

Universal Holding Fixture (UHF)

KOSTYRKA® Universal Holding Fixture - The principle

The individual elements of the fixture are composed of an axially adjustable piston rod in a housing. The rod can be clamped in any position via a KOSTYRKA® clamping sleeve. Depending on the drive concept for moving the piston rod, a distinction is made for the UHF (Universal Holding Fixture) elements between active (with drive) and passive elements. Diameter from 50 mm and stroke length up to 800 mm and over. The layout of the dimensions takes place through close teamwork with the customer in order to meet his desired criteria.

Component-dependent or universal:

When manufacturing free form parts, workpiece-dependent fixtures are often used today. This means the complete fixture must be changed each time the workpiece is changed. This in turn involves new design and production of the fixture, as well as storage, set-up and logistics costs. These are costs that can be saved in most cases. With a KOSTYRKA® UHF: The part is changed – the fixture remains.

Repeatable precision within a few µm

During a component change, the KOSTYRKA® Universal Holding Fixture is adjusted to the new part by repositioning its support and clamping elements. Depending on the size and structure of the component, hundreds of individual customisable component supports can be used for positioning and clamping. The absolute precision of the Universal Holding Fixture is especially impressive. It allows the positioning of the individual UHF elements with a precision to within 0.005 mm and repeating accuracy to within 0.002 mm.

Top quality for quality

This precision pays off. For the accuracy and quality of workpieces machined on a Universal Holding Fixture also reach a previously unknown level, as proved convincingly by example applications. This is also valid for thin-walled or unstable workpieces and for components that were previously difficult to clamp with conventional methods. KOSTYRKA® Universal Holding Fixtures are therefore especially well-suited for the aircraft and aerospace industry, automobile construction when machining body parts and in many areas of metrology.



Universal Holding Fixture (UHF) - the principle



1. Housing
2. Ball support and suction cup
3. Cylindrical clamping sleeve
4. Hydraulic pressure intensifier and actuator

Universal Holding Fixture (UHF) - References



BOEING

The KOSTYRKA® Universal Holding Fixture at Boeing for clamping wing elements impresses with highest repeatability at a length of 60 m and strokes of up to 800 mm. It can be flexibly adapted to other part geometries.

Universal Holding Fixture (UHF) – References



ZIMMERMANN

A KOSTYRKA® Universal Holding Fixture is used in the machining of unstable free-form parts in a Zimmermann machining centre.