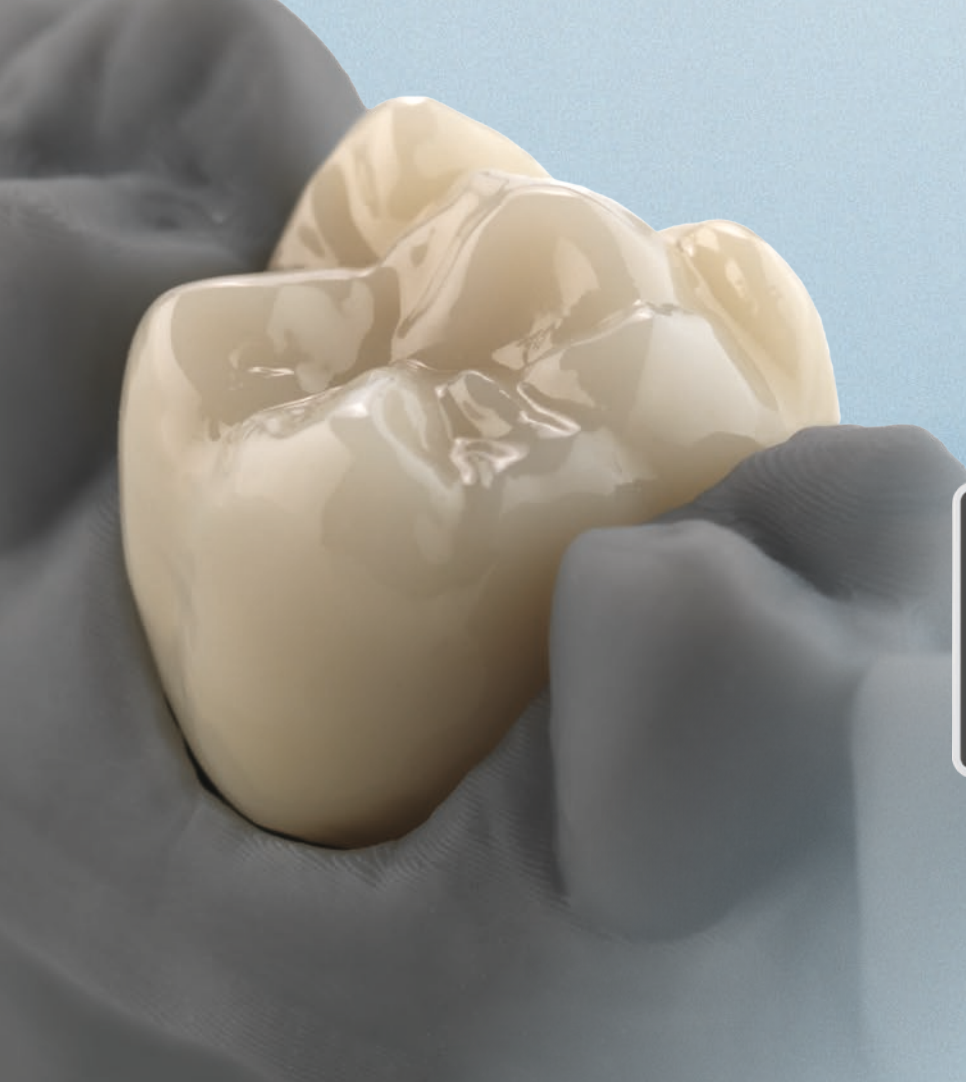




HIGH-SPEED SINTERING -
SO FAST, SO BEAUTIFUL, SO SAFE

DRS HIGH-SPEED ZIRCONIA KIT



THE INHOUSE MOVEMENT®

HIGH-SPEED SINTERING - SO FAST, SO BEAUTIFUL, SO SAFE

Consisting of the Ceramill Therm DRS sintering furnace and the Zolid DRS material, the High-Speed Zirconia Kit provides the perfect basis for the ultra-fast fabrication of highly esthetic zirconia restorations. The restorations can be sintered in just 20 minutes and offer maximum efficiency with a natural appearance due to the perfectly coordinated 16 VITA shades with integrated shade and translucency gradient.



