

Toolshed

SAXOPHONE SCHOOL

Blow Free: Mouthpiece Designs Create Personal Saxophone Sounds

The science behind saxophone mouthpiece design is fundamental: It mostly has to do with airflow.

All of the different sax mouthpiece designs available today on the new and used markets share one main function—to control the spray of air as it enters the instrument. It's similar to putting your thumb over the opening of a garden hose to focus and accelerate the stream of water. In the case of the saxophone and other wind instruments, a well-controlled air stream translates to wider command over the most important elements of sound, including pitch, projection and the production of tonal colors.

Beyond this basic principle, sax mouthpiece design is largely an inexact science founded primarily on trial-and-error—usually by opening up, narrowing or shaping the complex air passageways inside existing mouthpieces.

Jody Espina, president of Jody Jazz, has broken new ground with his DV line of sax mouthpieces. Born of the need for a flexible mouthpiece that was capable of playing both bright, for contemporary music, and dark, for straight-ahead jazz, his high-performing DV line features a secondary “window” under the reed table that enhances tonal control.

“It's all about trying to make this mouthpiece play with more harmonics,” Espina said. “It helps add some bottom and mid-bottom. Otherwise, the small chamber gives you a shrill mouthpiece.” The Jody Jazz DVs also feature an accurate facing curve.

The internal design of a mouthpiece doesn't necessarily “create” a sound so much as it lets a player explore and fine-tune different sonorities and allows for varying levels of volume. It's a personal thing, as a lot depends on the player himself, his emboucher, particular instrument and the reed he uses that day.

Vandoren is currently on a roll with its V16 mouthpiece line, developed in response to jazz players' requests for something more free blowing. Currently available for tenor, alto and soprano, the V16 recalls early mouthpiece designs with its colorful harmonics, crisp articulation and wide dynamic range.

“We think this line will be the industry standard for years to come,” said Steve Baughman, artist consultant for Dansr, Vandoren's U.S. distributor. For decades now, Vandoren mouthpieces have been popular among jazz saxophonists who prefer the company's Optimum, Java, Jumbo Java and V5 models.

The three most important factors influencing tone production are: 1) the dimensions of a mouthpiece's facing curve, which allows the reed to vibrate a certain way and determines resistance and ease of emission; 2) the baffle, a ramp-like device that focuses the incoming air stream and accelerates it; and 3) the chamber at the back of the mouthpiece, where air collects before feeding into the horn itself, the size of which helps determine the tonal depth of sound produced. And in order for a mouthpiece to actually “work” for any given saxophonist, it has to strike a balance in each of these key areas.

Another determining factor for the sensation of sound production is the width of the tip rail, which can create the impression of an

“open” or “closed” mouthpiece. The opening between the reed and the mouthpiece tip can appear either wide or narrow, but while its size is important to the overall facing design, it alone sheds little light on how easy it is to blow.

Classic jazz mouthpiece designs remain abundant on today's jazz scene, with brand names like Otto Link, Arnold Brilhart, Berg Larsen, Vandoren, Lakey, Couf, Meyer, Dukoff and Selmer. Made either of hard rubber or plated brass, each piece has its own personality due to design differences, changes from normal wear-and-tear and miniscule imperfections in manufacturing. No two are ever the same, not to mention that thousands of classic jazz mouthpieces out there have been custom-tweaked by players and their technicians over the ages.

In general, vintage jazz mouthpieces were designed to play on the “warm” or “dark” side of the sonic spectrum. As saxophone players gradually began to seek out something brighter and edgier to fit more contemporary music styles, they turned to newer designs that departed from old traditions. Today, many of the high-performing sax mouthpieces feature retro design elements to satisfy jazz players who strive for old sounds reminiscent of the '1940s, '50s and '60s.

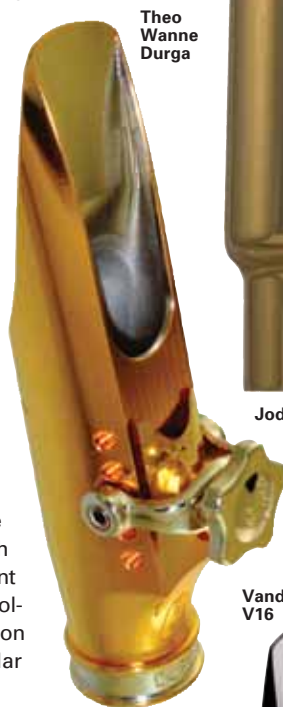
The Vintage Link, the latest high-end jazz saxophone mouthpiece design from veteran manufacturer J.J. Babbitt, is the direct result of attempts to improve on the company's current Otto Link line, which a lot of players complained just didn't play like the old classic Links. After five years of experimenting and play testing with jazz pros, Babbitt settled on design elements that were common to historic jazz models, according to Babbitt President Rocky Giglio.

“Everything on these is different than on our regular Links,” Giglio said. “From the round chamber, the different facing length and the new configuration of the inside by hollowing out the side walls, to getting the tip rail and the side rails to be as thin as we can, and then to have the baffle start at the tip and have just a slight rollover—that's what gives them the sound, the resistance and the projection that they want.”

Mouthpiece refacer-turned-inventor Theo Wanne has come up with several innovative designs in recent years. His Durga sax mouthpiece features a long, high baffle and a large chamber that transitions into a small chamber.

“I love more modern saxophone playing, but the tone is often nasal or thin with a lot of the brighter mouthpieces,” Wanne said. “The Durga was my effort to allow those guys to have a really full, fat sound even with a high-baffle mouthpiece.” Wanne said that his brand new Gaii mouthpiece line emulates the sound of Dexter Gordon, who inspired him to start actually making mouthpieces instead of just customizing them.

—Ed Enright



Theo Wanne
Durga



Jody Jazz DV

Vandoren
V16

