

What you should know about the manual quick-action clamps from DE-STA-CO

Your requirements

Workpieces are to be fixed in a specific position using a specific amount of force in a period of time as short as possible. Following the fixing operation, the processing of the workpiece is usually carried out. This means that the following tasks must be fulfilled by clamping products:

- Quick clamping
- Secure fixing
- High clamping forces with extremely different space conditions
- Distortion-free clamping of the workpiece
- Good accessibility to the workpiece

These requirements are fulfilled extremely successfully and reliably by the clamping products from DE-STA-CO. Here, it has been possible to convert the knowledge gained over a period of many years into products "from practical applications for practical applications".

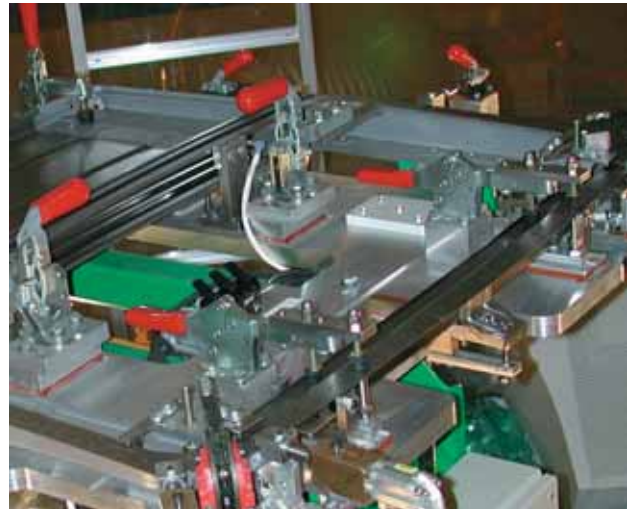
Workpieces are clamped in nearly all applications of the production sector. In the metalworking industry, reliable clamping is the basic requirement for drilling, welding, bending, grinding, testing, assembling, etc.

Additional applications that use DE-STA-CO clamping products:

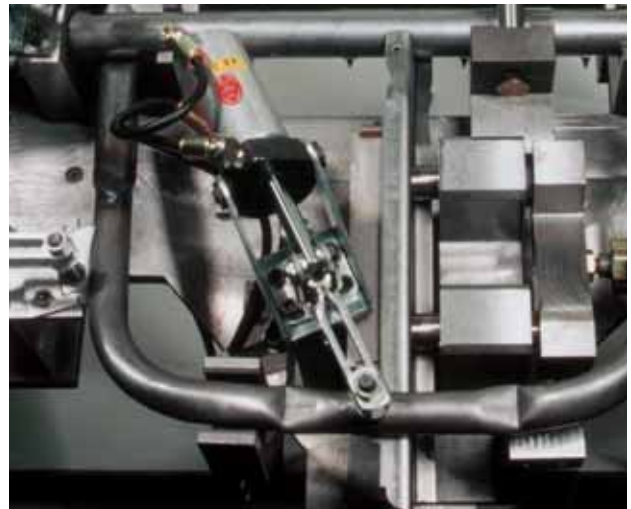
- Automobile industry
- Electrical industry
- Timber industry
- Plastics industry
- Textile industry
- Chemical industry
- Food industry

We can also help you with any clamping tasks that may arise in other applications not mentioned above.

Manual Clamping Technology



Pneumatic Clamping Technology

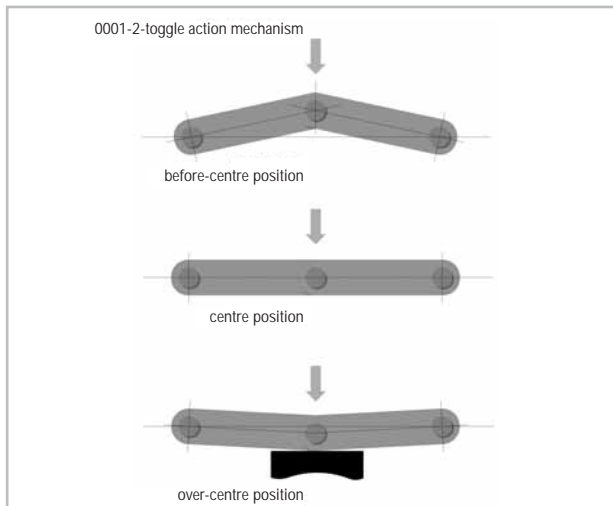


Hydraulic Clamping Technology



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Functional diagram – toggle action mechanism



How does a quick-action clamp work?

