



Cast Iron-, All-Steel- and Aluminium Die Sets



Cast Iron-, All-Steel- and Aluminium Die Sets and Plates Remarks and Guide Lines

Execution

Contour faces of FIBRO Steel Die Sets are fully machined. Contour faces of Aluminium Die Sets are sawn, as are those of Aluminium Plates. However, these contour faces can also be machined on request. To all die set plates, a general thickness tolerance of ± 2 mm applies.

Guide Elements

Guide pillars DIN 9825/ISO 9182 (209.19.) and headed guide bushes DIN 9831/ISO 9448 (2081.) are normal equipment on all-steel die sets.

Detailed information under Guide Elements.

Lifting Aids on Die Sets

Plate sizes with edges $a_1 + b_1 \leq 1000$ mm, and die sets weighting more than 100 kg, are fitted with threaded holes for two lifter eyebolts per plate. Eyebolts etc. are supplied against special order.

Special Die Sets and Plates to Customers' Drawings

Die sets and plates up to size 22003 1100 mm (external dims.) will be made to customer's drawings, with any special features and highest precision.

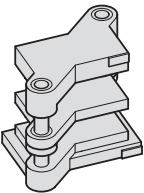
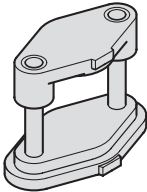
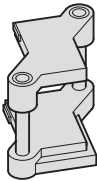
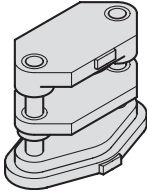
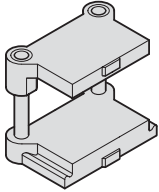
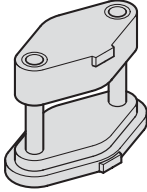
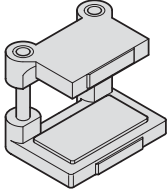
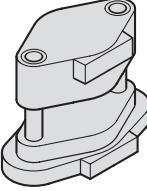
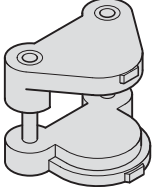
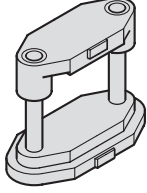
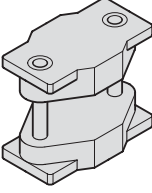
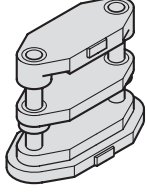
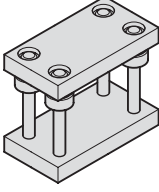
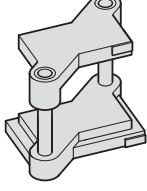
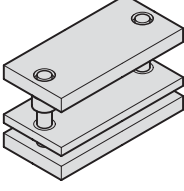
Special Machining Features

Wherever possible, all larger apertures or holes should be done by FIBRO before final machining of die sets, for their application at the customer's works must result in die set distortion and impairment of accuracy.

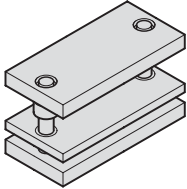
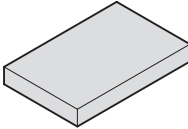
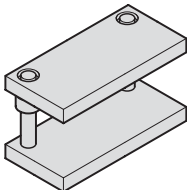
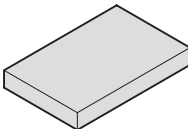
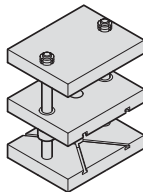
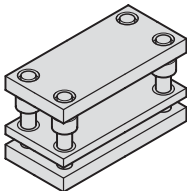
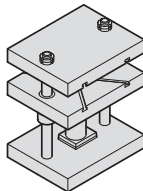
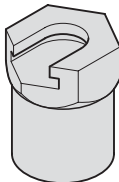
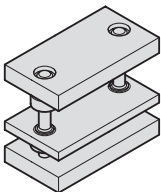
Enquiry Forms for Special Die Sets

Special pre-printed forms for enquiries and ordering are available on request. All the customer has to do is the filling-in of dimensions and the specifying of guide elements or special machining features where applicable.

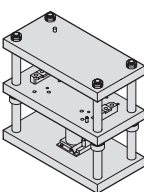
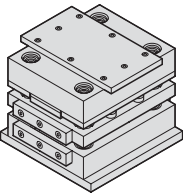
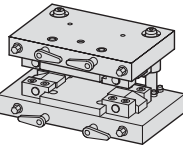
Contents

	Notes on guide elements	A7		201.23. Die set	A17
	201.01. Die set DIN 9812 Type D/DG	A10		201.26. Die set	A18
	201.03. Die set DIN 9814 Type D/DG	A11		201.31. Die set DIN 9822 Shape C	A19
	201.05. Die set DIN 9816 Shape D	A12		201.33. Die set	A20
	201.07. Die set ~DIN 9816 Shape D	A13		201.36. Die set	A21
	201.11. Die set DIN 9812 Shape C/CG	A14		201.39. Fine blanking die set	A22
	201.13. Die set DIN 9814 Shape C/CG	A15		201.10. Die set ~DIN 9868/ISO 11415	A24-31
	201.21. Die set DIN 9819 Shape C/CG	A16		201.45. Die set to customers' specifications, Steel	A32

Contents

	201.65.	A32		2010.57.	A36-37
	Die set to customers' specifications, Aluminium			Die set ECO-LINE	
	201.46.	A33		2010.59.	A36-37
	Die set to customers' specifications, Steel			Die set ECO-LINE	
	201.66.	A33			
	Die set to customers' specifications, Aluminium			2900.	A38
				Steel plate ISO 6753-1	
	201.47.	A34			
	Die set to customers' specifications, Steel			2910.	A39
				Aluminium plate ~ISO 6753-1	
	201.67.	A34			
	Die set to customers' specifications, Aluminium			2011.45.	A40
				Die set press unit	
	201.49.	A35			
	Die set to customers' specifications, Steel			201.145.	A41
				Die set press unit	
	201.69.	A35			
	Die set to customers' specifications, Aluminium				A42
				Die set press units - Accessories	
	2010.55.	A36-37		212.16.1.	A42
	Die set ECO-LINE			Spigot holder	

Contents

212.11. Coupling spigot	A42		201.98. Aligning- and tryout press unit	A59
212.15. Coupling spigot	A42			
Special die set to customer's specifications	A43-46			
	201.50. Progression lamination die set unit	A47-52		
	201.95. Tooling pallet die set	A53-57		
Tooling pallet die set - Accessories	A58			
201.96. Pallet carrier plate	A58			
201.97. Bolster insert plate	A58			

Notes on Guide Elements

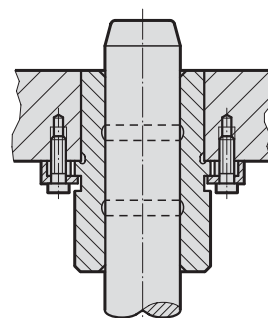
FIBRO Precision Sliding Guides – Carbonitrided Sintered Ferrite Bushes

These guides employ bushes made from sintered ferrite of high purity with carbonitrided surface. Bearing surfaces are fine-ground.

The sintered ferrite has a porosity content of 18-20 % by volume, vacuum filled with special lubricant FIBROLIT LD. As additional long term lubrication it is recommended to fill up the groove in the bushing with FIBROLIT LD 280.34, see chapter H. Even under arduous running conditions, this material can be relied upon for good protection against oil film rupture.

Under no circumstances must molybdenum disulfite be added to the lubricant.

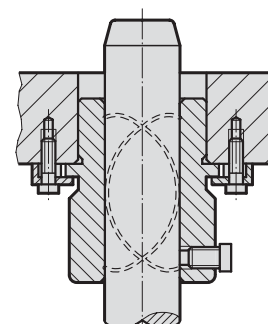
For bearing clearance ranges, see chapter D.



FIBRO Precision Sliding Guides, bronze-coated

consists of a steel body with bronze-coated running surface with helical oil groove and a grease nipple for lubrication.

The steel body guarantees excellent resistance to breaking, even when subject to high loading at the edges.



FIBRO High Precision Ball Bearing Guides

Careful manufacture at narrowest tolerances, and exactly the right amount of preloading* result in a play-free guide element of exceptional performance potential.

Our superfinished running surfaces further enhance the advantages of ball bearing guides.

Toolmakers favour ball bearing guides because of their free movement on the bench.

FIBRO ball bearing guides can be equipped with a choice of brass or aluminium ball cages, which have proved to be very successful in practice due to their ball density and stability

Ball bearing guides with their point contact of the balls remain somewhat sensitive to shock and sustained radial loads. To some extent, generous dimensioning of pillar diameters helps to compensate for this inherent disadvantage.

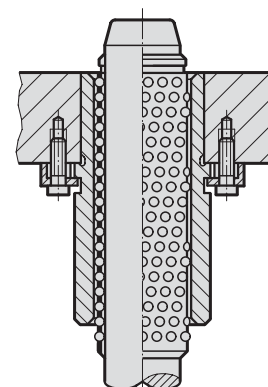
* Average preloading:

4 µm on pillars from 8 to 12 mm diameter

7– 9 µm on pillars from 15 to 16 mm diameter

9–11 µm on pillars from 18 to 42 mm diameter

11–13 µm on pillars from 50 to 80 mm diameter



FIBRO Precision Roller Guides

The profile roller cages are in linear contact with the guide bushing and guide pillar. This feature offers much greater capacity for radial loads in the individual roller than an identical size of ball bearing.

The caulking of the roller bearing arrangement is implemented with the same FIBRO-specific solution as that used in ball cages.

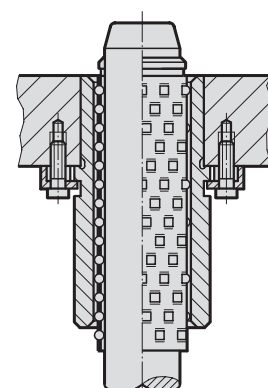
The profile rollers are arranged in a spiral formation in an axial direction. This gives each profile roller its own path. The roller cages are designed with a recess for a circlip conforming to DIN 471.

The much larger contact area with the ball bearing guide permits a significant reduction in preload values.

The following preload values apply to FIBRO Roller Guides:

For static loads/low velocities, pillar diameters	For Dynamic Loads/High Velocities, pillar diameters
up to Ø 25 = 2,5 µm	up to Ø 25 = 1,5 µm
Ø 30/32 = 3 µm	Ø 30/32 = 2 µm
Ø 40-50 = 3,5 µm	Ø 40-50 = 2,5 µm
Ø 63 = 4 µm	Ø 63 = 3 µm

Use only pairing class
guide pillar red = .30
guide bush yellow = .10





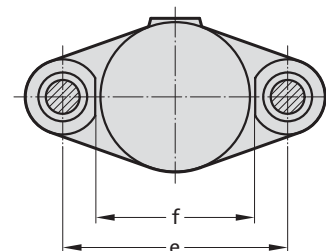
Cast Iron Die Sets



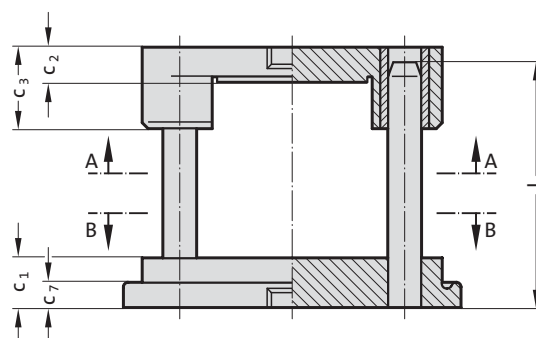
Die set DIN 9812 Type D/DG



201.01.



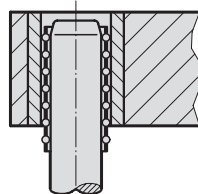
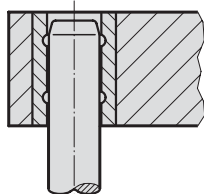
Section A - A



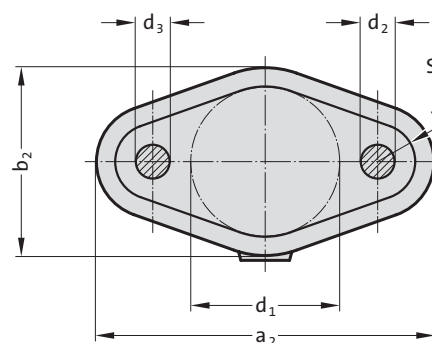
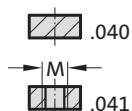
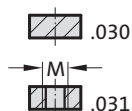
Guide Elements

Sintered Ferrite
Guide Bushes

Ball Bearing
Guides



Order No (part II)
Available without or
with shank thread
in top bolster



Section B - B

201.01. Die set DIN 9812 Type D/DG

Order No part 1*	Work area													
	d ₁	a ₂	b ₂	c ₁	c ₂	c ₃	c ₇	d ₂	d ₃	e	f	l	r	M
201.01.063.	63	182	100	40	25	60	20	16	15	106	73	140	20	16x1,5
201.01.080.	80	236	120	50	30	80	30	20	19	140	90	160	28	20x1,5
201.01.100.	100	275	140	50	30	80	30	25	24	165	110	160	35	20x1,5
201.01.125.	125	300	165	50	30	80	30	25	24	190	139	160	35	20x1,5
201.01.160.	160	360	200	56	40	90	30	32	30	240	174	180	40	24x1,5
201.01.180.	180	380	220	56	40	90	30	32	30	260	194	180	40	24x1,5
201.01.200.	200	400	240	56	40	90	30	32	30	280	218	180	40	24x1,5
201.01.250.	250	496	300	56	50	100	30	40	38	350	268	200	48	30x2
201.01.315.	315	563	365	63	50	100	30	40	38	417	333	224	48	30x2

*Order No Part 2 = complete guide type

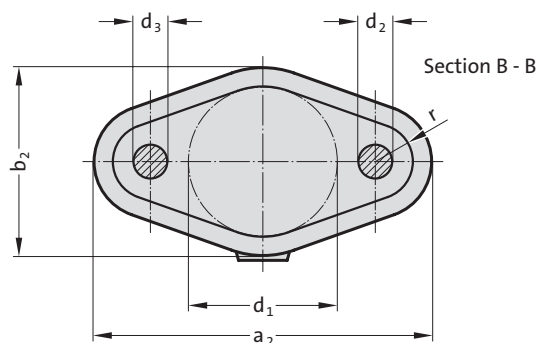
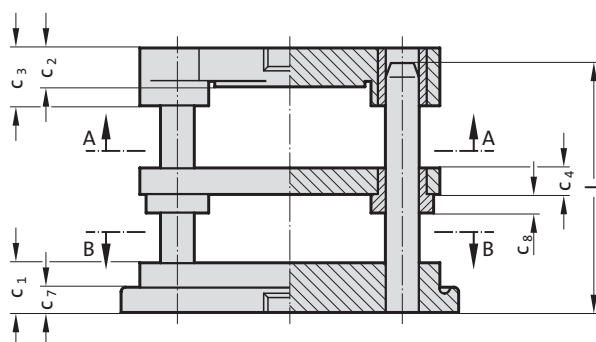
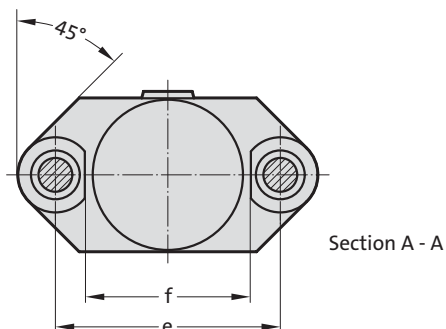
Ordering Code (example):

Die set DIN 9812 Type D/DG	= 201.01.
Work area D1 63 mm	= 63.
Type of guides FA Sintered ferrite	= 3
Shank thread ZG without	= 0
Order No	= 201.01. 63. 30

Die set DIN 9814 Type D/DG



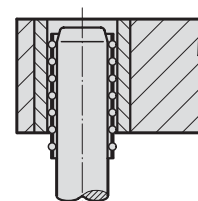
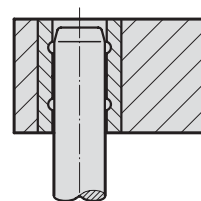
201.03.



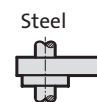
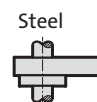
Guide Elements

Sintered Ferrite
Guide Bushes

Ball Bearing
Guides



Stripper



Order No (part II)
Available without or
with shank thread
in top bolster

.034

.054

M
.035

M
.055

201.03. Die set DIN 9814 Type D/DG

Order No part 1*	Work area															
	d ₁	a ₂	b ₂	c ₁	c ₂	c ₃	c ₄	c ₇	c ₈	d ₂	d ₃	e	f	l	r	M
201.03.100.	100	275	140	50	30	50	22	30	18	25	24	165	119	160	35	20x1.5
201.03.125.	125	300	165	50	30	50	22	30	18	25	24	190	144	160	35	20x1.5
201.03.160.	160	360	200	56	40	60	27	30	18	32	30	240	184	180	40	24x1.5

*Order No Part 2 = complete guide type

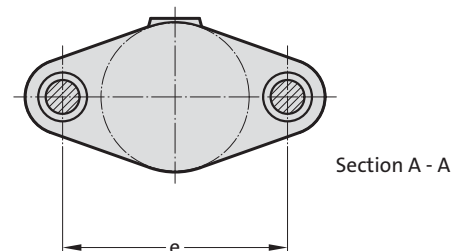
Ordering Code (example):

Die set DIN 9814 Type D/DG	= 201.03.
Work area D1 100 mm	= 100.
Type of guides FA Sintered ferrite	= 03
Shank thread ZG without	= 4
Order No	= 201.03. 100.03 4

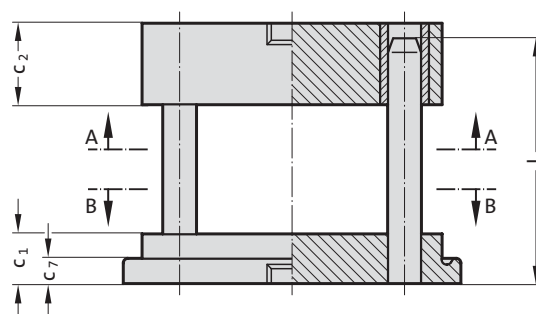
Die set DIN 9816 Shape D



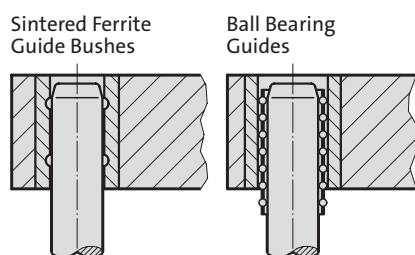
201.05.



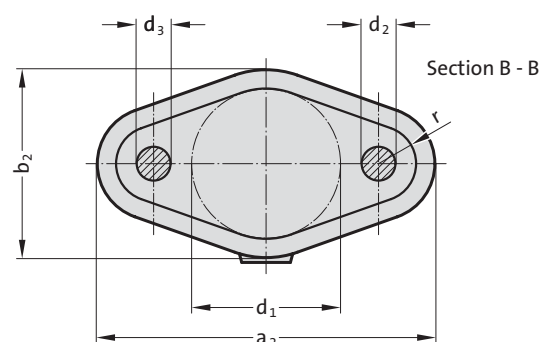
Section A - A



Guide Elements



Order No (part II)
Without shank thread
in top bolster



Section B - B

201.05. Die set DIN 9816 Shape D

Order No part 1*	Work area									
	d ₁	a ₂	b ₂	c ₁	c ₂	c ₇	d ₂	d ₃	e	l
201.05.063.	63	182	100	40	65	20	16	15	106	140
201.05.080.	80	236	120	50	70	30	20	19	140	160
201.05.100.	100	275	140	50	75	30	25	24	165	180
201.05.125.	125	300	165	50	80	30	25	24	190	180
201.05.160.	160	360	200	56	90	30	32	30	240	224
201.05.200.	200	400	240	56	100	30	32	30	280	224

*Order No Part 2 = complete guide type

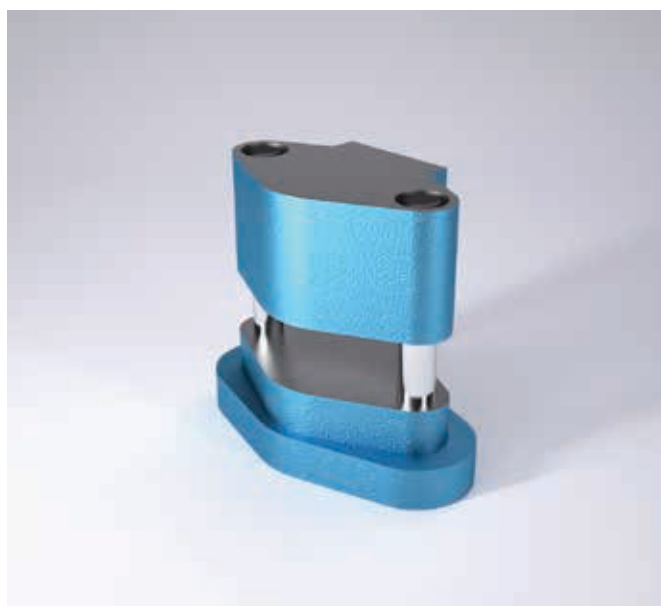
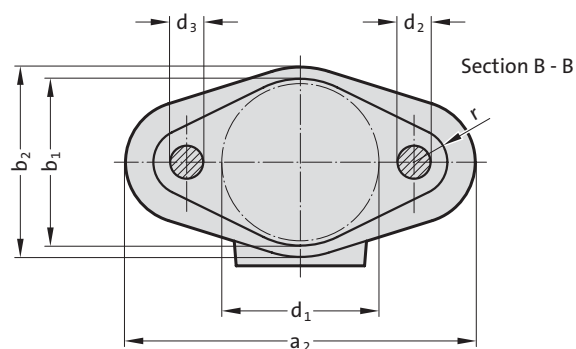
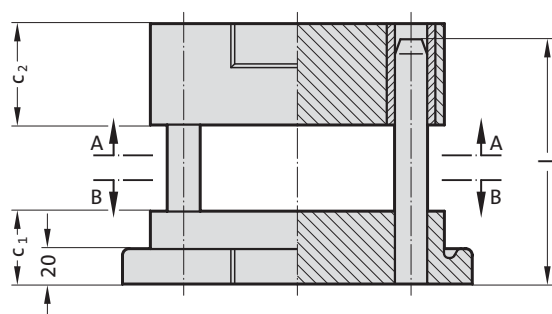
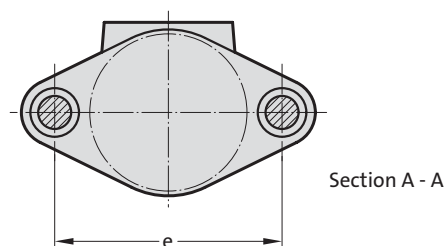
Ordering Code (example):

Die set DIN 9816 Shape D	=201.05.
Work area D1 63 mm	= 063.
Type of guides FA Sintered ferrite	= 030
Order No	=201.05. 063. 030

Die set ~DIN 9816 Shape D

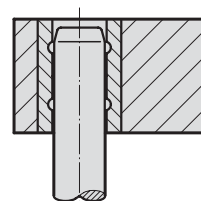


201.07.



Guide Elements

Sintered Ferrite
Guide Bushes



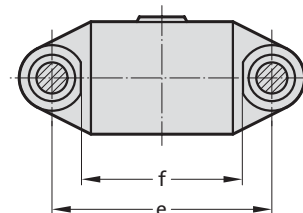
201.07. Die set ~DIN 9816 Shape D

Order No	Work area									
	d ₁	a ₂	b ₁	b ₂	c ₁	c ₂	d ₂	d ₃	e	l
201.07.040.030	40	112	45	55	36	40	16	15	66	100
201.07.063.030	63	142	68	78	40	55	16	15	90	125

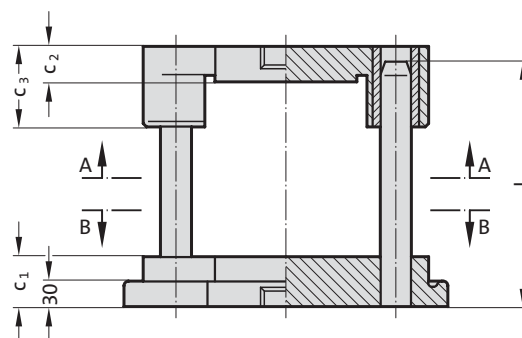
Die set DIN 9812 Shape C/CG



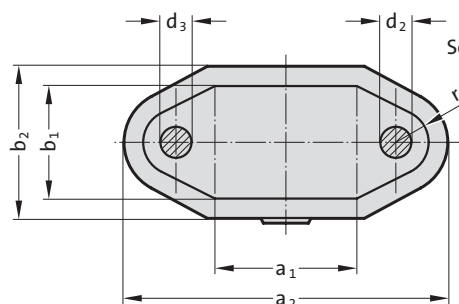
201.11.



Section A - A



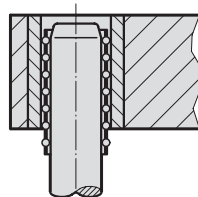
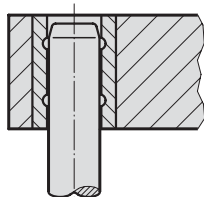
Section B - B



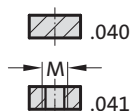
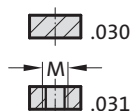
Guide Elements

Sintered Ferrite
Guide Bushes

Ball Bearing
Guides



Order No (part II)
Available without or
with shank thread
in top bolster



201.11. Die set DIN 9812 Shape C/CG

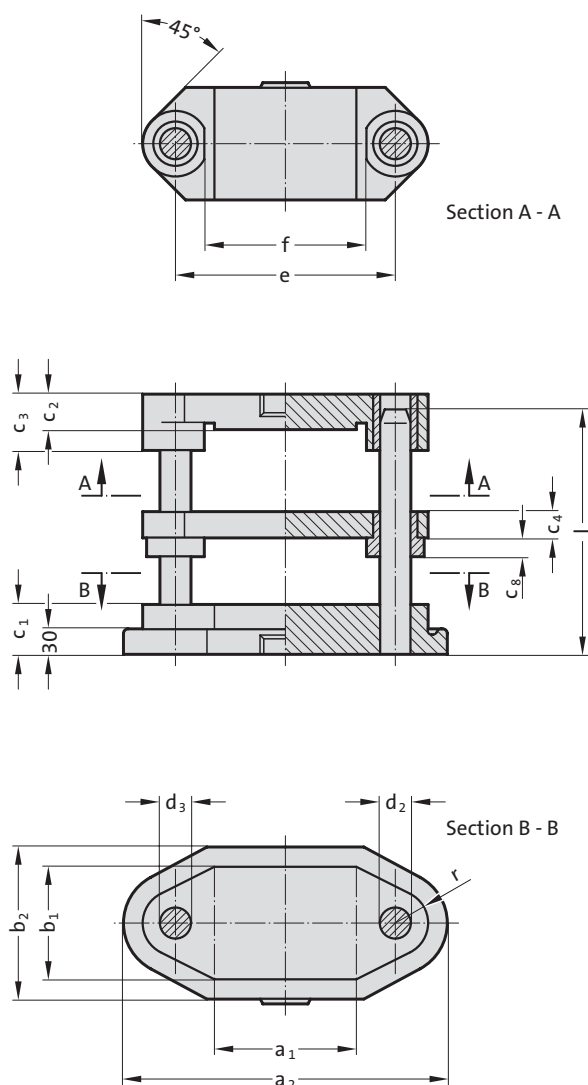
Order No part 1*	Work area												
	a ₁ x b ₁	a ₂	b ₂	c ₁	c ₂	c ₃	d ₂	d ₃	e	f	l	r	M
201.11.070.050.	70 x 50	170	70	40	22	50	20	19	110	73	140	20	20x1.5
201.11.080.063.	80 x 63	235	103	50	30	80	20	19	140	90	160	27	20x1.5
201.11.100.063.	100 x 63	253	103	50	30	80	20	19	158	110	160	27	20x1.5
201.11.100.080.	100 x 80	265	120	50	30	80	25	24	165	110	160	30	20x1.5
201.11.125.080.	125 x 80	290	120	50	30	80	25	24	190	139	160	30	20x1.5
201.11.160.080.	160 x 80	325	120	50	30	80	25	24	225	174	160	30	20x1.5
201.11.200.080.	200 x 80	365	120	50	30	80	25	24	265	218	160	30	20x1.5
201.11.125.100.	125 x 100	290	140	50	40	90	25	24	190	139	160	30	24x1.5
201.11.160.100.	160 x 100	325	140	50	40	90	25	24	225	174	160	30	24x1.5
201.11.200.100.	200 x 100	395	140	56	40	90	32	30	280	218	180	37	24x1.5
201.11.160.125.	160 x 125	355	165	56	40	90	32	30	240	174	180	37	24x1.5
201.11.200.125.	200 x 125	395	165	56	40	90	32	30	280	218	180	37	24x1.5
201.11.250.125.	250 x 125	445	165	56	40	90	32	30	330	268	180	37	24x1.5
201.11.315.125.	315 x 125	510	165	56	40	90	32	30	395	333	180	37	24x1.5
201.11.200.160.	200 x 160	395	200	56	50	100	32	30	280	218	200	37	30x2
201.11.250.160.	250 x 160	445	200	56	50	100	32	30	330	268	200	37	30x2
201.11.250.200.	250 x 200	496	250	63	50	100	40	38	350	268	224	48	30x2
201.11.315.200.	315 x 200	563	250	63	50	100	40	38	417	333	224	48	30x2
201.11.315.250.	315 x 250	563	300	63	50	100	40	38	417	333	224	48	30x2

*Order No Part 2 = complete guide type

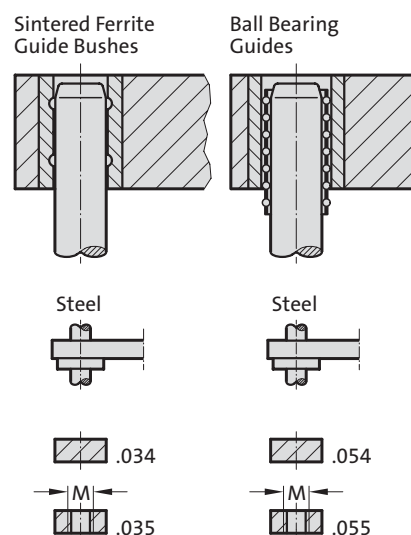
Die set DIN 9814 Shape C/CG



201.13.



