

# lêdø

## BY VENNTURE



a complete line of mouthpieces



for lead & commercial playing



VENNTURE  
MOUTHPIECES

## This is going to be fun.

**These designs are brand new.** They are the product of an exciting collaboration between Vennture engineer Doug McVey and a committee of 9 world-class lead/commercial performers and educators using Vennture's groundbreaking VennCAD™ and VennCAM™ technology.

**These mouthpieces are pretty.** They feature Vennture's elegant and beautiful new outer blank designs and are machined and finished to the highest standards.

**You deserve a new mouthpiece.** If you're one of those "the gear doesn't matter - you need to practice!" kind of people—why are you reading this? Go grind on some Arban's and leave the rest of us to our fun!

Vennture's lēdē line of mouthpieces provides a complete line of commercial and lead trumpet mouthpieces. It consists of 11 cup models. There are three cup sizes (1=small, 2=medium, and 3=large, in the context of typical commercial/lead playing) in each of three different cup motifs, indicated by unique outer blank designs:



**bowl cup**



**drop-V**



**rimless/convex**

In addition, the middle rim size (2) of the C (bowl cup) and V (drop-V) motifs also come in an extra-shallow cup design: LC2S and LV2S.

### lēdē Goal #1

Provide a wide variety of options as part of a cohesive, complete mouthpiece family, manufactured to the highest levels of precision and finished with the highest quality available.

