

12-key tenoroon, Jean-Nicholas SAVARY JEUNE (4), Paris, ca. 1838

BASIC - OUTSIDE					
Joint lengths	mm	mm	Comments		
Standing length to bell	982				
Standing length to wing joint	660				
Wing joint length	379.5				
Wing joint - tenon length	41.3				
Butt joint length	320		Without bottom ferrule (0.8 thickness)		
Long joint length	472				
Long joint - south tenon length	41.2				
Long joint - north tenon length	28.6				
Bell length	257.5				
Vent hole distance from north	x				
Vent hole approx diameter	x				
Tone hole distance, axis					
Wing - tone hole 1 distance from north	177				
Wing - tone hole 2 distance from north	206				
Wing - tone hole 3 distance from north	236				
Butt - tone hole 4 distance from north	74.5				
Butt - tone hole 5 distance from north	104.5				
Butt - tone hole 6 distance from north	135				
Butt - tone hole F distance from north	245				
Butt - tone hole E distance from north	99.5				
Butt - tone hole Ab distance from north	263.5				
Butt - tone hole F# distance from north	215				
Long joint - tone hole D distance from north	420				
Long joint - tone hole Eb distance from north	370				
Long joint - tone hole C distance from north	268.5				
Long joint - tone hole Bb distance from north	98				
Wing - major axis at tone hole 1	47.1				
Wing - major axis at tone hole 2	47.1				
Wing - major axis at tone hole 3	47				
Butt - major axis (side to side) at tone hole 4	56.5				
Butt - minor axis (front to back) at tone hole 4	44.4				
Butt - major axis (side to side) at tone hole 5	55.7				
Butt - minor axis (front to back) at tone hole 5	43.7				
Butt - major axis (side to side) at tone hole 6	54.5				
Butt - minor axis (front to back) at tone hole 6	42.8				
Butt - major axis (side to side) at tone hole F	49				
Butt - minor axis (front to back) at tone hole F	37.8				
Butt - major axis (side to side) at tone hole E	55.6				
Butt - minor axis (front to back) at tone hole E	43.8				
Butt - major axis (side to side) of the bottom butt ellipse	43.4		Without ferrule. Thickness of bottom butt ferrule on sides 0.5		
Butt - minor axis (front to back) of the bottom butt ellipse	33.1		Without ferrule. Thickness of bottom butt ferrule on sides 0.5		
Butt - major axis (side to side) of the top butt ellipse	55		Without ferrule. Thickness of top butt ferrule on sides 0.5/0.6		
Butt - minor axis (front to back) of the top butt ellipse	40.2		Without ferrule. Thickness of bottom butt ferrule on sides 0.5		
Butt - cork major axis (side to side)	37.3				
Butt - cork minor axis (front to back)	19.3				
Long joint - minor axis (front to back) at tone hole D	33.7				
Long joint - major axis (side to side) at tone hole D	32.4				

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Long joint - minor axis (front to back) at tone hole Eb	33.3				
Long joint - major axis (side to side) at tone hole Eb	33.6				
Long joint - minor axis (front to back) at tone hole C	37.1				
Long joint - major axis (side to side) at tone hole C	34.8				
Long joint - minor axis (front to back) at tone hole Bb	37.9				
Long joint - major axis (side to side) at tone hole Bb	37.4				
Tone hole angle, Ø, length					
Wing - tone hole 1 angle	53.5° North				
Wing - tone hole 2 angle	34.5° South				
Wing - tone hole 3 angle	35.5° South				
Wing - tone hole 1 approx. Ø	4.6				
Wing - tone hole 2 approx. Ø	5.3				
Wing - tone hole 3 approx. Ø	4.8				
Wing - tone hole 1 approx. length	44.7				
Wing - tone hole 2 approx. length	25.6				
Wing - tone hole 3 approx. length	26				
Butt - tone hole 4 angle	44° North				
Butt - tone hole 5 angle	21° South				
Butt - tone hole 6 angle	28° South				
Butt - tone hole E angle	21.5° South				
Butt - tone hole 4 approx. Ø	6.8				
Butt - tone hole 5 approx. Ø	6.1				
Butt - tone hole 6 approx. Ø	5.5				
Butt - tone hole E approx. Ø	7.2				
Butt - tone hole 4 approx. length	24				
Butt - tone hole 5 approx. length	19.8				
Butt - tone hole 6 approx. length	18.6				
Butt - tone hole E approx. length	12.7				
Long joint - tone hole C angle	0				
Long joint - tone hole C Ø	10				
Long joint - tone hole C approx. length	6.6				
BASIC - INSIDE					
Inner bore length					
Bore length	1657.3				
Wing bore length	381				
Butt - small bore length	307		Without cork 321.5 mm		
Butt - big bore length	308		Without cork 322 mm		
Butt - small bore socket length	42.7				
Butt - big bore socket length	44.3				
Butt - small bore beginning of septum	282.5				
Butt - big bore beginning of septum	282.5				
Long joint bore length	474				
Bell bore length	269				
Inner bore beginning Ø (not socket!)	Min.	Max.			
Wing bore Ø north	10.3	10.6	Internal diameter of bocal well		
Wing bore Ø south	13	13.3			
Bocal well length	27				
Butt - small bore Ø north	13.6				
Butt - big bore Ø north	22.3				
Long joint Ø north	28.6	29			
Long joint Ø south	21.7	22.4			
Bell bore Ø north	39		Towards the end, bell flares		

