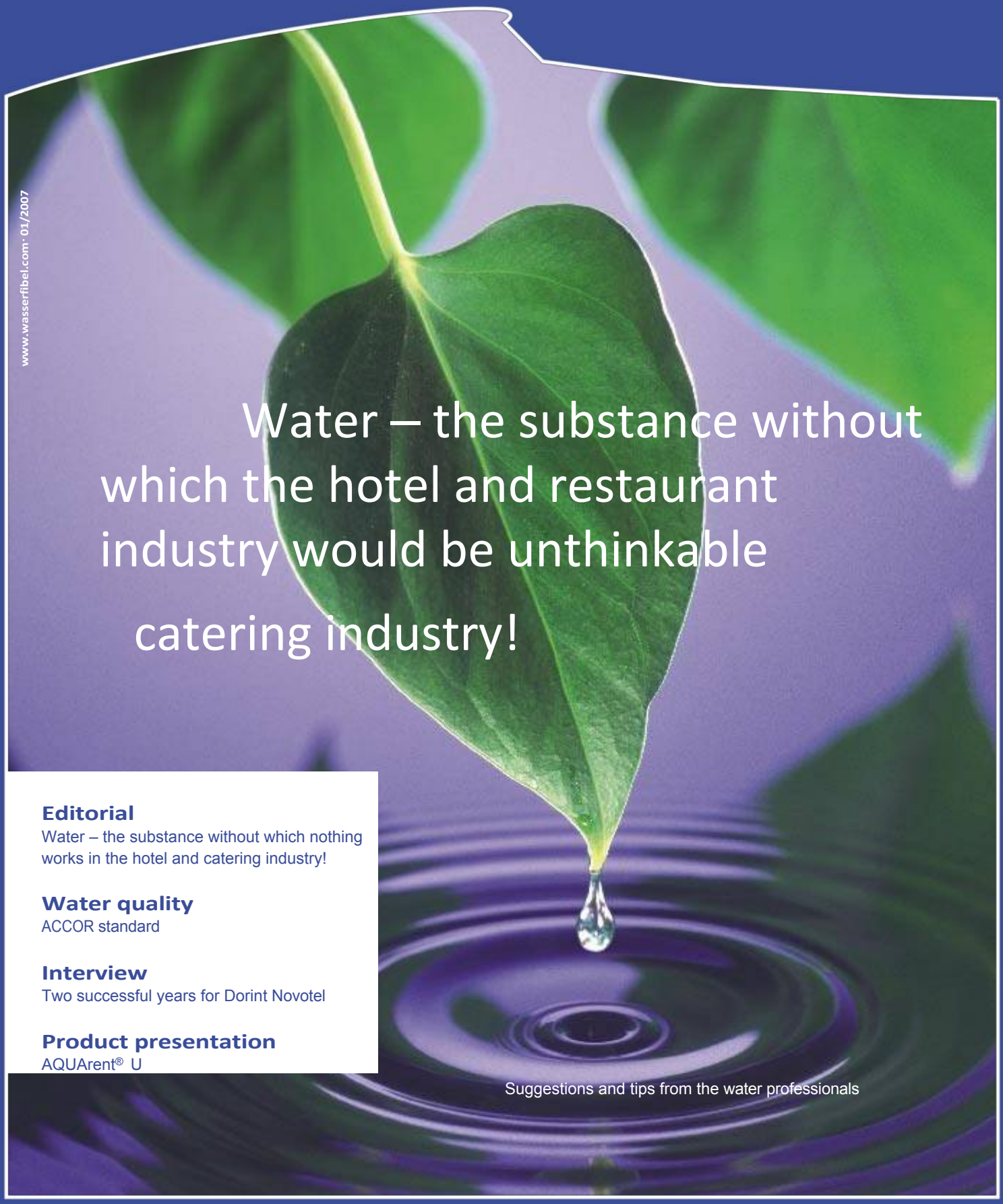
WASSERFIBEL NEWS
WELT DES WASSERS

www.wasserfibel.com · 01/2007



Water – the substance without which the hotel and restaurant industry would be unthinkable catering industry!

Suggestions and tips from the water professionals

Foreword

Water – the substance without which nothing works in the hotel and catering industry!