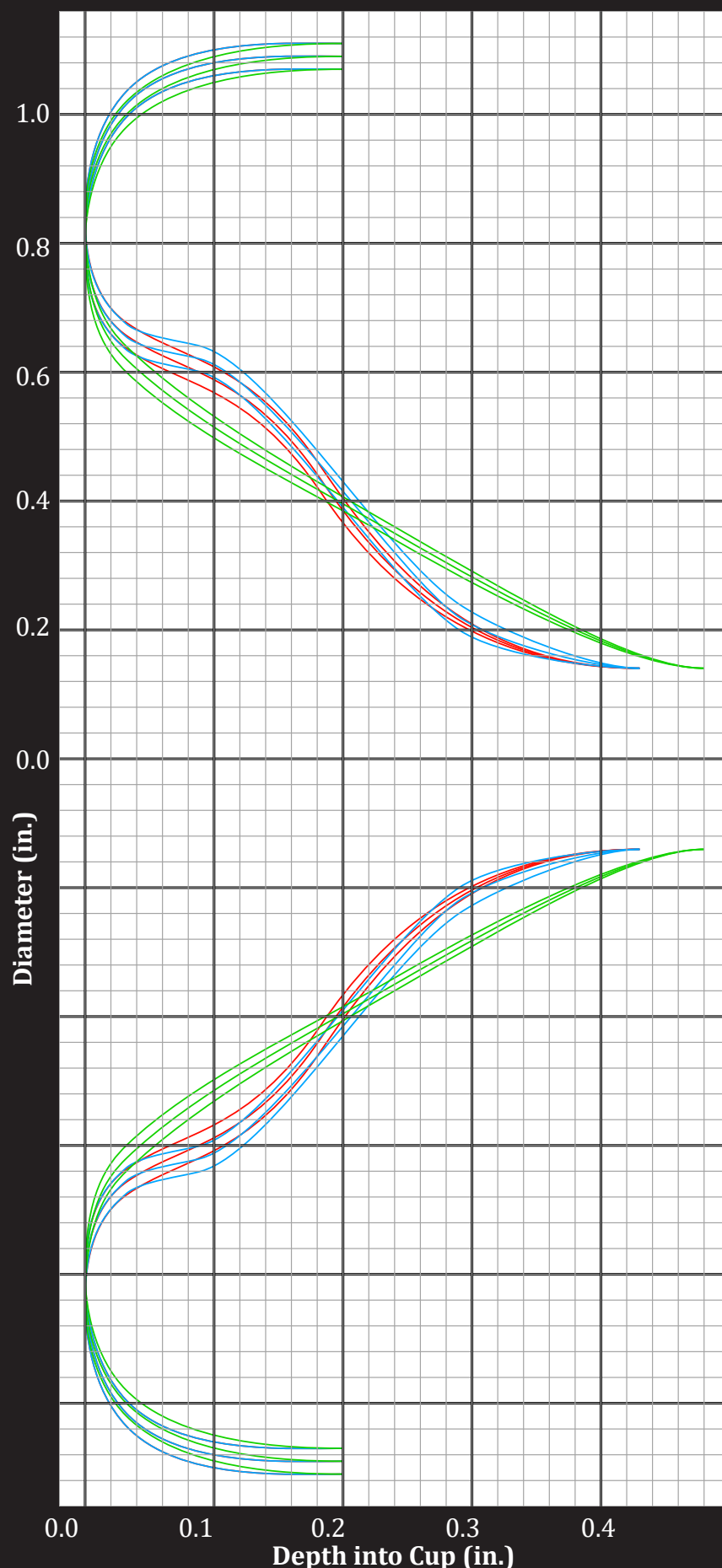
### lēdē Goal #2

Provide the customer with the most powerful tools to help him/her find the very best fit. This includes the most helpful and most nuanced information (in the form of graphs, charts, descriptions, and, of course, the matchless power of VennCAD™) to help them choose the best lēdē model for them, or customize if needed. This also includes the revolutionary new lēdē fit kit.

**Buy, then try...then play sky high!**







## Cup Motifs

The three cup motifs - namely, the bowl cup, drop-V cup, and rimless/convex cup styles - are intended as different approaches to skinning the commercial cat.

### Bowl Cup

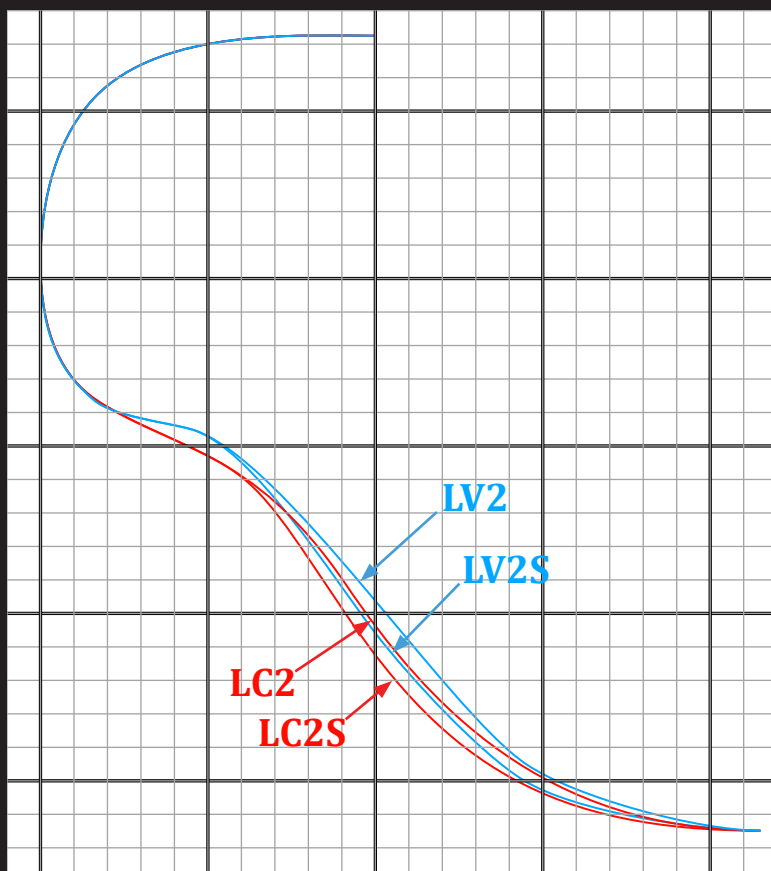
The bowl cup style (designated by model numbers LC\_) is the most traditional. Nicely rounded and shallow, with good sonic reflection back to the chops for optimal generation of compression. A classic design, perfected. If you need to scream for hours on end, this is a comfortable, efficient choice.

