

Latest News from Applied Multilayers

No.7

R&D Systems for Thin Film Photovoltaics

Applied Multilayers offers a range of systems specially configured for research into thin film photovoltaics. These systems range from affordable load locked systems for sputtering research with small circular six inch magnetron targets through to pilot scale batch systems for full module work with 1.2m magnetrons. Systems can be configured for glass substrates or flexible metal or polymer substrates, including sheet winding facilities. These systems can be equipped with 2, 4, 6 or 8 linear magnetrons each with different target materials to offer full process research flexibility. Larger systems can also accommodate evaporation, K-cells, radiant heating and reactive gas control.

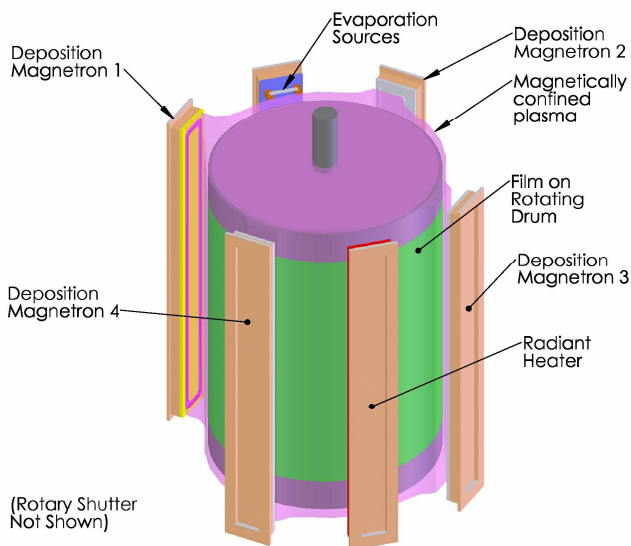


Figure 1. This schematic diagram illustrates the geometry of a large scale CFM850 system for thin film photovoltaic R&D. The substrates (glass or sheet metal or polymer) are held on a rotating drum. This system has four linear magnetrons in a closed field configuration, a thermal evaporation stage and radiant heating.



Figure 2. The 750mm diameter drum for coating onto polymer (or metal) sheet is loaded into a two-door CFM1050. The machine is equipped with eight 1.2m linear magnetrons (with four in each door).

Systems from Applied Multilayers offer a number of important advantages for process R&D for thin film photovoltaics:

- **The rotating drum substrate carrier allows up to eight linear magnetrons to be located around the chamber walls offering the possibility of using eight different target materials for maximum process flexibility.**
- **The rotating drum can be specified to coat flat glass substrates or flexible metal or polymer sheet.**
- **Software allows ultimate process flexibility controlling thin film thickness (time), gas pressure, stoichiometry, thin film microstructure etc...**
- **Co-deposition from two or more magnetrons.**
- **Established processes for depositing excellent quality ITO (and other TCO's) without heating or post annealing.**
- **Substrate heating using radiant heating panels**
- **Optional incorporation of Thermal Evaporation or K-cell processes.**
- **Range of systems available to suit budgets and substrate sizes.**
- **Range of target materials available including Si, Ge, Cu, CdTe, CdS, ITO etc....**

Applied Multilayers understands that flexible design is the key to success in thin film R&D. Contact us if you have additional requirements for your research needs.

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