PHOENIX BRASS

Making Music Affordable & FUN

- Mouthpieces -

DON'T SEARCH FOR YOUR

DREAM MOUTHPIECE:

MAKE IT!

We're here to help.

Email us if you need help: chris@phoenixbrass.com.au

We're happy to help you whether you're planning to buy one of our mouthpieces or not!

Choosing or finding a suitable mouthpiece is a notoriously frustrating process. This problem affects even top-tier professionals who play in orchestras, theatre pits, and film studios. The advantage these elite players often have is manufacturers willing to work with them to create something that precisely meets their needs, suits their embouchure ("chops"), and complements their playing approach. In return, the player lets them put their name on the final model for marketing purposes. For most players, however, that sort of option is either not available or comes at a horrendously expensive price.

However, a mouthpiece bearing a famous player's name tells you only that it was *well-designed for that specific person*—and very little else. After all, most of the stock mouthpieces you can buy (from manufacturers like Bach, Schilke, Monette, etc.) were often originally custom-made for a particular player. They worked for *those* players, but as you may already know, many of them do not work for *you*.

You cannot simply pick up Allen Vizzutti's mouthpiece and expect to sound like him, play like him, or feel comfortable on it, unless it happens to meet all the conditions you need it to... In short, for Allen Vizzutti's mouthpiece to work for you like it does for him, *you would have to be Allen Vizzutti*, or have physiology and a playing approach that is very similar.

This doesn't mean you can't make many, or even most mouthpieces, work potentially *well enough* for some situations. A professional golf player, for instance, can likely outperform most people using any brand of clubs, even if they are slightly too long or short. But they would never compete in a major tournament using clubs that didn't allow them to play at their absolute best.

At Phoenix Brass, we are trying to help every player find what works best *for them*, and to make that process *affordable* through the use of modern technology.

How Our Mouthpieces Are Different

"I'm committed wholeheartedly to making mouthpieces that work with different players' physiology and playing approach so that every player can truly shine as unique individuals."

- Chris

The biggest difference between our mouthpieces and many other mouthpiece makers is that we design our mouthpieces to deal with the fact that *the human is the biggest variable in the equation.* Very few mouthpiece makers do this. Without accounting for individual differences between players' physiology and playing approaches, a $500 mouthpiece has as much chance of working for you as a $10 one. A lot depends on how a mouthpiece interacts with the player's embouchure between registers and as pressure is applied, and these differences between players have a more substantial difference on the way a mouthpiece plays than the usually talked about things like "cup shape" having certain magically sound properties.

Most mouthpiece makers will have some famous player or other come in and play some mouthpieces and that player will try things and say "oh, I like this cup", "I like this rim", "I like this backbore" and so on, and will end up with a custom mouthpiece that they like. The mouthpiece maker will then put that player's name on it and market that design. In fact, most of the mouthpieces from the major manufacturers are exactly like this, even if they are labelled as a "9C4" and so on.

That process has *ABSOLUTELY NOTHING* to do with producing a mouthpiece that will work well for any other player on the planet. We all know this because plenty of us have tried to play Allen Vizzutti's mouthpiece and did not suddenly find they could play the Carnival of Venus. At best, it means it'll work for people with similar physiology and a similar playing approach.

Worse is that all those designs are not organised in a way that gives the average player any hope at all of working out what might actually be a good fit for them. Many mouthpiece makers simply ignore the variations in physiology and approach between players and leave it entirely up to the player to work out. Instead, they'll talk about their mouthpieces having certain qualities in a way that is completely misleading if one doesn't also take the player into account. The player is always the biggest variable. If you don't account for the player themselves, everything else is meaningless.

None of this ever made any sense to me, and I was perpetually frustrated that every day there was another mouthpiece maker selling some new mouthpiece that supposedly offered players some specific sound quality or improved intonation or increased ease and so on. In reality, what they were offering, because it didn't account for difference in physiology and playing approach, could never be better, just *different.* Which is why so many of us have bought expensive mouthpieces only to play them a few times and move on.

I really, *really* dislike this approach.

That's why I help people understand their mouthpiece questions, create custom mouthpieces to help people solve issues, and design mouthpieces that are specifically built to accommodate the *ways players are different.*

What I wanted to create with Phoenix Brass was a new way of approaching mouthpieces that *lets our individual differences become strengths so that every person's playing can truly shine.*

The Problem With The Mouthpiece Safari Approach

The inherent problem with the normal approach of simply buying the latest "magical mouthpiece" is that *you have no idea if the player-specific aspects of its design are going to actually suit* YOUR *embouchure and playing style.*

Even if you did find a mouthpiece that was an improvement for you, you'd have no way to objectively determine which variables caused the improvement! Which means that you have no data you can use to determine what to do if you're ever looking for another mouthpiece — you'd be straight back to playing the MOUTHPIECE LOTTERY.

To understand why this is the case, let me give you this example:

> **Let's say you're playing a Bach 3C, and generally speaking it's working well for you, but it's just a little too bright for your taste. What do you do?**
>
> **The seemingly logical thing to do would be to buy a Bach 3B, right?! That's what the mouthpiece manual would seem to suggest.**
>
> **Well, that 3B mouthpiece has: (1) a different rim shape & diameter (2) a different cup entry angle (3) a different cup shape (4) a different cup volume (5) a different throat entrance (6) a different backbore.**
>
> **You wanted to <u>keep what was working</u> for you with the 3C and just add a little extra tone. What you got was a <u>completely different, completely unrelated mouthpiece</u>.**
>
> **So now what do you do? You start buying other 3C-style mouthpieces from different manufacturers hoping to find one that is basically the mouthpiece you have but with a little more tone. What you get is a whole**

series of mouthpieces that are completely different. If one of them achieves the result you wanted, it was by sheer *luck*.

i.e. You played the mouthpiece lottery and won. But the problem here is that if you ever need something different... it's back to playing the lottery! Why? Because you have no idea what thing about that specific 3C resulted in the improvements you were looking for.

This is why our motto is:

"DON'T SEARCH FOR YOUR DREAM MOUTHPIECE - MAKE IT!"

This is really the only logical, sensible, rational approach that results in objective data that you can use for the rest of your playing life.

The Essential Requirements of A Brass Mouthpiece

A suitable mouthpiece must perform many functions to support your playing. It must:

- **Feel comfortable on your lips.**
- **Provide sufficient endurance beyond your playing requirements, ensuring you are not exhausted or a "broken mess" the next day.**
- **Allow you to play softer than required without struggling for control.**
- **Allow you to play louder than required without struggling for control.**
- **Stretch the octaves correctly so they line up across at least your primary playing range.**
- **Produce a full, centred sound across the registers you typically need to play.**
- **Articulate cleanly and quickly.**
- **Respond quickly and without requiring you to manipulate your embouchure to find response.**
- **Produce the right sound/timbre for the style of music you are playing.**
- **Provide the flexibility you require to move easily across wide intervals.**
- **Provide a comfortable feeling of airflow—it should not feel like you are holding back or struggling to produce enough air.**
- **Work well with your specific instrument.**
- **Probably some other requirements that haven't occurred to us yet!**

That is A LOT of things!

THERE IS NO PERFECT MOUTHPIECE

Let's get this out of the way now!

Every mouthpiece design involves some amount of trade-off between one or more of these elements. For example, a design that gives you a rich, fat sound in the low register might also make the upper register feel *significantly* more difficult to play.

If you play in different musical styles, a single mouthpiece might not give you everything you need or result in working especially hard in one context. The mouthpiece required to play loud Double Cs all night long on a lead trumpet gig is unlikely to be suitable for playing 3rd Trumpet in an orchestra, for instance. Therefore, you may need more than one mouthpiece to cover different situations if your situations are diverse enough.

However, there are aspects of mouthpiece design that are crucial to get right FOR YOU in order for the mouthpiece not to get in your way.

You need a rim and cup entry angle that is comfortable and doesn't impinge on vibration when mouthpiece pressure is applied. You need a cup volume that is suited to the sound and level of ease you are looking for. You need a backbore that matches the cup volume so that it stretches the octaves correctly. You need a throat that provides the right feeling of airflow so that when you use your air support, it works with your embouchure and not against it. These things don't need to be perfect, but they need to be GOOD ENOUGH.

How to Find YOUR Comfort Zone

Forget about finding the "perfect" mouthpiece, and forget about "magic" mouthpieces or people telling you their stock design will fix all your problems. The only "Magical" mouthpiece is one that fits your physiology and playing needs well enough that it doesn't get in your way. There is no such thing as a rim, cup, backbore, throat etc that will work for every player. It doesn't matter whether your mouthpiece costs $50 or $500! Unless your physiology and playing style are factored into the decision, they both have equal chances of being right for you.

The only reason a mouthpiece will feel "magical" is because it hits the sweet spot for you on as many of the parameters as possible.

What you need to do is systematically find the following:

1. A comfortable diameter that supports your upper register without impinging on it when pressure is applied.

2. A rim shape and cup-entry angle that supports you and doesn't impinge on the vibration when pressure is applied.

3. A cup depth that doesn't cause the vibration to be impinged on when pressure is applied.

4. A cup shape that gives you the cup volume you need to get the sound and ease you want.

5. A throat that matches the amount of air support you want to use when transitioning between partials.

6. A backbore flare that balances everything out and stretches the octaves into alignment.

Crucially, none of these things need to be *perfect*; they just have to be GOOD ENOUGH that they aren't going to get in your way.

The way to work these out is to have a process where you can pursue INCREMENTAL IMPROVEMENT. This is completely different from a mouthpiece safari. A better name for a mouthpiece safari is "playing the mouthpiece lottery". There is no way to get useful, objective data from that process because every mouthpiece you try will be different in multiple (often unspecified) ways, which makes it impossible to tell what improved performance and what made it worse.

Diameter, Rim Shape, and Cup Entry Angle

These three components are the most fundamental in terms of how the mouthpiece interacts with your embouchure. This is because these are the aspects of the mouthpiece that the player forms their embouchure around. These variables directly affect each other and affect how your embouchure works — or doesn't work!

For example, if you increase the diameter, you change the amount of lip likely to protrude into the cup. This will, in turn, affect the *Cup Entry Angle* that works for you. An angle that was perfect on a smaller diameter might now cause your lips to "hug" the wall of the cup in a way that limits vibration.

Similarly, if you change the shape of the rim, you also change how much lip wants to fall into the cup. Some rim shapes hold the lips out, while others encourage you to put more lip in. Both can work, but the angle of the top of the cup must be in the right ballpark, or you will have issues playing that mouthpiece. Additionally, different rim shapes change what happens to the lips when pressure is applied. Some rim shapes cause the lips to become separated, while other rim shapes cause the lips and aperture to be focused inwards (sometimes detrimentally so), while others end up being fairly neutral. How this applies to you depends on how the shape of the rim pushes the lips against the surface of the teeth. Play testing is the only real way to know.

The lesson here is that *once you have found a diameter that you think you could do ALL of your playing on, you should stick to it*, because then you can fine-tune other parameters around that. If you change diameters, you also change how the rim interacts with your teeth, and how much lip is interacting with the top of the cup (which changes what entry angles you can tolerate).

