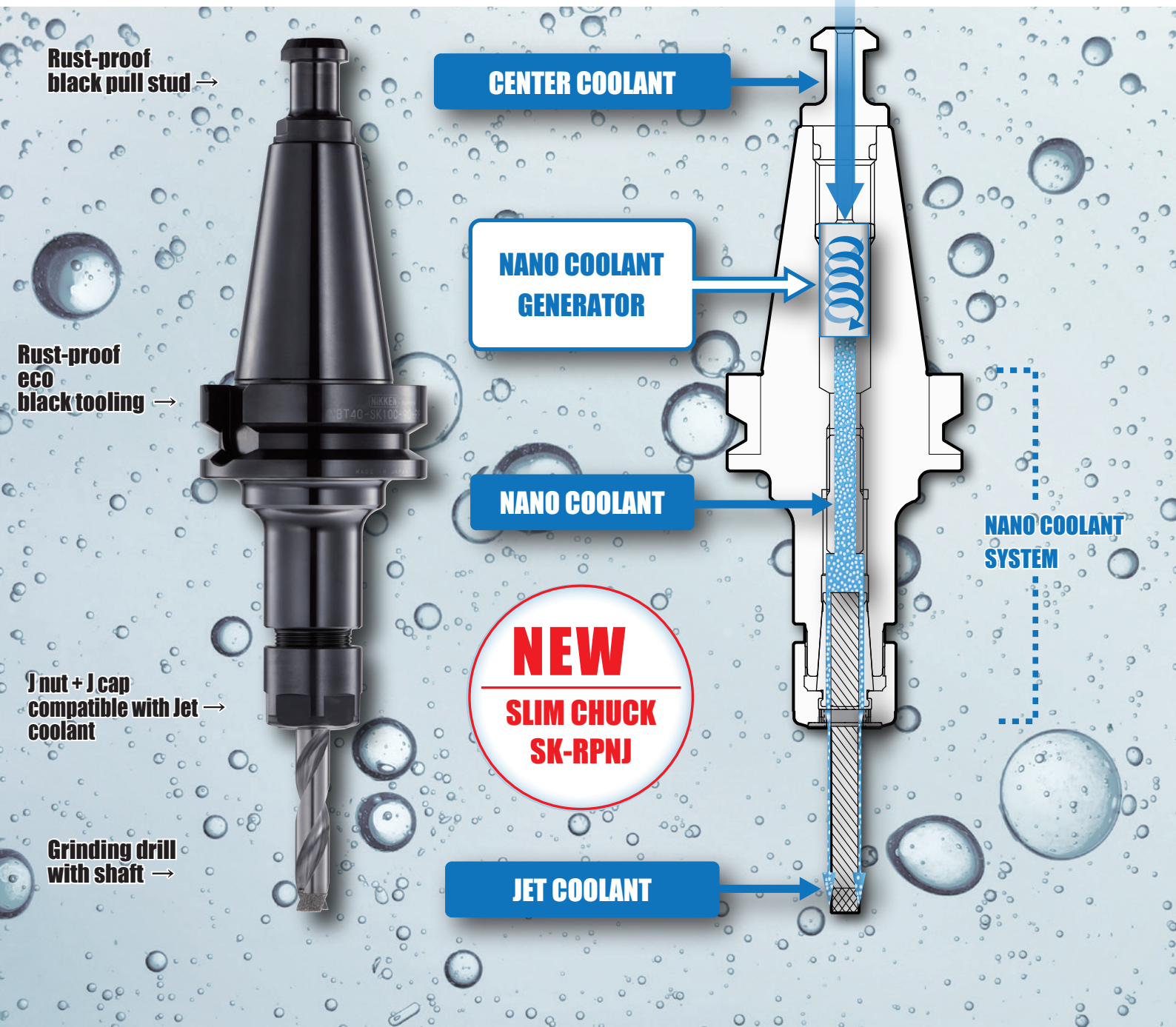


TRANSFORM MACHINING CAPABILITY WITH NANO COOLANT!



