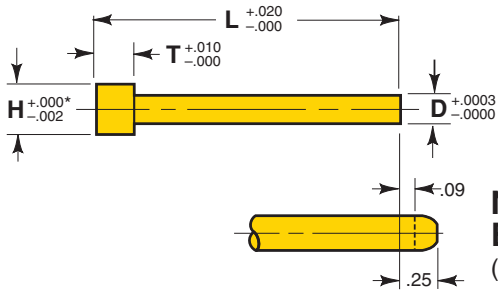


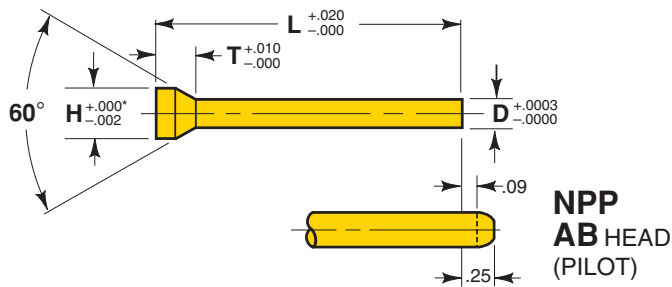
PORTER HP & NPP Type Perforators

.001 increment shank diameters ZeroTemp (Deep Cryogenic) Treated

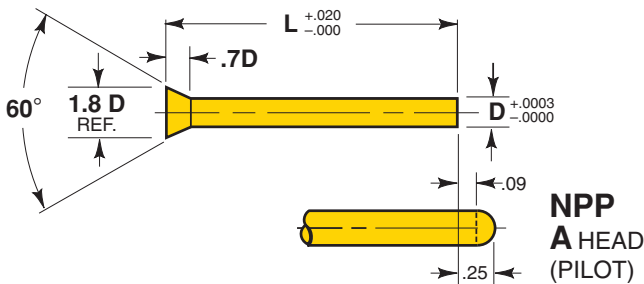
HP PIN B HEAD



HP PIN AB HEAD



HP PIN A HEAD



Ordering Example:

Qty.	Style	Size	L	D	Head Style
12	HP	10	x 2.50	x .175	AB
12	NPP	10	x 2.50	x .175	AB

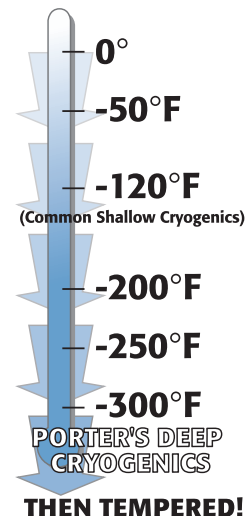
**M2 Rc 60-63
Heads Drawn Rc 40-55
ZeroTemp Treated**

* H Diameter $\pm_{.010}^{.000}$ Sizes # 26 thru # 37

- All perfs are head drawn for additional toughness.
- Pilot tip is not included in the "L" length of "NPP" & "NAP" pilots.
- Perforators (up to # 24) are ZeroTemp treated (See page 42) giving you the toughest M2 steel perforator for your money.
- Porter angle style heads (A & AB) can greatly reduce head popping due to elimination of relatively sharp corners present in 90° angle heads.
- Vertical lapped perforators are available; call out "VL" in description.
- Nitrogenic Treatment and Titanium Nitride coatings are available for increased wear resistance, see page 42.

