

4DigitalBooks™

presents

Vacuum Table

for

i2S scanners

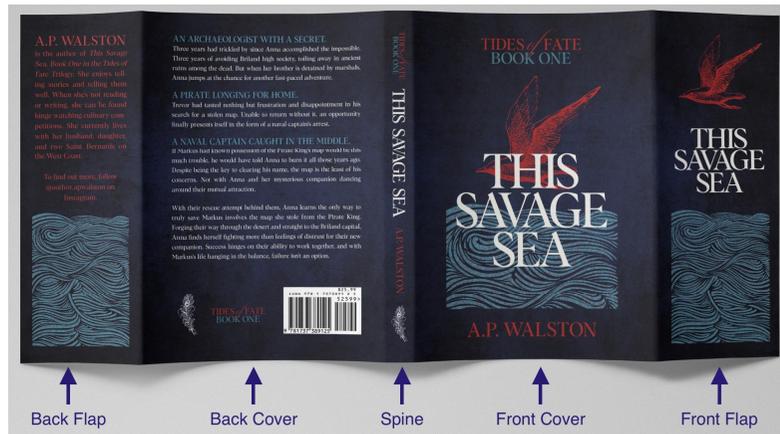
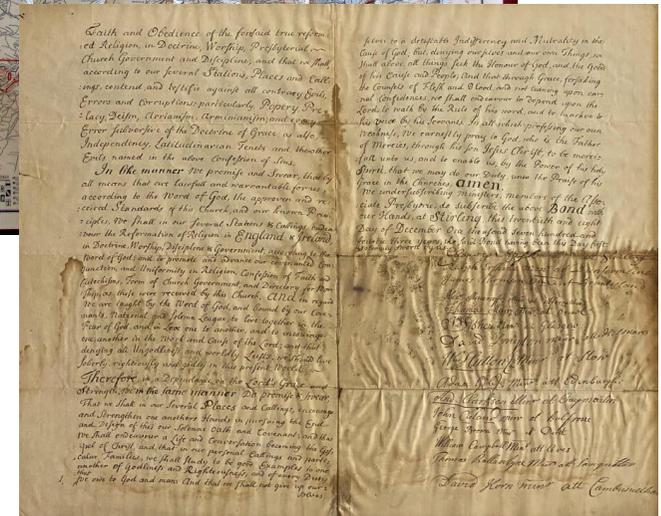
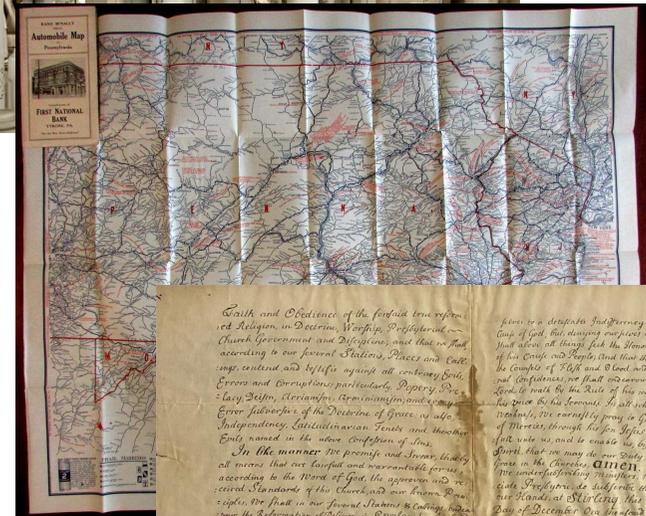
Typical uses for a vacuum table

Flatten single sheet documents :

Maps, Drawings, Posters,
Book Jackets, Letters

rolled, folded or damaged by water

Do not use a glass to press on top of the document



Video from old vacuum table

[samples\A1 vacuum table SupraScan Quartz glossy map.mov](#)

