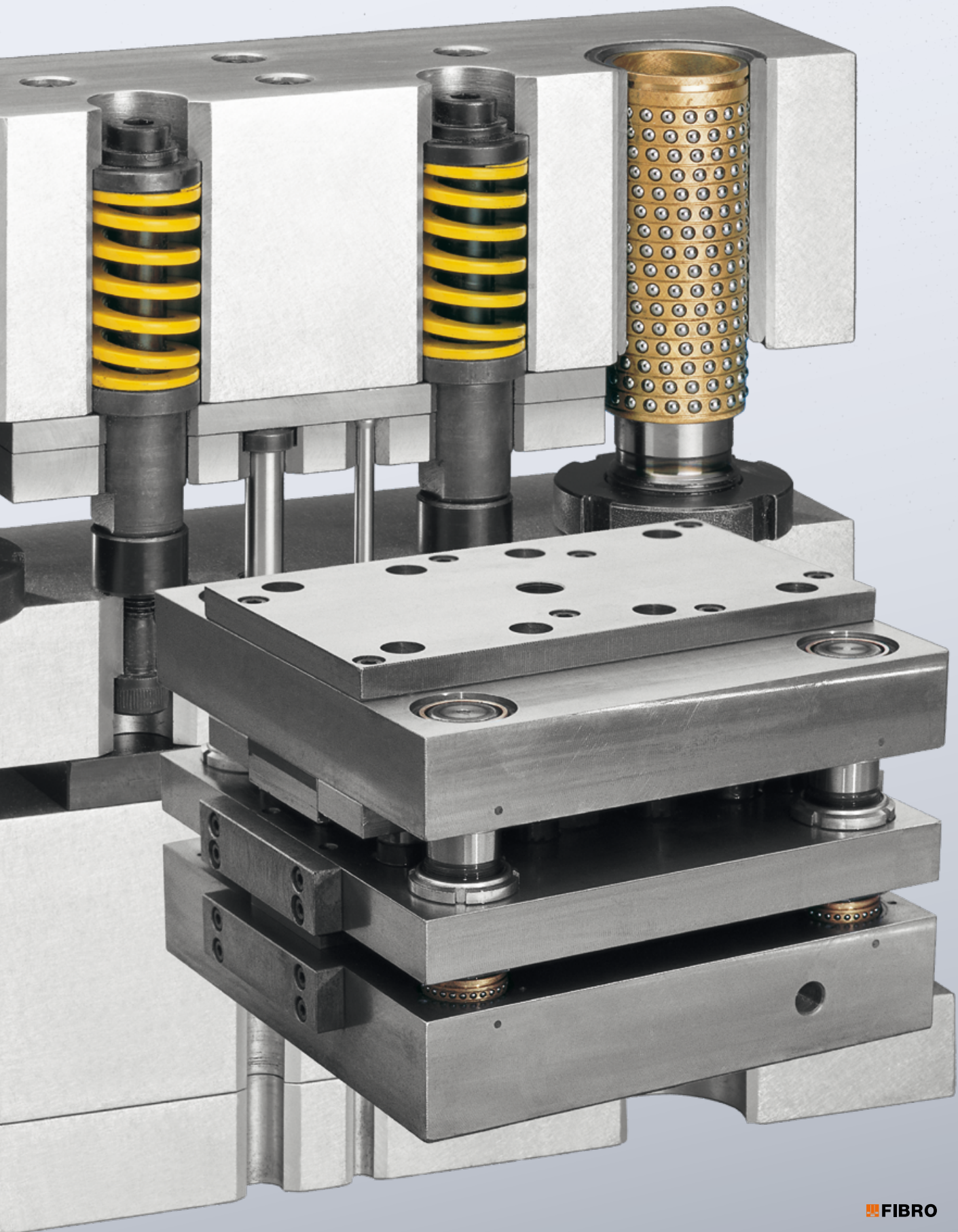
