

## Development Coater

The TSE Troller Development Coater is an extremely valuable tool in the hands of a dynamic production or research organization. Its use can jump-start a concurrent product-process development, facilitate continuous coating process improvement and lead to enhanced product quality.

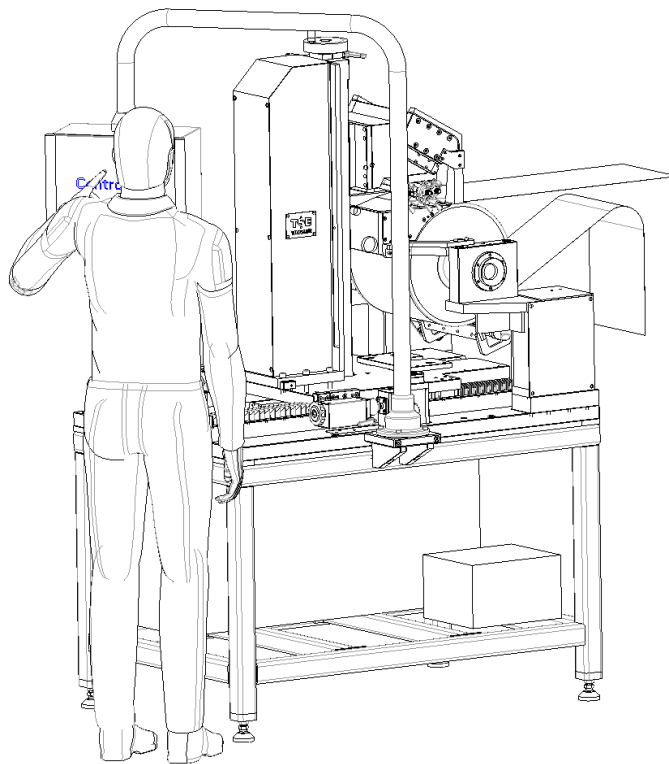
Our Development Coater is configured from an equipment kernel that includes a driven roll, squeegee-collection system and positioning system. Various modules for the different pre-metered coating methods such as: slide-bead, slide-curtain, slot-bead, and slot-curtain can be attached. With any coating configuration, the resulting assembly is a compact, table-top device and yet its capabilities are extensive. For such a small, economical device, the potential for fundamental process understanding and therefore process improvement is truly significant.

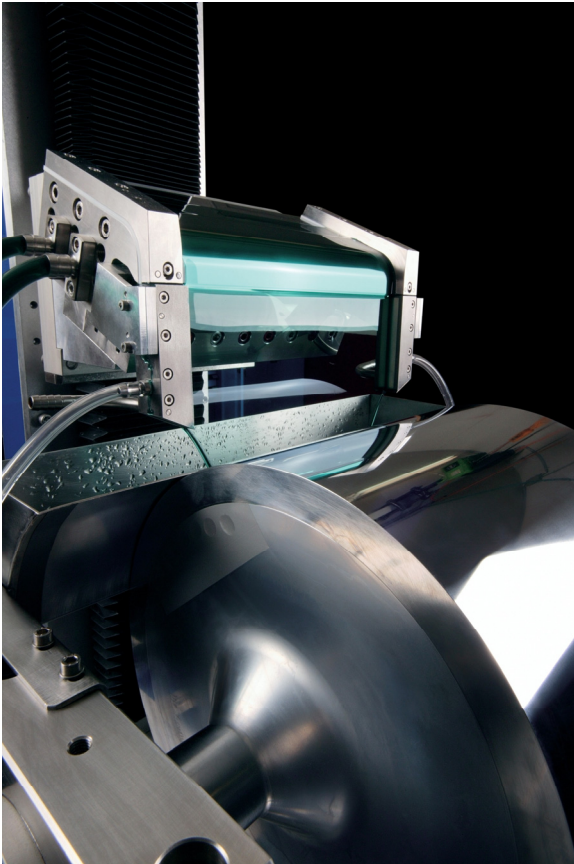
Versatility is the watchword of the development coater. Its compact design means that it can be used in almost any location with minimal space and support systems. It can be used as a stand-alone system or can be docked with existing web line facilities in order to coat web. Its modular design is the essence of flexibility with change-over requiring only a modest effort.

Considering the process understanding that can be achieved, the development coater is truly economical. In the stand-alone configuration, few supporting systems and personnel are required and the device docks easily to existing systems for completing the coating process. The device design is arranged to achieve minimal costs. Only coating modules of interest need to be purchased and other modules can be added later if needed. Finally, many of the more precisely made components can be assembled into different modules; for example, slide coating plates can be used in either slide bead or slide curtain die mode and the slot die clamshell assembly can be used in either slot-bead or slot-curtain modules.