Effective for environmental improvement

Creates coolant environment using nano-scale particles

NANO

Equipped with
"Nano coolant generator"

Extends service life of cutting tool/grinding drill

Pinpoint cooling that prevents scatter even at 20,000 rpm

JET

"Jet coolant" specification

No rust-proof maintenance required

Powerful anti-rust effect that overcomes red rust with black rust

BLACK

"Eco black tooling" specification

"TOOLING REVOLUTION" BROUGHT BY NANO COOLANT AND JET COOLANT



NIKKEN NANO COOLANT SYSTEM

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).

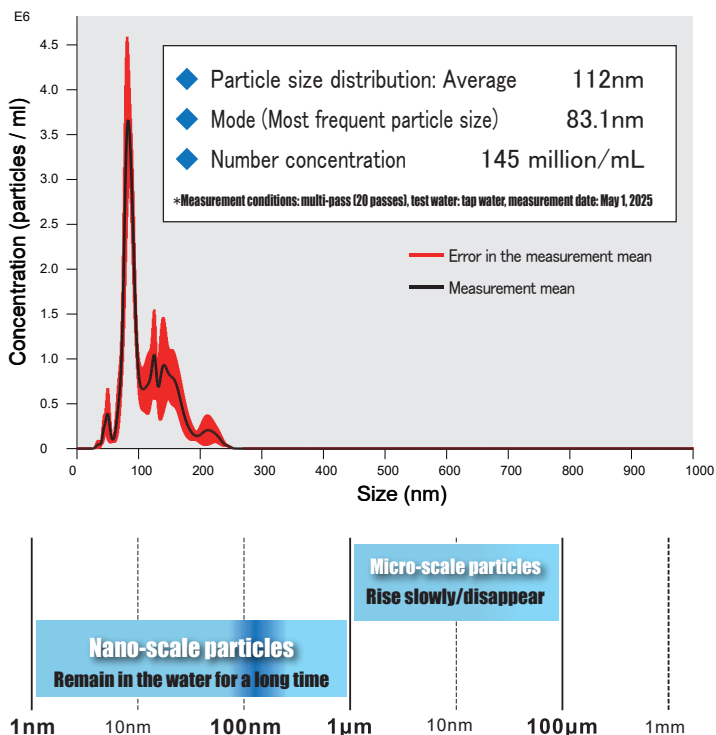
FOR IMPROVEMENT OF FACTORY ENVIRONMENT

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.

JUST REPLACE THE TOOLING

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.

JET

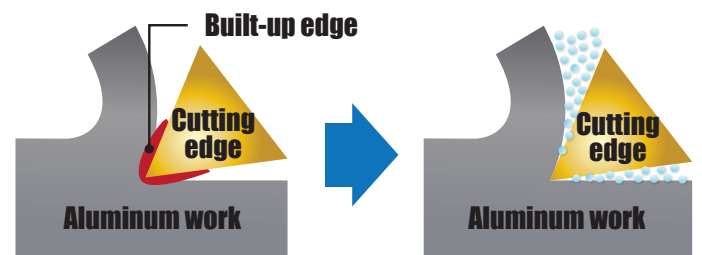
THE COOLING POWER OF JET COOLANT

EXTENDS SERVICELIFE OF CUTTING TOOL / GRINDING DRILL

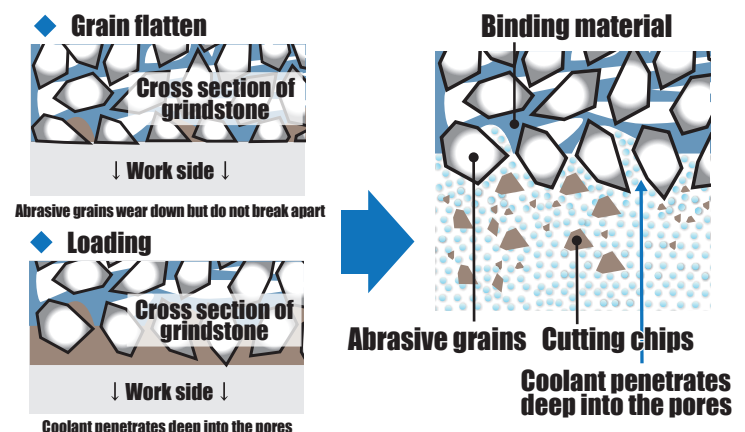
It comes standard with Jet coolant system that prevents scatter even at spindle rotation of 20,000 rpm and is extremely effective in removing chips and cooling the cutting tool. Coolant is precisely jetted from the triangular groove toward the cutting edge, effectively removing chips and sludge and cooling the cutting edge.