Clean drinking water – something most people take for granted. The fact that clean drinking water is a substance It is only when, for example, a burst pipe causes the "tap to be turned off" that we realize how essential water is, especially in the hotel and catering industry. Water costs – well, you pay for fresh water and wastewater, and perhaps a flat rate for the water meter. And additional costs caused by water? – At most, this is associated with water damage as a result of a burst pipe.

On closer inspection, however, the situation looks somewhat different: water can cause considerable additional costs!

Although drinking water, as its name suggests, is a foodstuff, this does not mean that the high quality of this water is also sufficient for use in technical devices. And not all drinking water is the same: in Germany alone, the degree of hardness, which is a measure of the "lime" dissolved in the water, can range from a few degrees of German hardness (hardness range I) to more than 40 degrees of German hardness (hardness range IV), and the amount of salts and minerals dissolved in the water can range from a few milligrams per liter to up to one gram per liter. Consider this: one cubic meter of water with

with a hardness of 20°dH contains approx. 356 g "Limescale"! And the resulting costs?

These are caused precisely by these substances, usually when the water is thrown out of balance, e.g., when heated:

- The hardness becomes visible in the form of limescale deposits.
- The salts dissolved in the water form unsightly "water stains" or bake with grease to form unappetizing deposits.
- Limescale deposits in dishwashers, steam cookers, coffee machines, and other appliances must be removed at great expense and often with harsh chemicals.
- Just as more washing powder is needed for laundry, commercial dishwashers consume more detergent and rinse aid to achieve satisfactory cleaning results.
- Descaling aerators, boilers, and heat exchangers also contributes to the follow-up costs.
- Last but not least, there are the indirect follow-up costs for personnel and materials, which arise, for example, from
  polishing cutlery and glass, as well as broken glass, and for repairs that are necessary due to increased wear and tear.

But where to start and where to stop, what water quality do you need when and for which device?

In order to make this question answerable even for non-water experts, a "standard" was defined in close cooperation with renowned partners from all areas. According to this standard, three water qualities are sufficient to optimally supply the kitchen area:

- Soft water, cold, hardness 0 to max. 3°dH, for supplying dishwashing technology and, if necessary, cooking technology
- Reverse osmosis water (permeate), cold, blended if necessary, for supplying dishwashing technology
- AQUAmix blended water, blended, for supplying cooking and beverage technology

Different treatment processes are required to produce these water qualities. The following pages provide an overview of these processes – from small water softening systems and reverse osmosis systems to central supply systems and our complete supply system, the BlauWAL.

The following pages are intended to help you solve your problem easily and reliably, in line with our motto:

Best water treatment technology

– Everything from a single source, directly from the manufacturer!

Eningen, December 2006

You can find this and other information on the subject of water in the current issue of the magazine "WASSERFIBEL - Welt des Wassers" (Water Primer - World of Water).

www.wasserfibel.com

ACCOR water quality standard

Subject: Water quality at ACCOR hotels

Consumers	Required water quality
Rack transport dishwashers	Filling with (blended) soft water, cold, 0-3° dH (via water softener) Rinsing with (blended) osmosis water, cold, 0° dH, blended to a conductivity of 15-80 µS/cm
Universal/pot dishwasher	as pot dishwasher (blended) soft water, cold, 0-3° dH (via water softener) as cut osmosis water, cold, 0° dH, blended to a conductivity of 15-80 µS/cm
Glass washing machines	(blended) osmosis water, cold, 0° dH, blended to a conductivity of 15-80 µS/cm
H o t air steamer,	Aquamix blended water, see coffee machine, Ice cube maker with conductivity up to 250 µS/cm salt content or 3-4° carbonate hardness Alternatively -> (blended) soft water, cold, 0-3° dH (via water softener)
Variocookers, bain-maries, Cooking kettle	(blended) soft water, cold, 0-3° dH (via water softener)
Coffee machines	Aquamix blended water -> osmosis water blended with soft water (blended to 250 µS/cm salt content or carbonate hardness of 3-4°) AQUAMIX CAN ONLY BE USED IN CONJUNCTION WITH THE BlauWAL CONCEPT SYSTEM!

