

<i>8-key tenoroon, I. Merklein, Vienna, ca. 1835</i>			
BASIC - OUTSIDE			Comments
Joint lengths	mm		
Standing length to bell	952		
Standing length to wing joint	663		
Wing joint length	375.5		
Wing joint - tenon length	33.8		
Butt joint length	321		
Long joint length	451		
Long joint - south tenon length	35.5		
Long joint - north tenon length	34		
Bell length	246.5		
Vent hole distance from north	x		
Vent hole approx diameter	x		
Tone hole distance, axis			
Wing - tone hole 1 distance from north	163		
Wing - tone hole 2 distance from north	192		
Wing - tone hole 3 distance from north	223		
Butt - tone hole 4 distance from north	61		
Butt - tone hole 5 distance from north	91		
Butt - tone hole 6 distance from north	122.5		
Butt - tone hole F distance from north	245		
Butt - tone hole E distance from north	83		
Butt - tone hole Ab distance from north	284.5		
Butt - tone hole F# distance from north	180		
Long joint - tone hole D distance from north	403		
Long joint - tone hole Eb distance from north	342.5		
Long joint - tone hole C distance from north	254		
Long joint - tone hole Bb distance from north	50		
Wing - major axis at tone hole 1	47.8		
Wing - major axis at tone hole 2	47.6		
Wing - major axis at tone hole 3	47.3		
Butt - major axis (side to side) at tone hole 4	57		
Butt - minor axis (front to back) at tone hole 4	44		
Butt - major axis (side to side) at tone hole 5	55.4		
Butt - minor axis (front to back) at tone hole 5	42.8		
Butt - major axis (side to side) at tone hole 6	53.7		
Butt - minor axis (front to back) at tone hole 6	41.5		
Butt - major axis (side to side) at tone hole F	49.6		
Butt - minor axis (front to back) at tone hole F	38		
Butt - major axis (side to side) at tone hole E	55.7		
Butt - minor axis (front to back) at tone hole E	42.7		

<i>8-key tenoroon</i> , I. Merklein, Vienna, ca. 1835			
Butt - major axis (side to side) of the bottom butt ellipse	46		Without ferrule
Butt - minor axis (front to back) of the bottom butt ellipse	35		Without ferrule
Butt - major axis (side to side) of the top butt ellipse	57.7		Without ferrule
Butt - minor axis (front to back) of the top butt ellipse	41.5		Without ferrule
Butt - cork major axis (side to side)	x		
Butt - cork minor axis (front to back)	x		
Long joint - minor axis (front to back) at tone hole D	31.4		
Long joint - major axis (side to side) at tone hole D	32.5		
Long joint - minor axis (front to back) at tone hole Eb	33.2		
Long joint - major axis (side to side) at tone hole Eb	34.4		
Long joint - minor axis (front to back) at tone hole C	34.4		
Long joint - major axis (side to side) at tone hole C	34.6		
Long joint - minor axis (front to back) at tone hole Bb	37.3		
Long joint - major axis (side to side) at tone hole Bb	38.7		
Tone hole angle, Ø, length			
Wing - tone hole 1 angle	20° N		
Wing - tone hole 2 angle	13.5° S		
Wing - tone hole 3 angle	31.5° S		
Wing - tone hole 1 approx. Ø	4.2		
Wing - tone hole 2 approx. Ø	4.2		
Wing - tone hole 3 approx. Ø	4.2		
Wing - tone hole 1 approx. length	23		
Wing - tone hole 2 approx. length	21		
Wing - tone hole 3 approx. length	22		
Butt - tone hole 4 angle	14° N		
Butt - tone hole 5 angle	9.5° S		
Butt - tone hole 6 angle	28.5° S		
Butt - tone hole E angle	8° S		
Butt - tone hole 4 approx. Ø	5.4		
Butt - tone hole 5 approx. Ø	5.5		
Butt - tone hole 6 approx. Ø	5.2		
Butt - tone hole E approx. Ø	7.7		
Butt - tone hole 4 approx. length	19.5		
Butt - tone hole 5 approx. length	17		

