

	A	B	C	D	E	F	G	H	I	J	K
1	I. Bocal		Original bocal: StanesbySrDart2, a Dart bocal							Dant1-Dant	SanesbySr1
2	dia reed end	4.2	inside diameter of reed end of bocal								
3	bocal string length (0, 1)	31	length of bocal inserted into receiver								
4	metal bocal length top (0, 1)	371	meas. along top of bocal Average 36.1cm								
5	metal bocal length bot (0, 1)	351	meas. along bottom of bocal								
6	dia wj end	9.7	inside diameter of bocal								
7											
8	bocal logic	2	if bocal logic = 0 ==> bocal is choke; if bocal logic = 1 ==>choke in wing joint calc; if bocal logic = 2 ==> no bocal							2	2
9											
10											
11											
12											
13	II. Wing Joint Lengths; Wing by Stanesby Jr		Choke vs receiver details; StanesbySrDart2 choke								
14	choke bore dia.	9	logic 1; bore diameter of choke; logic 0; either diameter bocal bottom or beginning of bore at bottom or receiver							9.5	9.6
15	receiver length (1, 0) (formally choke length)	40	StanesbySrDart2 vrfd long; logic 1: length of choke from top of wing joint; logic 0: length of receiver (same as string length)							90	44
16	wing joint length	542	total wing joint length, including tenon and socket							543	542
17	tenon length	58.2	tenon length							58	58.2
18											
19	wj f2	238	dist top of wing to where tone hole enters bore (not at the center of the tone hole)							235	235
20	wj e	295	E tone hole has a liner							283	282
21	wj d	338								332	332
22											
23	Bore dia. Bottom of wing joint	17.2	Need to Average, usually oval; StanesbySrDart2 No							17.2	18.5
24	Bore dia. top of boot joint small side	17.3								17.3	16.7
25	Bore dia. top of boot joint large side	26.4								26.5	26.3
26											
27	III. Boot Lengths		StanesbySrDart2, No Two whole design								
28	bi logic	1	logic=> if bi logic = 0 ==> plug removed; if bi logic = 1 ==> plug cannot be removed							1	1
29	bj c	99	dist from top of boot to where topmost tone hole enter bore (not at center of tone hole)							96	95
30	bj b	159								158	158
31	bj a	201								201	201
32											
33	bjstotal [Needed for both boot logics]	443	total length of boot, include socket, along the small bore side							444	441
34	bjltotal [Needed for both boot logics]	443	total length of boot, include socket, along large bore side							444	441
35	plug small [Need for logic 0 only]	0	plug thickness, large bore side							0	0
36	plug large [Need for logic 0 only]	0	plug thickness, small bore side							0	0
37											
38	boots [Needed for both boot logics]	407	hook length along s bore ==> bjs-septum length = boot - septum <= calc the septum							408	388
39	bootl [Needed for both boot logics]	407	hook length along l bore ==> bj1-septum length = boot - septum <= calc the septum							408	388
40											
41	boots bottom [Needed for both boot logics]	20	use hook, dist of bore (dist on stick plus 7mm, diff between hook and bot of stick)							19	36.5
42	boot bottom [Needed for both boot logics]	20	use hook, dist of bore (same as boots bot except tenon depth will be different); 13.0 + 7=20							19	36.5
43											
44	extreme bore [Needed for logic 1 only]	45.4	Outside dia of plug (measured) = small bore dia + large bore dia + the septum width							44.4	41.7
45											
46	septum length exp [Need for logic 0 only]	0	dist. from very bottom of boot to septum (point between the large and small bore)							0	0
47	septum length calc - do not input value	36	dist. From very bottom of boot to septum (bj1 - bootl)	do not input value						36	53
48	septum length - do not input value	36	if bj logic = 0 ==> septum = septum exp; if bj logic = 1 ==> septum = septum calc	do not input value						36	53
49											
50	sbore dia sep* [Needed for both boot logics]	19.6	septum small bore dia (assume = lbore dia sep)							19.7	19.4
51	lbore dia sep* [Needed for both boot logics]	21.1	septum large bore dia (assume = sbore dia sep) (measure if cork can be removed; for Logic 0)							21.2	21
52	sep width exp [Need for logic 0 only]	0	septum width; direct measurement if remove plug							0	0
