

# Case Study



## Closed Combined System (CCS) - Granulation Line for OSD production

The increasing demand for OSD products is opening up new production prospects for the contract manufacturing organization, which has already led to several investments in DIOSNA machines. Recently the company opted for one of the largest machines in the DIOSNA portfolio, a CCS granulation line, which consists of an efficient combination of mixer-granulator and fluidized bed processor.

The closed combined system (CCS) consists of a high-shear mixer and a fluid-bed dryer in direct connection. It therefore offers a solution for mixing and drying processes with high containment requirements in large-scale production.

### Material flow

The mixer is loaded with powders via vacuum transfer. Excipients as well as APIs are transferred directly into the mixer via a handheld lance. After wet granulation with binder additive, the granulate is sieved and then transferred to the fluid-bed dryer by vacuum. After drying, the product is transferred to the sieve mill by vacuum and then emptied into IBC's.

### Main features

- Full integration into customer's monitoring system (SCADA)
- Industrial PC with touch screens with remote servicing
- Flexible operation of the system by changing the bowl size and two operating terminals
- Automated processes and short set-up times
- Through the wall installation for strict separation of production and technical area
- Delivered in parts, reassembled inside the room
- Pressure-shock resistant fluidized bed unit design up to 12 bar

### Fact Box

Customer:	CMO
Country:	Germany
Year:	2024
Delivered system and services:	Granulation line (high-shear mixer and fluid bed processor), On-site personnel services, Assembly Supervision, Start-up, calibration & training, SAT - Site Acceptance
Size:	CCS 1250
Client's success factors:	Excellent granules, Automatic operation, Complete granulation line, Technology support, short delivery times