Cup Depth

Cup depth is an important parameter that has a hard lower limit for each player. In other words, everyone has a "shallowest cup they can play

successfully" because everyone's lips protrude into the cup to different amounts when they play. This is referred to as "Lip Intrusion".

There are things that can be done to reduce the amount of lip intrusion, such as:

- **Reducing the mouthpiece diameter**
- **Rolling the lips in**
- **Putting less lip in the mouthpiece and/or using the mouthpiece rim to hold the lips out of the cup.**
- **Stretching the lips and holding them from the cup by smiling.**
- **Choosing a rim shape that results in less lip intrusion.**

Some of these things work well enough for some players. Some of them only create other issues.

When it comes to cup depth, it is important to understand:
Two people playing the exact SAME mouthpiece will be experiencing
TWO DIFFERENT MOUTHPIECES.

This is because different embouchures will fill up the cup to different amounts! So what feels deep to one player might feel shallow to another.

THIS IS NOT GOOD OR BAD, IT'S JUST HOW IT WORKS!

If you're otherwise happy with your playing but the way you hold your face turns a deep cup into a shallow one, that is fine. It just means you choose a cup depth and cup shape accordingly.

If, however, you find that this is the case with you BUT playing is taxing and involves a significant amount of mouthpiece pressure, you should consider going to a smaller diameter, which will hold more lip out of the cup, and allow you to rebalance things towards efficiency, making your life a lot easier.

In either case, it's important to know where your limit is, and even where in a shallow cup your lip hits, as this can be used to strategically add volume in

some places and remove it from others. To do this, you can use the Lipstick test.

The Lipstick Test

Get a nice, brightly coloured lipstick — the sort that will leave a big smooch mark behind — and put it on your lips and play something that causes your lips to bottom out. The lipstick will mark the areas of the cup where contact occurs, and this can be used to tell where the lips are being impinged and design around it.

Cup Volume & Cup Shape

The cup volume that remains once your lips are in the cup is ultimately what matters. It is what primarily determines how brilliant or dark the sound is.

> ***As a general rule, as you increase the VOLUME of the cup, playing loudly in the upper register will become MORE work and the sound in the low and middle register will become larger, 'darker' and possibly even dull.***
>
> ***As a general rule, as you decrease the VOLUME of the cup, playing loudly in the upper register will become LESS work and the sound in the lower register will be more compact, brighter and possibly even nasal sounding.***

NOTE: Generally speaking, switching to a shallow cup will NOT add to your range *unless the mouthpiece you're otherwise using is what is causing the range limitation.*

The need for power, sizzle and endurance gets easier as the cup volume gets smaller; however, as the cup volume decreases, the likelihood of running into a mouthpiece-caused playing issue increases significantly. It is this that makes the search for the "holy grail" so frustrating.

This is where cup shape matters.

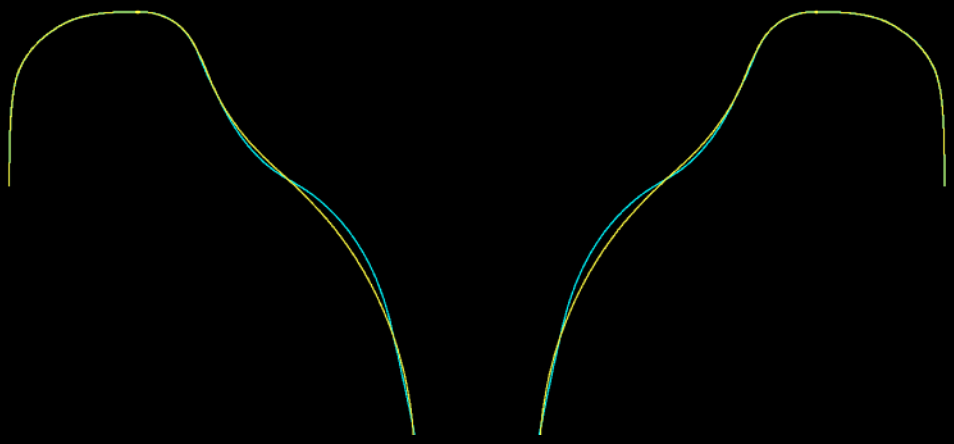
As you ascend, you will apply mouthpiece pressure. This causes additional lip to enter the cup. The shape of the cup will change how that lip intrusion reduces the volume of the cup.

For example, if you take a V cup and a bowl or C-shaped cup of the same depth, if the lips were to protrude 50% of the cup's depth, on the V cup, there would be

a *much* more dramatic reduction in cup volume than on the C cup. Many high-note specialists — including Maynard Ferguson — have exploited this fact to their advantage.

The cup shape also matters because it allows you to reconfigure the same cup volume in different ways. This means, for example, if you bottom out on a particular mouthpiece, one can alter the cup shape in a way that makes it *deeper* but removes cup volume elsewhere to compensate.

For example. These two cups have almost the exact same cup volume, but a different cup shape. The small change to the distribution of that cup volume allows for the lips to protrude slightly more. That difference for some players might determine whether or not they hit a range wall at high E-flat or not!



Throat Size

Throat size is a tricky one because the main things it does are:

- Allows you to relax or blow more lip tissue into the cup.
- Allows you to "blow the lips apart" more easily, which can mean it's easier to open the aperture for loud playing.

Because the throat can significantly change how much lip goes in the cup, messing around with the throat then has flow-on effects on what your "Goldilocks Zone" is for the Diameter-Rim-Entry Angle parameters.

People who play with more lip in the cup will generally prefer large throats because it makes it easier to get the increased lip mass to vibrate. These players will have issues that stem from keeping the lips sufficiently open as the embouchure firms. Those that put less lip in the cup will generally prefer tighter throats because they will appreciate the way a tighter throat helps to keep the lips from blowing too far apart. This is partly physiology, partly due to the diameter of the mouthpiece and partly due to how one has learned to form one's embouchure. For both players, an obvious sign that something is off is response issues at softer dynamics, but they may be resulting from completely opposite causes.

Throat size — for the same reasons above — also depends on the instrument you are playing. Many trumpet players use a #27 throat size for B-flat trumpet, but use a #24 throat for C trumpet. This is because they experience the C trumpet as subjectively offering more resistance. It is likely also because people often use a deeper cup for C trumpet, which typically has a lower cup entry angle that encourages one to put more lip into the cup.

On the other hand, some manufacturers make all of their mouthpieces with enormous throat sizes, with mouthpieces getting as large as a #14 drill size on trumpet mouthpieces, and who knows how large they go for their low brass

mouthpieces! A determined player can "get used to anything" but we should remember that *different is not always better.*

In my opinion:

A normal throat size is going to be fine for most people and increasing the throat size should be done with a very specific, considered reason, and not just because that's what someone else does. You likely aren't playing their mouthpiece, you don't have their physiology or exact approach to air support etc.

A word of caution about large throat sizes:

A larger throat size can feel subjectively easier or even liberating to play on, but it usually comes with a potential cost. For example, you might have 5 minutes of playing that feels great and then struggle the rest of the day to get that back. You want to keep in mind that a large throat can result in the following chain of events:

> **You move more air and feel like you have a bigger, easier sound → Your embouchure is now working as if you were constantly playing loudly all the time → You tire more quickly → You start using more mouthpiece pressure → You get lip swelling and your embouchure becomes unresponsive → You blow stronger to try and get the "magic" back → The cycle goes around.**

Opening the throat of the mouthpiece is likely to lead you to putting more lip tissue into the mouthpiece. We all have a limit for how much lip is able to blow into the cup for any given diameter, and if the throat is too open for the amount of lip in the cup, the player will struggle to keep the lips vibrating when not playing loudly. Conversely, if the cup is shallow, opening the throat may allow the player to bottom out and make the mouthpiece unplayable.

As a general rule, large throats work well for players primarily using deep cups who can take advantage of lip intrusion to reduce the cup volume. Those playing medium or shallow cups will likely find large throats initially *feel* great but end up causing them issues after 5-10 minutes of playing.

Throat Size and Intonation

People may notice changes as a result of opening the throat. Opening the throat might make the slots feel more stable if done with a cylindrical cutting tool (i.e. like a drill bit). It can also make it possible to (over)blow a flat upper register up to pitch *a little*.

The issue with opening the throat is that if done with a drill bit, it also lengthens the throat section - sometimes very significantly! How much this happens depends on the original backbore and how large one is making the throat. Lengthening the throat section can shorten the tapered part of the mouthpiece, and changes — especially at the start of the backbore — have a significant effect on how the octaves are spread. The result of this tends to be that the octaves become compressed. However, the more open throat will tend to result in putting more lip in the cup in all registers. Depending on the octave spread the player is experiencing before drilling, this might potentially improve intonation or it might make it significantly worse. It could do anything from slightly flattening the top register, to making it more possible to blow it up to pitch, to making the top end incredibly sharp.

If done with a tapered reamer or taper bit, opening the throat will change the geometry of the start of the backbore, which is what accounts for a lot of the difference. It will usually shorten the throat length and make the start of the backbore more flared. A similar result can be achieved without opening the throat simply by using a shorter throat length and more flare initial taper. The result of that is a significant increase in the feeling of "openness" as well as a noticeable stretching of the octaves. The actual throat size is often falsely credited with these hypothetical benefits.

For example, our most open backbores (#1-#3) incorporate a shorter throat length and quick initial flare to the backbore, which achieves these results without opening the throat. These kinds of backbores are best suited to large cup volumes and deeper cups as they will assist in spreading the octaves properly when large cup volumes are at play.

TIP:

If things are roughly in balance with a standard throat size, then going to a larger throat size will usually work best with a small increase in cup depth/volume.

Backbore

The mouthpiece backbore determines where acoustical nodes in the instrument occur. It also has an effect on how much resistance one feels, or how much the instrument "pushes back" against your blow.
The tapers on the inside of the backbore create "reflection points" and these shift the nodal points and where the first reflection point occurs in the instrument by several inches! Some of the earliest research done on the acoustics of mouthpieces was on this subject, and yet I have never seen any mouthpiece maker even mention this fact.

The basic function of the backbore is to *spread the octaves* into alignment.
- **As the volume of a mouthpiece cup becomes larger, the octaves become compressed.**
- **As the volume of a mouthpiece cup becomes smaller, the octaves become stretched.**

The backbore is how you compensate for the amount of cup volume.
- **As a backbore flare becomes tighter, the octaves become compressed.**
- **As a backbore flare becomes wider, the octaves become stretched.**

The result:
- **A small cup volume should usually be paired with a tight backbore flare.**
- **A large cup volume should usually be paired with a wide backbore flare.**

It's usually straightforward to determine if you do it methodically.

Basically, tune your instrument so your low C is in tune. To do this, tune the C, then play for 15 seconds, and return to the C. Check if the C is still in tune. Adjust until you consistently come back to an in-tune note.

Now that the low C is in tune, play a high C. Repeat this 3 times, checking both notes against a stable reference source like a tuner or an in-tune piano.

- **If High C is flat, your backbore is too tight. *Try a larger backbore.***
- **If High C is sharp, your backbore is too wide. *Try a smaller backbore.***
- **If High is in tune with low C, the backbore is about right.**

Now extend the test lower and higher so that it covers your playable range.