- _ **Revolutionary workflow - sintering zirconia in just 20 minutes without compromising function and esthetics**
- _ **Extending the offer to laboratory and practice by the "Same Day Crown"**
- _ **Fully integrated into the Ceramill CAD/CAM workflow for maximum efficiency and safety**



HIGH-SPEED SUCCESS STORIES



"The new High-Speed Zirconia Kit completely redefines the laboratory workflow in the fabrication of zirconia restorations. Sintering in 20 minutes and without sacrificing esthetics and mechanical properties - that's revolutionary!"

Benjamin Votteler, MDT
Dentaltechnik Votteler GmbH & Co, Germany

"The High-Speed Zirconia Kit allows us to fabricate customized zirconia abutments and the matching crowns on the same day. This allows us to optimize our in-house processes and thereby achieve significant savings in time."

Alexander Müller MDT, Nikolas Schnellbacher MDT,
Müller & Edelhoft Dentallabor GmbH, Germany



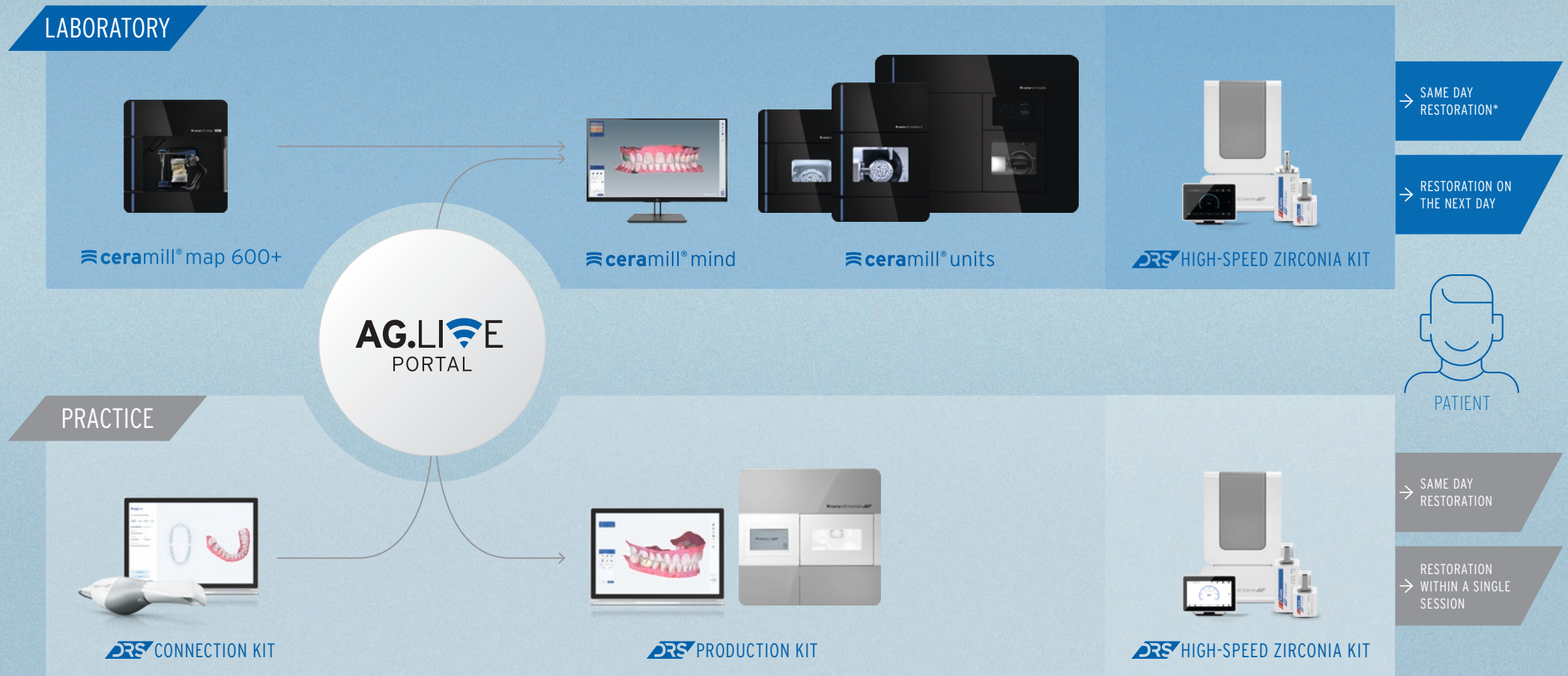
"The Ceramill Therm DRS is a compact, highly versatile oven that when combined with Zolid DRS provides both the dentist and the laboratory technician numerous options for fabricating esthetic zirconia restorations."

