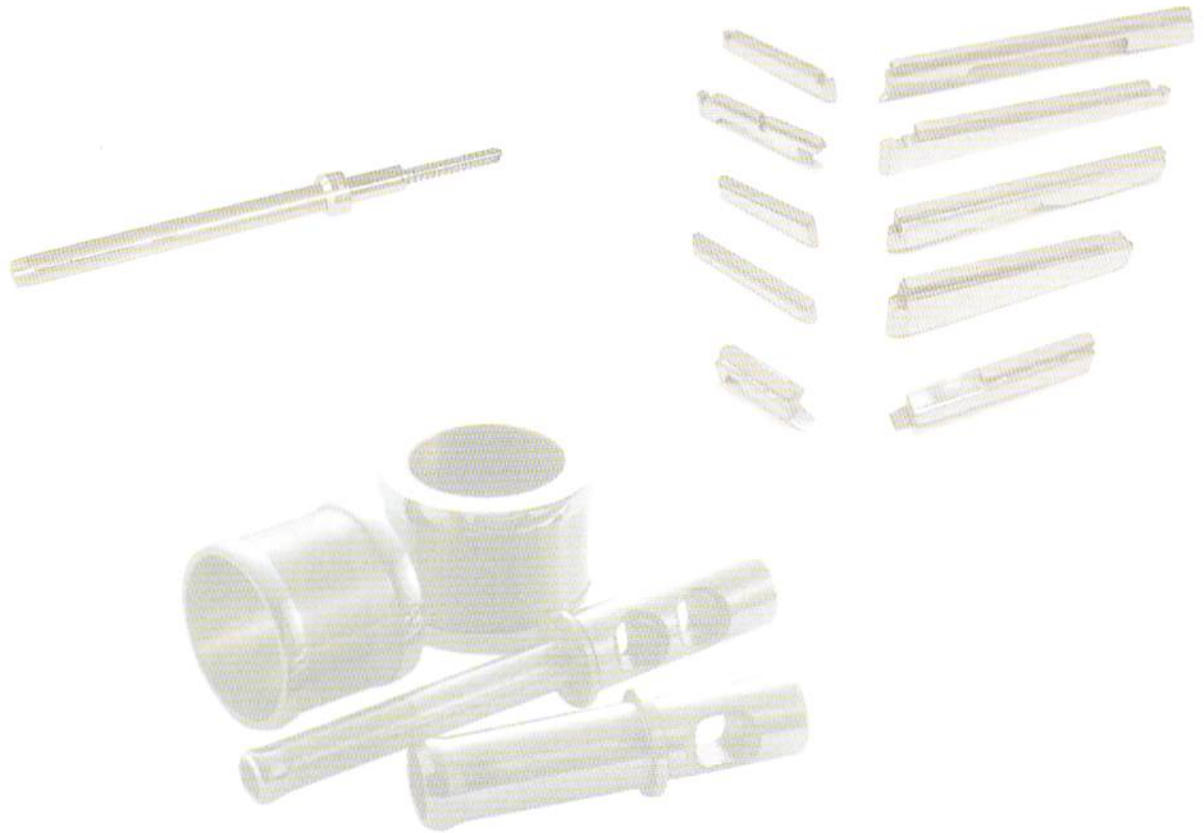


NISSIN TOOL



NISSIN TOOL

 **NISSIN** MANUFACTURING CO., LTD.

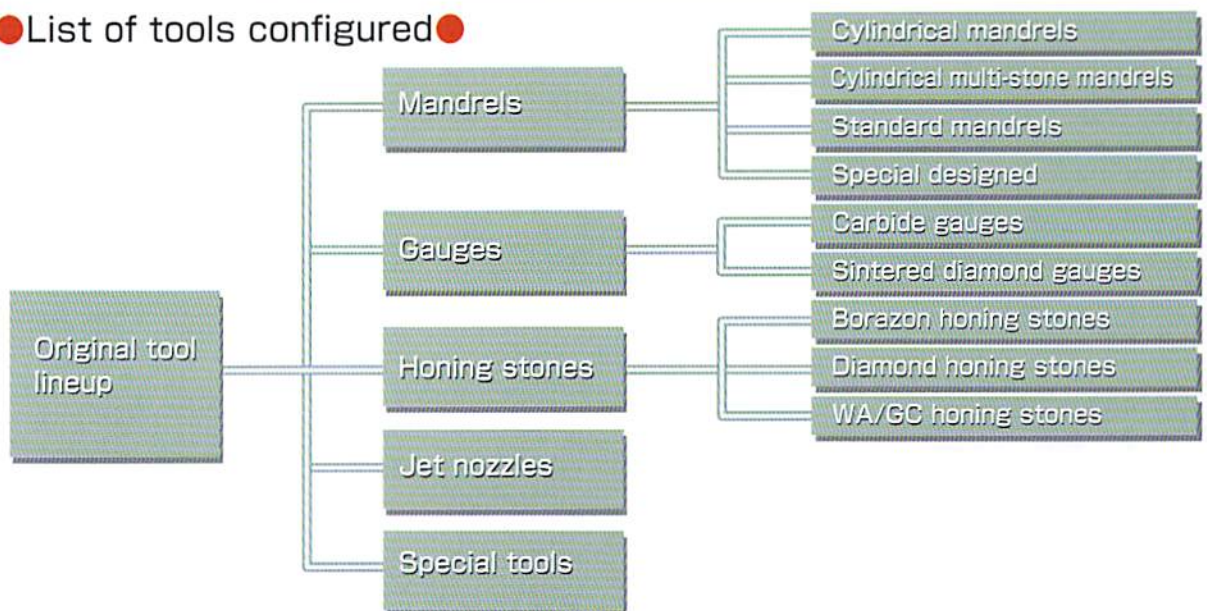
HONING

MANDREL,
This is NISSIN's

● On the basis of our technological skills ●

