

## **C O S M O P A C K “ H A N D R O B O T ”**

*Technical features and range of utility*

The COSMOPACK "Hand Robot" has been conceived and realized by COSMOPACK Technicians with the aim of satisfying our Customers' requirements of rapidity and versatility with regard to shunting containers in a packaging line. Sometimes the particular shape of a container of a product or its primary packaging, or the configuration of the containers in the inside of the pack (either made in cardboard type " Wrap Around " or in "shrink wrapping") may cause remarkable problems in the realization of the packing, especially when a high speed of production is required. It may also be necessary to subdivide and to shunt products according to the size of the container or to its shape, or furthermore an arrangement of the containers themselves may be required, so to have them already oriented at the infeed of the packaging station downstream. The extreme versatility and the wide range of functions of the Machine, along with its high operating speed - 400 p.p.m. and more -, makes the "Hand Robot" a System capable of satisfying the most various production requirements of our Customers. Let us see here below more specifically the main technical-functioning features of this Machine.

### **OPERATIONAL DESCRIPTION**

This continuous motion System distributes the products (glass or plastic bottles and jars, cans, soft drinks containers, vacuum and non - vacuum packs) coming from single row along two or more rows (up to 12), from product feed to boxing units or for product distribution to several production lines.

The products are deviated along the different rows by a series of independent moving carriages



(**patented**) and are held singularly on both sides by a mechanical grip along the entire deviation path, on a belt that runs at the same speed (thus avoiding friction between the container bottom and the belt itself). This ensures absolute stability during the sorting stage (even in the event of the products having stability problems due to their particular shape). This way, friction between label and static guide is also avoided. Thanks to the patented mechanical pickup system, no size changeover operations are needed, and products of different shapes and dimensions can be treated at the same

time. It is important to remark that it is possible to preset the Machine so that the containers can be canalized to the outfeed on rows rather than on columns, thus avoiding pressure on product units during the formation of the pack.



A PLC controls the product flow, so that all the rows are correctly filled up, depending on the feeding necessity of the machine downstream; the “Hand Robot” moreover, functioning in electrical axis with the other machines installed in the production line, automatically adapts its speed to upstream and downstream product flow. This function considerably reduces the necessity to preview, in the stage of line planning, further expenses for the installations of accumulation belts upstream and downstream to the Machine.

### OPERATING VERSATILITY

As above mentioned, the functional characteristics of the COSMOPACK "Hand Robot" are not limited to satisfy requirements of subdividing the products onto a determined number of rows; this function (however innovative, as it is carried out at much higher speeds, and by following operating modalities which totally guarantee the integrity of the container comparing to similar machines) is just one of the many that this Machine can carry out. As a matter of fact the " Hand Robot " COSMOPACK can comply with the most varied productive requirements of the Customer; thanks to the modularity of its components, the “Hand Robot” in fact can furthermore carry out the following functions:

#### **Identification and replacement of discarded products**

By means of a control apparatus the unit of products which do not comply with one or more parameters preset by the operator (lack of cap, lack of label or insufficient weight); these will therefore be canalized in one or more dedicated rows, that it is possible to arrange for the purpose of collectioning a given sort of refuse (Fig. 1). The units of product thus discarded, and consequently diverted on the rows not destined to production, will be automatically replaced within the pack in the making.

