The partner for foundries

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Modern technologie for foundries


SINTO GLOBAL NETWORK
sinto
HEINRICH WAGNER SINTO

Main facility Bad Laasphe / facility „Amalienhütte“

Until now two machine operators were necessary to produce a complete mould by means of the conventional jolt-squeezing. The working environment was noisy and dusty, quality and quantity of the moulds were restricted.

This situation gave HEINRICH WAGNER SINTO the initiative to develop the SEIATSU Airflow Squeeze Moulding Machine HSP.

Conventional Jolting Squeeze Machines

- The economical and technological choice to conventional jolt-squeezing
- Quiet, environmentally friendly moulding process to max. 80 dB (A)
- Little space and one operator only to mould cope and drag

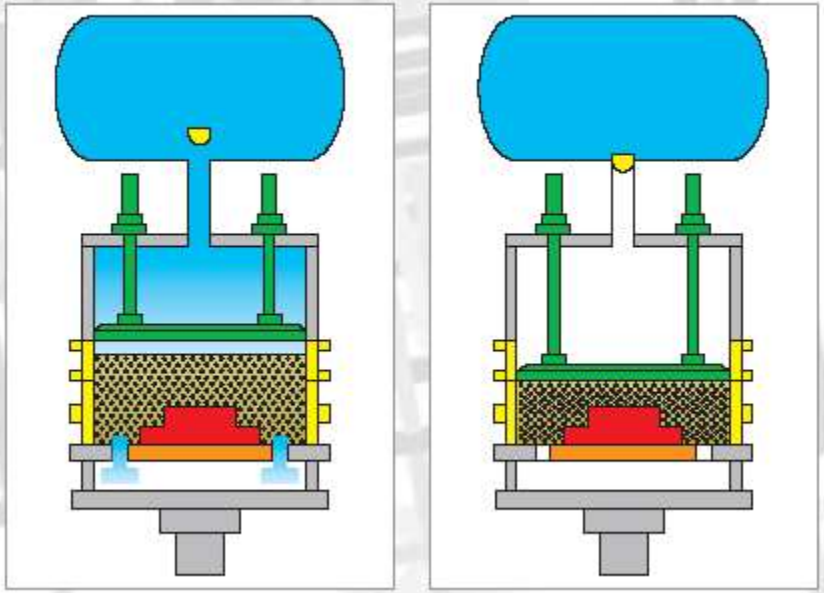
HSP5.avi

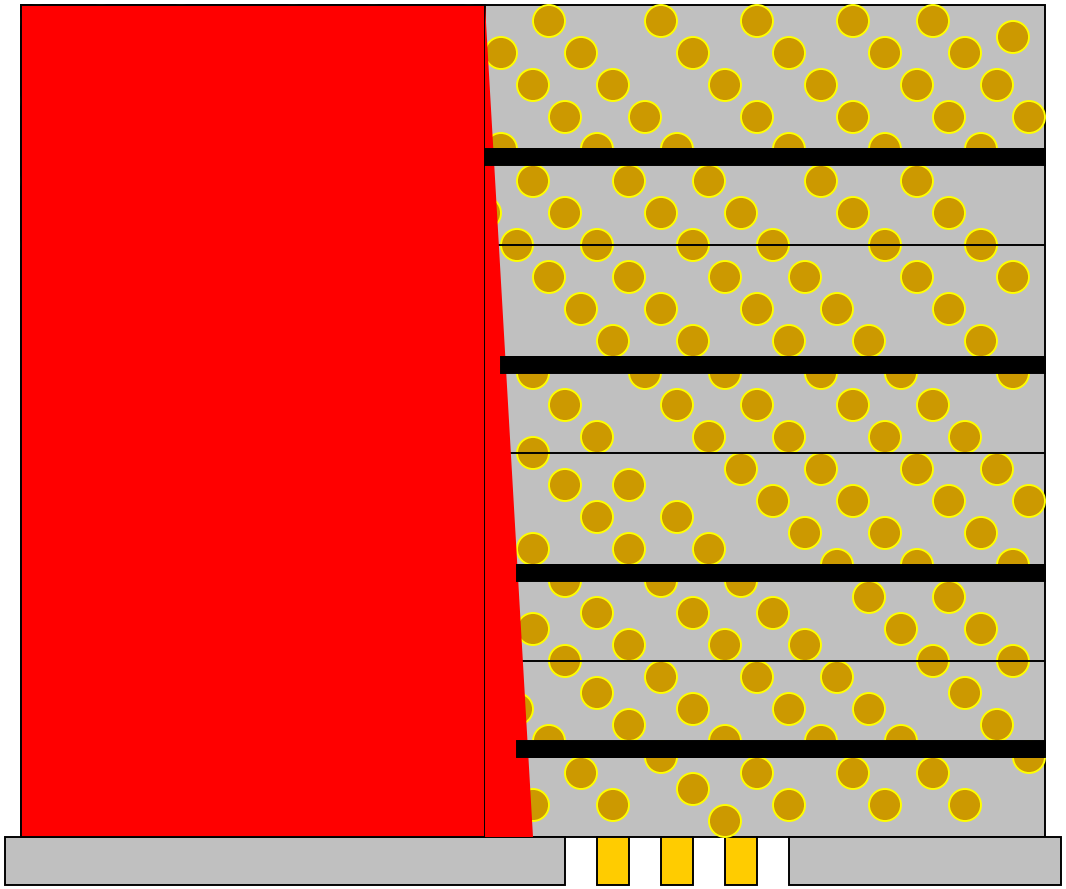
The SEIATSU-process

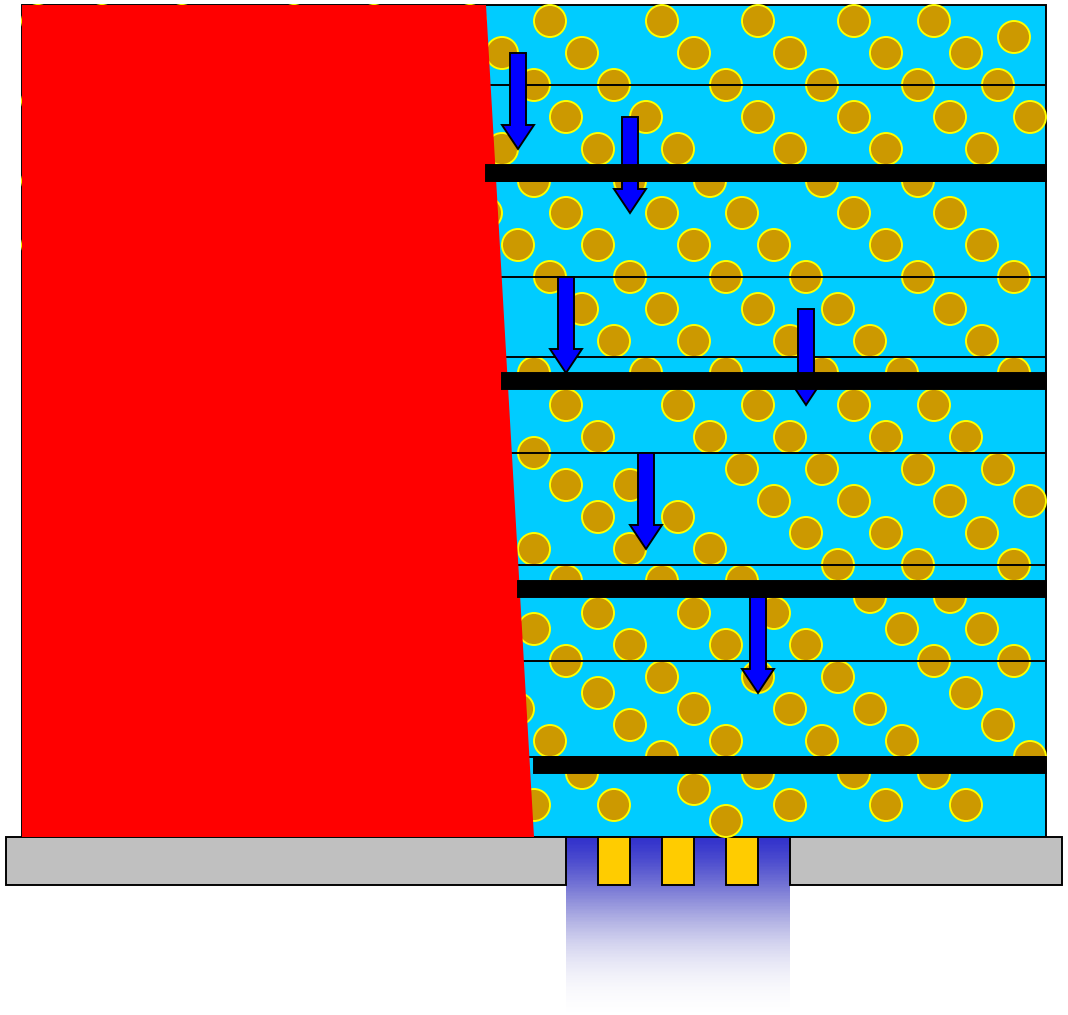
THE ADVANTAGES:

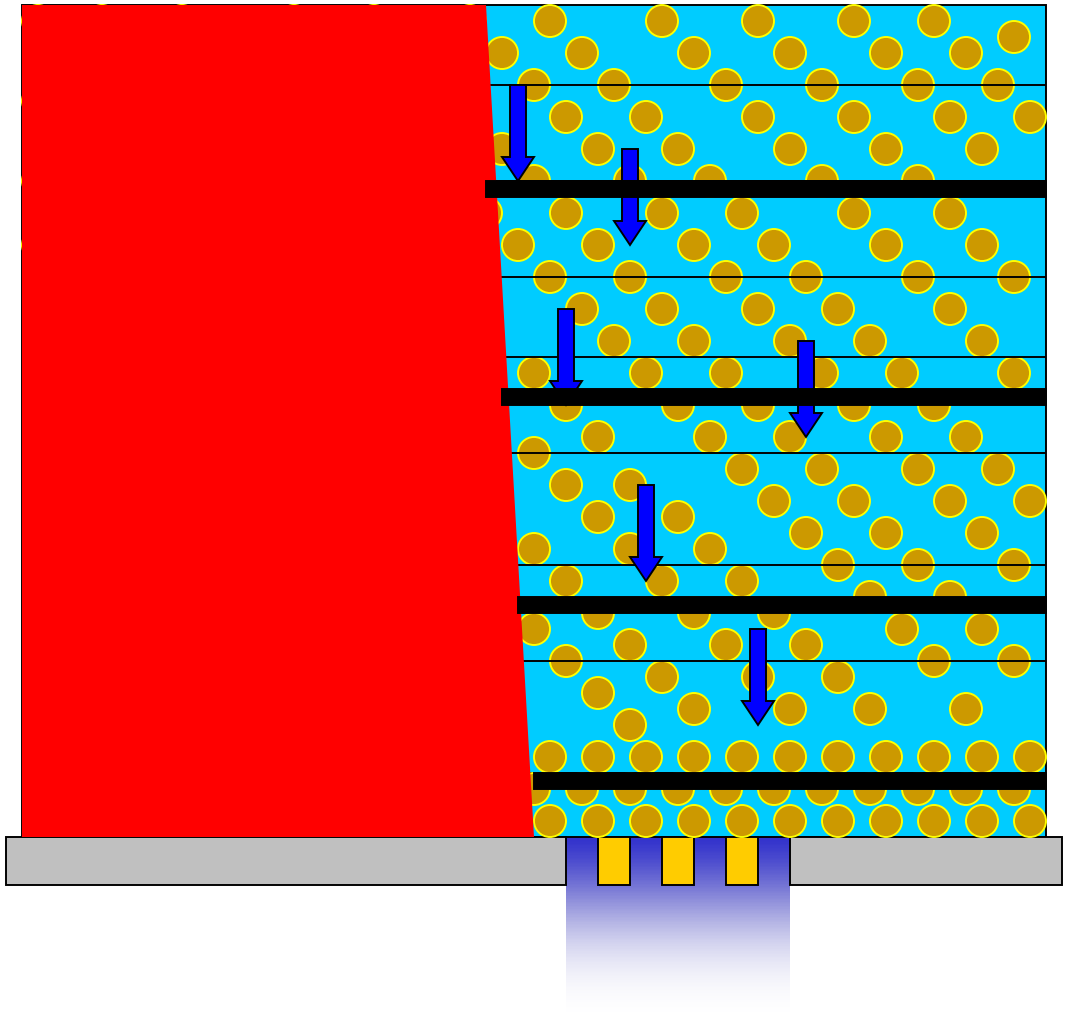
Enhanced moulding quality

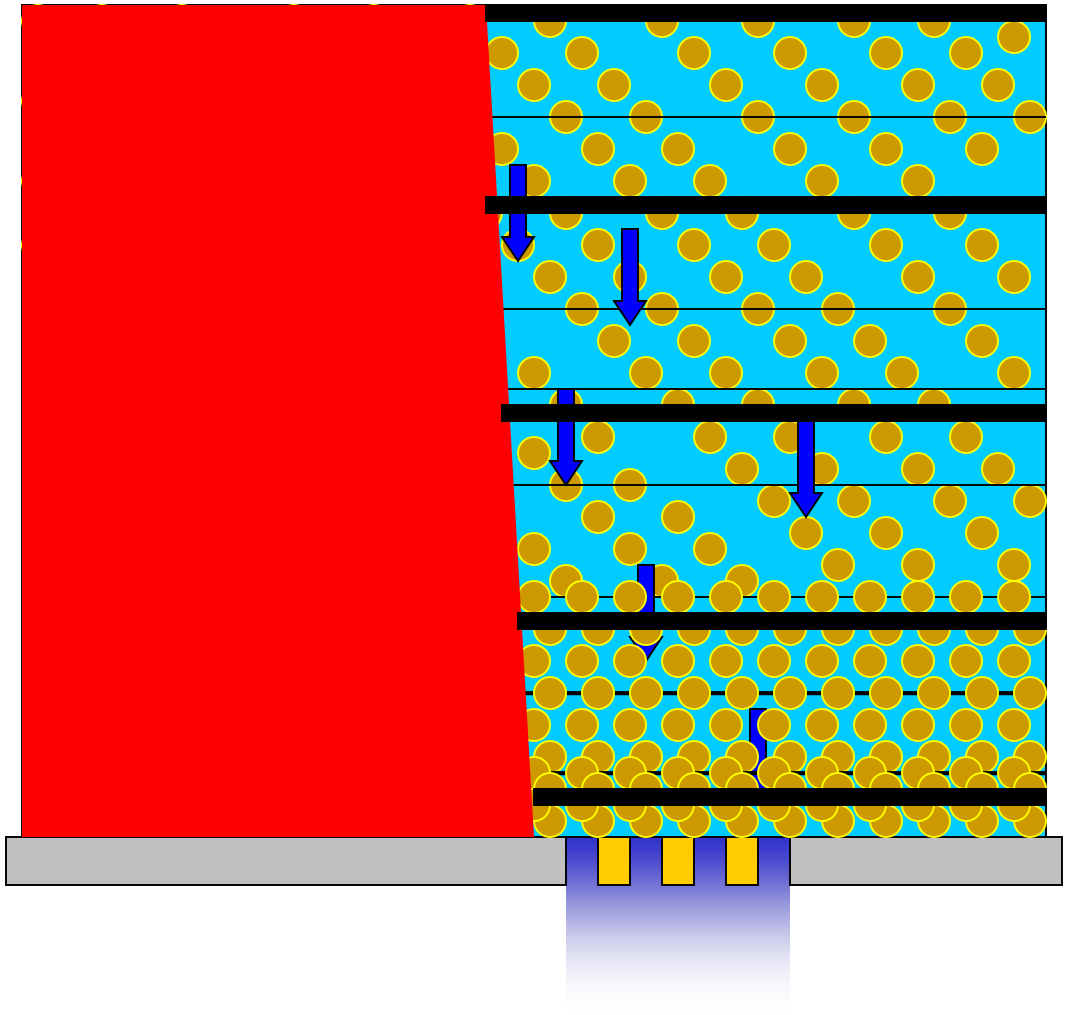
The airflow directs the moulding sand to places of difficult accessability around the pattern and compacts it cleanly and with contour sharpness. By means of the additional hydraulic pressing and a second airflow during the hydraulic compaction a homogeneous mould hardness with characteristics of a high-quality sand mould is created.

