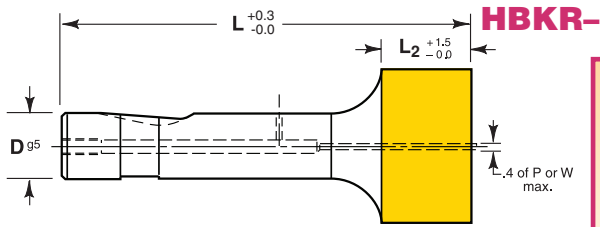
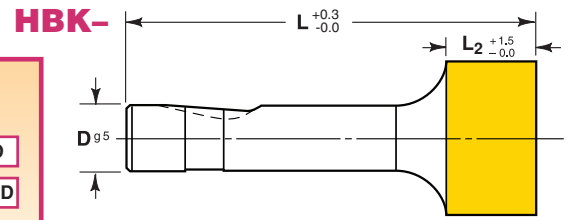


# PORTER Heavy Duty Knob Style Punches

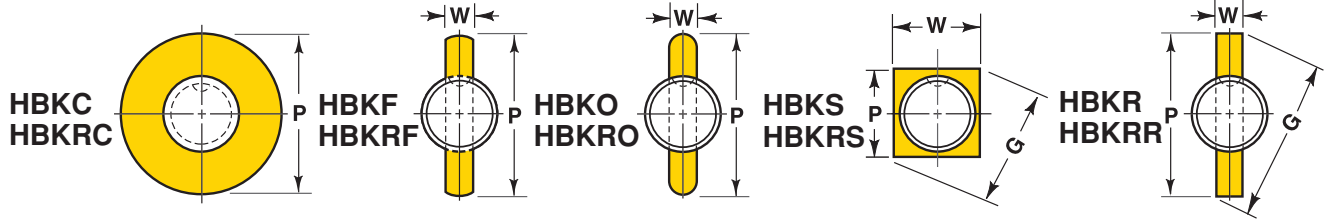


**Steel: M2 Rc 60-63**  
**TOLERANCES**  
 Round P  $\begin{matrix} +0.01 \\ -0.00 \end{matrix}$   $\text{◎}$  0.01 P to D  
 Shape P, W  $\pm 0.01$   $\text{◎}$  0.02 P,W to D  
 Manufactured to ISO and NAPMA standards where applicable.  
 Back Draft 0.1/100mm L2 max.



**Ordering Example:**  
 Qty Steel Type Code L P  
 4 N2 HBRKC 016 90 x 32.00

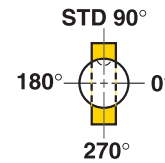
**Ordering Example:**  
 Qty Steel Type Code L W P  
 6 M2 HBKR 032 80 15.00 x 30.00



For additional standard forms and configurations see pages 32 and 33.

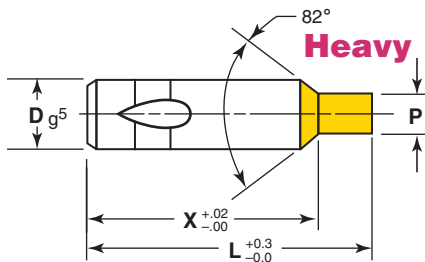
Shank D	Code No.	Point Length L <sub>2</sub>	Lengths L				Point		Replacement Retrakto Kit*
			71	80	90	100	Round Range P	Shape Min W Max P/G	
13	013	20	●	●	●	●	13.10 – 32.00	5.00 32.00	K6M
16	016	25	●	●	●	●	16.10 – 38.00	6.00 38.00	K6M
20	020	25	●	●	●	●	20.10 – 40.00	8.00 40.00	K9M
25	025	25	●	●	●	●	25.10 – 44.00	10.00 44.00	K9M
32	032	32	●	●	●	●	32.10 – 50.00	11.50 50.00	K12M
40	040	32	●	●	●	●	40.10 – 56.00	14.00 56.00	K12M

\*Retrakto Kits available see page 36 for details.



Standard ball seat location is at 90° using reflected view for punches. Alternate locations of 0°, 180° and 270° are available at no extra charge. Custom ball seat locations can be specified as number of degrees counter-clockwise from 0°.

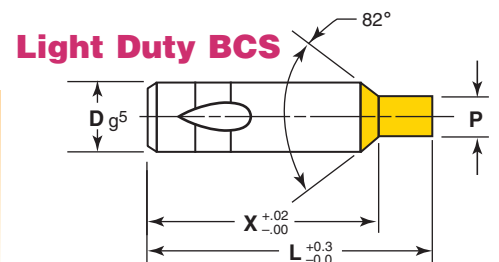
# PORTER Bal-Lok Countersink Punches



## Heavy Duty HBSC

**Steel: M2 Rc 60-63**  
**TOLERANCES**  
 Round P  $\begin{matrix} +0.01 \\ -0.00 \end{matrix}$   $\text{◎}$  0.01 P to D  
 Manufactured to ISO and NAPMA Standards where applicable.

**Ordering Example:**  
 Qty Steel Type Code L P x =  
 6 M2 HBSC 020 71 x 18.20 x = 56.25



## Light Duty BCS

**Ordering Example:**  
 Qty Steel Type Code L P x =  
 10 M2 BCS 010 80 x 7.55 x = 68.00

Catalog Number	Dg5	X	P $\begin{matrix} +0.01 \\ -0.00 \end{matrix}$	L				
HBSC-010	010	SPECIFY	2.40- 5.00	50	56	63	71	80
HBSC-013	013		3.60- 6.50	50	56	63	71	80
HBSC-016	016		5.20- 8.00		56	63	71	80 90
HBSC-020	020		7.00- 10.00		56	63	71	80 90
HBSC-025	025		8.00- 12.50		56	63	71	80 90
HBSC-032	032		11.50- 16.00			63	71	80 90

Catalog Number	Dg5	X	P $\begin{matrix} +0.01 \\ -0.00 \end{matrix}$	L				
BCS-006	006	SPECIFY	1.00- 3.00	50	56	63	71	80
BCS-010	010		2.40- 5.00	50	56	63	71	80
BCS-013	013		3.60- 6.50	50	56	63	71	80
BCS-016	016		5.20- 8.00		56	63	71	80 90
BCS-020	020		7.00- 10.00		56	63	71	80 90
BCS-025	025		8.00- 12.50		56	63	71	80 90
BCS-032	032		11.50- 16.00			63	71	80 90

For Countersink Engineering data see page 11.

Standard Alterations are changes that are beyond the ranges listed in the catalog that can be altered for a minimal charge. See page 37.

All shank to largest point diameter will be supplied with 13 mm metric radius blend unless otherwise specified. All inside corners will be supplied with .8 mm metric max. radius blend unless otherwise specified.