Foreword

It is the mouthpiece which provides the vital connection between the musician and his or her wind instrument. Therefore, the mouthpiece must then meet the most personal and critical demands of fine adjustment in order to achieve the desired tonal color, flexibility and sense of well-being on the instrument.

While a student, it became clear to me that the right choice of equipment provides decisive help in achieving musical goals. It also became apparent that I had met the prerequisites for carrying out the task of designing innovative and qualitative mouthpieces, namely;

(1) having advanced musical training (Conservatory of Linz, Vienna Music University), and
(2) having the proper mechanical knowledge (completed apprenticeship in a technical sector).

Now, as a professional musician, I am confronted daily with meeting the challenge of making mechanical adjustments for various physical and musical demands.

This being the case, it is easier for me to identify with the problems and wishes of colleagues, and to find proper solutions to their problems.

The Catalog

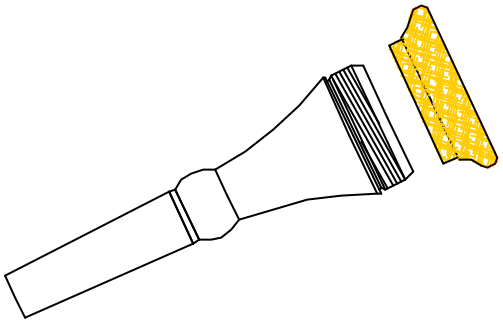
Recognizing that my developmental work is constantly proceeding – and that I can draw on the experiences of many customers – I feel that it is now necessary to select and provide an overview of the present variety of products. Special niche products
are to be put to the side (but not completely cancelled) in order to present the advantages of the more popular mouthpieces. Revisions (especially on trombone mouthpieces) have been labeled, and improvements described.

Now I can only hope that you can find a fitting combination among my products that meets your needs. Naturally, whenever possible, I will offer my advice to assist you in your search.

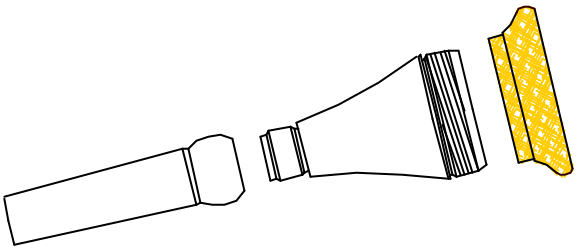
French Horn

Systems

In order to provide the proper mouthpiece that meets personal tastes and the demands of various playing situations I offer two mouthpiece system with numerous variations within each system.



Two-part system (standard) with interchangeable (detachable) rim and cup.
The two-part system features a fine cost/performance ratio. The screw-rim allows one to substitute shanks, while keeping the same rim.



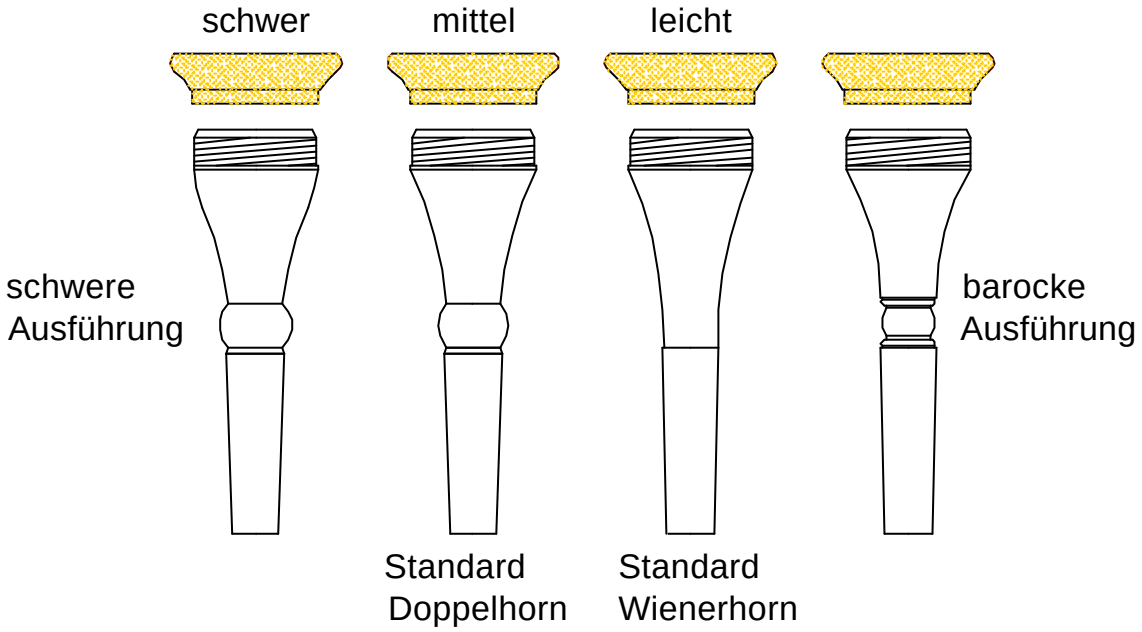
Three-part system with interchangeable rim, cup and shank.
This system is most effective for combination. By varying cups or shafts, various tone and playing qualities can be achieved. This is very practical when changing to other instruments. The embouchure is not affected, due to remaining on the same rim. The cup depth ranges to a maximum of 30 mm; the maximum bore diameter is limited to 4.7 mm.

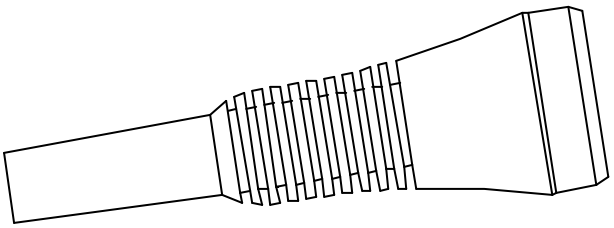
Design

The design of the outer contours of the mouthpiece, including mass and shape, considerably influence tonal quality and blowing quality. It is also a factor in matching the mouthpiece to the instrument.

There are basically three weight classes offered, whereas the middle model is best suited for the double horn, and the light version works best with natural and Vienna horns.

For achieving a compact tone, the heavier models are advantageous. The tone is somewhat darker, and it is reported by some that slurred passages flow easier. There is less tendency for losing tonal focus in extremely loud passages. Inversely, mouthpieces with less massive forms can produce a lighter, more brilliant tone. The mouthpiece and the instrument both vibrate. The flexibility one has with lighter mouthpieces is helpful for solo performance.





Ribbed" Form

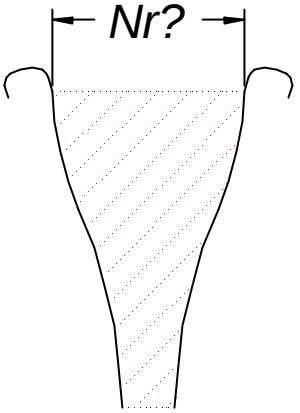
This model was developed in order to make extremely stable "slotting" possible. The "ribs" substantially enlarge the surface, leading to a larger vibrant surface. This form is only available by special order.

Standardization

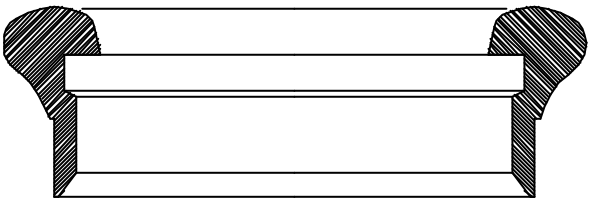
The mouthpieces are standardized by using a system of letters and numbers, with the letter denoting the form, and the number denoting the diameter of the cup.
A certain letter before a slash (/) defines the instrument intended (examples: *D/* stands for *double horn* and *W/* for *Wienerhorn = Vienna horn*).

The cup diameter is measured at a depth of 2mm.The size standardization of the cup diameter (or internal rim) runs from the numbers 1 to 9, and the corresponding horn mouthpiece diameters range from 16.6 to18.2 mm.

∅ 16,6 mm	Nr.1
∅ 16,8 mm	Nr.2
∅ 17,0 mm	Nr.3
∅ 17,2 mm	Nr.4
∅ 17,4 mm	Nr.5
∅ 17,6 mm	Nr.6
∅ 17,8 mm	Nr.7
∅ 18,0 mm	Nr.8
∅ 18,2 mm	Nr.9



Rim

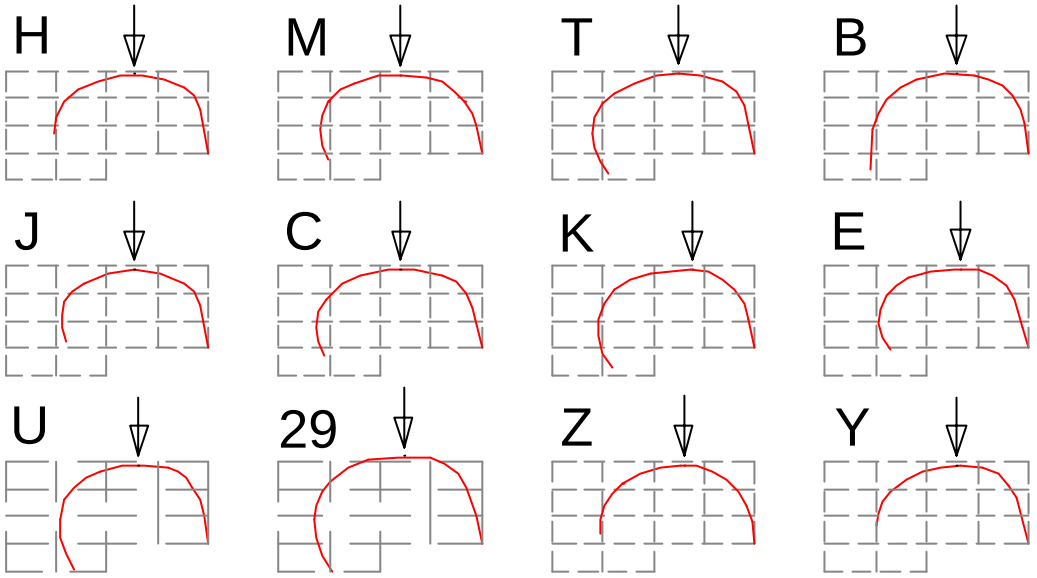


For a better overview, the overall descriptive character and the rim contour are, respectively, divided into four subsections: the inner edge or *rim bite*, *rim thickness*, the *outer rim edge*, and the *rim width*.
The inner cup diameter is chosen according to individual needs (dental anatomy, etc.), allowing the lips to vibrate optimally.
The number of the chosen rim determines the corresponding cup.

Inner edge or *rim bite* The form can vary from “smooth” to “sharp”; a sharper rim gives a precise attack and brilliance, whereas the smoother inner edge weakens these qualities, while increasing endurance.

High point The position of this point influences the personal feeling for the diameter of the cup. Should this point lie far to the outside, then the rim seems to be wider than the numbered size. In this case, the tone will become darker.
Outer rim The outer rim is especially significant to horn players for setting in *(= German: einsetzen*). An outer rim that is drawn-out more sharply offers more support on the lip, but should not be taken to painful extremes.

Overview of the rims



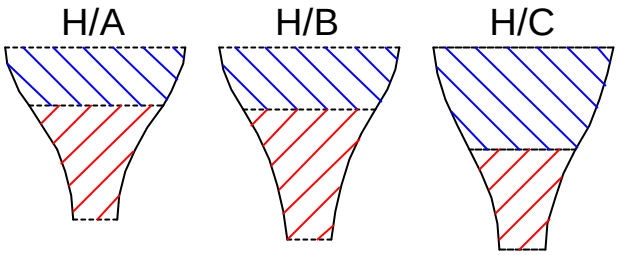
Width wide rims can improve endurance, while flexibility can be better attained with narrower rims.