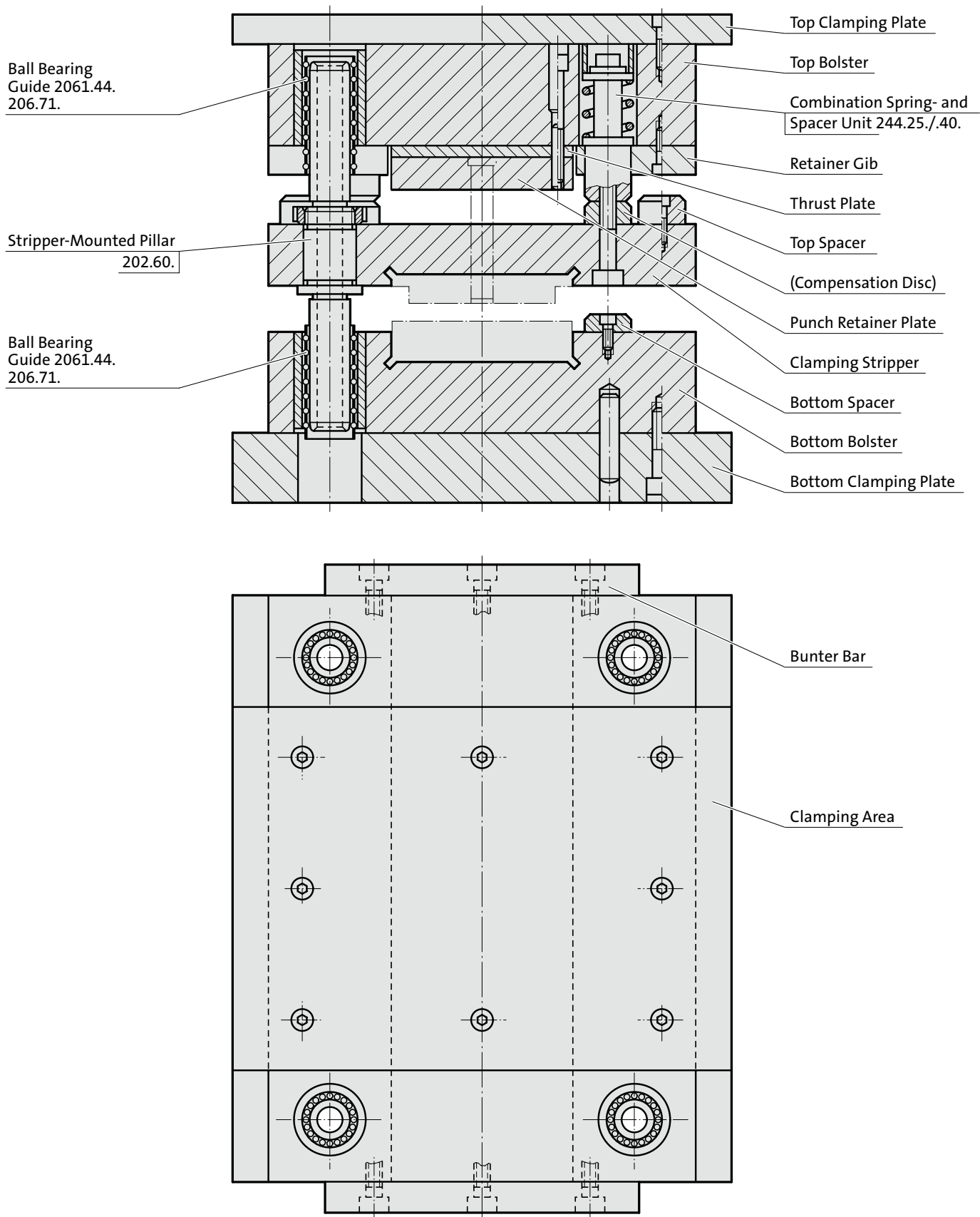