If in this process, you have found multiple backbore options that line the octaves up across the range of the instrument that you need to play, then choose the one you like best in terms of feel, blow and sound, etc.
But make the *primary* choice with the backbore how well it stretches the octaves. The sound colour is best addressed by altering the cup shape and volume.

MATERIAL & MASS

The material and mass of the mouthpiece do have an effect that players primarily *feel.*

Material serves as a final EQ-type adjustment to the sound. It can subtly accentuate certain frequency ranges. The difference, however, is usually much more apparent in proximity to the mouthpiece and much less noticeable in front of the bell. The difference primarily stems from the density and thickness of the material, which causes some frequencies to be radiated away around the mouthpiece.

A thinner/lighter mouthpiece tends to radiate more sound around the mouthpiece, primarily from the more energetic, lower overtones. This makes it easier to hear the sound behind the bell and makes the sound "lighter" out front. A lighter mouthpiece will generally seem to "sizzle" more when pushed because of the way lower overtones are radiated away.

A thicker/heavier mouthpiece tends to radiate less sound around the mouthpiece. The effect is that the lower overtones are generally more strongly preserved; however, this can also result in a sound that is unbalanced and seems to lack any "shine" or "shimmer" or "ring". It can also feel dead because as you play louder, the relatively weak upper harmonics continue to be covered or buried by the lower harmonics.

What works best here really depends on what the other design characteristics of the mouthpiece are and what the desired playing characteristics are. These effects are, however, relatively subtle. Certainly detectable when listening to the instrument being played unaccompanied, but very often these subtleties are completely lost in the mix when even a single other instrument is involved, and may only be prominent "out front" at certain dynamic levels.

By far the most significant effect of mass and material is psycho-acoustical. In other words, the material or mass alters the playing *feel* and alters the player's perception of their sound from behind the bell. These changes CAUSE the player to actually *play differently,* which then leads to more exaggerated and detectable differences than any actual properties of the material.

MOUTHPIECE OPTIONS

OTHER MATERIALS INCLUDING BRASS

WILL BE AVAILABLE FROM MID-2026!

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RESINITE

Sounds Great - Feels Great - Looks Great

Allows us to make CUSTOM mouthpieces more affordably than ANY other maker in the WORLD!
Skin Safe - ISO10993-5 & ISO10993-10 Certified

Good for players who have metal allergies

Feels Softer and more comfortable on the lips but is not "Grippy" like some plastics.

Never Feels Cold

Perfect for Cold-Weather Playing

Very Responsive

Sounds Warm and Sweet at Soft & Normal Dynamics and Vibrant and Lively When Pushed

We offer our own carefully designed line-up of mouthpieces alongside unbelievably affordable, custom mouthpieces. These are made from a bio-compatible, tough resin material called RESINITE! This material sounds great, looks great and FEELS AWESOME! It has a soft, never-cold feel on your embouchure, is not 'grippy' like some other plastics, and is an especially nice option to have when you have to play in cold weather.

RESINITE is ISO 10993-5 & ISO 10993-10 certified as safe for skin contact, which means it does not cause irritation, inflammation, or sensitisation when in contact with human skin externally. This makes it a really good alternative for players with metal allergies.

It's good to be aware that many resin materials are not generally considered safe for skin contact.

Backbores

We are currently trialling a new manufacturing process that lets us produce accurate stainless-steel backbores for a super affordable price. Please give them a try and let us know what you think!

We are hoping to also have our own line of brass backbores available sometime mid-2026.

How Our Mouthpieces Are Made

We use *Venture Mouthpiece's* awesome, freely available, VennCad software to design the geometry of the mouthpieces and then use extremely high-resolution 3D Resin-printing technology to make them. This technology is *completely* different to filament printing, which is what most people think of when they think of 3D printing. It is MUCH more advanced and much, much more accurate.

In fact, the technology we use is accurate to better than +-0.05mm. This is on par with many CNC-manufactured mouthpieces, although not quite as accurate as the best makers out there like Venture Mouthpieces and GR Mouthpieces that hold industry-leading tolerances. Many mass-produced name-brand mouthpieces (in our experience) have *significantly worse tolerances*. At least a few of the most known brands are even infamous for just how inconsistent their mouthpieces are one from the next.

At +-0.05mm you can be sure that any slight difference between one mouthpiece and the next will not meaningfully impact how it plays. We also manually check crucial measurements using things like gauge pins and high-precision callipers to ensure accuracy.

The end result here is that we can make a *fully custom mouthpiece* (in threaded top, threaded backbore, or one-piece configurations) that plays great and feels AWESOME on your face and is AFFORDABLE.

For comparison, some other manufacturers charge $140 USD (or more!) for a stock (non-custom) acrylic mouthpiece top. At Phoenix Brass, a FULLY CUSTOM mouthpiece top made from a similar material is about 1/3rd of this price — Really!

We especially recommend trying a RESINITE top with a metal backbore, which gives you the wonderful, comfortable, never-cold feel and amazing responsiveness of RESINITE, with the added stability and projection of a metal

backbore. The resin material is very similar to acrylic in how it feels and responds, and a bunch of players actually prefer this type of hybrid set up, most notably Jens Lindemann who has talked a fair bit about how much he prefers such a combination to an all-metal setup. (Jens plays an acrylic Pickett top with a Pickett backbore)

While the geometry of the mouthpiece is by far the most important determiner of how well a mouthpiece plays, for those who would prefer a brass mouthpiece, we can have that made for you by *Vennture Mouthpiece* using our design file.

VennCad is a free mouthpiece design program and if you would like to design your own mouthpiece/s using VennCad, we are also happy to print those for you as well :-)

CNC Machined mouthpieces and backbores are coming soon! Stay tuned for more.

TRUMPET, CORNET & FLUEGELHORN MOUTHPIECES

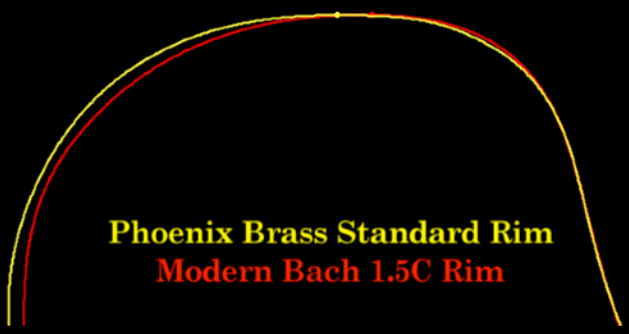
Rim Options

These rim options are standard options for all Trumpet, Cornet, and Flugelhorn mouthpieces. Other rim options are available on request for no additional cost.

Standard Rim

Our Standard rim offers medium characteristics along with improved comfort and endurance over some common rim shapes. It is slightly wider and slightly flatter across the middle of the rim, while being slightly rounded on the inside edge.

This offers greater comfort and endurance without compromising on the cleanliness of articulations. We've designed this rim to feel relatively familiar and conventional to most players, easy to adapt to, with medium characteristics that stay out of your way and let you play at your best.



Comparison intended for illustrative purposes only.

The red drawing is based off a single specimen and may not be consistent of all examples.

WIDE RIMS

Our wide rims come in three standard configurations that hold the lips in different ways:

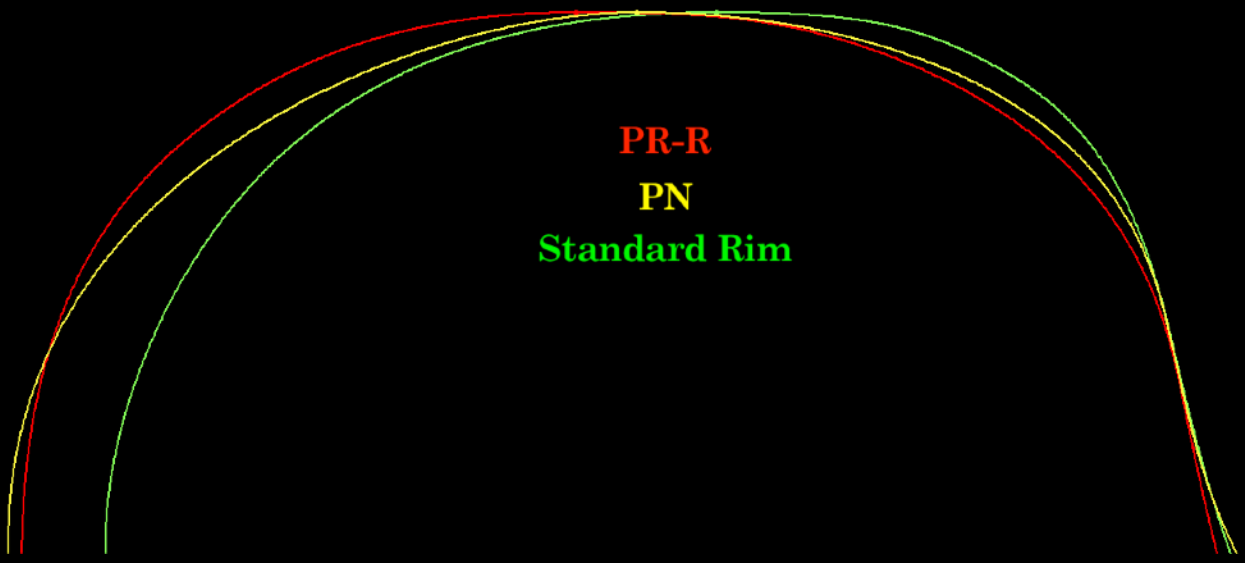
Special Rims

For the ultimate level of endurance when you really need it!

We offer two additional wide rim options that are specifically designed for people that need the ultimate level of comfort and endurance. These are rim shapes that will be preferred by players who spend a significant amount of time playing in the upper register.

NOTE: These rims are not recommended where soft, delicate, clean articulations are required as the lack of support and "bite" on the inside edge can make setting up the vibration more difficult when there is low air flow. This can be mitigated to some extent with practice, but these are designed with

specific playing demands in mind and most players will benefit from our standard Wide Rim options instead.



PR-R RIM (Red Drawing)

This is a modified version of the Neil Sanders "lay-rim" design that has a much softer curve into the cup. This makes it difficult to beat your chops up, and also makes a cup feel much wider. For this reason, it is usually best combined with a smaller diameter. For example, a 10.5C might feel closer to a 3C with this rim shape.

The advantage of this is comfort and efficiency as you can play a much smaller cup than you would ordinarily be comfortable on.

PN (Yellow Drawing)

The PN rim is wide and round across the entire face of the rim. The inside slope is not as extreme as the PR-R, but it still provides a very "soft" inner edge, which facilitates comfort and endurance. The mouthpiece will generally feel wider as well. For example, a10.5C might end up feeling more like a 5C.

TRUMPET

CLASSICAL SERIES

The classical series mouthpieces solve the same essential problem as the Commercial Series. They help to make it possible to find the combination between cup entry angle, cup volume, and cup depth that is optimal for an individual player and their playing needs.

To achieve this, we started with our standard rim, which has very medium characteristics all around, with a medium-round inside edge, a medium-flat contour across the middle of the rim, and a medium-round outside rim shape. Together, along with having a slightly wider rim face than many traditional mouthpieces, these features create a very comfortable mouthpiece that is designed for control, endurance, and crisp but not "splatty" articulations.

