March 31, 2025

Launch of Cryogenic Blast Machine "SOFTBLASTA® SCS-CB-BS20"
with Low Price and Downsizing Achieved together by Unique Mechanism

Taiyo Nippon Sanso Corporation (Head office: Shinagawa ward, Tokyo; President: Kenji Nagata), a Japanese industrial gas business company in the Nippon Sanso Holdings Group, has developed a high-precision cryogenic blast machine "SOFTBLASTA® SCS-CB-BS20" with simplified equipment and our unique vibrating sieve mechanism*1, which achieves both downsizing and low price. From April, 2025, we will launch this machine in addition to other line-ups.

*1 Vibrating sieve mechanism: the mechanism that separates shot materials from burrs through vibration.

External appearance of SOFTBLASTA® SCS-CB-BS20

1. Outline and Features of SOFTBLASTA® SCS-CB-BS20

SOFTBLASTA® SCS-CB-BS20 is a cryogenic blast machine that exploits the low-temperature brittleness (the property that makes a substance brittle at low-temperatures) of rubber or resin, a molding material, and that removes burrs formed during molding by rapidly cooling burrs with coldness (-196°C) of liquid nitrogen to the brittleness temperature or lower and by colliding with shot materials at a high speed.

This machine has made it possible to reduce space necessary for installation by 40% (compared to our conventional machine) by adopting a downsized vibrating sieve mechanism, thereby significantly reducing the initial cost and increasing the options for installation locations. This machine has the following features.

■ Short-time high-precision processing performance unchanged from conventional machines

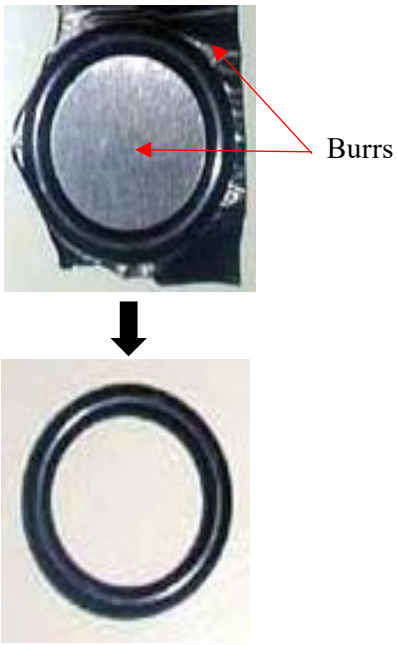
■ Adoption of a new vibrating sieve of our unique mechanism

■ Reduction of the installation space by 40%

■ Downward shifting of the position at which a barrel (product basket) is removed, so that even a short person can work comfortably with it

■ Instinctive operation enabled by the adoption of a touch panel

■ Significant reduction of errors and effort to change settings with operating condition memory functions



Sample appearances before and after deburring

SOFTBLASTA® SCS-CB-BS20 Specifications

Machine size*2	990W × 850D ×1,940H mm
Machine weight (empty)	approx. 300 kg
Barrel effective volume	20 L
Setting range for barrel rotational speed	0-20 rpm
Setting range for shot material ejection speed	3,000-4,700 rpm
Operation mode	touch panel
Operating temperature range	-120°C to +50°C
Cryogen	liquid nitrogen (0.4-0.69 MPaG)
Power supply	three-phase AC 200 V, 50/60 Hz, 6.0 kW
Option	exhaust duct, dust box

*2 Options (exhaust duct/dust box) are not included.

To date, we have delivered 800 or more machines in Japan and abroad, and have accumulated extensive experience and know-how in deburring. We have installed demonstration machines at our Yamanashi office and receive inquiries from customers who would like to make a visit or conduct sample tests. Through sample tests, we can propose the optimum machines and

processing conditions (cooling temperature, the size/projecting speed of shot materials, barrel rotation speed) according to the object's material, size, and severity of burrs.

2. Background to Development

The demand for industrial rubber products is expanding along with the growth of the automotive industry as its main destination. In addition, the replacement of metals is also promoted by the emergence of engineering plastics. Meanwhile, the issues of labor shortages and surging labor costs become increasingly serious, leading to an increasing need for deburring automation. Further, there are more and more cases where high-precision blast machines are required, as smaller or more complex components cannot be processed by conventional manual methods.

We have provided a high-performance blast machine "SOFTBLASTA® SCS-CB-500Z-SUPER" to handle, by the cryogenic temperature of liquid nitrogen, the deburring of not only rubber but also resin products of low brittleness temperature which have been widely used in recent years. Through the handling of many cases, we have received requests for price reduction with simple specifications or reduction of the installation area. Based on our experience, we have re-examined the specifications and have developed "SOFTBLASTA® SCS-CB-BS20" with a balance of simplification and performance.

Taiyo Nippon Sanso Corporation
Tnsc.Info@tn-sanso.co.jp