Collaborative Effort

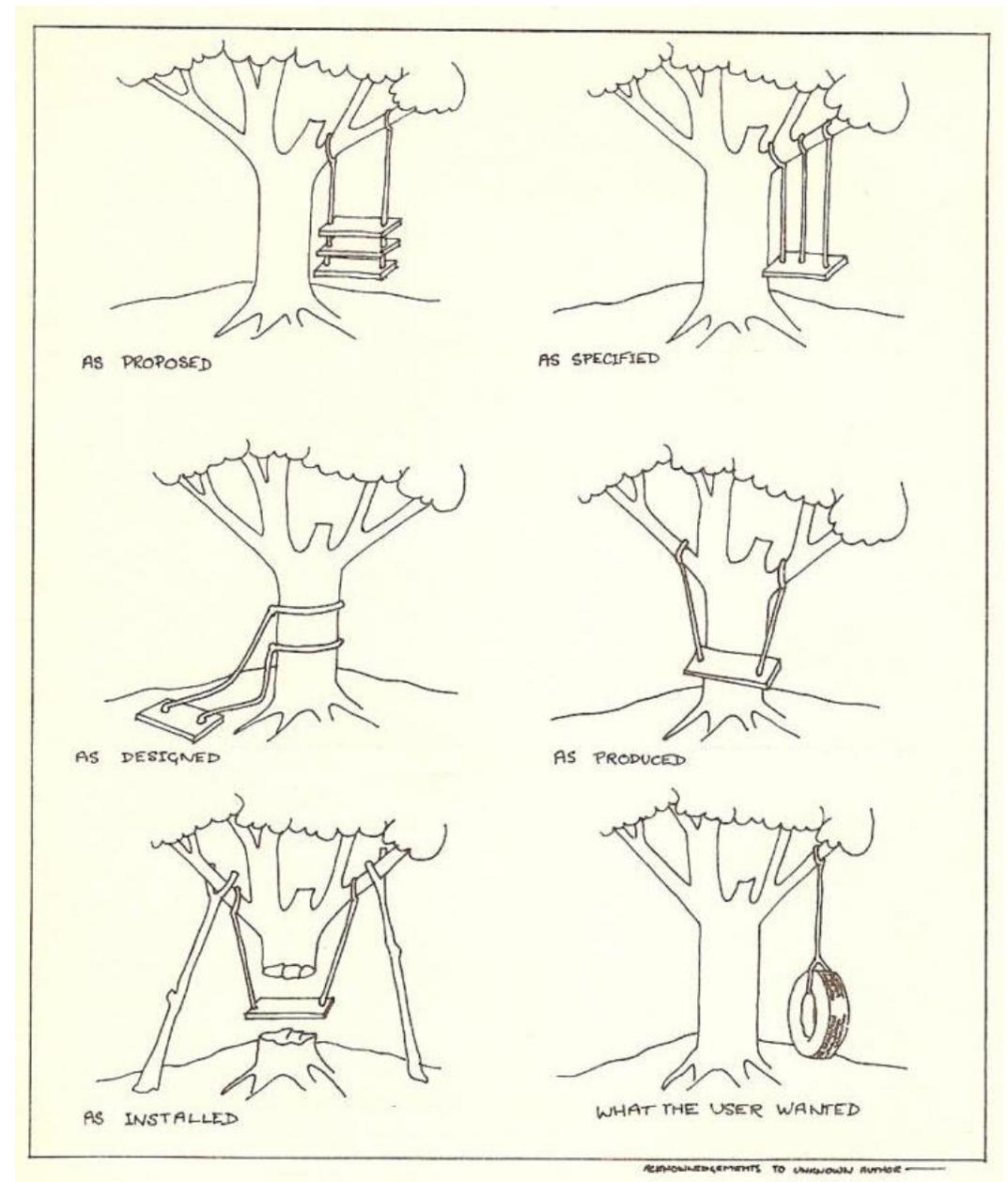
After 20 years of industrial partnership, i2S and 4Digitalbooks joined forces, to design a better product

i2S contribution

- figures on market needs
- figures on price targets
- experience from previous products
- testing and validation

4DigitalBooks contribution

- improving the concept
- industrial design
- prototyping
- manufacturing



Expectations from the users :

