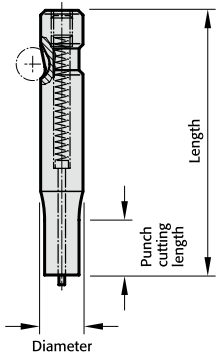


BALL-LOCK PUNCHES



BALL-LOCK PUNCH - EXAMPLE ORDERS



Note: See table for standard dimensions
Special dimensions to order

2 2 4 2 . 2 F 1 . 0 6 5 0 . 0 4 5 0 . B

Punch:
22 without ejector pin
27 with ejector pin

Execution:	Order No
○ blank	= 0
⊙ round	= 1
□ square	= 2
▭ rectangular	= 3
◻ slot	= 4
◻ rectangle with radiused corners	= 5
▽ Pilot pin with tapered tip	= 6
⊂ Pilot pin parabolic tip	= 7
special shapes	= 9

Type:	Order No
light	= 2
heavy	= 3
punch larger, light	= 4
punch larger, heavy	= 5

Punch cutting length: l_1	Order No
13	= 1
19	= 2
25	= 3
30	= 4
special	= X

Form: slot width = 4.5 mm

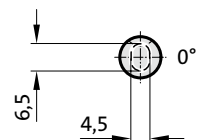
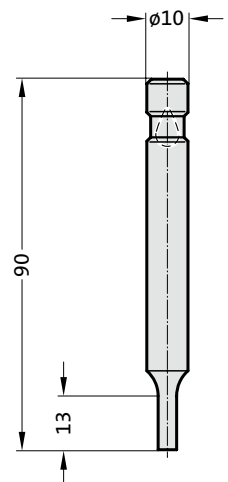
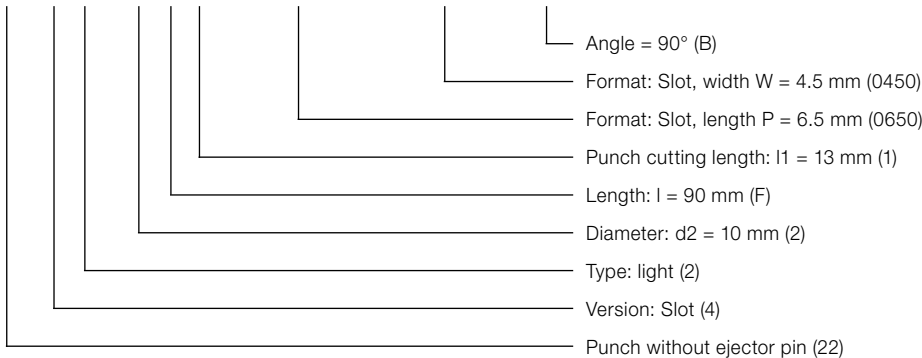
Angle:	Order Code character
0°	= A
90°	= B
180°	= C
270°	= D
special	= X

Length: l	Order Code character
50	= A
56	= B
63	= C
71	= D
80	= E
90	= F
100	= G
110	= H
125	= J
140	= K
150	= L
175	= M
200	= N
special	= X

Diameter: d_2	Order No
6 (light duty only)	= 1
10	= 2
13	= 3
16	= 4
20	= 5
25	= 6
32	= 7
38 (light duty only)	= 8
40 (heavy duty only)	= 9

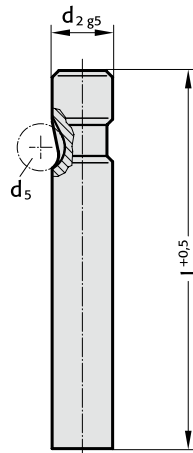
Ordering Code (example):

2 2 4 2 . 2 F 1 . 0 6 5 0 . 0 4 5 0 . B



BALL-LOCK PUNCH, BLANK, LIGHT DUTY

2202.

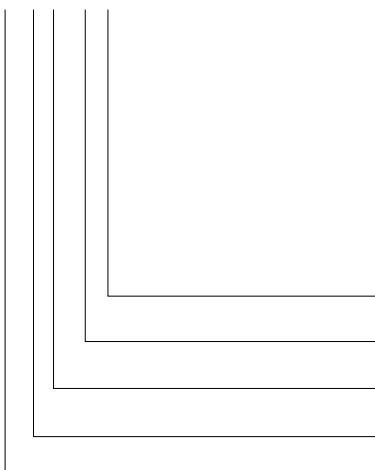


2202. Ball-Lock punch, blank, light duty

d ₂ / Order No	d ₅	l / (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)	140 (K)	150 (L)	175 (M)	200 (N)
6 / (1)	6		●	●	●	●	●						
10 / (2)	8		●	●	●	●	●	●					
13 / (3)	8		●	●	●	●	●	●	●	●		●	
16 / (4)	8		●	●	●	●	●	●	●	●	●	●	
20 / (5)	8		●	●	●	●	●	●	●	●	●	●	●
25 / (6)	8		●	●	●	●	●	●	●	●	●	●	●
32 / (7)	8			●	●	●	●	●	●	●	●	●	●
38 / (8)	8				●	●	●	●	●	●	●	●	●

Ordering Code (example):

2202.7G



Length: l
100 mm
Diameter: d₂
32 mm
Type:
light
Execution:
blank
Punch:
without ejector pin

Order Code character
= (G)
Order No
= (7)
Order No
= (2)
Order No
= (0)
= 22

Material:

HSS
Hardness 62 ± 2 HRC

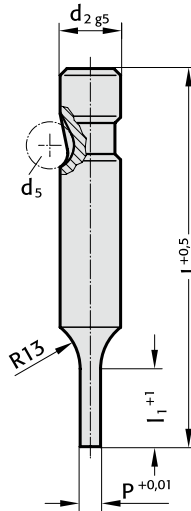
Execution:

Shaft fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, STEPPED, ROUND, LIGHT DUTY



2212.



2212. Ball-Lock punch, stepped, round, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	1,6 - 5,9	13(1)		●	●	●	●	●
10 / (2)	8	1,6 - 9,9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	5 - 12,9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	8 - 15,9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	12 - 19,9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	16 - 24,9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	24 - 31,9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	30 - 37,9	19(2) 25(3) 30(4)				●	●	●

l₁=10 where P < 2.20

Material:

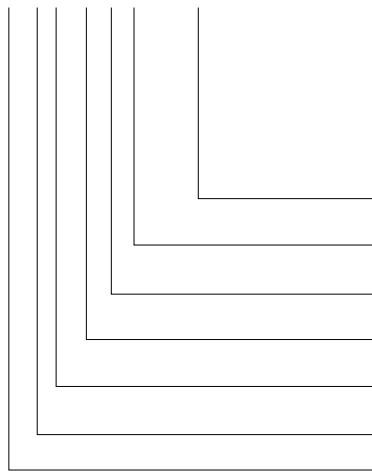
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch diameter fine ground.
Special dimensions on request.

Ordering Code (example):

2212.7G2.2450



Shape: round

P = Ø 24,5 mm

Punch cutting length: l₁
19 mm

Length: l
100 mm

Diameter: d₂
32 mm

Type:
light

Execution:
round

Punch:
without ejector pin

= 2450

Order No
= (2)

Order Code character
= (G)

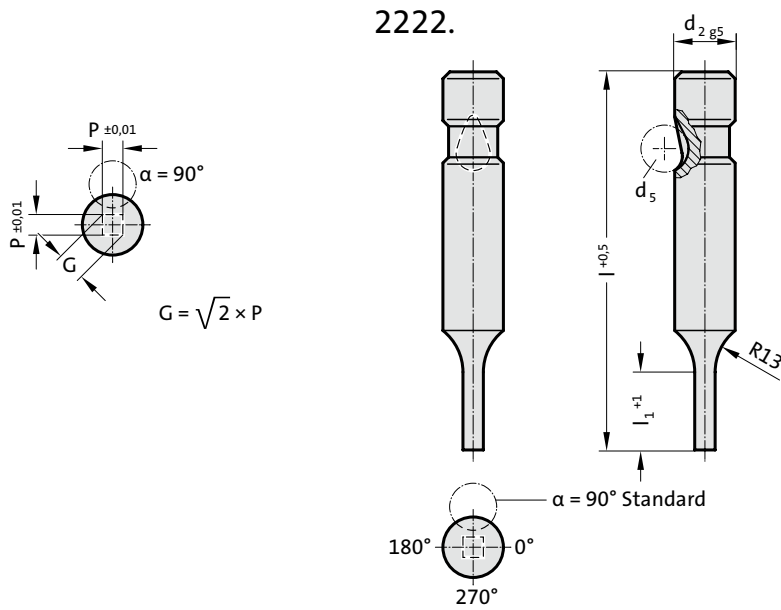
Order No
= (7)

Order No
= (2)

Order No
= (1)

= 22

BALL-LOCK PUNCH, STEPPED, SQUARE, LIGHT DUTY



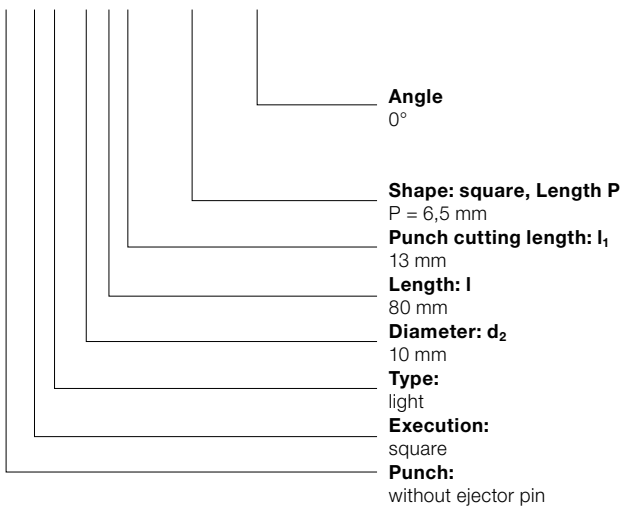
2222. Ball-Lock punch, stepped, square, light duty

d_2 / Order No	d_5	P_{min}	G_{max}	l_1 / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	1.6	5.9	13(1)		●	●	●	●	●
10 / (2)	8	1.6	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	4.5	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	10	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	14	37.9	19(2) 25(3) 30(4)				●	●	●

$l_1=10$ where $P < 2.20$

Ordering Code (example):

2222.2E1.0650.A



Order Code character
= (A)

= 0650

Order No

= (1)

Order Code character

= (E)

Order No

= (2)

Order No

= (2)

Order No

= (2)

= 22

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.

Special dimensions on request.

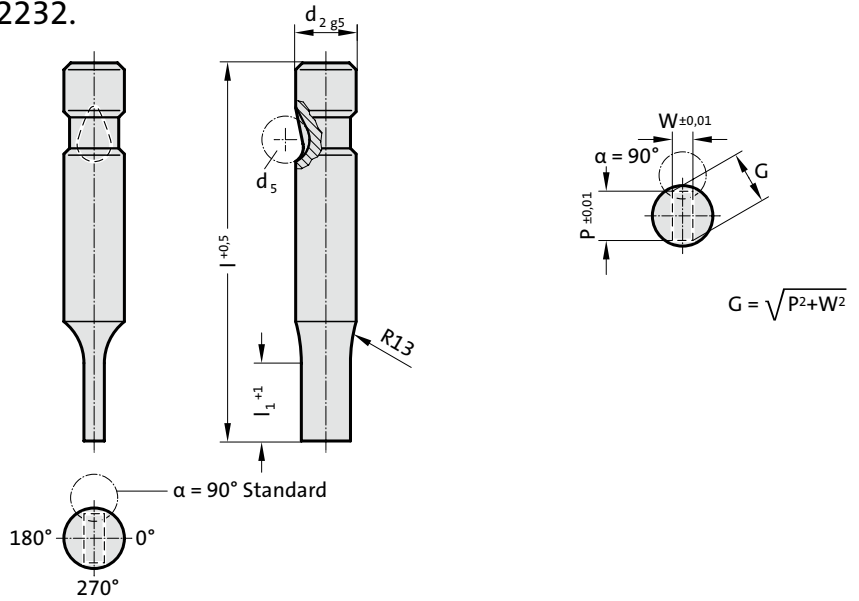
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, STEPPED, RECTANGULAR, LIGHT DUTY



2232.



2232. Ball-Lock punch, stepped, rectangular, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	1.6	5.9	13(1)		●	●	●	●	●
10 / (2)	8	1.6	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	4.5	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	10	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	14	37.9	19(2) 25(3) 30(4)				●	●	●

l₁=10 where W < 2.20

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

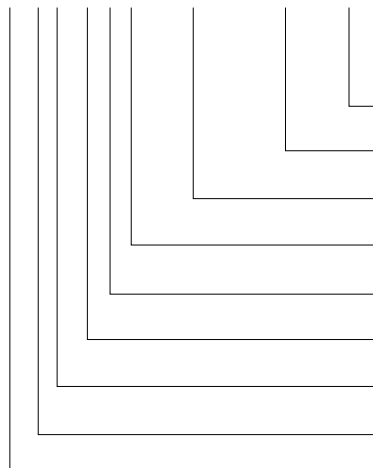
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

Ordering Code (example):

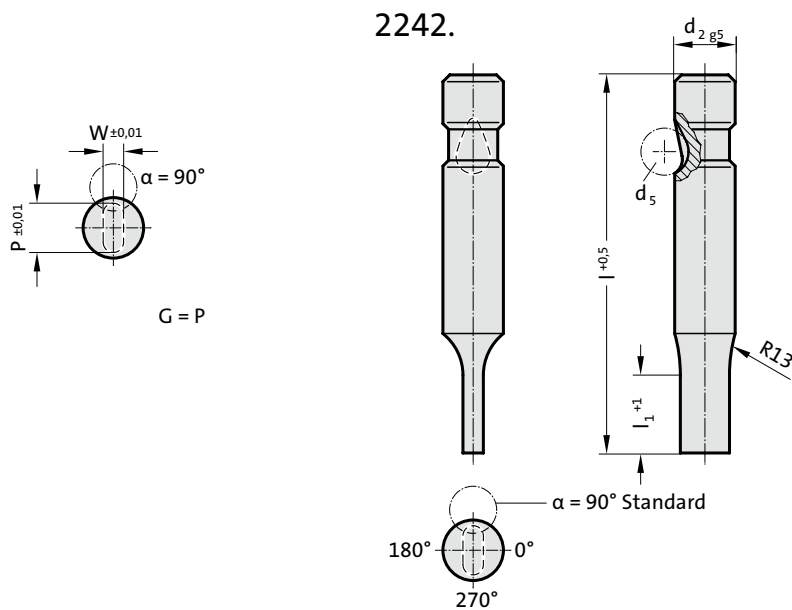
2232.2F1.0650.0450.B



Angle
90°
Shape: rectangular, Width W
W = 4,5 mm
Shape: rectangular, Length P
P = 6,5 mm
Punch cutting length: l₁
13 mm
Length: l
90 mm
Diameter: d₂
10 mm
Type:
light
Execution:
rectangular
Punch:
without ejector pin

Order Code character
= (B)
Order No
= 0450
Order No
= 0650
Order No
= (1)
Order Code character
= (F)
Order No
= (2)
Order No
= (2)
Order No
= (3)
Order No
= 22

BALL-LOCK PUNCH, STEPPED, SLOT, LIGHT DUTY



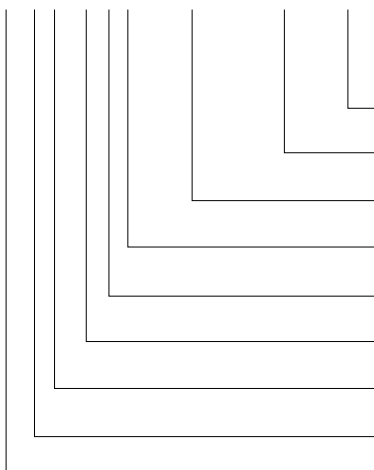
2242. Ball-Lock punch, stepped, slot, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63	71	80	90	100
						(C)	(D)	(E)	(F)	(G)
6 / (1)	6	1.6	5.9	13(1)		●	●	●	●	●
10 / (2)	8	1.6	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	4.5	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	10	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	14	37.9	19(2) 25(3) 30(4)				●	●	●

l₁=10 where W < 2.20

Ordering Code (example):

2242.2F1.0650.0450.B



Angle:
90°
Shape: slot, Width W
W = 4,5 mm
Shape: slot, Length P
P = 6,5 mm
Punch cutting length: l₁
13 mm
Length: l
90 mm
Diameter: d₂
10 mm
Type:
light
Execution:
slot
Punch:
without ejector pin

Order Code character
= (B)
= 0450
= 0650
Order No
= (1)
Order Code character
= (F)
Order No
= (2)
Order No
= (2)
Order No
= (4)
= 22

Material:

HSS
Hardness 62 ± 2 HRC

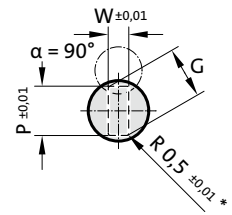
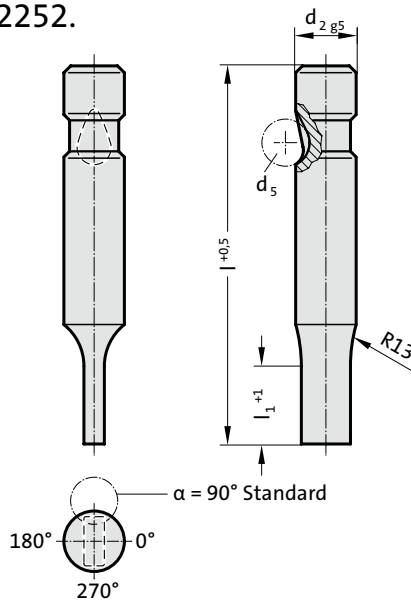
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, STEPPED, RECTANGLE WITH RADIUSSED CORNERS, LIGHT DUTY



2252.



$$G = \sqrt{(P-1.0)^2 + (W-1.0)^2} + 1$$

2252. Ball-Lock punch, stepped, rectangle with radiused corners, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	1.6	5.9	13(1)		●	●	●	●	●
10 / (2)	8	1.6	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	4.5	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	10	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	14	37.9	19(2) 25(3) 30(4)				●	●	●

l₁=10 where W < 2.20

Material:

HSS
Hardness 62 ± 2 HRC

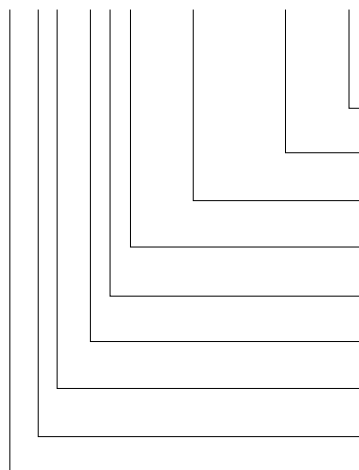
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

* For other radius options, see standardised special shapes.

