# UNIVEX 250
## Vacuum Coating System

Leybold

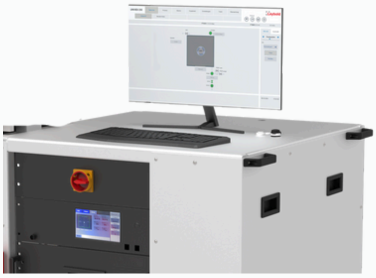
# UNIVEX 250

## Smart Choice for Seamless Coating Applications

In the dynamic world of scientific exploration and technological advancement, the UNIVEX 250 is your gateway to seamless coating processes, designed for universities, scientific labs, technical high schools, and industrial R&D facilities worldwide.

With the UNIVEX 250, you benefit from a cost-effective solution without compromising on quality or performance, meeting your diverse coating needs from contact metallization to contrast imaging for microscopy or thin film applications.

- Frame with heavy-duty castors accommodates the vacuum chamber with pump system and the control unit with electrical process components as well as color monitor
- Cubic stainless-steel chamber, with hinged aluminum front door for easy access to the process equipment
- Easily removable stainless-steel liners for protection of inner chamber walls and front door against deposition
- Powerful high-vacuum pumping system



## Features and benefits

- **Cost-effective starter system**: begin your coating journey without breaking the bank.
- **Simple operation:** intuitive controls for hassle-free operation for users of all levels.
- **Convenient access:** easy access to your system for maintenance and operation.
- **Modular extendibility:** scale your system according to evolving needs with our modular design.
- **Mobile system:** take your capabilities wherever you go, enabling flexibility and convenience.
- **Vacuum chamber:** stainless steel chamber with hinged aluminium front door and inspection window.
- **Substrate coatings:** precisely controlled coatings for single substrates in R&D, and prototyping.
- **Maximum substrate:** accommodates up to Ø 200 mm.