Guide Elements



Stripper

Order No (part II)
Available without or
with shank thread
in top bolster

201.13. Die set DIN 9814 Shape C/CG

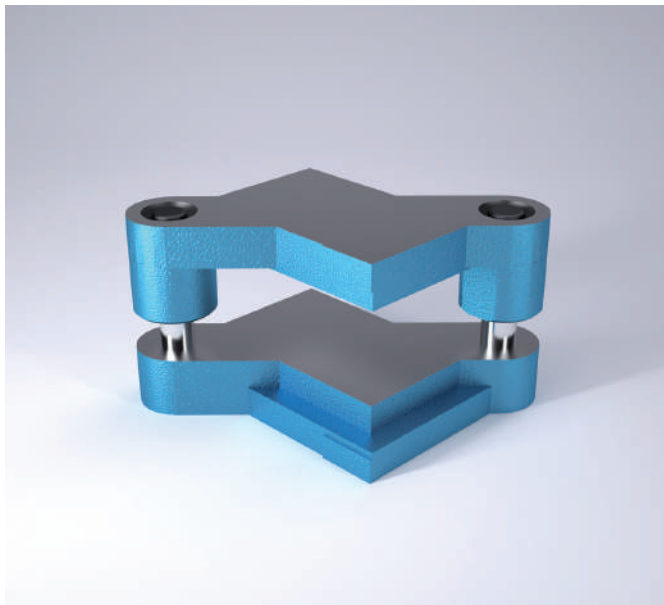
Order No part 1*	Work area													
	$a_1 \times b_1$	a_2	b_2	c_1	c_2	c_3	c_4	c_8	d_2	d_3	e	l	r	M
201.13.080.063.	80 x 63	235	103	50	30	50	18	14	20	19	140	160	27	20x1.5
201.13.100.080.	100 x 80	265	120	50	30	50	22	18	25	24	165	160	30	20x1.5
201.13.125.100.	125 x 100	290	140	50	40	60	22	18	25	24	190	160	30	24x1.5
201.13.160.125.	160 x 125	355	165	56	40	60	27	18	32	30	240	180	37	24x1.5
201.13.200.160.	200 x 160	395	200	56	50	70	27	18	32	30	280	200	37	30x2

*Order No Part 2 = complete guide type

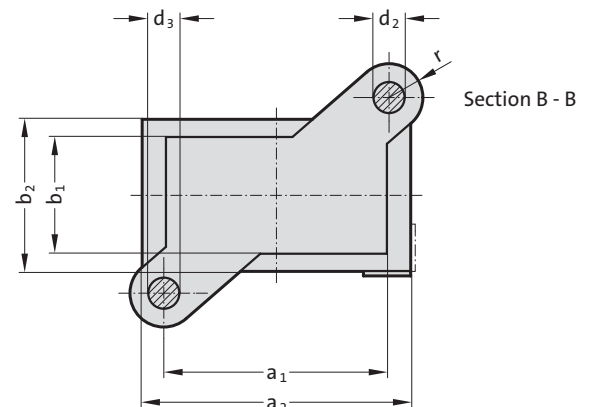
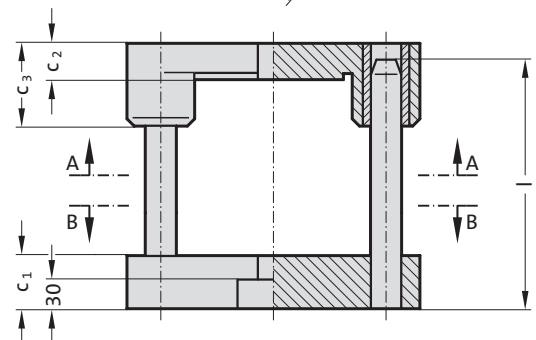
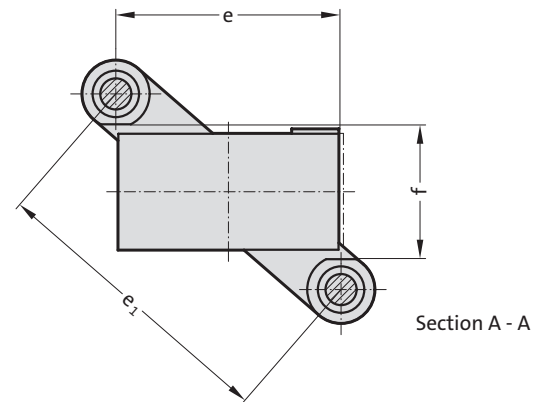
Ordering Code (example):

Die set DIN 9814 Shape C/CG	=201.13.
Working area length A1	80 mm = 080.
Working area width B1	63 mm = 063.
Type of guides FA	Sintered ferrite = 03
Shank thread ZG	without = 4
Order No	=201.13.080. 063. 03 4

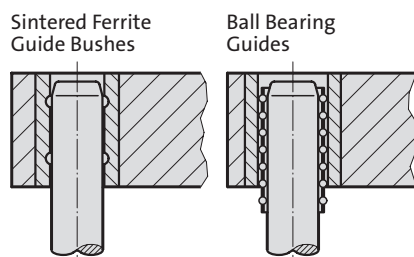
DIE SET DIN 9819 SHAPE C/CG



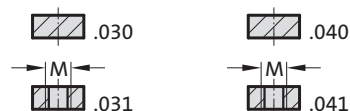
201.21.



Guide Elements



Order No (part II)
Available without or
with shank thread
in top bolster

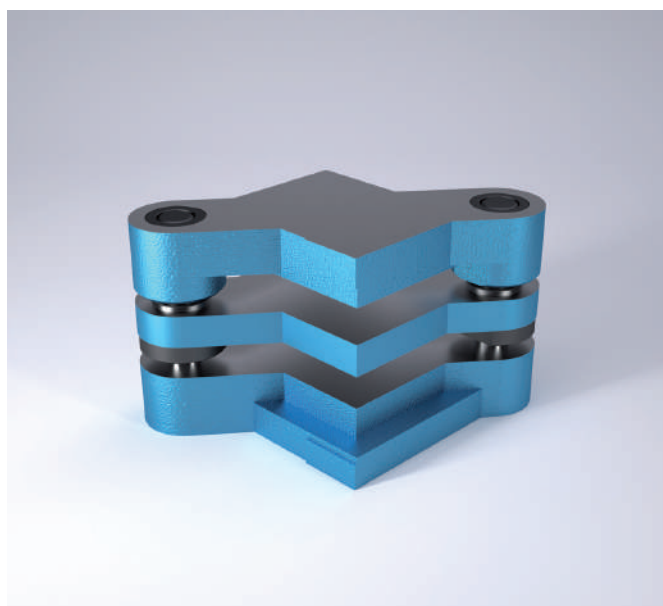
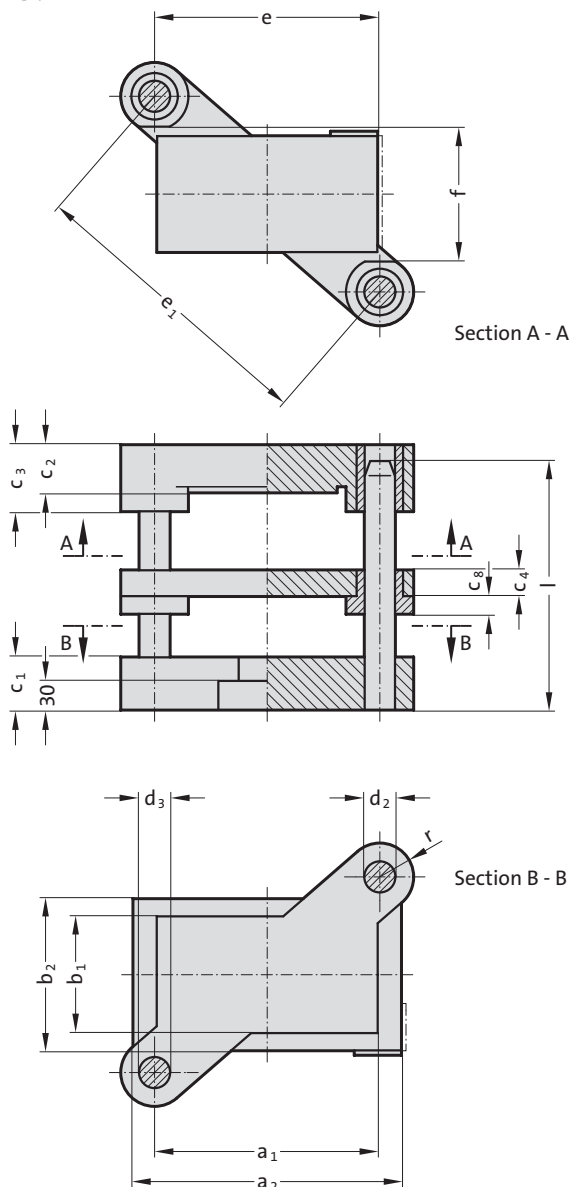


201.21. Die set DIN 9819 Shape C/CG

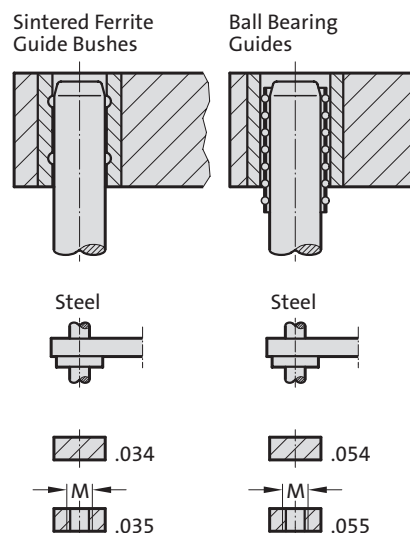
Order No part 1*	Work area		a ₂	b ₂	c ₁	c ₂	c ₃	d ₂	d ₃	e	e ₁	f	l	r	M
	a ₁ x b ₁														
201.21.080.063.	80 x 63		120	103	50	30	80	20	19	80	145	73	160	27	20x1.5
201.21.100.063.	100 x 63		140	103	50	30	80	20	19	100	157	73	160	27	20x1.5
201.21.100.080.	100 x 80		140	120	50	30	80	25	24	100	175	90	160	30	20x1.5
201.21.125.080.	125 x 80		165	120	50	30	80	25	24	125	191	90	160	30	20x1.5
201.21.125.100.	125 x 100		165	140	50	40	90	25	24	125	206	110	160	30	24x1.5
201.21.160.100.	160 x 100		200	140	50	40	90	25	24	160	229	110	160	30	24x1.5
201.21.200.100.	200 x 100		240	140	56	40	90	32	30	200	268	110	180	37	24x1.5
201.21.160.125.	160 x 125		200	165	56	40	90	32	30	160	259	139	180	37	24x1.5
201.21.200.125.	200 x 125		240	165	56	40	90	32	30	200	286	139	180	37	24x1.5
201.21.250.125.	250 x 125		290	165	56	40	90	32	30	250	323	139	180	37	24x1.5
201.21.315.125.	315 x 125		355	165	56	40	90	32	30	315	375	139	180	37	24x1.5
201.21.200.160.	200 x 160		240	200	56	50	100	32	30	200	312	174	200	37	30x2
201.21.250.160.	250 x 160		290	200	56	50	100	32	30	250	346	174	200	37	30x2
201.21.250.200.	250 x 200		300	250	63	50	100	40	38	250	392	218	224	48	30x2
201.21.315.200.	315 x 200		365	250	63	50	100	40	38	315	436	218	224	48	30x2
201.21.315.250.	315 x 250		365	300	63	50	100	40	38	315	472	268	224	48	30x2

*Order No Part 2 = complete guide type

201.23.



Guide Elements



Stripper

Order No (part II)
Available without or
with shank thread
in top bolster

201.23. Die set

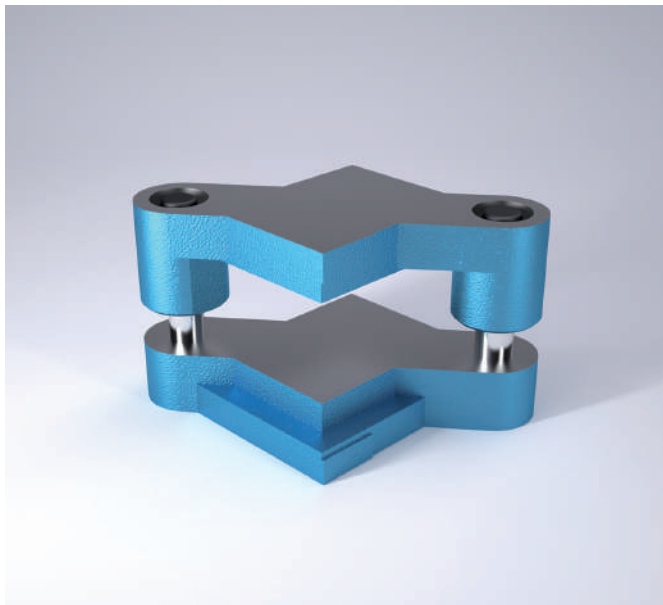
Order No part 1*	Work area															
	a ₁ x b ₁	a ₂	b ₂	c ₁	c ₂	c ₃	c ₄	c ₈	d ₂	d ₃	e	e ₁	f	l	r	M
201.23.100.080.	100 x 80	140	120	50	30	50	22	15	25	24	100	175	98	160	30	20x1.5
201.23.125.100.	125 x 100	165	140	50	40	60	22	15	25	24	125	206	118	160	30	24x1.5
201.23.160.100.	160 x 100	200	140	50	40	60	22	15	25	24	160	229	118	160	30	24x1.5
201.23.160.125.	160 x 125	200	165	56	40	60	27	15	32	30	160	259	148	180	37	24x1.5
201.23.200.125.	200 x 125	240	165	56	40	60	27	15	32	30	200	286	148	180	37	24x1.5
201.23.250.160.	250 x 160	290	200	56	50	70	27	15	32	30	250	346	184	200	37	30x2

*Order No Part 2 = complete guide type

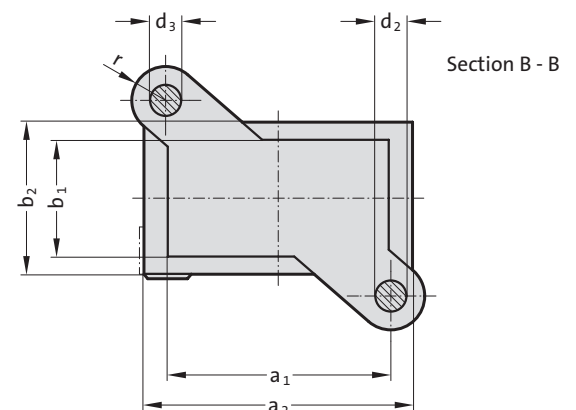
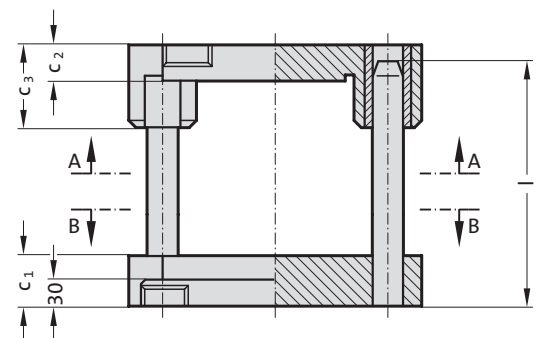
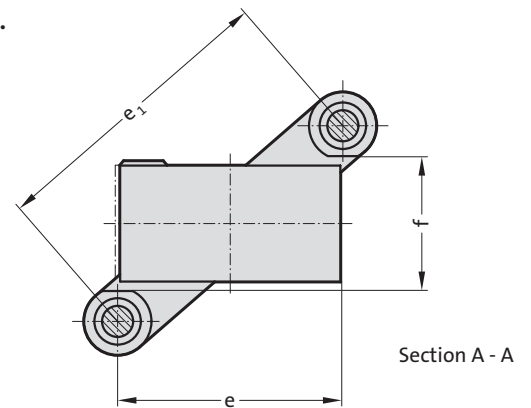
Ordering Code (example):

Die set	=	201.23.
Working area length a ₁	160 mm	= 160.
Working area width b ₁	125 mm	= 125.
Guide type FA	Sintered ferrite	= 03
Trunnion thread ZG	without	= 4
Order No	=	201.23. 160. 125.03 4

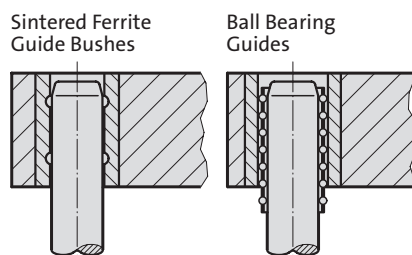
DIE SET



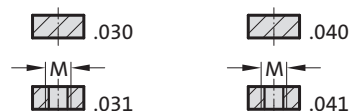
201.26.



Guide Elements



Order No (part II)
Available without or
with shank thread
in top bolster



201.26. Die set

	Work area													
Order No part 1*	a ₁ x b ₁	a ₂	b ₂	c ₁	c ₂	c ₃	d ₂	d ₃	e	e ₁	f	l	r	M
201.26.125.	125 x 100	165	140	50	40	90	25	24	125	206	110	160	30	24x1.5
201.26.160.	160 x 100	200	140	50	40	90	25	24	160	229	110	160	30	24x1.5
201.26.200.	200 x 125	240	165	56	40	90	32	30	200	286	139	180	37	24x1.5

*Order No Part 2 = complete guide type

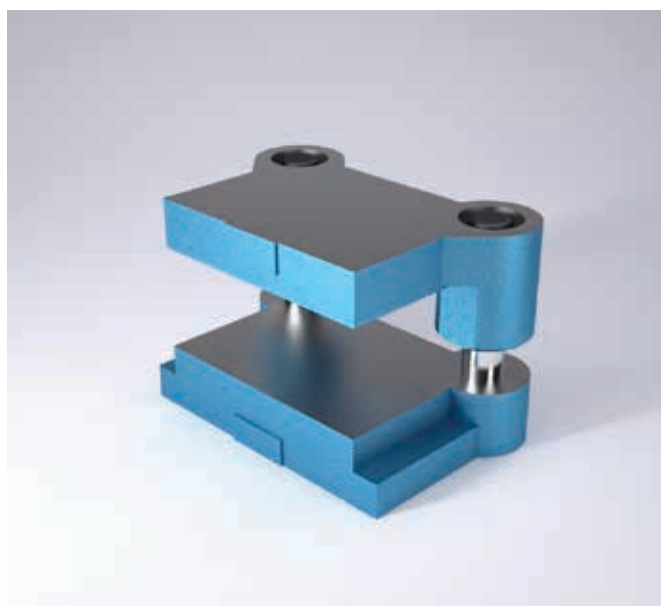
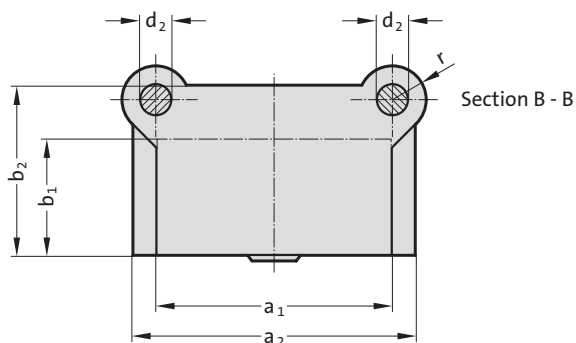
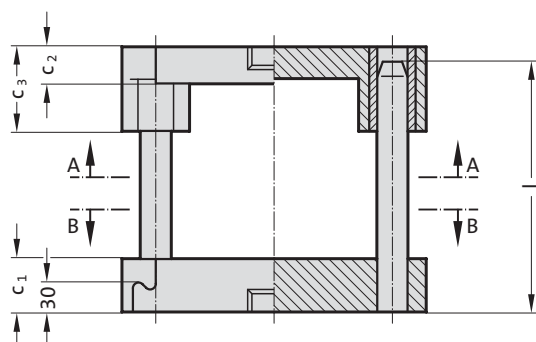
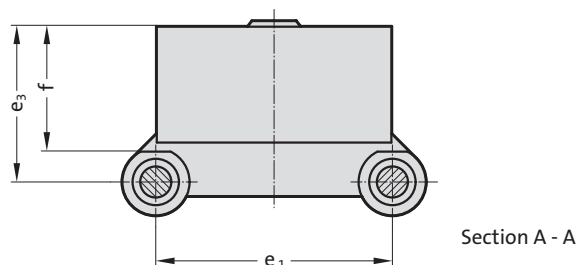
Ordering Code (example):

Die set	=	201.26.
Working area length a_1	160 mm	= 160.
Working area width b_1	125 mm	= 125.
Guide type FA	Sintered ferrite	= 03
Trunnion thread ZG	without	= 0
Order No		= 201.26. 160. 125. 03 0

Die set DIN 9822 Shape C



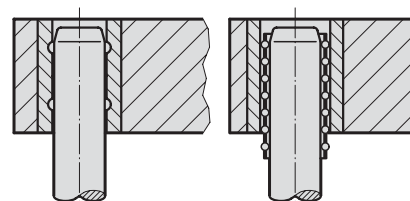
201.31.



Guide Elements

Sintered Ferrite
Guide Bushes

Ball Bearing
Guides



Order No (part II)
Without shank thread
in top bolster



201.31. Die set DIN 9822 Shape C

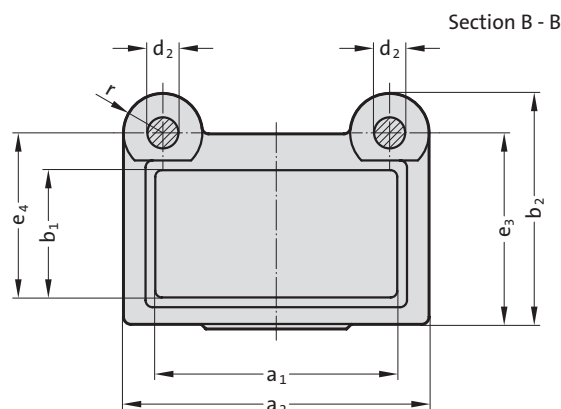
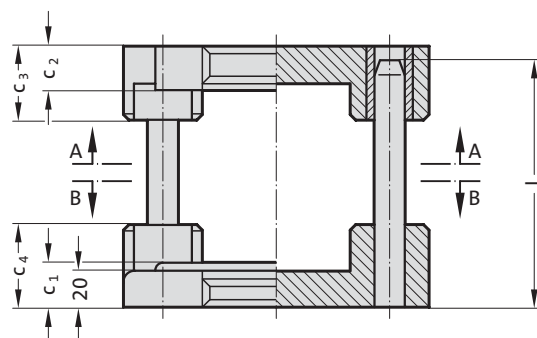
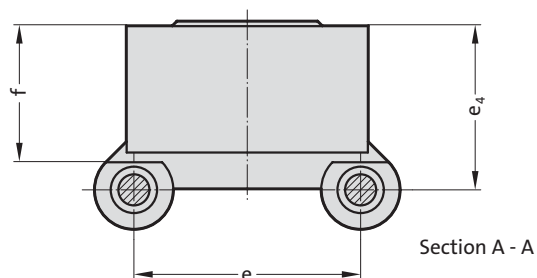
Order No part 1*	Work area											
	$a_1 \times b_1$	a_2	b_2	c_1	c_2	c_3	d_2	e_1	e_3	f	l	r
201.31.063.050.	63 x 50	95	84	40	25	50	20	72	77	55	140	22
201.31.080.063.	80 x 63	125	105	45	30	60	20	80	92	68	160	27
201.31.100.063.	100 x 63	145	105	45	30	60	20	100	92	68	160	27
201.31.100.080.	100 x 80	145	130	50	30	70	25	100	112	87	160	30
201.31.125.080.	125 x 80	170	130	50	30	70	25	125	112	87	160	30
201.31.160.080.	160 x 80	205	130	50	30	70	25	160	112	87	160	30
201.31.125.100.	125 x 100	170	150	56	40	90	32	125	140	107	180	37
201.31.160.100.	160 x 100	205	150	56	40	90	32	160	140	107	180	37
201.31.200.100.	200 x 100	245	150	56	40	90	32	200	140	107	180	37
201.31.160.125.	160 x 125	215	180	56	40	90	32	160	165	132	180	37
201.31.200.125.	200 x 125	255	180	56	40	90	32	200	165	132	180	37
201.31.250.125.	250 x 125	305	180	56	40	90	32	250	165	132	180	37
201.31.200.160.	200 x 160	255	225	63	50	120	40	200	210	167	224	48
201.31.250.160.	250 x 160	305	225	63	50	120	40	250	210	167	224	48
201.31.250.200.	250 x 200	305	270	63	50	120	50	250	260	207	224	56
201.31.315.250.	315 x 250	370	320	63	50	120	50	315	310	257	224	56

*Order No Part 2 = complete guide type

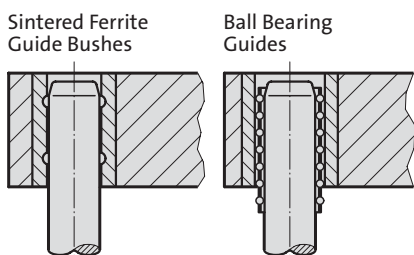
Die set



201.33.



Guide Elements



Order No (part II)
Without shank thread
in top bolster



201.33. Die set

Order No part 1*	Work area													
	a ₁ x b ₁	a ₂	b ₂	c ₁	c ₂	c ₃	c ₄	d ₂	e	e ₃	e ₄	f	l	r
201.33.063.050.	63 x 50	116	110	25	25	40	45	16	72	88	74	57	125	22
201.33.080.060.	80 x 60	116	117	25	25	40	45	20	72	95	81	62	160	22

*Order No Part 2 = complete guide type

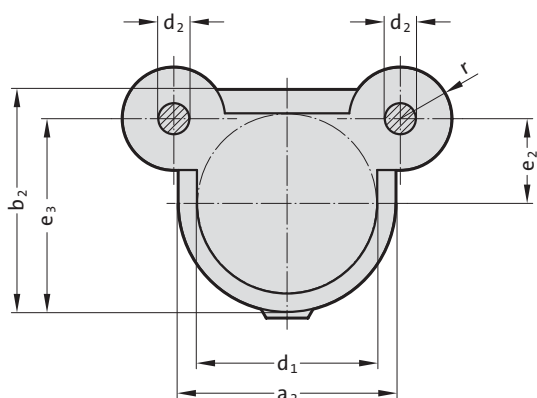
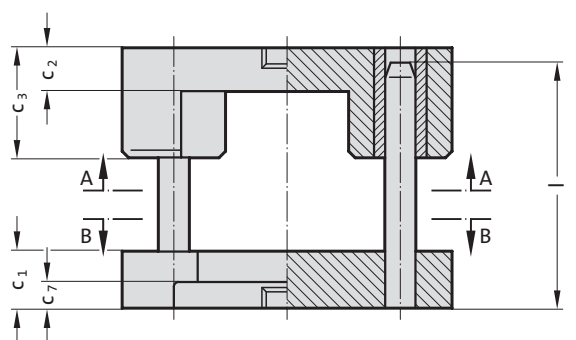
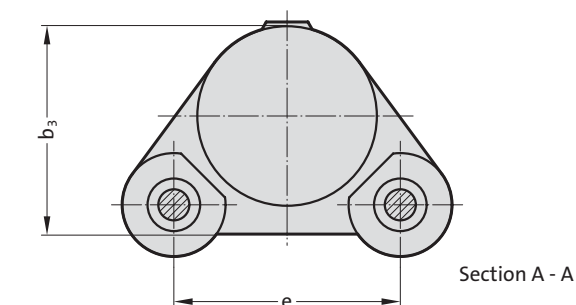
Ordering Code (example):

Die set		=201.33.
Working area length A1	63 mm	= 063.
Working area width B1	50 mm	= 050.
Type of guides FA	Sintered ferrite	= 030
Order No		=201.33. 063. 050. 030

Die set



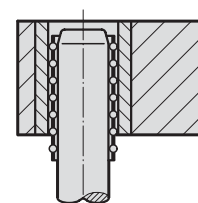
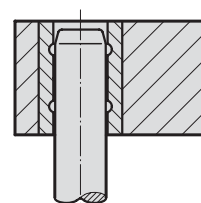
201.36.



Guide Elements

Sintered Ferrite
Guide Bushes

Ball Bearing
Guides



Order No (part II)
Without shank thread
in top bolster



201.36. Die set

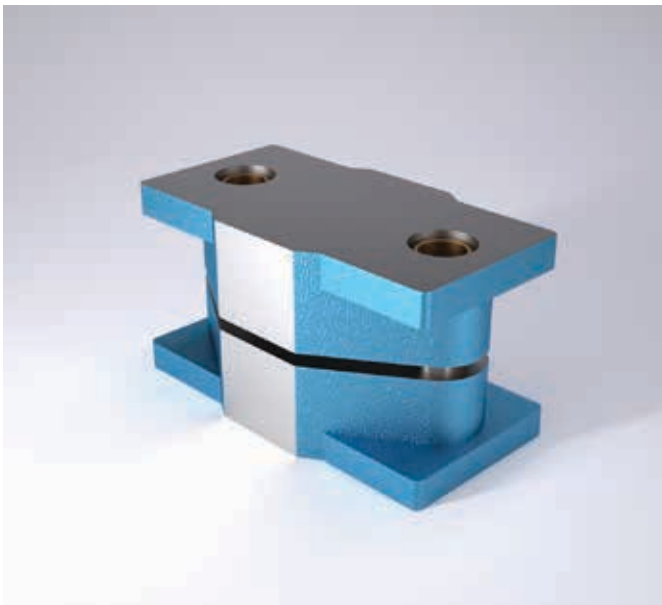
	Work area													
Order No part 1*	d ₁	a ₂	b ₂	b ₃	c ₁	c ₂	c ₃	c ₇	d ₂	e	e ₂	e ₃	l	r
201.36.050.	50	80	80	65	40	30	50	25	20	66	33	73	125	20
201.36.063.	63	94	94	78	45	30	60	25	20	82	41	88	125	25
201.36.080.	80	110	110	95	50	30	70	30	25	105	52	107	160	30
201.36.100.	100	140	140	120	50	30	70	30	25	125	57	127	160	30
201.36.125.	125	166	166	145	56	40	90	30	32	157	73	156	180	38
201.36.160.	160	200	200	180	63	50	120	30	40	200	85	185	224	48
201.36.180.	180	220	220	200	63	50	120	30	40	224	90	200	224	48
201.36.200.	200	250	250	225	63	50	120	30	50	250	95	220	224	56
201.36.250.	250	300	300	275	63	50	120	30	50	300	120	270	224	56

*Order No Part 2 = complete guide type

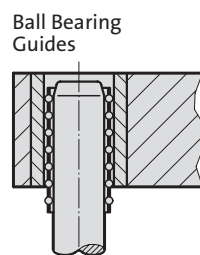
Ordering Code (example):

Die set		=201.36.
Work area D1	50 mm	= 050.
Type of guides FA	Sintered ferrite	= 030
Order No		=201.36. 050. 030

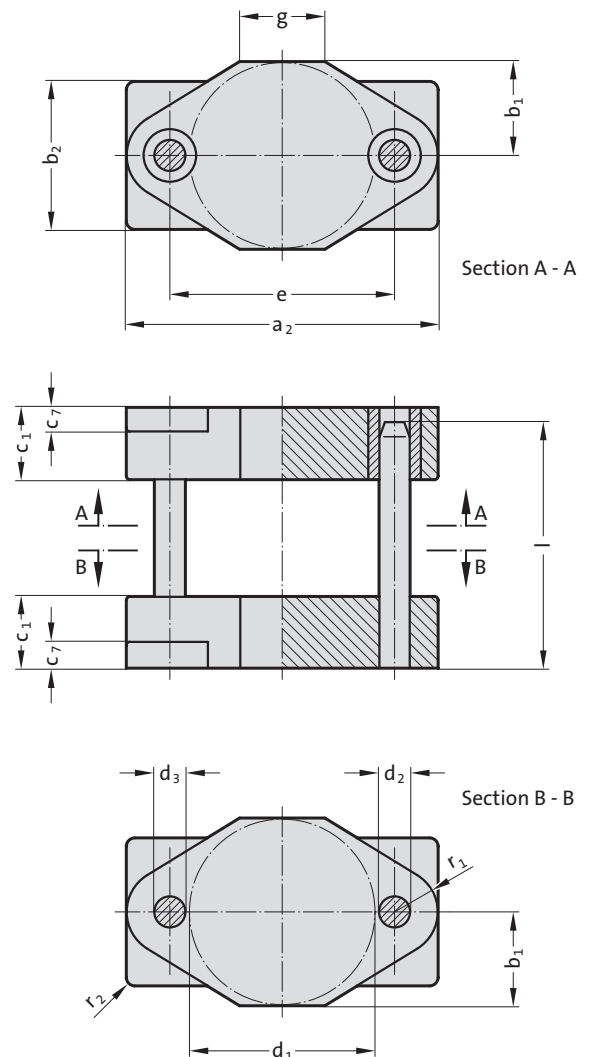
Fine blanking die set



Guide Elements



201.39.



