Welcome to the Levitronix Ultra Pure Fluid & Wafer Cleaning Conference 2011 Dallas, TX
Who Is Levitronix?

➡ Subsidiary of Pharos (George Hatsopoulos, Thermo Electron)

➡ Founded in 2001, previously part of Sulzer, a $4B Swiss company

➡ 14 years experience in MagLev Technology and Medical Pumps

➡ First company with MagLev Heart Assist Pump on market

➡ Pumps for Semiconductor Industry since 2001

➡ Market Leader in CMP Slurry Pumps and Pumps for Single Wafer Cleaning
Principle of Magnetically Levitated (MagLev) Centrifugal Pump

No areas of mechanical contact!
Levitronix Product Portfolio for Semiconductor Industry

Ultra Pure Pumps

Ultra Pure Mixing Devices

LeviFlow Flowmeters

Pressure Boost Systems

Flow/Pressure Control Packages

Levitronix Ultra-Pure Fluid and Wafer Cleaning Conference 2011
Why do customers specify Levitronix Pumps for their Ultrapure Applications?
Particle Generation of Different Pumps

MagLev Centrifugal Pumps (BPS-1, BPS-3) generate 10-100 times Less Particles compared to Diaphragm Pumps

Data by CT Associates Inc.
Levitronix pumps add low trace metal contamination due to small fluid contacting surface!
Output Pressure of Different Pumps
(Flow = 10 Gpm)

Bellows Pump

Diaphragm Pump

Magnetically Levitated Centrifugal Pump (Levitronix)
Retention Efficiency of Different Filters and Pumps Operated at Different Flow Rates

Overall retention efficiency as a function of pulsation intensity

Obvious correlation between reduction of retention efficiency and pump pulsation!
Flow Control With Levitronix Pump

- Set Flow
- Actual Flow
- ON/OFF

System Control

Flow range with BPS-1 down to 0.5 mL/min

Warning Signals
- Flow Alarm (Low Flow -> Line Clogged)
- Trend Warning (Dynamic Condition Trending)
Pressure Control with Levitronix Pump

Better Pumps for Better Yield

Levitronix Pump

Closed Control Loop

Delivery Loop

Pressure Sensor

Tool 1

Tool 2

Tool 3

Pressure Control

Controlled pressure at main distribution point

System Control

Levitronix Ultra-Pure Fluid and Wafer Cleaning Conference 2011
WWW.LEVITRONIX.COM
8:00 am Registration and Breakfast provided by Levitronix

8:30 am Welcome & Introduction
   Wolfgang Dornfeld, Levitronix

9:00 am Ricardo Fuentes, Ph.D., MATECH Corp.
   "Intrinsically Uniform Single-sided Wafer Thinning"

9:30 am Yoshiya Hagimoto, Sony Japan
   "Elucidation of an isopropyl alcohol (IPA) adsorption phenomenon on a wafer surface for achieving an ultra-clean and IPA-saving drying process in the batch cleaning system"

10:00 am Gary Van Schooneveld, CT Associates Inc.
   "Measuring Sub-50 nm Retention of UPW Filters"

10:30 am Break provided by Levitronix

11:00 am Ursula Meyer, Ph.D., Infineon Technologies, Austria
   "Improvements of wet chemical etch equipment (SAT) to support Infineon Zero Defect Strategy"

11:30 am Mark Litchy, CT Associates, Inc.
   "Evaluation of Trace Metal Extraction from Eight High Purity Pumps"

Noon Lunch provided by Levitronix
1:00 pm Byron Palla, Ph.D., Texas Instruments Inc.
"Successful New Chemistry Qualification for a Cost Conscious Industry"

1:30 pm Christoph Klement, Freiberger Compound Materials GmbH, Germany
"Influence of different pumping technologies on the particle emission during wet processing of GaAs wafer"

2:00 pm Keith Kerwin, Texas Instruments Inc.
"Magnetic Levitation Applications: Clean, Simple and Reliable"

2:30 pm Break provided by Levitronix

3:00 pm Gary Van Schooneveld, CT Associates Inc.
"Modeling of component lifetime based on accelerated live tests and acid gas permeation measurements"

3:30 pm Jin-Goo Park, Professor, Hanyang University, Korea
"Effect of Pumping Method on Wafer Cleaning"

4:00 pm Gregg Conner, Entegris
"Critical Process System Solutions for the Semiconductor Industry"

4:30 pm –
5:00pm Raffle Drawing and Adjourn
Thank You
For Your Participation!
Enjoy The Conference!