Optima Spanntechnik

Hydraulic T-Slot Clamp Type HEE

Area of application

The hydraulic T-slot clamp type HEE is designed for smaller and medium-sized presses exerting a force of up to about 700 tonnes. It is suitable both for top and bottom die clamping, and requires dies with straight clamping edges.

The T-slot clamp is inserted into the machine T-slot manually, or by using the automatic positioning unit HFT/HFS (see data sheet 1.700). This flexible mode of operation enables the clamping of dies of different sizes. By using intermediate plates, the T-slot clamp can also be used for different clamping edge thicknesses.

Due to the very low cost of installation, use of the T-slot clamp, particularly also for modifications, can be recommended.

Mode of operation

A single-acting hydraulic cylinder with a restoring spring, hydraulically transmits the necessary clamping force to the die.

The die is released after reversing the hydraulic valve with the aid of a restoring spring.

The clamping force is applied by:

- The clamping stroke of the hydraulic piston.

Distinguishing features

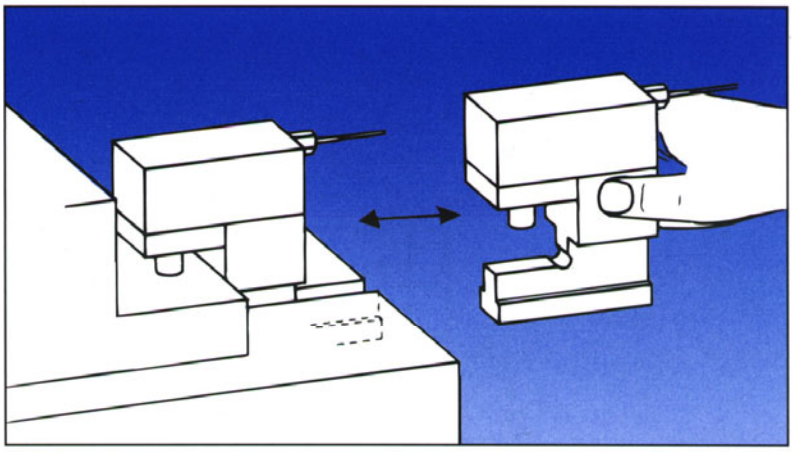
The hydraulically operated clamping cylinder produces the necessary clamping force directly. In so doing, the hydraulic pressure must be maintained throughout the whole of the clamping process (optional equipment with releasing non-return valves and pressure monitors).

The T-slot clamp can be operated centrally via the machine control system or by means of a separate hydraulic unit with integrated control.

By using intermediate plates, the clamping thickness can also be increased.

Electrical control of the following function:

- pressure control by means of the pressure switch on the hydraulic unit is advisable.



Technical data

The T-slot clamp can be used at temperatures of up to 135°C, and up to a maximum operating pressure of 400 bar.

Advantages

- Large clamping thickness tolerance
- Central control
- Continuous pressure control possible
- Low maintenance cost due to single-acting hydraulic cylinder with restoring spring
- Variation of the clamping thickness by the use of intermediate plates
- Very low installation costs
- Particularly suitable for modification purposes
- Superior corrosion protection

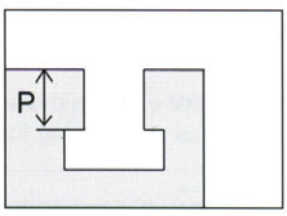
Design

The T-slot clamp has a completely nickel-plated housing and a nickel-plated T-slot guide.

The clamping thickness range covered by the clamp unit is usually adequate for most applications. However, should the clamping thickness not be sufficient, it can be increased by using intermediate plates. These plates are produced in accordance with the customer's requirements.