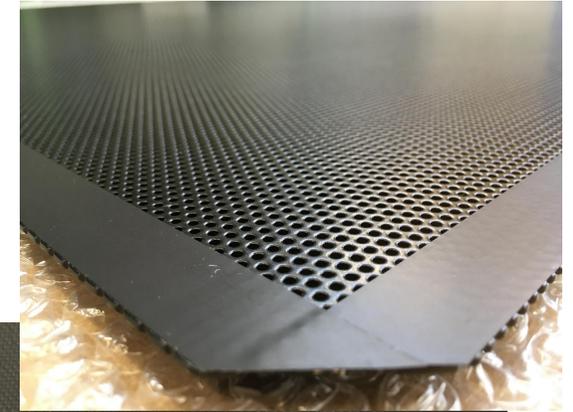
Do not mark the document by excessive vacuum

- ⌋ adjust vacuum by creating an air leak
- ⌋ use smaller holes on aspiration surface



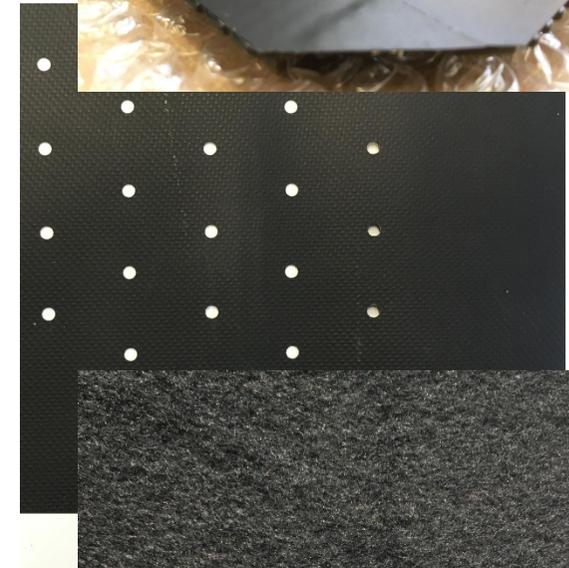
Use uniform vacuum force spread under the whole document

- ⌋ have a high density of aspiration holes
- ⌋ use an intermediate layer of diffusing material



Change density of aspiration holes, to reduce loss of vacuum

- ⌋ use on-top mats with perforated holes at various density



Have a continuous black surface under the document

- ⌋ use a black wadding under the document



Be able to fix page corners or edges, with small magnets

↳ use a metallic surface accepting magnets

Provide tools to change aspiration surface to fit the size of the document

Deliver enough vacuum to hold unrolled documents

↳ use masks to limit vertically and horizontally the aspiration surface



Expectations for ergonomics :

Shall easily insert and remove under the scanner

- ⌋ 2A0 : use a sliding surface under the table, to slide on the scanner bed
- ⌋ A0 : use a trolley that inserts around an existing book cradle
- ⌋ A1 : place the table manually on the platens of the book cradle



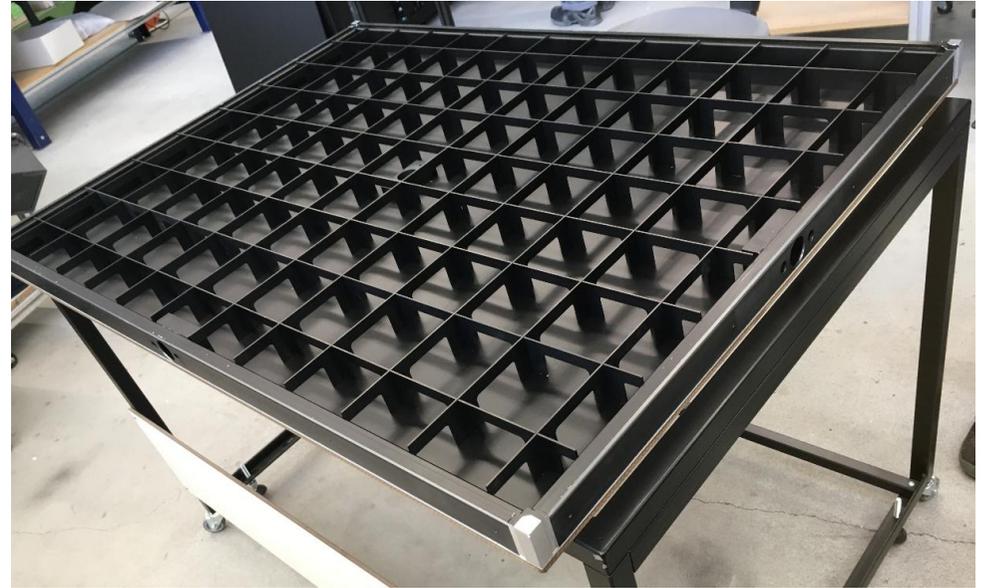
Shall not be heavy

- ⌋ 2A0 : needs 2 operators to put the table on the top of the scanner bed
when taken away, the table is placed on dollies to slide under the scanner bed
- ⌋ A0 : needs 2 operators to put the table on the trolley
- ⌋ A1 : needs 1 operator to put the table on the platens of the book cradle



