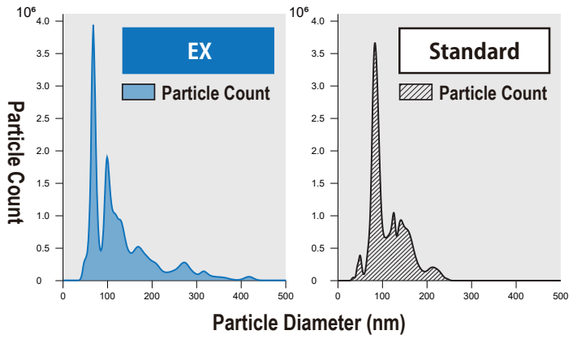
NANO Power Improves the Coolant Environment

170 Million Nano-Particles per mL

The EX model incorporates a large-diameter NANO COOLANT Generator that produces nano-scale particles with an average particle diameter of 129.5 nm at a concentration of approximately 170 million particles per mL, enhancing the cooling performance of water-soluble coolant.

Measurement Results



	NEW EX *1	Standard *2
Particle Count per mL	170M	145M
Most Frequent Particle Diameter	74.0nm	83.1nm
Average Particle Diameter	129.5nm	112.0nm

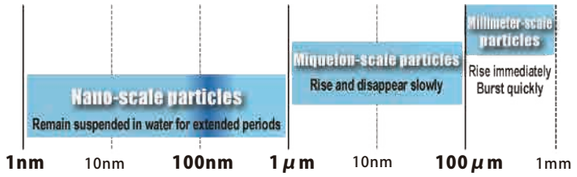
*1. Measurement Conditions: Multi-pass (20 passes), Test liquid: tap water, Measured on: April 22, 2026
*2. Measurement Conditions: Multi-pass (20 passes), Test liquid: tap water, Measured on: May 1, 2025

No Electrical Power or Air Supply Required

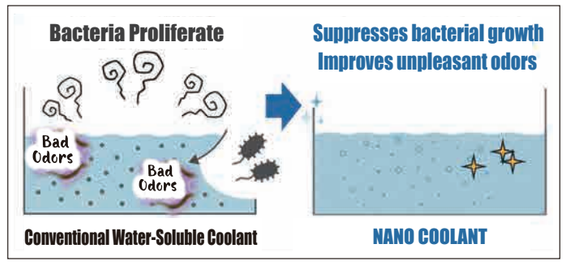
NANO COOLANT Generator uses a tornado-type mechanism that requires neither electrical power nor compressed air. Therefore, no major equipment modifications are necessary, allowing users to experience the benefits of nano technology with simple installation.

Improving the Factory Environment

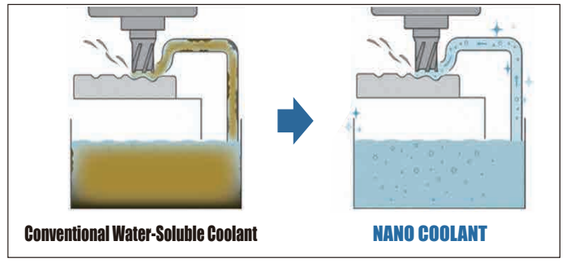
Nano-scale particles remain suspended in the coolant for a period of time and maintain their state, helping suppress the growth of anaerobic bacteria. This reduces bad odors and provides a cleaning effect in coolant tanks and piping systems, contributing to a cleaner factory environment.



Odor Suppression Effect for Water-Soluble Coolant

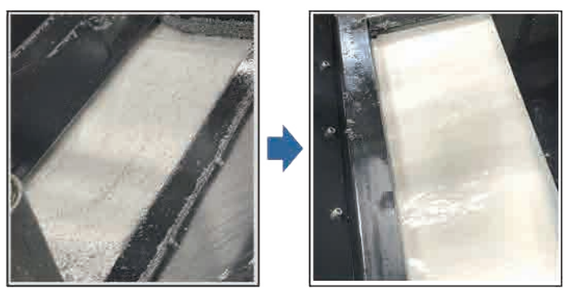


Cleaning Effect on Coolant Tanks, Piping, and Machine Interiors



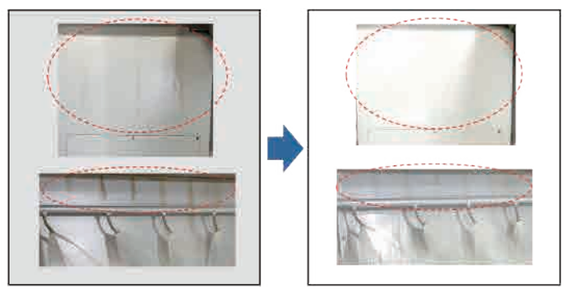
Actual Results

Odor Suppression Effect



Coolant that had become foamy like beer due to bacterial growth became clear and fluid, with bad odors significantly reduced.

