

a clean technology Initiative

Liquid Coolant Recovery System

A.N.Y Ligitreat Solutions Private Limited

serve to conserve

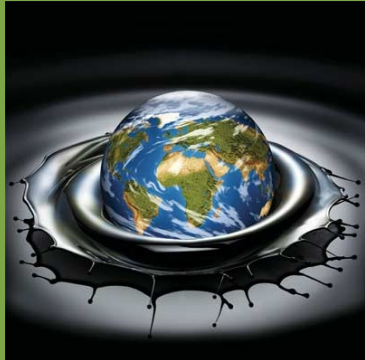
A Pure Tech India group company



This product has been developed under support from Department of Scientific and Industrial Research, Government Of India through the Technology Demonstration and Development Programme on our group company's name

Water Soluble Emulsion Coolant Recovery/ Metal working fluid Recovery

- InstaPure



Coolant oil



water



Emulsion coolant



Coolants is treated
sent for reuse



Coolants gets contaminated;
sent for treatment

Introduction:

Coolant characteristics

Coolant disposal.

Coolant reuse

Coolant Contaminants and source:

Tramp Oil:

Source: Hydraulic line leakages, Guide Way lube,

Lube points over flow, Tool Magazine, Chuck

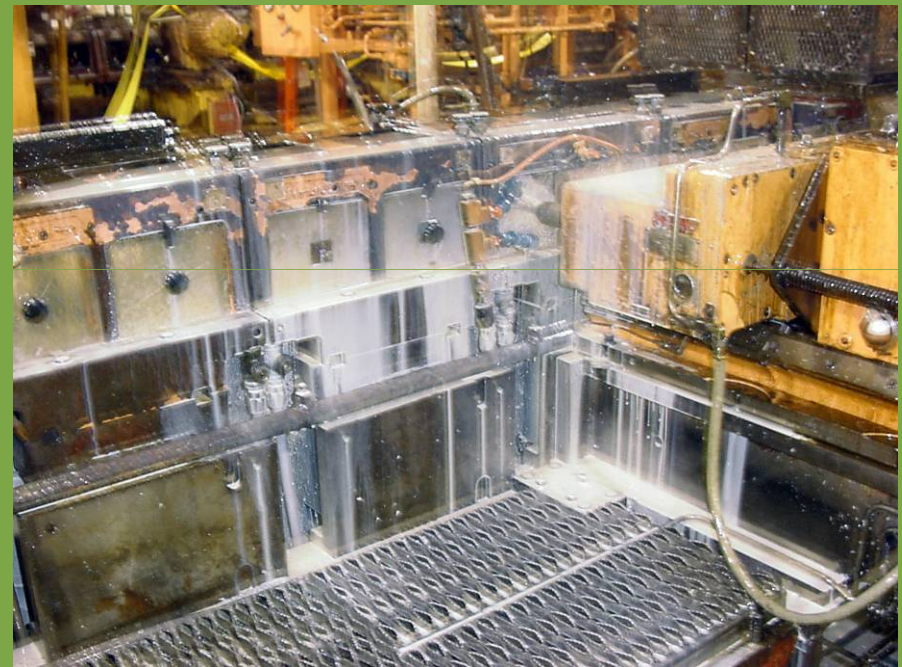
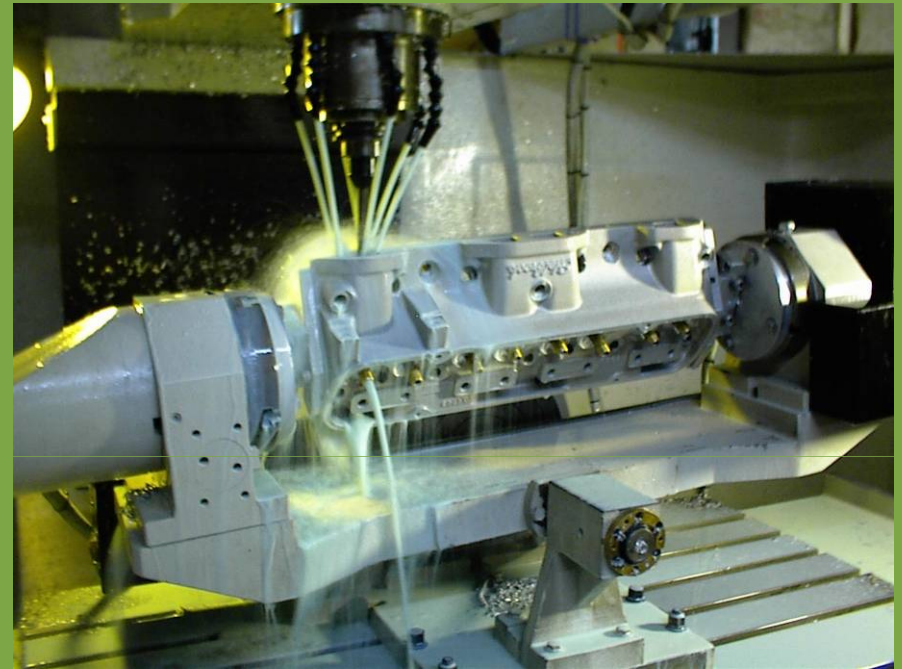
lube overflows, Workpiece coating oil overflow.