Ordering Code (example):

2252.2F1.0650.0450.B

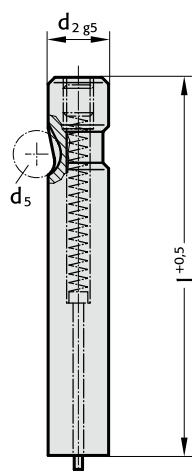


Angle: 90°
Shape: rectangle with radiused corners, Width W = 4,5 mm
Shape: rectangle with radiused corners, Length P = 6,5 mm
Punch cutting length: l₁ = 13 mm
Length: l = 90 mm
Diameter: d₂ = 10 mm
Type: light
Execution: rectangle with radiused corners
Punch: without ejector pin

Order Code character = (B)
Order No = 0450
Order Code character = (F)
Order No = 0650
Order Code character = (1)
Order No = (1)
Order Code character = (F)
Order No = (2)
Order Code character = (2)
Order No = (2)
Order Code character = (B)
Order No = (5)
Order Code character = (2)
Order No = 22

BALL-LOCK PUNCH, BLANK, WITH EJECTOR PIN, LIGHT DUTY

2702.

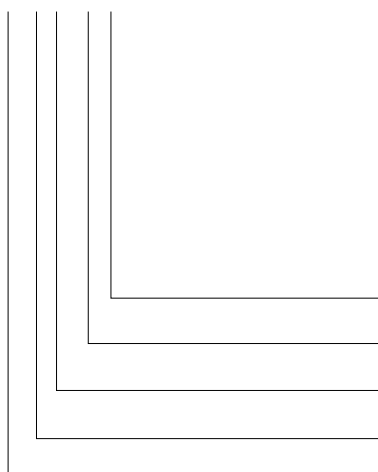


2702. Ball-Lock punch, blank, with ejector pin, light duty

d ₂ / Order No	d ₅	l / (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6		●	●	●	●	●
10 / (2)	8		●	●	●	●	●
13 / (3)	8		●	●	●	●	●
16 / (4)	8		●	●	●	●	●
20 / (5)	8		●	●	●	●	●
25 / (6)	8		●	●	●	●	●
32 / (7)	8			●	●	●	●
38 / (8)	8				●	●	●

Ordering Code (example):

2702.7G



Length: l
100 mm
Diameter: d₂
32 mm
Type:
light
Execution:
blank
Punch:
with ejector pin

Order Code character
= (G)
Order No
= (7)
Order No
= (2)
Order No
= (0)
= 27

Material:

HSS
Hardness 62 ± 2 HRC

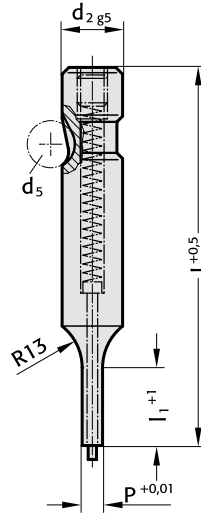
Execution:

Shaft fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, STEPPED, ROUND, WITH EJECTOR PIN, LIGHT DUTY



2712.



2712. Ball-Lock punch, stepped, round, with ejector pin, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	2,5 - 5,9	13(1)		●	●	●	●	●
10 / (2)	8	5 - 9,9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	6 - 12,9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	8 - 15,9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	10 - 19,9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	12 - 24,9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	16 - 31,9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	19 - 37,9	19(2) 25(3) 30(4)				●	●	●

Material:

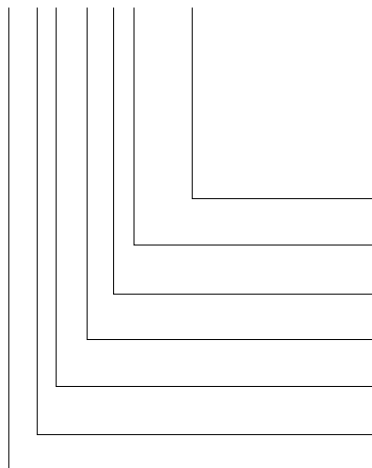
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch diameter fine ground.
Special dimensions on request.

Ordering Code (example):

2712.7G2.2450



Shape: round

P = Ø 24,5 mm

Punch cutting length: l₁
19 mm

Length: l
100 mm

Diameter: d₂
32 mm

Type:
light

Execution:
round

Punch:
with ejector pin

= 2450

Order No
= (2)

Order Code character
= (G)

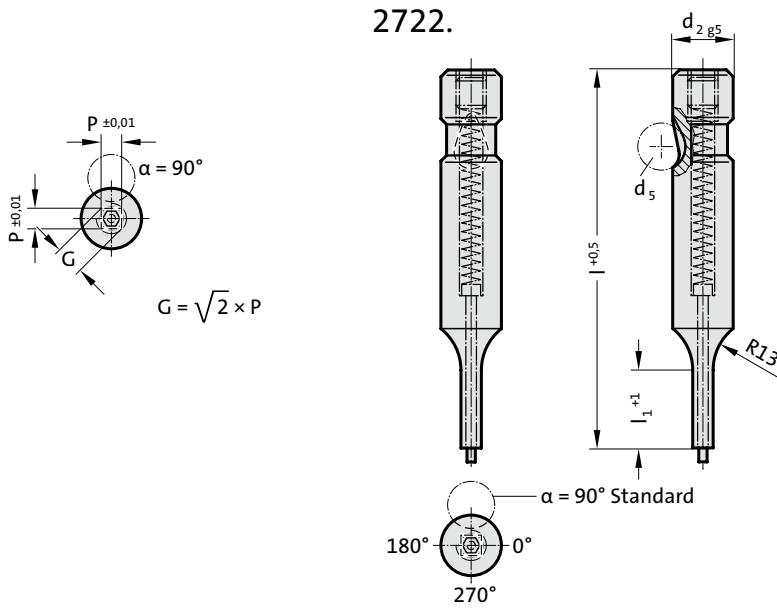
Order No
= (7)

Order No
= (2)

Order No
= (1)

= 27

BALL-LOCK PUNCH, STEPPED, SQUARE, WITH EJECTOR PIN, LIGHT DUTY

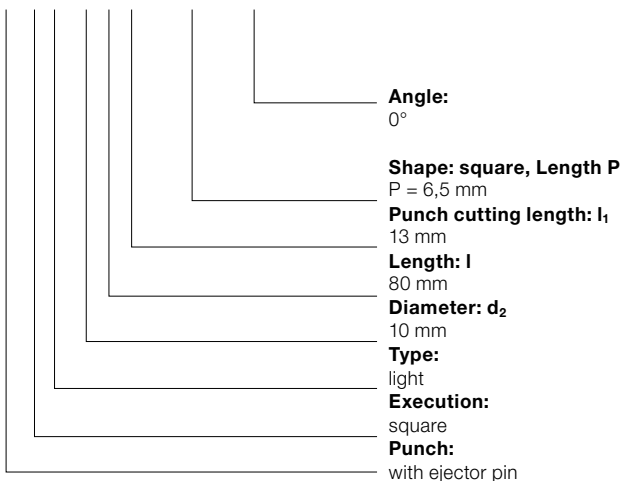


2722. Ball-Lock punch, stepped, square, with ejector pin, light duty

d_2 / Order No	d_5	P_{min}	G_{max}	l_1 / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	2.5	5.9	13(1)		●	●	●	●	●
10 / (2)	8	4	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	6	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	8	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	10	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	12	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	16	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	19	37.9	19(2) 25(3) 30(4)				●	●	●

Ordering Code (example):

2722.2E1.0650.A



Order Code character
= (A)

= 0650

Order No

= (1)

Order Code character

= (E)

Order No

= (2)

Order No

= (2)

Order No

= (2)

= 27

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.

Special dimensions on request.

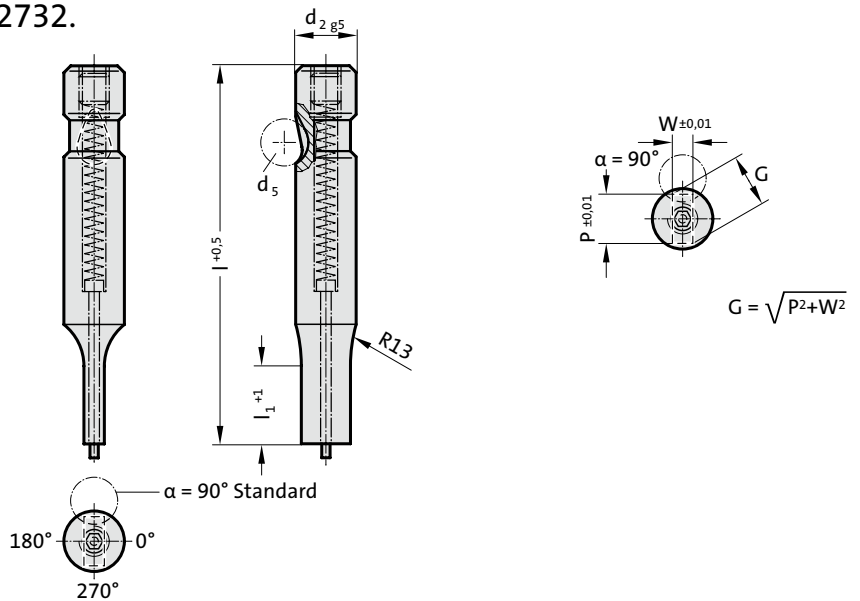
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, STEPPED, RECTANGULAR, WITH EJECTOR PIN, LIGHT DUTY



2732.



2732. Ball-Lock punch, stepped, rectangular, with ejector pin, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	2.5	5.9	13(1)		●	●	●	●	●
10 / (2)	8	4	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	6	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	8	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	10	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	12	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	16	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	19	37.9	19(2) 25(3) 30(4)				●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

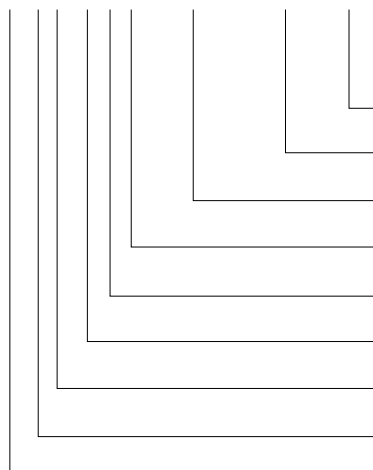
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

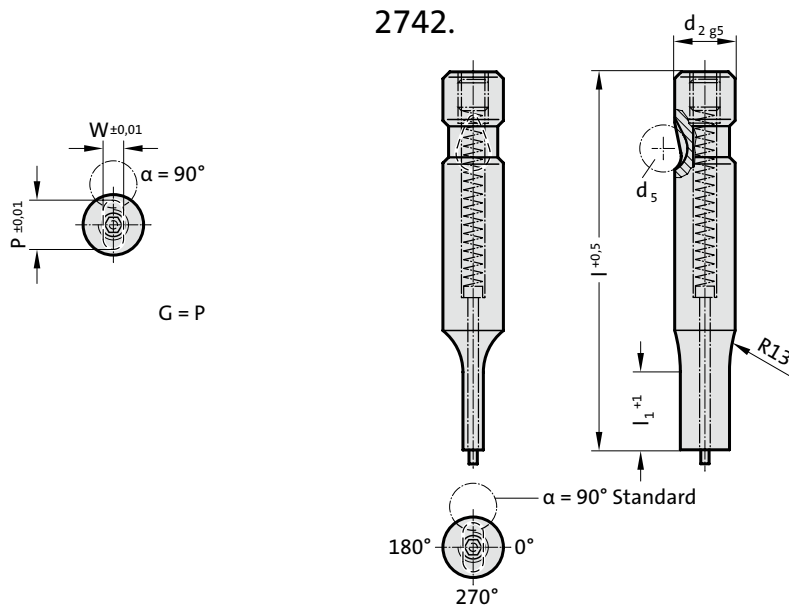
Ordering Code (example):

2732.2F1.0650.0450.B



- Angle:** 90°
- Shape:** rectangular, Width W
W = 4,5 mm
- Shape:** rectangular, Length P
P = 6,5 mm
- Punch cutting length:** l₁
13 mm
- Length:** l
90 mm
- Diameter:** d₂
10 mm
- Type:** light
- Execution:** rectangular
- Punch:** with ejector pin
- Order Code character** = (B)
- = 0450
- = 0650
- Order No** = (1)
- Order Code character** = (F)
- Order No** = (2)
- Order No** = (2)
- Order No** = (3)
- = 27

BALL-LOCK PUNCH, STEPPED, SLOT, WITH EJECTOR PIN, LIGHT DUTY

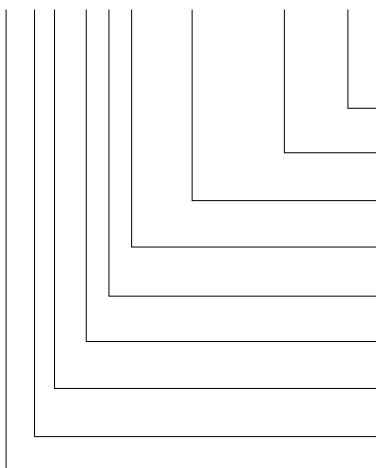


2742. Ball-Lock punch, stepped, slot, with ejector pin, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63	71	80	90	100
						(C)	(D)	(E)	(F)	(G)
6 / (1)	6	2.5	5.9	13(1)		●	●	●	●	●
10 / (2)	8	4	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	6	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	8	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	10	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	12	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	16	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	19	37.9	19(2) 25(3) 30(4)				●	●	●

Ordering Code (example):

2742.2F1.0650.0450.B



Angle:
90°
Shape: slot, Width W
W = 4,5 mm
Shape: slot, Length P
P = 6,5 mm
Punch cutting length: l₁
13 mm
Length: l
90 mm
Diameter: d₂
10 mm
Type:
light
Execution:
slot
Punch:
with ejector pin

Order Code character
= (B)
= 0450
= 0650
Order No
= (1)
Order Code character
= (F)
Order No
= (2)
Order No
= (2)
Order No
= (4)
= 27

Material:

HSS
Hardness 62 ± 2 HRC

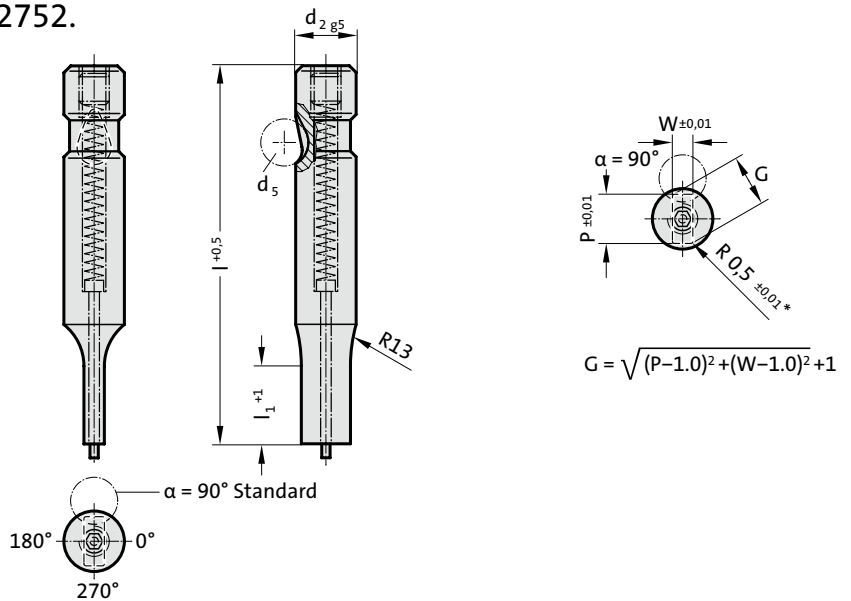
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, STEPPED, RECTANGLE WITH RADIUSSED CORNERS, WITH EJECTOR PIN, LIGHT DUTY



2752.



2752. Ball-Lock punch, stepped, rectangle with radiussed corners, with ejector pin, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	2.5	5.9	13(1)		●	●	●	●	●
10 / (2)	8	4	9.9	13(1) 19(2)		●	●	●	●	●
13 / (3)	8	6	12.9	13(1) 19(2)		●	●	●	●	●
16 / (4)	8	8	15.9	13(1) 19(2) 25(3)		●	●	●	●	●
20 / (5)	8	10	19.9	13(1) 19(2) 25(3)		●	●	●	●	●
25 / (6)	8	12	24.9	13(1) 19(2) 25(3)		●	●	●	●	●
32 / (7)	8	16	31.9	13(1) 19(2) 25(3)			●	●	●	●
38 / (8)	8	19	37.9	19(2) 25(3) 30(4)				●	●	●

Material:

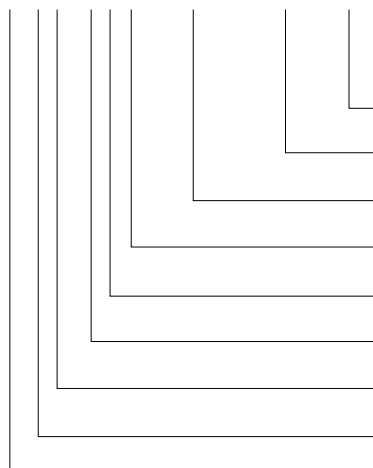
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.
* For other radius options, see standardised special shapes.

Ordering Code (example):

2752.2F1.0650.0450.B

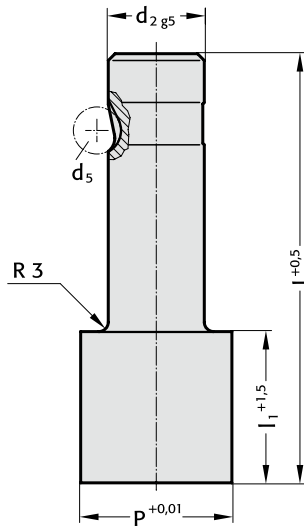
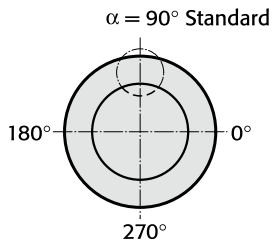


Angle: 90°
Shape: rectangle with radiused corners, Width W = 4,5 mm
Shape: rectangle with radiused corners, Length P = 6,5 mm
Punch cutting length: l₁ = 13 mm
Length: l = 90 mm
Diameter: d₂ = 10 mm
Type: light
Execution: rectangle with radiused corners
Punch: with ejector pin

Order Code character = (B)
Order Code character = (F)
Order No = (1)
Order Code character = (2)
Order No = (2)
Order No = (5)
Order No = (27)

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, BLANK, LIGHT DUTY

2204.

