



**ALPHA K**  
**THAILAND**

**Advance  
Technology**  
For optimum Machinery



# **PRODUCT CATALOGUE**

Machinery | Parts | Services

# WELCOME TO OUR BUSINESS PROFILE



Company name	Alpha K (Thailand) Co.,Ltd
Business Address Head Office & Factory	<u>Head Office</u> 100/43 Moo 1, Nong Kham Subdistrict, Sriracha District, Chonburi 20230  <u>Warehouse</u> 277/80 Moo 12, Thung Sukha Subdistrict, Sriracha District, Chonburi 20230
Telephone	(+66)61-936-5185, (+66)96-582-2169
Establishment	21 August 2018
Registered Capital	2,000,000 Baht
Number of employee	14 People
Description of business	<ul style="list-style-type: none"><li>• Sales of machinery, equipment and spare parts for plastic processing</li><li>• Sales of machinery and consumer for mold and precision processing</li><li>• Sales of machine tooling's and auxiliary equipment</li><li>• Sales of machinery hydraulic contamination control solutions</li><li>• Sales of copper and brass fitting for HVAC applications</li></ul>
Our customer	Sri Thai Superware Public Co.,Ltd Western Application Co.,Ltd Thai Yamaha Motor Co.,Ltd Thai Honda Manufacturing Co.,Ltd Chubu Ratchaburi Electric Gulf JP Co.,Ltd Electricity Generating Authority of Thailand (EGAT) AA Fine Blanking Co.,Ltd Daikin Compressor Industries Ltd Siam Sera FB Co.,Ltd Sumitomo Electric Hard metal Manufacturing (Thailand) Ltd Hymix Co.,Ltd Siam Yachiyo Co.,Ltd

# OUR MISSION



### Mission

Fulfilling all customer's need with quality products and reliability even beyond customers expectation



### Vision

To be reliable engineering solution provider and to make industry work better and to exceed expectations of our customers.



### Core Value

Its's our pleasure to services our customers with responsibility and sincerity. Customer's satisfaction is our duty.



### Quality

Policy to qualify customer's satisfaction and continue improving sales and services quality



### Our Professional Services

- To provide both consultancy and advisory services.
- Our dedicated staffs committed to deliver high quality products beyond customs expectation.
- Out of warranty coverage/extend warranty coverage that is backed by OEM parts and components from the original equipment manufacturer. Customers can be assured of our delivered products quality as we do provide warranty and continuing support from our oversea suppliers

# COMPANY HISTORY TIMELINES

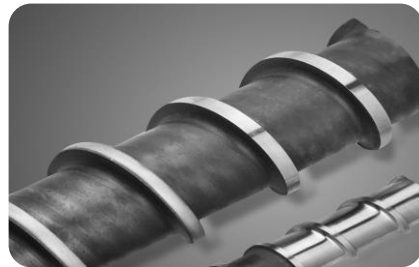
2018	Alpha K (Thailand) Co.,Ltd, founded in August 2018, is a supplier of screw and barrel components for plastic machinery
2019	Distributor of Electrostatic oil cleaner under brand "KLEENTEK" and also distributes tooling's for machine tools under the brand "System 3R"
2020	Alpha K (Thailand) Co.,Ltd started new business to supply copper and brass fittings specifically designed for various industries
2021	We are a distributor of plastic machinery and auxiliary equipment providing a wide range of products to meet the need of the plastic industry
2022	We offer services for renting machines and oil cleaning services
2023	The capital has been raised to 2,000,000 baht
2024	Warehouse with an area of 500 square meters was established in Chonburi province's Sriracha city



