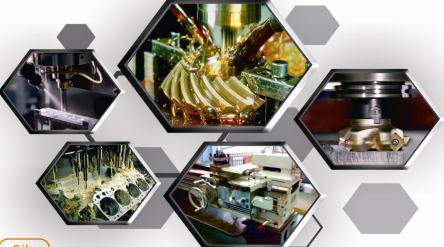


## ① Milling/Cutting



Oilily

T-CUT12 / CUT32 100112.12 100122.32  
Sulfur Free Cutting Oil  
Low viscosity, light yellow naphthenic mineral oil for the machining and grinding of copper, ferrous and steel metal.

ALUCUT Aluminum and Copper Cutting Oil  
Alucut is transparent, light colored, tri-purpose oils for use as cutting oils. Formulated with a special non-staining EP additive system, rust and oxidation inhibitors, and an anti-mist additive.

STABLE 323A High Viscosity Choline 100112  
Free Cutting Oil  
STABLE 323A is high viscosity, transparent, yellow color, anti-mist, chlorine-free, active sulfur cutting oils designed for moderate to severe machining operations. Available in different EP levels, fatty oil contents and viscosity grades to cover a wide variety of applications and metals, particularly those where contact with chlorine must be avoided, or where oils containing chlorine may present a waste or storage problem.

CNC 848 CNC Cutting Fluid  
Low viscosity light pale naphthenic mineral oil for the machining and grinding of copper, ferrous metal and steel moulds. Provides longer tool life and improved surface finish as it rapidly dissipates heat to minimize tool and work piece temperatures. Safe to use with as it contains no water to react to form heat and explosive hydrogens. Assists efficient machining by permitting a clean view of the tool and workpiece as it remains light colored and transparent in service. Minimizes oil loss as its low viscosity enables it to drain rapidly from machining swarf.

SHINHO 772 Stainless Steel Cutting Oil  
SHINHO 772 is dark colored, heavy-duty, chlorine-free, active sulfur cutting oils designed for tough machining operations. Formulated with highly effective EP and fatty oil additives.

STABLE 323 Chlorine Free Cutting Oil  
STABLE 323 is transparent, light colored, anti-mist, active sulfur cutting oils designed for moderate to severe machining operations. Available in different EP levels, fatty oil contents and viscosity grades to cover a wide variety of applications and metals, particularly those where contact with chlorine must be avoided, or where oils containing chlorine may present a waste or storage problem.

CNC 849 High Speed CNC Machine Cutting Fluid  
Series of transparent, light colored, chlorine-free, active sulfur cutting oils designed for moderate to severe machining operations. Available in different EP levels, fatty oil contents and viscosity grades to cover a wide variety of applications and metals, particularly those where contact with chlorine must be avoided, or where oils containing chlorine may present a waste or storage problem.

SUPERMAX 3 Synthetic Cutting Oil  
Synthetic oil base, light colored, anti-mist, active sulfur cutting oils designed for moderate to severe machining operations. Special fatty oil contents and viscosity grades to cover a wide variety of applications and metals, particularly those where contact with chlorine must be avoided, or where oils containing chlorine may present a waste or storage problem.

X-CUT 15 Chlorine Free Low Viscosity Cutting Oil  
Series of transparent, light colored, anti-mist, chlorine-free, sulfur-free, active cutting oil is designed for moderate to severe machining operations. Available in different EP levels, fatty oil contents and viscosity grades to cover a wide variety of applications and metals, particularly those where contact with chlorine must be avoided, or where oils containing chlorine may present a waste or storage problem.

JIBROAD Stainless Steel Cutting Oil  
JIBROAD series of products are designed for gun drilling and other deep hole drilling, as well as milling, and other cutting operations on difficult-to-machine materials. The optimized heat transfer properties permit higher feed and cutting speeds. The abbreviation JIB means low expansion and stands for excellent anti-mist properties and low evaporation during use. Such oils contribute towards reducing environmental and workshop pollution.

Water based

FL 888 Semi-Synthetic Fluid 100133  
Fukukol FL 888 is stable, semi-synthetic cutting concentrate specially formulated with high levels of lubricity for use with aluminum and its alloys in the most arduous modern machining operations, using a wide range of coolant systems.  
Combines the advantages of the new bi-stable technology, its inherent resistance to bacteria with the traditional values of an oil-based, high lubricity cutting fluid.

