Introduction to AsahiKlin AE-3000 Fluorinated Solvents

Your Dreams, Our Challenge

Table of Contents

What is Precision Cleaning?

Definition:

Cleaning to very exacting standards, with a **very low tolerance** for leftover particles or other contaminants. Cleaning agents that leave **no residue of their own** (NVR). The electronics and aerospace industries commonly use precision cleaning techniques to ensure reliable performance from critical components.(1)

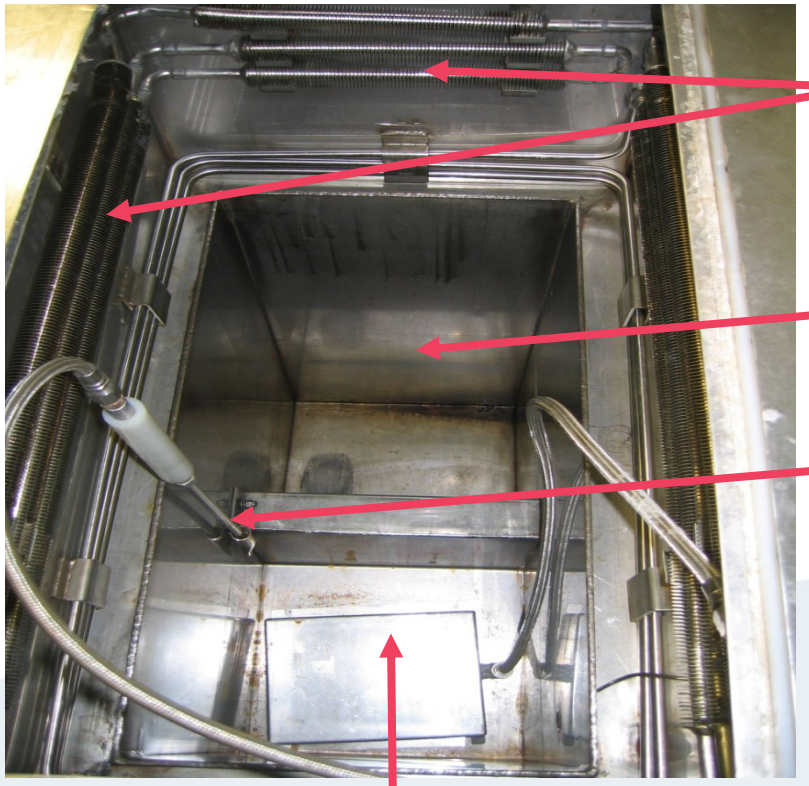
Table of Contents

What is Vapor Degreasing?

- Solvent cleaning procedure for removing soluble contamination or oils from a variety of metallic and nonmetallic parts.
- Parts are suspended in solvent vapor for the removal of oils and greases.