# SCREW & BARREL FOR PLASTIC MACHINERY

德玛吉 screw®  
**DEMAJI**

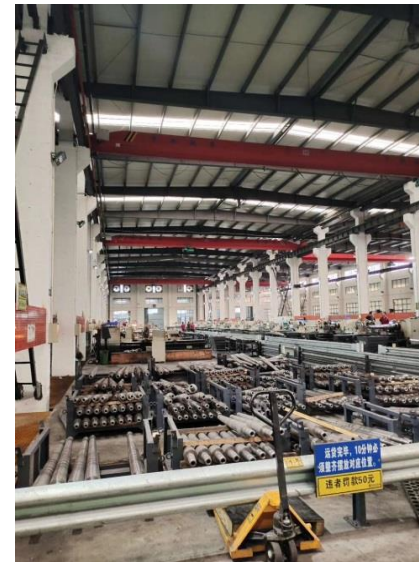
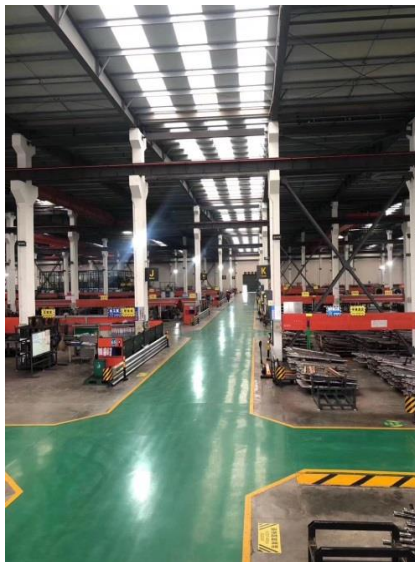
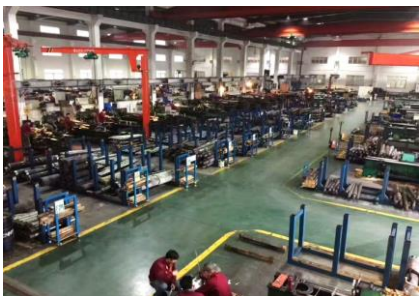
## SINGLE SCREW AND BARREL



## TWIN SCREW AND BARREL



# SCREW & BARREL PRODUCTION FACILITIES





Manufacture Methods : PTA/HVOF/ARS SPRAY



Manufacture Methods : Centrifugal Casting

For  
Barrels

**DEMAJI** invested in metallurgical research and this allowed us to offer an exclusive range of bimetallic alloys that solve wear problems. The bimetallic alloys are produced in modern sophisticated centrifugal casting facilities. The advantage of our bimetallic alloys is the high and homogeneous hardness throughout the whole layer thickness which ranges from 1.5 to 3 mm thickness. The lifetime increase of the bimetallic cylinder against a nitride cylinder may exceed 12 times or more. The price-quality-lifetime ratio is therefore very beneficial for the bimetallic cylinder. We have three different alloy solutions listed in the table below. We qualified the quality of the different alloys according abrasion and or corrosion resistance to enable a quick selection.

DMJ series Bimetallic barrels

Type	Alloy Components	Hardness (HRC)	Abrasive Resistance	Corrosion Resistance	Applications
DMJ-1, C	Fe, Cr, Ni	58 – 62	★	★	Recycling & engineering plastics, reinforced additives less than 20%
DMJ-2, B	Ni, W, Cr	60 – 64	★★	★★	Moderate corrosive, reinforced additives less than 35%
DMJ-3, A	Co, W, Cr, V	62 – 65	★★★	★★	High abrasive and moderate corrosive plastics

For  
Screws

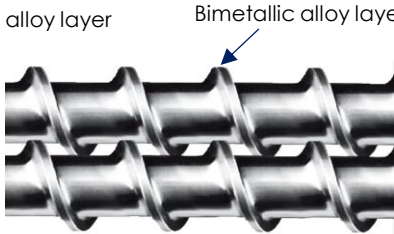
**DEMAJI** offers a full range of single and twin screws. Based on our extensive experience we offer different materials types and treatments to fight wear. The materials range from nitriding steels, stainless steels, tool steels up to steels produced by powder technology (PM)..

