

11-key tenoroon, Jean Nicholas Savary jeune (11), Paris, ca. 1840

BASIC - OUTSIDE	mm	mm	Comments
Joint lengths			
Standing length to bell	983		
Standing length to wing joint	665.1		
Wing joint length	385		
Wing joint - tenon length	46.2		
Butt joint length	326		
Long joint length	474		
Long joint - south tenon length	45.4		
Long joint - north tenon length	28.7		
Bell length	255		Cut at top and redone
Vent hole distance from north	x		
Vent hole approx diameter	x		
Tone hole distance, axis			
Wing - tone hole 1 distance from north	173.5		
Wing - tone hole 2 distance from north	203		
Wing - tone hole 3 distance from north	233		
Butt - tone hole 4 distance from north	79		
Butt - tone hole 5 distance from north	110		
Butt - tone hole 6 distance from north	141		
Butt - tone hole F distance from north	245.5		Metal plate under spring
Butt - tone hole E distance from north	104.5		
Butt - tone hole Ab distance from north	264		Metal plate under spring
Butt - tone hole F# distance from north	221		Metal plate under spring
Long joint - tone hole D distance from north	416		
Long joint - tone hole Eb distance from north	368		
Long joint - tone hole C distance from north	263.5		

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Long joint - tone hole Bb distance from north	92.5		
Wing - major axis at tone hole 1	47.6		
Wing - major axis at tone hole 2	47.6		
Wing - major axis at tone hole 3	47.5		
Butt - major axis (side to side) at tone hole 4	56		
Butt - minor axis (front to back) at tone hole 4	45		
Butt - major axis (side to side) at tone hole 5	53.3		
Butt - minor axis (front to back) at tone hole 5	44.4		
Butt - major axis (side to side) at tone hole 6	54.7		
Butt - minor axis (front to back) at tone hole 6	43.6		
Butt - major axis (side to side) at tone hole F	50.8		
Butt - minor axis (front to back) at tone hole F	38.8		
Butt - major axis (side to side) at tone hole E	55.7		
Butt - minor axis (front to back) at tone hole E	44.5		
Butt - major axis (side to side) of the bottom butt ellipse	47.6		Ferrule 0.5–1.0 mm / bottom plate 0.8 mm
Butt - minor axis (front to back) of the bottom butt ellipse	35.7		
Butt - major axis (side to side) of the top butt ellipse	56.7		Ferrule ca. 0.4 mm
Butt - minor axis (front to back) of the top butt ellipse	43.5		
Butt - cork major axis (side to side)	38.5		
Butt - cork minor axis (front to back)	19.5		
Long joint - minor axis (front to back) at tone hole D	34.4		
Long joint - major axis (side to side) at tone hole D	34		Platform
Long joint - minor axis (front to back) at tone hole Eb	33.7		
Long joint - major axis (side to side) at tone hole Eb	34.3		
Long joint - minor axis (front to back) at tone hole C	36		
Long joint - major axis (side to side) at tone hole C	35.7		

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Long joint - minor axis (front to back) at tone hole Bb	38.3		Platform
Long joint - major axis (side to side) at tone hole Bb	37.7		
Tone hole angle, \emptyset, length			
Wing - tone hole 1 angle	49° North		
Wing - tone hole 2 angle	30° South		
Wing - tone hole 3 angle	34° South		
Wing - tone hole 1 approx. \emptyset	4.7		
Wing - tone hole 2 approx. \emptyset	5.8		
Wing - tone hole 3 approx. \emptyset	5.25		
Wing - tone hole 1 approx. length	38.5		
Wing - tone hole 2 approx. length	37		
Wing - tone hole 3 approx. length	27		
Butt - tone hole 4 angle	41.5° North		
Butt - tone hole 5 angle	21° South		
Butt - tone hole 6 angle	29.5° South		
Butt - tone hole E angle	19° South		
Butt - tone hole 4 approx. \emptyset	7.15		
Butt - tone hole 5 approx. \emptyset	6.75		
Butt - tone hole 6 approx. \emptyset	6.9		
Butt - tone hole E approx. \emptyset	7.8		
Butt - tone hole 4 approx. length	23.6		
Butt - tone hole 5 approx. length	19.9		
Butt - tone hole 6 approx. length	19.7		
Butt - tone hole E approx. length	16.7		
Long joint - tone hole C angle	0		
Long joint - tone hole C \emptyset	9.05		

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Long joint - tone hole C approx. length	5.2		
BASIC - INSIDE			
Inner bore length			
Bore length	1651.2		
Wing bore length	386		
Butt - small bore length	311		
Butt - big bore length	311		
Butt - small bore socket length	46.7		
Butt - big bore socket length	46		
Butt - small bore beginning of septum	280		
Butt - big bore beginning of septum	279		
Long joint bore length	475		
Bell bore length	256		
Inner bore beginning \varnothing (not socket!)	Min.	Max.	
Wing bore \varnothing north	7.3	7.4	
Wing bore \varnothing south	13.2	13.9	
Bocal well length	27		
Butt - small bore \varnothing north	13.3	13.5	
Butt - big bore \varnothing north	21	21.8	
Long joint \varnothing north	30	30.5	
Long joint \varnothing south	22	22.3	
Bell bore \varnothing north	28.5	34.7	Bell flared at top to 40 mm
Bell bore \varnothing south	29.4	30.3	
Bell socket length	30.1		
Bocal \varnothing at the beginning	3.55	3.9	
Bocal thickness at the beginning	0.25		
Bocal \varnothing at the tenon	8	8.2	
Bocal thickness at the tenon	0.6		

