



Service description

- Cleanroom Wash and Cleanroom Packing of Product. We will do the cleaning and packing in a cleanroom. It is designed for the parts embedded in the FPD production device, semiconductor manufacturing device, medical equipment and food machinery, as well as the parts used in a cleanroom environment.

Cleanroom Wash

- Cleaning is performed in a washing room with a cleanliness level of ISO Class 7 (Class 10000*1).
 - The amount of airborne particulates and microorganisms in the air is checked to control cleanliness.
 - You can select 2 cleaning methods for the product.
 - USC** — Ultrasonic cleaning
 - IPA** — IPA cleaning
- *1: Figures in parentheses are "U.S. Federal Standard (FED-STD-209E)" cleanliness class.



Cleanroom washing

Cleanliness Level
ISO Class 7 (Class 10000*1)

Cleanroom Packing

- Cleanroom-washed products are double-packaged with vacuum on the clean bench in a cleanroom.
- The cleanliness level inside the cleanroom is ISO Class 6 (Class 500*1), and the clean bench for packaging is ISO Class 4 (Class 10*1).



Vacuum double packaging

*1: Figures in parentheses are "U.S. Federal Standard (FED-STD-209E)" cleanliness class.

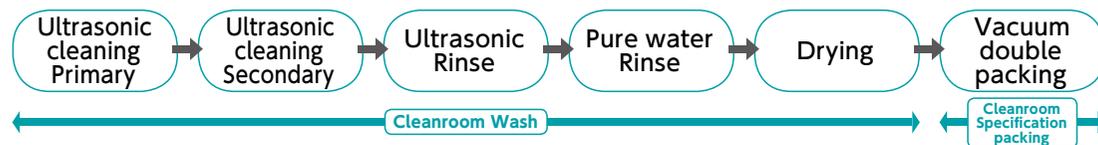


Cleanroom Packing

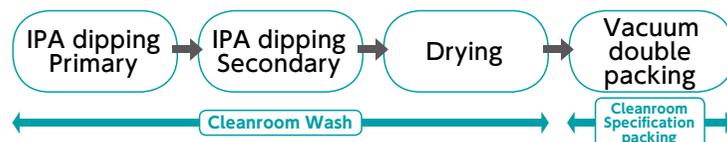
Cleanliness Level
In a cleanroom: ISO Class 6 (Class 500*1)
Clean bench: ISO Class 4 (Class 10*1)

Cleanroom wash & packing process

- **USC** Ultrasonic cleaning (suitable for rust-resistant materials like stainless steel)

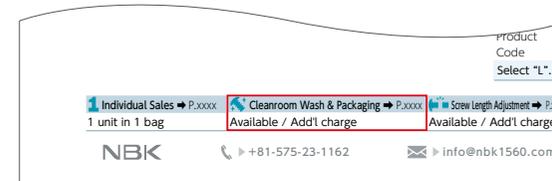


- **IPA** IPA cleaning (suitable for rust-prone materials like steel)



Applicable Products

- Available / Add'l charge is displayed at the end of each product page for the target product.



- Cleanroom wash and cleanroom packing are complete for the product with or icon on top of the product page. The cleaning method is **USC** ultrasonic cleaning.



- The supported size for a single cleanroom wash and cleanroom packing is up to 250 mm (L)×300 mm (W)×100 mm (H).
- We can handle products other than those listed in this catalog or other cleaning and packaging method of your choice. Please feel free to contact our customer service.

Fees • Delivery

- Please feel free to contact us.

Part number specification

SGPS-M6-20-PL-USC

Product part number Cleaning method

Select the product part number and cleaning method.

Checking the effect of cleanroom washing

Measuring the particles

After washing the test samples of **USC** ultrasonic cleaning completed and **IPA** IPA cleaning completed, as well as untreated test sample, with ultrapure water, we measured the number of particles floating in the ultrapure water. The higher the cleaning power, the fewer the floating particles will be.

Test sample: SUS303 φ19×20
Test method: Automatic liquid particle counter measurement

Number of particles floating in the ultrapure water Unit: pc

Particle size	USC Ultrasonic cleaning	IPA IPA cleaning	Untreated
≥0.3μm	220,000	7,000,000	210,000,000
≥0.5μm	51,000	1,900,000	37,000,000
≥0.7μm	15,000	640,000	9,700,000
≥1.0μm	3,100	160,000	1,400,000
≥2.0μm	280	29,000	240,000

- The values in the table are actual test values and are not guaranteed values.

Measuring the residual oil content

We measured the residual oil content on the product surface after cleanroom washing.

Residual oil content after cleanroom washing

Particle size	USC Ultrasonic cleaning	IPA IPA cleaning
Residual oil content	0.3 mg/ft ²	1.5 mg/ft ²

- The values in the table are the actual test values. The result varies depending on the product size or shape.
- NBK measures the residual oil content on a periodic bases to make sure that the residual oil content after completing the **USC** ultrasonic cleaning is not more than 1 mg/ft².