Soft water, cold, blended to 0-3° dH if necessary:

Softened to a hardness of less than 0.5° dH using a water softener and then blended to a residual hardness of 0 to 3° dH, depending on requirements

(Reverse) osmosis water, cold, blended to a residual conductivity of 15-80 µS/cm:

Desalinated using a reverse osmosis system and blended with soft water to a conductivity of 15-80 µS/cm

Aquamix blended water:

Desalinated using a reverse osmosis system and then blended in the Aquamix system, usually with soft water (alternatively with hard water) to a conductivity of up to 250 µS/cm or a carbonate hardness of 3-4° KH

Interview

Two successful years Dorint Novotel

Interview "Dorint - Novotel, Munich, Hochstraße" with Mr. Director Kröger and Mr. Schüler, building services.

Director Kröger,

congratulations on your successful work. What was the key to your company's success?

Director Kröger: Since April 2004, we have been operating a modern hotel product with an innovative concept in a very good location. A lot of experience from the ACCOR system has been incorporated, e.g. the technology required for operation. Thanks in particular to our "powerful team of employees," we have been able to achieve very good occupancy rates right from the start. Incidentally, in our first full financial year in 2005, we were the ACCOR Group's highest-grossing hotel in Germany.

Mr. Kröger,

The editors of Wasserfibel would naturally be interested to know how your water systems and osmosis softening have helped you in this regard—and why you wanted these systems for your home.

Director Kröger: Based on the experience we had in our house in Munich-Perlach, where ACCOR Technik installed and demonstrated a central osmosis water supply system for us. The positive economic result was enormous. (see ACCOR Purchasing profitability calculation). That is why the new building

ACCOR management also proposed a change to the plans for this hotel construction and had a complete water treatment system installed in accordance with ACCOR standards. After testing and calculating the costs, the benefits were important to us and extremely convincing.

Mr. Kröger,

Hygiene, cleanliness, and cost-effectiveness are not mutually exclusive. Can you give some examples of the advantages of working cleanly for your hotel?

Director Kröger: Through hygiene and cleanliness, the hotel and its employees demonstrate their level of quality to customers in a visible way. This reduces follow-up costs for repairs and maintenance. Our technical equipment lasts longer and our hotel is in top condition. Our ultimate goal is the absolute satisfaction and well-being of our guests. By appealing to their emotions and feelings, we are able to attract more and more satisfied and returning regular guests.

Mr. Kröger,

you have brought Mr. Schüler, a competent technical expert, into the conversation. Perhaps you could both say something about service and support for the hotel and its technical systems? What are your expectations?

Director Kröger: For us, service and maintenance from a single source – i.e. Direct – very sensible. It is perhaps also part of our success that we have the expertise of our partners directly and quickly on site when needed. All partners in the Wasserfibel are our contact persons, by the way.

Mr. Schüler,

does it make sense to work directly, i.e., when delivery, manufacturing, and service are all in one hand? Why?

Mr. Schüler: Having a direct contact person is absolutely fantastic for us technicians. Minor issues can be easily resolved over the phone, thereby avoiding downtime and costs. Our colleague in water treatment, Manfred Borchers, knows our company, our conditions, and, above all, "his" osmosis system inside out. This gives us operational reliability and quality and avoids "emergency repairs" with high costs.

Mr. Kröger,

can you define your "savings potential" in approximate terms? More specifically: what are the benefits of an osmosis water concept for you? How much money do you save per year on polishing, glass breakage, hygiene, and cleanliness?

Director Kröger: You can use the cost accounting from our restaurant in Munich-Perlach as an example. Cartridge costs, polishing times, glass breakage, descalers, cleaners, chemicals: isn't all of this





restaurateurs are all familiar with this, aren't they? No, I'm glad we have the water treatment system.
I estimate that the total savings amount to approximately €20,000 per year.

Director Kröger, Mr. Schüler, a question for both of you: Would you recommend a central osmosis system to other establishments for new construction, renovation, or retrofitting, despite the investment costs?

Director Kröger: Absolutely yes—a must for every modern and economically run business!

Mr. Schüler: Very important – as there are no additional costs in the long term.

Mr. Kröger, Mr. Schüler, you operate at the highest level of quality.
In your opinion, should restrictions be made when it comes to defined quality standards for hygiene and cleanliness? Doesn't it make more sense to pursue and enforce the highest quality standards (e.g., at ACCOR) from the outset?

