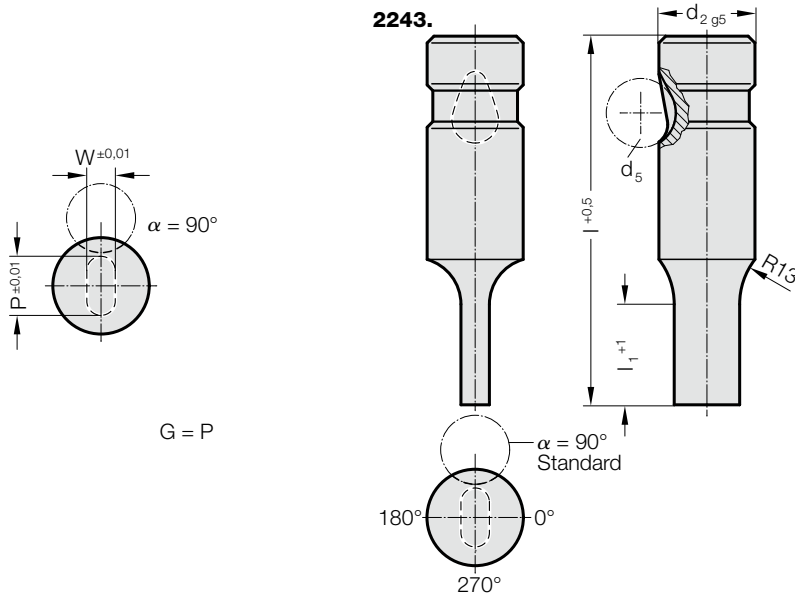


# BALL-LOCK PUNCH, STEPPED, SLOT, HEAVY DUTY



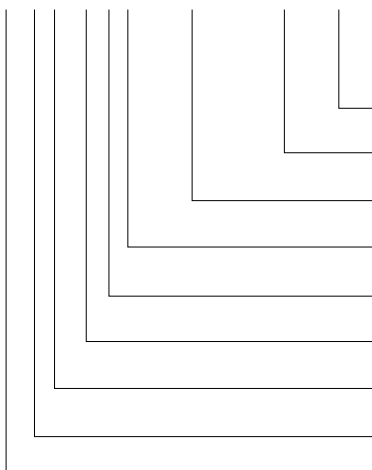
## 2243. Ball-Lock punch, stepped, slot, heavy duty

| d <sub>2</sub> / Order No | W <sub>min</sub> | G <sub>max</sub> | l <sub>1</sub> / 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)         |                          |        |        | ●      | ●      | ●       | ●       | ●       |

l<sub>1</sub>=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: l<sub>1</sub>**  
19 mm  
**Length: l**  
80 mm  
**Diameter: d<sub>2</sub>**  
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.