

NANO

THE POWER OF NANOTECHNOLOGY CREATES COOLANT ENVIRONMENT

THE POWER OF NANOTECHNOLOGY OF APPROX. 150 MILLION PARTICLES/mL

A generator installed in the holder body generates nano-scale particles with an average particle diameter of 112 nm at a particle concentration of 145 million particles per mL, which enhances the cooling effect of the coolant (please refer to the measurement result shown in the following diagram).

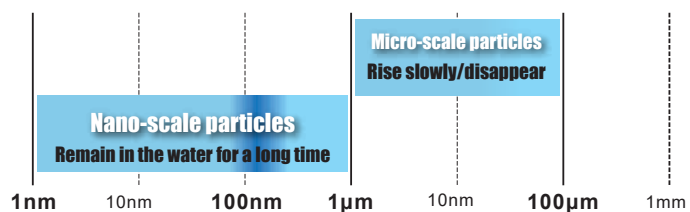
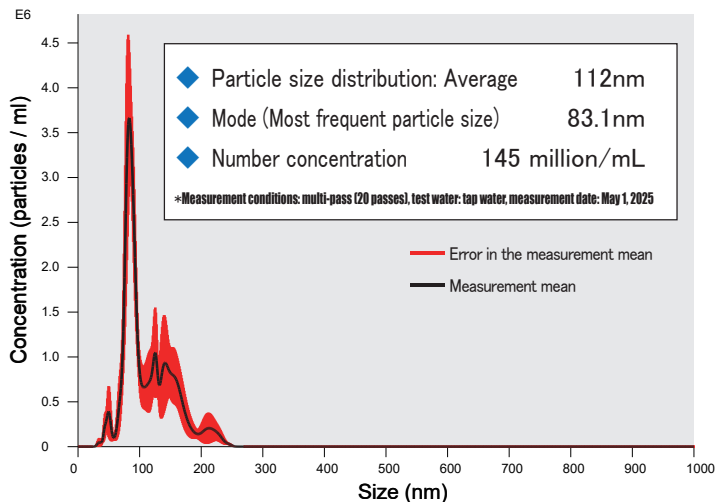
FOR IMPROVEMENT OF FACTORY ENVIRONMENT

Nano-scale particles remain suspended in the coolant for a certain period of time, inhibiting the growth of anaerobic bacteria. This eliminates bad odors and produces cleaning effect on coolant tanks and piping, contributing to improvement of factory environment.

NO POWER SOURCE OR AIR SOURCE REQUIRED

Since the Nano coolant generator uses tornado technique which does not require power and air source, you can try out the power of nanotechnology right away without stopping the machine for installation.

■ Measurement result



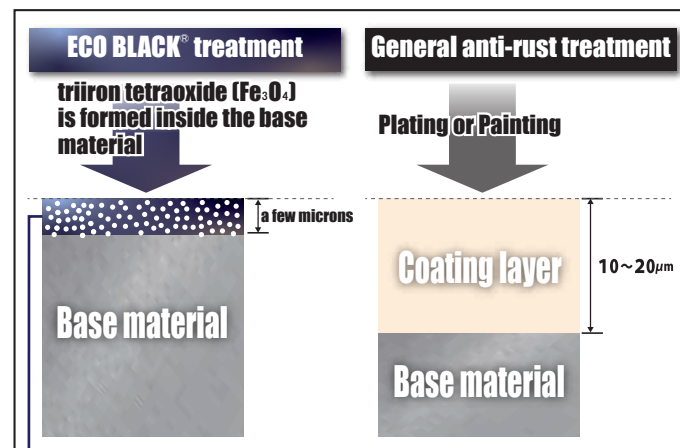
*The oil film on the surface of the workpiece or tooling may be washed away by the power of nanotechnology, so please take measures to prevent rust on the workpiece or tooling.

ECO BLACK

ANTI-RUST POWER OF ECO BLACK TOOLING

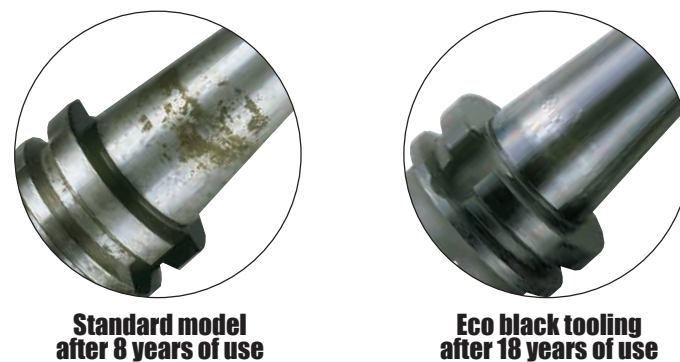
NO RUST-PROOF MAINTENANCE REQUIRED

With the spread of Eco-friendly water soluble coolant, rust prevention of tooling has become a major issue. Furthermore, the need for labor saving has been promoting the introduction of machine tools equipped with large-capacity tool magazines that enable long periods of continuous machining, and problems caused by rust are occurring frequently at work sites where tooling is left attached to the tool magazine.



