

SMC
昭凌精密

Your **Safest** Choice



ULTRA SHOT[®] Cryogenic Deflashing Machine Series

About STMC

Showtop Techno-Machine Nanjing Co., Ltd.

Showtop Techno-Machine Nanjing Co., Ltd. is a Chinese national high-tech enterprise. We specialize in the design, research & development, and manufacturing of low-temperature surface treatment technology equipment. To provide high-quality, efficient, high-precision, and low-cost edge trimming equipment and customized solutions for customers who produce rubber, injection molding (including elastomer materials), zinc magnesium aluminum alloy die-casting parts, and other materials, and to provide one-stop comprehensive services. At the same time, we provide processing services for incoming frozen edge trimming. STMC has its global headquarter in Nanjing, China, south region subsidiary in Dongguan, West region subsidiary in Chongqing , oversea branches in Japan and Thailand, committed to serving clients around the world.



Company History

Jiangsu Zhongling Chemical Co., Ltd. was established.



Obtained the exclusive agency right of ULTRA SHOT cryogenic deflashing machine from Showa Carbonate Co., Ltd. Japan.



Set up the first cryogenic deflashing service center in China.

1998

2001

2004



Chongqing branch was established



Dongguan branch was established, The first self-developed touch-screen automatic was launched.



Certified by the ISO 9000 quality management system.

2007



The first automatic jet cryogenic deflashing machine was produced.

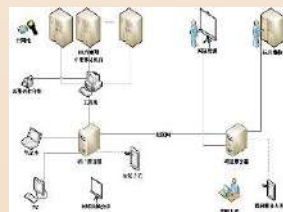
2011

2009

2008



Solely developed The double projectile wheel cryogenic deflashing machine.



Completed the intelligent networking upgrade .



Acknowledged as National high-tech enterprise; National scientific and technology enterprise national innovative enterprise, and technology private enterprise.



Launched the sixth generation of cryogenic deflashing machine, and the cumulative number of patents exceeded 20

2015

2021

2022

2024

Our Customers



Customer Site



15 years Japanese Joint
Venture background

23 years of industry experience
and technology accumulation

500+ Corporate Customers in **20+** countries.
High market Share & Repurchase Rate

Forever Free
process verification service
for all customers



Why is
SIMC your **Safest** choice

From production to delivery,
every machine goes through
200+ inspections

109 Ex-factory test

Meticulous Quality Assurance

Provides **50+** customized spec options

Solely supply core parts

Made in & Import from Japan

Better performance, better quality.

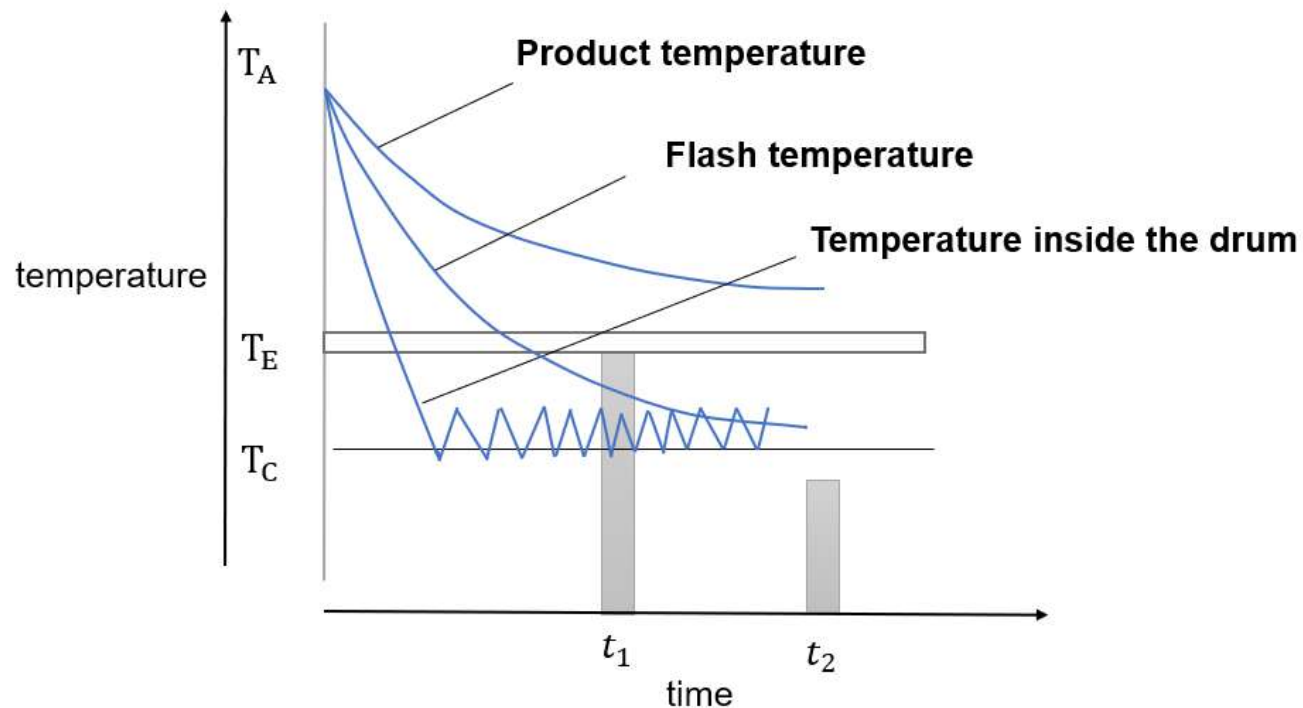
24 x 7 x 365 Customer Service
response within **10** minutes,
Fault tracing within **2** hours,
Solution provide within **4** hours.

