



## Back pressure and volume flow regulation in semiconductor production

### Process description

In semiconductor factories, the process tools are supplied with the required media via a hook-up. Inside the tool, the medium is distributed to the various stations. In this process of supplying the stations, it is vital that the amount of medium being supplied to the wafer being processed is constant per unit of time. The key parameters here are the volumetric flow and the line pressure.

Due to outlets being switched on and off, the volumetric flow is subject to fluctuations that would adversely affect the quality of the wafers.

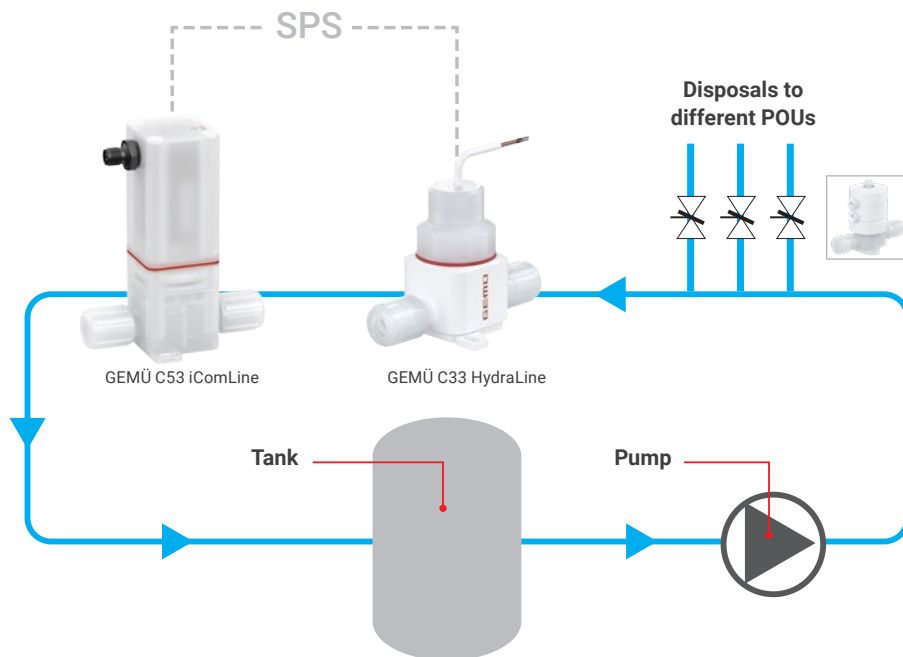
### The task

Back pressure controls are used to keep the pressure in the line constant, even if varying amounts of the medium are removed by the individually controlled outlets during wafer wetting.

The GEMÜ C53 iComLine control valve is ideal for use in back pressure controls due to its precise control accuracy and adaptable control characteristic.

The pressure is measured using the GEMÜ HydraLine series of electronic pressure gauges.

## Diagrammatic view of the process

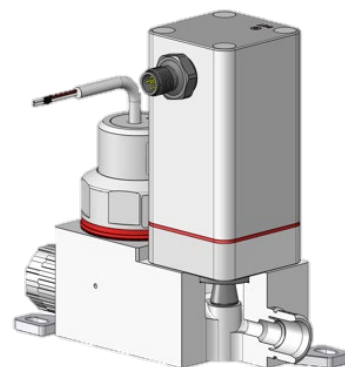


A typical application example is the process step of CMP slurry application. CMP is used to polish the wafers. It is essential the slurry is precisely dosed for application to the

wafer in order to remove the optimum amount of material. The back pressure control is used here to keep the volumetric flow constant.

### Advantages at a glance

- Combination of two established GEMÜ products
- Motorized GEMÜ C53 iComLine control valve for precise control
- Various connection types (flare, pillar, PrimeLock, Nexus Connect®)
- Wide range of connection sizes (1/4" to 3/4")
- Electronic GEMÜ C33 pressure gauge for accurate pressure measurement
- All media wetted parts are made of PFA or PTFE



### Suitable GEMÜ products