● The surface part that has become a porous structure by the black rust is treated with a water displacer by plant-based rust preventive oil, which replaces the moisture and oil in the pores. As a result, a more advanced rust prevention treatment is achieved.

As a rust prevention measure, the “Eco black tooling” that was created based on the idea of “controlling red rust with black rust” is now gathering attention. It forms a fine film of triiron tetraoxide (Fe₃O₄) on the holder surface, providing powerful anti-rust and anti-corrosion effects. This fine film does not have great effect on hardness or precision and prevents rust during dry machining of brittle materials, machining with fresh water, and any machining using water-soluble coolants.



- Some machines optically detect the presence or absence of tools in the tool magazine and may determine that “Eco black tooling” as no tools are present.
- The tapered section of the “Eco black tooling” improves adhesion when connected, so approximately 20% more force is required when unclamping compared to standard models.
- Rust may occur in environments where oil has been completely removed by degreasing, etc.

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TRANSFORM FACTORY ENVIRONMENTS WITH NANO COOLANT!

NANO COOLANT SYSTEM

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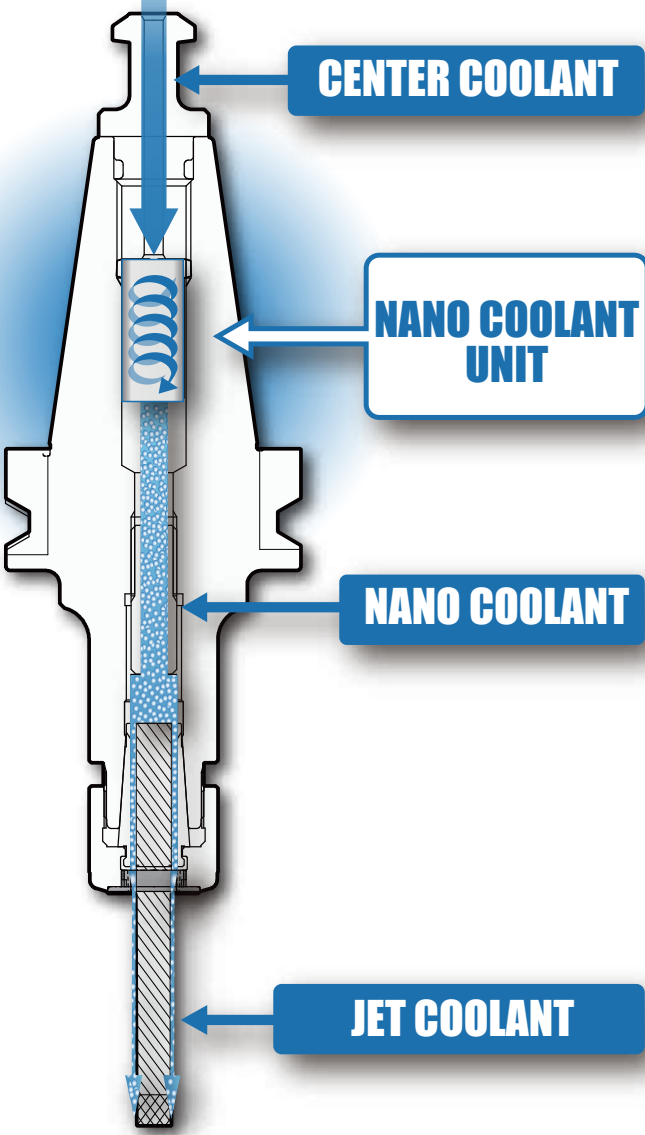
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TWO NANO COOLANT SYSTEM STYLES TO SUIT YOUR NEEDS

TOOLING STYLE

Compatible with machining centers featuring the Centus-through specification



Our unique spiral-structured nano-coolant generator produces approximately 145 million nano-level particles per milliliter, suppressing the decay and foul odors of water-soluble coolants to contribute to improved factory environments.

■ NANO COOLANT UNIT

* When placing an order, please provide the code number of the product you are using.

The nano-coolant unit, featuring a built-in nano-coolant generator, can be easily mounted on compatible Nikken Tooling. It can be immediately introduced into machining operations simply by changing tools. Furthermore, even if you feel the nano-coolant's effectiveness has diminished due to aging, you can order just the unit section and easily replace it on your end.