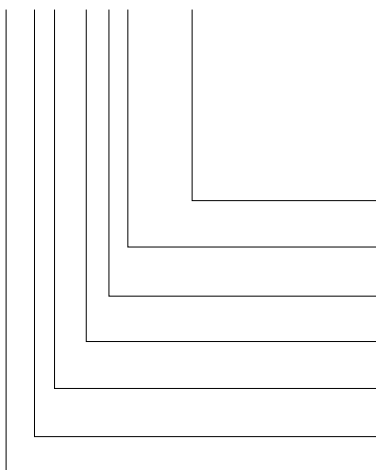


2204. Ball-Lock punch, punch larger than shaft, blank, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	32	19 / (2) 30 / (4)		●	●	●
16 / (4)	8	38	19 / (2) 30 / (4)		●	●	●
20 / (5)	8	40	19 / (2) 30 / (4)		●	●	●
25 / (6)	8	44	19 / (2) 30 / (4)		●	●	●
32 / (7)	8	50	19 / (2) 30 / (4)		●	●	●

Ordering Code (example):

2204.4F4.3800



Shape: round

P = Ø 38 mm

Punch cutting length: l₁

30 mm

Length: l

90 mm

Diameter: d₂

16 mm

Type:

punch larger, light

Execution:

blank

Punch:

without ejector pin

= 3800

Order No

= (4)

Order Code character

= (F)

Order No

= (4)

Order No

= (4)

Order No

= (0)

= 22

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

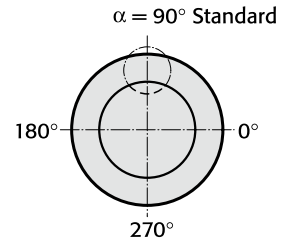
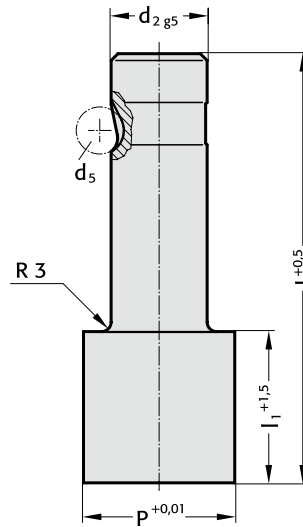
Shaft and punch diameter fine ground.

Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, ROUND, LIGHT DUTY



2214.



2214. Ball-Lock punch, punch larger than shaft, round, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	13,1 - 32	19(2) 30(4)		●	●	●
16 / (4)	8	16,1 - 38	19(2) 30(4)		●	●	●
20 / (5)	8	20,1 - 40	19(2) 30(4)		●	●	●
25 / (6)	8	25,1 - 44	19(2) 30(4)		●	●	●
32 / (7)	8	32,1 - 50	19(2) 30(4)		●	●	●

Material:

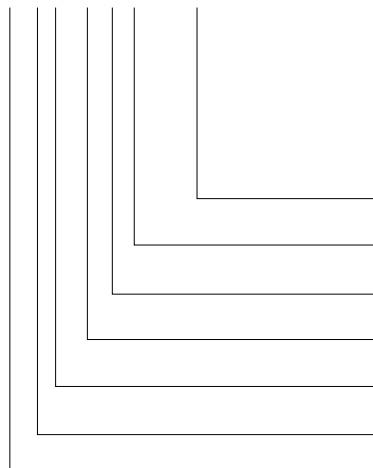
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch diameter fine ground.
Special dimensions on request.

Ordering Code (example):

2214.7G2.3820



Shape: round

P = Ø 38,2 mm

Punch cutting length: l₁
19 mm

Length: l
100 mm

Diameter: d₂
32 mm

Type:
punch larger, light

Execution:
round

Punch:
without ejector pin

= 3820

Order No
= (2)

Order Code character
= (G)

Order No
= (7)

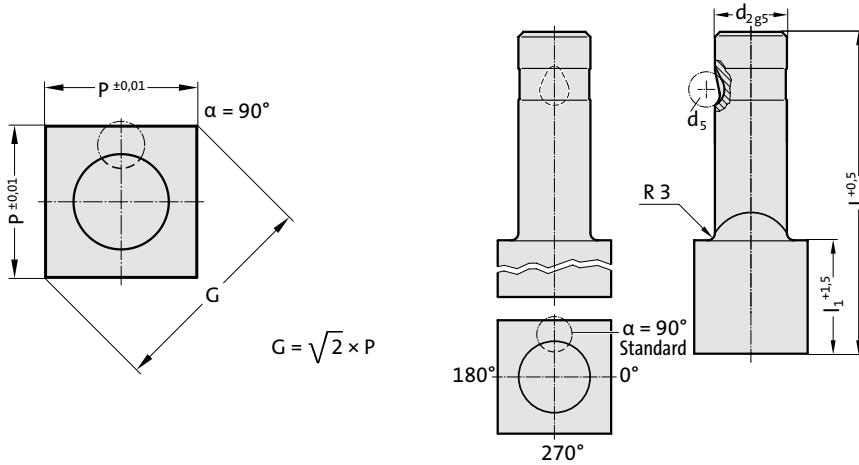
Order No
= (4)

Order No
= (1)

= 22

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SQUARE, LIGHT DUTY

2224.

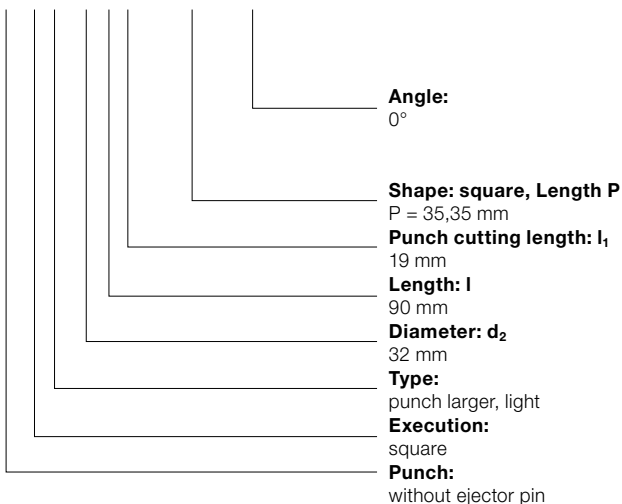


2224. Ball-Lock punch, punch larger than shaft, square, light duty

d ₂ / Order No	d ₅	P _{min}	G _{max}	l ₁ / Order No	I (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	9.19	32	19(2) 30(4)		●	●	●
16 / (4)	8	11.31	38	19(2) 30(4)		●	●	●
20 / (5)	8	14.14	40	19(2) 30(4)		●	●	●
25 / (6)	8	17.68	44	19(2) 30(4)		●	●	●
32 / (7)	8	22.63	50	19(2) 30(4)		●	●	●

Ordering Code (example):

2224.7F2.3535.A



Order Code character
= (A)

= 3535

Order No
= (2)

Order Code character
= (F)

Order No
= (7)

Order No
= (4)

Order No
= (2)

= 22

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

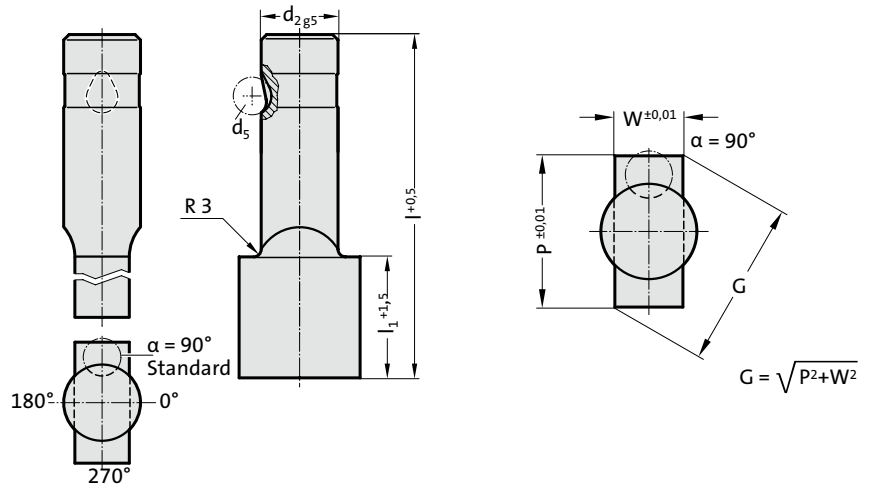
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGULAR, LIGHT DUTY



2234.



2234. Ball-Lock punch, punch larger than shaft, rectangular, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	5	32	19(2) 30(4)		●	●	●
16 / (4)	8	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	8	8	40	19(2) 30(4)		●	●	●
25 / (6)	8	10	44	19(2) 30(4)		●	●	●
32 / (7)	8	11.5	50	19(2) 30(4)		●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

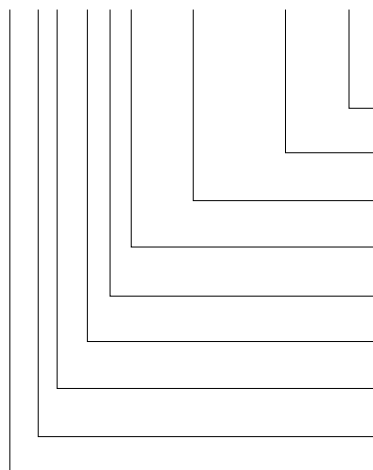
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

Ordering Code (example):

2234.7F2.3820.1150.B



Angle:

90°

Shape: rectangular, Width W

W = 11,5 mm

Shape: rectangular, Length P

P = 38,2 mm

Punch cutting length: l₁

19 mm

Length: l

90 mm

Diameter: d₂

32 mm

Type:

punch larger, light

Execution:

rectangular

Punch:

without ejector pin

Order Code character

= (B)

= 1150

= 3820

Order No

= (2)

Order Code character

= (F)

Order No

= (7)

Order No

= (4)

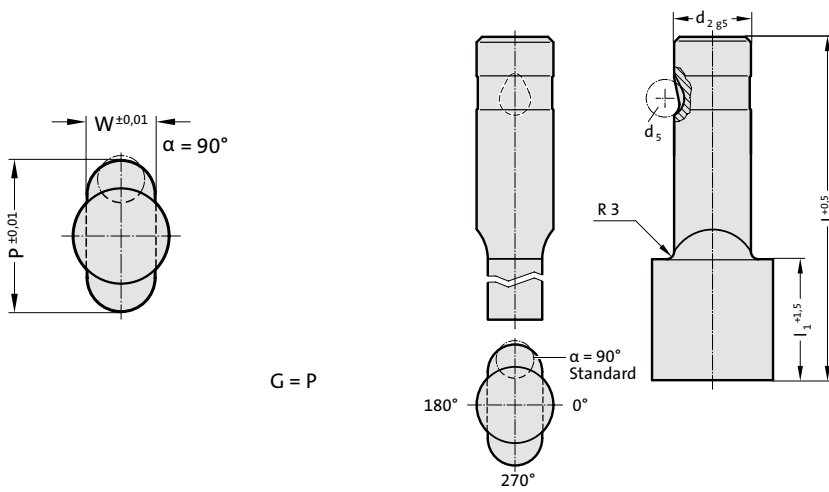
Order No

= (3)

= 22

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SLOT, LIGHT DUTY

2244.

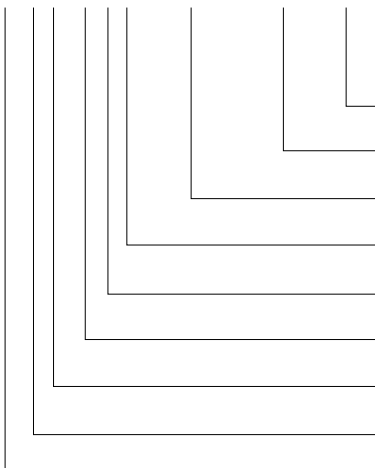


2244. Ball-Lock punch, punch larger than shaft, slot, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	5	32	19(2) 30(4)		●	●	●
16 / (4)	8	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	8	8	40	19(2) 30(4)		●	●	●
25 / (6)	8	10	44	19(2) 30(4)		●	●	●
32 / (7)	8	11.5	50	19(2) 30(4)		●	●	●

Ordering Code (example):

2244.4F2.3720.1150.B



Angle:
90°
Shape: slot, Width W
W = 11,5 mm
Shape: slot, Length P
P = 37,2 mm
Punch cutting length: l₁
19 mm
Length: l
90 mm
Diameter: d₂
16 mm
Type:
punch larger, light
Execution:
slot
Punch:
without ejector pin

Order Code character
= (B)
= 1150
= 3720
Order No
= (2)
Order Code character
= (F)
Order No
= (4)
Order No
= (4)
Order No
= (4)

Material:

HSS
Hardness 62 ± 2 HRC

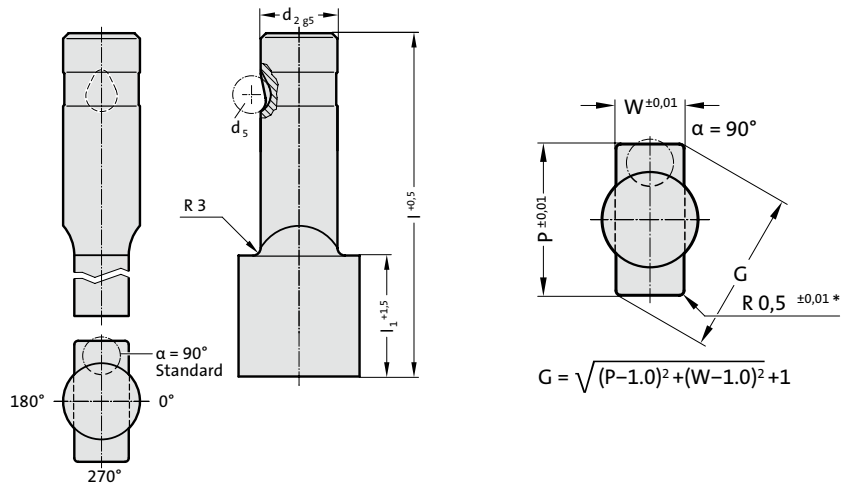
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGLE WITH RADIUSSED CORNERS, LIGHT DUTY



2254.



2254. Ball-Lock punch, punch larger than shaft, rectangle with radiussed corners, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	5	32	19(2) 30(4)		●	●	●
16 / (4)	8	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	8	8	40	19(2) 30(4)		●	●	●
25 / (6)	8	10	44	19(2) 30(4)		●	●	●
32 / (7)	8	11.5	50	19(2) 30(4)		●	●	●

Material:

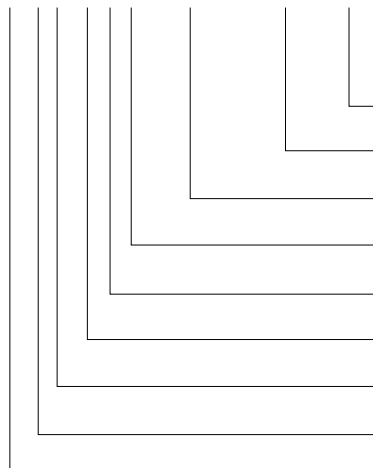
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.
* For other radius options, see standardised special shapes.

Ordering Code (example):

2254.7F2.3720.1150.B

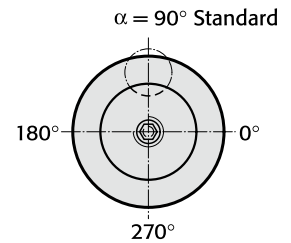
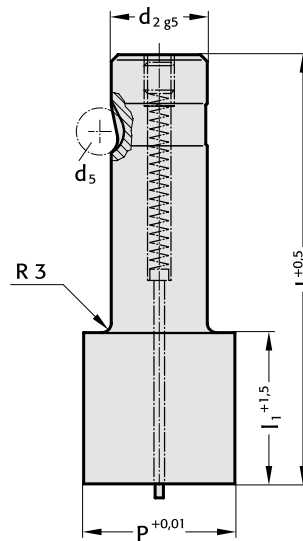


Angle: 90°
Order Code character = (B)
Shape: rectangle with radiussed corners, Width W = 11,5 mm
Order Code character = 1150
Shape: rectangle with radiussed corners, Length P = 37,2 mm
Order No = 3720
Punch cutting length: l₁ = 19 mm
Order No = (2)
Length: l = 90 mm
Order Code character = (F)
Diameter: d₂ = 32 mm
Order No = (7)
Type: punch larger, light
Order No = (4)
Execution: rectangle with radiussed corners
Order No = (5)
Punch: without ejector pin
Order No = 22

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, ROUND, WITH EJECTOR PIN, LIGHT DUTY



2714.



2714. Ball-Lock punch, punch larger than shaft, round, with ejector pin, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	13,1 - 32	19(2) 30(4)		●	●	●
16 / (4)	8	16,1 - 38	19(2) 30(4)		●	●	●
20 / (5)	8	20,1 - 40	19(2) 30(4)		●	●	●
25 / (6)	8	25,1 - 44	19(2) 30(4)		●	●	●
32 / (7)	8	32,1 - 50	19(2) 30(4)		●	●	●

Material:

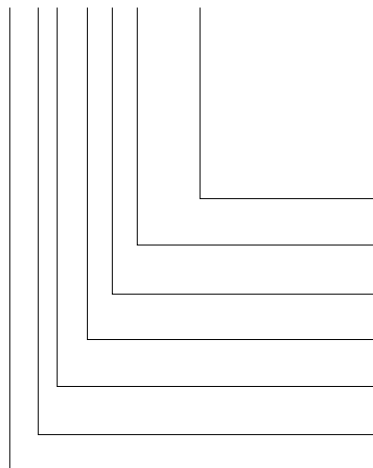
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch diameter fine ground.
Special dimensions on request.

Ordering Code (example):

2714.7G2.4250



Shape: round

P = Ø 42,5 mm

Punch cutting length: l₁
19 mm

Length: l
100 mm

Diameter: d₂
32 mm

Type:
punch larger, light

Execution:
round

Punch:
with ejector pin

= 4250

Order No
= (2)

Order Code character
= (G)

Order No
= (7)

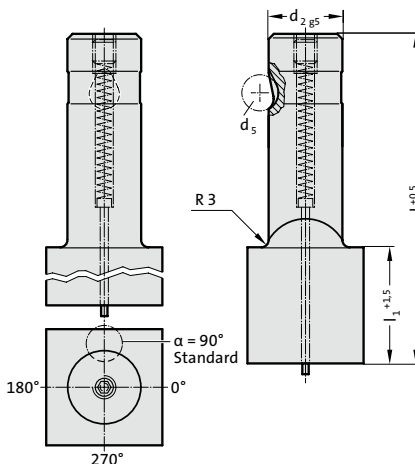
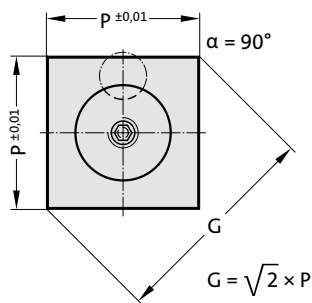
Order No
= (4)

Order No
= (1)

= 27

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SQUARE, WITH EJECTOR PIN, LIGHT DUTY

2724.

