

PRESS RELEASE

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Product offering for two-component rubber injection moulding expanded

Based on the growing demand for two-component rubber mouldings, MAPLAN has been expanding its range of double-station injection moulding machines for around 10 years. The product range extends from combinations with vertical and horizontal injection units to special solutions with two side injection units or two parallel top-injection units. The latter assumes an unrivalled position in the comparison of competition. It provides two-component capability at almost the same dimensions as a standard one-component machine. The aggregate-combinations are available in a wide range of injection volumes.

The integration of individual parts with different properties to one moulded part produced in one production process is increasingly a key issue for plastic articles and recently for rubber articles as well. Above all, the possibility for the targeted adjustment of mechanical properties in engine mounts or vibration absorbers by the selective combination of the rubber compounds with different hardness and damping properties.

In addition, the combination of "inexpensive" blends for uncritical areas and high-end material provides for high-performance sections a great potential for rationalization, e.g. In the case of shaft seal rings with base bodies made of a favourable elastomer compound and the actual sealing lip made of expensive fluorine rubber types.

Vertical horizontal combination - for large volumes and ergonomic advantages

The simplest two-component machine is the combination of a standard vertical machine with an additional lateral injection unit. The advantage of this configuration is the option of injection into the separation plane or laterally into a cold-runner system whereby the height position of the injection unit can be adjusted either via a crank system or optionally also by means of an electrically driven spindle drive. The disadvantage of the lateral injection is the resulting larger footprint of the machine, but which, on the other hand, opens up the advantage of better accessibility and the possible simultaneous use of two independent cold-runner systems. The same applies, of course, to the horizontal injection on both sides (Fig.1).

Vertical twin injection - if minimum floor space requirement has priority

For vertical machines with a clamping force of more than 1600 kN, the MAPLAN-specific two-component machine system with the designation "Top-Top" is available as an alternative to the conventional designs, described above. With this type of construction, the two top down-injecting injection units, the injection volumes of which can be between 130 and 2600 cm³ depending on the size, are located parallel to one another on the upper machine plate. Since both injection units are located on top of the vertical clamping unit, the production area requirement due to a larger electrical cabinet and the double hydraulics, is only moderately increased compared to the standard machine (Fig.2).

The main advantage of this configuration is its flexibility. The twin injection units can inject either simultaneously or independently of each other, depending on the specified hydraulic version. In the version for independent operation the two-component-machine can be operated, if required, as a one-component machine with only one injection unit. This merely requires the use of an injection moulding tool with a "redirecting" cold-runner system.

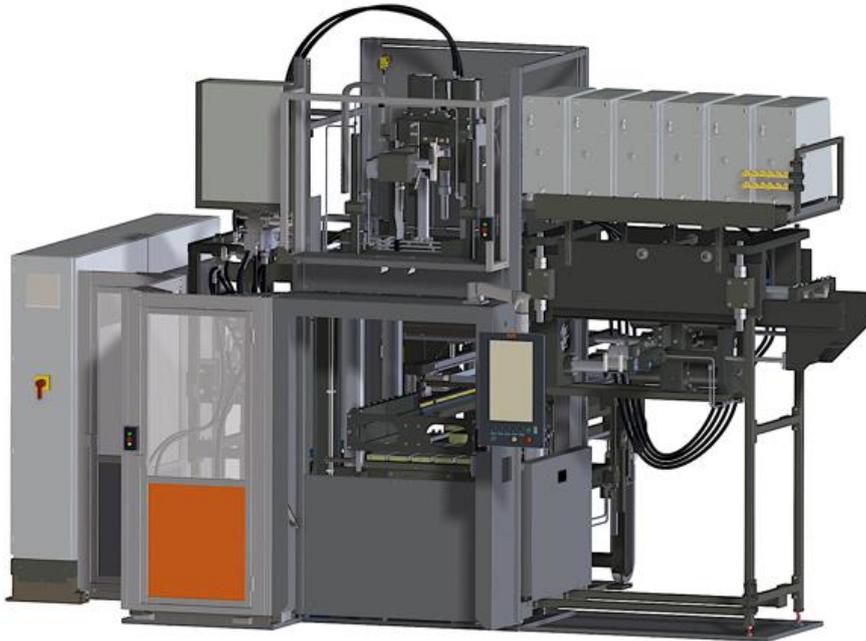
The flexibility of the machine system includes also the fact that it is suitable not only for medium-sized to large-volume multi-component mouldings but also for the production of small-volume thin-wall mouldings. For this purpose, low-volume unit combinations with injection pressures up to 2,500 bar have already been implemented and used successfully.

Intuitively programmable two-component process sequence

For the sequence control of the 2-component process, the new machine control MAPLAN C6000.web offers an intuitively programmable process sequence. As with single-component machines, the "Cure" software for heating-time optimization is also available as an option for two-component injection moulding.



Figures:



Graphics: MAPLAN

Fig.1: MAPLAN two-component rubber injection machine with a vertical injection unit from above and a horizontal injection unit. This configuration is obligatory when the second rubber volume exceeds 2000 cm³.



Graphics: MAPLAN

Fig.2: MAPLAN two-component rubber injection moulding machine with two parallel injection units from above.

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about MAPLAN



The company Maplan was founded in 1970 in Vienna under the name "Maschinen und technische Anlagen Planungs- und Fertigungs-Ges.m.b.H." as an engineering and plant construction company whose focus was on the development and construction of extrusion lines. From 1984 on, there were several changes of ownership (VEW-Vereinigung Edelstahlwerke AG, later the steel processing company Schöller Bleckmann) accompanied by a relocation of the company to Ternitz / Lower Austria. With the takeover of the "Pentaject" rubber-injection-moulding-machine-operations in 1985 MAPLAN moved into that technology field, which was supported after the takeover through the mechanical engineering company Starlinger in 1991. At the same time MAPLAN sold its twin-screw-extruder division to Cincinnati Milacron. The business area "rubber injection moulding" was expanded further in 1993 with the acquisition of „Werner & Pfleiderer Gummitchnik“. In 1996 the construction of single screw extruders was abandoned and since then all capacities have been concentrated on elastomer injection moulding machines.

MAPLAN currently employs 200 employees (around 250 people worldwide), producing over 300 per year elastomer injection moulding machines in the clamping force range of 15 to 1,200 tonnes and an injection volume of 10 to 30,000 cm³. The export share is 99 per cent. In addition to its production location in Austria, MAPLAN is represented with service and sales branches in more than 60 countries worldwide.