** 40° angled tip pilot also available, call out "NAP"

Catalog Code	Size No.	L in .25" Increments	D .001 Increments	T	H
HP Straight Pin	1/0	1.25 – 1.50	.025 – .0290	.093	.060
	1	1.25 – 2.00	.030 – .0400	.093	.070
	2	1.50 – 2.50	.041 – .0550	.093	.085
	3	1.50 – 2.50	.056 – .0700	.093	.100
	4	1.50 – 2.50	.071 – .0850	.093	.115
	5	1.50 – 2.75	.086 – .1000	.093	.130
	6	1.50 – 2.75	.101 – .1150	.093	.145
	7	1.50 – 2.75	.116 – .1300	.093	.160
NPP Radius Pilot Tip	8	1.50 – 2.75	.131 – .1450	.093	.175
	9	1.50 – 2.75	.146 – .1600	.093	.190
	10	1.50 – 3.00	.161 – .1750	.125	.205
	11	1.50 – 3.00	.176 – .1900	.125	.220
	12	1.50 – 3.00	.191 – .2050	.125	.235
	13	1.50 – 3.00	.206 – .2200	.125	.250
	14	1.50 – 3.00	.221 – .2350	.125	.265
	15	1.50 – 3.00	.236 – .2500	.125	.280
NAP Angled Pilot Tip **	16	1.75 – 3.50	.251 – .2650	.125	.295
	17	1.75 – 3.50	.266 – .2800	.125	.310
	18	1.75 – 3.50	.281 – .2950	.125	.325
	19	1.75 – 3.50	.296 – .3100	.125	.340
	20	1.75 – 3.50	.311 – .3250	.187	.355
	21	2.00 – 4.00	.326 – .3400	.187	.370
	22	2.00 – 4.00	.341 – .3550	.187	.385
	23	2.00 – 4.00	.356 – .3700	.187	.400
	24	2.00 – 4.00	.371 – .3850	.187	.415
	Size #26 and larger "B" style head*				
	26	2.25 – 4.00	.376 – .4375	.187	.563
	27	2.25 – 4.00	.438 – .5000	.187	.625
	28	2.25 – 4.00	.501 – .5620	.187	.687
	29	2.25 – 4.00	.563 – .6250	.187	.750
	30	2.25 – 4.50	.626 – .7190	.250	.844
	31	2.25 – 4.50	.720 – .8120	.250	.937
	32	2.25 – 5.00	.813 – .9060	.250	1.031
	33	2.25 – 5.00	.907 – 1.0000	.250	1.125
	34	2.25 – 5.50	1.001 – 1.1250	.250	1.250
	35	2.25 – 5.50	1.126 – 1.2500	.250	1.375
	36	2.25 – 5.50	1.251 – 1.4380	.250	1.563
	37	2.25 – 5.50	1.439 – 1.6250	.250	1.750

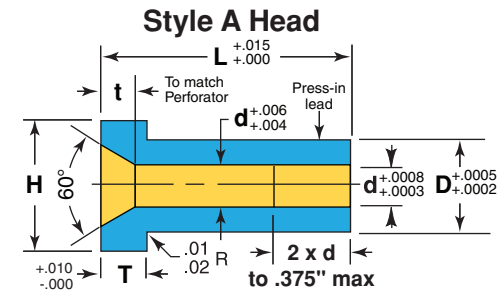
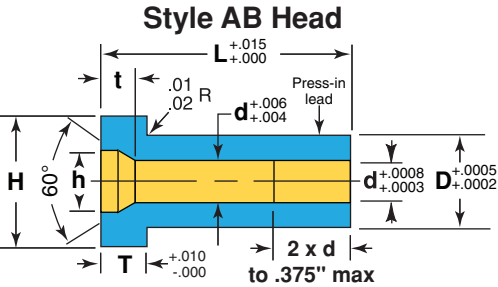
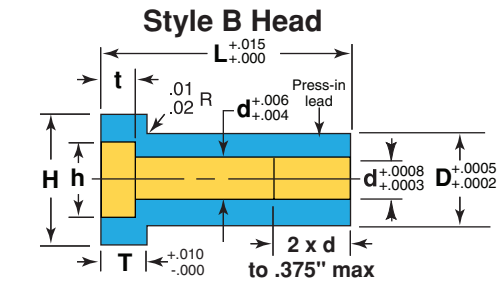


All Porter Perforators up to #24 are "Deep Cryogenically" treated for

1. Wear
2. Toughness
3. Dimensional Stability

See page 42 for more details.