TO IMPROVE ALUMINUM PROCESSING



TO IMPROVE GRINDING



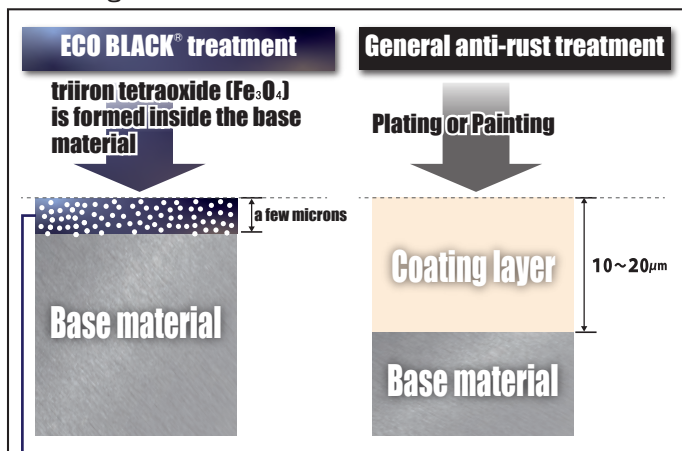
BLACK

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.



**Standard model
after 8 years of use**



**Eco black tooling
after 18 years of use**

- 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. Please be sure to check the machine specifications before placing your order.
- Rust may occur in environments where oil has been completely removed by degreasing, etc. Please be careful.

ZERO

HIGH RUNOUT ACCURACY WITH ZERO FIT

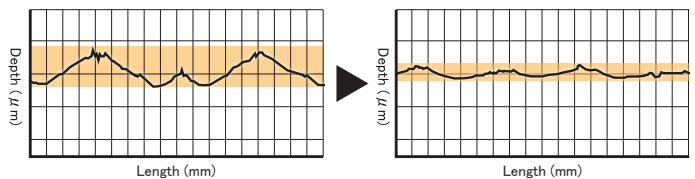
GREATLY IMPROVE PRODUCTION YIELD

The runout accuracy of a machine spindle can deteriorate even after 2–3 years of use, and a runout of 10–40 μm at 100 mm tip may occur. With Zero fit mechanism, runout accuracy of the cutting tool can be adjusted to nearly zero by operating the adjustment cum installed in the holder.

Stabilizing runout precision reduces variation in processing precision, contributes to improved surface roughness, and significantly increases yields.

Depending on the machining process, you can choose from two types: milling chuck or slim chuck.

IMPROVED SURFACE ROUGHNESS

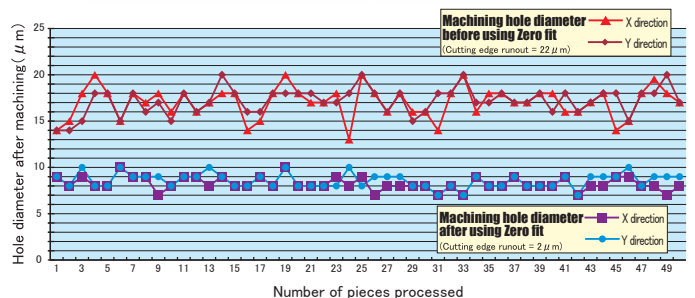


Before using Zero fit: Rz 5.6μm
(Cutting edge runout = 16 μm)

After using Zero fit: Rz 2μm
(Cutting edge runout = 1 μm)

Machine tool : BT40 Vertical machining center
Tolling/Collet : BT40-CZF20-105 / KM20-16
Work material : NAK55(hardened steel)
Cutting tool : φ16mm, 4teeth Ultra-hard end mill
Cutting speed : V = 180m/min.
Rotation speed : S = 3,600min⁻¹
Feed per tooth : f = 0.1mm/tooth
Feed rate : F = 1,440mm/min.

IMPROVED MACHINING DIMENSIONAL ACCURACY



Work material : Thermal refined steel (HRC25~30)
Cutting tool : φ13mm CBNreamer
Cutting speed : V = 80m/min.
Rotation speed : S = 2,000r/min
Feed per tooth : f = 0.1mm/min.
Feed rate : F = 200mm/min.
Cutting fluid : External oil supply (water-soluble)

Main compatible models Nano coolant unit can be attached to products other than those listed below. Please contact us and provide the code number of our standard products.