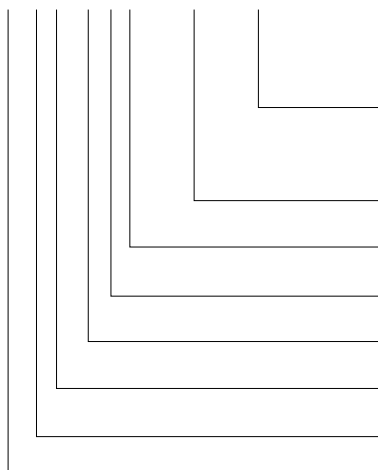


2724. Ball-Lock punch, punch larger than shaft, square, with ejector pin, light duty

d ₂ / Order No	d ₅	P _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	9.19	32	19(2) 30(4)		●	●	●
16 / (4)	8	11.31	38	19(2) 30(4)		●	●	●
20 / (5)	8	14.14	40	19(2) 30(4)		●	●	●
25 / (6)	8	17.68	44	19(2) 30(4)		●	●	●
32 / (7)	8	22.63	50	19(2) 30(4)		●	●	●

Ordering Code (example):

2724.5E2.2828.A



Angle:
0°

Shape: square, Length P
P = 28,28 mm

Punch cutting length: l₁
19 mm

Length: l
80 mm

Diameter: d₂
20 mm

Type:
punch larger, light

Execution:
square

Punch:
with ejector pin

Order Code character
= (A)

= 2828

Order No
= (2)

Order Code character
= (E)

Order No
= (5)

Order No
= (4)

Order No
= (2)

= 27

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.

Special dimensions on request.

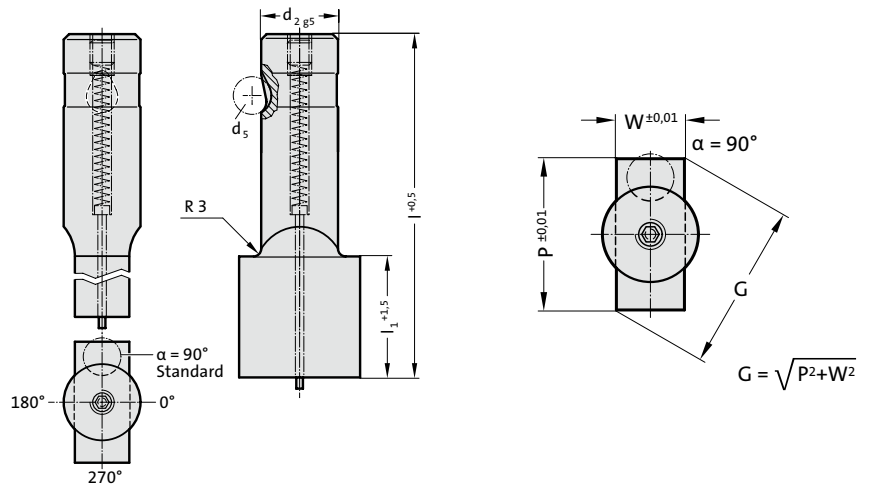
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGULAR, WITH EJECTOR PIN, LIGHT DUTY



2734.



2734. Ball-Lock punch, punch larger than shaft, rectangular, with ejector pin, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80	90	100
						(E)	(F)	(G)
13 / (3)	8	5	32	19(2) 30(4)		●	●	●
16 / (4)	8	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	8	8	40	19(2) 30(4)		●	●	●
25 / (6)	8	10	44	19(2) 30(4)		●	●	●
32 / (7)	8	11.5	50	19(2) 30(4)		●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

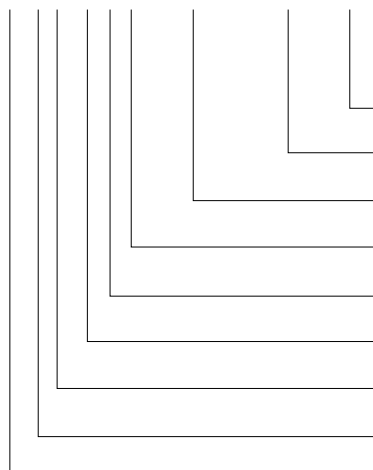
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

Ordering Code (example):

2734.7F2.3820.1150.B



Angle:

90°

Shape: rectangular, Width W

W = 11,5 mm

Shape: rectangular, Length P

P = 38,2 mm

Punch cutting length: l₁

19 mm

Length: l

90 mm

Diameter: d₂

32 mm

Type:

punch larger, light

Execution:

rectangular

Punch:

with ejector pin

Order Code character

= (B)

= 1150

= 3820

Order No

= (2)

Order Code character

= (F)

Order No

= (7)

Order No

= (4)

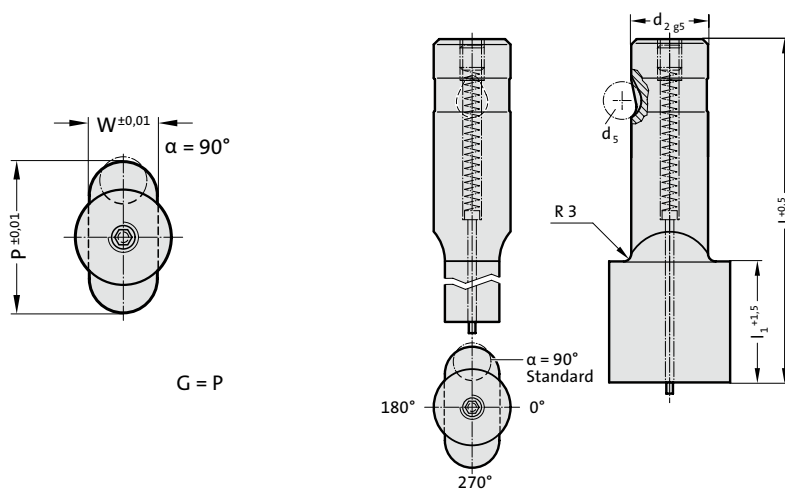
Order No

= (3)

= 27

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SLOT, WITH EJECTOR PIN, LIGHT DUTY

2744.

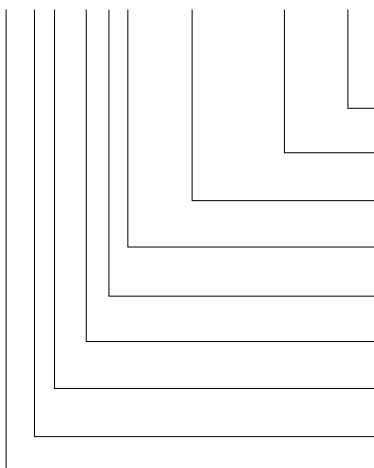


2744. Ball-Lock punch, punch larger than shaft, slot, with ejector pin, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	5	32	19(2) 30(4)		●	●	●
16 / (4)	8	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	8	8	40	19(2) 30(4)		●	●	●
25 / (6)	8	10	44	19(2) 30(4)		●	●	●
32 / (7)	8	11.5	50	19(2) 30(4)		●	●	●

Ordering Code (example):

2744.7F2.3820.1150.B



Angle:
90°
Shape: slot, Width W
W = 11,5 mm
Shape: slot, Length P
P = 38,2 mm
Punch cutting length: l₁
19 mm
Length: l
90 mm
Diameter: d₂
32 mm
Type:
punch larger, light
Execution:
slot
Punch:
with ejector pin

Order Code character
= (B)
= 1150
= 3820
Order No
= (2)
Order Code character
= (F)
Order No
= (7)
Order No
= (4)
Order No
= (4)
= 27

Material:

HSS
Hardness 62 ± 2 HRC

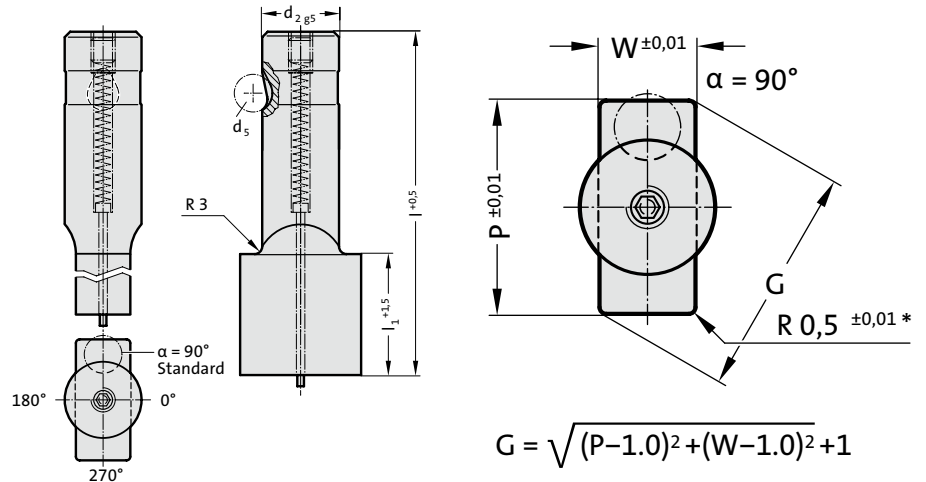
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGLE WITH RADIUSSED CORNERS, WITH EJECTOR PIN, LIGHT DUTY



2754.



2754. Ball-Lock punch, punch larger than shaft, rectangle with radiussed corners, with ejector pin, light duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	8	5	32	19(2) 30(4)		●	●	●
16 / (4)	8	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	8	8	40	19(2) 30(4)		●	●	●
25 / (6)	8	10	44	19(2) 30(4)		●	●	●
32 / (7)	8	11.5	50	19(2) 30(4)		●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

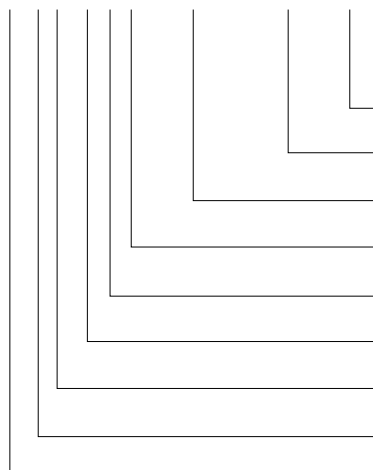
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

* For other radius options, see standardised special shapes.

Ordering Code (example):

2754.7F2.3820.1150.B



Angle:

90°

Shape: rectangle with radiussed corners, Width W
W = 11,5 mm

Shape: rectangle with radiussed corners, Length P
P = 38,2 mm

Punch cutting length: l₁
19 mm

Length: l

90 mm

Diameter: d₂

32 mm

Type:

punch larger, light

Execution:

rectangle with radiussed corners

Punch:

with ejector pin

Order Code character
= (B)

Order Code character
= 1150

Order Code character
= 3820

Order No
= (2)

Order Code character
= (F)

Order No
= (7)

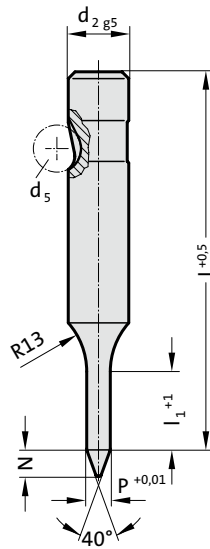
Order No
= (4)

Order No
= (5)

Order No
= 27

BALL-LOCK PILOT PIN, WITH TAPERED TIP, LIGHT DUTY

2262.

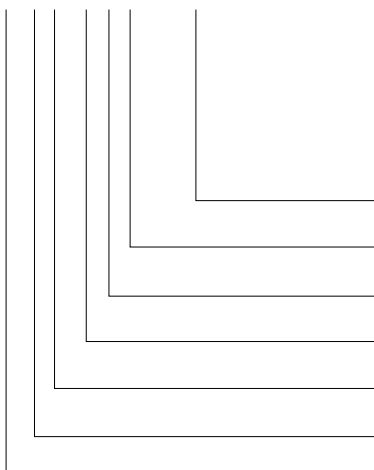


2262. Ball-Lock pilot pin, with tapered tip, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	N	l (Order Code character)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)	140 (K)	150 (L)
10 / (2)	8	5,9 - 9,9	19(2)	8		●	●	●	●	●			
13 / (3)	8	9,9 - 12,9	19(2)	10		●	●	●	●	●	●		
16 / (4)	8	12,9 - 15,9	25(3)	15		●	●	●	●	●	●	●	●
20 / (5)	8	15,9 - 19,9	25(3)	20		●	●	●	●	●	●	●	●
25 / (6)	8	19,9 - 24,9	25(3)	25		●	●	●	●	●	●	●	●
32 / (7)	8	24,9 - 31,9	25(3)	30			●	●	●	●	●	●	●
38 / (8)	8	31,9 - 37,9	30(4)	35			●	●	●	●	●	●	●

Ordering Code (example):

2262.4G3.1410



Shape: round

P = ∅ 14,1 mm

Punch cutting length: l₁
25 mm

Length: l
100 mm

Diameter: d₂
16 mm

Type:
light

Execution:
Pilot pin with tapered tip

Punch:
without ejector pin

= 1410

Order No
= (3)

Order Code character
= (G)

Order No
= (4)

Order No
= (2)

Order No
= (6)

= 22

Material:

HSS

Hardness 62 ± 2 HRC

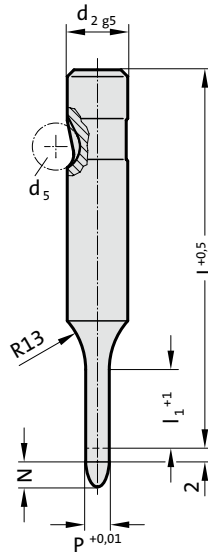
Execution:

Shaft and pilot pin fine ground.
Special dimensions on request.

BALL-LOCK PILOT PIN, WITH PARABOLIC TIP, LIGHT DUTY



2272.



2272. Ball-Lock pilot pin, with parabolic tip, light duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	50 (A)	56 (B)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)
6 / (1)	6	2,5 - 5,9	13(1)		●	●	●	●	●	●	●
10 / (2)	8	5,9 - 9,9	19(2)		●	●	●	●	●	●	●
13 / (3)	8	9,9 - 12,9	19(2)		●	●	●	●	●	●	●
16 / (4)	8	12,9 - 15,9	25(3)				●	●	●	●	●
20 / (5)	8	15,9 - 19,9	25(3)				●	●	●	●	●
25 / (6)	8	19,9 - 24,9	25(3)				●	●	●	●	●
32 / (7)	8	24,9 - 31,9	25(3)					●	●	●	●
38 / (8)	8	31,9 - 37,9	30(4)						●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and pilot pin fine ground.
Special dimensions on request.

Note:

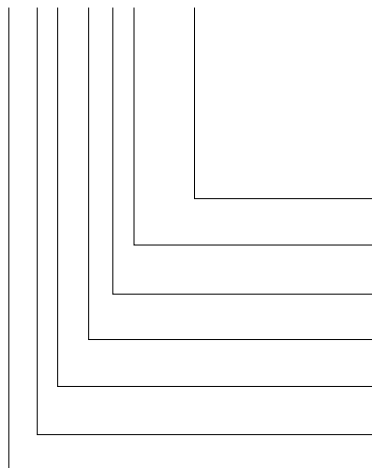
The 2 mm length provides full guidance before the blanking punch contacts the sheet metal.

Length of parabolic tip N:

= 8 mm where P ≤ 10 mm
= 12 mm where P 10,1 mm - 15 mm
= 15 mm where P > 15 mm

Ordering Code (example):

2272.4G3.1410



Shape: round

P = Ø 14,1 mm

Punch cutting length: l₁
25 mm

Length: l

100 mm

Diameter: d₂

16 mm

Type:

light

Execution:

Pilot pin with parabolic tip

Punch:

without ejector pin

= 1410

Order No

= (3)

Order Code character

= (G)

Order No

= (4)

Order No

= (2)

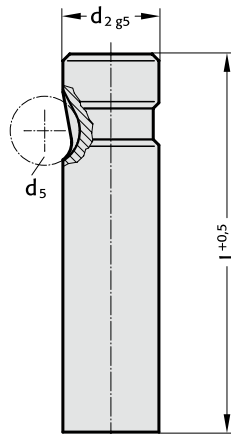
Order No

= (7)

= 22

BALL-LOCK PUNCH, BLANK, HEAVY DUTY

2203.

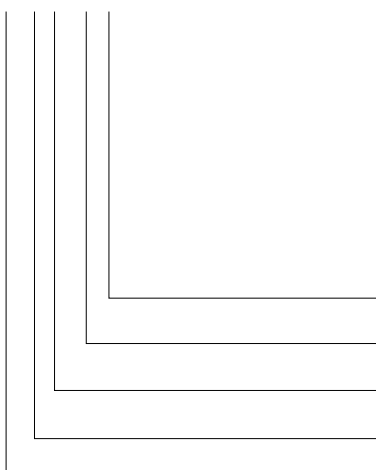


2203. Ball-Lock punch, blank, heavy duty

d ₂ / Order No	d ₅	l / (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)	140 (K)	150 (L)	175 (M)	200 (N)
10 / (2)	10		●	●	●	●	●	●	●				
13 / (3)	12		●	●	●	●	●	●	●	●	●	●	
16 / (4)	12		●	●	●	●	●	●	●	●	●	●	●
20 / (5)	12		●	●	●	●	●	●	●	●	●	●	●
25 / (6)	12			●	●	●	●	●	●	●	●	●	●
32 / (7)	12			●	●	●	●	●	●	●	●	●	●
40 / (9)	12				●	●	●	●	●	●	●	●	●

Ordering Code (example):

2203.7G



Length: l
100 mm
Diameter: d₂
32 mm
Type:
heavy
Execution:
blank
Punch:
without ejector pin

Order Code character
= (G)
Order No
= (7)
Order No
= (3)
Order No
= (0)
= 22

Material:

HSS
Hardness 62 ± 2 HRC

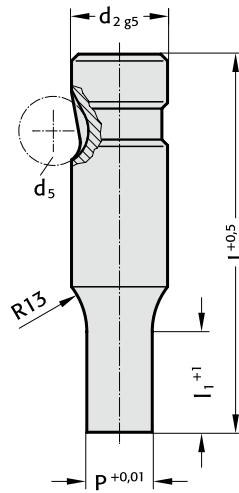
Execution:

Shaft fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, STEPPED, ROUND, HEAVY DUTY



2213.



