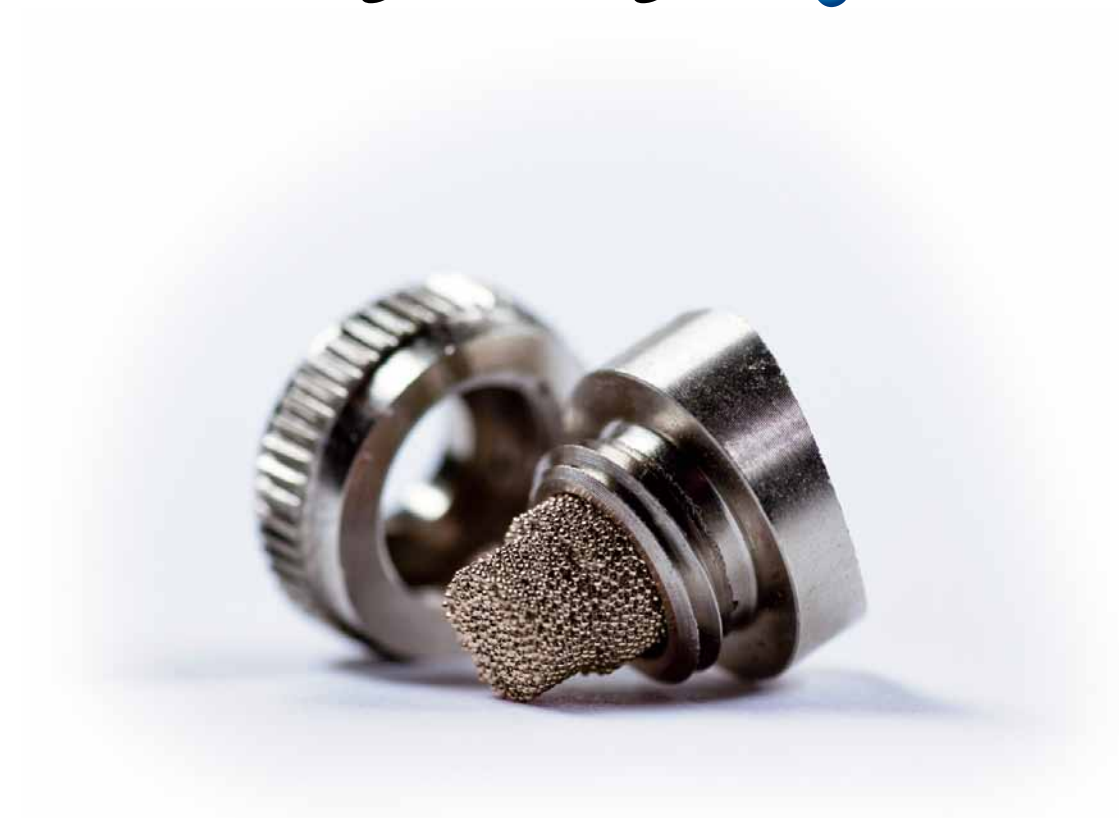
JoyKey®



forget about the water and focus on the music

Inspired Innovation – Made in Germany

The brass players hidden foe
water ... collecting on the go
Now it gets dropped and floored
leaving you a little bored

It's the JoyKey you know
that delivers the blow

Find us on facebook: the JoyKey

www.thejoykey.com

JoyKey = Instant Gain
No JoyKey = Hidden Pain

In the series of photos on the following pages, you can see the water level rising in the lead-pipe of a double horn during continuous playing over a ten-minute period.

It takes a few minutes before you "feel" the water with the lips and even longer before the instrument starts to gurgle. By that time quite a large amount of water has collected in the lead-pipe, severely compromising the inside taper.

The ever-changing water level means that the standing wave for any particular pitch is also constantly AND UNPREDICTABLY changing. You are always chasing a moving target without knowing exactly where it is.

In addition, every time you start a note, the water is blown back a ways into the instrument and then roles back when you stop the air. All lost energy!

We brass, and some wind players therefore all have a software program installed in our brains called "WATER-MANAGEMENT"! This program is continuously being fed data from our Short-Term-Working-Memory of which there is precious little.

When you install JoyKeys on your instrument, your lead-pipe and any other tubing sections on which JoyKeys have been installed maintain the integrity of the internal taper.

This means that the standing waves are always and predictably forming in the same place.

Suddenly you're always aiming at a stationary target — and even better — you can now delete your "Water-Management-Program" as well as use your freed up Short-Term-Working-Memory to focus on the music.

