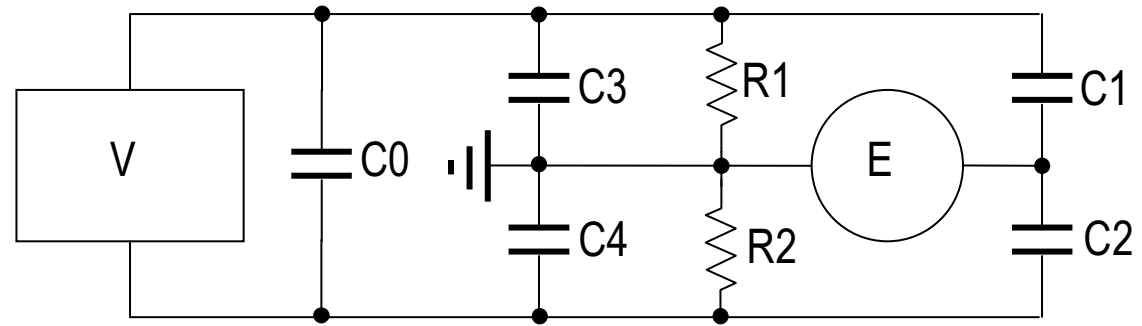
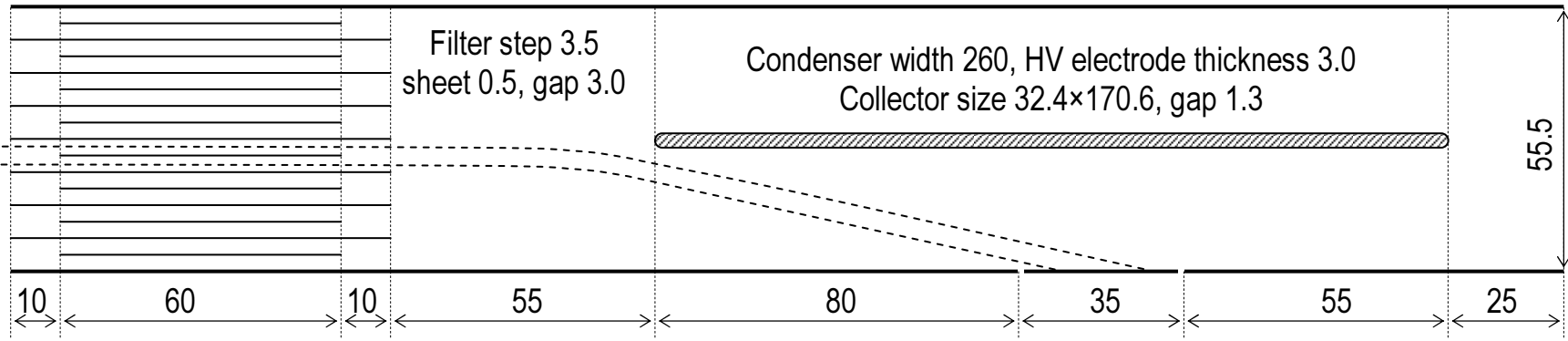
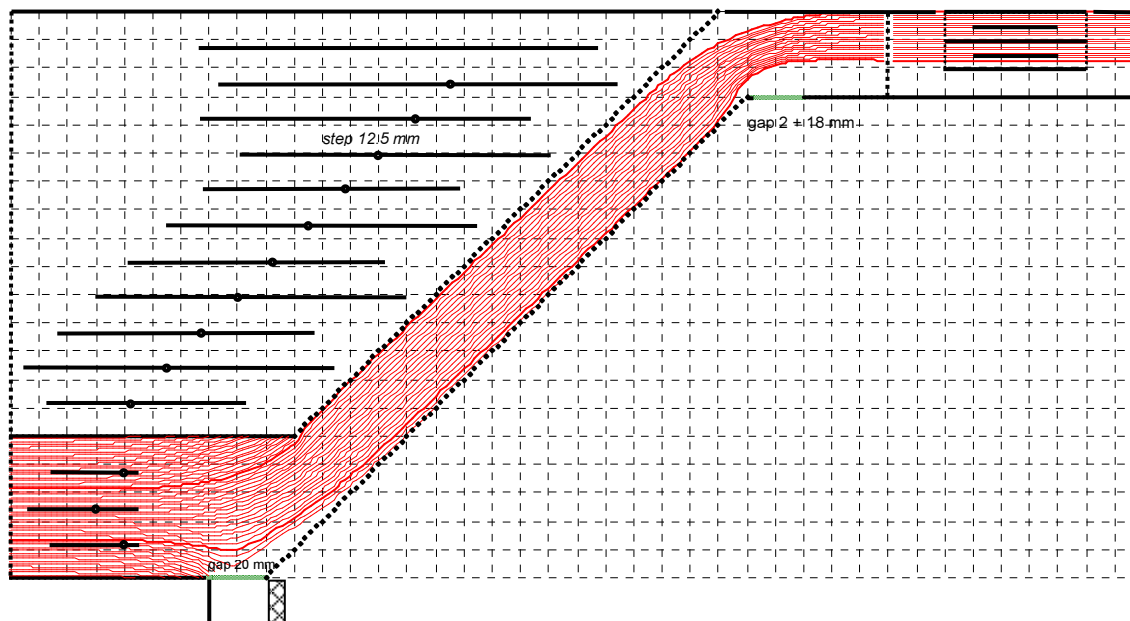