Dr. Richard Zimmermann, D.D.S., Associate Professor
at the University of Texas San Antonio School of Dentistry, USA



CROSS-LOCATION APPLICATION OPTIONS

Due to its perfect integration into the Ceramill workflow, the High-Speed Zirconia Kit enables users in the laboratory or dental practice to fabricate zirconia restorations within a single session.

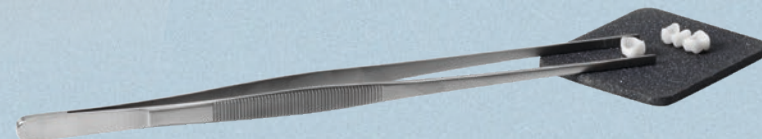


*Depending on the local distance between laboratory and dental practice

CERAMILL THERM DRS - MORE FLEXIBILITY WHEN FABRICATING ZIRCONIA RESTORATIONS

The new Ceramill Therm DRS High-Speed sintering furnace allows the sintering of small zirconia restorations in approx. 20 minutes. The intuitive operating concept offers the suitable sintering program for every indication and thus significantly increases comfort in everyday routine. Unlike conventional sintering furnaces, this furnace uses a high-performance heating element, which exceeds all expectations in terms of speed, flexibility and energy efficiency. In addition, the High-Speed sintering furnace stands out from the crowd with its slim design and compact construction as well as combining the most important process steps in the fabrication of zirconia restorations in a single machine: pre-drying, sintering and glazing. This makes the Ceramill Therm DRS the ideal addition and maximizes flexibility in everyday laboratory and practice routines.

- _ Maximum heating rates through innovative sintering of the restoration in the core of the heating element ensure rapid sintering times of up to 20 minutes**
- _ Innovative operating concept with individual sintering programs provides high comfort and intuitive operation**
- _ Safe and validated restoration results through award-winning development with partners from industry and research**



ZOLID DRS COMBINES ESTHETICS, EFFICIENCY AND SAFETY

Zolid DRS forms the perfect basis for zirconia restorations which are sintered in 20 minutes. The fast sintering cycle had already been put to the test during development and this was documented in numerous in-vitro studies. The result of the studies is conclusive: the rapid thermal process has no effect on the material properties^{1, 2, 3, 4, 5, 7, 8*}. This feature, coupled with the fact that Zolid DRS meets the characteristics of a Class 5 zirconia, creates a maximum level of safety for the technician, dentist and patient. High esthetics are ensured by a smooth shade and translucency gradient and a perfect match with the VITA shade guide. This results in natural restorations, created both easily and efficiently.



- _ Natural beauty due to translucency and infinite shade gradient, perfectly matched to the VITA shade guide**
- _ Maximum safety substantiated by numerous in vitro studies and classification into Class 5 of the zirconias^{1, 2, 3, 4, 5, 7, 8*}**
- _ Broad range of applications due to diverse indications, various block sizes and different holder connections**



Technical data

Flexural strength	1,100±150 MPa
Flexural modulus	≥200
Vickers hardness	1,300±200
CTE 25-500°C	~10.5±0.5
Chemical solubility	<100

Chemical composition (wt.-%)

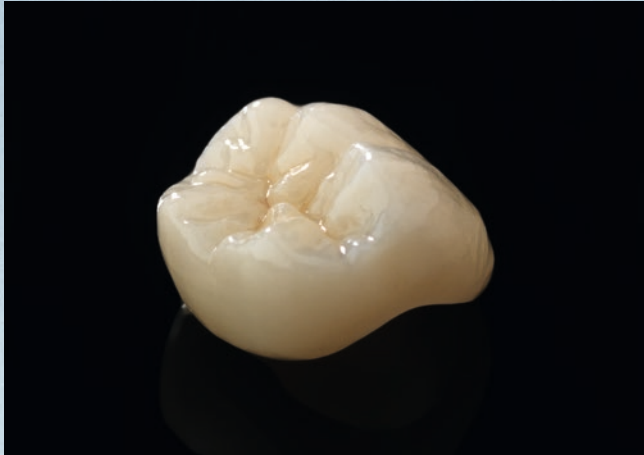
ZrO ₂ + HfO ₂ + Y ₂ O ₃	≥99
Y ₂ O ₃	6.0-7.0
HfO ₂	≤5
Al ₂ O ₃	≤0.5
Other oxides	≤1