[00:00]
After the first breath has passed through the tubing, it fogs up immediately.

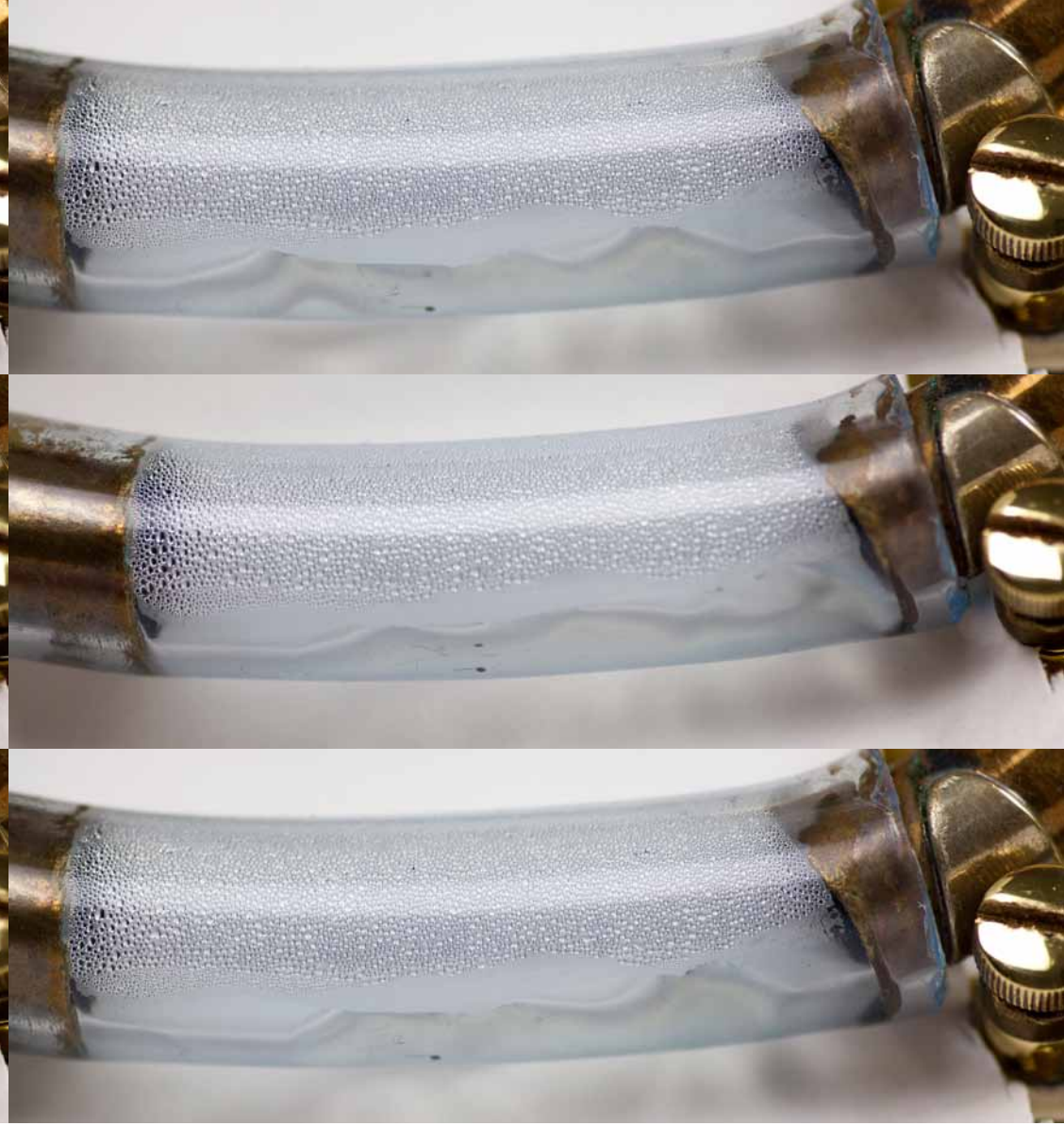
[00:15]
After three breaths of air have passed through the instrument, drops of water begin forming on the insides of the walls of the pipes.

[02:00]
After only a couple of minutes of playing, you can see the water already collecting in the lead-pipe.

[06:00]
With this much water, the instability caused by the ever shifting inside taper of the pipe is easily felt and heard.

[10:00]
Look at the amount of water that has collected in the lead-pipe after ten minutes of playing.

Here the water can be seen sloshing
back and forth while a note is played.
This is an unnecessary instability
that the JoyKey eliminates.



