

Adding a New Model to the iDS-series Coating System - Aiming to Achieve Annual Sales of One Billion Yen from 2021 -

Nippon ITF Inc., a subsidiary of Nissin Electric Co., Ltd., and a manufacturer and seller of coating systems as well as a subcontractor of coating processes for automobile parts, molds and tools, developed a new model, the iDS-720, which can mount large molds and a number of small parts to enable large-scale production, in June 2020. Sales started from July 1, 2020.

Since 2010, Nippon ITF Inc. has been improving the performance of its coating system, by improving its film surface smoothness, cutting the cycle time, and reducing material costs. In 2014, the company released a new arc ion plating system, the iDS-500, which uses arc discharge in a vacuum to form a hard, thin film. In 2017, the manufacturer developed its largest model, the iDS-1000, and in 2018, added its smallest model, the iDS-mini.

This time, Nippon ITF developed the latest model to complete the iDS-series, the iDS-720, which is equipped with a “steer one” vaporization source, one of the main components of the iDS series, and a vacuum pump with high exhaust speed, enabling a coating zone of a diameter of 720 mm and a height of 800 mm. The model iDS-720 can mount customer’s products of up to 700 kg, large-scale molds and a number of small parts, improving mass productivity. The company plans to expand its applications in the markets of molds and machine parts, such as press molds for automobile production, compressor parts for air conditioners, and various rotating shafts for manufacturing equipment.

[Features of the iDS series]

The key point in improving performance lies in the arc vaporization source, which vaporizes metallic materials. Excess melting of metallic materials with arc discharge during coating ejects coarse particles called “droplets,” resulting in film surface roughness. The company uses its unique structure (“steer one” vaporization source), whereby a permanent magnet is rotated by a motor, constantly changing the arc-discharging spot, thus preventing over-melting of metallic materials. This enables the forming of a smooth hard thin film.

In addition, by increasing the diameter of the disc-shaped metallic material (to 160 mm), the company reduced material costs by 20 to 50% compared to conventional systems. Moreover, the system is designed to mount, not only the arc-type vaporization source, but also the sputtering-type vaporization source.





Additionally, by using a high-power heater and a high-exhaust-speed vacuum pump, the company reduced the cycle time by approximately 40% compared to conventional systems.

Nippon ITF Inc. aims to achieve annual sales of one billion yen with the iDS series from 2021.



iDS-720

• iDS series product lineup

	iDS-1000	iDS-500	iDS-mini	iDS-720
				
Main applications	Large-scale production of nitride film (Machine parts)	Production of nitride film (Tools)	Small-scale production of nitride film (Tools and researches)	Large-scale production of nitride film (Molds and parts)
Recommended coating zone [mm]	$\phi 1000 \times H1000$	$\phi 500 \times H500$	1-stage model: $\phi 450 \times H180$ 2-stage model: $\phi 450 \times H420$	$\phi 720 \times H800$
Maximum loading capacity of base materials [kg]	700	320	180	700
Recommended installation space [mm]	W6000 × D8500 × H3000	W5500 × D6300 × H3000	W3500 × D5000 × H3000	W4500 × D7000 × H3000