

# Pezé4-O-BrusMIMDK0024-Wg1-WOB-DNM

	A	B	C	D	E	F	G
1	<b>I. Bocal</b>		Original bocal; <b>Pezé4 No bocal</b>				
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	<b>II. Wing Joint Lengths</b>		<b>bocal receiver: Pezé4 no</b>				
14	choke bore dia.	10.4	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)	67	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)				
16	wing joint length	530	total wing joint length, including tenon and socket				
17	tenon length	47.5	tenon length				
18							
19	wj f2	227	dist top of wing to where tone hole enters bore [not at the center of the tone hole]				
20	wj e	293					
21	wj d	331					
22							
23	Bore dia. Bottom of wing joint	14.9	<b>Need to Average, usually oval; Pezé4 slight oval</b>				
24	Bore dia. top of boot joint small side	15.2					
25	Bore dia. top of boot joint large side	24					
26							
27	<b>III. Boot Lengths</b>						
28	bj logic	1	logic=> if bj logic = 0 => plug removed; if bj logic = 1 => <b>plug cannot</b> be removed				
29	bj c	95	dist from top of boot to where topmost tone hole enter bore [not at center of tone hole]				
30	bj b	146					
31	bj a	185					
32			<b>Pezé4 meas. With boot cap not removed, but compensated for cap</b>				
33	bjstotal [Needed for both boot logics]	436	total length of boot, include socket, along the small bore side				
34	bjltotal [Needed for both boot logics]	436	total length of boot, include socket, along large bore side				
35	plug small [Need for logic 0 only]	0	plug thickness, large bore side				
36	plug large [Need for logic 0 only]	0	plug thickness, small bore side				
37							
38	boots [Needed for both boot logics]	391	hook length along s bore => bjs-septum length = boot - septum <= calc the septum				
39	bootl [Needed for both boot logics]	391	hook length along l bore => bj-l-septum length = boot - septum <= calc the septum				
40							
41	boots bottom [Needed for both boot logics]	14	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick] <b>7 + 7 = 14</b>				
42	bootl bottom [Needed for both boot logics]	14	use hook, dist of bore [same as boots bot except tenon depth will be different]				
43							
44	extreme bore [Needed for logic 1 only]	40.9	Outside dia of plug [measured] = small bore dia + large bore dia + the septum width				
45			<b>Pezé4 could not remove boot cap, used meas. from Pezé3 Kampmann</b>				
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]				
47	septum length calc - do not imput value	45	dist. From very bottom of boot to septum [bjl - bootl]			do not imput value	
48	septum length - do not imput value	45	if bj logic = 0 => septum = septum exp; if bj logic = 1 => septum = septum ca			do not imput value	
49							
50	sbore dia sep* [Needed for both boot logics]	19.1	septum small bore dia [assume = lbore dia sep]				
51	lbore dia sep* [Needed for both boot logics]	20.2	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]	0	septum width; direct measurement if remove plug				
53	sep width calc - do not imput value	1.6	septum width; calc. => extreme bore - sbore - lbore			do not imput value	
54	sep width - do not imput value	1.6	if bj logic = 0 => sep width = sep width exp; if bj logic = 1 => sep width = sep			do not imput value	
55							
56	bj g	325	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]				
57	bj f1	132	dist from top of boot (socket) to where F1 hole enters bore [not at cent of tone hole]				
58							
59							
60							
61							
62							
63	<b>IV. Tone Hole Diameters</b>						
64	f2	5					
65	e	6					
66	d	5.2					
67							
68	c	6.8					
69	b	7.4					
70	a	6.2					
71	g	8.9					
72	f1	9.2					
73							
74	e1	14.5	<b>Pezé4 could not remove key; e1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]</b>				
75	d1	9.5	d1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
76	c1	14.9	<b>Pezé4 OOR 14.4 x 15.2; c1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]</b>				
77							
78							
79							
80							
81							
82	<b>V. Tone Hole Depths</b>						
83	f2	32					
84	e	31.2					
85	d	31.2					
86							
87	c	20.5					
88	b	23.5					
89	a	22.5					
90	g	14.5	meas along bot tone hole wall [north wall, toward reed,tone hole usually at angle]				
91	f1	21.3	meas along east side tone hole wall [north wall, toward reed,t hole usually at angle]				
92							
93	e1	8	e1 tone hole depth; meas east/west with depth gauge [at center, or shortest dist]				