PORTER CQ Perforator Holders



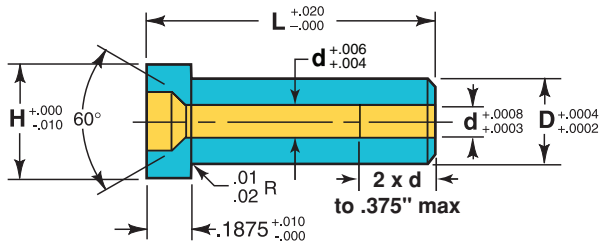
TOLERANCE
Steel: D2, Rc 59-62

Catalog No.	D	Lengths L in .25" Increments	d .001 increments	h	t	H	T
CQ-30	.1875	.75 - 1.25	.040 - .060	Punch head diameter +.015	.094	.250	.187
CQ-31	.2500	.75 - 1.50	.060 - .126		.094	.375	.187
CQ-32	.3125	.75 - 2.00	.080 - .160		.094	.437	.187
CQ-33	.3750	1.00 - 2.25	.161 - .218		.125	.500	.187
CQ-34	.4375	1.00 - 2.25	.200 - .250		.125	.562	.187
CQ-35	.5000	1.00 - 2.25	.218 - .310		.125	.625	.187
CQ-35	.5000	1.00 - 2.25	.311 - .325		.187	.625	.187
CQ-36	.6250	1.00 - 2.25	.326 - .385		.187	.750	.187
CQ-37	.8750	1.75 - 2.50	.376 - .500		.187	1.125	.187
CQ-38	1.125	2.00 - 2.50	.501 - .625		.187	1.375	.187
CQ-39	1.3750	2.50 - 3.00	.626 - .812		.250	1.625	.187
CQ-40	1.7500	2.75 - 3.25	.813 - 1.000		.250	2.000	.187
CQ-41	2.2500	3.00 - 3.50	1.001 - 1.250		.250	2.500	.187
CQ-42	2.8750	3.00 - 3.50	1.251 - 1.625		.250	3.250	.187

Ordering Example:
Qty. Cat. No. L d Head Style
6 CQ32 x 1.50 x .100 AB

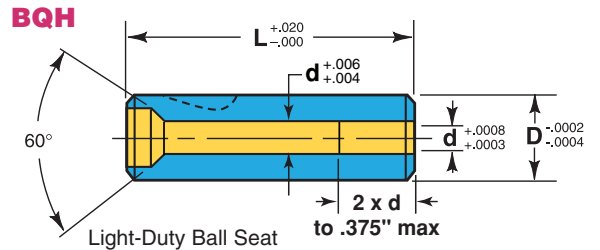
PORTER Support Quill Series

Standard Support Quill SSQ Series



Ordering Example:
Qty. Cat. No. x L Head Style
6 SSQ53 x 1.50 AB

Catalog Number	D	Length L in .25" Increment	Perf d	H	To Match AB Perf #
SSQ-50	.1875	.75 - 1.25	.062	.250	NO-LN0
SSQ-51	.2500	.75 - 1.50	.078	.375	N1-LN1
SSQ-52	.2500	1.00 - 1.75	.093	.375	N2-LN2
SSQ-53	.3125	1.00 - 1.75	.125	.437	N3-LN3
SSQ-54	.3125	1.00 - 1.75	.156	.437	N4-LN4
SSQ-55	.3750	1.00 - 1.75	.187	.500	N5-LN5
SSQ-56	.3750	1.25 - 1.75	.218	.500	N6-LN6
SSQ-57	.4375	1.25 - 1.75	.250	.562	N7-LN7
SSQ-58	.5000	1.25 - 1.75	.312	.625	N8-LN8
SSQ-59	.6250	1.25 - 1.75	.375	.750	N9-LN9
SSQ-60	.8750	1.25 - 1.75	.438	1.125	N10-LN10
SSQ-61	.8750	1.25 - 1.75	.500	1.125	N11-LN11



TOLERANCE
Steel: A2, RC59-62
d to D TIR: .0003 Max. Perf.

Ordering Example:
Qty. Cat. No. x L Head Style
6 BQH53 x 1.75 AB

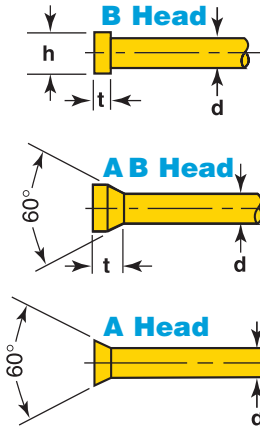
Catalog Number	Holder ØD	Length L	Perf d	To Match AB Perf #
BQH-50	.3750	1.25 1.75	.062	NO-LN0
BQH-51	.3750	1.25 1.75	.078	N1-LN1
BQH-52	.3750	1.25 1.75	.093	N2-LN2
BQH-53	.3750	1.25 1.75	.125	N3-LN3
BQH-54	.5000	1.25 1.75	.156	N4-LN4
BQH-55	.5000	1.25 2.00	.187	N5-LN5
BQH-56	.5000	1.25 2.00	.218	N6-LN6
BQH-57	.6250	1.25 2.00	.250	N7-LN7
BQH-58	.8750	1.25 2.00	.312	N8-LN8
BQH-59	.8750	1.25 2.00	.375	N9-LN9

Designed

- to hold N and LN type perforators, will also fit HP type.
- with thicker wall at tear-drop washout for extra strength.
- to fit all standard light duty retainers.