Requirement: to provide a tool with a clamping arm that could be opened quickly and widely. At the same time, very high clamping forces must be created together with minimum manual forces when the tool is being locked in its end stop position.

In order to be able to fix the workpiece in its position securely and permanently, it must be ensured that the quick-action clamp cannot loosen itself from its clamping position.

On the basis of these requirements, DE-STA-CO invented and developed quick-action clamps with toggle action mechanisms.

The toggle action mechanism is based on the use of an ingenious arrangement of rotatable parts in the clamp. Accordingly, the lever forces are skilfully used. The principle drawing on the side of this page demonstrates this effect.

Further service highlights

Our homepage

By visiting www.destaco.de on the Internet, you can also call the following information:

- Product overview with inquiry and ordering options
- CAD download
- DE-STA-CO news and new products
- Trade fair calendar
- Contact in your immediate vicinity
- Efficiency-Cost Reduction



The CAD-Library

- See homepage www.destaco.de, formats .dwg, .dxf, .sat, .iges, .step
- See homepage www.partserver.de contains Automation power clamps in all formats



DE-STA-CO clamping elements: the "Original"

General features

- Longstanding know-how in the production of clamping Elements
- Best possible quality standard due to special manufacturing processes and final inspection of all models

- Maximum service life
- For every application a suitable model
- Long service life due to galvanised individual parts
- Nearly all models also available in stainless steel
- Safety clearance between the clamping arm and handle prevents hand injuries

The details

The clever, patented intermediate safety link

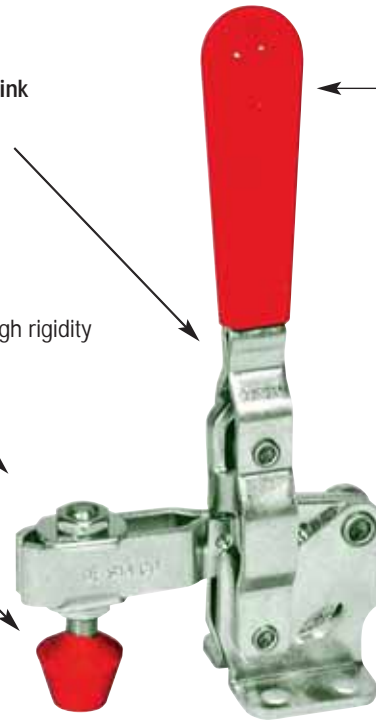
- Prevents hand injuries during operation
- One of the many safety features of DE-STA-CO clamps

The sturdy clamping arm

- Guarantees high holding forces due to high rigidity
- Lateral guide in the base

The vulcanised pressure spindle

- Protects sensitive workpieces
- Long service life
- High degree of flexibility due to proper adaptation to the application
- Standard feature in all horizontal and Vertical models



The typical handle

- Ergonomically shaped, therefore convenient operation
- Oil-resistant, therefore suitable for many different uses
- The "Red Handle" – the Original

The long-lasting connection

- Heavy-duty rivet made of stainless steel
- Heavy-duty rivet is greased during assembly
- Knurled bearing bushes
- Hardened bearing bushes

What about the forces?

In the case of clamping products, a clear distinction must be made between clamping forces and holding forces. Here are the essential features:

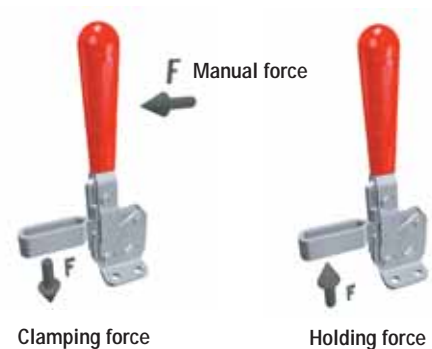
Clamping force

- Is applied from the clamping arm onto the workpiece during the closing operation
- Is dependent on the manual force and therefore on the user

Since the manual force may vary considerably, the specification of this force is not specified in this catalogue.