Cleaning Effect



Without performing manual cleaning, simply installing the NANO COOLANT SOKET removed sludge adhered inside the machine, leaving clean interior surfaces.

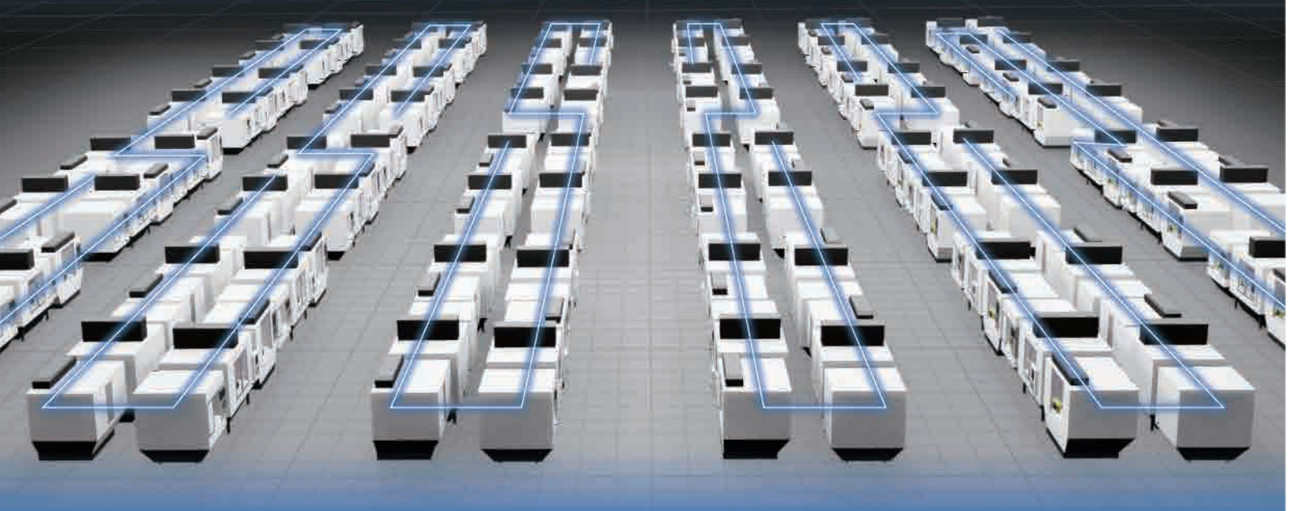
★ NANO Power may remove oil films from workpieces and tooling surfaces. Please take appropriate anti-rust measures for workpieces and tools.



NIKKEN
NIKKEN KOSAKUSHO WORKS, LTD.
5-1, 1-chome, Minamishinden, Daito-shi, Osaka-fu, Japan
Web:www.nikken-kosakusho.co.jp/en
Tel:+81-(0)72-869-5810 Fax:+81-(0)72-869-6210
e-mail:export@nikken-kosakusho.co.jp

NIKKEN

For Customers Using Centralized Coolant Management Systems



Are you experiencing unpleasant odors from water-soluble coolant?

Three Major Problems with Water-Soluble Coolant

Deterioration | **Foaming** | **Concentration Reduction**

In centralized coolant management systems, the three major issues are deterioration, foaming, and concentration reduction. NIKKEN proposes a new solution specifically targeting foul odors caused by coolant deterioration.

Q

What Causes Coolant Deterioration ?

During machine stoppages such as holidays, oxygen deficiency occurs in the coolant. Floating oils covering the coolant surface promote the rapid growth of anaerobic bacteria, such as sulfate-reducing bacteria. These bacteria generate hydrogen sulfide, producing foul odors and negatively affecting both factory conditions and coolant quality.

A

Conventional Countermeasures

1. Removal of Floating Oil and Sludge

- Operate an oil skimmer to continuously remove floating oils such as lubricating oil and rust preventive oil.
- Regularly remove fine metal particles (sludge) accumulated at the tank bottom because they serve as breeding grounds for bacteria.

2. Intermittent Machine Operation During Holidays

When machines remain unused for long periods, operate the circulation pump for 1 to 2 hours per day using a timer. This supplies oxygen to the coolant and suppresses anaerobic bacterial growth.

EX

NIKKEN proposes NANO COOLANT EX as a third solution to coolant deterioration issues.

