

JANUARY 2015



Sparkle

Flawless Finishing – News and Updates

www.dalalengineering.com

From Director's Desk

There has been a subtle change in the mood of the industry during the second half of 2014, and so we enter 2015 on a more optimistic note than a year ago. The new government has promised a number of policy measures that will give momentum to the manufacturing sector, and hopes are high at this point of time.



It is indeed an opportune moment for us at Dalal Engineering to take another big step forward which we have done in association with the well-known Italian manufacturer, Vibrochimica. Their internationally acclaimed Rapid Ball Burnishing machine will now be available through us to players in India and this will benefit a number of industries which have been looking for faster and more efficient finishing solutions. Going forward we hope to broaden the range of products on offer.

Dalal thus continues with its tradition of offering the latest and best international technology to Indian customers at attractive prices.

Another strong trait of Dalal Engineering is our approach in helping customers solve problems and achieve better results. Continuing with our practice of the past years we share our experience in different areas both in the FAQs section and a special feature on Cost Saving Tips. I am sure that all of you will find these useful.

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

- Anil Dalal

New Product Launch

Dalal to Manufacture New Italian Finishing Machines

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 Dryers, Through Feed Continuous Machines, Waste Water Treatment Systems and fully automated High Tech Installations.

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.



Rapid Ball Burnishing Machine with 100% separation of parts

Applications

- Cutlery
- Brass and Copper parts
- Utensils
- Jewellery
- Coins
- Al Castings

Advantages

- Shorter Process Time
- Better Polish
- 100% Separation of Parts from Media in short period of time
- Consistent Results
- Highly Productive Machine



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New Process Developments

Deflashing of Plastic Parts

Bakelite/plastic parts usually have thin flashes at the parting line after moulding is completed. Traditionally, the removal of these flashes has been done manually which is extremely laborious and costly.

Dalal Engineering has developed a process to effectively use the finishing machine to remove flashes and give a smooth surface finish.

With this special process, the parts are deflashed without spoiling the finish.

Problems with Current Process

- Completely manual filing process
- 15 workers required to complete production target of 25,000 Bakelite handle per day
- Inconsistent Finish because of manual errors
- Quality Issues
- Greater Rejection



Deflashing of a Bakelite Handle

Customer's Expectation

- Uniform Finish
- Elimination of Manual Filing
- Cost-effective Solutions
- Ability to meet Production Requirement

Dalal's Solutions

We offer a finishing process which enables deflashing of parts without affecting the surface finish. This also provides a polished surface. In just one hour, 1000 pieces are finished.

Cost-Saving Tips

We are in regular touch with a large number of factories where our finishing machines are installed, and suggest improvements and latest methods of mass finishing.

The following suggestions are offered in the expectation that they will help you in mass finishing your components using a finishing machine.

- Clearly define the degree of deburring and/or surface finishing you actually need.
- Fill the machines to correct loading capacity of media and parts. We see two- and three-shift operations at times when all the work could have been run in one shift had the machines been running correctly i.e. with the correct quantity of media, water and chemicals and the correct loading of the parts.
- Use the correct media (size, geometry, weight) for your parts. The wrong media can easily double the time cycles. You may contact our process development department for suggestions.
- While processing ferrous parts use compounds that provide adequate corrosion protection to avoid the extra cost and time of applying rust inhibitors after finishing.
- Do grease the machine at regular intervals for longer life of bearings.

Case Study: 1

Pump Parts – Diffuser

Problem with the current process:

- Current process is manual filing
- It is time consuming, inconsistent and does not cover intricate areas
- Improper finish on the vanes affects the efficiency of the pump
- Additional cleaning process needed to remove fine metal and sand particles from the parts

Customer's Expectations:

- Automated Deburring equipment
- Consistent, repeated uniform finish
- Elimination of additional cleaning process
- Improved surface finish and efficiency

Dalal's Solution:

We offered a process in finishing machines for impeller deburring with RA value improvement followed by drying of parts. The parts after drying were ready for assembly.



Case Study: 2

Descaling and Deburring of Recliner Parts

Problems with Current Process

- Presently involves shot blasting, acid pickling and further filing
- Time consuming and laborious
- Hazardous acid pickling process used for complete cleaning
- Environmental pollution due to acid and shot blasting
- Unavailability of skilled workers
- High rejection

Customer's Expectation

- Uniform surface finish
- User friendly automatic surface finishing solutions
- Zero rejection
- Better surface for plating

Dalal's Solution

We offered a process in finishing machines which could eliminate the shot blasting and acid pickling process. Output is consistent with a uniform finish which also improved the plating life. Processing costs were reduced to half.



FAQs.....?

Should I use ceramic or plastic media?

This depends on the final finish required on the parts.

- Ceramic is generally used for fast cutting of ferrous / hardened parts.
- Plastic media is used for good preplate surface finish.
- Plastic is also used for finishing of non ferrous parts (softer parts).

Why is my media wearing out so fast?

This could be caused by many factors such as:

- Use of less than required quantity of water.
- Low quality of media.
- Inadequate quantity of the media in the machine.
- Use of improper finishing compound.

Also check whether the wear rate calculation method has been used correctly.

Why are my parts getting damaged?

This could be caused by many factors such as:

- Too little media and too many parts in a cycle.
- Use of less than required quantity of water.
- Use of inadequate quantity of finishing compound.
- Higher vibration.
- Wrong selection of media.

Why do my parts get dark?

This could happen due to different reasons such as:

- Parts may have oil, grease or other contamination.
- Improper choice of finishing compound.
- Longer than required process time.
- Improper washing or drying of parts.

Why is the drainage line from my finishing machine getting choked?

- The media wear rate is too high.
- Usage of poor quality of media, which chips and causes pipe to choke up.
- Use of insufficient quantity of water for washing.

This can be avoided by using Dalal Waste Water Filtration System.

How do I prevent lodgment of media in parts?

- Do not use irregular size media.
- Choose media that can be screened/ separated from parts.
- Screen the media periodically.

How can I improve deburring (burr removal)?

- Use larger media.
- Use combination of large and small media.
- Reduce water level.
- Use aggressive deburring media.
- Change chemical to more abrasive chemical.
- Make sure the vibration of machine is correct.
- Load correct quantity of parts.



Dalal Engineering stall at "IMTEX 2013"



No Rough Edges

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