

Recent developments by IPM

Cutting and belling machines for pipes

Just after bringing new ideas and technology into its machines, IPM (**hall 16, booth D58**) is presenting the following innovations at K 2019.

The TPE 160 electric patented cutter has been developed to cut and chamfer multiple plastic pipe materials (PVC, PE, PP) with a maximum diameter of 160 mm at a very high productivity rate. Differently from traditional saws, the maintenance normally required by the hydraulic system is significantly reduced, as well as the normal wear of brushes and tracks for the transmission of electric power. The group that sustains the chamfering tool allows users to obtain a chamfer which is perfectly centred and homogeneous also in case of deformations on the pipes. In the PVC version, a special patented device ensures maximum efficiency in terms of suction of the removed material.

The BA/PP belling machine for polypropylene pipes has been upgraded to generate an output of more than 1100 sockets/hour. The machine processes four pipes per cycle (instead of three) with a diameter up to 50 mm. The entry station has been speeded up in order to guarantee quicker machine feeding, and it is adjustable according to the pipe diameter. Dead times have been reduced to a minimum. From an energy saving point of view, the ovens and the heating cycle have been optimised. Also, the gasket inserter device these machines can be equipped with works four pipes at the same time, with a diameter up to 50 mm; it can be tooled up with a special patented device that is able to perform the "seal-check" of each



A TP 630 planetary cutting machine

socket, with consequent notification in case of non-conformity. This process is covered by a European patent.

The new belling machine for PVC pipes that IPM is presenting at the K 2019 show boasts three patents. All machine movements are electric or pneumatic. In particular, the trolley of the socketing station is driven by a servomotor, and the locking clamps are driven by pneumatic cylinders. The elimination of the hydraulic system allows the reduction of the committed power by about 4 kW. The other advantages of this electrical belling machine are: greater energy efficiency; low maintenance; and lower environmental impact. An important innovation in the Rieber system was the installation of a control system to check the sealing of the socket pressure (patented). Also presented at K as innovation is the installation of the "sample copying" system, which ensures the following benefits: correction of the "shrinkage" problem, that is, the alteration of the socket dimensions following the cooling of the same, occurring once the socketing cycle is completed, and due to the exit temperature of the pipe, different from time to time; greater homogeneity and repeatability of the finished product, with a reduction in the production of non-standard pipes and, consequently, less waste on qualitative bases; reduced influence of variable environmental conditions, since the machine is able to progressively adapt itself in order to obtain the desired result; lessened need for operators to check the quality of the finished product. And this process is also patented. ■ www.ipm-italy.it

Gavo Meccanica looks to the future

Focusing on remote control and augmented reality

The use of remote controllers and augmented reality are the topics on which Gavo Meccanica's participation in K 2019 (**hall 4, booth A45**) is focused. More specifically, the machine on display is a TCRG model, supported by data exchange software already in use at some customers to send recipes to the machine remotely and to get back production analyses in real time. The software version exhibited is updated compared to the current one, called Industry 4.0 Pack.

The standard machines are normally equipped with a touch screen panel where the operator types in the cutting sequences. Using the remote control, the operator just starts the cycle up and selects the order directly on a PC or laptop, or scanning barcodes. In this way, mistakes and delays made by manual key pressing are eliminated and production planning is better.

On the wave of new applications, the use of augmented reality is introduced to support the technicians during ordinary and extraordinary maintenance. The K Show is an important event to test the reaction of the market to this proposal. This is a new field for Gavo, and it is the first approach to an instrument that is expected to be widely used in the future.

The choice is avant-garde, and also the core cutter is an essential

part of the productive process and it must be connected to the plant network to give its support to the improvement of the process. Gavo demonstrates once again it is keeping up with the times, and the adoption of computer technologies is part of the concept of manufacturing machines according to customers' needs; in this case, the users of cores. ■ www.gavomeccanica.com



The TCRG machine exhibited by Gavo Meccanica at K 2019