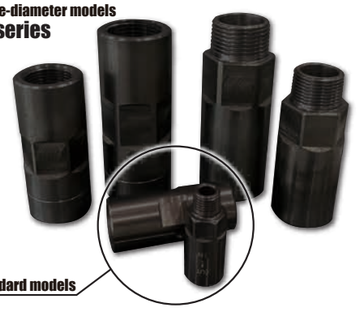
NEW NANO COOLANT EX



A new large-diameter model is now available for built-in installation in the core sections of centralized coolant management systems, including automatic dilution units and centralized filtration systems capable of supplying coolant to multiple machines simultaneously.



NEW
Large-diameter models
EX series



Standard models

Main Features and Expected Benefits

01 Generates nano-scale particles that alter coolant interfacial properties and dissolved gas conditions, creating an environment less favorable for microbial growth.

02 Fine particles promote separation and flotation of oil and contaminants in the coolant, improving the efficiency of oil skimmers and filtration equipment.

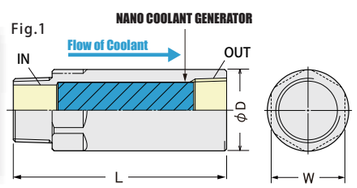
03 Micro-particles with high interfacial activity promote the detachment of deposits and provide cleaning and flushing effects for machine piping and coolant tanks, including sludge removal.

04 By suppressing deterioration and accelerating contaminant removal, coolant degradation is slowed and coolant service life is extended.

Specifications



◆ Male-Female Type





◆ Female-Female Type

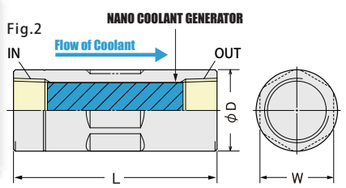


Fig.	Type	Code No.	Pipe Thread		L	D	W	Maximum Pressure
			IN	OUT				
Fig.1	Male – Female	NACSO-RC3/4AB	R3/4	Rc3/4	90	36	32	7MPa
		NACSO-RC1AB	R1	Rc1	110	42	38	
Fig.2	Female – Female	NACSO-RC3/4BB	Rc3/4	Rc3/4	85	36	32	
		NACSO-RC1BB	Rc1	Rc1	105	42	38	