100% Made in Austria

*For references see page 9

SYSTEM WITH DIVERSITY



Crowns



3-unit bridges



Abutments + crown

Flexibility distinguishes the High-Speed Zirconia Kit. The user can choose from a wide range of materials and does not necessarily have to commit to one type of material. In addition to Zolid DRS, which can be sintered in 20 minutes, it is also possible to use other validated materials such as Zolid Gen-X or Zolid FX Multilayer. The correct programs are already saved on the Ceramill Therm DRS upon delivery.

The indications are numerous and also distinguished by extremely fast fabrication. Whereas in the past it took around two days to fabricate a customized zirconia abutment and the corresponding crown, this can now be accomplished in just a few hours.

OVERVIEW OF APPLICATION OPTIONS

FEATURES	INDICATIONS	SINTERING PROGRAM	MATERIAL
High-speed sintering	Single-tooth crown, abutment	20 min.	zolid drs
	3-unit bridge	30 min.	zolid drs
Speed sintering	Single-tooth crown, 3-unit bridge	60 min.	zolid gen-x
	Single-tooth crown, 3-unit bridge	120 min.	zolid fx

PROVEN SAFETY ESTABLISHED IN NUMEROUS IN VITRO STUDIES

What is the impact of the extreme heating and cooling rates on the material properties? This issue was one of the key points in the development process. To completely rule out a possible negative impact, external testing facilities and universities were consulted in the evaluation process. No negative impact on strength, fit or optical properties could be demonstrated in the different in-vitro studies. This provides the user with a safe product that ultimately benefits the patient.

The key message of the in vitro studies can be summarized as follows:

High-speed sintering of Zolid DRS results in

- _high mechanical strength, high fatigue strength and long-term stability. There is no significant influence of aging when compared to conventional sintering^{1, 2, 4, 7}**
- _high fracture loads and long-term stability for restorations of up to 3-unit bridges^{3, 5, 8}**
- _high wear resistance^{3, 8}**
- _clinically acceptable fit and accuracy⁶**



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2. Jerman E, Wiedenmann F, Eichberger M, Reichert A, Stawarczyk B. Effect of high-speed sintering on the flexural strength of hydrothermal and thermo-mechanically aged zirconia materials. *Dent Mater* 2020;36:1144-1150
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6. Anton X, Stawarczyk B, Reymus M, Joda T, Liebermann A. Impact of high-speed sintering on accuracy and fit of 4 mol% yttria-stabilized tetragonal zirconia polycrystals (4Y-TZPs). *Int J Prosthodont* 2021; in press
7. Anton X, Liebermann A, Hampe R, Joda T, Stawarczyk B. Impact of high-speed sintering and choice of pre-shaded monochrome or multi-layered blanks on fatigue behavior of 4 mol% YTRIA-stabilized tetragonal zirconia polycrystals (4YTZPs). *Dent Mater* 2021; submitted
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ORDERING INFORMATION

SINTERING FURNACE



Ceramil Therm DRS

181900 Ceramil Therm DRS*

Technical data Therm DRS

Dimensions D/W/H	390 x 300 x 484 mm
Weight	50 kg
Power rating	230V / 50-60Hz
Maximum output	3.5 kW
Maximum temperature	1,600°C

Accessories/spare parts

181901	Accessory case (includes ◊)
178755	Sintering pearls ◊
181902	Forceps ◊
181903	Sintering bowl ◊
181904	Sintering base ◊
181905	Firing tray ◊
761936	Ceramic pins 10 pieces ◊
181906	Cooling plate ◊
181907	Heating element
181908	Thermal element



Blank holder

179246 Ceramil DRS adapter

*incl. accessory case (181901)

