Hense pallet changer
Let’s make things easier
**Rotary actuators**

*Our origin and our competence.*

Hense Systemtechnik stands for over 40 years of innovative solutions in the range of hydraulic components. In Europe we are leading in the development and the production of rotary actuators as well as rotary lift combinations.

Our products are not only used for handling equipments in a multiplicity of production machines or process chains but also as control members in vehicles or wind parks, or torsion oscillators in complex testing equipments.

The working mechanism of a rotary actuator is very simple: A so called vane segment is fixed firmly on the housing (yellow in the picture) and a second vane segment is fixed firmly on the drive shaft (red). These two vanes divide the ring-shaped cylinder into two chambers (green). The movement and the torque are generated by putting pressure on the vane which is fixed to the shaft. This working mechanism is highly reliable as well as very cost efficient in production.

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**Hense pallet changer**

*A vision has come true.*

In 1996 we launched another application for rotary actuators in close cooperation with a producer of machining centers: the change of work pieces in machining centers. The use of rotary actuators was stipulated by the rotary movement of the work piece exchange, which is limited to 180° with kinematics predestined for rotary actuators. We added a similarly compact linear unit for lifting off the pallets to prepare the rotary movement.

The rotary actuator and the linear unit of this pallet changer are designed in a manner that all forces from the workpiece load, even if the pallet is loaded unilaterally, are taken up completely by the unit. The troublesome bearing positions, as known from conventional exchanger systems are redundant. The closed unit can be integrated into the machining bed with very little assembly effort, and this unit realizes the entire pallet exchange process on the smallest available space. More than 8,000 devices in 40 different versions have been delivered in the meantime to 15 well-known producers of machining centers, this confirm the wide acceptance of our systems.
The Hense pallet changer

In the conception of the pallet changer, we distinguish two versions. In the so-called serial design, the lifting unit is mounted on the drive shaft of the rotary actuator, which makes for a long, slim construction. In the second version, the so-called parallel design, one or two lifting units are mounted in parallel to the rotary actuator. This design makes for a short, broad geometry.

Which principle to choose depends mainly on the required total structure of the machining center that defines how much room is available between the machining bed and the bottom or other components, such as chip transporters or others.

For ideal realization of your machining concept, you can choose not only from the aforementioned design versions, but also from a large variety of optional add-ons. Complex pallet changer stations can be set-up easily as the ideal addition to your machine. The illustration below shows an exemplary design and creation process in parallel design.

Starting with the machining bed, the main components of our pallet changer are aligned optimally to begin with (see fig. 1, linear alignment, (grey/red), lifting cylinder (orange) and rotary actuator (white)). These components are linked via a suitable casting part (fig. 2, tan) to make a functional connection. For connection to the machining bed, the so created rotary-lift system is supplemented with another casting part, the so-called console (fig. 3, pale grey). This console takes up additional elements of the pallet changer station, for example the hand-turned loading station with clamping hydraulic (fig. 3&4, orange), and the entire valve technology/sensorics of the unit (fig. 3&4, blue). A so-called H-plate (fig. 4, white) takes up the pallets during the pallet changing process and completes the system.
See the advantages the application of Hense pallet changers brings for you:

- Compact design - high performance
- Integrated bearing positions to take up all external forces from the change of the work piece, even for unilaterally loading
- Fast, harmonic kinematics
- Fast change of work pieces - short idle times
- Long service life, high reliability, maintenance-free
- High, certified quality warranted by extensive testing of every pallet changer on our testing stations prior to delivery
- Simplified logistics through product-specific transporting racks
- Economic product prices waiving proportional or servo valve technology

We are sure that the high acceptance of our products is based mainly on our readiness to maintain an intensive dialogue with prospects, customers, and partners in the supply chain.

We are committed to continuous improvement of our communication culture. Our technological competence adds value to your business only if we may rely on your experience - today and in the future. For us, customer service means our teams will first listen to you before they design application-specific products based on your needs and requirements, and produce them cost-efficiently.

We warrant first-class conditions in our modern, continuously renewed machining park, a quality management system that is lived in every process and has been audited by many customers, excellent ERP and communication software on a safe hardware network, as well as our highly motivated, hard-working employees always warrant the best results for you in terms of quality, price and in-time delivery.

Let us help you.
We are looking forward to meeting you!

Sincerely yours,
Frank Hense
Managing Director

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