MODULAR SYSTEMS
Flexible Production Systems
Requirements

Application: Production line

Customer needs

- Products with short life cycles are manufactured on production systems with a long service life.
- To assemble standard replacement components from different manufacturers, or from different model series with different hole patterns.
- Avoid machining, drilling and welding work in the production hall.
Solutions
HALFEN adjustable bolt connections

Features

- Modification of the production line or workstep machine following a product update or design change can be done quickly, with little effort

- Meet different fixing conditions (hole spacing or dimension) directly, without modifications

- Modifications can be prepared outside the production system then attached quickly to machines on the line as modules

Benefits

- Be prepared today, for tomorrow’s product needs

- Quick replacement, from a wider range of components and suppliers

- Production downtime is reduced to a minimum. Avoid contamination of the line

Future oriented
Production systems can be quickly retrofitted to meet future conditions

Ready for operation
Only short downtimes for modernization, maintenance or repair
Requirements

Application: Processing machine

Customer needs

- Avoid tight tolerances, which are expensive, and can often only be met by sending work pieces out to specialized shops. Broad, approximate tolerances are preferred.

- The aim is a flexible production system. One which can be adapted in the future to make new model products.

- The integration of each component of the production system should be done without mechanical modification.
Solutions

HALFEN adjustable bolt connections

**Features**

- Cost effective, rough-tolerance production, but with fine adjustment ability, to 1/64 th of an inch

- Adjustable connection technology – the core of a flexible production system

- Consistent compatibility of mechanical connection interfaces eliminates mechanical re-processing

**Benefits**

- Expensive machining is eliminated, as are rejects from out-of-tolerance parts

- Rapid adaptation of the line to production of new models

- Simple assembly, with cost-effective adjustment

**Flexibility**

Standard components become independent of manufacturer and model constraints

**Minimal effort**

Expensive machining hours are eliminated. Precision is achieved through adjustability
Requirements

Application: Process control

Customer needs

- Transducers, proximity sensors and mechanical switches: adjustability is essential

- Due to wear, contamination or modification of parameters, adjustment must be possible at any time

- Either due to a change in product or the production process, the sensor technology must be modified across a large area
Solutions
HALFEN adjustable bolt connections

Features

▪ Light framing channels are the ideal fixing substrate for low-load elements such as sensors

▪ Fine adjustment during operation is possible in seconds

▪ If the area or machines concerned are equipped with framing channels, the modification of an entire system is possible in just hours

Benefits

▪ Small channels use small bolts to make an economical, lightweight, adjustable connection

▪ No production interruptions

▪ Large scale position change of sensor systems, overnight

▪ Economical
  Optimal adjustment of control components during operation

▪ Simple
  Loosen nut, adjust, tighten – done
Requirements

Application: Spiral conveyors

Customer needs

- Be able to transport tomorrow’s products on today’s handling system
- Optimal product speed on the conveyor is achieved via the conveyor tilt angle
- Faster design to production cycle. Reduce the use of highly skilled labor
Solutions
HALFEN adjustable bolt connections

Features

▪ The distance between levels can be modified at any time in the existing system

▪ Connection with hot-rolled framing channel simplifies in-situ height adjustment

▪ Complex drilling pattern of multiple bore holes across a curved surface is eliminated

Benefits

▪ Freedom to handle any sized product in the future, without mechanical rework

▪ Optimal speed: reduced product damage

▪ Design and production of any spiral formation is much faster, with unskilled labor

▪ Economical
  Fast and simple planning, documentation and production of a complex design element

▪ Reduced effort
  Elimination of a large number of different bore holes
Requirements

Application: Production machinery

Customer needs

- Be able to make a wider range of product models, on one machine

- Make product innovations, without needing new production equipment

- Improve the output and working life of the core, or most expensive production machines
Solutions
HALFEN adjustable bolt connections

**Features**

- Equipment can be reconfigured for different product models within hours
- Upgrade or modify your existing equipment
- Peripheral equipment is easily changed

**Benefits**

- **Meet customer orders more rapidly.** Take orders from a wider range of customers
- **Product innovation becomes less disruptive and expensive.**
- **The machine becomes more attractive against the competition.**

**Competitive**
Expensive equipment can easily make a range of products

**Adaptable**
Easily add new attachments
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