ULTRA SHOT[®] Cryogenic Deflashing Machine



Working Principle

Rubber, injection molding, and zinc magnesium aluminum alloy products will turn into a hardening, embrittlement state as the temperature decreases, and gradually lose their elasticity. Especially below the embrittlement temperature, even slight force is applied to the material will cause it to shatter. At low temperatures, the flash around the product will embrittle before the product itself. During the time when the flash embrittles and the product still has elasticity, high-speed spraying of special plastic pellets will impact the product, achieving the effect of removing the flash without damage the product .



T_A :Feeding temperature

T_E :Product embrittlement temperature

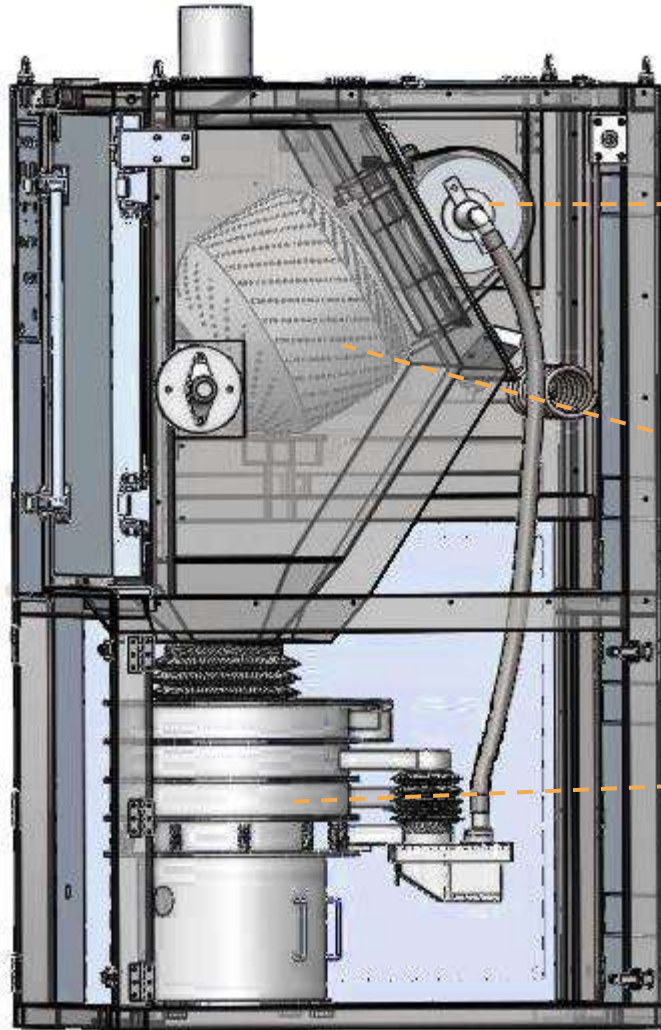
T_C :Deflashing machine set temperature

t_1 :Time required for flash to start embrittlement

t_2 :Time required for product to start embrittlement

$\Delta t=t_1-t_2$: Time period for edge trimming processing

Internal Structure



Dynamical System

- By Φ 250mm (Ultra Shot 60 Series) or Φ Composed of 350mm (Ultra Shot 120 Series or Ultra Shot 160 series) aluminum alloy shot blasting wheels and imported original high-frequency motors, it effectively achieves a **1:1 stable ratio** of power output and product processing capacity.

Temperature Control

- Using electronic temperature control components imported from Japan and imported insulation and soundproofing materials, **accurately ensuring temperature control and liquid nitrogen consumption during product processing, and reducing equipment operating noise.**

Sorting System

- The machine applies Sato type anti-plugging, adjustable 3D variable linear waveform vibrating screen. **Quick and easy disassembly and maintenance, with excellent insulation performance; SUS304 stainless steel housing, long performance life with high stability.**

Cryogenic Deflashing Machine Dynamical System

STMC exclusively provides core part options made in & imported from Japan



Exclusively developed for cryogenic deflashing

Aluminum alloy projectile wheel,
With the original Japanese imported Hitachi
high-frequency motor to form a power system

Powertrain Features



Hitachi high-frequency motors imported from Japan are designed and manufactured for use in ultra-low temperature environments for cryogenic deflashing. The whole motor adopts ultra-low temperature resistant special metal body, ultra-high magnetic attenuation resistance, ultra-long service life, high efficiency, stability and effective 1:1 stable ratio of power output and product processing capacity.