PORTER Perforators and Support Sleeves

N & LN Series

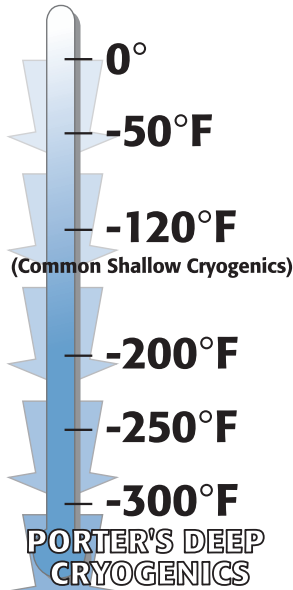


All Nib Perforators are M-2 Steel RC 60-63
 Heads Drawn RC 40-55
 Zero-Temp (Deep-Cryogenic)
 Available with Nitrogenic Treatment for added wear resistance.
 T.I.R. Point to body .0003
 * Shorter Lengths are available, please ask for quote.

Ordering Example:

Qty. Cat. No. x L x ØP Head Style
 12 N5 x 2.0 x .145 AB
 16 LN5 x 2.5 x .145 AB

Catalog No.	N L ₂	d	h	t	L in .25" increments	P ^{+0.003} / _{+0.000}	LN L ₂	Catalog Number
N-0	.125	.062	.100	.093	1.50 to 2.50	.031 - .044 .045 - .061	.250 .312	LN-0
N-1	.156	.078	.115	.093	1.50 to 2.50	.045 - .061 .062 - .077	.312 .437	LN-1
N-2	.187	.093	.130	.093	1.50 to 2.75	.060 - .074 .075 - .092	.437 .500	LN-2
N-3	.250	.125	.160	.093	1.50 to 2.75	.075 - .124	.562	LN-3
N-4	.312	.156	.190	.093	1.50 to 2.75	.093 - .155	.750	LN-4
N-5	.437	.187	.220	.125	1.75 to 3.00	.109 - .186	.875	LN-5
N-6	.468	.218	.250	.125	1.75 to 3.00	.125 - .217	1.000	LN-6
N-7	.500	.250	.280	.125	2.00 to 3.00	.150 - .249	1.125	LN-7
N-8	.562	.312	.355	.187	2.00 to 3.50	.187 - .311	1.187	LN-8
N-9	.687	.375	.415	.187	2.00 to 4.00	.255 - .374	1.312	LN-9
N-10	.687	.438	.563	.187	2.50 to 4.00	.262 - .437	1.312	LN-10
N-11	.687	.500	.625	.187	2.50 to 4.00	.300 - .499	1.312	LN-11
N-12	.687	.562	.687	.187	2.50 to 4.00	.337 - .561	1.312	LN-12
N-13	.687	.625	.750	.187	2.50 to 4.00	.375 - .624	1.312	LN-13
N-14	.750	.719	.814	.250	2.50 to 4.50	.415 - .718	1.437	LN-14
N-15	.750	.812	.937	.250	2.50 to 4.50	.487 - .811	1.437	LN-15
N-16	.812	.906	1.031	.250	2.50 to 5.00	.544 - .905	1.562	LN-16
N-17	.812	1.000	1.125	.250	2.50 to 5.00	.600 - .999	1.562	LN-17
N-18	.875	1.125	1.250	.250	2.50 to 5.50	.675 - 1.124	1.687	LN-18
N-19	.875	1.250	1.375	.250	2.50 to 5.50	.750 - 1.249	1.687	LN-19
N-20	.937	1.438	1.563	.250	2.75 to 6.00	.863 - 1.437	1.812	LN-20
N-21	.937	1.625	1.750	.250	2.75 to 6.00	.975 - 1.624	1.812	LN-21



THEN TEMPERED!

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

CSS Punch Support Sleeve and CSP Perforators

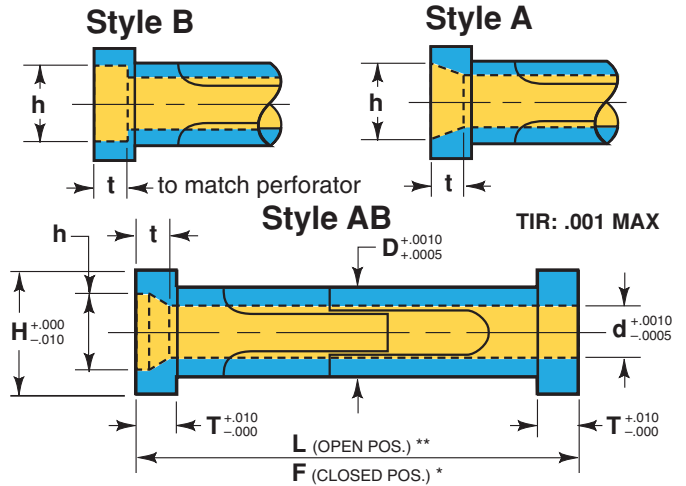
Material:
 Sleeve - stress proof material
 Perforator - M2 Rc 60-63 heads drawn ZeroTemp (Deep Cryogenic) treated

When Ordering Sleeve Specify:

Qty. Cat. No. x d Style
 6 CSS2 x .110 AB

When Ordering Perforator Specify:

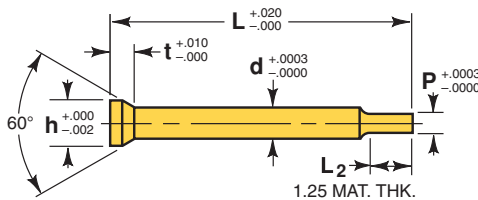
Qty. Cat. No. x d Style
 18 CSP2 x .110 AB



Catalog No.		d .001 increment	h	t	D	H	T	L**	F*	K***
CSS-3/0	CSP-3/0	.025 - .029	Punch head diameter +.015	.094	.1562	.218	.094	1.187	1.06	.12
CSS-2/0	CSP-2/0	.030 - .034		.094	.1875	.250	.094	1.312	1.18	.12
CSS-1/0	CSP-1/0	.035 - .039		.094	.1875	.250	.094	1.312	1.18	.12
CSS-0	CSP-0	.040 - .062		.094	.1875	.250	.094	1.500	1.31	.18
CSS-1	CSP-1	.063 - .093		.094	.2500	.375	.125	2.000	1.75	.25
CSS-2	CSP-2	.094 - .160		.094	.3125	.437	.125	2.125	1.75	.37
CSS-3	CSP-3	.161 - .218		.125	.3750	.500	.125	2.125	1.75	.37
CSS-4	CSP-4	.189 - .250		.125	.4375	.562	.125	2.500	2.00	.50
CSS-5	CSP-5	.251 - .310		.125	.5000	.625	.187	2.750	2.25	.50
		.311 - .325		.187	.6250	.750	.187	3.125	2.37	.75
CSS-6	CSP-6	.326 - .385		.187	.6250	.750	.187	3.125	2.37	.75

*Minimum closed length **Also length of perforator ***Length of stroke

P-200 Perforator Style AB



Hardness RC 60-63 Zero-Temp® Treatment
Heads RC 40-55

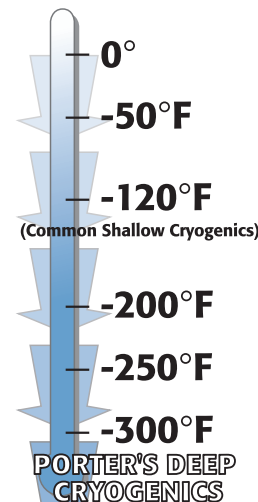
When Ordering Perforator Specify:

Qty. Cat. No. x P L2
6 P202 x .075 .25

Call out SBR required or advise Material Thickness.

P to d TIR: .0003 Max.

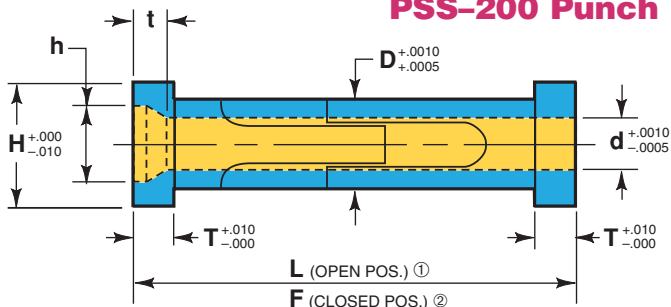
Cat. No.	d	L	P	h	t
P-200	.062	1.50	.043-.061	.100	.093
P-201	.078	2.00	.054-.077	.115	.093
P-202	.093	2.00	.062-.092	.130	.093
P-203	.125	2.12	.087-.124	.160	.093
P-204	.156	2.12	.109-.155	.190	.093
P-205	.187	2.12	.125-.186	.220	.125
P-206	.218	2.12	.153-.217	.250	.125
P-207	.250	2.50	.175-.249	.280	.125
P-208	.312	2.75	.218-.311	.355	.187
P-209	.375	3.12	.265-.374	.415	.187
P-210	.438	3.56	.307-.437	.563	.187
P-211	.500	3.56	.350-.499	.625	.187



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

THEN TEMPERED!

PSS-200 Punch Support Sleeve



Designed to hold P-200 Style Perforators.

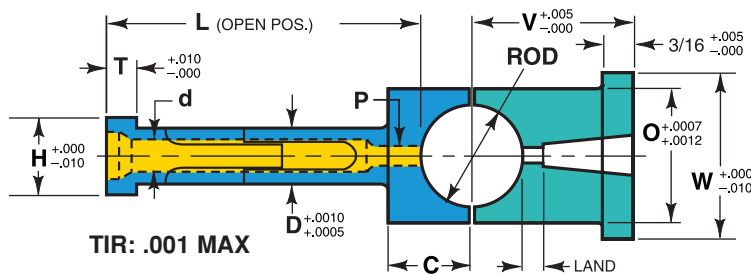
- ① L = Perforator length also
- ② F = Minimum closed position
- ③ K = Length of stroke

When Ordering Sleeve Specify:

Qty. Cat. No.
3 PSS202

Sleeve = Stress Proof Material TIR: .001 Max.

Cat. No.	D	L①	F②	K③	H	T	d
PSS-200	.1875	1.50	1.31	.19	.250	.093	.062
PSS-201	.2500	2.00	1.75	.25	.375	.125	.078
PSS-202	.2500	2.00	1.75	.25	.375	.125	.093
PSS-203	.3125	2.12	1.75	.37	.437	.125	.125
PSS-204	.3125	2.12	1.75	.37	.437	.125	.156
PSS-205	.3750	2.12	1.75	.37	.500	.125	.187
PSS-206	.3750	2.12	1.75	.37	.500	.125	.218
PSS-207	.4375	2.50	2.00	.50	.562	.125	.250
PSS-208	.5000	2.75	2.25	.50	.625	.187	.312
PSS-209	.6250	3.12	2.37	.75	.750	.187	.375
PSS-210	.8750	3.56	2.81	.75	1.125	.250	.438
PSS-211	.8750	3.56	2.81	.75	1.125	.250	.500



TIR: .001 MAX

When Ordering Sleeve Specify:

Qty. Cat. No. Style Head
6 RSS90 AB

When Ordering Perforator Specify:

Qty. Cat. No. x P x R Style Head
6 RSP90 x .051 x .0625 AB

When Ordering Die Button Specify:

Qty. Cat. No. V P
6 RSD90 .875 .063

Catalog Number	P	d	D	H	T	O	C	L	K	ROD Ø	V	W
RSS-90	.043-.056	.062	.1875	.250	.093	.2500	T + Radius of Rod	1.500	.187	To be specified by customer.	Die Button Length	O + .125
RSS-91	.054-.070	.078	.2500	.375	.125	.3750		2.000	.250			
RSS-92	.062-.083	.093	.2500	.375	.125	.3750		2.000	.250			
RSS-93	.081-.113	.125	.3125	.437	.125	.4375		2.125	.375			
RSS-94	.109-.140	.156	.3125	.437	.125	.5625		2.125	.375			
RSS-95	.125-.168	.187	.3750	.500	.125	.6875		2.187	.437			
RSS-96	.153-.196	.218	.3750	.500	.125	.8125		2.187	.437			
RSS-97	.175-.225	.250	.4375	.562	.125	.9375		2.500	.500			
RSS-98	.218-.281	.312	.5000	.625	.187	1.1250		2.875	.625			
RSS-99	.265-.343	.375	.6250	.750	.187	1.3750		3.125	.750			

RSS Sleeve Set consist of the two piece intermeshing sleeve. RSP (Perforator) and RSD (Die Button) must be ordered separately when needed.

- ① L= Perforator Length also
- ③ K= Length of stroke