### Drop-V

The drop-V cup style (model numbers LV\_) combines the sharper inner bite of a more classically-oriented mouthpiece with an aggressive V cup. This enhances precision and articulation, helpful for navigating technically challenging literature. If you play high and hard music but must occasionally play some tu-ku-tu-ku parts, this might just be the geometry for you. The steeper inner bite also enables players who traditionally have trouble bottoming out small cups to play a lower-volume geometry.

### Rimless/Convex

The rimless/convex cup style (model numbers LX\_) lacks any inner bite at all. It provides the ultimate in comfort, allowing a player to access the extreme upper register even when fatigued. Very reminiscent of the Maynard Ferguson Jet-Tone models, but optimized for efficiency and offered in three different sizes. The 2 rim size is roughly equivalent to what Maynard played; the 1 rim size is a bit smaller and the 3 size larger. To be sure, this rim motif is not for everyone. But for the true and unrepentant upper register devotee, it's definitely worth a try!



## The “shallow” cups

The middle (#2) rim size of the bowl (C) and drop-V (V) cup motifs is being offered in a shallower cup version to allow for more efficient compression at this cup diameter. The LC2S and LV2S cups are shown in the graph to the left and compared to the LC2 and LV2, respectively, for reference.

Note that while we considered releasing the other cup diameters in a shallow model (LC1S, LC3S, LV1S, LV3S, LX1S, LX2S, LX3S), we determined that these would probably be of interest only to a small subset of user. If you are interested in these, we can make them as custom orders on-demand.

## Cup/Rim Technical Data

Motif	Model	Inner Diameter (in.)*		High Point Diam (in.)	Outer Diameter (in.)*			Volume (in <sup>3</sup> ) ‡	Throat (in./#)	Rim-Cup Angle (°)	
		@.032	@.050		@.032	@.050	Max			@.032	@.050
<b>C</b> Bowl	LC1	0.637	0.615	0.800	0.996	1.025	1.070	0.0465	0.1405 (#28)	35.6°	27.4°
	LC2	0.657	0.635	0.820	1.016	1.045	1.090	0.0499			
	LC2S	0.657	0.636	0.820	1.016	1.045	1.090	0.0472			
	LC3	0.677	0.655	0.840	1.036	1.065	1.110	0.0535			
<b>V</b> Drop-V	LV1	0.635	0.618	0.800	0.996	1.025	1.070	0.0489		38.6°	16.4°
	LV2	0.655	0.638	0.820	1.016	1.045	1.090	0.0534			
	LV2S	0.655	0.638	0.820	1.016	1.045	1.090	0.0503			
	LV3	0.675	0.658	0.840	1.036	1.065	1.110	0.0574			
<b>X</b> Rimless/ Convex	LX1	0.600	0.568	0.800	0.980	1.009	1.070	0.0453		44.2°	39.2°
	LX2	0.620	0.588	0.820	1.000	1.029	1.090	0.0482		44.2°	39.8°
	LX3	0.640	0.607	0.840	1.020	1.049	1.110	0.0511		44.3°	40.5°

\* The inner diameter is only a valid parameter if you define exactly where it is measured. Some manufacturers (e.g. Marcinkiewicz) measure it at a depth of 0.032" into the cup; others measure it at 0.05" into the cup. We quote both numbers.

‡ Vennture calculates cup volume starting at a point 0.032" into the cup, which is the Marcinkiewicz standard for measuring the cup diameter. This implicitly imagines that, on average, the first 0.032" of the cup is, under playing conditions, filled with lip tissue, which in turn affects the available acoustic volume.

## Backbore Designs

There are four backbores available in the lēð line. They are all stocked as two-piece screw backbores or as one-piece combinations with all 11 cup/rim options.