Cryogenic Deflashing Machine Sorting System

STMC exclusively provides core part options made in & imported from Japan



Sato-type 3D wave vibrating separator made in Japan

Adjustable 3D wave vibrating

Sorting System Features

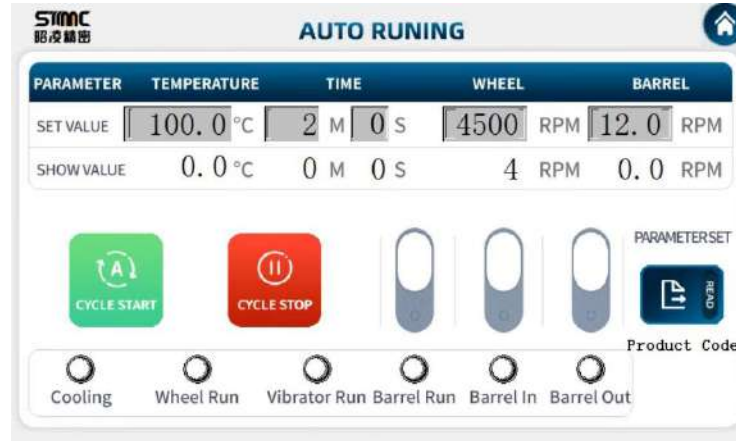


- ① STMC Precision exclusive Japan original imported Sato vibrating separator. Adjustable 3D wave vibrating. Ultra-high and stable sorting efficiency to ensure the separation effect and projectile circulation rate.
- ② Disassembly and maintenance are simple and fast, and improve production efficiency.
- ③ High-quality sieve disc and shell, long service life and high stability
- ④ The closed shock-absorbing soft connection is made of special materials imported from Japan, which is highly waterproof, high frost resistance, high wear resistance and high sealing.