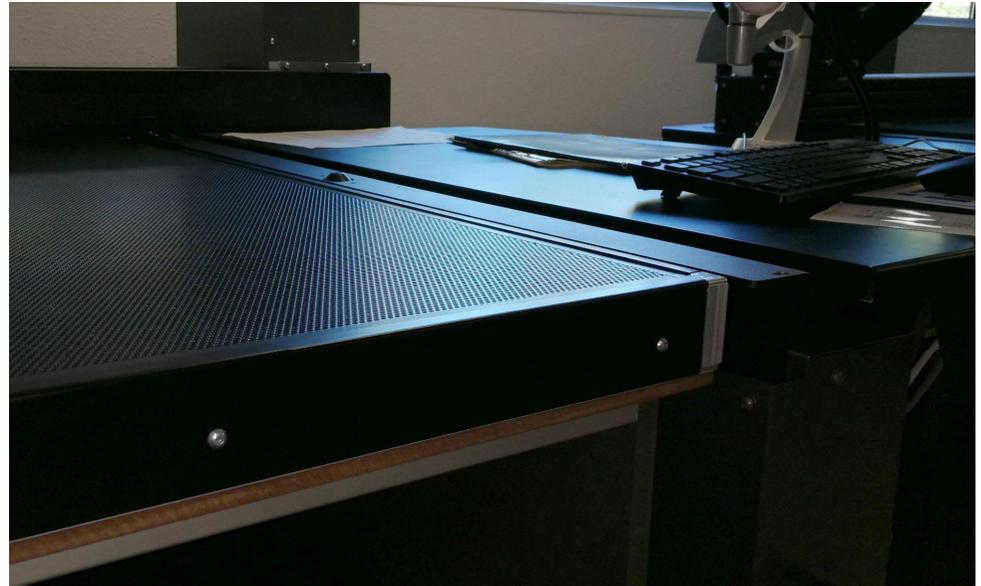
Must be flat and rigid

⌋ mechanical structure provides great rigidity and preserves a flat surface

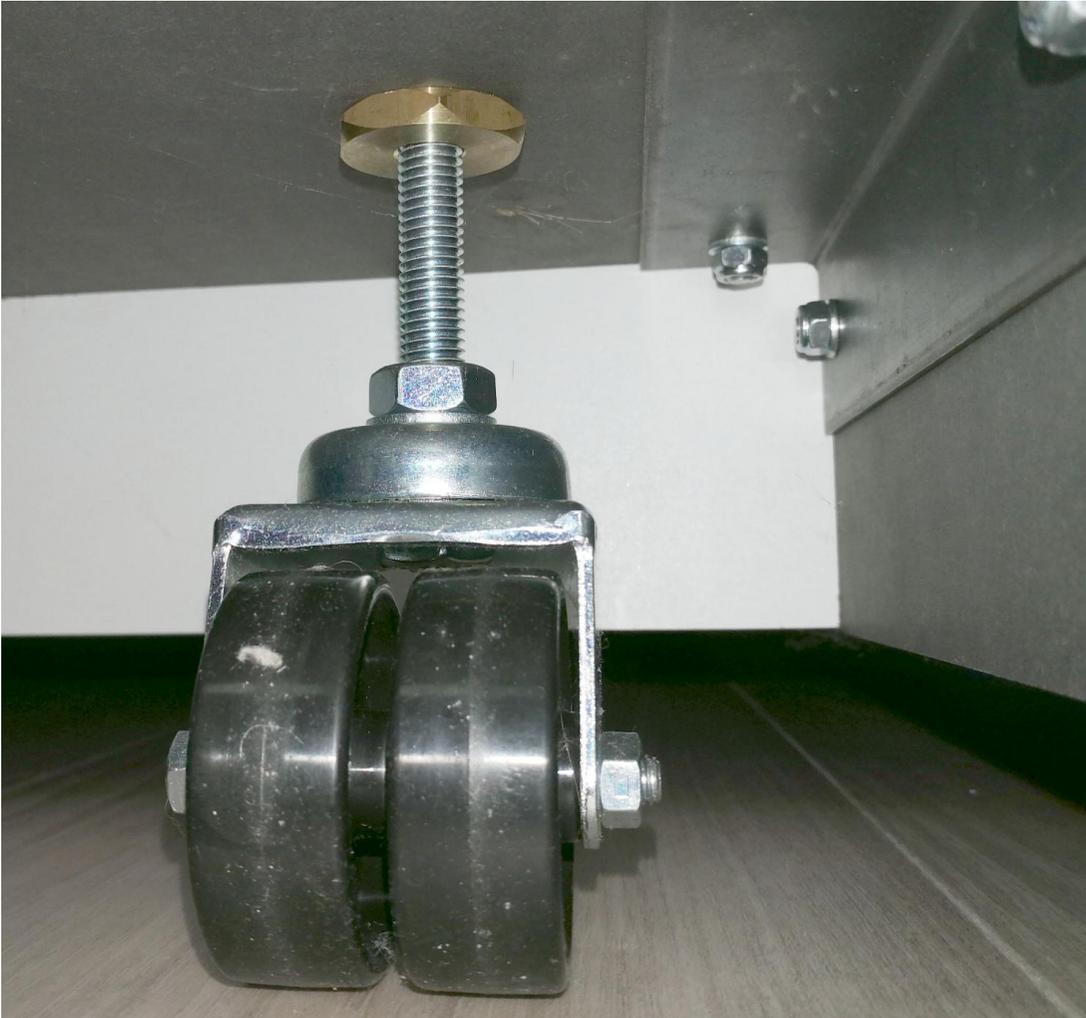


Shall not be thick