K3 Semi-Synthetic Cutting Fluid 100125  
Ideal as a rationalization coolant on multi-metal machining operations, suitable for turning, milling and grinding.  
"Superior cooling and wetting properties."  
"Good anti-corrosion resistance."  
"Extremely stable having a high degree of bacterial resistance, even in tropical climates."  
"Low odour" levels, promoting a high level of operator acceptability.  
"High degree of tolerance to tramp oil contamination."  
"Free from phenols, nitrites and phosphorus compounds."

MYCUT Q7 Semi-Synthetic Fluid 100133  
MYCUT Q7 is high performance extreme pressure water soluble cutting fluid. Extreme pressure coolant based on solvent synthetic oil. It forms a fluorescent green transparent emulsion in water.

MYCUT Q7 has a high neutral alkalinity which resists PH drops and ensures emulsion stability. The incorporation of an effective biocide / fungicidal package formulated into this product inhibits microbiological degradation in use and extends coolant life. Recommended for use in medium to heavy duty machining operations on ferrous and non-ferrous metals and is widely used on lathes, CNC machine and RM's.

FK-4700 Micromobility Bio Cutting Fluid 100437  
Semi-synthetic, water miscible metalworking fluid concentrate that provides an ultra stable micro emulsion for use in all waters with extremely high life. Chlorine free.  
FK-4700 is a clear, water misc cutting fluid used for sawing, turning, milling, drilling and finishing, general purpose surface, cylindrical and central grinding on ferrous alloys including cast iron. It's performance on cast iron is excellent.

FK-2700 Emulsion Cutting Fluid 100117  
FUKKOL FK-2700 contains bio-stability additive and no nitrite, and has high mineral oil content (above 60%) and a long service cycle. With the low requirement of dilution ratio of 1:10-20, it is suitable for various types of machine tools, especially for the large processing machine. As a general purpose Cutting oil, it could also save the investment.

K8K Semi-Synthetic Cutting Fluid 100126  
Fukukol Hydramate K8K is Biological stability, universal, semi-synthetic cutting fluid concentrate with relatively high mineral oil content. Formulated with state-of-the-art technology combining high levels of non-staining EP additives and multi-metal corrosion inhibitors for use in a wide range of the most arduous heavy-duty machining operations. With this new type of technology, it is now possible to combine the advantages of the new Biological stability product, and its inherent resistance to bacteria, with high levels of anti-corrosion and chemical EP additives.

FK-1700 Semi-Synthetic Fluid 100118  
FUKKOL FK-1700 is general purpose. Biological stability, and semi-synthetic cutting fluid concentrate with mineral oil content (above 40%).  
Specifically developed for multiple operations on various types of diameters water. It is the product of choice when grade rationalization is to be considered in larger machine shop environments.

K4-1 Synthetic Cutting Fluid 100153  
K4-1 is a high performance water soluble metalworking fluid for machining aluminum and aluminum alloys. It is chlorine-free, yet it overcomes the difficulties normally associated with machining aluminum such as chip welding, tool wear, poor surface finish and staining.  
K4-1 contains lubrication additives that work in synergy to enhance surface finish and extend fluid life beyond the capabilities of traditional aluminum machining fluids. K4-1 is suitable for large central systems and single pump machines.



Z4 Honing Oil 100156  
FUKKOL Z4 is a low viscosity greasiness cutting oil that includes the fat, the dilution additives as well as other special chemical additives, the wettability is extremely good.

FULLY-SYN Synthetic Drilling and Grinding Fluid 100114  
Synthetic coolants which had been developed for use as a general purpose grinding and light to medium duty machining fluid for ferrous metals. They form a clear stable solution in both hard and soft waters, exhibit good anti-corrosion properties coupled with a high resistance to bacterial attack.

GRINDMAX 7R Synthetic Grinding Oil 100127  
FUKKOL GRINDMAX 7R is a fully biological stability mineral oil free metalworking fluid. Specially formulated for high performance grinding and light duty machining. FUKKOL GRINDMAX 7R is a carefully balanced product designed to give excellent machining performance and long change life. Excellent performance in all grinding operations, except Deep Feed Grinding. Very low foam potential even when severely agitated in soft water.