Operating Software Interface



Home Screen



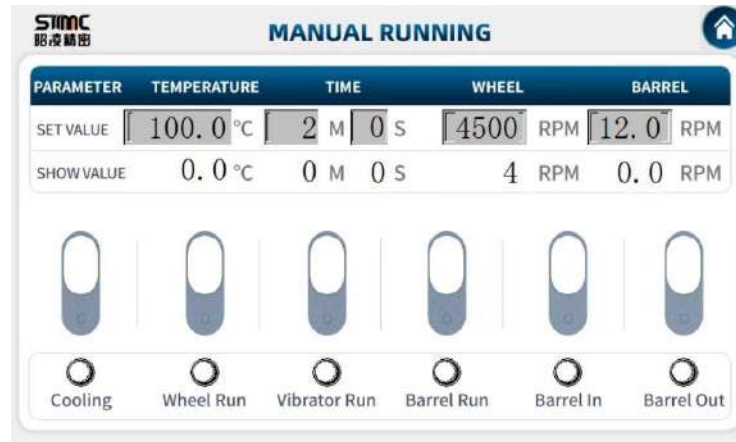
Automatic Mode



Parameter Save / Read



Operating Main Screen

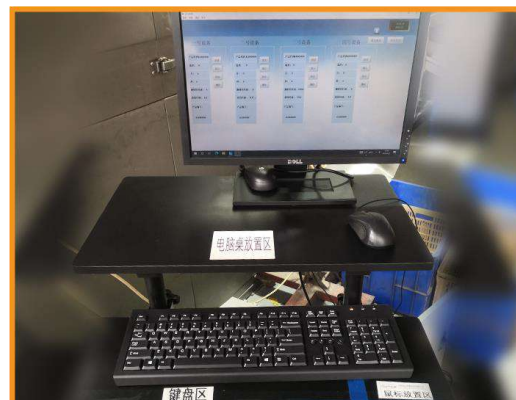


Manual Operating Mode



Parameter Library

Industrial Control Configuration Option

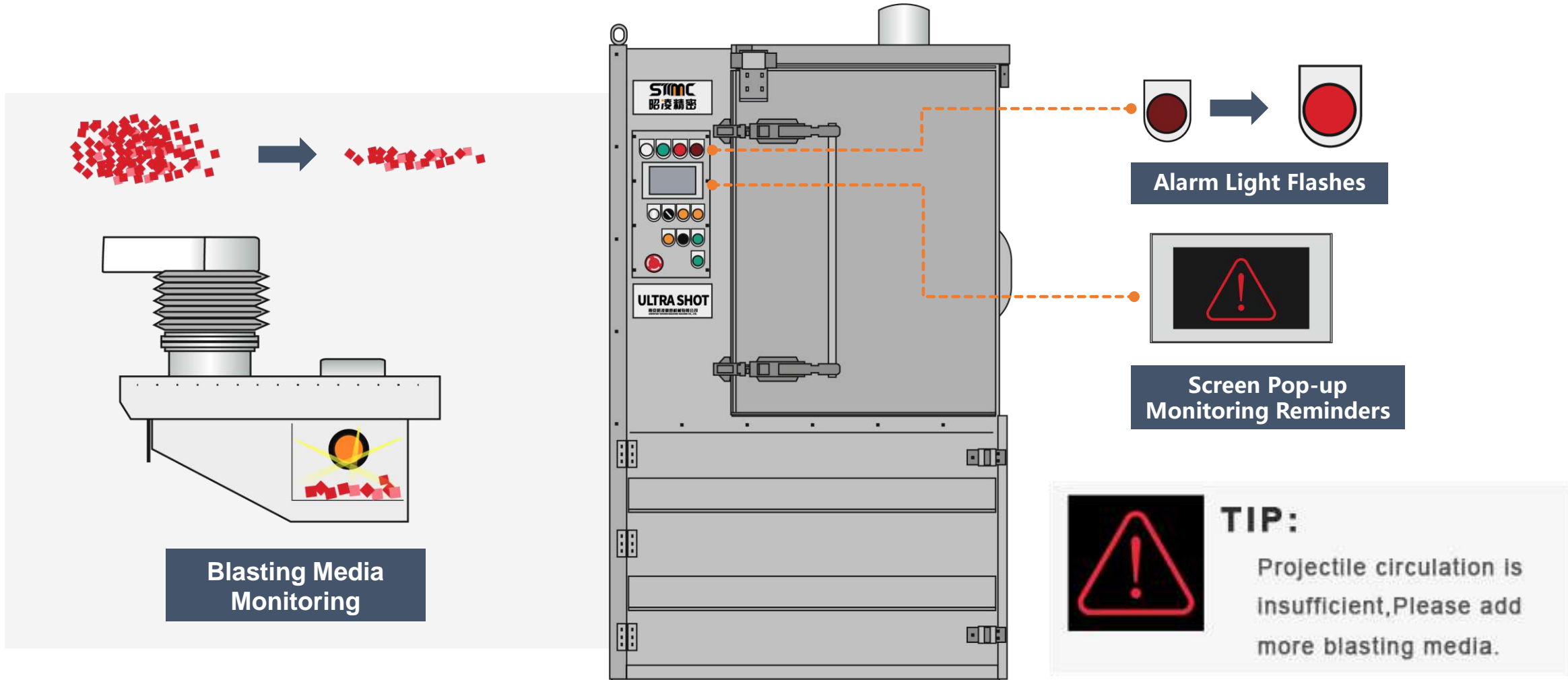


Industrial Control Computer



Barcode Scanner

Blasting Media Monitoring And Automatic Early Warning Function



Ultra Shot 60 Series

Ultra high precision, 60L capacity, 7-inch touch screen, equipped with $\phi 250$ aluminum alloy shot blasting wheels, the minimum processing temperature can reach -130°C



Ultra-high Precision

Effect Comparison



Suitable for manufacturers with multiple varieties, small batches, and variable processing parameters.



Suitable for O-ring and injection molded products with high precision requirements, such as polyurethane U-shaped sealing rings and oil seals.



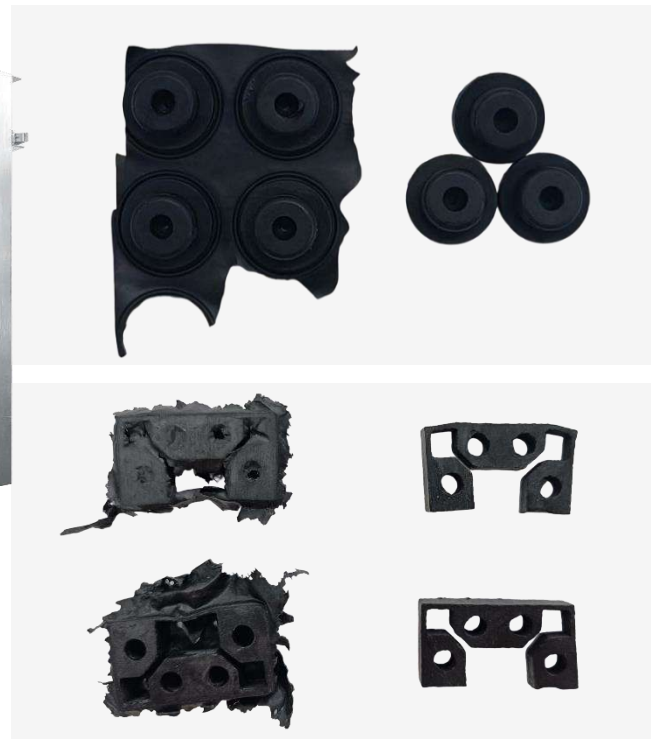
Taking the processing of **injection molded connectors** as an example, a NS-60 series cryogenic deflashing machine is introduced, which processes **32kg** per hour and manually processes about **1.5kg** per hour.

Ultra Shot 120 Series

High precision, 120L large capacity, 10 inch touch screen, equipped with Φ 350 aluminum alloy shot blasting wheels suitable for manufacturers with fixed variety and mass production of product materials.



Effect Comparison



Suitable for manufacturers with relatively fixed product specifications and mass production.



Suitable for most products, common seals, injection molded parts, and die-casting parts can be processed.



Taking **automotive rubber miscellaneous parts** as an example, a NS-120 cryogenic deflashing machine is introduced, which processes approximately **75kg** (approximately 3750 pieces) per hour and manually processes approximately **3kg** (approximately 150 pieces) per hour.

