



GAS DYNAMIC TYPE
AIR-OPERATED

WATER & COOLANT PURIFYING MACHINE

- Floating Oil
- Ballast content
- Water Content
- Peculiar Smell

**Solve The
Problem Once**



- Electricity free
- Low Maintenance
- Safety
- Environmental protection



SITUATION ANALYSIS

- Currently the world's advanced countries in the machine tool development, in addition to emphasize the characteristics of the machine speed, high precision and complex for processing, but also special emphasis on green value of the machine, thereby reducing pollution and damage to the environment, to ensure that the machine tool and related industries of sustainable development. The current international and China for R & D and manufacturing of green machine tools, concrete feasible method that can reduce pollution from energy conservation and the use of space-saving machine three aspects.
- The purpose of executing green machine tool technology program of the key, is to assist the domestic machine tool industry product upgrades, and create more value added of the machine, on the basis of the technology of the existing early to keep up with the development trend of advanced countries of machine tools, tools to ensure machine can meet the future needs of the domestic market and the overseas.
- Green machine tool features extensive coverage of not only energy saving, low pollution of the environmental benefits, for machine tool manufacturers and machine users, but also can reduce the manufacturing or processing costs, so this program for the machine tool industry and the development of related industries have considerable beneficial and influences ◦

THE ERA OF HIGH OIL PRICES!

YOU ARE STILL THE CUTTING FLUID DRAINED IT?

- The company's cost cutting fluids year?
- Year deal with the company's human cost?
- Cost of processing waste oil to be drained?
- Dumping will get collect a few tickets from Environment office ?



EFFECT OF CUTTING FLUID DETERIORATION

- Cutting fluid is designed to be slightly alkaline, in order to inhibit bacterial growth rate, the growth of bacteria generating unpleasant byproduct is "Sour" the worst taste is caused by a bacteria known as sulfate reducing breeding.
- They grow in a low oxygen content of the emulsion, and produce sulfide gas that is sometimes referred to as "Odor of Monday morning".
- These bacteria eat fat ingredient reliable cutting oil inside, corrosion inhibitors and emulsion composition of its existence.