Model	Width	inner edge	Description
J	3.78	rather sharp	good response
U	3.78	rather sharp	good response, rounded outer rim
TJ	3.80	rounded	very sharp outer rim
E	3.82	sharp	good response
Y	3.88	rounded	Yamaha
H	3.96	sharp	same as J, but wider
Z	3.96	somewhat rounded	good endurance
B	4.04	rather sharp	flat contact area
K	4.05	rounded	stabile lip contact area
M	4.15	soft	good endurance, flexibility
T	4.16	sharp	good response, flat contact area
S	4.21	somewhat rounded	smooth- rounded outer rim
C	4.25	rather sharp	flat contact area, good endurance
29	4.27	soft	by No. 2 – Schilke 29
F	4.30	rather sharp	rounded outer rim
ML	4.47	soft	comfortable, stabile lip contact area
CL	4.60	rather sharp	flat contact area

Cup

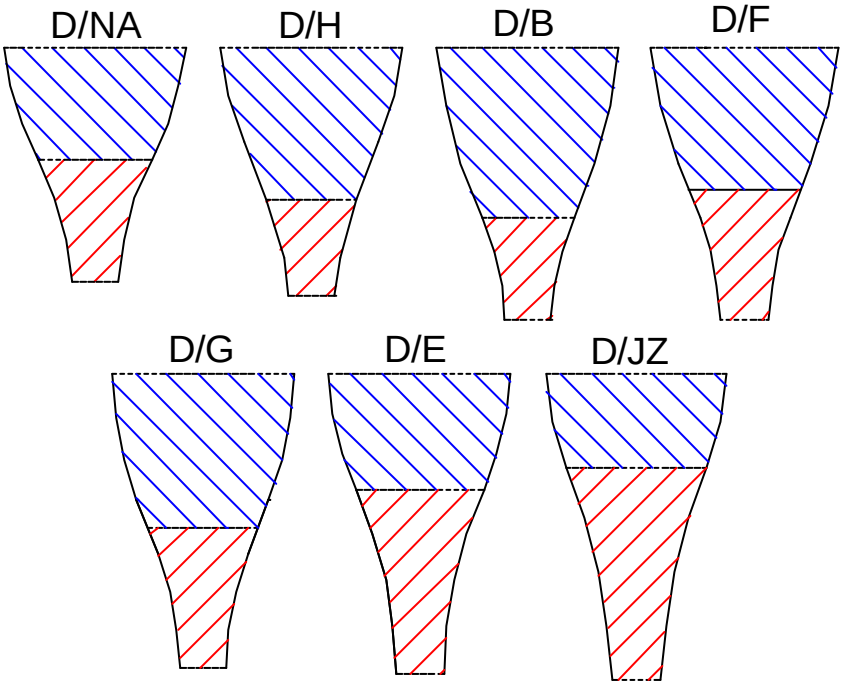
The analysis and description of the cup has been divided into three parts: the cup, throat and bore. The cup depth is given in addition to the rim depth (rim depth = 2 mm).

Descant horn



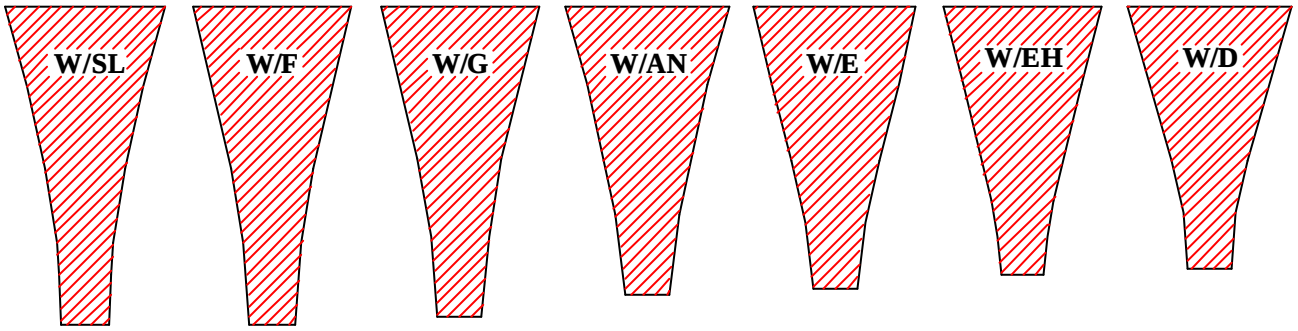
Cup model	Bore	Depth	Description
H/A	4.0mm	18.0mm	for extreme demands; tone quality is compromised
H/B	4.1mm	20.9mm	very good high range; sufficient tone quality
H/C	4.2mm	20.9mm	good slotting in the high register; balanced tone quality
H/MD	3.8mm	22.7mm	rather V-form cup

Double horn



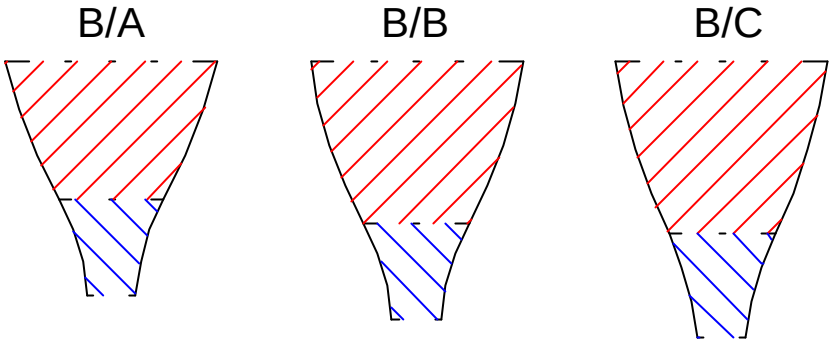
Cup model	Bore	Depth	Description
D/N	4.2mm	21.2mm	shallow U-form cup
D/NA	4.2mm	23.4mm	good response; good slotting in the high register
D/NB	4.3mm	23.8mm	good response; little darker than NA-cup
D/H	4.4mm	24.7mm	good upper range
D/A	4.4mm	25.0mm	
D/K	4.4mm	26.3mm	
D/B	4.3mm	27.0mm	somewhat more resistance
D/F	4.5mm	27.0mm	very playable
D/BA	4.5mm	27.4mm	
D/G	4.3mm	29.0mm	large tone; rather closed cup.
D/E	4.5mm	29.5mm	well-liked cup; solid, dark tone
D/EG	4.5mm	29.5mm	
D/EW	4.7mm	29.5mm	
D/JZ	4.5mm	30.0mm	open feeling; dark tone
D/J	4.8mm	32.0mm	very open cup; better suited for low horn
D/ET	4.8mm	33.9mm	

Wienerhorn (Vienna horn)



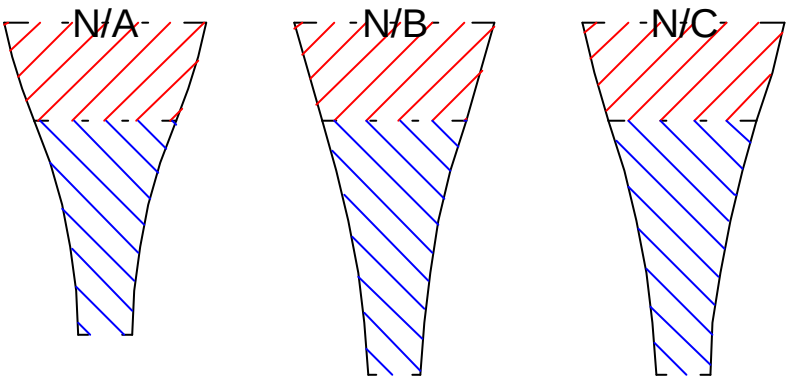
Cup model	Bore	Depth	Description
W/H	4.3mm	24.0mm	very shallow V-form cup
W/JH	4.5mm	27.5mm	shallow V-form cup
W/TJ	4.5mm	29.5mm	very good upper range; rather bright tone
W/D	4.7mm	30.0mm	very good high register; full sound
W/EH	4.5mm	30.5mm	balanced, very playable cup
W/E	4.7mm	32.0mm	large tone; somewhat more resistance
W/AN	4.6mm	32.6mm	good balance between full sound and good response
W/G	4.7mm	35.0mm	large tone, combined with ease of playing
W/F	4.8mm	35.9mm	large, dark tone
W/L	4.9mm	36.0mm	for deep hornplayers
W/V	5.0mm	33.0mm	open cup, large tone
W/SL	5.1mm	36.0mm	very dark, open cup; ideal for Wagner tuba

Baroque Horn



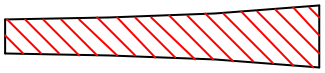
Cup model	Bore	Depth	Description
B/A	4.0mm	21.0mm	very good upper range; for short tubing
B/B	4.0mm	23.0mm	very good upper range; relatively full sound
B/C	4.0mm	24.5mm	for long c; full sound
B/D	4.4mm	24.7mm	

Natural Horn

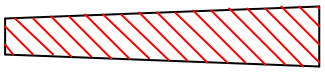


Cup model	Bore	Depth	Description
N/H	4.6mm	27.5mm	
N/A	4.6mm	29.0mm	very good upper range; for short tubing
N/B	4.6mm	32.5mm	good high register; rather pure sound
N/C	4.6mm	32.5mm	full sound; for long tubing

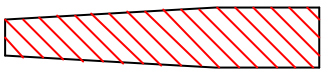
Backbores



Concave backbore: for *natural horn* mouthpieces; good slotting and intonation; good balance between stopped and open tones.



Straight backbore: standard for *Vienna horn* and *double horn* mouthpieces; stabile intonation and sufficient tonal quality.



Convex backbore: upon demand, for *double horn* mouthpieces; very full sound; somewhat strenuous in the high register.

Shank descriptions for the 3-part mouthpieces

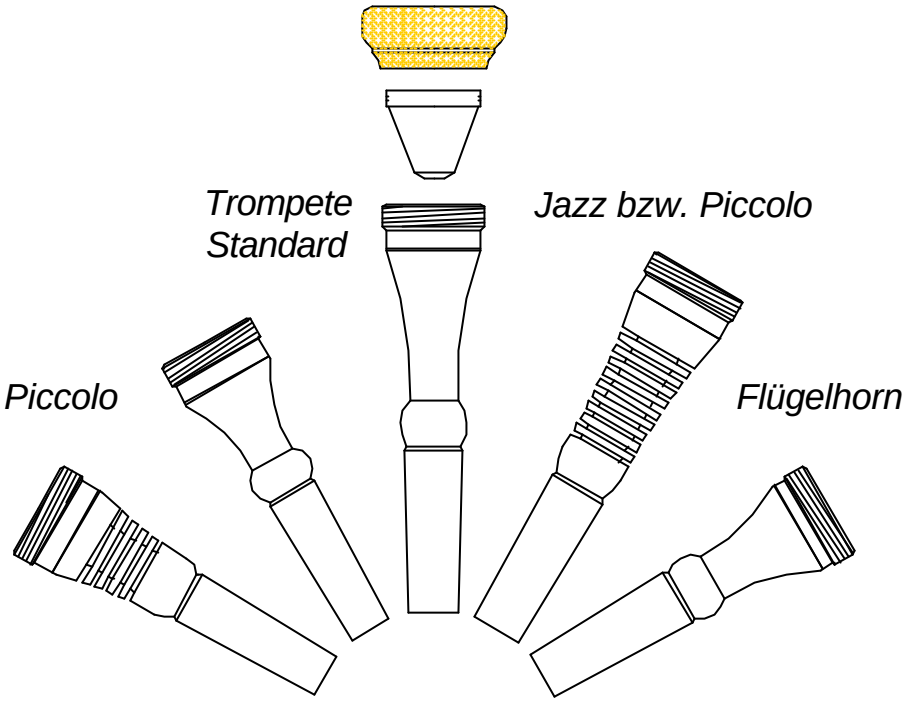
Shank model	description
K	concave
2	slightly concave
S	standard bore, straight
W	slightly convex
B	convex

Trumpets

The 3-part mouthpiece system (screwable) consists of rim, cup and shaft.

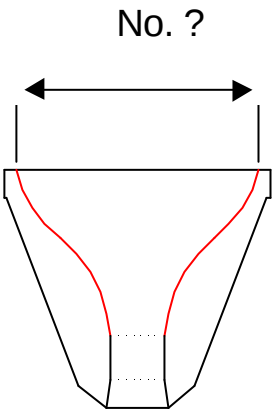
Standardization

The mouthpieces are standardized by using a system of letters and numbers, with the letter denoting the form, and the number denoting the diameter of the cup.
A certain letter before a slash (/) defines the instrument intended (examples: Fl/ stands for Flugelhorn; Flx/ for jazz – flugelhorn, etc.).