NANO COOLANT UNIT for BT TOOLING

Taper	Code No.	Note
BT30	BT30NJ-20B	For holder BT/NBT30
BT40	BT40NJ-25B	For holder BT/NBT/MBT40
BT50	BT50NJ-40B	For holder BT/NBT/MBT50



NANO COOLANT UNIT for HSK TOOLING INTEGRATED COOLANT PIPE

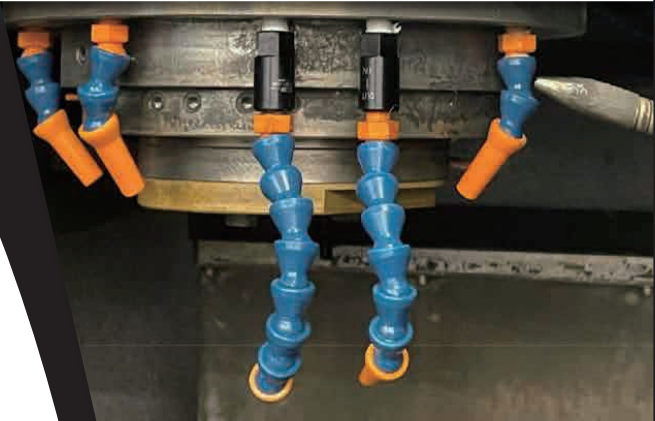
Taper	Code No.		Mountaing wrench
	With movable coolant pipe	With fixed coolant pipe	
HSK 63A	HSK 63-LP-NJ	HSK 63-LPS-NJ	HSK 63-LPL
HSK100A	HSK100-LP-NJ	HSK100-LPS-NJ	HSK100-LPL



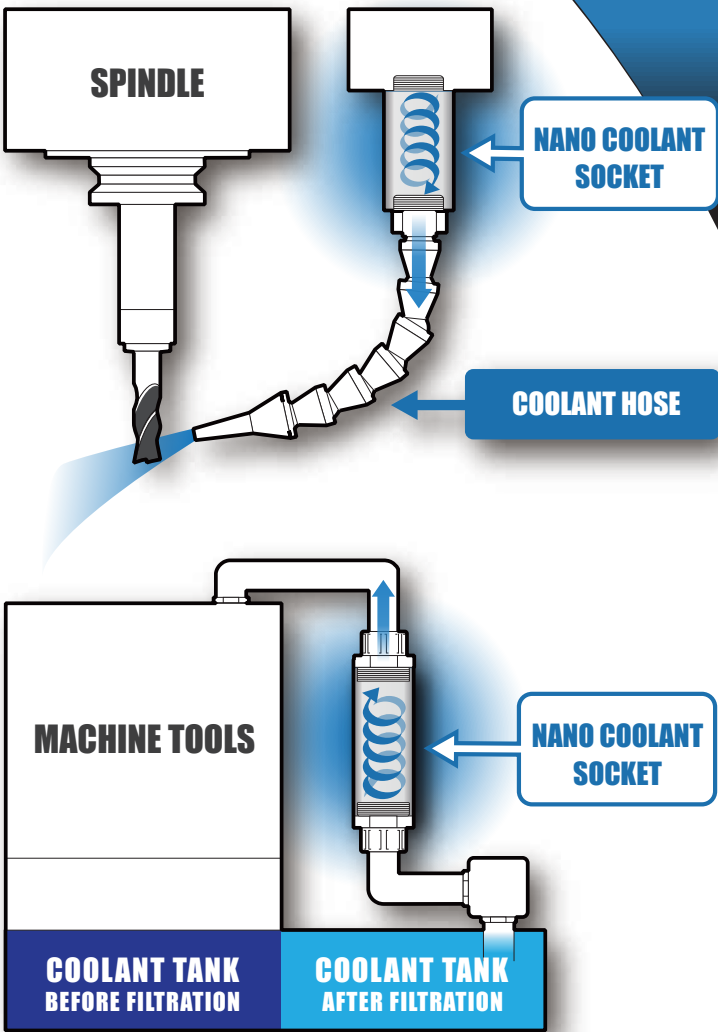
SOCKET STYLE

Compatible with all machine tools, including lathes and grinders

For external coolant supply, connect to the coolant hose



Connect to the piping of the machine tool



■ NANO COOLANT SOCKET

The nanocoolant socket, which incorporates a built-in nanocoolant generator, can be attached to coolant hoses or piping. It enables machining with external lubrication and can be widely used on machine tools other than machining centers, such as lathes and grinding machines.

Normal model (without window)



Specifications		Code No.	Bolt Dimensions		L	D	W	Maximum Pressure
			IN	OUT				
With Window	Male/female	NACSO-RC1/8AB	R1/8	Rc1/8	40	16	14	7MPa
		NACSO-RC1/4AB	R1/4	Rc1/4	49	20	18	
		NACSO-RC3/8AB	R3/8	Rc3/8	62	24	22	
		NACSO-RC1/2AB	R1/2	Rc1/2	58	28	26	
	Female/female	NACSO-RC1/2BB	Rc1/2		67	28		
Without Window	Male/female	NACSO-RC1/2AB-H	R1/2		65	28	24	1MPa
	Female/female	NACSO-RC1/2BB-H	Rc1/2		67	28		

★ If the coolant pressure exceeds 1 MPa, please use the windowless type (maximum pressure: 7 MPa).

Model with window

A model with window that allows observation of operation of Nano coolant generator

