Tooling Pallet Die Sets

Fast Exchange System for Pallet Tooling

Description

The fast exchange of pallet-born tooling sets, with the concept of rapid mechanical positioning, meets the demands for:

- lowering of tooling cost
- reduction in setting costs
- faster response to market trends.

Instead of a multitude of complete die set-born press tools, the new system is based on a carrier die set with rapid-exchange features. This die set can remain in the press, while any number of tooling pallet sets can be accommodated expediently and precisely, one at a time.
There are no individual guide elements associated with a tooling pallet set – the necessary guiding remains a function of the carrier die set exclusively.

Tooling pallet sets are mounted to standard carrier plates – the top and bottom tooling simply slides into position, where a stop provides the positioning control, to allow entry of the locating pins upon the required half-turn of each of the four pin actuation levers on the die set. With the tooling pallets now positioned accurately, the hexagonal clamping screws at the front of the die set can be turned with a box spanner, each activating one clamp via an internal cam, moved by threading action of the screw. The cam angle is such that self-locking is obtained.

Press Tool Types

Sets of pallet tooling can be designed as:

- combination progression tools
- compound tools
- draw dies
- bending- and forming dies
- combination tools etc.

Setting and Tryout Aids

The absence of individual guide elements is a fundamental feature of tooling pallet sets which greatly assists the overall economy of the system. In order to facilitate the aligning of top- and bottom tooling, conical centring units can be fitted, thus providing alignment between both members by direct means – even outside the carrier die set, on the toolmaker's bench.

As a further aid for setting and tryout of pallet sets we offer the FIBRO Aligning- and Tryout Press Unit 201.98. with simplified but basically similar positioning- and locking features as the carrier die set.

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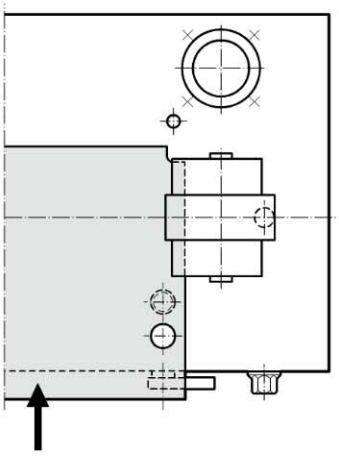
Setting

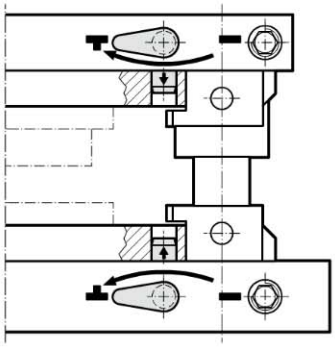
- slide each pallet into its position
- positioning
- clamping

These steps can be completed in a minute.

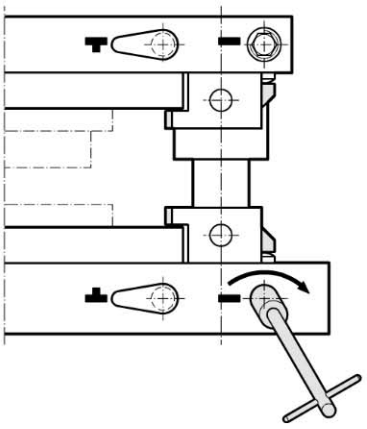
Slide-In Insertion



Positioning

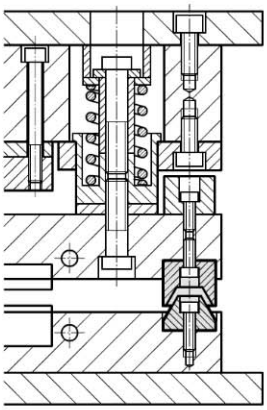


Clamping



Positioning Aids

Pallet tooling sets can be equipped with conical centring units.



Sheet Thicknesses

Sheet less than 0,4 mm in thickness is normally not recommended for the system – on account of the smaller punch-to-die clearances associated with thin stock materials, where the normal positioning accuracy within the carrier die set (approximately 0,02 mm) becomes insufficient.

However, through fitting of conical centring units the overall alignment accuracy can be improved to an extent where even sheet below 0,4 mm thickness can be processed successfully.