Rust



Foul Odor



Split Emulsions



Premature Tool Wear



Pollution

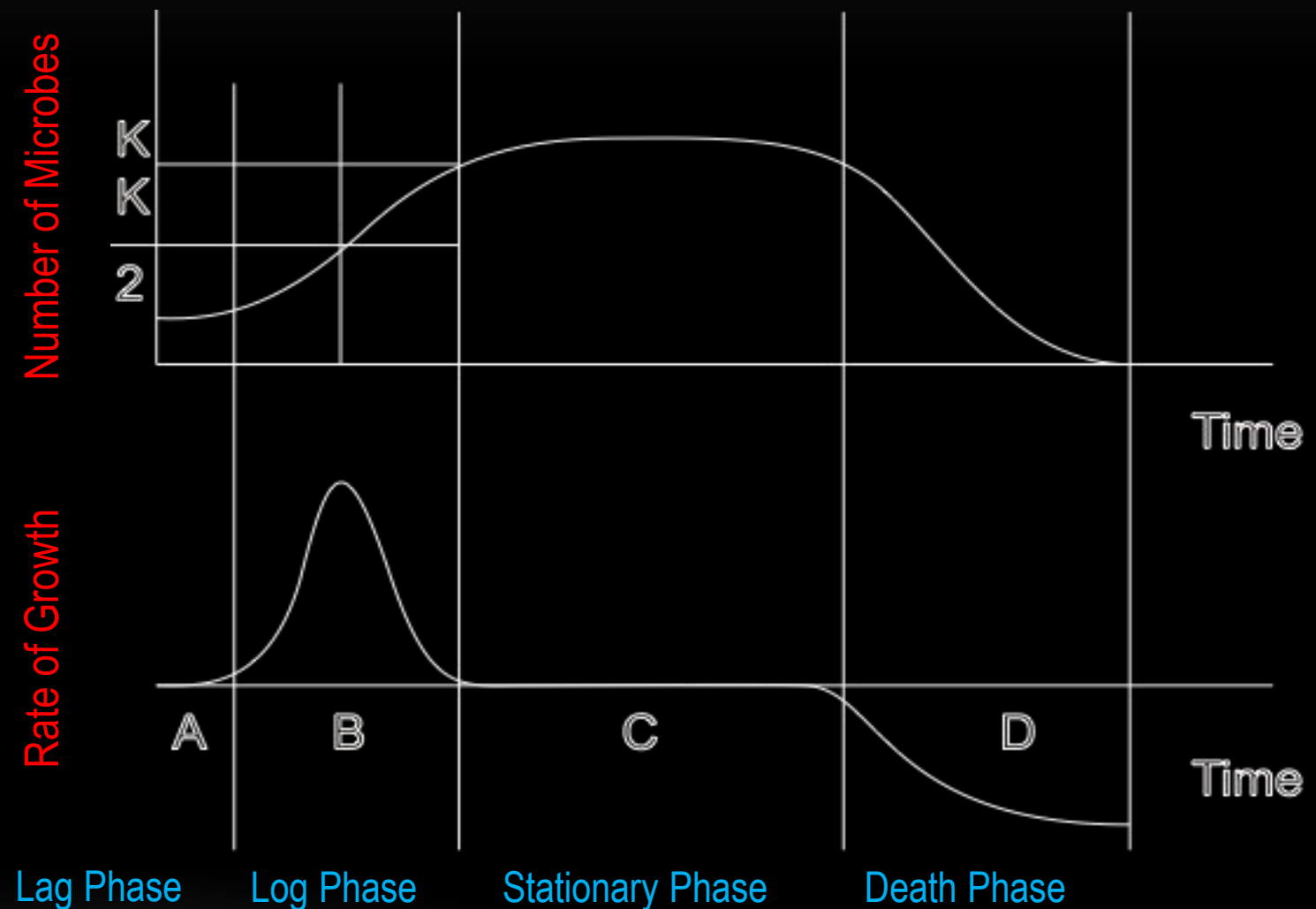


Skin Sensitivity



ANAEROBIC / BACTERIAL GROWTH CURVE

- Anaerobic / good bacteria if not controlled, it can quickly speed multiplication. Chemical changes produced, so that the emulsion becomes more acidic, destroying the emulsion stability and cause metal corrosion.
- The most important aspect of control of cutting fluid is clean, debris collects in the bottom of the cutting fluid, cutting fluid to reduce dissolved oxygen within such technology is more suitable for bacterial growth.