<i>8-key tenoroon, I. Merklein, Vienna, ca. 1835</i>			
Butt - tone hole 6 approx. length	19.5		
Butt - tone hole E approx. length	17		
Long joint - tone hole C angle	0		
Long joint - tone hole C Ø	8.1		
Long joint - tone hole C approx. length	5		
BASIC - INSIDE			
Inner bore length			
Bore length	1584.8		
Wing bore length	377		348.5, excluding bocal well
Butt - small bore length	288.5		
Butt - big bore length	288.5		
Butt - small bore socket length	34.8		
Butt - big bore socket length	35.7		
Butt - small bore beginning of septum	278		
Butt - big bore beginning of septum	277		
Long joint length	453		
Bell length	248		
Inner bore beginning Ø (not socket!)	Min.	Max.	
Wing bore Ø north	10.3	10.4	
Wing bore Ø south	12.3	12.6	
Bocal well length	29.6		
Butt - small bore Ø north	21.4	21.8	
Butt - big bore Ø north	20.2	20.6	
Long joint Ø north	27.7	28.1	
Long joint Ø south	20.8	21.5	
Bell bore Ø north	24.3	25	
Bell bore Ø south	33.9	34.3	
Bell socket length	34.7		
Bocal Ø at the beginning	x		
Bocal thickness at the beginning	x		
Bocal Ø at the tenon	x		
Bocal thickness at the tenon	x		
Bocal length (along top)	x		
COMPLETE - OUTSIDE			
Bocal well thickness with ferrule	7.2	7.6	23.3/ 23.7 without ferrule
Bocal well ferrule thickness	0.4	0.5	
Wing - tenon thickness	4	4.3	
Wing - tenon northern extern. Ø	20.5	20.8	
Wing - tenon southern extern. Ø			

8-key tenoroon, I. Merklein, Vienna, ca. 1835			
Wing - tone hole A distance from north	70.6		
Wing - tone hole A angle	x		
Wing - tone hole A extern. Ø	x		
Wing - tone hole A approx. length	x		
Wing - tone hole C distance from north	57.4		
Wing - tone hole C angle	0		
Wing - tone hole C extern. Ø	x		
Wing - tone hole C approx. length	x		
Butt - big socket thickness with ferrule	3		
Butt - small socket thickness with ferrule	3.2		
Butt - top ferrule thickness	0.4	0.5	
Minimum wall thickness between butt sockets	2.5		
Butt - wood space between corks - bottom	2.6		
Butt - big bore cork Ø - bottom	16	16.7	
Butt - small bore cork Ø - bottom	17	17.4	
Butt - wood wall between cork/front - small bore	5.4		
Butt - wood wall between cork/front - big bore	4.5		
Butt - wood wall between cork/back - small bore	x		
Butt - wood wall between cork/back - big bore	x		
Wood wall between cork/side - small bore	x		
Wood wall between cork/side - big bore	x		
Butt - bottom ferrule thickness	0.6		
Long joint - south tenon thickness	3	3.4	
Long joint - south tenon northern extern. Ø	27.1	27.5	
Long joint - south tenon southern extern. Ø	x		
Long joint - north tenon thickness	2.5	2.7	
Long joint - north tenon northern extern. Ø	x		
Long joint - north tenon southern extern. Ø	33	33.3	
Bell socket thickness with brass	2.9	3.4	2.3/2.4 without ferrule
Brass thickness of the bell ferrule	0.4	0.5	
Bell ferrule height	31.5		
Tone hole angle, Ø, length			
Butt - tone hole Ab angle	5 S°		
Butt - tone hole F angle	x		
Butt - tone hole F# angle	x		
Butt - tone hole Ab approx. Ø	3.7		
Butt - tone hole F approx. Ø	8.5		
Butt - tone hole F# approx. Ø	5.5		
Butt - tone hole Ab approx. length	10		
Butt - tone hole F approx. length	15		

8-key tenoroon, I. Merklein, Vienna, ca. 1835			
Butt - tone hole F# approx. length	12.5		
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	10		
Long joint - tone hole E \flat approx. Ø	6.2		
Long joint - tone hole B \flat approx.Ø	12.6		
Long joint - tone hole D approx. length	5		
Long joint - tone hole E \flat approx. length	5		
Long joint - tone hole B \flat approx. length	5		
COMPLETE - INSIDE			
Wing - tone hole 1 distance from south	x		
Wing - tone hole 2 distance from south	x		
Wing - tone hole 3 distance from south	140		
Wing - tone hole A distance from south	x		
Wing - tone hole C distance from south	x		
Butt - tone hole 4 distance from north	54		
Butt - tone hole 5 distance from north	91.5		
Butt - tone hole 6 distance from north	130		
Butt - tone hole Ab distance from north	282		
Butt - tone hole F distance from north	244		
Butt - tone hole F# distance from north	180		
Butt - tone hole E distance from north	82		
Long joint - tone hole D distance from north	400		
Long joint - tone hole E \flat distance from north	352		
Long joint - tone hole C distance from north	251		
Long joint - hole B \flat distance from north	50		
Bell - vent hole distance from north	x		
EXTRAS			
Wing joint - external diameter of wing at tone hole 1	25.8	25.9	
Wing joint - external diameter of wing at tone hole 2	25.6	25.9	