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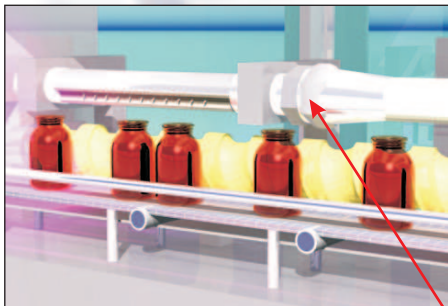


## **HOTSPOTS OF ELECTROSTATICS IN PHARMACEUTICAL PACKAGING AND FILLING PLANTS**

Horst Engelmann



*Where ... how ... what ...?  
Some examples:*

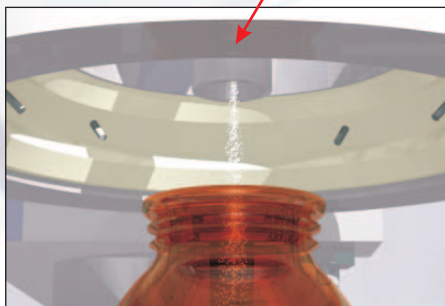
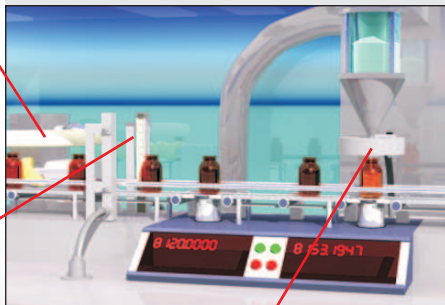


The autoclavable HAUG ionizing bar "EI VAC" ... unique. It is mounted here transverse across a screw conveyor for the electrostatic discharge of the upper area of a bottleneck before filling.

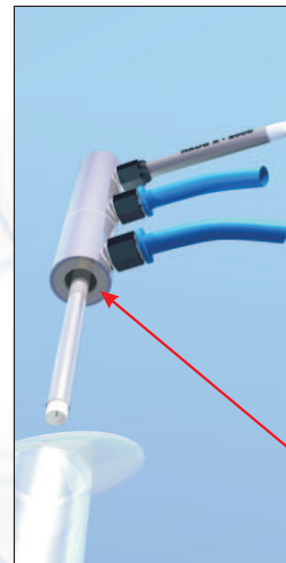


Before the powder is weighed and filled, the vessels are electrostatically neutralized from the outside using ionizing bars "EI PRX".

When pharmaceutical powder is being weighed or filled, the powder may inadvertently stick to the filling funnel and the vessel due to electrostatic charges. In addition there is a danger that the forces emanating from the field lines of the electrostatic charge have a negative influence on the weighing result.

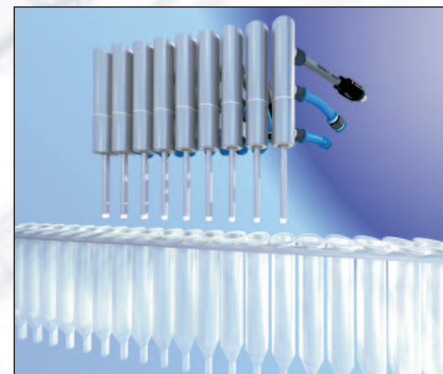
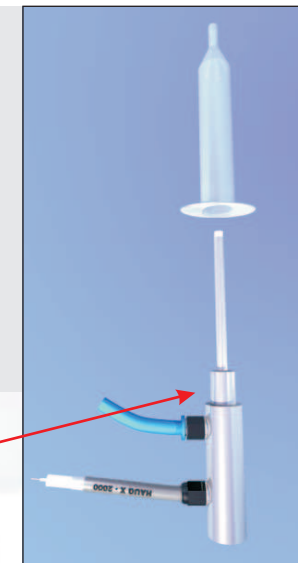


The HAUG ring electrode "EI RE" ensures that the powder drops cleanly and forms a proper cone – just as it should. Nothing is spilled, nothing gets stuck.



Exclusive to HAUG !  
The needle ionizer "NI" for the electrostatic discharge of syringe needles or vials. The "NI" can optionally be equipped with a suction chamber in order to contain any particles which may have been swirled up.

*With or without  
suction chamber*



Whole batteries of needle ionizers can plunge into several needles in each feed circle. The attachment at the lift mechanism of the filling plant is effected by means of an integrated threaded hole. The respective length of the ionizing needle results from the size of the vessel and the given lift path.

HAUG Delta blowers reliably eliminate electrostatic charges during sorting and feeding in a vibrating conveyor. Small, flat plastic components, in particular, tend to stick as a consequence of electrostatic charges. A small, continuous stream of ionized compressed air ensures a smooth flow of parts.