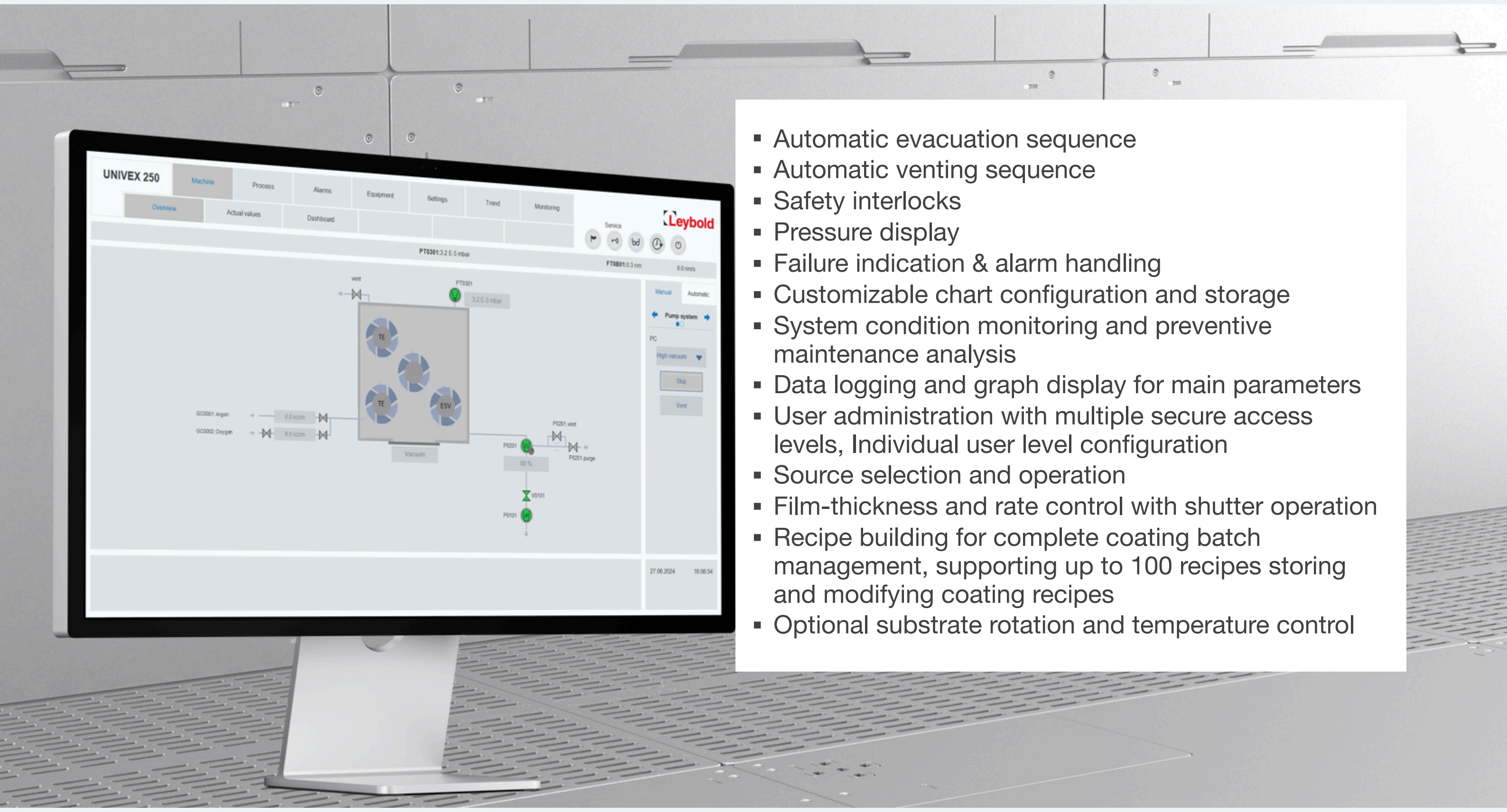
## Technical Data

| Technical data | UNIVEX 250 |
|---|---|
| Overall dimensions | approx. 1,400 mm x 950 mm x 1,800 mm (W x D x H) |
| Weight | approx. 500 – 600 kg |
| Chamber Inner dimensions | 270 mm x 370 mm x 400 mm (W x D x H) |
| Max. Substrate size | Ø 200 mm |

## System information & requirements

| Power Supply | System Base Pressure | Cooling Water Supply | Compressed Air Supply |
|---|---|---|---|
| 400 V,<br>3-phase/N/PE, 50-60 Hz | ≤1 E-06 mbar<br>(vented with dry nitrogen) | 8-15 l/min at 4 bar<br>inlet at 18–25°C<br>(Outlet-pressure less) | 4–7 bar |

# Intelligent functions



- Automatic evacuation sequence
- Automatic venting sequence
- Safety interlocks
- Pressure display
- Failure indication & alarm handling
- Customizable chart configuration and storage
- System condition monitoring and preventive maintenance analysis
- Data logging and graph display for main parameters
- User administration with multiple secure access levels, Individual user level configuration
- Source selection and operation
- Film-thickness and rate control with shutter operation
- Recipe building for complete coating batch management, supporting up to 100 recipes storing and modifying coating recipes
- Optional substrate rotation and temperature control

# UNIVEX software features

Comfortable system operation via large display using UNIVEX.exe software allows

**Fully automated batches**

**Data logging and graph display for main parameters**

**Remote control**

**Manual mode**

**System condition monitoring and preventive maintenance analysis**

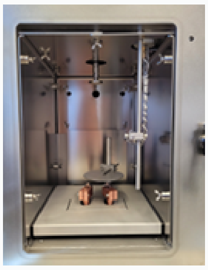
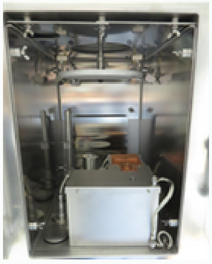
**User administration** with multiple secure access levels, Individual user level configuration

**Recipe processing** allows programming, store and modifying recipes with adjustable parameters for different single or multiple layers

# Standard configurations

## Designed to start your operations with high quality and performance.

Choose from four pre-configured standard models, each offering attractive pricing and delivery times.