Faces front and rear fine machined after assembly – their perfect alignment permits use as datum reference.

201.39. Fine blanking die set

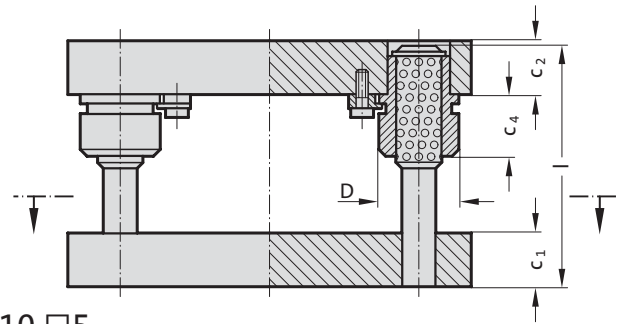
Order No	Work area												
	d ₁	a ₂	b ₁	b ₂	c ₁	c ₇	d ₂	d ₃	G	e	l	r ₁	r ₂
201.39.100.040	100	220	50	85	75	22	25	24	60	140	140	27	6
201.39.125.040	125	245	62	100	75	25	25	24	80	165	140	27	6
201.39.160.040	160	290	80	140	75	25	32	30	80	200	140	35	6
201.39.200.040	200	340	100	160	80	30	40	38	90	250	160	45	8
201.39.250.040	250	400	125	200	85	32	40	38	100	300	180	50	10



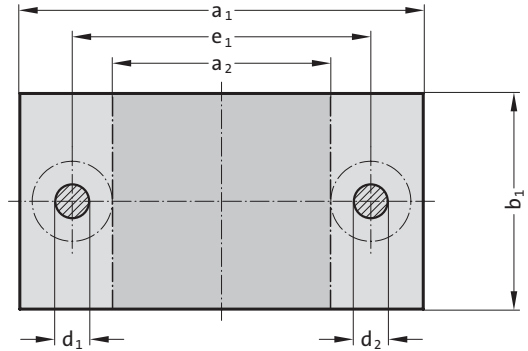
All-Steel- and Aluminium Die Sets



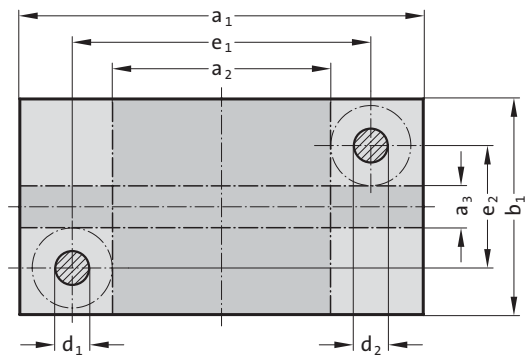
Die set without stripper ~DIN 9868/ISO 11415



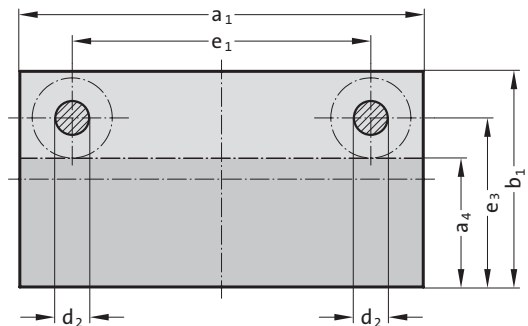
2010.□5.



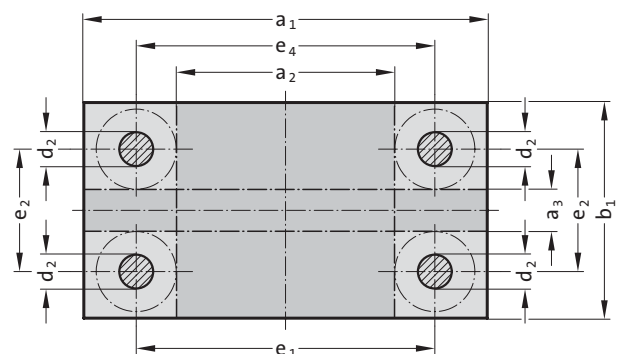
2010.□6.



2010.□7.

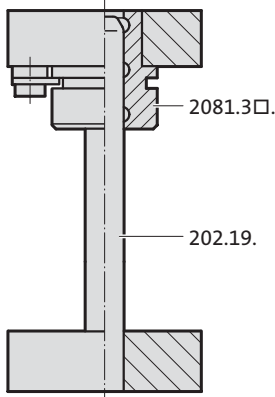


2010.□9.

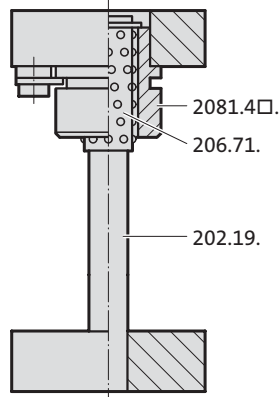


Standard Guide Systems

Headed Sintered
Ferrite Bushes,
carbonitrided = .834.



Headed Ball
Bearing Bushes = .862.



Description:

FIBRO Die Sets offer the choice between sintered ferrite sliding guides and those of the ball bearing type to DIN-ISO. Both come with headed guide bushes. These are seated in push-fit bolster bores and retained there by screw clamps.

Execution:

Steel: External contours milled, thickness surfaces ground
 a_1 or $b_1 \leq 630 = +0,2/+0,4$
 a_1 or $b_1 > 630 = +0,2/+0,6$

Aluminium: External contours sawed, thickness surfaces ground
 a_1 or $b_1 = +1/+4$

Advisory: Ordering Code:

Hole pattern for the screw clamps depends on positioning of working surface, determined by last part of the Order No,

for example: 2010.49.2520.4.862.1 $\frac{1}{2}$ lengthwise
 $\frac{2}{2}$ across

Note:

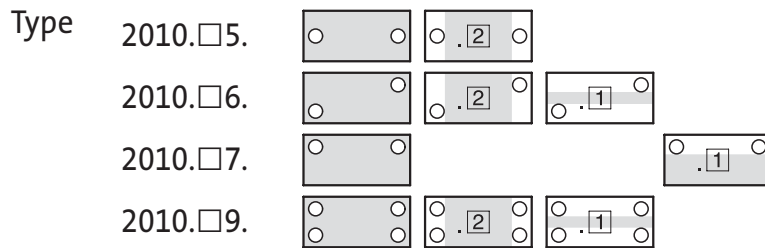
On request, Standard Die Sets can also be fitted with any other FIBRO Guide Elements (see die sets to customers' drawings).
 FIBRO will furthermore supply die sets with special machining features.



Die set without stripper ~DIN 9868/ISO 11415

2010. □□ .

Ordering Code (principle):

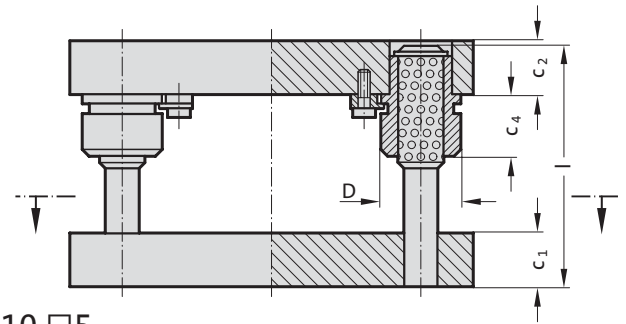


2010 . 4 5 . 4025 . 1 . 862 . 2

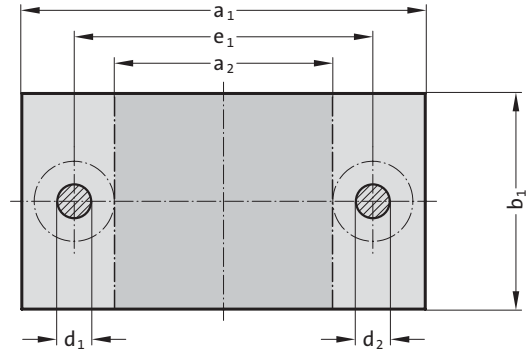
- Position of work area: 2
- Guide system: Headed ball bearing bushes
- Thickness combinations P: $c_1 - c_2$
- External dimensions: $a_1 = 400 \times b_1 = 250$
- Type: Position of guide elements
- Material: 4 = Steel, 6 = Aluminium
- Standard Die sets

Order No.	external dimensions $a_1 \times b_1$	work area across $a_2 \times b_1$	work area lengthwise $a_1 \times a_3$	work area $a_1 \times a_4$	$c_{1 \pm 2}$	$c_{2 \pm 2}$	$c_4 S$	$c_4 K$	$d_1/d_2 \times l$	D	e_1	e_2	e_3	e_4
2010. .1608. 1.	160 × 80	60 × 80	—	—	32	32	20	36	19/20 × 160	39	100	—	—	—
2010. .1610. 1.	160 × 100	60 × 100	—	160 × 50	32	32	20	36	19/20 × 160	39	100	—	70	—
2010. .1612. 1.	160 × 125	60 × 125	—	160 × 75	32	32	20	36	19/20 × 160	39	100	—	95	—
2010. .1616. 1.	160 × 160	60 × 160	160 × 60	160 × 110	32	32	20	36	19/20 × 160	39	100	100	130	103
2010. .2010. 1.	200 × 100	70 × 100	—	—	40	40	36	56	24/25 × 180	46	120	—	—	—
2010. .2010. 2.	200 × 100	70 × 100	—	—	40	32	36	56	24/25 × 180	46	120	—	—	—
2010. .2010. 3.	200 × 100	70 × 100	—	—	32	40	36	56	24/25 × 180	46	120	—	—	—
2010. .2010. 4.	200 × 100	70 × 100	—	—	32	32	36	56	24/25 × 180	46	120	—	—	—
2010. .2012. 1.	200 × 125	70 × 125	—	200 × 60	40	40	36	56	24/25 × 180	46	120	—	85	—
2010. .2012. 2.	200 × 125	70 × 125	—	200 × 60	40	32	36	56	24/25 × 180	46	120	—	85	—
2010. .2012. 3.	200 × 125	70 × 125	—	200 × 60	32	40	36	56	24/25 × 180	46	120	—	85	—
2010. .2012. 4.	200 × 125	70 × 125	—	200 × 60	32	32	36	56	24/25 × 180	46	120	—	85	—
2010. .2016. 1.	200 × 160	70 × 160	—	200 × 95	40	40	36	56	24/25 × 180	46	120	—	120	—
2010. .2016. 2.	200 × 160	70 × 160	—	200 × 95	40	32	36	56	24/25 × 180	46	120	—	120	—
2010. .2016. 3.	200 × 160	70 × 160	—	200 × 95	32	40	36	56	24/25 × 180	46	120	—	120	—
2010. .2016. 4.	200 × 160	70 × 160	—	200 × 95	32	32	36	56	24/25 × 180	46	120	—	120	—
2010. .2020. 1.	200 × 200	70 × 200	200 × 70	200 × 135	40	40	36	56	24/25 × 180	46	120	120	160	123
2010. .2020. 2.	200 × 200	70 × 200	200 × 70	200 × 135	40	32	36	56	24/25 × 180	46	120	120	160	123
2010. .2020. 3.	200 × 200	70 × 200	200 × 70	200 × 135	32	40	36	56	24/25 × 180	46	120	120	160	123
2010. .2020. 4.	200 × 200	70 × 200	200 × 70	200 × 135	32	32	36	56	24/25 × 180	46	120	120	160	123
2010. .2512. 1.	250 × 125	120 × 125	—	250 × 60	40	40	36	56	24/25 × 180	46	170	—	85	—
2010. .2512. 2.	250 × 125	120 × 125	—	250 × 60	40	32	36	56	24/25 × 180	46	170	—	85	—
2010. .2512. 3.	250 × 125	120 × 125	—	250 × 60	32	40	36	56	24/25 × 180	46	170	—	85	—
2010. .2512. 4.	250 × 125	120 × 125	—	250 × 60	32	32	36	56	24/25 × 180	46	170	—	85	—
2010. .2516. 1.	250 × 160	120 × 160	—	250 × 95	40	40	36	56	24/25 × 180	46	170	—	120	—
2010. .2516. 2.	250 × 160	120 × 160	—	250 × 95	40	32	36	56	24/25 × 180	46	170	—	120	—
2010. .2516. 3.	250 × 160	120 × 160	—	250 × 95	32	40	36	56	24/25 × 180	46	170	—	120	—
2010. .2516. 4.	250 × 160	120 × 160	—	250 × 95	32	32	36	56	24/25 × 180	46	170	—	120	—
2010. .2520. 1.	250 × 200	120 × 200	250 × 70	250 × 135	40	40	36	56	24/25 × 180	46	170	120	160	173
2010. .2520. 2.	250 × 200	120 × 200	250 × 70	250 × 135	40	32	36	56	24/25 × 180	46	170	120	160	173
2010. .2520. 3.	250 × 200	120 × 200	250 × 70	250 × 135	32	40	36	56	24/25 × 180	46	170	120	160	173
2010. .2520. 4.	250 × 200	120 × 200	250 × 70	250 × 135	32	32	36	56	24/25 × 180	46	170	120	160	173
2010. .2525. 1.	250 × 250	120 × 250	250 × 120	250 × 185	40	40	36	56	24/25 × 180	46	170	170	210	173
2010. .2525. 2.	250 × 250	120 × 250	250 × 120	250 × 185	40	32	36	56	24/25 × 180	46	170	170	210	173
2010. .2525. 3.	250 × 250	120 × 250	250 × 120	250 × 185	32	40	36	56	24/25 × 180	46	170	170	210	173
2010. .2525. 4.	250 × 250	120 × 250	250 × 120	250 × 185	32	32	36	56	24/25 × 180	46	170	170	210	173
2010. .3116. 1.	315 × 160	165 × 160	—	315 × 85	50	50	45	63	30/32 × 200	53	225	—	115	—
2010. .3116. 2.	315 × 160	165 × 160	—	315 × 85	50	40	45	63	30/32 × 200	53	225	—	115	—
2010. .3116. 3.	315 × 160	165 × 160	—	315 × 85	40	50	45	63	30/32 × 200	53	225	—	115	—
2010. .3116. 4.	315 × 160	165 × 160	—	315 × 85	40	40	45	63	30/32 × 200	53	225	—	115	—
2010. .3120. 1.	315 × 200	165 × 200	315 × 50	315 × 125	50	50	45	63	30/32 × 200	53	225	110	155	228
2010. .3120. 2.	315 × 200	165 × 200	315 × 50	315 × 125	50	40	45	63	30/32 × 200	53	225	110	155	228
2010. .3120. 3.	315 × 200	165 × 200	315 × 50	315 × 125	40	50	45	63	30/32 × 200	53	225	110	155	228
2010. .3120. 4.	315 × 200	165 × 200	315 × 50	315 × 125	40	40	45	63	30/32 × 200	53	225	110	155	228
2010. .3125. 1.	315 × 250	165 × 250	315 × 100	315 × 175	50	50	45	63	30/32 × 200	53	225	160	205	228
2010. .3125. 2.	315 × 250	165 × 250	315 × 100	315 × 175	50	40	45	63	30/32 × 200	53	225	160	205	228
2010. .3125. 3.	315 × 250	165 × 250	315 × 100	315 × 175	40	50	45	63	30/32 × 200	53	225	160	205	228
2010. .3125. 4.	315 × 250	165 × 250	315 × 100	315 × 175	40	40	45	63	30/32 × 200	53	225	160	205	228
2010. .3131. 1.	315 × 315	165 × 315	315 × 165	315 × 240	50	50	45	63	30/32 × 200	53	225	225	270	228
2010. .3131. 2.	315 × 315	165 × 315	315 × 165	315 × 240	50	40	45	63	30/32 × 200	53	225	225	270	228
2010. .3131. 3.	315 × 315	165 × 315	315 × 165	315 × 240	40	50	45	63	30/32 × 200	53	225	225	270	228
2010. .3131. 4.	315 × 315	165 × 315	315 × 165	315 × 240	40	40	45	63	30/32 × 200	53	225	225	270	228
2010. .4020. 1.	400 × 200	250 × 200	400 × 50	400 × 125	50	50	45	63	30/32 × 200	53	310	110	155	313
2010. .4020. 2.	400 × 200	250 × 200	400 × 50	400 × 125	50	40	45	63	30/32 × 200	53	310	110	155	313
2010. .4020. 3.	400 × 200	250 × 200	400 × 50	400 × 125	40	50	45	63	30/32 × 200	53	310	110	155	313
2010. .4020. 4.	400 × 200	250 × 200	400 × 50	400 × 125	40	40	45	63	30/32 × 200	53	310	110	155	313
2010. .4025. 1.	400 × 250	250 × 250	400 × 100	400 × 175	50	50	45	63	30/32 × 200	53	310	160	205	313
2010. .4025. 2.	400 × 250	250 × 250	400 × 100	400 × 175	50	40	45	63	30/32 × 200	53	310	160	205	313
2010. .4025. 3.	400 × 250	250 × 250	400 × 100	400 × 175	40	50	45	63	30/32 × 200	53	310	160	205	313
2010. .4025. 4.	400 × 250	250 × 250	400 × 100	400 × 175	40	40	45	63	30/32 × 200	53	310	160	205	313
2010. .4031. 1.	400 × 315	250 × 315	400 × 165	400 × 240	50	50	45	63	30/32 × 200	53	310	225	270	313
2010. .4031. 2.	400 × 315	250 × 315	400 × 165	400 × 240	50	40	45	63	30/32 × 200	53	310	225	270	313

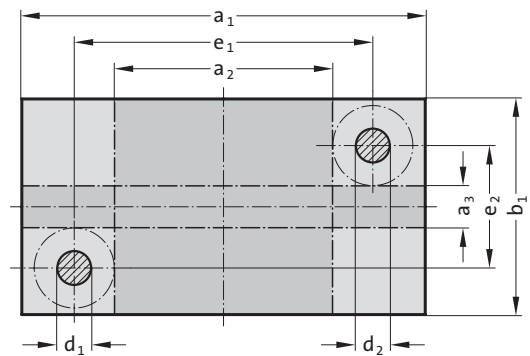
Die set without stripper ~DIN 9868/ISO 11415



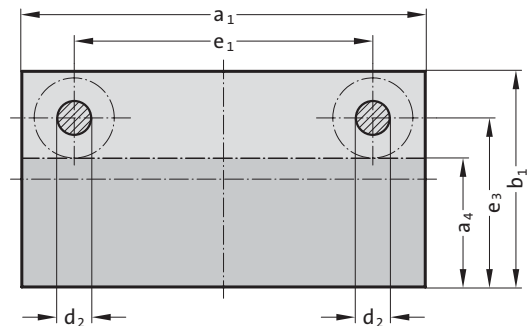
2010.□5.



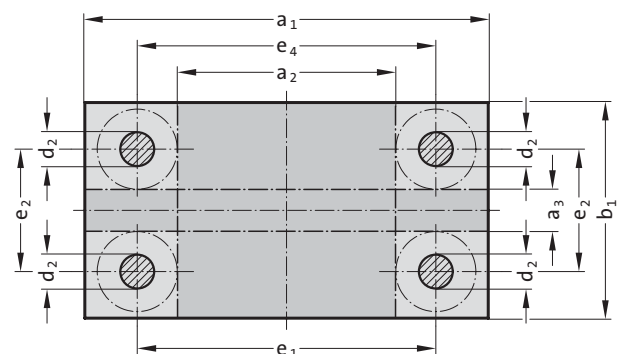
2010.□6.



2010.□7.

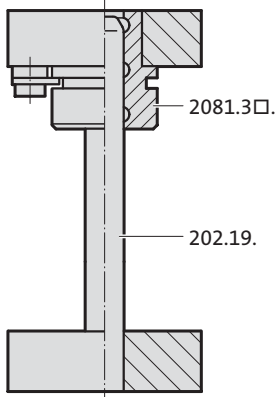


2010.□9.

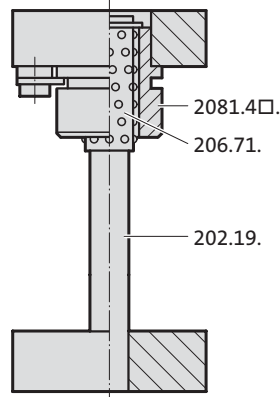


Standard Guide Systems

Headed Sintered
Ferrite Bushes,
carbonitrided = .834.



Headed Ball
Bearing Bushes = .862.



Description:

FIBRO Die Sets offer the choice between sintered ferrite sliding guides and those of the ball bearing type to DIN-ISO. Both come with headed guide bushes. These are seated in push-fit bolster bores and retained there by screw clamps.

Execution:

Steel: External contours milled, thickness surfaces ground
 a_1 or $b_1 \leq 630 = +0,2/+0,4$
 a_1 or $b_1 > 630 = +0,2/+0,6$

Aluminium: External contours sawed, thickness surfaces ground
 a_1 or $b_1 = +1/+4$

Advisory: Ordering Code:

Hole pattern for the screw clamps depends on positioning of working surface, determined by last part of the Order No,

for example: 2010.49.2520.4.862.1 lengthwise
 .2 across

Note:

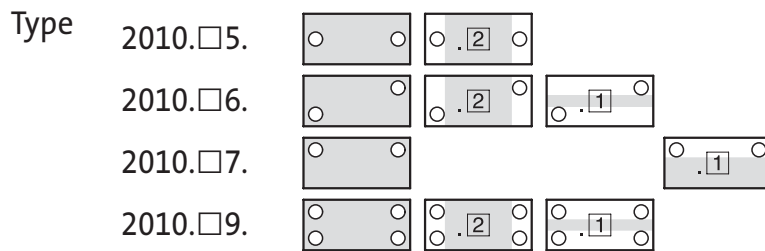
On request, Standard Die Sets can also be fitted with any other FIBRO Guide Elements (see die sets to customers' drawings).
 FIBRO will furthermore supply die sets with special machining features.



Die set without stripper ~DIN 9868/ISO 11415

2010. □□ .

Ordering Code (principle):

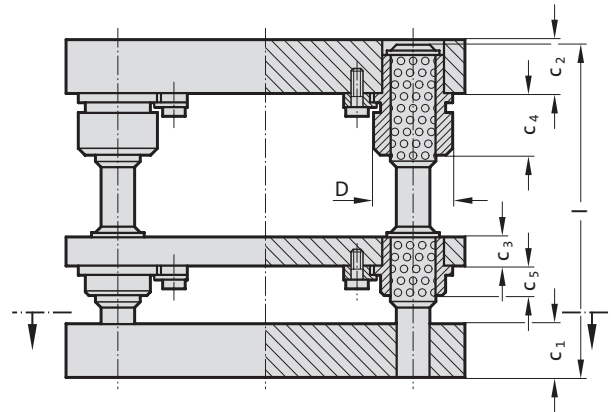


2010 . 4 5 . 4025 . 1 . 862 . 2

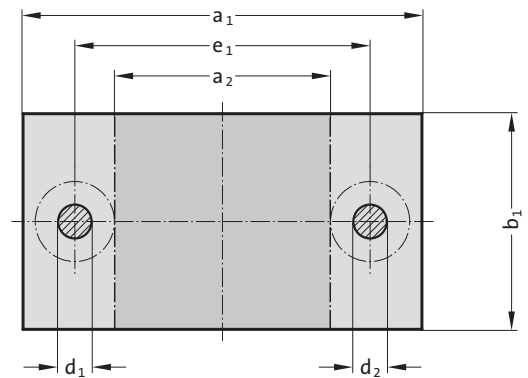
- Position of work area: 2
- Guide system: Headed ball bearing bushes
- Thickness combinations P: $c_1 - c_2$
- External dimensions: $a_1 = 400 \times b_1 = 250$
- Type: Position of guide elements
- Material: 4 = Steel, 6 = Aluminium
- Standard Die sets

Order No.	external dimensions $a_1 \times b_1$	work area across $a_2 \times b_1$	work area lengthwise $a_1 \times a_3$	work area lengthwise $a_1 \times a_4$	$c_{1 \pm 2}$	$c_{2 \pm 2}$	$c_4 S$	$c_4 K$	$d_1/d_2 \times l$	D	e_1	e_2	e_3	e_4
2010. .4031. 3.	400 × 315	250 × 315	400 × 165	400 × 240	40	50	45	63	30/32 × 200	53	310	225	270	313
2010. .4031. 4.	400 × 315	250 × 315	400 × 165	400 × 240	40	40	45	63	30/32 × 200	53	310	225	270	313
2010. .4040. 1.	400 × 400	250 × 400	400 × 250	400 × 325	50	50	45	63	30/32 × 200	53	310	310	355	313
2010. .4040. 2.	400 × 400	250 × 400	400 × 250	400 × 325	50	40	45	63	30/32 × 200	53	310	310	355	313
2010. .4040. 3.	400 × 400	250 × 400	400 × 250	400 × 325	40	50	45	63	30/32 × 200	53	310	310	355	313
2010. .4040. 4.	400 × 400	250 × 400	400 × 250	400 × 325	40	40	45	63	30/32 × 200	53	310	310	355	313
2010. .5025. 1.	500 × 250	330 × 250	500 × 80	500 × 165	50	50	45	71	38/40 × 200	63	400	150	200	403
2010. .5025. 2.	500 × 250	330 × 250	500 × 80	500 × 165	50	40	45	71	38/40 × 200	63	400	150	200	403
2010. .5025. 3.	500 × 250	330 × 250	500 × 80	500 × 165	40	50	45	71	38/40 × 200	63	400	150	200	403
2010. .5025. 4.	500 × 250	330 × 250	500 × 80	500 × 165	40	40	45	71	38/40 × 200	63	400	150	200	403
2010. .5031. 1.	500 × 315	330 × 315	500 × 145	500 × 230	50	50	45	71	38/40 × 200	63	400	215	265	403
2010. .5031. 2.	500 × 315	330 × 315	500 × 145	500 × 230	50	40	45	71	38/40 × 200	63	400	215	265	403
2010. .5031. 3.	500 × 315	330 × 315	500 × 145	500 × 230	40	50	45	71	38/40 × 200	63	400	215	265	403
2010. .5031. 4.	500 × 315	330 × 315	500 × 145	500 × 230	40	40	45	71	38/40 × 200	63	400	215	265	403
2010. .5040. 1.	500 × 400	330 × 400	500 × 230	500 × 315	50	50	45	71	38/40 × 200	63	400	300	350	403
2010. .5040. 2.	500 × 400	330 × 400	500 × 230	500 × 315	50	40	45	71	38/40 × 200	63	400	300	350	403
2010. .5040. 3.	500 × 400	330 × 400	500 × 230	500 × 315	40	50	45	71	38/40 × 200	63	400	300	350	403
2010. .5040. 4.	500 × 400	330 × 400	500 × 230	500 × 315	40	40	45	71	38/40 × 200	63	400	300	350	403
2010. .5050. 1.	500 × 500	330 × 500	500 × 330	500 × 415	50	50	45	71	38/40 × 200	63	400	400	450	403
2010. .5050. 2.	500 × 500	330 × 500	500 × 330	500 × 415	50	40	45	71	38/40 × 200	63	400	400	450	403
2010. .5050. 3.	500 × 500	330 × 500	500 × 330	500 × 415	40	50	45	71	38/40 × 200	63	400	400	450	403
2010. .5050. 4.	500 × 500	330 × 500	500 × 330	500 × 415	40	40	45	71	38/40 × 200	63	400	400	450	403
2010. .6331. 1.	630 × 315	430 × 315	630 × 115	630 × 215	63	63	50	80	48/50 × 250	77	510	195	255	513
2010. .6331. 2.	630 × 315	430 × 315	630 × 115	630 × 215	63	50	50	80	48/50 × 250	77	510	195	255	513
2010. .6331. 3.	630 × 315	430 × 315	630 × 115	630 × 215	50	63	50	80	48/50 × 224	77	510	195	255	513
2010. .6331. 4.	630 × 315	430 × 315	630 × 115	630 × 215	50	50	50	80	48/50 × 224	77	510	195	255	513
2010. .6340. 1.	630 × 400	430 × 400	630 × 200	630 × 300	63	63	50	80	48/50 × 250	77	510	280	340	513
2010. .6340. 2.	630 × 400	430 × 400	630 × 200	630 × 300	63	50	50	80	48/50 × 250	77	510	280	340	513
2010. .6340. 3.	630 × 400	430 × 400	630 × 200	630 × 300	50	63	50	80	48/50 × 224	77	510	280	340	513
2010. .6340. 4.	630 × 400	430 × 400	630 × 200	630 × 300	50	50	50	80	48/50 × 224	77	510	280	340	513
2010. .6350. 1.	630 × 500	430 × 500	630 × 300	630 × 400	63	63	50	80	48/50 × 250	77	510	380	440	513
2010. .6350. 2.	630 × 500	430 × 500	630 × 300	630 × 400	63	50	50	80	48/50 × 250	77	510	380	440	513
2010. .6350. 3.	630 × 500	430 × 500	630 × 300	630 × 400	50	63	50	80	48/50 × 224	77	510	380	440	513
2010. .6350. 4.	630 × 500	430 × 500	630 × 300	630 × 400	50	50	50	80	48/50 × 224	77	510	380	440	513
2010. .6363. 1.	630 × 630	430 × 630	630 × 430	630 × 530	63	63	50	80	48/50 × 250	77	510	510	570	513
2010. .6363. 2.	630 × 630	430 × 630	630 × 430	630 × 530	63	50	50	80	48/50 × 250	77	510	510	570	513
2010. .6363. 3.	630 × 630	430 × 630	630 × 430	630 × 530	50	63	50	80	48/50 × 224	77	510	510	570	513
2010. .6363. 4.	630 × 630	430 × 630	630 × 430	630 × 530	50	50	50	80	48/50 × 224	77	510	510	570	513
2010. .7140. 1.	710 × 400	510 × 400	710 × 200	710 × 300	63	63	50	80	48/50 × 250	77	590	280	340	593
2010. .7140. 2.	710 × 400	510 × 400	710 × 200	710 × 300	63	50	50	80	48/50 × 250	77	590	280	340	593
2010. .7140. 3.	710 × 400	510 × 400	710 × 200	710 × 300	50	63	50	80	48/50 × 224	77	590	280	340	593
2010. .7140. 4.	710 × 400	510 × 400	710 × 200	710 × 300	50	50	50	80	48/50 × 224	77	590	280	340	593
2010. .7150. 1.	710 × 500	510 × 500	710 × 300	710 × 400	63	63	50	80	48/50 × 250	77	590	380	440	593
2010. .7150. 2.	710 × 500	510 × 500	710 × 300	710 × 400	63	50	50	80	48/50 × 250	77	590	380	440	593
2010. .7150. 3.	710 × 500	510 × 500	710 × 300	710 × 400	50	63	50	80	48/50 × 224	77	590	380	440	593
2010. .7150. 4.	710 × 500	510 × 500	710 × 300	710 × 400	50	50	50	80	48/50 × 224	77	590	380	440	593
2010. .7163. 1.	710 × 630	510 × 630	710 × 430	710 × 530	63	63	50	80	48/50 × 250	77	590	510	570	593
2010. .7163. 2.	710 × 630	510 × 630	710 × 430	710 × 530	63	50	50	80	48/50 × 250	77	590	510	570	593
2010. .7163. 3.	710 × 630	510 × 630	710 × 430	710 × 530	50	63	50	80	48/50 × 224	77	590	510	570	593
2010. .7163. 4.	710 × 630	510 × 630	710 × 430	710 × 530	50	50	50	80	48/50 × 224	77	590	510	570	593
2010. .8040. 1.	800 × 400	600 × 400	800 × 200	800 × 300	63	63	50	80	48/50 × 250	77	680	280	340	683
2010. .8040. 2.	800 × 400	600 × 400	800 × 200	800 × 300	63	50	50	80	48/50 × 250	77	680	280	340	683
2010. .8040. 3.	800 × 400	600 × 400	800 × 200	800 × 300	50	63	50	80	48/50 × 224	77	680	280	340	683
2010. .8040. 4.	800 × 400	600 × 400	800 × 200	800 × 300	50	50	50	80	48/50 × 224	77	680	280	340	683
2010. .8050. 1.	800 × 500	600 × 500	800 × 300	800 × 400	63	63	50	80	48/50 × 250	77	680	380	440	683
2010. .8050. 2.	800 × 500	600 × 500	800 × 300	800 × 400	63	50	50	80	48/50 × 250	77	680	380	440	683
2010. .8050. 3.	800 × 500	600 × 500	800 × 300	800 × 400	50	63	50	80	48/50 × 224	77	680	380	440	683
2010. .8050. 4.	800 × 500	600 × 500	800 × 300	800 × 400	50	50	50	80	48/50 × 224	77	680	380	440	683
2010. .8063. 1.	800 × 630	600 × 630	800 × 430	800 × 530	63	63	50	80	48/50 × 250	77	680	510	570	683
2010. .8063. 2.	800 × 630	600 × 630	800 × 430	800 × 530	63	50	50	80	48/50 × 250	77	680	510	570	683
2010. .8063. 3.	800 × 630	600 × 630	800 × 430	800 × 530	50	63	50	80	48/50 × 224	77	680	510	570	683
2010. .8063. 4.	800 × 630	600 × 630	800 × 430	800 × 530	50	50	50	80	48/50 × 224	77	680	510	570	683

Die set with stripper ~DIN 9868/ISO 11415

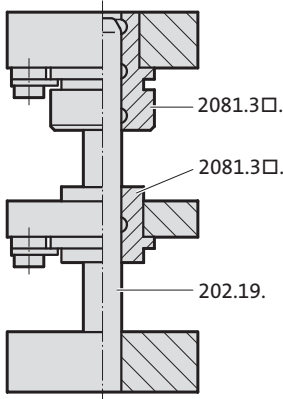


2010.□5.