53	sep width calc - do not input value	4.7	septum width; calc. => extreme bore - sbore - lbore	do not input value						3.5	1.3
54	sep width - do not input value	4.7	if bj logic = 0 ==> sep width = sep width exp; if bj logic = 1 ==> sep width = sep w	do not input value						3.5	1.3
55											
56	bj g	359	dist from top of boot (socket) to where G hole enters bore (not at cent of tone hole)							357	359
57	bj f1	138	StanesbySrDart2 vrfd differ, from Dart1; dist from top of boot (socket) to where F1 hole enters bore							152	152
58			(not at cent of tone hole)								
59											
60											
61											
62											
63	IV. Tone Hole Diameters										
64	f2	5.4								5.5	5.5
65	e	5.5								5.3	5.2
66	d	5								5.5	5.7
67											
68	c	6.7								7.5	7.9
69	b	6.6								6.6	7
70	a	6								6	6
71	g	9								8.9	8.5
72	f1	9.9								9.7	9.5
73											
74	e1	10.6	e1 tone hole dia, on long joint (need to average NS and EW dias, NS usually greater)							10.6	10.6
75	d1	7.6	StanesbySrDart2 vrfd smaller; d1 tone hole dia, on long joint (need to average NS and EW dias, NS usually greater)							8.5	9.1
76	c1	10.5	c1 tone hole dia, on long joint (need to average NS and EW dias, NS usually greater)							10.5	11.2
77											
78											
79											
80											
81											
82	V. Tone Hole Depths										
83	f2	24.6								24.4	23.3
84	e	25								23.5	23.5
85	d	27.8								27.8	28.4
86											
87	c	26.2								26.2	24.3
88	b	25								25.1	27.2
89	a	25.8								25.7	26.7
90		15.8	meas along bot tone hole wall (north wall, toward reed,tone hole usually at angle)							14.5	14.4
91	f1	20.5	meas along east side tone hole wall (north wall, toward reed,t hole usually at angle)							19.8	21.5
92											
93	e1	8.2	e1 tone hole depth;meas east/west with deapth gauge (at center, or shortest dist)							8.3	9.9
94	d1	8.8	d1 tone hole depth; meas east/west with deapth gauge (at center, or shortest dist)							8.5	10
95	c1	9	c1 tone hole depth; meas east/west with deapth gauge (at center, or shortest dist)							8.6	9.5
96											
97											
98											
99											
100											
101	VI. Long Joint		StanesbySrDart2 there is a table along long joint								
102	lg length	606	total length of long joint							606	605
103	lg tenon bot	60.1	length bottom tenon on long joint (tenon going into boot joint)							59.6	60
104	lj bot bore	25.2	long joint bottom tenon bore diameter (tenon going into boot joint)							25.2	25.4
105	lg top bore	32.7	long joint top tenon bore diameter (tenon going into bell)							32.7	32.7
106	lg tenon top	45.6	length top tenon on long joint (tenon going into bell)							44.9	45.2
107	e1 distance	65	dist long joint tenon to e1 (from bot of tenon to where tone hole enters bore)							66	66
108	d1 distance	259	dist long joint tenon to d1 (from bot of tenon to where tone hole enters bore)							257	256
109	c1 distance	470	dist long joint tenon to c1 (from bot of tenon to where tone hole enters bore)							471	469
110											
111											
112											
113											
114											
115	VII. Bore diameters at Tone Holes										
116	f2	12.1								12.1	12.8
117	e	12.7								12.9	13.3
118	d	13.3								13.6	13.9
119											
120	c	17.3								17.4	17.3
121	b	17.7								17.8	17.6

	A	B	C	D	E	F	G	H	I	J	K
122	a	18								18	17.9
123	q	22								22.2	21.6
124	f1	24								24.1	23.4
125											
126	e1	25.1	e1 tone hole bore diameter on long joint							25.2	24.5
127	d1	27.4	d1 tone hole bore diameter on long joint							27.6	27.4
128	c1	30.4	c1 tone hole bore diameter on long joint							30.5	30.5
129											
130											
131											
132											
133											
134	VIII. Bell		StanesbySrDart2 There is not a tone hole in the bell								
135	bell logic	1	If bell logic = 0 => normal conical bore; if bell logic = 1 => inverted conical bore; if bell logic = 2 => bell expansion							1	1
136	bell length (0, 1, 2)	320	total length of bell [lines 141 + 144 = line 136]							320	319