Comparison of three different coating technologies

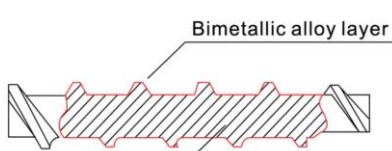
Coating Type	Coating Method	Coating Thickness (MM)	Hardness (HRC)	Application
Nitrided	PVD	0.8mm	55 – 58	Optical products & abrasive plastic processing
Chrome Plate	Electroplating	0.05 – 0.08mm	60 – 62	Transparent products & corrosive plastic processing
Tungsten Coating	HVOF	1.5 – 3mm	58 – 64	High abrasive plastic processing



Bimetallic alloy layer



Bimetallic alloy layer

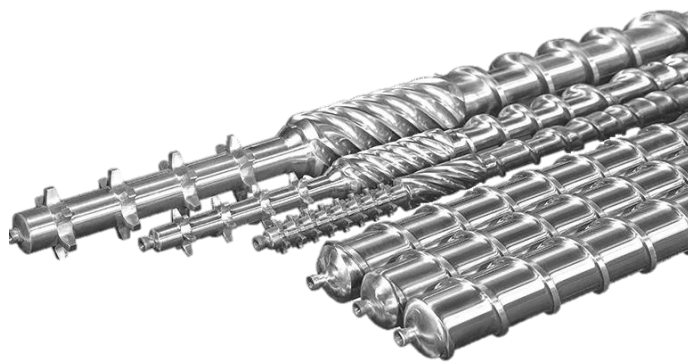


Bimetallic alloy layer

Screw stem

PTA spray welding screw sectional drawing

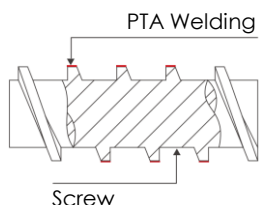




## Bimetallic Screw

### Application

General plastics & engineering plastics with below 15% glass fiber filling.



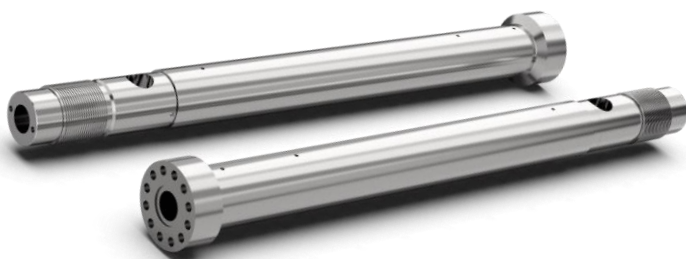
PTA (Plasma Transferred Arc) automatic alloy spraying is a newly applied technology, especially for precise requirement of screws. Comparing to traditional manual alloy spraying, PTA has better Reinforced Additives And Corrosive Plastics Less Than 15%. Bimetallic performance with the stability and outlook of screws.

### Advantages

By spraying high quality alloy powder on screw flight with layer thickness 1.5 - 3.0mm, screws can get higher performance in both wearing & corrosion resistant performance

### Technical Parameters

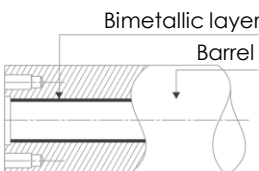
Product Name	Bimetallic Screw
Available Size	Φ15 - 500 mm, Length <8,000mm
Process Method	HP/HVOF + Metallurgical Bonding
Surface Hardness	58 - 64 Hrc
Surface Roughness	< Ra 0.4
Screw Straightness	< 0.015mm/m



## Bimetallic Barrel

### Application

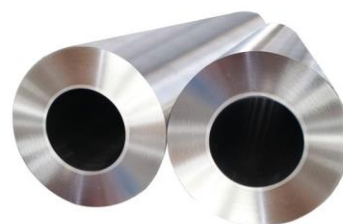
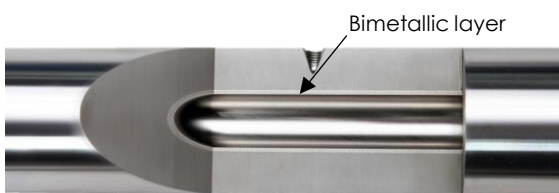
General plastics & engineering plastics with below 70% glass fiber filling.



Centrifugal casting or roto casting is a casting technique that is typically used to cast thin-walled cylinders. It is chiefly used to manufacture rotationally symmetric stock materials in standard sizes for further machining, rather than shaped parts tailored to a particular end-use.

### Advantages

By casting and sintering high quality alloy powder on barrel inside surface with thickness 1.5 - 3.0 mm, screws can get higher performance in both wearing & corrosion resistant performance.