Machined dust:

Source: Machining. Tool wear, atmospheric dust

Bacteria:

Source: Water, Oil induced Anaerobic bacteria



Coolant recovery general process:



Coolant for recovery

Oil removal

Machined dust removal

Bacterial Disinfection

Coolant for reuse

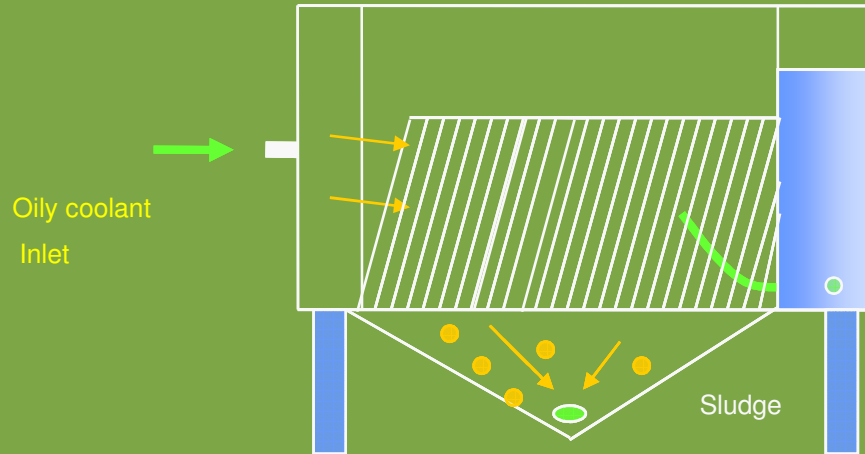
Component in Equipment

Desorber- Tramp Oil remover,
Activated Carbon filter

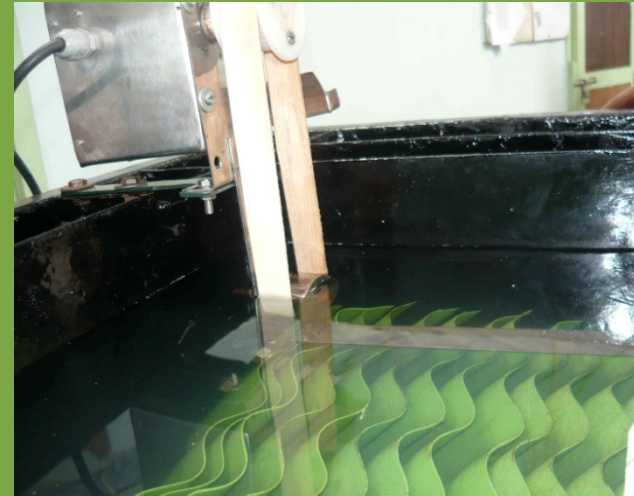
SS Bag filter with SS filter
media (InstaTrap filters)

UV Bacterial Disinfection Unit
(Bactdisinfect unit)