CUT-D ROKA Copper and Aluminum Tapping Oil 100149  
FUKKOL CUT-D ROKA is a type of high viscosity fluid with ultra high pressure additives and is suitable for use in various cutting operations on metal parts, including reaming, cutting, tapping, drilling, etc.

FUKKOL CUT-D ROKA can be used on all non-ferrous materials, including copper, aluminum, zinc alloys, aluminum alloys, copper alloys, magnesium alloys, metal materials that need to be electroplated, and etc. It can substantially reduce friction and enable excellent cutting performance.  
FUKKOL CUT-D ROKA can also be added to ordinary mineral cutting oil for the most severe cutting operations, such as broaching and gear cutting on the toughest metals.

R.T.D ROKA Stainless Steel Tapping Oil 100148  
R.T.D ROKA is a special type of cutting fluid, essential in the form of a liquid containing ultra high pressure additives. It is suitable for use in various cutting operations on metal parts, including reaming, cutting, tapping, drilling and etc. R.T.D ROKA steel tapping oil can be used on all non-ferrous materials, including hardened steel, titanium, nickel niobium alloy, and etc. It can substantially reduce friction and enable excellent cutting performance. The product can be used to pass scrap iron, and no ferrous metal will be left in the hole after the use of the product.

Water/Oil Soluble Drilling Fluids 100169  
FUKKOL Water / Oil Soluble Drilling Fluids lubricating and coating properties for any process, where friction is a concern. FUKKOL Water / Oil Soluble Drilling Fluids Cutting, Tapping & Drilling Fluid provides superior cutting and cooling properties for broach cutting, drilling and mill-cutting. FUKKOL Water / Oil Soluble Drilling Fluids can be used for all aluminum metal substrates and all types of steel alloys, stainless steel, cast and high-grade steel.

Tapping/Drilling

SUPER ROKA Stainless Steel Tapping Additive 100147  
FUKKOL SUPER ROKA is a type of liquid with high viscosity and an ultra high pressure additive added. It is suitable for use in various cutting operations on metal parts, including reaming, cutting, tapping, drilling, etc.

FUKKOL SUPER ROKA can be used on all non-ferrous materials, including copper, aluminum, zinc alloys, aluminum alloys, copper alloys, magnesium alloys, metal materials that need to be electroplated, and etc. It can substantially reduce friction and enable excellent cutting performance.  
FUKKOL SUPER ROKA can also be added to ordinary mineral cutting oil for the most severe cutting operations, such as broaching and gear cutting on the toughest metals.

CUT ROKA Copper and Aluminum Tapping Oil 100146  
FUKKOL CUT ROKA is a type of high viscosity fluid with ultra high pressure additives and is suitable for use in various cutting operations on metal parts, including reaming, cutting, tapping, drilling, and etc.

XTRA Deep Drilling Oil 100150  
A high performance neat cutting oil with powerful extreme pressure qualities imparted by active sulphur, and chlorinated additives. A synthetic ester is incorporated to enhance lubricity. Unlike many competitive heavy duty cutting oils, FUKKOL Xtra Drilling Oil has little odour.

ISO 2 Metal Drawing Oil 100198  
FUKKOL ISO 2 is a high performance medium viscosity cold metal forming lubricant, specially suitable for use with stainless steel and a wide range of ferrous and non-ferrous metal.

ISO 1 Metal Drawing Oil 100197  
A chlorinated was specially designed for high temperature and high pressure metal forming operation. With its ultimate lubrication, forming oil reduces the heat in the operation. Thus, it can protect the metal parts from cracking by rolling / over-heating, or so to prevent metal pick-up, scoring and it has the function of anti-welding which minimizes friction, increases product quality and the tool use life.

ISO 3 Metal Drawing Oil 100199  
FUKKOL ISO 3 is a high performance extreme pressure cold metal forming lubricant formulated for a wide range of press working operations, from medium pressure drawing and forming to light gauge blanking and punching of ferrous metals.  
FUKKOL ISO 3 contains extreme pressure additives which prevent metal pick-up between the work piece and tool and provide a cost effective to increased production rates.