## Twin Screw Barrel

### Parallel Twin Screw Barrel

Twin screw barrel is gradually adopted by many manufacturers because of its high efficiency. Compared with single screw barrel, twin screw barrel has higher requirements for machining clearance. Our company has a professional team to help users solve design problems, and can also process according to the samples or drawings provided by customers.

### Conical Twin Screw Barrel

Suitable for PVC pipes, profiles, sheets and extrusion foaming products. Suitable for PE, PP corrugated pipe extrusion.

### Advantages

Unique technical design with larger output; Advanced equipment with finest machining; Perfect match of tolerance.

### Application

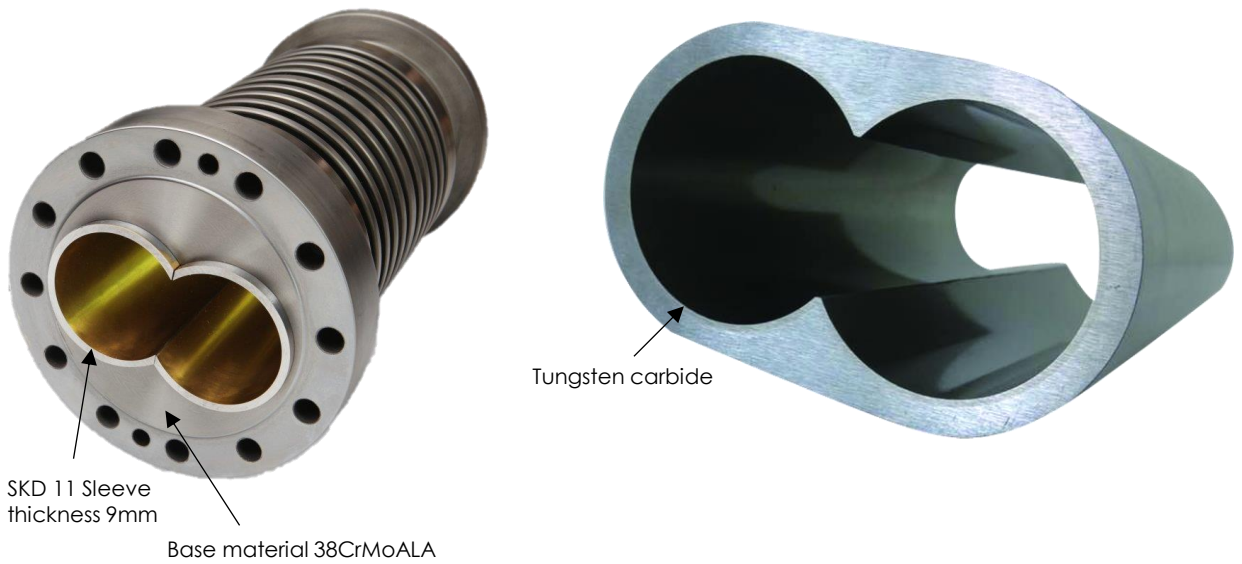
Suitable for PVC profile, WPC, PVC foam board, PVC pipe, PVC compound, SPC, LVT etc.



### Technical Index

1. Raw material: 38CrMoAlA
2. Hardness after hardening and tempering: HB280-320
3. Nitrided Hardness: HV920-1000
4. Nitriding depth: 0.5 - 0.8 mm
5. Nitrided brittleness: less than grade 2
6. Surface roughness: Ra 0.4
7. Screw straightness: 0.015mm
8. Chromium-plating depth: 0.025~0.10 mm
9. Alloy Hardness: HRC50-65
10. Alloy depth: 0.8~2.0 mm





## Conical Twin Screw Barrel

### Advantages

Powder metallurgy bimetallic material special bimetallic steel wear resistance and corrosion resistance improve 2 times longer than standard type under normal running condition.

For good plasticizing effect, we have different design of screw barrel to meet customer's demand. Gradual, mutant, wave, barrier, double screen, shunt, separation, exhaust, pin, mixed, double-head, three-head and multi head type etc.

### Screw

Raw Material 38CRMOALA Alloy steel with Hardening, nitrided.,etc. heating treatment. The surface of screw has bimetallic coating by Plasma Spray with Ni60 bimetallic powder from USA. Meanwhile the compression zone of screw will be with Carborundum ceramic coating from Germany. The mixing and wear resistance is much better. The working life is 2 times longer than standard type under normal running condition.