We satisfy your needs undoubtedly as a comprehensive manufacturer of honing.

● List of tools configured ●

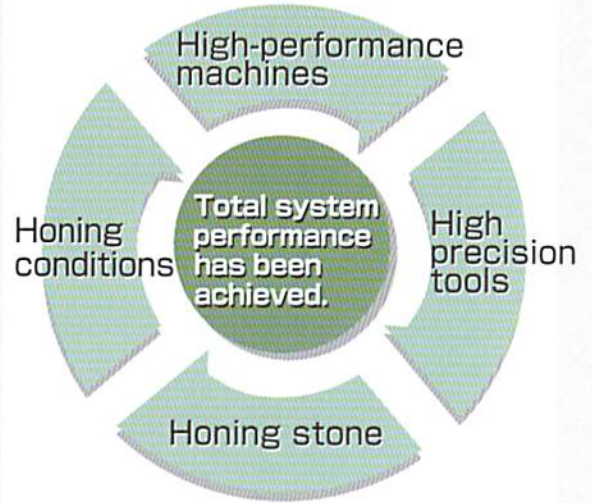
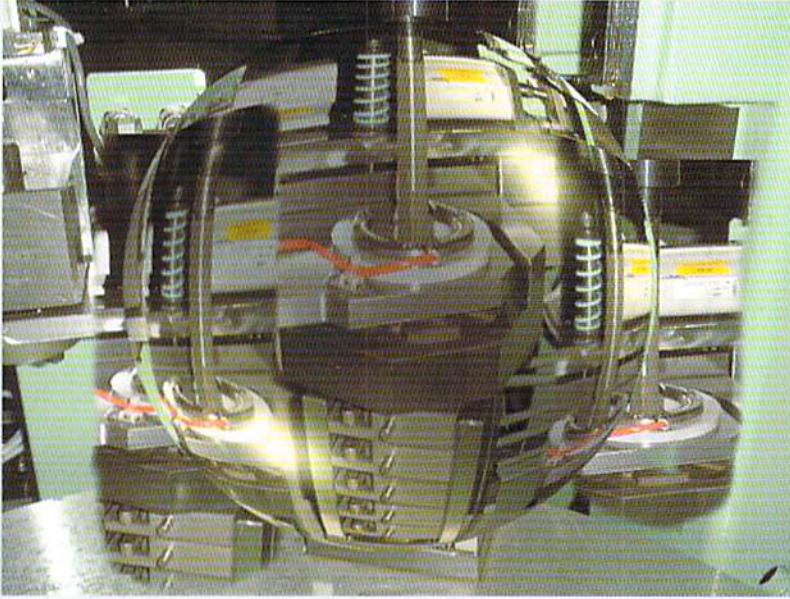