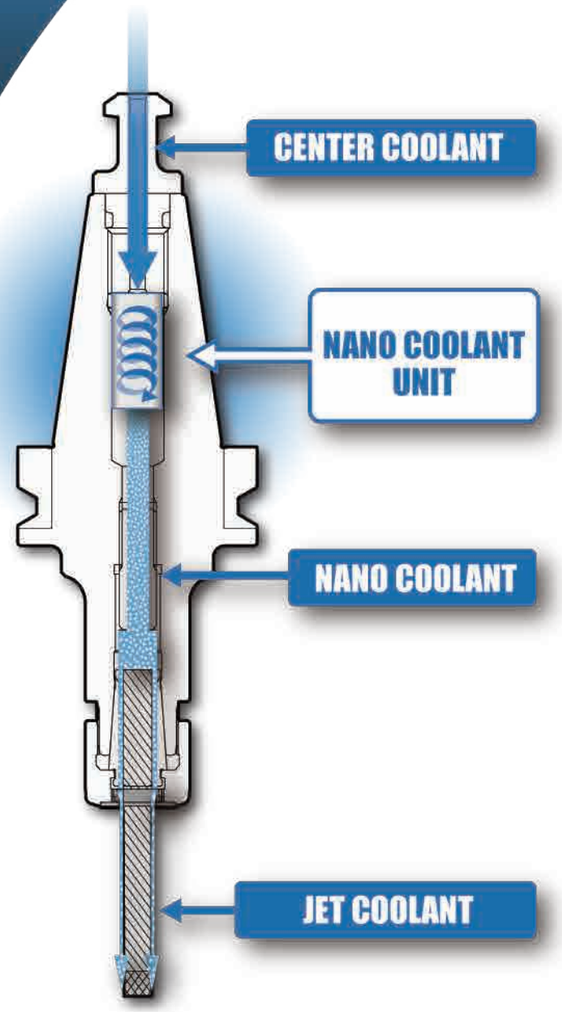
NIKKEN

TWO NANO COOLANT SYSTEM STYLES TO SUIT YOUR NEEDS

TOOLING STYLE

Compatible with machining centers featuring the Centus-through specification

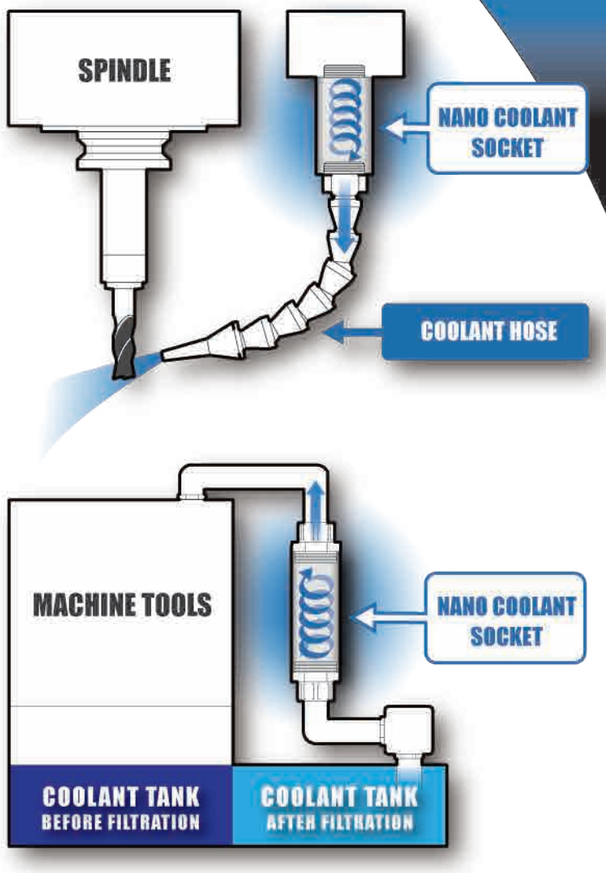


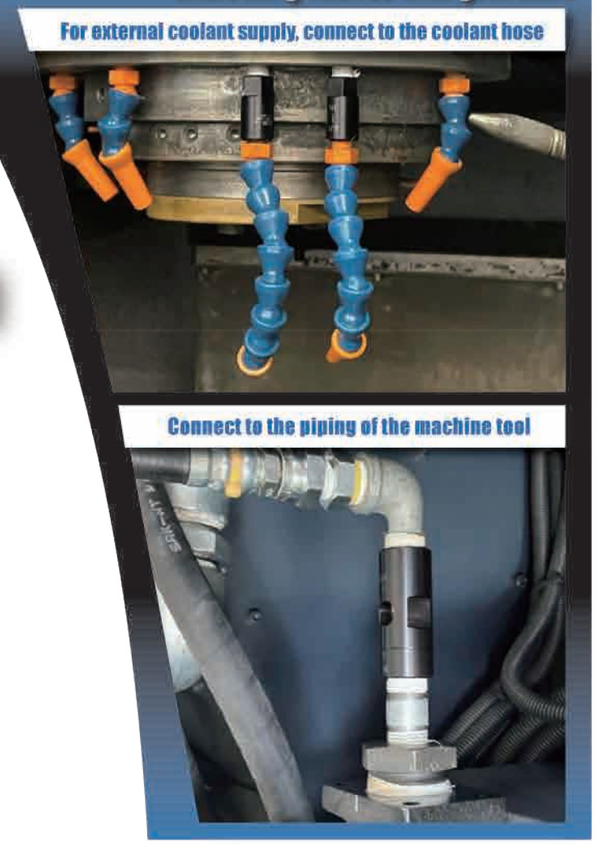


Our unique spiral-structured nano-coolant generator produces approximately 145 million nano-level particles per milliliter, suppressing the decay and foul odors of water-soluble coolants to contribute to improved factory environments.

SOCKET STYLE

Compatible with all machine tools, including lathes and grinders





■ 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	Mountaing wrench
BT30	BT30NJ-20B	For holder BT/NBT30	NJL-30
BT40	BT40NJ-25B	For holder BT/NBT/MBT40	NJL-40
BT50	BT50NJ-40B	For holder BT/NBT/MBT50	NJL-50



NANO COOLANT UNIT for HSK TOOLING INTEGRATED COOLANT PIPE

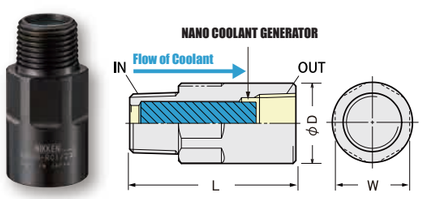
Taper	Code No.		Mountaing wrench
	With movable coolant pipe	With fixed coolant pipe	
HSK 63A	HSK 63-LP-NJ	HSK 63-LPS-NJ	HSK 63-LPL
HSK100A	HSK100-LP-NJ	HSK100-LPS-NJ	HSK100-LPL



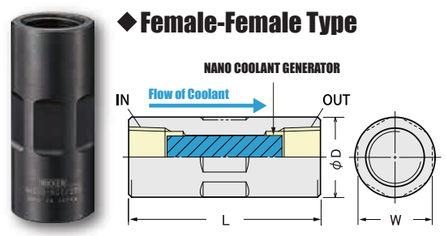
■ NANO COOLANT SOCKET

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.

◆ Male-Female Type



◆ Female-Female Type



Type	Code No.	Pipe Thread		L	D	W	Maximum Pressure
		IN	OUT				
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		