### Barrel

Raw Material 38CRMOALA Alloy Steel with International standard machinery process hardening and tempering . And the Inner surface of barrel will be high quality steel SKD11 as sleeve with 9mm thickness.

**Scope of application:** WPC, PVC, WPC, SPC Flooring, LVT Flooring, High Calcium buckle, Soft PVC Sheet, high calcium pipe 20 – 400% and profile etc.





# INFRARED HEATER FOR PLASTIC MACHINERY

**Energy Saving Infrared Heaters** are one of the best heating solutions for plastic machines which has better structure and high heating efficiency than the traditional band heater such as ceramic or mica band heaters.

Energy Saving infrared heaters change the traditional heating mode, which heat the barrel directly by infrared radiation, rather than heating conduction from the resistance wire to the heater than to the barrel like traditional heaters, and the heat losing badly during process. The heating efficiency of our infrared energy-saving band heater is as high as 99.8%, which is much higher than traditional heaters, the heating efficiency of which is only around 60%.

## APPLICATIONS

Injection molding machine, granulator, extruder, blown film machine, blow molding machine, laminating machine and Other

- Energy saving rate 30 - 60%
- Reduce energy loss externally
- Fast heating time
- Easy to install, strong and durable
- Longer lifespan
- Surface temperature is around 50°C
- Significantly improves workshop
- Simple installation
- Normal resistance heaters
- Product warranty 2 Years



# PLASTIC AUXILIARY



Crusher



Industrial Chiller



Mold Temperature Controller



Feeding & Conveying



Hopper



Mixing

### Tooling

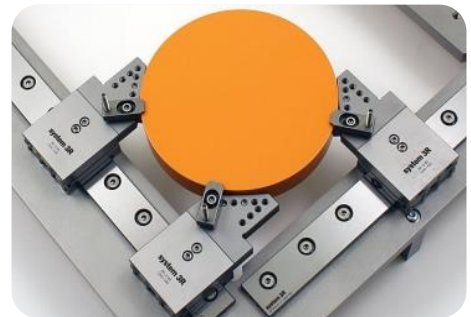
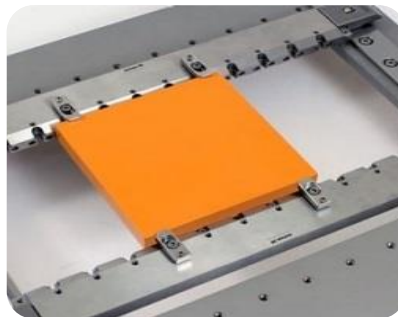
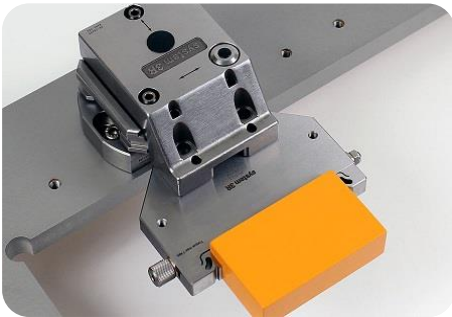
A reference system minimizes setup times. Every minute that can be converted from internal to external setting time increases the spindle time of the machine and with it the productivity of the business. Big earnings are within your reach. The machine generates revenue when its spindle is turning – and only then. Work smarter, not harder.

### Tooling for electrode manufacturing and EDM



Fitting the machines with the same reference system means that electrodes and workpieces can be moved between the machines without subsequent alignment and checking – One Minute Set-up.

### Tooling for Wire EDM



Three steps to success – The route to rational production in Wire EDM machines can be summarized in three steps – Mounting, Reference system and Automation

### Tooling for parts production



Experience always shows that measures to reduce the idle times of your machines are significantly more worthwhile than chasing seconds in the actual machining process. The solution is a stable and exact reference system. This lets you preset away from the machine and then set up the machine with minimum idle time. - Quickly and precisely!