We utilised a lower cup and throat entrance that produces a clean, crisp front on the note and a sound profile across all dynamics that is clear, exciting, and has an energy and liveliness without developing into a strident or harsh sound at louder dynamics.

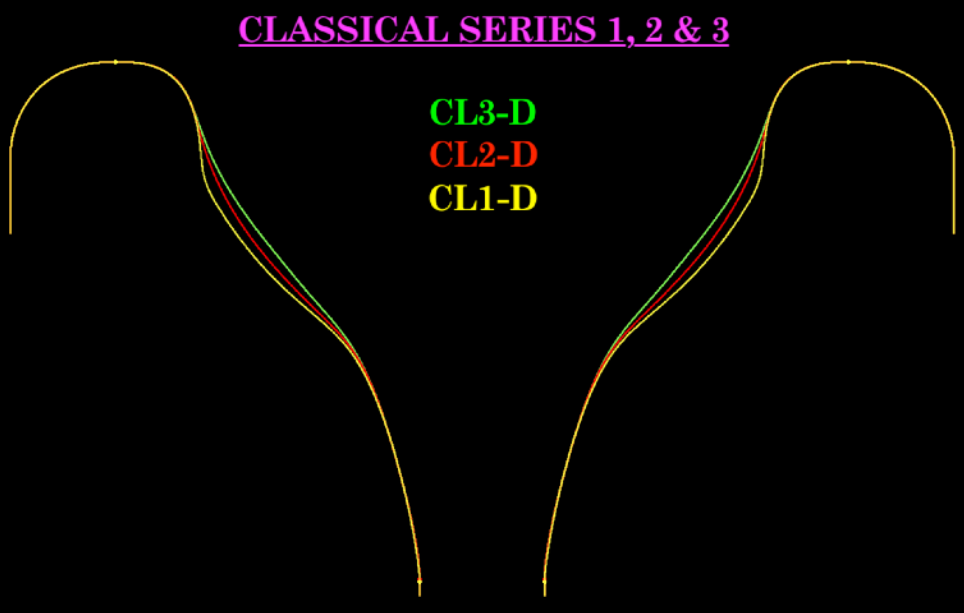
We combined these features with three different upper cup shapes that have been designed to work with the different ways and amounts that a player's lips may intrude into the cup during playing. A more vertical wall to the upper cup allows for lips that enter the cup when the lips relax in the lower register, and as pressure is applied in the upper register. This makes it easier for the lips to be blown open and to activate the lip tissue on the inside of the lips, which tends to produce a darker sound. While this is wonderful for some players, for others, this will translate to a difficult holding of the lips from being blown apart, and can result in issues getting the sound to start at soft dynamics, and the sense that one is really struggling to "hang on" to sound when chasing louder dynamics.

For some players, less lip enters the cup, and the result of this is that the mouthpiece will feel deeper and harder to play than it would for someone whose lips intrude more. Such players need the support of a higher angle to the wall of the upper cup, which helps to support and keep the lips together when playing both softly and loudly.

To put it simply, player A might need lip room, and player B might need lip support in order for both to experience a comparable level of ease. Additionally, player A will need greater cup volume than player B to produce a comparatively similar dark or bright sound because one player ultimately fills up more of the cup volume with their lips than the other. What ultimately matters is the *effective cup volume once the lips are inside the cup*.

For this reason, we have created our classical series to offer three cup shapes that are tailored to different players' embouchure (CL1, CL2, & CL3), with each cup shape having four different depths available (D, MD, M, MS).

In terms of diameter, we can make these mouthpieces in any diameter, although most classical players will gravitate towards cups between a 70 and 78, which roughly correspond to a Bach 5C and a 1C respectively.

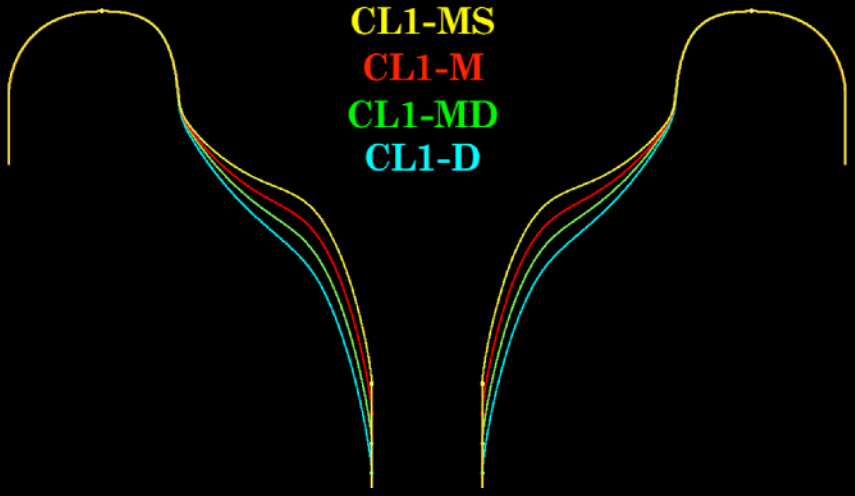


Comparison of the cup shape of the Deep versions of the CL1, CL2 & CL3

Classical Series Cup Comparisons

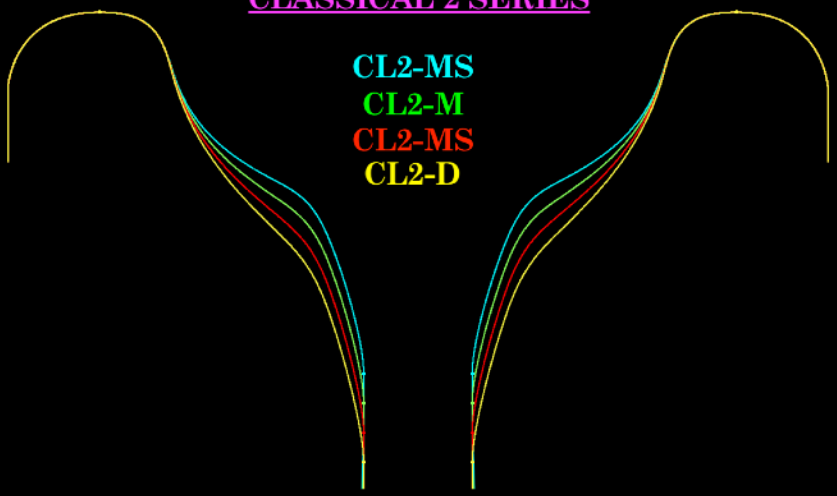
CLASSICAL-1 SERIES

CL1-MS
CL1-M
CL1-MD
CL1-D



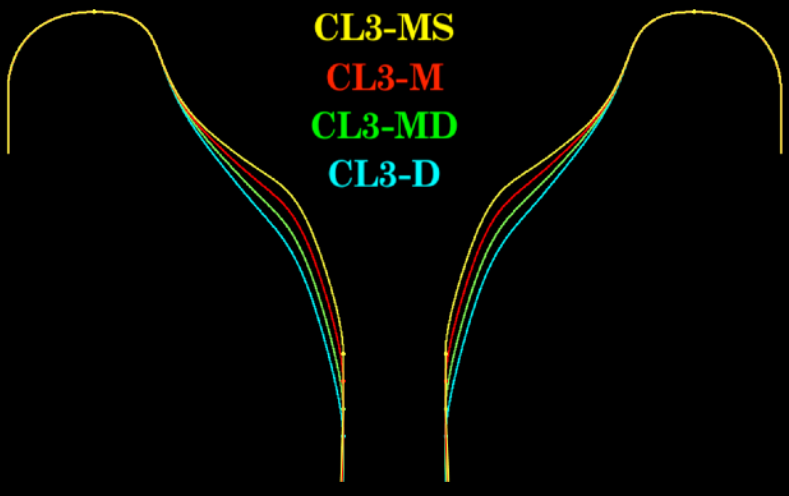
CLASSICAL 2 SERIES

CL2-MS
CL2-M
CL2-MS
CL2-D

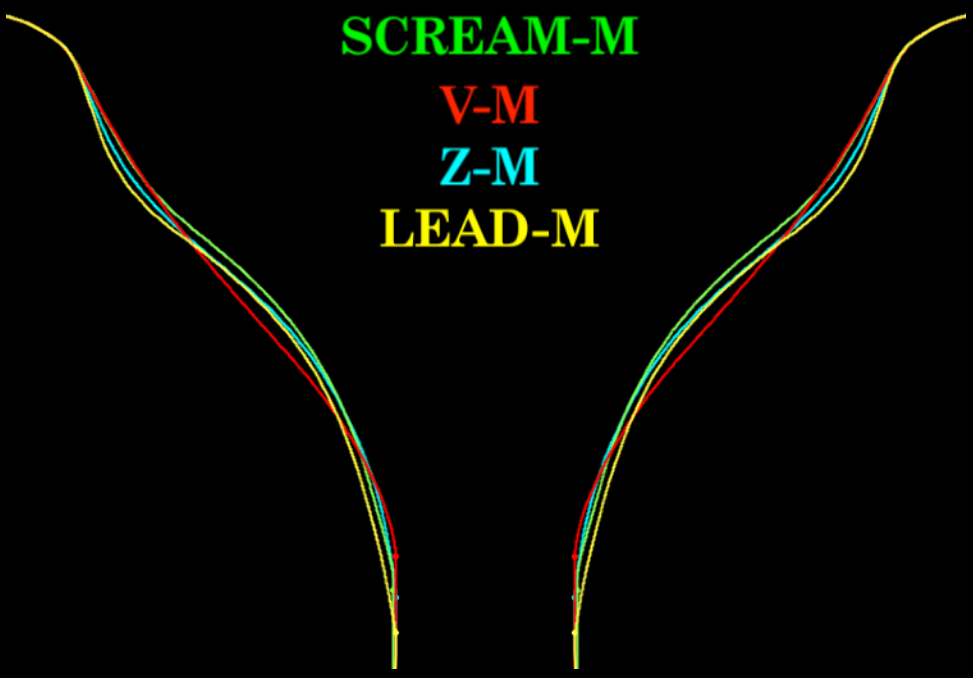


CLASSICAL 3 SERIES

CL3-MS
CL3-M
CL3-MD
CL3-D



Commercial Series



A comparison of the cup shapes of the SCREAM, V, Z, & LEAD cups using the medium depth options for each as a reference.

As the cup gets shallower, the interaction between the player's embouchure and the cup design becomes increasingly important and the margin for error gets very small. When it comes to shallow cups, the cup geometry that works for one person becomes increasingly less likely to work well for someone else, especially when you need something that supports you in the extreme upper register. The way one's lip enters the cup in different registers is the deciding factor of what cup shape will provide efficiency and support without causing issues.

Every player has lips that enter the cup differently, and how they enter the cup changes:

- **Between Registers**
- **Between Dynamics**
- **As one changes the amount of pressure being used**
- **As one tires or encounters some amount of lip swelling.**

Everyone's lips will protrude differently and so there is a need for a variety of cup shapes that accommodate the way this occurs for individual players.