2213. Ball-Lock punch, stepped, round, heavy duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	1,6 - 9,9	13(1) 19(2)		●	●	●	●	●	●	●
13 / (3)	12	5 - 12,9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	12	8 - 15,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	12 - 19,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	16 - 24,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	24 - 31,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	30 - 39,9	19(2) 25(3) 30(4)				●	●	●	●	●

l₁=10 where P < 2.20

Material:

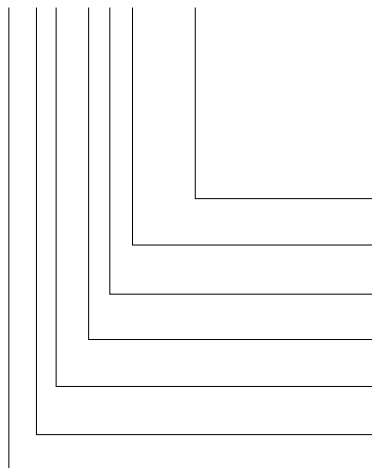
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch diameter fine ground.
Special dimensions on request.

Ordering Code (example):

2213.7G2.2450



Shape: round

P = Ø 24,5 mm

Punch cutting length: l₁

19 mm

Length: l

100 mm

Diameter: d₂

32 mm

Type:

heavy

Execution:

round

Punch:

without ejector pin

= 2450

Order No

= (2)

Order Code character

= (G)

Order No

= (7)

Order No

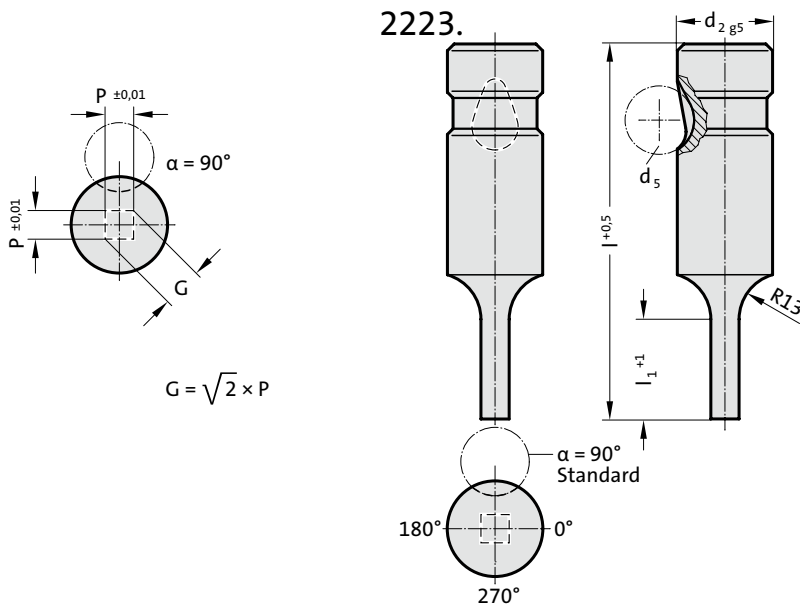
= (3)

Order No

= (1)

= 22

BALL-LOCK PUNCH, STEPPED, SQUARE, HEAVY DUTY



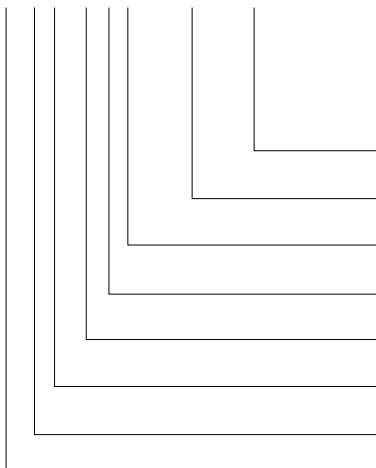
2223. Ball-Lock punch, stepped, square, heavy duty

d ₂ / Order No	d ₅	P _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63	71	80	90	100	110	125
						(C)	(D)	(E)	(F)	(G)	(H)	(J)
10 / (2)	10	1.6	9.9	13(1) 19(2)		●	●	●	●	●	●	●
13 / (3)	12	4.5	12.9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	12	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	10	24.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	14	39.9	19(2) 25(3) 30(4)				●	●	●	●	●

l₁=10 where P < 2.20

Ordering Code (example):

2223.3F1.0620.B



Angle:
90°
Shape: square, Length P
P = 6,2 mm
Punch cutting length: l₁
13 mm
Length: l
90 mm
Diameter: d₂
13 mm
Type:
heavy
Execution:
square
Punch:
without ejector pin

Order Code character
= (B)
Order No
= 0620
Order Code character
= (F)
Order No
= (3)
Order No
= (3)
Order No
= (2)

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

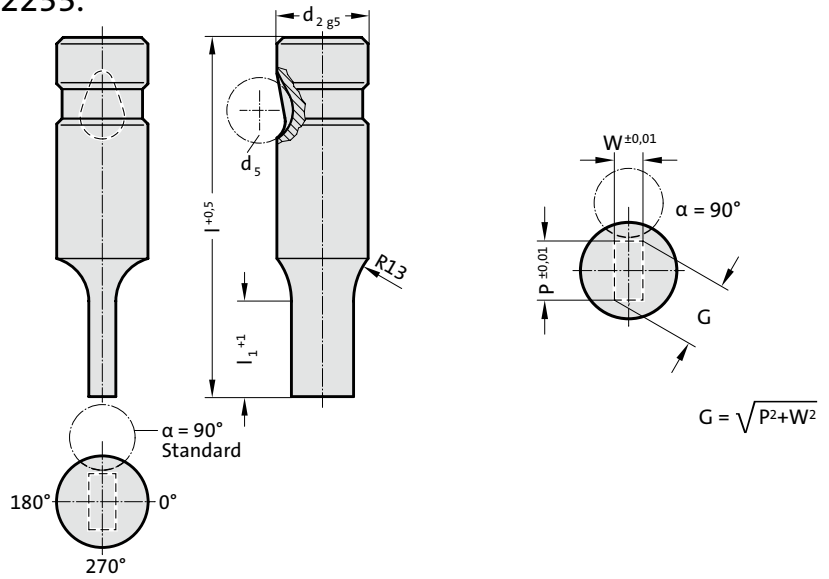
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, STEPPED, RECTANGULAR, HEAVY DUTY



2233.



2233. Ball-Lock punch, stepped, rectangular, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	1.6	9.9	13(1) 19(2)		●	●	●	●	●	●	●
13 / (3)	12	4.5	12.9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	12	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	10	24.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	14	39.9	19(2) 25(3) 30(4)				●	●	●	●	●

l₁=10 where W < 2.20

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

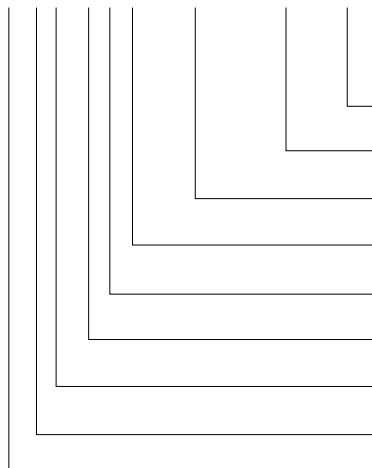
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

Ordering Code (example):

2233.2F1.0650.0450.B



Angle:

90°

Shape: rectangular, Width W

W = 4,5 mm

Shape: rectangular, Length P

P = 6,5 mm

Punch cutting length: l₁

13 mm

Length: l

90 mm

Diameter: d₂

10 mm

Type:

heavy

Execution:

rectangular

Punch:

without ejector pin

Order Code character
= (B)

= 0450

= 0650

Order No

= (1)

Order Code character

= (F)

Order No

= (2)

Order No

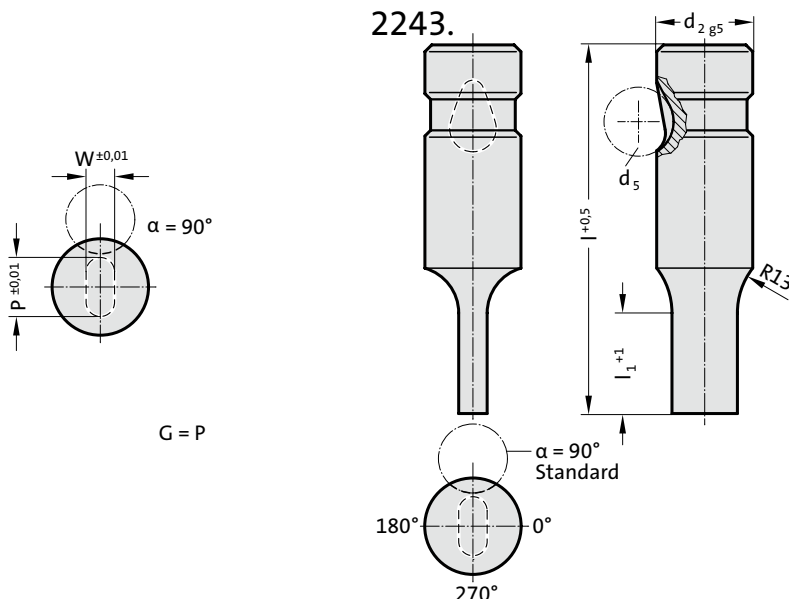
= (3)

Order No

= (3)

= 22

BALL-LOCK PUNCH, STEPPED, SLOT, HEAVY DUTY



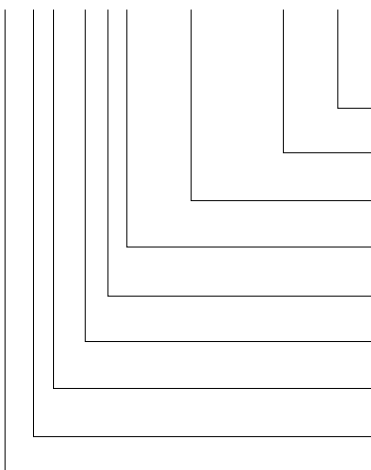
2243. Ball-Lock punch, stepped, slot, heavy duty

d ₂ / Order No	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	1.6	9.9	13(1) 19(2)		●	●	●	●	●	●	●
13 / (3)	4.5	12.9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	10	24.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	14	39.9	19(2) 25(3) 30(4)				●	●	●	●	●

l₁=10 where W < 2.20

Ordering Code (example):

2243.3E2.1215.0915.B



Angle:
90°
Shape: slot, Width W
W = 9,15 mm
Shape: slot, Length P
P = 12,15 mm
Punch cutting length: l₁
19 mm
Length: l
80 mm
Diameter: d₂
13 mm
Type:
heavy
Execution:
slot
Punch:
without ejector pin

Order Code character
= (B)
= 0915
= 1215
Order No
= (2)
Order Code character
= (E)
Order No
= (3)
Order No
= (3)
Order No
= (4)
= 22

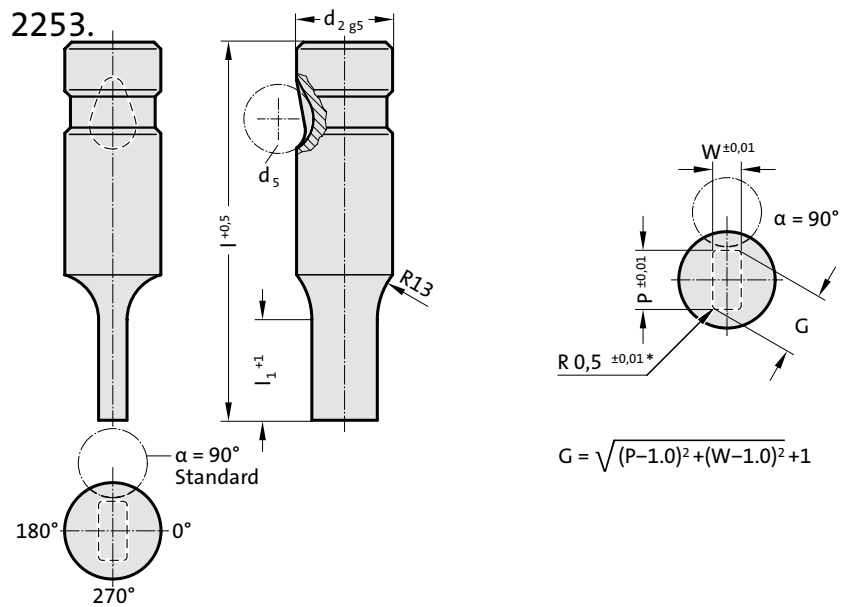
Material:

HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, STEPPED, RECTANGLE WITH RADIUSSED CORNERS, HEAVY DUTY



2253. Ball-Lock punch, stepped, rectangle with radiussed corners, heavy duty

d ₂ / Order No	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	1.6	9.9	13(1) 19(2)		●	●	●	●	●	●	●
13 / (3)	4.5	12.9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	6	15.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	8	19.9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	10	24.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12.5	31.9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	14	39.9	19(2) 25(3) 30(4)				●	●	●	●	●

l₁=10 where W < 2.20

Material:

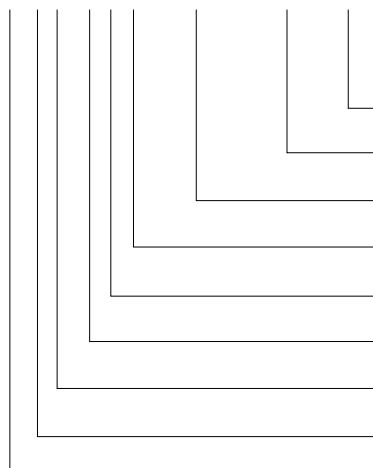
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.
* For other radius options, see standardised special shapes.

Ordering Code (example):

2253.2F1.0650.0450.B

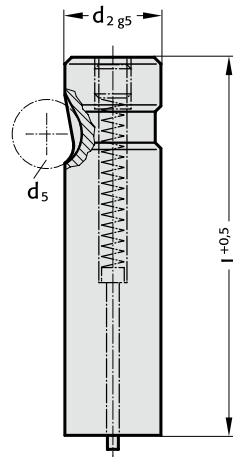


Angle: 90°
Shape: rectangle with radiussed corners, Width W
W = 4,5 mm
Shape: rectangle with radiussed corners, Length P
P = 6,5 mm
Punch cutting length: l₁
13 mm
Length: l
90 mm
Diameter: d₂
10 mm
Type: heavy
Execution: rectangle with radiussed corners
Punch: without ejector pin

Order Code character
= (B)
Order Code character
= 0450
Order No
= 0650
Order Code character
= (F)
Order No
= (2)
Order No
= (3)
Order No
= (5)
Order No
= 22

BALL-LOCK PUNCH, BLANK, WITH EJECTOR PIN, HEAVY DUTY

2703.

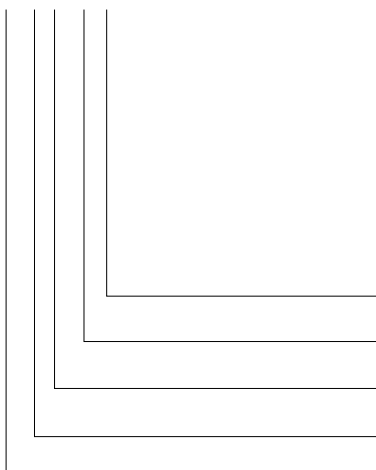


2703. Ball-Lock punch, blank, with ejector pin, heavy duty

d ₂ / Order No	d ₅	l / (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10		●	●	●	●	●		
13 / (3)	12		●	●	●	●	●	●	●
16 / (4)	12		●	●	●	●	●	●	●
20 / (5)	12		●	●	●	●	●	●	●
25 / (6)	12			●	●	●	●	●	●
32 / (7)	12			●	●	●	●	●	●
40 / (9)	12				●	●	●	●	●

Ordering Code (example):

2703.7G



Length: l
100 mm
Diameter: d₂
32 mm
Type:
heavy
Execution:
blank
Punch:
with ejector pin

Order Code character
= (G)
Order No
= (7)
Order No
= (3)
Order No
= (0)
= 27

Material:

HSS
Hardness 62 ± 2 HRC

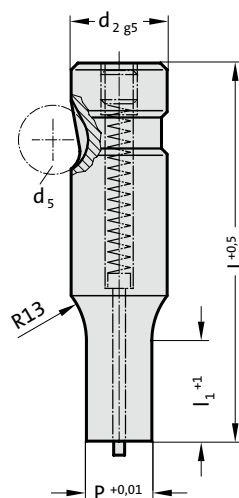
Execution:

Shaft fine ground.
Special dimensions on request.

POINÇON À BILLE, ÉPAULÉ, ROND, AVEC ÉJECTEUR, FORTE CHARGE



2713.



2713. Poinçon à bille, épaulé, rond, avec éjecteur, forte charge

d ₂ / Chiffre de référence	d ₅	P	l ₁ / Chiffre de référence	l (Lettre de référence)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	5 - 9,9	13(1) 19(2)		●	●	●	●	●		
13 / (3)	12	6 - 12,9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	12	8 - 15,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	10 - 19,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	12 - 24,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	16 - 31,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	19 - 39,9	19(2) 25(3) 30(4)				●	●	●	●	●

*à d₂ = 16/ 20 et l = 63; l_{1 max.} = 19

Matière :

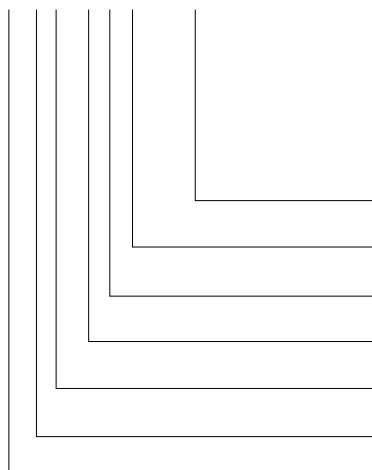
HSS
Dureté 62 ± 2 HRC

Exécution :

Corps et diamètre du tranchant superfinis.
Fabrication spéciale sur demande.