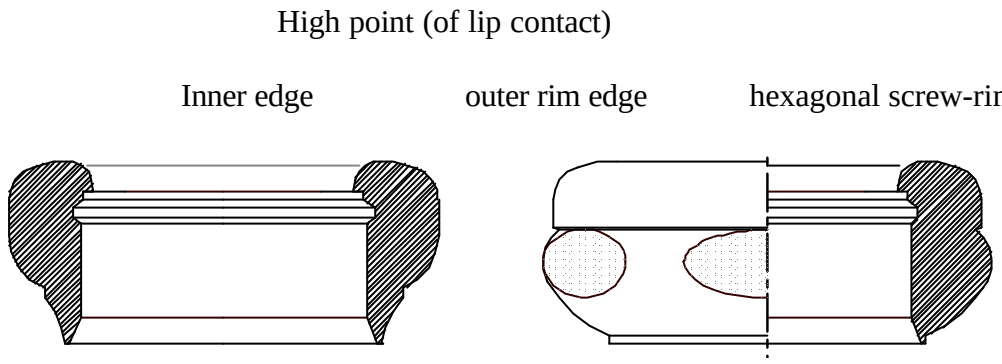
The cup diameter is measured at a depth of 2mm. The size standardization of the cup diameter (or internal rim) runs from the numbers 1 to 9, and the corresponding trumpet mouthpiece diameters range from 15.4 to 17.0 mm. The progression follows in increments of 0.2 mm.

∅ 15,4 mm	No. 1
∅ 15,6 mm	No. 2
∅ 15,8 mm	No. 3
∅ 16,0 mm	No. 4
∅ 16,2 mm	No. 5
∅ 16,4 mm	No. 6
∅ 16,6 mm	No. 7
∅ 16,8 mm	No. 8
∅ 17,0 mm	No. 9



Rim

For a better overview, the overall descriptive character and the rim contour are, respectively, divided into four subsections: the inner edge or *rim bite*, high point, the outer rim edge, and the rim width.
The inner cup diameter is chosen according to individual needs (tooth anatomy, etc.),
allowing the lips to vibrate optimally.
The number of the chosen rim determines the corresponding cup.



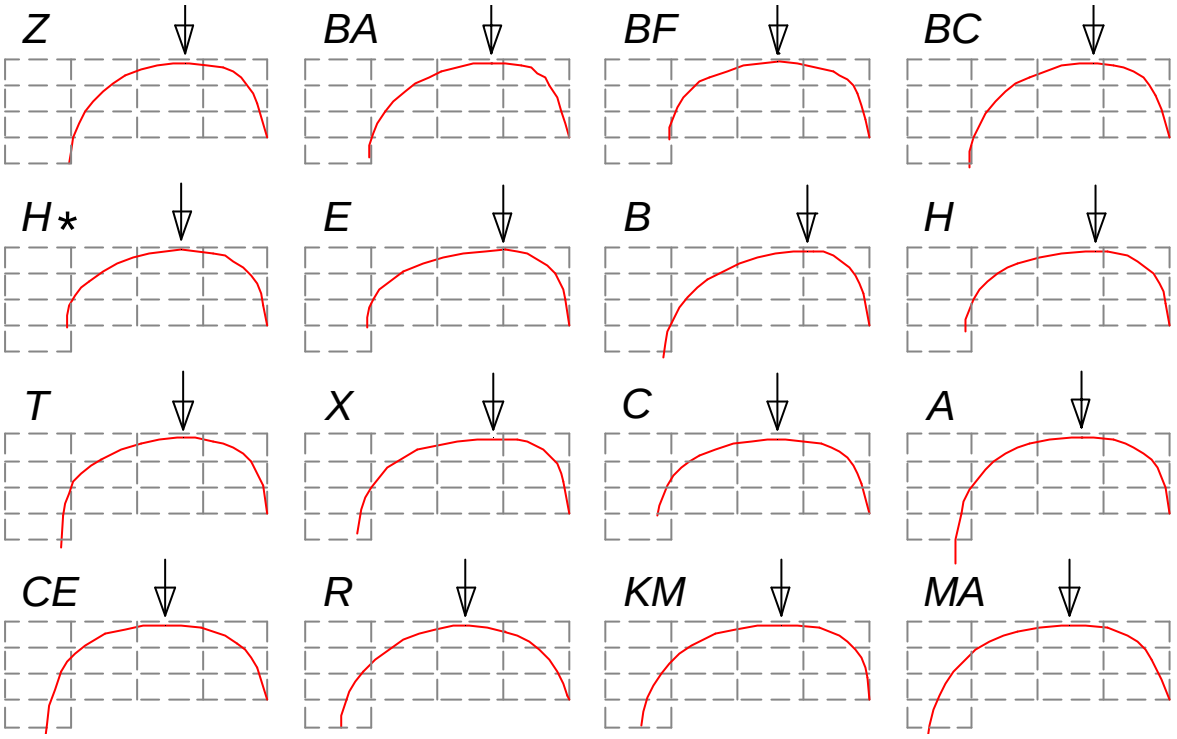
Inner edge or *rim bite* The form can vary from “smooth” to “sharp”; a sharper rim gives a precise attack and brilliance, whereas the smoother inner edge weakens these qualities, while increasing endurance.

High point The position of this point influences the personal feeling for the diameter of the cup. Should this point lie far to the outside, then the rim seems to be wider than the numbered size. In this case, the tone will become darker.

Outer rim edge The position of the outer rim edge determines the character of lip contact of the rim.
The lower the edge lies, the rounder the rim. The higher the edge lies, the flatter the rim.

Rim Width Wide rims promise better endurance, while improved flexibility is achieved with narrower rims.
Generally speaking, narrower rims are recommended for instruments that are played in the low registers.

Overview of the rims

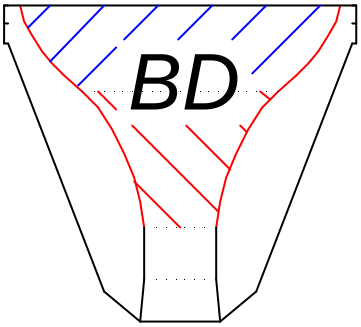


To assist the graphic descriptions of the rims, a grid has been set “underneath” the rim contours, extending to the edge of the inner rim (right side). A small arrow denotes the position of the “high point”.

Model	Width	inner edge	outer edge	Description
Z	5.27	rather sharp	rounded	comfortable / Schilke
BA	5.23	sharp	rounded	good response / Bach
BF	5.33	rather sharp	raised	flat contact area / Bach flat
BC	5.13	sharp	rounded	good response
H*	5.38	rather rounded	raised	good endurance / Breselmeier
E	5.37	rather sharp	raised	flat contact area
B	5.46	sharp	rounded	excellent response
H	5.45	soft	raised	flat; good endurance
T	5.37	soft	rather raised	comfortable contour
X	5.60	sharp		flat
C	5.62	soft	rather raised	comfortable; excellent endurance
Y	5.68	soft		very comfortable
A	5.73	rather soft		comfortable, comfortable
TC	5.79	soft	rounded	very comfortable / Tilz
R	6.05	rounded	rounded	
KM	6.12	sharp rather	rounded	very flat
MA	6.42	rather soft	rounded	very suitable for small inner diameter

Cup

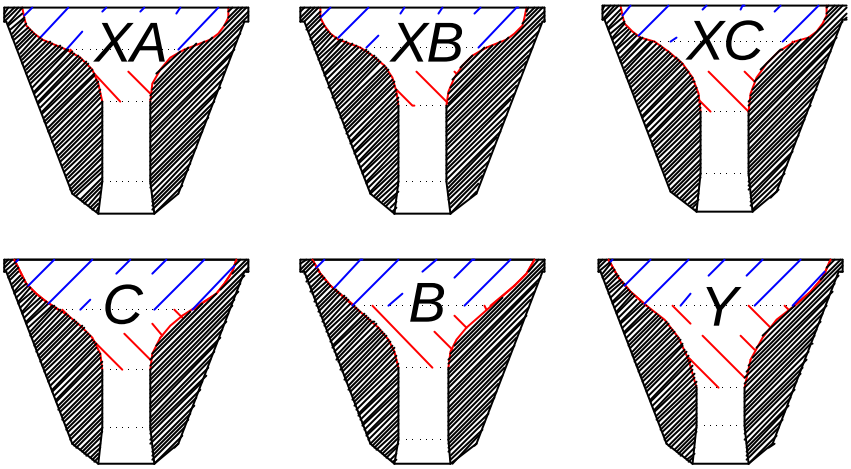
The analysis and description of the cup has been divided into three parts: the cup, throat and bore The cup depth is given in addition to the rim depth (rim depth = 2 mm).



The **cup** determines the volume of tone, with forms varying from a *C-form* to a *V-form.*
The **throat** (or junction to the bore) strongly influences the tone color, with a wide throat producing a darker tone, and vice versa.
The **bore** -- combined with the throat – affects the resistance. The bore diameter is responsible for the tone's core. A bore that is too large results in a stuffy, airy tone.

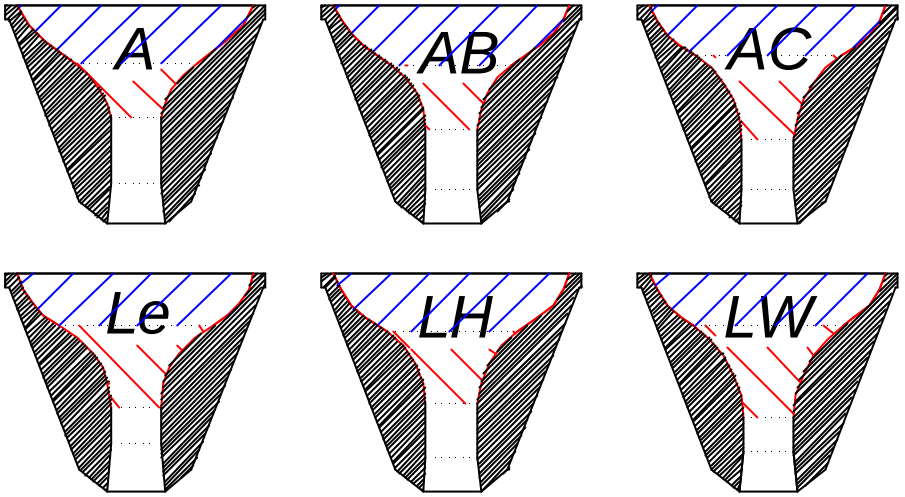
"Lead" trumpet, piccolo trumpet

The "X" cups with the shallow dish form are especially conceived for high register playing.



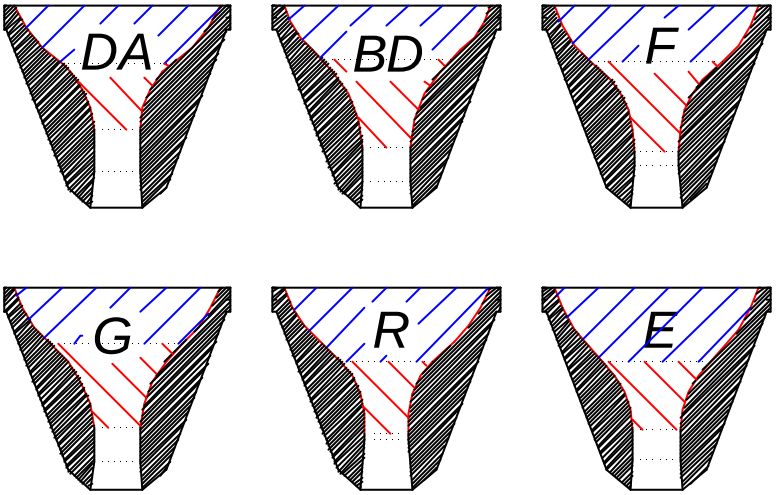
Cup model	bore	depth	cup form	throat
XA	3.7mm	9.0mm	C-form	narrow
XB	3.6mm	9.4mm	C-form	rather narrow
XC	3.6mm	10.0mm	C-form	rather wide
XV	3.6mm	10.2mm	C-form	V-form
A	3.6mm	10.4mm	shallow, bowl-shaped	narrow
B	3.8mm	10.0mm	bowl-shaped	narrow
C	3.8mm	10.0mm	very bowl-shaped	rather narrow
Le	3.5mm	11.5mm	very bowl-shaped	rather narrow
Y	3.6mm	12.2mm	somewhat V-formed	wide
AB	3.7mm	10.8mm	bowl-shaped	rather narrow
AC	3.7mm	11.4mm	bowl-shaped	rather wide
LH	3.7mm	11.2mm	bowl-shaped	rather narrow
LW	3.6mm	12.2mm	bowl-shaped	wide