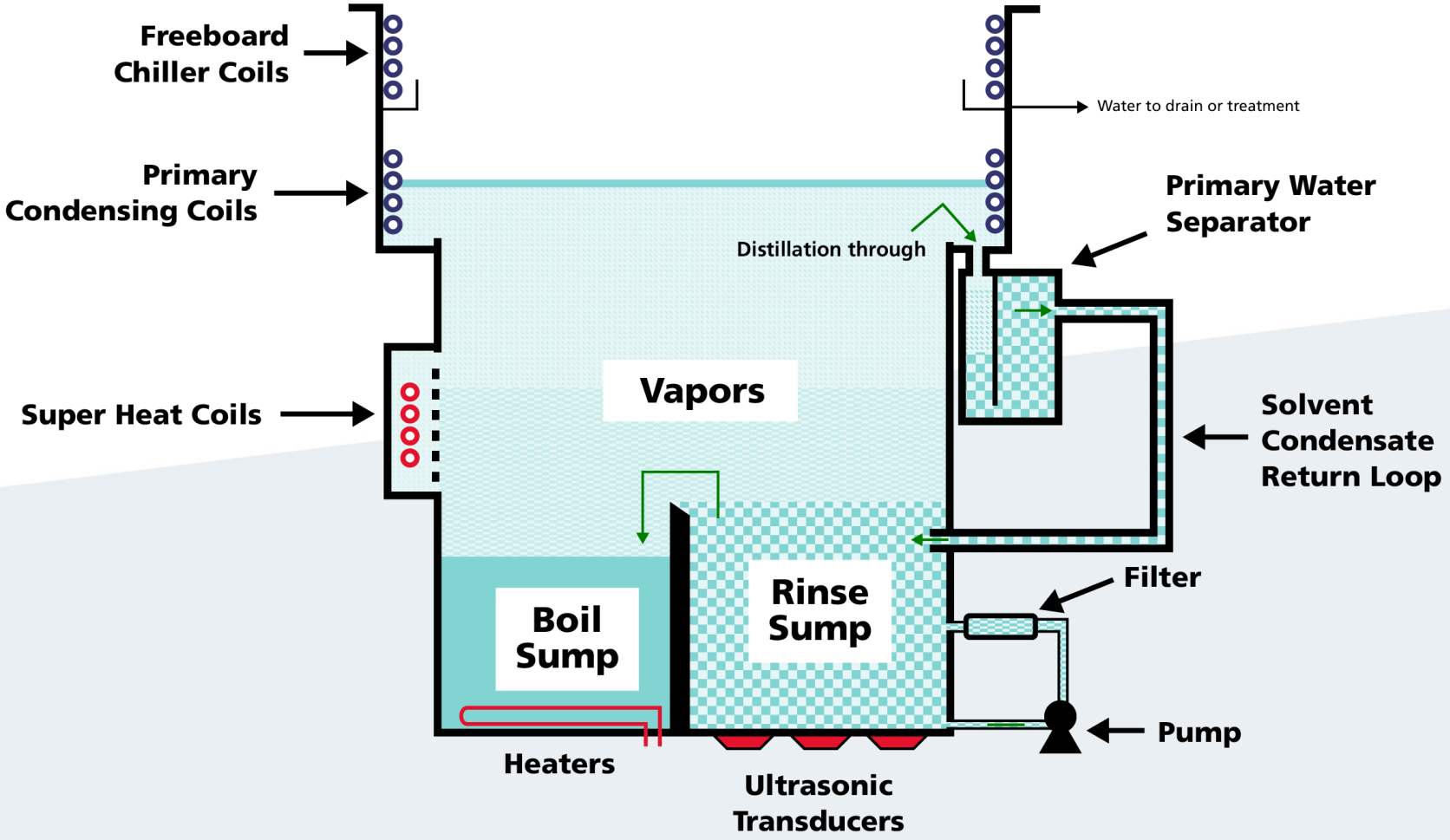
Vapor Degreasing

Ultronix vapor degreaser



Ultrasonics in the rinse sump

Vapor Degreasing



Advantages of Fluorinated Solvents

- Low drying time
- Low/no residue
- Low energy use
- Low surface tension
- Low viscosity
- High density
- Nonflammable
- Flammability suppression:
  - Can be blended with flammable solvents
- Compatibility with plastics and elastomers
- Selective solvency

Table of Contents

Disadvantages of Aqueous Cleaning

- High energy consumption
- Water heating and parts drying
- Chemical costs
- Rinsing difficulties
  - Residue and water spots
- Waste water removal/treatment
- Equipment costs (cleaning and drying)
- Algae, mold and bacteria growth formation