This is why we have created a line of commercial cup shapes that provide:

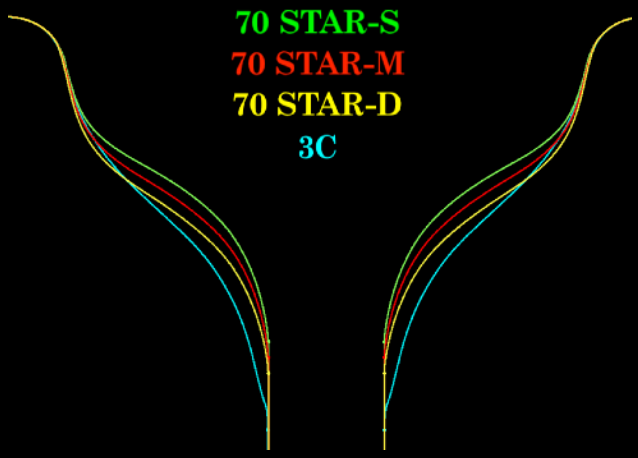
- **Different cup shapes that accommodate different baseline amounts of lip intrusion.**
- **Different "alpha angles" which can provide support but also can shut off the vibration or produce an awful sound if too high.**
- **Different cup depths which allow for more or less lip penetration between register and/or as mouthpiece pressure is applied.**
- **Different cup shapes in the lower cup which accommodate how different lips protrude into the cup.**

This is combined with a rounded, cushion rim that helps provide comfort and improved endurance.

COMMERCIAL CUP TEST KITS

Because small differences in the way a shallow cup is designed can make a huge impact on whether or not a mouthpiece is even playable for a given player, we offer a commercial test kit so players can try for themselves and get real-world data.

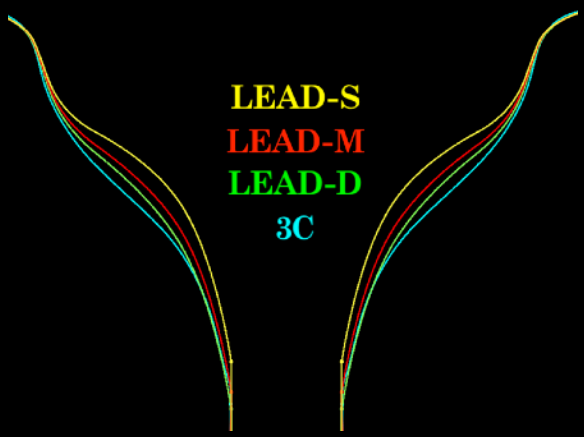
STAR CUP



The star cup is the most bowl-shaped cup, with the most vertical drop from the rim. This provides a lot of lip room for those who are accustomed to very deep, generally large-diameter mouthpieces which tend to encourage one to put a lot of lip in the cup. The support is provided by the bottom of the cup and the tighter throat entrance rather than by the slope of the upper cup. This cup is not going to be the most efficient option for the majority of players and was added primarily with orchestral musicians in mind. For these players, this cup will assist them with achieving volume and brightness in the top end without requiring them to adopt a different approach to playing. Great for pops work or for those times you want a bit of help with Ein Heldenleben or West Side Story, and similar demanding works.

For the average player, however, this cup is likely to feel pretty great at first and then to tire you out quickly.

LEAD CUP

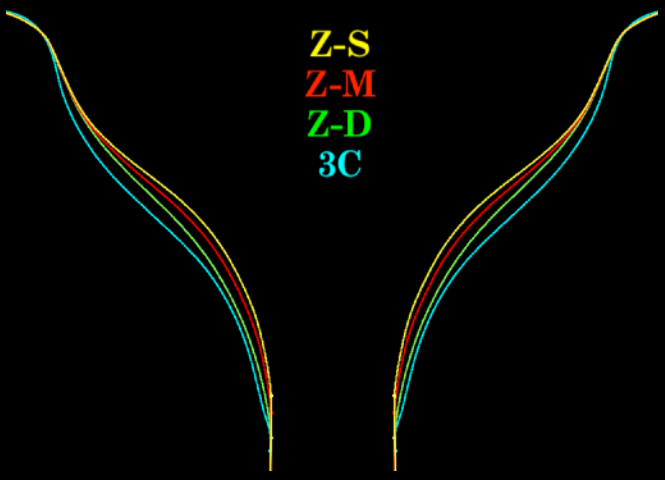


The Lead cup features the most lip room at the top of the cup combined with a convex V-shaped lower cup and throat entrance. The comparatively long distance to the throat allows the sound to have more body and depth than is typical for a commercial-type mouthpiece. This makes it a particularly good choice for

"pops" players or orchestral players who want to keep as much tone as possible in the lower and middle registers but add some efficiency and support for demanding upper register playing.

Z-M CUP

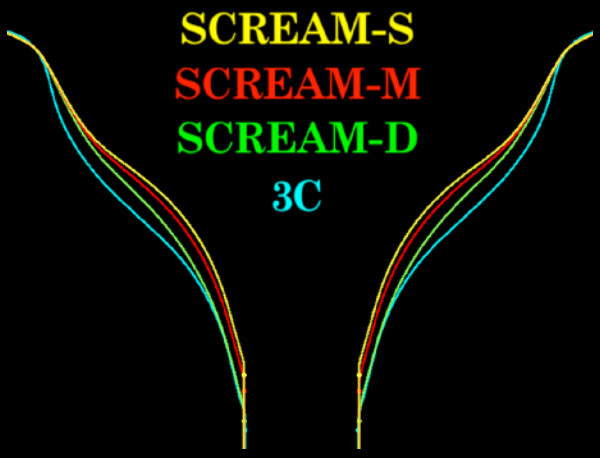
The Z-M cup provides a little more support at the top of the cup and a little less cup volume without being inaccessible for most players. This makes it a more efficient mouthpiece than the Lead Cup and will feel zippier and develop a nice sizzle when pushed.



The Z-M cup and Z-D options are fantastic middle-of-the-road options. Players who usually play on something like a 1.5C or 3C will find these make their life easier and won't feel too alien to switch to when they need some extra volume and sizzle in the top end. Great for those that just need something that has their back for those occasions they need it.

SCREAM CUP

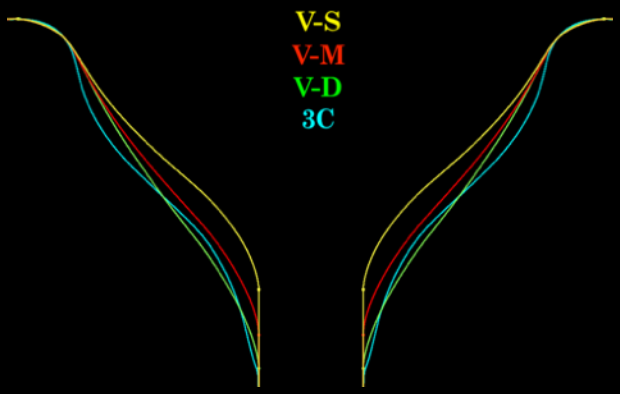
The SCREAM cup features a higher cup-entry angle (AKA "Alpha Angle") that provides additional support. For those who can take advantage of that support, the SCREAM cup will reward them with surprisingly effortless playing in the upper register while retaining a full sound in the lower registers.



The SCREAM cup crosses into “high note mouthpiece” territory but players will generally find it more forgiving than many of the commonly available options and with three cup depths to choose from, you can enjoy the efficiency while avoiding the common “bottoming out” issue.

V CUP

The V Cup begins with the very shallow V-S cup that is similar to one of the so-called “Holy Grail” mouthpieces that Maynard played for a time. The V-S is likely to be useful only to a select few players but the V-M and V-D cups open up this design to more players. Many people will be surprised how easy a V cup plays provided the slope of the cup works with your lip intrusion without creating issues.

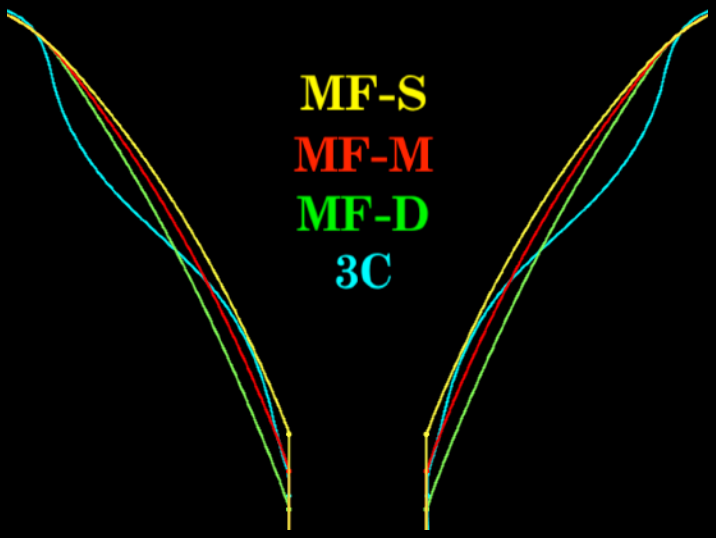


These V-Cups work because as the players’ lips intrude, the walls of the cup assist in focusing the aperture. This can make the upper register feel almost shockingly easy for a player who suits this style of cup.

The V-M and V-D cups will be much more forgiving for players than the V-S cup.

MF CUP

Maynard famously played a convex V cup mouthpiece for many years. If you can make use of this design, the benefit is a massive amount of mechanical efficiency. It's a *mechanical* advantage because as you apply mouthpiece pressure, the walls of the cup actually very effectively squish the lips inwards.



The problem here is that too much of this will completely choke you off, and it'll feel like you're blowing against a solid brick wall.
These three carefully designed mouthpieces open up the possibilities of this design to more people.

The MF-S is similar to one of Maynard's original mouthpieces.

The MF-M and MF-D are deeper versions, and importantly, the wall of the cup is a bit more vertical. This reduces the amount of puckering caused by the cup walls, which will help make this type of mouthpiece more playable by more people.

It is still only going to work for a relatively small number of players, and for those looking for a super-efficient, possibly even effortless upper register playing experience.

The only way to know if you will be able to make use of this design is to try it, but we think it is important to try all three options as the more vertical the wall, the more likely it is you might be able to exploit the design.

Made with a #27 throat and Warburton threads so you can use it on any/all of your Warburton/Pickett/VennTure/Frost etc threaded backbores.

Phoenix Brass: CG Tribute Series

Claude Gordon had specific views on how a brass mouthpiece should be designed, which he outlined in *Brass Playing is No Harder Than Deep Breathing*.

Claude also designed several mouthpieces along the lines of this for his own playing purposes and for his students.

The final version of this (that was actually played by Claude) was the Kanstul-made "Claude Gordon Personal".