# PROGRESSION LAMINATION DIE SET UNITS



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## Die set units for progression/lamination dies

The accuracy of a stamping die starts with the die set. When we designed these new units, special attention was paid to the stability and load capacity of the guide pillars. The eventual introduction of the stripper-mounted pillar in its present form brought an eightfold increase in transverse load-carrying capacity.

It is known that a ball or roller bearing guide is less resistant to lateral forces than a plain bearing guide and therefore could not be used in every case up to now for these reasons.

At the same time, however, high-speed punching machines require the use of ball-guided tool guides.

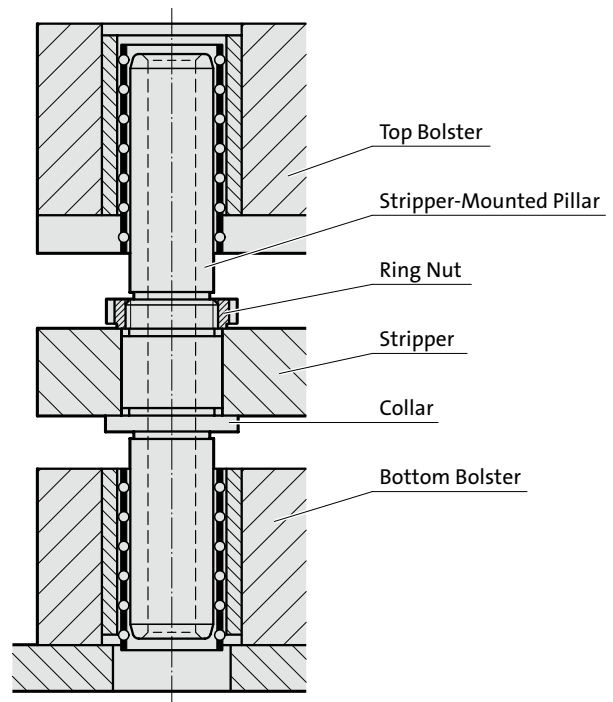
## Application consequences

Considerations such as these formed the basis for the development of our new die set units with stripper-mounted pillars – a concept that has resulted in greatly improved accuracy, overall stability and speed capacity.

## Stroke speed

The upper die section, equipped with full-core guide pillars, generates increased mass forces at higher stroke speeds over 500 stroke/min due to the dynamic forces.

In order to keep these harmful forces to a minimum, FIBRO Stripper-Mounted Pillars are provided with hollow cores.



## Combination spring/spacer units

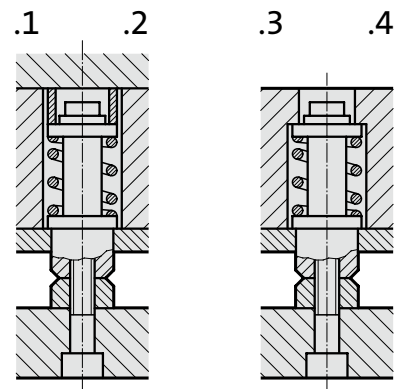
The punch guide plate is fitted with pre-clamped spring and spacer units with a compact design.

The advantages of these compact units, in accordance with executions 1 to 4, are as follows:

- compactness – the combination of both spring- and spacer functions saves die space
- Ease of die maintenance – punch regrinding and replacement, as well as dimensional adaptation, can be done without dismantling the stripper.

Note: regrinding of punches = regrinding of spacer!

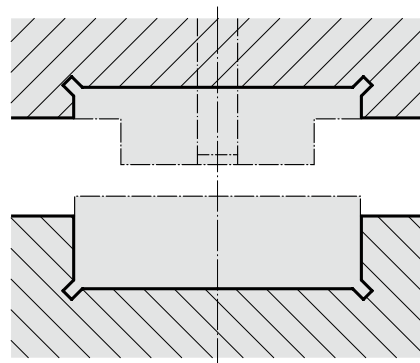
- Ease of springs maintenance – after removal of only the top clamping plate, the complete spring/spacer unit can be taken out for replacement etc. This feature applies to executions 1 and 2 only.



