

## 9-key tenoroon, Dominique Antony PORTHAUX, Paris, ca. 1808

<b>BASIC - OUTSIDE</b>			
	mm	mm	Comments
<b>Joint lengths</b>			
Standing length to bell	937		
Standing length to wing joint	642		
Wing joint length	369		
Wing joint - tenon length	42.9		
Butt joint length	370		
Long joint length	447		
Long joint - south tenon length	44.3		
Long joint - north tenon length	33.6		
Bell length	250		
Vent hole distance from north	x		
Vent hole approx diameter	x		
<b>Tone hole distance, axis</b>			
Wing - tone hole 1 distance from north	170		
Wing - tone hole 2 distance from north	186		
Wing - tone hole 3 distance from north	216		
Butt - tone hole 4 distance from north	64.5		
Butt - tone hole 5 distance from north	93		
Butt - tone hole 6 distance from north	123.5		
Butt - tone hole F distance from north	246		
Butt - tone hole E distance from north	94.7		
Butt - tone hole Ab distance from north	267		
Butt - tone hole F# distance from north	240		
Long joint - tone hole D distance from north	390		
Long joint - tone hole Eb distance from north	351		
Long joint - tone hole C distance from north	259		
Long joint - tone hole Bb distance from north	100		
Wing - major axis at tone hole 1	38		
Wing - major axis at tone hole 2	43.7		
Wing - major axis at tone hole 3	43.8		
Butt - major axis (side to side) at tone hole 4	58.8		
Butt - minor axis (front to back) at tone hole 4	39.3		
Butt - major axis (side to side) at tone hole 5	59.3		
Butt - minor axis (front to back) at tone hole 5	39.5		
Butt - major axis (side to side) at tone hole 6	59		
Butt - minor axis (front to back) at tone hole 6	39		
Butt - major axis (side to side) at tone hole F	55.4		
Butt - minor axis (front to back) at tone hole F	35.6		
Butt - major axis (side to side) at tone hole E	59.3		
Butt - minor axis (front to back) at tone hole E	39.4		
Butt - major axis (side to side) of the bottom butt ellipse	50	47.5	With/without ferrule
Butt - minor axis (front to back) of the bottom butt ellipse	35.5	33	With/without ferrule
Butt - major axis (side to side) of the top butt ellipse	58.4	55.7	With/without ferrule
Butt - minor axis (front to back) of the top butt ellipse	38.9	36.8	With/without ferrule
Butt - cork major axis (side to side)	38		One cork
Butt - cork minor axis (front to back)	21		
Long joint - minor axis (front to back) at tone hole D	34.7		Platform height 3.3 mm
Long joint - major axis (side to side) at tone hole D	31.3		
Long joint - minor axis (front to back) at tone hole Eb	34.9		Platform height 3.2
Long joint - major axis (side to side) at tone hole Eb	31.7		

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Long joint - minor axis (front to back) at tone hole C	35.7	38.1	Without/with inset
Long joint - major axis (side to side) at tone hole C	32.2		
Long joint - minor axis (front to back) at tone hole Bb	35.3		Platform height 2.8
Long joint - major axis (side to side) at tone hole Bb	33.4		
<b>Tone hole angle, Ø, length</b>			
Wing - tone hole 1 angle	38° North		
Wing - tone hole 2 angle	36° South		
Wing - tone hole 3 angle	41.5° South		
Wing - tone hole 1 approx. Ø	4.2		
Wing - tone hole 2 approx. Ø	4.5		
Wing - tone hole 3 approx. Ø	4.1		
Wing - tone hole 1 approx. length	30.6		
Wing - tone hole 2 approx. length	27.4		
Wing - tone hole 3 approx. length	26.9		
Butt - tone hole 4 angle	14.5° North		
Butt - tone hole 5 angle	14° South		
Butt - tone hole 6 angle	42° South		
Butt - tone hole E angle	43.5° South		
Butt - tone hole 4 approx. Ø	5.1		
Butt - tone hole 5 approx. Ø	5.6		
Butt - tone hole 6 approx. Ø	5.4		
Butt - tone hole E approx. Ø	7.5		
Butt - tone hole 4 approx. length	23.4		
Butt - tone hole 5 approx. length	22		
Butt - tone hole 6 approx. length	23.2		
Butt - tone hole E approx. length	13.8		
Long joint - tone hole C angle	0		
Long joint - tone hole C Ø	6.3		
Long joint - tone hole C approx. length	11.7		Height with key guard 2.2 mm
<b>BASIC - INSIDE</b>			
<b>Inner bore length</b>			
Bore length	1574.4		Calculated using middle big bore and bell socket length
Wing bore length	370		
Butt - small bore length	297		
Butt - big bore length	295.5		Cork is uneven
Butt - small bore socket length	43.2		
Butt - big bore socket length	44	44.4	
Butt - small bore beginning of septum	280		
Butt - big bore beginning of septum	280		
Long joint bore length	449		
Bell bore length	251		
<b>Inner bore beginning Ø (not socket!)</b>	<b>Min.</b>	<b>Max.</b>	
Wing bore Ø north	7.4	7.5	
Wing bore Ø south	13.6	13.8	
Bocal well length	25.5		
Butt - small bore Ø north	13.8	14	
Butt - big bore Ø north	22.6	22.8	
Long joint Ø north	27	27.6	
Long joint Ø south	19	19.6	

