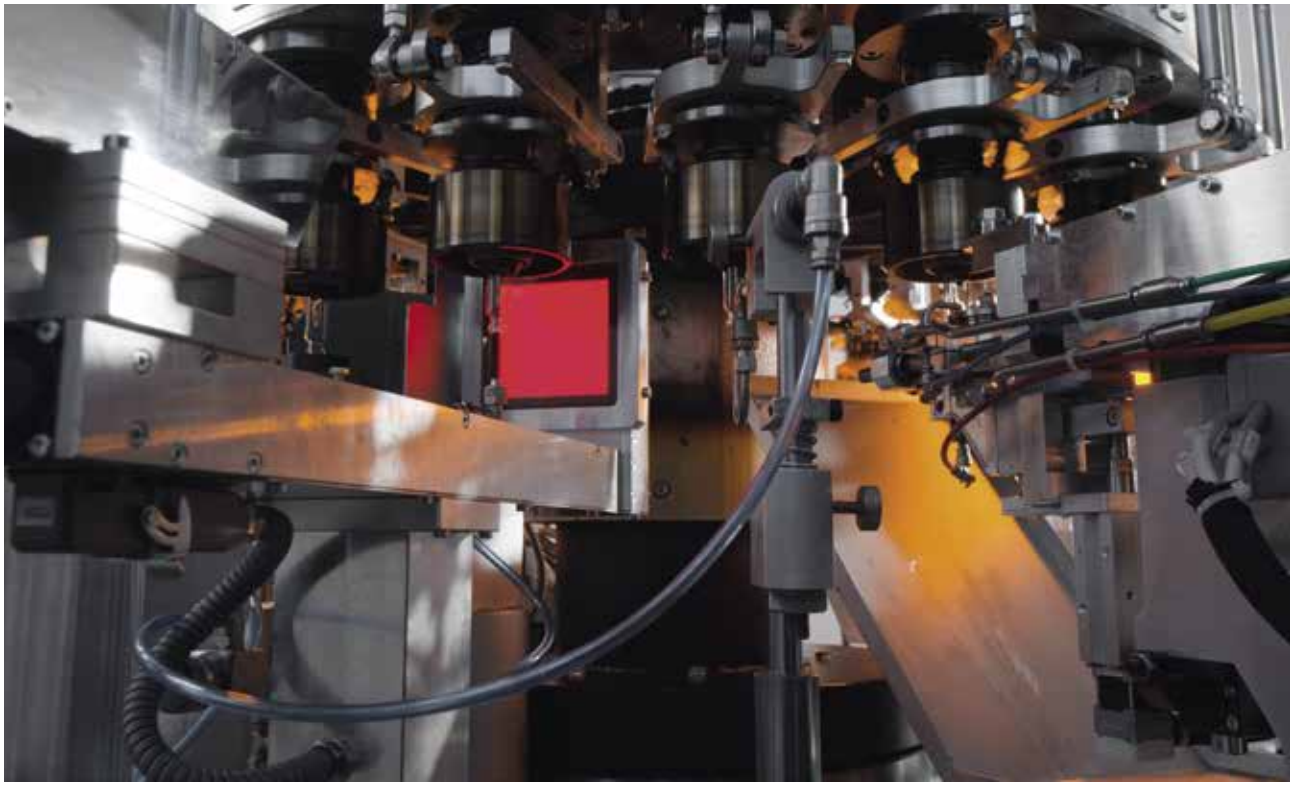
OCMI-OTG's latest production line offer

OCMI-OTG, worldwide leading supplier of borosilicate glass tube processing lines for medical containers, commenced the new year by focusing upon fresh developments related to its glass vials processing equipment.

STARTING 2022 WITH A BANG

Composed by the index rotation forming machine FLA18 and the after-forming line LF518, OCMI-OTG's neo-production line assures maximum flexibility in terms of both product specifications and optional devices to be installed upon request by customers. Following the index rotation working concept, the FLA18 marks a significant departure from the company's traditional OCMI-OTG forming machine production - despite being able to guarantee the same output.