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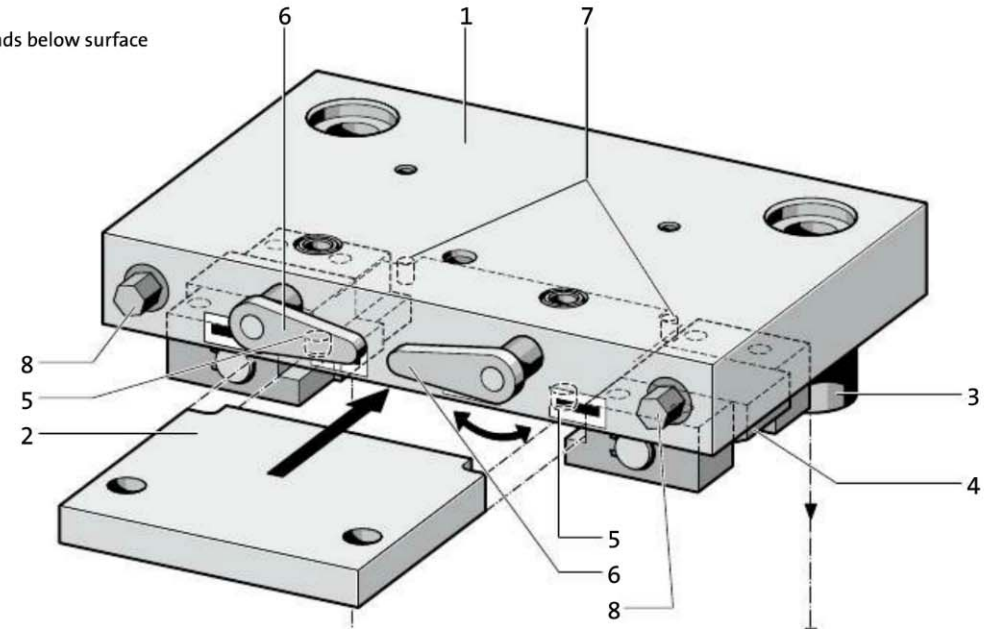
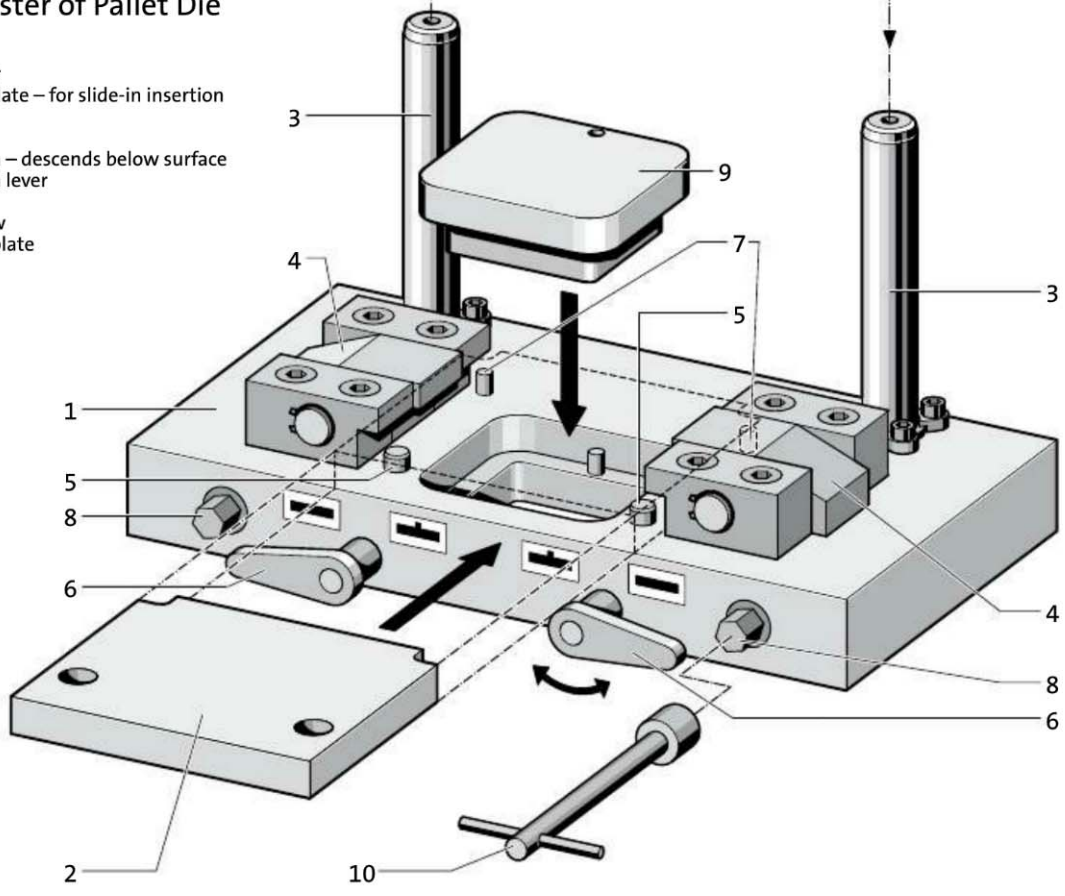
Top Bolster of Pallet Die Set

1 top bolster
2 pallet carrier plate – for slide-in insertion
3 guide bushes – optionally sliding –
or ball bearing guides
4 clamp
5 positioning pin – descends below surface
6 positioning pin lever
7 stop pin
8 clamping screw