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	A	B	C	D	E	F	G
94	d1	9	d1 tone hole depth; meas east/west with depth gauge [at center, or shortest dist]				
95	c1	9.4	c1 tone hole depth; meas east/west with depth gauge [at center, or shortest dist]				
96							
97							
98							
99							
100							
101	<b>VI. Long Joint</b>		<b>Pezé4 a table along long joint</b>				
102	lg_length	586	total length of long joint				
103	lg_tenon_bot	49.8	length bottom tenon on long joint [tenon going into boot joint]				
104	lj_bot_bore	23.9	long joint bottom tenon bore diameter [tenon going into boot joint]				
105	lj_top_bore	32.2	long joint top tenon bore diameter [tenon going into bell]				
106	lg_tenon_top	40.2	length top tenon on long joint [tenon going into bell] verified				
107	e1_distance	55	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]				
108	d1_distance	256	dist long joint tenon to d1 [from bot of tenon to where tone hole enters bore]				
109	c1_distance	470	dist long joint tenon to c1 [from bot of tenon to where tone hole enters bore]				
110							
111							
112							
113							
114							
115	<b>VII. Bore diameters at Tone Holes</b>						
116	f2	11.4					
117	e	12.5					
118	d	13.1					
119							
120	c	16.1					
121	b	17.2					
122	a	17.2					
123	g	20.5					
124	f1	22.2					
125							
126	e1	25.6	e1 tone hole bore diameter on long joint				
127	d1	28.6	d1 tone hole bore diameter on long joint				
128	c1	31.1	c1 tone hole bore diameter on long joint				
129							
130							
131							
132							
133							
134	<b>VIII. Bell</b>		<b>Pezé4 no tone hole in the bell</b>				
135	bell_logic	1	If bell_logic = 0 => normal conical bore; if bell_logic = 1 => inverted conical bore				
136	bell_length (0, 1, 2)	325	total length of bell [lines 141 + 144 = line 136]				
137	bell_bot_bore (0, 1, 2)	31.6	dia bore at the bottom of bell [end with socket]				
138	bell_top_bore (0, 1, 0, 2)	29.5	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)	40.5	bell socket length				
144	bell_expansion_length (only for logic 2)		distance of maxium expansion to top of bell [where Bb exits]				
145	bellfg	35	<b>Pezé4 bell OOR; Usually about 10mm more than line 138</b>				
146							
147							
148	<b>IX. PITCH</b>						
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	<b>X. Title</b>						
155	title		<b>Bassoon Calculation: Pezé4-O-BrusMIMDK0024-Wg1-WOB-DNM</b>				
156							
157			<b>Notes on long joint; Pezé4 not very out of round</b>				
158			<b>Notes on boot joint bore: Pezé4 normal</b>				
159	<b>XI. Bore Diameter Locations</b>		<b>Notes on wing joint bore: Pezé4 normal</b>				
160		18	Number of diameters				
161	<b>Bell Bore</b>	10.4	Initial bore diameter [do not include in line 160 counting]				
162	31.6mm dia. at socket	0	dist1; measured from the bottom of the wing joint- 10mm				1
163	31mm rod 105mm from socket	380	dist2; measured from the bottom of the wing joint- 11mm				1
164	30mm rod 215mm from top of bell	275	dist3; measured from the bottom of the wing joint- 12mm				1
165	29.5mm dia.at bell end	202	dist4; measured from the bottom of the wing joint- 13mm				1
166		126	dist5; measured from the bottom of the wing joint- 14mm				1
167		0	dist6; measured from the top of the bootjoint - small bore side- 15mm	Bottom wing jt	14.9		2
168		93	dist7; measured from the top of the bootjoint - small bore side- 16mm	top boot small	15.2		2
169		128	dist8; measured from the top of the bootjoint - small bore side- 17mm	top boot large	24		2
170		280	dist9; measured from the top of the bootjoint - small bore side- 18mm				2
171		385	dist10; measured from the top of the bootjoint - large bore side- 19mm	sbore dia sep	19.1		3
172		0	dist11; measured from the top of the bootjoint - large bore side- 20mm	lbore dia sep	20.2		3
173		250	dist12; measured from the top of the bootjoint - large bore side- 21mm	Hook Length	391		3
174		162	dist13; measured from the top of the bootjoint - large bore side- 22mm				3
175		76	dist14; measured from the top of the bootjoint - large bore side- 23mm				3
176		0	dist15; measured from the top of the long joint- 24mm	lj_bot_bore	23.9		4
177		540	dist16; measured from the top of the long joint- 25mm				4
178		510	dist17; measured from the top of the long joint- 26mm				4
179		440	dist18; measured from the top of the long joint- 27mm				4
180		355	dist19; measured from the top of the long joint- 28mm				4
181		310	dist20; measured from the top of the long joint- 29mm				4
182		225	dist21; measured from the top of the long joint- 30mm				4
183		115	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	32.2		4