**KLEENTEK: Electrostatic Oil Cleaner ("EOC")**

**KLEENTEK: Electrostatic Oil Cleaner ("EOC")** employ an unique Electrostatic Cleaning Principle to collect all type and sizes of contaminants using a kidney-loop system. The contaminants are all trapped on the surface of the cartridge collector medium allowing your lubricant to acts as a system cleaner, stripping oil oxidation product and varnish from the internal surface of the moving parts one molecular layer at a time.



**KLEENTEK: Electrostatic Oil Cleaner with Dehydration Unit ("EDH")**

**KLEENTEK: Electrostatic Oil Cleaner with Dehydration Unit ("EDH")** is a combination of Kleentek: Electrostatic Oil Cleaner with Dehydration Unit ("EDH"). EDH work best in environment where there is continuous stream of water contamination in the hydraulic lubrication system. It remove both water and insoluble solid contaminant (varnish, insoluble solid contaminant, oil oxidation product) in a single pass motion. This is designed for application where water contamination in lubrication system is inevitable and unavoidable due to continuous presence of water contamination found in external environmental condition.



**KLEENTEK: Dehydrator Unit ("DH")**

**KLEENTEK: Dehydrator Unit ("DH")** employs it own in-house filter and element technology to remove different type of water contamination (free water, emulsified and dissolved water) through the various of methods, such as separation, absorption and agglomeration of the water contamination into lump.



**KLEENTEK: Kleentek Filter ("KF")**

**KLEENTEK: Filter Series ("KF")** make use of a patented designed filtration technology by KLEENTEK Corporation, Japan and system for application where Electrostatic Oil Cleaner technology cannot be applied or where cleaning by electrostatic charged principle is not suitable and appropriate for the fluid of concern.



## Contamination/Varnish control | Electrostatic Oil Cleaner ("EOC") Is your hydraulic system alright?



Illustration 1: Oxidative alterations adhering to the wall surface and inside the piping in large quantities

### What kind of contaminant that is present is harmful to your system

While using oil, it reacts with oxygen in the air to form sludge that is insoluble in oil. It will. Sludge easily adheres to the metal surface and is sticky like glue, so the control valve It may adhere to the inside and cause malfunction, or it may adhere to the cooler to worsen heat exchange. Raises oil temperature and clogs strainers and filters.

EOC removes sludge that cannot be removed by the filter! The inside of the machine accumulated much sludge slowly to form thick layers as shown on the above photographs

In this way, sludge, which is also called the pathogen of oil, It causes various troubles. Now, it's late when you notice that there are problems with the machinery. It's creeping up on your machine little by little. The electrostatic oil purifier is the kidney of the machine. If you manage the oil properly, you can use it in a clean state for a long time.

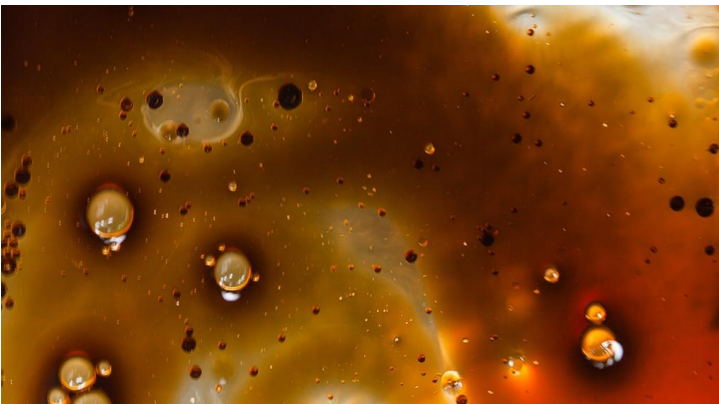
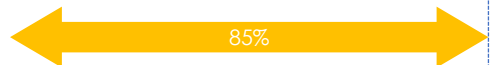


Illustration 2: Oxidized alteration sludge of oil is very difficult to remove



Illustration 3: With the spool of the valve that malfunctioned Oxidative alterations worn

### Hydraulic system failures



85% of the hydraulic system failures are caused by contaminants in oil.

### Contaminants in oil



70% of contaminants in oil are oil oxidation products.

