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## **COMPARISON BETWEEN AUTOMATED POWER GRINDING WITH AN A W BELL MACHINERY RGS PLUNGE RISE AND FALL GRINDER VERSUS MANUAL GRINDING**

When comparing A W Bell Machinery's RGS Plunge Rise and Fall Grinder to manual grinding there is no real comparison when it comes to cost reductions that can be made with our machine in the areas of belt savings, reduced scrap, time savings and labor savings.

Firstly looking at belt savings. For an abrasive belt to remain effective its grit has to remain sharp (just the same as any other machining process). An abrasive belt has the ability to resharpen and the way this is done is to fracture the grits that are used in the belt. To fracture the grit you need to apply pressure onto the belt when grinding. The amount of force that a person can apply to the belt is relatively small compared to what our machine can apply with around 700 Kg force applied to the belt. Therefore a lot more parts can be used on the same belt.

Secondly, as the machine provides consistent results every time, the amount of scrap product that is produced from over grinding is almost eliminated.

Thirdly, operator fatigue is greatly reduced, as the machine will do all the work for an eight hour period, and it will do the same amount of work that it did in the last hour as it did the first.

Finally the labor savings and time savings come directly from the fact that you can grind more parts per time period with a plunge grinder than you can by hand with one person.

Taking all of these savings that mentioned above into account, it is not uncommon for our machines to have a capital pay back period of 6-12 months.

The following case study highlights some of the savings that can be made:

## **A W Bell Machinery Pty Ltd**

Case Study On Grinding Performance  
Comparison between Machines

### **Part That Case Study Was Carried Out On**

Part: Door Lock Internal Part

Material: Stainless



### **The two machines that were compared were:**

MGS34 Manual Grinder

RGS430 Plunge Rise and Fall Grinder

The same part was used on each machine.

### **GRINDING PERFORMANCE**

Machine	No of parts/ man / 8hrs	No of Belts Used	Parts Per Belt
MGS34	800	6	133
RGS430	3500	6	597

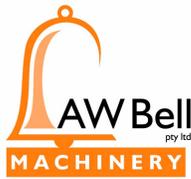
### **LABOUR COSTS PER PART**

A Standard Labour Cost of \$50/hr was used

Machine	Piece Price
MGS34	\$0.50
RGS430	\$0.11

### **BELT COSTS**

The costs were carried out for 50,000 parts



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Machine	Cost Per Belt	No of Belts Used	Total Belt Cost
MGS34	\$17	375	\$6,375
RGS430	\$17	83	\$1,411

Please note for this Study That Belt Prices and Labour Cost may vary depending on which region you are in. This costs are specific for Melbourne Australia.  
All costs in Australian Dollars  
The Study is to indicate percentage savings that can be made from using different machines.

As you can see from this there are dramatic cost reductions when using our plunge grinding machine versus manual grinding.

Some feedback we have had from customer who are currently using our plunge grinders:

“At Wisconsin Precision Casting Corp. we are driven to supply customers with quality parts at a competitive cost, and by using the A.W. Bell RGS Plunge grinders we are achieving those goals. Since we began utilizing the Bell grinders we have reduced our grinding scrap by a documented 35%! The productivity improvements we have gained with reduced training requirements, improved efficiencies (gains of 100% improvement on jobs is regular), and reduced work in process have helped WPCC move towards our lean goals!”

“The RGS430 provided as much as a 70% reduction in direct labor costs, and 60% reduction in belt usage, while facilitating a safer, more ergonomic work environment and consistent quality!” - Biomet

From the above there should be no second thought about using one of machines over manual grinding. The figures speak for themselves!!!!