137	bell_bot_bore (0, 1, 2)	32.7	dia bore at the bottom of bell [end with socket]							32.8	32.7
138	bell_top_bore 0, (1, 0, 2)	27.7	dia bore at the top of bell [where low Bb exits]							27.6	28.1
139	bell_center_bore (only for logic 2)		dia bore at max center of expansion								
140	bell_wall (only for logic 2)		bell wall thickness, Just for David								
141	bell_bot_bore_expansion (only for logic 2)		dist of bottom to maxium of expansion [including bell socket length,if bell logic=0 =>100]								
142	Outside diameter of wood at expansion		Just for David								
143	bell_tenon (0, 1, 0, 2)	45.3	bell socket length							46.1	45
144	bell_expansion_length (only for logic 2)		distance of maxium expansion to top of bell [where Bb exits]								
145	bellfq	40	Usually about 10mm more than line 138							41.3	42
146											
147											
148	IX. PITCH										
149	pitch	415	input the historical pitch of the bassoon, must input value, best guess							415	392
150	freq_init	380	Initial frequency range variable							380	380
151	Delta frequency	2	frequency increment parameter							2	2
152	Number of frequencies	60	number of frequencies to scan for min chi sq							60	60
153	Frequency adjust	1.05	frequency adjustment parameter							1.05	1.05
154	X. Title										
155	title		Bassoon Calculation: StanesbySr-C-Dart2-Kopp-Wq1-WOB-DNM								
156											
157			Notes on long joint bore: StanesbySrDart2 excellent								
158			Notes on boot joint bore: StanesbySrDart2 excellent								
159			Notes on wing joint bore: StanesbySrDart2 excellent								
160	XI. Bore Diameter Locations										
161		20								21	20
162	Bell Bore	9	Initial bore diameter [do not include in line 160 counting]							9.5	
163	32.7mm dia. at socket	419	dist1; measured from the bottom of the wing joint- 10mm				1			419	0
164	32mm rod 85mm from socket	394	dist2; measured from the bottom of the wing joint- 11mm				1			394	414
165	31mm rod 135mm from socket	328	dist3; measured from the bottom of the wing joint- 12mm				1			323	342
166	30mm rod 280mm from socket	230	StanesbySrDart2 vrfd; dist4; measured from the bottom of the wing joint- 13mm				1			248	280
167	29mm rod 300mm from top of bell	165	dist5; measured from the bottom of the wing joint- 14mm				1			172	187
168	38mm rod 311mm from top of bell	114	dist6; measured from the bottom of the wing joint- 15mm	Bottom wing	17.2		1			126	143
169	27.7mm dia.at bell end	50	dist7; measured from the bottom of the wing joint- 16mm	top boot smd	17.3		1			61	112
170		0	dist8; measured from the top of the bootjoint - small bore side- 17mm	top boot lard	26.4		1			12	90
171		175	dist9; measured from the top of the bootjoint - small bore side- 18mm				2			173	250
172		288	dist10; measured from the top of the bootjoint -small bore side- 19mm	sbore dia sep	19.6		2			286	0
173		0	dist11; measured from the top of the bootjoint - large bore side- 20mm	lbore dia sep	21.1		2			0	0
174		0	dist12; measured from the top of the bootjoint - large bore side- 21mm	Hook Length	407		3			0	388
175		365	StanesbySrDart2 vrfd;dist13; measured from the top of the bootjoint - large bore side- 22mm				3			375	325
176		233	StanesbySrDart2 vrfd; dist14; measured from the top of the bootjoint - large bore side- 23mm				3			250	195
177		160	dist15; measured from the top of the bootjoint - large bore side- 24mm	lj bot bore	25.2		3			166	119
178		104	dist16; measured from the top of the long joint- 25mm				3			108	505
179		415	StanesbySrDart2 vrfd; dist17; measured from the top of the long joint- 26mm				4			425	412
180		395	StanesbySrDart2 vrfd; dist18; measured from the top of the long joint- 27mm				4			376	390
181		270	dist19; measured from the top of the long joint- 28mm				4			269	268
182		230	dist20; measured from the top of the long joint- 29mm				4			224	228
183		214	StanesbySrDart2 vrfd; dist21; measured from the top of the long joint- 30mm				4			205	210
184		95	dist22; measured from the top of the long joint- 31mm				4			100	87
185		40	dist23; measured from the top of the long joint- 32mm	lj top bore	32.7		4			51	15