



**Drill in Action**



**Beyond the Look**

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**Two Birds - Efficiency and Environ-Friendliness  
One Stone - Electrostatic Spray Painting**





Victor Quad-spindle Drill

## **Drill** in Action

As electronics enters into our daily life, it is a fashion that more personalized elements will be added to the design of the products. This brings on new challenges to the manufacturing process.

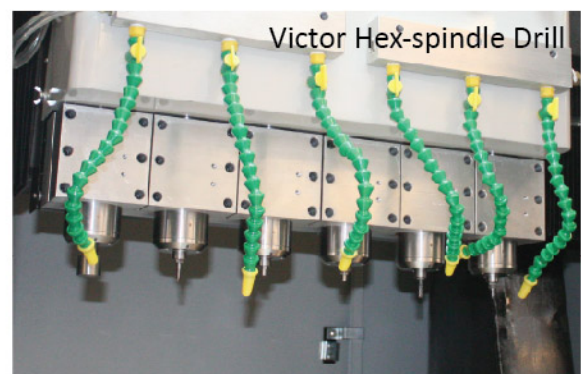
Taking the sound system for example, traditionally, the speaker casing is mounted with mesh cover to allow sound to pass through. Such cover is hardly part of the uniformed body, which brings extra costs in production while making the product less appealing aesthetically. At Victor, we took note of these nuances and proposed to eliminate the mesh cover by converting the casing with immediate perforation. Such change requires precision perforation of thousands tiny holes as compared to the 20-30 holes previously, which was, doubtlessly, a hurdle for us to overcome.

To put the words in action, our engineer team in the machining department took the lead by fashion out a specialized drill that increased the productivity by 50% but still couldn't meet the required demand.

After a series of consultations with the suppliers, the team resolved to replace the existing dual-spindle drill heads with a quad-spindle for immediate efficiency improvement. It took an 8-month run-in period after repeated tests and adjustment before the quad-spindle took the full speed in the operation, but all that effort have well been paid by a guaranteed precision process with multiplied productivity.

The team is heading for the next drill upgrade by introducing the hex-spindle drill heads to our machining family.

The machining process, as in any other manufacturing process, is a process of emerging and overcoming unforeseen obstacles. At Victor, we fully appreciate and embrace such challenges with alacrity; with our solid experience in fabrication and pragmatic and innovative approach, we are confident to stand out among our peers in the aluminum machining industry.



Victor Hex-spindle Drill

# Beyond the Look

## Our Surface Treatment Techniques

Anodic oxidation dyeing retains the metallic luster of the aluminum while bringing out the beauty of the coated colours, which is the reason for its vast application in the realm of electronics and automotive. The anodic oxidation is a pre-process prior to dyeing (or colour coating). But for a quality dyeing outcome, stability on anodic oxidation conditions is the key.

**1、 Sulfuric Acid Concentration gauged at 180-200 gram/litre**

—Higher concentrations of sulfuric acid can facilitate acceleration of the dissolution reaction of the oxide film, which helps in pore expansion for ease of dyeing.

**2、 Alum-ion Concentration Maintained at 5-15 gram/litre:**

—Stability of alum-ion concentration is conducive in protecting film adsorption and colour coating speed to ensure layer uniformity of the film.

**3、 Oxidation temperature maintained at 20°C ±1**

—Low temperature creates close-knitted pores, which significantly reduces coloring speed; while high temperature creates porosity.

**4、 Electric Current Density controlled at 120-180a/m<sup>2</sup>**

—Appropriate current density within a certain range helps speed up film growth rate; when density reaches over the limit, film growth rate reduces.

**5、 Film Thickness properly controlled between 10-15um range:**

—Proper application of film thickness prevents uneven dye deposit which subsequently renders colour or shade inconsistency.



Blending our 16-years of experience and expertise in anodic oxidization with the newly installed and fully automated anodic oxidizing line, Victor is ready to offer a spectrum of colors of your choice with quality of excellence.

# Precision Measurement CMM is the KEY

There has been a growing demand for dimension precision on manufactured products, which necessitated the introduction to our CMM - the Coordinate Measuring Machine. This new family member provides sophisticated and precise database that is essential in conducting evaluation and computing on product precision, which further facilitates in product development and manufacturing process.

A typical 3D CMM reads measurement input from the ruby-ball probe, as directed by the operator or programmer. The machine then uses the XYZ-axis coordinates of each of these points to determine size and position with micrometer precision typically.

The following are the characteristics of a typical 3D CMM:

**Extended Applications:** it can be used to measure a wide range of parts and components including dies, machining parts, measuring tools, cutters, punching parts, CNC parts, jigs.

**Extensive Functionality:** it can be used for precision measuring on dimensions, angles, positions, contour scanning, diagram induction, shape, shape, geometric tolerances and threaded parts.

**Guaranteed Lifespan:** The choice of precision self-cleaning air-bearing for the triaxle guide rail ensures stability in motion and wear-resistance of the guide rail.

**Probe Size Availability:** Ruby-ball sizes are available for parts of various sizes.

The efficacy on geometric measurement and precision data probing of CMM compliment the shortfalls in product development and processing and safeguard the performance of our quality control.



CMM Ruby-ball Probe



## Two Birds – Efficiency and Environ-Friendliness One Stone – Electrostatic Spray Painting

The electrostatic spray painting – the secret weapon in our paint line, is known for its high coating recovery high coating efficiency, excellent coating quality, and substantial materials savings, which is highly preferred by manufacturers nowadays.

In electrostatic spray painting or powder coating, the atomized particles are made to be electrically charged, thereby repelling each other and spreading themselves evenly as they exit the spray nozzle. The object being painted is charged oppositely or grounded.

### Efficiency



#### Saving on Lead Time **01**

The paint is attracted to the object by electrostatic without having to apply the coat on the surface in the traditional method, which reduces lead time, in another word, increase productivity.

#### Quality Insurance **02**

Electrostatic improves the fineness of atomisation of the coating, which makes it easy to meet or exceed the surface standards

### Environ Friendliness



#### Saving on Material Cost **03**

Where the paint is attracted to the object, it gives a more even coating on the surface and increases the percentage of coverage to the object, which in turn reduces the use of paint by 40%.

#### Dust Control **04**

Where the paint is electrostatically attracted to the object, it increases coating efficiency to 90% by reducing miss-spots and preventing over-coating. This promotes health and safety, at the same time, facilitates compliance to the environmental codes.

## **COMPANY PROFILE**

Our company was founded in year 2000. Being a company specialized in sophisticated alloyed aluminum fabrication and high-end surface treatment, JM Victor is not only refined with hands-on experiences through years of accumulation through the sector chain of precision manufacture, but also with unparalleled wealth of knowledge enriched from company operation and management process, which enables the company to offer solutions in overcoming design and production bottlenecks in high-end aluminum fabrication.

In Jiangmen High-Tech Industrial Park, we have invested in construction of our new cyber-physical powered Smart Plant embracing the core Industry 4.0 design concept. The new plant, residing on an area of 100,000 square metres, comprising a global lab of aluminum-magnesium surface treatment and a smart CNC fab centre with its own casting house and stamping workshop, will add on a new chapter of consummate expertise to the venture of JM Victor.

### **Our Mission Statement**

We stand by our commitment to share the harvest and happiness with our staff and workers, create value for our customers and cultivate a company culture with a vision. This is the foundation for the sustainability and continuity of our company and our business.



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