SLIM CHUCK

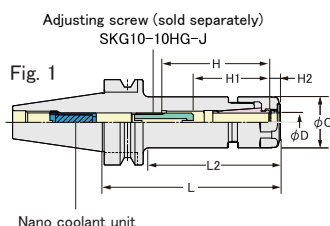


SK-RPNJ

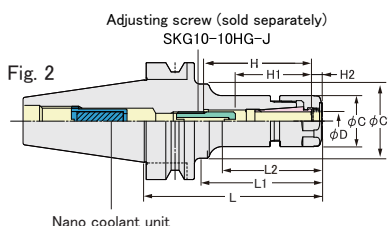
The above image shows RPFNJ with RP specification nuts

- To prevent clogging of the Nano coolant unit, we recommend periodic cleaning with an air blower, etc.
- Nano coolant unit is replaceable. Even if you feel that the effectiveness has decreased due to aging, you can simply order the unit part and replace it yourself.

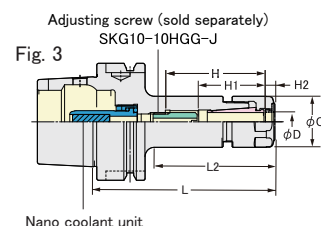
BT Two-plane restriction type: NBT30



BT Two-plane restriction type: NBT40



HSK63A



PAT.P

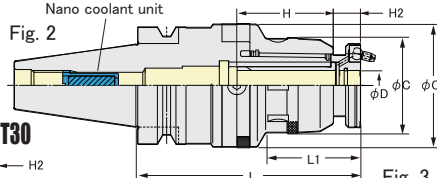
Tapered	Code No.	D	L ^{*1}	L1 ^{*1}	L2 ^{*1}	C	C1	H	H1	H2	Weight (kg)	Collet (Sold separately)	Nano coolant unit ^{*3}	Fig ^{*1}
NBT30	NBT30 -SK10C- 90-RPNJ	0.9~10.0	96	—	70.8	27.5	40	58.1	33~41	5.8	1.0	SK10	BT30NJ-20B	1
NBT40	NBT40 -SK10C- 90-RPNJ			65.8	53.8				33~41		1.2		BT40NJ-25B	2
HSK63A	HSK63A-SK10C- 90-RPNJ			—	64.8				33~36		0.9		HSK63-LP-NJ	3

ZERO FIT TYPE MILLING CHUCK

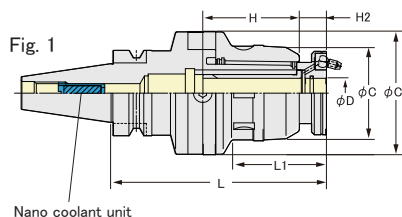


CZF-RPNJ

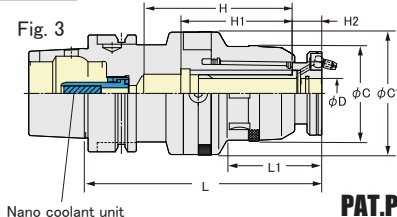
BT Two-plane restriction type: NBT40



BT Two-plane restriction type: NBT30



HSK63A



PAT.P

Tapered	Code No.	D	L ^{*2}	L1 ^{*2}	C	C1	H	H1	H2	Weight (kg)	Collet (Sold separately)	Nano coolant unit ^{*3}	Fig ^{*2}
NBT30	NBT30 -CZF20-100-RPNJ	20	116	51	51.5	66.5	51.5	—	16	1.5	CCK20	BT30NJ-20B	1
NBT40	NBT40 -CZF20-105-RPNJ		121							2.1		BT40NJ-25B	2
HSK63A	HSK63A-CZF20-110-RPNJ		126				80	60		2		HSK63-LP-NJ	3

- The above images and diagrams show the front nut for the multi-nozzle type Jet coolant (RP specification) and centre coolant straight collet (sold separately) attached.
- The front nut for the multi-nozzle type Jet coolant is particularly effective when using a mounted grindstone whose cutting tool diameter is larger than the shank diameter of the cutting tool.