Ultra Shot 180 Series

160-180 liter ultra-large capacity, quick replacement basket plug and play, intelligent parameter setting, minimum processing temperature can reach -130°C .



Extra-Large Loading
& Production Capacity

Effect Comparison



Suitable for manufacturers with large product sizes and mass production.



Suitable for large volume products, such as rubber toys, mouse shells, insoles, shock absorbers, etc.



Taking the **mouse shell** as an example, a NS-160 cryogenic deflashing machine is introduced, which processes about **288 pieces** per hour and manually processes about **45 pieces** per hour.

Explosion-proof MG Series

Special designed for Magnesium alloy products deflashing, equipped with an explosion-proof exhaust system, imported PIR insulation layer, and SUS304 shell, it has an ultra long service life and enhances the oxidation resistance and service life of the surface of die-casting parts.

Effect Comparison



Explosion-proof &
Ultra-high Security



Simple operation and small footprint.



Automatic nitrogen injection system to make sure the oxygen level in chamber always below explosion limit.



The machine is anti-blast treated and equips safety pressure relief outlet at the top of the machine.



The machine compartment door is equipped with a pressure rod to resist the explosion impact.



This product has been **granted an invention patent authorization**, patent number: ZL 2021 1 1601026.8

Attention: During the processing of magnesium castings, the oxygen content in the internal environment of the equipment must be less than 1.4%

Cryogenic Deflashing Machine Made in Japan

We can offer the ULTRA SHOT cryogenic deflashing machine, imported directly from Japan. We ensure that the quality and performance of our machine adhere to the high standards set by the RESONAC Group.



The whole machine is original made in Japan.



Provide after-sales service by Zhaoling in accordance with RESONAC standards.

| category | Component | Brand | category | Component | Brand |
|-------------------|---------------------------------------|----------------------|---------------------------|--------------------------------|-------------------|
| power device | High-speed variable frequency motor | <i>HITACHI</i> | electrical control device | Electrically heated door seal | <i>RESONAC</i> |
| | High-ratio gear reduction motor | <i>NISSEI</i> | | Liquid nitrogen solenoid valve | <i>ASCO</i> |
| | Centrifugal wheel bearing | <i>RESONAC</i> | | Accumulated timer | <i>THEBEN</i> |
| separation device | Sato-type 3D wave vibrating separator | <i>KOEISANGYO</i> | | PLA | <i>Mitsubishi</i> |
| control method | Touchscreen | <i>Fuji Electric</i> | | Frequency converter | <i>TOSHIBA</i> |

Cryogenic Deflashing Media or Blasting Media Use For Cryogenic Deflashing

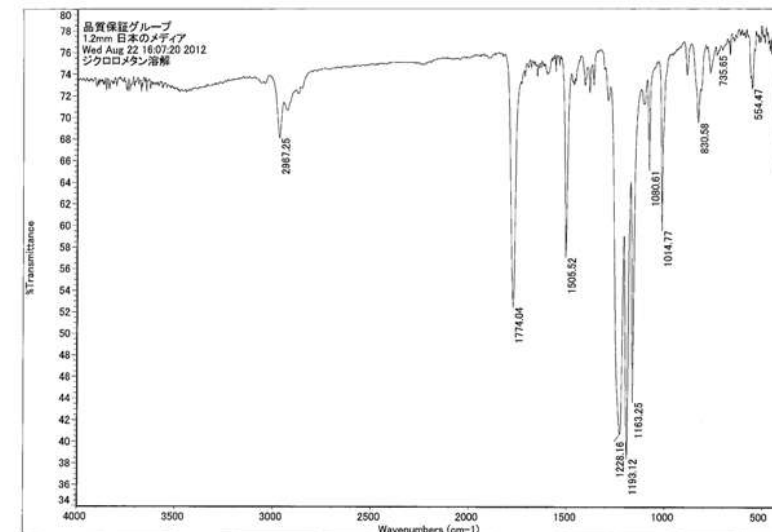
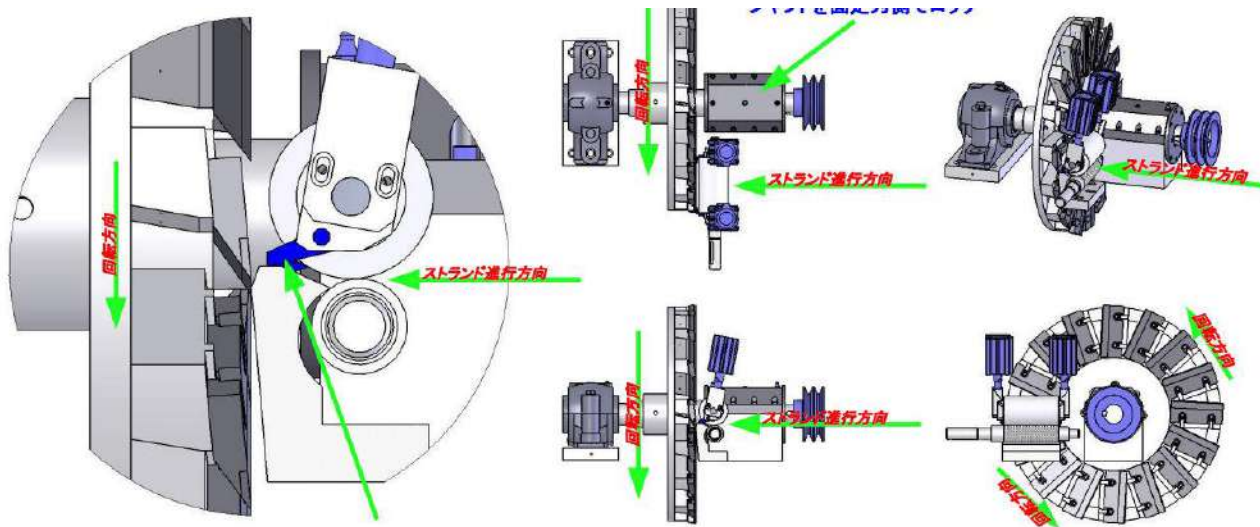
| Producer | Japan | Europe (UK) | South Korea | China |
|--------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Specifications(mm) | 0.4, 0.5, 0.8, 1.0, 1.2, 1.5 | 0.4, 0.5, 0.75, 1.0, 1.2, 1.5 | 0.4, 0.5, 0.75, 1.0, 1.2 1.5 | 0.4, 0.5, 0.75, 1.0, 1.2, 1.5 |
| Main Colors | White, Pink, Green | White, Clear, Red | White, Clear, Red | White |
| Quality Stability | 5.0 ★★★★★ | 4.5 ★★★★★ | 4.0 ★★★★★ | 3.5 ★★★★★ |
| Regularity | 4.5 ★★★★★ | 4.0 ★★★★★ | 4.5 ★★★★★ | 3.5 ★★★★★ |
| Wear Resistance | 4.5 ★★★★★ | 4.0 ★★★★★ | 3.5 ★★★★★ | 3.0 ★★★★★ |
| Anti-static | 5.0 ★★★★★ | 4.0 ★★★★★ | 4.5 ★★★★★ | 3.5 ★★★★★ |
| Application | High end product processing | Conventional product handling | Conventional product handling | Ordinary rubber parts |

