Injection moulding machine for large volume rubber-to-metal bonded parts

Desma has launched the elastomer injection moulding machine D 968.1000 ZO B-900, which is said to combine ease of operation, versatility and high productivity.

From the processing of great material quantities to the easy handling of large volume rubber-to-metal bonded parts, it can be flexibly applied, says the company. Advantages include: parallel movements, three-sided accessibility as well as the fact that article demoulding in the clamping unit is being omitted. The machine also provides an optimal utilisation of cure time and the possibility of producing different articles in one cycle.

The new machine combines the size and clamping force of a 1,100t machine with efficient production. Adding a 22,900cm³/2,050bar injection unit and using the cold runner technology and flexible sliding systems make an ideal combination, according to Desma. In this case one double sliding device and two identical or different mould bottom parts are used. Even with large-sized articles this results in a saving of cycle time. This is being enabled by dislocating all demoulding and feeding procedures as well as the mould cleaning work to the outer station. Concurrent to this, the cure time for new articles is running in the clamping unit.

A current example shows that savings as high as 40% can be achieved in the production of large volume bearing plates compared to a standard machine. Dislocating cure time partially to the outer station (up to 40% of total cure time) provides further potential to increase productivity. An additional heating platen integrated into the outer station makes this possible. While the finished parts are removed, the moved out mould bottom part is deposited on this platen by means of vertically displaceable guide bars. An additionally integrated ejecting/demoulding system below the heating platen supports the demoulding of large and heavy rubber-to-metal bonded parts. Moreover, the extendible mould bottom plate improves the access to the articles: in the outer station there is free access to it from three sides and therefore allows the use of lifting tools (e.g. cranes).

Especially in case of expensive materials, reduction in waste as much as 30% is possible (with an open cold runner system). The usage of a FlowControl system allows further savings, says the company. Along with this system, it is possible to produce different articles of various shapes and dimensions in one and the same mould within one cycle. The cold runner and mould technology is designed and built by the company's in-house mould shop.

Another important aspect of the cold runner technology lies in its handling: Especially on big machines with long moulds difficult to access, the job of the operator is simplified due to direct injection onto the article. Unnecessary travelling movements are saved, because the distribution deck is not required – the operator does not need to remove any additional runner. The new machine with special heating platens of 1,400mm length and of more than 1m width is a good example of it, says the company. The complete material distribution is directly realised in the cold runner system and thus it remains utilisable until the next cycle.

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