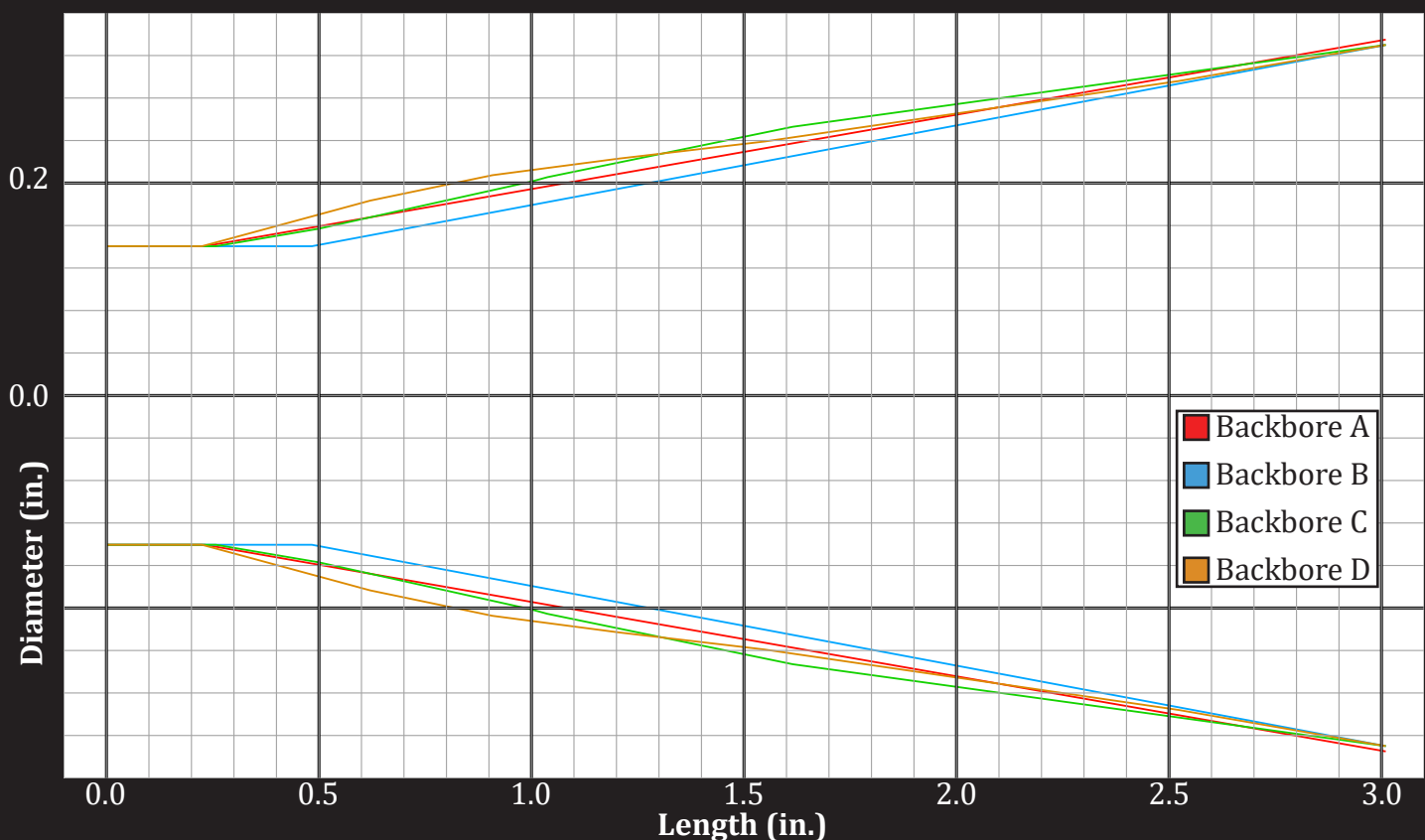
**Backbore A**—This is a perfectly conical backbore design, with a  $4.01^\circ$  taper angle. It will be very familiar to players of many modern lead-oriented designs. It is a good all-around design that balances intonation, efficiency, and sizzle.

**Backbore B**—This is a perfectly conical backbore design, with a  $4.30^\circ$  taper angle. While the taper angle is greater than that of design A, the cylindrical throat section is significantly longer than that of A. This makes Backbore B the tightest-playing of all the lēð designs. It may help stabilize the extreme upper register and will provide maximum efficiency, possibly enhancing endurance if the player is careful not to overblow it.