● Samples ●



HONING STONE, GAUGE, NOZZLE

"Original Tool".



● Reference materials to be honed ●

- Carbides
- Cast irons
- Tufftriding
- Glasses
- Aluminums
- Composite materials
- Ceramics
- Hard chromium plating
- Others



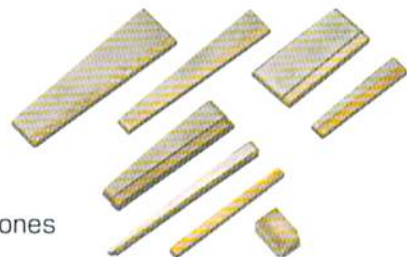
Jet nozzles



Sintered diamond gauges



Honing stones



★ Please feel free to contact us.

SINTERED DIAMOND TOOL

● "Manufacturing" aims at overall cost-cutting. ●

Advancing into a new stage to aim at reduction of honing costs

● In pursuit of reduction of honing costs ●

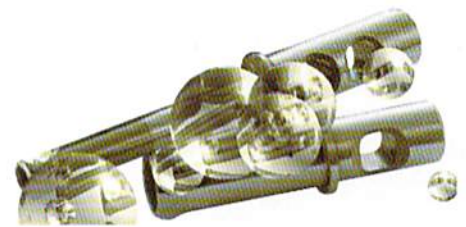
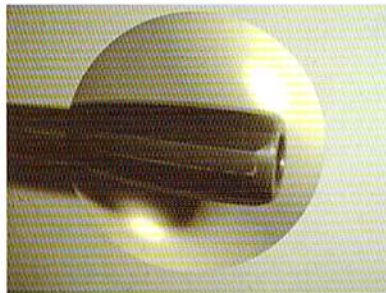
★ Longer useful life of tools has been attained.

Advantages brought about by sintered diamonds in terms of wear resistance
(the ratio in comparison with carbides)

- Knoop hardness ratio: 3.5 times
- An increase in longevity: 8 to 40 times
- Cost: 1.5 to 6 times

Cost-cutting has been achieved through the development of honing methods.

★ The sintered diamonds are used for the tool guide and gauge measuring portions.



★ "Reduction of honing costs" when the sintered diamonds are used for the mandrel chips (As compared with our conventional products.)

- ① Cost-reduction of chips: "30% reduction"
- ② Stable honing accuracy has been achieved.
- ③ Maintenance-free over an extended time period
- ④ Cost-reduction of standard tools: "45% reduction"



★ "Reduction of honing costs" when the sintered diamonds are used for the gages (As compared with our conventional products.)

- ① Useful life of gauges is increased by ten times.
- ② An availability factor is increased.
- ③ Maintenance-free over an extended time period



LS NISSIN SUGGESTS "REDUCTION OF HONING COSTS".