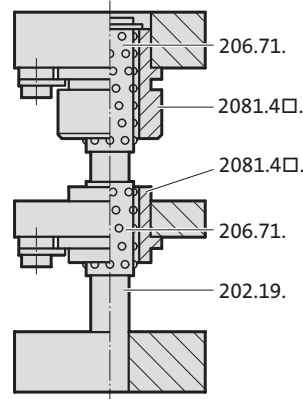


Standard Guide Systems

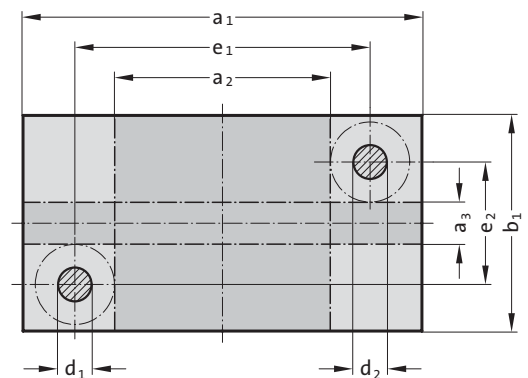
Headed Sintered
Ferrite Bushes,
carbonitrided = .835.



Headed Ball
Bearing Bushes = .865.



2010.□6.



Description:

FIBRO Die Sets offer the choice between sintered ferrite sliding guides and those of the ball bearing type to DIN-ISO. Both come with headed guide bushes. These are seated in push-fit bolster bores and retained there by screw clamps.

Execution:

Steel: External contours milled, thickness surfaces ground
 a_1 or $b_1 \leq 630 = +0,2/+0,4$
 a_1 or $b_1 > 630 = +0,2/+0,6$

Aluminium: External contours sawed, thickness surfaces ground
 a_1 or $b_1 = +1/+4$

Advisory: Ordering Code:

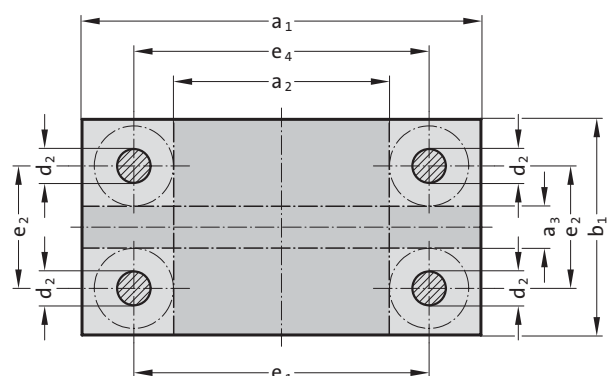
Hole pattern for the screw clamps depends on positioning of working surface, determined by last part of the Order No,

for example: 2010.49.2520.4.865.1 $\frac{1}{2}$ lengthwise
 $\frac{2}{2}$ across

Note:

On request, Standard Die Sets can also be fitted with any other FIBRO Guide Elements (see die sets to customers' drawings).
 FIBRO will furthermore supply die sets with special machining features.

2010.□9.

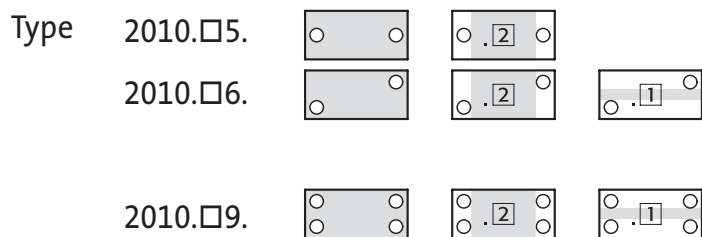




Die set with stripper ~DIN 9868/ISO 11415

2010. □□ .

Ordering Code (principle):

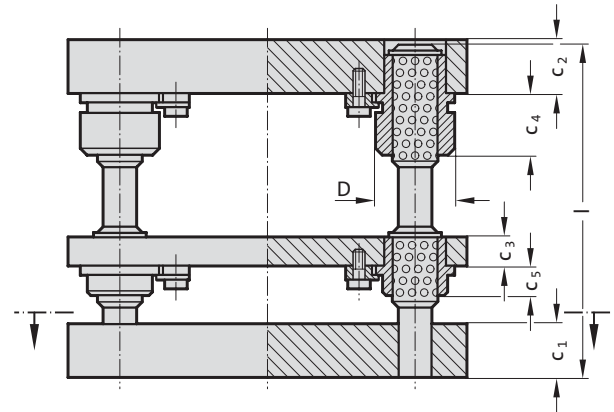


2010 . 4 5 . 4025 . 1 . 835 . 2

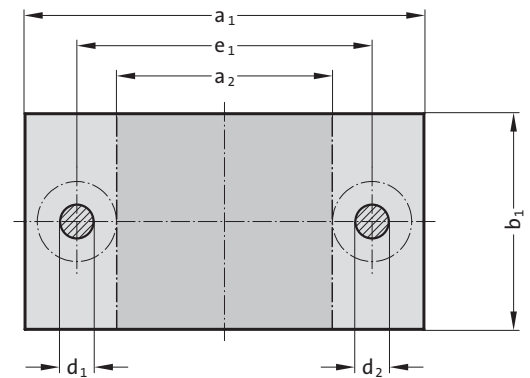
- Position of work area: 2
- Guide system: Headed guide bushes, ferrite
- Thickness combinations P: $c_1 - c_2$
- External dimensions: $a_1 = 400 \times b_1 = 250$
- Type: Position of guide elements
- Material: 4 = Steel, 6 = Aluminium
- Standard Die sets

Order No.	external dimensions $a_1 \times b_1$	work area across $a_2 \times b_1$	work area lengthwise $a_1 \times a_3$	c_{1+2}	c_{2+2}	c_{3+2}	c_4	c_5	$d_1/d_2 \times l$	D	e_1	e_2	e_4
2010.	.1608. 1.	160 × 80	60 × 80	—	32	32	25	12	12	19/20 × 180	39	100	—
2010.	.1610. 1.	160 × 100	60 × 100	—	32	32	25	12	12	19/20 × 180	39	100	—
2010.	.1612. 1.	160 × 125	60 × 125	—	32	32	25	12	12	19/20 × 180	39	100	—
2010.	.1616. 1.	160 × 160	60 × 160	160 × 60	32	32	25	12	12	19/20 × 180	39	100	100
2010.	.2010. 1.	200 × 100	70 × 100	—	40	40	25	25	12	24/25 × 200	46	120	—
2010.	.2010. 2.	200 × 100	70 × 100	—	40	32	25	25	12	24/25 × 200	46	120	—
2010.	.2010. 3.	200 × 100	70 × 100	—	32	40	25	25	12	24/25 × 200	46	120	—
2010.	.2010. 4.	200 × 100	70 × 100	—	32	32	25	25	12	24/25 × 200	46	120	—
2010.	.2012. 1.	200 × 125	70 × 125	—	40	40	25	25	12	24/25 × 200	46	120	—
2010.	.2012. 2.	200 × 125	70 × 125	—	40	32	25	25	12	24/25 × 200	46	120	—
2010.	.2012. 3.	200 × 125	70 × 125	—	32	40	25	25	12	24/25 × 200	46	120	—
2010.	.2012. 4.	200 × 125	70 × 125	—	32	32	25	25	12	24/25 × 200	46	120	—
2010.	.2016. 1.	200 × 160	70 × 160	—	40	40	25	25	12	24/25 × 200	46	120	—
2010.	.2016. 2.	200 × 160	70 × 160	—	40	32	25	25	12	24/25 × 200	46	120	—
2010.	.2016. 3.	200 × 160	70 × 160	—	32	40	25	25	12	24/25 × 200	46	120	—
2010.	.2016. 4.	200 × 160	70 × 160	—	32	32	25	25	12	24/25 × 200	46	120	—
2010.	.2020. 1.	200 × 200	70 × 200	200 × 70	40	40	25	25	12	24/25 × 200	46	120	120
2010.	.2020. 2.	200 × 200	70 × 200	200 × 70	40	32	25	25	12	24/25 × 200	46	120	120
2010.	.2020. 3.	200 × 200	70 × 200	200 × 70	32	40	25	25	12	24/25 × 200	46	120	120
2010.	.2020. 4.	200 × 200	70 × 200	200 × 70	32	32	25	25	12	24/25 × 200	46	120	120
2010.	.2512. 1.	250 × 125	120 × 125	—	40	40	25	25	12	24/25 × 200	46	170	—
2010.	.2512. 2.	250 × 125	120 × 125	—	40	32	25	25	12	24/25 × 200	46	170	—
2010.	.2512. 3.	250 × 125	120 × 125	—	32	40	25	25	12	24/25 × 200	46	170	—
2010.	.2512. 4.	250 × 125	120 × 125	—	32	32	25	25	12	24/25 × 200	46	170	—
2010.	.2516. 1.	250 × 160	120 × 160	—	40	40	25	25	12	24/25 × 200	46	170	—
2010.	.2516. 2.	250 × 160	120 × 160	—	40	32	25	25	12	24/25 × 200	46	170	—
2010.	.2516. 3.	250 × 160	120 × 160	—	32	40	25	25	12	24/25 × 200	46	170	—
2010.	.2516. 4.	250 × 160	120 × 160	—	32	32	25	25	12	24/25 × 200	46	170	—
2010.	.2520. 1.	250 × 200	120 × 200	250 × 70	40	40	25	25	12	24/25 × 200	46	170	120
2010.	.2520. 2.	250 × 200	120 × 200	250 × 70	40	32	25	25	12	24/25 × 200	46	170	120
2010.	.2520. 3.	250 × 200	120 × 200	250 × 70	32	40	25	25	12	24/25 × 200	46	170	120
2010.	.2520. 4.	250 × 200	120 × 200	250 × 70	32	32	25	25	12	24/25 × 200	46	170	120
2010.	.2525. 1.	250 × 250	120 × 250	250 × 120	40	40	25	25	12	24/25 × 200	46	170	170
2010.	.2525. 2.	250 × 250	120 × 250	250 × 120	40	32	25	25	12	24/25 × 200	46	170	170
2010.	.2525. 3.	250 × 250	120 × 250	250 × 120	32	40	25	25	12	24/25 × 200	46	170	170
2010.	.2525. 4.	250 × 250	120 × 250	250 × 120	32	32	25	25	12	24/25 × 200	46	170	170
2010.	.3116. 1.	315 × 160	165 × 160	—	50	50	32	32	12	30/32 × 224	53	225	—
2010.	.3116. 2.	315 × 160	165 × 160	—	50	40	32	32	12	30/32 × 224	53	225	—
2010.	.3116. 3.	315 × 160	165 × 160	—	40	50	32	32	12	30/32 × 224	53	225	—
2010.	.3116. 4.	315 × 160	165 × 160	—	40	40	32	32	12	30/32 × 224	53	225	—
2010.	.3120. 1.	315 × 200	165 × 200	315 × 50	50	50	32	32	12	30/32 × 224	53	225	110
2010.	.3120. 2.	315 × 200	165 × 200	315 × 50	50	40	32	32	12	30/32 × 224	53	225	110
2010.	.3120. 3.	315 × 200	165 × 200	315 × 50	40	50	32	32	12	30/32 × 224	53	225	110
2010.	.3120. 4.	315 × 200	165 × 200	315 × 50	40	40	32	32	12	30/32 × 224	53	225	110
2010.	.3125. 1.	315 × 250	165 × 250	315 × 100	50	50	32	32	12	30/32 × 224	53	225	160
2010.	.3125. 2.	315 × 250	165 × 250	315 × 100	50	40	32	32	12	30/32 × 224	53	225	160
2010.	.3125. 3.	315 × 250	165 × 250	315 × 100	40	50	32	32	12	30/32 × 224	53	225	160
2010.	.3125. 4.	315 × 250	165 × 250	315 × 100	40	40	32	32	12	30/32 × 224	53	225	160
2010.	.3131. 1.	315 × 315	165 × 315	315 × 165	50	50	32	32	12	30/32 × 224	53	225	225
2010.	.3131. 2.	315 × 315	165 × 315	315 × 165	50	40	32	32	12	30/32 × 224	53	225	225
2010.	.3131. 3.	315 × 315	165 × 315	315 × 165	40	50	32	32	12	30/32 × 224	53	225	225
2010.	.3131. 4.	315 × 315	165 × 315	315 × 165	40	40	32	32	12	30/32 × 224	53	225	225
2010.	.4020. 1.	400 × 200	250 × 200	400 × 50	50	50	32	32	12	30/32 × 224	53	310	110
2010.	.4020. 2.	400 × 200	250 × 200	400 × 50	50	40	32	32	12	30/32 × 224	53	310	110
2010.	.4020. 3.	400 × 200	250 × 200	400 × 50	40	50	32	32	12	30/32 × 224	53	310	110
2010.	.4020. 4.	400 × 200	250 × 200	400 × 50	40	40	32	32	12	30/32 × 224	53	310	110
2010.	.4025. 1.	400 × 250	250 × 250	400 × 100	50	50	32	32	12	30/32 × 224	53	310	160
2010.	.4025. 2.	400 × 250	250 × 250	400 × 100	50	40	32	32	12	30/32 × 224	53	310	160
2010.	.4025. 3.	400 × 250	250 × 250	400 × 100	40	50	32	32	12	30/32 × 224	53	310	160
2010.	.4025. 4.	400 × 250	250 × 250	400 × 100	40	40	32	32	12	30/32 × 224	53	310	160
2010.	.4031. 1.	400 × 315	250 × 315	400 × 165	50	50	32	32	12	30/32 × 224	53	310	225
2010.	.4031. 2.	400 × 315	250 × 315	400 × 165	50	40	32	32	12	30/32 × 224	53	310	225

Die set with stripper ~DIN 9868/ISO 11415

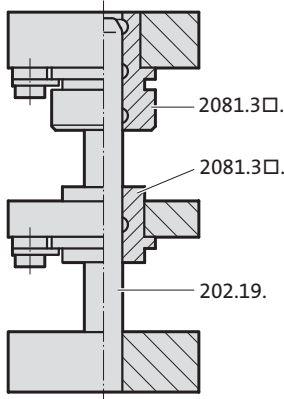


2010.□5.

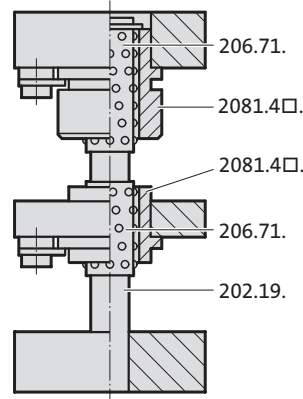


Standard Guide Systems

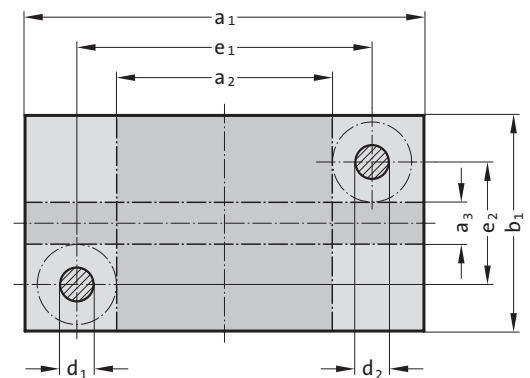
Headed Sintered
Ferrite Bushes,
carbonitrided = .835.



Headed Ball
Bearing Bushes = .865.



2010.□6.



Description:

FIBRO Die Sets offer the choice between sintered ferrite sliding guides and those of the ball bearing type to DIN-ISO. Both come with headed guide bushes. These are seated in push-fit bolster bores and retained there by screw clamps.

Execution:

Steel: External contours milled, thickness surfaces ground
 a_1 or $b_1 \leq 630 = +0,2/+0,4$
 a_1 or $b_1 > 630 = +0,2/+0,6$

Aluminium: External contours sawed, thickness surfaces ground
 a_1 or $b_1 = +1/+4$

Advisory: Ordering Code:

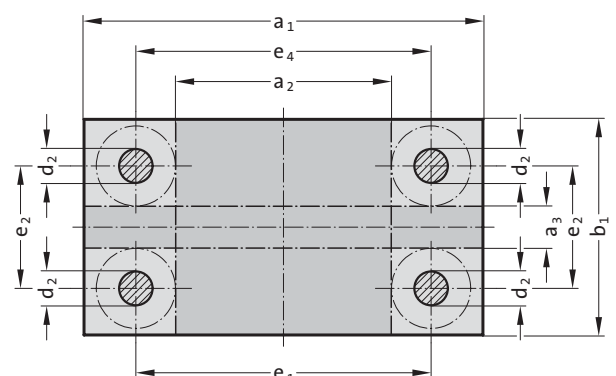
Hole pattern for the screw clamps depends on positioning of working surface, determined by last part of the Order No,

for example: 2010.49.2520.4.865.1 lengthwise
 .2 across

Note:

On request, Standard Die Sets can also be fitted with any other FIBRO Guide Elements (see die sets to customers' drawings).
 FIBRO will furthermore supply die sets with special machining features.

2010.□9.

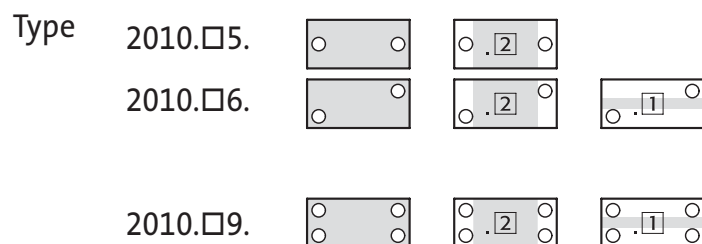




Die set with stripper ~DIN 9868/ISO 11415

2010. □□ .

Ordering Code (principle):



2010 . 4 5 . 4025 . 1 . 835 . 2

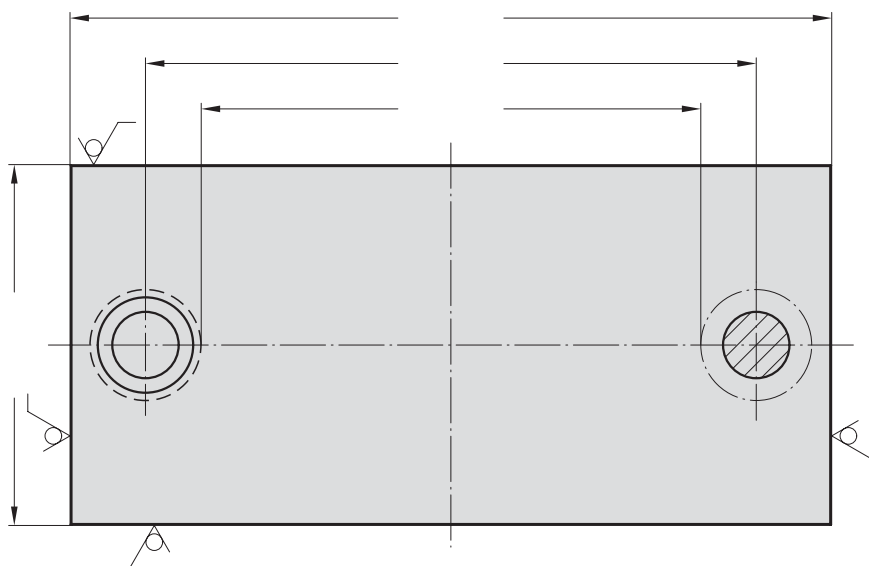
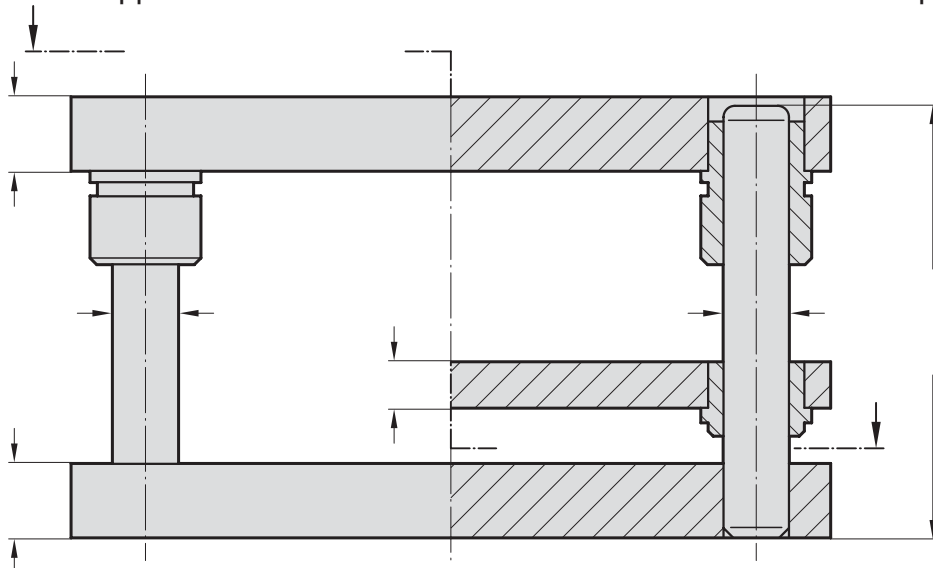
- Position of work area: 2
- Guide system: Headed guide bushes, ferrite
- Thickness combinations P: $c_1 - c_2$
- External dimensions: $a_1 = 400 \times b_1 = 250$
- Type:
- Position of guide elements
- Material: 4 = Steel, 6 = Aluminium
- Standard Die sets

Order No.					external dimensions $a_1 \times b_1$	work area across $a_2 \times b_1$	work area lengthwise $a_1 \times a_3$	c_{1+2}	c_{2+2}	c_{3+2}	c_4	c_5	$d_1/d_2 \times l$	D	e_1	e_2	e_4
2010.					400 × 315	250 × 315	400 × 165	40	50	32	32	12	30/32 × 224	53	310	225	313
2010.					400 × 315	250 × 315	400 × 165	40	40	32	32	12	30/32 × 224	53	310	225	313
2010.					400 × 400	250 × 400	400 × 250	50	50	32	32	12	30/32 × 224	53	310	310	313
2010.					400 × 400	250 × 400	400 × 250	50	40	32	32	12	30/32 × 224	53	310	310	313
2010.					400 × 400	250 × 400	400 × 250	40	50	32	32	12	30/32 × 224	53	310	310	313
2010.					400 × 400	250 × 400	400 × 250	40	40	32	32	12	30/32 × 224	53	310	310	313
2010.					500 × 250	330 × 250	500 × 80	50	50	32	32	15	38/40 × 224	63	400	150	403
2010.					500 × 250	330 × 250	500 × 80	50	40	32	45	15	38/40 × 224	63	400	150	403
2010.					500 × 250	330 × 250	500 × 80	40	50	32	32	15	38/40 × 224	63	400	150	403
2010.					500 × 250	330 × 250	500 × 80	40	40	32	45	15	38/40 × 224	63	400	150	403
2010.					500 × 315	330 × 315	500 × 145	50	50	32	32	15	38/40 × 224	63	400	215	403
2010.					500 × 315	330 × 315	500 × 145	50	40	32	45	15	38/40 × 224	63	400	215	403
2010.					500 × 315	330 × 315	500 × 145	40	50	32	32	15	38/40 × 224	63	400	215	403
2010.					500 × 315	330 × 315	500 × 145	40	40	32	45	15	38/40 × 224	63	400	215	403
2010.					500 × 400	330 × 400	500 × 230	50	50	32	32	15	38/40 × 224	63	400	300	403
2010.					500 × 400	330 × 400	500 × 230	50	40	32	45	15	38/40 × 224	63	400	300	403
2010.					500 × 400	330 × 400	500 × 230	40	50	32	32	15	38/40 × 224	63	400	300	403
2010.					500 × 400	330 × 400	500 × 230	40	40	32	45	15	38/40 × 224	63	400	300	403
2010.					500 × 500	330 × 500	500 × 330	50	50	32	32	15	38/40 × 224	63	400	400	403
2010.					500 × 500	330 × 500	500 × 330	50	40	32	45	15	38/40 × 224	63	400	400	403
2010.					500 × 500	330 × 500	500 × 330	40	50	32	32	15	38/40 × 224	63	400	400	403
2010.					500 × 500	330 × 500	500 × 330	40	40	32	45	15	38/40 × 224	63	400	400	403
2010.					630 × 315	430 × 315	630 × 115	63	63	40	36	18	48/50 × 280	77	510	195	513
2010.					630 × 315	430 × 315	630 × 115	63	50	40	50	18	48/50 × 280	77	510	195	513
2010.					630 × 315	430 × 315	630 × 115	50	63	40	36	18	48/50 × 250	77	510	195	513
2010.					630 × 315	430 × 315	630 × 115	50	50	40	50	18	48/50 × 250	77	510	195	513
2010.					630 × 400	430 × 400	630 × 200	63	63	40	36	18	48/50 × 280	77	510	280	513
2010.					630 × 400	430 × 400	630 × 200	63	50	40	50	18	48/50 × 280	77	510	280	513
2010.					630 × 400	430 × 400	630 × 200	50	63	40	36	18	48/50 × 250	77	510	280	513
2010.					630 × 400	430 × 400	630 × 200	50	50	40	50	18	48/50 × 250	77	510	280	513
2010.					630 × 500	430 × 500	630 × 300	63	63	40	36	18	48/50 × 280	77	510	380	513
2010.					630 × 500	430 × 500	630 × 300	63	50	40	50	18	48/50 × 280	77	510	380	513
2010.					630 × 500	430 × 500	630 × 300	50	63	40	36	18	48/50 × 250	77	510	380	513
2010.					630 × 500	430 × 500	630 × 300	50	50	40	50	18	48/50 × 250	77	510	380	513
2010.					630 × 630	430 × 630	630 × 430	63	63	40	36	18	48/50 × 280	77	510	510	513
2010.					630 × 630	430 × 630	630 × 430	63	50	40	50	18	48/50 × 280	77	510	510	513
2010.					630 × 630	430 × 630	630 × 430	50	63	40	36	18	48/50 × 250	77	510	510	513
2010.					630 × 630	430 × 630	630 × 430	50	50	40	50	18	48/50 × 250	77	510	510	513
2010.					710 × 400	510 × 400	710 × 200	63	63	40	36	18	48/50 × 280	77	590	280	593
2010.					710 × 400	510 × 400	710 × 200	63	50	40	50	18	48/50 × 280	77	590	280	593
2010.					710 × 400	510 × 400	710 × 200	50	63	40	36	18	48/50 × 250	77	590	280	593
2010.					710 × 400	510 × 400	710 × 200	50	50	40	50	18	48/50 × 250	77	590	280	593
2010.					710 × 500	510 × 500	710 × 300	63	63	40	36	18	48/50 × 280	77	590	380	593
2010.					710 × 500	510 × 500	710 × 300	63	50	40	50	18	48/50 × 280	77	590	380	593
2010.					710 × 500	510 × 500	710 × 300	50	63	40	36	18	48/50 × 250	77	590	380	593
2010.					710 × 500	510 × 500	710 × 300	50	50	40	50	18	48/50 × 250	77	590	380	593
2010.					710 × 630	510 × 630	710 × 430	63	63	40	36	18	48/50 × 280	77	590	510	593
2010.					710 × 630	510 × 630	710 × 430	63	50	40	50	18	48/50 × 280	77	590	510	593
2010.					710 × 630	510 × 630	710 × 430	50	63	40	36	18	48/50 × 250	77	590	510	593
2010.					710 × 630	510 × 630	710 × 430	50	50	40	50	18	48/50 × 250	77	590	510	593
2010.					800 × 400	600 × 400	800 × 200	63	63	40	36	18	48/50 × 280	77	680	280	683
2010.					800 × 400	600 × 400	800 × 200	63	50	40	50	18	48/50 × 280	77	680	280	683
2010.					800 × 400	600 × 400	800 × 200	50	63	40	36	18	48/50 × 250	77	680	280	683
2010.					800 × 400	600 × 400	800 × 200	50	50	40	50	18	48/50 × 250	77	680	280	683
2010.					800 × 500	600 × 500	800 × 300	63	63	40	36	18	48/50 × 280	77	680	380	683
2010.					800 × 500	600 × 500	800 × 300	63	50	40	50	18	48/50 × 280	77	680	380	683
2010.					800 × 500	600 × 500	800 × 300	50	63	40	36	18	48/50 × 250	77	680	380	683
2010.					800 × 500	600 × 500	800 × 300	50	50	40	50	18	48/50 × 250	77	680	380	683
2010.					800 × 630	600 × 630	800 × 430	63	63	40	36	18	48/50 × 280	77	680	510	683
2010.					800 × 630	600 × 630	800 × 430	63	50	40	50	18	48/50 × 280	77	680	510	683
2010.					800 × 630	600 × 630	800 × 430	50	63	40	36	18	48/50 × 250	77	680	510	683
2010.					800 × 630	600 × 630	800 × 430	50	50	40	50	18	48/50 × 250	77	680	510	683

Die set to customer's specifications. Please copy this page, complete questions, and mail to FIBRO

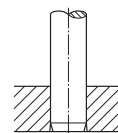
201.45. Die set to customer's specifications Steel
201.65. Die set to customer's specifications Aluminium
without stripper

with stripper

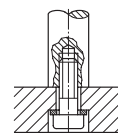


Guide Pillars

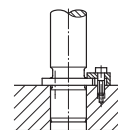
202.19. Guide Pillar
DIN 9825/ISO 9182-2



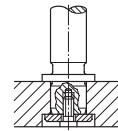
202.21. Guide Pillar
endwise bolt-on type



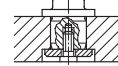
2021.46. Demountable Pillars
with collar, push fit,
screw clamp retention



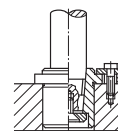
2021.46. Demountable Pillars
with collar, push fit,
screw clamp retention



2021.43. Disc and screw



2021.50. Demountable Pillar,
conical, central screw
retention

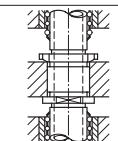


2021.39. Liner Bush

2021.53. Disc and Screw

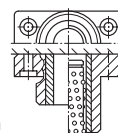


202.60. Stripper-Mounted
Pillars with Collar,
demountable, push fit,
ring nut retention



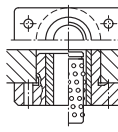
Guide Bushes

2031.34. Mounting
Flanges, rectangular;
sintered guide bush,
carbonitrided



2031.42. ditto –
Ball bearing Guide Bush
206.71. Ball Cage

2031.38. Shallow Mounting Flanges,
rectangular;
sintered guide bush,
carbonitrided

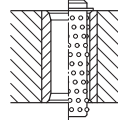


2031.44. ditto – Ball
bearing Guide Bush
206.71. Ball Cage

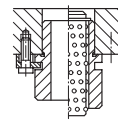
2051.32. Sintered Ferrite Guide Bush,
carbonitrided, bonded

2061.44. Guide Bush
for Ball Bearing Guide

206.71. Ball Cage



2081.31./32./33./34./35. Headed Guide Bushes,
Sintered Ferrite,
carbonitrided

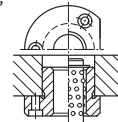


2081.44./45./46./
47./49. Guide Bushes
for Ball Bearing Guide
206.71. Ball Cage

2091.31./32./34. Flanged Guide
Bushes, Sintered Ferrite,
carbonitrided

2091.44./45./46. Guide Bushes for Ball
Bearing Guide, push fit

206.71. Ball Cage



Enquiry ☐ Order ☐

Material: Aluminium ☐ 201.65.

