

THE NAGAHARA MINI: A PICCOLO IN THE TRUE BOEHM TRADITION

Many flutists are familiar with the efforts of Theobald Boehm in the 19th century that transformed the flute into the instrument that is played today. The flute before Boehm's innovations featured a conical bore; in other words, the tube of the instrument gets slimmer toward the foot. This pre-Boehm flute is commonly, though sometimes anachronistically, referred to as the "Baroque" flute. Boehm discovered that a flute body with cylindrical bore- one that maintains the same diameter through the length of the



Fig 1: Theobald Boehm (1794-1881)

tube- combined with a conical headjoint produced an instrument with improved intonation, evenness of tone throughout all registers, and ease of tone production in the high register. It might surprise one to hear that even though Boehm invented this new cylindrical flute in 1847, it was not until after 1900 that the instrument gained true worldwide acceptance. This was due in part to the difficulty of learning a new fingering system, but in even greater part it was due to a preference for the familiar tone of the Baroque flute.

Presumably due to time constraints from his labor on the flute, Boehm did little to apply his new system to the piccolo. Boehm himself only constructed a few piccolos that survive to this day. These also featured a cylindrical bore in



Fig 3: Cylindrical piccolo attributed to Boehm & Mendler

contrast to the standard conical instruments of the day. Boehm appeared to be unsatisfied with his results and entrusted continued advancement on the piccolo to his young protégé, Thomas Mollenhauer. The details are murky as to what lengths Mollenhauer went to in order to adapt the Boehm mechanism to a cylindrical bore. In the end, however, he settled instead on a body with a conical bore combined with a cylindrical head, essentially the conventional piccolo of today.

Had Boehm continued to work on the piccolo he would have doubtlessly remained on course with a cylindrical bore. The common complaints of modern listeners to conventional piccolo-playing- shrillness in the high register, weak tone in the low

register- are hallmarks of conical bore instruments and some of the very same Baroque flute troubles Boehm intended to remedy in his invention of the modern flute. For this reason, Kanichi Nagahara has spent the past twenty years developing the Nagahara Mini, the modern Boehm-style piccolo set to succeed Mollenhauer's historic instrument.

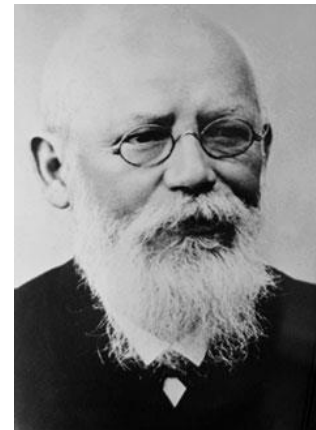


Fig 2: Thomas Mollenhauer (1840-1914)

The Nagahara Mini features a body with a cylindrical bore and a tapered headjoint- a miniature flute! Because the diameter of the tube remains the same through the entire body, the length of the tube can be

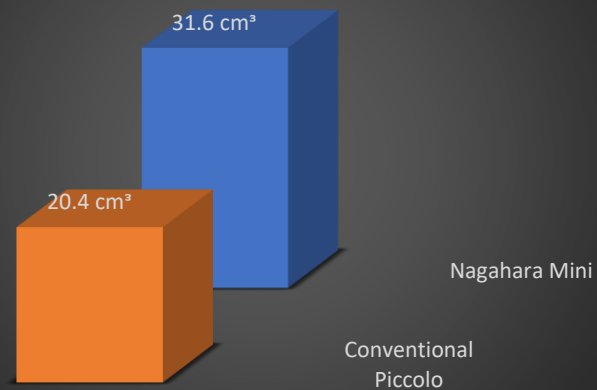


Fig 4: Nagahara Mini (above) compared to conventional piccolo (below)

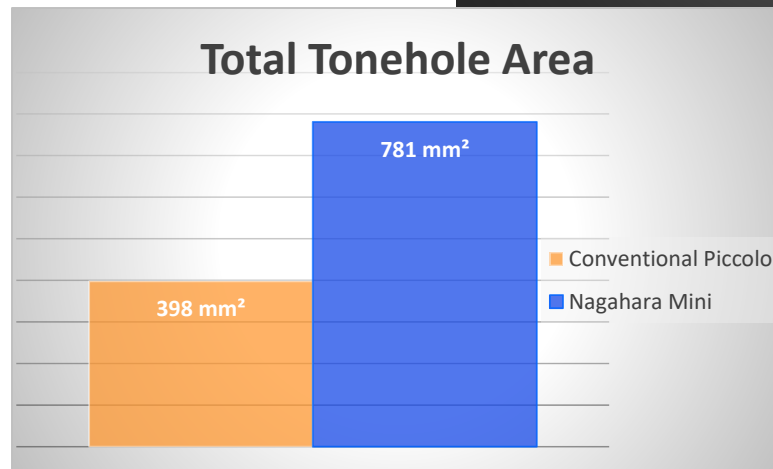
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extended by up to three toneholes to allow for a low B, three half-steps below the lowest note of the conventional piccolo. The cylindrical shape of the Mini increases the interior volume by more than 50 percent over the conical piccolo, even when accounting for the extra length required for the additional pitches on the Mini. Disregarding the added three toneholes, the Mini boasts a total tonehole area

Interior Volume



Total Tonehole Area



almost twice as large as that of the conventional piccolo. This results in far more air vented through the toneholes on the Mini. These attributes of greater interior volume and larger tonehole area allow for a more extensive dynamic range and control, as well as more evenness of tone throughout all registers. For ensemble playing, the blend with the flute section is enhanced due to a more flute-like tone.

Because the Mini is a new instrument, it shouldn't be played in the way one would play a conventional piccolo; instead, one should approach the instrument as if it were a small flute. In fact, experienced piccoloists often encounter difficulties when first trying the Mini. First-time Mini players often comment that it is not easy to play. When playing the Mini for the first time, one must recognize it as a different instrument. On the conventional piccolo, one typically must drastically squeeze the embouchure when playing in the high register. The Mini's high register allows for a more relaxed embouchure which sings rather than shrieks through the pitches. The low register on the Mini allows for a more powerful airstream.

Since playing the Mini involves using a flute-like embouchure, the transition between practicing flute and piccolo becomes easier. Practicing long hours on a conventional piccolo is exhausting to the facial muscles, and moving from piccolo to flute often requires a sacrifice of quality in the flute tone. With the more relaxed embouchure required for playing the Mini, one can play with less fatigue, and moving to the flute becomes much more natural.



Fig 5: Nagahara Mini (left) and conventional piccolo (right)

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What does the future hold for the Mini? Since the range of the Mini mimics that of the flute, the vast majority of the flute repertoire can now be performed on a piccolo, greatly enhancing the piccolo's soloistic capacities. Also, the superior blend of the Mini with a flute section redefines the available options for orchestral and other ensemble composers of tomorrow. Because the embouchure required is similar to that of the flute, the Mini might serve as an introduction to the flute for young children. The distance from the hands to the face is much shorter than that of the flute, and the close proximity of the keys allows small hands to operate with less tension. Furthermore, less strain on the facial muscles results from playing the Mini than on a conventional piccolo. The Mini requires a lower volume of air to play, making it suitable for small lungs. Perhaps it could be compared to the violin with its various sizes- full, half, quarter, etc.- that allow for children to begin at a young age.

Nagahara Flutes continues to lead the way in innovation in the flutemaking world. The Nagahara Mini provides the latest evidence. This step demonstrates the company's relentless pursuit of excellence in providing the best tools for the musician to journey freely in the creation of art. Our hope is that the musicians who play a Mini for the first time will approach it with an open mind, with the understanding that for all the benefits the Mini promises, in the words of Theobald Boehm,

"No flute is perfect, nor can be; the principle by which we obtain the sounds of thirty-seven pipes, varying in length and size, from one single tube, precludes the possibility of perfection...It is impossible to make a perfect flute."*

We therefore present the Mini as a completion of Boehm's innovation in the flute family. The Nagahara Mini is a piccolo in the true Boehm tradition.

* Welch, Christopher. *History of the Boehm flute: with illustrations exemplifying its origin by progressive stages ...* London: Rudall, Carte & Co., 1883. Print.

Fig 1: Hanfstaengl, Munich. *Theobald Boehm, 1794 to 1881*. Photograph. Retrieved from the Library of Congress, <<https://www.loc.gov/item/dcmphot.a0059/>>.

Fig 2: Thomas Mollenhauer. Digital image. Used with permission from Mollenhauer Company. N.p., n.d. Web. <<http://www.mollenhauer.com/en/useful-information#acc9>>.

Fig 3: Attributed To Boehm & Mendler. [*DCM 0053: Attributed to Boehm & Mendler / Piccolo in D-flat*]. [Munich, to 1881, 1862] Image. Retrieved from the Library of Congress, <<https://www.loc.gov/item/dcmflute.0053/>>.