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PRESS RELEASE

## **Precise, autonomous, mechatronic: PAM calibrates coextrusion adapters and dies automatically for best comfort, quality and productivity**

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At K 2022, Reifenhäuser is presenting its new PAM automation option for coextrusion adapters and slot dies in flat film and sheet production, and for extrusion coating for the first time worldwide. The high level of automation makes the machine operator's work significantly easier, thus increasing line productivity and film quality. Energy consumption is also reduced, as manual adjustment bolts replace the conventional thermal expansion bolts.

Up to now, when starting up the extrusion line or changing products, many individual operations have been necessary until the coextrusion adapter and die are set correctly. Manufacturers lose time and money as a result. For this reason, Reifenhäuser has now developed an automation option that relieves line operators of this work: PAM (precise, autonomous, mechatronic).

With the PAM option, coextrusion adapter and die can be adjusted automatically and mechatronically - precisely controlled via the line's operating panel. This is significantly faster than conventional control by hand or expansion bolt automation, and enables faster start-up of production, higher output and improved overall equipment efficiency (OEE). Scrap and material usage are significantly reduced. In addition, recipes that have been set once can be stored and recalled at any time. They can therefore be reproduced exactly - even by inexperienced line operators.

The stored setting parameters not only facilitate future production, but also the tracing of individual products and provide proof to customers. Another advantage of contactless calibration with PAM is that the line operator no longer has to work on the hot components, which increases work safety and prevents damage to the machine. PAM is optionally available for new Reifenhäuser "Pro" type coextrusion adapters and for various dies, but can also be retrofitted to existing lines regardless of the manufacturer.

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### **PAM for coextrusion adapters**

The Reifenhäuser coextrusion adaptor Pro is the only coextrusion system on the market that allows profiling of the individual layers while the line is running. Unlike conventional solutions, elements located in the adapter do not have to be removed, processed and reinstalled in a time-consuming process. Instead, profilers can be flexibly controlled individually or together during operation via a central adjustment.

"The PAM option goes one step further," explains Hanna Dornebusch, application engineer at Reifenhäuser Cast Sheet Coating. "PAM automates the setting of the layer distribution and simplifies adjustments and optimizations through integrated recipe management. This is especially worthwhile for manufacturers of films with many layers and many product changes."

While with simple 3-layer compounds the coextrusion adapter is adjusted in a few steps, up to 70 profilers have to be adjusted for barrier compounds with 11 layers, for example. Compared to manual adjustment by a machine operator, automation saves about half an hour of changeover time - depending on the number of profilers to be adjusted.

### **PAM for dies**

From single actuators to translator technology, PAM is the logical innovation from decades of Reifenhäuser development in the field of die control. With two manual adjustment bolts, the system combines energy efficiency with low setup and operating complexity of the control system.

The PAM option is suitable for dies in flat film and sheet production as well as for extrusion coating. The system enables autonomous and mechatronic adjustment and control of the flex lip via the line control system. Depending on the die design, autonomous adjustment of the restriction bar, width adjustment and lip opening via adjustment of the lower die lip is also possible.

"With the PAM option, we now offer our customers a highly convenient solution with a fast return on investment," explains Tim Bansch, die product manager at Reifenhäuser Extrusion Systems. "Compared to dies that are adjusted with thermal expansion bolts, changeover time and energy consumption are significantly reduced."

For example, a width changeover with PAM in a cast application with internal width adjustment is 78 percent faster than with a conventional system. In addition, PAM saves energy because no thermal expansion bolts need to be permanently powered. For example, switching from thermal expansion bolts to PAM for a 3,000-mm-wide die saves of about 130,500 kilowatt hours per year.

PAM is a joint development of the "Reifenhäuser Extrusion Systems" business unit, which specializes in extrusion components, and the "Reifenhäuser Cast Sheet Coating" business unit. The PAM option can be selected independently for coextrusion adapters and dies - but in combination, the automated components unleash their full strength.

"We are one of the few machine builders in the market that manufacture everything ourselves - extruder, coextrusion adapter and die," says Tim Bänsch. "Due to this hot part competence within the Reifenhäuser Group, we know the process technology interfaces very well and can design everything accordingly to each other - PAM takes it all to a new level."

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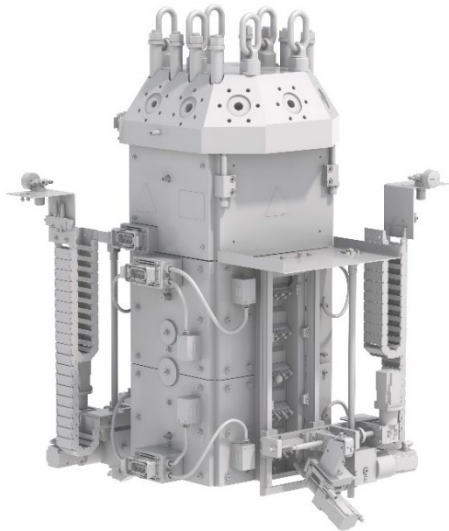
**PAM at K 2022:**

FLAS DIES | COEXTRUSION ADAPTERS: **Hall 1 / D 91**

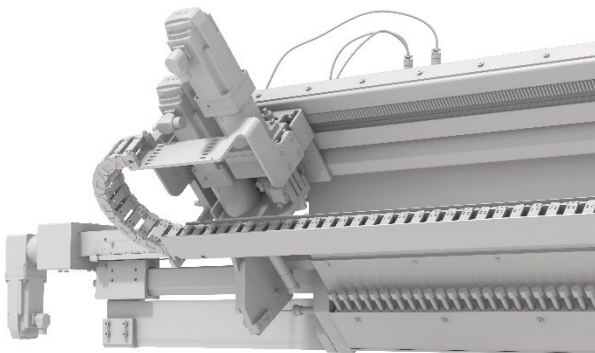
REIFENHÄUSER MAIN BOOTH: **Hall 17 / C 22**

**About the Reifenhäuser Group**

The Reifenhäuser Group is the leading provider of innovative technologies and components for plastics extrusion. Founded in 1911, the company supplies high-technology solutions all over the world. With its technologies and the know-how of its 1,750 employees, Reifenhäuser has the world's largest network of expertise in plastics extrusion technologies. The CEO of the Group is Bernd Reifenhäuser.



**PAM coextrusion adapters automate the setting of the layer distribution and simplify adjustments and optimizations through integrated recipe management.**



**With two manual adjustment bolts, PAM dies combine energy efficiency with low setup and operating complexity of the control system.**

Pictures: Reifenhäuser