

# Dürr Dental separation systems and amalgam separators

Top-quality systems for dental suction units



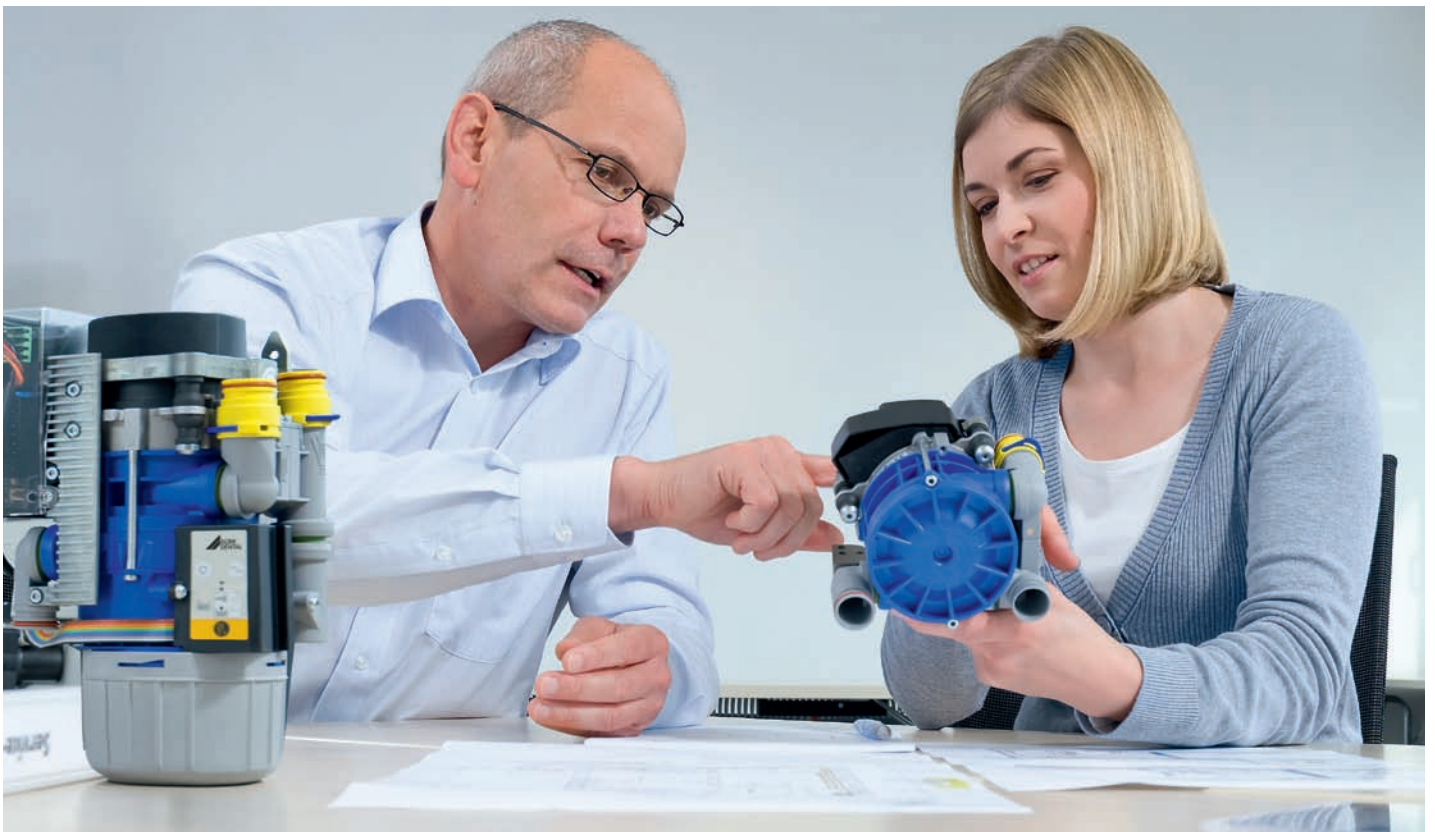
COMPRESSED AIR  
SUCTION  
IMAGING  
DENTAL CARE  
HYGIENE

# Dürr Dental – Innovation with attention to detail

The name Dürr Dental stands for future-oriented and trendsetting solutions for dentistry, with the experience of more than 70 years. Numerous standards are based on Dürr Dental developments – and the company is still setting standards today.