1,1,2,2-Tetrafluoroethyl-2,2,2-Trifluoroethyl Ether

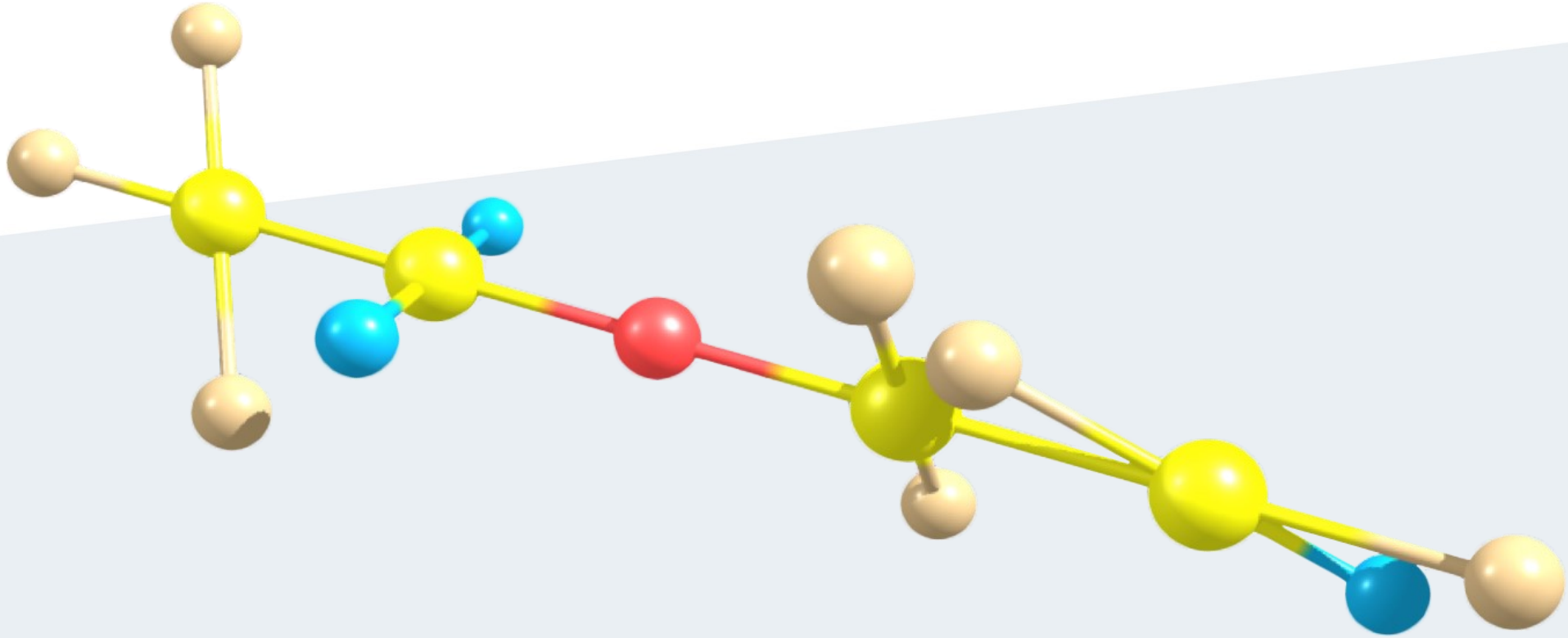


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Table of Contents

Introduction to AE-3000 Products

- Environmentally sensible HFE designed to replace CFC, HCFCs, HFC, PFC, nPB, TCE, PCE, other solvents with high ODP and GWP
- Alternative to flammable solvents
- Energy-efficient alternative to aqueous processes
- It has selective solvency, low viscosity and low surface tension, and forms azeotropes
- Ideal for general and precision cleaning
- Acts as a coolant and as a carrier for silicone and halogenated lubricants

AE-3000 Physical Properties

	AE-3000	AE-3000 ATE	AE-3000 AT	AE-3100 E
Composition	HFE (100%)	HFE (43% – 52%) Trans (46% – 55%) EtOH (1% – 3%)	HFE (43% – 52%) Trans (46% – 55%)	HFE (92.5% – 96.5%) EtOH (3.5% – 7.5%)
Boiling Point (° C)	56	42	38	54
Freezing Point (° C)	-94	-50	-49.3	-86
Specific Gravity	1.48	1.35	1.36	1.40
ODP (CFC-11=1)	0	0	0	0
GWP (100-year ITH)	580	257	268	580
KB Value	13	38	32	14
Surface Tension (dyne/cm, 25 ° C)	16.4	18	18	16.1
Latent Heat of Vaporization (KJ/kg, 39 ° C)	163	200	185	187

AE-3000 Products & Packaging

AE-3000	AE-3100 E	AE-3000 ATE	AE-3000 AT
20 kg pail 300 kg drum	20 kg pail 250 kg drum	20 kg pail 250 kg drum	20 kg pail 250 kg drum

1 kg samples available upon request

AE-3000 Solvent Products Benefits

- Nonflammable
- Noncorrosive
- Low GWP
- Zero ODP
- Excellent thermal, chemical and hydrolytic stability
- Low surface tension, low viscosity, high liquid density
- Superior drying property
- Excellent permeability
- Recyclable
- Recoverable by simple distillation
- Can be used with ultrasonics
- No surfactants necessary

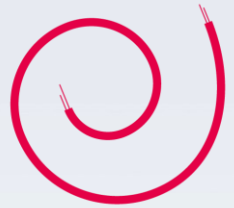
Table of Contents

Industries

Aerospace

Military

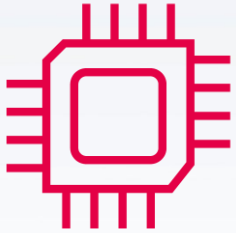
Machined Parts



Wire & Cable

Metal Tubing

Medical Devices



PWAs

Electronics

Optics & Lenses

Automotive

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Applications

- Defluxing of electronics, electrical components and printed wiring assemblies
- Precision cleaning of metals, alloys, composites and plastics
- Drying agent after cleaning with aqueous solutions, hydrocarbons or alcohols
- Drying after wet plating and for carbide metal before coating
- Particle removal
- Replacement for HCFC, Dupont™ Vertrel® and 3M™ Novec™ solvents


For more information, contact one of our
fluorosolvent experts at 800-424-7833
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