**Backbore C**—This is more open than a conical design. It provides all the benefits and hallmarks of a more open backbore design: it will provide a bit more shimmer and emphasis of higher overtones, and may contribute to octave spread. For players who struggle with being flat in the upper register, it may improve intonation; for those who struggle with being sharp, it may exacerbate the issue. However, the increase in the richness and presence of the sound may be worth accommodating any intonation issues.

**Backbore D**—This is more open than a conical design. Like Backbore C, it highlights shimmer and higher overtones, while possibly enhancing octave spread. It is acoustically fairly similar to C overall, but whereas C is tighter near the throat and more open toward the shank, D opens faster near the throat but is a bit tighter toward the shank. Thus, Backbore D may be a bit more free-blowing than C, but with similar sonic characteristics.

The graph below shows the backbore choices. Note that the vertical axis is magnified by 5X to show the differences between the backbores.



## Backbone Technical Data

Cup	Backbone Volume (in <sup>3</sup> )				Cylindrical Throat Length (in)				Pop Frequency (Hz)*				Overall Length (in)
	A	B	C	D	A	B	C	D	A	B	C	D	A/B/C/D
LC1	0.134	0.123	0.140	0.137	0.231	0.483	0.257	0.225	805	770	815	819	3.44
LC2									783	749	793	798	
LC2S									796	761	805	810	
LC3									763	728	772	777	
LV1	0.134	0.123	0.140	0.137	0.231	0.483	0.257	0.225	792	757	802	806	
LV2									768	733	778	783	
LV2S									781	746	790	795	
LV3									748	713	757	763	
LX1	0.132	0.122	0.139	0.137	0.181	0.433	0.207	0.175	833	796	843	846	
LX2									813	777	823	827	
LX3									794	758	804	809	

Note that in Vennture's calculations, we reckon the cup to end at the point where the geometry becomes cylindrical. This cylindrical section continues on for a certain length (the cylindrical throat length, as tabulated above), and the backbone then opens up, continuing to increase in diameter until it ends at the shank. For acoustic reasons, the volume of that cylindrical region is counted toward the backbone volume. Thus, the same backbone design attached to the LC and LV cups has a slightly higher volume, because their cups are slightly shallower (i.e. become cylindrical sooner).

The pop frequency of each of the 44 possible combinations are calculated above. This corresponds to the impulse frequency generated by slapping the cup against the heel of the hand. It is a single figure of merit associated with the acoustic "center" of the mouthpiece as a whole. In general, a higher pop frequency correlates with more acoustic support of higher fundamentals (i.e. more stable upper register) and more emphasis on higher overtones (i.e. increased "brightness" or "brilliance" or "shimmer" in the timbre of the sound), as well as more octave spread. If you adjust the tuning slide so middle C is in tune, more octave spread means increasing the distance to the point at which high C is most resonant.

*\* Vennture calculates cup volume and pop frequency starting at a point 0.032" into the cup, which is the Marcinikiewicz standard for measuring the cup diameter. This implicitly imagines that, on average, the first 0.032" of the cup is, under playing conditions, filled with lip tissue, which in turn affects the available acoustic volume and, in turn, the pop frequency.*





## Design by Committee

The original design for lēdø came from Vennture founder Doug McVey. However, in an approach reminiscent of the famous Martin Committee, which brought together some of the greatest instrument makers of the 20th century and resulted in some of the greatest instruments ever created, Doug enlisted the help of nine expert testers - performers, recording artists, and educators from around the world who specialize in commercial music - and sent a complete fit kit to each of them. After several rounds of testing, feedback, fine-tuning, and shipping yet more samples around the world, the lēdø line went from good to...well, we think you'll find it to be pretty great when you get a chance to experience it, just as our testers did. So what all did our test committee contribute to our final design?



## Backbore Mix-and-Match

The original plan was to send each tester 4 different backbores and then come to a consensus about which played best with each cup. Sure, we knew there would be some differences between players, but we expected some rhyme and reason. Boy were we wrong.