Exemple de commande :

2713.3C1.0550



Forme: Rond

P = Ø 5,5 mm

Longueur épaulement: l₁

13 mm

Longueur: l

63 mm

Diamètre: d₂

13 mm

Type:

forte charge

Exécution:

Rond

Poinçon de découpe:

avec éjecteur

= 0550

Chiffre de référence

= (1)

Lettre de référence

= (C)

Chiffre de référence

= (3)

Chiffre de référence

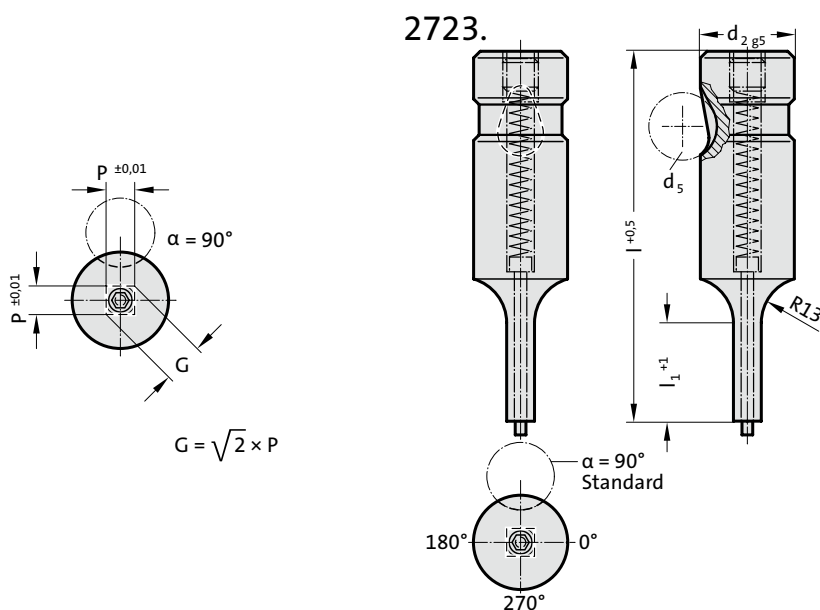
= (3)

Chiffre de référence

= (1)

= 27

POINÇON À BILLE, ÉPAULÉ, CARRÉ, AVEC ÉJECTEUR, FORTE CHARGE



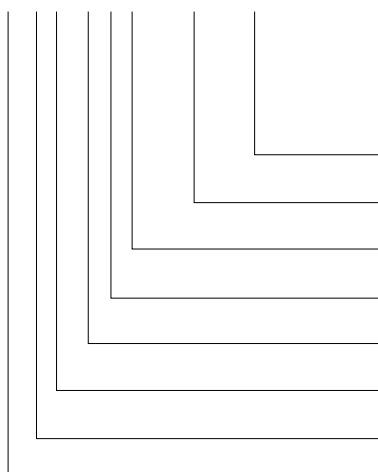
2723. Poinçon à bille, épaulé, carré, avec éjecteur, forte charge

d ₂ / Chiffre de référence	d ₅	P _{min}	G _{max}	l ₁ / Chiffre de référence	l (Lettre de référence)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	4	9,9	13(1) 19(2)		●	●	●	●	●		
13 / (3)	12	6	12,9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	12	8	15,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	10	19,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	12	24,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	16	31,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	19	39,9	19(2) 25(3) 30(4)				●	●	●	●	●

*à d₂ = 16/ 20 et l = 63; l_{1 max.} = 19

Exemple de commande :

2723.2F1.0650.B



Angle:
90°
Forme: Carré, Longueur P
P = 6,5 mm
Longueur épaulement: l₁
13 mm
Longueur: l
90 mm
Diamètre: d₂
10 mm
Type:
forte charge
Exécution:
Carré
Poinçon de découpe:
avec éjecteur

Lettre de référence
= (B)
Chiffre de référence
= 0650
Lettre de référence
= (F)
Chiffre de référence
= (2)
Chiffre de référence
= (3)
Chiffre de référence
= (2)
Chiffre de référence
= 27

Matière :

HSS
Dureté 62 ± 2 HRC

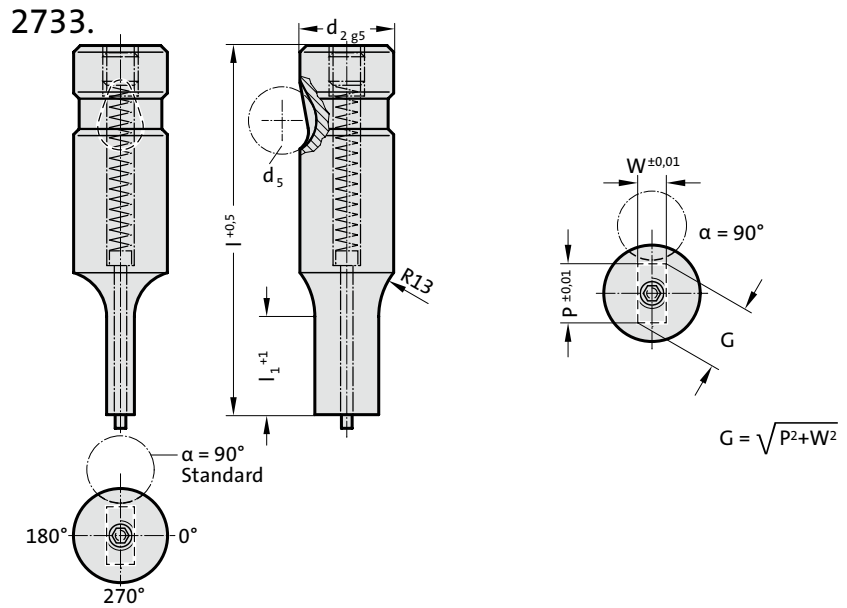
Exécution :

Corps et embout profilé superfinis.
Fabrication spéciale sur demande.

Remarque :

En cas de fente de coupe ≤ 0,04 mm, FIBRO procède à l'arrondissement des arêtes tranchantes si un poinçon de découpe et une matrice sont commandés ensemble. Cela permet de réduire le temps de montage et les risques de cassure d'arêtes durant le fonctionnement.

POINÇON À BILLE, ÉPAULÉ, RECTANGLE, AVEC ÉJECTEUR, FORTE CHARGE



2733. Poinçon à bille, épaulé, rectangle, avec éjecteur, forte charge

d ₂ / Chiffre de référence	d ₅	W _{min}	G _{max}	l ₁ / Chiffre de référence	l (Lettre de référence)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	4	9,9	13(1) 19(2)		●	●	●	●	●		
13 / (3)	12	6	12,9	13(1) 19(2)		●	●	●	●	●		
16 / (4)	12	8	15,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	10	19,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	12	24,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	16	31,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	19	39,9	19(2) 25(3) 30(4)				●	●	●	●	●

*à d₂ = 16/ 20 et l = 63; l_{1 max.} = 19

Matière :

HSS
Dureté 62 ± 2 HRC

Exécution :

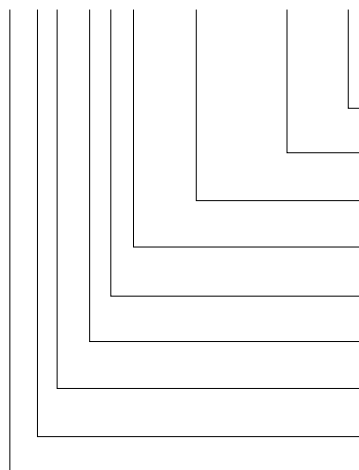
Corps et embout profilé superfinis.
Fabrication spéciale sur demande.

Remarque :

En cas de fente de coupe ≤ 0,04 mm, FIBRO procède à l'arrondissement des arêtes tranchantes si un poinçon de découpe et une matrice sont commandés ensemble. Cela permet de réduire le temps de montage et les risques de cassure d'arêtes durant le fonctionnement.

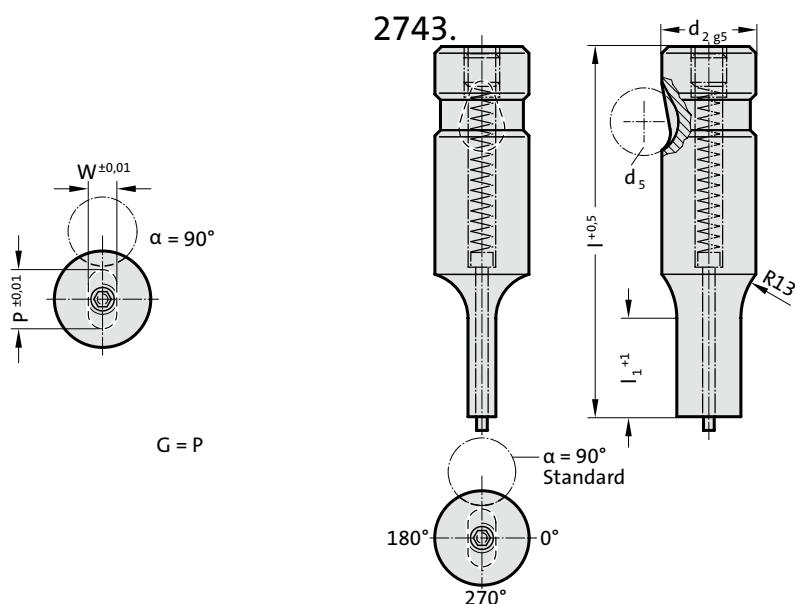
Exemple de commande :

2733.7F2.1420.1250.B



- Angle:** 90°
- Forme: Rectangle, Largeur W** W = 12,50 mm
- Forme: Rectangle, Longueur P** P = 14,20 mm
- Longueur épaulement: l₁** 19 mm
- Longueur: l** 90 mm
- Diamètre: d₂** 32 mm
- Type:** forte charge
- Exécution:** Rectangle
- Poinçon de découpe:** avec éjecteur
- Lettre de référence** = (B)
- Chiffre de référence** = 1250
- Chiffre de référence** = 1420
- Chiffre de référence** = (2)
- Lettre de référence** = (F)
- Chiffre de référence** = (7)
- Chiffre de référence** = (3)
- Chiffre de référence** = (3)
- Chiffre de référence** = 27

POINÇON À BILLE, ÉPAULÉ, TROU OBLONG, AVEC ÉJECTEUR, FORTE CHARGE



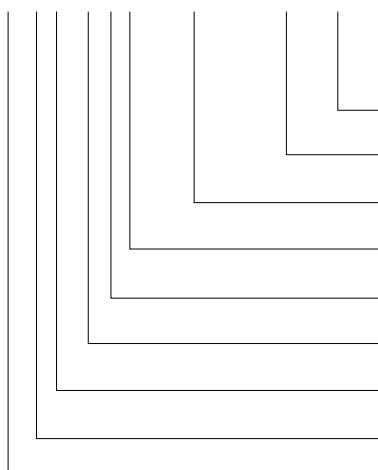
2743. Poinçon à bille, épaulé, trou oblong, avec éjecteur, forte charge

d ₂ / Chiffre de référence	d ₅	W _{min}	G _{max}	l ₁ / Chiffre de référence	l (Lettre de référence)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	4	9,9	13(1) 19(2)		●	●	●	●	●		
13 / (3)	12	6	12,9	13(1) 19(2)		●	●	●	●	●		
16 / (4)	12	8	15,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	10	19,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	12	24,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	16	31,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	19	39,9	19(2) 25(3) 30(4)				●	●	●	●	●

*à d₂ = 16/ 20 et l = 63; l_{1 max.} = 19

Exemple de commande :

2743.2F1.0650.0450.B



Angle:

90°

Forme: Trou oblong, Largeur W

W = 4,50 mm

Forme: Trou oblong, Longueur P

P = 6,50 mm

Longueur épaulement: l₁

13 mm

Longueur: l

90 mm

Diamètre: d₂

10 mm

Type:

forte charge

Exécution:

Trou oblong

Poinçon de découpe:

avec éjecteur

Lettre de référence

= (B)

= 0450

= 0650

Chiffre de référence

= (1)

Lettre de référence

= (F)

Chiffre de référence

= (2)

Chiffre de référence

= (3)

Chiffre de référence

= (4)

= 27

Matière :

HSS

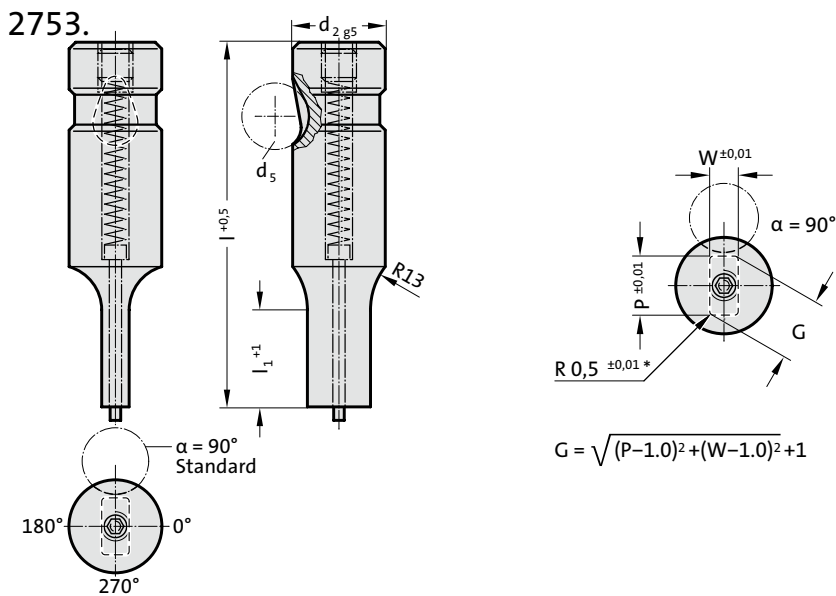
Dureté 62 ± 2 HRC

Exécution :

Corps et embout profilé superfinis.

Fabrication spéciale sur demande.

POINÇON À BILLE, ÉPAULÉ, RECTANGLE AVEC RAYON, AVEC ÉJECTEUR, FORTE CHARGE



2753. Poinçon à bille, épaulé, rectangle avec rayon, avec éjecteur, forte charge

d_2 / Chiffre de référence	d_5	W_{min}	G_{max}	l_1 / Chiffre de référence	l (Lettre de référence)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	4	9,9	13(1) 19(2)		●	●	●	●	●		
13 / (3)	12	6	12,9	13(1) 19(2)		●	●	●	●	●	●	●
16 / (4)	12	8	15,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
20 / (5)	12	10	19,9	13(1) 19(2) 25(3)		●	●	●	●	●	●	●
25 / (6)	12	12	24,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
32 / (7)	12	16	31,9	13(1) 19(2) 25(3)			●	●	●	●	●	●
40 / (9)	12	19	39,9	19(2) 25(3) 30(4)				●	●	●	●	●

*à $d_2 = 16/20$ et $l = 63$; $l_{1\ max.} = 19$

Matière :

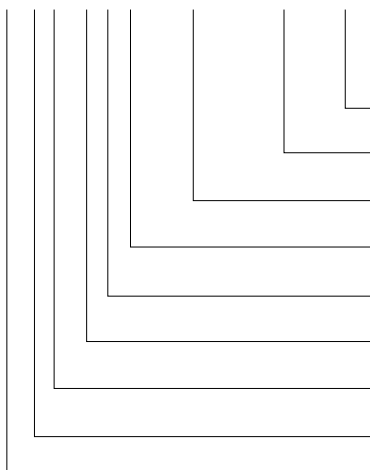
HSS
Dureté 62 ± 2 HRC

Exécution :

Corps et embout profilé superfinis.
Fabrication spéciale sur demande.
* Pour un autre rayon, voire Formées spéciales normalisées.

Exemple de commande :

2753.3F1.1215.0915.B

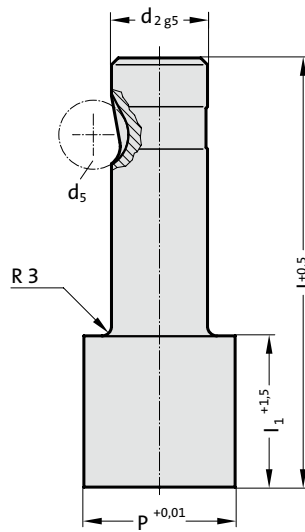
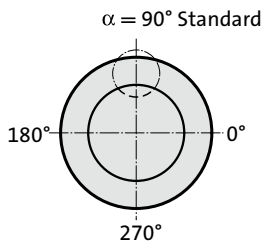


Angle: 90°
Forme: Rectangle avec rayon, Largeur W = 9,15 mm
Forme: Rectangle avec rayon, Longueur P = 12,15 mm
Longueur épaulement: l_1 13 mm
Longueur: l 90 mm
Diamètre: d_2 13 mm
Type: forte charge
Exécution: Rectangle avec rayon
Poinçon de découpe: avec éjecteur

Lettre de référence = (B)
Chiffre de référence = 0915
Chiffre de référence = 1215
Chiffre de référence = (1)
Lettre de référence = (F)
Chiffre de référence = (3)
Chiffre de référence = (3)
Chiffre de référence = (5)
Chiffre de référence = 27

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, BLANK, HEAVY DUTY

2205.

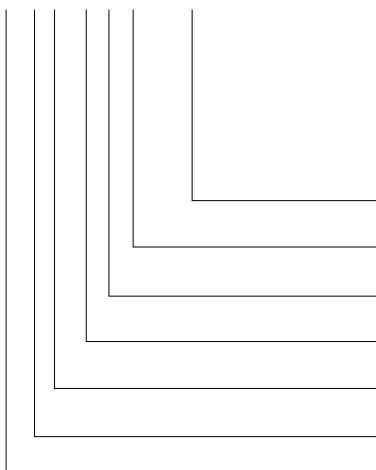


2205. Ball-Lock punch, punch larger than shaft, blank, heavy duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	32	19(2) 30(4)		●	●	●
16 / (4)	12	38	19(2) 30(4)		●	●	●
20 / (5)	12	40	19(2) 30(4)		●	●	●
25 / (6)	12	44	19(2) 30(4)		●	●	●
32 / (7)	12	50	19(2) 30(4)		●	●	●
40 / (9)	12	56	19(2) 30(4)		●	●	●

Ordering Code (example):

2205.7G4.5000



Shape: round

P = Ø 50 mm

Punch cutting length: l₁

30 mm

Length: l

100 mm

Diameter: d₂

32 mm

Type:

punch larger, heavy

Execution:

blank

Punch:

without ejector pin

= 5000

Order No

= (4)

Order Code character

= (G)

Order No

= (7)

Order No

= (5)

Order No

= (0)

= 22

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

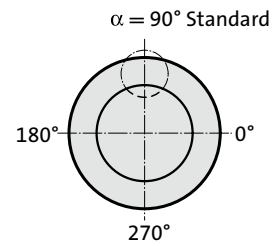
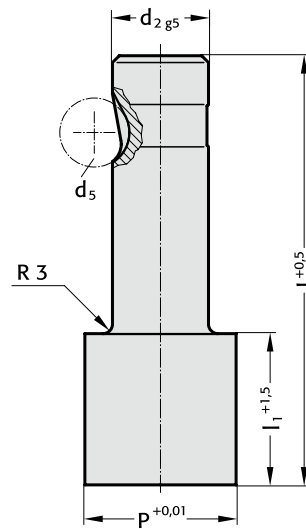
Shaft and punch diameter fine ground.

Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, ROUND, HEAVY DUTY



2215.



2215. Ball-Lock punch, punch larger than shaft, round, heavy duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	13,1 - 32	19(2) 30(4)		●	●	●
16 / (4)	12	16,1 - 38	19(2) 30(4)		●	●	●
20 / (5)	12	20,1 - 40	19(2) 30(4)		●	●	●
25 / (6)	12	25,1 - 44	19(2) 30(4)		●	●	●
32 / (7)	12	32,1 - 50	19(2) 30(4)		●	●	●
40 / (9)	12	40,1 - 56	19(2) 30(4)		●	●	●

Material:

HSS

Hardness 62 ± 2 HRC

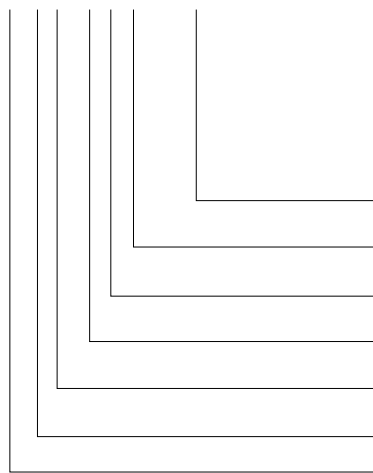
Execution:

Shaft and punch diameter fine ground.

Special dimensions on request.

Ordering Code (example):

2215.7G2.3210



Shape: round

P = ∅ 32,1 mm

Punch cutting length: l₁

19 mm

Length: l

100 mm

Diameter: d₂

32 mm

Type:

punch larger, heavy

Execution:

round

Punch:

without ejector pin

= 3210

Order No

= (2)

Order Code character

= (G)

Order No

= (7)

Order No

= (5)

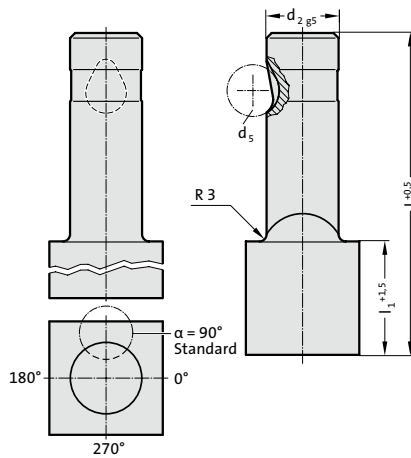
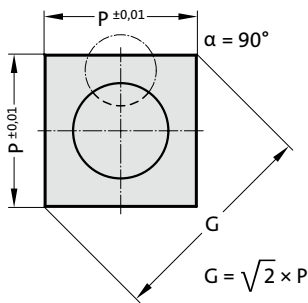
Order No

= (1)

= 22

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SQUARE, HEAVY DUTY

2225.

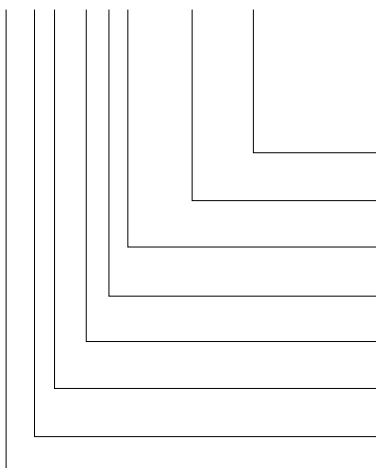


2225. Ball-Lock punch, punch larger than shaft, square, heavy duty

d ₂ / Order No	d ₅	P _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	9.19	32	19(2) 30(4)		●	●	●
16 / (4)	12	11.31	38	19(2) 30(4)		●	●	●
20 / (5)	12	14.14	40	19(2) 30(4)		●	●	●
25 / (6)	12	17.68	44	19(2) 30(4)		●	●	●
32 / (7)	12	22.63	50	19(2) 30(4)		●	●	●
40 / (9)	12	28.28	56	19(2) 30(4)		●	●	●

Ordering Code (example):

2225.4F4.1150.B



Angle:
90°
Shape: square, Length P
P = 11,5 mm
Punch cutting length: l₁
30 mm
Length: l
90 mm
Diameter: d₂
16 mm
Type:
punch larger, heavy
Execution:
square
Punch:
without ejector pin

Order Code character
= (B)
= 1150
Order No
= (4)
Order Code character
= (F)
Order No
= (4)
Order No
= (5)
Order No
= (2)
= 22

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

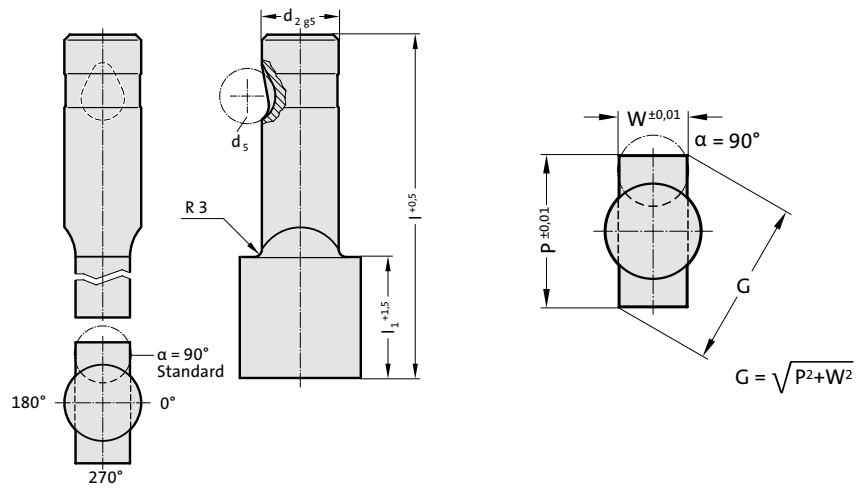
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGULAR, HEAVY DUTY



2235.



2235. Ball-Lock punch, punch larger than shaft, rectangular, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	5	32	19(2) 30(4)		●	●	●
16 / (4)	12	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	12	8	40	19(2) 30(4)		●	●	●
25 / (6)	12	10	44	19(2) 30(4)		●	●	●
32 / (7)	12	11.5	50	19(2) 30(4)		●	●	●
40 / (9)	12	14	56	19(2) 30(4)		●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

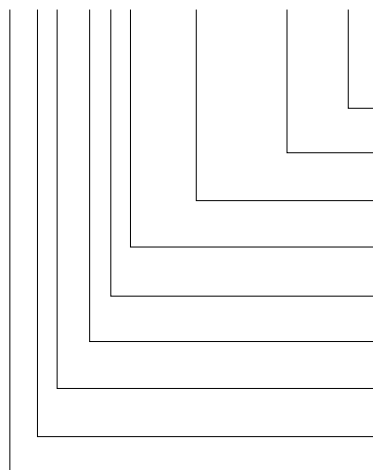
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

Ordering Code (example):

2235.4F4.1420.1150.B



Angle:

90°

Shape: rectangular, Width W

W = 11,5 mm

Shape: rectangular, Length P

P = 14,2 mm

Punch cutting length: l₁

30 mm

Length: l

90 mm

Diameter: d₂

16 mm

Type:

punch larger, heavy

Execution:

rectangular

Punch:

without ejector pin

Order Code character

= (B)

= 1150

= 1420

Order No

= (4)

Order Code character

= (F)

Order No

= (4)

Order No

= (5)

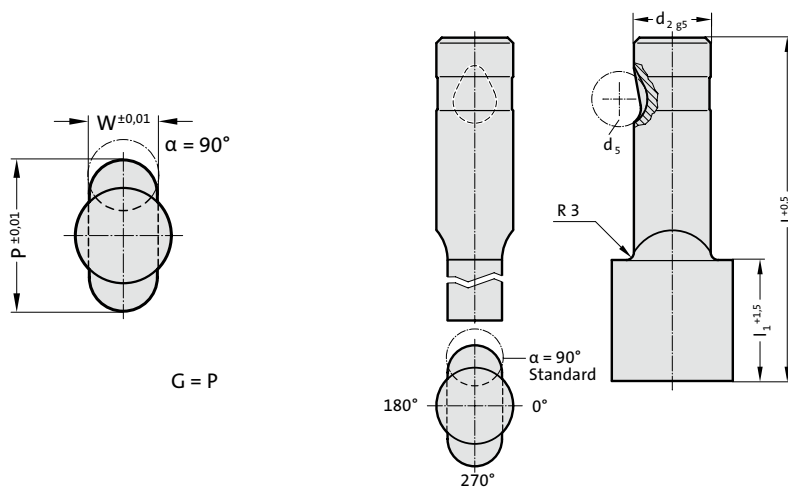
Order No

= (3)

= 22

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SLOT, HEAVY DUTY

2245.

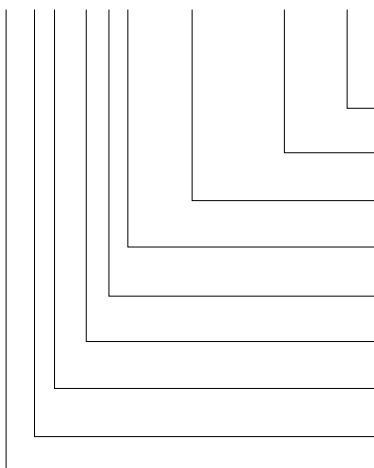


2245. Ball-Lock punch, punch larger than shaft, slot, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80	90	100
						(E)	(F)	(G)
13 / (3)	12	5	32	19(2) 30(4)		●	●	●
16 / (4)	12	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	12	8	40	19(2) 30(4)		●	●	●
25 / (6)	12	10	44	19(2) 30(4)		●	●	●
32 / (7)	12	11.5	50	19(2) 30(4)		●	●	●
40 / (9)	12	14	56	19(2) 30(4)		●	●	●

Ordering Code (example):

2245.7F2.3720.1150.B



Angle:
90°
Shape: slot, Width W
W = 11,5 mm
Shape: slot, Length P
P = 37,2 mm
Punch cutting length: l₁
19 mm
Length: l
90 mm
Diameter: d₂
32 mm
Type:
punch larger, heavy
Execution:
slot
Punch:
without ejector pin

Order Code character
= (B)
= 1150
= 3720
Order No
= (2)
Order Code character
= (F)
Order No
= (7)
Order No
= (5)
Order No
= (4)
= 22

Material:

HSS
Hardness 62 ± 2 HRC

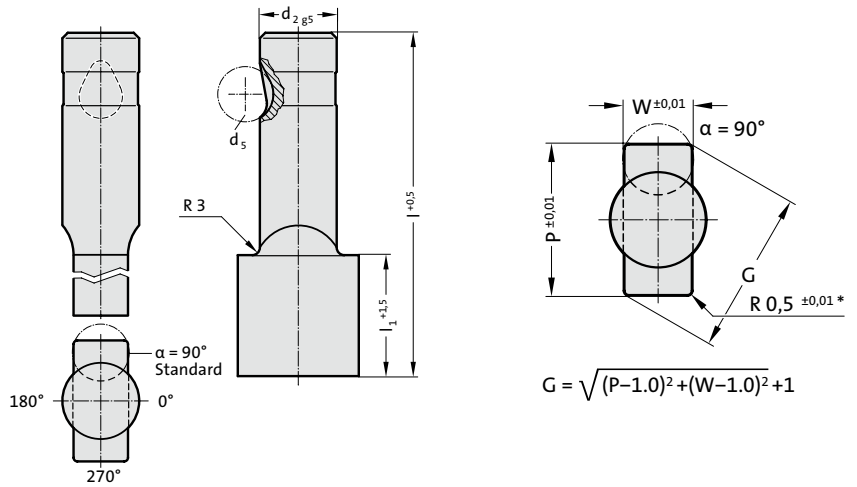
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGLE WITH RADIUSSED CORNERS, HEAVY DUTY



2255.



$$G = \sqrt{(P-1.0)^2 + (W-1.0)^2 + 1}$$

2255. Ball-Lock punch, punch larger than shaft, rectangle with radiussed corners, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	5	32	19(2) 30(4)		●	●	●
16 / (4)	12	6.5	38	19(2) 30(4)		●	●	●
20 / (5)	12	8	40	19(2) 30(4)		●	●	●
25 / (6)	12	10	44	19(2) 30(4)		●	●	●
32 / (7)	12	11.5	50	19(2) 30(4)		●	●	●
40 / (9)	12	14	56	19(2) 30(4)		●	●	●

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

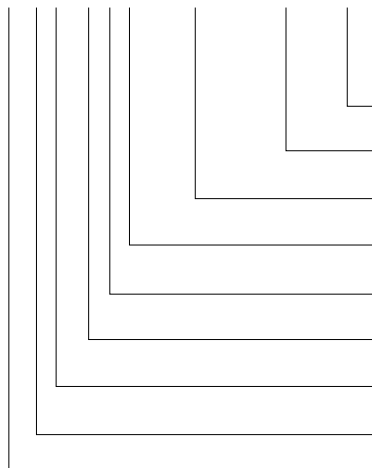
Shaft and punch shape fine ground.

Special dimensions on request.

* For other radius options, see standardised special shapes.

Ordering Code (example):

2255.4F2.1420.1150.B



Angle:

90°

Shape: rectangle with radiused corners, Width W

W = 11,5 mm

Shape: rectangle with radiused corners, Length P

P = 14,2 mm

Punch cutting length: l₁

19 mm

Length: l

90 mm

Diameter: d₂

16 mm

Type:

punch larger, heavy

Execution:

rectangle with radiused corners

Punch:

without ejector pin

Order Code character
= (B)

Order Code character
= (F)

Order Code character
= (2)

Order No

= (2)

Order Code character

= (F)

Order No

= (4)

Order No

= (5)

Order No

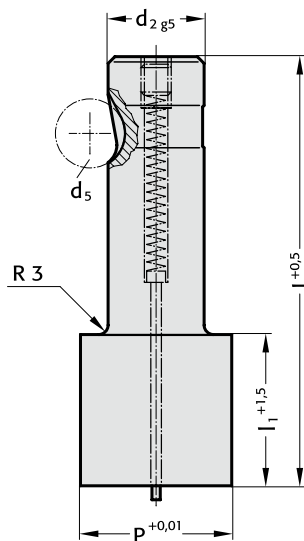
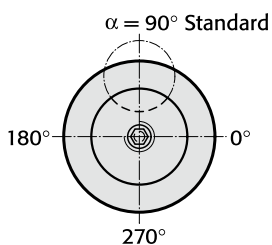
= (5)

Order No

= 22

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, BLANK, WITH EJECTOR PIN, HEAVY DUTY

2705.

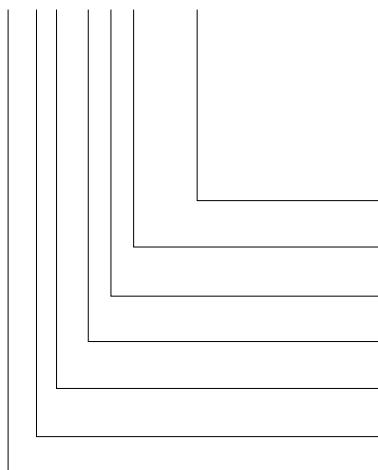


2705. Ball-Lock punch, punch larger than shaft, blank, with ejector pin, heavy duty

d ₂ / Order No	P	l ₁ / Order No	I (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	32	19 (2) 30 (4)		●	●	●
16 / (4)	38	19 (2) 30 (4)		●	●	●
20 / (5)	40	19 (2) 30 (4)		●	●	●
25 / (6)	44	19 (2) 30 (4)		●	●	●
32 / (7)	50	19 (2) 30 (4)		●	●	●
40 / (9)	56	19 (2) 30 (4)		●	●	●

Ordering Code (example):

2705.7G4.5000



Shape: round
 P = Ø 50 mm
Punch cutting length: l₁
 30 mm
Length: l
 100 mm
Diameter: d₂
 32 mm
Type:
 punch larger, heavy
Execution:
 blank
Punch:
 with ejector pin

= 5000
Order No
 = (4)
Order Code character
 = (G)
Order No
 = (7)
Order No
 = (5)
Order No
 = (0)

= 27

Material:

HSS
 Hardness 62 ± 2 HRC

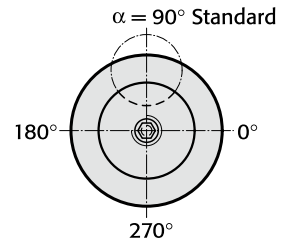
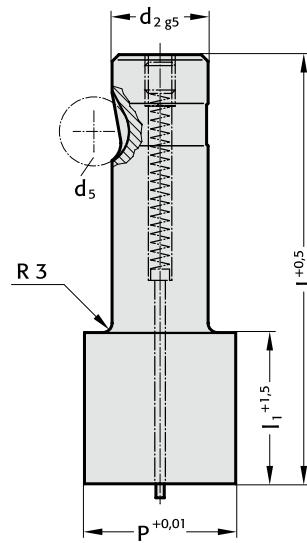
Execution:

Shaft and punch diameter fine ground.
 Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, ROUND, WITH EJECTOR PIN, HEAVY DUTY



2715.



2715. Ball-Lock punch, punch larger than shaft, round, with ejector pin, heavy duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	13,1 - 32	19 (2) 30 (4)		●	●	●
16 / (4)	12	16,1 - 38	19 (2) 30 (4)		●	●	●
20 / (5)	12	20,1 - 40	19 (2) 30 (4)		●	●	●
25 / (6)	12	25,1 - 44	19 (2) 30 (4)		●	●	●
32 / (7)	12	32,1 - 50	19 (2) 30 (4)		●	●	●
40 / (9)	12	40,1 - 56	19 (2) 30 (4)		●	●	●

Material:

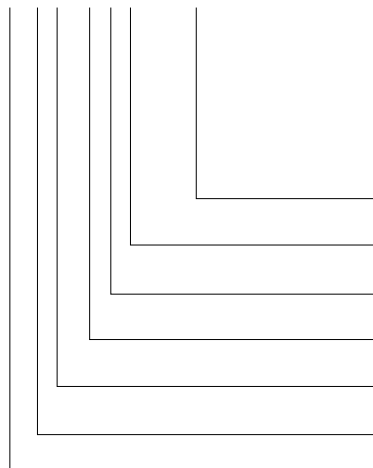
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch diameter fine ground.
Special dimensions on request.