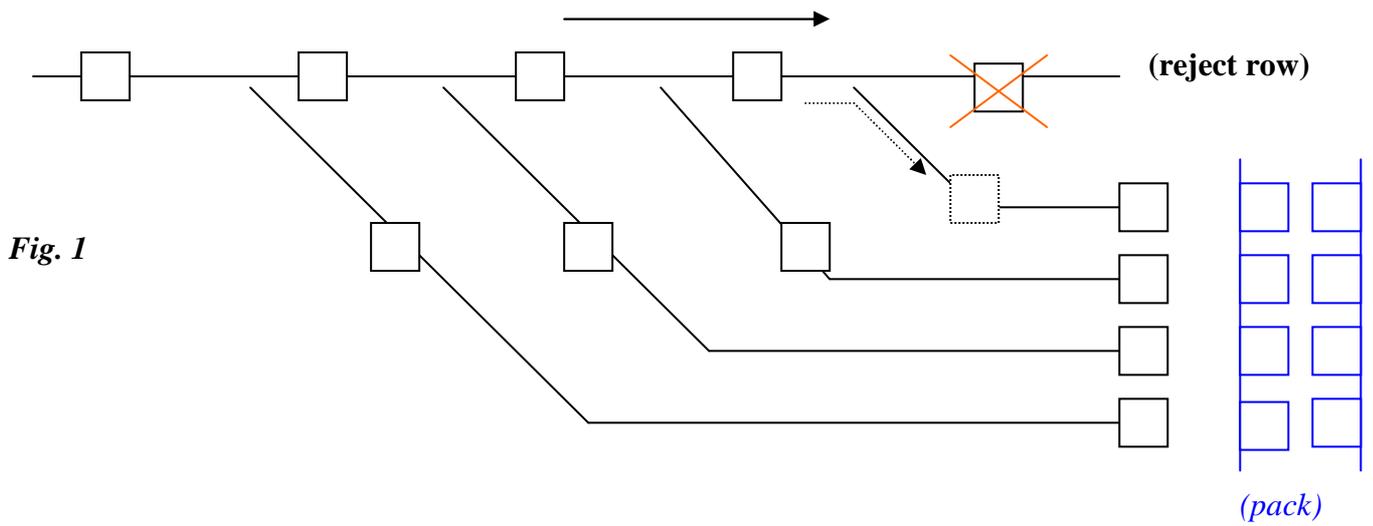


Fig. 1

**Shunting of containers according to shape, color and dimensions**

It is moreover possible to distribute the containers according to their outward appearance, so to be driven in the preordained rows or columns (Fig. 2).

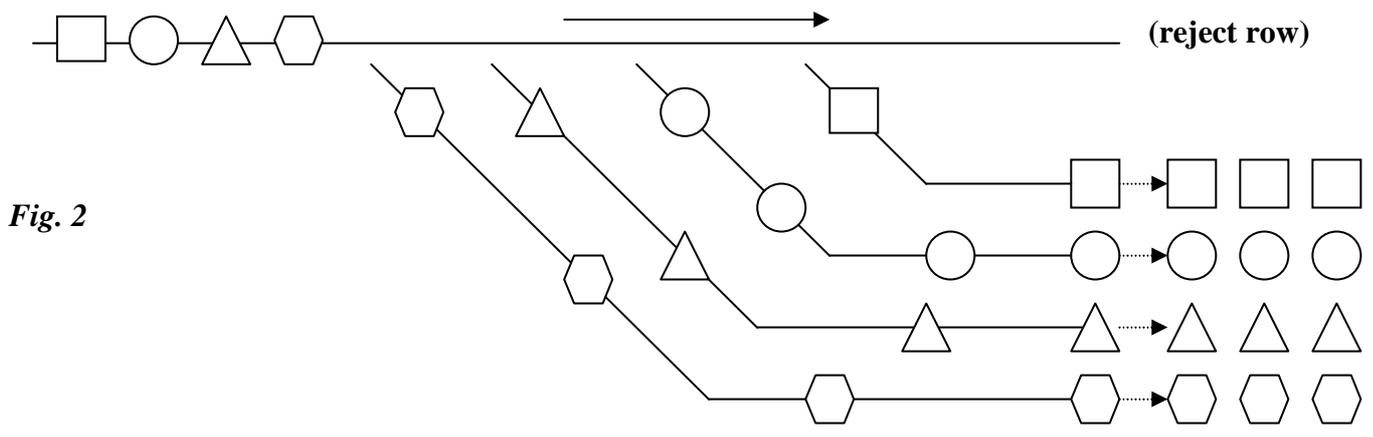


Fig. 2

**Orienting of the containers**

A device can be installed on COSMOPACK “Hand Robot”, that allows to rotate by 90 or 180 degrees the containers coming from the machine upstream, so to arrange them as required before driving them to the packing stage (fig. 3). The great advantage given by this function is obvious when we consider, for instance, the necessity of making a pack in which every container must be oriented in a definite direction ( i.e., bottles with the labels that must be turned towards the outside on both sides of the pack, being this wrapped in transparent film).

