

## Bench Scale Equipment with high containment capability

Next-Generation ODT (Orally Disintegrating Tablet) : Lyopan®  
Personalized Healthcare based on OTF (Oral Thin Film)

### Taking Tablets Made Easy

With the major improvements it brings, Lyopan® is an innovative kind of technology which significantly extends the market opportunities for orally disintegrating tablets (ODT). The technology is based on a powder formulation which is dosed into a molded blister cavity, wetted with an aqueous liquid, and then freeze-dried.

The active ingredient and additional additives can then be dosed in both the liquid and the powder part.

ODT technology offers numerous advantages over conventional tablets:

- It makes taking medication easier for patients with difficulty swallowing as the tablet dissolves in the mouth extremely quickly.
- The medication acts quickly as part of the active ingredient is already absorbed in the oral mucosa. It's a practical way to take medication without the need for clean drinking water.
- The taste is pleasant thanks to the option of taste masking.
- The microbial sensitivity is low thanks to the low moisture content in the end product.



### Internal ODT Technology

Compared to other ODT technologies already established on the market, Lyopan® technology offers a number of different advantages:

- An increased range of active ingredients – even non-soluble ingredients – can be administered in powder-form.
- The manufacturing time is reduced considerably. Only about 50% of the formulation is made of an aqueous solution, which reduces the freeze-drying process massively.
- Taste masking is improved as the active ingredients can be dosed in powder-form and not just in the liquid. This increases acceptance among patients.
- The maximum active-ingredient content is higher, therefore enabling smaller tablets.

### OTF Technology

By dispensing one or more API on an uncured Oral Thin Films (OTF) gel, it is possible to produce patient-centered medicine on unit per unit basis.



Dietrich Engineering Consultants sa

Z. I. Larges Pièces A · Chemin du Dévent · P. O. Box 9 · 1024 Ecublens · Switzerland  
Tel +41 21/694 20 40 · Fax +41 21/694 20 59 · info@dec-group.ch



## Bench Scale Equipment

### Blister formats:

- 130mm x 40mm max.

### Dosing:

- Powder: 1,0 – 900,0 mg
- Liquid: max. flow rate: 0,33ml/sec

### Machine data:

- Noise level: <75dB(A)
- Length: 1500mm
- Width: 600mm
- Height: 1900mm
- Weight: 1000kg

### Control System:

- Controls: BECKHOFF, Modell TwinCAT (Soft SPS)  
TwinSAFE, Ethercat Basis
- Servo motor: Exlar GSX50
- HMI: BECKHOFF CP2916Series  
Touch screen color display

### Electrical connections:

- 230V, 50/60Hz /N/PE
- Fuse: 16A, no fault current circuit breaker

### Pneumatic Connection:

- Pressure: 4 - 10 bar
- Air consumption: 50l/min (Peak: 400l/min)

### Benefits:

- Meets GMP Requirements
- Short set-up times
- Simple and easy parameter set-up
- Upgradable
- Simple and quick cleaning
- Validated reliability



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