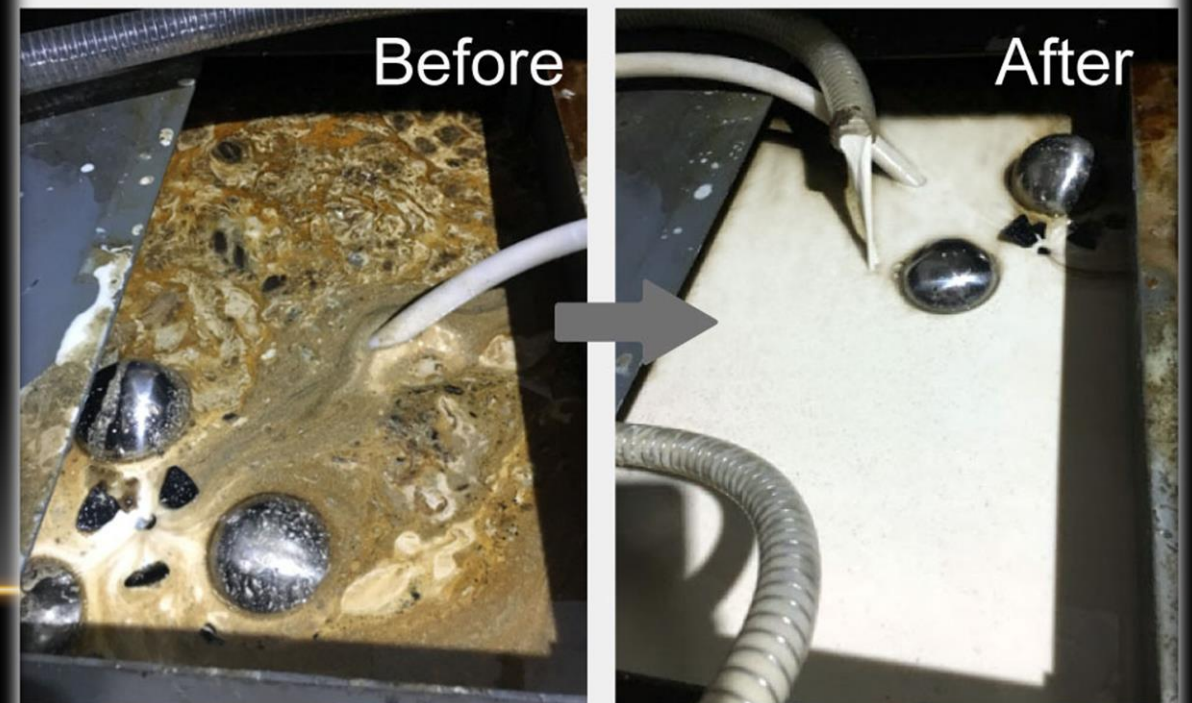
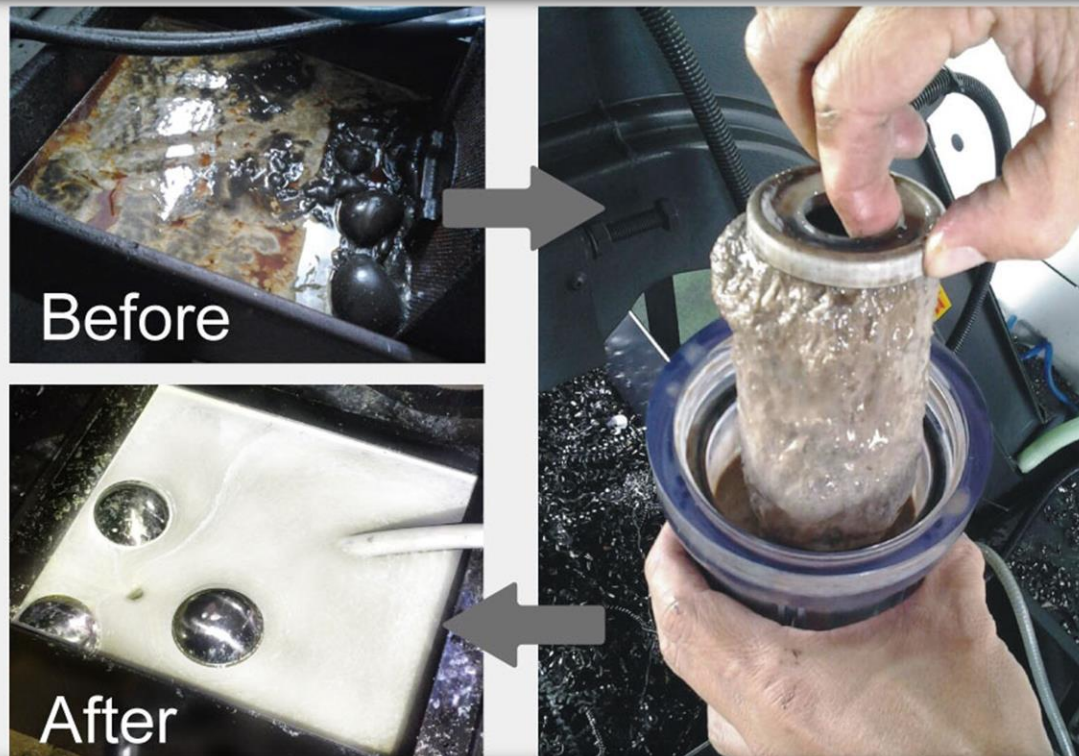