ISO FORM Special High Viscosity Forming Oil 100196  
It is a sulfur, oil of soap and fatty materials without pigment, and contains 10% fat. It is from 10000 a sulfur special grease for drawing steel with to obtain a bright finish usually, a part of EP Form 10000 mixed with 3 parts of Hydraulic oil and the same grease through a container of the product. EP Form 10000 is products for hot-process heavy-duty tube bending, extrusion and forging. It is high viscosity base of minimizes lubricant with the die throughout the drawing.



4FORMING

Die Casting

CJET Copper Alloy Die Casting Soluble Mould Release Agent 100135  
This product contains a blend of natural lubricants, unique polymers and wetting agents that withstands thermal degradation at core and other high temperature areas of the die while providing excellent finish without over spray buildup.

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Z300F Zinc Dressing Flux 100133  
FUKKOL Z300F Zinc Dressing Flux Powerful Zinc and Zinc Alloy Slagging powder. Its strong slagging ability can minimize the impurity. The product is suitable for numerous Metal Molding or low quality demands, such as potting free products and electroplating free products, and etc.  
Recommended Usage: 0.4-0.6% FUKKOL Z300F Zinc Dressing Flux/100kg Metal Solution.

A400F Aluminum Dressing Flux 100134  
Cleaning fluxes are necessary to remove oxides from the metal, while cover fluxes act as a barrier for the surface of the melt against oxide formation. The same flux can generally be used for both purposes.  
The temperature range for optimum dressing off reaction is between 720°C and 760°C. The application rate is between 0.5% and 1.0% base on the weight of the treated metal.

Soluble Plunger Lubricants B66 100144  
FUKKOL B66 is a heavy-duty, water-based plunger lubricant containing a blend of synthetic base and stabilizers and wetting additives in a water dispersion. Excellent lubrication of these devices and less, minimal smoke and substantially improved housings are typical performance characteristics.

Z-JET Zinc Die Casting Soluble Mould Release Agent 100134  
Z-JET zinc die casting mold release agent is consisting base oils of different boiling and flash points so that it can perform the best metal flowing and releasing result for all kinds products shape or mold temperature. Besides, Z-JET performs high precision and effectively on the chilled surface of electro-plated products.

A-JET Aluminum Alloy Die Casting Soluble Mould Release Agent 100139  
A-JET is a high quality organic compound water-soluble aluminum alloy die casting mold release agent.  
A-JET has a good adhesion on die molding, with strong heat resistant mold release film forming. Therefore, it performs effectively on mold release plunger and mold agent problem of jamming.

Dressing Flux

Case



CJET Copper Alloy Die Casting Soluble Mould Release Agent 100135  
This product contains a blend of natural lubricants, unique polymers and wetting agents that withstands thermal degradation at core and other high temperature areas of the die while providing excellent finish without over spray buildup.

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Auto Parts

Dressing Flux

Case

Case

Case

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## ⑥ Stamping

### VERA 9300 Copper & Aluminum Bending Oil 100075

**Description**  
Fukkol VERA 9300 is a mobile volatile solvent cutting and forming fluid, capable of rapid drying, lubricating, anti-rusting and cooling effectively. It increases the efficiency of high-speed cutting & forming operations, improves surface finish and greatly extends tool life.  
Fukkol VERA 9300 series contains good quality lubricity, coolant additives, and anti-rust inhibitors. The VERA series will only remain a thin film to protect metal surface after rapid volatile process. It does not contaminate the surface and extends the tool life.

**Application**  
Typical use for laminator, micro electric motor case, connector, air conditioner, heat dispersal devices, electronic and computer components, button battery case and other small metal parts.

**Benefits**  
\*Rapid drying, metal parts will not stick together.  
\*Strong lubricity improves surface finish.  
\*Low viscosity, coats effectively.  
\*Extends tool life.  
\*Inhibits corrosion.  
\*Clear view working area.