When Nashville first-call lead player **Vinnie Ciesielski** plays an LV1 cup and finds the C backbore to be far and away the best, and then switches to a (nearly identical volume) LC1 and finds the C backbore now to be hot garbage but the much tighter A backbore to be perfect...we realized something was going on. Different players, different lip intrusions, different cups, different horns.

So then and there we decided to stock all 44 combinations of tops and backbores as one-piece models, as well as stocking all 11 tops and 4 backbores to fill two-piece orders.

## More Comfortable for Players Accustomed to Flatter Rims

We learned that many pros have gravitated to very flat rim designs in an effort to avoid "hot spots" on their chops and to allow them to stand up to the rigors of playing crazy high and loud for hours on end. The rim designs we settled on for lēdø aren't super flat. We never want to inhibit flexibility or precision. But they are just flat enough, and the contours are rounded with special attention to higher-order derivatives to ensure that they are super-comfortable, both for people who demand maximum chop flexibility and for those who only (used to) play on pancake-flat rims.

**Vinnie Ciesielski** played on some of the flattest and widest rims we'd ever measured. But the LV1 rim was plenty comfy to make him feel good about playing a prototype in back of Jon Pardi - and in front of Jimmy Fallon.



## Shallow-Model 2-Cups

**Matt Fronke** (trumpet player for Celine Dion for the last decade) said he liked the mid-size (#2) rim on the LV2, but might like a bit shallower cup to provide more compression at that rim size. We tried a version where we made the same sized rim but decreased the volume until it equaled that of the LV1.

Touring musical theater (who literally wrote the book on it) legend **Paul Baron** found the compression to be too much of a good thing and suggested backing it off a tad. And that is precisely what we did.



## Shallower Rimless/Convex Cups

**Tyler Jaeger**, who played the MF Jet-Tone as his daily driver for a while, suggested moving the throat point up just a bit. It enhanced the cup compression just a tad, while also very slightly extending the cylindrical section of the throat to make it play more consistently with the rest of the lêdê line. The X-cups: yeah, they're weird. But for the right player at the right moment? They're just what the doctor ordered. Well, probably not a DMA. Anyone with a conservatory education would probably sternly disapprove. And then secretly use them to play along with Maynard records.

## A Special Thanks to the Whole Committee!

**Vinnie Ciesielski** has appeared on over 6,000 recordings including 50 Grammy nominated and 25 winners. He has made countless TV and video appearances including The Tonight Show with Jay Leno and Jimmy Fallon (15), Late Night with David Letterman (10) and numerous others.

**Tyler Jaeger** started touring with national acts during his teen years. He served our country as a trumpet player, band leader, and infantryman during several tours of duty. Currently one of the "Young Lions" in the Nashville live and studio scene, Tyler is the present and future of contemporary lead and commercial trumpet players in the world.

**Matt Fronke** currently tours and has recorded with Céline Dion. He has also recorded for Justin Timberlake, Kanye West, BTS, Gordon Goodwin's Big and many, many more.

**Danny Falcone** has been the lead trumpet player for Céline Dion both in Las Vegas and around the world on tour. Daniel has most recently been hired to play lead trumpet with Lady Gaga on her new Jazz and Piano show. He began working professionally in Las Vegas at age 15, backing the likes of Tony Bennett, Rita Moreno, Jerry Lewis, George Burns, Andy Williams, Jack Jones, Paul Anka, Toni Braxton, and Bette Midler on the Las Vegas Strip.

**Tony Graziosi** is a product of the Berklee College of Music. He played lead with the Count Basie Orchestra and spent several decades as an educator and private teacher, espousing Jerome Callet's "Superchops" method.

**Klaus Anselm** has performed throughout Canada, Europe, and the USA. His experience ranges from playing solo trumpet for ceremonies, such as Remembrance Day and Easter, to playing in German Polka bands (Kitchener Oktoberfest), Mexican Mariachi bands, Jazz Combos, Big bands, and Top 40 bands, as well as classical groups.