## Retaining slots for matrices and guiding-stripper plate

It is of paramount importance to the accuracy of the final die assembly that both these slots are in perfect vertical alignment, to within a few mm. From long experience we know that all heavy machining of die set apertures must precede the finish-machining of the two retainer slots for the matrix inserts and the guiding/clamping stripper plate.

Whenever the machining of such apertures is not entrusted to us we will supply our die set units with pre-ground slots only.





PROGRESSION LAMINATION DIE SET UNIT

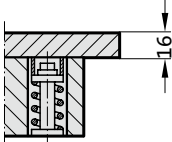
Executions

(mounting of top bolster to ram of press)



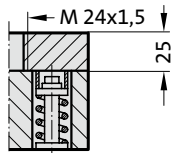
201.50.

□□□□.□□□□.□□.1  
with projecting top  
clamping plate



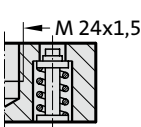
201.50.

□□□□.□□□□.□□.2  
with threaded hole in top clam-  
ping plate, for threaded shank



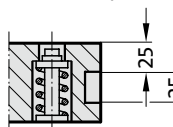
201.50.

□□□□.□□□□.□□.3  
with threaded hole in top bolster,  
for threaded shank

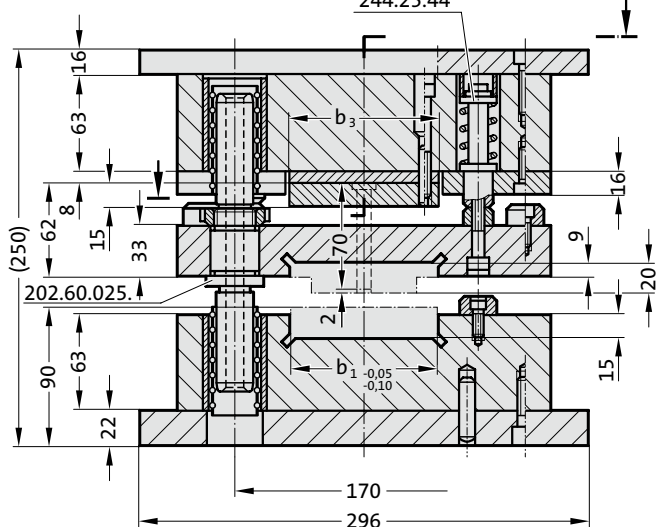


201.50.

□□□□.□□□□.□□.4  
with clamping pockets  
milled in top bolster

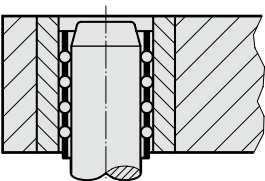


201.50.



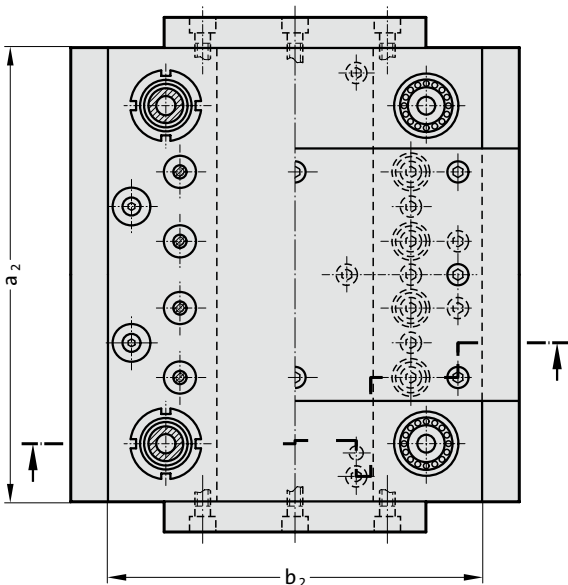
Guide Elements

Ball Bearing Guides



Width of slot  $b_1$  to be determined by customer!

2D-CAD data are available on request for each Die Set Unit.  
The designer need only draw the active die elements.  
Prints can be taken from this master.