#### 典型數據 Typical data

|                         |           |
|-------------------------|-----------|
| Color 顏色                | Clear     |
| Odor 氣味                 | Low       |
| Specific gravity 比重     | 0.78      |
| Viscosity (25°C) 粘度     | 2         |
| Flash point 閃點          | 89°C      |
| Pour point 凝點           | -25.4°C   |
| Solubility in water 水溶性 | <0.01%    |
| Boiling point 沸點        | 125.6-142 |
| Stamping surface 鍍層     | 0.0%      |
| Chloride 氯化物            | 0.0%      |
| Phosphorus 磷化物          | 0.0%      |
| Solvent volume 溶劑含量     | 0.0%      |
| Sulfur in volume 硫磺含量   | 0.0%      |
| Sulfone 亞砜              | 0.0%      |

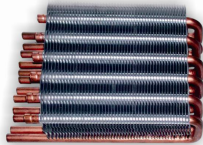
### VERA9011 Aluminum Stamping Oil 100075

**Description**  
Fukkol VERA 9011 is a mobile volatile solvent cutting and forming fluid, capable of rapid drying, lubricating, anti-rusting and cooling effectively. It increases the efficiency of high-speed cutting & forming operations, improves surface finish and greatly extends tool life.  
Fukkol VERA 9011 series contains good quality lubricity, coolant additives, and anti-rust inhibitors. The VERA series will only remain a thin film to protect metal surface after rapid volatile process. It does not contaminate the surface and extends the tool life.

**Application**  
Typical use for laminator, micro electric-motor case, connector, air conditioner, heat dispersal devices, electronic and computer components, button battery case and other small metal parts.

**Benefits**  
\*Rapid drying, metal parts will not stick together.  
\*Strong lubricity, improves surface finish.  
\*Low viscosity, coats effectively.  
\*Extends tool life.  
\*Inhibits corrosion.  
\*Clear view working area.

Air conditioning heat dissipation



## Use industry



### VENUS Volatility Stamping Oil

Fukkol VENUS series is a mobile volatile solvent cutting and forming fluid, capable of rapid drying, lubricating, anti-rusting and cooling effectively. It increases the efficiency of high-speed cutting & forming operations, improves surface finish and greatly extends tool life.  
Fukkol VENUS series contains good quality lubricity, coolant additives, and anti-rust inhibitors. The VERA series will only remain a thin film to protect metal surface after rapid volatile process. It does not contaminate the surface and extends the tool life.

**100187**  
Vitalizez fast, designed to cutting (thickness around 0.1-0.5mm) stainless steel, brass, phosphorus bronze and other medium/high generation. It is suitable for high speed cutting and forming small materials such as air-conditioners, heat dispersal devices, electronic parts, electrical appliances, computer components, etc.

**100188**  
Vitalizez middle, moderate duty cutting and stamping (opened from 600 to 1000 gpm) steel (thickness from 1.5-3mm) and other general applications, also suitable for machining precision electrical accessory. It is suitable for high speed cutting and forming small materials such as air-conditioners, heat dispersal devices, electronic parts, electrical appliances, computer components, etc.

**100189**  
Vitalizez fast, designed to cutting thickness around 0.8-1.5mm, designed for light duty stamping, blanking and piercing operations of copper and non-ferrous metal. It is ideal for use in the forming and production of electrical and auto-visual mechanisms.

**100190**  
Vitalizez middle slowly, is a mobile volatile solvent cutting and forming fluid, capable of rapid drying, lubricating, anti-rusting and cooling effectively. It is specially designed for cutting (thickness 1.2-2.0mm) stainless steel, brass, phosphorus bronze and other severe operation.

**100191**  
Vitalizez slowly, designed to cutting thickness around 2.0-3.0mm. It is a package of special, highly refined desaturize volatile solvent with special EP additive cutting and stamping fluid, capable of rapid drying, lubricating, anti-rusting and cooling effectively. It increases the efficiency of high-speed cutting and forming operation, improves surface finish and greatly extends tool life.

### VERA 8011 (L) Aluminum Stamping Oil 100075

VERA 8011 (L) high volatile cutting and stamping fluid, contains a package of special highly refined desaturize volatile solvent with special EP additive, capable of rapid drying, lubricating, anti-rusting and cooling effectively. It increases the efficiency of high-speed cutting and forming operation, improves surface finish and greatly extends tool life.  
VERA 8011 (L) stamping oil will only remain a thin film to protect metal surface after rapid volatile process. It does not contaminate the surface and extends the tool life.  
VERA 8011 (L) is suitable for high speed cutting and forming small materials such as air-conditioners, heat dispersal devices, electronic parts, electrical appliances, computer components, etc.