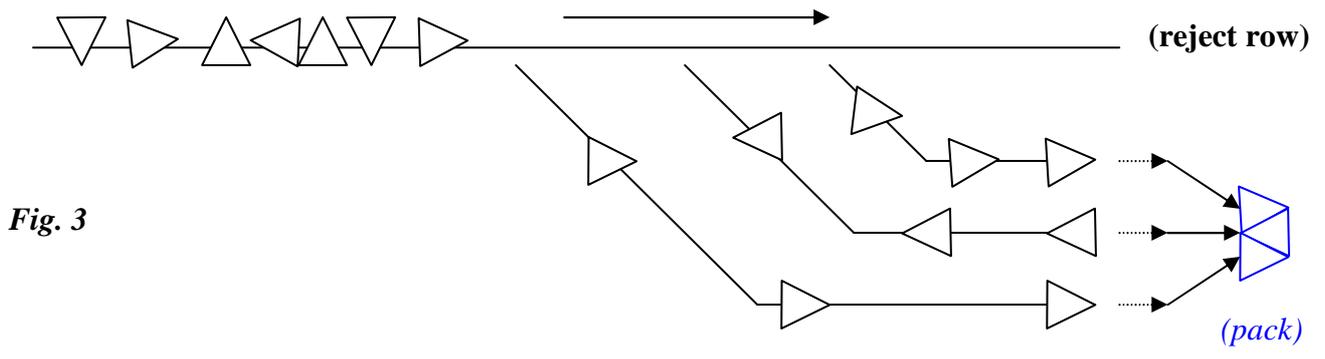


Fig. 3

### Quality controls

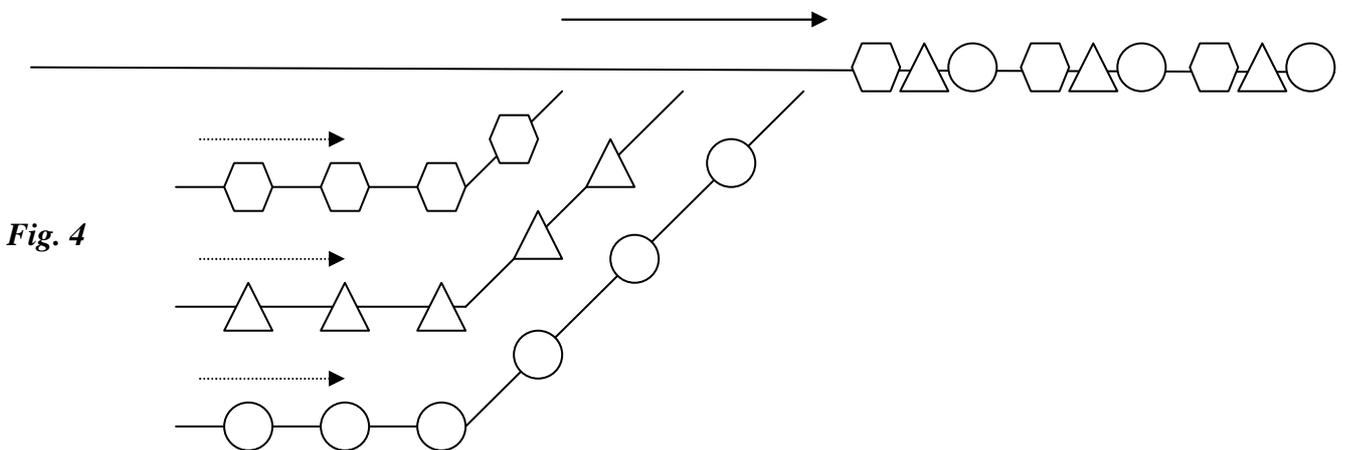
the product can be submitted to a “standard sample” quality control; to carry out this function, a product unit is drawn from a row assigned to production and diverted on a predetermined other. In this case, too, a check can be carried out on the correspondence of the weight of the product unit to a pre-established parameter. In both of these cases the check can be effected on numerical or at time intervals base, such allowing a dedicated system fitted on the Machine to elaborate a statistical analysis on quantity and kind of discarded units.

### Sticks arranger

When the realization of packs composed by a single row of containers is demanded, it is possible to install at the outfeed of the machine an appropriate device for the realization of this format.

### Mixing in pre-determined succession of the containers coming from more rows onto one row only

It is possible to arrange on single row, and according to a pre-determined succession, the containers coming from different rows, each carrying product units being different in shape, size or color. (fig. 4).



The high reliability of this System, the realization of the Machine and of its safety protections in conformity to applicable CE norms and the “operator friendly” concept and design of the Machine make of "Hand Robot " COSMOPACK an extremely versatile and competitive Machine.

Please refer to COSMOPACK’s Technical Staff for any further clarification or detail regarding “Hand Robot” range of functions: