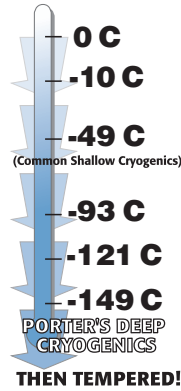
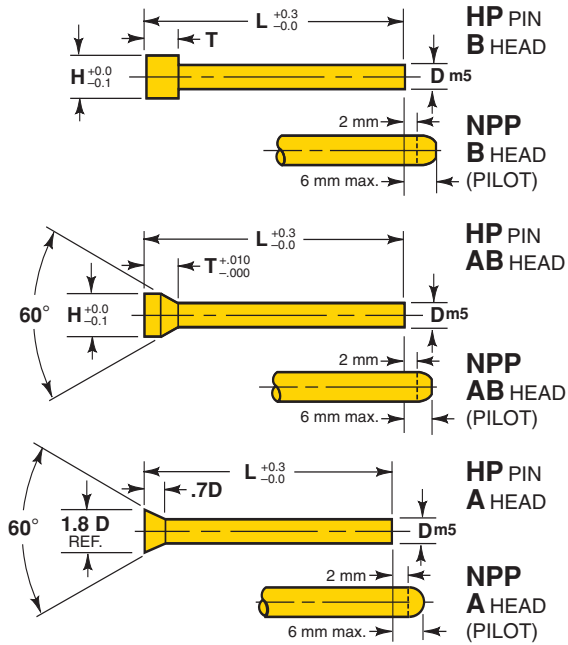


PORTER HP, NPP, NAP, L & LN Type Perforators

Shank diameters in .025 increments ZeroTemp (Deep Cryogenic) Treated



All Porter Perforators up to #125 are "Deep Cryogenically" treated for:
 1. Wear
 2. Toughness
 3. Dimensional Stability
 See page 42 for more details.

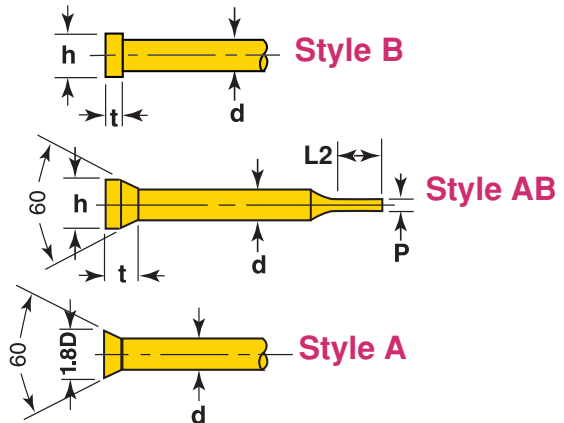
Catalog Code	Size No.	Range L ^{+0.5/-0.0}	D m5 Increment	T ^{+0.1/-0.0}	H* ^{+0.0/-0.1}	m5 Chart
HP Straight Pin	101	32-40	0.6 - 0.79	2.4	1.5	+0.006 +0.003
	102	32-50	0.8 - 1.09	2.4	1.8	+0.006 +0.003
	103	38-56	1.1 - 1.49	2.4	2.2	+0.006 +0.003
	104	38-63	1.5 - 1.89	2.4	2.6	+0.006 +0.003
	105	38-56	1.9 - 2.29	2.4	3.0	+0.006 +0.003
	106	38-71	2.3 - 2.69	2.4	3.4	+0.006 +0.003
	107	38-71	2.7 - 3.09	2.4	3.8	+0.006 +0.003
	108	38-71	3.1 - 3.49	2.4	4.2	+0.009 +0.005
	109	38-71	3.5 - 3.89	2.4	4.6	+0.009 +0.005
	110	38-71	3.9 - 4.29	2.4	5.0	+0.009 +0.005
NPP Radius Pilot Tip	111	38-80	4.3 - 4.69	3.2	5.4	+0.009 +0.005
	112	38-80	4.7 - 5.09	3.2	5.8	+0.009 +0.005
NAP Angled Pilot Tip **	113	38-80	5.1 - 5.49	3.2	6.2	+0.009 +0.005
	114	38-80	5.5 - 6.09	3.2	6.8	+0.009 +0.005
	115	38-80	6.1 - 6.49	3.2	7.2	+0.012 +0.007
	116	44-90	6.5 - 6.89	3.2	7.6	+0.012 +0.007
	117	44-90	6.9 - 7.29	3.2	8.0	+0.012 +0.007
	118	44-90	7.3 - 7.69	3.2	8.4	+0.012 +0.007
	119	44-90	7.7 - 8.09	3.2	8.8	+0.012 +0.007
	120	44-90	8.1 - 8.49	5.0	9.2	+0.012 +0.007
	121	50-100	8.5 - 8.89	5.0	9.6	+0.012 +0.007
	122	50-100	8.9 - 9.29	5.0	10.0	+0.012 +0.007
123	50-100	9.3 - 9.69	5.0	10.4	+0.012 +0.007	
124	50-100	9.7 - 10.09	5.0	10.8	+0.012 +0.007	
125	50-100	10.1 - 10.49	5.0	11.2	+0.015 +0.008	
Size 126 and larger "B" style head						
126	56-100	8.5 - 10.00	5.0	13.0		
127	56-100	10.01 - 11.50	5.0	14.5		
128	56-100	11.51 - 13.00	5.0	16.0		
129	56-110	13.01 - 14.50	5.0	17.5		
130	56-110	14.51 - 16.00	5.0	19.0		
131	56-110	16.01 - 18.00	5.0	21.0		
132	56-110	18.01 - 20.00	5.0	23.0		
133	56-110	20.01 - 22.50	5.0	25.5		
134	56-110	22.51 - 25.00	5.0	28.0		
135	56-110	25.01 - 28.50	5.0	31.5		
136	56-110	28.51 - 32.00	5.0	35.0		

Ordering Example:

Qty.	Style	Size	L	D	Head Style
18	HP	106 x 71 x 2.50			AB
12	NPP	106 x 60 x 2.50			AB
16	NAP	106 x 60 x 2.50			AB

- * H Diameter ^{+0.0}/_{-0.3} Sizes #26 thru #136.
- All perfs are head drawn for additional toughness.
- Pilot tip is not included in the "L" length of "NPP" & "NAP" pilots.
- Perforators (up to #125) are ZeroTemp treated (See page 42) giving you the toughest M2 steel perforator for your money.
- ** 40° angled tip pilot also available, call out "NAP"

Steel: D2, M2 Rc 60-63
Heads Rc 40-55 (L ≥ 50)
TOLERANCES
 P ^{+0.005}/_{-0.000} Ⓞ .008 P to D
 Manufactured to ISO and NAPMA standards where applicable.



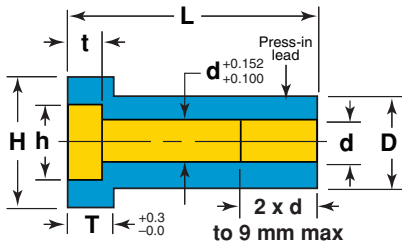
Ordering Example:

Qty.	Cat #	L	P	Head Style
12	N102	x 58 x 1.40 x		AB
12	LN102	x 58 x 1.40 x		B

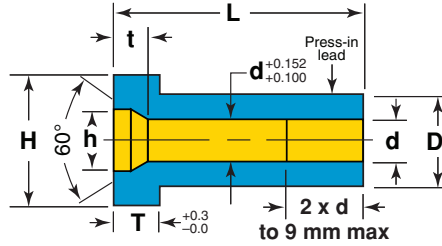
Catalog Number	N L2	d m5	h	t	Range of Lengths	P	LN L2	Catalog Number
N-100	3.0	1.6	2.6	2.4	38 to 63	.8- 1.09	6.0	LN-100
N-101	3.0	1.6	2.6	2.4	38 to 63	1.1- 1.59	8.0	LN-101
N-102	4.0	2.0	3.0	2.4	38 to 63	1.1- 1.59	8.0	LN-102
N-103	4.0	2.0	3.0	2.4	38 to 63	1.6- 1.99	10.0	LN-103
N-104	5.0	2.4	3.4	2.4	38 to 71	1.5- 1.99	10.0	LN-104
N-105	5.0	2.4	3.4	2.4	38 to 71	2.0- 2.39	12.0	LN-105
N-106	6.0	3.2	4.2	2.4	38 to 71	2.0- 3.19	14.0	LN-106
N-107	8.0	3.9	5.0	2.4	38 to 71	2.4- 3.89	18.0	LN-107
N-108	11.0	4.7	5.8	3.2	45 to 80	2.8- 4.69	24.0	LN-108
N-109	12.0	5.6	6.8	3.2	45 to 80	3.2- 5.59	26.0	LN-109
N-110	13.0	6.5	7.6	3.2	50 to 90	3.8- 6.49	28.0	LN-110
N-111	14.0	8.5	9.6	5.0	50 to 100	4.8- 8.49	30.0	LN-111
N-112	16.0	10.1	11.2	5.0	63 to 100	6.5- 10.09	34.0	LN-112

PORTER CQ Perforator Holders

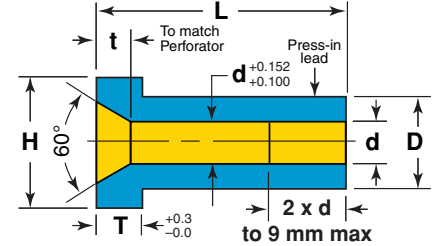
Style A Head



Style AB Head



Style B Head



Catalog No.	D m6	m6 Chart	L					d 0.01 Increment	d Tol. F7	h	t	H +0.5/-0.0	T +0.0/-0.1
			20	25	32	38	45						
CQ-04	4	+0.012	•	•	•			1.00- 1.49	+0.021	Punch head diameter +0.35	2.4	6	5
CQ-06	6	+0.005	•	•	•	•		1.50- 3.00	+0.010		2.4	9	5
CQ-08	8	+0.015	•	•	•	•		3.01- 4.29	+0.027		2.4	11	5
CQ-10	10	+0.007	•	•	•	•	•	4.30- 6.00	+0.013		3.2	13	5
CQ-13	13	+0.018		•	•	•	•	6.01- 8.09	+0.033		3.2	16	5
CQ-16	16	+0.008		•	•	•	•	8.10- 9.29	+0.016		5.0	19	5
CQ-20	20	+0.021			•	•	•	9.30-10.00	+0.040		5.0	23	5
CQ-22	22	+0.009			•	•	•	10.01-10.49	+0.020		5.0	25	5

Ordering Example:

Qty. Cat. No. x L x d Style
12 CQ08 x 20 x 4.0 AB

Steel: D2, Rc 59-62

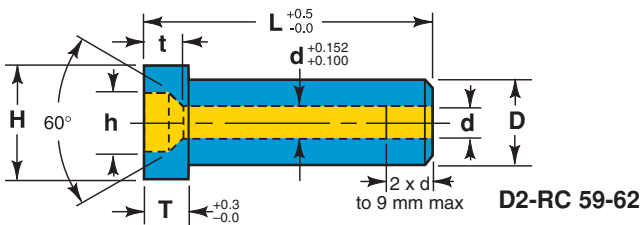
TOLERANCES

0.01 Ⓢ

Manufactured to ISO and NAPMA standards where applicable.

PORTER Support Quill Series

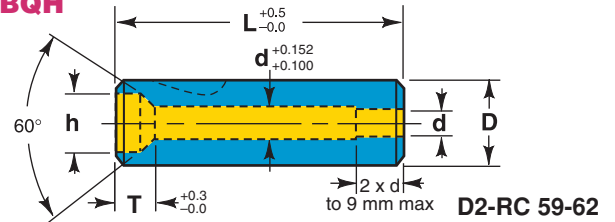
Standard Support Quill SSQ Series



Ordering Example:

Qty. Cat. No. x L Head Style
3 SSQ150 x 38 AB

BQH



Ordering Example:

Qty. Cat. No. x L Head Style
3 BQH152 x 32 AB

Light-Duty Ball Seat

Catalog No.	D m6	Length L					d +0.027/+0.013	h	t	To Match AB Perf #
		25	32	38	45	50				
SSQ-150	6	•	•	•			1.6	Perforator Head Diameter +0.35 mm	2.4	N100-LN100 N101-LN101
SSQ-151	6	•	•	•			2.0		2.4	N102-LN102 N103-LN103
SSQ-152	8	•	•	•			2.4		2.4	N104-LN104 N105-LN105
SSQ-153	8	•	•	•			3.2		2.4	N106-LN106
SSQ-154	8	•	•	•			3.9		2.4	N107-LN107
SSQ-155	10	•	•	•	•		4.7		3.2	N108-LN108
SSQ-156	10	•	•	•	•		5.6		3.2	N109-LN109
SSQ-157	13			•	•	•	6.5		3.2	N110-LN110
SSQ-158	16			•	•	•	8.5		5.0	N111-LN111
SSQ-159	16			•	•	•	10.1		5.0	N112-LN112

Catalog No.	D m6	Length L		d +0.027/+0.013	h	t	To Match Perf #
		32.0	45.0				
BQH-150	10.0	32.0	45.0	1.6	Perforator Head Diam. + 0.35 mm	2.4	N100-LN100 N101-LN101
BQH-151	10.0	32.0	45.0	2.0		2.4	N102-LN102 N103-LN103
BQH-152	13.0	32.0	45.0	2.4		2.4	N104-LN104 N105-LN105
BQH-153	13.0	32.0	45.0	3.2		2.4	N106-LN106
BQH-154	13.0	32.0	45.0	3.9		2.4	N107-LN107
BQH-155	16.0	32.0	50.0	4.7		3.2	N108-LN108
BQH-156	16.0	32.0	50.0	5.6		3.2	N109-LN109
BQH-157	20.0	32.0	50.0	6.5		3.2	N110-LN110
BQH-158	20.0	32.0	50.0	8.5		5.0	N111-LN111

SSQ & BQH Quill holders to use N & LN type perforators, also can be used for HP.