Bottom Bolster of Pallet Die Set

1 bottom bolster
2 pallet carrier plate – for slide-in insertion
3 guide pillar
4 clamp
5 positioning pin – descends below surface
6 positioning pin lever
7 stop pin
8 clamping screw
9 bolster insert plate
10 box spanner



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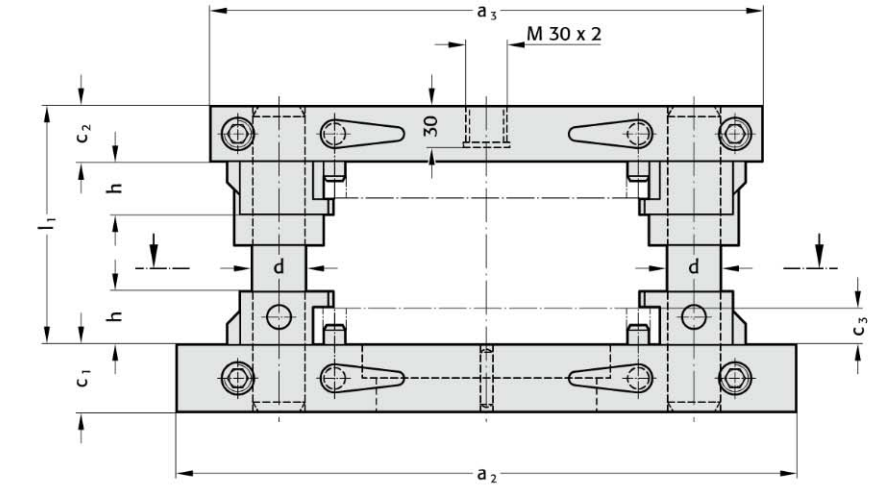
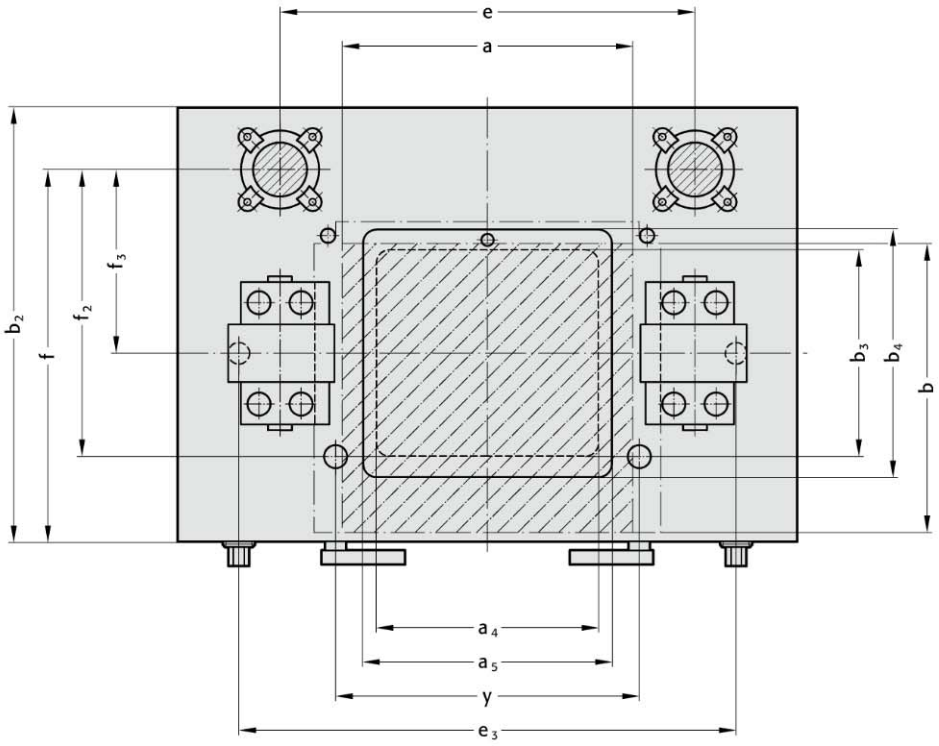
201.95.





201.95. Fast Exchange System for Pallet Tooling

Order No	Type of guides*	work area a × b	a_2	a_3	a_4	a_5	b_2	b_3	b_4	c_1	c_2	c_3	d	e	y	e_3	f	f_2	f_3	h	l_1
201.95.1010.		100 × 100	350	300	80,5	–	200	60	80,5	40	40	16	25	220	120	260	168	113	93	29	160
201.95.2121.		210 × 210	450	400	161	180,2	315	150	180,2	50	40	25	40	300	220	360	270	208	133	38	180
201.95.3030.		300 × 300	550	500	241	270,5	420	220	250,5	63	40	25	40	380	320	460	365	305	185	38	180
201.95.3521.		350 × 210	600	550	320	–	315	120	150	50	40	25	40	450	370	510	270	208	133	38	180

* Type of guides: 831 for sliding guides or 862 for ball guides