⌋ table thickness is about 5 cm

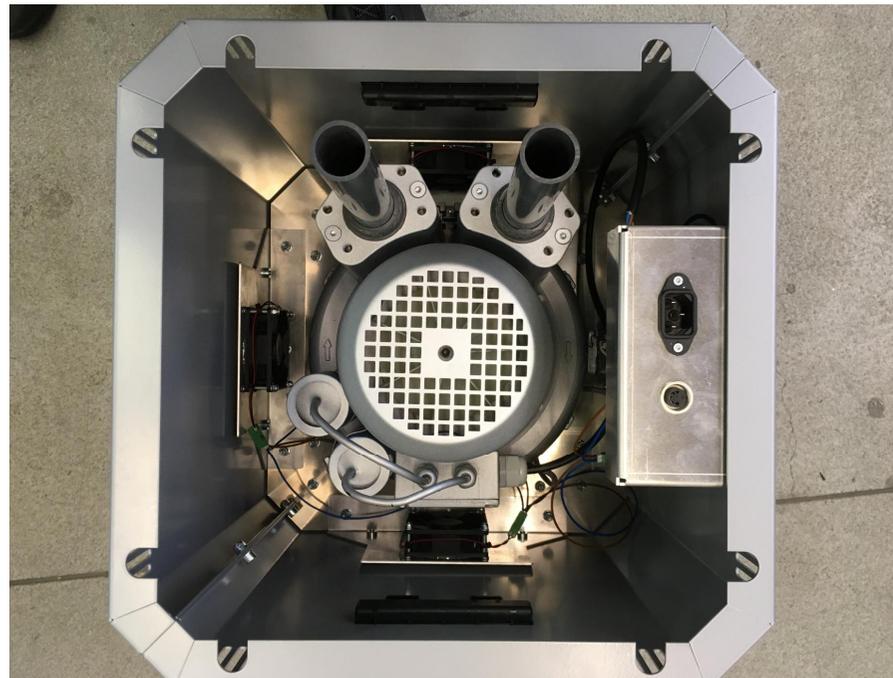


Height adjustment remains, when you bring back the trolley under the scanner
p use wheels with adjustable height (not adjustable legs)