# BSMA or IGMA?







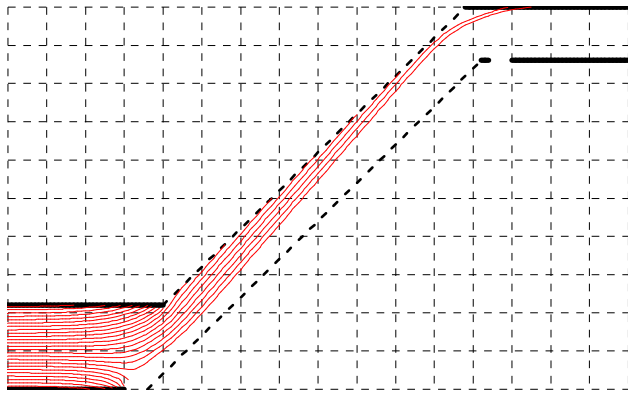
Passage of ions of central mobility in an ideal modified IGMA.

The ions in the outlet are collected by a well-insulated and shielded electrostatic filter powered by an internal battery and DC-DC converter. The collector is connected to the ground through an electrometric amplifier. Electrostatic shielding from the high voltage deflector grid allows free manipulation with mobility control voltage. The

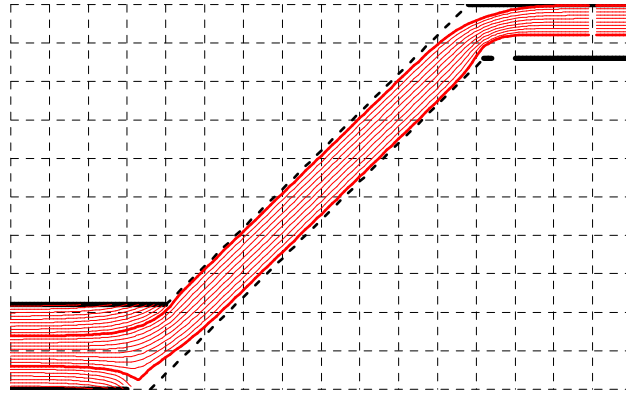
deflector grid is connected to a RC circuit with a time constant of about 4 s. The capacitor of this circuit is quickly charged up to 6 kV and slowly discharged through the resistor with a period of 20 s. This assures the logarithmical scanning of mobility from the lowest to the highest value of the mobility range during the 20 s period.

# TRAJECTORIES OF IONS IN A MODIFIED IGMA

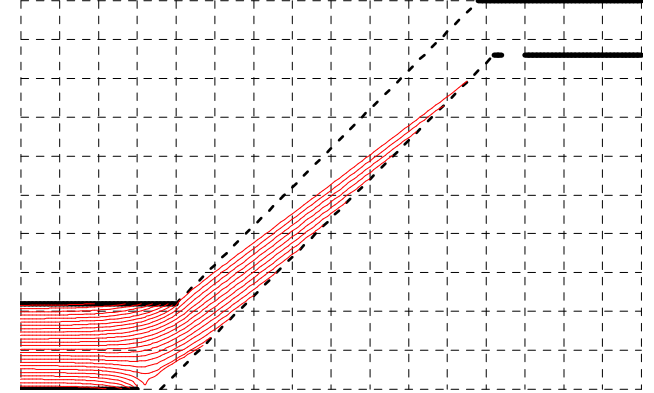
(plug air flow is expected)