Note. Rate of growth=Reproductive rate-Mortality rate



WHY CUTTING FLUID TO BE CLEANED

- The era of high oil prices, to keep the purification of cutting fluid for cooling, lubrication, cleaning and rust, pseudo-concentration, grease cleaning, etching (bacteria, fungi), and impurities that features will enhance the performance, long-ting cutting fluid life, is widely used in machining.
- Cutting fluid in use often smelly deterioration, corrosion, foaming, skin allergies to the operator with other problem, below shows the purification process.





A GOOD HELPER AND SAVE THE LATEST ENVIRONMENTAL PIONEER

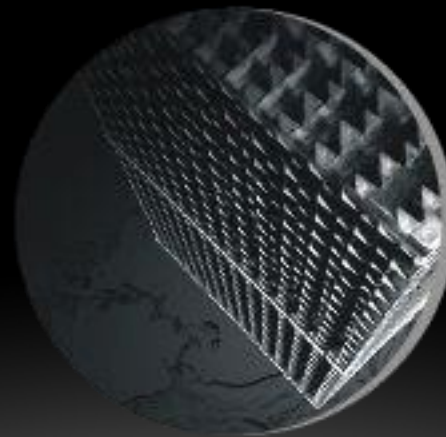
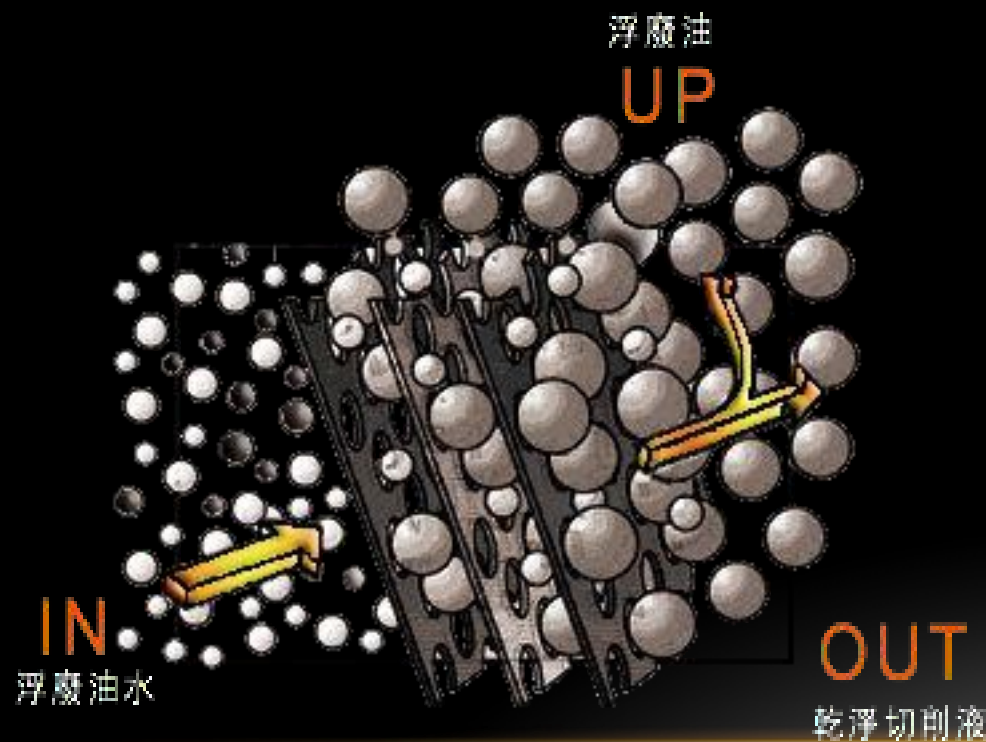
Q : Why install cutting fluid purification cycle, you will get what benefit?

