GrenserH2-O-Leipzig1387-Wg1-WOB-DNM

	A	B	C	D	E	F	G	H	I
1	**I. Bocal**		Original bocal; GrenserH2, logic 2, no bocal, a bocal on the bassoon, not original						
2	dia reed end		inside diameter of reed end of bocal						
3	bocal string length (0, 1)		length of bocal inserted into receiver						
4	metal bocal length top (0, 1)		meas. along top of bocal						
5	metal bocal length bot (0, 1)		meas. along bottom of bocal						
6	dia wj end		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						
9									
10									
11									
12									
13	**II. Wing Joint Lengths**		bocal receiver: GrenserH2, very slight, it could have been formed from bocal over time, istr. Looks as if it was played a great deal						
14	choke bore dia.	9.3	logic 1; bore diameter of choke; logic 0; either diameter bocal bottom or beginning of bore at bottom or receiver						
15	receiver length (1, 0) (formally choke length)	26.9	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)						
16	wing joint length	528	total wing joint length, including tenon and socket						
17	tenon length	39.9	tenon length						
18									
19	wj f2	239	dist top of wing to where tone hole enters bore [not at the center of the tone hole]						
20	wj e	301							
21	wj d	347							
22									
23	Bore dia. Bottom of wing joint	14.9							
24	Bore dia. top of boot joint small side	16.1							
25	Bore dia. top of boot joint large side	25.3							
26									
27	**III. Boot Lengths**								
28	bj logic	0	logic=> if bj logic = 0 => plug removed; if bj logic = 1 => plug cannot be removed						
29	bj c	84	dist from top of boot to where topmost tone hole enter bore [not at center of tone hole]						
30	bj b	139							
31	bj a	184							
32									
33	bjstotal [Needed for both boot logics]	425	total length of boot, include socket, along the small bore side, meas. With boot cap removed						
34	bjltotal [Needed for both boot logics]	425	total length of boot, include socket, along large bore side						
35	plug small [Need for logic 0 only]	19.2	plug thickness, large bore side						
36	plug large [Need for logic 0 only]	19.5	plug thickness, small bore side						
37									
38	boots [Needed for both boot logics]	381	hook length along s bore => bjs-septum length = boot - septum <= calc the septum						
39	bootl [Needed for both boot logics]	381	hook length along l bore => bjl-septum length = boot - septum <= calc the septum						
40									
41	boots bottom [Needed for both boot logics]	27	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick]						
42	bootl bottom [Needed for both boot logics]	27	use hook, dist of bore [same as boots bot except tenon depth will be different]						
43			GrenserH2 Two round plug design: small bore: 19.2mm dia.; large bore 19.5 mm dia.; two corks missing						
44	extreme bore [Needed for logic 1 only]	40.8	Outside dia of plug [measured] = small bore dia + large bore dia + the septum width						
45									
46	septum length exp [Need for logic 0 only]	44	dist. from very bottom of boot to septum [point between the large and small bore]						
47	septum length calc - do not imput value	44	dist. From very bottom of boot to spetum [bjl - bootl]	do not imput value					
48	septum length - do not imput value	44	if bj logic = 0 => septum = septum exp; if bj logic = 1 => septum = septum	do not imput value					
49									
50	sbore dia sep* [Needed for both boot logics]	17.6	septum small bore dia [assume = lbore dia sep]						
51	lbore dia sep* [Needed for both boot logics]	18.8	septum large bore dia [assume = sbore dia sep] [mesure if cork can be removed; for Logic 0]						
52	sep width exp [Need for logic 0 only]	4.9	septum width; direct measurement if remove plug						
53	sep width calc - do not imput value	4.4	septum width; calc. => extreme bore - sbore - lbore	do not imput value					
54	sep width - do not imput value	4.9	if bj logic = 0 => sep width = sep width exp; if bj logic = 1 => sep width = s	do not imput value					
55									
56	bj g	330	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]						
57	bj f1	115	dist from top of boot (socket) to where F1 hole enters bore [not at cent of tone hole]						
58									
59									
60									
61									
62									
63	**IV. Tone Hole Diameters**								
64	f2	5.2							
65	e	5							
66	d	5							
67									
68	c	6.2							
69	b	6.5							
70	a	5.6							
71	g	8.5							
72	f1	9.2							
73									
74	e1	12.4	GrenserH2, difficult to meas. Tone hole has filler in it; e1 tone hole dia, on long joint [need to average NS and EW dias]						
75	d1	8.9	d1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]						
76	c1	12.9	GrenserH2, oblong 12.6 x 13.2; c1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]						
77									
78									
79									
80									
81									
82	**V. Tone Hole Depths**								
83	f2	22							
84	e	24							
85	d	31.6	GrenserH2, D tone holes drilled at fairly extreme angle						
86									
87	c	21.8							
88	b	23.3							
89	a	24.3							
90	g	18.1	meas along bot tone hole wall [north wall, toward reed,tone hole usually at angle]						
91	f1	19.5	meas along east side tone hole wall [north wall, toward reed,t hole usually at angle]						
92									
93	e1	8.7	e1 tone hole depth;meas east/west with deapth gauge [at center, or shortest dist]						
94	d1	7.9	d1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]						
95	c1	7.3	c1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]						
96									
97									
98									
99									
100									
101	**VI. Long Joint**		GrenserH2 a table along long joint						
102	lg_length	612	total length of long joint						