Director Kröger: Directly, right from the start. Based on my experience today, I would not recommend any restrictions on quality, hygiene, and cleanliness.

Mr. Schüler: That should definitely be enforced.

Mr. Schüler, Director Kröger, in your opinion, would it be right to negotiate more openly and honestly with suppliers about quality, prices, and service in the catering sector?
And would it be desirable if consulting and support in day-to-day business led to better and more successful business relationships?

Mr. Schüler: What you are asking, we are already doing. We are just confirming your primer.

Director Kröger: The agreements on prices/contracts and suppliers based on the specifications from Central Purchasing Technology make sense.
However, consultations, discussions, and inspections can then be carried out directly on site at our premises.

Thank you for the friendly conversation.

April 2006, © Wasserfibel (KK)

HYGIENE AND CLEANLINESS ...

... for glasses, cutlery, and tableware.

Thanks to a new DIN standard, there is now clarity (VGG - information for glasses, cutlery, and crockery).

DIN regulation:

- ***Glasses must be dry after 2 minutes.***
- ***No need for time-consuming polishing.***
- ***Contamination from the cloths is avoided.***

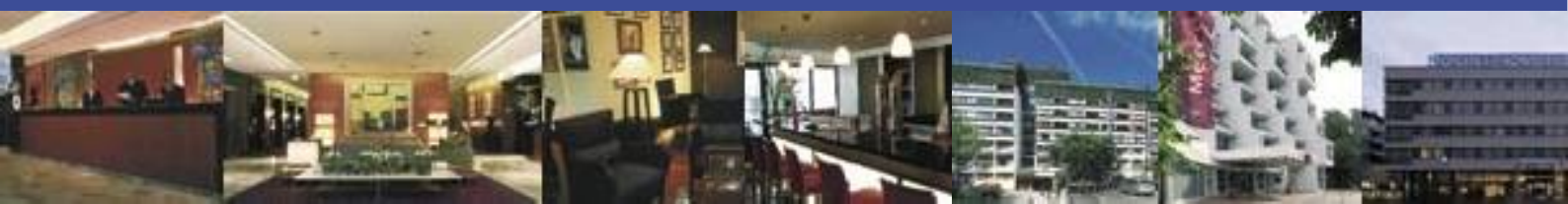
HYGIENE IS THE BEST ADVERTISING

The be-all and end-all in the restaurant industry is high-quality food, tableware, and staff with high-quality is clean cutlery and impeccable appearance.

Reference examples ACCOR

BlauWAL

Ibis Hotel Munich City (central water softening) · ***Mercure Hotel Saarbrücken (osmosis)*** · ***Mercure Hotel Airport Stuttgart (Aquarent)*** · ***Novotel Bochum Stadion (Aquarent)*** · ***Mercure Eschborn (water softening)*** · ***Dorint-Novotel Berlin KPM (BlauWAL)*** · ***Sofitel-Mondial Cologne Dom (osmosis)*** · ***Novotel Hamburg Airport (water softening)*** · ***Mercure Hotel Cologne-West (water softening)*** · ***Novotel Frankfurt Airport (central water softening)*** · ***Novotel Böblingen (water softening)*** · ***Ibis Bremen (water softening)***



Product presentation

AQUArent® U

The AQUA-rent® U reverse osmosis devices with a permeate output

With a capacity of 150 to 560 l/h (at 15°C), these are modern, reliable, user-friendly, and durable devices for desalinating drinking water. The devices are very easy to operate. All relevant parameters are monitored by sensors and interpreted by a compact PLC. Thanks to the proven WAL-HCU technology combined with our in-house developed control software ensures that the AQUA-rent® U is permanently ready for operation. The automatic permeate protection flush ensures particularly effective and economical operation. The built-in permeate tank stores up to 55 l of clean or blended water and, together with the permeate booster pump, ensures a reliable supply to a wide variety of consumers.

