



Design and Manufacture of Product Tooling and Fixtures



Introduction on CCD Automatic Detection Equipment



Design and evaluation of die casting mold of Victor Aluminum

Design and Manufacture of Product Tooling and Fixtures

Victor Aluminum has been supplying high-end customers, mostly thin-wall and multi-cavity parts, with complex features and high precision. To quickly respond to customer needs, Victor Aluminum setup the tooling workshop in the establishment of the company. The main function is to produce fixtures, design and manufacture of non-standard equipment.

The tooling workshop is organized under the Engineering department. There have 18 design engineers and

technicians. Most technicians have more than 10 years of industry experience. The workshop is equipped advanced machines including two large processing centers, medium wire and fast wire, large water grinder, lathe, milling machine and etc. The workshop fully deploys the computer-aided design (PROE/AUTOCAD), computer manufacturing processing system (UG) and uses advanced manufacturing processes. The process is fully compliant with ISO9000 standard.

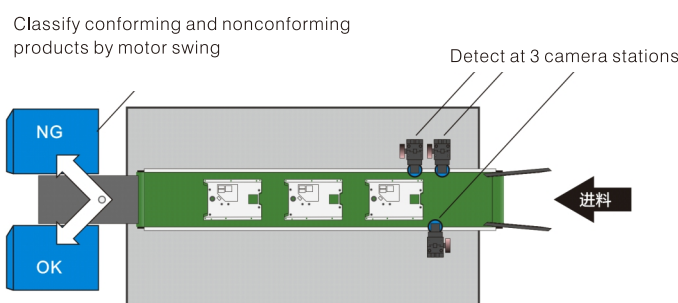
In recent years, Victor made huge progress in complex stamping tooling. The Tooling Workshop provided excellence support and played a key role in the tooling design, fabrication and maintenance.



Introduction on CCD Automatic Detection Equipment

In the market with continuously intense competition, we have secured the invincible position of our products, due to our high level technical and management teams, and also our continuous pursuit in QCD (quality, cost and delivery). Our industrial technical team consistently makes explorations and innovations in production automation, and continuously applies automation technologies to the site production, to reduce labors, increase the productivity and decrease the costs. The following is the description of the CCD automatic detection equipment designed by the Company recently.

- Feed the parts to be tested from the feeding hole and transfer to the machine via the conveyor, photograph and detect with 3 cameras from multiple angles, and compare with the standard images in the computer; when the test results fail to meet the requirements, classify the parts as NG and transfer to the NG area automatically, with the sound and lamp alarms turning on at the same time; and transfer the conforming products to the next step via the conveyor.



Test items

The CCD automatic detection machine can identify nonconforming items, including:

- Size:
Height, outer diameter, inner bore, opposite side size, circularity, chamfer diameter, step size, welding size, etc.
- Appearance:
Any bulge, bur in holes, hole blocking, bulge damage, contuse, scratch, deformation, omission, character identification (mark inspection), mixed materials, etc.



- ◆ Check if there is any edge damage, bulge (front), column breakage, mixed materials, etc.
- ◆ Check if there is any bulge (side), column breakage (side), etc.

- Advantages:
- Quick test, to improve production output;
 - No manual operation, to reduce personal intervention or incorrect judgment, and improve excellent rate;
 - Improve the automatic production capability and the engineering capability.

Design and evaluation of die casting mold of Victor Aluminum

Guangdong Victor Aluminum performs evaluation in various aspects during the mold design, to refine the design schemes, and improve the operation efficiency and significantly increase the operation efficiency, in addition to the advanced casting process and a series auxiliary equipment to ensure the product quality.

Mold parting surface design

The parting surface is the part that the moving die and the fixed die can contact under the closed condition. The parting surface is an important factor deciding the mold structural forms, and it is closely related to the entire structure, the design of the pouring system, demolding of casting parts, the manufacture process of the mold, etc.

Determine the location, shape and size of the gate, and fully know the flow state of metal liquid filling cavity based on the hydrodynamic principles, to achieve the perfect die casting filling, reduce occurrence of air holes and sand holes at the machining position, and ensure the surface of die casting is bright, clean and complete, without defects.

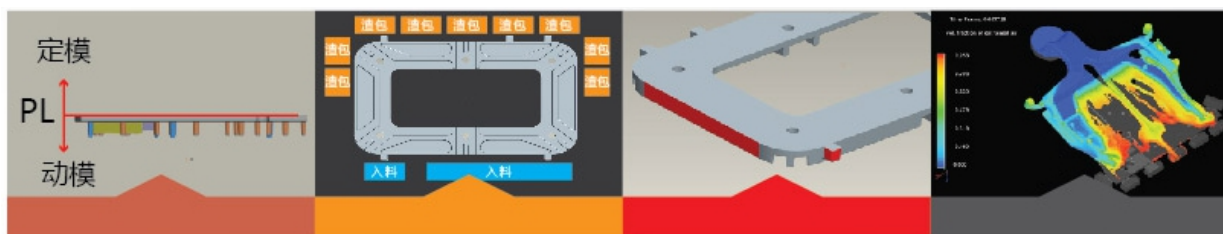
Mold gate design

Design of draft angle

For ease of casting mold removal, an appropriate inclination is designed on both sides of the die cavity, to effectively avoid "die hooked", "pulling damage" or other problems upon demolding.

The data simulation software is employed for simulation of die casting in the computer, and the feasibility evaluation is conducted based on the data results, to improve the mold design and product design scheme.

3D mold flow analysis



Mold parting surface design

Mold gate design

Design of draft angle

3D mold flow analysis

COMPANY PROFILE

Our company was founded in year 2000. Being a company specialized in sophisticated alloyed aluminum fabrication and high-end surface treatment, M 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 lab 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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