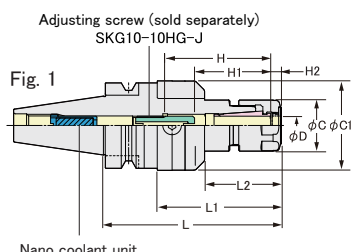
ZERO FIT TYPE SLIM CHUCK



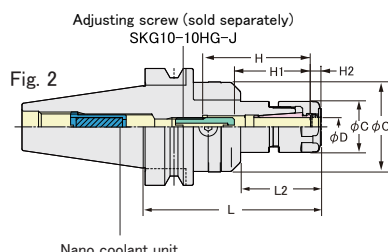
SZF-RPNJ

The above image shows RPFNJ with RP specification nuts

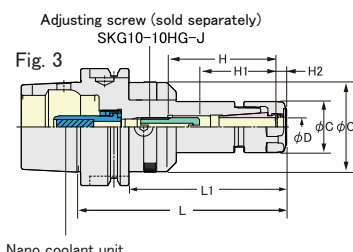
BT Two-plane restriction type: NBT30



BT Two-plane restriction type: NBT40



HSK63A



PAT.P

Tapered	Code No.	D	L ^{*1}	L1 ^{*1}	L2 ^{*1}	C	C1	H	H1	H2	Weight (kg)	Collet (Sold separately)	Nano coolant unit ^{*3}	Fig ^{*1}
NBT30	NBT30 -SZF10C- 90-RPNJ	0.9~10.0	95.8	66.8	40.8	27.5	48.5	58.1	33~41	5.8	1.3	SK10	BT30NJ-20B	1
NBT40	NBT40 -SZF10C- 90-RPNJ			—	42.8				33~41		1.5		BT40NJ-25B	2
HSK63A	HSK63A-SZF10C-105-RPNJ			110.8	58.8				33~36		0.9		HSK63-LP-NJ	3

- *1 The dimensional drawing and dimensions are for when a J-type front nut (standard accessory) and a J-type nut cap (sold separately) are attached.
- *2 The above images and diagrams show the CCKFN front nut for the multi-nozzle type (sold separately) attached.
- *3 Coolant pipe of the nano coolant unit for HSK is an integrated type. The standard model comes with movable type pipe, but fixed type pipe is also available. The model number for model with fixed coolant pipe is as follows. NANO COOLANT SYSTEM: Example) HSK63A-SZF10C-105-RPNJS, Nano Coolant Unit: Example) HSK63-LPS-NJ

NANO COOLANT UNIT FOR REPLACEMENT

*When ordering, please provide the code number of the product you are using.

The Nano coolant unit has a unit structure equipped with a Nano coolant generator inside the body for ease of replacement. Even if you feel that the effectiveness of the Nano coolant has decreased due to aging, you can simply order the unit part and replace it yourself.

●Please contact us for nano coolant units other than those listed below.

Nano coolant unit for BT tooling

Tapered	Unit model	Note
BT30	BT30NJ-20B	For holder BT/NBT30
BT40	BT40NJ-25B	For holder BT/NBT/MBT40
BT50	BT50NJ-40B	For holder BT/NBT/MBT50



Integrated coolant pipe Nano coolant unit for HSK tooling

Tapered	Unit model		Mounting 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