Lead and piccolo cups 2

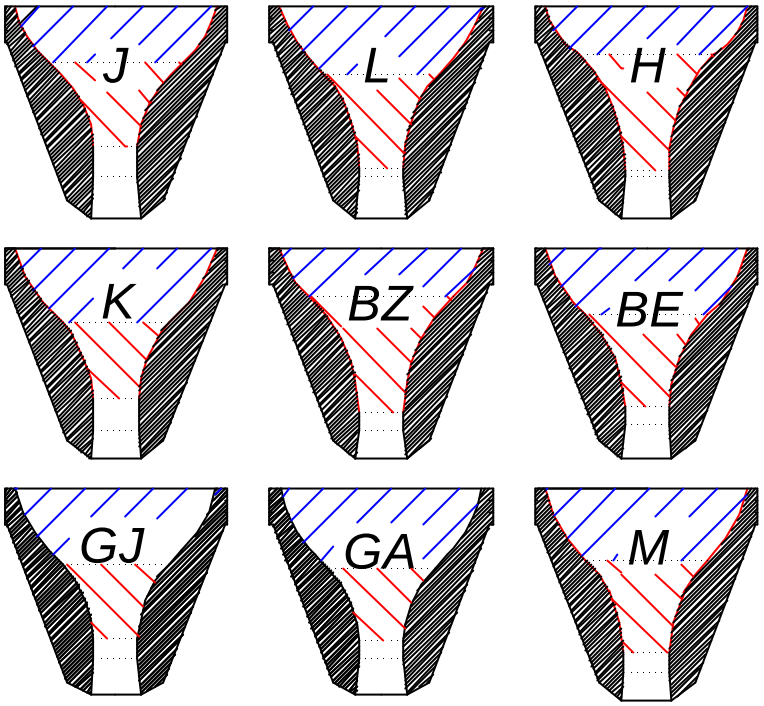


Cups in the *Symphonic* series

The cups in the Symphonic series are separated into two categories, according to construction depth. The smaller series (adjacent) is easily recognizable by the fitting (2 mm in length), which leads into the screwable rim.



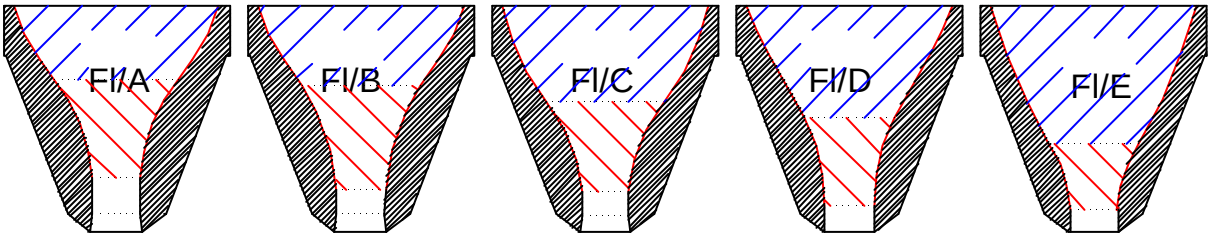
Model	bore	depth	cup	throat
DA	3.7mm	12.0mm	bowl-shaped	rather narrow
S	3.8mm	13.5mm	bowl-shaped	rather narrow
F	3.6mm	13.9mm	bowl-shaped	narrow
R	3.6mm	14.0mm	bowl-shaped	narrow
BC	3.6mm	13.8mm	bowl-shaped	wide
G	3.8mm	14.0mm	bowl-shaped	rather wide
BD	3.8mm	13.6mm	rather V-formed	rather narrow
E	3.8mm	13.6mm	rather V-formed	rather narrow



The symphonic cups of the larger category can be recognized by the 3 mm fitting. These are appropriate for a large, orchestral sound. In general, instruments with Perinet valves should have cups with a bowl-shaped form, while V-formed cups are more suitable for instruments with rotary valves.

Cup model	bore	depth	cup	throat
J	3.6mm	13.6mm	bowl-shaped	wide
L	3.6mm	15.4mm	bowl-shaped	rather wide
H	3.6mm	15.5mm	V-form	very wide
BA	3.7mm	14.0mm	bowl-shaped	rather narrow
HM	3.9mm	14.7mm	V-form	rather wide
K	3.8mm	14.5mm	bowl-shaped	funnel-form
BZ	3.8mm	15.5mm	rather V-formed	rather wide
GJ	3.7mm	14.3mm	bowl-shaped	rather narrow
BE	3.8mm	15.0mm	rather V-formed	very wide
GA	3.8mm	14.5mm	bowl-shaped	rather narrow
EY	4.0mm	14.5mm	bowl-shaped	rather wide
M	3.8mm	15.6mm	bowl-shaped	wide

Flugelhorn cups

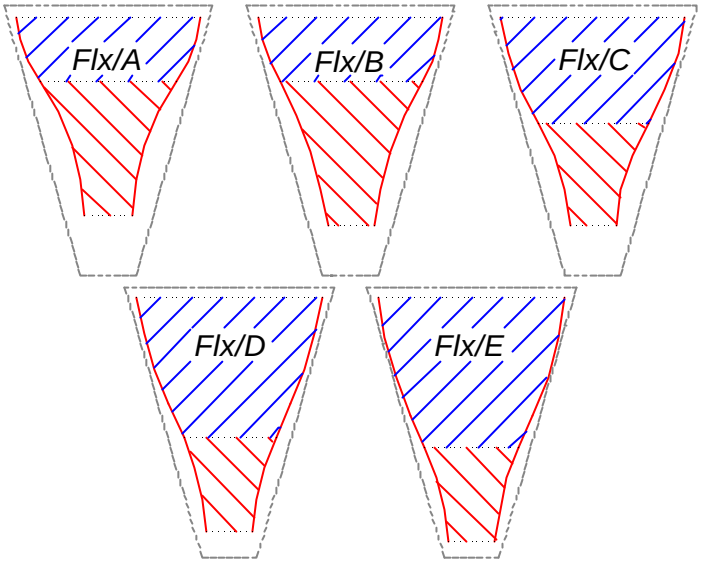


The flugelhorn cups are either combined with special, short shanks, or with trumpet shanks with the corresponding diameter. The small cups are very suited for playing in wind bands.

Cup model	bore	depth	cup	throat
Fl/A	4.0mm	16.0mm	rather bowl-shaped	wide
Fl/B	3,8mm	16.8mm	V-formed	wide
Fl/C	3,8mm	17.0mm	bowl-shaped	wide
Fl/D	4.1mm	18.3mm	V-formed	wide
Fl/E	4.0mm	18.5mm	very bowl-shaped	wide
Fl/F	4.2mm	18.2mm	very bowl-shaped	wide

Jazz Flugelhorn

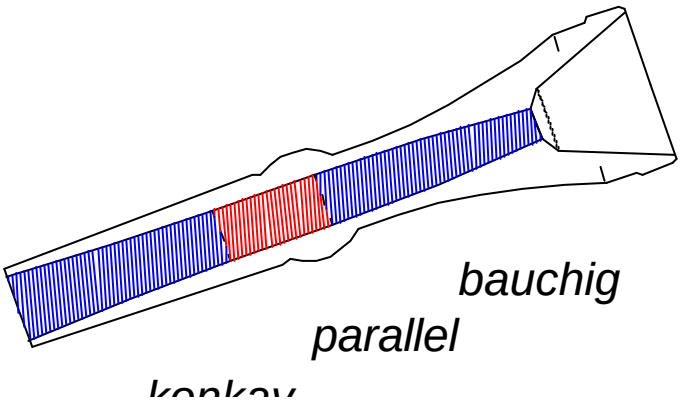
Due to the very deep construction of these cups, they are only available in a 2-part system. These large cups exhibit excellent intonation and tonal stability.



Cup model	bore	depth	cup	throat
Flx/A	4.2 mm	20.0 mm	slightly bowl-shaped	rather wide
Flx/B	4.2 mm	20.8 mm	very bowl-shaped	wide
Flx/C	4.2 mm	20.9 mm	slightly bowl-shaped	rather wide
Flx/D	4.2 mm	23.0 mm	bowl-shaped	wide
Flx/E	4.3 mm	24.0 mm	very bowl-shaped	wide

Shank bores

Results of testing show that a slight *S-formed* backbore taper provides the best balance of the elements of sound, intonation, response and blowing quality.
The bore types are labeled with letters or numbers according to size (see table below), and with (non-binding) suggestions for usage.



P	piccolo (longer shank) / short piccolo shank (softer sound)
No. 9	little more open than P
No. 5	Eb trumpet
No. 6	Jazz trumpet / narrower symphonic shank recommended
No. 7	Symphonic shank with very good slotting/ short piccolo shank
No. 4	Symphonic shank / smooth sound
No. 2	Somewhat brighter symphonic shank; good high register / short piccolo shank
W	Very open “Wiener” (Viennese) bore
No. 1	Long flugelhorn shank
E	Short flugelhorn shank / standard with FLX shank

Trombone

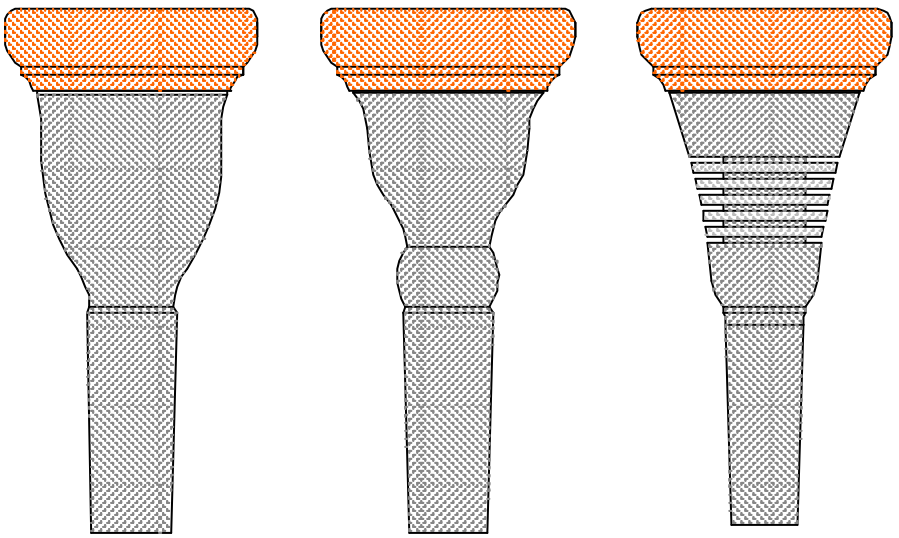
Design

The design of the outer contours of the mouthpiece, including mass and shape, considerably influence tonal quality and blowing quality. It is also a factor in matching the mouthpiece to the instrument.

There are basically three weight classes offered, whereas the middle model is best suited for the tenor trombone, and is the standard.

For achieving a solid tone, the heavier models are advantageous. The tone is somewhat darker, and it is reported by some that slurred passages flow easier. There is less tendency for losing tonal focus in extremely loud passages. Inversely, mouthpieces with less massive forms can produce a lighter, more brilliant tone. The mouthpiece and the instrument both vibrate. The flexibility one has with lighter mouthpieces are helpful for solo performance.

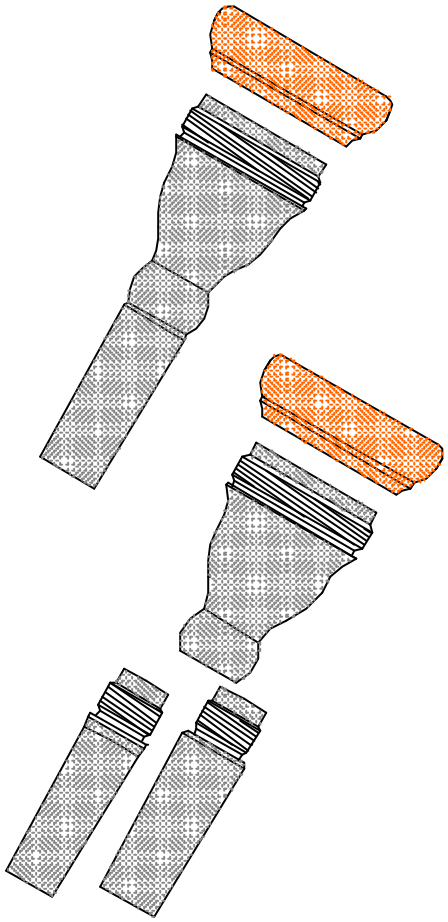
The newly developed light model with vibration ribs has met with very high approval following a trial period. The vibration ribs are also known as “cooling ribs” in certain musician circles. They not only protect from “overheating”, but also provide blowing differences that are heard and felt. The original reason for adding these ribs to heavy models was for increasing flexibility. This took place due to the large increase in surface area, as well as to the vibrating of each rib. Both factors lead to a sound that is versatile and rich in overtones.