**EP ADD Stamping Oil additive 100170**  
An extra forming additive specially designed for high temperature, high pressure metal forming and stamping operation. With its ultimate lubrication, forming and stamping oil reduce the heat in the operation. EP ADD is also not containing chlorine, sulfur and phosphorus. So that, it can be particularly suitable for copper and alloys, aluminum along with most steels, stamping and forming.

**PRO-STAMP 133 Super Metal Forming Oil 100090**  
An extra forming additive specially designed for high temperature, high pressure metal forming and stamping operation. With its ultimate lubrication, forming and stamping oil reduce the heat in the operation. PRO-STAMP 133 is also not containing chlorine, sulfur and phosphorus. So that, it can be particularly suitable for copper and alloys, aluminum along with most steels, stamping and forming. In simple application it can dilute with trichloroethylene and kerosene. Usable temperature range: in continuous service is below 500°C.



certificate

## ⑦ Drawing

32, 150, 1000, 1500, 3000, 4500

**ISO FORM SERIES Sulfur Chlorine Free Forming Oil**  
The high yield tube tensile molding oil is a kind of high-viscosity solution. It contains neutral fat and solution concentrate and low aromatic, mineral oil, which can provide good follow performance and extreme pressure efficiency.

**F3 Synthetic Hot Forging Fluid 100021**  
FUKKOL F3 Synthetic Hot Forging Fluid is a water base, non-graphite forging lubricant. It is specially formulated to provide effective lubrication and release for hot and warm forging. The main design features are incorporation of high temperature wetting agent and polymeric film for ming ingredients. This makes FUKKOL F3 Synthetic Hot Forging Fluid suitable for dies with shallow cavities or rib sections where build-up of lubricant residue is undesirable.  
FUKKOL F3 Synthetic Hot Forging Fluid is diluted with water. Add water to the product under constant agitation. Typical dilution ratio of 1 part product to 5 parts, water is recommended for initial test. The dilution ratio may vary depending on the complexity of the part. Spray application is recommended. Low dilution ratio may be required for swab application.

### HG Graphite Hot Forging Fluid 100022

HG Graphite Hot Forging Fluid is a water soluble lubricant used for hot forging steel parts. The product is a very dark water based dispersion of graphite designed to provide excellent slide adhesion, which assists in metal flow and prevents parts from sticking to the die or the punch.

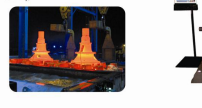


Spinning

## ⑧ Quenching

### VITEK Quenching Oil 100088

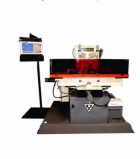
Fukkol VITEK is a high flash point refined oil which provides an efficient hardening process as well as a decrease hardness of the steel. It is a good quenching oil which is highly heat resistance, low oxidation and acidity inhibitors (inhibiting the oil life), with little or no effect on viscosity and acidity increase. In addition, it prolongs the tool life after the quenching procedure.  
Application suitable for heat treating treatment of mold making and mechanical parts in operation due to high flash point. Good hardening characteristics. Superior thermal stability.



## ⑨ Wire Cutting

### YC-2700 Wire Cutting Fluid 100118

Fukkol YC-2700 is general purpose cutting fluid concentrate with mineral oil content. Specifically developed for multiple operations on various types of diluent waters, it is the product of choice where grade rationalization is to be considered within larger machine shop environments.



## ⑩ Rolling

### DUCAL 413 Rolling Oil 100119

Fukkol Ducal 413 is a neat cutting oil based on highly refined mineral oils and contains fat, sulphur and chlorine. extreme pressure additives.  
Fukkol Ducal 413 is for precision high speed operations including gear shaping, gear hobbling, gear grinding, thread rolling, drilling, boring, turning and reaming.



Fluids and Oils  
Metal Working

- ① Milling/Cutting
- ② Grinding/Honing
- ③ Tapping/Drilling
- ④ Forming
- ⑤ Die Casting
- ⑥ Stamping
- ⑦ Drawing
- ⑧ Quenching
- ⑨ Wire Cutting
- ⑩ Rolling