| | UNIVEX 250 for | | | |
|---|---|---|---|---|
| | **Thermal Evaporation** | **Electron beam evaporation** | **DC-Sputtering** | **RF-Sputtering** |
| |  |  |  |  |
| **Pump system** | | | | |
| High vacuum pump | TURBOVAC 450 i | TURBOVAC 450 i | TURBOVAC 450 i | TURBOVAC 450 i |
| Backing Pump | TRIVAC D8T | TRIVAC D8T | TRIVAC D8T | TRIVAC D8T |
| Pressure regulation | | | Butterfly-Valve for pressure regulation, DN 160 ISO-F | Butterfly-Valve for pressure regulation, DN 160 ISO-F |
| **Process equipment for** | | | | |
| Thermal evaporation | 1 x Single thermal evaporator<br>1 x Power supply (2 kVA) | | | |
| Electron beam evaporation | | 1 x Multi-pocket electron beam evaporator (4 x 4 $cm^3$)<br>1 x High voltage power supply (3kW) | | |
| Sputtering | | | 1 x Ø 2“ Magnetron, confocal, Sputter Up<br>1 x DC power supply (500W) | 1 x Ø 2“ Magnetron, confocal, Sputter Up<br>1 x RF power supply (300W) |
| **Film-Thickness measurement** | 1 x Controller with 1 x quartz crystal sensor head | 1 x Controller with 1 x quartz crystal sensor head | | |
| **Substrate** | | | | |
| Max. size | Ø 4“ | Ø 4“ | Ø 4“ | Ø 4“ |
| Rotation | 0-20 rpm | 0-20 rpm | 0-20 rpm | 0-20 rpm |
| **Gas inlet** | | | 1 x MFC for Ar | 1 x MFC for Ar |
| **System control** | PLC with monitor | PLC with monitor | PLC with monitor | PLC with monitor |

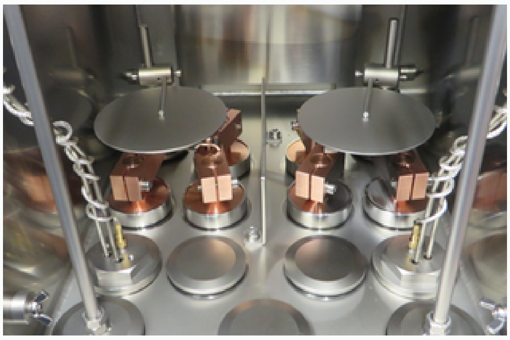
| **Order data** | UNIVEX 250 for | | | |
|---|---|---|---|---|
| | **Thermal evaporation** | **Electron beam evaporation** | **DC-Sputtering** | **RF-Sputtering** |
| Part no. | 505600V001 | 505601V001 | 505602V001 | 505603V001 |

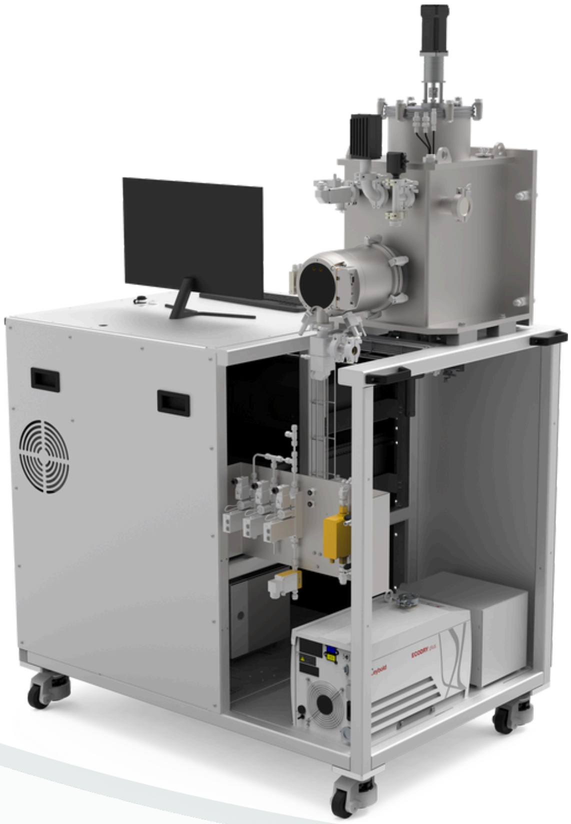
# Customized solutions

## 100% customized to customer's needs based on well proven modules

| Create your ideal system: | |
|---|---|
| Pumping System | ▪ Various options for backing pumps<br>▪ HV-Gate valve and Bypass<br>▪ Butterfly-Valve for pressure regulation |
| Process equipment | ▪ Thermal evaporation<br>▪ Co-Evaporation using single evaporators |
| | ▪ Electron beam evaporation<br>▪ Combination with thermal evaporation |
| | ▪ RF & DC sputtering<br>▪ Co-Sputtering<br>▪ Combination with thermal evaporation |
| Substrate treatment | ▪ Rotation<br>▪ Heating<br>▪ Watercooling<br>▪ Substrate shutter |
| Film-Thickness measurement and control | ▪ Additional quartz crystal sensors |
| Process Gas inlet | ▪ For sputtering and/or reactive processes |

**and much more...**





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