The JoyKey prevents water buildup,
perfectly maintains the taper,
keeps the air flowing unobstructed
thus enhancing accuracy and productivity.

If water passes through the JoyKey, how can it possibly be airtight?

Magic?
No, science and a high-tec solution.

The high-tec WaterWick® metal filter is engineered to allow water to pass through but keep the tubing airtight under playing conditions. It also exploits the physics of water surface tension. A thin but sturdy film of water reliably seals the tubing against the air pressures that occur when playing.

In theory it is still possible to force air through the WaterWick, but it requires deliberate effort that is way outside of the playing situation.

In *pic. 1* on the facing page, a tone is being played on the long third valve tuning-slide from the low F horn. The other end of the tubing is open. Notice how the flame remains completely undisturbed.

In *pic. 2* the open end is being blocked prior to air being "forced" through the tube at a far higher pressure level than ever occurs during playing.

In *pic. 3 t*he "forced air" is beginning to exit the tube through the JoyKey and affect the flame. A millisecond later, in *pic. 4,* the flame has been extinguished.

pic. 1

pic. 2

pic. 3

pic. 4

How are JoyKeys different from normal water keys?

JoyKeys function automatically and have no moving parts. The JoyKey case is made of solid nickel silver or brass. The water rings and screw caps are interchangeable. Once installed, you can forget about the JoyKeys on your instrument except for WaterWick maintenance or replacement.

JoyKeys automatically drop the water out of your instrument whilst you are playing, allowing you to maintain a constant “Flow State”. Placing your instrument in/on an appropriate stand allows water to continue draining whilst you are resting, facilitating the process of keeping your instrument WaterFree.

At first you might feel a little like someone who has just given up smoking and is wondering what to do with their restless hands. Within a week or two you’ll probably find it hard to remember what it was like to have to pull slides all the time, grab for a water key lever or get upset at having clammed a note or entry because there was water in the lead pipe.

You’ll quickly learn to value the peace of mind you have to prepare for your next entry.

Why is positioning critical?

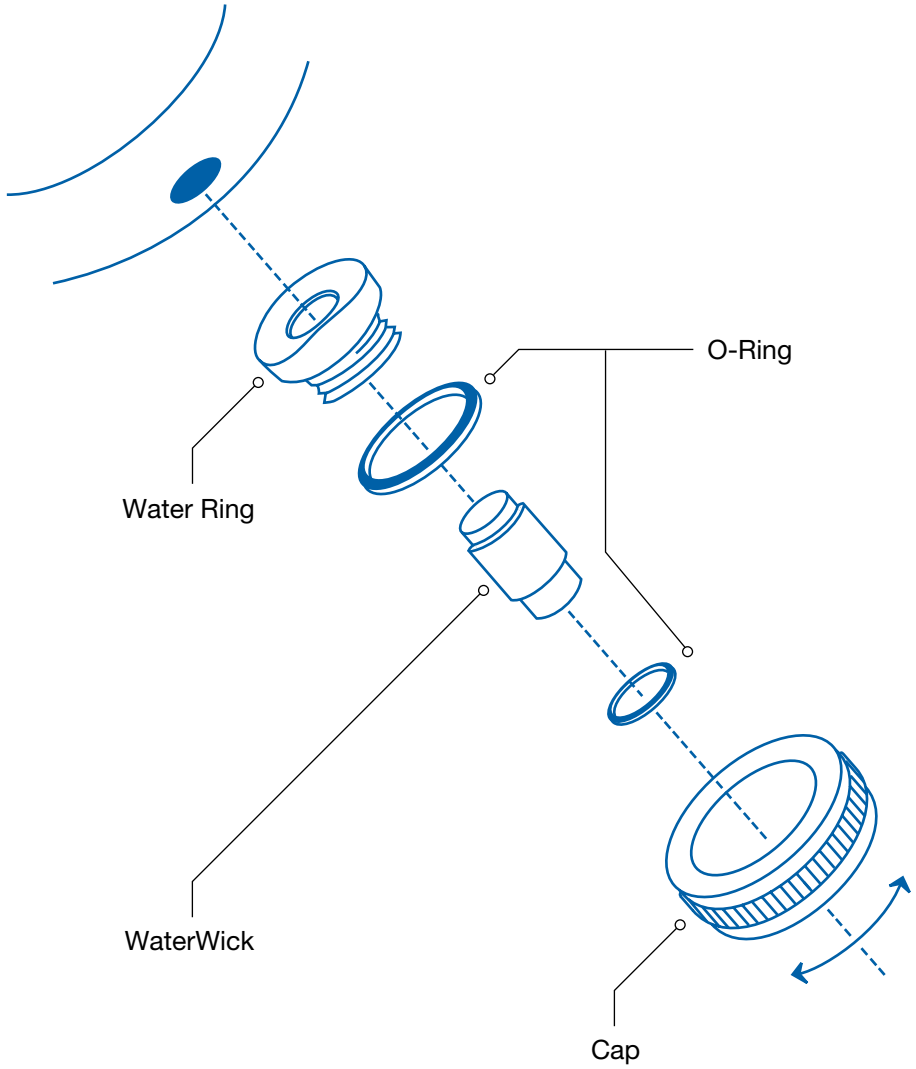
Positioning is extremely important! The JoyKey MUST be placed at the lowest point of the tubing to which it is attached for it to function optimally. The water is drawn through the WaterWick by gravity.