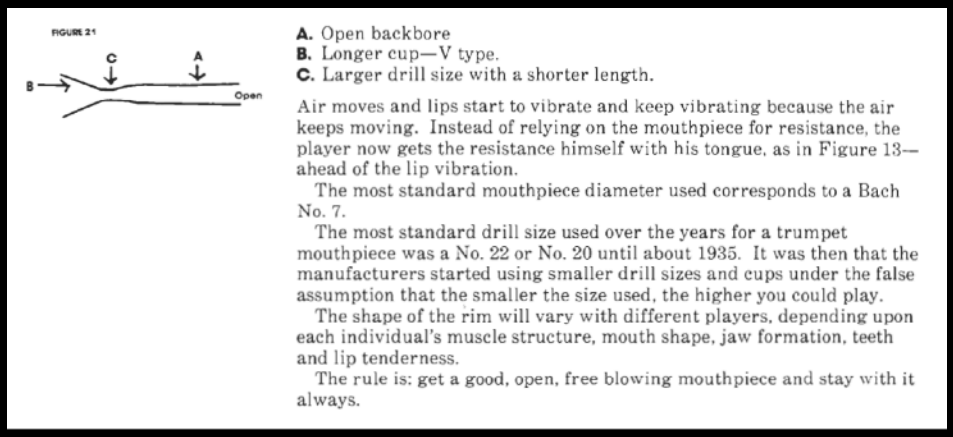


FIGURE 21

A. Open backbore
B. Longer cup—V type.
C. Larger drill size with a shorter length.

Air moves and lips start to vibrate and keep vibrating because the air keeps moving. Instead of relying on the mouthpiece for resistance, the player now gets the resistance himself with his tongue, as in Figure 13—ahead of the lip vibration.

The most standard mouthpiece diameter used corresponds to a Bach No. 7.

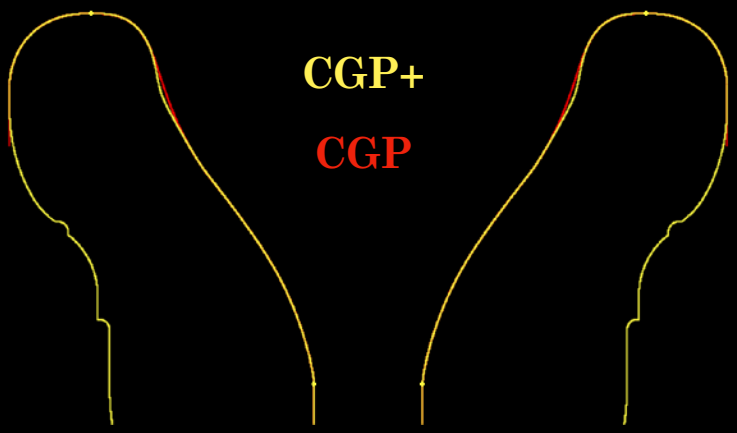
The most standard drill size used over the years for a trumpet mouthpiece was a No. 22 or No. 20 until about 1935. It was then that the manufacturers started using smaller drill sizes and cups under the false assumption that the smaller the size used, the higher you could play.

The shape of the rim will vary with different players, depending upon each individual's muscle structure, mouth shape, jaw formation, teeth and lip tenderness.

The rule is: get a good, open, free blowing mouthpiece and stay with it always.

In the spirit of keeping Gordon's designs alive, we have created the Claude Gordon Tribute series. It uses the cup and backbore from the Claude Gordon Personal along with our standard rim profile. Our rim profile offers additional support without being a "wide rim" (which Claude hated). We believe this rim will make Claude's designs more accessible to more players without being something Claude would object to.

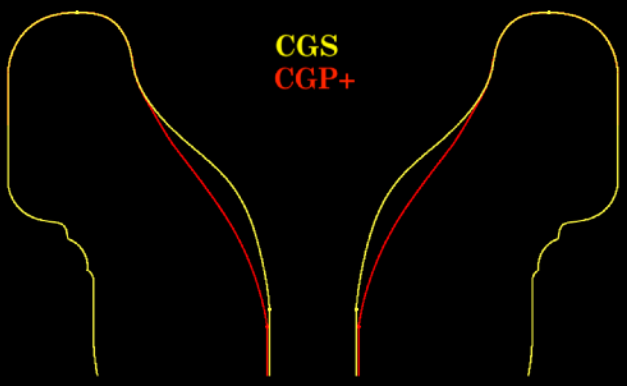
CGP vs CGP+



The CGP model comes in two options, the difference between the two being a very slight alteration to the top of the cup which allows a little extra room for those who need it. Unless you know that you get on well with a true V-cup mouthpiece, we recommend the CGP+, which is likely to accommodate more players.

CGS

Gordon was not a fan of shallow cup mouthpieces, although he did design and put his name to the CG3 mouthpiece, which was his version of a Bach 3C. The CGS design is not one that Claude ever put his name to but is actually a shallower version of the CGP+, but not shallow! It is just a hair deeper than a Bach 3C.



It comes standard with a #23 throat size, and uses the same backbore as on the Claude Gordon Personal. This makes it a great alternative for 3C players looking for more tone, easier dynamic range, and an overall freer-blowing experience.

ACADEMY SERIES

Available in four sizes:

1, 3, 7, 10

The diameters correspond roughly with the Yamaha 16C4, Yamaha 14B4, Yamaha 11B4, and Yamaha 9C4 mouthpieces.

The academy series is designed to be a new generation of mouthpieces for developing players. Specifically designed to improve on the standard beginner mouthpiece options in virtually every way. These mouthpieces produce a big, warm sound, easy response at all dynamics, improved intonation, greater comfort and endurance, and less effort.

They may have been designed with beginners in mind, but players of all experience levels love them because they're just a really well-designed mouthpiece.

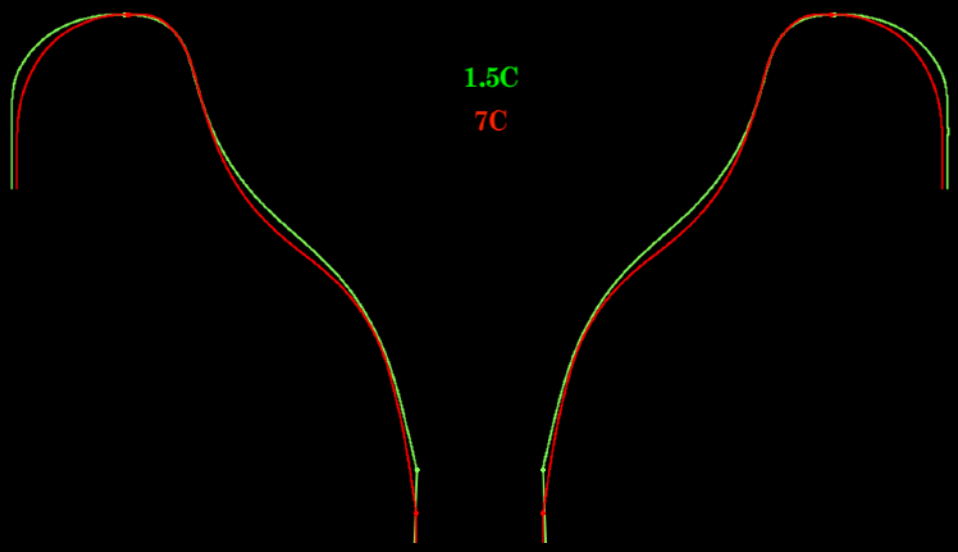
Why the Academy Series?

As teachers, we owe it to our students to set them up for success in every way we possibly can. The Academy Series Mouthpieces give students the best chance of building a foundation of good habits and healthy playing technique.

The Academy Series came about because there were a few problems we identified with the go-to options or the "in the case" options that most players use.

Compare, for example, the two mouthpieces below. One is a very common beginner mouthpiece, and the other is a very common orchestral mouthpiece.

In fact, it is not uncommon for teachers to start students on the 7C, then "move them up" to the 1.5C "when they're ready".
The reality of these mouthpieces reveals something quite different!



- **They have nearly identical cup diameters.**

- **The 1.5C has LESS cup volume.**

- **The 1.5C has a MORE cushioned rim.**

So in reality, the Bach 1.5C is actually the objectively smaller, more efficient, more comfortable mouthpiece. It's the easier mouthpiece to play!

However, students are usually started on the 7C with the idea that it's a "middle of the road" mouthpiece, and therefore a good place to start. Again, the reality tells a different story!

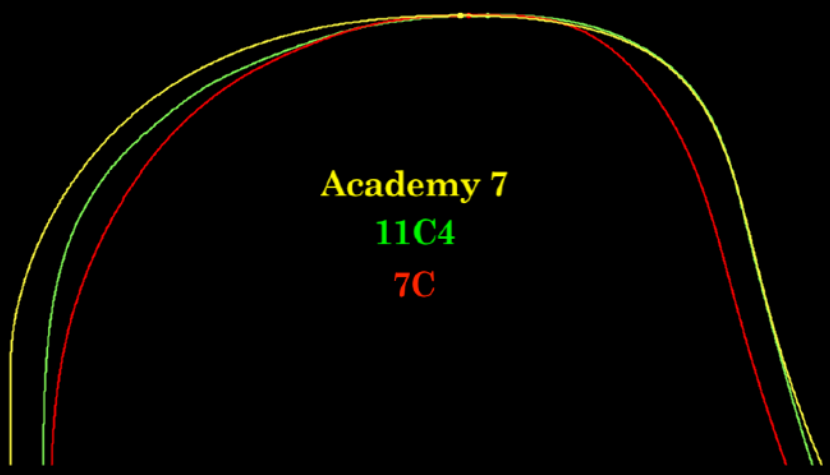
One of the biggest issues with using the 7C for beginners is the problematic combination of a large cup volume, a very thin and pointed rim, and an

undeveloped embouchure. These things are at complete odds with each other. The rim is narrow enough that it is likely to sink into the lips and "cookie cutter" them, especially because the larger cup volume is going to tire out an undeveloped embouchure quicker.
This will, for many students, lead to falling into quickly tiring, turning to excessive mouthpiece pressure, encountering lip swelling, blowing stronger to make the lips vibrate, and using more pressure to keep the lips from blowing apart... And around it goes until this becomes simply "what trumpet playing feels like". In my opinion, such a mouthpiece does not support the healthy development of developing embouchures!

Instead, what we need are mouthpieces that are designed to SUPPORT developing embouchures so they can MAINTAIN GOOD FORM FOR LONGER. This sets up a positive spiral where they can play easier and for longer, have more opportunity to practice and to develop correct habits on lips that aren't getting abused. It means they aren't spending 20 minutes practice where 15 of them are on beat-up lips. It means faster, more even progress week to week. It means a happy student who is seeing progress week to week and is therefore more motivated to practice.

The Academy Series is part of giving you or your students the best possible chance for success while they are developing.

