



THE TOTAL VACUUM SOLUTION

for Semiconductor Fabs

▶ Total Vacuum Engineering

▶ Component Selection

▶ Hook Up and Testing

▶ Continuous Operations

▶ Customer Support

The output quality and quantity in semiconductor fabs depends largely on the smooth working of thousands of different components of machinery. Vacuum and things around it is not of the least importance to the quality of the final product. To alleviate the producers of their ICs business, it is our mission to take care of everything what is around the vacuum installations: **Managing the complete "basement"** is taking care of a lot more than mere pumps. Piping, gas abatement systems, heaters - just to name some.

To have the overall responsibility is our business, day in, day out guaranteeing coverage 24 hours a day, 365 days a year with maximum efficiency. From the design phase of a fab until the years of continuous production, our experts are keen to be the reliable partners in what we regard as vacuum and its application.



▶ Total Vacuum Engineering

Evaluation of a concept as of how to lay out and to scale the equipment, based on customers equipment expectations. Presentation and discussion, first proposals to customer.

- Definition of the scope of delivery with customer (tool list)
- Define utilities
- Accommodate to process requirements
- Engineering: layout of pumps, piping, accessories

DOTAL VACUUM SOLUTION

for Sem



▶ Component Selection (Pumps and more...)

Customer and supplier sitting together deciding for the most appropriate pieces of equipment, technically and economically.

- Accommodate pumps to specific processes
- Select accessories (traps, condensers, heaters, valves, sensors)
- Layout of monitoring software (net working all components)
- Define back up components' stock
- Integration of abatement systems



▶ Hook Up and Testing

Integrating equipment, debugging, making it run within specs, ramp up to proven performance. Development of contingency plans, putting monitoring and control in place. Ramp up personell coverage according to local necessities.

- Implementation into the fab
- Interconnect and put into operation
- Make it run within the specified conditions
- Testing and quality control
- Provide own technicians / engineers on site
- Having the full responsibility for the job to do

iconductor Fabs



▶ Continuous Operations

Once assigned with the job it is our goal to perform at the best. Tracking down weak spots to ever increasing levels of excellence.

- Responsible for "Managing the basement"
- Covering of all installed components
- Keep running all components at conditions specified and agreed on with the customer
- Anticipate "Out-of-Specs"
- Initiate corrective actions upon customer approval
- Analyzing performance data – regular reporting
- Propose actions for continuous improvement
- Perform modifications upon customer approval
- Manage vacuum components and accessories in full responsibility



▶ Customer Support

Our customer relation is on a long term base. Year after year we keep involved in continuous improvements, to build a relationship with our customer based on excellence and performance.

- 24 hr - 7 days a week service coverage
- Support teams upon agreed schedules
- Call-In-Service within 1 hr time on-site
- Manage back up spares and pumps on site
- Organization of escalation scale

Center of Technical Expertise (CTE)

The daily business of supporting the vacuum and associated equipment in a modern wafer fabrication facility can only be achieved by the technical expertise of experienced engineers. A quick response team of engineers dedicated to customer support is able to offer vacuum solutions, configure vacuum and process related equipment to specific applications and to resolve critical situations in the shortest possible time frame, thus guaranteeing customer satisfaction.

Our Dresden Center of Technical Expertise is located in the heart of Continental Europe with the added benefit of an international airport situated only 10 minutes from the office enabling easy access between its satellite offices and customers situated all-over Europe. Engineers are accessible on all engineering and application matters using the modern extensive workshop area and appropriate technical equipment for quick analysis and repair.



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Full Service Center (FSC)

Vacuum Dry Pumps, with proven reliability on severe semiconductor processes still require to be serviced to ensure trouble free running. Experience in handling of contaminated process dry pumps from the beginning with a decontamination procedure, reassembling and final quality inspection is required to maintain the proven reliability on all vacuum processes.

Our fully equipped Service Center, located at Livingston, Scotland, employs highly skilled vacuum engineers, to maintain and refurbish vacuum dry pumps and associated products within a guarantee turnaround time without the loss of quality to workmanship. This is achieved by working on a shift pattern including weekend work to ensure a smooth turnaround time to meet a demanding market. Internal global information always ensures the highest standard of workmanship and quality to be maintained throughout Europe.

Training courses for internal and external students make vacuum and its application understandable and applicable.



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