WHEN the holes of your current water keys are positioned correctly for the JoyKey system, you can simply remove the old keys and install JoyKeys. Otherwise, you have a choice of leaving the original water key on the instrument and installing one or more JoyKeys additionally or removing the original water key and patching the hole.

For a closer look at the process of installing a JoyKey, see pages 14–19.

Will one or more JoyKeys affect the sound?

This is, understandably, the most frequently asked question. The short answer is “NO!”. On the contrary, the JoyKey system helps maintain a centered sound by keeping the internal taper constant as well as eliminating an unnecessary source of stress for the musician.



I've been using the JoyKey for the last 18 months on my Paxman double horn. It's been an amazing aid to my playing. No more constant emptying water from the tuning slides and I'm convinced the instrument plays better with the JoyKey on the lead-pipe instead of a normal water key which interrupts the air somewhat. Playing a whole movement of a symphony without worrying about water buildup is amazing. All horn players should fit one!!!!

Tim Jones
Principal Horn, London Symphony Orchestra

I had two JoyKeys installed on my horn. I want to tell you what a Godsend this has been! Installed correctly by a competent repair person, these JoyKeys, will be a boon to any performing hornist.

Eldon Matlick
Principal Horn, Oklahoma City Philharmonic Orchestra

The JoyKey is working wonderfully on my flugelhorn! ... If I ever have another horn that has water issues, I would not hesitate to install one (or more!) JoyKeys on it.

David Koch
Grand Valley State University Class of 2015

The kind of playing that I do sometimes doesn't allow time to hunt for water and empty it. It can be extremely distracting to hear that familiar gurgling sound and not be able to stop, hunt for the water and empty it. The JoyKey eliminates all that.
Thanks, Andrew!

John Clark
Manhattan School of Music

As an instrument maker, I remain very impressed playing with the JoyKey that I installed on my trombone three years ago.
It has in no way altered the sound or response of my instrument.

Gerd Kempkes
Werkstatt für Metallblasinstrumentenbau

Using JoyKeys on my Schmid horn has been a revelation.It has eradicated any unwanted sound disturbance from accumulated water in the instrument. This has left me with one worry fewer during performances.

Nicholas Korth
Co-principal Horn, BBC Symphony Orchestra

These are just a few things people have said about the JoyKey.
It is the solution for musicians striving for the best possible quality.

Many more testimonials are available online:
www.thejoykey.com/en/testimonials

Steps for installing a JoyKey

1. Getting a first sighting for the JoyKey placement. This may not be as exact as possible and should only be the starting point. *(pic 1)*

2. The generic radius of the JoyKey water ring is designed to fit most brass instruments. Where the radius of the tubing is radically different, the water ring needs to be filed to fit; for instance with the wider radius of a bass clarinet neck or the larger radius on some of the lower brass.

3. When the water ring from the JoyKey has been attached with a clamp, definitely recheck the position. Often it lies a little differently compared with the visual check. It is important to take a little time at this stage to get the positioning as ideal as possible. *(pic 2)*