Ordering Code (example):

2715.7G2.3210



Shape: round

P = Ø 32,1 mm

Punch cutting length: l₁
19 mm

Length: l

100 mm

Diameter: d₂

32 mm

Type:

punch larger, heavy

Execution:

round

Punch:

with ejector pin

= 3210

Order No

= (2)

Order Code character

= (G)

Order No

= (7)

Order No

= (5)

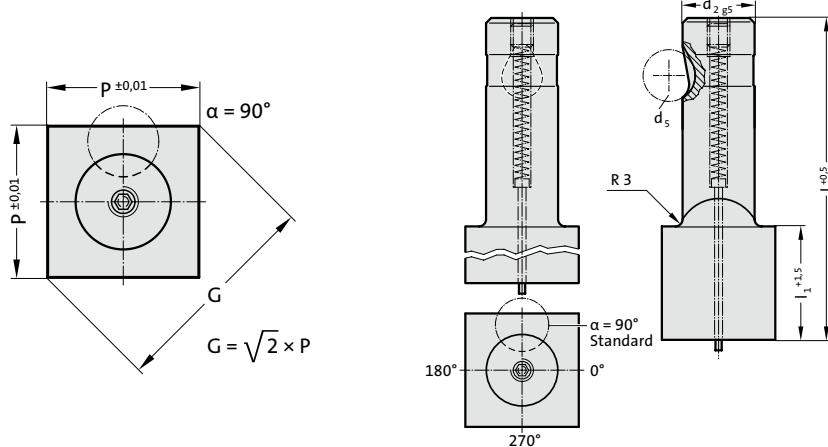
Order No

= (1)

= 27

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SQUARE, WITH EJECTOR PIN, HEAVY DUTY

2725.

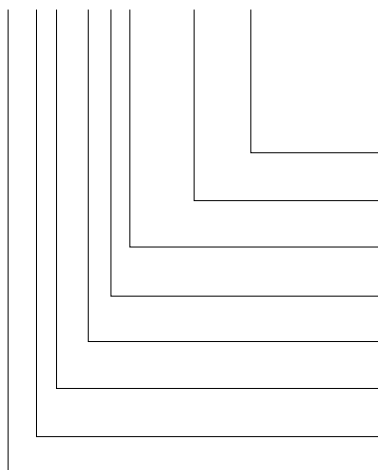


2725. Ball-Lock punch, punch larger than shaft, square, with ejector pin, heavy duty

d ₂ / Order No	d ₅	P _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	9.19	32	19 (2) 30 (4)		●	●	●
16 / (4)	12	11.31	38	19 (2) 30 (4)		●	●	●
20 / (5)	12	14.14	40	19 (2) 30 (4)		●	●	●
25 / (6)	12	17.68	44	19 (2) 30 (4)		●	●	●
32 / (7)	12	22.63	50	19 (2) 30 (4)		●	●	●
40 / (9)	12	28.28	56	19 (2) 30 (4)		●	●	●

Ordering Code (example):

2725.4F4.2450.B



Angle:
90°
Shape: square, Length P
P = 24,5 mm
Punch cutting length: l₁
30 mm
Length: l
90 mm
Diameter: d₂
16 mm
Type:
punch larger, heavy
Execution:
square
Punch:
with ejector pin

Order Code character
= (B)
Order No
= 2450
Order No
= (4)
Order Code character
= (F)
Order No
= (4)
Order No
= (5)
Order No
= (2)
Order No
= 27

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

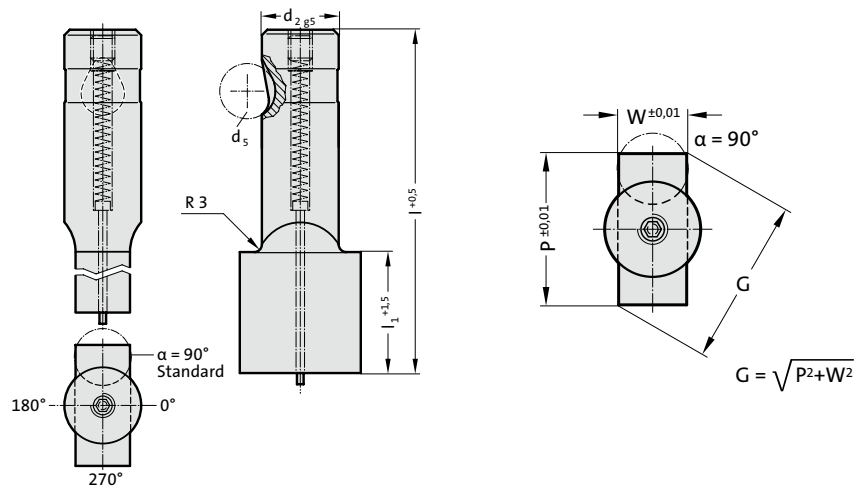
Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGULAR, WITH EJECTOR PIN, HEAVY DUTY



2735.



2735. Ball-Lock punch, punch larger than shaft, rectangular, with ejector pin, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80	90	100
						(E)	(F)	(G)
13 / (3)	12	5	32	19 (2) 30 (4)		●	●	●
16 / (4)	12	6.5	38	19 (2) 30 (4)		●	●	●
20 / (5)	12	8	40	19 (2) 30 (4)		●	●	●
25 / (6)	12	10	44	19 (2) 30 (4)		●	●	●
32 / (7)	12	11.5	50	19 (2) 30 (4)		●	●	●
40 / (9)	12	14	56	19 (2) 30 (4)		●	●	●

Material:

HSS
Hardness 62 ± 2 HRC

Execution:

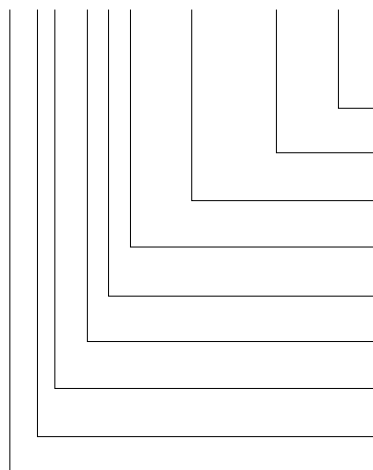
Shaft and punch shape fine ground.
Special dimensions on request.

Note:

With kerf ≤ 0.04 mm, FIBRO rounds off sharp edges if the punch and piercing die bush are ordered together. This reduces the fitting time and the risk of an edge break during operation.

Ordering Code (example):

2735.4F4.1420.1150.B



Angle:

90°

Shape: rectangular, Width W

W = 11,5 mm

Shape: rectangular, Length P

P = 14,2 mm

Punch cutting length: l₁

30 mm

Length: l

90 mm

Diameter: d₂

16 mm

Type:

punch larger, heavy

Execution:

rectangular

Punch:

with ejector pin

Order Code character

= (B)

= 1150

= 1420

Order No

= (4)

Order Code character

= (F)

Order No

= (4)

Order No

= (5)

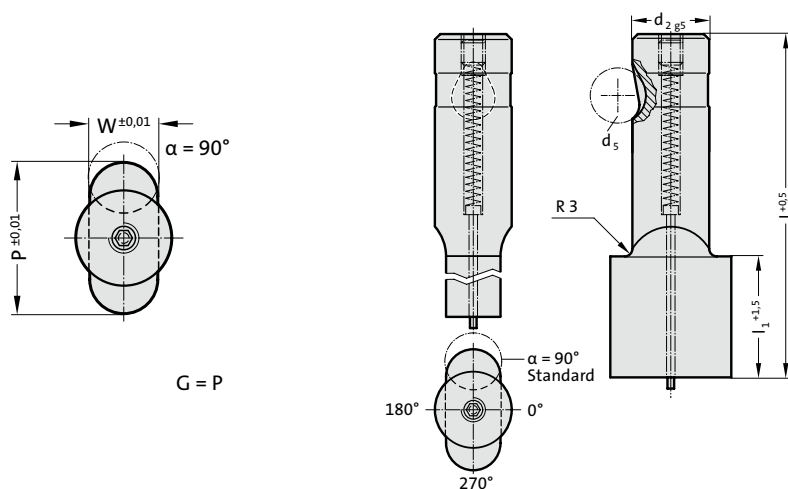
Order No

= (3)

= 27

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, SLOT, WITH EJECTOR PIN, HEAVY DUTY

2745.

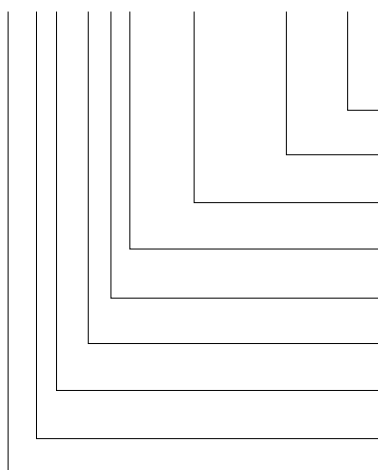


2745. Ball-Lock punch, punch larger than shaft, slot, with ejector pin, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	5	32	19 (2) 30 (4)		●	●	●
16 / (4)	12	6.5	38	19 (2) 30 (4)		●	●	●
20 / (5)	12	8	40	19 (2) 30 (4)		●	●	●
25 / (6)	12	10	44	19 (2) 30 (4)		●	●	●
32 / (7)	12	11.5	50	19 (2) 30 (4)		●	●	●
40 / (9)	12	14	56	19 (2) 30 (4)		●	●	●

Ordering Code (example):

2745.7F2.3720.1150.B



Angle:
90°
Shape: slot, Width W
W = 11,5 mm
Shape: slot, Length P
P = 37,2 mm
Punch cutting length: l₁
19 mm
Length: l
90 mm
Diameter: d₂
32 mm
Type:
punch larger, heavy
Execution:
slot
Punch:
with ejector pin

Order Code character
= (B)
= 1150
= 3720
Order No
= (2)
Order Code character
= (F)
Order No
= (7)
Order No
= (5)
Order No
= (4)
= 27

Material:

HSS
Hardness 62 ± 2 HRC

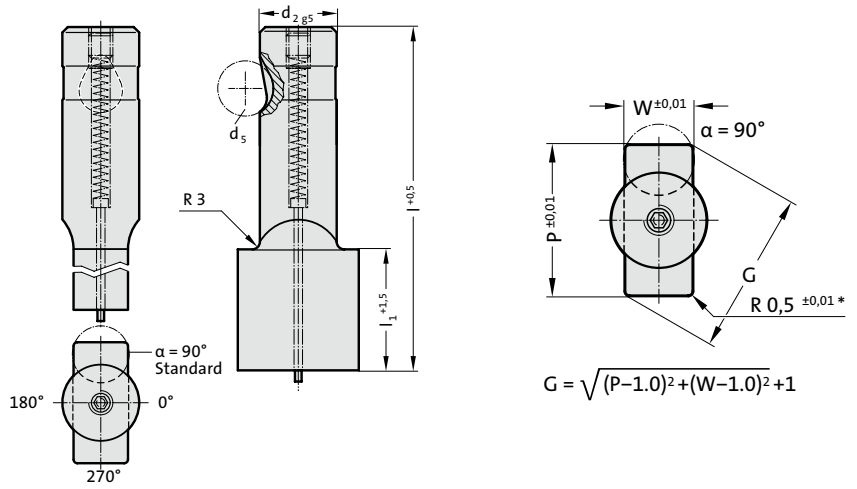
Execution:

Shaft and punch shape fine ground.
Special dimensions on request.

BALL-LOCK PUNCH, PUNCH LARGER THAN SHAFT, RECTANGLE WITH RADIUSSED CORNERS, WITH EJECTOR PIN, HEAVY DUTY



2755.



2755. Ball-Lock punch, punch larger than shaft, rectangle with radiussed corners, with ejector pin, heavy duty

d ₂ / Order No	d ₅	W _{min}	G _{max}	l ₁ / Order No	l (Order Code character)	80 (E)	90 (F)	100 (G)
13 / (3)	12	5	32	19 (2) 30 (4)		●	●	●
16 / (4)	12	6.5	38	19 (2) 30 (4)		●	●	●
20 / (5)	12	8	40	19 (2) 30 (4)		●	●	●
25 / (6)	12	10	44	19 (2) 30 (4)		●	●	●
32 / (7)	12	11.5	50	19 (2) 30 (4)		●	●	●
40 / (9)	12	14	56	19 (2) 30 (4)		●	●	●

Material:

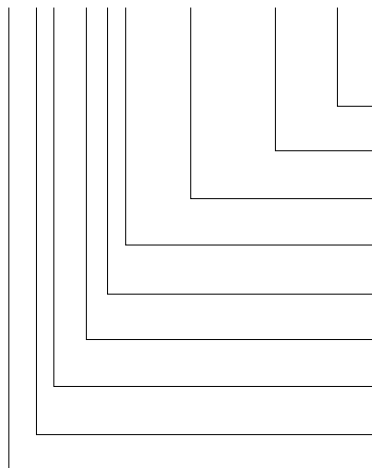
HSS
Hardness 62 ± 2 HRC

Execution:

Shaft and punch shape fine ground.
Special dimensions on request.
* For other radius options, see standardised special shapes.

Ordering Code (example):

2755.3F2.1215.1150.B

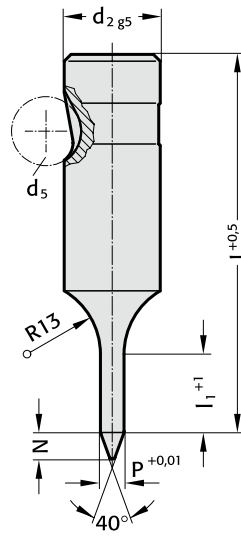


Angle: 90°
Shape: rectangle with radiused corners, Width W = 11,5 mm
Shape: rectangle with radiused corners, Length P = 12,15 mm
Punch cutting length: l₁ = 19 mm
Length: l = 90 mm
Diameter: d₂ = 13 mm
Type: punch larger, heavy
Execution: rectangle with radiused corners
Punch: with ejector pin

Order Code character = (B)
Order Code character = (F)
Order No = 1215
Order No = (2)
Order Code character = (F)
Order No = 1150
Order No = (3)
Order No = (5)
Order No = (5)
Order No = (5)

BALL-LOCK PILOT PIN, WITH TAPERED TIP, HEAVY DUTY

2263.

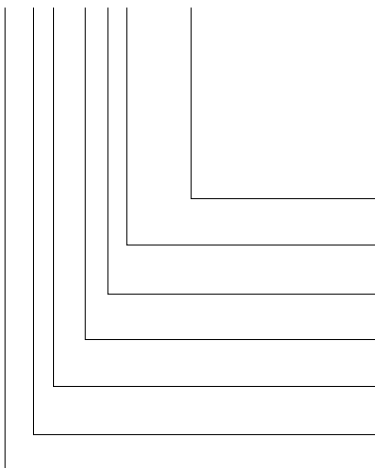


2263. Ball-Lock pilot pin, with tapered tip, heavy duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	N	l (Order Code character)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)	140 (K)	150 (L)
10 / (2)	10	5,9 - 9,9	19 (2)	8		●	●	●	●	●			
13 / (3)	12	9,9 - 12,9	19 (2)	10		●	●	●	●	●	●		
16 / (4)	12	12,9 - 15,9	25 (3)	15		●	●	●	●	●	●	●	●
20 / (5)	12	15,9 - 19,9	25 (3)	20		●	●	●	●	●	●	●	●
25 / (6)	12	19,9 - 24,9	25 (3)	25			●	●	●	●	●	●	●
32 / (7)	12	24,9 - 31,9	25 (3)	30			●	●	●	●	●	●	●
40 / (9)	12	31,9 - 39,9	30 (4)	40			●	●	●	●	●	●	●

Ordering Code (example):

2263.4G3.1410



Shape: round

P = Ø 14,1 mm

Punch cutting length: l₁

25 mm

Length: l

100 mm

Diameter: d₂

16 mm

Type:

heavy

Execution:

Pilot pin with tapered tip

Punch:

without ejector pin

= 1410

Order No

= (3)

Order Code character

= (G)

Order No

= (4)

Order No

= (3)

Order No

= (6)

= 22

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

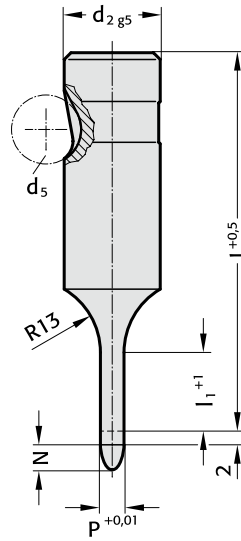
Shaft and pilot pin fine ground.

Special dimensions on request.

BALL-LOCK PILOT PIN, WITH PARABOLIC TIP, HEAVY DUTY



2273.



2273. Ball-Lock pilot pin, with parabolic tip, heavy duty

d ₂ / Order No	d ₅	P	l ₁ / Order No	l (Order Code character)	63 (C)	71 (D)	80 (E)	90 (F)	100 (G)	110 (H)	125 (J)
10 / (2)	10	5,9 - 9,9	19 (2)		●	●	●	●	●		
13 / (3)	12	9,9 - 12,9	19 (2)		●	●	●	●	●	●	●
16 / (4)	12	12,9 - 15,9	25 (3)		●	●	●	●	●	●	●
20 / (5)	12	15,9 - 19,9	25 (3)		●	●	●	●	●	●	●
25 / (6)	12	19,9 - 24,9	25 (3)		●	●	●	●	●	●	●
32 / (7)	12	24,9 - 31,9	25 (3)			●	●	●	●	●	●
40 / (9)	12	31,9 - 39,9	30 (4)				●	●	●	●	●

Material:

HSS

Hardness 62 ± 2 HRC

Execution:

Shaft and pilot pin fine ground.
Special dimensions on request.

Note:

The 2 mm length provides full guidance before the blanking punch contacts the sheet metal.

Length of parabolic tip N:

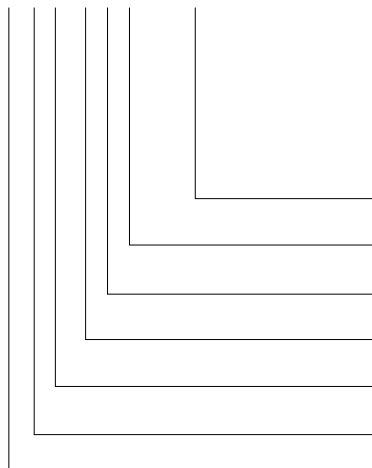
= 8 mm where P ≤ 10 mm

=12 mm where P 10,1 mm - 15 mm

=15 mm where P > 15 mm

Ordering Code (example):

2273.4G3.1410



Shape: round

P = Ø 14,1 mm

Punch cutting length: l₁

25 mm

Length: l

100 mm

Diameter: d₂

16 mm

Type:

heavy

Execution:

Pilot pin with parabolic tip

Punch:

without ejector pin

= 1410

Order No

= (3)

Order Code character

= (G)

Order No

= (4)

Order No

= (3)

Order No

= (7)

= 22