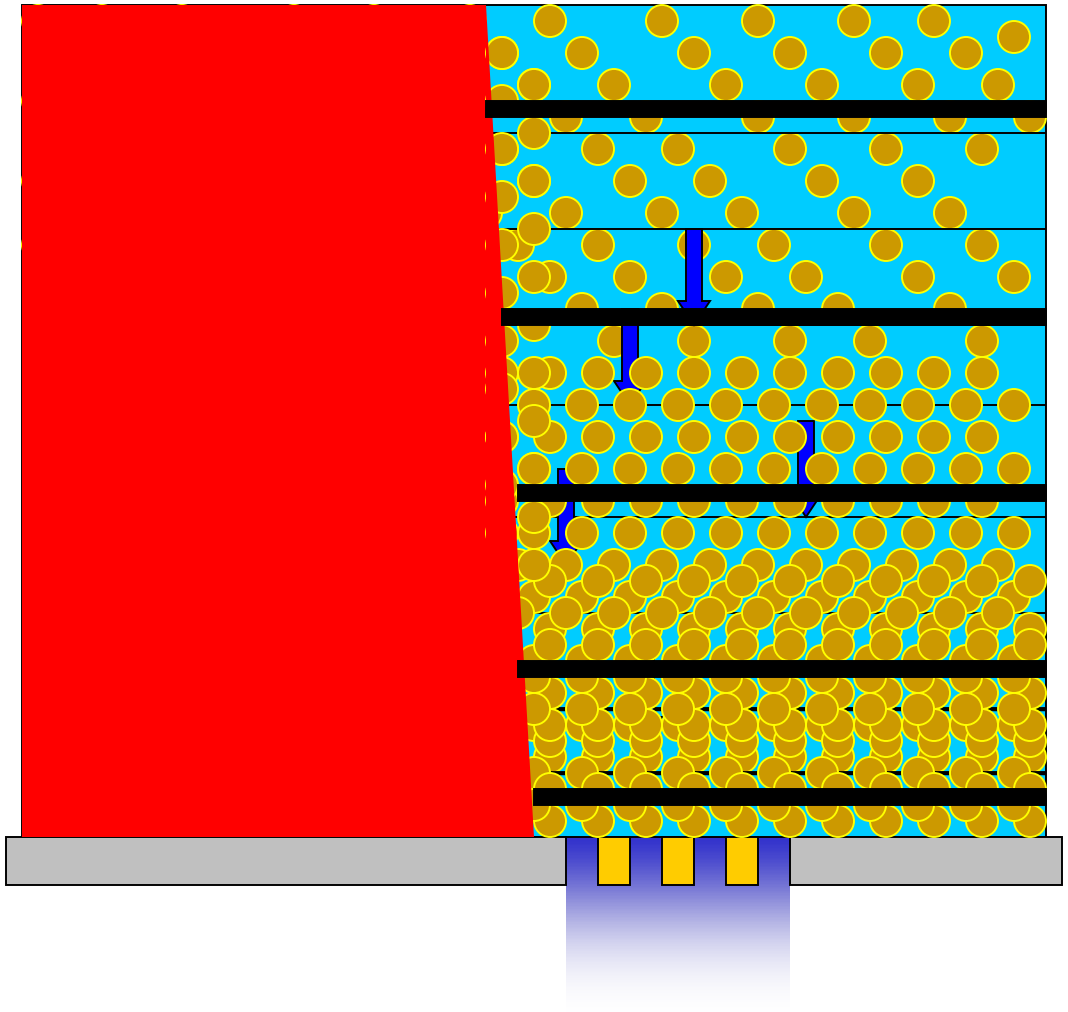


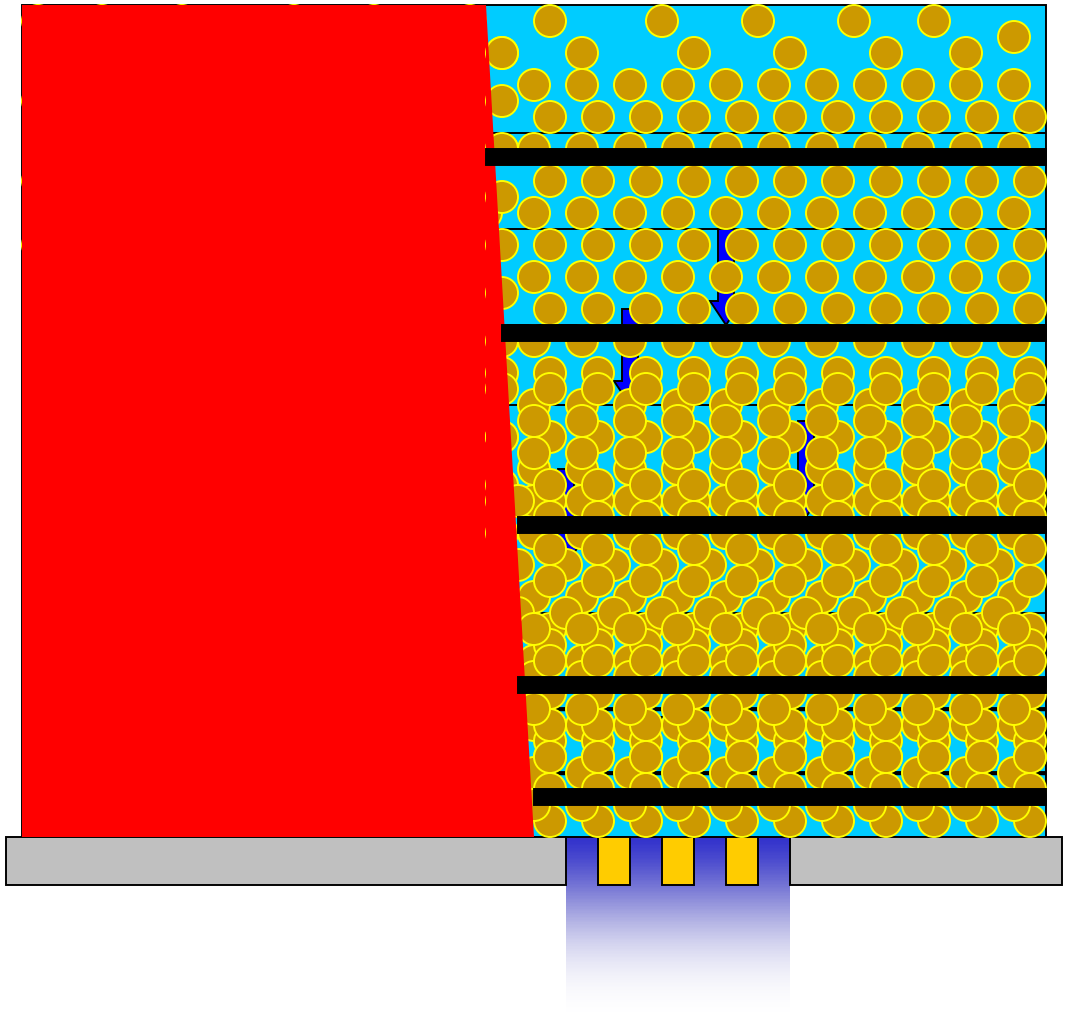


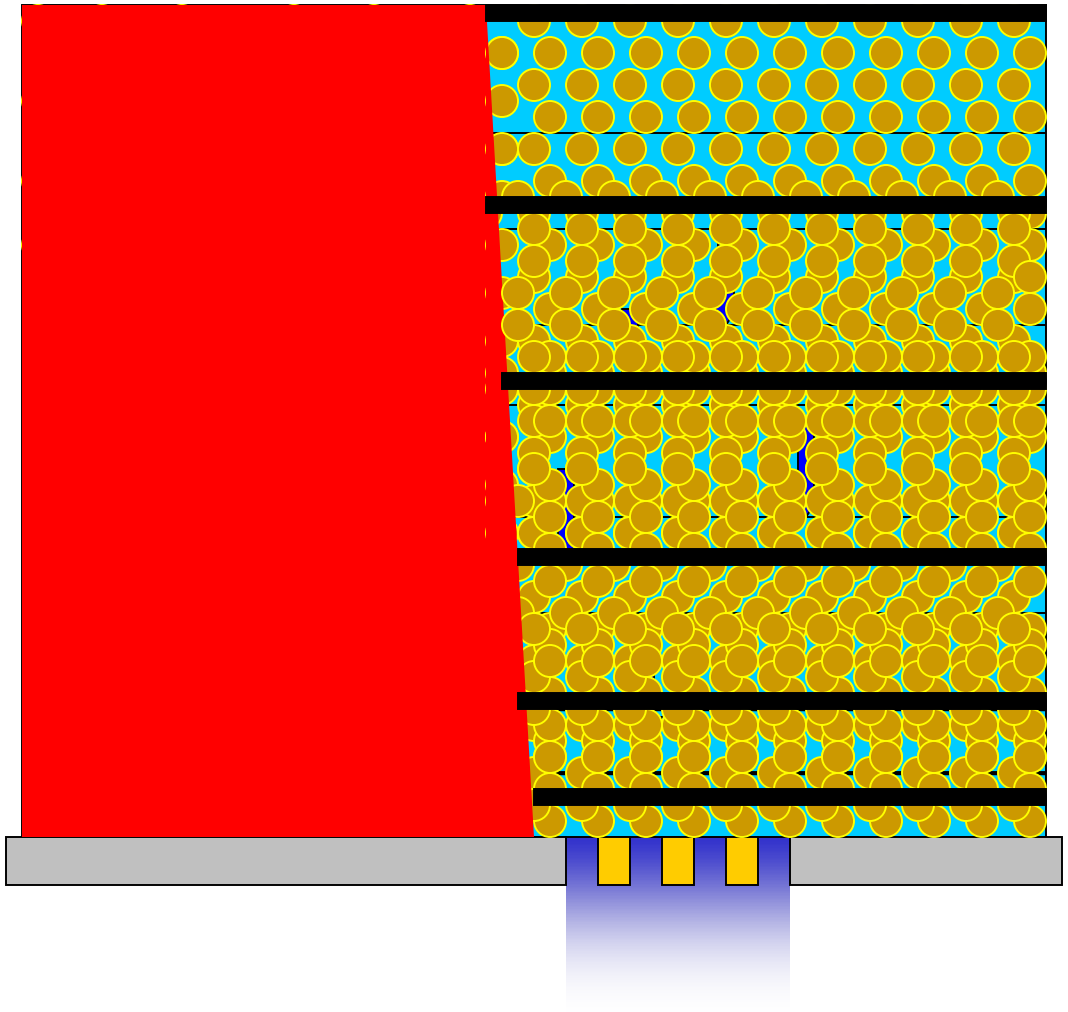


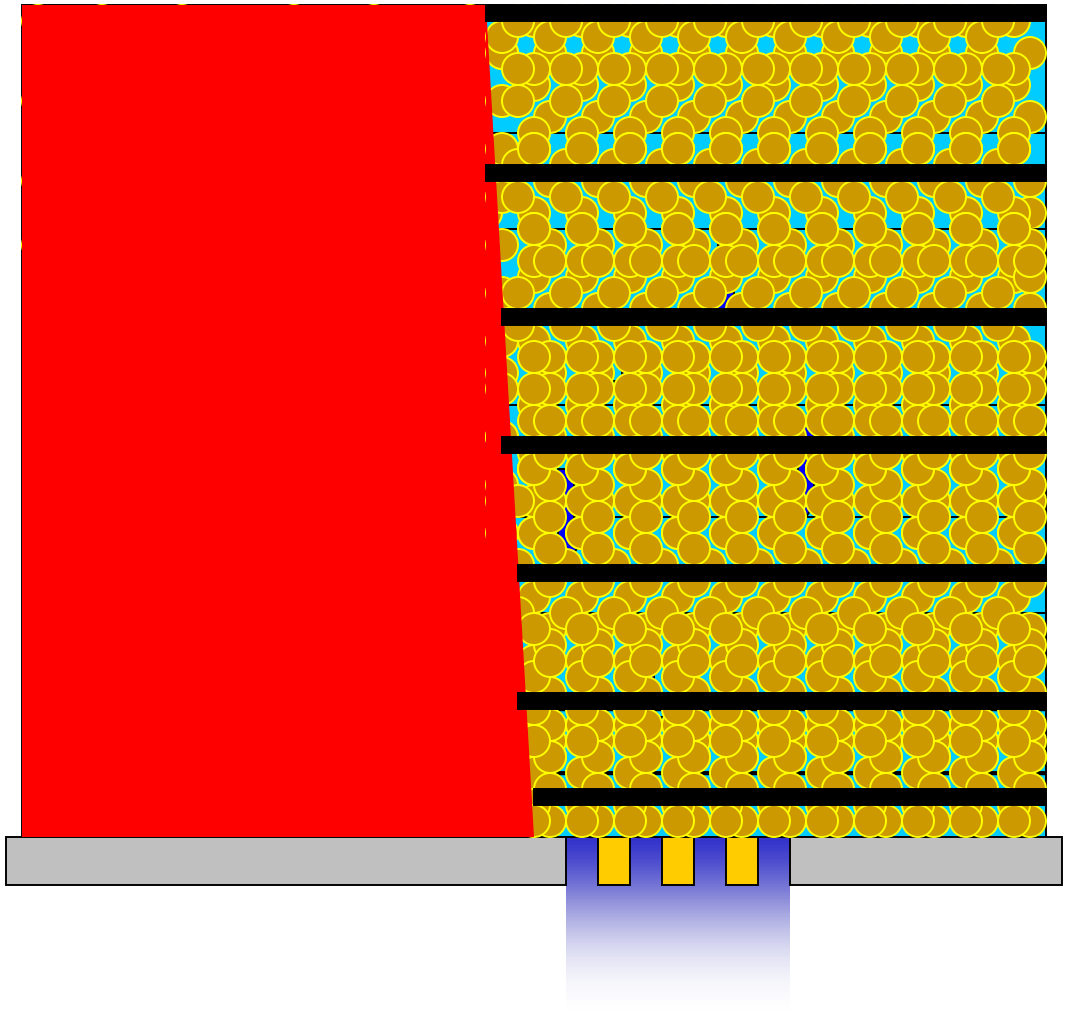