Academy 7 - Rim



TRUMPET

- **Available in four sizes: 1, 3, 7, & 10**

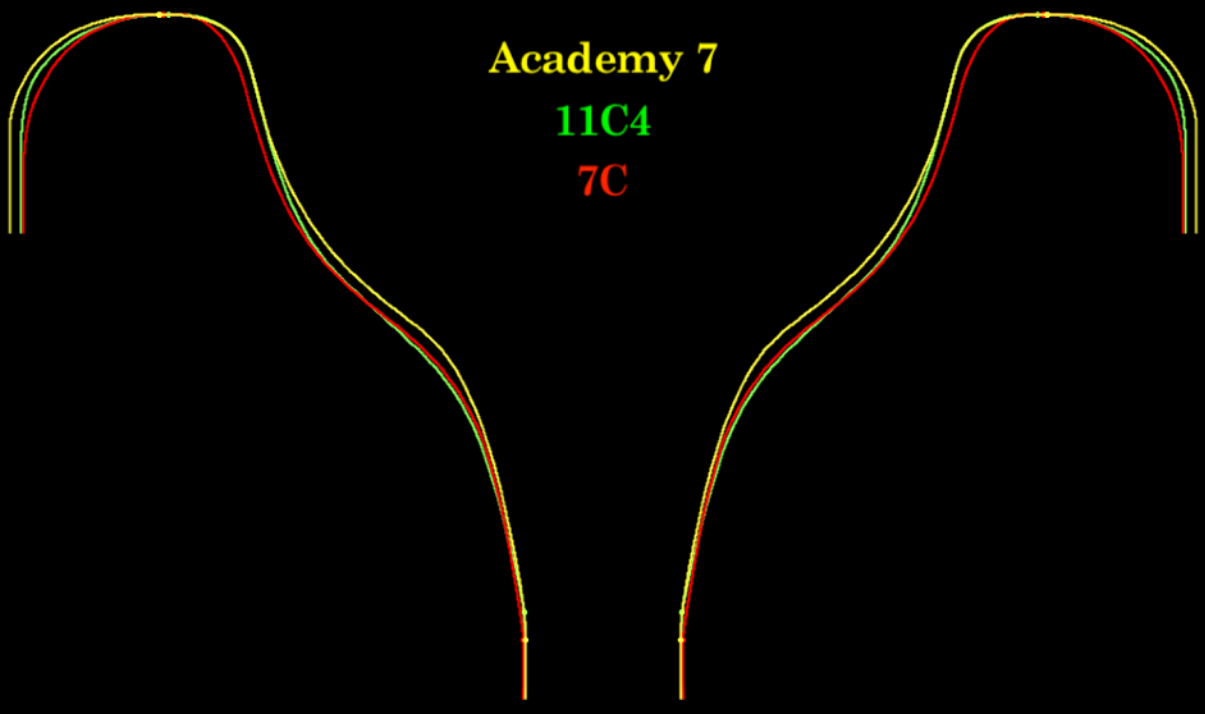
- **Similar overall depth as a Bach 7C or an 11C4 but an earlier turn into the bowl creating less cup volume. This makes the mouthpiece feel easier to play while maintaining a beautiful, rich sound. They won't tire as quickly.**

- **A wider rim (Our "A Rim") that is designed to provide support and cushion without impinging the vibration of the lips. It still feels like a traditional rim, it is just more forgiving with more support. Students can practice longer and mouthpiece pressure won't "beat them up" as much.**

- **An orchestral-style backbore that spreads the octaves better and blows more openly and evenly.**

- **A slightly narrower throat size to help balance out the added openness of the backbore for less developed players.**

- **Available in fun colours.**



CORNET

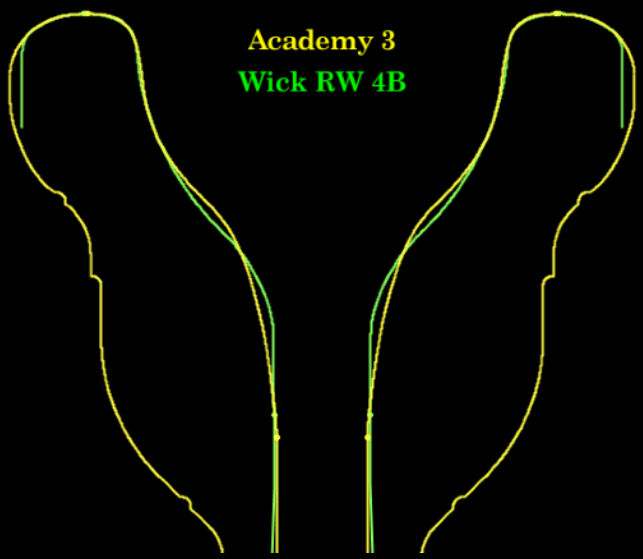
Available in four sizes:

1, 3, 7, 10

The Academy Cornet mouthpieces — just like the trumpet versions — are designed to give you or your students the best possible chance for success while they are developing.

These mouthpieces offer the same advantages as our trumpet series, delivering big, warm British brass-band sound, easy response at all dynamics, improved intonation, greater comfort and endurance, and less effort.

Featuring an upper cup shape that provides support and efficiency with a long V-shape lower cup and throat entrance that keeps the tone warm and sweet. It is a sound that blends better than other shallower cornet cup options and is much less likely to become 'edgy' than the alternatives.



The cup volume is carefully balanced with one of our signature backbores, providing a free, easy and responsive feeling and aligns the octaves. The backbore is longer than other cornet backbones, which adds a sense of stability to the slots, but the flare has been carefully adjusted to produce superior intonation. No one else makes cornet backbores like we do, or has put as much time, attention and research into them as we have at Phoenix Brass.

Soprano Cornet

Available standard in two sizes: 66 & 69

They are available by order in custom sizes at no additional cost. Talk to us about how we can help you find the right fit.

Soprano Cornet playing presents the modern player significant and varied challenges. Versatility, control and finesse are as essential as power and projection.

Our Soprano mouthpieces have been carefully designed to make the upper register easier and dynamic extremes less work, without sacrificing a sound that can be sweet in all registers.
Because every player's lips take up a different amount of cup volume, we offer:

- 3 hybrid C-V style cups with different depths.
- 3 Traditional V-shaped cups at different depths.
- 3 V-shaped "PLUS" cups with added room at the top of the cup for those who have difficulty playing true V-shaped cups. We recommend the plus cups for most people.

Model	Cup Diameter (mm)	Cup Depth (mm)	Cup Volume (cubic mm)	Suggested Backbore	Throat Size (mm)
66M	16.60mm	12.19	991.2	X1 XXL-27	3.660 (#27)
66MD	16.60mm	12.60	1055	X1 XXL	3.990 (#22)
66MDV	16.60mm	13.55	1101	X1 XXL	3.990mm (#22)
66V-S*	16.60mm	14.46	1192	X1 XL	3.990 (#22)
66V-M*	16.60mm	15.28	1286	X1 XL	3.990 (#22)
66V-D*	16.60mm	17.71	1425	X1L	3.990 (#22)
Wick S**	16.52	14.59	1382	-	4.064

** Plus cup versions add additional lip room and cup volume but are otherwise the same as the standard versions.*

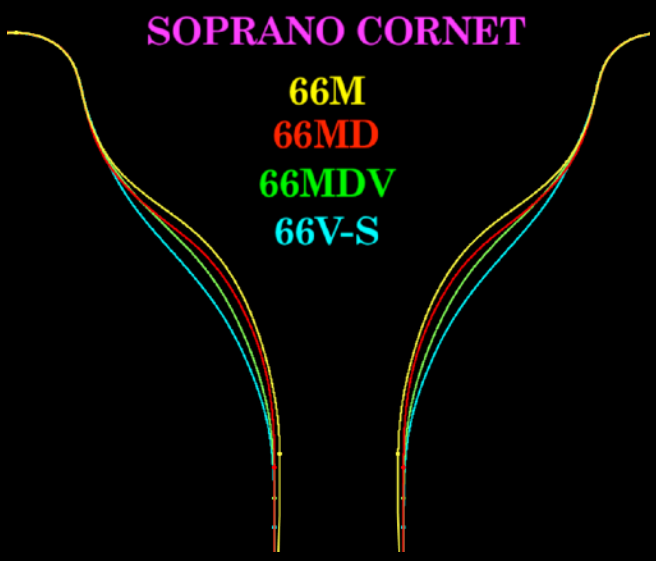
** *For comparison only. These measurements are taken from a single specimen and may not be consistent or representative across all examples.*

All of them have the same rim diameter, making it easier to switch. Additionally, each family has the same top of the cup, making switching easier. I.e. the M, MD & MDV are all identical at the top of the cup. The V-S, V-M & V-D also are all the same at the top of the cup as the M, MD & MDV; however, because of the way V cups work, many players will need added room at the top of the cup to play comfortably. Therefore, the PLUS series have a more vertical wall at the top of the cup, and that remains consistent across all three PLUS cups.

C-V Style Cups

M, MD & MDV cups

These are the shallowest cups in the lineup and have a cup shape that allows for lip room at the top. While a more angled "V" shape from the rim can make a mouthpiece feel a little easier for some when one has fresh chops, you will come to seriously appreciate the room, which lets you keep playing at your best for as long as required.



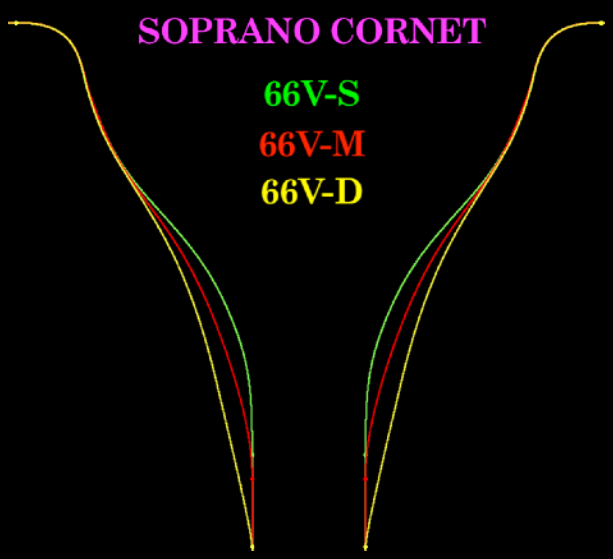
They are designed to be less work and to improve the ease with which one can play the full dynamic range of the instrument, including the extreme louds. The philosophy here is that you will almost never need to call on the full dynamic range, and that this

means the first 60-80% of the dynamic range will cover everything without having to really work for it.

The **M CUP** started out its life as a piccolo trumpet mouthpiece that offered great support in the top end while maintaining a nice sound. Through dozens of modifications and repeated and extensive play testing, the bottom of the cup and throat entrance was made more V-shaped, and the top of the cup was dependant, until a sweet spot was achieved where one maintains the support to soar in the top end while getting a sound that is sweet when not being pushed, and can still blend. This is a mouthpiece that lets you do everything you need to as a Soprano Cornet player without breaking a sweat. To take full advantage of it, play it with a light, delicate touch and it will feel nearly effortless to play. When you need volume and support in the top end, give the air a little energy and the afterburners will kick in like you wouldn't believe.

The **MDV CUP** adds additional V to the lower cup and throat entrance of the M cup, adding a little more depth to the sound without significantly losing the efficiency of the M cup. This is for those naturally brighter-sounding players who like the ease of the M cup but find it is a little too bright for the blend they are looking for.

All three cup options have the same rim shape, cup entry angle and lip room at the top of the cup. This removes a lot of the disorientation one experiences when switching between mouthpieces. If you are someone who likes to use something a bit deeper for a hymn and then move to something that offers a bit more support when strong, assertive upper register playing is required, then the ease of switching between cup options is something you will appreciate hugely!



THE TRADITIONAL V CUPS

The traditional V cups have a similar entry to the cup as the C-V series, making switching between them easy if you are someone who gets on well with V cups.

