Automated Disc Finishing System

An automated system consist of Centrifugal Disc Finishing Machine with auto tilting mechanism to unload the parts, component washing provision, broken media separator, magnetic separator with demagnetiser for 100% separation of parts and waste water filtration and recirculation system. The whole system is automatically operated.



Accessories



Waste Water Filtration and Recycling System

To increase the attention towards ecology and environment, Dalal has introduced a waste water filtration and recycling system. It is an automatic and economical water treatment system with easy application and without need for specialised manpower. The system consists of one sedimentation

and one clean water tank. The dirty water is passed through a high speed filtration system for removal of suspended solids and then cleaned water is collected in clean water tank.

1. Less consumption of water and finishing compound
2. No choke up in drainage

Sound Reduction Accessories

For workers safety and to meet factory sound norms, mass finishing equipment usually requires noise protection measures.

Sound Cover – Noise protection cover of single machine with a manually or pneumatically operated hinge type cover, covering only the top of the machine.

Sound Protection Cabin - A sound protection cabin with a complete enclosure and manually openable top and sides



Auto Loader

Bin type loader required for transfer of parts from customer bins into the machine. The loader can be customised for component bins used by customers. Efficient, Easy loading & unloading of parts without damage, Heavy Duty and Economical.



PLC Control Panel

A full automation of the system can be done with PLC Control panel where manual intervention is not required. The panel works with touch screen or line display and has HMI with feather touch buttons.



Magnetic Separator

Generally used for Separation from media of ferrous components having similar size. These can be separated magnetically. Magnetic separator can have a inbuilt demagnetiser and in some cases can be used to convey components to the next machine /dryer.



Simple Control Panel

With starter and timers as required.

Upon request it is possible for install a variable speed drive to control the RPM of the vibrating motor.

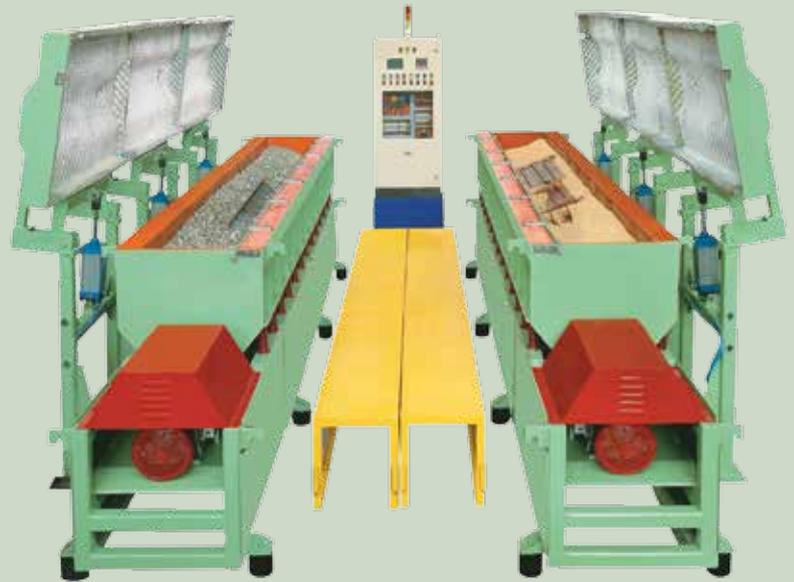


Dosing Unit

Dosing of right quantity of water and compound is necessary for successful surface finishing. The controlled flow of chemical and water is done with dosing pump and rotameter housed in a mild steel cabinet. Dosing unit can be integrated with an automatic system with the help of PLC.



Finishing of Long / Very Large parts



Vibratory Tub Finishing Machines

Vibratory Tub Finishing Machines have rectangular working bowl with either straight or curved side walls based on the application. The system cascades mixture of media and components in the Tub, producing relative movement between the two. This results in efficient processing of components. Vibration can be adjusted with eccentric weights and systems can be batch type, continuous or customized as per needs.

Features:

- Suitable for mix size, large and long parts
- Machine can be customized to suit parts
- Continuous Machine can be offered
- Divider plates for large heavy parts and moving parts to prevent contact

Advantages:

- Faster processing than hexagonal barrel
- Can handle small to very large and very long parts
- In-Process Inspection
- Batch or continuous operation

Vibratory Tub Finishing Machines

Model	Total Volume (Itrs)	Length (mm)	Width (mm)	Motor (HP)
VTFM 50	50	640	305	0.5
VTFM 300	300	1200	550	5
VTFM 600	600	2700	465	7.5
VTFM 900	900	3800	465	12.5

**Subject to change without notice*

For Drying after Vibratory Finishing



Vibratory Dryers

Features:

- Continuous and re-circulatory operation can be automated and added to total system
- Mobile, robust, fast and easy to install
- Occupies lesser space
- Adjustable vibration to suit production requirement

Advantages:

- Can handle small to medium size parts.
- In-Process Inspection possible.
- Energy Efficient.
- Excellent cascade to eliminate calcareous residuals of water.
- Stain free drying
- Occupies less space than other units of similar capacity and output

Vibratory Dryers

Model	Motor (HP)	Bowl Diameter (mm)	Chamber Width (mm)	Total Width (mm)
VFMD 200	0.25	625	200	900
VFMD 350	1	1225	340	1075
VFMD 450	2	1560	460	1200

**Subject to change without notice*

Media & Chemicals



Correct choice of media and chemicals is critical to proper surface finishing. Dalal Engineering has a partnership with Sharmic Engineering of UK for processes. This helps Dalal to develop specialized formulations to meet specific industries and metallurgies.

A highly advanced R & D lab decides on the selection of media and chemicals based on the type of material and its geometry. Different types and grades of media ranging from ceramic, plastic, steel, glass to corncobs etc, each with varying abrasive strengths are available. These may be used in combination with highly developed chemical formulations which contribute to the deburring and polishing process, keep parts and media clean, prevent media impingement and assist in achieving the desired finish.

Repairs & Reconditioning

Our machines are sturdy and built to last. With proper care and maintenance they are technically capable of a long life. With our commitment to provide total solutions, the Dalal team undertakes all types of services related to complete Repairs and Relining of equipment. The aim is to make the machines last as long as possible, and we do not recommend purchase of new machines unless absolutely necessary. What's more, we provide repairs and reconditioning services even in the case of finishing machines that have not been manufactured by us.

Before



After





No Rough Edges

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