The model in the middle (*) is the standard. The desire for light or heavy models should be indicated when ordering.

Systems

In order to provide the proper mouthpiece that meets personal tastes and the demands of various playing situations, two system variations are offered.
Due to low demand -- and the resulting low profitability -- the compact system was dropped from the program. The well-known, screwable add-on weight has been completely reworked and improved, resulting mainly in increasing flexibility to bass trombone mouthpieces.



Two-part system
The two-part system features a fine cost/performance ratio. The screw-rim allows one to substitute shanks, while keeping the same rim.

Standard system
This system is most effective for combination. By varying cups or shafts, various tone and playing qualities can be achieved. This is very practical when changing to other instruments. The embouchure is not affected, due to remaining on the same rim.

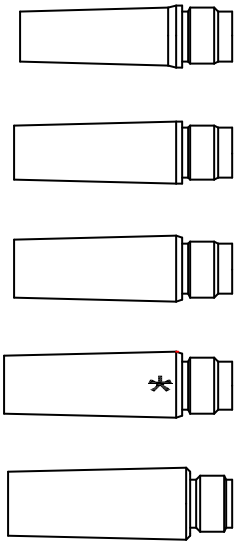
Standardization

The mouthpieces are standardized by using a system of letters and numbers, with the letter denoting the form, and the number denoting the diameter of the cup.
A certain letter before a slash (/) defines the instrument intended (examples: Th/ stands for Tenor horn; A/ for alto trombone, etc.

The cup diameter is measured at a depth of 3 mm. The size standardization of the cup diameter (or internal rim) runs from the numbers 1 to 9, and the corresponding alto and tenor trombone mouthpiece diameters range from 24.5 to 26.5 mm. The diameter range for bass trombone mouthpieces is between 27.0 mm and 29.0 mm. The progression follows in increments of 0.25 mm.

24,50 mm	1	27,00 mm
24,75 mm	2	27,25 mm
25,00 mm	3	27,50 mm
25,25 mm	4	27,75 mm
25,50 mm	5	28,00 mm
25,75 mm	6	28,25 mm
26,00 mm	7	28,50 mm
26,25 mm	8	28,75 mm
26,50 mm	9	29,00 mm

Shank conception



Size 1:for alto trombone, German trombone, bass fluegelhorn

Size 2: for Lätsch 3, tenor horn, baritone

Size 3: for trombones of American design

Size 3* same size as no. 3, but somewhat longer, in order to increase tonal stability. This shank is marked with an asterisk (*). (only custom made)

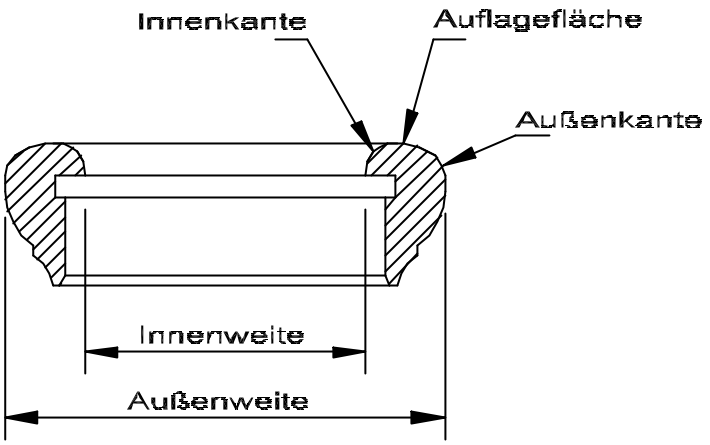
Size 4: for bass and contrabass trombones and, of late, for mouthpiece systems of open construction design.

Rim

For a better overview, the overall descriptive character and the rim contour are, respectively, are divided into four subsections: the inner edge or *rim bite*, high point, the outer rim edge, and the rim width.
The inner cup diameter is chosen according to individual needs (dental anatomy, etc.), allowing the lips to vibrate optimally.
The number of the chosen rim determines the corresponding cup.

High point (of lip contact)

Inner edge outer rim edge



Inner width

Outer width

Inner edge or *rim bite* The form can vary from “smooth” to “sharp”; a sharper rim gives a precise attack and brilliance, whereas the smoother inner edge weakens these qualities, while increasing endurance.

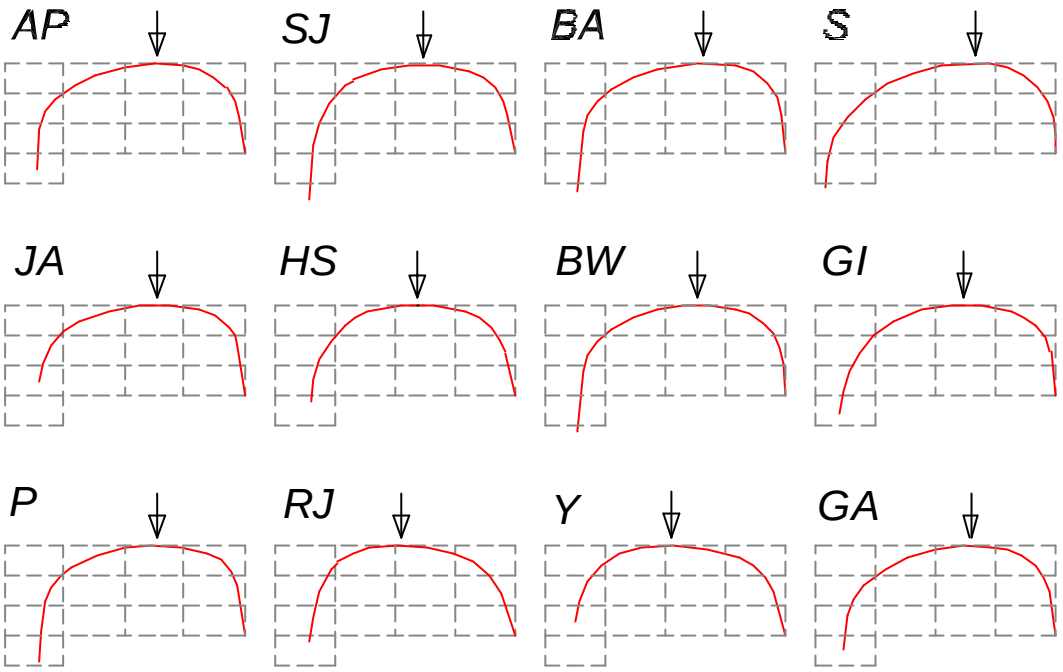
High point The position of this point influences the personal feeling for the diameter of the cup. Should this point lie far to the outside, then the rim seems to be wider than the numbered size. In this case, the tone will become darker.

Outer rim edge The position of the outer rim edge determines the character of lip contact on the rim.
The lower the edge lies, the rounder the rim. The higher the edge lies, the flatter the rim.

Rim Width Wide rims promise better endurance, while improved flexibility is achieved with narrower rims.
Generally speaking, narrower rims are recommended for instruments that are played in the low registers.

Rims for alto and tenor trombones, euphoniums...

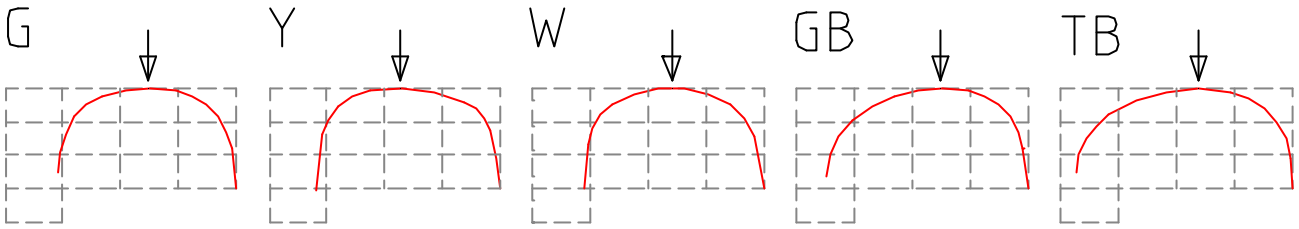
To assist the graphic descriptions of the rims, a grid has been set “underneath” the rim contours, extending to the edge of the inner rim (right side). A small arrow denotes the position of the “highest point”.



Current mouthpieces and their merits:

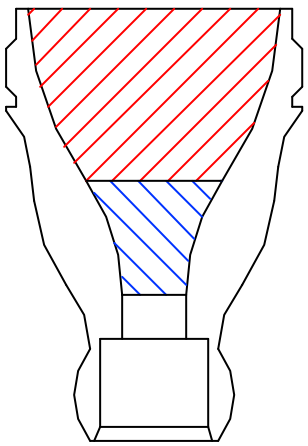
Model	Width	inner edge	outer edge	Description / comparison
P	6.85	sharp	flat	bright, immediate response
JA	6.83	sharp	rather flat	flexible rim
SJ	6.85	rather sharp		excellent response
BA	6.91	rather sharp	descends to outer rim edge	excellent response
HS	6.76	rather smooth	rather narrow	very direct response; bright tone
GA	7.08	sharp	rather rounded	good response; flexible rim
AP	6.92	smoothrather	rounded	dark sound / Andreas Pfeiler
AF	6.99	smoothrather	flat	very good endurance
Y	6.98	smoothdescends to outer rim edge		better response than model RJ
RJ	6.83	very smooth descends to outer rim edge		very dark sound / Rudolf Josel
GI	7.21	rather angular	rounded	wide rim with good response
S	7.68	smoothvery	rounded	/ Slokar
T	6.98	rounded	rounded	lip contact area seems narrower
BW	6.91	rather smooth	rounded	like the Bach inner edge, but smoother

Bass trombone, contrabass trombone



Model	width	inner rim	lip contact area	description
G	5.4	rather rounded	rather flat	good endurance despite narrow rim
W	5.45	rather smooth	flat	good, direct response
Y	5.55	rather sharp	descends to outer rim edge	very comfortable rim; very good response
HP	6.04	smooth	rounded	inner and outer rim edges are like the AP model (tenor trombone)
GB	6.11	rather rounded	rather rounded	very good endurance; dark sound
TB	6.53	rather sharp	rather flat	flat contact area / Thomas Bender

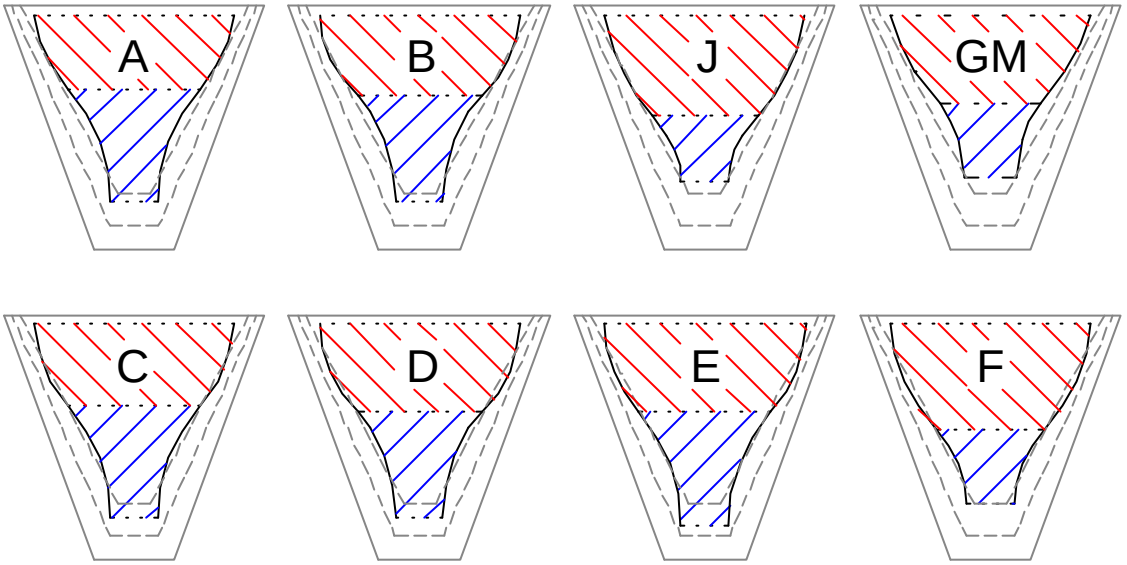
Cups



The **cup** determines the volume of tone, with forms varying from a conical form (V-form) to a bowl-shaped form. The throat (or junction to the bore) strongly influences the tone color, with a wide throat producing a darker tone, and vice versa.
The bore -- combined with the throat – affects the resistance. The bore diameter is responsible for the tone's core. A bore that is too large results in a stuffy, airy tone.