Dürr Dental markets top-quality products and offers a great service to meet everyone's needs. It supplies tailored system solutions for the fields of compressed air, suction, imaging, dental care, and hygiene. In 1964, Dürr Dental enabled dentists to treat patients, in a supine position for the first time in Europe, using the company's innovative suction system. One year later, the company launched the first oil-free compressor

for dentistry. Compressed air systems by Dürr Dental are market leaders thanks to their power and air quality. Dentists place their trust in the engineering skills and top-quality products of this innovative company. Products by Dürr Dental shape the image of practices and dental hospitals throughout the world – and have been doing so for decades.



### CS 1/CAS 1 Separation systems

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The CS 1 separator is integrated into the treatment unit and provides great performance. The CAS 1 also carries out amalgam separation.

### CA 1 Amalgam separation

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The external solution for amalgam separation. Ideal for retrofitting a treatment unit with integrated separation or a wet suction unit such as the VS 300 S.

### CA 4 Central amalgam separation

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Central amalgam separation. The CA 4 provides a universal solution for multi-room practices.

### VSA Suction and separation

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All-in-one system for a single treatment room – suction unit, separation system, and amalgam separator in a single unit on a single drive shaft.

### GF 1 Heavy particle collector

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Prevents the blockage of outlet pipes at prophylaxis stations, for example.

### Hygiene Suction unit disinfection

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This means reliably protect the suction unit from deposits and prevent interruptions or drops in performance.

# Reliable separation and amalgam separator systems guarantee high performance



What is taken for granted today was a revolution in the 1960s: The opportunity to treat patients in a supine position. This was made possible because Dürr Dental developed a system of continuous suction. A suction system is constantly strained by waste water, blood, saliva, dentine, and filling materials. It therefore requires sufficient power reserves and efficient separation and amalgam separator systems in order to deliver top suction power at all times.







## Powerful and reliable separation

Dürr Dental's separation systems set standards. They separate secretions and solid particles completely reliably and really quietly. So it's no surprise that leading manufacturers have them integrated into their Dental Units already in the production process. They can also be added to dental units later on – it's easy and worthwhile.



## No amalgam in the waste water

The amalgam separator finishes the job started by the separation unit. Legislation dictates that amalgam must be separated from the waste water of the treatment unit and collected up. As a pioneer in the field of dental suction systems, Dürr Dental has been developing powerful amalgam separators since the start of the 1980s. Naturally, all of our systems carry the quality label "Made in Germany". They also meet the requirements of European ISO Standard 11143:2008.

## Easy disposal

Naturally, we also offer a practical disposal concept. Following separation, the amalgam is automatically collected in a collection cartridge. When the maximum fill level is reached, the cassette must be changed. The disposal of the amalgam is governed by legislation and is carried out by authorized firms.

# Reliable separation for dry suction systems

## CS 1 and CAS 1: The integrated solution

### Compact, space-saving, and quiet

The CS 1 Combi Sepamatic and the CAS 1 Combi Separator by Dürr Dental are great complements to any treatment unit. The appliances are impressively quiet but powerful, and are able to deal with hours of treatment with high fluid volumes with no problems at all. The two-stage separation system effectively prevents blood foam from being aspirated, thus protecting the connected dry suction unit. The CS 1 Combi Sepamatic is a straight separation system. The CAS 1 Combi Separator combines air/water separation and amalgam separation. Both appliances can be integrated into the dental unit or installed externally.

The two-stage system with its cyclone separator and dynamic separation turbine is considerably more powerful than traditional one-stage systems and hardly makes any noise. This allows the dentist to concentrate on treating the patient. The amalgam centrifuge of the CAS 1 is self-cleaning and has a

tested separation efficiency of around 98%. Optionally, an additional rinsing system can be connected up to both appliances. This makes the entire system work in an even more hygienic manner, since the constant film of water prevents the deposit of particles and the coagulation of blood. Both the CS 1 Combi Sepamatic and the CAS 1 Combi Separator are compatible with a large number of treatment units and are integrated ex factory as standard by leading manufacturers.



CS 1 Combi Sepamatic



CAS 1 Combi Separator

# Amalgam separation for wet and dry suction systems

## CA 1: The external solution

The CA 1 Amalgam Separator with its self-cleaning centrifuge in a housing designed for the dental practice is the ideal solution for equipping a single treatment station with an amalgam separator. The device is also suitable for retrofitting single-station suction units with integrated separation, such as the Dürer Dental VS 300 S.