GrenserH2-O-Leipzig1387-Wg1-WOB-DNM

	A	B	C	D	E	F	G	H	I
103	lg_tenon_bot	43	length bottom tenon on long joint [tenon going into boot joint]						
104	lj_bot_bore	24.8	long joint bottom tenon bore diameter [tenon going into boot joint]						
105	lj_top_bore	31.6	long joint top tenon bore diameter [tenon going into bell]						
106	lg_tenon_top	33.9	length top tenon on long joint [tenon going into bell]						
107	e1_distance	58	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]						
108	d1 distance	263	dist long joint tenon to d1 [from bot of tenon to where tone hole enters bore]						
109	c1 distance	511	dist long joint tenon to c1 [from bot of tenon to where tone hole enters bore]						
110									
111									
112									
113									
114									
115	**VII. Bore diameters at Tone Holes**								
116	f2	11.8							
117	e	12.8							
118	d	13.2							
119									
120	c	16.6							
121	b	17.3							
122	a	17.4							
123	g	20							
124	f1	23.3							
125									
126	e1	25	e1 tone hole bore diameter on long joint						
127	d1	27.8	d1 tone hole bore diameter on long joint						
128	c1	30.8	c1 tone hole bore diameter on long joint						
129									
130									
131									
132									
133									
134	**VIII. Bell**		GrenserH2 there is a tone hole in the bell; 4.8mm dia.; 135mm from socket; 5.2mm length						
135	bell logic	0	If bell_logic = 0 => normal conical bore; if bell_logic = 1 => inverted concial bore; if bell_logic = 2 => bell expansion						
136	bell_length (0, 1, 2)	298	total length of bell [lines 141 + 144 = line 136]						
137	bell_bot_bore (0, 1, 2)	32.5	dia bore at the bottom of bell [end with socket]						
138	bell_top_bore 0, (1, 0, 2)	33.5	dia bore at the top of bell [where low Bb exits]						
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)	37.5	bell socket length						
144	bell_expansion_length (only for logic 2)		distance of maxium expansion to top of bell [where Bb exits]						
145									
146									
147									
148	**IX. PITCH**								
149	pitch	430	input the historical pitch of the bassoon, must input value, best guess						
150	freq_init	380	Initial frequency range variable						
151	Delta frequency	2	frequency increment parameter						
152	Number of frequencies	60	number of frequencies to scan for min chi sq						
153	Frequency adjust	1.05	frequency adjustment parameter						
154	**X. Title**								
155	title		Bassoon Calculation: GrenserH2-O-Leipzig1387-Wg1-WOB-DNM						
156									
157			Notes on long joint bore: GrenserH2 OOR in places						
158			Notes on boot joint bore: GrenserH2 small side OOR and cylindrical						
159	**XI. Bore Diameter Locations**		Notes on wing join boret: GrenserH2 normal						
160		19	Number of diameters						
161	**Bell Bore**	9.3	Initial bore diameter						
162	32.5mm dia. at socket	401	dist1; measured from the bottom of the wing joint- 10mm				1		
163	32mm rod 130mm from socket OOR	334	dist2; measured from the bottom of the wing joint- 11mm				1		
164	32mm rod 100mm from bell end	274	dist3; measured from the bottom of the wing joint- 12mm				1		
165	33.5mm dia. at bell end	196	dist4; measured from the bottom of the wing joint- 13mm				1		
166		85	dist5; measured from the bottom of the wing joint- 14mm				1		
167		0	dist6; measured from the bottom of the wing joint- 15mm	Bottom wing jt	14.9		1		
168		0	dist7; measured from the top of the bootjoint - small bore side- 16mm	top boot small	16.1		2		
169		120	dist8; measured from the top of the bootjoint - small bore side- 17mm	top boot large	25.3		2		
170		0	dist9; measured from the top of the bootjoint - small bore side- 18mm				2		
171		371	dist10; measured from the top of the bootjoint - large bore side- 19mm	sbore dia sep	17.6		3		
172		335	dist11; measured from the top of the bootjoint - large bore side- 20mm	lbore dia sep	18.8		3		
173		281	dist12; measured from the top of the bootjoint - large bore side- 21mm				3		
174		225	dist13; measured from the top of the bootjoint - large bore side- 22mm				3		
175		138	dist14; measured from the top of the bootjoint - large bore side- 23mm				3		
176		88	dist15; measured from the top of the boot joint- large bore side- 24mm	lj_bot_bore	24.8		3		
177		556	dist16; measured from the top of the long joint- 25mm				4		
178		490	dist17; measured from the top of the long joint- 26mm				4		
179		419	dist18; measured from the top of the long joint- 27mm				4		
180		315	dist19; measured from the top of the long joint- 28mm				4		
181		271	dist20; measured from the top of the long joint- 29mm				4		
182		221	dist21; measured from the top of the long joint- 30mm				4		
183		8	dist22; measured from the top of the long joint- 31mm				4		
184		0	dist23; measured from the top of the long joint- 32mm	lj_top_bore	31.6		4		