Alto trombone

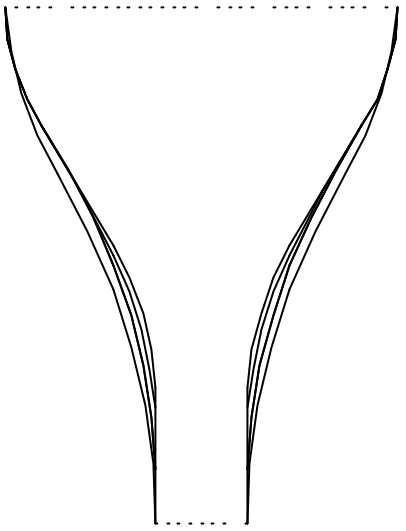
In order to assist you in choosing cups, a sub frame has been integrated into the diagrams. Cups E and F are also especially suited for lead trombone in bigbands.



model	bore	depth	description
A/A	5.8 mm	26 mm	bright, fine sound; excellent for high register
A/B	5.8 mm	26 mm	more volume and somewhat more resistance
A/C	5.8 mm	27 mm	popular, balanced cup for alto trombone
A/D	5.8 mm	27 mm	voluminous tone
A/E	5.8 mm	28 mm	very well suited for jazz trombone
A/J	5.8 mm	23.5mm	rather dark tone
A/F	6.0 mm	25 mm	open response
A/GM	6.2 mm	23 mm	very bright; somewhat open
A/JB	6.2 mm	26 mm	shallow alternative; also for jazz trombone

Tenor horn

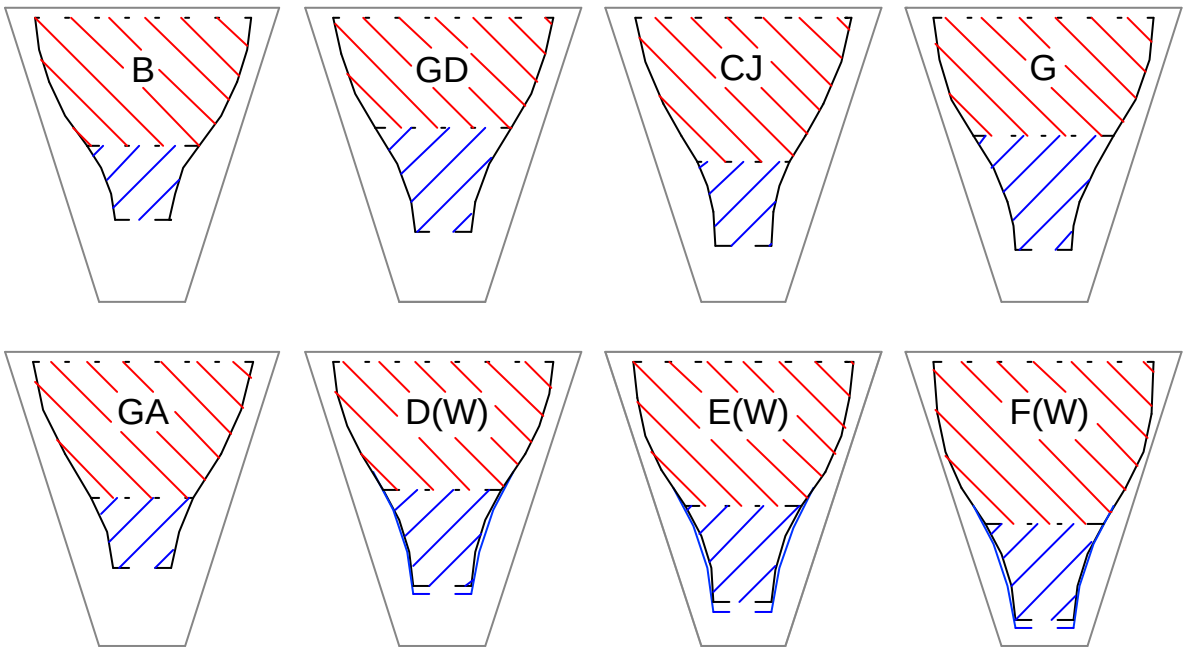
As you can see from the drawing, my tenor horn cups are really conceived as “horn” mouthpieces. This should help to fulfill the specific sound requirements of this instrument.



model	bore	depth	description
Th/A	6.0 mm	23.5 mm	smallest V-formed cup
Th/B	6.0 mm	25.0 mm	V-form; easy high register
Th/C	6.0 mm	28.5 mm	very popular V-shaped cup
Th/D	6.0 mm	32.0 mm	voluminous tone; now easier to play
CJ	6.4 mm	29.5 mm	cup for tenor horn, jazz trombone, possibly baritone

Cups – American type of design

A bore of 6.4 mm is recommended for trombones of American design. Here is a short look (graphics) at currently used cups of the American type of design.

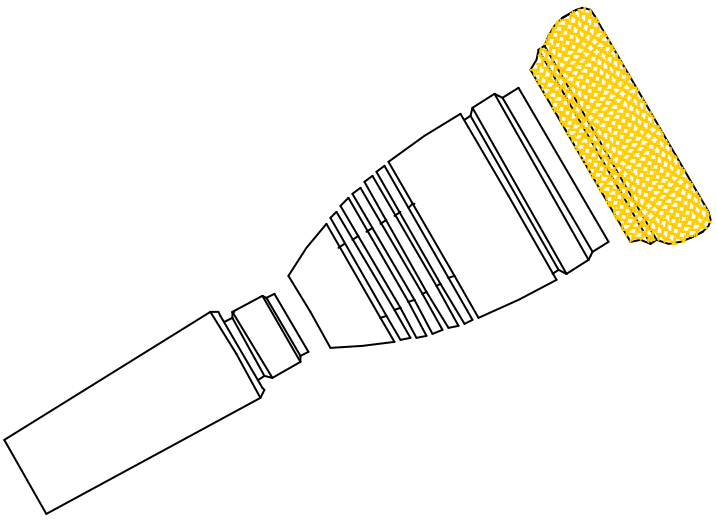


Addendum to cups *D – F*: a cup labeled “EW” is, in principle, identical to cup “E”. The only difference being that the “EW” has an extended throat (blue line) for providing a better air flow.

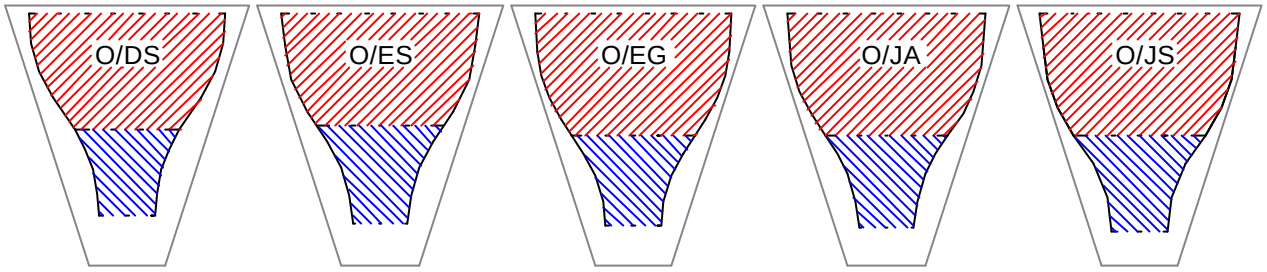
model	bore	depth	description
B	6.4 mm	26.5 mm	excellent upper register; bright tone color
CJ	6.4 mm	29.5 mm	bright tone; cup for all-round use
GD	6.4 mm	28.0 mm	also recommended for baritone
G	6.4 mm	30.0 mm	dark tone color; somewhat more resistance
SJ	6.7 mm	29 mm	easily playable; brighter tone at *ff* volume
SB	6.7 mm	30,5 mm	comfortable high register with a full tone
D	6.8 mm	29 mm	rather bright symphonic cup
DW	6.8 mm	30 mm	more V-form than D-cup
E	6.8 mm	31 mm	very balanced, full sounding symphonic cup
EW	6.8 mm	32 mm	dark, open tone; works very well with CL shank
F	6.8 mm	33 mm	dark, full tone
FW	6.8 mm	34 mm	very dark and open; for musicians who set their lips deep into the cup

Cups with an ***open construction Design***

The term “open construction design” refers to the feeling one has when blowing mouthpieces that give the impression that less air pressure, but more air volume is needed for tone production. These cups combine with shanks that are consistently concave, such as the B5, A5, and now, the new K5.The outer dimensions of the shank are identical to those of the bass trombone shank. The



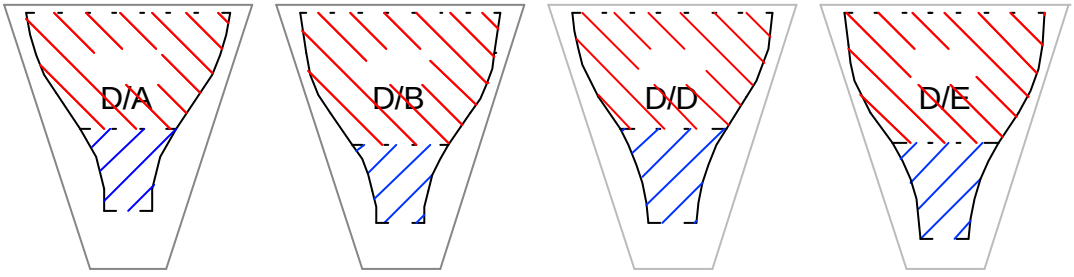
system is constructed so that the bore of the cup does not influence the bore of the shank. This design is an absolutely new product development. The "vibrating ribs" feature work extremely well with a "heavy" model, but with a slight reduction of mass. One has the feeling of setting on railroad tracks, but enough flexibility remains to make differences in tonal shading.
These mouthpieces are highly recommended for trombones made by *Conn, Edwarts*, or any of similar construction. They are also for larger compensated euphoniums, as well as for those players who would like to make their sound broader and darker.



model	bore	depth	description
O/DS	7.3 mm	29.5 mm	bright tone; good high register
O/ES	7.2 mm	30.5 mm	good balance of response and Volume
O/EG	7.3 mm	30.8 mm	dark sound; open blowing
O/JA	7.2 mm	31 mm	somewhat more air pressure
O/JS	7.3 mm	31.5 mm	big, dark tone
O/K	7.0 mm	34 mm	very wide bowl-shaped
O/S	7.5 mm	32.5 mm	shallow cup, long narrow throat

Cups – German type of design

The significant difference of this type of construction is due to smaller bore diameter (6.0 – 6.2 mm), which allows for the smaller sized instruments.



Here is a short overview (diagrams) of popular cups.

model	bore	depth	description	throat
D/A	6.0 mm	28.3 mm	somewhat bowl-shaped	rather narrow
D/B	6.0 mm	30 mm	very bowl-shaped	rather narrow
D/D	6.2 mm	30 mm	somewhat bowl-shaped	rather wide
D/E	6.2 mm	32 mm	bowl-shaped	rather wide

Bass trombones

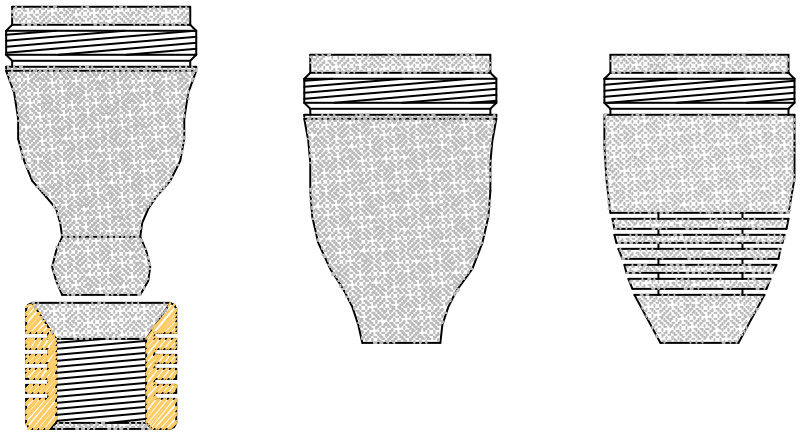
The large choice of cups, as well as three different (and extremely well tested) outer contours, should hint at the fact that I am a bass trombonist.