Die daylight and strip height can be reduced by up to 16 mm through a reduction in the thickness of the Bottom Clamping Plate.

201.50.xx25. Progression lamination die set unit

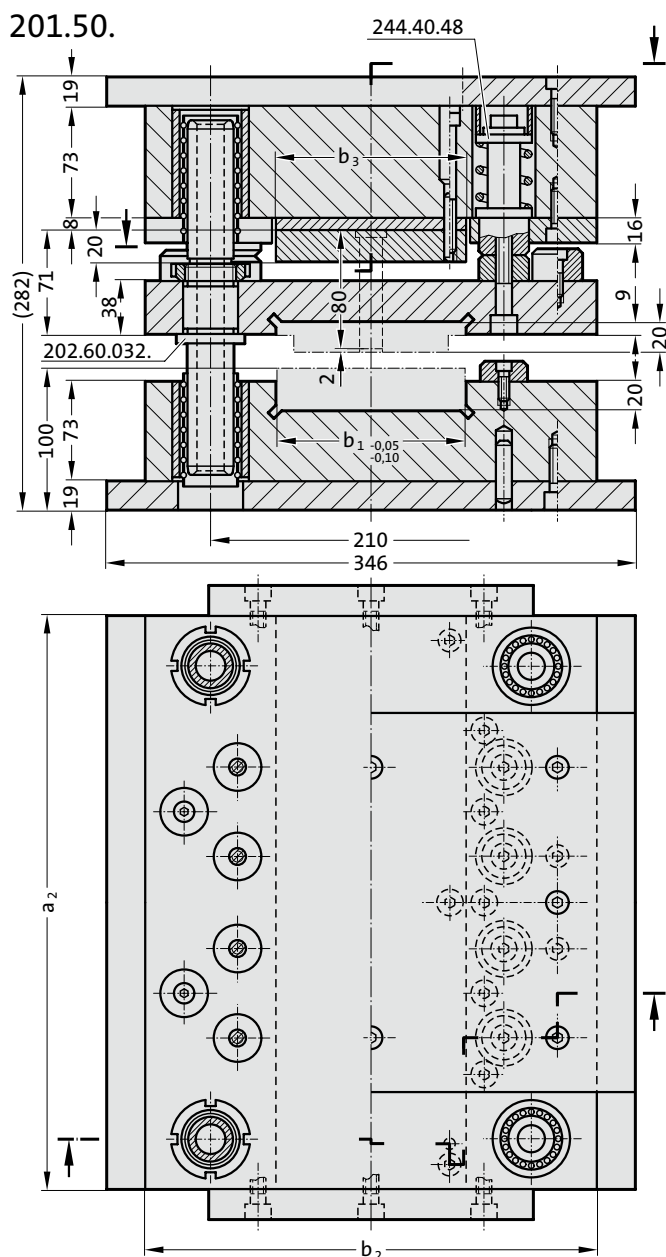
Order No.		Spring			external	b <sub>1</sub> max.	Comb.	max. working stroke of					Spring preload path	preloading in N (per spring unit) 241.□□.25.045				Spring rate R in N/mm 25.045			
Type	Size	b <sub>1</sub>	Type	Exec.	dimensions a <sub>2</sub> x b <sub>2</sub>		spring+ spacer unit	b <sub>3</sub>	spring 241...					14	15	16	17	14	15	16	17
									14	15	16	17									
201.50.	1625.	□□□.	□□.	□	156 x 246	60	4	60	8,0	8,0	7,8	5,4	4	212	323	748	977	53	80,8	187	244,2
201.50.	2025.	□□□.	□□.	□	196 x 246	75	6	75	8,0	8,0	7,8	5,4	4	212	323	748	977	53	80,8	187	244,2
201.50.	2525.	□□□.	□□.	□	246 x 246	90	8	90	8,0	8,0	7,8	5,4	4	212	323	748	977	53	80,8	187	244,2
201.50.	3025.	□□□.	□□.	□	296 x 246	100	8	100	8,0	8,0	7,8	5,4	4	212	323	748	977	53	80,8	187	244,2
201.50.	3525.	□□□.	□□.	□	346 x 246	100	10	100	8,0	8,0	7,8	5,4	4	212	323	748	977	53	80,8	187	244,2

