

<b>4-key fagottino, Georg Heinrich SCHERER (1), Butzbach, ca.1760</b>			
<b>BASIC - OUTSIDE</b>			<b>Comments</b>
<b>Joint lengths</b>	<b>mm</b>	<b>mm</b>	
Standing length to bell	639	637	With/without bottom ferrule
Standing length to wing joint	459	456.5	With/without bottom and wing ferrule
Wing joint length	261.5		
Wing joint - tenon length	25		
Butt joint length	220.5	219	With/without bottom ferrule
Long joint length	305		
Long joint - south tenon length	28		
Long joint - north tenon length	29		
Bell length	168	167.5	With/without bottom ferrule 167.5
Vent hole distance from north	x		
Vent hole approx diameter	x		
<b>Tone hole distance, axis</b>			
Wing - tone hole 1 distance from north	104		
Wing - tone hole 2 distance from north	131		
Wing - tone hole 3 distance from north	160		
Butt - tone hole 4 distance from north	55		
Butt - tone hole 5 distance from north	79		
Butt - tone hole 6 distance from north	102		
Butt - tone hole F distance from north	188		
Butt - tone hole E distance from north	73.5		
Butt - tone hole Ab distance from north	176		
Butt - tone hole F# distance from north	x		
Long joint - tone hole D distance from north	268		
Long joint - tone hole Eb distance from north	x		

<b>4-key fagottino, Georg Heinrich SCHERER (1), Butzbach, ca.1760</b>			
Long joint - tone hole C distance from north	165.5		
Long joint - tone hole Bb distance from north	42		
Wing - major axis at tone hole 1	35.5		
Wing - major axis at tone hole 2	36.5		
Wing - major axis at tone hole 3	37		
Butt - major axis (side to side) at tone hole 4	47		
Butt - minor axis (front to back) at tone hole 4	36.2		
Butt - major axis (side to side) at tone hole 5	46.2		
Butt - minor axis (front to back) at tone hole 5	35.3		
Butt - major axis (side to side) at tone hole 6	45.3		
Butt - minor axis (front to back) at tone hole 6	35		
Butt - major axis (side to side) at tone hole F	43.4		
Butt - minor axis (front to back) at tone hole F	32.7		
Butt - major axis (side to side) at tone hole E	46.3		
Butt - minor axis (front to back) at tone hole E	35.5		
Butt - major axis (side to side) of the bottom butt ellipse	40.9	39.2	With/without bottom ferrule
Butt - minor axis (front to back) of the bottom butt ellipse	32.5	30.2	With/without bottom ferrule
Butt - major axis (side to side) of the top butt ellipse	47.7		
Butt - minor axis (front to back) of the top butt ellipse	36.6		
Butt - cork major axis (side to side)	33.1		
Butt - cork minor axis (front to back)	14.3		
Long joint - minor axis (front to back) at tone hole D	27		
Long joint - major axis (side to side) at tone hole D	25.7		
Long joint - minor axis (front to back) at tone hole Eb	x		
Long joint - major axis (side to side) at tone hole Eb	x		
Long joint - minor axis (front to back) at tone hole C	30.3		

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Long joint - major axis (side to side) at tone hole C	29		
Long joint - minor axis (front to back) at tone hole Bb	31.4		
Long joint - major axis (side to side) at tone hole Bb	31.4		
<b>Tone hole angle, Ø, length</b>			
Wing - tone hole 1 angle	26.5° North		
Wing - tone hole 2 angle	8.5° South		
Wing - tone hole 3 angle	29° South		
Wing - tone hole 1 approx. Ø	3.6		
Wing - tone hole 2 approx. Ø	4		
Wing - tone hole 3 approx. Ø	3.9		
Wing - tone hole 1 approx. length	13		
Wing - tone hole 2 approx. length	12		
Wing - tone hole 3 approx. length	13.5		
Butt - tone hole 4 angle	15.5° North		
Butt - tone hole 5 angle	6.5° South		
Butt - tone hole 6 angle	25° South		
Butt - tone hole E angle	9.5 ° South		
Butt - tone hole 4 approx. Ø	6.6		
Butt - tone hole 5 approx. Ø	5.8		
Butt - tone hole 6 approx. Ø	5		
Butt - tone hole E approx. Ø	8.5		
Butt - tone hole 4 approx. length	17.8		
Butt - tone hole 5 approx. length	20.3		
Butt - tone hole 6 approx. length	15		
Butt - tone hole E approx. length	11.2		
Long joint - tone hole C angle	0		
Long joint - tone hole C Ø	10.2	10.9	

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Long joint - tone hole C approx. length	6.9		
<b>BASIC - INSIDE</b>			
<b>Inner bore length</b>	<b>Min.</b>	<b>Max.</b>	
Bore length	1098.6		Calculated using median socket lengths
Wing bore length	263		
Butt - small bore length	220.5		No cork/until end of butt joint
Butt - big bore length	220.5		No cork/until end of butt joint
Butt - small bore socket length	25	26.7	
Butt - big bore socket length	27		
Butt - small bore beginning of septum	196.5		
Butt - big bore beginning of septum	196		
Long joint length	306.5		
Bell length	169		
<b>Inner bore beginning Ø (not socket!)</b>	<b>Min.</b>	<b>Max.</b>	
Wing bore Ø north	10.7	10.4	
Wing bore Ø south	13.3	12.7	
Bocal well length	17.5		
Butt - small bore Ø north	13.2		
Butt - big bore Ø north	18	18.4	
Long joint Ø north	21.4	22.4	
Long joint Ø south	15.7	16	
Bell bore Ø north	21.4	21.8	
Bell bore Ø south	23.3	x	
Bell socket length	27.5	28.5	
Bocal Ø at the beginning	x		
Bocal thickness at the beginning	x		
Bocal Ø at the tenon	x		

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Bocal thickness at the tenon	x		
Bocal length (along top)	x		
<b>COMPLETE - OUTSIDE</b>	<b>Min.</b>	<b>Max.</b>	
Bocal well thickness with ferrule	3	2.5	Without ferrule
Bocal well ferrule thickness	0.6	0.7	
Wing - tenon thickness	1.6	2	
Wing - tenon northern extern. Ø	17.7	18	
Wing - tenon southern extern. Ø	16.5	16.8	
Wing - tone hole A distance from north	x		
Wing - tone hole A angle	x		
Wing - tone hole A approx. Ø	x		
Wing - tone hole A approx. length	x		
Wing - tone hole C distance from north	x		
Wing - tone hole C angle	x		
Wing - tone hole C Ø	x		
Wing - tone hole C approx. length	x		
Butt - big socket thickness with ferrule	2		
Butt - small socket thickness with ferrule	2.3		
Butt - top ferrule thickness	0.7		
Minimum wall thickness between butt sockets	2.6		
Butt - wood space between corks - bottom	5		
Butt - big bore cork Ø - bottom	13.6	13.8	
Butt - small bore cork Ø - bottom	13.6	14	
Butt - wood wall between cork/front - small bore	5.3		
Butt - wood wall between cork/front - big bore	5.9		
Butt - wood wall between cork/back - small bore	7		
Butt - wood wall between cork/back - big bore	6		
Wood wall between cork/side - small bore	3.4		

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Wood wall between cork/side - big bore	2.2		
Butt - bottom ferrule thickness	0.5		
Long joint - south tenon thickness	2.3	2.4	
Long joint - south tenon northern extern. Ø	20.6	21.2	
Long joint - south tenon southern extern. Ø	20.3	20.8	Damaged
Long joint - north tenon thickness	1.4	1.7	
Long joint - north tenon northern extern. Ø	24.4	25	Damaged/missing small piece
Long joint - north tenon southern extern. Ø	25.4	26	
Bell socket thickness with brass	2.6	3	1.7–2 mm without ferrule
Brass thickness of the bell ferrule	0.4	0.6	
Bell ferrule height	11.1	11.4	
<b>Tone hole angle, Ø, length</b>			
Butt - tone hole Ab angle	1.5° South		
Butt - tone hole F angle	9.5 °South		
Butt - tone hole F# angle	x		
Butt - tone hole Ab approx. Ø	3.8		
Butt - tone hole F approx. Ø	7.4		
Butt - tone hole F# approx. Ø	x		
Butt - tone hole Ab approx. length	8		
Butt - tone hole F approx. length	12	14.5	
Butt - tone hole F# approx. length	x		
Long joint - tone hole D angle	0		
Long joint - tone hole E $\flat$ angle	x		
Long joint - tone hole B $\flat$ angle	0		
Long joint - tone hole D approx. Ø	10	10.9	
Long joint - tone hole E $\flat$ approx. Ø	x		
Long joint - tone hole B $\flat$ approx.Ø	11.1	11.6	
Long joint - tone hole D approx. length	6		

<b>4-key fagottino, Georg Heinrich SCHERER (1), Butzbach, ca.1760</b>			
Long joint - tone hole E $\flat$ approx. length	x		
Long joint - tone hole B $\flat$ approx. length	4.8		
<b>COMPLETE - INSIDE</b>			
Wing - tone hole 1 distance from south	165		101.5 mm from outside
Wing - tone hole 2 distance from south	130		130 mm is from outside
Wing - tone hole 3 distance from south	95		157 mm from outside
Wing - tone hole A distance from south	x		
Wing - tone hole C distance from south	x		
Butt - tone hole 4 distance from north	51		
Butt - tone hole 5 distance from north	80		
Butt - tone hole 6 distance from north	110		
Butt - tone hole Ab distance from north	176.5		
Butt - tone hole F distance from north	186		
Butt - tone hole F $\sharp$ distance from north	x		
Butt - tone hole E distance from north	75		
Long joint - tone hole D distance from north	268		
Long joint- tone hole E $\flat$ distance from north	x		
Long joint - tone hole C distance from north	166		
Long joint - hole B $\flat$ distance from north	441.5		
Bell - vent hole distance from north	x		
<b>EXTRAS</b>			
Cork entrance/height according to cork remaining in cork tunnel - big bore	10.8		In small bore 8.2 mm
Wood wall height between corks	7.8		