1. To improve the cooling of the cutting fluid lubrication cleaning rust resistance
2. Effective against bacteria mold growth, significantly reduced odor, smoke, reduce the incidence of harm to human body
3. Increase the machine spindle, tool life
4. Extend the cutting fluid sump renewal time, reduce labor costs sump finishing the day, the production process
5. Will not cause the environment to be second pollution
6. Electricity free, low maintenance, easy to install



PATENT T.P.M DESCRIPTION

- Unique patented TPM media module, physically accelerate the separation of oil with water, when the oil molecules through the media module, the small molecules into large molecules condense into a floating oil, when suspended particles hit the media module, due to increased surface area and tilt angle, is conducive to the rapid settlement of suspended particles, oil and water separation procedures and time is short, with a high efficiency.



TPM專利



TPM II 專利

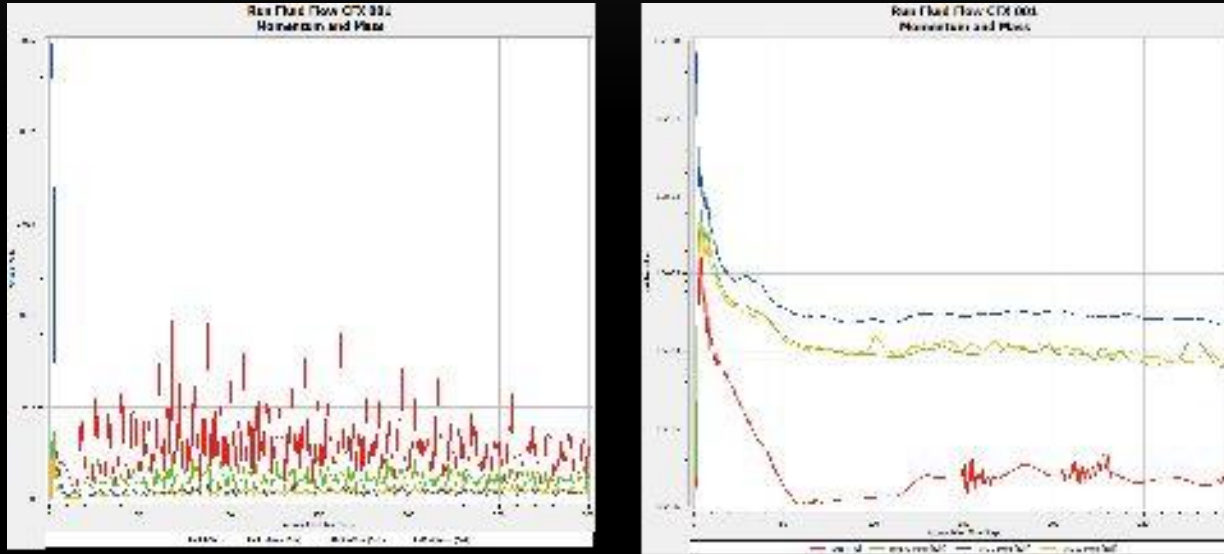


TPM 仿偽LOGO



US ANSYS DIVERSION REPORT

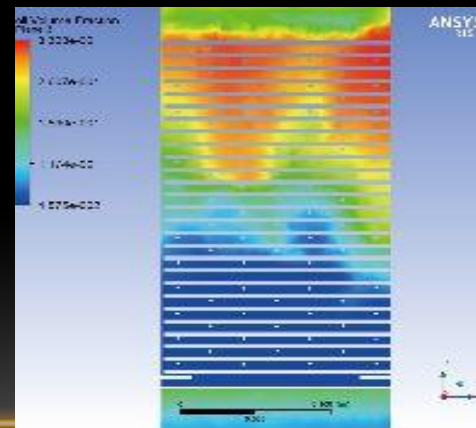
Convergence Comparison



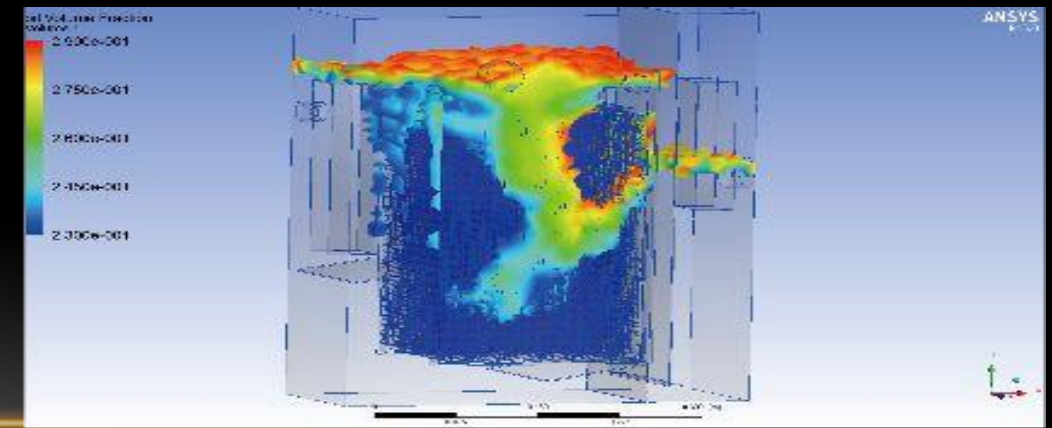
Fluid mass balance calculation determining the remainder must be less than $1e-4$, the answer was to converge.

Figure based on convergence curve, in line with the value confirmed on qualitative comparison.

