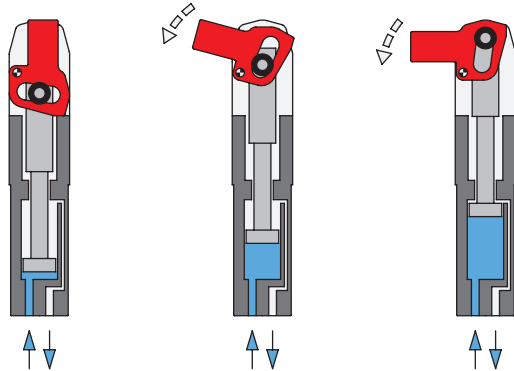


Pneumatic Fastening Clamps

Dead Point Mechanism Operating Principle / Types

GN 864



These pneumatic fastening clamps (Patent [PUSATU](#)) are used for clamping, holding, gripping and positioning of workpieces in jigs and handling systems.

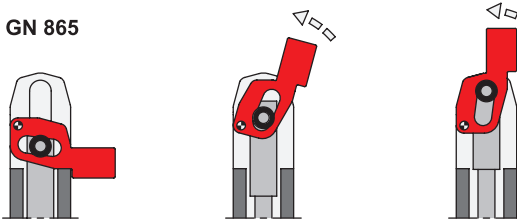
The salient points of these pneumatic fastening clamps are:

- High clamping force
- Small dimensions
- Reduced air consumption
- Light weight

The drawings shown here explain the functional principle of the dead point mechanism as well as the three available types.

Pistons with diameters of 20, 32, 40 and 50 mm yield a clamping force of 60 Nm up to 475 Nm, which leads to clamping forces being much above those of competitors' clamps.

GN 865

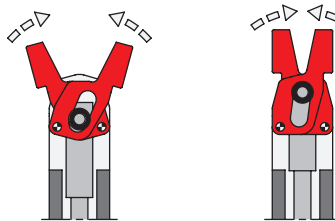


The pneumatic fastening clamps have been designed and configured to achieve an extended life. Functional tests have proved that even after 20 million cycles they were still serviceable.

Further salient design points are:

- The clamp is kinematically designed such that self-retention (holding force F_H) is achieved in the clamped position (clamping force F_S) after passing the dead point due to irreversibility.

GN 866



- The forward stroke sequence of the clamping arm is rapid but the ultimate clamping action is slow and as a result pneumatic damping is normally not required. Upon request, however, it can be supplied when big masses are moved.

- The clamping mechanism is fitted with needle bearings which give optimum clamping forces and reduced wear.

- The steel cylinder with the integrated clamping mechanism are in one unit. This leads to high stability for these small units with an extended range of applications. The placement of the air connection at the bottom end leads also to many other advantages.

- The clamping mechanism of GN 864 is also shrouded to avoid the ingress of dirt and other objects which could interfere with the proper functioning of the clamps (such as welding operations).