Step-by-step achievement

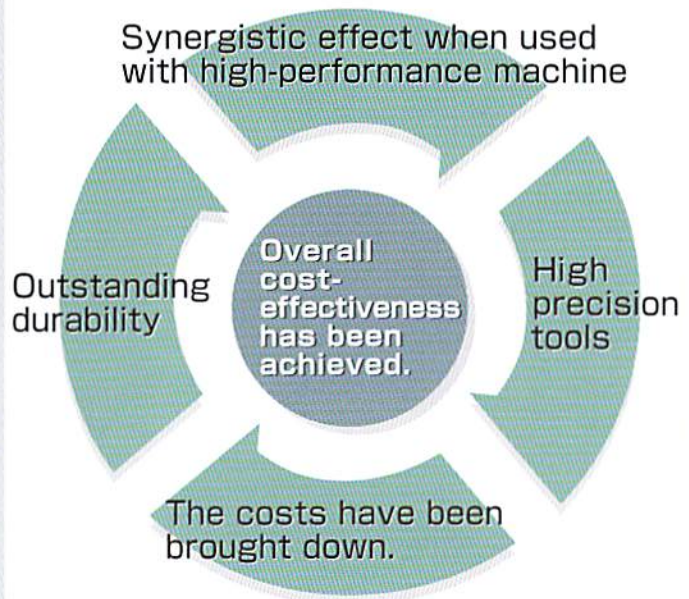
Overall cost-cutting

Improvement of productivity

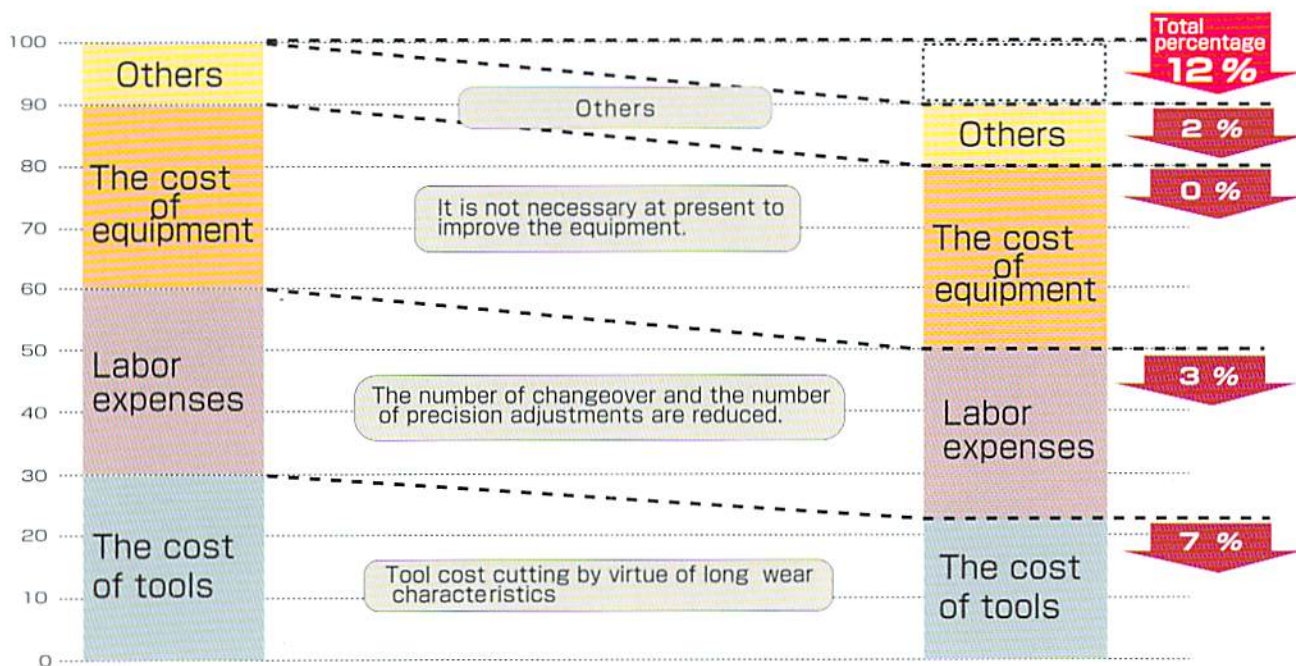
Improvement of availability

The number of changeover is reduced.