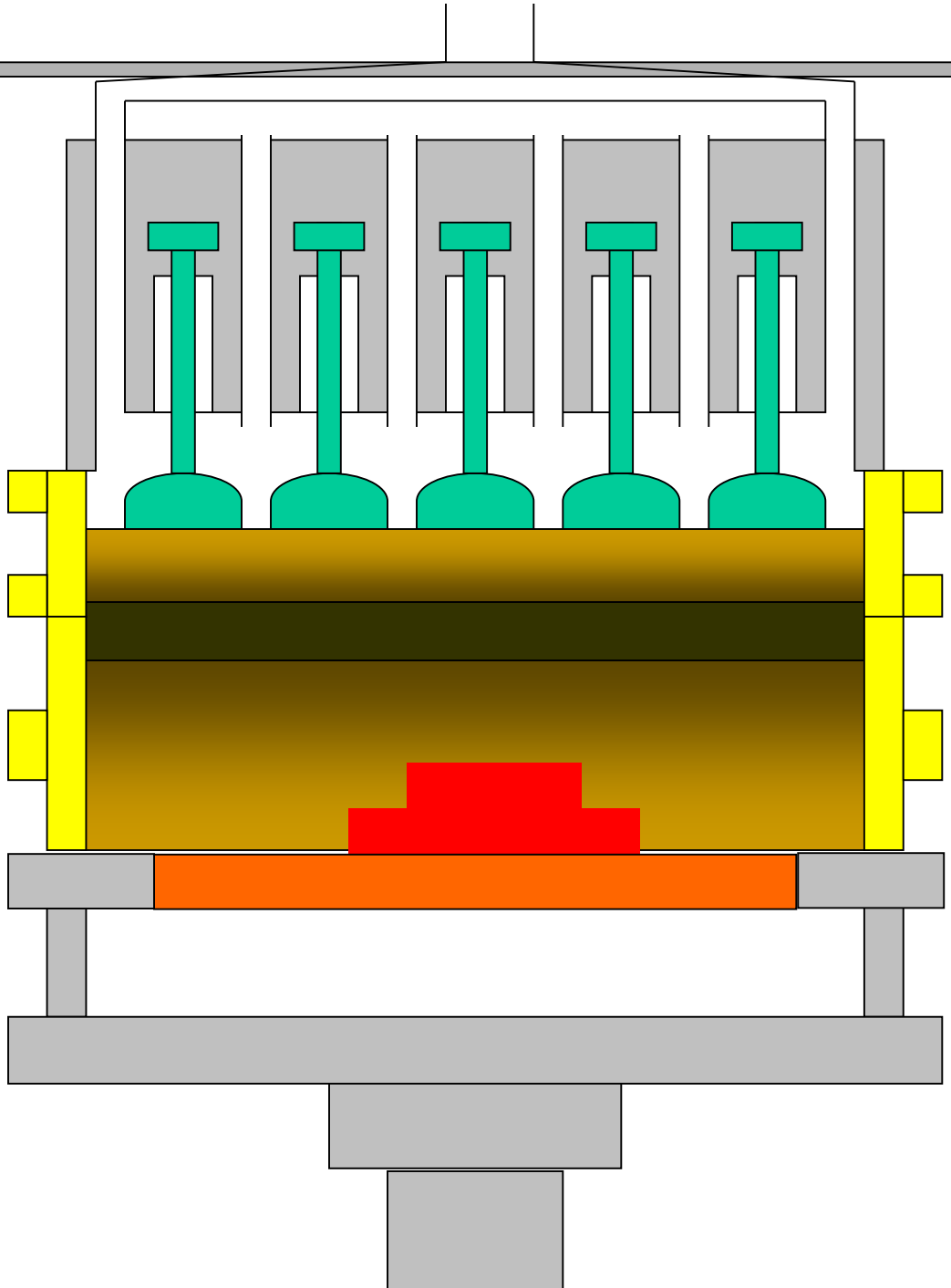




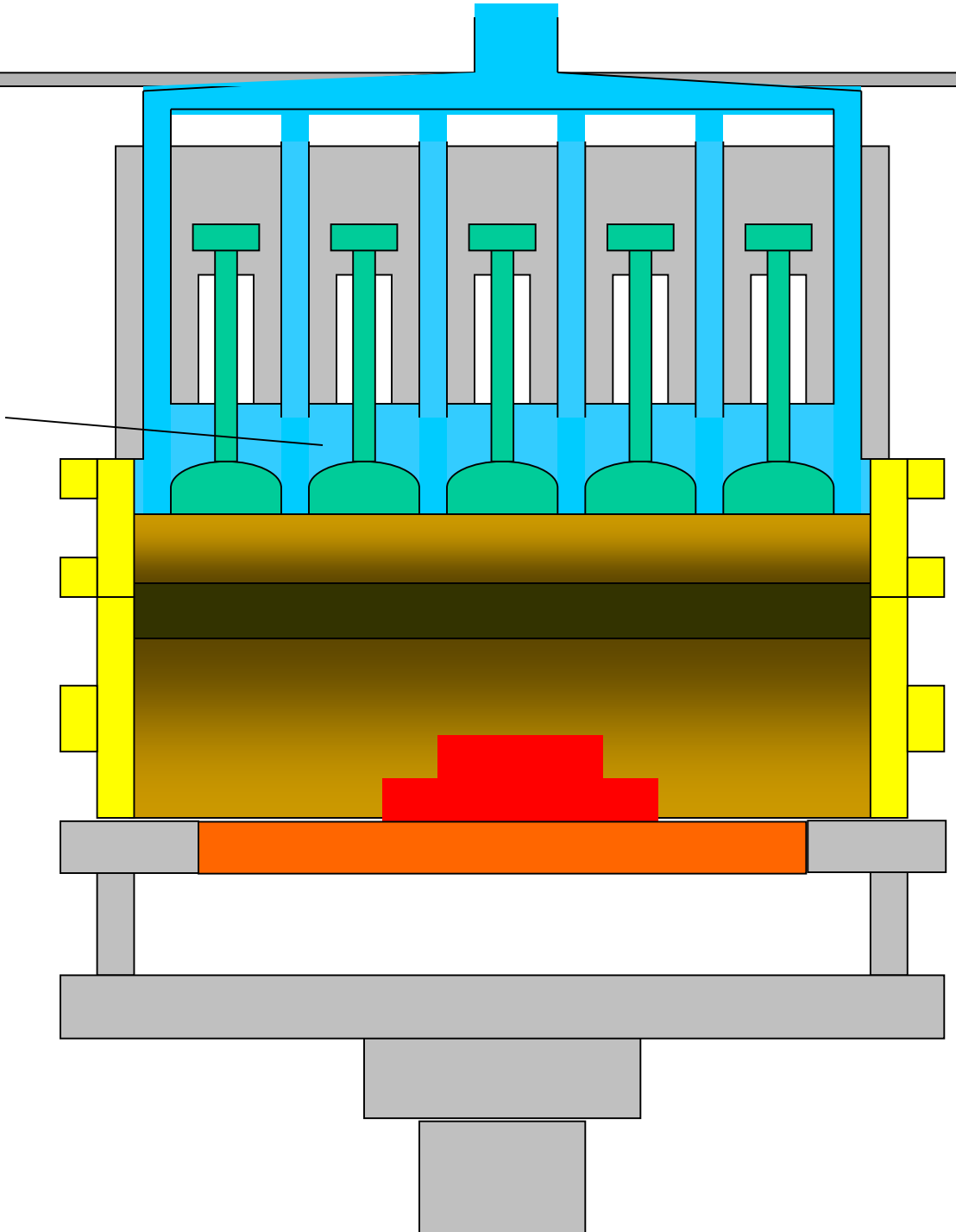




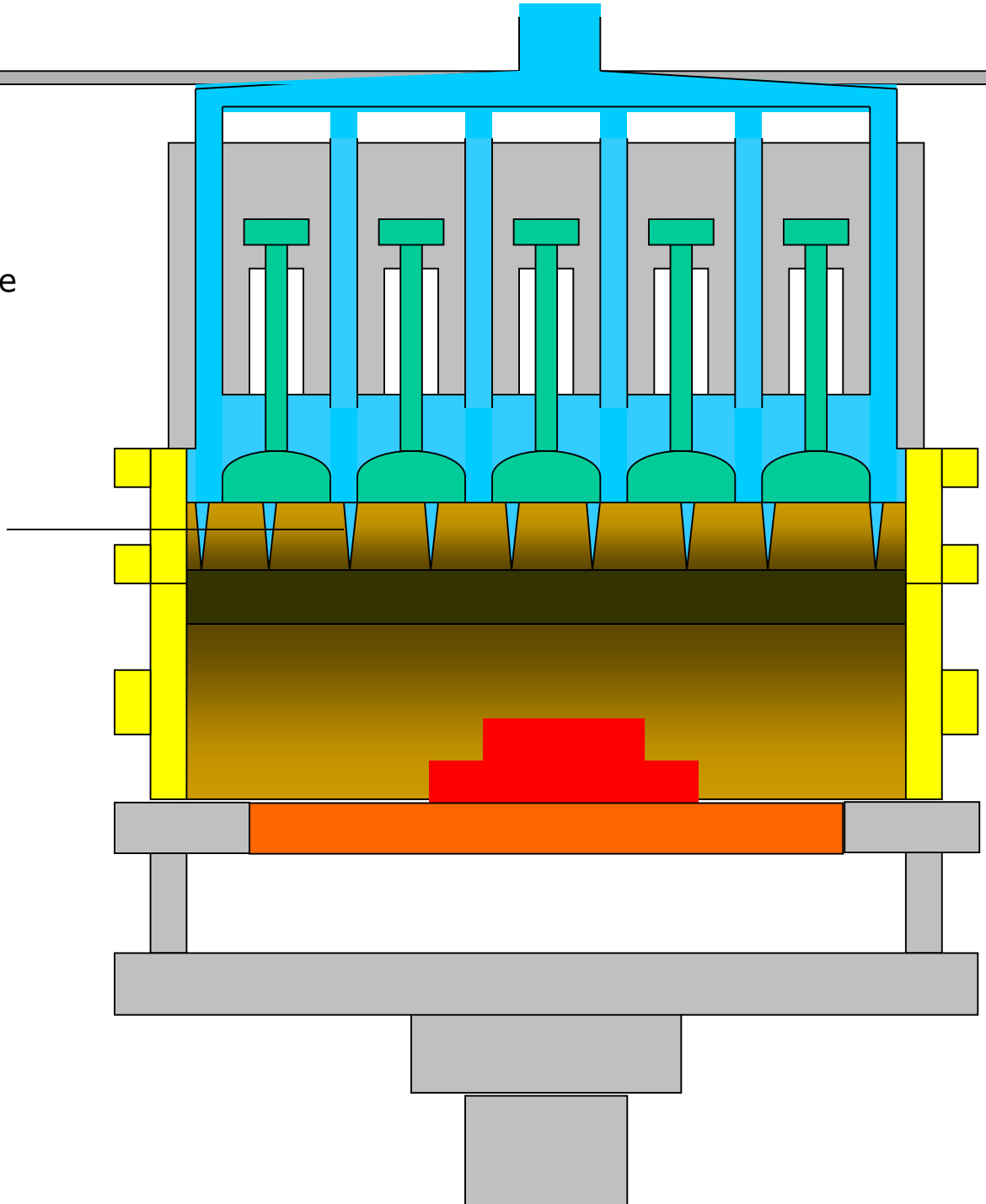
Optimization of the compactibility with SEIATSU II