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Bell bore Ø north	26	26.4	
Bell bore Ø south	27.5		
Bell socket length	34.5	37	
Bocal Ø at the beginning	3.4	3.9	Inside/outside
Bocal thickness at the beginning	0.3		
Bocal Ø at the tenon	7.2/ 7.6	8.3/8.8	Inside/outside
Bocal thickness at the tenon	0.6		
Bocal length (along top)	267		
<b>COMPLETE - OUTSIDE</b>	<b>Min.</b>	<b>Max.</b>	
Bocal well thickness with ferrule	5.5		Without ferrule 4.8
Bocal well ferrule thickness	0.4		
Wing - tenon thickness	3.3	3.5	
Wing - tenon northern extern. Ø	20.6	20.8	
Wing - tenon southern extern. Ø	20.2		
Wing - tone hole A distance from north	81		
Wing - tone hole A angle	x		
Wing - tone hole A approx. Ø	2.8		
Wing - tone hole A approx. length	2.8		
Wing - tone hole C distance from north	48.4		
Wing - tone hole C angle	x		
Wing - tone hole C extern. Ø	3.1		
Wing - tone hole C approx. length	3.1		
Butt - big socket thickness with ferrule	1.4	2.5	Without/with ferrule
Butt - small socket thickness with ferrule	1.5	2.9	Without/with ferrule
Butt - top ferrule thickness	0.8		
Minimum wall thickness between butt sockets	2.6		
Butt - wood space between corks - bottom	0		One cork
Butt - big bore cork Ø - bottom	18.1		
Butt - small bore cork Ø - bottom	18.5		
Butt - wood wall between cork/front - small bore	7.3	8.5	Without/with ferrule
Butt - wood wall between cork/front - big bore	7.1	8.1	Without/with ferrule
Butt - wood wall between cork/back - small bore	4.2	5.3	Without/with ferrule
Butt - wood wall between cork/back - big bore	5.7	5.9	Without/with ferrule
Wood wall between cork/side - small bore	3.6	5.2	Without/with ferrule
Wood wall between cork/side - big bore	3	4.6	Without/with ferrule
Butt - bottom ferrule thickness	0.9		
Long joint - south tenon thickness	3.7	3.8	
Long joint - south tenon northern extern. Ø	27.6	28.2	
Long joint - south tenon southern extern. Ø	26.8	27	
Long joint - north tenon thickness	1.2	1.9	
Long joint - north tenon northern extern. Ø	30	30.8	
Long joint - north tenon southern extern. Ø	31.2	31.5	
Bell socket thickness with brass	2.9		
Brass thickness of the bell ferrule	0.8		
Bell ferrule height	27.2		
<b>Tone hole angle, Ø, length</b>			
Butt - tone hole Ab angle	x		
Butt - tone hole F angle	x		
Butt - tone hole F# angle	x		
Butt - tone hole Ab approx. Ø	10.7		
Butt - tone hole F approx. Ø	8.3		

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Butt - tone hole F# approx. Ø	4.9		
Butt - tone hole Ab approx. length	x		
Butt - tone hole F approx. length	x		
Butt - tone hole F# approx. length	x		
Long joint - tone hole D angle	x		
Long joint - tone hole E $\flat$ angle	x		
Long joint - tone hole B $\flat$ angle	x		
Long joint - tone hole D approx. Ø	9.9		
Long joint - tone hole E $\flat$ approx. Ø	6.6		
Long joint - tone hole B $\flat$ approx.Ø	12.2		
Long joint - tone hole D approx. length	x		
Long joint - tone hole E $\flat$ approx. length	x		
Long joint - tone hole B $\flat$ approx. length	x		
<b>COMPLETE - INSIDE</b>			
Wing - tone hole 1 distance from south	238		
Wing - tone hole 2 distance from south	165		
Wing - tone hole 3 distance from south	135		
Wing - tone hole A distance from south	281		
Wing - tone hole C distance from south	x		
Butt - tone hole 4 distance from north	58		
Butt - tone hole 5 distance from north	97		
Butt - tone hole 6 distance from north	135		
Butt - tone hole Ab distance from north	270		
Butt - tone hole F distance from north	x		
Butt - tone hole F# distance from north	x		
Butt - tone hole E distance from north	104		
Long joint - tone hole D distance from north	388		
Long joint- tone hole E $\flat$ distance from north	356		
Long joint - tone hole C distance from north	260		
Long joint - hole B $\flat$ distance from north	100		
Bell - vent hole distance from north	x		
<b>EXTRAS</b>			
Butt joint - Ab (RT) tone hole Ø	6.1		
Butt - tone hole Ab (RT) distance from north	242		