- middleweight model with very improved weight
- strengthened “heavy” design for immediate response
- new, “heavy” design with the “vibrating ribs” feature

There are three possibilities for using the new, screwable, add-on weights.

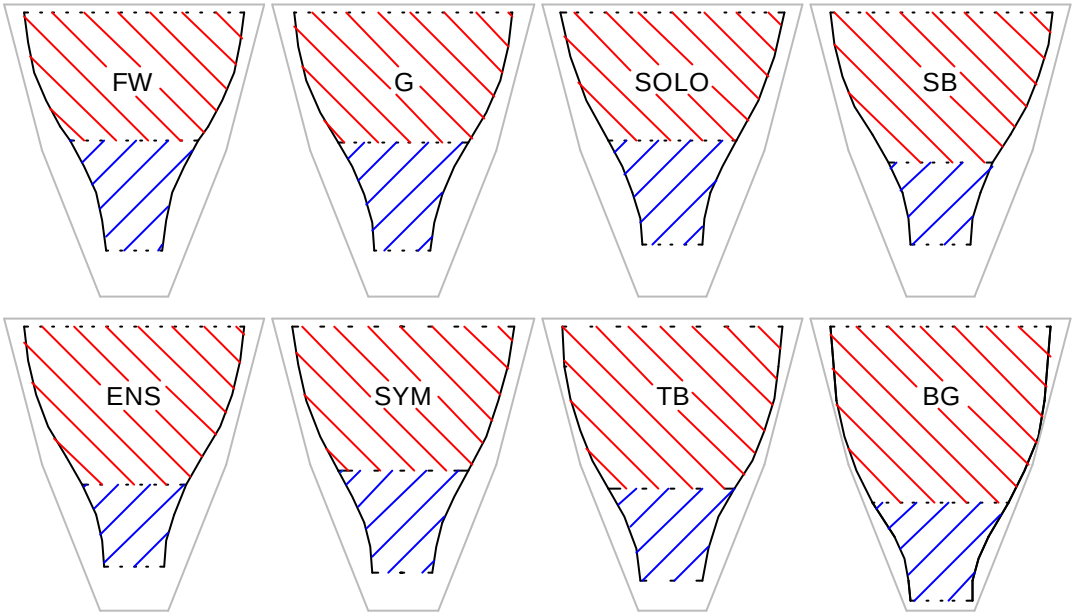
- By tightening the large chamfer onto the cup, one deadens all natural vibrations.
- By tightening the large chamfer onto the cup, one partially absorbs the transfer of vibrations.
- By loosely screwing on the threads, one lops the peak vibrations of the mouthpiece.

Cups



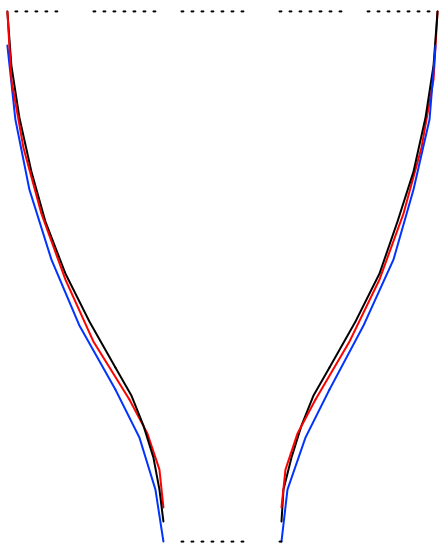
Here there are two schools of tonal concepts to be considered, and their corresponding cup designs.

The American design has a very deep, bowl-shaped cup, which gives a very broad sound. Their is a tendency for a “queasy” quality to appear. In order to avoid this and to ensure good response, my American style cups have been improved by widening the throat.
My conception of the somewhat conical (V-formed) cup contour improves response (attacks) and produces a solid, centered tone with a very direct manner of playing.



model	bore	depth	description
B/FW	7.2 mm	33 mm	small, bright cup; good for large euphonium
B/G	7.3 mm	33 mm	somewhat fuller and darker than the B/FW cup
B/C	7.5 mm	37.5 mm	voluminous sound despite relatively small bore
B/So	7.7 mm	33.3 mm	bright tonal color; very flexible
B/SB	7.7 mm	33.3 mm	solid and rather bright sound; more volume as the Solo cup
Ens	7.7 mm	34.3 mm	somewhat more bowl-shaped; warmer tone
Sym	7.7 mm	35.3 mm	very open, centered tone; very good response
SYB	7.8 mm	35.5 mm	somewhat warmer sound than the Sym model
B/TB	8.0 mm	36 mm	dark tone, good for the large German bass trombone
B/N	8.0 mm	37.6 mm	darker symphonic cup; very flexible
B/BG	8.0 mm	39.0 mm	very dark, full tone; large symphonic cup; very good response

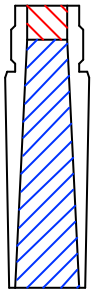
Contrabass trombone



Presently there are three different cup forms for contrabass trombone. They make up the logical continuation of the bass trombone concept. The contrabass trombone mouthpieces are available in two widths (inner cup diameter).

No. 1 30.15 mm
No. 2 30.85 mm

model	bore	depth	description	throat
KBP/A	8.4 mm	39.5 mm	rather bowl-shaped	wide
KBP/B	8.4 mm	38.5 mm	bowl-shaped	narrow
KBP/C	8.4 mm	41,0 mm	rather bowl-shaped	wide

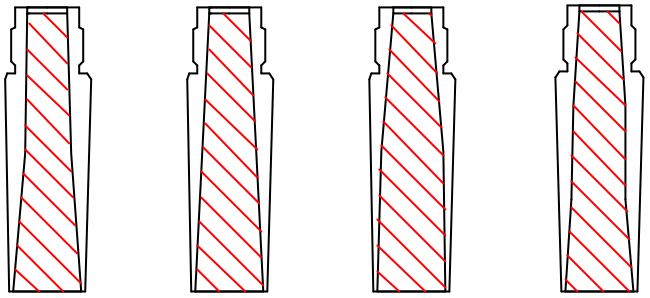


Backbores

The backbore is divided into two sections: the throat (parallel bore section), and the actual backbore (tapered bore section).

Bore In addition to the diameter, the length is a decisive factor. The bore diameter corresponds to each given cup. A long throat – labeled with an “L” – is recommended in combination with a deep cup.
A long throat assists stable intonation. A short throat ensures smoother lip slurs.

Backbore In a certain sense, the backbore influences the subtleties of blowing and tone color production. The forms range from concave to straight to convex, as well as mixtures of these forms. Concave forms have more resistance, while straight forms allow a fine air flow. Convex forms provide a fuller tone, while mixtures can help in the higher registers.

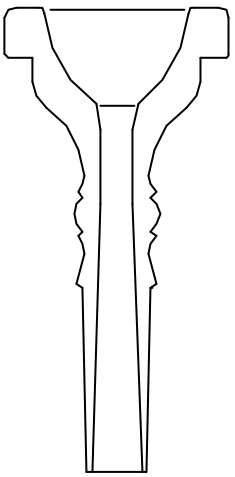


concave straight curved mixed form

model	description
A (L)	concave
B (L)	slightly concave
C (L)	straight
D (L)	slightly convex
E (L)	convex
F (L)	mixed form / 2/3 convex – 1/3 concave
G (L)	mixed form / 2/3 convex – 1/3 straight (also for German trombone)
S	mixed form / bottleneck form; darkens tone; open playing
H	very convex for German trombone
J	very convex for German trombone
K5	concave, for “open construction design”; very centered

Backbores “H” and “J” are only recommended for shank size no. 2 (mid-size shank).
In addition to the letters, the shanks are marked with a number. This designates the diameter of the bore, for example: G2 = 6.2 mm.

Sackbut (baroque trombone)

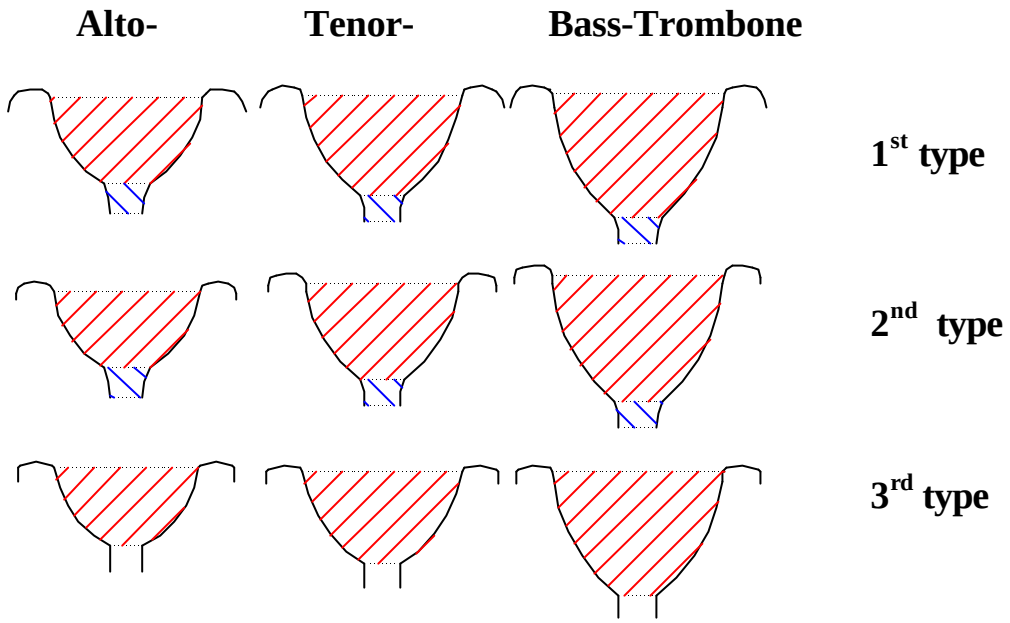


Baroque mouthpieces for alto, tenor and bass trombones are available in the 2-part system, as well as in three types of “originality”.

1st type The cup is sectioned to the bore, in combination with the modern trombone rim. This is the best compromise, when one must quickly change between playing the modern and baroque trombone.

2nd type The cup is sectioned to the bore, in combination with a very flat rim, but has rounded edges.

3rd type The cup is without a section cut to the bore, and is combined with a flat rim and sharp edges. This is the traditional combination, but has playing difficulties.



TUBA

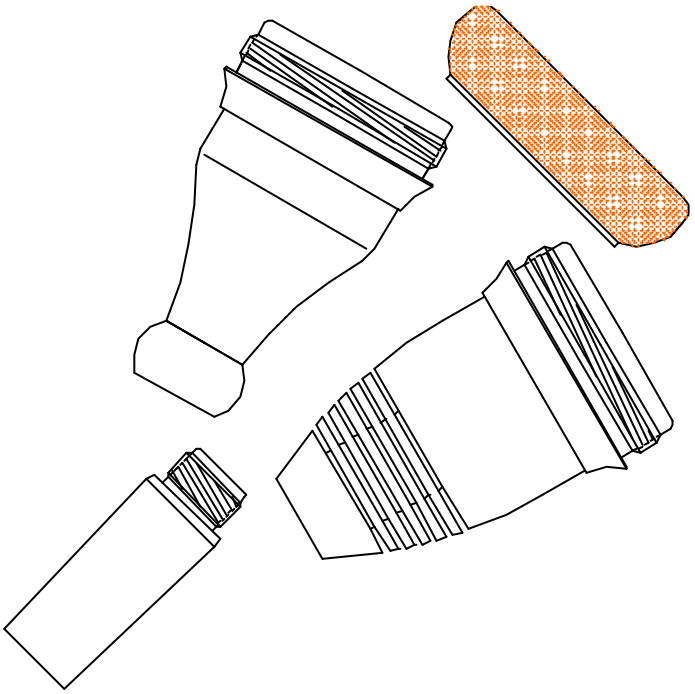
Design

The design of the outer contours of the mouthpiece, including mass and shape, considerably influence tonal quality and blowing quality. It is also a factor in matching the mouthpiece to the instrument.