**Michael Barkley** is a trumpet player and electric bassist, an arranger/composer, and an educator running an active remote horn studio based in Northern Ireland. Recently Michael has been working with Van Morrison, and was featured on the hit Channel 4 show Derry Girls. He founded a bespoke microphone company, Barkley Microphones, maker of the popular Infinity ribbon microphone.

**Paul Baron** is one of today's most highly respected lead and commercial trumpet players. His sound is distinctly bright and powerful and carries with it decades of experience in a wide range of musical styles. Musicality and passion are audible in each note Paul plays, from jazz to rock, big band to musical theater, and TV jingles to movie soundtracks. Paul has toured extensively with Disney's "Newsies", "Aladdin" and "Frozen" as well as numerous recording and TV appearances.

**Bobby Medina** is widely regarded as one of today's most versatile musicians, Bobby has performed world tours and national shows with Ray Charles, Frankie Valli, Mel Torme, The Four Tops, Temptations, Jerry Lewis, C.J. Chenier, The Coasters, The Spinners, Martha and the Vandellas, Bobby Vinton, Ann Jillian, Harry Blackstone Jr., Shari Lewis, Andy Russell, Celio Gonzalez, Rolando La Serie and many others.



## Special Features

We here at Vennture like to think of lēð as more than just another mouthpiece. There a few things that make it kind of special.



### A Fit Kit - Delivered Right to Your Door!

If you think you want a new lēð mouthpiece but don't know which cup and backbore to choose, we can help. For a modest additional fee, we will send you a test kit containing all 11 tops and all 4 backbores. This fee covers shipping both ways (return label included - no need to print anything!) and a 2-week audition period. So you can test all 44 possible combinations.

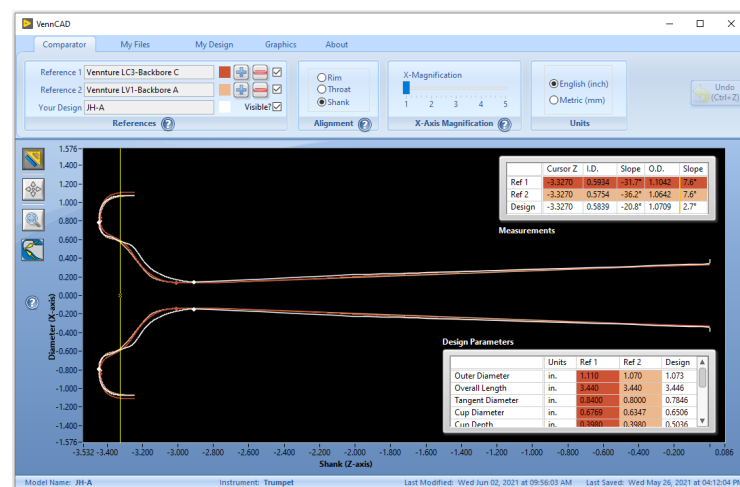
*You can try them at your pace,  
you can try them in your space!  
You can play them when you're fresh,  
and on your recording sesh!  
You can try them when you're tired,  
or try them when you feel inspired!  
Try them, try them - you will see -  
**Rip a monster double G!***

### One-Piece or Two-Piece: Same Price!

We originally designed lēð as a collection of single-piece mouthpieces. We made them into top/backbore two-piece assemblies solely to aid in the testing process.

But when our testers expressed varied preferences for backbores—especially for using a certain cup size in different horns—we decided to add two-piece models to our stocked production line. So a top costs half the one-piece price, as does a backbore. When they're screwed together, the two-piece and one-piece models look identical in terms of outer blank.

So choose a one-piece for stability and simplicity, or a two-piece for mix-and-match flexibility. Either way, you'll be the proud owner of more awesome gear!



### Full VennCAD Integration

If the info in this booklet and on the website (and gleaned from nerding out with a full test kit!) don't satisfy your thirst for knowledge and insight, you may have a problem. And we are here to make it worse!

Download VennCAD™ (free!) for Windows (or run on Mac under Parallels) and view any lēð design, make measurements, compare them with each other and with other manufacturers' designs. You can even use lēð as a starting point and design your own custom model.

Unlimited possibilities, endless nerdy fun.