Steel ☐ 201.45.

Company

Telephone

Name (ref. for replies)

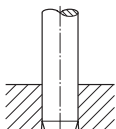
Signature

Die set to customer's specifications.

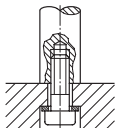
Please copy this page, complete questions, and mail to FIBRO

Guide Pillars

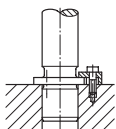
202.19.
Guide Pillar
DIN 9825/ISO 9182-2



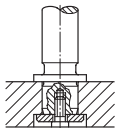
202.21.
Guide Pillar
endwise bolt-on type



201.46.
Demountable Pillars
with collar, push fit,
screw clamp retention



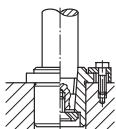
201.46.
Demountable Pillars
with collar, push fit,
screw clamp retention



201.43.
Disc and screw



201.50.
Demountable Pillar,
conical, central screw
retention

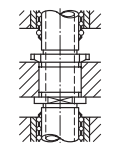


201.39. Liner Bush

201.53.
Disc and Screw

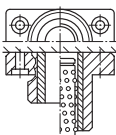


202.60.
Stripper-Mounted
Pillars with Collar,
demountable, push fit,
ring nut retention

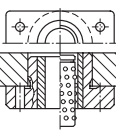


Guide Bushes

2031.34. Mounting
Flanges, rectangular;
sintered guide bush,
carbonitrided
2031.42. ditto –
Ball bearing Guide Bush
206.71. Ball Cage



2031.38. Shallow Mounting
Flanges, rectangular;
sintered guide
bush, carbonitrided



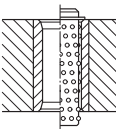
2031.44. ditto – Ball
bearing Guide Bush

206.71. Ball Cage

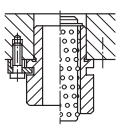
2051.32. Sintered Ferrite Guide
Bush, carbonitrided, bonded

2061.44. Guide Bush
for Ball Bearing Guide

206.71. Ball Cage



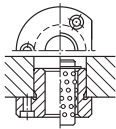
2081.31./32./33./34./35.
Headed Guide Bushes,
Sintered Ferrite,
carbonitrided



2081.44./45./46./
.47./49. Guide Bushes
for Ball Bearing Guide

206.71. Ball Cage

2091.31./32./34. Flanged Guide
Bushes, Sintered Ferrite,
carbonitrided



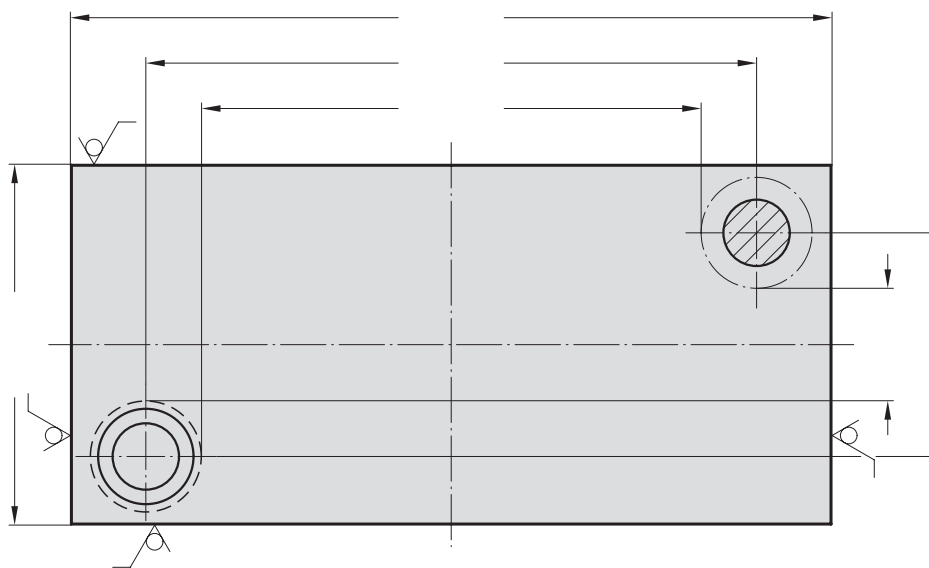
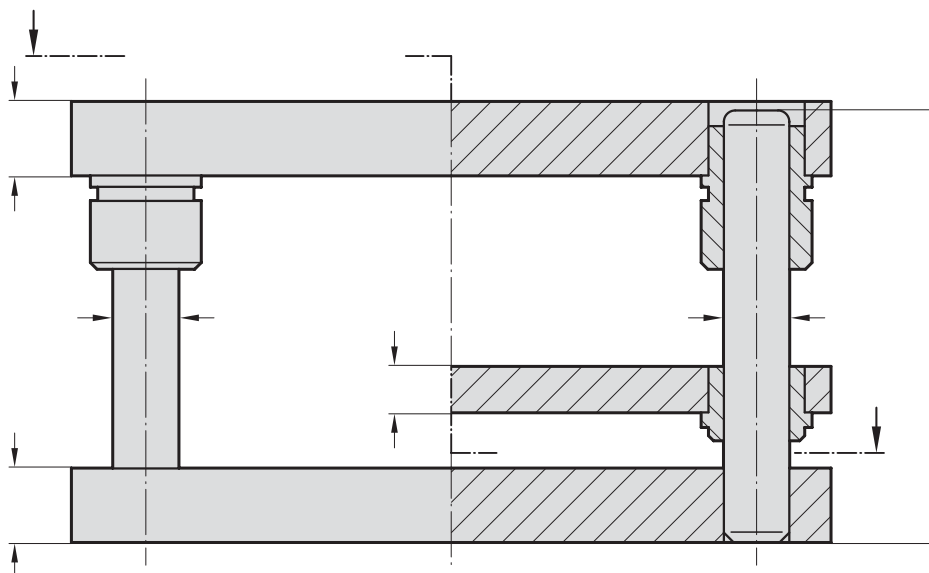
2091.44./45./46.
Guide Bushes for Ball
Bearing Guide, push fit

206.71. Ball Cage

201.46. Die set to customer's specifications Steel

201.66. Die set to customer's specifications Aluminium
without stripper

with stripper



Enquiry ☐ Order ☐

Material: Aluminium ☐ 201.66.

Steel ☐ 201.46.

Company

Telephone

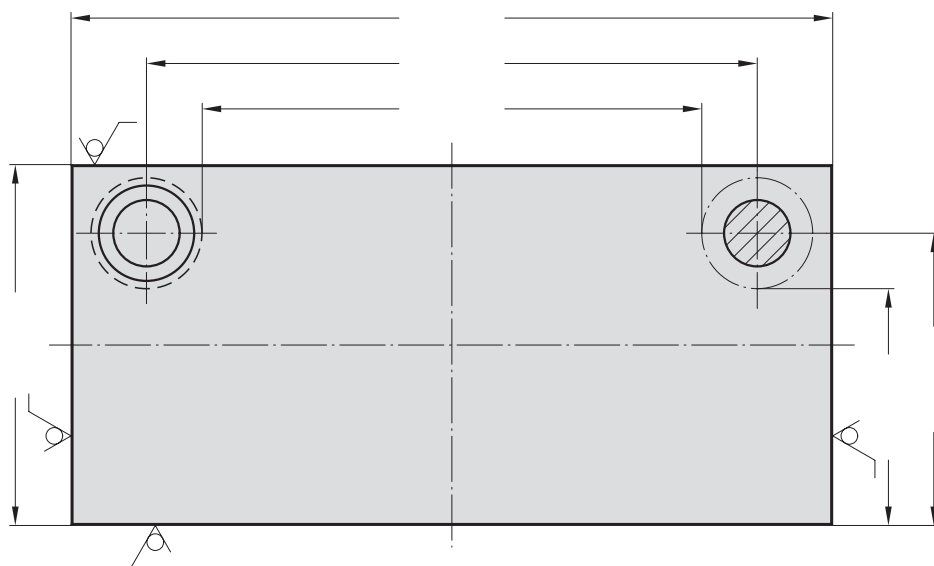
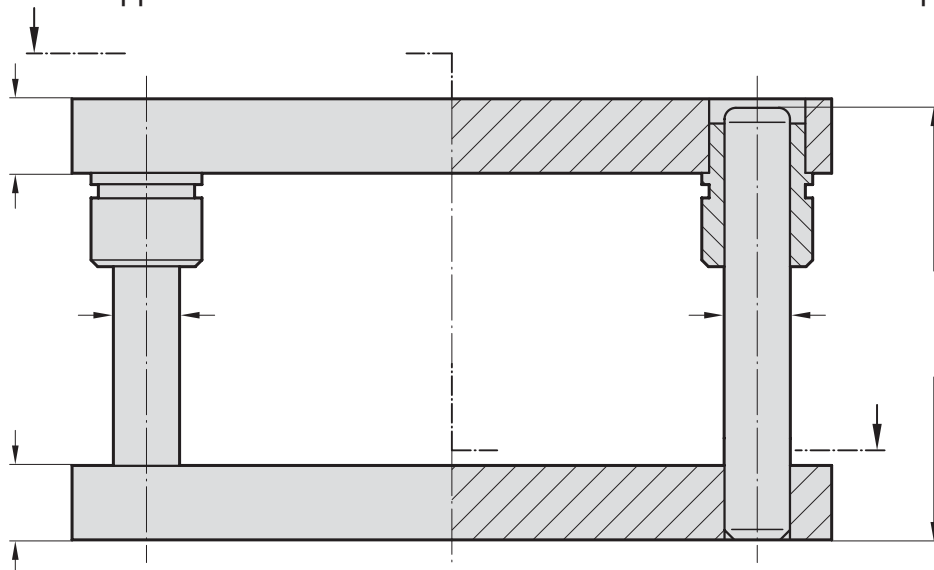
Name (ref. for replies)

Signature

Die set to customer's specifications. Please copy this page, complete questions, and mail to FIBRO

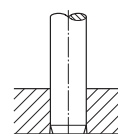
201.47. Die set to customer's specifications Steel
201.67. Die set to customer's specifications Aluminium
without stripper

with stripper

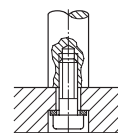


Guide Pillars

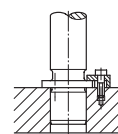
202.19.
Guide Pillar
DIN 9825/ISO 9182-2



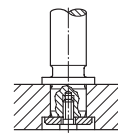
202.21.
Guide Pillar
endwise bolt-on type



2021.46.
Demountable Pillars
with collar, push fit,
screw clamp retention



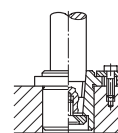
2021.46.
Demountable Pillars
with collar, push fit,
screw clamp retention



2021.43.
Disc and screw



2021.50.
Demountable Pillar,
conical, central screw
retention

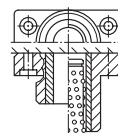


2021.39. Liner Bush

2021.53.
Disc and Screw

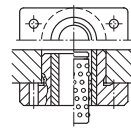
Guide Bushes

2031.34. Mounting
Flanges, rectangular;
sintered guide bush,
carbonitrided



2031.42. ditto –
Ball bearing Guide Bush
206.71. Ball Cage

2031.38. Shallow Mounting
Flanges, rectangular;
sintered guide
bush, carbonitrided

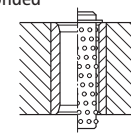


2031.44. ditto – Ball
bearing Guide Bush
206.71. Ball Cage

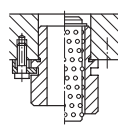
2051.32. Sintered Ferrite Guide
Bush, carbonitrided, bonded

2061.44. Guide Bush
for Ball Bearing Guide

206.71. Ball Cage

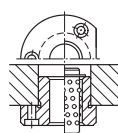


2081.31./32./33./34./35.
Headed Guide Bushes,
Sintered Ferrite,
carbonitrided



2081.44./45./46./
47./49. Guide Bushes
for Ball Bearing Guide
206.71. Ball Cage

2091.31./32./34. Flanged Guide
Bushes, Sintered Ferrite,
carbonitrided



2091.44./45./46.
Guide Bushes for Ball
Bearing Guide, push fit
206.71. Ball Cage

Enquiry ☐ Order ☐

Material: Aluminium ☐ 201.67.

Steel ☐ 201.47.

Company

Telephone

Name (ref. for replies)

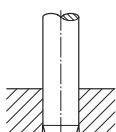
Signature

Die set to costumer's specifications.

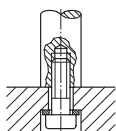
Please copy this page, complete questions, and mail to FIBRO

Guide Pillars

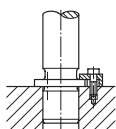
202.19.
Guide Pillar
DIN 9825/ISO 9182-2



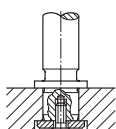
202.21.
Guide Pillar
endwise bolt-on type



2021.46.
Demountable Pillars
with collar, push fit,
screw clamp retention



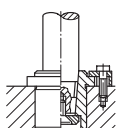
2021.46.
Demountable Pillars
with collar, push fit,
screw clamp retention



2021.43.
Disc and screw



2021.50.
Demountable Pillar,
conical, central screw
retention

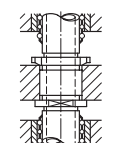


2021.39. Liner Bush

2021.53.
Disc and Screw

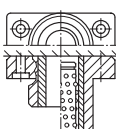


202.60.
Stripper-Mounted
Pillars with Collar,
demountable, push fit,
ring nut retention



Guide Bushes

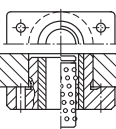
2031.34. Mounting
Flanges, rectangular;
sintered guide bush,
carbonitrided



2031.42. ditto –
Ball bearing Guide Bush

206.71. Ball Cage

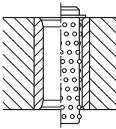
2031.38. Shallow Mounting
Flanges, rectangular;
sintered guide
bush, carbonitrided



2031.44. ditto – Ball
bearing Guide Bush

206.71. Ball Cage

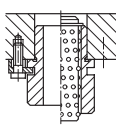
2051.32. Sintered Ferrite Guide
Bush, carbonitrided, bonded



2061.44. Guide Bush
for Ball Bearing Guide

206.71. Ball Cage

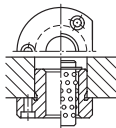
2081.31./32./33./34./35.
Headed Guide Bushes,
Sintered Ferrite,
carbonitrided



2081.44./45./46./
.47./49. Guide Bushes
for Ball Bearing Guide

206.71. Ball Cage

2091.31./32./34. Flanged Guide
Bushes, Sintered Ferrite,
carbonitrided



2091.44./45./46.
Guide Bushes for Ball
Bearing Guide, push fit

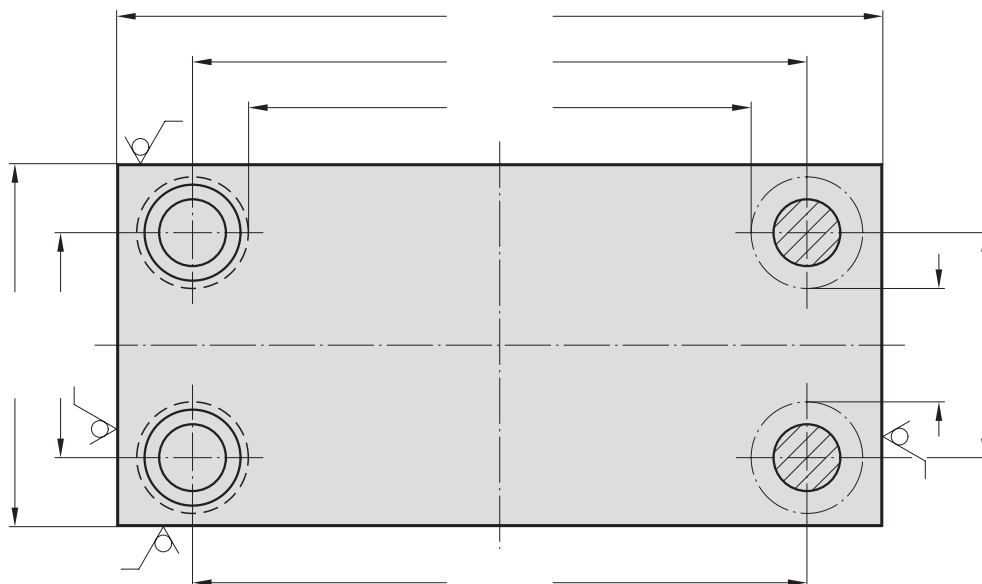
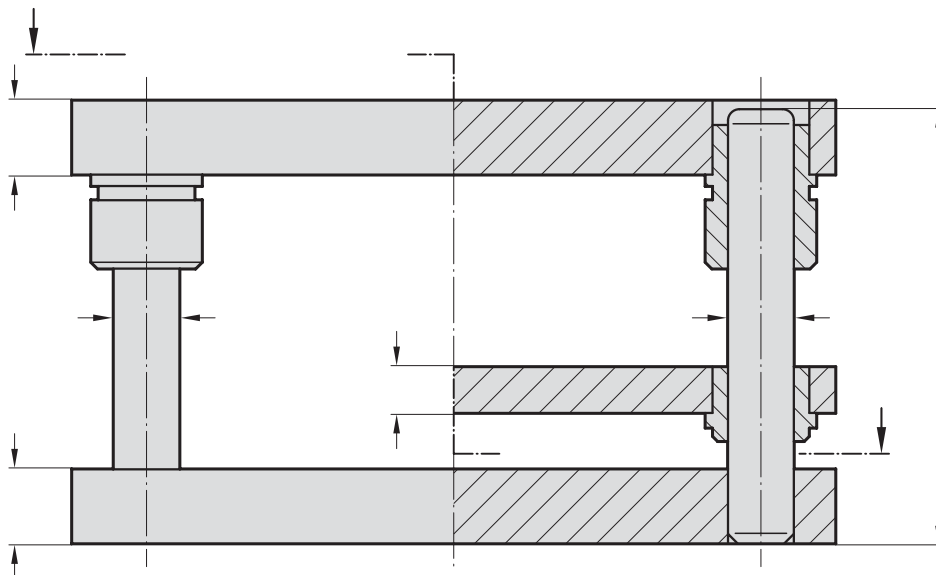
206.71. Ball Cage

201.49. Die set to costumer's specifications Steel

201.69. Die set to costumer's specifications Aluminium

without stripper

with stripper



Enquiry ☐ Order ☐

Material: Aluminium ☐ 201.69.

Steel ☐ 201.49.

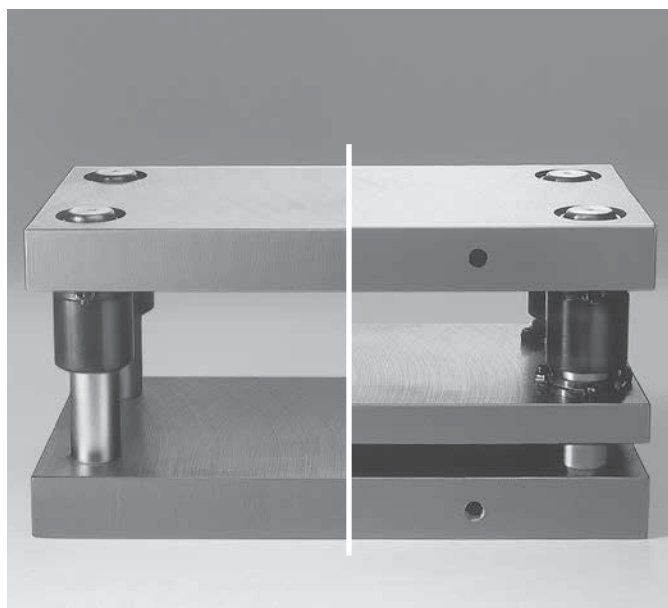
Company

Telephone

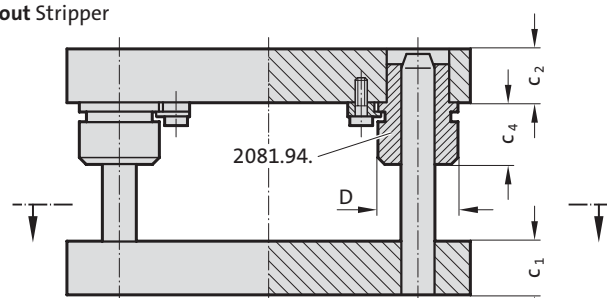
Name (ref. for replies)

Signature

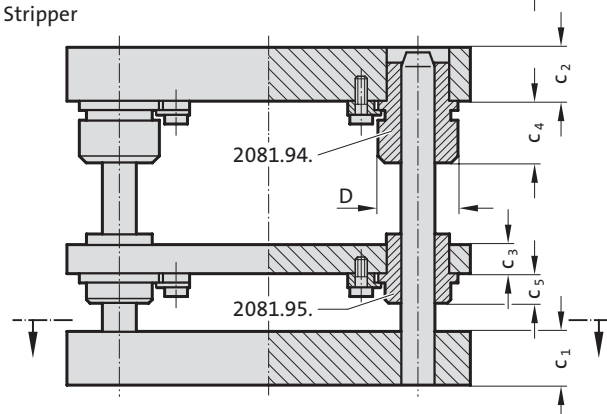
Die set without / with stripper *ECO-LINE*



without Stripper



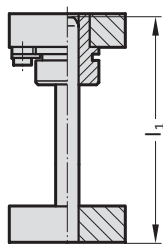
with Stripper



Executions:

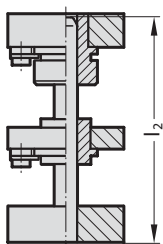
With press-fitted guide pillars 202.29.

Headed Guide Bushes bronze plated **without** stripper



2010.5□.□□□□.□.894

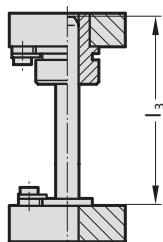
Headed Guide Bushes bronze plated **with** stripper



2010.5□.□□□□.□.895

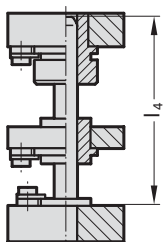
With demountable guide pillars 2021.29.***

Headed Guide Bushes bronze plated **without** stripper



2010.5□.□□□□.□.894.29

Headed Guide Bushes bronze plated **with** stripper



2010.5□.□□□□.□.895.29

Description:

FIBRO 2010.5x all-steel die sets are supplied with bronze plated guide bushes. These are supplied in push-fit bolster bores and retained by screw clamps.

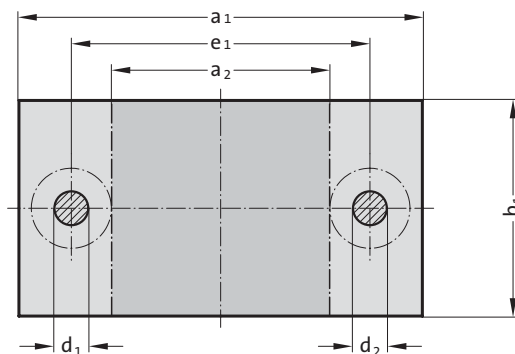
Execution:

External contours milled
Thickness surfaces ground

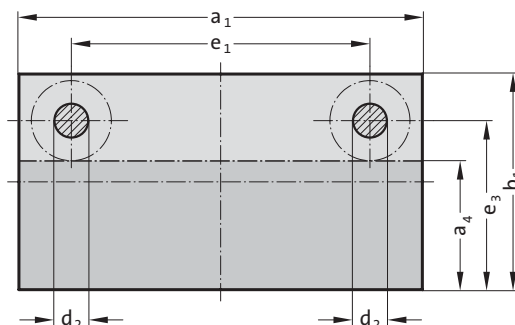
Note:

*** to be fixed only with screw clamps

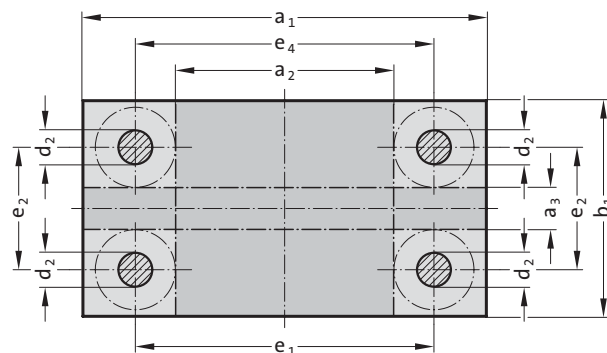
2010.55.



2010.57.



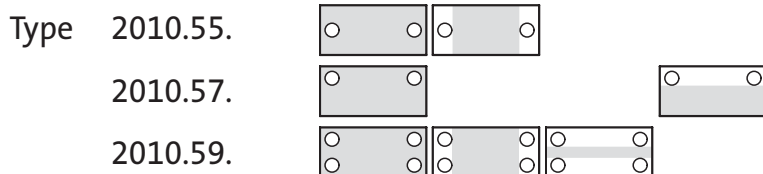
2010.59.





Die set without / with stripper *ECO-LINE*

2010.5□.



Order No		P*	Exe- cution	Exe- cution***	ext. dim. a ₁ x b ₁	Work area(s)**				c ₁	c ₂	c ₃										
Type	Size					a ₂ x b ₁	a ₁ x a ₃	a ₁ x a ₄	± 2	± 2	± 2	c ₄	c ₅	d ₁ /d ₂	l ₁ /l ₂	l ₃ /l ₄	D	e ₁	e ₂	e ₃	e ₄	
2010.55.	2512.	1.			250 x 125	120 x 125	—	—	40	40	32	36	12	24/25	180/200	140/180	46	170	—	—	—	
2010.55.	2512.	4.			250 x 125	120 x 125	—	—	32	32	32	36	12	24/25	180/200	140/180	46	170	—	—	—	
2010.57.	2520.	1.	894		250 x 200	—	—	250 x 135	40	40	—	36	—	—/25	180/—	140/—	46	170	—	160	—	
2010.57.	2520.	4.	894		250 x 200	—	—	250 x 135	32	32	—	36	—	—/25	180/—	140/—	46	170	—	160	—	
2010.59.	2520.	4.			250 x 200	120 x 200	250 x 50	—	32	32	32	36	12	—/25	180/200	140/180	46	170	120	—	173	
2010.59.	2525.	4.			250 x 250	120 x 250	250 x 100	—	32	32	32	36	12	—/25	180/200	140/180	46	170	170	—	173	
2010.55.	3116.	1.			315 x 160	165 x 160	—	—	50	50	32	45	12	30/32	200/224	160/200	53	225	—	—	—	
2010.55.	3116.	4.			315 x 160	165 x 160	—	—	40	40	32	45	12	30/32	200/224	160/200	53	225	—	—	—	
2010.55.	3120.	4.			315 x 200	165 x 200	—	—	40	40	32	45	12	30/32	200/224	160/200	53	225	—	—	—	
2010.57.	3120.	4.	894		315 x 200	—	—	315 x 125	40	40	—	45	—	—/32	200/—	160/—	53	225	—	155	—	
2010.59.	3120.	4.			315 x 200	165 x 200	315 x 30	—	40	40	32	45	12	—/32	200/224	160/200	53	225	110	—	228	
2010.57.	3125.	1.	894		315 x 250	—	—	315 x 175	50	50	—	45	—	—/32	200/—	160/—	53	225	—	205	—	
2010.59.	3125.	1.			315 x 250	165 x 250	315 x 80	—	50	50	32	45	12	—/32	200/224	160/200	53	225	160	—	228	
2010.59.	3125.	4.			315 x 250	165 x 250	315 x 80	—	40	40	32	45	12	—/32	200/224	160/200	53	225	160	—	228	
2010.59.	3131.	1.			315 x 315	165 x 315	315 x 145	—	50	50	32	45	12	—/32	200/224	160/200	53	225	225	—	228	
2010.55.	4020.	4.			400 x 200	250 x 200	—	—	40	40	32	45	12	30/32	200/224	160/200	53	310	—	—	—	
2010.59.	4020.	4.			400 x 200	250 x 200	400 x 30	—	40	40	32	45	12	—/32	200/224	160/200	53	310	110	—	313	
2010.55.	4025.	1.			400 x 250	250 x 250	—	—	50	50	32	45	12	30/32	200/224	160/200	53	310	—	—	—	
2010.57.	4025.	1.	894		400 x 250	—	—	400 x 175	50	50	—	45	—	—/32	200/—	160/—	53	310	—	205	—	
2010.59.	4025.	1.			400 x 250	250 x 250	400 x 80	—	50	50	32	45	12	—/32	200/224	160/200	53	310	160	—	313	
2010.59.	4025.	4.			400 x 250	250 x 250	400 x 80	—	40	40	32	45	12	—/32	200/224	160/200	53	310	160	—	313	
2010.57.	4031.	4.	894		400 x 315	—	—	400 x 240	40	40	—	45	—	—/32	200/—	160/—	53	310	—	270	—	
2010.59.	4031.	1.			400 x 315	250 x 315	400 x 145	—	50	50	32	45	12	—/32	200/224	160/200	53	310	225	—	313	
2010.59.	4040.	1.			400 x 400	250 x 400	400 x 230	—	50	50	32	45	12	—/32	200/224	160/200	53	310	310	—	313	
2010.59.	4040.	4.			400 x 400	250 x 400	400 x 230	—	40	40	32	45	12	—/32	200/224	160/200	53	310	310	—	313	
2010.55.	5025.	1.			500 x 250	325 x 250	—	—	50	50	32	45	15	38/40	200/224	160/200	63	400	—	—	—	
2010.59.	5025.	1.			500 x 250	325 x 250	500 x 75	—	50	50	32	45	15	—/40	200/224	160/200	63	400	150	—	403	
2010.59.	5025.	4.			500 x 250	325 x 250	500 x 75	—	40	40	32	45	15	—/40	200/224	160/200	63	400	150	—	403	
2010.55.	5031.	1.			500 x 315	325 x 315	—	—	50	50	32	45	15	38/40	200/224	160/200	63	400	—	—	—	
2010.59.	5031.	1.			500 x 315	325 x 315	500 x 140	—	50	50	32	45	15	—/40	200/224	160/200	63	400	215	—	403	
2010.59.	5040.	1.			500 x 400	325 x 400	500 x 225	—	50	50	32	45	15	—/40	200/224	160/200	63	400	300	—	403	
2010.59.	5050.	1.			500 x 500	325 x 500	500 x 325	—	50	50	32	45	15	—/40	200/224	160/200	63	400	400	—	403	

*Thickness combinations

**Work area dimensions are not affected
by the positions of the screw clamps that retain the bushes!

***With demountable guide pillars 2021.29.

Next day delivery!