There are basically two weight classes available.
For achieving a solid tone, the heavier models are advantageous. The tone is somewhat darker, and it is reported by some that slurred passages flow easier. easier There is less tendency for losing tonal focus in extremely loud passages. Inversely, mouthpieces with less massive forms can produce a lighter, more brilliant tone. The mouthpiece and the instrument both vibrate. Another characteristic of the lighter design is more flexibility, especially for solo performance.

System

The tuba mouthpieces are offered solely in a 3-part system, whereas the cup section is available with a light or heavy design. The novel concept for tuba mouthpieces allows a bore change encompassing a variance of 8.6 mm, independent of the shank's bore.



Standardization

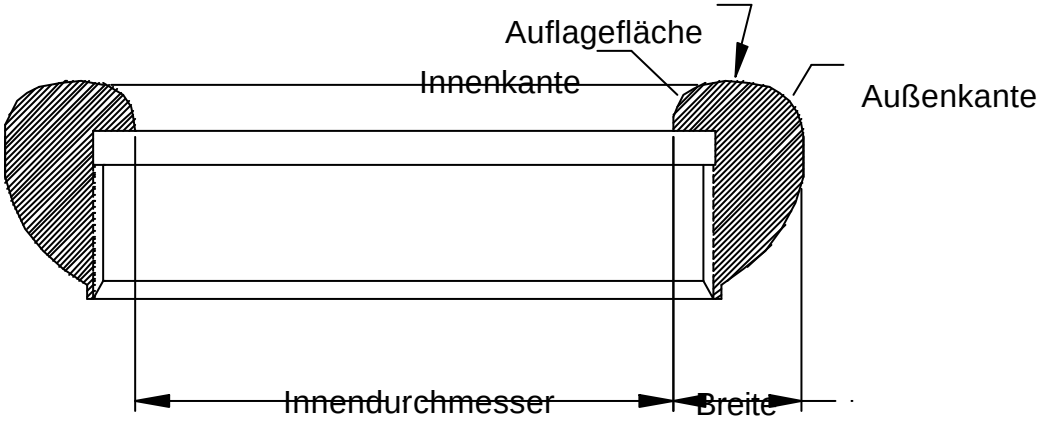
The mouthpieces are standardized by using a system of letters and numbers, with the letter denoting the form, and the number denoting the diameter of the cup.
A certain letter before a slash (/) defines the instrument intended (examples: F/ stands for *F-tuba* and *B/* for *Bb tuba*).

The cup diameter is measured at a depth of 3 mm. The size standardization of the cup diameter (or internal rim) runs from the numbers 1 to 9, and the corresponding tuba mouthpiece diameters range from 30.33 to 33 mm. The progression follows in increments of 1/3 mm.

1	30,33 mm
2	30,66 mm
3	31,00 mm
4	31,33 mm
5	31,66 mm
6	32,00 mm
7	32,33 mm
8	32,66 mm
9	33,00 mm

Rim

For a better overview, the overall descriptive character and the rim contour are, respectively, divided into four subsections: the inner edge or *rim bite*, high point, the outer rim edge, and the rim width.
The inner cup diameter is chosen according to individual needs (dental anatomy, etc.), allowing the lips to vibrate optimally.
The number of the chosen rim determines the corresponding cup.



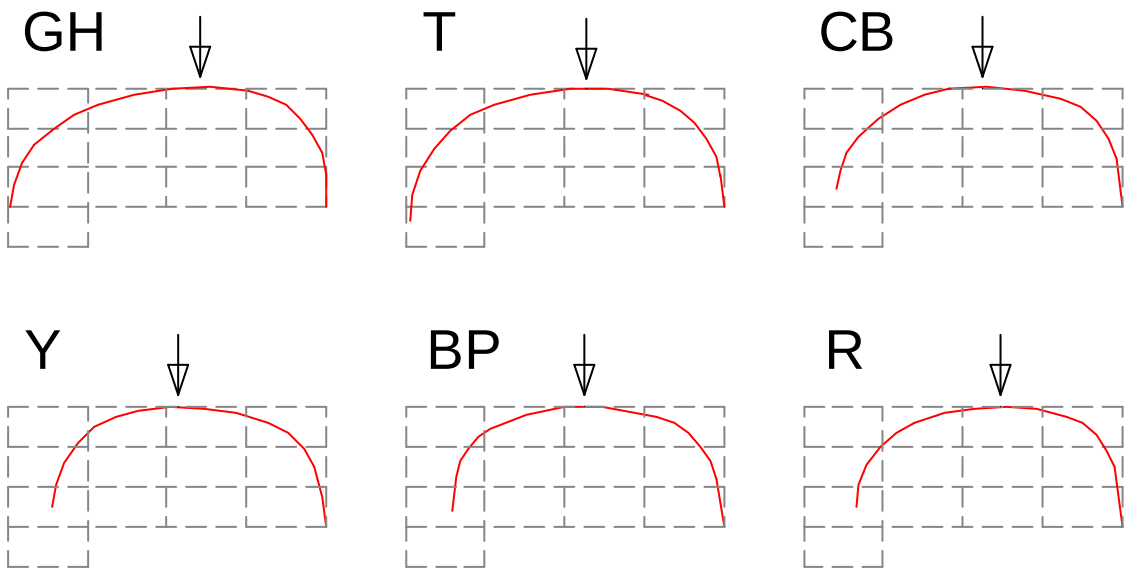
Inner edge or *rim bite* The form can vary from “smooth” to “sharp”; a sharper rim gives a precise attack and brilliance, whereas the smoother inner edge weakens these qualities, while increasing endurance.

High point The position of this point influences the personal feeling for the diameter of the cup. Should this point lie far to the outside, then the rim seems to be wider than the numbered size. In this case, the tone will become darker.

Outer rim edge The position of the outer rim edge determines the character of lip contact of the rim.
The lower the edge lies, the rounder the rim. The higher the edge lies, the flatter the rim.

Rim Width Wide rims promise better endurance, while improved flexibility is achieved with narrower rims.
As is the case for all low instruments – especially for the tuba – the attack (response) is a predominant problem. I therefore recommend the use of a somewhat narrow rim, as this allows a more direct response.

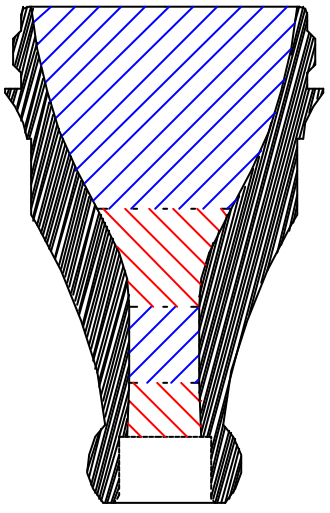
Overview of the rims



Model	width	inner edge	description
GH	7.93	rather rounded	flat rim; good endurance; relatively good response
T	7.89	rounded	comfortable rim; slight sacrifices in response
CB	7.16	rather sharp	despite sharp inner edge, the broad rim provides comfort
Y	6.87	smooth	lips protrude into mouthpiece; very comfortable
BP	6.81	smooth	recommended, comfortable rim for the highly trained; very direct response
R	6.68	sharp	very direct response; possibly tires one more quickly

Cup

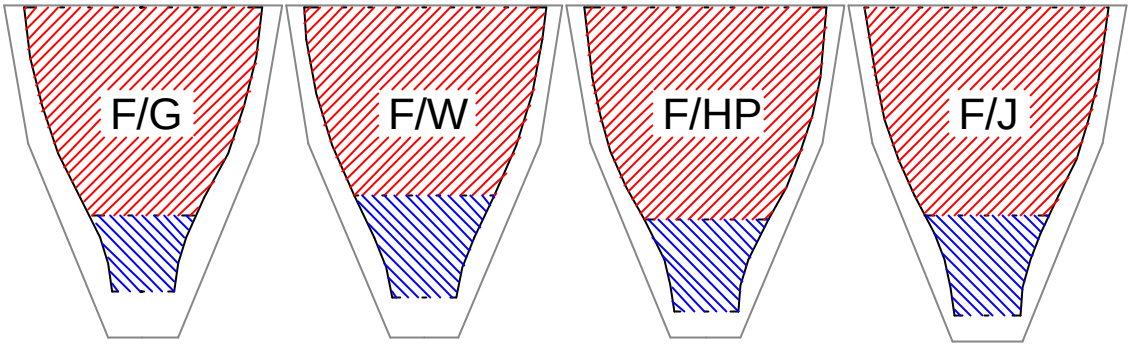
The analysis and description of the cup has been divided into three parts: the cup, throat and bore. The cup depth is given in addition to the rim depth (rim depth = 3 mm).



The **cup** determines the volume of tone In order to get a more direct response, a wider throat should be chosen.
The **throat** (or junction to the bore) strongly influences the tone color, with a wide throat producing a darker tone, and vice versa.
The **bore** -- combined with the throat – affect the resistance. The bore diameter is responsible for the tone's core. A bore that is too large results in a stuffy, airy tone.

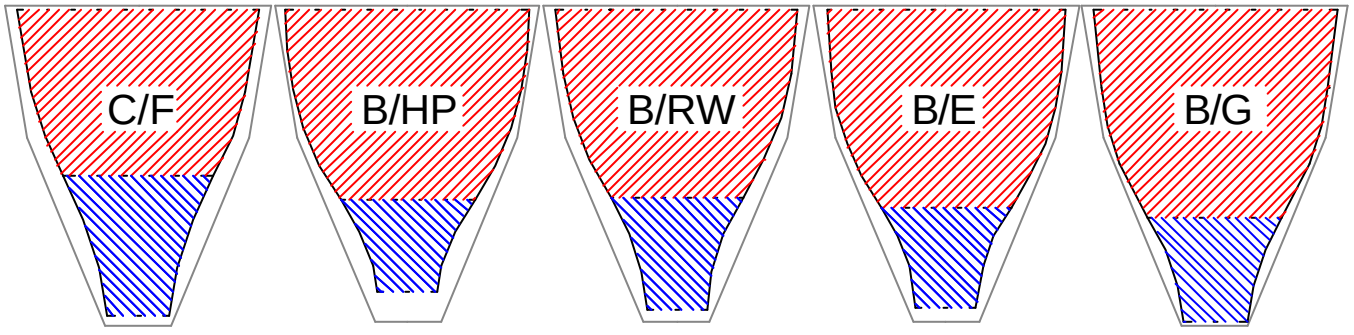
In order to assist you in choosing cups, a sub frame has been integrated into the diagrams.

F-tuba cups



Model	bore	depth	description
F/G	8.3 mm	39.0 mm	easy response; rather bright sound
XS	8.6 mm	48.0 mm	shallow cup, long narrow throat
S	8.6 mm	48.0 mm	semi-shallow cup, long narrow throat
F/W	8.3 mm	41.0 mm	good response
F/HP	8.3 mm	42.0 mm	well-liked, balanced cup; dark tone
RW	8.1 mm	44.0 mm	plenty of volume and power
F/J	8.6 mm	42.5 mm	open, voluminous sound; very direct response

C and Bb Tubas



Model	bore	depth	description
C/F	8.4 mm	44.5 mm	very open cup; good response
B/HP	8.1 mm	41.0 mm	good response; relatively full sound
S	8.6 mm	48.0 mm	shallow cup, long narrow throat
B/RW	8.1 mm	44.0 mm	very direct, open cup
B/E	8.2 mm	43.6 mm	darker sound; somewhat more resistance
B/G	8.6 mm	45.6 mm	large symphonic cup; large amount of air necessary

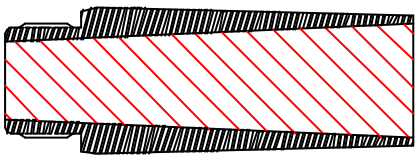
Backbores

There is a choice of four different backbores for tuba mouthpieces. The nomenclature ranges from *E6* (very bowl-shaped) to *B6* (concave), whereas the no. 6 stands for the standard bore diameter of 8.6 mm.

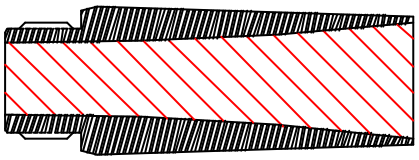
Model	description

W6 mixed form; 2/3 convex – 1/3 concave; very wide bore

E6 very bowl-shaped; very warm, full sound; light compromises in slotting



D6 slightly bowl-shaped; round, warm sound; open blowing with good slotting



C6 straight; very direct response with sufficient tone quality

B6 concave; very direct response; somewhat more resistance; slight compromise in tonal quality

S6 mixed form; 1/3 convex – 2/3 concave; narrow bore, nice sound