THE FLA18

This new forming machine has been developed to reach a maximum output of 55 pieces per minute with 2R vials, as well as the possibility of process glass tube diameters that range from 10 mm – 30 mm. It's been developed with eighteen upper mouth stations, forming the crown, and nine lower bottom stations, which complete the turret. This configuration between combined upper and lower working turret assures the maintenance of maximum productivity - even in the event that a lower station should go out-of-service for some reason. The turret rotation is powered by a torque-motor that's jointly supplied with a water chiller for its cooling. The same chiller can be used for cooling of the forming plungers.

FORMING OPERATIONS

These are performed by three stations, respectively dedicated to roughing, shoulder preparation, pre-finishing and finishing. They follow the rotation of upper chucks through revolving bearings that are mounted upon forming heads so as to exclude any need for manual alignment with the chucks. All three stations can be removed, thereby rendering both maintenance and job-change operation much easier for the operator. Tools, plungers and rollers are all servo-driven - thus making setting and forming operations much smoother and more precise. It's thanks to this feature that operators can adjust parameters related to the starting/ending position of tools as well as acceleration from the machine control panel.

After the mouth-forming operation, all the main dimensions can be controlled by OPTIVIAL camera system - all derived from experience acquired from other OCMI vial forming machines. This new generation camera allows up to 15 pictures of the same rotating vial to be taken – thus acquiring a more precise average value for each dimension. The servo-motors also drive the setting of the tube receiving plates as well as that of the cutting station. The 9 lower chucks

of the turret below are powered by independent motors. Here, prior to unloading the device, a dedicated station flattens the bottom by way of a containment buffer that's especially important for large-size vials. The lower chucks are equipped with blowers enabled by solenoid valves which are aimed to remove smoke from inside the vials - thereby keeping alkalinity within limits fixed by ISO standards. The take-out, via servo-driven transfer system, has been developed to facilitate connection with the OCMI after-forming line.

From the machine's control panel, operators can easily set both the start and end positions of the plates and cams, which are driven by servo-motors through user-friendly software. Then, by enabling jog mode during setting and job-change operations, they can use a remote push-button. By selecting the single tube from the packed bundle, the new version of the automatic loader supplied by OCMI can also connect to the FLA18 machine. This type of loader minimizes those contacts and frictions between tubes that risk yielding cosmetic defects on the finished products.

THE LF518

The new after-forming line LF518 has been purposefully developed for connection with the FLA18 forming machine. Available upon request by the company's customers, servo-motors can also power the main line mechanisms in a completely renovated printing station. Developed at OCMI's Italy headquarters, the new vial annealing lehr version is electrically-powered and alimented by a feeding manipulator with six mechanical grippers that pick the vials from the cooling conveyor before placing them in a horizontal position upon drilled metal trays. Oven length and width can be modified according to production layout area, as well as the quantity of vials to be conveyed for each row. With its adjustable gripper jaws the pick-place manipulator allows for processing to a minimum length of 30mm. Again upon request, the vision conveyor can be adjusted lengthwise to instal camera inspection systems after the annealing lehr and relative cooling section, just as cosmetic or other defect types can be controlled prior to packing.

THE PM-V AUTOMATIC PACKING MACHINE

Available with four-or-five box filling stations on a rotating table, the PM-V Automatic Packing machine can replace the traditional manual packing operation in order to solve the problem of friction between vials as well as any consequent scratches. With this option, no contact between the vials will occur - thanks to vacuum-cup picking from the line chain, which minimizes the risk of scratches or breakages during packing. PM-V machine software allows recipes to be saved, including specifications concerning ampoules/boxes, row numbers to be positioned within the box and ampoule numbers per row. Here job changing is much easier for the operator, thanks to the modular vacuum picking arm by which blocks are added or removed according to box length and the number of ampoules to be picked from the machine racks. Digital technical documentation on the new line will shortly be available from the new OCMI website, which is being continuously updated according to ongoing developments within the group. ■