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Bocal length (along top)	235		
COMPLETE - OUTSIDE	Min.	Max.	
Bocal well thickness with ferrule	3.3	4	
Bocal well ferrule thickness	0.3	0.6	
Wing - tenon thickness	2.5	3.4	
Wing - tenon northern extern. \emptyset	20.5	20.3	
Wing - tenon southern extern. \emptyset	19.3	19.5	
Wing - tone hole A distance from north	78		
Wing - tone hole A angle	17° North		
Wing - tone hole A extern. \emptyset	2.65		
Wing - tone hole A approx. length	8		
Wing - tone hole C distance from north	42		
Wing - tone hole C angle	18° North		
Wing - tone hole C extern. \emptyset	2.6		
Wing - tone hole C approx. length	7.8		
Butt - big socket thickness with ferrule	2		
Butt - small socket thickness with ferrule	2		
Butt - top ferrule thickness	0.5	0.6	
Minimum wall thickness between butt sockets	2.5		
Butt - wood space between corks - bottom	x		
Butt - big bore cork \emptyset - bottom	x		
Butt - small bore cork \emptyset - bottom	x		
Butt - wood wall between cork/front - small bore	7.3		Including ferrule
Butt - wood wall between cork/front - big bore	7.4		
Butt - wood wall between cork/back - small bore	6.7		
Butt - wood wall between cork/back - big bore	6.5		
Wood wall between cork/side - small bore	4.7		
Wood wall between cork/side - big bore	3.8		

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Butt - bottom ferrule thickness	0.5	1	
Long joint - south tenon thickness	2.8	3.2	
Long joint - south tenon northern extern. \emptyset	29	29.5	
Long joint - south tenon southern extern. \emptyset	28.1	28.5	
Long joint - north tenon thickness	2.3	2.4	
Long joint - north tenon northern extern. \emptyset	34.8	35.1	
Long joint - north tenon southern extern. \emptyset	34.9	35.2	
Bell socket thickness with brass	2	2.1	
Brass thickness of the bell ferrule	0.6	0.7	
Bell ferrule height	29.5		
Tone hole angle, \emptyset, length			
Butt - tone hole Ab angle	6.5° South		
Butt - tone hole F angle	9.5° South		
Butt - tone hole F# angle	22° South		
Butt - tone hole Ab approx. \emptyset	8.8		
Butt - tone hole F approx. \emptyset	7.8		
Butt - tone hole F# approx. \emptyset	5.35		
Butt - tone hole Ab approx. length	13.6		
Butt - tone hole F approx. length	14		
Butt - tone hole F# approx. length	16.3		
Long joint - tone hole D angle	0		
Long joint - tone hole E \flat angle	3° South		
Long joint - tone hole B \flat angle	0		
Long joint - tone hole D approx. \emptyset	12.7	12.8	
Long joint - tone hole E \flat approx. \emptyset	7.05		
Long joint - tone hole B \flat approx. \emptyset	13	13.3	
Long joint - tone hole D approx. length	6.4		
Long joint - tone hole E \flat approx. length	4.9		

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Long joint - tone hole B \flat approx. length	6		
COMPLETE - INSIDE			
Wing - tone hole 1 distance from south	240		
Wing - tone hole 2 distance from south	172		
Wing - tone hole 3 distance from south	137		
Wing - tone hole A distance from south	310		
Wing - tone hole C distance from south	347		
Butt - tone hole 4 distance from north	62		
Butt - tone hole 5 distance from north	115		
Butt - tone hole 6 distance from north	148		
Butt - tone hole A \flat distance from north	265		
Butt - tone hole F distance from north	246		
Butt - tone hole F \sharp distance from north	223		
Butt - tone hole E distance from north	108		
Long joint - tone hole D distance from north	418		
Long joint- tone hole E \flat distance from north	369		
Long joint - tone hole C distance from north	263		
Long joint - hole B \flat distance from north	90		
Bell - vent hole distance from north	x		
EXTRAS			
Long joint - tone hole C \sharp distance from north	161		
Butt joint - major axis at tone hole A \flat	49.7		
Butt joint - minor axis at tone hole A \flat	38.1		
Long joint - minor axis at tone hole C \sharp (front to back)	36		
Long joint - major axis at tone hole C \sharp (side to side)	36.9		
Bell - \emptyset of socket	36	35.4	
Long joint - tone hole C \sharp distance from north inside	160		

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Long joint - tone hole C# length of hole	4.2		
Long joint - tone hole C# angle	5° South		
Long joint - tone hole C# \emptyset	7.65		
Butt joint - cork width	36.3		
Butt joint - cork height	18.25	18.42	Big bore side / small bore side
Butt joint - cork height middle	14.6	14.3	Front / back