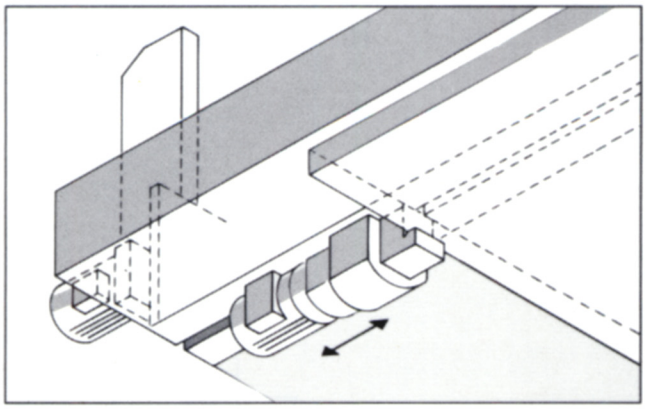
Electro-Mechanical

Traveling Block Clamping



Area of application

The flexible block clamp unit of the type EFS is designed for mechanical and hydraulic presses exerting a force of ca. 500 tons force upwards. This includes large multi die station transfer presses. It is particularly suitable for top die clamping and require dies with straight clamping edges.

Mode of operation

The traveling block clamp unit type EFS: operates by means of an electric motor operating through a gear-box and a spindle. The angle clamping jaw is rotated about its position, and thus exerts a force on the clamping edge of the die. The clamp unit is secured in the T-slot of the ram and can be moved as required in this slot with the aid of the positioning unit type EFV.

Movement sequence for applying the clamping force:

- Sliding the clamp unit up to the die clamping edge
- Clamping movement of the clamping jaw (release of the clamp unit in reverse order)

Distinguishing features

The infinitely variable adaptation to different die widths renders standardization of the die/adaptor plates in terms of their width superfluous. Due to the continuous control of all important functions, and monitoring with the machine control system, fully automatic operation is ensured. The cables which are needed for transmitting the electrical signals and the drive power of the clamp unit are combined in a flexible trailing chain which travels in the machine T-slot.

Electrical control of the following functions (switches):

- Clamping jaw in the permitted clamping range (S4)
- Clamping jaw released (S5)
- Continuous monitoring of clamping force (S6)
- Clamp unit in parking position (S7)
- Clamp unit at the die clamping edge (S8)

Technical data

Motor:	DC motor (EFV, EFS)
Supply voltage:	460 V, 60 Hz; n = 3000 rpm; (EFS) N=1500 rpm (EFV), S3-duty factor 15%
Switches:	4 inductive proximity switches (EFS) 1 inductive proximity switches (EFV) p-n-p normally open contact
Supply voltage:	10-30 V DC
Sliding rate:	91 mm/sec.
Clamping rate:	depending on type (see reverse)
Max operating temp.:	70°C
Wired to:	plug-in connections

Advantages

- Large variable adaptation to different die widths
- Large clamping thickness tolerance
- Mechanical self-locking
- Electrical control of all important functions
- Automatic positioning at die
- Continuous control/monitoring of clamping force

Construction

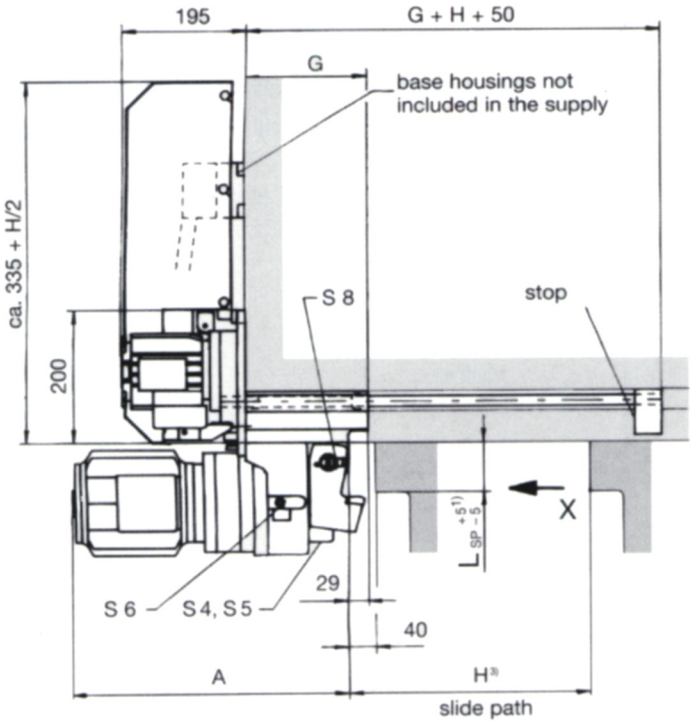
The clamp unit has a nickel-plated housing. A high-ratio epicyclic gear ensures the drive power required.

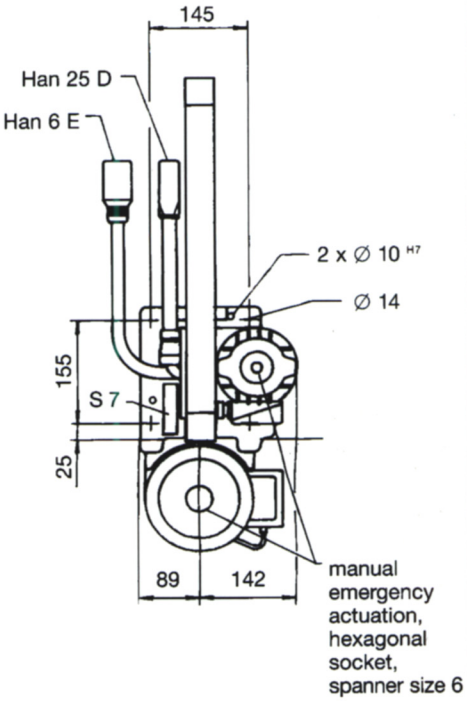
To secure the clamp unit to the machine, please use four M12 bolts, strength class 8.8 according to DIN 912 (not included).

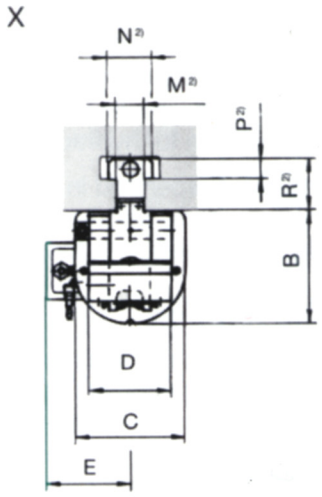
3.400

Electro-Mechanical

Traveling Block Clamping







1) Please state dimension L_{SP} when ordering (for L_{SP} min./L_{SP} max., see table)
clamping thickness range +5/–5 mm

2) Larger T-slot dimensions available on request

3) Please state the sliding distance H

V_{VS} = sliding rate 91 mm/sec.
V_{SP} = clamping rate
F_{SP} = clamping force
F_B = load capacity

Type	F_{SP} [kN]	F_B [kN]	L_{SP} 1) min.	L_{SP} 1) max.	Motor power [kW]	V_{SP} [mm/s]	A	B	C	D	E	G	M 2) min.	N 2) min.	P 2) min.	R 2) min.	Weight [kg]
EFS 60	60	100	50	75	0,55	1,4	383	170	160	120	102	180	42	65	30	80	53
EFS 120	120	200	50	75	0,75	1,4	415	170	160	120	123	180	42	65	30	80	56
EFS 240	240	450	60	80	1,50	0,9	512	210	200	150	123	240	42	65	30	80	98