4. Once the optimal position has been found, drill the hole. Be careful not to drill through the opposite side of the tubing. Note the spacer. *(pic 3)*

pic. 2

pic. 1

pic. 3

pic. 5

5. Once the hole is finished and cleaned up *(pic. 5)*, it's time to solder on the water ring.

6. Again use the clamp to hold the water ring in the exact position over the hole. Please make sure that the solder has run all the way around so that there is a perfect seal. This is CRUCIAL. The smallest of holes is enough to disturb the functioning of the instrument and will irritate the player. It has happened which is why we mention it. *(pic.6/7)*

pic. 6

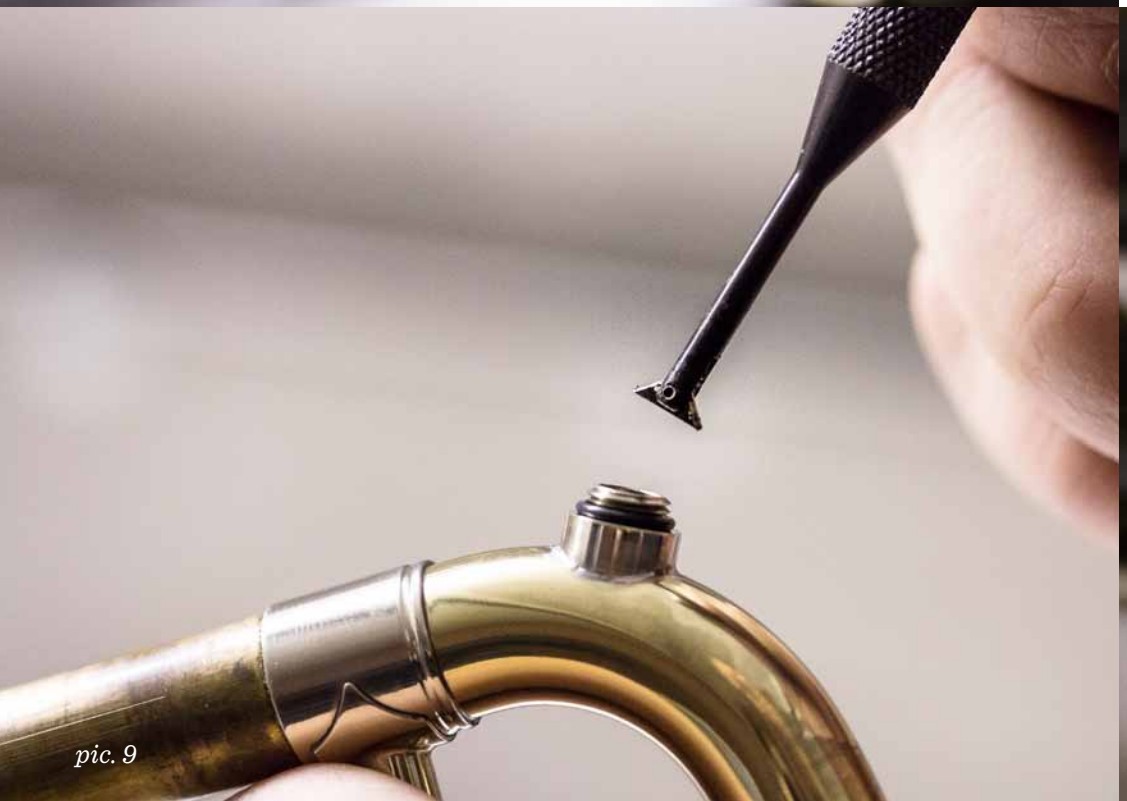
pic. 7

pic. 8

7. Clean up and polish the solder joint. *(pic. 8)*

8. Finally, use a deburrer to remove the burr on the inside of the hole. This is an essential step to be remembered. *(pic. 9)*

9. Finished. Note the simple elegance of the JoyKey compared with the traditional water key.
And once installed, it does its work automatically. *(pic. 10)*



pic. 9

pic. 10

Cleaning the WaterWicks

We recommend to advise customers to clean the WaterWicks regularly at six week intervals using a descaling solution in an ultra-sonic bath *(pic. 1/2)* for achieving the maximum working life.

Note the muck being released from the WaterWicks in the ultra-sonic bath. *(pic. 3)*

The usage of some makes of oils, especially for trombone slides, but also tuba valves may require even shorter cleaning intervals.

Although it may seem obvious, it is also best to advise customers to remove the WaterWick *(pic. 4)* from the JoyKey on the lead-pipe before snaking it out with a brush.

We also recommend snaking out the lead-pipe at least once a week.
The mouth piece too!

pic. 1

pic. 2

pic. 3

pic. 4

How many JoyKeys?

The ideal number of JoyKeys depends on the instrument and the player.

On most trumpets with piston valves, one JoyKey placed on the main tuning slide will keep the instrument water free during playing for hours. Others may need an extra JoyKey on the third valve slide.

