# **FURTHER FEATURES AND OPTIONS OF THE UP SERIES**

# **Patented compressed air saving** principle of the U-series

Up to 30% reduced compressed air consumption due to force-optimised knee-lever mechanism and use of smaller drive cylinders.

Dual query concept for simple change with robust pin contacts



Both air connections located in optimal positions in the cylinder floor



Stepless setting of the opening angle from 0°-135°



# Servoelectric parallel clamp IP 63

- 24V servo drive
- Play-free and self-limiting trapezoidal spindle
- Freely adjustable opening angle with the option of intermediate positions
- Conditioning monitoring
- Plate thickness detection
- Detection of faults
- Detection of faulty parts
- Wear control



The version with weld-resistant surface coating



# H/HO/HD

The version with additional locking in opened and/or closed position through integrated stop valves in the cylinder floor



# RB

The version with a mechanical catch in the cylinder floor





# THE PARALLEL-PLANE CLAMP





clamp generation for parallel-plane clamping with constant clamping force





















NEW

Now also

# CORRECT CLAMPING WITH THE UP-SERIES – THE PARALLEL-PLANE CLAMP WITH CONSTANT CLAMPING FORCE

### **UP – The new product variant of the U-series**

Special mechanical systems integrated in the housing with two movement steps

#### Step 1: Pivoting

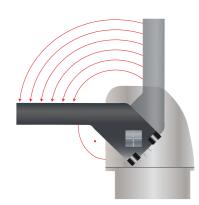
The clamping arm is pivoted/turned a maximum of 135° from open position to the clamping position

#### Step 2: Clamping

Parallel-plane clamping process in which the arm is move vertically up to 5 mm to the workpiece. In the parallel-plane clamping process, constant clamping force is available regardless of the arm length.

### **Parallel-plane clamping**

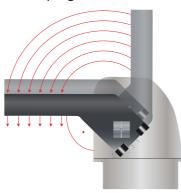
#### **Traditional clamp** Pivoting clamping arm



Clamping arm pivots onto the component

#### **UP** clamp

Parallel-plane increment clamping arm



Clamping arm always places parallel pressure on the component

# **Automatic mechanical balance**

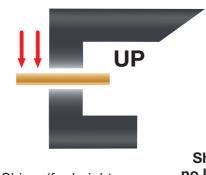
In the clamping/work range of 0-5 mm, plate thickness deviations can be balanced out to a certain extent by model variants, quality deviations, or contour piece wear. No danger of component deformation due to twisting, as the contour piece is placed in parallel.

#### **Traditional clamp**



As the contour piece/clamping arm is always placed in parallel in the 0-5 mm range, no special shims are required for the clamping point.

#### **UP Clamp**



Shims (for height adjustment of clamp + contour piece) Contour piece >

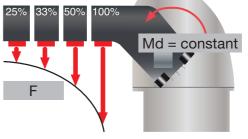
Sheet part = workpiece >



# **Constant clamping force**

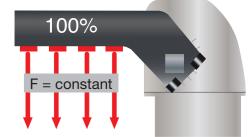
Thanks to special mechanical translation systems, the clamping force of the UP-series is always constant and independent clamping arm length. The pressure regulator integrated in the cylinder can also steplessly set the clamping force for the application.

#### **Traditional clamp**



With traditional clamps the clamping force reduces as the distance from the fulcrum increases.

#### **UP** clamp

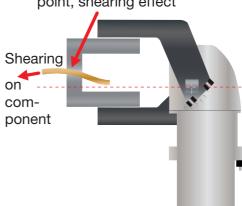


# **Clamping independently of the fulcrum**

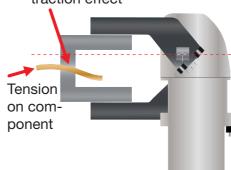
To avoid tensile or shearing forces on the turning section, with traditional clamps the clamping point must be placed in the fulcrum -> less flexibility when installing equipment.

#### **Traditional clamps**

Clamping via turning point, shearing effect



Clamping under fulcrum, traction effect



- **UP** clamp Clamping point above fulcrum level
- Flexible fulcrum positioning, as the pressure piece is always placed vertically
- No danger of shearing/tensile forces on the component.

Clamp can therefore also be placed under the component level, saving space. Optimal access, e.g. with welding tongs