Oil liquid fraction



A Longitudinal section

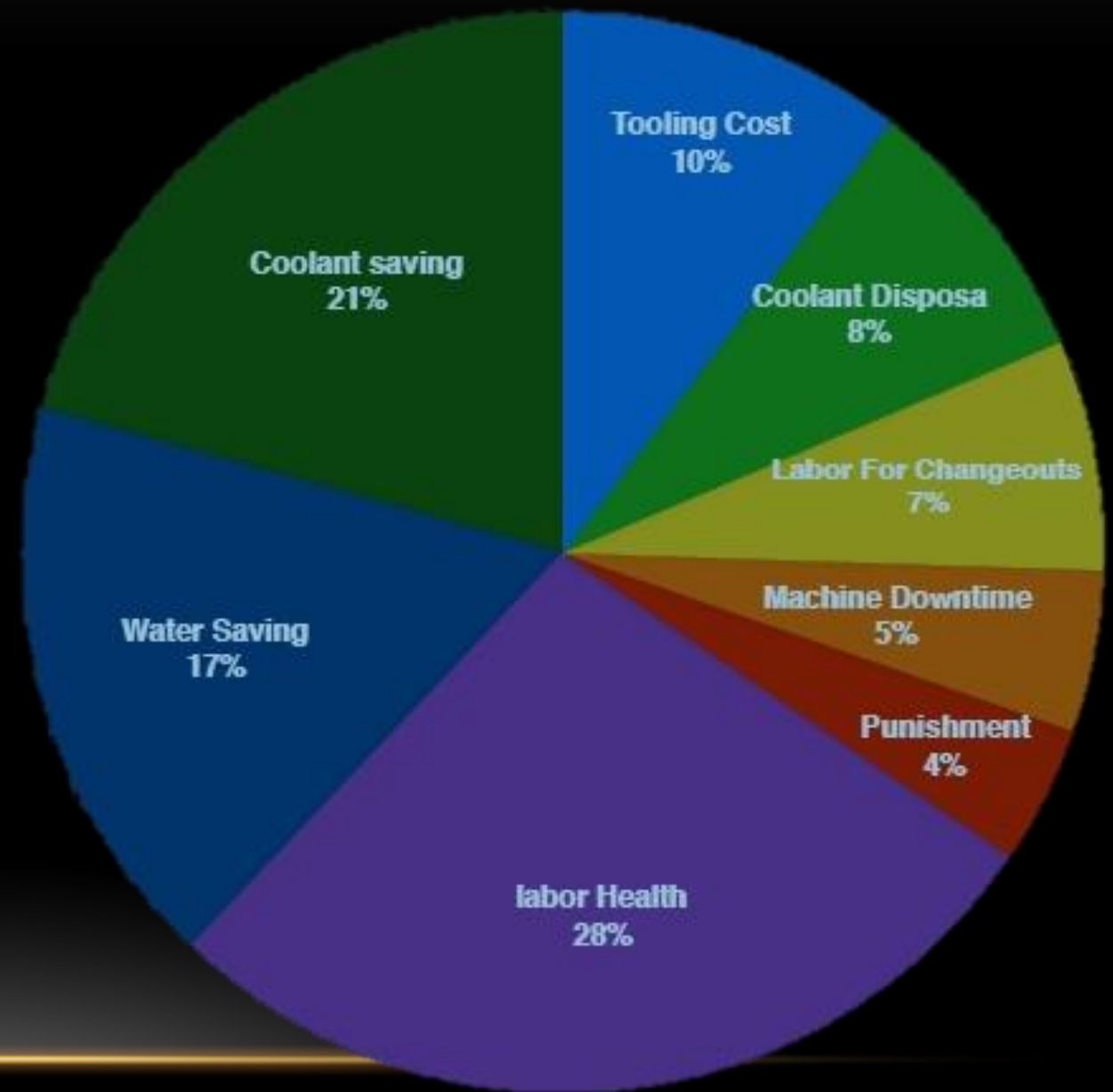


3D visualization liquid mixture



BENEFIT ANALYSIS COOLANT

- Cost savings are calculated
- for one machine with an 10
- gallon sump by 10
- machines.
- The reduction in coolant
- hangouts will save two
- hangouts per year,coolant
- makeup is assumed to
- 8%,new coolant US\$900/
- per 50 gallon,labor for
- Changeouts:US\$10/per
- hr,US\$1,000 tooling
- cost,coolant disposal US
- \$1.0 per gallon