Ordering code (example):

Type of Die Set (external dimensions

a₁ x b₁ = 400 x 250; c₁ = c₂ = 50) = 2010.55.4025.1.

Execution with stripper = 895.

with demountable guide pillars 2021.29. = 29

Order No = 2010.55.4025.1.895.29

Ordering code (example):

Type of Die Set (external dimensions

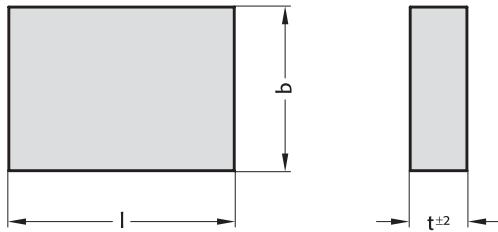
a₁ x b₁ = 400 x 250; c₁ = c₂ = 50) = 2010.55.4025.1.

Execution with stripper = 895

Order No = 2010.55.4025.1.895

Steel plate ISO 6753-1

2900.



Execution:

External contours milled. Thickness surfaces ground

Note:

$l \text{ or } b \leq 630 = +0,2 / +0,4$

$l \text{ or } b > 630 = +0,2 / +0,6$

Plates from 500 × 500 mm on are manufactured with lifting thread.

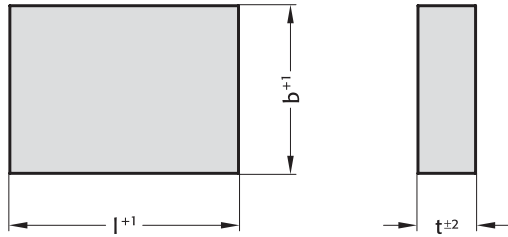
2900. Steel plate ISO 6753-1

Order No	Size l x b x t	Order No	Size l x b x t	Order No	Size l x b x t
2900.1608.25	160 x 80 x 25	2900.3120.40	315 x 200 x 40	2900.6340.32	630 x 400 x 32
2900.1608.32	160 x 80 x 32	2900.3120.50	315 x 200 x 50	2900.6340.40	630 x 400 x 40
2900.1610.25	160 x 100 x 25	2900.3125.32	315 x 250 x 32	2900.6340.50	630 x 400 x 50
2900.1610.32	160 x 100 x 32	2900.3125.40	315 x 250 x 40	2900.6340.63	630 x 400 x 63
2900.1612.25	160 x 125 x 25	2900.3125.50	315 x 250 x 50	2900.6350.32	630 x 500 x 32
2900.1612.32	160 x 125 x 32	2900.3131.32	315 x 315 x 32	2900.6350.40	630 x 500 x 40
2900.1616.25	160 x 160 x 25	2900.3131.40	315 x 315 x 40	2900.6350.50	630 x 500 x 50
2900.1616.32	160 x 160 x 32	2900.3131.50	315 x 315 x 50	2900.6350.63	630 x 500 x 63
2900.2010.25	200 x 100 x 25	2900.4020.32	400 x 200 x 32	2900.6363.32	630 x 630 x 32
2900.2010.32	200 x 100 x 32	2900.4020.40	400 x 200 x 40	2900.6363.40	630 x 630 x 40
2900.2010.40	200 x 100 x 40	2900.4020.50	400 x 200 x 50	2900.6363.50	630 x 630 x 50
2900.2012.25	200 x 125 x 25	2900.4025.32	400 x 250 x 32	2900.6363.63	630 x 630 x 63
2900.2012.32	200 x 125 x 32	2900.4025.40	400 x 250 x 40	2900.7140.32	710 x 400 x 32
2900.2012.40	200 x 125 x 40	2900.4025.50	400 x 250 x 50	2900.7140.40	710 x 400 x 40
2900.2016.25	200 x 160 x 25	2900.4031.32	400 x 315 x 32	2900.7140.50	710 x 400 x 50
2900.2016.32	200 x 160 x 32	2900.4031.40	400 x 315 x 40	2900.7140.63	710 x 400 x 63
2900.2016.40	200 x 160 x 40	2900.4031.50	400 x 315 x 50	2900.7150.32	710 x 500 x 32
2900.2020.25	200 x 200 x 25	2900.4040.32	400 x 400 x 32	2900.7150.40	710 x 500 x 40
2900.2020.32	200 x 200 x 32	2900.4040.40	400 x 400 x 40	2900.7150.50	710 x 500 x 50
2900.2020.40	200 x 200 x 40	2900.4040.50	400 x 400 x 50	2900.7150.63	710 x 500 x 63
2900.2512.25	250 x 125 x 25	2900.5025.32	500 x 250 x 32	2900.7163.32	710 x 630 x 32
2900.2512.32	250 x 125 x 32	2900.5025.40	500 x 250 x 40	2900.7163.40	710 x 630 x 40
2900.2512.40	250 x 125 x 40	2900.5025.50	500 x 250 x 50	2900.7163.50	710 x 630 x 50
2900.2516.25	250 x 160 x 25	2900.5031.32	500 x 315 x 32	2900.7163.63	710 x 630 x 63
2900.2516.32	250 x 160 x 32	2900.5031.40	500 x 315 x 40	2900.8040.32	800 x 400 x 32
2900.2516.40	250 x 160 x 40	2900.5031.50	500 x 315 x 50	2900.8040.40	800 x 400 x 40
2900.2520.25	250 x 200 x 25	2900.5040.32	500 x 400 x 32	2900.8040.50	800 x 400 x 50
2900.2520.32	250 x 200 x 32	2900.5040.40	500 x 400 x 40	2900.8040.63	800 x 400 x 63
2900.2520.40	250 x 200 x 40	2900.5040.50	500 x 400 x 50	2900.8050.32	800 x 500 x 32
2900.2525.25	250 x 250 x 25	2900.5050.32	500 x 500 x 32	2900.8050.40	800 x 500 x 40
2900.2525.32	250 x 250 x 32	2900.5050.40	500 x 500 x 40	2900.8050.50	800 x 500 x 50
2900.2525.40	250 x 250 x 40	2900.5050.50	500 x 500 x 50	2900.8050.63	800 x 500 x 63
2900.3116.32	315 x 160 x 32	2900.6331.32	630 x 315 x 32	2900.8063.32	800 x 630 x 32
2900.3116.40	315 x 160 x 40	2900.6331.40	630 x 315 x 40	2900.8063.40	800 x 630 x 40
2900.3116.50	315 x 160 x 50	2900.6331.50	630 x 315 x 50	2900.8063.50	800 x 630 x 50
2900.3120.32	315 x 200 x 32	2900.6331.63	630 x 315 x 63	2900.8063.63	800 x 630 x 63



Aluminium plate ~ISO 6753-1

2910..2



Execution:

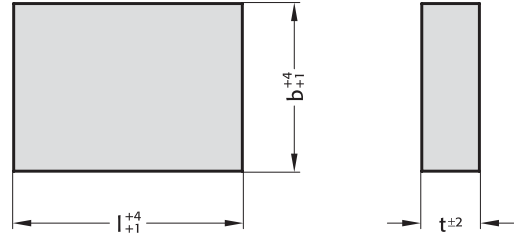
2910.□□□□.□□.2

Two external contours milled. Thickness surfaces ground.

Note:

Plates from 500 × 500 mm on are manufactured with lifting thread.

2910..0



Execution:

2910.□□□□.□□.0

External contours sawed. Thickness surfaces ground.

Note:

Plates from 500 × 500 mm on are manufactured with lifting thread.

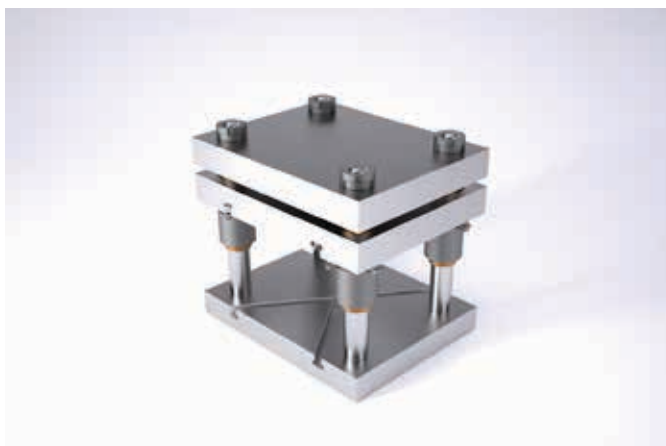
2910. Aluminium plate ~ISO 6753-1

Order No	Size l x b x t	Order No	Size l x b x t	Order No	Size l x b x t	Order No	Size l x b x t
2910.1608.25.□	160 x 80 x 25	2910.2520.32.□	250 x 200 x 32	2910.4040.40.□	400 x 400 x 40	2910.6363.40.□	630 x 630 x 40
2910.1608.32.□	160 x 80 x 32	2910.2520.40.□	250 x 200 x 40	2910.4040.50.□	400 x 400 x 50	2910.6363.50.□	630 x 630 x 50
2910.1610.25.□	160 x 100 x 25	2910.2525.25.□	250 x 250 x 25	2910.5025.32.□	500 x 250 x 32	2910.6363.63.□	630 x 630 x 63
2910.1610.32.□	160 x 100 x 32	2910.2525.32.□	250 x 250 x 32	2910.5025.40.□	500 x 250 x 40	2910.7140.32.□	710 x 400 x 32
2910.1612.25.□	160 x 125 x 25	2910.2525.40.□	250 x 250 x 40	2910.5025.50.□	500 x 250 x 50	2910.7140.40.□	710 x 400 x 40
2910.1612.32.□	160 x 125 x 32	2910.3116.32.□	315 x 160 x 32	2910.5031.32.□	500 x 315 x 32	2910.7140.50.□	710 x 400 x 50
2910.1616.25.□	160 x 160 x 25	2910.3116.40.□	315 x 160 x 40	2910.5031.40.□	500 x 315 x 40	2910.7140.63.□	710 x 400 x 63
2910.1616.32.□	160 x 160 x 32	2910.3116.50.□	315 x 160 x 50	2910.5031.50.□	500 x 315 x 50	2910.7150.32.□	710 x 500 x 32
2910.2010.25.□	200 x 100 x 25	2910.3120.32.□	315 x 200 x 32	2910.5040.32.□	500 x 400 x 32	2910.7150.40.□	710 x 500 x 40
2910.2010.32.□	200 x 100 x 32	2910.3120.40.□	315 x 200 x 40	2910.5040.40.□	500 x 400 x 40	2910.7150.50.□	710 x 500 x 50
2910.2010.40.□	200 x 100 x 40	2910.3120.50.□	315 x 200 x 50	2910.5040.50.□	500 x 400 x 50	2910.7150.63.□	710 x 500 x 63
2910.2012.25.□	200 x 125 x 25	2910.3125.32.□	315 x 250 x 32	2910.5050.32.□	500 x 500 x 32	2910.7163.32.□	710 x 630 x 32
2910.2012.32.□	200 x 125 x 32	2910.3125.40.□	315 x 250 x 40	2910.5050.40.□	500 x 500 x 40	2910.7163.40.□	710 x 630 x 40
2910.2012.40.□	200 x 125 x 40	2910.3125.50.□	315 x 250 x 50	2910.5050.50.□	500 x 500 x 50	2910.7163.50.□	710 x 630 x 50
2910.2016.25.□	200 x 160 x 25	2910.3131.32.□	315 x 315 x 32	2910.6331.32.□	630 x 315 x 32	2910.7163.63.□	710 x 630 x 63
2910.2016.32.□	200 x 160 x 32	2910.3131.40.□	315 x 315 x 40	2910.6331.40.□	630 x 315 x 40	2910.8040.32.□	800 x 400 x 32
2910.2016.40.□	200 x 160 x 40	2910.3131.50.□	315 x 315 x 50	2910.6331.50.□	630 x 315 x 50	2910.8040.40.□	800 x 400 x 40
2910.2020.25.□	200 x 200 x 25	2910.4020.32.□	400 x 200 x 32	2910.6331.63.□	630 x 315 x 63	2910.8040.50.□	800 x 400 x 50
2910.2020.32.□	200 x 200 x 32	2910.4020.40.□	400 x 200 x 40	2910.6340.32.□	630 x 400 x 32	2910.8040.63.□	800 x 400 x 63
2910.2020.40.□	200 x 200 x 40	2910.4020.50.□	400 x 200 x 50	2910.6340.40.□	630 x 400 x 40	2910.8050.32.□	800 x 500 x 32
2910.2512.25.□	250 x 125 x 25	2910.4025.32.□	400 x 250 x 32	2910.6340.50.□	630 x 400 x 50	2910.8050.40.□	800 x 500 x 40
2910.2512.32.□	250 x 125 x 32	2910.4025.40.□	400 x 250 x 40	2910.6340.63.□	630 x 400 x 63	2910.8050.50.□	800 x 500 x 50
2910.2512.40.□	250 x 125 x 40	2910.4025.50.□	400 x 250 x 50	2910.6350.32.□	630 x 500 x 32	2910.8050.63.□	800 x 500 x 63
2910.2516.25.□	250 x 160 x 25	2910.4031.32.□	400 x 315 x 32	2910.6350.40.□	630 x 500 x 40	2910.8063.32.□	800 x 630 x 32
2910.2516.32.□	250 x 160 x 32	2910.4031.40.□	400 x 315 x 40	2910.6350.50.□	630 x 500 x 50	2910.8063.40.□	800 x 630 x 40
2910.2516.40.□	250 x 160 x 40	2910.4031.50.□	400 x 315 x 50	2910.6350.63.□	630 x 500 x 63	2910.8063.50.□	800 x 630 x 50
2910.2520.25.□	250 x 200 x 25	2910.4040.32.□	400 x 400 x 32	2910.6363.32.□	630 x 630 x 32	2910.8063.63.□	800 x 630 x 63

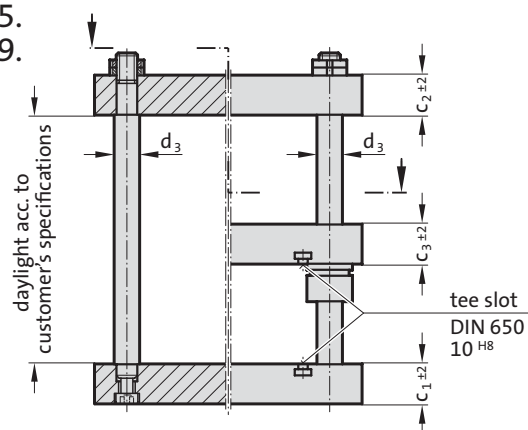
Ordering Code (example):

Aluminium plate ~ISO 6753-1	= 2910.
Length L	160 mm = 16
Width B	80 mm = 08.
Thickness T	25 mm = 25.
Execution FORM	sawn = 0
Order No	= 2910. 1608. 25.0

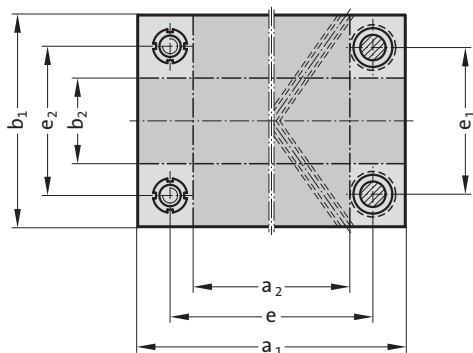
Die set press unit



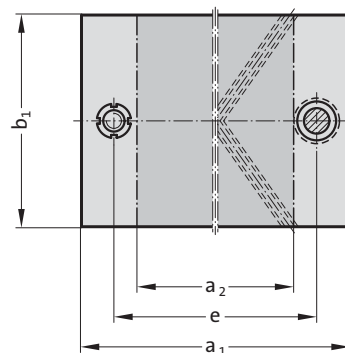
2011.45.
2011.49.



2011.49.



2011.45.

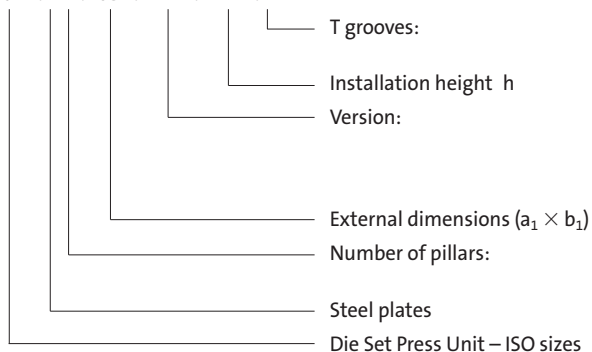


2011.45. Die set press unit

Order No	work area $a_1 \times b_1$	work area $a_2 \times b_2$	max. press thrust kN	a_1	b_1	c_1	c_2	c_3	d_3	e	e_1	e_2
2011.4□.2020.□□□.□□□.□	84 x 200	200 x 62	20	200	200	32	32	32	25	132	132	129
2011.4□.2520.□□□.□□□.□	134 x 200	250 x 62	20	250	200	32	32	32	25	182	132	129
2011.4□.2525.□□□.□□□.□	118 x 250	250 x 97	40	250	250	40	40	40	32	174	174	171
2011.4□.3125.□□□.□□□.□	185 x 250	315 x 97	40	315	250	40	40	40	32	239	174	171
2011.4□.3131.□□□.□□□.□	183 x 315	315 x 162	40	315	315	40	40	40	32	239	239	236
2011.4□.4031.□□□.□□□.□	268 x 315	400 x 162	80	400	315	50	50	50	32	324	239	236
2011.4□.4040.□□□.□□□.□	268 x 400	400 x 247	80	400	400	50	50	50	32	324	324	321

Order number system:

2011.4□.4031.□□□.□□□.1



Coupling spigots and -holders between cylinder and tool:
see next page but one.

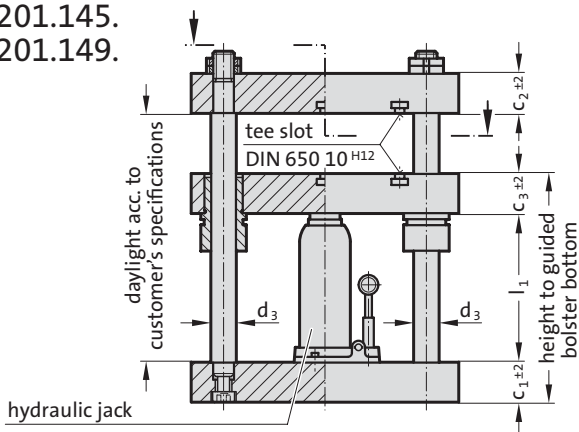
.0 = without
.1 = in top bolster and intermediate plate

000. = without guide bolster
001. = without guide bolster – tension rod not hardened
831. = guide bolster with plain bearing
862. = guide bolster with ball bearing guide
40: $a_1 = 400$ mm; 31: $b_1 = 315$ mm
5. = two guide pillars
9. = four guide pillars

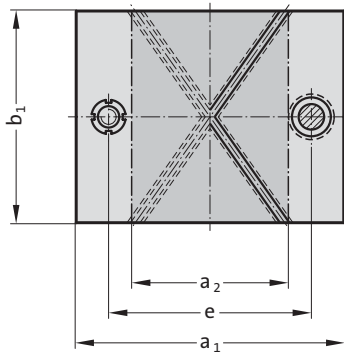


Die set press unit

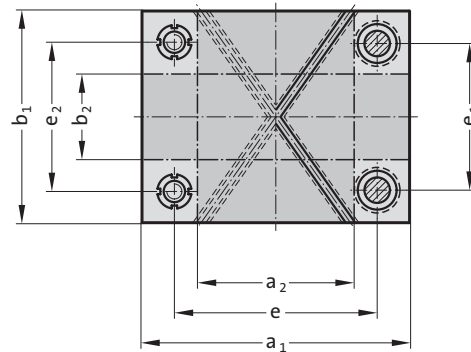
201.145.
201.149.



201.145.



201.149.

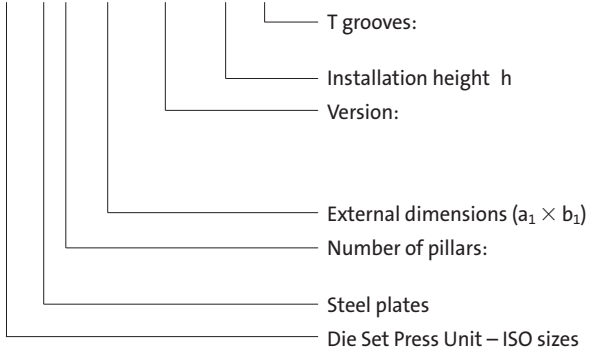


201.145. Die set press unit

Order No	work area	work area	max. press thrust											
	$a_1 \times b_1$	$a_2 \times b_1$	kN	a_1	b_1	c_1	c_2	c_3	d_3	e	e_1	e_2	l_1	Stroke _{max.}
201.14□.2020.□□□.□□□.□	84 x 200	200 x 62	20	200	200	32	32	32	25	132	132	129	200	130
201.14□.2520.□□□.□□□.□	134 x 200	250 x 62	20	250	200	32	32	32	25	182	132	129	200	130
201.14□.2525.□□□.□□□.□	118 x 250	250 x 97	40	250	250	40	40	40	32	174	174	171	200	130
201.14□.3125.□□□.□□□.□	183 x 250	315 x 97	40	315	250	40	40	40	32	239	174	171	200	130
201.14□.3131.□□□.□□□.□	283 x 315	315 x 162	40	315	315	40	40	40	32	239	239	236	200	130
201.14□.4031.□□□.□□□.□	268 x 315	400 x 162	80	400	315	50	50	50	32	324	239	236	245	160
201.14□.4040.□□□.□□□.□	268 x 400	400 x 247	80	400	400	50	50	50	32	324	324	321	245	160

Order number system:

201.14□.4031.□□□.□□□.1



Execution: Headed guide bushes, hydraulic jack.

.0 = without
.1 = in top bolster and intermediate plate

831. = guide bolster with plain bearing
862. = guide bolster with ball bearing guide

40: $a_1 = 400$ mm; 31: $b_1 = 315$ mm

5. = two guide pillars
9. = four guide pillars

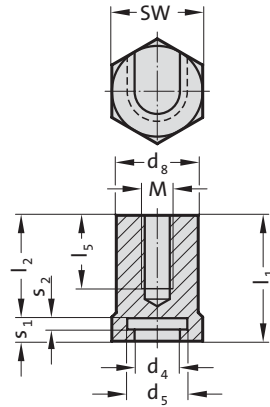
Die Set Press Unit-Accessories

Coupling Spigot Holder

Coupling Spigot



212.16.1.



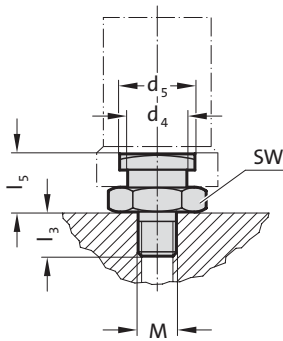
212.16.1. Coupling Spigot Holder

Order No	d ₄	d ₅	d ₈	SW	l ₁	l ₂	l ₃ *	M*	s ₁	s ₂
212.16.1.026	26	33	45	50	70	57,4			12,6	7
212.16.1.033	33	49	60	65	86	67,4			18,6	10

* upon customer's specification



212.11.

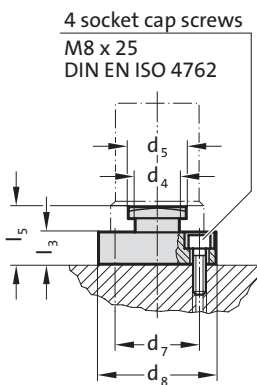


212.11. Coupling Spigot

Order No	M	d ₄	d ₅	l ₃	l ₅	SW
212.11.016	M16 × 1.5	25	32	18	23	36
212.11.030	M30 × 2	32	48	30	43	60



212.15.

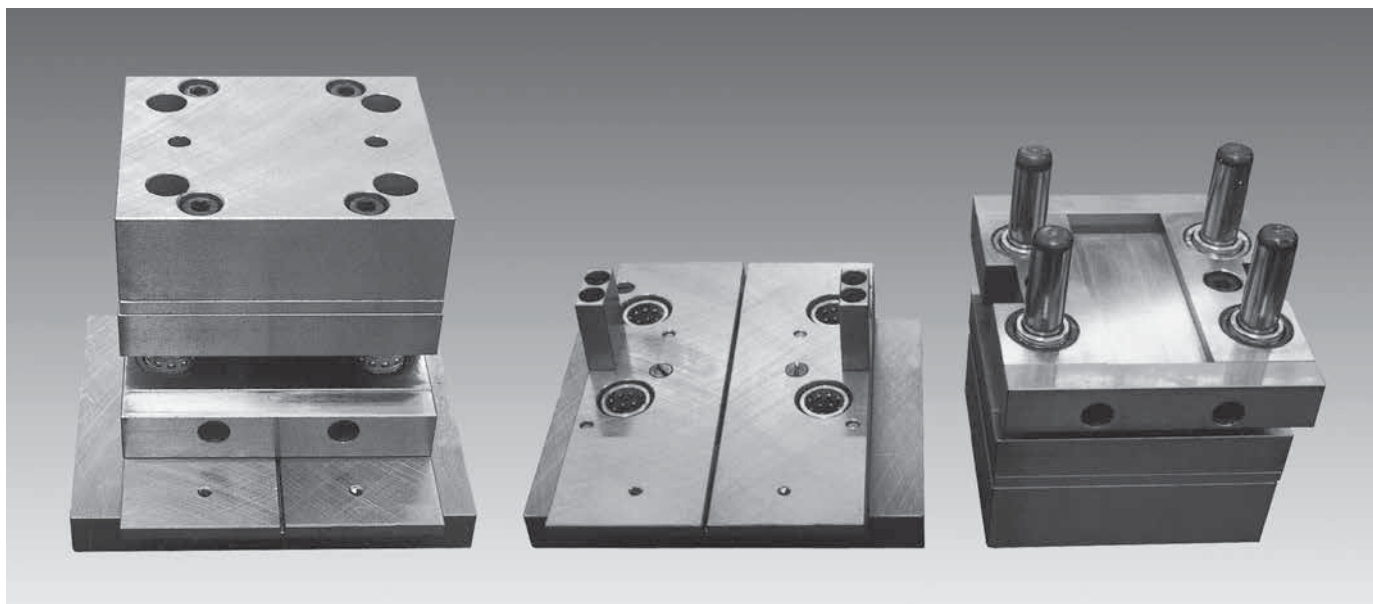
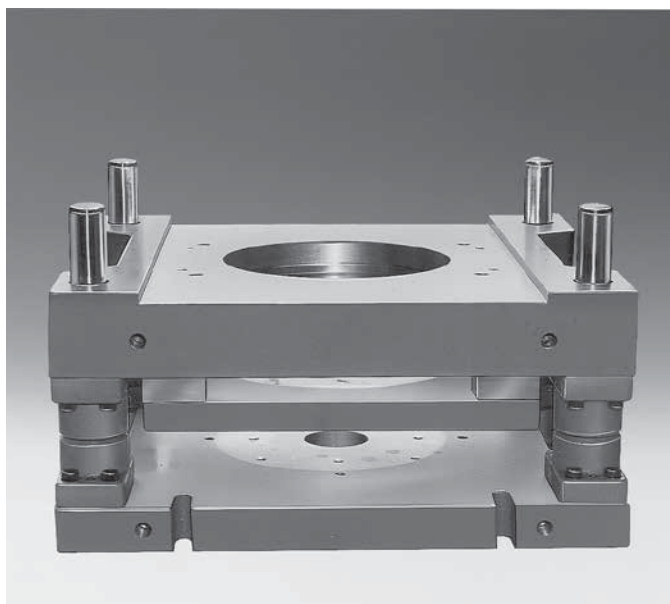
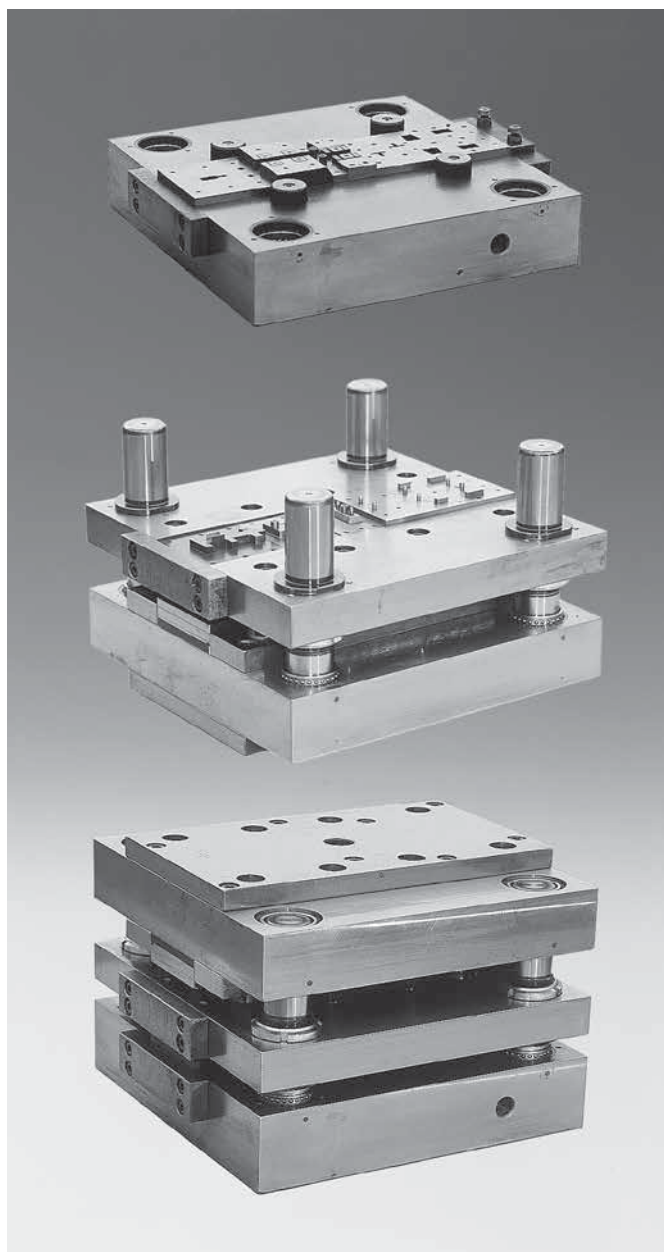
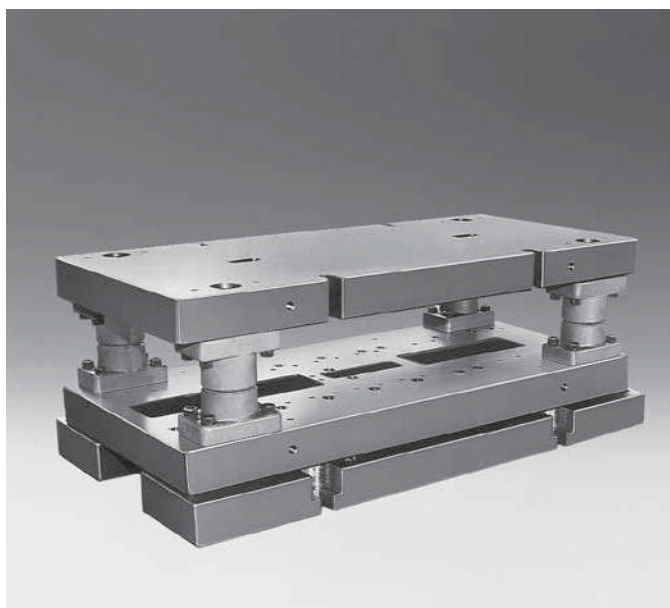