Cryogenic deflashing media made in Japan

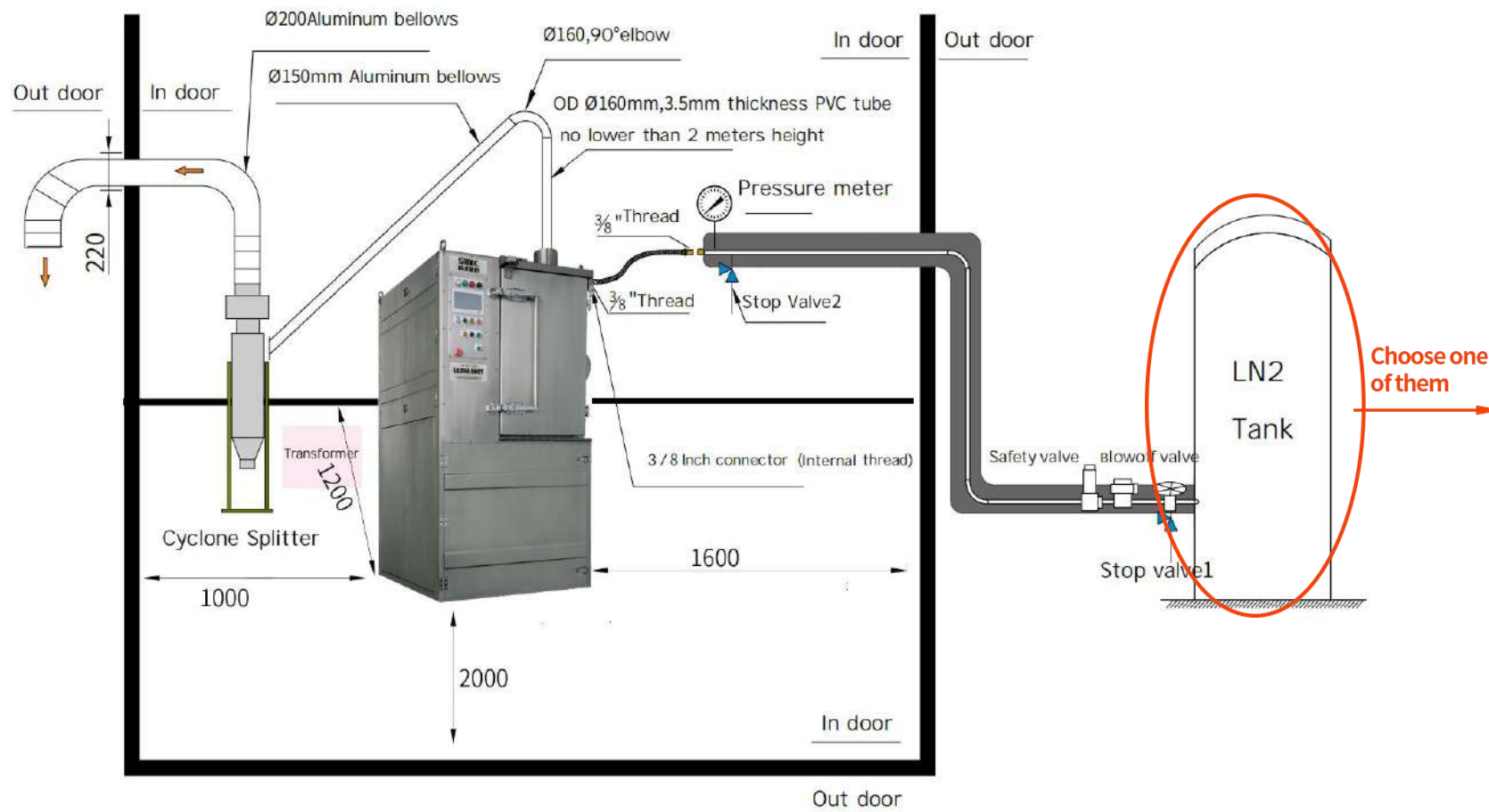
- Regular · Durable · Anti-static

Excellent regularity, precise cutting, and stable size

- Good wear resistance and long service life, compared with similar products on the market, it saves at least 20% in cost while still delivering excellent results.
- Excellent anti-static performance, reducing dust adsorption.
- Common specifications: 0.4 0.5 0.8 1.0 1.2 1.5mm.
- Colors include: white, green, pink.



Cryogenic Deflashing Machine Consumables - Liquid Nitrogen



Preferred Liquid
Nitrogen Storage Tank

Volume
10~20M³



Optional Low Temperature

Dewar

Volume
210~450L

Application Of Cryogenic Deflashing Machine

- Applicable Materials Of Cryogenic Deflashing
- Application Areas Of Cryogenic Deflashing