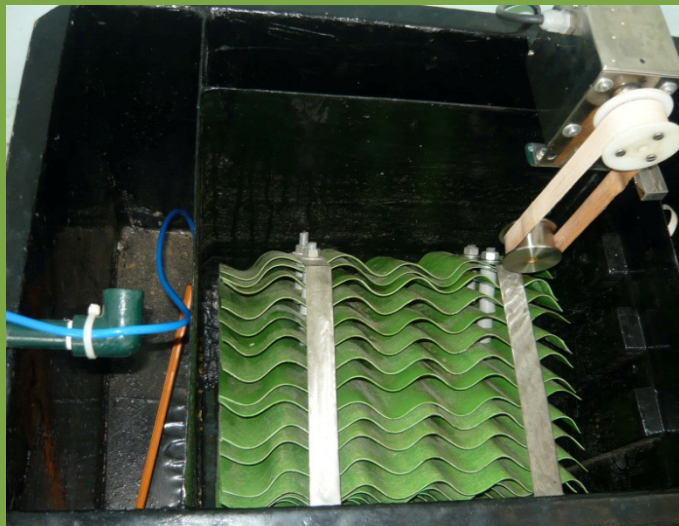
Oil removal:



Desorber – Flow Illustration



Oil Skimming



Tramp Oil Separation - CPI Pack



Tramp Oil Separation – Carbon Pre filter

Suspended Solids Removal:



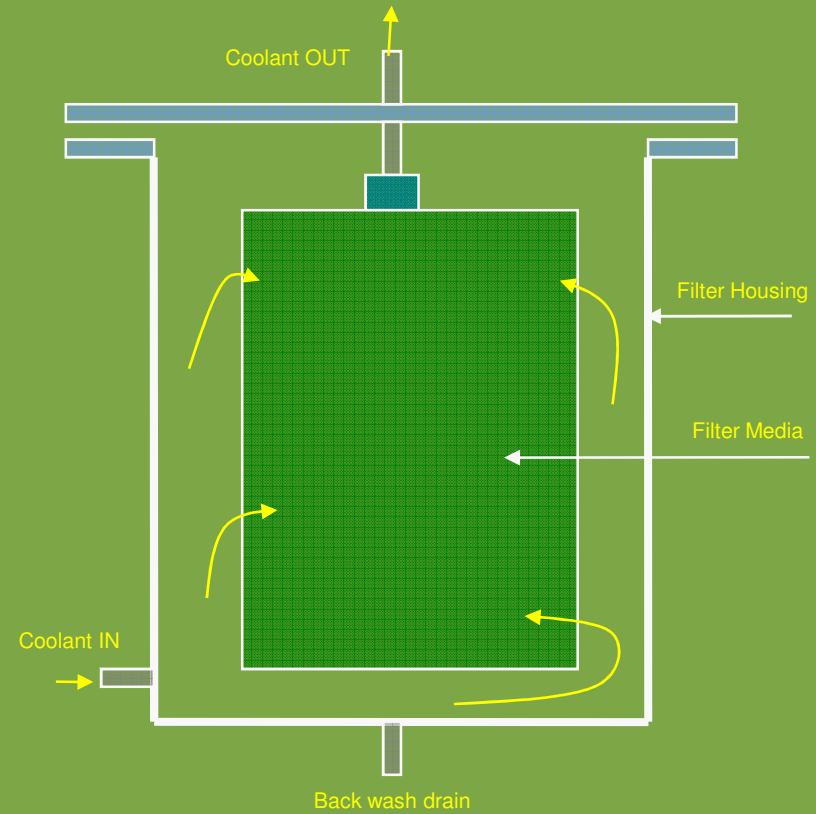
CPI Pack – Heavy Solids



SS Filter cartridge
Filtration upto 1 micron



SS Filter cartridge – Housing



SS Filter cartridge flow illustration

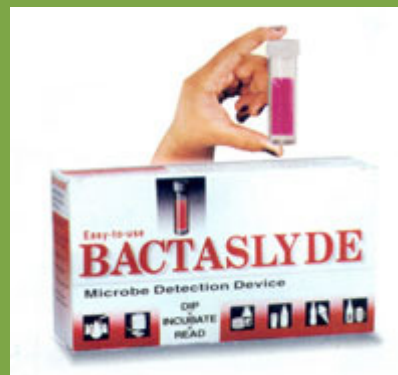
Bacterial Disinfection (Bactdisinfect):

U-V Disinfection unit:

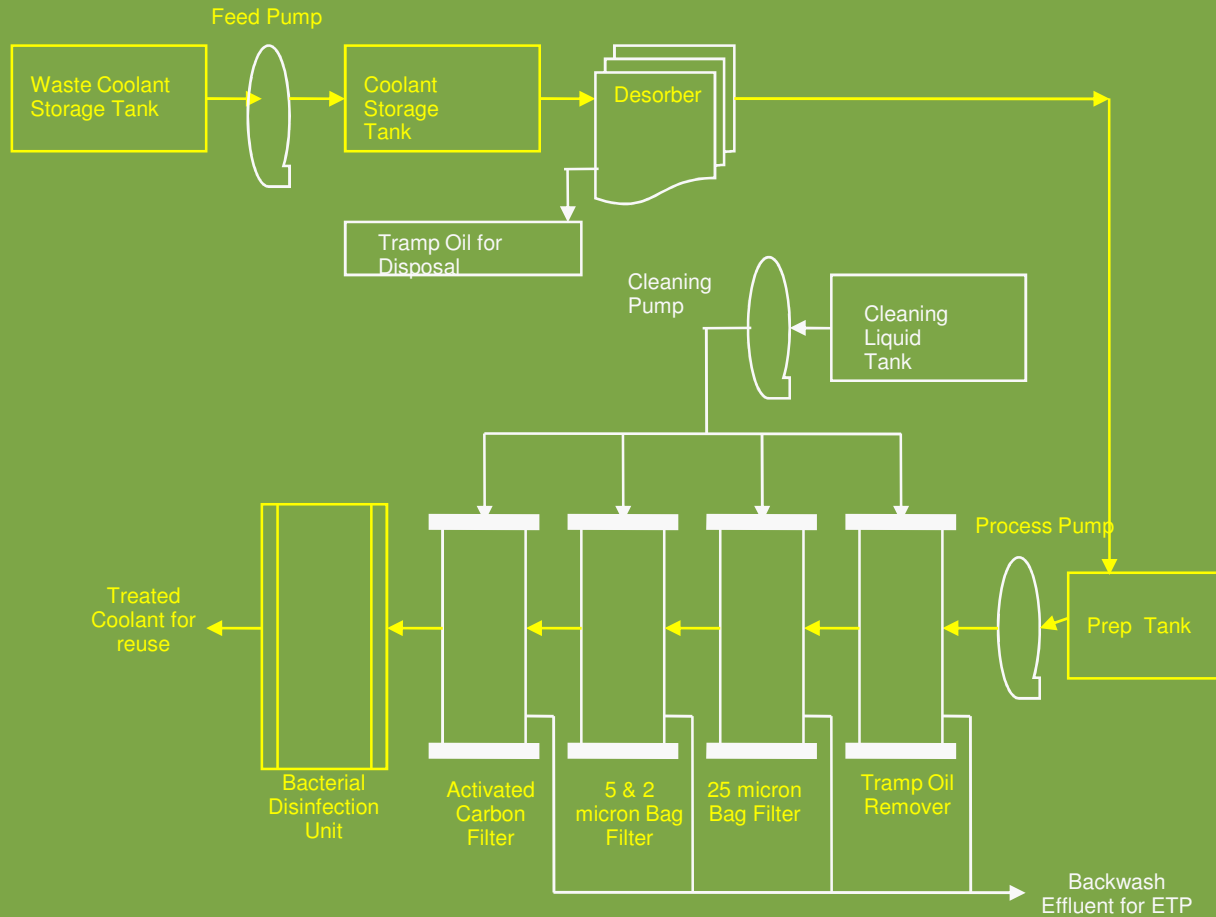
Coolant passed as thin film in front of UV light



On Site Bacteria Analysis:



Schematic Flowchart of Treatment Process:



Contaminant diagnostic tools:

- Tramp Oil* : Visual, Lab and On-site Oil in water alarms
- Suspended Solids* : Millipore Test and Lab
- Bacteria* : Lab and On site by Bactaslyde
- pH* : Glass electrode pH meters
- TDS* : Electrode meters.
- Concentration* : Refractometer

Benefits:

Environment:

Pollution prevention by containing hazardous discharges into environment.

Natural Resources:

Hydrocarbons and water – depletable resources conservation.

ISO 14000:

Helps in complying with ISO norms for Liquid coolant disposal

Economic advantages to the company:

Waste coolant converted to usable coolant – reduction in new purchases.

Quality of work piece and tool life

Productivity loss due to coolant change minimised

Manpower loss due to coolant handling losses minimised.

Effluent Treatment costs reduced with major savings in electricity consumption

Specific product advantages:

Systems are modular and can be augmented for increased capacities.

Coolant can be treated and reused.

Mobile units

Thank You

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A Pure Tech India group company

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