Stabilization of shape and precision over an extended time period



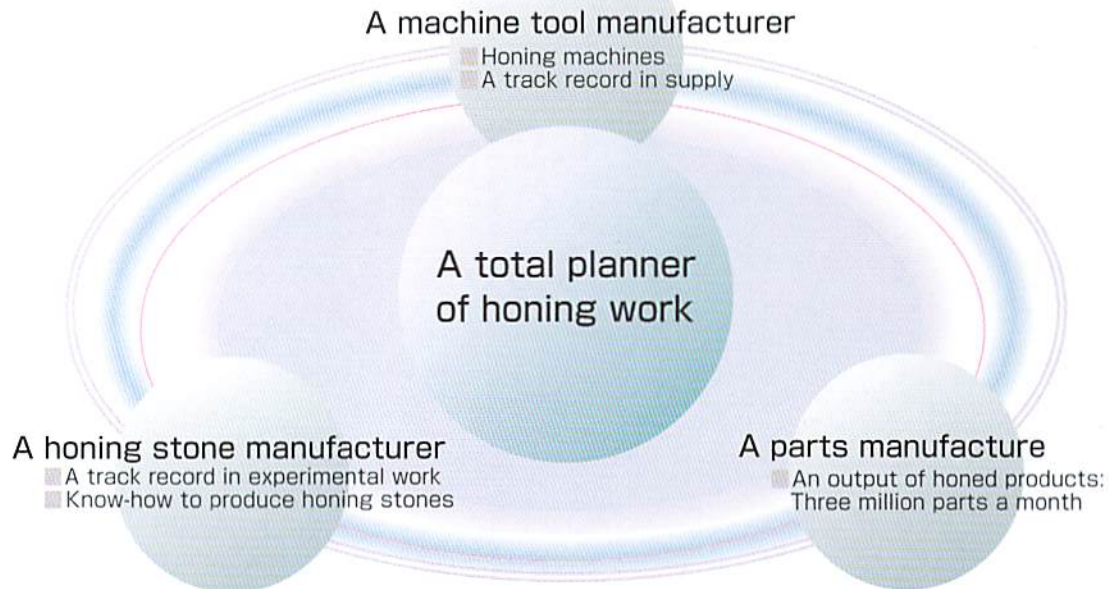
● Basic case: percentage of reduction through the use of carbide cylindrical mandrels ●
(As compared with our conventional products.)



HONING STONES

● Our fundamental technology of honing stones ●

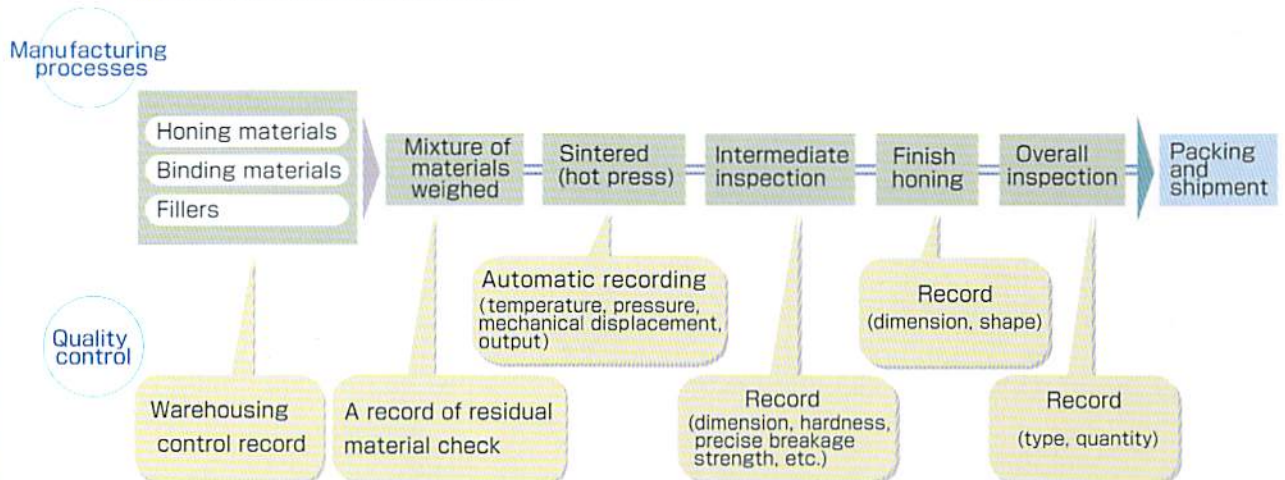
We have not only worked various products through the use of our honing machines as a precision parts manufacturer of vehicle and sewing machine parts and so forth, but also supplied as many as thousands of honing machines to customers as a honing machine manufacturer.