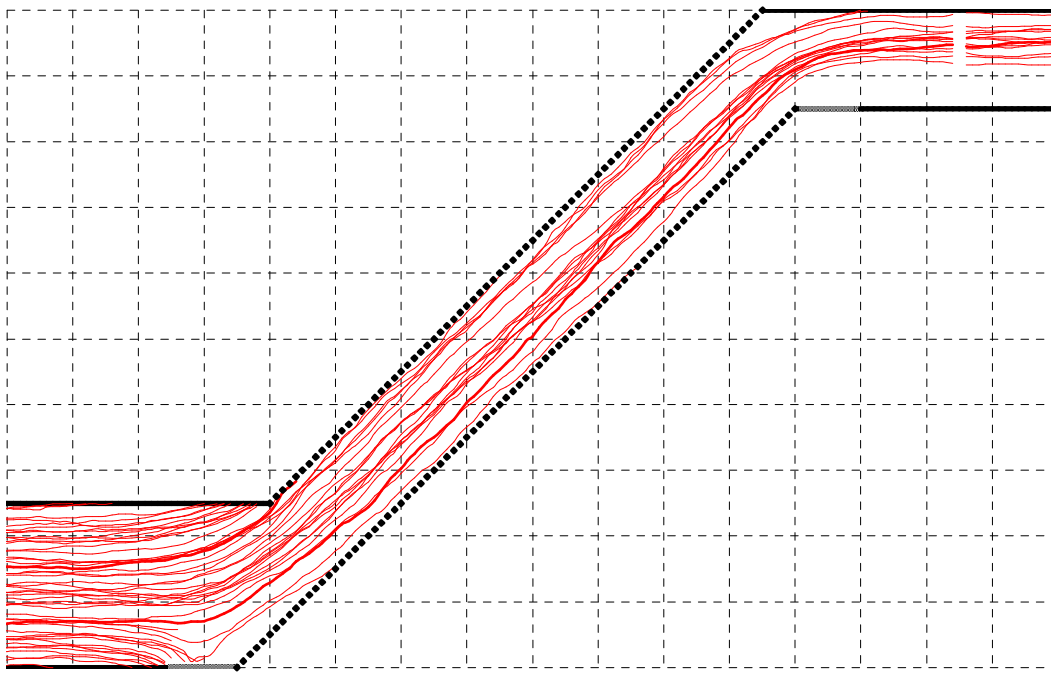
Laminar flow, high mobility



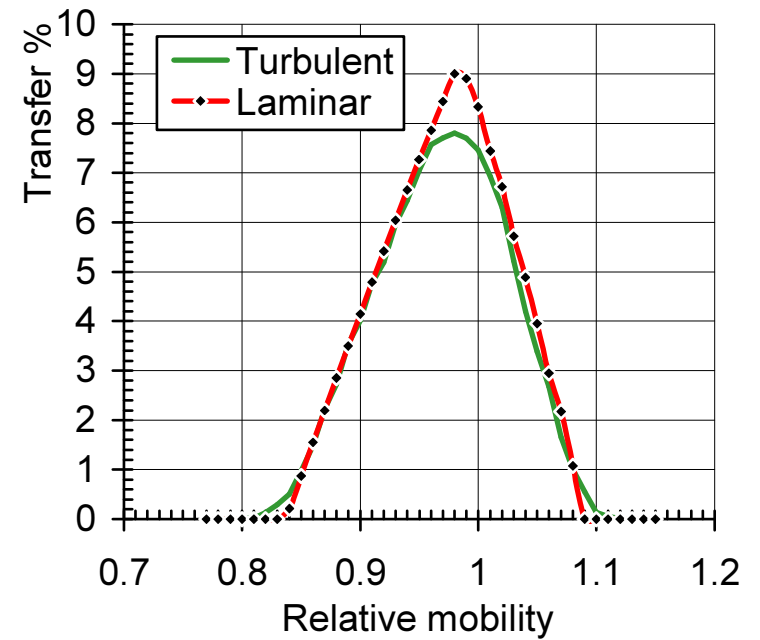
Laminar flow, central mobility



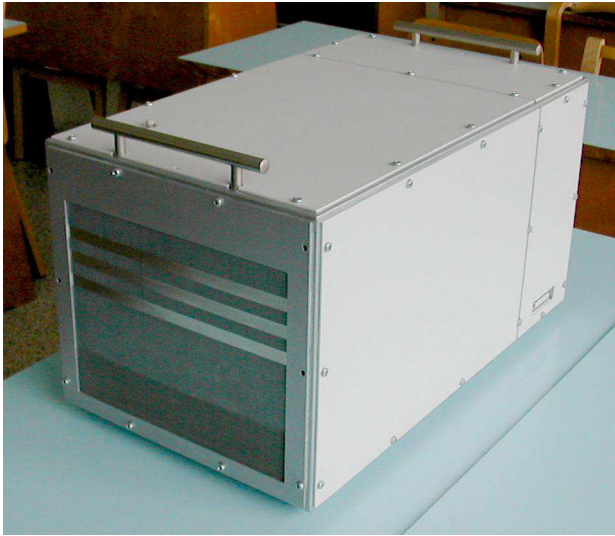
Laminar flow, low mobility



Turbulent flow ( $\varepsilon = 10\%$ ), central mobility.



Transfer functions.



IGMA without the external filter.  
Size  $53 \times 31 \times 32$  cm, mass 17.5 kg.



IGMA (a side panel off) with the external recirculation filter.  
Size  $85 \times 31 \times 48$  cm, mass 29 kg.

