

Slower GDP growth rates have brought individual companies face to face with a challenge – how to zero in on what works best for you and helps you stay ahead of the competition.



Efficiency is the key in such a situation, and the an important article in this issue is dedicated to help you select the most appropriate type of finishing machine for your product and manufacturing cycle.

We also introduce the highlights of our newest Disc Finishing machines which offer some decisive advantages to particular user industries. Other sections of the newsletter too, are aimed at helping you make an informed choice. In this issue we also discuss two case studies related to the Surgical Implants and Brassware industries and continue with our popular FAQs section.

Presenting information in a transparent fashion is part of the customer friendly approach that we are now well known for. Other similar initiatives include the seminar we held in Solapur, the renovation to our labs to conduct better trials, or our constant attempt to innovate and upgrade our machines. All these are featured in this issue of Sparkle.

I look forward to your views and comments that will help us to make further issues interesting and rich in information.

- Anil Dalal

## Product Launch

# Disc Finishing Machine

**Working Principle:** Disc finishing machines are 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 advantage of Disc Finishing over Centrifugal Finishing is the greater ease of loading and unloading and the possibility of in-process inspection of parts.

These machines are usually suitable for small components and also very thin flat components. Different models are available for wet or dry processing.

### Application

- Jewellery
- Small Auto Parts
- Bearing Parts
- Surgical implants
- Coin Blanks
- Washers
- Knitting needles
- Brass parts
- Precision Hardware
- Watch Parts
- Electrical Connectors
- Pen Parts
- Textile Machine Parts
- Stampings
- Zipper Parts
- Belt Buckle Parts



## What Works Best?

“Which finishing machine will give the best results for my product?” This is perhaps the commonest question that we are asked, both by casual visitors to our stall at a trade fair or during more serious discussions at the factory of a prospective client.

Just turn the page, and you'll find it simple enough to answer the question for yourself!

## What Works Best?

We present below the comparative details of the various types of machines, the facts about the advantages and their limitations.

COMPARISON OF FINISHING MACHINES			
Equipment in order of decreasing cycle time			
MACHINES	ADVANTAGES	LIMITATIONS	PICTURE
<b>Tumbling Barrel</b>	<ul style="list-style-type: none"> <li>• Low Capital Cost</li> <li>• Low running cost</li> <li>• Can use for dry process.</li> </ul>	<ul style="list-style-type: none"> <li>• Long process cycle.</li> <li>• Chances of components damage.</li> <li>• Noisy operation.</li> <li>• In process inspection not possible.</li> <li>• Separation of parts from media is cumbersome.</li> </ul>	
<b>Vibratory Finishing Machine</b>	<ul style="list-style-type: none"> <li>• Faster processing than hexagonal barrel.</li> <li>• Can handle vary small to medium size parts.</li> <li>• In-Process Inspection</li> <li>• Inbuilt media to parts separation possible.</li> <li>• Economical for general purpose work, heavy deburring, continuous processing, and continuous inspection.</li> <li>• Full automation Possible.</li> <li>• Batch or continuous operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot handle very long parts</li> <li>• Noisy unless Sound Cover is provided.</li> </ul>	
<b>Tub Finishing Machine</b>	<ul style="list-style-type: none"> <li>• Faster processing than hexagonal barrel.</li> <li>• Can handle small to very large and very long parts.</li> <li>• In-Process Inspection</li> <li>• Batch or continuous operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Slower than Centrifugal and Disc Finishing Machines</li> <li>• Noisy unless sound cover provided.</li> <li>• External material handling generally required for large parts.</li> <li>• High capital cost.</li> </ul>	
<b>Disc Finishing Machine</b>	<ul style="list-style-type: none"> <li>• Process time less than Vibratory Finishing Machine.</li> <li>• Superior Finishes</li> <li>• In-Process inspection</li> <li>• Automation Possible</li> <li>• Versatile, can handle fine finishing to heavy stock removal.</li> <li>• Can handle precision and thin parts.</li> </ul>	<ul style="list-style-type: none"> <li>• Suitable for very small parts only.</li> <li>• Higher Media wear rate.</li> </ul>	
<b>Centrifugal Finishing Machine</b>	<ul style="list-style-type: none"> <li>• Process time less than Vibratory &amp; Disc Finishing Machine.</li> <li>• Finishing better than Vibratory &amp; Disc Finishing Machine.</li> <li>• Can handle precision and thin parts.</li> <li>• Versatile - can handle fine finishing to heavy stock removal.</li> </ul>	<ul style="list-style-type: none"> <li>• Suitable for small parts only.</li> <li>• No in-process inspection.</li> <li>• Loading &amp; Unloading time is high.</li> <li>• Cannot handle very long parts.</li> </ul>	