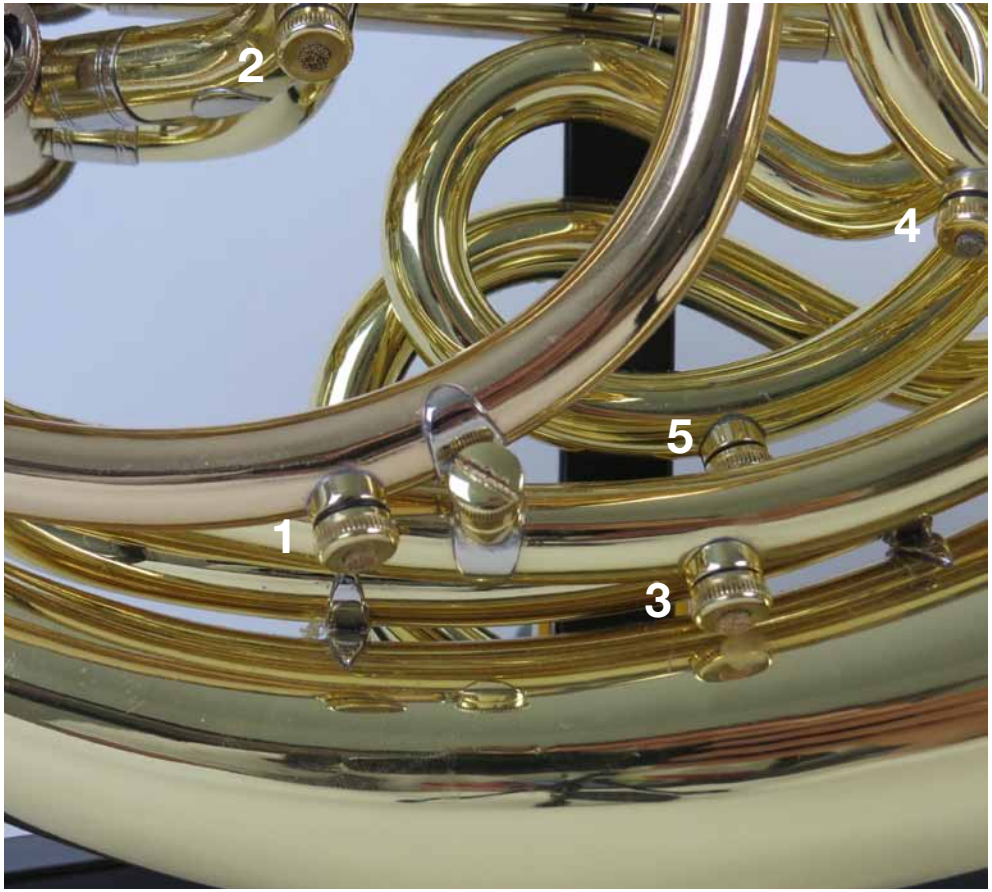
For trombones, one JoyKey positioned correctly on the slide will usually be sufficient.

For most double horns five JoyKeys will provide a water free playing experience. Here, the most important JoyKey is on the one on the lead-pipe (1).

For all other instruments, start with the lead-pipe first and add as required.

In case of the water drops landing on clothing being an issue, we recommend the JoyKey LapCloth *(below)* or something similar.

5 JoyKeys on a double horn



1. Lead pipe.
2. The bend after the main tuning slide.
3. Low F horn extension.
4. Low F horn extension.
5. B flat horn, third valve slide.

Acknowledgements

The following people have been instrumental in bringing the JoyKey to life and to the musicians it serves.

Bernd Schramm
Master Instrument Maker and Repairer. Bernd listened to my description of what I wanted and then delivered a brilliant prototype casing.

Stefan Kickum (www.kickum.de)
introduced me to both the idea of the WaterWick and a choice of companies to help me produce it.

Colin Joy (www.colinjoy.net)
for the JoyKey brand visual design and helping me set up this brochure and the photos on pages 4–13 and 23.

Frauke Gi and **Sam Minnich**
for producing the photos on pages 14–19.

Thanks also to all of the early adopters and brave pioneers who were willing to try the JoyKey before it became accepted, helping to revolutionize one aspect of brass playing and their encouraging testimonials!

[TEL] +49 (0) 221 – 72 28 00
[FAX] +49 (0) 221 – 1396611
[EMAIL] info@thejoykey.com
[WEBSITE] www.thejoykey.com
[SHOP] www.thejoykey.de

the JoyKey · c/o Andrew Joy
Blumenthalstrasse 2 · 50670 Köln
GERMANY