Ordering Code (example):

Progression lamination die set unit	=	201.50.
$a_2 \times b_2 = 296 \times 246$	=	3025.
$b_1 = 100$ mm	=	100.
Spring type 241.15.	=	15.
With projecting top clamping plate	=	1
Order No.	=	201.50.3025.100.15.1

Die Set Units 201.50. can also be supplied in special sizes as well as special executions, acc. to customers' specifications.

# PROGRESSION LAMINATION DIE SET UNIT

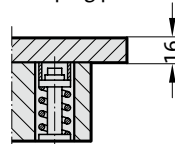


## Executions

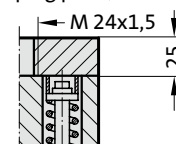
(mounting of top bolster to ram of press)



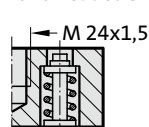
201.50.  
□□□□.□□□□.□□.1  
with projecting top  
clamping plate



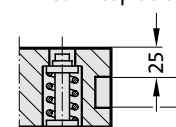
201.50.  
□□□□.□□□□.□□.2  
with threaded hole in top clam-  
ping plate, for threaded shank



201.50.  
□□□□.□□□□.□□.3  
with threaded hole in top bolster,  
for threaded shank

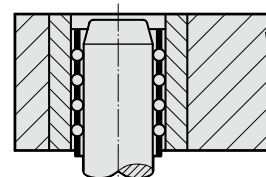


201.50.  
□□□□.□□□□.□□.4  
with clamping pockets  
milled in top bolster



## Guide Elements

Ball Bearing Guides



Width of slot  $b_1$  to be determined by  
customer!

2D-CAD data are available on request for each Die Set Unit.  
The designer need only draw the active die elements.  
Prints can be taken from this master.

Die daylight and strip height can be reduced by up to 16 mm  
through a reduction in the thickness of the Bottom Clamping Plate.

## 201.50.xx30. Progression lamination die set unit

Order No.		Spring			external	b <sub>1</sub>	Comb.	max. working stroke of					Spring	preloading in N (per spring				Spring rate R in N/mm			
Type	Size	b <sub>1</sub>	Type	Exec.	dimensions		spring+ spacer	spring 241...				preload		unit)				241.□□.25.045			
					a <sub>2</sub> × b <sub>2</sub>		unit	b <sub>3</sub>	14	15	16	17			14	15	16	17	14	15	16
201.50.	2030.	□□□.	□□.	□	196 × 296	75	4	75	7,0	7,0	5,0	4,2	8	736	1432	2800	5027	92	179	350	628,4
201.50.	2530.	□□□.	□□.	□	246 × 296	100	6	100	7,0	7,0	5,0	4,2	8	736	1432	2800	5027	92	179	350	628,4
201.50.	3030.	□□□.	□□.	□	296 × 296	100	8	100	7,0	7,0	5,0	4,2	8	736	1432	2800	5027	92	179	350	628,4
201.50.	3530.	□□□.	□□.	□	346 × 296	125	8	125	7,0	7,0	5,0	4,2	8	736	1432	2800	5027	92	179	350	628,4
201.50.	4030.	□□□.	□□.	□	396 × 296	125	8	125	7,0	7,0	5,0	4,2	8	736	1432	2800	5027	92	179	350	628,4

## Ordering Code (example):

Progression lamination die set unit	=	201.50.
$a_2 \times b_2 = 296 \times 196$	=	3020.
$b_1 = 75$ mm	=	075.
Spring type 241.15.	=	15.
With projecting top clamping plate	=	1
Order No.	=	201.50. 3020. 075. 15. 1

Die Set Units 201.50. can also be supplied in special sizes as well as  
special executions, acc. to customers' specifications.