Case Study: 1

## Surgical Implants



Bone Plate



Bone Screw



Bone Plate & Screw



**Type of Implants :** Nails, Screw, Bone plates, stents etc

**Problems with Current Process :**

- Critical areas not finished properly
- The threads of the screws get damaged (blunt) during finishing
- The quality of finished product not on par with Imported Implants

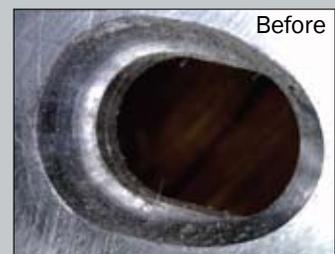
**Customer's Expectation :**

- Homogeneous surface finish
- Finishing of critical areas
- Consistent quality
- Reduction in rejection

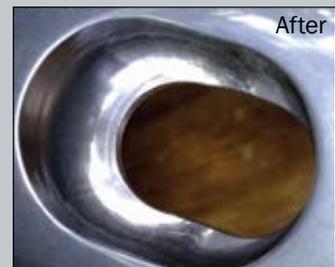
**Dalal's solution :**

We offer a special process in finishing machine depending on input condition. And the output is a consistent, Homogeneous finished parts with high gloss finish.

Bone Plate Finishing View Under Microscope



Before



After

Case Study: 2

## Brass Casting & Hardware

**Problems with current process :**

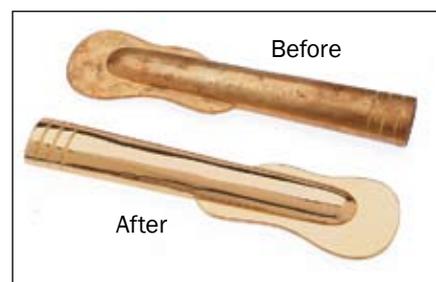
- Production levels are low
- The manual process causes bottlenecks
- There is an inconsistency in finish, hence high rejection during inspection
- Inspection and reworking increases costs

**Customer's Expectation :**

- Mirror polishing
- Consistent finishing
- Mass production
- Reduction in rejection and rework

**Dalal's Solution :**

We offer a special process in our vibro finishing machine for brass castings and hardware depending on the input condition. The output is like a mirror with consistent polishing leading to also increased productivity at the plant.



## FAQs.....

### *We do not get required finish and production from the finishing machine?*

If you are not satisfied with the output you are getting try to pinpoint the exact reason:

- Check if the initial condition of the component has changed
- Check the size and shape of media being used
- Check if the correct chemical has been used and in the required quantity
- Check the time taken for processing
- Check the media to part ratio

### *What is the role of chemicals used in finishing?*

Chemicals play a very important role in finishing. They keep the component and media clean; they provide cushioning between the media and components; they help keep the dirt in suspension and they ensure constant finish throughout the process.



### *What role does the media play in the process?*

The media separates and cushions the parts, it helps ensure that proper work is being done on the part i.e. deburring, polishing etc. The selected media must have access to all areas of the part where work is to be done in the process.

## Upgraded Lab



Improve and Innovate. These are our two guiding principles at Dalal. And in keeping with this vision, we have recently taken a big step forward with the recently completed renovation and upgradation of our lab at the Thane factory. With newer machines and additional staff, we can now do better trials and testing and select the perfect media and chemicals to suit your product.

## Seminar in Kolhapur

As part of our endeavour to interact closely with customers, we conducted a seminar in Kolhapur to discuss the latest advances in technology and process in mass finishing machines.

The closer interaction with customers in their region also helped us gain a better understanding of their problems and difficulties in process.



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**No Rough Edges**