Holding force

- Is the greatest possible force that the clamp can stand in its closed position without becoming deformed
- All holding forces are specified in N (newton) and are related to the position which is closest to the base of the clamp



How to find the most suitable clamp?

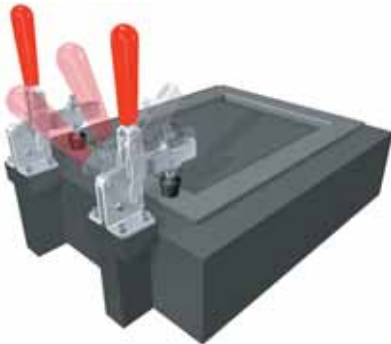
The following criteria will narrow down the selection of the clamp type

- The type of your fixture
- The required holding forces
- The size conditions in and at your fixture
- And the working practice of the users in the production division

The most important models at a glance

Vertical clamp

- Handle is vertical in clamping position
- Holding forces 450 – 34.000 N
- Opening angle between 90° and 215°



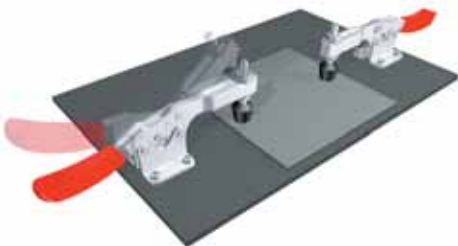
Straight line action clamp

- Forward movement of the handle pushes the plunger into the forward position
- Can be used as a compression clamp and tension clamp, locking in the two end positions
- Holding forces 400 – 45.000 N



Horizontal clamp

- Very low type of design
- Handle is horizontal in the clamping position
- Holding forces 250 – 4.500 N
- Opening angle between 90° and 105°



Latch clamp

- Convenient one-hand operation due to patented lifter
- Compact model
- Holding forces 900 – 27.000 N



Plier clamps

- Flexible clamping and fixing
- Also equipped with patented quick release lever
- Holding forces 500 – 5.400 N



How to find the most suitable clamp?

In the case of the vertical and horizontal clamps, there are variations in the clamping arms and clamp feet:

U-shaped clamp arm

- Permits the adjustment of the pressure spindle in the horizontal position



Solid clamp arm

- Can be cut individually in various lengths and angle pieces
- Spindle retainer is used to fix the pressure spindle



Angular mounting base

- For attachment on level surfaces



Straight mounting base

- For lateral attachment



Basically, all the vertical and horizontal clamps are equipped with flange washers/spindle retainers and vulcanised neoprene spindles (large models have rigid spindles). Models with heavy-duty clamping arms are equipped with a spindle retainer and are delivered without a spindle.

The model number addition “-LS” also allows you to order the clamp without any accessories. In this case, only flank washers are then part of the scope of supplies.

e.g. Model 207-U



e.g. Model 207-U-LS



With the help of the extensive range of accessories, you can vary the functionality of the clamp individually to suit your specific requirements.

Here are the most important accessories in brief:

Adjustment Spindles

- With vulcanized neoprene thrust pad
- With swivel foot
- With hex. head
- With pressurematic

Neoprene Pads

- For hex. head adjustment spindles
- For protection of the workpiece

Flange washers

- For attachment of the adjustment spindles to U-shaped clamping arms

Spindle retainers

- For attachment of the adjustment spindles to heavy-duty clamping arms

Crossarm sets

- Bridge for assembly of 2 adjustment spindles

Model number code

The model number code is used to distinguish between the following features:

- Size
- Model
- Constructional features

2 07 - U - LS

→ Accessories option

LS = less spindle (without pressure spindle)

→ Model/feature

U = U-shaped clamp arm

S = solid clamp arm

B = straight mounting base

F = front attachment

R = release lever (additional safety lock)

SS = stainless steel version

→ Design/size

→ Model type/series



2 = vertical clamp



2 = horizontal clamp



3 = compact clamp



3 = latch clamp



4 = plier clamp



5 = modular or heavy duty vertical clamp



6 = straight line action clamp