### Oil oxidation products

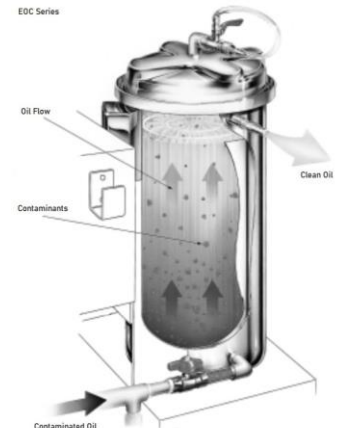
Hydraulic system failures such as valve malfunction, pump failure and oil leakage.

- Loss of control stability
- Reduced machine performance
- Erratic cycle time
- Un expected downtime
- Slow start –ups
- Oil leakage
- High maintenance cost

## Kleentek: Electrostatic Oil Cleaner ("EOC")

**KLEENTEK: Electrostatic Oil Cleaner ("EOC")**, is able to remove all of the oil-insoluble particles, whether they are made of metal, non-metal, organic, or inorganic materials. In particular, it removes oil oxidation products, primary culprits for causing malfunction of hydraulic systems. Also it is the only device capable of removing oil oxidation products that are difficult for filters to remove.

The EOC makes use of principles that the contaminants floating in oil are electrically charged and trapped by electrodes. The particulates floating in oil may be electrically classified into three types, i.e., those charged positively or negatively, or neutral one. The positively or negatively charged ones are attracted to the electrodes of opposite charges [electrophoretic migration] and neutral ones are attracted to the strong electric field generated by pleated type collector [dielectrophoretic migration].



**KLEENTEK: Electrostatic Oil Cleaner ("EOC")**, charged the particles in oil, but uses vertically positioned electrode to produce a high potential electrostatic field between itself and a ground surface within the pleated cellulose collector elements.

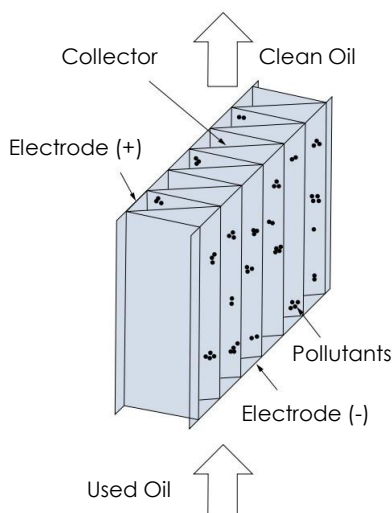
The flow of oil in an upward motion through this patented collector element, parallel to the electrode and ground surfaces, suspended contaminants in the oil as small as sub-micron are forced by the voltage field against the collector media and removed from the oil.

As the oil flows freely through the cleaning chamber of the EOC, the contaminants suspended in oil, sub-micron particles, dust and oil oxidation products, including the varnish are removed.

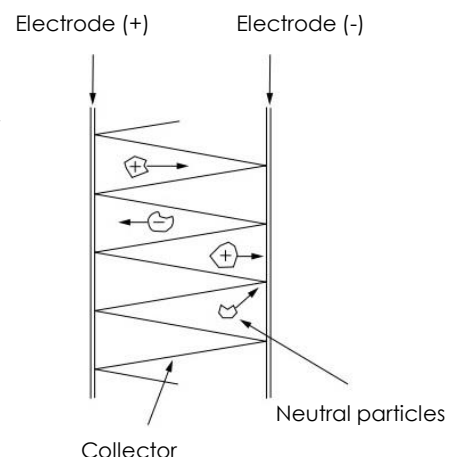


## Electrode and Collector of Electrostatic Oil Cleaner ("EOC")

The EOC makes use of principles that the contaminants floating in oil are electrically charged and trapped by electrodes. The particulates floating in oil may be electrically classified into three types, i.e., those charged positively or negatively, or neutral one. The positively or negatively charged ones are attracted to the electrodes of opposite charges [electrophoretic migration] and neutral ones are attracted to the strong electric field generated by pleated type collector [dielectrophoretic migration].