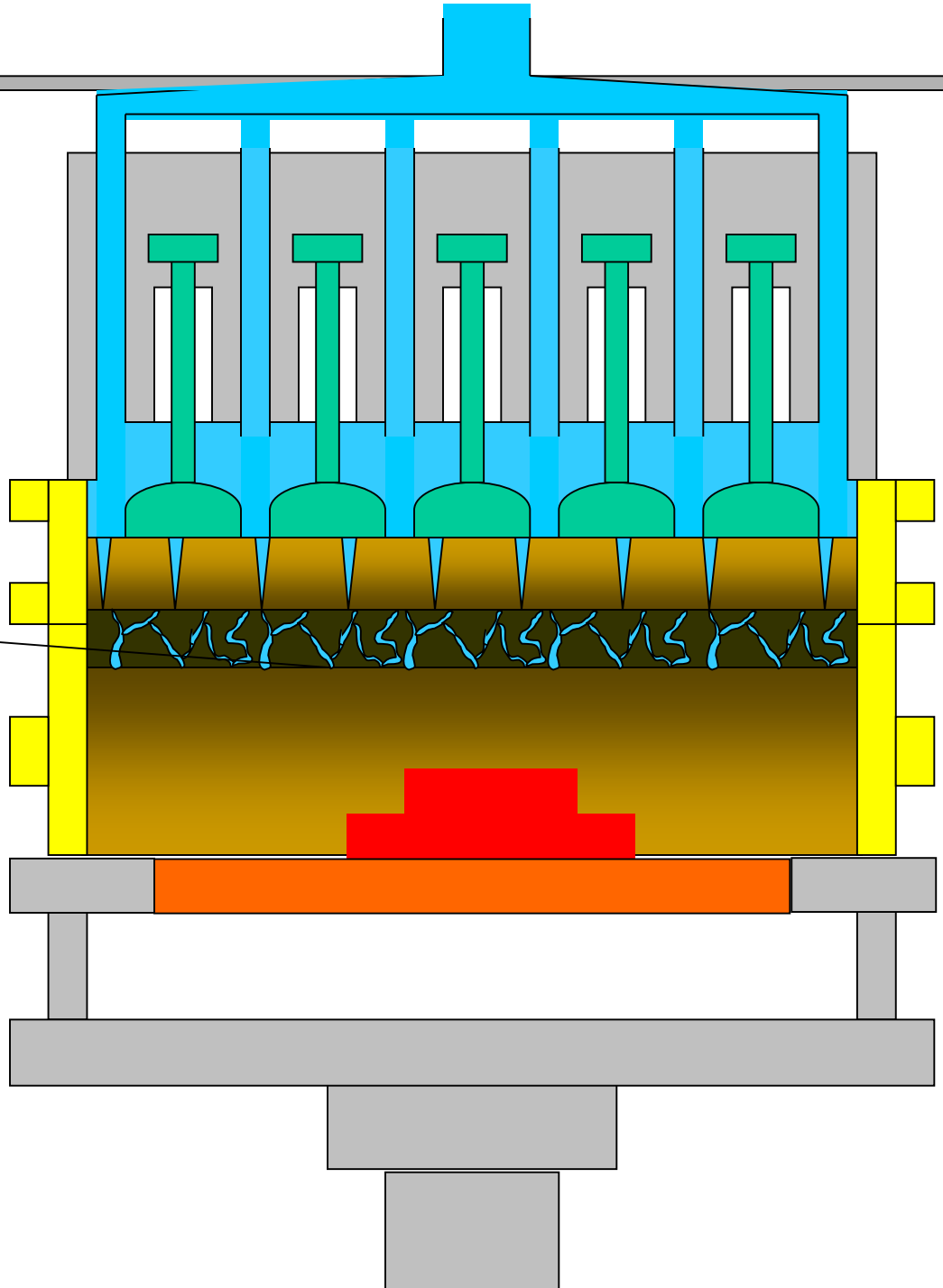
SEIATSU II

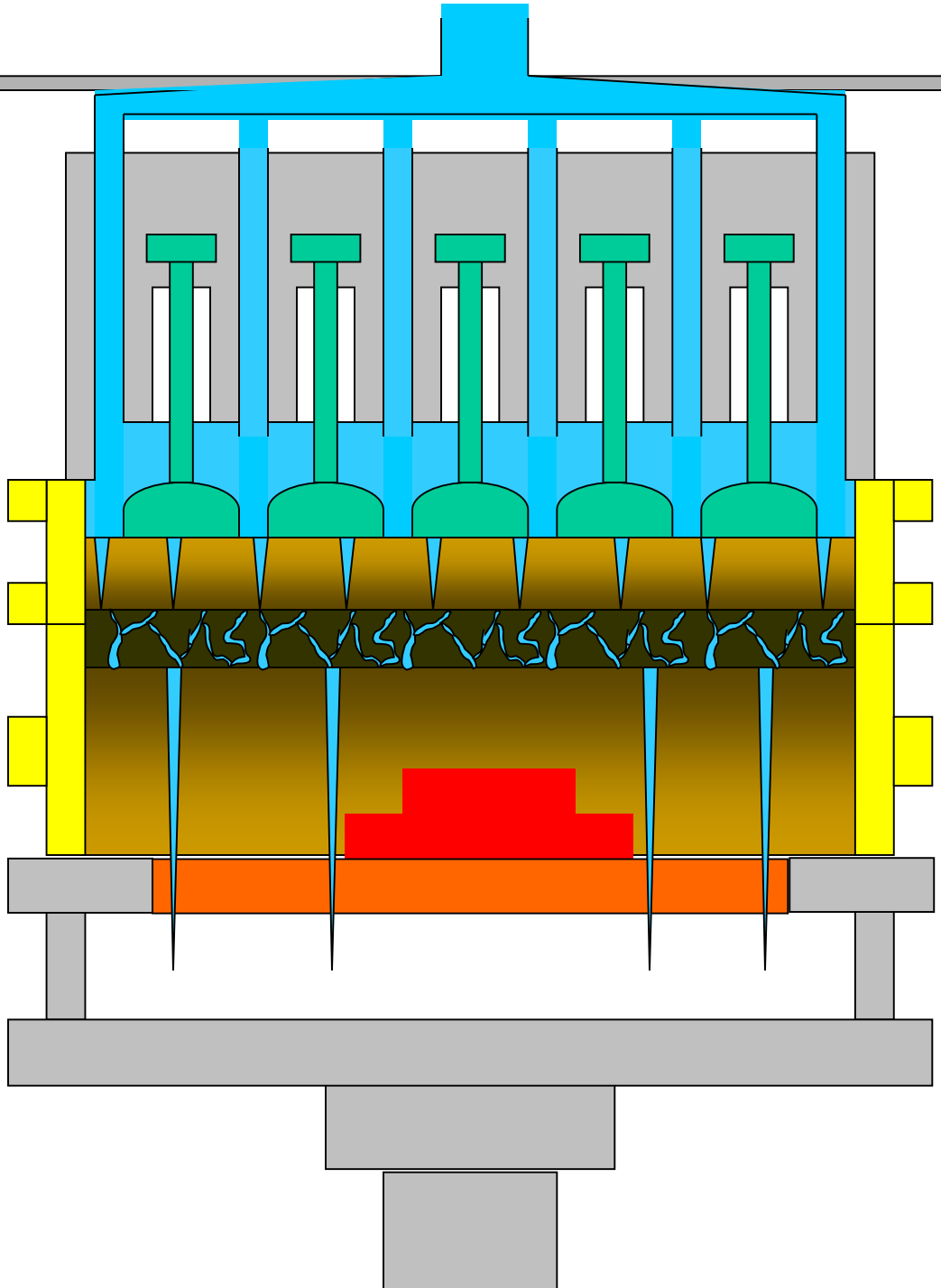


In the same time with squeezing permeates the airflow through the sand

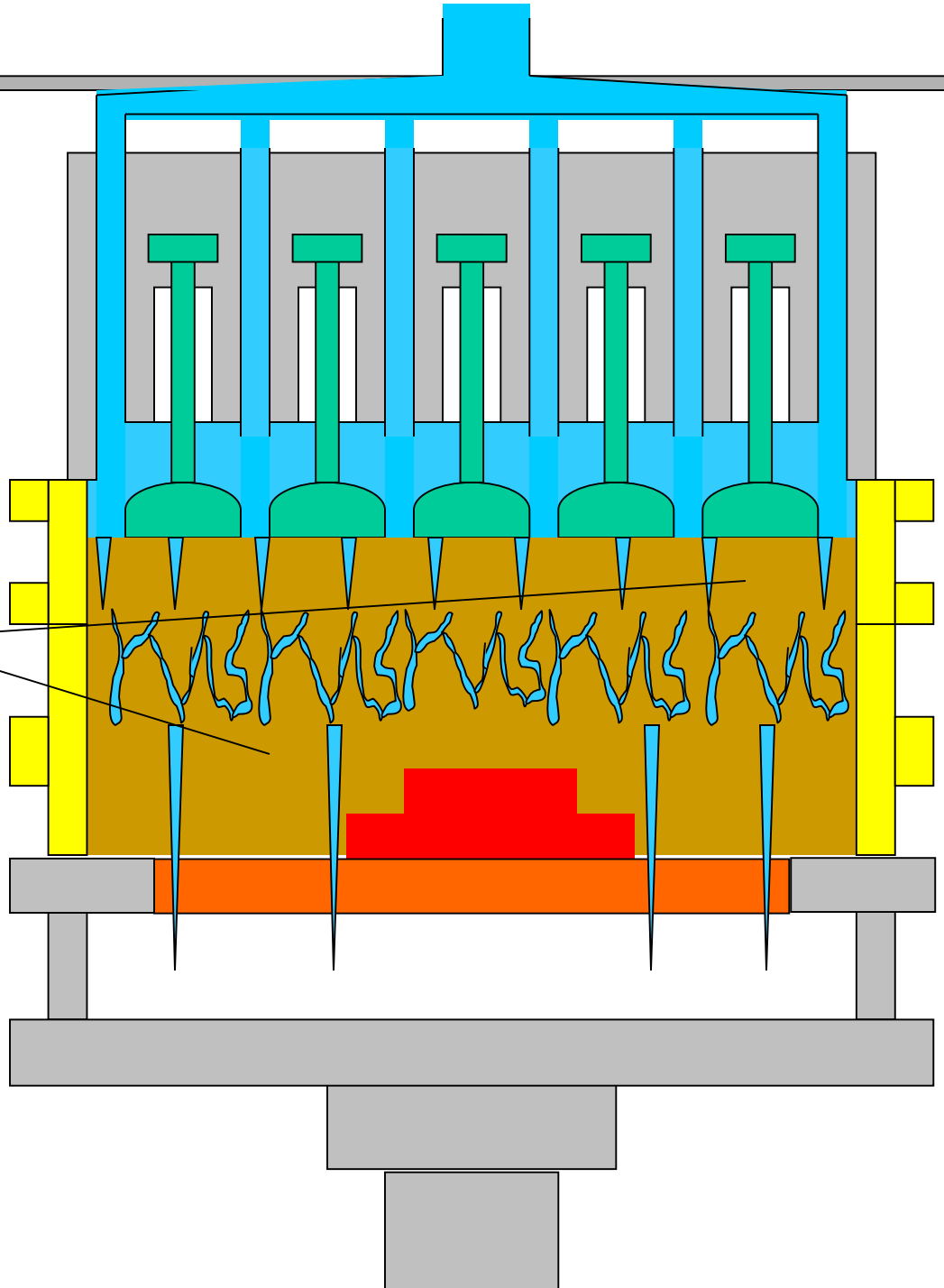


The airflow destroy the sand bridge



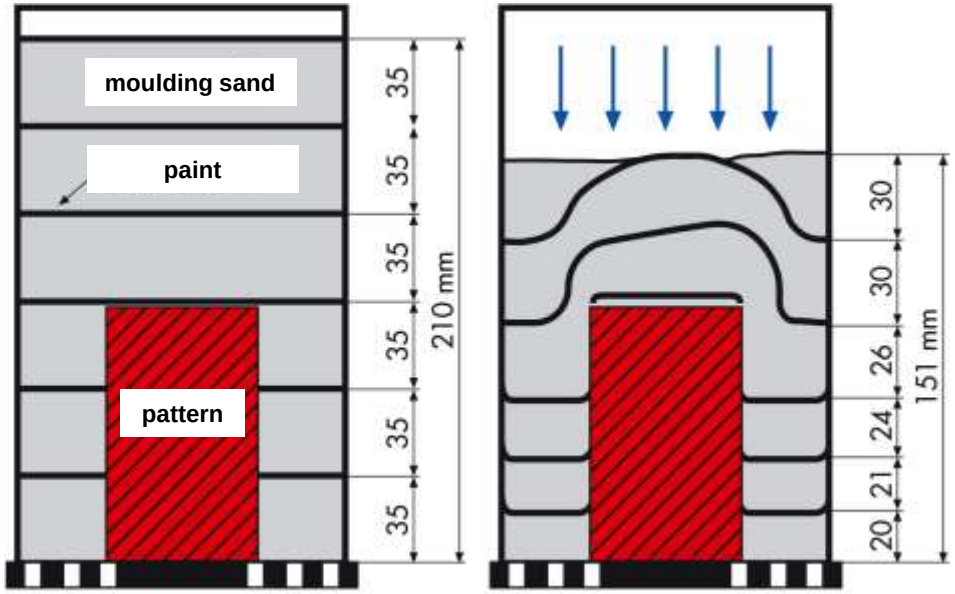


The sand hardness will get constant through the mould

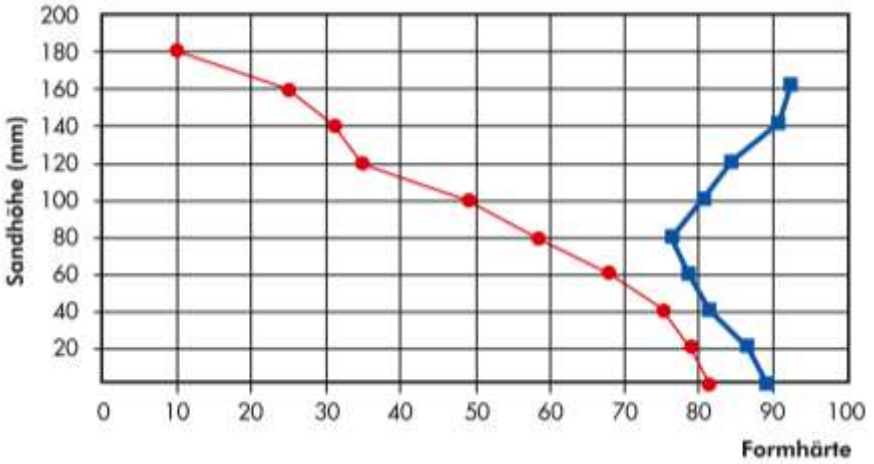


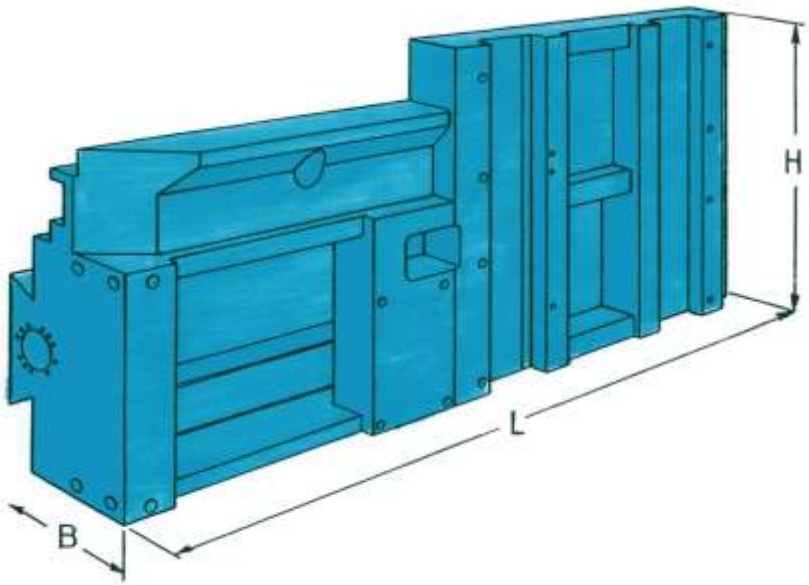
Detailes of the SEIATSU process

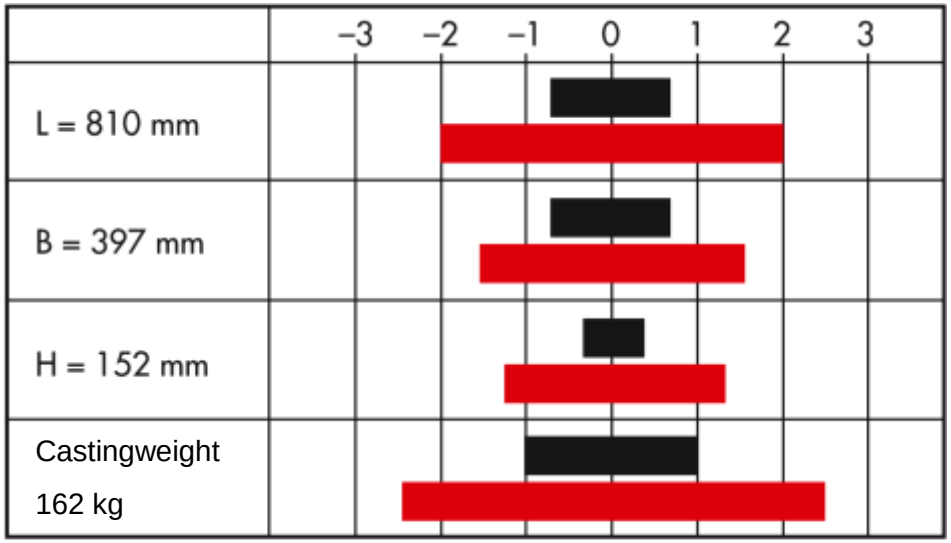