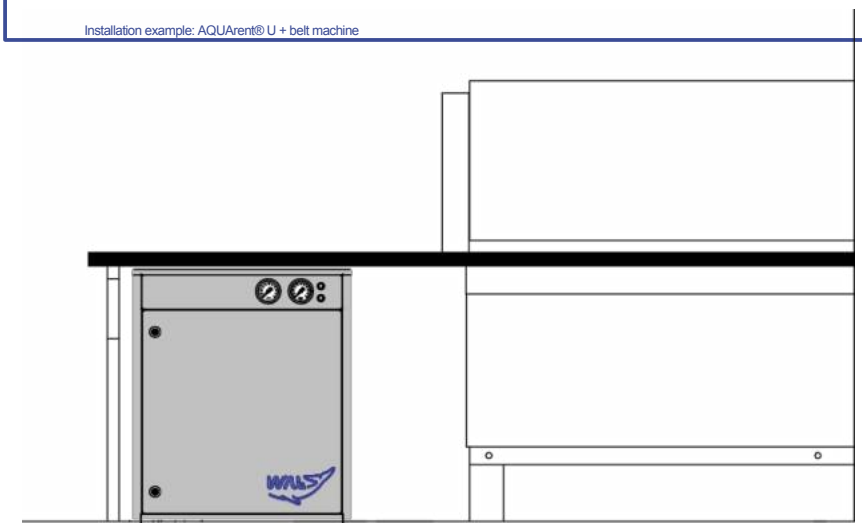
at pump, ensures a reliable supply to a wide variety of consumers.

A fully automatic raw water feed ensures that connected consumers are supplied in the event of a malfunction (e.g. power failure).

Counter Height = 700 mm

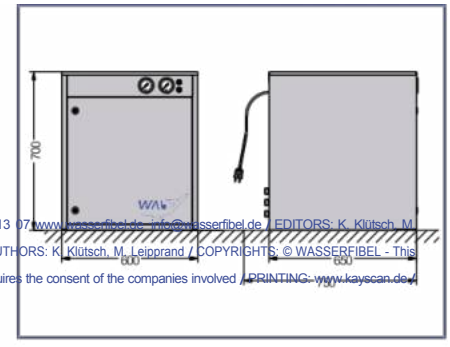
- Low-noise operation
- High-quality Grundfos pump
- Fully automatic emergency supply even when the device is switched off and in the event of a power failure
- Fail-safe operation thanks to proven WALHCU technology (no plug-in fittings!)
- Operating parameter monitoring
- Internal stainless steel piping
- Housing made of high-quality stainless steel
- High-performance membranes in stainless steel pressure pipes
- Permeate flushing
- User-friendly single-valve technology
- High-quality brand components
- Potential-free fault signal output

Installation example: AQUArent® U + belt machine



Scope of delivery:

High-performance UO unit in splash-proof stainless steel housing (removable side walls and cover, service door), low-noise pressure booster pump and permeate feed pump, compact PLC for controlling the internal UO processes, High-performance UO membranes in stainless steel pressure pipes, 2 pressure gauges as display elements for visual monitoring of system pressures by the user, pressure sensor for pure water supply pressure, pressure switch for inlet pressure, potential-free fault signal output, blending valve for blending permeate, internal storage vessel (useful capacity 55 l), inlet solenoid valve with flap armature pilot control, integrated fully automatic emergency supply unit with de-energized open solenoid valve with flap armature pilot control, piping made of pressure- and corrosion-resistant materials.



IMPRINT EDITORIAL ADDRESS: Wasserfibel · Isarstrasse 26 · 85579 Neubiberg/Munich · Phone +49 (0)89 . 68 01 97 65 · Fax +49 (0)89 . 66 01 13 07 www.wasserfibel.de · info@wasserfibel.de / EDITORS: K. Klütsch, M. Leipprand / PHOTOS & ILLUSTRATIONS: ACCOR Deutschland GmbH, Dorint Novotel München Hochstraße, *THOMASWERBUNG*, W.A.L. Wassertechnik GmbH / AUTHORS: K. Klütsch, M. Leipprand / PRINTING: www.kayscan.de / DESIGN & IMPLEMENTATION: www.THOMASWERBUNG.COM

W.A.L. Wassertechnik GmbH · Einsteinstrasse 13 · 72800 Eningen u. A. · Telefon +49 (0) 71 21 / 820 15-0 · Telefax +49 (0) 71 21 7 82 15-290 · beratung@walgmbh.de · www.walgmbh.de

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