Inside each cleaning chamber is a consumable collector element. Polar contaminants are attracted out of the oil by positive (+) and Negative (-) electrodes and are then held in the collector



Max	Model	32	46	68	Collectors
Reservoir	EOC-R3SP	800	560	380	1 X CC-R3SP
Size	EOC-R6SP	1600	1120	760	2 X CC-R3SP
	EOC-R10SP	5000	3400	2200	1 X CC-R10SP
	EOC-R25SP	12400	8000	5500	1 X CC-R25SP
	EOC-R50SP	24000	16000	11000	1 X CC-R50SP
	EOC-R100SP	48000	32000	22000	2 X CC-R50SP

Dimensions	Model	Length	Width	Depth	Weight	Flow Rate L/Min
	EOC-R3SP	311	361	531	20	1.2
	EOC-R6SP	359	386	531	23	1.2
	EOC-R10SP	530	385	775	70	2.2
	EOC-R25SP	530	385	915	72	3.7
	EOC-R50SP	670	515	1015	108	9
	EOC-R100SP	1030	515	1050	161	12

Operating Temperature	Fluid Temperature			
	Less than <60°C			
Application	Oil	Mineral base oils except engine oil		
	Viscosity	Less than 200cst		
	Water content	Less than 200ppm		
Materials of Construction	Cleaning chamber	Housings		
	Stainless steel	Carbon steel with industrial coating		
Pump	Industrial induction motor with Nippon oil pump			
Electric switch	Fuji Electric			
Fluid compatibility	POA and polyol ester only (standard) However, the efficiency of EOC will be about 20% less for polyol ester than for mineral oil.			
Power source	220 - 240V, 1P	120V, 1P	200V, 3P	380 – 440V, 3P

※ For other organic solvents and fire-retardant synthetic oils, separate specifications may be applied.

※ Please consult us as different models may be selected depending on oil quantities and contamination levels.

※ The portable units for EU applications are fully CE marked.

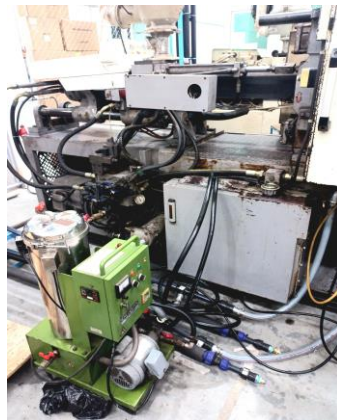


**Zero production down time – Extended service life – Increased productivity**

**Plug & Clean / Online & Offline**

#### Treatable Fluids

- Lubricating oil
- Hydraulic oil
- Phosphate ester machining oil
- Diesel fuel
- EDM fluid
- Dielectric fluids
- Turbine oil
- Any non-conducting fluids



**Sales / Rental / Cleaning services / Leasing / Financing service option are available.**

**Keep your machinery clean with Kleentek**

#### Contamination



##### Particle Count SAE AS4059-F System Standard

	Used oil before cleaning		After cleaning by "Kleentek"	
Particle Size Range	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class
Particle Size 6-14 microns	845,420	12	3,660	4
Particle Size 14-21 microns	9280	8	160	3
Particle Size 21-38 microns	530	7	40	2
Particle Size 38-70 microns	30	5	30	00
Particle Size >70 microns	0	00	0	00
AS4059 Class Rating	12		4	

##### Particle Count ISO 4406:1999 System Standard

Particle Size Range	No. of Particles / ml.	Class	No. of Particles / ml.	Class
Particle Size > 4 microns	32,099	22	1,702	19
Particle Size > 6 microns	5,553	20	39	16
Particle Size > 14 microns	98	14	2	12
ISO 4406 Class Rating	22/20/14		18/12/8	

MPC ( insoluble – Membrane Patch Colorimetry) : ASTM D7843

MPC ASTM D7843		
Sludge Weight	13.9 mg/100 ml	6.0 mg/100 ml

## **Alpha K (Thailand) Co.,Ltd**

---

Head Office: 100/43 Moo 1, T.Nong Kham, A.Sriracha, Chonburi 20230  
Warehouse: 277/80 Moo 12, A.Thung Sukha, A.Sriracha, Chonburi 20230  
Tel: (+66)61-936-5185  
E-mail: [Inquiry-alphak@hotmail.com](mailto:Inquiry-alphak@hotmail.com)  
Website: [www.alphak-thailand.com](http://www.alphak-thailand.com)