movement of the moulding sand during SEIATSU



mould hardness before and after squeezing



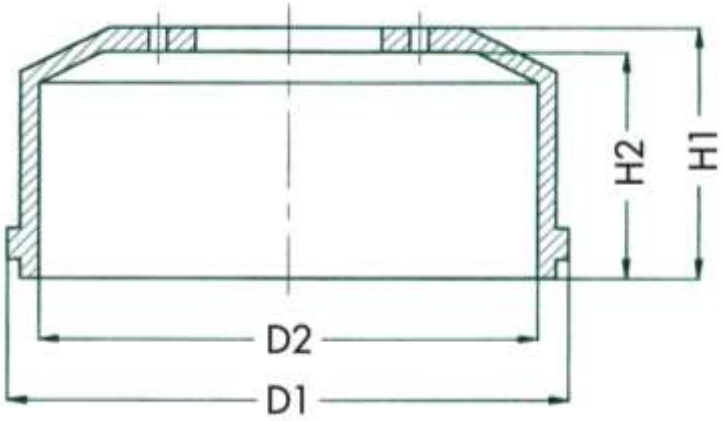


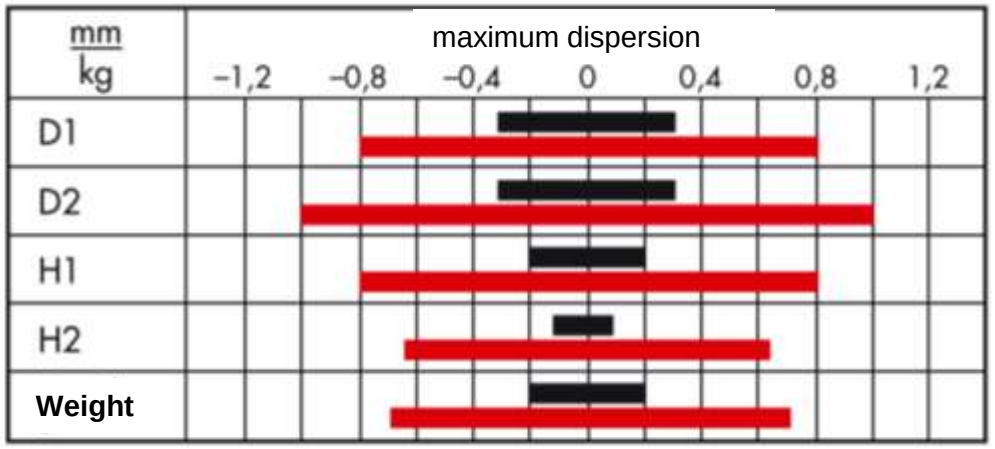


SEIATSU-PROCESS

Casting tolances GTB 15, DIN 1685

Dispersion of measurement and weights
for example a Brake drum



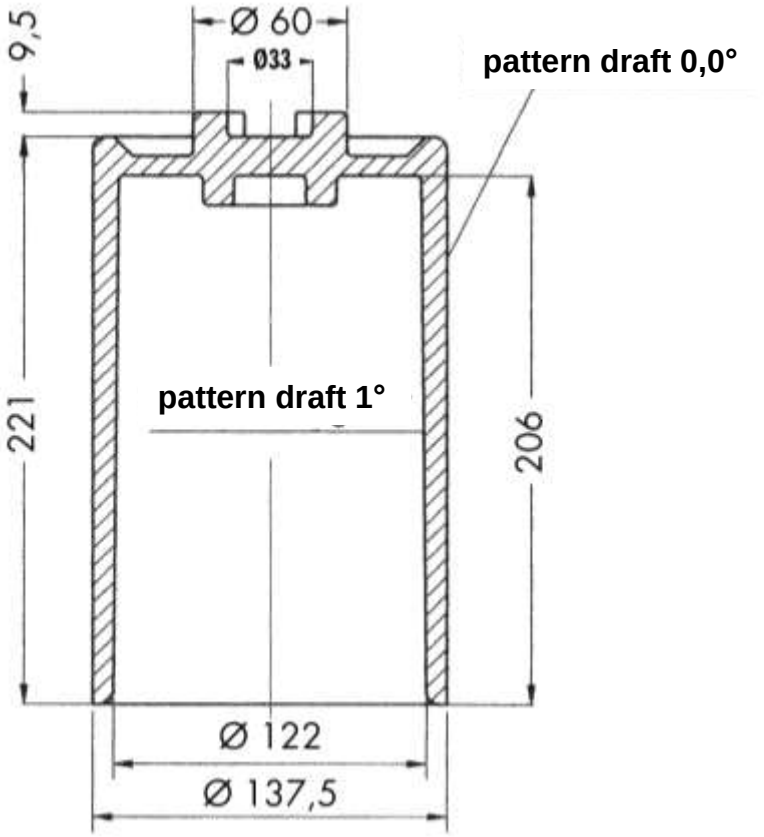


SEATSU Airflow-press-process

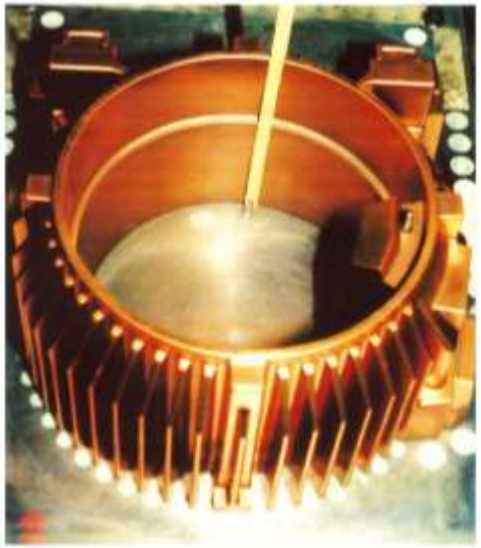
jolt squeeze process

Statorhouse for a Pump

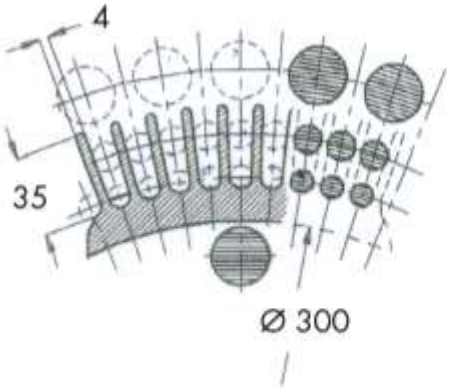
Manufactured at company Flygt, Emmaboda, Sweden