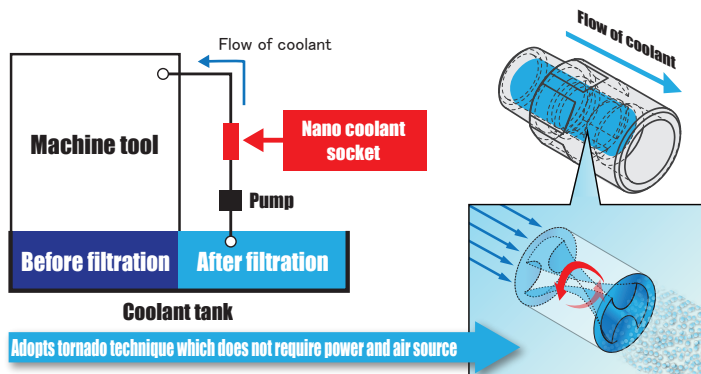
NEW

NANO COOLANT SOCKET

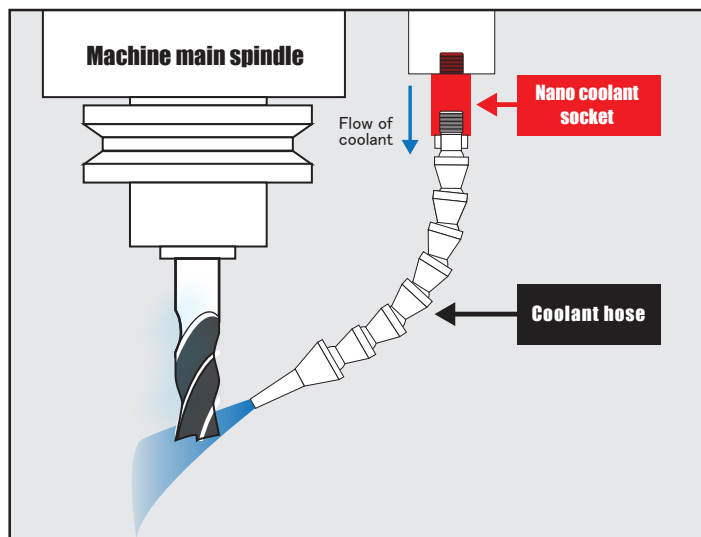
*Nano coolant socket supports water-soluble coolant only.

FOR LATHE, MACHINING, POLISHING...ANY MACHINING WORK

By installing on the piping of existing equipment, it is expected that it can suppress the deterioration of water-soluble coolant and improve odors throughout the factory.



ALSO FOR EXTERNAL COOLANT HOSES

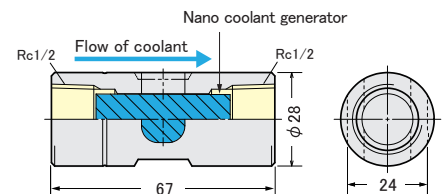


Model with window

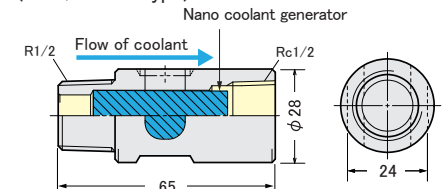
A model with window that allows observation of operation of Nano coolant generator



NACSO-RC1/2BB-H (Female/female type)

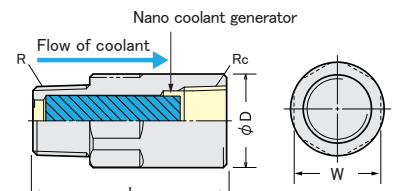


NACSO-RC1/2AB-H (Male/female type)



Normal model (without window)

(Male/female type)



Normal model (without window) size chart

Specifications	Model	Rc	R	L	D	W
Without window	NACSO-RC1/8AB	1/8	1/8	40	16	14
	NACSO-RC1/4AB	1/4	1/4	49	20	18
	NACSO-RC3/8AB	3/8	3/8	62	24	22
	NACSO-RC1/2AB	1/2	1/2	58	28	26

TRANSFORM MACHINING CAPABILITY WITH NANO COOLANT!

Rust-proof
black pull stud →

CENTER COOLANT

NANO COOLANT
GENERATOR

NANO COOLANT

NEW

**ZERO FIT TYPE
MILLING CHUCK
CZF-RP NJ**

JET COOLANT

NANO COOLANT
SYSTEM

Rust-proof
eco
black tooling →

Zero fit
adjustment
mechanism →

CKFN-MN
Front nut compatible
with Jet coolant →

Grinding drill →
with shaft
(Step drill)

Effective for environmental
improvement

Extends service life of
cutting tool/grinding drill

No rust-proof
maintenance required

Greatly improve
production yield

Creates coolant environment
using nano-scale particles

Pinpoint cooling that prevents
scatter even at 20,000 rpm

Powerful anti-rust effect that
overcomes red rust with black rust

Great improvement in
production yield with
stabilization of runout accuracy

NANO

Equipped with
"Nano coolant generator"

JET

"Jet coolant"
specification

BLACK

"Eco black tooling"
specification

ZERO

Equipped with "Zero fit
mechanism"



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