● Perfect quality control ●

We see to it that we manufacture products by bringing quality control home to our mind, according to ISO9001 Quality System, so as to feel at ease when customers use them.

▨ Process and quality check system



- TECHNOLOGY

● A list of NISSIN honing stones "Hone Presstic" ●

1. Type

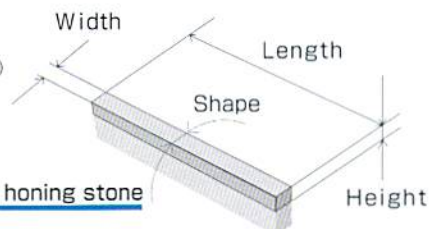
Indication of diamond and Borazon metal bonded honing stones

SD - 120 - M - 100 - MBA1 Example
Abrasive grain Grain size Hardness Concentration ratio Bond

| Abrasive grain | Grain size | Hardness | Concentration ratio | Bond |
|-----------------------------|------------|------------|------------------------|--------|
| Diamond honing stones SD | #60 | I (Soft) | 15 (Low) | MBA1 |
| | | | | MBA2 |
| | | | | MBA4 |
| Borazon honing stones CB | #8000 | M (Medium) | } | MBA9 |
| | | | | MB21 |
| | | | | MB22 |
| | | | | MX101 |
| | | | | MC3 |
| | | | | MF3 |
| | | R (Hard) | (At intervals of five) | Others |

2. Dimensions

3W × **2.5T** × **30L** **R7** (Example)
(W) (T) (L) (R)

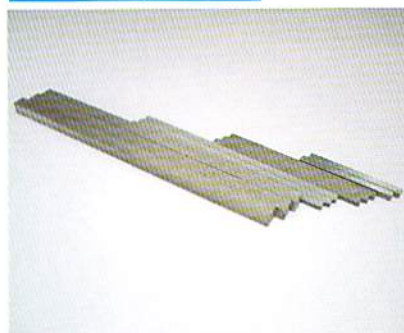


Dimensional drawing of honing stone

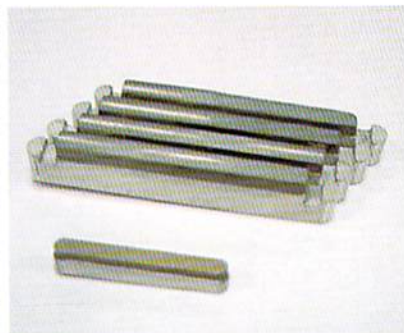
| Width | Height | Length | Shape |
|-------------|-------------|----------------|----------|
| 1.5 ~ 6.0mm | 0.8 ~ 6.0mm | 100 mm or less | R-honing |

(With regard to dimensions other than above, hold a consultation separately.)

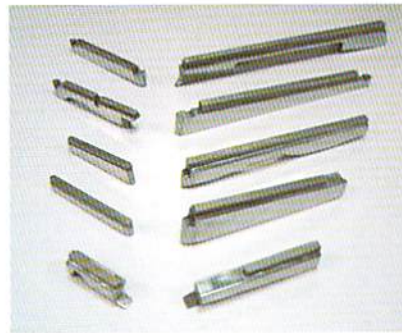
3. List of products



1 Honing stones only



2 Honing stones with aluminum bases



3 Honing stone renewals

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Industrial Equipment Division 85, Akasaka, Mineyama-cho, Kyotango, Kyoto 627-0006
(Akasaka Plant) Phone 81-772-62-8088 Fax 81-772-62-6688



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