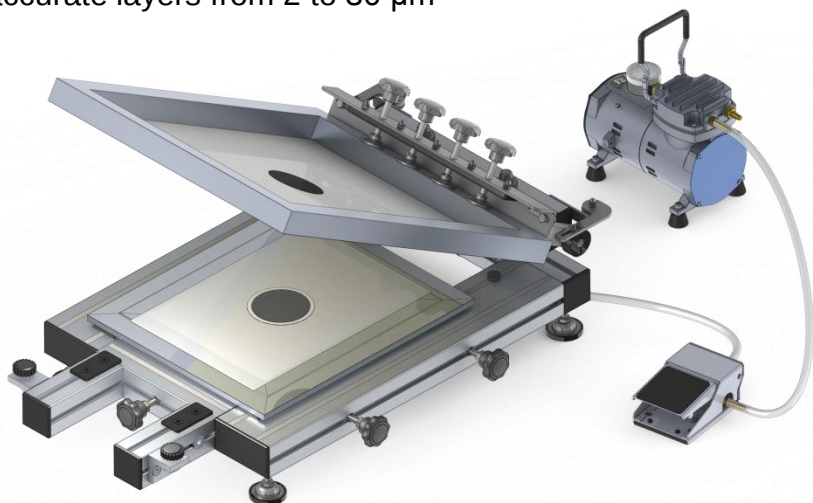


Ceramic processing

for SOFC/SOEC cell fabrication

Manual screen printer for thin layer deposition that allows to print accurate layers from 2 to 30 μm



This fully Fiaxell manufactured manual screen printer allows for ink deposition on small ($\varnothing 20\text{mm}$) and large cell (up to $180 \times 180\text{mm}$)

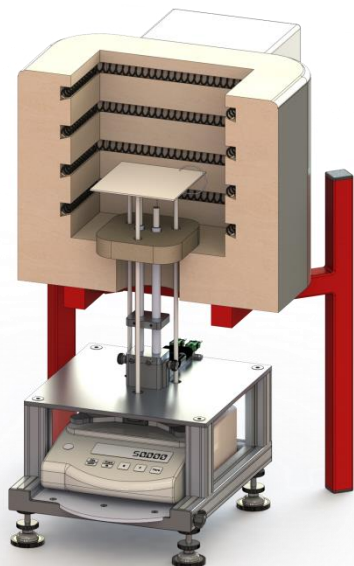
Screen printing frame from small 20 X 20 cm to large size of 50 X 80 cm

Delivered key in hand with screen printing meshes, squeegees, oil free vacuum pump and foot pedal to keep free hand for cell handling

Chemicals for tape casting/screen printing:

Fiaxell provides chemicals for slurry and ink preparation for water (no hazardous vapor or offensive smell) or organic (fast or slow drying rate) based formulation

Thermogravimetric analysis (TGA) for binder burn-out in real sintering environment



Top : Fiaxell's system for TGA measurement in realistic sintering environment

Cell dimension up to 180 x 180 mm

Realistic sintering environment (in between setter tiles)

User-friendly LabView software for data acquisition

Usable with Fiaxell SOFC setup kiln

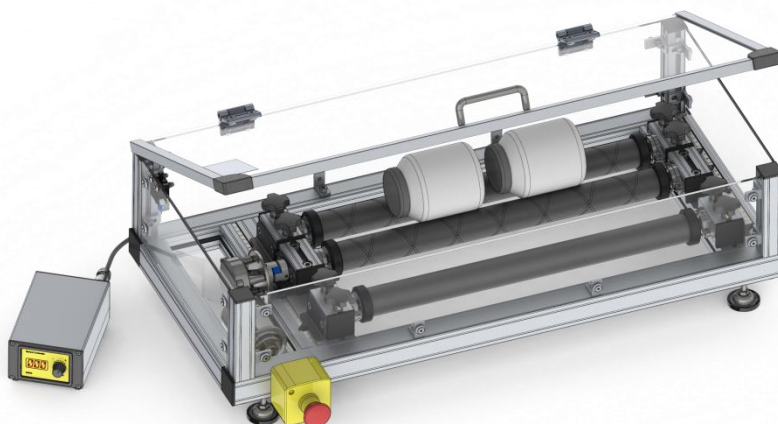
Ball Mill for dispersing powders in aqueous and organic slurries

Three 470mm rollers with adjustable position to suit different container sizes (from 50 ml up to 2 liters)

Remote control of the rotation speed (from 0 up to 270 rpm) and timer

Timer to limit ball milling duration

Protective PMMA housing



Right : Fiaxell's ball milling machine with speed controller and timer function

Manual lab tape caster

for SOFC/SOEC cell fabrication

In order to answer the need for in house fabrication of cells and ceramic substrates, Fiaxell has developed a manual lab tape caster that allows the production of substrates for thin electrolyte and anode support

Thickness homogeneity and reproducible tapes can be produced, with $\pm 10 \mu\text{m}$ of thickness over a tape 200 mm of width and 600 mm length. Delivered with a level, the tape caster is set on a horizontal plane thanks to 4 adjustable feet

Multi-layered tapes and tape casting can be achieved accurately by successive tape casting on the previous layer. Different tapes can be performed and stacked on the frame for drying



Tape caster with several tapes stacked. The doctor blade has two sets of aluminium fixtures that allows casting of tapes from 30 to 250 mm in width

Adjustable doctor blade

The doctor blade comes in two different sizes with adjustable widths from 30 to 250 mm (picture on right)

The blade height can be simply and quickly adjusted from 50 μm to 1 mm using the two sets of calibrated wedges included in the kit. This allows dry tapes from about 20 to 300 μm

The two sets of aluminium fixtures allow casting of tapes from 30 to 250 mm in width