Electronic Precision Manufacturing



Intelligent Wearable



Automotive Precision Manufacturing



Aerospace Precision Manufacturing



Application Areas



Medical Equipment



Rubber Toys



Daily Office Supplies

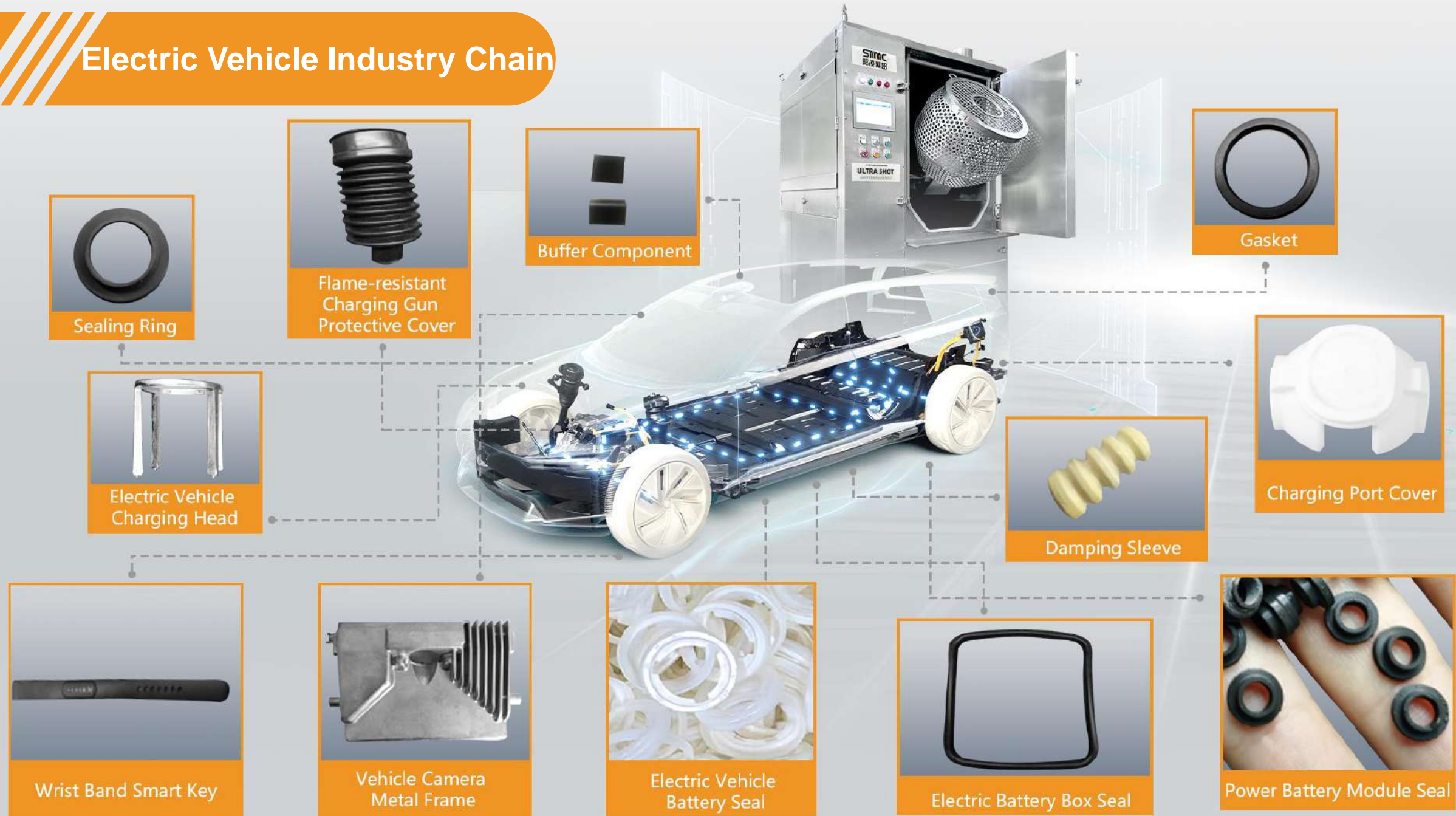


Baby Products & Toys



Household Appliances

Electric Vehicle Industry Chain



Application Areas Of Cryogenic Deflashing

| Before | After | Before | After | Before | After |
|--------|-------------------|--------|-----------------------|--------|--------------------------|
| | O-rings | | Rubber Toy | | Zinc Alloy Auto Part |
| | Seal Ring | | Rubber Auto Part | | Zinc Alloy Latch |
| | Rubber Gasket | | Rubber Audio Part | | Mouse Case |
| | Rubber Plug | | Auto Seal | | Keyboard Cap |

Applicable Products & Materials Of Cryogenic Deflashing

Rubber

The cryogenic deflashing machine can process products made of Si, NBR, EPDM, NR, FKM, PUR, SBR, BR, CR, FPM and other rubber materials. The common ones are seal rings / O-rings, auto parts, rubber parts, rubber insoles, silicone products, etc.



Injection Molding

The cryogenic deflashing machine can process products made of PA, PBT and PPS. The common ones are connectors, nanoforming structural parts, medical use injection parts, automotive injection parts, mobile phone cases, mouse cases, injection molding miscellaneous parts, etc.; also products made of TPU and TPE elastic material, such as watch bands, wristbands, soft sleeves, plastic cases, etc.



Zinc Magnesium Aluminum Die-casting

The cryogenic deflashing machine can process aluminum, zinc, magnesium alloy products. The common ones are auto parts, metal crafts, decoration items, toy parts and etc.



Services & Solution

- OEM Service
- Process Test
- Machine Lease
- Renovation And Overhaul
- Machine Upgrades

OEM Service

Business Scope

Rubber, injection parts, elastic materials, zinc magnesium aluminum alloy metal die-casting parts and other products.

Management Standard

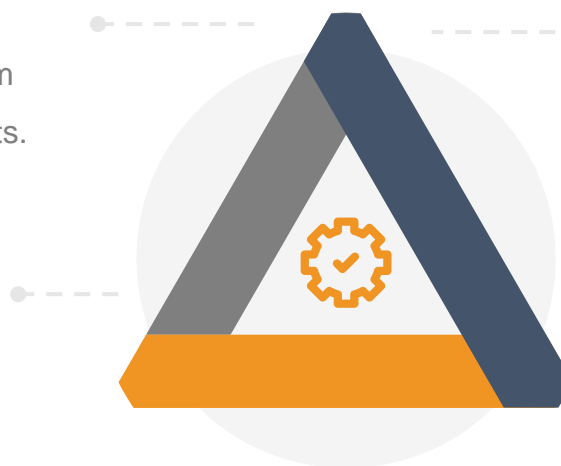
Processize, standardize, traceable.

Business Process

Product testing -> Quotation (quality + commercial) -> Contract-> Implementation.

Service Locations

Nanjing China, Chongqing China, Dongguan China.



Process Test



- **Test purpose:** To verify whether the cryogenic deflashing process is applicable, if the mold needs to be adjusted, measure and calculate the effect, cost, capacity, pass rate, and conduct data analysis.
- **Process:** Appointment - Test Plan - Parameter Verification - Capacity Test - Stability Test.
- **Test report:** Optimal Quality| Optimal Cost| Full Analysis.

Renovation And Overhaul



- **Contents:** Including repair of insulation layer, machine frame refurbishment, motor replacement, electrical control cabinet replace and repair, etc.
- **Effect:** The old machine with failure or poor performance can be put into use again, thereby increasing the utilization value of machine and reducing the production and manufacturing costs.

Machine Lease/Rental



- **Suitable clients:** When there are a large number of production orders in the short term that urgently need to increase production capacity, but it is uncertain whether they will remain stable in the long term, or when the delivery time of newly purchased equipment cannot meet the urgent need for increased production capacity, leasing can be chosen instead of purchasing. According to the process requirements and rental schedule, add customer service to understand the quotation.

Machine Upgrade And Customization



- **Regular upgrade:** Button control changes to touch screen control, code scan function adding, replace parts for performance improvement, etc.;
- **Intelligent remodeling:** Combine with client's MES system, when MES forwards production order, the machine can automatically retrieve the process parameters, and automatically send the production record to the system after the completion of production.



Thank you for choosing STMC

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Company Website



Wechat Service