

Since 2007, Asyrl has been supplying its internationally renowned customers with compact and high performance assembly and packaging systems. The miniaturization of high-tech products is continuous. Asyrl plays a leading role in accompanying its partners in this trend, developing the constituent elements of their automation.

# The miniaturized feeder



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1. Flexible handling of watch stones
2. Asyfeed Pocket Palletizing Cell

mance in speed (up to 3 pick & place movements per second) and repeatability (down to +/- 2 micrometers for the most precise one).

compact table-top systems for fast sorting and palletizing of micro-components provided as bulk goods. They can be easily configured for various types of receptacles such as: tubes, tapes, pallets, gelpaks and more.

There is a clear trend towards miniaturization of products. This can be seen either in the size reduction of the device itself or in the integration of more functions into the same volume. This opens new challenges for the manufacturing of equipment in terms of precision, speed, compactness and cleanliness. On the other hand, product customization demands more flexibility from the equipment in order to cope with a variety of product options. These are the needs to which Asyrl would like to respond: to deliver compact, reliable and cost-effective solutions for the automated assembly of microtechnology-based products.

The small parts feeders are based on an innovative, patented vibration system: Asycube. It sets a new standard in flexible feeding of small components that are provided as bulk good. Its platform can vibrate in one, two or three dimensions according to the type of component to be presented to a robot equipped with a vision system. Asycube doesn't require any mechanical adjustments and is the perfect alternative to traditional feeder-systems, i.e. vibrating bowls.

Asyrl products have already been installed successfully in many industrial applications in internationally renowned companies. In one of the latest cases, ruby stones used by the Swiss watch industry are inserted with high precision into short calibrated tubes. The stones varying from 0.5 to 2.2 mm in diameter are initially supplied in bulk by the operator, and then poured into the reservoir of the Asycube. The operator then places a rack of twenty empty tubes into the workspace of the robot. The small machine starts its work at an impressive speed as soon as the operator has selected the corresponding program. The idea of conditioning small components in tubes is widely spread in the Swiss watch industry. It is a very convenient way to store, transport and to exploit a large amount of small components that need to be supplied to an automated process. In other applications, the Asyfeed module is used to precisely place components on a rotating glass table for quality inspection. Several cameras located around the table take images that are analyzed with dedicated algorithms to sort the good parts from the bad ones, thus contributing to the high quality standards set by the Swiss Made label.

**Asyrl products can be organized in three categories:**

- Robots
- Small Parts Feeders
- Palletizing and conditioning cells

Asyrl robots are based on the DELTA parallel kinematics. Three different sizes are available (Pocket, Power and Desktop). The smallest one, the Pocket-Delta, is still considered as the smallest industrial robot in the world. They are especially well-suited for fast and precise handling and assembly of tiny components. The reduced weight in motion and the well-engineered mechanics increase considerably the robots perfor-



**«With Asycube, Asyrl provides its customers with an unequalled solution for flexible feeding of small components»**

*Alain Codourey,  
CEO Asyrl SA*

Asycube, combined with the DELTA robots, gives birth to the Asyfeed modules and cells. The Asyfeed Module has been designed to be integrated as subunit into automated machines. Its main function is to load small components (supplied as bulk good) precisely to a chosen target. Typical applications can be found in the watch industry, as well as in the medtec, pharma and electronics sectors. Flexible feeding onto a rotary table is one example of many. The cells are

By using Asyrl products, customers can rely on innovative solutions to help them improve their quality and productivity.