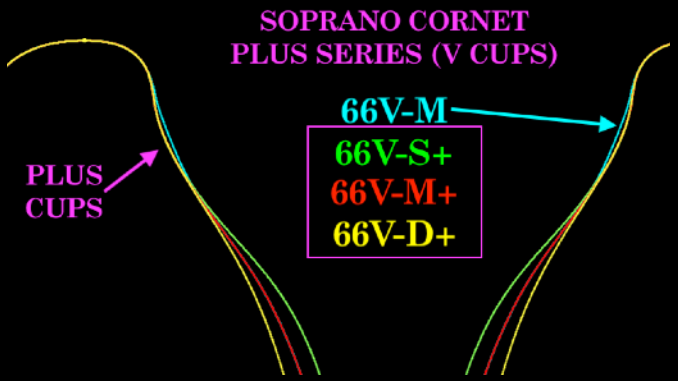
The **V-S CUP** is deeper and more V-shaped but with an efficient curve to the cup that makes it play much more efficiently than a straight V cup. Comparatively, this cup is technically about the same depth as the Wick S cup, but has quite a bit less cup volume. This allows for a full sound but makes the dynamics extremes easier, especially noticeable when chasing volume above the stave.

The **V-M CUP** is a bit deeper than the Wick S cup but still has a little less cup volume thanks to the efficient shape of the cup. The added cup volume makes this one the "darkest" sounding of our Soprano Cornet line, but as with all our Soprano cups, it is designed to make your job easier, whether it is playing softly and sweetly on a hymn, or soaring up to those High Ds.

The V-D CUP is deeper than the Wick S with more cup volume and is for those times when you want a darker, Bb Cornet sound without having to use a Bb Cornet.

<u>PLUS SERIES</u>

The plus cups are the same as the traditional V series, the only difference is the addition of a small amount of lip room at the top of the cup. Anyone who is used to playing "C" cups will likely prefer the PLUS



cups.

Rim

The standard rim on our cornet series is our "A-Rim" which offers wonderful support and comfort while keeping a traditional feel. It is a rim that is wide but does not limit flexibility or compromise on articulation.

It's just a fantastic rim shape that aids endurance without compromising finesse and control.

(For comparison purposes only. The Wick S drawing is from a single specimen and may not be consistent or representative across all examples)

Throat

All our Soprano Cornet mouthpieces except the *M cup* come with a #22 throat, which we determine to be the sweet spot in terms of getting a beautiful, sweet sound and comfortable blow without losing support and ease. The M cup is designed for works that are very demanding in the top end, and works best with the support of a #27 throat which provides additional support and stability.

Backbores

The backbore's primary job is acoustical — it must compensate for the cup volume by stretching the octaves into alignment. In our play testing of cornet mouthpieces, very few mouthpieces achieved what we considered to be a good acoustical match between cup and backbore. We were forced to throw everything out and start from scratch, and

what resulted are backbore designs that push the limits of what is possible in improving the playing experience.

Our Soprano Cornet backbores have gone through many, ***many*** prototypes to try and find the optimal tapers and length for the cup volume.

Every mouthpiece features tapers, a backbore length and a throat length carefully designed to balance the cup volume in an optimal way.

These new designs are designated with an X in the model number. We also have more traditional backbores available. Just ask us!

X1 XXL Threaded Backbore

The X1 XXL Backbore is available with a #27 throat and the length and tapers make balance well when paired with most trumpet tops. This opens up a world of possibilities for players beyond the limited mouthpieces available for Soprano Cornet players.

We use industry standard threads for our tops and backbores, making them compatible with Warburton, Pickett, Frost, ACB and many other makes of trumpet mouthpiece tops.

TRUMPET, CORNET, FLUGEL COMPARISON CHART

PHOENIX SIZE	∅ mm	∅ Inches	Similar TRUMPET ∅ DESCENDING SIZE ORDER	Similar CORNET ∅ DESCENDING SIZE ORDER	Similar FLUGEL ∅ DESCENDING SIZE ORDER
80	18	0.709	Jet Tone 1M Giardinelli 1S PHOENIX 80 Vincent Bach CORP 1	Bach 1	**PHOENIX 80** **Bach 1CWFL** **Bach 1CFL**
79	17.9	0.705	Giardinelli 3S (New) JK1C Giardinelli 3 Monette C1-1 Kelly Pro Bach 1B	Stork Studio Master LT2	
78	17.8	0.701	**Schilke 20** **Wick MM2C** **Bach 1** **Bach 1 (Modern)** **Monette C11** **Parke 660**	RM2 PHOENIX 78	
77	17.7	0.697	Yamaha 18C4 Schilke 18C3D Monette B1-1 ACB 1.25C Parke Merkelo 660 Lotus 1XL2 Schilke 16C2 Schilke 20D3D	Bach 1B PHOENIX 77 Bach 1-1/2B	Wick 2FL
76	17.6	0.693	Bach 1 1/4 Yamah Thomas Hooten Schilke 15 Giddings Hickman ACB 1.25 Yamaha Mark Gould Monette C1-5M PRANA Bach 1.25C Yamaha 17B4 Stork Vacchiano 2c Schilke 18 Monette B2S Curry 1.25C Reeves 1.25C Classical Yamaha 17D4	PHOENIX 76 WICK RW3B	Lotus FL1L Curry 1H FLD Pickett 0FLD

75	17.5	0.689	Monette B15 Stork 1 Schilke 15 Curry 3 Bach 5 ACB TA2 ACB Custom Reserve 1.25 Stork 2D Schilke 17 Pickett PB1C Monette C15 Bach Mt Vernon 1 1/4 C ACB 1C Lotus 1XL or L	**Vennture** **Bandmaster R-640** **Wick RW3** **Alliance RM3A** **Wick 3**	
74	17.4	0.685	Yamaha 16D Lotus 2XL2 GR67 Yamaha 16E4 Parke 650 Monette C2S3 Curry 1BC Yamaha Bob Sullivan ACB 1.5 Warburton 3MD Monette B2 Unity JK 4 Hammond 3 GR 66.8	**Spare 2DV** **Yamaha 16E**	Bach 3DFL Wick 3F
73	17.3	0.681	Bach 2 1/2C Pickett 1.25C Parke 645 Laskey 80 Dennis Wick 2 (Trumpet) Monette B4S Monette B2-7 Unity Curry 3BC(dot) Hammond 4MB ACB 3C Yamaha 16C4 Pickett 1.5 Monette B4	Wick 2 (old) Venture Bandmaster R-630	Bach 1-1/2CFL ACB 1.5F Yamaha 16F4

72	17.2	0.677	Pickett 1.5CD Parke 640 Monette Unity B4 Hammond 4ML GR66Q ACB 3B Yamaha 15C4 Yamaha 15B4 Schilke 14A4a Schilke 13D4 Pickett 1.5BC Marinck. Findley E13 Laskey 75 GR66 Curry 5 Bach 2 3/4C Yamaha 15E4 Wick 4 (Trumpet)	**Mercer and Barker MB2B-C** **Lewington McCann** **Curry 1.5VC** **Alliance BVT** **ACB 3TF** **Yamaha 14E**	Bach 5VFL Bach 5AFL
71	17.1	0.673	Yamaha Rod Franks Pickett 2C Lotus 7XS Marcink E3 ACB 5C Yamaha Bobby Shew Jazz Yamaha 14C4 Yamaha 14B4 Schilke 9 GR66 Parke 635 Monette Tradition Plus 3 Hammond 5ML AR Resonance MD40 ACB 7B Pickett 3 Lotus 3 Bach 3C	Wick 4W Pickett British 23 Wick 4 Curry 1.5B ACB 3B	**GR66FL** **Reeves 43.5F**
70	17	0.669	Parke 630 Laskey 65 Bach 6C Pickett III (commercial) Yamaha Vizzutti Yamaha 14A4A Warburton 4MC Schilke 17D4D Curry 1.5M	Wick RW4B Getzen 4B Pickett British 3	Yamaha 14F4 Curry 7FLM-Y Bach 8-1/2FL Patrick 1.5F Laskey 65F Bach 17CFL
69	16.9	0.665	Bach 5C-Artisan Schilke 14A4X Bob Reeves 42 ACB 3 GR 65 ACB 7 Warburton 5 Pickett Jens “Wingman” Monette B6LD	**Lewington-McCann**	**Bach 10-1/2AFL**

68	16.8	0.661	Monette B6LDS1 P Bach 10 1/2C ACB 10.5C Schilke 13 Schilke M5C Symphony Pickett 5C, 5CD Monette B6M Unity Kelly Screamer Patrick 7.3C Yamaha 13C4 Warburton 5MC	Wick 4 (old) PHOENIX 68	Yamaha Bobby Shew Schilke 13F
67	16.7	0.657	Yamaha 11C4 Bach 7MV Yamaha Hagstrom Yamaha 11B4 Warburton 5M Schilke 13A4 Marcink. Shew 1.5 Marcink. Shew 1.75 Pickett 6BC Marcink E14 Shew 1 AR Resonance SE ACB TA1 ACB TA Lead		Bach 10-1/2CWFL ACB TA1FD
66	16.6	0.654	Yamaha 9C4 Yamaha 11A5 Pickett 6C Lotus 3M2 Yamaha 7A4 Bach 8C Pickett 6CD Bach 10 3/4 ACB Lead 1.25 Yamaha 11A5	Yamaha 9E (old) Alliance S+ Holton Chicago 19 Yamaha 7D4d (new)	
65	16.5	0.650	Schilke 9C4 Schilke 11A GR63 Reeves 41ES Yamaha 13A4A GR Bergeron Studio Schilke 8E2 Schilke 10A4A Yamaha Miyashiro EM1S	Yamaha 8D2 (new) Yamaha 7D4d (old) Wick S Yamaha 8D2 (old)	Bach 12CWFL
64	16.4	0.646	Warburton 6MD Marcink. 12.4 Ingram Yamaha 8C4 Smith-Watkins ML6 Lead Schilke 7B4 Bach 11C Yamaha 7B4		

63	16.3	0.642	Marcink. E18 Miyashiro Marcink. E13.8 Mike Vax 2 Marcink. E17 O'Donnell Jet Tone Al Hirt Model A Yamaha 5A4A Bach 17		
62	16.2	0.638	Yamaha 6A4A Reeves 40ES Bach 17C		
61	16.1	0.634	Schilke 6A4A TCE-RC Pickett YA 10 ACB TA Screech		
60	16	0.630	**Bach 12CW**		
59	15.9	0.626	**Callet Jazz** **Bach 18C**		
58	15.8	0.622	Bach 17C PHOENIX 58		
57	15.7	0.618	**PHOENIX 57** **Bach 20C**		
56	15.6	0.614	**PHOENIX 56**		
55	15.5	0.610	**PHOENIX 55**		
54	15.4	0.606	Callet 1SC PHOENIX 54		
53	15.3	0.602	**PHOENIX 53** **Warburton Shoop**		
52	15.2	0.598	**PHOENIX 52** **Legends JT RE**		
51	15.1	0.594	**PHOENIX 51**		
50	15	0.591	**PHOENIX 50**		