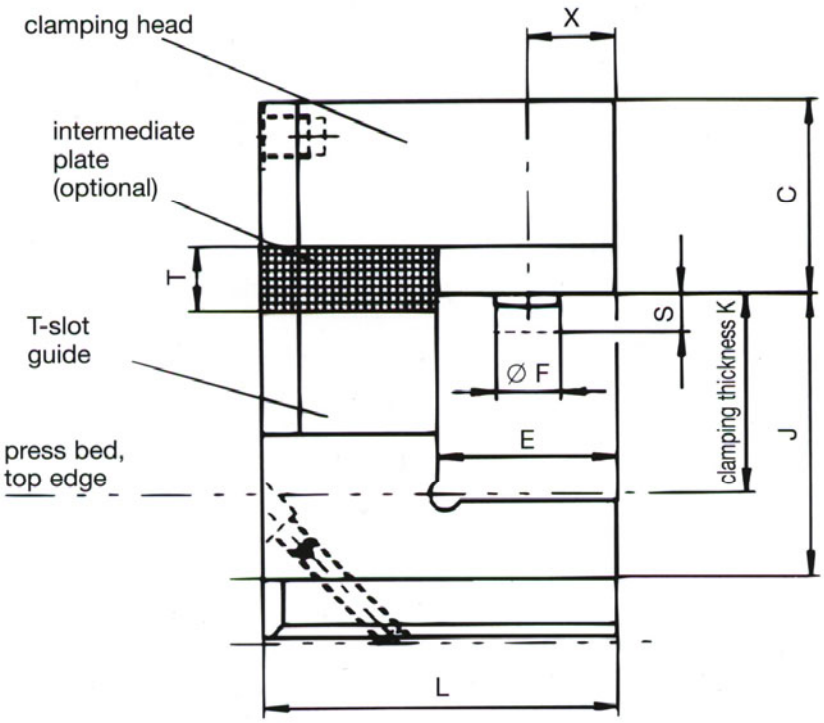
Using the following data:

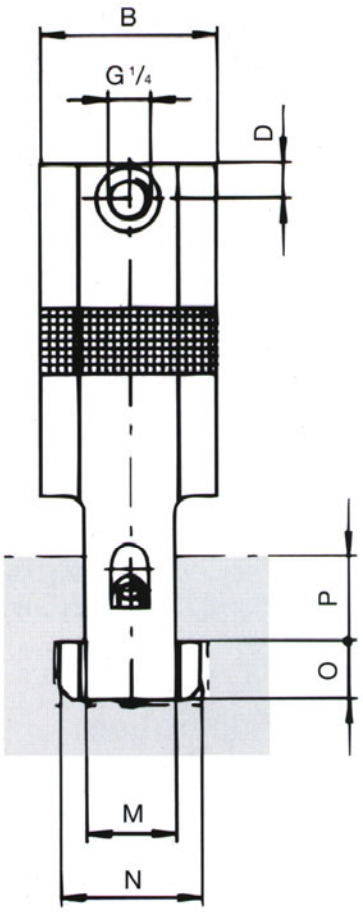
- the required clamping thickness
- the required tolerance range (eg ± 4 mm or +6/–2 mm depending on the stroke S)
- and the dimension P,

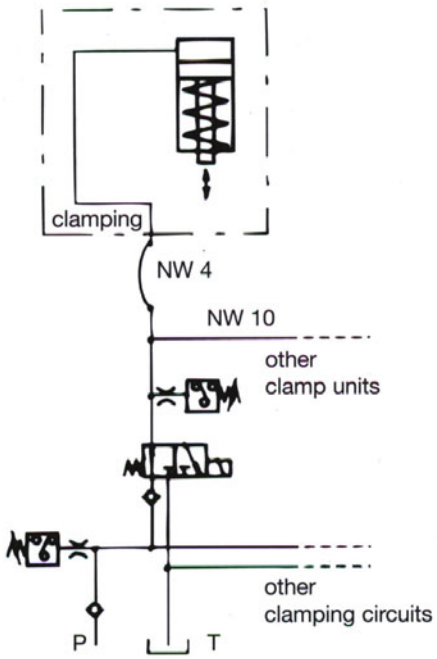


the height of the intermediate plates is produced individually.

In order to calculate the height of the T-slot clamp beforehand, you can use the formula on the reverse of this page.







NW = nominal diameter
F_{SP} = clamping force at 400 bar

To increase the clamping thickness, intermediate plates can be used (see dimension T).

The clamping thickness is calculated as follows:
clamping thickness $K_{min.}$ = (J+T)–P–S and also for $K_{max.}$ = (J+T)–P.

Type	Clamping head								T-slot guide						Other dimensions					
	F_{SP} [kN]	Stroke S	B	C	D	E	F	X	M	N	J	O	P min.	P max.	Oil requirement [cm³]	L	T			Weight [kg]
HEE 25	25	9	40	48	11	40,5	16	20	18	28	45	10	16	24	6,5	75	8	16	24	1,5
HEE 40	40	10	50	55	11	45,5	20	22,5	22	35	59	14	20	29	10	90	10	20	40	2,9
HEE 63	63	12	55	60	11	55,5	20	27,5	28	44	68	18	26	36	19	110	10	20	40	4,5