ORDERING INFORMATION

MATERIAL



Zolid DRS

Block form UN mandrel, 3 pieces each

766490		Zolid DRS BL1 C20 UN	20x19mm
766492		Zolid DRS BL1 B40 UN	40x19mm
766500		Zolid DRS BL3 C20 UN	20x19mm
766502		Zolid DRS BL3 B40 UN	40x19mm
766505		Zolid DRS A1 C20 UN	20x19mm
766507		Zolid DRS A1 B40 UN	40x19mm
766510		Zolid DRS A2 C20 UN	20x19mm
766512		Zolid DRS A2 B40 UN	40x19mm
766515		Zolid DRS A3 C20 UN	20x19mm
766517		Zolid DRS A3 B40 UN	40x19mm
766520		Zolid DRS A3,5 C20 UN	20x19mm
766522		Zolid DRS A3,5 B40 UN	40x19mm
766525		Zolid DRS A4 C20 UN	20x19mm
766527		Zolid DRS A4 B40 UN	40x19mm
766530		Zolid DRS B1 C20 UN	20x19mm
766532		Zolid DRS B1 B40 UN	40x19mm
766535		Zolid DRS B2 C20 UN	20x19mm
766537		Zolid DRS B2 B40 UN	40x19mm

766540		Zolid DRS B3 C20 UN	20x19mm
766542		Zolid DRS B3 B40 UN	40x19mm
766545		Zolid DRS B4 C20 UN	20x19mm
766547		Zolid DRS B4 B40 UN	40x19mm
766550		Zolid DRS C1 C20 UN	20x19mm
766552		Zolid DRS C1 B40 UN	40x19mm
766555		Zolid DRS C2 C20 UN	20x19mm
766557		Zolid DRS C2 B40 UN	40x19mm
766560		Zolid DRS C3 C20 UN	20x19mm
766562		Zolid DRS C3 B40 UN	40x19mm
766565		Zolid DRS C4 C20 UN	20x19mm
766567		Zolid DRS C4 B40 UN	40x19mm
766570		Zolid DRS D2 C20 UN	20x19mm
766572		Zolid DRS D2 B40 UN	40x19mm
766575		Zolid DRS D3 C20 UN	20x19mm
766577		Zolid DRS D3 B40 UN	40x19mm
766580		Zolid DRS D4 C20 UN	20x19mm
766582		Zolid DRS D4 B40 UN	40x19mm



Zolid DRS

Block form DR mandrel, 3 pieces each

767480		Zolid DRS BL1 C20 DR	20x19mm
767481		Zolid DRS BL1 B40 DR	40x19mm
767482		Zolid DRS BL3 C20 DR	20x19mm
767483		Zolid DRS BL3 B40 DR	40x19mm
767484		Zolid DRS A1 C20 DR	20x19mm
767485		Zolid DRS A1 B40 DR	40x19mm
767486		Zolid DRS A2 C20 DR	20x19mm
767487		Zolid DRS A2 B40 DR	40x19mm
767488		Zolid DRS A3 C20 DR	20x19mm
767489		Zolid DRS A3 B40 DR	40x19mm
767490		Zolid DRS A3,5 C20 DR	20x19mm
767491		Zolid DRS A3,5 B40 DR	40x19mm
767492		Zolid DRS A4 C20 DR	20x19mm
767493		Zolid DRS A4 B40 DR	40x19mm
767494		Zolid DRS B1 C20 DR	20x19mm
767495		Zolid DRS B1 B40 DR	40x19mm
767496		Zolid DRS B2 C20 DR	20x19mm
767497		Zolid DRS B2 B40 DR	40x19mm

767498		Zolid DRS B3 C20 DR	20x19mm
767499		Zolid DRS B3 B40 DR	40x19mm
767500		Zolid DRS B4 C20 DR	20x19mm
767501		Zolid DRS B4 B40 DR	40x19mm
767502		Zolid DRS C1 C20 DR	20x19mm
767503		Zolid DRS C1 B40 DR	40x19mm
767504		Zolid DRS C2 C20 DR	20x19mm
767505		Zolid DRS C2 B40 DR	40x19mm
767506		Zolid DRS C3 C20 DR	20x19mm
767507		Zolid DRS C3 B40 DR	40x19mm
767508		Zolid DRS C4 C20 DR	20x19mm
767509		Zolid DRS C4 B40 DR	40x19mm
767510		Zolid DRS D2 C20 DR	20x19mm
767511		Zolid DRS D2 B40 DR	40x19mm
767512		Zolid DRS D3 C20 DR	20x19mm
767513		Zolid DRS D3 B40 DR	40x19mm
767514		Zolid DRS D4 C20 DR	20x19mm
767515		Zolid DRS D4 B40 DR	40x19mm



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