212.15. Coupling Spigot

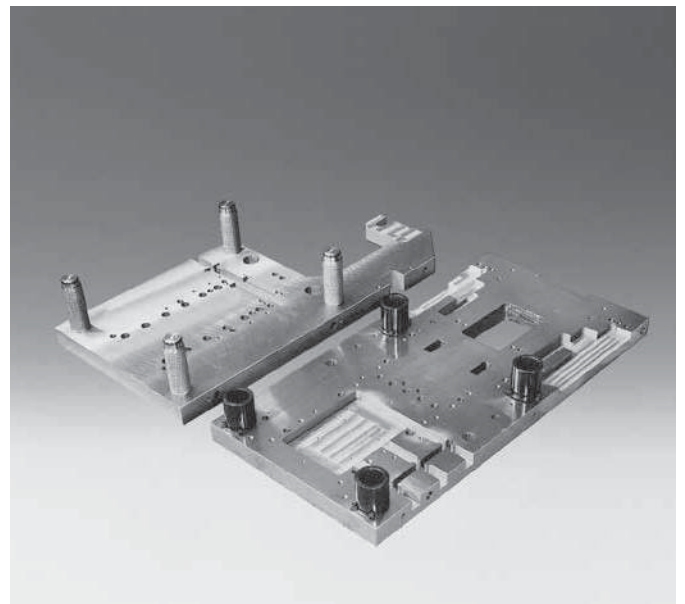
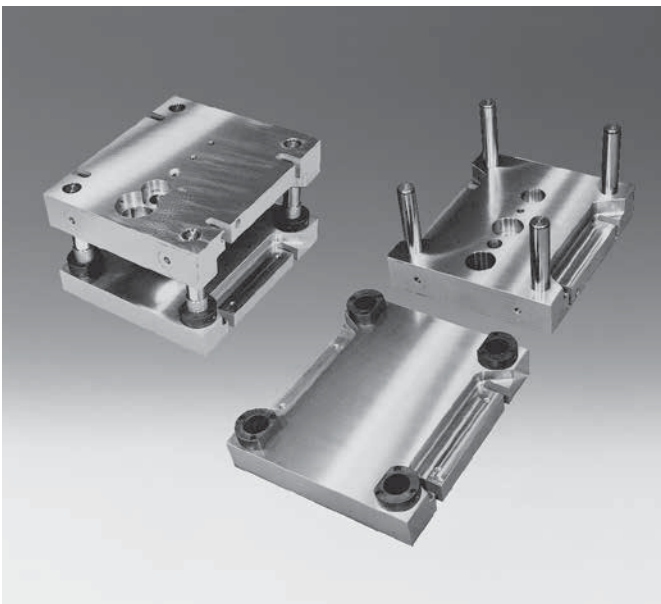
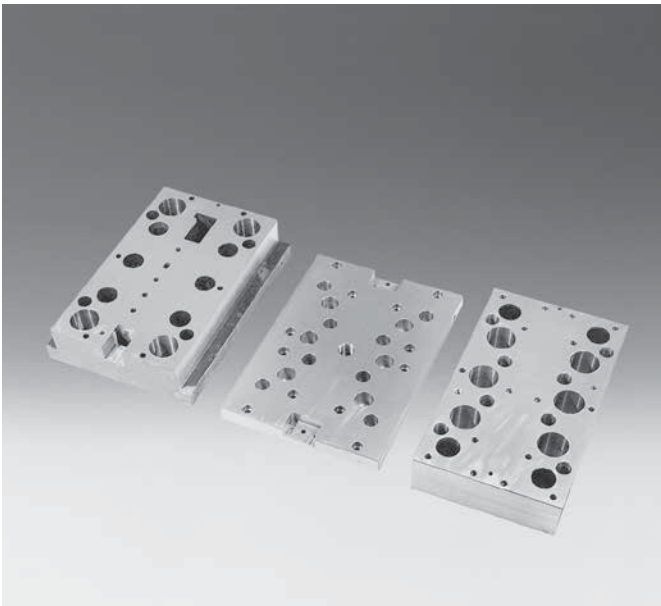
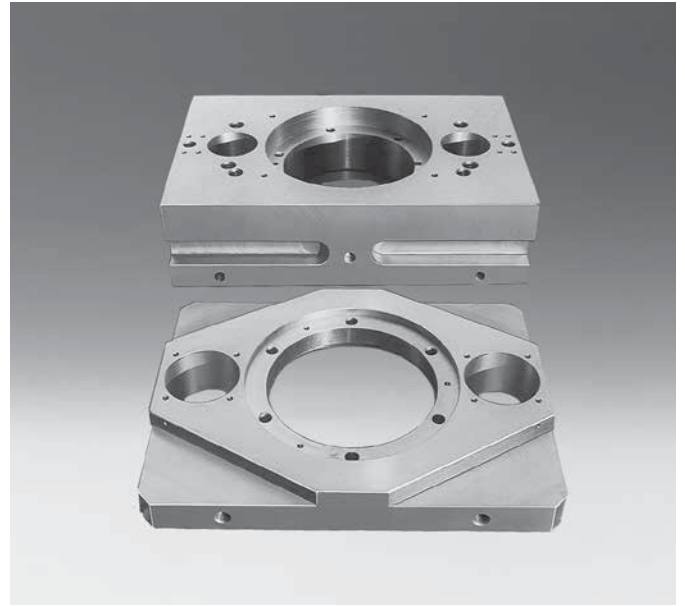
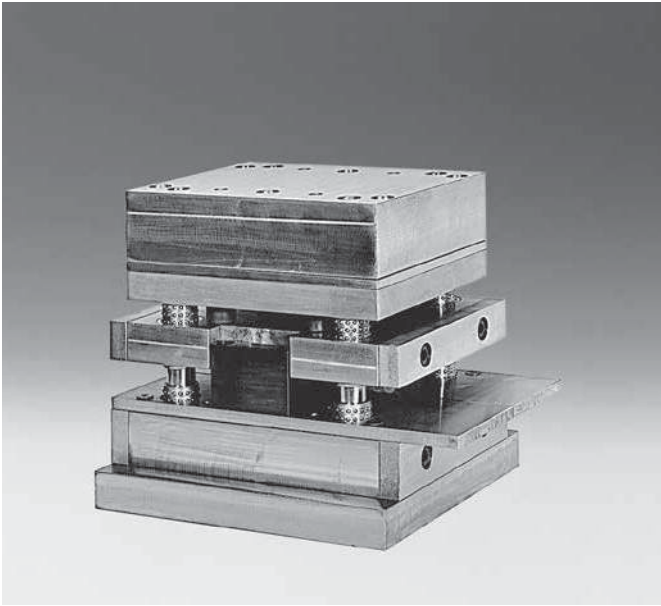
Order No	d ₄	d ₅	d ₈	d ₇	l ₃	l ₅
212.15.063	25	32	63	46	18	31
212.15.080	32	48	80	63	18	37



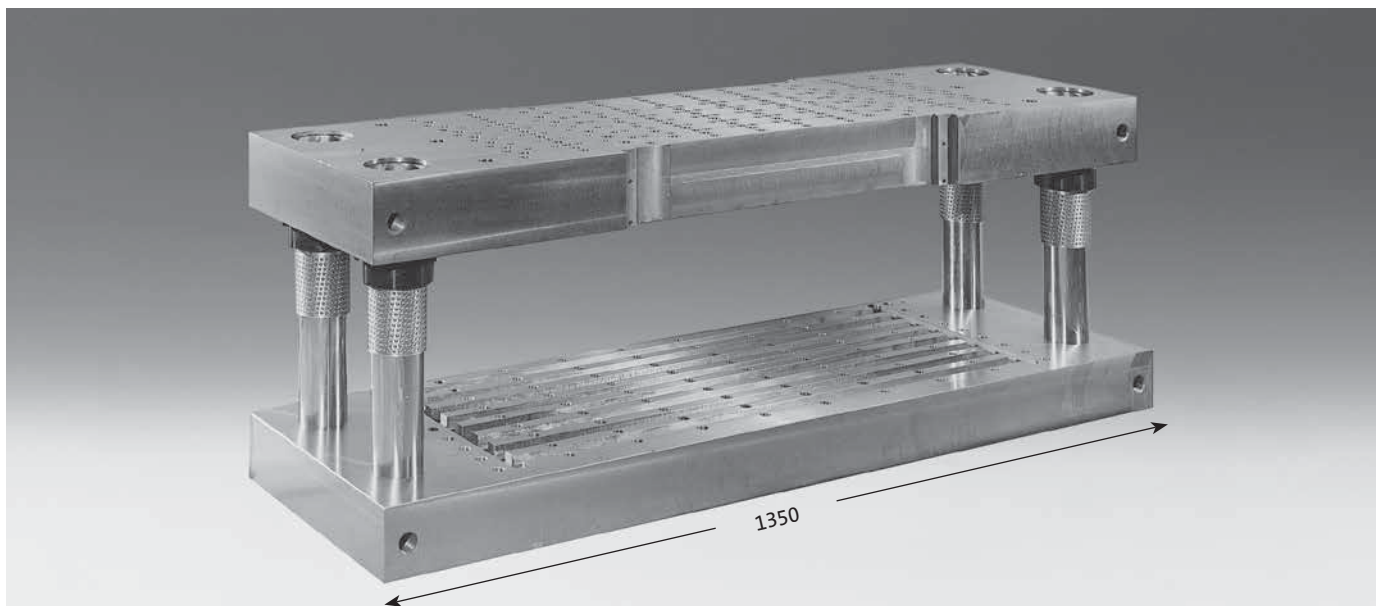
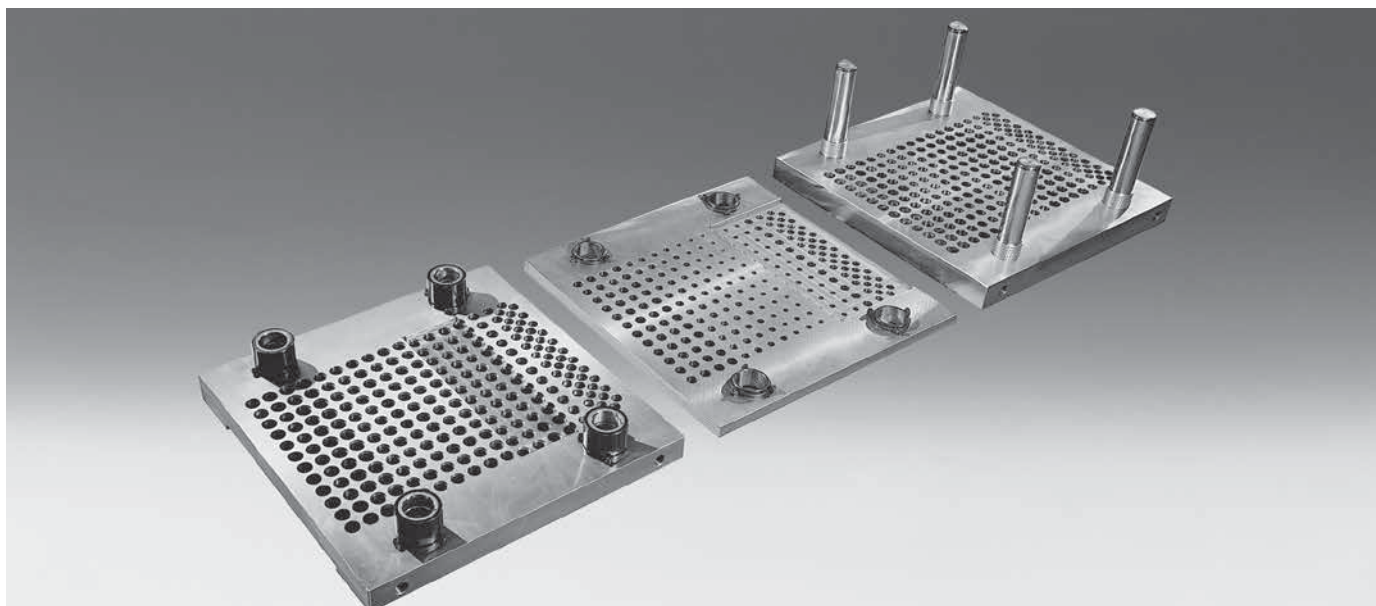
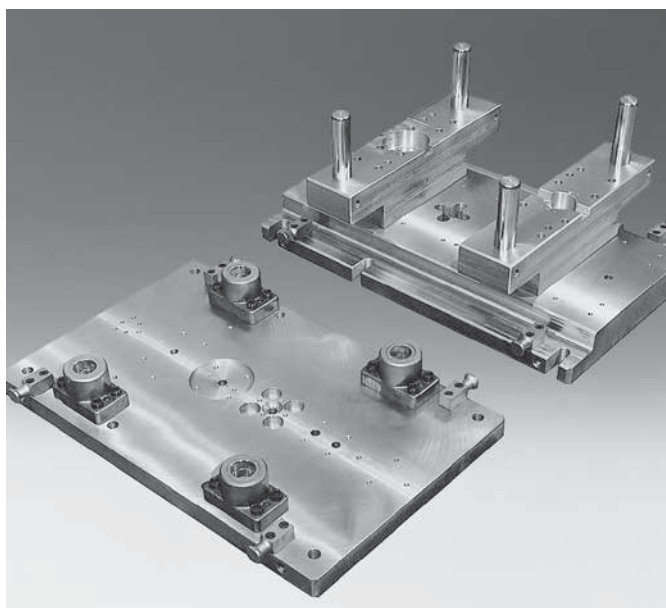
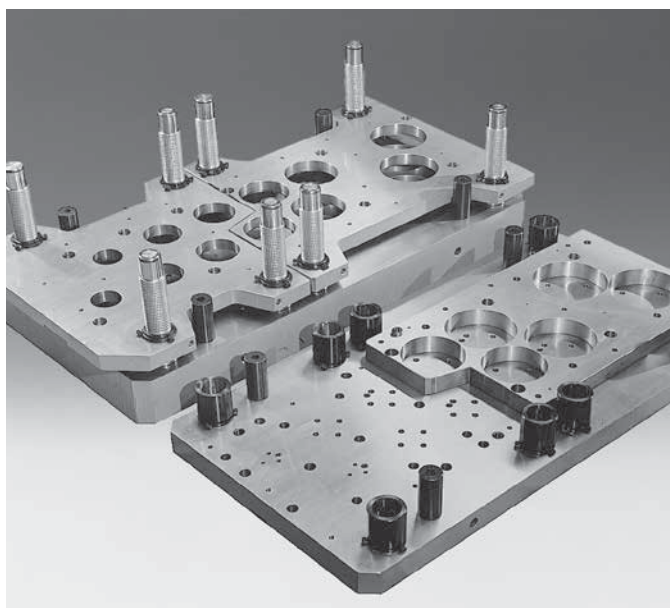
Special Die Set (All-Steel) to Customers' Specification



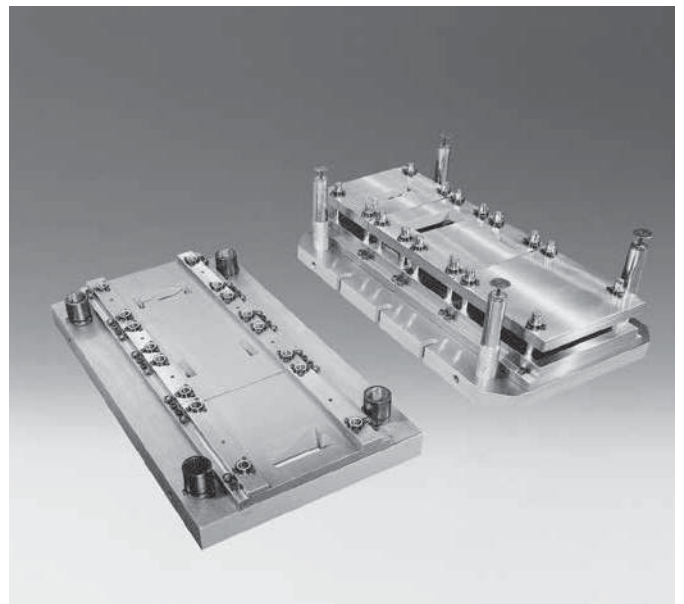
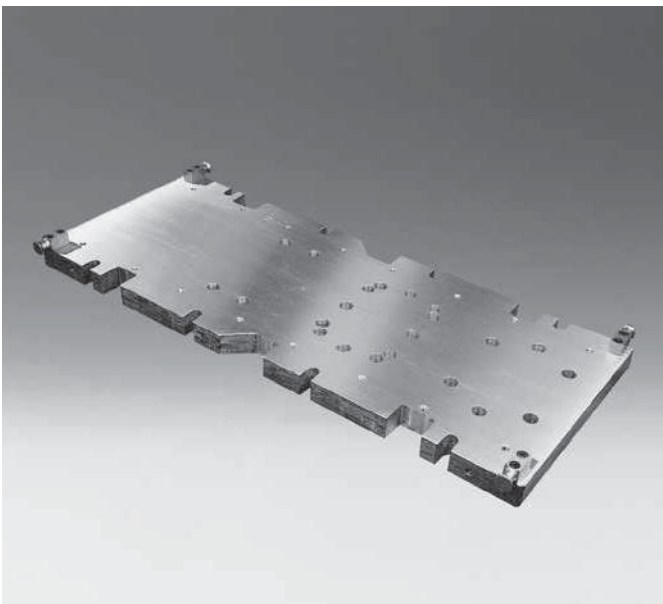
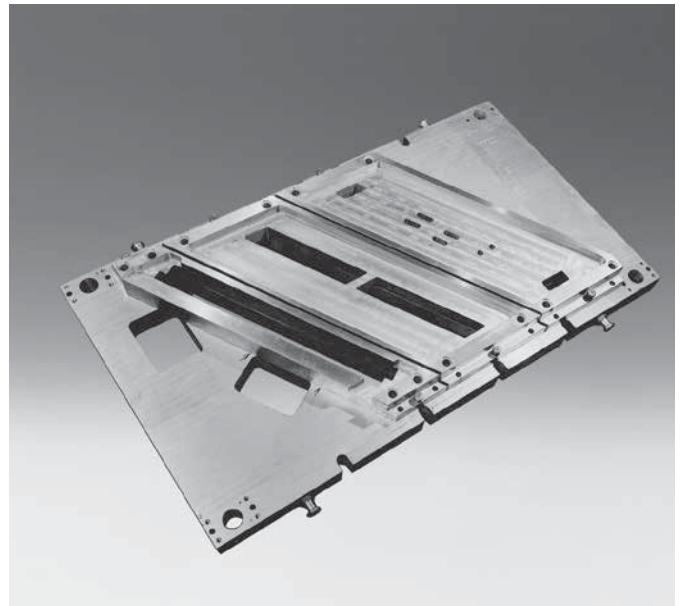
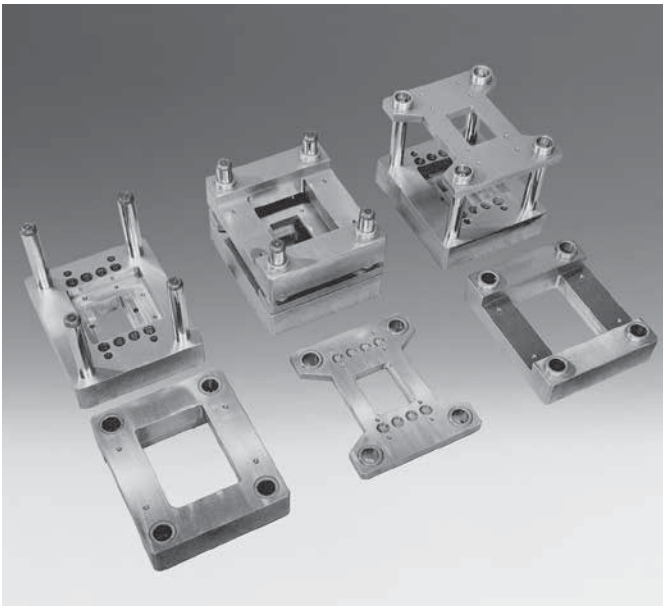
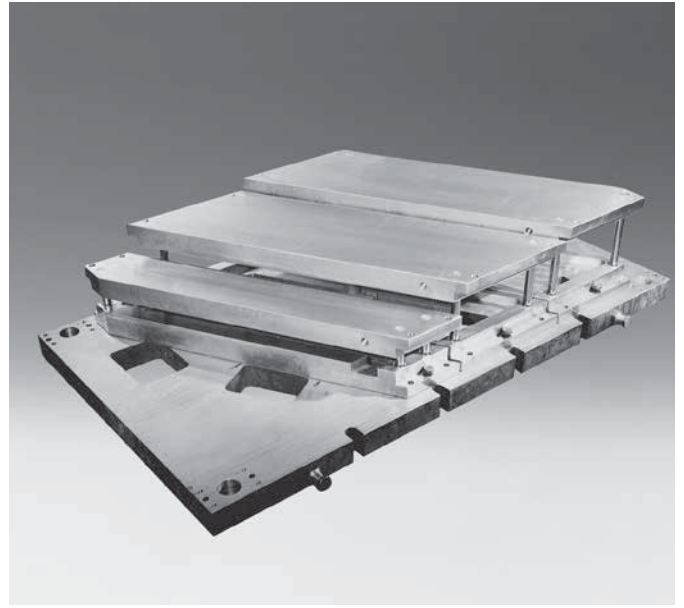
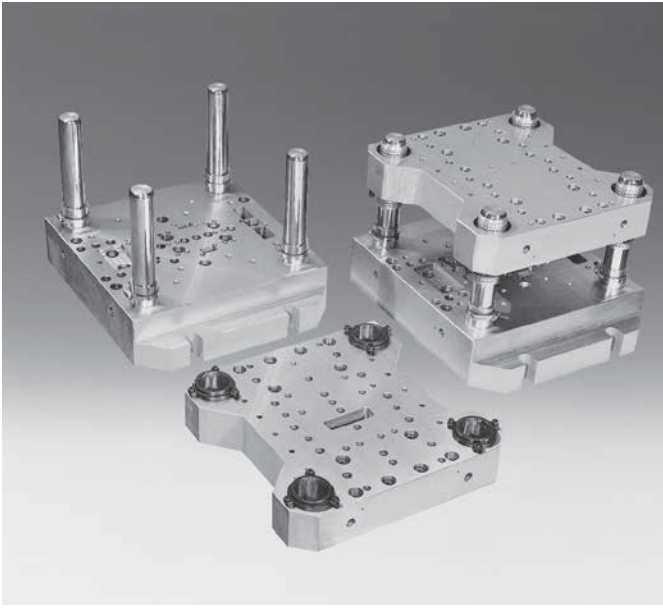
Special Die Set (All-Steel) to Customers' Specification



Special Die Set (All-Steel) to Customers' Specification



Special Die Set (All-Steel) to Customers' Specification

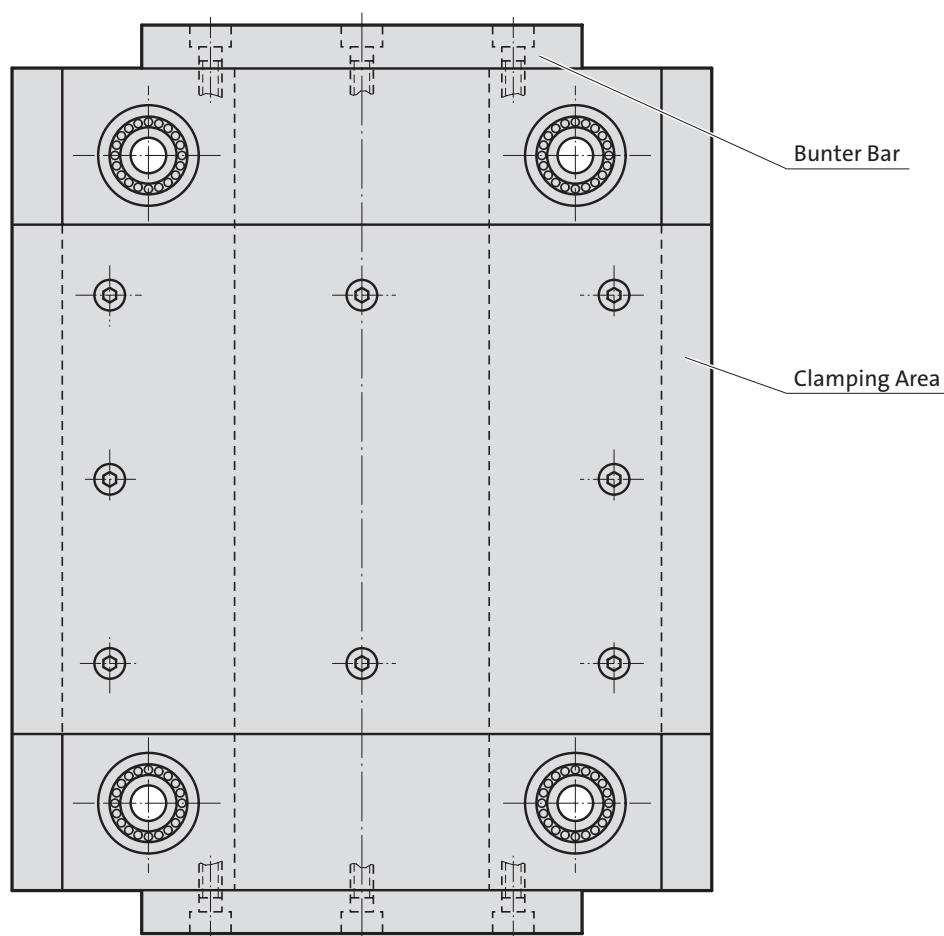
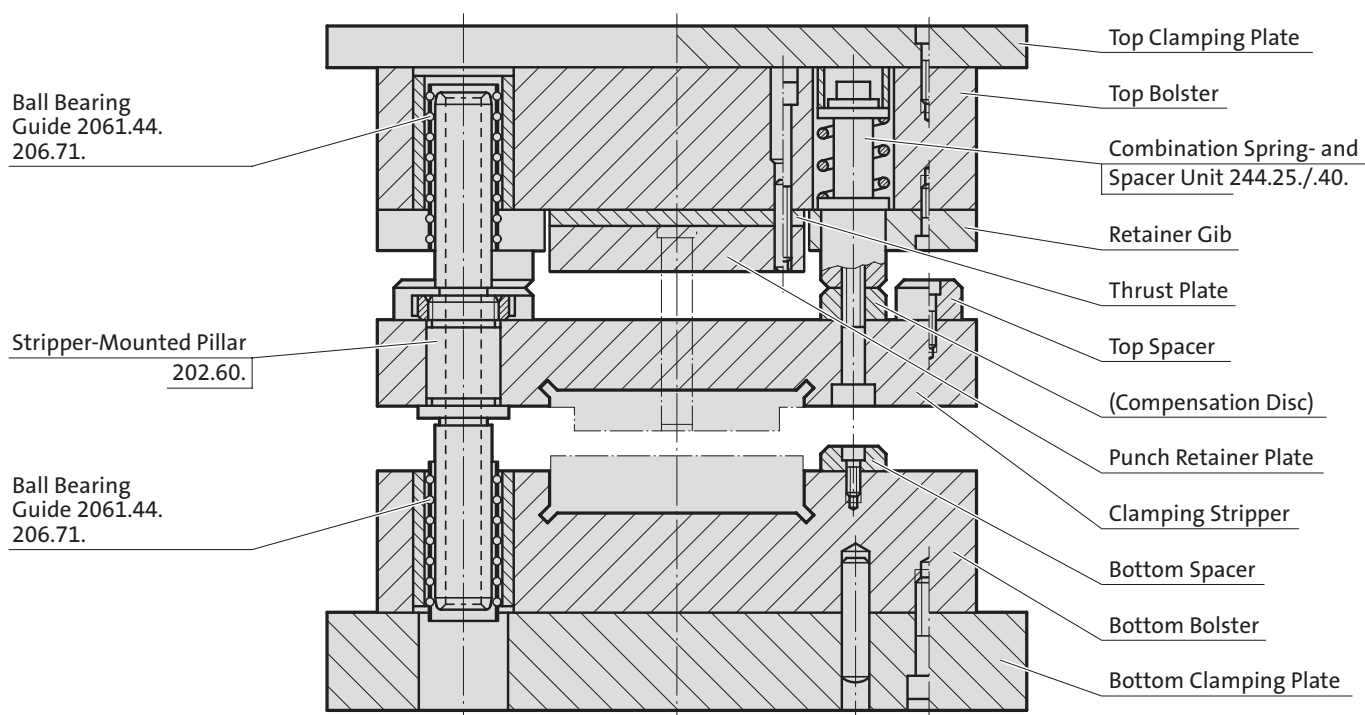




Progression Lamination Die Set Units



Progression Lamination Die Set Unit



Progression lamination die set unit

Die set units for progression/lamination dies

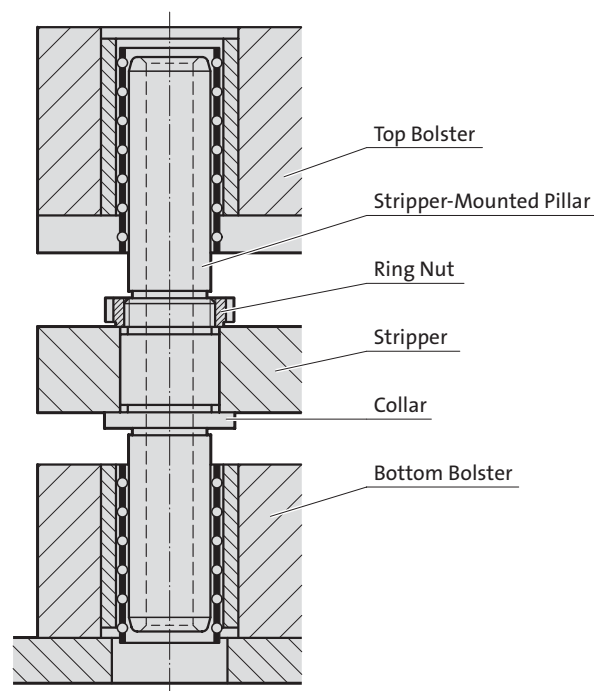
The accuracy of a stamping die starts with the die set! When we designed these new units, special attention was paid to the stability and load capacity of the guide pillars.

The eventual introduction of the stripper-mounted pillar in its present form brought an eightfold increase in transverse load-carrying capacity relative to conventional pillars; under the same radial force, deflection is reduced to one-eighth.

While modern high-speed presses have made ball bearing guides all but mandatory, the limited load capacity of these bearings remains a disadvantage, calling for generous nominal pillar diameters and the use of more than two guide bearings.

Considerable forces of inertia are encountered during the reversal of stroking motion at speeds in excess of 500 SPM. In order to keep these harmful forces to a minimum, FIBRO Stripper-Mounted Pillars are provided with hollow cores.

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.

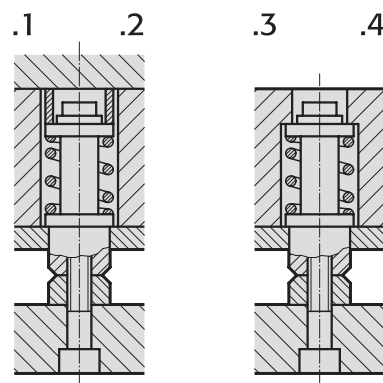


Combination spring/spacer units

Strippers on FIBRO progression/lamination die set units are laid out for the functions of punch guiding and clamping of the stock, derived from preloaded spring/spacer units of highly 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 of 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.

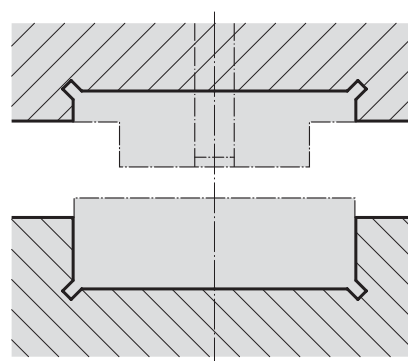


Retaining slots for matrixes and guiding-stripper plate

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.