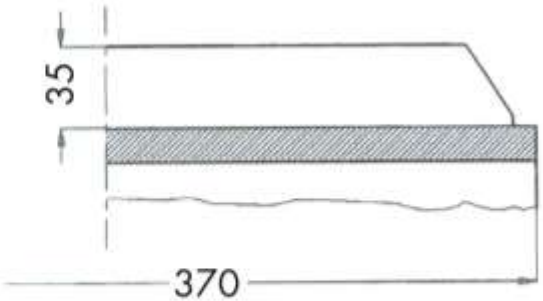


houses for electric motors



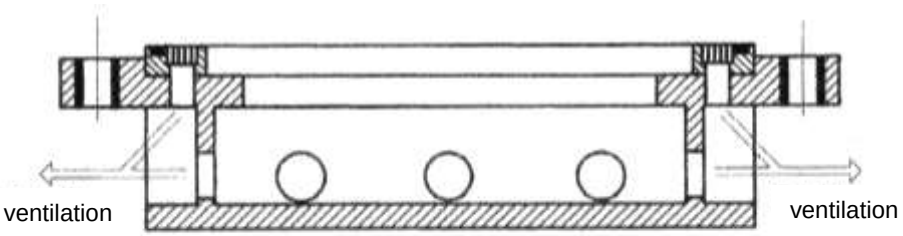
setting of the vents



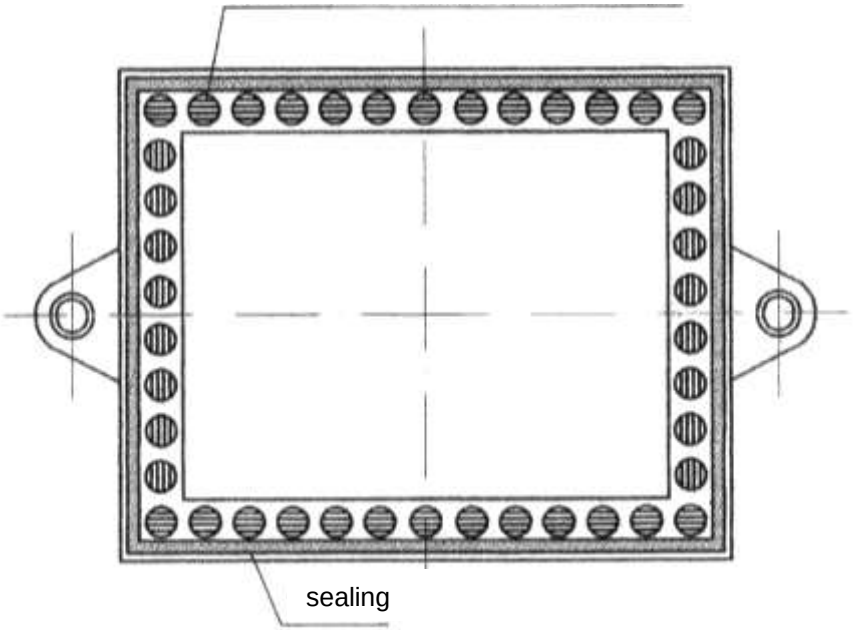


Setting of the vents

...in the pattern bolster



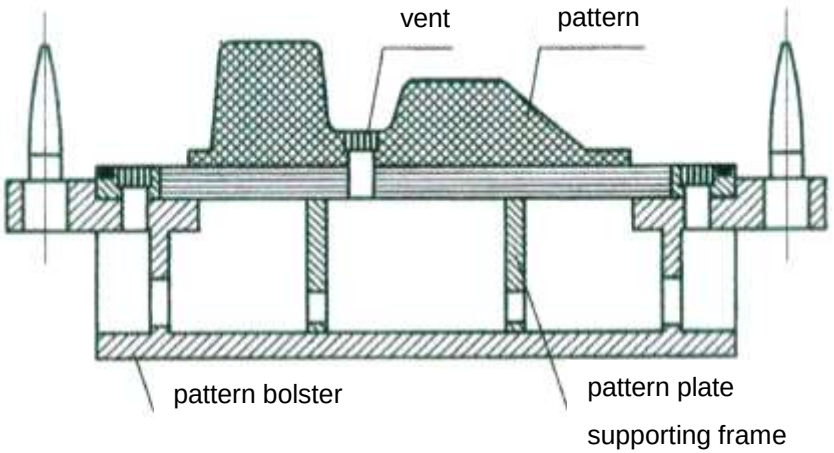
vent frame in the pattern bolster



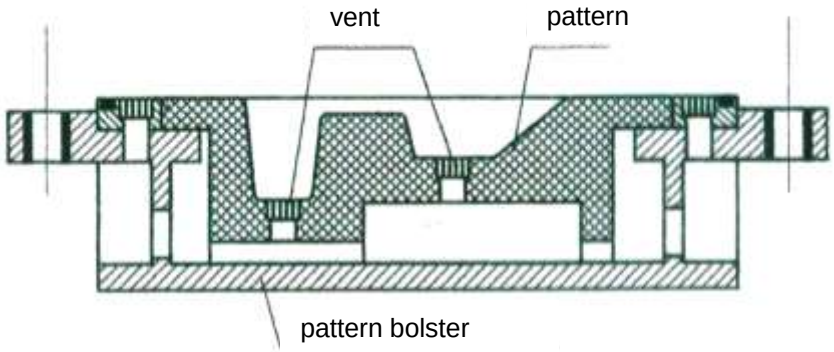
Setting of the vents

...in the pattern plate

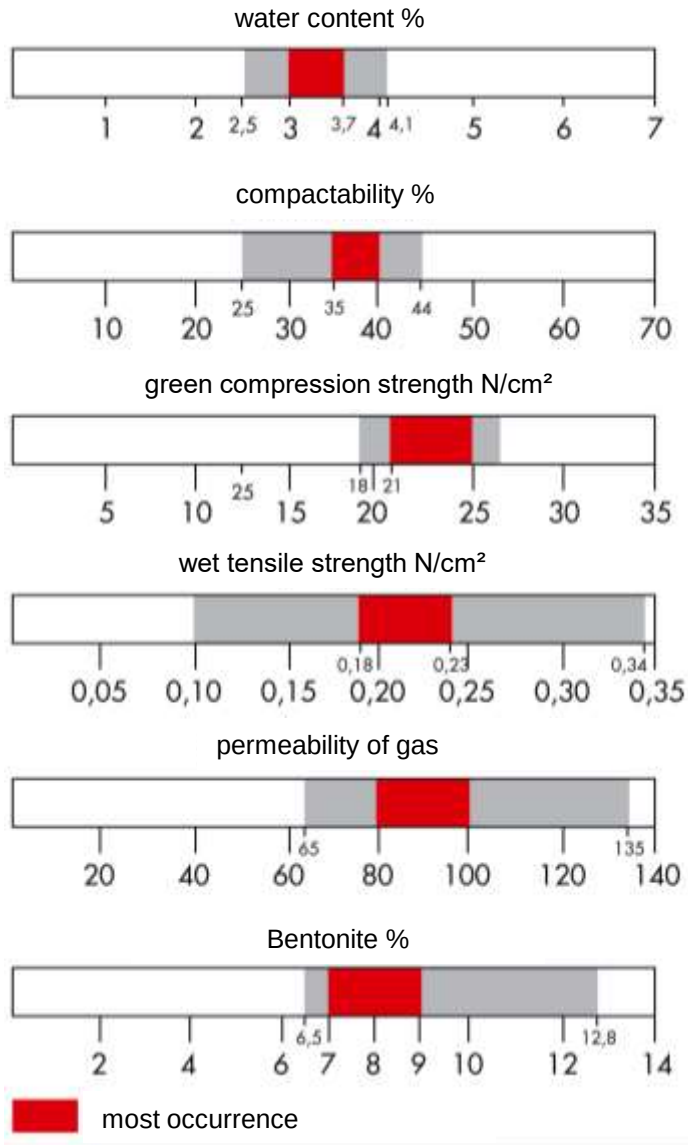
drag pattern device



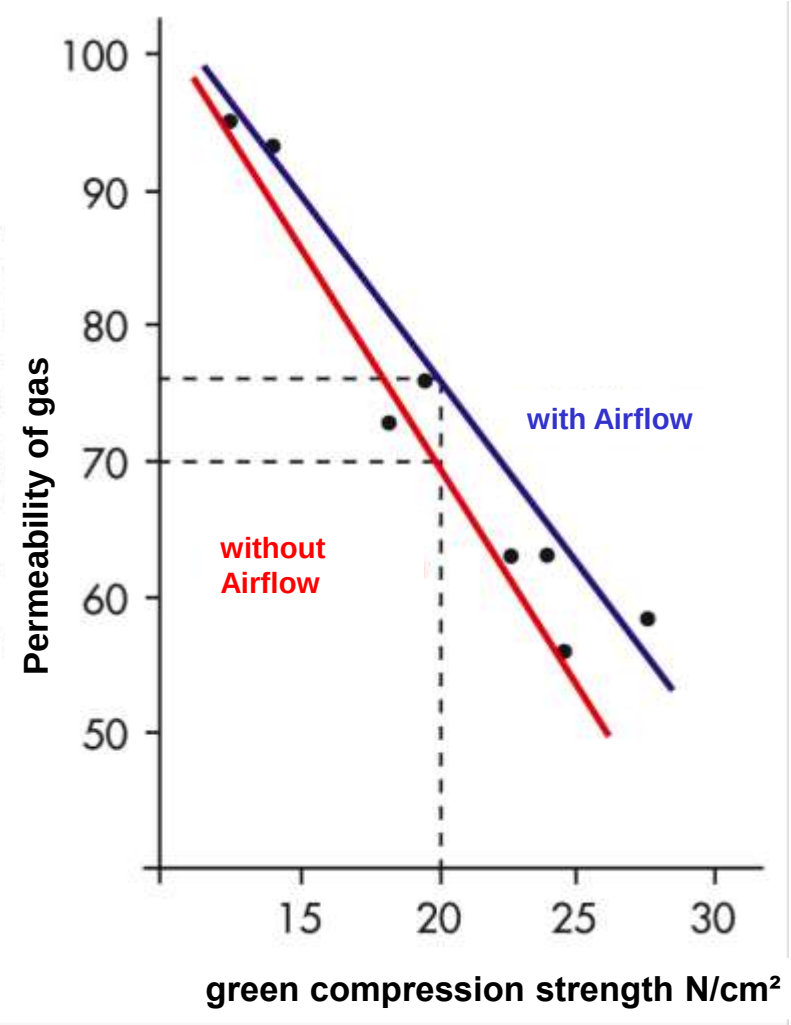
cope pattern device



Properties of synthetic sand for the SEIATSU process.