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Bell bore Ø south	29.5			
Bell socket length	29.7			
Bocal Ø at the beginning	3.7			
Bocal thickness at the beginning	0.2			
Bocal Ø at the tenon	7.3			
Bocal thickness at the tenon	0.3			
Bocal length (along top)	229			
COMPLETE - OUTSIDE	Min.	Max.		
Bocal well thickness with ferrule	4	4.1		
Bocal well ferrule thickness	0.3			
Wing - tenon thickness	3	3.2		
Wing - tenon northern extern. Ø	21.3	21.5		
Wing - tenon southern extern. Ø	x			
Wing - tone hole A distance from north	79			
Wing - tone hole A angle	20° North			
Wing - tone hole A approx. Ø	3		3 mm until ca. end of hole tunnel; another hole with 2.6 mm Ø going into bore.	
Wing - tone hole A approx. length	7.6			
Wing - tone hole C distance from north	41			
Wing - tone hole C angle	20° North		right.	
Wing - tone hole C approx. Ø	2.8		2.8 until ca. end of the hole tunnel; another hole with 2.3 mm Ø going into bore.	
Wing - tone hole C approx. length	7.1			
Butt - big socket thickness with ferrule	1.6	1	With/without ferrule	
Butt - small socket thickness with ferrule	0.7		Ferrule 0.6	
Butt - top ferrule thickness	0.6			
Minimum wall thickness between butt sockets	1.7			
Butt - wood space between corks - bottom	x		One cork	
Butt - big bore cork Ø - bottom	18			
Butt - small bore cork Ø - bottom	18.5			
Butt - wood wall between cork/front - small bore	6	6.5	Without/with ferrule	
Butt - wood wall between cork/front - big bore	6.5	7	Without/with ferrule	
Butt - wood wall between cork/back - small bore	5.8	6.3	Without/with ferrule	
Butt - wood wall between cork/back - big bore	5.7	6.2	Without/with ferrule	
Wood wall between cork/side - small bore	3.5			
Wood wall between cork/side - big bore	3			
Butt - bottom ferrule thickness	0.5			
Long joint - south tenon thickness	2.8	3		
Long joint - south tenon northern extern. Ø	28.7	29		
Long joint - south tenon southern extern. Ø	27.5	27.8		
Long joint - north tenon thickness	2.1	2.3		
Long joint - north tenon northern extern. Ø	33.3	33.5		
Long joint - north tenon southern extern. Ø	33	33.3		
Bell socket thickness with brass	2	2.1		
Brass thickness of the bell ferrule	0.5			
Bell ferrule height	29			
Tone hole angle, Ø, length				
Butt - tone hole Ab angle	6.5° South			
Butt - tone hole F angle	10° South			
Butt - tone hole F# angle	13° South			
Butt - tone hole Ab approx. Ø	7.7			
Butt - tone hole F approx. Ø	7.3			
Butt - tone hole F# approx. Ø	6.3			
Butt - tone hole Ab approx. length	11.5			
Butt - tone hole F approx. length	12.3			
Butt - tone hole F# approx. length	12			
Long joint - tone hole D angle	x			
Long joint - tone hole E \flat angle	x			
Long joint - tone hole B \flat angle	x			

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Long joint - tone hole D approx. Ø	11.2	11.4		
Long joint - tone hole E \flat approx. Ø	6.5	6.7		
Long joint - tone hole B \flat approx.Ø	13.1	13.2		
Long joint - tone hole D approx. length	6.3			
Long joint - tone hole E \flat approx. length	4.6			
Long joint - tone hole B \flat approx. length	6.2			
COMPLETE - INSIDE				
Wing - tone hole 1 distance from south	239			
Wing - tone hole 2 distance from south	158			
Wing - tone hole 3 distance from south	129			
Wing - tone hole A distance from south	305			
Wing - tone hole C distance from south	342.5			
Butt - tone hole 4 distance from north	55			
Butt - tone hole 5 distance from north	110			
Butt - tone hole 6 distance from north	142			
Butt - tone hole Ab distance from north	262		In big bore	
Butt - tone hole F distance from north	243			
Butt - tone hole F \sharp distance from north	214			
Butt - tone hole E distance from north	102			
Long joint - tone hole D distance from north	422			
Long joint- tone hole E \flat distance from north	372			
Long joint - tone hole C distance from north	269			
Long joint - hole B \flat distance from north	98			
Bell - vent hole distance from north	x			
EXTRAS				
Tone hole distance, axis				
Long joint - tone hole C \sharp distance from north	161.5			
Long joint - tone hole B distance from north	42.5			
Long joint - major axis (side to side) at tone hole C \sharp	36.3			
Long joint - minor axis (front to back) at tone hole C \sharp	35.5			
Long joint - major axis (side to side) at tone hole B	38.3			
Long joint - minor axis (front to back) at tone hole B	38.1			
Long joint - tone hole C \sharp Ø	7.4	7.5		
Long joint - tone hole C \sharp approx. length	5			
Long joint - tone hole B Ø	7.9	8		
Long joint - tone hole B approx. length	4.9			
Long joint - tone hole C \sharp distance from north	162.5			
Long joint - hole B distance from north	42.5			
Wing - tone hole A length	7.6			
Wing - tone hole A extern. Ø	22.5	23.3	Front - back, with hole in front / (side to side)	
Wing - tone hole C length	7.1			
Wing - tone hole C extern. Ø	21.5	22.4	Front - back, with hole in front / (side to side)	
Butt - wood wall between cork/front in middle	7.5			
Butt - wood wall between cork/back in middle	6.5			