

# So that you remain healthy – 300 l/min suction volume is a must!

V/VS suction systems – best performance for your daily work



# The hidden danger: spray mist

Certain activities, such as preparing teeth, removing fillings, crowns and bridges, or removing plaque, require the use of high-speed instruments. However, these instruments not only make work easier, but also entail risks: effective cooling with water is necessary to prevent damage to the pulp-dentine area. In the process, **spray mist** is formed, which is not homogeneous, but consists of particles, powder as well as splashes and droplets of different sizes containing cooling water, saliva, blood and microorganisms. This mixture presents a **high risk of infection**.

## Dangers caused by spray mist:

- Deposition of contaminated aerosol cloud over a radius of several meters (see also: Drisko et al., 2000, Bennet et al., 2000)
- Door handles, armrests, lights and other surfaces are contaminated (Source: Graetz et al., 2014)
- High risk of infection for patients due to cross contaminations
- Over 600 different types of bacteria can be detected in the human oral cavity (Source: Genome Research (2009), DOI: 10.1101/gr.084616.108)
- 1 ml saliva contains about 100 million bacteria (Source: Genome Research (2009), DOI: 10.1101/gr.084616.108)
- During a 15-minute treatment without protective measures, approx. 0.014–0.12 µl of saliva is inhaled via the aerosol (Source: Bennet et al. British Dental Journal, Vol. 189 No. 12 (2000))



If the spray mist is not correctly aspirated within the patient's mouth, aerosol will be formed, which spreads over a radius of several meters and presents a high risk of infection for the practice team. Contaminated aerosol can be detected in ambient air for up to 30 minutes (see also: Drisko et al., 2000, Bennet et al., 2000).



Variosuc: mobile system for 1 operator



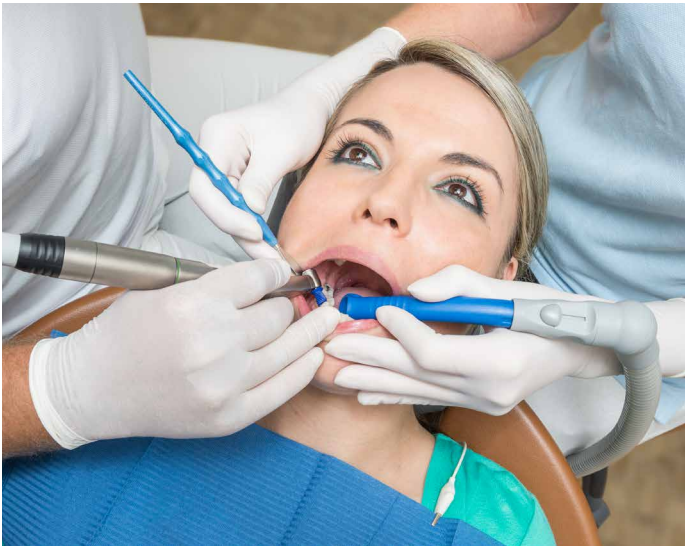
VS 300 S for 1 operator



VS 600 for 2 operators

# The safe solution – intraoral spray mist suction for up to 100 % aerosol reduction\*

Without spray mist suction, cooling spray from fast-running and ultrasonic instruments can cause an aerosol cloud to spread throughout the entire treatment room. Thanks to intraoral suction systems with a **suction performance** of around 300 l/min, the resulting risk of infection is efficiently reduced. It is important that the spray mist is aspirated within the patient's mouth, so that no aerosol can be emitted in the first place\*. Because what does not leave the mouth does not have to be eliminated afterwards. Thus, using the correct intraoral suction with spray mist cannula, makes an **important contribution to infection protection** for the dentist, the practice team and the patient.



Suction with a powerful spray mist suction system is the only effective way to reduce aerosols (Source: Tillner, 2016). In addition, always work with a large suction cannula.

## This is what counts:

- High suction volume of around 300 l/min per operator (Source: Barnes, J. B., Harrel, S. K., Rivera-Hidalgo, F. (1998))
- Consequent use of a high-volume suction system with a Suction cannula of at least 10 mm diameter (Source: S1-Leitlinie Aerosol-übertragbare Erreger", AWMF-Register-number: 083-046 from march 2021)
- Working with a large suction cannula with secondary air inlet
- Robust suction units for reliable, continuous operation
- Working with a saliva ejector only or venturi system (volume flow < 200 l/min) is not sufficient to reduce aerosols\*
- Proper and regular cleaning and disinfection of the suction system with Orotol® plus and MD 555 cleaner
- Regular inspection of the suction volume by a service technician

\*Measurement results from internal study, September 2020, Dürre Dental



VS 900 S for 3 operators  
VS 1200 S for 4 operators



Tyscor VS 1 for 1 operator  
Tyscor VS 2 for 2 operators



Tyscor VS 4 for 4 operators

# Exhaust air virus-bacteria filter

It is possible that the exhaust air from a suction unit may be microbially contaminated. It is therefore recommended to guide the drain of the suction unit to the outside via a virus-bacteria filter. Thus you protect others by keeping the ambient air clean.

The Università di Camerino has tested the available virus-bacteria filters with the bacterium *Staphylococcus aureus* ATCC and a retention of >99.999% was confirmed. With the virus PhiX174 (size of 25-30nm) a retention of >99.99% was confirmed.

**Filter quality HEPA H14 according to EN 1822-1:2019-10.**



Exhaust air virus-bacteria filter for VS 250 S, V/VS/VSA 300 S, Variosuc and PTS 120

**Order no. 7120-143-00**



Exhaust air virus-bacteria filter for V/VS 600 - V/VS 1200 S, V 2400, Tyscor V/VS, PTS 200 and clinic systems V 6000, V 9000, V 12000, V 15000 and V 18000

**Order no. 0705-991-50**