Use a silent vacuum pump, while delivering great depression and airflow.
ρ use a vacuum technology with noise reductions at air inlet and at air outlet

Vacuum pump shall withstand long periods of aspiration without overheating
Vacuum pump shall not have tear and wear
ρ use an industry level vacuum pump

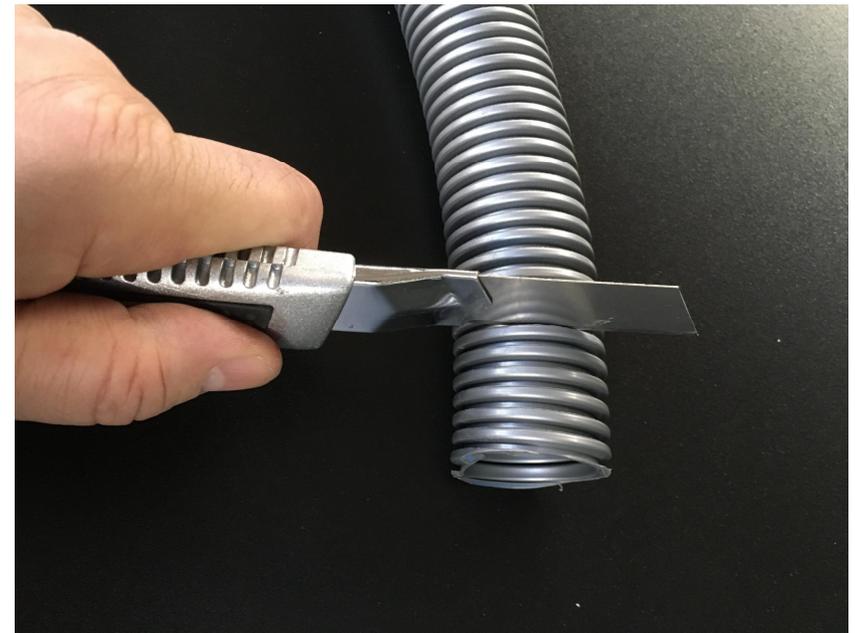


Video of vacuum pump

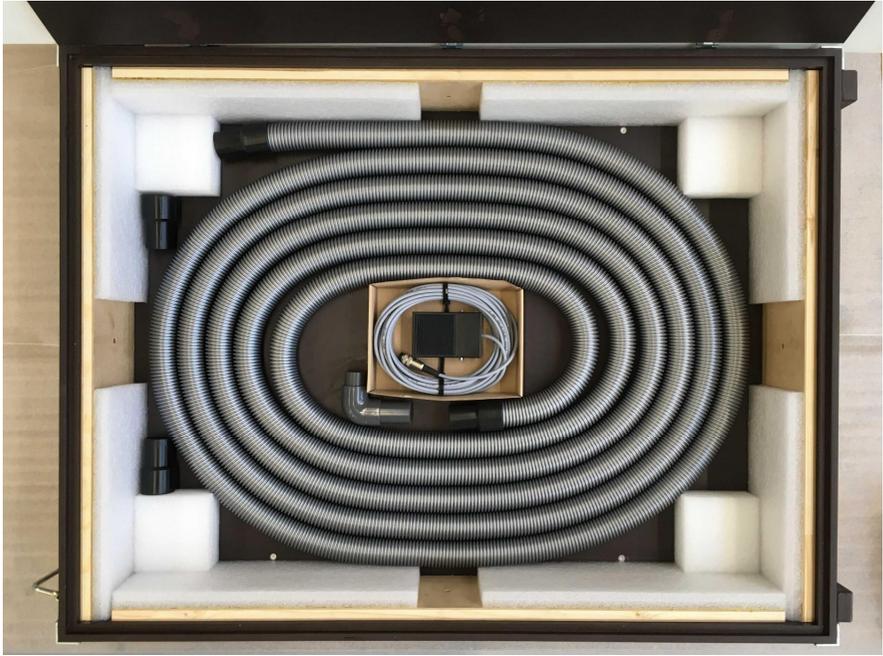
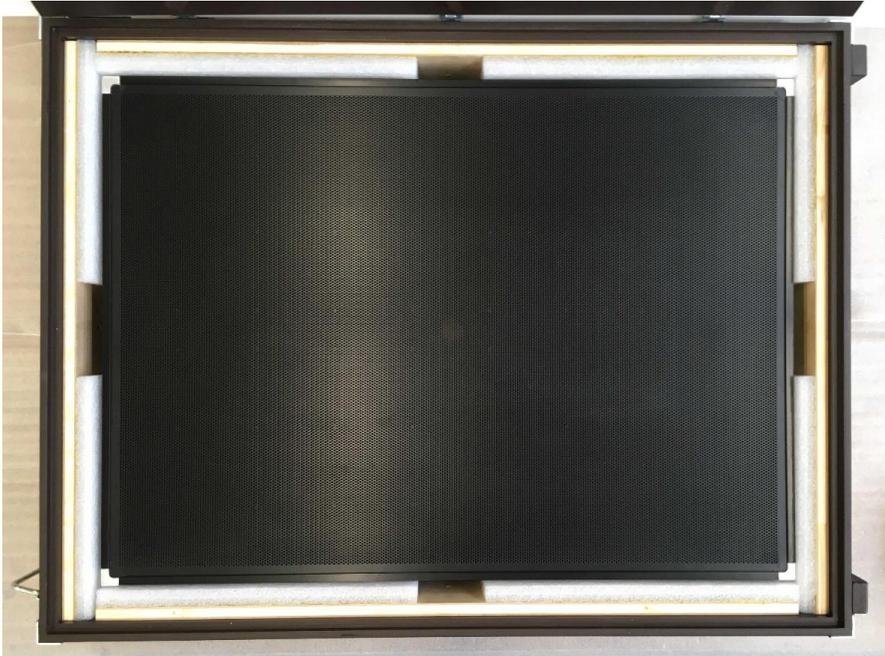
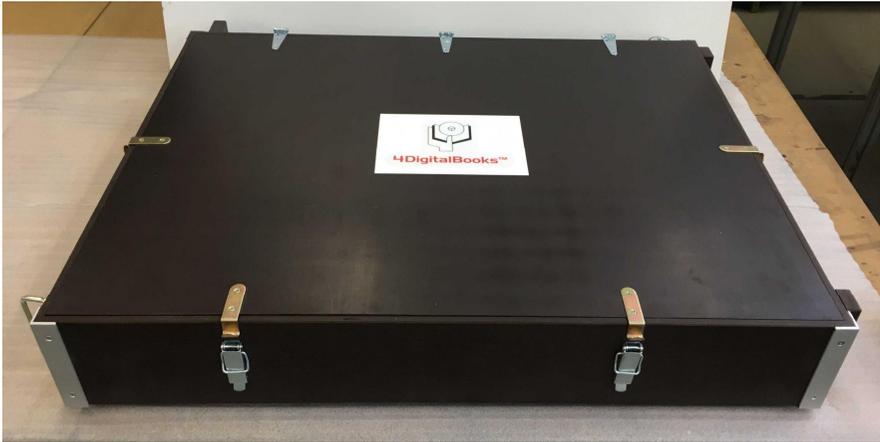
[samples\Side Channel Blowers - Operating principle.mp4](#)

Place the vacuum pump far from the work place

- ⌋ use long vacuum pipes from the table to the pump (10 m)
- ⌋ use long cable from the foot switch to the pump (10m)
- ⌋ allow the user to customize the length of vacuum pipes



Reusable packing for storage or transport of A1 :



Video from A0, using masks and carpet

[2022_03_01_published_TAS_A0\2022_03_01_using_masks_and_carpet.movie.mp4](#)

Video from A0, using rolled poster

[2022_03_01_published_TAS_A0\2022_03_01_aspirate_rolled_poster.movie.mp4](#)

Video from A1, using jackets

[2023_04_xx_published_TAS_A1\2023_04_13_TAS_A1_Utilisation.mp4](#)

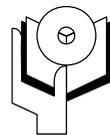
Video from A1, transport

[2023_04_xx_published_TAS_A1\2023_04_18_TAS_A1_Transport_V2.mp4](#)

Expectations from the boss :

Robust design
No maintenance
Installed by end user
More capacity and features
Lower price than previous products
New pumps compatible with the old tables

More value for money
Accessible to more clients
Take a bigger market share



4DigitalBooks™

 SWISS MADE