Permeability with and without Airflow



mould surface in expansion x 6,5

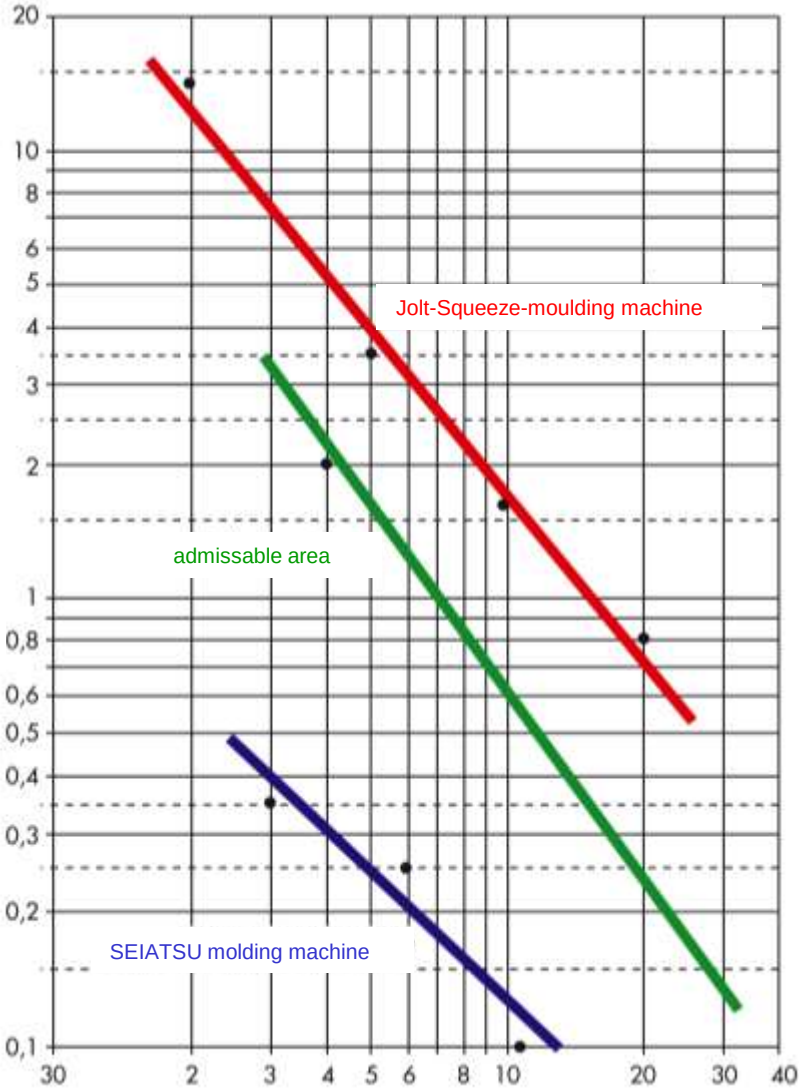
only squeezing

porosity 29,2%

Airflow and squeezing

porosity 32,9%

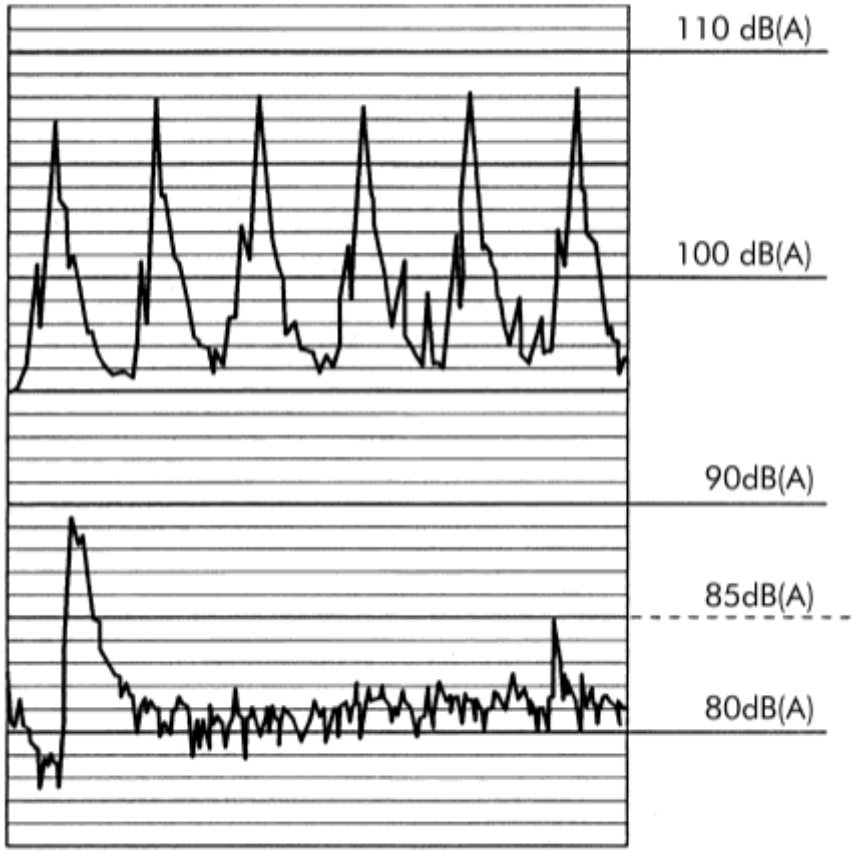
Dynamic load in the near of moulding machines



Comparison of noise-emision between jolt-squeze and SEIATSU

Jolt-squeeze

moulding machine



SEIATSU

moulding machine

Some pictures of HSP moulding machines

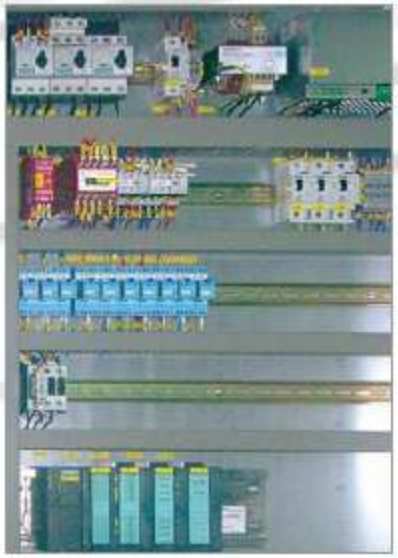
THE COMPONENTS:

Hydraulic unit

The hydraulic equipment of the HSP machine consists of a variable capacity pump and of control valves. It is installed within the machine column. The centre of the column serves as a reservoir for the hydraulic oil. The hydraulic valves can be exchanged without loosening the pipework.

Control system

The electronic equipment for controlling the machine is freely programmable. Here, HWS trusts in the proven Siemens S7 technology. The PLC is located in a control box at the machine column. A separate operator panel allows individual, pattern related parameter input.



Pattern device

The pattern plates are mounted onto a pattern bolster. Each pattern bolster is basically provided with a vented collar which runs along the inner moulding box and takes care of the displaced air running through the sand, producing a good peripheral compaction of each mould.
The opening cross section of the rents is calculated in such a way that most patterns do not require additional rents in the pattern plate itself.

FURTHER REASONS WHY MORE THAN 180 FOUNDRIES PURCHASED A HSP MOULDING MACHINE:

- Only one sand supply is required for a HSP moulding machine
- Very little sand spillage is encountered since the moulding sand can be exactly pre-dosed through the filling frame
- No vibratory shock is caused within the machine area because no vibrations are used during the moulding process
- Excellent service provided by HWS worldwide

And last but not least ...

... A MOULDING MACHINE 100% MADE IN GERMANY.

Animation of a SEIATSU moulding machine

HSP-en.avi

Igrek Makina Turkey	ZFA-S1	500 x 300 x 80/80
Igrek Makina Turkey	EFM-S4 spezial	720 x 640 x 140/230/320
Ekstrametal Turkey	HSP 1	650 x 500 x 200/200
Igrek Makina Turkey	HSP 1	600 x 450 x 175/175
Akdöküm Sanayi A.S. Turkey	EFA-SD4	800 x 600 x 300/300
Erkunt Sanayi A.S. Turkey	EFA-SD4,5	900 x 700 x 350/350
Estas Turkey	HSP 1	650 x 500 x 200/200
Cemas Celik Turkey	HSP-2D	800 x 600 x 250/250
Erkon Döküm Turkey	HSP-4D	1250 x 1000 x 300/300
Akdöküm Sanayi A.S. Turkey	EFA-SD5,5	1100 x 950 x 350/350
Döktas Dökümcülük Turkey	ZFA-SD5,5	1100 x 900 x 350/350
Döktas Dökümcülük Turkey	EFA-S7,5	1950 x 1250 x 400/400
SMS Turkey	HSP-3D	1100 x 800 x 350/350
Ferro Döküm Turkey	ZFA-SD4,5	900 x 700 x 250/250
Aral Döküm Makina Turkey	HSP-2D	760 x 510 x 230/230
Akdöküm Sanayi A.S. Turkey	EFA-SD4	800 x 600 x 175/175
SMS Turkey	EFA-SD6 MVS	1230 x 1200 x 450/450

Döktas Dökümcülük Turkey	ZFA-SD3,5	700 x 600 x 250/250
Estas Turkey	EFA-SD5,5	1200 x 725 x 200/200
Canbilenler Turkey	HSP 1	670 x 550 x 200/200
Alcelik - Tümosan Turkey	HSP-3D	1000 x 800 x 300 + 50/300
HEMA Endüstri A.S. Turkey	EFA-SD5,5	1130 x 800 x 350/350
Estas Turkey	HSP 1	650 x 500 x 200/200
Deniz Döküm A.S. Turkey	HSP 1	650 x 500 x 200/200
Pinar Döküm Turkey	HSP 3	750 x 620 x 240/290 x 290/240 x 240/240 x 290/290
Hekimoglu Döküm Turkey	EFA-SD6	1250 x 1000 x 350/350
Demirsoy Döküm Turkey	HSP 1D	650 x 500 x 200/200
Daloglu Döküm Makina Turkey	HSP 1	650 x 500 x 200/200
Kocak Metalurji Makina Turkey	HSP 1	650 x 500 x 200/200

hws
HEINRICH WAGNER SINTO
Maschinenfabrik GmbH

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