

## **FLUITENBOUW, handleiding voor het maken van houtblaasinstrumenten**

In August 2008 I have published my book *FLUITENBOUW, handleiding voor het maken van houtblaasinstrumenten*. It is written in Dutch language and in a Dutch setting, which means that (for instance) I have given addresses of some firms in The Netherlands where you can buy wood or tools. I have also referred to publications in *De Bouwbrief*, the periodical of the *Bouwerskontakt*, the society of woodwind makers in The Netherlands, and other Dutch publications.

For non-Dutch people who are interested in the contents of my 'handleiding' (manual) I have translated the title page and the greater part of the table of contents.

**Jan Bouterse**

### **WOODWIND MAKING: manual for making recorders, traversos and baroque oboes**

**- basic techniques of woodwind making - from simple experiments to full instructions for making copies of historical instruments - detailed information about voicing, tuning and scaling instruments - over 30 drawings with measurements of interesting instruments from renaissance and baroque.**

Dutch title: *FLUITENBOUW, handleiding voor het maken van houtblaasinstrumenten* by Jan Bouterse, published by the author in August 2008, no ISBN; 350 p.

#### **About the contents**

In my dissertation from 2001 (of which the English translation, *Dutch woodwind instruments and their makers, 1660-1760*, is published in 2005 by the KVMN in Utrecht) the results can be found of my scientific research into historic woodwind instruments. The new manual is a much more practical book, in which I have combined the experiences of the above mentioned research with those of making copies of the instruments.

The first chapters of the manual contain information about the technical aspects of woodworking (drilling, reaming, turning, making your own tools), and introductions in measuring techniques and acoustics. In the three instrument chapters (about traversos, recorders and baroque oboes) I have given - in a more or less chronological order - my experiences of making copies (from Dutch, German, French and English originals), but also of making simple instruments and experiments, such as scaling the instruments to other pitches. Many illustrations (the photos are in black & white), graphs and tables give additional information about such items as making windways (for recorders), keys, undercutting fingerholes, fingering tables, tuning instructions, schemes of nodes and antinodes of the sound waves of the various tones, and so on.

I have given drawings with measurements of over 30 historical instruments, many of them from private collections and not published before. I have given summarized data of some instruments of which excellent drawings and measurements have been published (such as from the collections of Frans Brügger and the Gemeentemuseum in Den Haag). Of some of these instruments I have given information of the copies, such as where I made some changes to improve the intonation and other aspects. But I have also written about my difficulties with some instruments, where I had beginners' luck or where I have made mistakes and didn't have success in making a copy: just such mistakes give valuable information for the readers, whether they are beginning with woodwind making or more experienced.

With the drawings and measurements in the manual, the reader might have enough information to make copies with very good qualities. However, I always give the recommendation that each woodwind maker should visit the collections to see (and measuring and playing, if possible) the instruments him- or herself. It is also good to consult the information in the catalogues (such as from the Gemeentemuseum in Den Haag) and my dissertation (in which are many colour photos). To order the dissertation, visit the website [www.kvmn.nl](http://www.kvmn.nl), go to 'Catalogue' (2x), scrolling down to the page 'Bouwstenen', and their to BN9.

Address of the author:

M.C.J. Bouterse

Sandenburg 69, NL 2402 RJ Alphen a/d Rijn, Nederland

tel. + 31 172 445957 - mail: [mcjbouterse@hetnet.nl](mailto:mcjbouterse@hetnet.nl)

**send me a mail if you want to to order the manual.**

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### Chapter 1: Introduction (4 p.):

- how the manual was made; - about the woodwind instruments in the manual; - about the empirical way of making woodwinds, information for beginning woodwind makers; - acknowledgements; - safety in the workshop

### Chapter 2: Measuring and drawing woodwind instruments (18 p.):

2.1- Observing and measuring: - *introduction*; - *using sliding callipers, rulers, several techniques for measuring bores*; - *introduction in measuring the 'step' in recorder windways and measuring tone holes*

2.2- Making drawings: - *introduction*; - *drawing with pen or pencil*; *drawing using the computer*; *about graphs of the bores of woodwind instruments*

### Chapter 3: Techniques of woodwind making (49 p.)

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3.5- Wood finishing and impregnating techniques: - *staining or oiling of wood*; - *staining boxwood with nitrogen acid*; - *about linseed oil*; - *shellac and other finishing techniques*; - *impregnation of wood*

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### Chapter 4: Acoustics for woodwind makers (16 p.)

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### Chapter 5: Traversos (72 p.)

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5.4- Technical instructions for making traversos: - *sequence of working*; - *turning the traverso*; - *about caps and corks*; - *types of bore profiles of baroque traversos*; - *cylindrical or slightly conical head bores*; - *about irregular bores of the middle joints*; - *variations in bores of traverso feet*; - *socket sizes*; - *finishing of the bores*; *mouthholes*; - *finger and key holes*; - *mounting keys*; - *tuning the baroque traverso (basic principles, coherence of the tones*; - *fingering tables, scheme of nodes and antinodes, effect of the cork position, the effect of undercutting fingerholes, the effect of bore corrections, etc.)*; - *making corps de rechange*; *conclusion*

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- PVC-traverso in b/g, Schweizer Pfeif in d2: own design  
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- R. Wijne, traverso in d1: Gemeentemuseum Den Haag (Ea 11-1935)  
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- R. Wijne, traverso in d1: Stichting Ehrenfeld Utrecht  
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- Van Heerde, traverso in d1 (ebony): private collection in The Netherlands  
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- August Grenser, traverso in d1: Gemeentemuseum Den Haag (Ea 14-1935)  
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- Alexander Heinrich, traverso in d1 (a=435/440 Hz), modern instrument  
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- D. Lot, traverso in d1 (a= 415 Hz), with 3 *corps de rechange*, private collection The Netherlands  
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- F.G.A. Kirst, traverso in d1 (a=440 Hz), with 3 *corps de rechange*, private collection (The Netherlands?)  
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- Voice flute in d1 after J.C. Denner, collection Frans Brügger and Germanisches Nationalmuseum Nürnberg: *comparison of data after drawings by Morgan (1981), Guido Klemisch (not published) and a copy made by me; additional information of an extra middle joint for playing as a tenor recorder in c (a=440 Hz)*
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- Alto recorder in f1 by Terton, Gemeentemuseum Den Haag (Ea 31-x-1952) *summarized data after the museum catalogue (1991) and own measurements*
- Alto recorder in f1 by Terton (boxwood, ivory rings, a=415 Hz), private collection The Netherlands *photos, measurements and drawings; see the dissertation for more photos and description*
- Van Heerde, alto recorder in f1, Gemeentemuseum Den Haag (Ea 33-x-1952) *summarized measurements after the museum catalogue (1991), with additional data of the original foot (not in museum catalogue)*
- Van Heerde, alto recorder in f1 in a=415 Hz, in ebony, Museu da Musica, Lisboa, Portugal (MIC 204) *full description, measurements and photos; for more photos see my dissertation*
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- Steenbergen, alto recorder in f1 in ivory, with double fingerholes on 6 and 7, former private collection The Netherlands, now in Vermillion, SD USA *drawing, photos and measurements; see the dissertation for more photos and full description*
- alto recorder in f1, a=440 Hz, own design *measurements of two different models; additional data of the Rippert alto recorder in Paris (in g1, low French pitch), summarized from a drawing by J.F. Beaudin*
- R. Wijne, soprano recorder in c2, a= 405/408 Hz collection Frans Brügger *measurements (after a drawing by Morgan, 1981 and after own research) and photo; additional information of my copy in a=415 Hz*
- W. Beukers, soprano recorder in c2, private collection (ex-Vellekoop) *photos and measurements; see the dissertation for more photos and description*
- R. Haka, 3 soprano recorders in c2, collection Frans Brügger and in museums in Leipzig and Vermillion USA - *drawings and measurements, after own research*
- Sopranino recorder in f2 in a=415 Hz, after a copy by Alec Loretto *measurements after a drawing by Beaudin, new measurements after a copy based upon (but much changed) the Beaudin drawing*
- Oberlender, sopranino recorder in f2 in ivory, a=415 Hz, Gemeentemuseum Den Haag (Ea 277-1933) *drawing and summarized measurements*
- IVH (Jan van Heerde), sopranino recorder in f2, a= 466 Hz, in one joint, Museum Het Admiraliteitshuis in Dokkum *summarized measurements; see the dissertation for photos and description*
- Anonymous, sopranino recorder in f2, a= 440+ Hz, in one joint. 't Huys Dever, Lisse *summarized measurements; see the dissertation for photos and description*
- R. Haka, sopranino recorder in f2, a= 440 Hz, in ivory, in one joint, Potsdam Museum Germany *drawing, measurements and photos; see the dissertation for more photos and description*
- Soprano recorder in c2, own design, with conical bore ('Van Eyck recorder') *photos and measurement; additional information for lower joint with cylindrical bore, and of similar recorder by Alec Loretto*
- Stanesby Junior: alto recorder in f1, a=415 Hz, private collection USA *photos, drawing and measurements*
- Simple recorder in one joint, with 1 + 4 fingerholes, own design (after an instrument excavated in Amsterdam) - *drawing and measurements*
- Square soprano recorder in c2, a=440 Hz, after a design by Alec Loretto, but changed *photos, description and measurements*
- Wooden ocarina, after an idea by Gerrit Menkveld, but changed design *photos, drawing, description and measurements*
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- R. Haka, oboe in boxwood, Gemeentemuseum Den Haag (Ea 6-1952) *summarized measurements after the museum catalogue (2004) and photos; see the dissertation for more photos and additional information*
- H. Richters, oboe in boxwood, Gemeentemuseum Den Haag (Ea 1-x-1996) *drawing, measurements and photos (this instrument is not in the museum catalogue from 2004)*
- J. Steenbergen, oboe in ebony with ivory rings, private collection Japan *drawing, measurements and photos*
- Van Heerde, oboe in boxwood, Musik Museet, Stockholm (No. 152) *drawing, measurements and photos*
- J. Denner, oboe in boxwood, private collection (ex Willy Burger, Zürich) *drawing, measurements and photos*
- R. Haka, short oboe (a=440 Hz possible), Musik Museet, Stockholm (No. 155) *summarized measurements after a museum drawing*