Introduction:

# KLEENTEK: Dehydration Unit ("DH-KS")

Focus Machinery Pte Ltd, Singapore

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Kleentek Corporation Inc., Japan

# Today's Agenda – Discussion

1. Our Heritage, History and Expertise
2. Our knowledge in hydraulic fluid lubrication management
3. How we operate and work
4. Value proposition of using EOC
5. Working principle of EOC
6. EOC vs Traditional & Conventional Filters
7. What can EOC do?
8. Cost-Benefit Analysis ("CBA")
9. Case Study – Benefits of EOCs

# 1. Focus Machinery Pte Ltd, Singapore – Our History, Background and Heritage

Focus Machinery Pte Ltd, Singapore has been working with Kleentek Corporation, Inc in Japan since 1999.

We started off supplying equipment such as dehumidifier dryers and parts and components dealing with used injection machine for the export market.

We supply and support equipment and tools of various make within the Asia Pacific Region, such as Singapore, Malaysia and Indonesia – Batam.

We've successfully supplied and delivered many units of Kleentek, Electrostatic Oil Cleaners ("EOCs") previously also known as Electrostatic Liquid Cleaners ("ELCs") to various industries such as Plastic Injection Moulding Industries, Injection Stretch Blow Moulding (PET bottles production) and power generation plants in the region of Singapore, Malaysia, Thailand and Indonesia – Batam.

# 2. Value Proposition of Focus Machinery Pte Ltd, Singapore

To provide our customer with a
**cost effective**
**solution** to their challenges
in the area of
**hydraulic lubrication**

# 3. Our Knowledge in Hydraulic Fluid Lubrication Management

| Product/Services | Illustration |
| --- | --- |
| **Used Oil Contamination Control Management** | • Provide used oil contamination control management for some of the major industry within the market; e.g. plastic manufacturing; utilities – power generations; distribution of electricity via the power grid; automobile manufacturing and aviation<br>• Designed in-house proprietary used oil contamination control management framework for one oil cleaner to multiple machine environment |
| **Oil Analysis Performance Benchmarking** | • Provide both independent and industry standard benchmarking for majority of the used oil analysis benchmarking.<br>• e.g. **RULER** (“**Remaining Useful Life Evaluation Routine**”) Oil Analysis – measure the level of remaining antioxidant additive levels in lubricating oils – turbine oil and hydraulic oil; **Total Acidic Number** (**“TAN”**) and **Total Base Number** (**“TBN”**) |
| **Technical Support** | • All Kleentek products supplied comes with manufacturer warranty coverage support, including spare parts and components – therefore you are not just coverage with your consumable, but also you can have a peace of mind whenever your machine encounter any technical issue. |
| **Kleentek Corp Inc., - Agent for Singapore, Malaysia and Indonesia – Batam** | • We supplies all range of Kleentek product directly from Kleentek Corp Inc., Japan – therefore always remember to ask for your **Certificate of Origin** (C.O.I) upon any purchase, in order to ensure the product authenticity and validity. |

# 4. Value Proposition of Kleentek: Electrostatic Oil Cleaner (“EOC”)

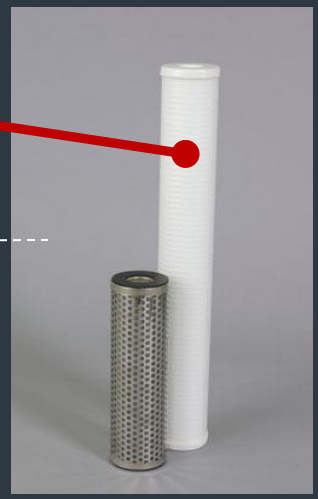
To promote **sustainable practice** through
the **reduced use of non-renewable** natural resource
by refocusing the use refined mineral oil
while ensuring **maximum uptime**;
reduce cost of maintenance
and **minimizing operational impact**.

# 5. How We Operate and Works

| | Step 1 | Step 2 | Step 3 | Step 4 |
|---|---|---|---|---|
| Client, (You) | • initial contact<br>• expression of interest<br>• initial discussion | • benchmarking of oil performance (using Kleentek Oil Analysis report)<br>• benchmarking of oil performance using independent laboratory | • taking delivery of Kleentek's Oil Cleaner<br>• preparation of materials and resources | • taking delivery of oil cleaner<br>• implementation of oil management control<br>• perform oil top-up and replenishment based on Kleentek's recommendation |
| Focus Machinery Pte Ltd, Singapore | • understanding of technical background, application<br>• collection of oil samples, (used/new)<br>• membrane patch testing, internal | • negotiation of pricing and payment term<br>• drafting of technical solution based on client's environment<br>• placement of order with the maker | • commissioning, installation of system<br>• boardroom presentation, on-site training | • performance measurement<br>• regular interval oil performance measurement<br>• yearly onsite visit with customer, |
| Kleentek Corp Inc., Japan | • maker informed of the client, enquiry<br>• processing of oil samples<br>• oil analysis report | • maker produce the Kleentek machine with accordance to technical requirement<br>• tentative lead time: appro. 3 months | • oil samples are sent back to Kleentek Corp Inc., Japan for oil analysis<br>• provide recommendation based on the oil analysis | • feedback on the performance of client's environment<br>• provide recommendation and feedback on client's environment |