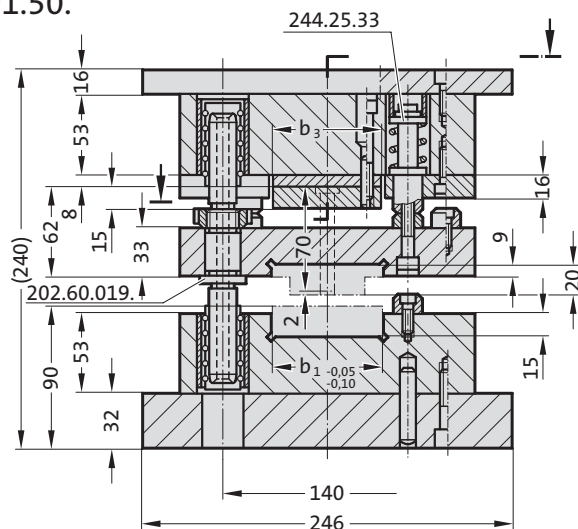
From long experience we know that all heavy machining of die set apertures must precede the finish-machining of the two retainer slots for the matrix inserts and the guiding/clamping stripper plate.

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

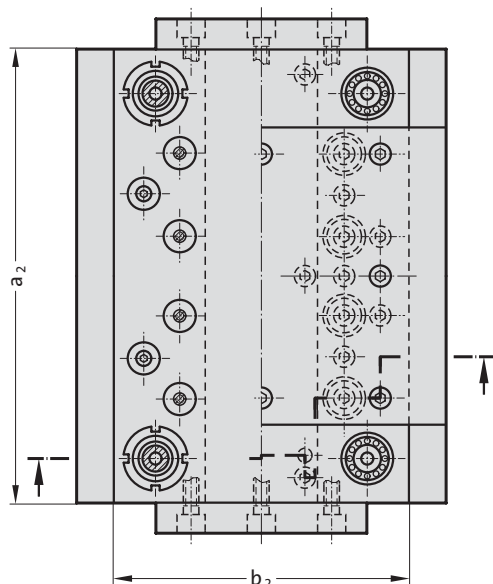


Progression Lamination Die Set Unit

201.50.



* For the sizes 201.50.2520 and 3020 guide pillars 202.60.025

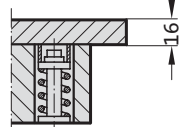


Executions

(mounting of top bolster to ram of press)

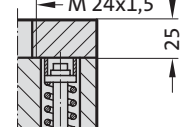
201.50.

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



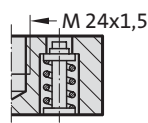
201.50.

□□□□.□□□□.□□.2
with threaded hole in top clamping
plate, for threaded shank



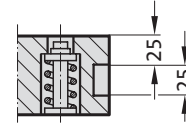
201.50.

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



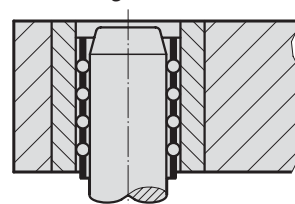
201.50.

□□□□.□□□□.□□.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 3 mm
through a reduction in the thickness of the Bottom Clamping Plate.

201.50. Progression Lamination Die Set Unit

Order No	Type	Size	Spring Type Exec.	ext. dims $a_2 \times b_2$	b_1 max.	Comb. spring+ spacer unit	b_3	max. spring compr. (without pre load) (mm)			spring preload (mm)	preloading in N (per spring unit) 241.□□.25.032				spring coefficient "c" (N) 241.□□.25.032			
								14	15	16		14	15	16	17	14	15	16	17
201.50.	1320.	□□□.□□.□	□	126 × 196	40	4	40	6,0	6,0	5,0	3	241	354	891	—	80,3	118,1	297	—
201.50.	1620.	□□□.□□.□	□	156 × 196	50	4	50	6,0	6,0	5,0	3	241	354	891	—	80,3	118,1	297	—
201.50.	2020.	□□□.□□.□	□	196 × 196	60	6	60	6,0	6,0	5,0	3	241	354	891	—	80,3	118,1	297	—
201.50.	2520.	□□□.□□.□	□	246 × 196	75	8	75	6,0	6,0	5,0	3	241	354	891	—	80,3	118,1	297	—
201.50.	3020.	□□□.□□.□	□	296 × 196	75	8	75	6,0	6,0	5,0	3	241	354	891	—	80,3	118,1	297	—

Ordering Code (example):

Die Set Unit = 201.50.
 $a_2 \times b_2 = 296 \times 196$ = 3020.
 $b_1 = 75$ mm = 075.
Springs (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.

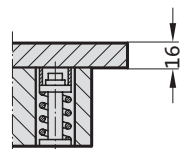
Progression Lamination Die Set Unit

Executions

(mounting of top bolster to ram of press)

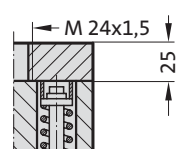
201.50.

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



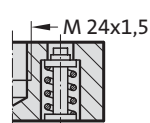
201.50.

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



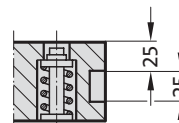
201.50.

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

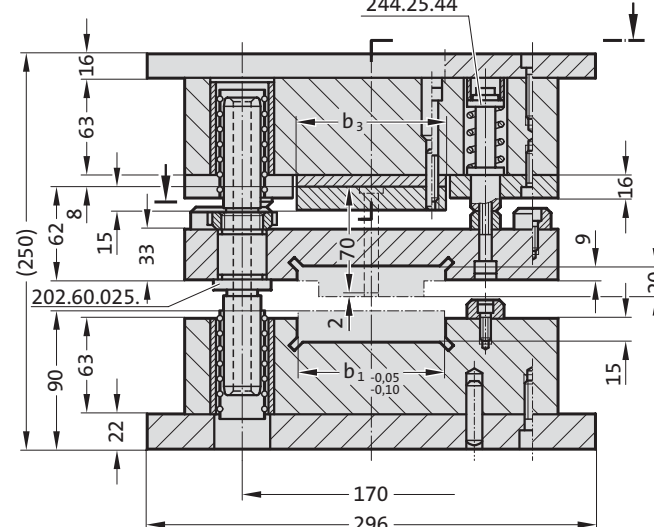


201.50.

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

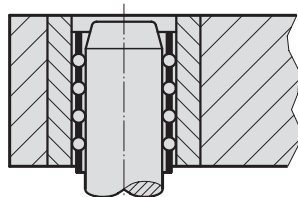


201.50.



Guide Elements

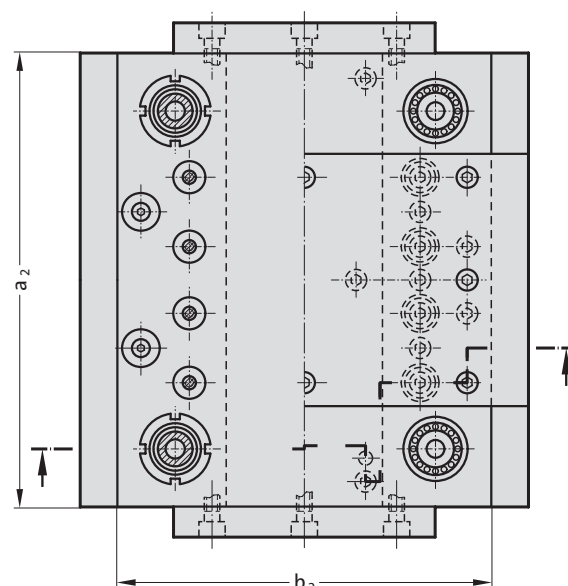
Ball Bearing Guides



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. Progression Lamination Die Set Unit

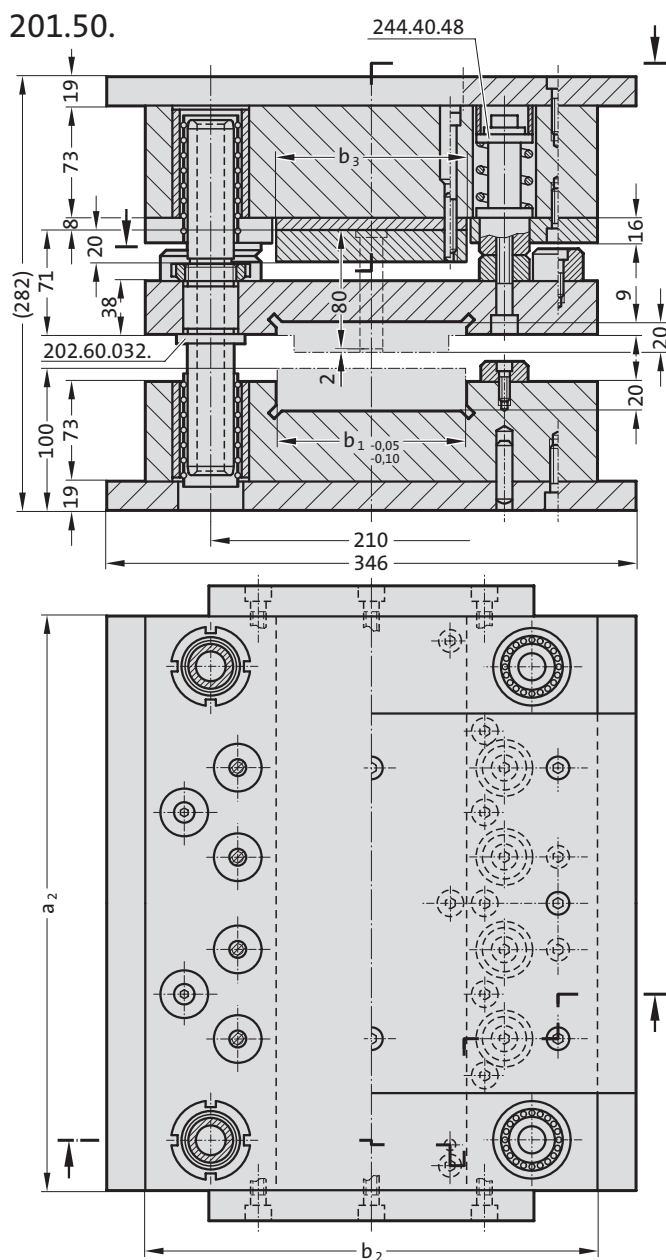
Order No	Type	Size	Spring b_1	Type Exec.	ext. dims $a_2 \times b_2$	b_1 max.	Comb. spring+ spacer unit	b_3	max. spring compr. (without pre load) (mm) 241...				spring preload (mm)	preloading in N (per spring unit) 241.□□.25.045				spring coefficient "c" (N) 241.□□.25.045			
									14	15	16	17		14	15	16	17	14	15	16	17
201.50.	1625.	□□□□.	□□□.	□	156 × 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 × 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 × 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 × 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 × 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):

Die Set Unit	=	201.50.
$a_2 \times b_2 = 296 \times 246$	=	3025.
$b_1 = 100$ mm	=	100.
Springs (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.

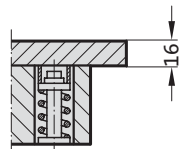
Progression Lamination Die Set Unit



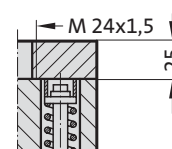
Executions

(mounting of top bolster to ram of press)

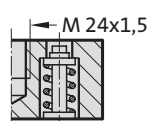
201.50.
□□□□.□□□.□□.1
with projecting top
clamping plate



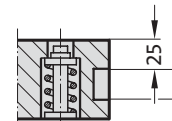
201.50.
□□□□.□□□.□□.2
with threaded hole in top clam-
ping plate, for threaded shank



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

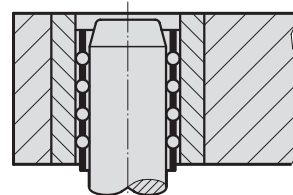


201.50.
□□□□.□□□.□□.4
with clamping pockets milled
in top bolster



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. Progression Lamination Die Set Unit

Order No	Type	Size	Spring Type Exec.	ext. dims $a_2 \times b_2$	b_1 max.	Comb. spring+ spacer unit	b_3	max. spring compr. (without pre load) (mm) 241...				spring preload (mm)	preloading in N (per spring unit) 241.□□.25.045				spring coefficient "c" (N) 241.□□.25.045			
								14	15	16	17		14	15	16	17	14	15	16	17
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):

Die Set Unit	=	201.50.
$a_2 \times b_2 = 296 \times 296$	=	3030.
$b_1 = 100$ mm	=	100.
Springs (type) 241.15.	=	15.
With projecting top clamping plate	=	1
Order No	=	201.50.3030.100.15.1

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



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.

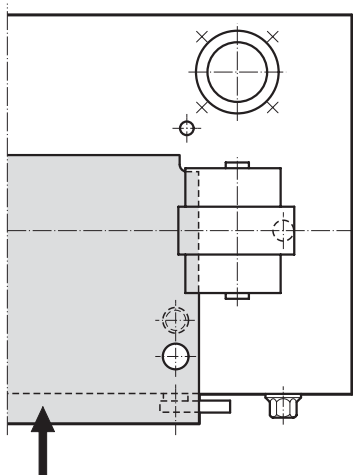
Fast Exchange System for Pallet Tooling

Setting

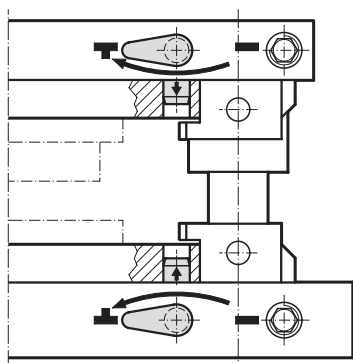
- slide each pallet into its position
- positioning
- clamping

These steps can be completed in a minute.

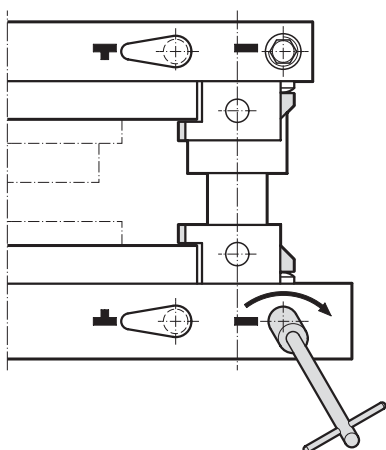
Slide-In Insertion



Positioning

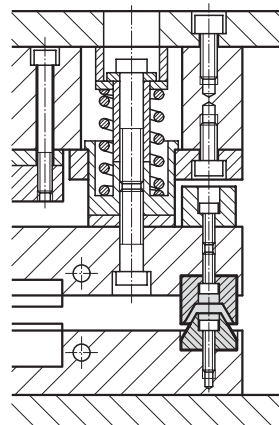


Clamping



Positioning Aids

Pallet tooling sets can be equipped with conical centring units.



Sheet Thicknesses

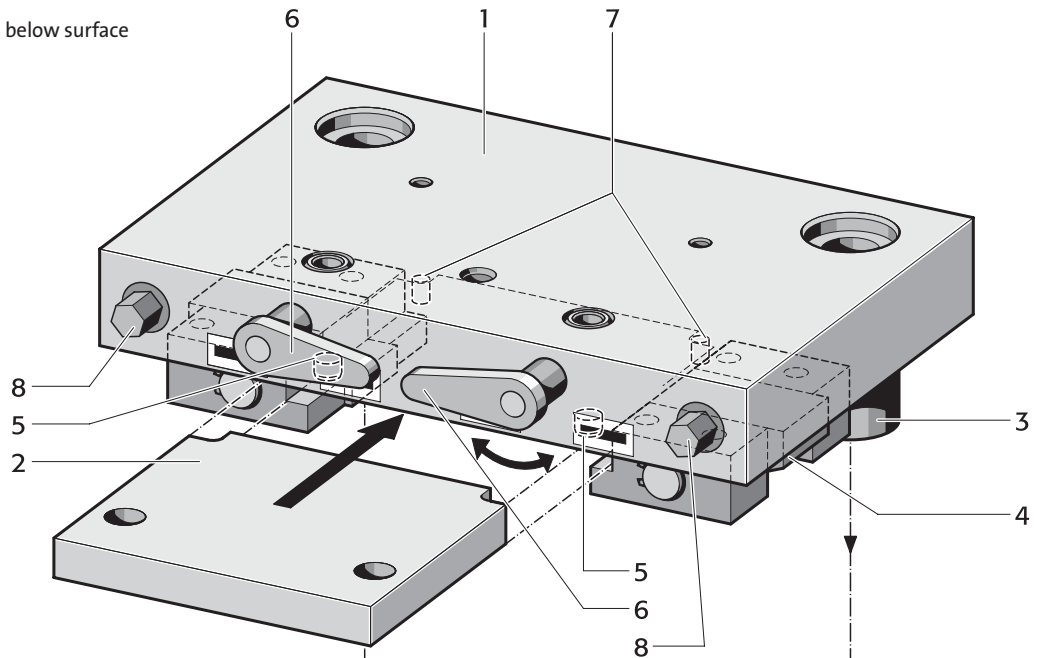
Sheet less than 0,4 mm in thickness is normally not recommended for the system – on account of the smaller punch-to-die clearances associated with thin stock materials, where the normal positioning accuracy within the carrier die set (approximately 0,02 mm) becomes insufficient.

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.

Fast Exchange System for Pallet Tooling

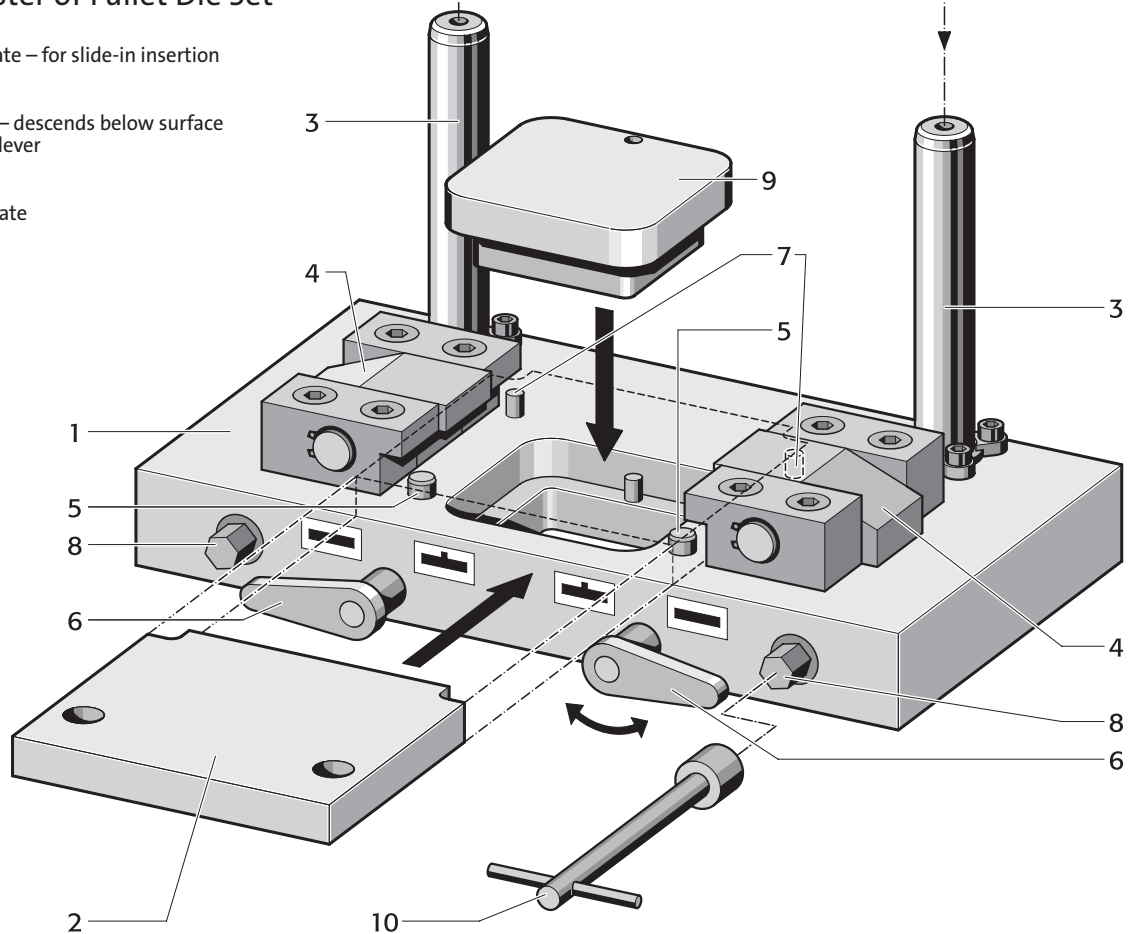
Top Bolster of Pallet Die Set

- 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



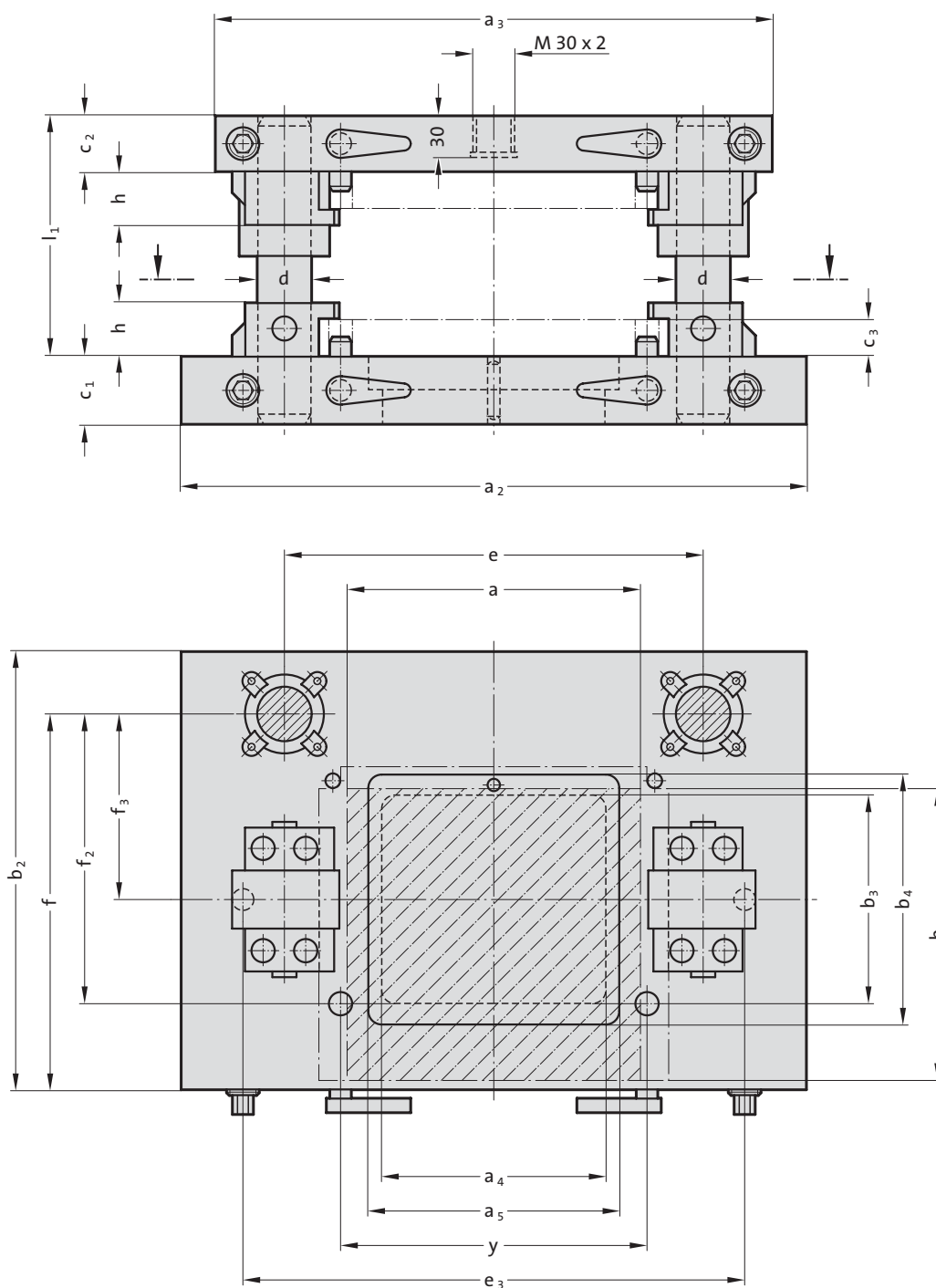
Bottom Bolster of Pallet Die Set

- 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



Fast Exchange System for Pallet Tooling

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

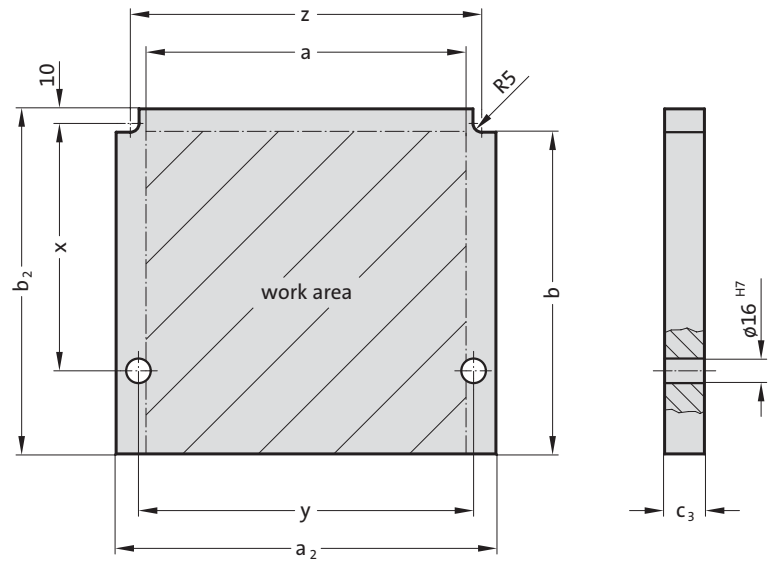
Pallet Carrier Plate Bolster Insert Plate

Pallet Carrier Plates

For each pallet tooling set, two carrier plates 201.96. are required – one for mounting the top tooling details, the other for the bottom tooling.

The tooling components are dowelled into position.

201.96.



201.96. Pallet Carrier Plate

Order No	work area a × b	a ₂	b ₂	c ₃	x	y	z
201.96.1010	100 × 100	150	115	16	50,1	120	130
201.96.2121	210 × 210	250	225	25	160,1	220	230
201.96.3030	300 × 300	350	315	25	250,1	320	330
201.96.3521	350 × 210	400	225	25	160,1	370	380

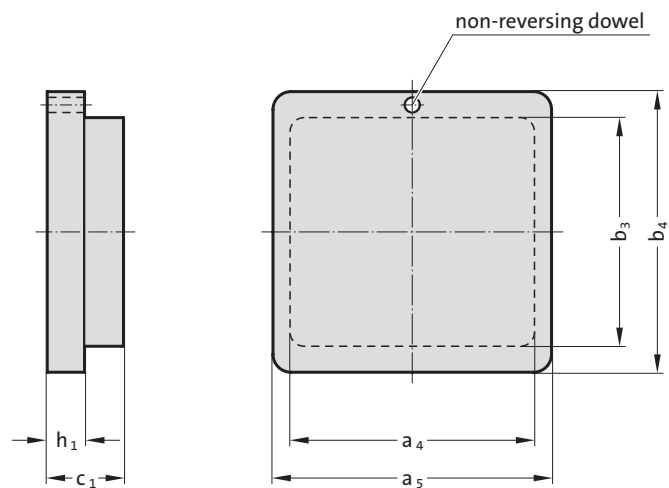
Bolster Insert Plates

201.97.

This insert plate has to be added to a tooling pallet set if:

- scrap holes near the centre require additional support
- spring cushions or bottom ejectors have to be employed
- other features of specific die designs require an individual insert plate

Bolster insert plates have a dowel that makes them non-reversible.

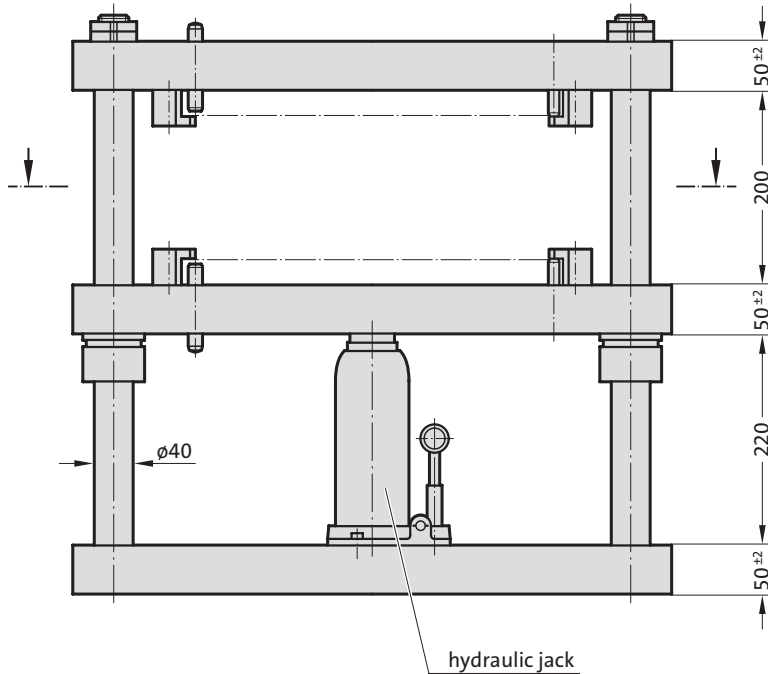


201.97. Bolster Insert Plate

Order No	work area a × b	a ₄	a ₅	b ₃	b ₄	c ₁	h ₁
201.97.1010	100 × 100	80	–	60	80	40	20
201.97.2121	210 × 210	160	180	150	180	50	25
201.97.3030	300 × 300	240	270	220	250	63	30
201.97.3521	350 × 210	320	–	120	150	50	25

Aligning- and Tryout Press Unit

201.98.



Description

These press units have manual actuation by way of a hydraulic jack which forces the guided bolster upwards. In the toolroom they serve as tryout- and setting press, especially for tooling pallet sets. For the latter purpose they are equipped with simplified but functionally similar features for positioning and clamping as those in FIBRO Tooling Pallet Die Sets.

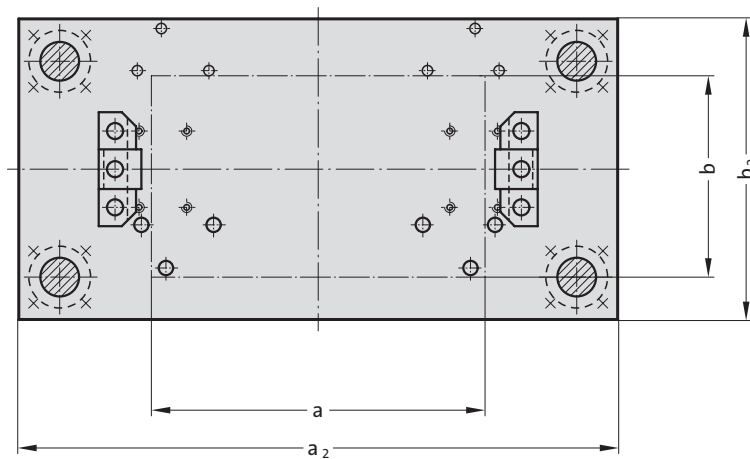
Moreover the press units provide ideal facilities for the press-fitting of pillars and bushes etc. – or their removal. For blueing-in and tryout of all sorts of press tools they soon prove themselves as an indispensable workshop facility, with a maximum thrust of 10 tons.

Material:

Plate: St 52-2

Execution:

Headed ball bearing guide bushes,
hydraulic jack, 10 tons capacity



201.98. Aligning- and Tryout Press Unit

Order No	work area a × b	a ₂	b ₂
201.98.1010.863	100 × 100	315	250
201.98.3030.863	210 × 210	630	315
201.98.3030.863	300 × 300	630	315
201.98.3030.863	350 × 210	630	315