With a proven separation efficiency of around 98% and a robust design, it is quite similar to the CAS 1 Combi Separator. The integrated float monitor reliably detects the water level and regulates the CA 1 if required.



Quiet running in a housing that is ideal for dental practices



CA 1 Amalgam Separator

### This is what counts:

- Can be integrated into the treatment unit (CS 1/CAS 1)
- Can be installed externally in a housing that is ideal for dental practices
- 2-stage separation
- Quiet, vibration-free running thanks to decoupled connections
- Hydro-dynamic self-cleaning of the amalgam centrifuge
- Lasting power
- Easy and flexible installation
- Proven amalgam separation efficiency of around 98%
- Retrofittable rinsing unit for safe and hygienic operation

# Convenient for multi-room practices – central amalgam separation

The CA 4: A universal solution

## Systematic power

An attractive design, excellent performance, and convenient disposal concept make the CA 4 Amalgam Separator by Dürr Dental into a really impressive system unit. It is ideally equipped for the connection of several treatment units and shows sophisticated, state-of-the-art technology. The CA 4 works in accordance with the centrifugal principle and has hydro-dynamic self-cleaning. As soon as waste water from the treatment unit starts to accumulate, the system switches on automatically. An optical indicator provides information at any time on the current operating state.





## It's all under control – at all times

In contrast to traditional sedimentation separators, the CA 4 works with an individual fill level control function. The cartridge fill level is monitored prior to the start of work and then regularly during treatment. As soon as the maximum fill level is reached, an acoustic signal is issued. This is when the cartridge needs to be changed.

This procedure reduces required efforts and therefore saves on costs. The convenient lever mechanism makes it easy to remove the cartridge. With a separation efficiency of 98.9% and a flow rate of up to 16 litres a minute, the CA 4 boasts excellent performance values.

### This what counts:

- Centrifugal separator with hydro-dynamic self-cleaning
- Reliable and automatic fill level control
- Connection of multiple treatment units
- High flow rate of up to 16 l/min
- Separation efficiency of 98.9%
- Sensors regulate the CA 4 in accordance with demand
- 20 years of experience in the development of amalgam separators



The simple and compact way to enhance combination suction units (e.g. VS 600, VS 900 S, or VS 1200 S) by adding an amalgam separator

# A perfect combination: Suction and separation!

## 3 in 1: The combination suction unit VSA 300 S

The VSA technology developed by Dürr Dental brings together a complex system comprising a suction motor, separation system, and amalgam separator in one device and on one drive shaft – the VSA 300 S. It is particularly suited to use in single-room practices.

In this combination suction unit, more than 97% of the amalgam is collected in the automatically monitored collector vessel. When the fill level reaches 95%, the VSA 300 S issues an optical and acoustic signal to inform the user that the container needs to be replaced. Dürr Dental suction systems generate the vacuum required to ensure fault-free, hygienic operations. The constant suction power of around 300 litres per minute enables a clear view of the preparation field and prevents the formation of contaminated aerosol clouds. Before the waste water pump carries away the separated waste water, it is sent to a centrifuge where the amalgam particles are separated out.



VSA 300 S – the first suction unit to incorporate both a separation system and an amalgam separator

### This is what counts:

- Integrated suction and separation system with amalgam separator for one treatment unit
- Suction power of 300 l/min
- Separation efficiency of 97.5%
- Highly cost-effective and reliable
- High tolerance to foam thanks to two-stage separation system
- Flexible installation options

## GF 1 – Collecting heavy particles to keep the drain clear

The GF 1 is a heavy particle collector developed by Dürr Dental. It prevents blockages resulting from deposits in the waste water lines and is ideal for prophylaxis stations. The spray powders used here are hard to break up. The GF 1 binds fine heavy particles and coarse light particles and separates them. The result is a high particle separation efficiency of around 70%. The appliance is easy to install inside the treatment unit; it can be connected to the CS 1 Combi Sepamatic for example. It is easy to clean and disinfect.



