

# Technical-Report

## No. 16



## ALPHA®

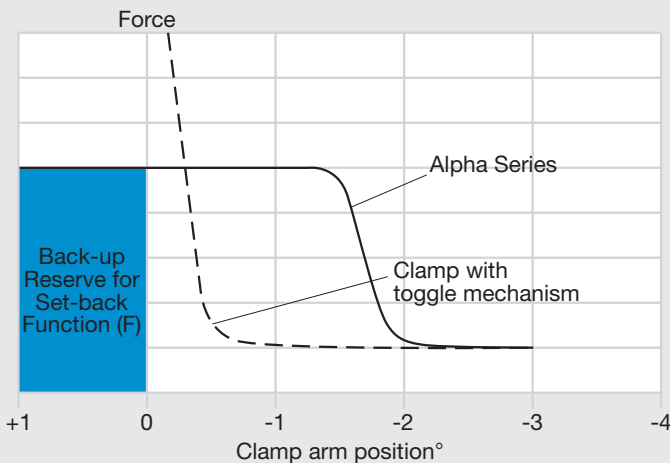
Innovation against the trend

5 features which fundamentally distinguish the ALPHA® Series from conventional toggle clamps. . .



### Guided around the corner...

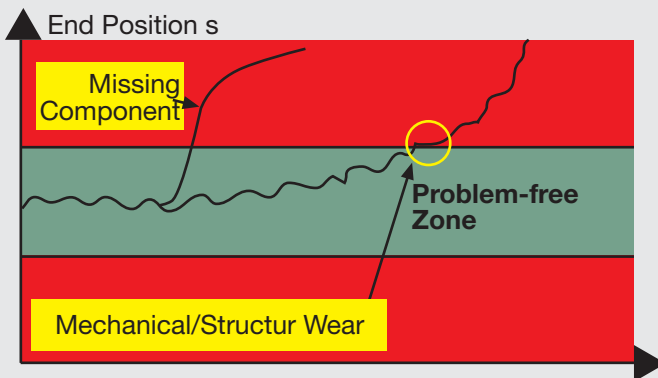
. . . that's the ALPHA® clamp toggle joint.  
The result is an almost constant force progression!



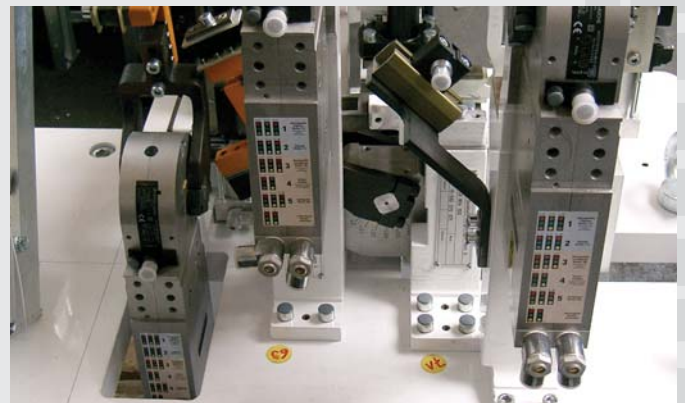
### Computer on Board...

. . . the new ALPHA® clamp has an on-board computer and is thus uniquely intelligent.

The "Computer on Board" also serves as an early warning system for gradually emerging defects and helps with the planning of preventative service applications.



- "Clamp End-of-stroke Achieved" Work Cycle
- "Component Present"
- "Mechanical or Structural Wear"
- "Loss of Clamping Force"



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### Half the length...

... in comparison to previous models, the overall length was able to be reduced by more than 100mm by integrating the cylinder into the casing.



Standard Clamp V 63 as comparison



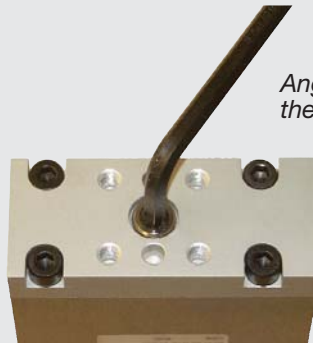
APH 63

**Compact design with cylinder and mechanism in one compact casing.**



### Angle a la Carte...

... for the first time in a pneumatic clamp, the opening angle is able to be continuously adjusted from 15-135° – always optimal for the relevant application.



Angle setting via the adjusting screw located in the cylinder base



### Plenty of power...

... three times as much tightening torque with the same cylinder diameter! Using special corner mechanics and consistent usage of needle bearings, the ALPHA series demonstrates characteristics of a small press – up to 9 kN clamping force

*\*APH 80 with sidearm*



K 63



APH 63

### Toggle Clamp

“Papiertiger“ – at 3 mm before end-of-stroke, only approximately 40% of the nominal force is available!

### ALPHA with Power Curve

at 3 mm before end-of-stroke, 120% of the toggle clamp's nominal force is available = Factor 3!



**TÜNKERS**®

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