INSTALLATIONS



DIE / MOLD



General Machining



Casting / Mold Cleaning



Fastener



Hardware



Automotive



Medical / Aerospace



CNC Tools



Electronic Panel / LCD



Energy / Gas / Steel



SUCCESS CASE





VIDEO







<https://www.kingnice.com.tw/en/video#media-video-6>



<https://www.kingnice.com.tw/en/video#media-video-10>

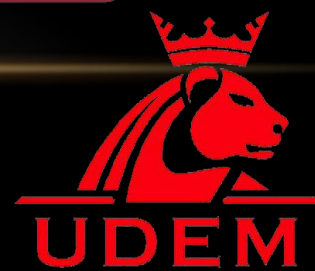
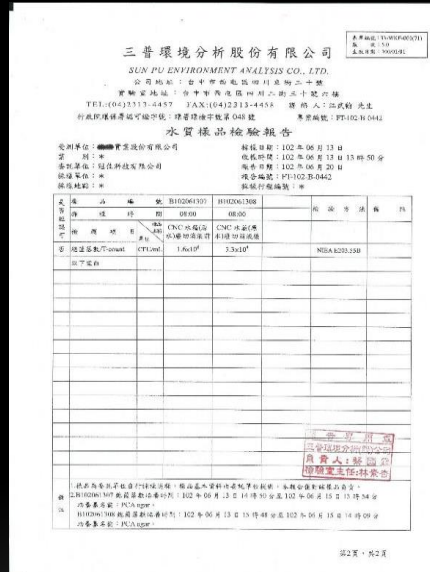
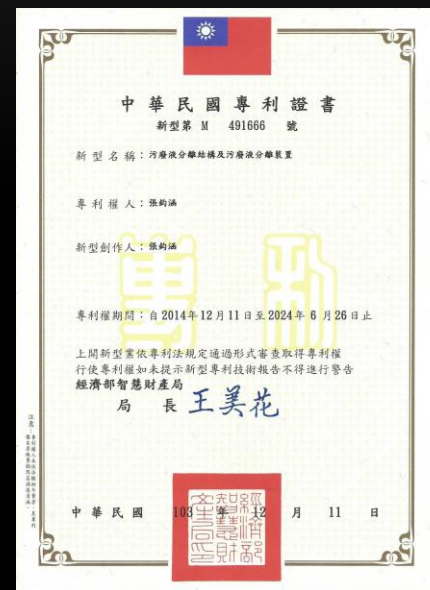
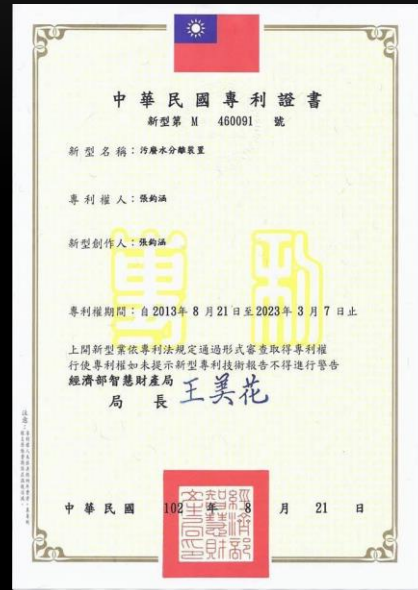
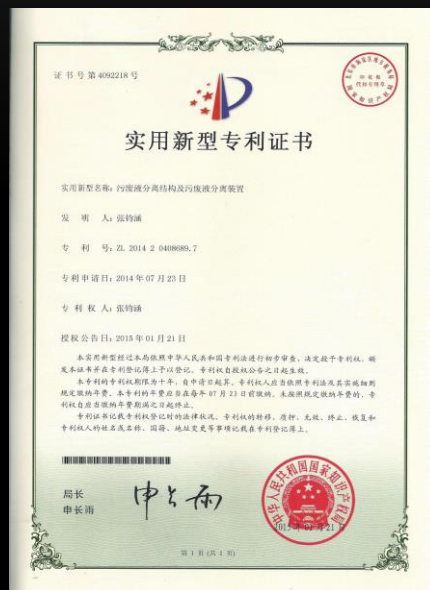
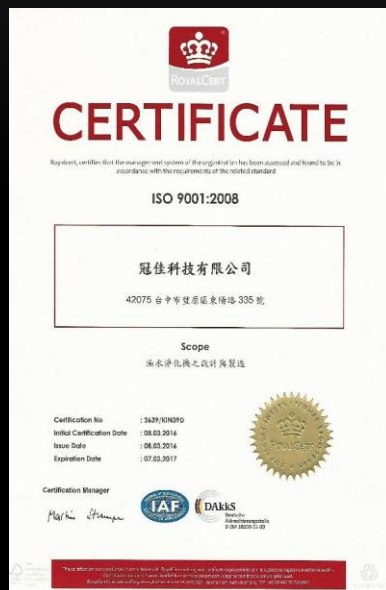


MODEL SPECIFICATIONS

Model	NO.	Machine Size mm	N.W kg	Capacity L	Efficiency Capacity L/h	Timer System	Air inflate System	Unit Waste Oil Tank L	Extra Waste Oil	Air Pump min
	KN-S1	390X310X310	18	12	300	NO	NO	1.5	NO	1.6BAR
	KN-S	350X220X560	20	14	480	NO	NO	1.5	NO	1.6BAR
	KN-I	440X250X870	28	32	720~1200	NO	NO	3.5	Optional	1.6BAR
	KN-PLUS	350X280X850	32	35	720~1500	Optional	Optional	4.5	Optional	1.6BAR
	KN-PLUS2	350X280X850	32	35	720~1500	YES	YES	4.5	Optional	1.6BAR



ISO 9001 CERTIFICATE / PATENT CERTIFICATE INSPECTION REPORT





*THANK FOR VIEWING
THE END OF THE SLIDE*

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