# 6. Summary of Using Kleentek: DH-KS series

| Main Point | Details |
|---|---|
| **Application:** | • for use when in – water ingression is continuous<br>• water contamination < 400 litres of water w/o emulsion<br>• able to remove up to 400 litres (lit) of water<br>• reduce the level of water contamination to < 10% by vol. |
| **Environment:** | • Lubricating Oil – Used in Vacuum Pump System<br>• Automotive Industry – Grinding Machine<br>• Food Industry – Filling Machine<br>• Vacuum Pump – Drying Oven, PVD (Physical Vapor Deposition) |
| **Consumable:** | • Filter Element, K-50<br>• Filter Element, S2-25 |
| **Specification:** | • Power Consumption (watt) : 75 W<br>• Pump Flow (lit/min) : 0.72 litre/min @ 50Hz<br>• Dimension (L x W x H)(mm) : 200 x 300 x 640<br>• Weight (kilogram – kg) : 27 |



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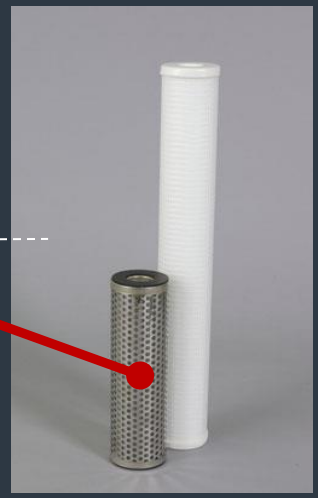

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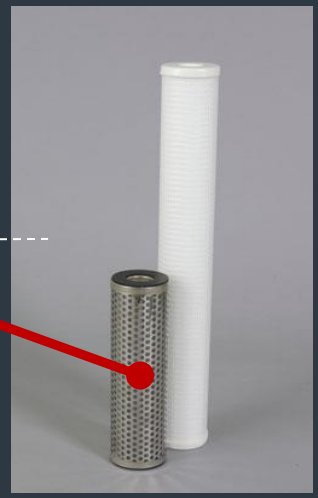
| **Lead Time** | • 4 to 6 weeks upon receipt of Purchase Order (“PO”) |



# 6. Case Study: Application of Kleentek - DH-KS Series

| Main Point | Details |
|---|---|
| **Application:** | • Oil Rotary Vacuum Pump<br>• Brand: ULVAC; Model: VD401<br>• filling of coolant into the newly assembled motorcycle – assembly production line |
| **Industry:** | • Automotive Industry (Motorcycle)<br>• Assembly Plant<br>• Region: Thailand, Bangkok |
| **Consumable:** | • Filter Element, K-50<br>• Filter Element, S2-25 |
| **Summary:** | • 19 years in operation<br>• No replacement of the consumable parts, since the vol. of oil in the vacuum pump is very minimal |


# 6. Case Study: Application of Kleentek - DH-KS Series

| Main Point | Details |
|---|---|
| **Current:** | • vacuum pump is used for the filling of the coolant at one of the motorcycle assembly plant in Bangkok, Thailand<br>• high level of water contamination observed at the vacuum pump; resulting in high freq. of stoppage due to the damage on the vacuum pump |
| **Challenges:** | • to eliminate/reduce the high level of water contamination observed at the ULVAC vacuum pump<br>• need to prolong the life span of the vacuum pump<br>• increase serviceability hours of the vacuum pump |
| **Benefits:** | • vacuum pump no longer need to be stop in order for servicing of the pump required.<br>• constant, high load and availability of the vacuum pump for the assembly line to take place |
| **Outcome:** | • increase in engineering hours (hrs).<br>• factory output target can be achieved (manufactured pdt/day)<br>• reduce in maintenance cycle<br>• prolonged maintenance cycle for the assembly equipment |

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# Frequently Asked Questions (“FAQ”)
# Questions and Answer (“Q&A”)

**Question:** What’s the typical lifespan of unit of Kleentek: Electrostatic Oil Cleaner (“EOC”)?

**Answer:** Kleentek: Electrostatic Oil Cleaner (“EOC”) typically have a very long lifespan, however with all machinery – it comes with components that experiences wear-and-tear such as seals and High-Voltage (“Hi-Volt”) Transformer. Each high-voltage transformer can last for between 5-7 years before it need to replaced with accordance to the manufacturer guideline.

**Question:** Do I still need to perform, carry-out oil change with the implementation of Kleentek: Dehydration Unit (“DH-KS”) with Electrostatic Oil Cleaner (“EOC”) ?

**Answer:** With the implementation of Kleentek: Electrostatic Oil Cleaner (“EOC”) in a standalone manner or in combination with any of the supplementary unit (e.g. Kleentek; Dehydration Unit (“DH”) or Kleentek Filter (“KF”)), no oil change is required, with the exception if the oil is not severe damage due to prolong use under very severe operation condition (very high operation temperature – above and beyond the oil supplier recommendation, extreme level of water contamination, and mixture of different grade, viscosity, brand and type of lubricant and hydraulic oil).

However we continue to recommend regular top-up of small percentage of oil in order to replenish the level of oil additive – in order to ensure that your existing lubrication continue to receive properties such as anti-foaming, anti-misting agents.

# Frequently Asked Questions (“FAQ”)
# Questions and Answer (“Q&A”) (“cont.”)

**Question:** So what are some of the technical specification, operating requirement that is required in order to ensure that the right choice and sizing of machine is selected for my environment and application?

**Answer:** In order to ensure that the right sizing of equipment and model is selected, we would need to know:

- type of lubrication
- brand/grade of the lubrication that has been used;
- brand and model of the equipment,
- application of your equipment,
- frequency of preventive maintenance program adopted by your engineering team

In addition, we would need to know the total vol. of your system – oil change, and the expenses of your oil change program.

# For more information, you may reach us at:

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Virtual Meeting

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