

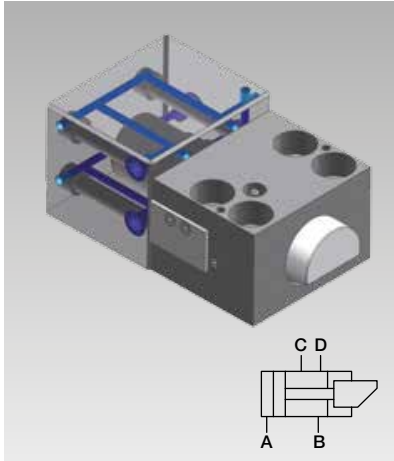


ROEMHELD
HILMA ■ STARK

Issue 8-17 E

WZ 2.2410

Wedge Clamps for Tapered Clamping Edge double acting, max. clamping force 100 to 630 kN, with cooling circuit for temperatures up to 250 °C



Application

Double-acting wedge clamp for clamping moulds and dies on a press bed or ram or in injection moulding machines, machines and installations.

Description

The wedge clamp consists of a hydraulic block cylinder and a piston guided in a housing. The clamping bolt is provided with 20° bevel to clamp on the tapered clamping surface of the mould/die.

Based on the internal design of the wedge clamp and the 20° bevel of the clamping bolt, the system is providing internal friction.

Cooling circuit

In addition, there is a cooling circuit for oil cooling in the block cylinder. This cooling circuit guarantees a steady temperature at the sealing surfaces of the hydraulic supply.

When dimensioning the cooling circuit, the occurring temperatures and the admissible temperature at the clamping element must be considered.



Cooling ports C and D

Advantages

- Safe clamping of moulds/dies with tapered clamping edge
- Temperatures up to 250°C with integrated cooling circuit
- High operational safety by automatic motion sequence
- Very sturdy design
- High safety standard
- Long service life
- Block cylinders can be retrofitted

Important notes

In case of incorrect operation of the wedge clamps, the clamping bolt may fully retract into the guide housing and thus cause the upper mould/die falling off the ram.

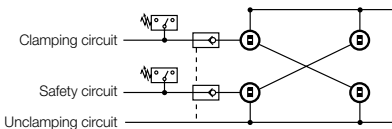
The greasing intervals (high temperature grease) should be adapted to the existing operating conditions. Please note that greasing of the wedge bolt should only be made with the elements being retracted.

The clamping elements must be protected against dirt, scale, swarf, coolant, etc. by means of a suitable covering.

Moulds or dies clamped by means of wedge clamps are subject to side loads that may be strong enough to displace them. Thus, positioning is required to absorb the side loads. Therefore, location pins or suitable limit stops should be provided to keep the moulds and dies in their correct position.

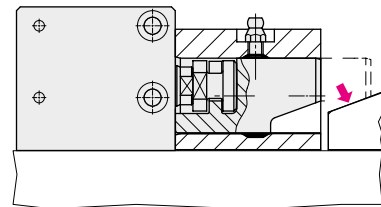
When using wedge clamps on the press ram, it is recommended that multiple-circuit hydraulic supply of the clamping elements and pilot-controlled check valves are used for securing hydraulic clamping.

Circuit diagram



For safety reasons and in the sense of the machine tool guide lines ML2006/42/ EC the hydraulic pressure must be maintained.

When upper dies are clamped by wedge clamps, they must be secured mechanically when maintenance work is carried out.



Versions

- without position monitoring
max. temperature: 250 °C

Technical data

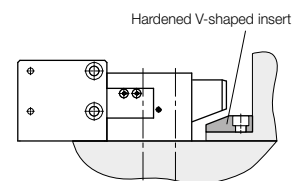
max. clamping force: 100 – 630 kN
max. operating pressure: 350 bar

Dimensions and part numbers

on request

Retrofitting to wedge clamping

Wedge clamping of existing moulds/dies is possible by retrofitting V-shaped inserts as shown below. Max. hardness 50 HRC



Wedge clamps with cooling circuit and position monitoring

Application examples



Wedge clamp with hydraulic ports **A+B** at the right and an additional cooling circuit **C+D** at the opposite, left side

Wedge clamp on the press ram