Each of the modules can be configured to include precisely-adjustable coating parameters as well as replaceable components where desired.

Slot-die modules, for example, can include adjustable coating gap and angle of attack and the die can be supplied with replaceable lips and shimming plates for different slot depths. Other coating methods have comparable parameters of adjustment and can be supplied with replaceable components too.





*Development Coater equipped with Curtain Slide Die and Curtain Edge Guides*

### What type of companies can benefit from this coating development tool?

- Companies or other groups that are getting started with coating, having limited coating experience outside of their legacy method, or have limited facilities and other resources.

For them the Development Coater is an economical way to quickly get started in understanding pre-metered coating processes.

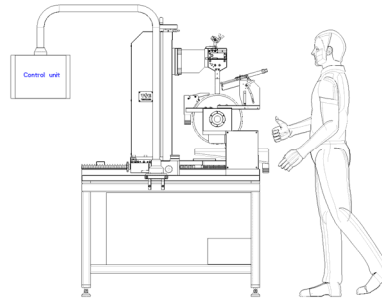
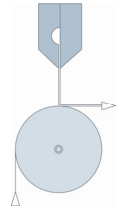
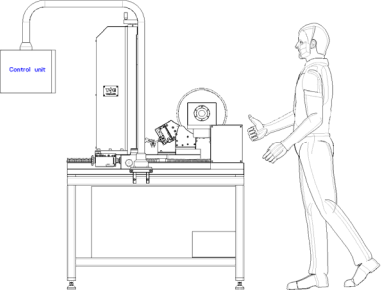
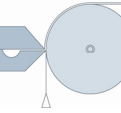
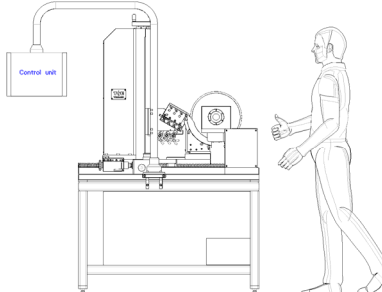
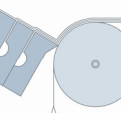
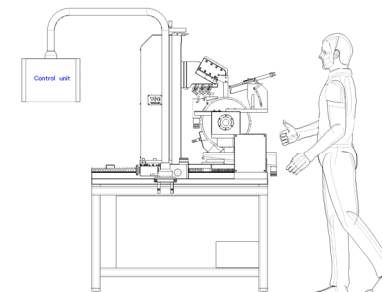
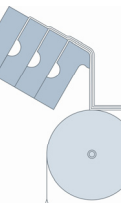
- Companies undergoing concurrent process development and coated product. The use of the Development Coater can quickly accomplish much of the early scouting work and thereby jump-start the program.
- Experienced coating companies. This coating device can complement existing laboratory facilities such that overall efficiency is improved. It provides an efficient and capable method to screen coating batches prior to committing to large scale production. It can serve as an excellent training aid for operators and can be used to investigate coating defects.

### Rental Conditions for Development Coater

The Development Coater or coating dies can be rented from TSE Troller for the customers internal developments. The total rental cost for the trial equipment include the rental fee (only test days), the base set-up fee and the transportation cost for the equipment and the working time of the TSE Troller Engineer, plus his travel costs. TSE Troller AG will bear the cost for the travel time. In case of a die order the rental fee will be refunded. The prices below are in Swiss Francs (CHF). The customer will bear the cost for repair in case of any damages.

<i>Trial Equipment</i>	<i>Rental fee CHF/test day</i>	<i>Working time CHF/test day</i>	<i>Travel &amp; transport costs</i>	<i>Base set-up fee CHF</i>
Coating Die	500.00	1'800.00	at actual	1'600.00
TSE Troller Development Coater (incl. Die)	1'200.00	1'800.00	at actual	3'600.00

## The Different Coating Modes of the Development Coater

<p><u>Slot Curtain Mode</u></p> 		<p>Viscosity range: [mPas] 10 - 5'000            Coating speed: [m/min] 60 - 1'200            Wet thickness: [µm]: &gt;5</p>
<p><u>Slot Bead Mode</u></p> 		<p>Viscosity range: [mPas] 1 - 10'000            Coating speed: [m/min] 1 - 600            Wet thickness: [µm]: &gt;5</p>
<p><u>Slide Bead Mode</u></p> 		<p>Viscosity range: [mPas] 1 - 1'000            Coating speed: [m/min] 60 - 600            Wet thickness: [µm]: &gt;50 (total)</p>
<p><u>Slide Curtain Mode</u></p> 		<p>Viscosity range: [mPas] 10 - 5'000            Coating speed: [m/min] 60 - 1'200            Wet thickness: [µm]: &gt;5 (total)</p>