# **APPLICATIONS**

### I. PHARMA

- 1. Recrystalization, Sonomiling
- 2. Drug Particle Molecule Engineering
- 3. Micronizationg
- 4. Processing, Mixing
- 5. Sieving
- 6. Vat, Reactor cleaning,

Ampoule/Vial/ Glassware cleaning

- 7. Online Pipe cleaning/Deblocking
- 8. Glassware cleaning
- 9. Online ampoule/vial cleaning
- 10. Online Sludge/ Boiler/Heat Exchanger cleaning

(Research Labs)

### II. METAL

- 1. Online Cleaning (Descaling wires & Longs), Derusting, Descaling of Rods, Rebars @ 100 M/pm.
- 2. Online coating of Wire, Rod, Rebar, Ni Zn, Cu, Brass
- 3. Sheet Cleaning, Pregalvanizing/galvalum @ 300M/pm
- 4. 15% increase in Aluminium yield in production process
- 5. Ceramic coating Oxide/Nitride

# III. CHEMICAL/ NANO ENGG.

- 1. Sieving
- 2. Pipe Deblocking
- 3. Mixing
- 4. Emulsion forming
- 5. Online boiler sludge/Heat Exchanger cleaning

### IV. POWER GENERATION

1. 10 KWH Power generation with multi-element Titanium Powder as fuel delivering power @ 40 Paise /KWH for Home/Office/SME manufacturing & Villages

# V. PROCESSING

- 1. Printer Inks
- 2. Paints
- 3. Cell Disruption
- 4. Extraction (catalytic)

- 5. Dispersions and blending
- 6. Degassing
- 7. Sonochemical Crystalisation & Precipitation
- 8. Desulfurisation
- 9. Sterilisation with UV
- 10. Transterification
- 11. Particle Grinding
- 12. Homogenization
- 13. Micronisation
- 14. Impregnation
- 15. Instrument cleaning
- 16. De-agglomeration
- 17. Supersaturated solution preparation
- 18. Nanoemulsions, Liposomes, Nanosized crystals
- 19. Wax emulsions
- 20. Pigment dispersions
- 21. Biofuels
- 22. Emulsified fuels

# VI. WASTE MANAGEMENT & Industrial water treatment

- 1. Recovery of metallic impurities
- 2. Recovery of organic chemicals
- 3. Ultrasonic Plasma processing
- 4. Defloculation
- 5. Increased aeration
- 6. Municipal Waste management
- 7. Enhanced Methane formation

### VII. AUTO

- 1. Aqueous parts cleaning
- 2. Emission free degreasing & vacuum drying
- 3. Al./Mg. parts ceramic coating
- 4. Parts surface engineering tribology
- 5. Automatic/PLC basket handling
- 6. Cleaning drying Pre-Post die penetrant examination

# VIII. ENGINEERING

- 1. Parts & Sub-assembly cleaning
- 2. Mixing
- 3. Forming Emulsions
- 4. Degreasing
- 5. Decoating
- 6. Decarbonising
- 7. Deburring
- 8. Automatic PLC Controlled Basket Handling

- 9. Hot Air Drying
- 10. Online boiler sludge cleaning
- 11. Vacuum Drying
- 12. Carbiding, Nitriding

# IX. MEDICAL / HOSPITAL/ Decontamination

- 1. Cannulated surgical equipment/ Surgical Equipment
- 2. Nano Surface coating of replaceable implants joints/stents
- 3. Decoating
- 4. Implants
- 5. Dental Instrument cleaning/Decontamination

# X. NUCLEAR DE-CONTAMINATION

- 1. Online descaling of Steam Generator, Condensors, Heat Exchangers
- 2. Fuel cleaning

# XI. DEFENSE

- 1. Cleaning
- 2. Coating
- 3. Surface Engineering

#### XII. OIL

1. Increased yield due to dewaxing of well and pipes

#### XIII. AEROSPACE

- 1. Assemblies, parts Aqueous cleaning /drying with Vacural
- 2. Assemblies/parts solvent cleaning /drying with EFVD
- 3. Surface Engineering /coating
- 4. Cleaning/Drying in Pre/Post Dye Penetrant application

# XIV. FOOD

- 1. Super saturated solution preparation
- 2. Homogenization
- 3. Sterilization with UV
- 4 Extraction
- 5. Emulsification
- 6. Mixing
- 7. Gel Preparation