# Keep your suction unit in top form!

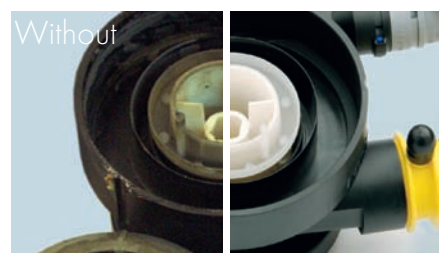
Around half of all suction units suffer from reduced performance as a result of deposits and blockages. This is because most units are disinfected but not cleaned, too. As a result, material such as blood, secretions, tooth material, filling material, and prophylaxis powder form a tough sludge. This results in blockages that can reduce performance and – in the worst case scenario – can bring the dental surgery to a standstill.

## The solution from Dürr Dental: Orotol® plus and MD 555 cleaner

Orotol® plus and MD 555 cleaner work together to protect all suction unit components (including the lines) from deposits, contamination, and incrustation. If used regularly, they can prevent a drop in performance and lengthen the life of your suction unit.

### Play it safe:

Disinfection and cleaning with or without  
Orotol® plus and MD 555 cleaner



Orotol® plus  
Suction unit disinfection



MD 555 cleaner  
Special cleaner

Foam-free concentrate for the disinfection, deodorization, cleaning, and care of all suction units and amalgam separators.

- Recommended for suction systems by leading unit manufacturers
- No germ resistance development
- Proven material compatibility
- Maintains the value of the suction unit
- Loosens and disinfects bio-film and prevents the formation of sludge (blood and proteins)
- Long lasting action
- Wide range of effectiveness

Foam-free concentrate for all suction units and amalgam separators.

- Strong cleaning power to combat deposits and powder sprays
- Loosens incrustations and sludge consisting of lime and prophylaxis powder (descaling agent)
- Ideal in conjunction with Orotol® plus or Orotol® ultra
- Effective composition comprising organic acids and foam-free surfactants

# The technology at a glance

C separation systems	CS 1	CAS 1	CA 1	Suction unit VSA 300 S
<b>Voltage (V)</b>	24	24	24	230 (1~)
<b>Frequency (Hz)</b>	50 - 60	50 - 60	50 - 60	50
<b>Electrical power (W)</b>	70	100	60	580
<b>Current consumption (A)</b>	2.7	4.0	2.5	2.9
<b>Max. fluid flow rate (l/min)</b>	2	4	4	5
<b>Dimensions (H x W x D cm) without housing</b>	12.5 x 15 x 12	25.5 x 15.1 x 11	25.5 x 15.1 x 11	48 x 31 x 31
<b>with housing</b>	43.5 x 25.5 x 16	43.5 x 25.5 x 16	43.5 x 25.5 x 16	51 x 36 x 36
<b>Weight (kg) without housing</b>	1.4	2.7	2.7	14
<b>with housing</b>	7.4	8.7	8.7	21.5
<b>Separation efficiency (%)<sup>1</sup></b>	-	97.9	97.9	97.5
<b>Quality mark (DIBT*)</b>	-	Z64.1-20	Z64.1-20	Z64.1-15

<sup>1</sup> Separation rates measured by the TÜV [technical monitoring authority] Essen in accordance with the German standard test at maximum rate of fluid flow.

Amalgam separator	CA 4
<b>Voltage (V)</b>	230 (1~)
<b>Frequency (Hz)</b>	50
<b>Electrical power (W)</b>	210
<b>Electrical power in standby mode (W)</b>	7
<b>Dimensions (H x W x D cm) without housing</b>	41 x 25 x 28
<b>with housing</b>	50 x 36 x 36
<b>Noise level [dB(A)] without housing</b>	55
<b>with housing</b>	46
<b>Separation efficiency (%)</b>	98.9
<b>Duty cycle (%)</b>	95
<b>Volume of collector vessel (cm<sup>3</sup>)</b>	600
<b>Quality mark (DIBT*)</b>	Z-64.1-22

\* German Institute for Building Technology

Heavy particle collector	GF 1
<b>Separation efficiency as per DIN ISO 11143 (%)</b>	Approx. 70
<b>Water inflow</b>	Max. 3 l/min
<b>Inflow connection</b>	DürrConnect Ø 15 mm
<b>Waste water connection</b>	DürrConnect Ø 18 mm
<b>Weight (kg)</b>	Approx. 0.3
<b>Dimensions (H x W x D cm)</b>	11 x 10 x 10
<b>with CS1 (H x W x D cm)</b>	24 x 17 x 10