Wet Process Systems

for 300 mm Semiconductor Applications
Innovative Technologies

SINGULUS TECHNOLOGIES develops innovative technologies for efficient production processes, which only make use of resources conservatively. New production technology combined with sustainable processes and the use of novel materials can decouple the use of resources from economic growth in the long-term. SINGULUS TECHNOLOGIES’ innovative power and competitiveness are strengthened by these new technologic developments.

With its Optical Disc segment SINGULUS TECHNOLOGIES is the market leader for CD, DVD and Blu-ray Disc production equipment. In the Solar division SINGULUS TECHNOLOGIES is a recognized supplier for new machine concepts and production processes for crystalline and thin-film solar cells, which increase the efficiency of solar cells and reduce their production costs.

In the Semiconductor segment SINGULUS TECHNOLOGIES focuses its activities on the vacuum coating of wafers with ultrathin layers for the production of MRAM memory, thin-film write/read heads and other semiconductor applications.

Wet Process Systems for 300 mm Semiconductor Applications

High end products in different fields at semiconductor branch (WAFER, MEMS, MRAM, Communication). Product range started with manual wet stations for R&D, semi-automated systems and up to fully automated tools for the chemical surface treatment like cleaning, etching and drying.

→ Manual Wet Process Stations
→ Semi- and Fully Automated Wet Process Stations
→ Quartz-Tube- and Part-Cleaning Stations
→ Total Metal-Free Working Stations
→ Special Customer Specified Units
→ Chemical Supply Systems
  (Pump or Pressure Systems)
Manual Wet Process Stations
→ Wet Systems executed for max. 2x6”
→ Applications:
  → Full lap configuration with wet stations
    (in total 49 wet systems) for Cleaning, Etching,
    Developing, Resist Spinning, Polymer Processes
    and Solvent Processes
  → e.g. Si-TMAH-Etch, KOH Etch, NMP Strip/Lift,
    quartz-tube cleaner
  → Integration of 3rd party equipment like spin-
    rinse dryers, hotplates, ovens, spin-coaters

Wet Systems for Sensor Applications
→ Wet Systems executed for max. 2x6” for sensor applications
→ Package existing of Fully Automated Wet Stations,
  Manual Wet Stations and Chemical Supply Systems
→ Applications:
  → RCA (with Megasonic), Au & TiW Etching,
    Cr Etching, Nitride Etch, KOH Etching,
    Membrane Etch [TMAH – fully automatic
    system], Mask Cleaning and Post Metal
    Ash Residue Removal
  → Chemical Supply System including piping
    and POU boxes for NH4OH, H2O2, HCl, H3PO4,
    KOH, H2SO4, TMAH, HF, HNO3 and BHF

Semi Automated Wet Process
→ Semi Automated Wet Process Systems executed
  for max. 2x6” for e.g. bipolar IC’s, Metal Gate
  CMOS, MOSAIC
→ Applications:
  → Semi automated systems with rotary robot
    arm system dedicated to one process bath and
    rinse for loading and unloading and agitation
    inside the process bath
  → In total package 6 semi automated systems for
    different cleaning and etching applications
  → Execution of the system according FM 4910

Chemical Supply Systems
→ Chemical Supply Systems in different executions
→ Chemical systems cover all areas of blending,
  dispensing, distributing and monitoring high
  purity bulk chemicals
→ It is designed around an application-specific
  platform that can be configured with various
  delivery engines, and is the
→ Perfect solution for bulk chemical delivery of
  acids, bases and solvents
→ Chemical systems executed as one drum
  system (60-1000 liter) or double systems
  (2x200 or 2x1000 liter) for guaranteed
  uninterrupted supply of chemicals
→ Systems executed as pump or pressure
  systems
→ As a full package, chemical piping systems
  (double housing) and POU boxes offered
  as an option
SINGULUS TECHNOLOGIES – Innovations for New Technologies

SINGULUS TECHNOLOGIES develops and assembles innovative machines and systems for efficient and resource-saving production processes, which are used worldwide in the solar, semiconductor, medical technology, consumer goods and data storage.

The company’s core competencies include various processes of coating technology, surface treatment and wet-chemical and thermal production processes.